

# Data Gaps Data Report

TAYLOR WAY AND ALEXANDER AVENUE FILL AREA SITE  
TACOMA, WASHINGTON  
Cleanup Site ID: 4692

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## 1.0 INTRODUCTION

Dalton, Olmsted, and Fuglevand, Inc. (DOF), has prepared this Data Gaps Data Report (Report) for the Taylor Way and Alexander Avenue Fill Area (TWAFA) Site (Site) on behalf of Glenn Springs Holdings, Inc. (Occidental Chemical), General Metals of Tacoma (GMT), and Clean Earth Inc. (Clean Earth) formerly known as Stericycle Environmental Solutions, Inc. and Burlington Environmental (Burlington). These parties (collectively the “AO Parties”) are performing activities at the TWAFA Site under Agreed Order Number (AO) DE 14260 (effective December 4, 2020) with the Washington State Department of Ecology (Ecology). The Port of Tacoma (Port) is also a PLP to the TWAFA Site, identified in the Enforcement Order Number DE 19410 (issued December 4, 2020) by Ecology.

The PLPs prepared this Report to summarize the data gaps investigation work completed at the TWAFA Site in accordance with the AO and EO. Figure 1 shows the general vicinity of the TWAFA Site and Figure 2 shows the location of the property parcels that comprise the TWAFA Site.

### 1.1 Purpose

The purpose of this report is to summarize results of recent field investigations performed at the TWAFA Site originally proposed to fill in data gaps identified in the Final Data Gaps Work Plan (Work Plan) (DOF, 2020) consistent with the deliverable referred to as the “Soil and Groundwater Data Report” identified in the Work Plan and the AO. The Soil and Groundwater Data Report was retitled to the Data Gaps Data Report because it also includes results of soil vapor sampling conducted under the Work Plan and in response to Ecology comments on initial TWAFA data gaps reporting deliverables.

The investigations proposed in the Work Plan included sampling and analysis of soil, groundwater, and soil vapor planned to address either informational data gaps or contaminant confirmational data gaps to better understand the nature and extent of contamination at the TWAFA Site. Table 1 summarizes the data gaps investigation tasks and the remaining tasks to be addressed at the TWAFA Site prior to preparation and submission of a Remedial Investigation/Feasibility Study Report (RI/FS), as identified in the Work Plan and required under the AO. The status of each task is included, identifying remaining work to be completed prior to the RI/FS.

### 1.2 Background

Initial data gaps work performed at the TWAFA Site was documented in 2021 and 2022 and provided to Ecology as part of:

- March 2021 – *Aboveground Site Conditions Memorandum* (DOF, 2021a);
- September 2021 – *TWAFA Existing Groundwater Monitoring Network Evaluation and Recommendations Addendum* (DOF, 2021b);
- December 2021 – *Revised TWAFA Data Gap Investigation Progress Summary and Soil Vapor Intrusion Status and Recommendations* (DOF, 2021c);
- April 2022 – *Revised Groundwater Monitoring Plan* (DOF, 2022a);
- May 2022 – *First Quarter 2022 Groundwater Data Analysis Report* (DOF, 2022b); and
- August 2022 – *Second Quarter 2022 Groundwater Data Analysis Report* (DOF, 2022c).

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This Report documents the results of the following required data gaps tasks:

- Soil sampling on Burlington Former Parcel A, 1205 Alexander Avenue, and 1300 Taylor Way.
- Shallow groundwater sampling at temporary borings on 1205 Alexander Avenue and 1300 Taylor Way.
- Additional characterization of the deep aquifer at greater depths than historically sampled.
- Abandonment of three wells on 1205 Alexander Avenue, and 1300 Taylor Way.
- Assessment of potential for vapor intrusion at concentrations of concern using groundwater data collected as part of data gaps efforts.
- Assessment of potential for vapor intrusion under existing conditions.

The remaining data gaps to address under the Work Plan include:

- Four quarters of groundwater elevation measurements, mapping, and sampling (currently in progress during calendar year 2022). This includes split sampling to further assess organic material bias in diesel range organics sample analyses that may be occurring at the TWAAFA Site.
- Preparation of a TWAAFA Site Indoor Air Assessment Protocol to be used at the TWAAFA Site as future Site development is planned and completed.

## 2.0 SUMMARY OF FIELD ACTIVITIES

This section summarizes the details of the field activities noted in Section 1. The field investigations were completed from 2020 through 2022 by DOF on behalf of the AO parties and by several other consultants working on behalf of the Port of Tacoma as described in the following sections.

### 2.1 Soil Sampling

Borings were completed and soil samples were collected to identify subsurface conditions and define the nature and extent of contamination in select areas of the TWAAFA Site. Soil samples collected are summarized in Tables 2 and 3.

#### 2.1.1 1205 Alexander Avenue and 1300 Taylor Way

CRETE Consulting, Inc. (CRETE) completed an investigation of the two properties located at 1205 Alexander Avenue and 1300 Taylor Way (also known as the “Hylebos Marsh Properties”) between September and December 2019. The scope of investigations was documented in a report submitted to Ecology in March 2020 on behalf of the Port of Tacoma (CRETE, 2020) and consistent with that presented in the Work Plan (DOF, 2020). The scope of work included completion of four direct push borings to investigate the presence and type of fill materials generally in the western area of the TWAAFA Site (Soil Borings TWA-SB1 through TWA-SB4 shown on Figure 3).

Borings were visually logged continuously and completed through the fill or to the water table (whichever was deeper), with field screening via a photoionization detector for volatile organic compounds (VOCs). Soil samples were collected one to two feet above the water table and analyzed for: VOCs, northwest total petroleum hydrocarbon diesel and lube oil (NWTPH-Dx), NWTPH- gasoline (NWTPH-Gx), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals

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(arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc, and manganese). An additional sample was collected from a layer of wood debris observed in SB-3 and analyzed for the same parameters (CRETE, 2020).

A copy of the CRETE report is included in Appendix A. Boring logs are included in Appendix B.

### 2.1.2 Burlington Parcel A

On Burlington Parcel A, DOF completed a direct push boring (TWA-SB5 shown on Figure 3) in September 2021 in the area of a historical sample that showed VOC contamination in soil. This boring was logged to the top of the silt layer at 14-feet below ground surface (bgs) to investigate the presence and type of fill materials in this area of the TWAFA Site and determine residual VOC soil concentrations. The soil sample from this boring was collected from approximately 4 to 5-feet in depth and analyzed for VOCs, NWTPH-Dx, NWTPH-Gx, SVOCs, PCBs, and total metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc, and manganese). A soil vapor sampling point was installed at this location as described further in Section 2.4.2.

### 2.1.3 CleanCare Parcel (Deep Aquifer Characterization)

On the CleanCare parcel, a soil sample was collected and analyzed at boring TWA-9D (shown on Figure 3) where multi-depth deeper groundwater sampling was conducted in October 2021. Soil samples were collected from fine-grained units identified at depth (only occurred at TWA-9D) for possible VOC and PCB analysis, pending review of results of shallower groundwater sample VOC results. If VOCs were not detected in groundwater above screening levels, the soil samples were not analyzed. Based on these criteria, the sample from TWA-9D at 43-feet bgs was analyzed for PCBs only.

## 2.2 Groundwater Multi-Depth Sampling

Multi-depth groundwater sampling was conducted at the Site to evaluate concentrations at various depths and aid in determining screen intervals for new groundwater monitoring wells, in cooperation with Ecology.

Shallow groundwater samples were collected by the Port's consultant, CRETE in September 2019, at the water table at locations TWA-SB1, TWA-SB2, TWA-SB3, and TWA-SB4 on the 1205 Alexander Ave and 1300 Taylor Way parcels owned by the Port (shown on Figure 4). Drilling was conducted via direct push drilling methods and sampling followed the methods outlined in the Work Plan based on review of CRETE's Soil and Groundwater Data Report (CRETE, 2020). Groundwater samples were analyzed for VOCs, NWTPH-Dx, NWTPH-Gx, SVOCs, PCBs, and total metals.

Multi-depth deeper groundwater sampling was conducted at seven locations TWA-4D, TWA-5D, TWA-6D, TWA-7D, TWA-8D, TWA-9D, and TWA-10D (shown on Figure 4). The two locations (TWA-5D and TWA-6D) located on the 1205 Alexander Ave and 1300 Taylor Way parcels owned by the Port were conducted by the Port's consultant, CRETE in September 2019. Drilling was conducted via sonic drilling methods and sampling followed the methods outlined in the Work Plan based on review of CRETE's report (CRETE, 2020). The one location (TWA-10D) located on the 1514 Taylor Way parcel owned by the Port was conducted by the Port's consultant, Maul Foster Alongi (MFA) in December 2021. Drilling was conducted via sonic drilling methods and sampling followed the methods outlined in the Work Plan based on review of MFA's field records. The remaining four locations on the Burlington and former CleanCare parcels were conducted by DOF, following the methods outlined in the Work Plan.

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Lithology at each boring was logged continuously. Boring logs are included in Appendix B. Silt layers greater than two feet thick, where encountered, were sealed off using conductor casing methods prior to drilling through and sampling deeper zones, as shown in the boring logs. A shallow silt layer was encountered at all borings. A deeper silt unit was only encountered at TWA-9D and TWA-10D from approximately 35 to 45-feet bgs.

Groundwater samples were collected approximately every ten feet and analyzed for VOCs, NWTPH-Dx, NWTPH-Gx, SVOCs, PCBs, and total metals. The shallowest zone at TWA-4D (40 to 42-feet bgs) did not sufficiently produce water for the full analyte suite and therefore only VOCs, NWTPH-Gx, and total metals were analyzed because they require lower sample volumes. The individual sample collection depths are summarized in Table 4 for each location.

## 2.3 Well Installation and Abandonment

Figure 5 shows the location of the newly installed groundwater monitoring wells installed at the TWAAFA Site from 2019 through 2022. The following subsections describe well installation activities completed at the TWAAFA Site. A revised Groundwater Monitoring Plan (Monitoring Plan), which included construction detail and updated survey information for wells within the TWAAFA Site groundwater monitoring network was submitted to Ecology in April 2022 (DOF, 2022a). The Monitoring Plan contains the standard operating procedures for well installation, well abandonment, low-flow sampling, and water level measurements. Appendix C of the monitoring plan also contains well construction logs for the wells included in the overall groundwater sampling program for the TWAAFA Site.

### 2.3.1 Well Abandonment

Existing groundwater monitoring wells SB-1, SB-3, and SB-4 on the 1205 Alexander Ave and 1300 Taylor Way property parcels were abandoned by the Port's consultant, CRETE, in November 2019 because they were screened in the silt layer. Well SB-1 was abandoned by overdrilling, removing the well casing and materials, and grouted to the surface. Wells SB-3 and SB-4 were abandoned by filling the well casing with bentonite chips and hydrating the chips. This work is summarized in CRETE's report (CRETE, 2020).

### 2.3.2 Shallow Well Installation

DOF installed shallow groundwater replacement wells CTMW-11R2 and CTMW-23R in October 2021. These wells were installed above the silt layer, using hollow-stem auger drilling methods, and replaced wells CTMW-11 and CTMW-23 that were abandoned due to nearby construction projects conducted at the Burlington facility.

The Port's consultant, MFA, installed shallow wells TWA-1, TWA-2, and TWA-3 in December 2021 using hollow-stem augers to depths of 10 to 15-feet bgs. A distinct silt layer was encountered in the TWA-2 and TWA-3 borings at an approximate depth of 10-feet; no similar silt layer was encountered in the TWA-1 boring up to a depth of 15-feet.

### 2.3.3 Deep Well Installation

Deeper groundwater monitoring wells were installed at the TWAAFA Site as part of completion of the multi-depth groundwater sampling investigation described in Section 2.2 using sonic drilling methods. Wells were installed at locations TWA-4D, TWA-5D, TWA-6D, TWA-7D, TWA-8D, TWA-9D, and TWA-10D.



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The depths of each well screen were determined in cooperation with Ecology during implementation of the fieldwork based on field observations and expedited sampling results.

## 2.4 Vapor Sampling

Soil vapor sampling was conducted at the TWAFA Site between August 2021 and July 2022 in accordance with several documents:

- *Soil Vapor Sampling and Analysis Plan, Appendix M of the Work Plan (DOF, 2020)* – This plan described the scope and methods approved for implementation on the former CleanCare and Burlington Parcel A parcels of the Site.
- *Revised TWAFA Data Gap Investigation Progress Summary and Soil Vapor Intrusion Status and Recommendations (DOF, 2021c)* – This plan described the scope and methods approved for implementation on other areas of the TWAFA Site.

The Port's consultant, MFA, conducted sampling on the former Potter Property parcel; all other sampling was conducted by DOF.

Within buildings, VaporPins® were installed through the foundations. The sample locations were preferentially placed near sumps due to the potential for preferential vapor pathways. VaporPins® consist of a single piece of metal, installed by hand tools, and use a silicon sleeve that forms an air-tight seal between the VaporPins® and the side of the borehole.

Outside building footprints, vapor sampling points were installed using direct-push techniques to drill to 4-feet in depth. The original work plan included installation to 5-feet in depth, but shallow groundwater did not allow for installation to 5-feet bgs. The soil vapor sampling point was then constructed using a 6-inch stainless-steel screen, connected to Teflon tubing that was installed up to the surface to allow for sampling. Filter pack sand was placed from approximately 3 inches below to 3 inches above the stainless-steel screen for a total of 1 foot of sand pack. Hydrated bentonite chips were placed above the sand pack interval to seal the soil vapor sampling point up to the surface. Each soil vapor sampling point was completed with a flush-mount well monument.

The sampling locations were installed at least one day prior to sampling to allow the bentonite chips to become fully hydrated. A GPS unit was used to record the soil vapor sample locations outside the building. Soil vapor sample locations within buildings were measured manually.

Just before either sub-slab vapor or soil vapor point samples were collected, a shroud was placed over the sampling point and a single-use laboratory provided soil gas manifold was connected to the vapor sampling location. An evacuated 1L Summa® canister and the purge line was then connected to a peristaltic pump. Helium gas was applied under the shroud as a leak detection indicator. A helium detector instrument was used to monitor the purge line for helium.

All soil vapor samples were submitted to the laboratory for analysis for the VOCs and Air-Phase Hydrocarbons (APH) as listed in Table 1 of Appendix M of the Work Plan (DOF, 2020). Figure 6 shows the location of the soil vapor samples. Location specific information is described in the following sections.

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### 2.4.1 Former CleanCare Property

DOF collected 11 soil vapor samples from within the footprint of the existing buildings on the CleanCare property buildings between August 31 and September 1, 2021. The soil vapor samples were collected at these locations using sub-slab soil vapor sampling using VaporPins® as described in Section 2.4. Fifteen soil vapor samples were collected using temporary soil vapor sampling points. Methane, oxygen, and carbon dioxide were analyzed in the field using a Landtec GEM 2000 Landfill Gas Monitor during sampling in addition to analytical laboratory testing.

### 2.4.2 Burlington Parcel A

DOF collected one soil vapor sample on September 1, 2021 from a soil vapor sampling point (TWA-SV-27) documented in the Revised TWAFA Data Gap Investigation Progress Summary and Soil Vapor Intrusion Status and Recommendations (DOF, 2021c). Methane was analyzed in the field during sampling in addition to analytical laboratory testing; the methane concentration did not exceed the 5%.

### 2.4.3 Burlington Lab Pack Building

DOF collected sub-slab vapor samples on March 1, 2022 from the five specified sub-slab monitoring points installed as part of the Vapor Mitigation System (VMS) present in this building, as described in the Revised TWAFA Data Gap Investigation Progress Summary and Soil Vapor Intrusion Status and Recommendations (DOF, 2021c). Differential pressure was continuously measured between February 23 and March 4, 2022. Differential pressure data is provided in Appendix C and shows the intermittent operation of the VMS during facility work hours. When the system was operating, negative pressures varied to approximately negative 250 pascals (Pa) to negative 550 Pa, as expected. When the system was not operating, the pressure was approximately zero pascals. Methane, oxygen, and carbon dioxide were analyzed in the field during sampling in addition to analytical laboratory testing.

### 2.4.4 Burlington Stabilization Building

DOF installed four sub-slab VaporPin sampling locations in February 2022 within the footprint of the Stabilization Building as described in the Revised TWAFA Data Gap Investigation Progress Summary and Soil Vapor Intrusion Status and Recommendations (DOF, 2021c). The building includes a direct route for sub-slab vapors to vent to ambient air. Operation of the building includes a 20,000 cubic feet per minute (CFM) blower designed to properly ventilate and collect airborne dust during the mixing process performed inside and passive ventilation is sized such that a vacuum is not induced within the building (DOF, 2021). Ecology no longer recommends use of models as the primary method to screen out vapor intrusion potential, and therefore, site-specific data were collected for the assessment of vapor intrusion potential at the building.

The original plan called for installation of five VaporPin locations, but the proposed location near the center of the building, adjacent to the sump, could not be installed. Concrete adjacent to the sump was more than three feet thick and could not be penetrated with a 36-inch roto-hammer drill bit. The location was repaired following the attempted installation of the VaporPin. Differential pressures were collected from location TWA-SV-30 between February 23 and March 4, 2022 during different operational scenarios to imitate the highest vapor intrusion potential (blower actively operating) in the building under standard building operation. Measured differential pressures are summarized in Appendix C. Measurements across the concrete slab foundation ranged between negative 9.46 Pa and

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positive 13.2 Pa for a total fluctuation of 22.7 Pa and do not indicate a significant vapor intrusion potential; therefore, soil vapor samples were not collected.

#### 2.4.5 Burlington Transportation Office and Shop Building

DOF installed one sub-slab sampling point within the footprint of the Transportation Building in February 2022 and two soil vapor sampling points outside the building in April 2022. The Revised TWAAFA Data Gap Investigation Progress Summary and Soil Vapor Intrusion Status and Recommendations (DOF, 2021c) originally called for five sampling points inside the building footprint but was revised in coordination with Ecology due to underground utility line obstructions.

The differential pressure measured below the Transportation Building varied over approximately a positive 5 Pa in a single spike, but ranged around positive 2 Pa over a two-day period as shown in Appendix C. These pressure fluctuations represent a generally neutral cross slab vapor pressure.

Due to encountering shallow groundwater conditions in the vicinity of the sampling points, sampling was not performed until July 2022. Methane, oxygen, and carbon dioxide were analyzed in the field during sampling in addition to analytical laboratory testing.

#### 2.4.6 Port of Tacoma Former Potter Property

The Port's consultant, MFA, conducted soil vapor sampling on the Former Potter Property in July 2022, as described in the Revised TWAAFA Data Gap Investigation Progress Summary and Soil Vapor Intrusion Status and Recommendations (DOF, 2021c). The soil vapor samples were collected at nine locations using sub-slab soil vapor sampling points installed through the concrete floor slab. The sub-slab vapor samples were collected and analyzed as described in Section 2.4. Differential vapor pressure was measured over an eight-day period. The differential pressure was logged and recorded at TWA-SV-37, and Appendix C shows the DP trends for SV-37. This shows the differential pressures over this eight-day period were slightly negative and only varied by 1 to 2 Pa, as show in Appendix C.

### 3.0 QUALITY ASSURANCE AND QUALITY CONTROL

Quality controls samples were collected as part of soil, groundwater, and soil vapor data collection at the TWAAFA Site, along with other quality control procedures implemented in executing the data gaps data collection under the Work Plan. Data were validated for each event and data validation memorandum are provided along with laboratory data packages in Appendix D. Validated data have been entered into Ecology's EIM database for the work described in this Report.

The most consistently reported issue noted during data validation of groundwater samples was flagging of diesel- and motor oil-range petroleum hydrocarbons because the sample chromatographic pattern did not resemble the fuel standard used for quantitation. This was reported during validation for the first and second quarter 2022 groundwater sampling events conducted thus far under the Work Plan. TPH samples have been analyzed with and without silica gel throughout the data gaps investigation. DOF discussed results to date with Ecology and plans to collect Extractable Petroleum Hydrocarbons (EPH)/Volatile Petroleum Hydrocarbons (VPH) data during the remaining groundwater monitoring events to aid in evaluating this issue during the RI/FS.

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In addition, several groundwater analytical results were rejected based on review during data validation as follows:

- Several individual SVOC results were rejected due to low laboratory control spike recoveries or low surrogate recoveries in some groundwater samples. These data (generally non-detect values) were qualified R as rejected for use.
- One result for PCBs in groundwater was rejected due to low surrogate recoveries (TWA-10-20-25-1210).

DOF communicated with the lab regarding deficiencies when identified to seek review and corrections prior to groundwater sampling events. However, the majority of analytical data were determined to be of good quality and usable.

## 4.0 RESULTS

This section presents the results of data gaps activities discussed in Section 2.

### 4.1 Physical Conditions

The completion of additional borings across the Site as part of the data gaps investigation allowed for review of fill area maps and lithologic information presented in the Work Plan (DOF, 2020) that relied on historical information. Generally, fill areas presented in the Work Plan did not change and the various fills were encountered where expected at the Site and presented in the Work Plan. New borings confirmed shallow geologic information presented in the Work Plan and revealed alternating sandy and silty layers to depths of 60-feet bgs across the Site. The additional deeper borings confirmed a deeper silt layer (generally below 35-feet bgs) is present in some areas, but did not appear continuous across the Site.

### 4.1 Soil Sampling

Soil samples were collected to refine the understanding of the nature and extent of contamination in various areas of the Site as described in Section 2.1. This section summarizes the soil analytical results from sampling between 2019 and 2021 conducted under the Work Plan (DOF, 2020). Sample results previously reported to Ecology are presented in Table 3 (from the CRETE report (CRETE, 2020)). A copy of the full CRETE report, including laboratory results, can be found in Appendix A. Other results are presented in Table 2 and laboratory results are included in Appendix D. Results are compared to screening levels similarly used for historical data screening in the Work Plan (DOF, 2020). Soil sample locations are shown on Figure 3.

#### 4.1.1 Volatile Organic Compounds

VOC concentrations reported in soil samples were below screening levels except for TWA-SB5, where the benzene result (0.33 mg/kg), slightly exceeded the screening level of 0.0274 mg/kg.

#### 4.1.2 Total Petroleum Hydrocarbons (TPH)

TPH-Gasoline (TPH-Gx) was detected in soil at an estimated concentration of 1,600 mg/kg in a sample from TWA-SB5 above the screening level (500 mg/kg). TPH-Diesel (TPH-Dx) and TPH-Motor Oil (TPH-O) in this sample were detected at a total concentration of 1,700 and 2,300 mg/kg, respectively. The TPH-O

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concentration was above the screening level for motor oil hydrocarbon range. All other sample results were below screening levels.

#### 4.1.3 Semi-volatile Organic Compounds

Several SVOCs were detected in soil at concentrations less than 80 mg/kg but no SVOCs were detected above their respective screening levels in any of the soil samples collected.

#### 4.1.4 Polychlorinated Biphenyls

PCBs were not detected above the screening level of 1 mg/kg in any soil samples collected.

#### 4.1.5 Inorganics

None of the soil samples collected exceeded screening levels specified in the Work Plan, except for arsenic, which was detected at a concentration of 7.83 mg/kg in a sample of “wood waste” collected at 9 to 10-foot bgs at location TWA-SB3, slightly above the screening level of 7.3 mg/kg.

### 4.2 Groundwater Sampling

Shallow groundwater samples were collected from several temporary borings (TWA-SB1 through TWA-SB4) on the 1205 Alexander Ave and 1300 Taylor Way parcels from the water table in 2019. Deeper groundwater samples were collected from multiple depths at boring locations TWA-4D through TWA-10D across the Site to evaluate concentrations vertically and aid in selection of screen intervals for new wells.

Groundwater sample results previously reported to Ecology are presented in Table 5 (from the CRETE report (CRETE, 2020)). A copy of the full CRETE report, including laboratory results, can be found in Appendix A. Other results are presented in Table 4 and laboratory results are included in Appendix D. Results are compared to screening levels presented in the Work Plan (DOF, 2020). Groundwater sample locations are shown on Figure 4.

#### 4.2.1 Volatile Organic Compounds

VOCs (including acetone, methylene chloride, bromodichloromethane, chloroform, and toluene) were reported at low concentrations in samples from TWA-SB1, TWA-8D, TWA-9D, and TWA-10D. VOCs did not exceed the screening level in any of the groundwater samples collected.

#### 4.2.2 Total Petroleum Hydrocarbons

TPH were measured as TPH-Dx, and TPH-O (aka TPH-Lube Oil). TPH-D and TPH-O were reported above their respective screening levels of 500 ug/L each, but these results were also flagged as not matching the hydrocarbon standard used to quantify those samples.

Aliquots of these same samples were treated using silica-gel methods to remove biogenic hydrocarbons and analyzed for the same TPH hydrocarbon ranges. The results of samples using silica-gel were nearly all below reporting limits and all of the results were below their respective screening levels.

#### 4.2.3 Semi-volatile Organic Compounds

SVOCs were sporadically detected above the reporting limit in some groundwater samples including grab samples from TWA-SB2, TWA-SB3, TWA-SB4, TWA-4D, TWA-5D, TWA-7D, and TWA-10D. None of the groundwater samples were reported above their respective screening levels.

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#### 4.2.4 Polychlorinated Biphenyls

PCBs were only detected in groundwater from TWA-8D, specifically Aroclor 1260 at a concentration of 0.019 µg/L, exceeding the screening level of 0.00607 µg/L.

#### 4.2.5 Inorganics

Total metals were reported in groundwater above their respective screening levels including arsenic, chromium, copper, lead, manganese, mercury, nickel, and zinc at locations sampled both in shallow and deeper groundwater. Dissolved metals were also analyzed for some samples where turbidity was elevated during sampling. Results indicated metals concentrations were variable across the Site and with groundwater depth.

### 4.3 Vapor Sampling

Soil vapor data collected between 2021 and 2022 are tabulated and compared to the Ecology sub-slab soil vapor screening levels provided in Table 1 of the Work Plan (DOF, 2020). Results are summarized in Tables 6, 7, and 8. In addition, recent groundwater data collected as part of the data gaps efforts was compared to groundwater screening values provided in Ecology's Cleanup Levels and Risk Calculation (CLARC) tables (Ecology, 2022) to assess the potential for vapor intrusion as identified in the Work Plan (DOF, 2020). These results are presented in Tables 9 and 10. Soil vapor sample locations are shown on Figure 6.

#### 4.3.1 Former CleanCare Property

Chlorinated VOCs were detected in soil vapor samples above Ecology's Models Toxic Control Act (MTCA) Method C screening levels at TWA-SV-2 and SV-3, TWA-SV-10 through TWA-SV-12, and TWA-SV-19, TWA-SV-24, and TWA-SV-25. Similarly, benzene, toluene, ethylbenzene, and xylenes (BTEX) compounds and naphthalene were detected in soil vapor samples above screening levels collected from TWA-SV-1 through TWA-SV-4, TWA-SV-11 through TWA-SV-14, TWA-SV-22, and TWA-SV-25.

The highest chlorinated VOC concentrations in soil vapor were reported at TWA-SV-10 with tetrachloroethene detected at 760,000 micrograms per cubic meter (µg/m<sup>3</sup>). The highest BTEX concentrations were reported at TWA-SV-25 with benzene detected at 45,000 µg/m<sup>3</sup> and toluene detected at 120,000 µg/m<sup>3</sup>.

Air-Phase hydrocarbons (APHs) were detected in multiple soil vapor samples with concentrations as high as 7,300,00 µg/m<sup>3</sup> (TWA-SV-25). Multiple samples exceeded the MTCA Method B sub-slab cleaning level and generally coincided with locations where VOCs were also elevated.

The highest concentration soil vapor samples were typically collected at soil vapor points rather than from sub-slab VaporPins™ installed in building slabs.

#### 4.3.2 Burlington Parcel A

Benzene was the only VOC detected (5,400 µg/m<sup>3</sup>) above the MTCA Method C screening level (110 µg/m<sup>3</sup>) in the soil vapor sample collected on Parcel A (TWA-SV-27). APHs were reported above the Method C screening level (1,500 µg/m<sup>3</sup>) as high as 1,200,000 µg/m<sup>3</sup> in the same sample. There is no building currently located in this area of the Site.

November 2022

#### 4.3.3 Burlington Lab Pack Building

No constituents were detected in soil vapor samples above screening levels at the five locations sampled beneath the Lab Pack Building.

#### 4.3.4 Burlington Transportation Office and Shop Building

APHs were reported above the Method B screening level at 2,000  $\mu\text{g}/\text{m}^3$  (TWA-SV-33). No other constituents were detected in soil vapor samples above screening levels at the three locations sampled beneath and adjacent to the Transportation Office and Shop Building.

#### 4.3.5 Port of Tacoma Former Potter Property

Chlorinated VOCs (chloroform, tetrachloroethene, and trichloroethene) were sporadically detected in soil vapor samples collected from TWA-SV-36, TWA-SV-41, and TWA-SV-43 at the former Potter Property. The highest soil vapor concentrations of tetrachloroethene and trichloroethene (8,200  $\mu\text{g}/\text{m}^3$  and 100  $\mu\text{g}/\text{m}^3$ , respectively) were collected from the sub-slab location TWA-SV-41 in the Shop Building. Although above the screening level, these chlorinated VOC concentrations were lower than those detected at some locations on the former CleanCare property.

APHs were detected above their respective screening levels in sub-slab soil vapor samples collected at TWA-SV-35, TWA-SV-36, TWA-SV-41, and TWA-SV-43.

#### 4.3.6 Recent Groundwater Results

The results of recent shallow groundwater sampling from the first and second quarter 2022 are summarized in Tables 9 and 10, respectively. VOCs were detected above the MTCA Method C groundwater screening levels protective of vapor intrusion in samples collected from only three wells, all on the former CleanCare parcel:

- CCW-1A (trichloroethene),
- CCW-2A/2B (1,4-dichlorobenzene, benzene, chlorobenzene, tetrachloroethene, trichloroethene, and vinyl chloride), and
- CCW-5B (benzene).

Additional screening will be performed using the third and fourth quarter 2022 groundwater sampling results.

## 5.0 CONCLUSIONS AND NEXT STEPS

As discussed in Section 1, this Report summarizes results of several of the data gaps investigation tasks required in preparation for completion of the RI/FS for the TWAAFA Site. The remaining tasks to be completed under the Work Plan include:

- Reporting of the third quarter 2022 groundwater monitoring event. Sampling occurred in August 2022. This report will be submitted to Ecology in November 2022.
- Completion and reporting of the fourth quarter 2022 groundwater monitoring event. Sampling is anticipated to be completed in early December with results reported to Ecology during the first quarter of 2023.

November 2022

- Preparation of a TWAAFA Site Indoor Air Assessment Protocol to be used at the Site as future Site development is planned and completed. This protocol is expected to be completed in cooperation with Ecology based on results of the vapor investigations documented in this Report and the remaining screening of third and fourth quarter groundwater sampling results.

The data collected under the Work Plan are intended to satisfy data gaps and facilitate completion of the RI/FS, as identified in the Work Plan and AO. DOF recently received comments from Ecology on the first and second quarter 2022 groundwater monitoring reports which will be addressed in cooperation with Ecology ahead of preparing the RI/FS.

## 6.0 REFERENCES

CRETE, 2020. Soil and Groundwater Data Report Hylebos Marsh Property - 1205 Alexander Avenue and 1300 Taylor Way Taylor Way and Alexander Avenue Fill Area Site. March 2020.

DOF, 2020. Final Data Gaps Work Plan, Taylor Way and Alexander Avenue Fill Site. July.

DOF, 2021a. Aboveground Site Conditions Memorandum. March.

DOF, 2021b. Existing Groundwater Monitoring Network Evaluation and Recommendations Addendum. September.

DOF, 2021c. Revised TWAAFA Data Gap Investigation Progress Summary and Soil Vapor Intrusion Status and Recommendations. December.

DOF, 2022a. Revised Groundwater Monitoring Plan. April.

DOF, 2022b. First Quarter 2022 Groundwater Data Analysis Report. May.

DOF, 2022c. Second Quarter 2022 Groundwater Data Analysis Report. August.

Ecology, 2022. CLARC. <https://fortress.wa.gov/ecy/clarc/CLARCDATATables.aspx>

## 7.0 CLOSING

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, expressed or implied, is made. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.



# TABLES

**TABLE 1**  
**DATA GAPS STATUS SUMMARY**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

Data Gaps Task	Scope	Notes	Task Completed?	Reporting
<b>Informational Data Gaps</b>				
<b>Aboveground Site Conditions Documentation</b>				
Mapping of aboveground structures	Mapping of above ground structures, paved areas, unpaved areas of infiltration, stormwater flow patterns and control features, and general topography.	Reporting completed in March and December 2021	Yes	March 2021 Aboveground Site Conditions memorandum and December 2021 Soil Vapor Intrusion Status and Recommendations memorandum
<b>Current Well Usability</b>				
Field evaluation of wells	Field evaluation of existing wells on the TWAAFA Site to determine which wells remain in good condition, which remain but require rehabilitation, and which should be recommended for abandonment (or have already been abandoned).	Reporting completed September 2021	Yes	September 2021 Existing Groundwater Monitoring Network Evaluation and Recommendations Memo
<b>Current Groundwater Flow Patterns</b> - Addition of several new wells and incorporation of wells across the full TWAAFA Site to facilitate review of new patterns and/or confirm previous groundwater flow assumptions for the site.				
Groundwater elevation measurement and mapping	Groundwater elevations measurement and mapping as part of future groundwater monitoring events and related data reporting. New and replacement shallow and deep wells will be installed at the TWAAFA Site (as shown in Figures 50 and 51) and a broader network of wells measured than historically conducted.	New wells added and 3 of 4 groundwater elevation measurement events completed to date.	No	2022 quarterly groundwater data analysis reports
<b>EIM update</b>	Available sampling data collected after August 1, 2005 from the TWAAFA Site will be uploaded into Ecology's EIM database.	Completed; recent data updated quarterly.	Yes	EIM
<b>Contaminant Characterization Data Gaps</b>				
<b>1205 Alexander Avenue and 1300 Taylor Way Characterization</b> - Historical documents indicated several reported fill and waste disposal areas on this property, in addition to various fill materials thought to be present on at several locations near the parcel boundary between the Port and Burlington parcels.				
Investigation of presence and type of fill materials in this area.	Completion of 4 direct push borings. Borings visually logged continuously and completed through the fill or to the water table (whichever is deeper), with field screening via a photoionization detector for VOCs. Soil and groundwater samples collected for laboratory analyses.	Completed September 2019	Yes	Port submitted Crete reports in 2020 and data included in this Data Report
Deep aquifer groundwater sampling and elevation measurement.	Completion of 2 deep aquifer borings for groundwater sampling and subsequent well installation near locations SB-1 and SB-4 to improve the coverage of deep aquifer groundwater elevation data.	Completed September 2019	Yes	Port submitted Crete reports in 2020 and data included in this Data Report
Abandonment of wells that may be screened in the silt layer.	Abandonment of wells SB-1, SB-3, and SB-4.	Completed November 2019	Yes	Port submitted Crete reports in 2020 and data included in this Data Report
<b>Burlington Former Parcel A Assessment</b> - VOCs were detected in some of the soil samples collected as part of area closure, including PCE and TCE, but no recent sampling had been conducted to confirm if VOC-contaminated soils remain in this area.				
Investigation of presence and type of fill materials in this area and current residual VOC soil concentrations.	Completion of 1 direct push or hand auger sample in the area of the former sample SEA-14 (approximately 4.7 feet bgs) logged to the top of the silt layer.	Completed September 2021	Yes	2022 Data Gaps Data Report

**TABLE 1**  
**DATA GAPS STATUS SUMMARY**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

Data Gaps Task	Scope	Notes	Task Completed?	Reporting
<b>Monitoring Well Network</b> - Addition of wells will support developing a current assessment of groundwater concentrations and flow patterns across the full TWAAFA Site.				
Investigation/confirmation of COC concentrations in groundwater downgradient of the CleanCare property on the 1514 Taylor Way property .	Installation of 3 new shallow wells along the northern edge of the 1514 Taylor Way property. Replacement of a subset of monitoring wells on the western side of the 1514 Taylor Way property.	Completed December 2021	Yes	September 2021 Groundwater Monitoring Network Revision Summary memo and the April 2022 Revised Groundwater Monitoring Plan
Additional characterization of the deep aquifer at greater depths.	Completion of 5 deep aquifer borings on 1514 Taylor Way, Burlington and CleanCare properties for groundwater collection at multiple depths with possible deep wells to be installed at each location pending receipt of results and discussion with Ecology.	Completed October 2021 to January 2022	Yes	2022 Data Gaps Data Report
Investigation/confirmation of COC concentrations in groundwater on the CleanCare property, given the age of data available from CleanCare monitoring wells.	Sampling CleanCare property wells. If concentrations have reduced to levels below screening levels, additional wells downgradient may not be warranted.	Three of the four events have been completed.	No	2022 quarterly groundwater data analysis reports
Investigation/confirmation of COC concentrations in groundwater on the western Port of Tacoma property.	Replacement of several wells on the western Port of Tacoma property.	Completed November 2019	Yes	Port submitted Crete reports in 2020 and data included in this Data Report
<b>Recent Groundwater Data</b> - Additional groundwater monitoring will provide data to confirm groundwater flow patterns, review seasonal trends in groundwater chemistry under current site conditions, and verify current levels				
Quarterly groundwater monitoring of the TWAAFA groundwater monitoring well network.	Four quarters of monitoring for an initial period of one year (first, second, third, and fourth quarters of 2022).	Three of the four events have been completed.	No	2022 quarterly groundwater data analysis reports
Split sampling to further assess organic material bias that may be occurring at the TWAAFA Site.	Lab analysis, review of chromatograms, calculations and numerical estimations of variability or laboratory measurements based on laboratory QA/QC, and supporting evidence and criteria for use of the method, will be conducted.	Three of the four events have been completed.	No	2022 quarterly groundwater data analysis reports and Port-submitted Crete 2020 report
<b>Indoor Air Assessment</b>				
Assess potential for vapor intrusion at concentrations of concern using other data collected as part of data gaps efforts.	Screen newly collected groundwater data to vapor intrusion-based screening levels.	Three of the four events have been completed.	No	2022 quarterly groundwater data analysis reports
Assess potential for vapor intrusion under existing conditions at the CleanCare property parcel.	Perform a soil vapor investigation in accordance with the Soil Vapor Sampling and Analysis Plan provided as Appendix M.	Sampling completed August to September 2021.	Yes	2022 Data Gaps Data Report

**TABLE 1**  
**DATA GAPS STATUS SUMMARY**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

Data Gaps Task	Scope	Notes	Task Completed?	Reporting
Assess potential for vapor intrusion at concentrations of concern across the TWAFA Site.	Perform a vapor intrusion assessment for the full TWAFA Site, consistent with Ecology's 2018 updated Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action, that incorporates results of the Above Ground Site Conditions Documentation data gap described in the previous section.	Site assessment and initial sampling needs determined in cooperation with Ecology.	Yes	December 2021 Revised TWAFA Data Gap Investigation Progress Summary and Soil Vapor Intrusion Status and Recommendations
	Sampling as part of a Tier 2 assessment will be necessary in select portions of the TWAFA Site and would include collection of sub-slab, indoor air, ambient air, and/or methane samples from selected Site buildings not previously evaluated for vapor intrusion risk. Collect differential pressure measurements as part of methane investigation. Assess short-term TCE exposure concentrations per recent revisions to Ecology guidance regarding this exposure concern.	Sub-slab and differential pressure testing completed September 2021 to July 2022.	No	Data Gaps Data Report
	Burlington Lab Pack Building - collect sub-slab vapor samples from the VMS to determine current soil vapor concentrations.	Work proposed in Revised TWAFA Data Gap Investigation Progress Summary and Soil Vapor Intrusion Status and Recommendations (December 2021).	Yes	Data Gaps Data Report
	Burlington Stabilization Building - measure differential pressures under different operating scenarios. If differential pressure across the concrete slab foundation of the stabilization building indicate pressure below the slab, i.e., vapor intrusion potential, during either operational scenario, then additional vapor analytical sampling will be performed to access sub-slab vapor concentrations.		Yes	Data Gaps Data Report
	Burlington Transportation Office and Shop Building - Install and sample vapor sampling points. If the soil gas concentrations exceed sub-slab soil gas screening levels, Tier II assessment of indoor air, including an ambient air sample, would be collected to assess indoor air and the potential need for mitigation.		Yes	Data Gaps Data Report
	Burlington Parcel A - Install and sample a vapor sampling point following collection of soil samples at location TWA-SB5.		Yes	Data Gaps Data Report
	Port of Tacoma Former Potter Property - Collect three sub-slab vapor sample inside each of the two Quonset huts and timber shell structure.		Yes	Data Gaps Data Report
Provide predictability in approach for site owners and enable remedial designers to consistently investigate and address the vapor pathway as development changes at the site.	Prepare a TWAFA Site Indoor Air Assessment Protocol to be used at the site going forward as new site development is planned and completed.	To be prepared after completion of the RI/FS	No	Per the Data Gaps Work Plan, this document will be a standalone document that would be incorporated into an Institutional Control Plan if the final remedy for the TWAFA Site leaves contamination in place that could cause a possible vapor mitigation issue. It will follow the current version of ASTM E2993-16, Standard Guide for Evaluating Potential Hazard as a Result of Methane in the Vadose Zone.

**TABLE 2**  
**SOIL SAMPLE RESULTS SUMMARY**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

Sample Location ID	DGWP Screening Level	TWA-SB5	TWA-9D
Sample Depth (feet bgs)		5	43
Sample Date		9/1/2021	10/12/2021
<b>Total Petroleum Hydrocarbons by NWTPH-Gx/Dx</b>			
Gasoline Range Petroleum Hydrocarbons	500	1600 J	--
Diesel Range Petroleum Hydrocarbons	2,000	1700	--
Motor Oil Range Petroleum Hydrocarbons	2,000	2300	--
<b>Detected Total Metals by EPA Method 6020B</b>			
Arsenic	7.3	3.26	--
Chromium	48.2*	217 J	--
Copper	36.4*	13.5	--
Lead	24	152 J	--
Manganese	1500*	101 J	--
Nickel	48.2*	7.24	--
Zinc	101*	56.2 J	--
<b>Detected Semivolatile Organic Compounds by EPA Method 8270E</b>			
1-Methylnaphthalene	--	47	--
2-Methylnaphthalene	27.7*	77	--
Acenaphthene	70.3*	4.6	--
Anthracene	6730*	7.9	--
Benz(a)anthracene	5.14*	1.3	--
Benzo(a)pyrene	5.14	0.71	--
Carbazole	16.9*	2.6	--
Chrysene	5.14*	1.9	--
Fluoranthene	88.9*	2.0	--
Fluorene	433*	8.5	--
Naphthalene	86*	9.6	--
Phenanthrene	64.5*	19	--
Pyrene	822*	4.6	--
<b>Detected Volatile Organic Compounds by EPA Method 8260D</b>			
1,2,4-Trimethylbenzene	305*	19	--
1,2-Dichlorobenzene	49.2*	0.91	--
1,3,5-Trimethylbenzene	120*	5.4	--
Benzene	0.0274	0.33	--
Ethylbenzene	6.05	2.0	--
Isopropylbenzene	749*	0.87	--
m,p-Xylene	13.1	7.6	--
o-Xylene	13.1	5.3	--
Naphthalene	86*	3.8	--
n-Propylbenzene	45.4*	2.2	--
p-Isopropyltoluene	423*	1.3	--
sec-Butylbenzene	17.4*	1.1	--
Toluene	4.52	0.56	--

**TABLE 2**  
**SOIL SAMPLE RESULTS SUMMARY**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

Sample Location ID	DGWP Screening Level	TWA-SB5	TWA-9D
Sample Depth (feet bgs)		5	43
Sample Date		9/1/2021	10/12/2021
<b>Polychlorinated Biphenyls (PCBs) by EPA Method 8082A</b>			
Aroclor 1016	1	0.02 U	0.0004 U
Aroclor 1221		0.02 U	0.0004 U
Aroclor 1232		0.02 U	0.0004 U
Aroclor 1242		<b>0.19</b>	0.0004 U
Aroclor 1248		0.02 U	0.0004 U
Aroclor 1254		0.02 U	0.0004 U
Aroclor 1260		0.1 UJ	0.0004 U
Aroclor 1262		0.1 UJ	0.0004 U
Aroclor 1268		0.02 U	0.0004 U

Notes

All concentrations in milligrams per kilogram (mg/kg)

Detected compounds are the only compounds tabulated. Additional information for non-detect constituents is available in the lab report.

U = Not detected at reporting limit shown to the left of the "U" flag

J = estimated

UJ = undetected at value shown and estimated

-- = not analyzed

\* = No screening level listed in 2020 Data Gaps Work Plan; screening level value from 2005 PSC Remedial Investigation Report

**TABLE 3**  
**PREVIOUSLY REPORTED SOIL SAMPLING RESULTS**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

**Table 1 Shallow Soil Analytical Data Summary Summary of Detections**  
**Port of Tacoma Property**  
**Taylor Way and Alexander Avenue Fill Area Site**

Soil Boring ID:	SB-1	SB-2	SB-3-1	SB-3-2	SB-4	
Sample Depth bgs:	5-6	6.5-7.5	6-7	9-10 *	6.5-7.5	
Sample Date:	9/24/19	9/24/19	9/24/19	9/24/19	9/24/19	
Parameter	Screening Level **					
<b>Metals</b>						
Arsenic	7.3	<b>3.53</b>	<b>1.63</b>	<b>1.13</b>	<b>7.83</b>	<b>1.65</b>
Chromium	2,000	<b>19.6</b>	<b>9.92</b>	<b>8.6</b>	<b>12.7</b>	<b>8.29</b>
Copper	3,200	<b>17</b>	<b>8.59</b>	<b>10.4</b>	<b>25.3</b>	<b>10.7</b>
Lead	24	<b>17.8</b>	<b>3.25</b>	<b>1.55</b>	<b>4.75</b>	<b>1.3</b>
Manganese	3,700	<b>104</b>	<b>44.7</b>	<b>58.2</b>	<b>70</b>	<b>57.7</b>
Nickel	1,600	<b>8.27</b>	<b>5.36</b>	<b>5.9</b>	<b>12.8</b>	<b>10.3</b>
Zinc	24,000	<b>36.4</b>	<b>17.9</b>	<b>17</b>	<b>26.3</b>	<b>16.4</b>
<b>VOC</b>						
Acetone	72,000	<b>0.62</b>	0.5 U	0.5 U	<b>1.9</b>	0.5 U
<b>SVOC</b>						
Acenaphthene	4,800	0.01 U	<b>0.046</b>	0.01 U	0.01 U	0.01 U
Fluoranthene	3,200	<b>0.036</b>	<b>0.054</b>	0.01 U	0.01 U	0.01 U
Phenanthrene	No SL	<b>0.023</b>	0.01 U	0.01 U	0.01 U	0.01 U
Naphthalene	5	<b>0.01</b>	0.01 U	0.01 U	0.01 U	0.01 U
Pyrene	2,400	<b>0.029</b>	<b>0.045</b>	0.01 U	0.01 U	0.01 U
Benz[a]anthracene	No SL	<b>0.016</b>	0.01 U	0.01 U	0.01 U	0.01 U
2-Methylnaphthalene	320	<b>0.014</b>	0.01 U	0.01 U	0.01 U	0.01 U
Chrysene	No SL	<b>0.021</b>	0.01 U	0.01 U	0.01 U	0.01 U
1-Methylnaphthalene	5,600	<b>0.012</b>	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(a)pyrene	0.1	<b>0.015</b>	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(b)fluoranthene	No SL	<b>0.021</b>	0.01 U	0.01 U	0.01 U	0.01 U

Notes:

NS - not sampled

U - detected below the laboratory reporting limit

Bold denotes a detection, shading denotes value above site Screening Levels

\* Sample collected from a layer of wood waste.

Only detected compounds are shown on this table.

\*\* - Screening Levels are from TWAAFA Revised Data Gaps Work Plan, if provided. Otherwise the Method A/B default cleanup level is used.

mg/kg = milligram per kilogram. All units are in mg/kg.

Source - Crete, 2020 Soil and Groundwater Data Report, Hylebos Marsh Property - 1205 Alexander Avenue and 1300 Taylor Way

**TABLE 4**  
**GROUNDWATER SAMPLING RESULTS SUMMARY**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

Sample Date	Groundwater Boring ID	TWA-4D		TWA-7D		TWA-8D		TWA-8D
	Sample Depth (feet bgs)	40-42	50-52	40-42	55-57	20-22	40-42	50-52
	DGWP Screening Level	12/7/2021	12/7/2021	12/8/2021	12/9/2021	10/13/2021	10/13/2021	10/14/2021
<b>Total Petroleum Hydrocarbons by NWTPH-Dx</b>								
Diesel Range Petroleum Hydrocarbons	500	--	<b>140 NJ</b>	<b>130 NJ</b>	<b>75 NJ</b>	<b>790 NJ</b>	<b>83 NJ</b>	<b>150 NJ</b>
Motor Oil Range Petroleum Hydrocarbons	500	--	250 U	250 U	250 U	<b>390 NJ</b>	250 U	250 U
<b>Total Petroleum Hydrocarbons by NWTPH-Dx w/silica gel</b>								
Diesel Range Petroleum Hydrocarbons	500	--	66 NJ	50 U	50 U	50 U	50 U	50 U
Motor Oil Range Petroleum Hydrocarbons	500	--	250 U	250 U	250 U	250 U	250 U	250 U
<b>Total Metals by EPA Method 6020B</b>								
Arsenic	5	<b>13.1</b>	<b>28.4</b>	<b>9.75</b>	<b>6.64</b>	<b>25.8</b>	<b>10.1</b>	<b>19</b>
Barium	--	<b>207</b>	<b>143</b>	<b>14.3</b>	<b>14.4</b>	<b>124</b>	<b>31.1</b>	<b>42.9</b>
Cadmium	40	1 U	10 U	1 U	1 U	2 U	1 U	2 U
Chromium	11	<b>86.7</b>	<b>64.2</b>	<b>24.5</b>	<b>6.25</b>	<b>44.8</b>	<b>21.6</b>	<b>20.5</b>
Cobalt	--	<b>22.2</b>	<b>19.3</b>	<b>4.52</b>	<b>1.66</b>	<b>40.8</b>	<b>5.83</b>	<b>8.21</b>
Copper	2.4	<b>103</b>	<b>65.2</b>	<b>16.8</b>	<b>7.34</b>	<b>72.1</b>	<b>13.2</b>	<b>26.3</b>
Iron	--	<b>77,800</b>	<b>77,100</b>	<b>12,800</b>	<b>8,050</b>	<b>173,000</b>	<b>12,400</b>	<b>35,200</b>
Lead	8.1	<b>36</b>	<b>7.37</b>	<b>1.7</b>	1 U	<b>15.3</b>	<b>1.82</b>	<b>4.63</b>
Manganese	100	<b>889</b>	<b>747</b>	<b>130</b>	<b>127</b>	<b>1,030</b>	<b>139</b>	<b>303</b>
Mercury	0.025	<b>0.023</b>	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	<b>0.021</b>
Nickel	10	<b>55.4</b>	<b>45.5</b>	<b>10.4</b>	<b>5.24</b>	<b>88.1</b>	<b>11.5</b>	<b>15.8</b>
Selenium	--	10 U	<b>44.8</b>	<b>22.5</b>	<b>12.1</b>	<b>10.2</b>	<b>21.7</b>	<b>25.7</b>
Thallium	--	10 UJ	1 U	1 U	1 U	<b>0.254</b>	0.16 UJ	0.32 UJ
Vanadium	--	<b>124</b>	<b>109</b>	<b>96.5</b>	<b>11.6</b>	<b>120</b>	<b>74.5</b>	<b>62.3</b>
Zinc	81	<b>210</b>	<b>106</b>	<b>19.4</b>	<b>7.77</b>	<b>129</b>	<b>17.2</b>	<b>31.4</b>
<b>Dissolved Metals by EPA 6020B</b>								
Arsenic	5	--	--	--	--	--	--	--
<b>Semivolatile Organic Compounds by EPA Method 8270E</b>								
Acenaphthene	643	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	<b>0.01</b>
Acenaphthylene	4,530	--	0.01 U	0.01 U	<b>0.012</b>	0.01 U	0.01 U	0.01 U
Anthracene	14,200	--	0.01 U	0.01 U	<b>0.041</b>	0.01 U	0.01 U	0.01 U
Benz(a)anthracene	10	--	0.01 U	0.01 U	<b>0.019</b>	0.01 U	0.01 U	0.01 U
Bis(2-ethylhexyl)phthalate	0.046	--	1.6 U	1.6 U	1.6 U	2.2 U	1 U	1.9 U
Carbazole	236	--	0.1 U	0.1 U	<b>0.28</b>	0.1 U	0.1 U	0.1 U
Chrysene	10	--	0.01 U	0.01 U	<b>0.027</b>	0.01 U	0.01 U	0.01 U
Diethyl phthalate	--	--	1 U	1 U	1 U	9.5 UJ-	<b>20 J-</b>	<b>38 J-</b>
Di-n-butyl phthalate	2,910	--	1 U	1 U	1 U	8.7 U	5.5 U	<b>8.5 J</b>
Fluoranthene	90.2	--	<b>0.029</b>	<b>0.013</b>	<b>0.21</b>	0.01 U	0.01 U	0.01 U
Fluorene	2,740	--	0.01 U	0.01 U	<b>0.017</b>	0.01 U	0.01 U	0.01 U
Phenanthrene	139	--	<b>0.065</b>	<b>0.014</b>	<b>0.26</b>	0.01 U	0.01 U	0.01 U
Pyrene	603	--	<b>0.023</b>	<b>0.01</b>	<b>0.18</b>	0.01 U	0.01 U	0.01 U



**TABLE 4**  
**GROUNDWATER SAMPLING RESULTS SUMMARY**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

Sample Date	Groundwater Boring ID	TWA-9D		TWA-10D			
	Sample Depth (feet bgs)	45-47	55-57	20-25	30-35	45-50	51-56
	DGWP Screening Level	10/12/2021	10/12/2021	12/10/2021	12/10/2021	12/13/2021	12/13/2021
<b>Total Petroleum Hydrocarbons by NWTPH-Dx</b>							
Diesel Range Petroleum Hydrocarbons	500	260 NJ	640 NJ	410	140	220	280
Motor Oil Range Petroleum Hydrocarbons	500	640 NJ	1,600	270	250 U	250 U	410
<b>Total Petroleum Hydrocarbons by NWTPH-Dx w/silica gel</b>							
Diesel Range Petroleum Hydrocarbons	500	50 U	81 NJ	50 U	50 U	50 U	50 U
Motor Oil Range Petroleum Hydrocarbons	500	250 U	1,100	250 U	250 U	250 U	250 U
<b>Total Metals by EPA Method 6020B</b>							
Arsenic	5	8.07	19.5	21.4	18.8	15.5	35.5
Barium	--	11.5	72.1	217	80.5	59.7	168
Cadmium	40	2 U	2 U	1.6	1 U	10 U	10 U
Chromium	11	17.3	62	95.2	33.6	19.6	87
Cobalt	--	2.43	12.6	33.4	10 U	5.01	22.9
Copper	2.4	7.36	37.6	176	55.2	22.8	91.3
Iron	--	4,640	47,800	94,300	31000	24700	95300
Lead	8.1	1 U	8.72	29.9	4.71	3.76	9.94
Manganese	100	102	377	730	599	145	457
Mercury	0.025	0.02 U	0.02 U	0.1	0.02 U	0.021	0.028
Nickel	10	8.7	32.4	81.4	21.7	12.9	48.7
Selenium	--	16.9	12.3	10 U	22.9	10 U	10 U
Thallium	--	0.16 UJ	0.16 UJ	1 U	1 U	1 U	1 U
Vanadium	--	69	104	181	62.3	34.8	131
Zinc	81	12.6	96.3	369	73.5	35.6	297
<b>Dissolved Metals by EPA 6020B</b>							
Arsenic	5	--	--	3.9	13.3	10.4	13.5
<b>Semivolatile Organic Compounds by EPA Method 8270E</b>							
Acenaphthene	643	0.01 U	0.013 U	0.01 U	0.01 U	0.01 U	0.01 U
Acenaphthylene	4,530	0.01 U	0.013 U	0.01 U	0.01 U	0.01 U	0.01 U
Anthracene	14,200	0.01 U	0.013 U	0.01 U	0.01 U	0.01 U	0.01 U
Benz(a)anthracene	10	0.01 U	0.013 U	0.01 U	0.01 U	0.01 U	0.01 U
Bis(2-ethylhexyl)phthalate	0.046	0.33 U	0.34 U	1.6 U	1.6 U	1.6 U	1.9
Carbazole	236	0.1 U	0.13 U	0.1 U	0.1 U	0.1 U	0.1 U
Chrysene	10	0.01 U	0.013 U	0.01 U	0.01 U	0.01 U	0.01 U
Diethyl phthalate	--	2 UJ-	4.6 UJ-	1 U	1 U	1 U	1 U
Di-n-butyl phthalate	2,910	1.5 U	3.5 U	1 U	1 U	1.3	2.3
Fluoranthene	90.2	0.01 U	0.013 U	0.01 U	0.01 U	0.01 U	0.01 U
Fluorene	2,740	0.01 U	0.013 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenanthrene	139	0.01 U	0.013 U	0.016	0.01 U	0.01 U	0.01 U
Pyrene	603	0.01 U	0.013 U	0.01 U	0.01 U	0.01 U	0.01 U

**TABLE 4**  
**GROUNDWATER SAMPLING RESULTS SUMMARY**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

Sample Date	Groundwater Boring ID	TWA-4D		TWA-7D		TWA-8D		TWA-8D
	Sample Depth (feet bgs)	40-42	50-52	40-42	55-57	20-22	40-42	50-52
	DGWP Screening Level	12/7/2021	12/7/2021	12/8/2021	12/9/2021	10/13/2021	10/13/2021	10/14/2021
<b>Volatile Organic Compounds by EPA Method 8260D</b>								
Methylene chloride	960	5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U
Bromodichloromethane	--	<b>0.82</b>	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	283	<b>4.4</b>	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	130	1 U	1 U	1 U	1 U	1 U	1 U	<b>1.5</b>
<b>Polychlorinated Biphenyls (PCBs) by EPA Method 8082A</b>								
Aroclor 1260	0.00607	--	0.0035 UJ-	0.0035 U	0.0035 U	<b>0.013</b>	0.0099 UJ-	<b>0.019</b>

Notes

1. All concentrations in micrograms per liter (µg/l)
2. Detected compounds are the only compounds tabulated. Additional information for non-detect constituents is available in the lab report.

Abbreviations

**BOLD** denotes a detection, shading denotes value above site screening level

-- = Not Measured. For screening levels this means none were established in the Data Gaps Work Plan (DOF, 2020).

J = The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate. J- = result is likely biased low; J+ = result is likely bias high

x = The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

U = Result below the numerical value shown to the left of the "U" flag.

N = chromatographic pattern does not match hydrocarbon standard used.

R= Result is rejected

**TABLE 4**  
**GROUNDWATER SAMPLING RESULTS SUMMARY**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

Sample Date	Groundwater Boring ID	TWA-9D		TWA-10D			
	Sample Depth (feet bgs)	45-47	55-57	20-25	30-35	45-50	51-56
	DGWP Screening Level	10/12/2021	10/12/2021	12/10/2021	12/10/2021	12/13/2021	12/13/2021
<b>Volatile Organic Compounds by EPA Method 8260D</b>							
Methylene chloride	960	5 U	5 U	5 U	5 U	<b>10</b>	<b>11</b>
Bromodichloromethane	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	283	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	130	1 U	<b>4.3</b>	<b>1.3</b>	1 U	1 U	1 U
<b>Polychlorinated Biphenyls (PCBs) by EPA Method 8082A</b>							
Aroclor 1260	0.00607	0.0037 UJ-	0.0041 U	0.0035 U	0.0035 UJ	0.0035 UJ	0.0035 U

Notes

1. All concentrations in micrograms per liter (µg/l)
2. Detected compounds are the only compounds tabulated. Additional information for non-detect constituents is available in the lab report.

Abbreviations

**BOLD** denotes a detection, shading denotes value above site screening level

-- = Not Measured. For screening levels this means none were established in the Data Gaps Work Plan (DOF, 2020).

J = The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate. J- = result is likely biased low; J+ = result is likely bias high

x = The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

U = Result below the numerical value shown to the left of the "U" flag.

N = chromatographic pattern does not match hydrocarbon standard used.

R= Result is rejected

**TABLE 5**  
**PREVIOUSLY REPORTED GROUNDWATER SAMPLE RESULTS**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

**Table 4 Shallow Geoprobe Groundwater Analytical Data Summary of Detections**  
**Port of Tacoma Property**  
**Taylor Way and Alexander Avenue Fill Area Site**

Soil Boring ID:	SB-1	SB-2	SB-3	SB-4	
Sample Date:	9/24/19	9/24/19	9/24/19	9/24/19	
Screen Interval (ft bgs):	3-8	3.5-8.5	3.5-8.5	3.5-8.5	
Units:	ug/L	ug/L	ug/L	ug/L	
Parameter	Screening Level *				
<b>TPH</b>					
Diesel Range Organics	NA	<b>230x</b>	<b>180x</b>	<b>6800x</b>	<b>300x</b>
Diesel Range Organics with SGC	NA	NS	NS	70 U	NS
Lube Oil	NA	500 U	330 U	<b>1800x</b>	330 U
Lube Oil with SGC	NA	NS	NS	330 U	NS
NWTPH-Dx (Total)	500	<b>230x</b>	<b>180x</b>	<b>8600x</b>	<b>300x</b>
NWTPH-Dx with SGC (Total)	500	NS	NS	330 U	NS
<b>Metals - Dissolved</b>					
Arsenic Dissolved	5	NS	<b>1.49</b>	<b>1.94</b>	<b>1.07</b>
Copper Dissolved	2.4	NS	2.4 U	2.4 U	2.4 U
Chromium Dissolved	50	NS	<b>2.63</b>	<b>1.43</b>	1 U
Manganese Dissolved	100	NS	<b>635</b>	<b>832</b>	<b>631</b>
Nickel Dissolved	8.2	NS	<b>5.47</b>	<b>9.44</b>	<b>5.12</b>
Selenium Total	71	NS	<b>1.76</b>	<b>3.36</b>	<b>1.95</b>
<b>Metals - Total</b>					
Arsenic Total	5	<b>4.95</b>	<b>2.18</b>	<b>1.77</b>	<b>5.66</b>
Chromium Total	50	<b>4.33</b>	<b>4.94</b>	<b>3</b>	<b>15.6</b>
Copper Total	2.4	<b>6.8</b>	<b>3.81</b>	<b>3.78 J</b>	<b>22</b>
Lead Total	8.1	<b>3.59</b>	1 U	1 U	<b>4.31</b>
Manganese Total	100	<b>2990</b>	<b>665</b>	<b>892</b>	<b>614</b>
Nickel Total	8.2	<b>7.15</b>	<b>5.48</b>	<b>8.85</b>	<b>17.7</b>
Selenium Total	71	<b>1.3</b>	<b>1.41</b>	<b>2.33</b>	<b>1.44</b>
Zinc Total	81	<b>11.1</b>	<b>6.01</b>	<b>7.53</b>	<b>26.2</b>
<b>VOC</b>					
Acetone	No SL	<b>320</b>	50 U	50 U	50 U
Methylene chloride	3,600	<b>6.2</b>	5 U	5 U	5 U
<b>SVOC</b>					
1-Methylnaphthalene	No SL	0.3 U	<b>0.22</b>	<b>0.7</b>	0.2 U
Acenaphthene	30	0.03 U	<b>9.1</b>	<b>1.9</b>	0.26
Acenaphthylene	No SL	0.03 U	<b>0.029</b>	0.02 U	0.02 U
Anthracene	100	0.03 U	0.02 U	<b>0.036</b>	0.02 U
Fluoranthene	6	0.03 U	<b>0.068</b>	0.02 U	0.02 U
Fluorene	10	0.03 U	<b>0.052</b>	0.02 U	<b>0.048</b>
Phenanthrene	No SL	0.03 U	0.02 U	<b>0.042</b>	0.02 U
Pyrene	8	0.03 U	<b>0.16</b>	0.02 U	0.02 U
<b>Dissolved Gases</b>					
Methane	NA	1,000 U	<b>1,210</b>	<b>1,480</b>	<b>3,530</b>

Notes:

NS - not sampled

NA - not applicable

U - detected below the laboratory reporting limit

J - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

x = The sample chromatographic pattern does not resemble the fuel standard used for quantification.

No SL - no screening levels available

Bold denotes a detection, shading denotes value above site Screening Levels

Only detected compounds are shown on this table.

\* - Screening Levels are from TWAFA Revised Data Gaps Work Plan

All results are in micrograms per liter (ug/L)

Source - Crete, 2020 Soil and Groundwater Data Report, Hylebos Marsh Property - 1205 Alexander Avenue and 1300 Taylor Way

**TABLE 6**  
**SOIL VAPOR SAMPLING RESULTS SUMMARY - FORMER CLEAN CARE**

Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

Sample Name	Sample Date	Field Measurements			Air Phase Hydrocarbons by MA-APH		
		Carbon Dioxide	Methane	Oxygen	EC5-8 aliphatics	EC9-12 aliphatics	EC9-10 aromatics
		%			µg/m <sup>3</sup>		
TWA-SV-1-083121	8/31/2021	0	0	21.3	<b>2,000,000</b> J	<b>2,200,000</b> J	<b>160,000</b>
TWA-SV-2-083121	8/31/2021	0	0	20.9	<b>1,000,000</b> J	<b>1,100,000</b> J	<b>230,000</b>
TWA-SV-3-083121	8/31/2021	0	0	20.8	<b>5,900,000</b> J	<b>1,200,000</b> J	<b>77,000</b>
TWA-SV-4-083121	8/31/2021	0	0	21	<b>5,600,000</b> J	<b>1,500,000</b> J	<b>52,000</b>
TWA-SV-5-083121	8/31/2021	0	0	21.4	< 400 U	1,400	< 130 U
TWA-SV-6-083121	8/31/2021	0	0	21.3	< 430 U	1,100	< 140 U
TWA-SV-7-090121	9/1/2021	0	0	21.5	< 430 U	510	< 140 U
TWA-SV-8-090121	9/1/2021	0	0	21.4	< 370 U	340	< 120 U
TWA-SV-9-083121	8/31/2021	0	0.1	21.2	510	1,100	< 150 U
TWA-SV-10-083121	8/31/2021	0	0	21.1	<b>660,000</b> J	<b>540,000</b>	<b>65,000</b>
TWA-SV-11-083121	8/31/2021	0	0	20.9	<b>2,600,000</b> J	<b>4,400,000</b> J	<b>1,300,000</b> J
TWA-SV-12-083121	8/31/2021	0	0	20.8	<b>6,700,000</b> J	<b>190,000</b>	< 55,000 U
TWA-SV-13-083121	8/31/2021	0	0	20.6	<b>5,200,000</b> J	<b>1,800,000</b> J	<b>100,000</b>
TWA-SV-13-083121-D	8/31/2021	0	0	20.6	<b>5,400,000</b> J	<b>1,800,000</b> J	<b>110,000</b>
TWA-SV-14-083121	8/31/2021	0	0.1	20.8	<b>1,900,000</b> J	<b>1,200,000</b> J	<b>43,000</b>
TWA-SV-15-090121	9/1/2021	0	0	21.3	< 400 U	630	< 130 U
TWA-SV-16-083121	8/31/2021	0	0	21.2	<b>1,900,000</b> J	<b>1,100,000</b> J	<b>48,000</b>
TWA-SV-17-090121	9/1/2021	0	0	21.2	< 460 U	880	< 150 U
TWA-SV-18-090121	9/1/2021	0	0	21.3	< 400 U	810	< 130 U
TWA-SV-19-090121	9/1/2021	0	0	21.2	<b>9,300</b>	<b>4,200</b>	<b>1,100</b>
TWA-SV-20-090121	9/1/2021	0	0	21.1	<b>1,800</b>	<b>2,600</b>	<b>150</b>
TWA-SV-21-090121	9/1/2021	0	0	21	<b>3,500</b> J	1,200	< 140 U
TWA-SV-22-090121	9/1/2021	0	0	21.2	<b>3,800,000</b> J	<b>1,100,000</b>	< 55,000 U
TWA-SV-23-090121	9/1/2021	0	0.1	20.8	< 430 U	490	< 140 U
TWA-SV-24-090121	9/1/2021	0	0	20.8	<b>350,000</b>	<b>670,000</b>	< 27,000 U
TWA-SV-25-090121	9/1/2021	0	0	20.9	<b>7,300,000</b> J	<b>530,000</b>	<b>75,000</b>
TWA-SV-26-090121	9/1/2021	0	0	21.2	740	910	< 150 U
Sub-Slab Soil Gas Screening Level - Method B - Noncancer		--	--	--	1,500		
Sub-Slab Soil Gas Screening Level - Method B - Cancer		--	--	--	--		
Sub-Slab Soil Gas Screening Level - Method C- Noncancer		--	--	--	1,500		
Sub-Slab Soil Gas Screening Level - Method C- Cancer		--	--	--	--		
Nonresidential Short-Term Action Level, Subsurface Soil Gas(2)		--	--	--	--	--	--

**Notes**

**BOLD** denotes a detection, shading denotes value above site screening level

**Abbreviations**

MA-APH = Massachusetts Air-Phase Hydrocarbons

EPA = Environmental Protection Agency

-- indicates value not available

**TABLE 6**  
**SOIL VAPOR SAMPLING RESULTS SUMMARY - FORMER CLEAN CARE**

Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

Sample Name	Sample Date	Field Measurements			Volatile Organic Compounds (VOCs) by EPA Method TO-15										
		Carbon Dioxide	Methane	Oxygen	Tetra-chloroethene	Tri-chloroethene	cis-1,2-Dichloroethene	Vinyl Chloride	Naphthalene	Methylene Chloride	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene
		%			µg/m3										
TWA-SV-1-083121	8/31/2021	0	0	21.3	< 17,000 U	< 270 U	< 990 U	<b>670</b>	< 660 U	< 87,000 U	<b>25,000</b>	<b>69,000</b>	<b>7,000</b>	<b>21,000</b>	<b>13,000</b>
TWA-SV-2-083121	8/31/2021	0	0	20.9	< 6,800 U	<b>200</b>	100,000 J	<b>52,000 J</b>	<b>1,100</b>	< 35,000 U	<b>33,000</b>	<b>27,000</b>	<b>2,900</b>	<b>16,000</b>	<b>7,700</b>
TWA-SV-3-083121	8/31/2021	0	0	20.8	< 7,500 U	<b>240</b>	<b>750</b>	<b>4,700</b>	< 290 U	< 38,000 U	<b>12,000</b>	< 21,000 U	<b>22,000</b>	<b>9,600</b>	<b>8,700</b>
TWA-SV-4-083121	8/31/2021	0	0	21	< 6,800 U	< 110 U	< 400 U	<b>640</b>	< 260 U	< 35,000 U	<b>11,000</b>	< 19,000 U	<b>22,000</b>	<b>2,900</b>	<b>2,100</b>
TWA-SV-5-083121	8/31/2021	0	0	21.4	< 37 U	<b>2.7</b>	< 2.1 U	< 1.4 U	< 1.4 U	< 190 U	< 1.7 U	< 100 U	< 2.3 U	5.0	< 2.3 U
TWA-SV-6-083121	8/31/2021	0	0	21.3	< 39 U	<b>7.0</b>	< 2.3 U	< 1.5 U	< 1.5 U	< 200 U	< 1.9 U	< 110 U	< 2.5 U	< 5 U	< 2.5 U
TWA-SV-7-090121	9/1/2021	0	0	21.5	< 39 U	< 0.62 U	< 2.3 U	< 1.5 U	< 1.5 U	< 200 U	< 1.9 U	< 110 U	< 2.5 U	< 5 U	< 2.5 U
TWA-SV-8-090121	9/1/2021	0	0	21.4	< 34 U	< 0.54 U	< 2 U	< 1.3 U	< 1.3 U	< 170 U	< 1.6 U	< 94 U	< 2.2 U	< 4.3 U	< 2.2 U
TWA-SV-9-083121	8/31/2021	0	0.1	21.2	< 41 U	<b>1.7</b>	< 2.4 U	< 1.5 U	1.7	< 210 U	2.0	< 110 U	< 2.6 U	7.8	3.5
TWA-SV-10-083121	8/31/2021	0	0	21.1	<b>760,000 J</b>	<b>77,000</b>	<b>190,000 J</b>	<b>53,000 J</b>	< 290 U	< 38,000 U	350 U	< 21,000 U	< 480 U	960	640
TWA-SV-11-083121	8/31/2021	0	0	20.9	< 6,800 U	<b>1,600</b>	<b>1,100</b>	<b>1,600</b>	<b>13,000</b>	< 35,000 U	<b>19,000</b>	<b>61,000 J</b>	<b>27,000</b>	<b>220,000 J</b>	<b>86,000</b>
TWA-SV-12-083121	8/31/2021	0	0	20.8	<b>37,000</b>	<b>46,000</b>	<b>9,500</b>	<b>9,500</b>	< 580 U	< 76,000 U	<b>1,600</b>	< 41,000 U	<b>1,600</b>	<b>4,500</b>	<b>1,400</b>
TWA-SV-13-083121	8/31/2021	0	0	20.6	< 7,500 U	< 120 U	< 440 U	< 280 U	< 290 U	< 38,000 U	<b>8,500</b>	< 21,000 U	<b>28,000</b>	1,500	<b>1,700</b>
TWA-SV-13-083121-D	8/31/2021	0	0	20.6	< 6,800 U	< 110 U	< 400 U	<b>280</b>	< 260 U	< 35,000 U	<b>8,900</b>	< 19,000 U	<b>28,000</b>	<b>1,600</b>	<b>1,800</b>
TWA-SV-14-083121	8/31/2021	0	0.1	20.8	< 7,500 U	< 120 U	< 440 U	< 280 U	< 290 U	< 38,000 U	<b>3,300</b>	< 21,000 U	640	< 960 U	< 480 U
TWA-SV-15-090121	9/1/2021	0	0	21.3	< 37 U	<b>2</b>	< 2.1 U	< 1.4 U	< 1.4 U	< 190 U	< 1.7 U	< 100 U	< 2.3 U	8.0	3.0
TWA-SV-16-083121	8/31/2021	0	0	21.2	< 6,800 U	< 110 U	< 400 U	< 260 U	< 260 U	< 35,000 U	<b>3,000</b>	< 19,000 U	<b>6,600</b>	<b>940</b>	<b>660</b>
TWA-SV-17-090121	9/1/2021	0	0	21.2	< 41 U	27	< 2.4 U	< 1.6 U	< 1.6 U	< 210 U	< 1.9 U	< 110 U	< 2.6 U	< 5.3 U	< 2.6 U
TWA-SV-18-090121	9/1/2021	0	0	21.3	< 37 U	0.84	< 2.1 U	< 1.4 U	< 1.4 U	< 190 U	< 1.7 U	< 100 U	2.5	< 4.7 U	< 2.3 U
TWA-SV-19-090121	9/1/2021	0	0	21.2	<b>21,000 J</b>	<b>1,500 J</b>	<b>150</b>	< 4.3 U	< 4.5 U	< 590 U	7.7	< 320 U	< 7.4 U	< 15 U	< 7.4 U
TWA-SV-20-090121	9/1/2021	0	0	21.1	520	<b>29</b>	<b>3.8</b>	3.3	< 1.5 U	< 200 U	6.0	< 110 U	<b>10</b>	<b>15</b>	<b>6.6</b>
TWA-SV-21-090121	9/1/2021	0	0	21	< 37 U	<b>7.0</b>	<b>3.2</b>	< 1.4 U	< 1.4 U	< 190 U	<b>170</b>	< 100 U	< 2.4 U	< 4.8 U	<b>9.7</b>
TWA-SV-22-090121	9/1/2021	0	0	21.2	< 15,000 U	< 240 U	< 870 U	<b>1,200</b>	< 580 U	< 76,000 U	<b>2,200</b>	< 41,000 U	<b>15,000</b>	<b>4,600</b>	<b>9,600</b>
TWA-SV-23-090121	9/1/2021	0	0.1	20.8	< 39 U	<b>1.5</b>	< 2.3 U	< 1.5 U	< 1.5 U	< 200 U	< 1.8 U	< 110 U	< 2.5 U	< 5 U	< 2.5 U
TWA-SV-24-090121	9/1/2021	0	0	20.8	< 7,500 U	<b>270</b>	<b>2,900</b>	<b>3,700</b>	< 290 U	< 38,000 U	<b>8,200</b>	< 21,000 U	1,800	<b>2,500</b>	<b>1,400</b>
TWA-SV-25-090121	9/1/2021	0	0	20.9	<b>79,000</b>	<b>4,500</b>	<b>10,000</b>	<b>18,000</b>	< 550 U	< 73,000 U	<b>45,000</b>	<b>120,000 J</b>	<b>21,000</b>	<b>27,000</b>	<b>12,000</b>
TWA-SV-26-090121	9/1/2021	0	0	21.2	390	3.8	< 2.3 U	< 1.5 U	< 1.5 U	< 200 U	< 1.9 U	< 110 U	< 2.6 U	< 5.1 U	< 2.6 U
Sub-Slab Soil Gas Screening Level - Method B - Noncancer		--	--	--	610	30	--	1,500	1,500	9,100	460	76,000	15,000	1,500	
Sub-Slab Soil Gas Screening Level - Method B - Cancer		--	--	--	320	11	--	9.5	2.5	2,200	11	--	--	--	--
Sub-Slab Soil Gas Screening Level - Method C - Noncancer		--	--	--	3,300	200	--	95	25	20,000	110	170,000	33,000	3,300	
Sub-Slab Soil Gas Screening Level - Method C - Cancer		--	--	--	320	11	--	9.5	2.5	2,200	11	--	--	--	--
Nonresidential Short-Term Action Level, Subsurface Soil Gas(2)		--	--	--	--	250	--	--	--	--	--	--	--	--	--

**Notes**

**BOLD** denotes a detection, shading denotes value above site screening level

**Abbreviations**

MA-APH = Massachusetts Air-Phase Hydrocarbons

EPA = Environmental Protection Agency

-- indicates value not available

**TABLE 7**  
**SOIL VAPOR SAMPLING RESULTS SUMMARY - BURLINGTON**

Taylor Way and Alexander Avenue Fill Area Site

Tacoma, Washington

Location	Sample Name	Sample Date	Field Measurements			Air Phase Hydrocarbons by MA-APH		
			Carbon Dioxide	Methane	Oxygen	EC5-8 aliphatics	EC9-12 aliphatics	EC9-10 aromatics
			%			µg/m <sup>3</sup>		
<b>Parcel A</b>	TWA-SV-27-090121	9/1/2021	0	0	20.7	<b>1,200,000</b> J	<b>300,000</b>	27,000 U
<b>Lab Pack Building</b>	TWA-SV-LP-A-2	3/1/2022	0	0	21.1	440 U	<b>270</b>	150 U
	TWA-SV-LP-B-1	3/1/2022	0	0.3 <sup>1</sup>	20.9	500	<b>240</b>	150 U
	TWA-SV-LP-C-2	3/1/2022	0	0	20.9	430 U	140 U	140 U
	TWA-SV-LP-D-1	3/1/2022	0	0	21.1	460 U	<b>200</b>	150 U
	TWA-SV-LP-E-1	3/1/2022	0	0	20.9	440 U	<b>240</b>	150 U
<b>Transportation</b>	TWA-SV-32-072722	7/27/2022	0	0	21.3	<b>690</b>	230 U	230 U
	TWA-SV-32-072722-D	7/27/2022	0	0	21.3	720 U	240 U	240 U
	TWA-SV-33-072722	7/27/2022	0	0	21.5	<b>2,000</b>	<b>340</b>	300 U
	TWA-SV-34-072722	7/27/2022	0	0	21.4	750 U	250 U	250 U
Sub-Slab Soil Gas Screening Level - Method B - Noncancer			--	--	--	1,500		
Sub-Slab Soil Gas Screening Level - Method B - Cancer			--	--	--	--		
Sub-Slab Soil Gas Screening Level - Method C- Noncancer			--	--	--	1,500		
Sub-Slab Soil Gas Screening Level - Method C- Cancer			--	--	--	--		
Nonresidential Short-Term Action Level, Subsurface Soil Gas(2)			--	--	--	--	--	--

**Notes**

**BOLD** denotes a detection, shading denotes value above site screening level.

1. Active processing in room. Background methane was 0.3%.

**Abbreviations**

MA-APH = Massachusetts Air-Phase Hydrocarbons

EPA = Environmental Protection Agency

**TABLE 7  
SOIL VAPOR SAMPLING RESULTS SUMMARY - BURLINGTON**

Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

Location	Sample Name	Sample Date	Volatile Organic Compounds (VOCs) by EPA Method TO-15													
			Tetra-chloroethene	Tri-chloroethene	cis-1,2-Dichloroethene	1,2-Dichloroethane (EDC)	1,2-Dibromoethane (EDB)	1,4-Dioxane	Vinyl Chloride	Naphthalene	Methylene Chloride	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene
			µg/m3													
Parcel A	TWA-SV-27-090121	9/1/2021	7,500 U	120 U	440 U	--	--	--	280 U	290 U	38,000 U	5,400	21,000 U	1,700	1,800	840
Lab Pack Building	TWA-SV-LP-A-2	3/1/2022	40 U	0.63 U	2.3 U	0.24 U	0.45 U	2.1 U	1.5 U	1.5 U	200 U	1.9 U	110 U	2.6 U	5.1 U	2.6 U
	TWA-SV-LP-B-1	3/1/2022	41 U	0.66 U	2.4 U	0.25 U	0.47 U	2.2 U	1.6 U	1.6 U	530 J	1.9 U	110 U	2.6 U	5.3 U	2.6 U
	TWA-SV-LP-C-2	3/1/2022	39 U	0.61 U	2.3 U	0.23 U	0.44 U	2.1 U	1.5 U	1.5 U	280	1.8 U	110 U	2.5 U	5 U	2.5 U
	TWA-SV-LP-D-1	3/1/2022	42 U	0.67 U	2.5 U	0.25 U	0.48 U	2.2 U	1.6 U	1.6 U	510 J	2 U	120 U	2.7 U	7.3	2.7 U
	TWA-SV-LP-E-1	3/1/2022	40 U	0.63 U	2.3 U	0.24 U	0.45 U	2.1 U	1.5 U	1.5 U	200 U	1.9 U	110 U	2.6 U	5.1 U	2.6 U
Transportation	TWA-SV-32-072722	7/27/2022	62 U	0.99 U	3.6 U	--	--	--	2.4 U	2.4 U	320 U	2.9 U	170 U	4 U	8 U	4 U
	TWA-SV-32-072722-D	7/27/2022	65 U	1 U	3.8 U	--	--	--	2.5 U	2.4 U	330 U	3.1 U	180 U	4.2 U	8.3 U	4.2 U
	TWA-SV-33-072722	7/27/2022	81 U	1.3 U	4.8 U	--	--	--	3.1 U	2.4 U	420 U	3.8 U	230 U	5.2 U	10 U	5.2 U
	TWA-SV-34-072722	7/27/2022	68 U	1.2	4 U	--	--	--	2.6 U	2.4 U	350 U	3.2 U	190 U	4.3 U	8.7 U	4.3 U
Sub-Slab Soil Gas Screening Level - Method B - Noncancer			610	30	--	110	140	460	1,500	1,500	9,100	460	76,000	15,000	1,500	
Sub-Slab Soil Gas Screening Level - Method B - Cancer			320	11	--	3.2	0.14	17	9.5	2.5	2,200	11	--	--	--	--
Sub-Slab Soil Gas Screening Level - Method C- Noncancer			3,300	200	--	230	300	1000	95	25	20,000	110	170,000	33,000	3,300	
Sub-Slab Soil Gas Screening Level - Method C- Cancer			320	11	--	32	1.4	170	9.5	2.5	2,200	11	--	--	--	--
Nonresidential Short-Term Action Level, Subsurface Soil Gas(2)			--	250	--	--	--	--	--	--	--	--	--	--	--	--

**Notes**

**BOLD** denotes a detection, shading denotes value above site

1. Active processing in room. Background methane was 0.3%

**Abbreviations**

MA-APH = Massachusetts Air-Phase Hydrocarbons

EPA = Environmental Protection Agency



Table 8  
**SOIL VAPOR SAMPLING RESULTS SUMMARY - FORMER POTTER**  
 Potter Property - Vapor Intrusion Investigation  
 Port of Tacoma

Location:	MTCA Method B, Vapor Intrusion, Sub-Slab Soil Gas <sup>(1)</sup>		MTCA Method C, Vapor Intrusion, Sub-Slab Soil Gas <sup>(1)</sup>		Short-Term Action Level, Subsurface Soil Gas <sup>(2)</sup>	Methane Lower Explosive Limit <sup>(3)</sup>	TWA-SV-35		TWA-SV-36	TWA-SV-37	TWA-SV-38		TWA-SV-39	TWA-SV-40
	Sample Name:	Noncancer	Cancer	Noncancer			Cancer	Nonresidential	TWA-SV-35-072622	TWA-SV-DUP-072622	TWA-SV-36-072622	TWA-SV-37-072622	TWA-SV-38-072722	TWA-SV-DUP-072722
Sample Date:	Noncancer	Cancer	Noncancer	Cancer	Nonresidential		7/26/2022	7/26/2022	7/26/2022	7/26/2022	7/27/2022	7/27/2022	7/27/2022	7/26/2022
<b>Permanent Gases (%)</b>														
Carbon Dioxide	NV	NV	NV	NV	NA	NA	19.0	19.2	6.48	5.74	11.2	11.3	15.3	8.81
Methane	NV	NV	NV	NV	NA	5	2.12	2.11	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Oxygen	NV	NV	NV	NV	NA	NA	2.10	1.86	18.7	17.1	9.68	9.75	8.57	18.7
<b>VOCs (ug/m3)</b>														
1,1,1-Trichloroethane	76,000	NV	170,000	NV	NA	NA	150 U	160 U	11 U	5.2 U	4.7 U	5.4 U	43	4.9 U
1,1,2,2-Tetrachloroethane	NV	1.4	NV	14	NA	NA	38 U	40 U	2.7 U	1.3 U	1.2 U	1.4 U	1.3 U	1.2 U
1,1,2-Trichloroethane	3	5.2	6.7	52	NA	NA	15 U	16 U	1.1 U	0.52 U	0.47 U	0.54 U	0.51 U	0.49 U
1,1-Dichloroethane	NV	52	NV	520	NA	NA	110 U	120 U	8.1 U	3.8 U	3.5 U	4 U	3.8 U	3.6 U
1,1-Dichloroethene	3,000	NV	6,700	NV	NA	NA	110 U	110 U	7.9 U	3.8 U	3.4 U	3.9 U	3.7 U	3.5 U
1,2,4-Trichlorobenzene	30	NV	67	NV	NA	NA	210 U	220 U	15 U	7.1 U	6.5 U	7.3 U	6.9 U	6.6 U
1,2,4-Trimethylbenzene	910	NV	2,000	NV	NA	NA	1,400 U	1,400 U	98 U	47 U	43 U	49 U	46 U	44 U
1,2-Dibromoethane	140	0.14	300	1.4	NA	NA	22 U	22 U	1.5 U	0.73 U	0.67 U	0.76 U	0.71 U	0.68 U
1,2-Dichlorobenzene	3,000	NV	6,700	NV	NA	NA	170	170 U	12 U	5.7 U	5.2 U	6 U	5.6 U	5.4 U
1,2-Dichloroethane	110	3.2	230	32	NA	NA	11 U	12 U	0.81 U	0.38 U	0.35 U	0.4 U	0.38 U	0.36 U
1,2-Dichloropropane	61	23	130	230	NA	NA	65 U	67 U	4.6 U	2.2 U	2 U	2.3 U	2.1 U	2.1 U
1,3,5-Trimethylbenzene	910	NV	2,000	NV	NA	NA	1,400 U	1,400 U	98 U	47 U	43 U	49 U	46 U	44 U
1,3-Butadiene	30	2.8	67	28	NA	NA	12 U	13 U	0.88 U	0.42 U	0.38 U	0.44 U	0.41 U	0.39 U
1,3-Dichlorobenzene	NV	NV	NV	NV	NA	NA	170 U	170 U	12 U	5.7 U	5.2 U	6 U	5.6 U	5.4 U
1,4-Dichlorobenzene	12,000	7.6	27,000	76	NA	NA	64 U	66 U	4.6 U	2.2 U	2 U	2.3 U	2.1 U	2 U
1,4-Dioxane	460	17	1,000	170	NA	NA	100 U	100 U	7.2 U	3.4 U	3.1 U	3.6 U	3.4 U	3.2 U
2,2,4-Trimethylpentane	NV	NV	NV	NV	NA	NA	50,000 J	51,000 J	93 U	44 U	41 U	46 U	43 U	42 U
2-Butanone	76,000	NV	170,000	NV	NA	NA	1,700 U	1,700 U	120 U	56 U	51 U	58 U	55 U	52 U
2-Chlorotoluene	NV	NV	NV	NV	NA	NA	1,400 U	1,500 U	100 U	49 U	45 U	51 U	48 U	46 U
2-Hexanone	460	NV	1,000	NV	NA	NA	1,100 U	1,200 U	82 U	39 U	36 U	41 U	38 U	36 U
2-Propanol	NV	NV	NV	NV	NA	NA	2,400 U	2,500 U	170 U	82 U	75 U	85 U	80 U	77 U
4-Ethyltoluene	NV	NV	NV	NV	NA	NA	1,400 U	1,400 U	98 U	47 U	43 U	49 U	46 U	44 U
4-Methyl-2-pentanone	46,000	NV	100,000	NV	NA	NA	1,100 U	1,200 U	82 U	39 U	36 U	41 U	38 U	36 U
Acetone	NV	NV	NV	NV	NA	NA	1,300 U	1,400 U	100	45 U	41 U	47 U	44 U	42 U
Acrolein	0.3	NV	0.67	NV	NA	NA	32 U	33 U	2.3 U	1.1 U	1 U	1.1 U	1.1 U	1 U
Allyl Chloride	15	14	33	140	NA	NA	880 U	910 U	63 U	30 U	27 U	31 U	29 U	28 U
Benzene	460	11	1,000	110	NA	NA	89 U	93 U	6.4 U	3 U	2.8 U	3.2 U	3 U	2.8 U
Benzyl Chloride	15	1.7	33	17	NA	NA	14 U	15 U	1 U	0.49 U	0.45 U	0.51 U	0.48 U	0.46 U
Bromodichloromethane	NV	2.3	NV	23	NA	NA	19 U	19 U	1.3 U	0.64 U	0.58 U	0.66 U	0.62 U	0.6 U

**Table 8**  
**SOIL VAPOR SAMPLING RESULTS SUMMARY - FORMER POTTER**  
**Potter Property - Vapor Intrusion Investigation**  
**Port of Tacoma**

Location:	MTC A Method B, Vapor Intrusion, Sub-Slab Soil Gas <sup>(1)</sup>		MTC A Method C, Vapor Intrusion, Sub-Slab Soil Gas <sup>(1)</sup>		Short-Term Action Level, Subsurface Soil Gas <sup>(2)</sup>	Methane Lower Explosive Limit <sup>(3)</sup>	TWA-SV-35		TWA-SV-36	TWA-SV-37	TWA-SV-38		TWA-SV-39	TWA-SV-40
	Sample Name:	Noncancer	Cancer	Noncancer			Cancer	Nonresidential	TWA-SV-35-072622	TWA-SV-DUP-072622	TWA-SV-36-072622	TWA-SV-37-072622	TWA-SV-38-072722	TWA-SV-DUP-072722
Sample Date:	Noncancer	Cancer	Noncancer	Cancer	Nonresidential		7/26/2022	7/26/2022	7/26/2022	7/26/2022	7/27/2022	7/27/2022	7/27/2022	7/26/2022
Bromoform	NV	76	NV	760	NA	NA	580 U	600 U	41 U	20 U	18 U	20 U	19 U	18 U
Bromomethane	76	NV	170	NV	NA	NA	1,100 U	1,100 U	78 U	37 U	34 U	38 U	36 U	35 U
Carbon disulfide	11,000	NV	23,000	NV	NA	NA	1,700 U	1,800 U	120 U	59 U	54 U	62 U	58 U	55 U
Carbon tetrachloride	1,500	14	3,300	140	NA	NA	88 U	91 U	6.3 U	3 U	2.7 U	3.1 U	2.9 U	2.8 U
Chlorobenzene	760	NV	1,700	NV	NA	NA	130 U	130 U	9.2 U	4.4 U	4 U	4.6 U	4.3 U	4.1 U
Chloroethane	150,000	NV	330,000	NV	NA	NA	740 U	770 U	53 U	25 U	23 U	26 U	25 U	23 U
Chloroform	1,500	3.6	3,300	36	NA	NA	14 U	14 U	4.1	1.1	3.2	3.3	1.8	2.6
Chloromethane	1,400	NV	3,000	NV	NA	NA	1,000 U	1,100 U	74 U	35 U	32 U	37 U	35 U	33 U
cis-1,2-Dichloroethene	NV	NV	NV	NV	NA	NA	110 U	110 U	7.9 U	3.8 U	3.4 U	3.9 U	3.7 U	3.5 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	NA	NA	250 U	260 U	18 U	8.6 U	7.9 U	9 U	8.4 U	8.1 U
Cyclohexane	91,000	NV	200,000	NV	NA	NA	21,000 J	21,000 J	140 U	65 U	60 U	68 U	64 U	61 U
Dibromochloromethane	NV	NV	NV	NV	NA	NA	24 U	25 U	1.7 U	0.81 U	0.74 U	0.84 U	0.79 U	0.76 U
Dichlorodifluoromethane (Freon 12)	1,500	NV	3,300	NV	NA	NA	280 U	290 U	20 U	9.4 U	8.6 U	9.8 U	9.2 U	8.8 U
Ethanol	NV	NV	NV	NV	NA	NA	2,100 U	2,200 U	150 U	72 U	66 U	75 U	70 U	67 U
Ethyl Acetate	1,100	NV	2,300	NV	NA	NA	2,000 U	2,100 U	140 U	68 U	63 U	71 U	67 U	64 U
Ethylbenzene	15,000	NV	33,000	NV	NA	NA	120 U	130 U	8.7 U	4.1 U	3.8 U	4.3 U	4 U	3.9 U
Freon 113	76,000	NV	170,000	NV	NA	NA	210 U	220 U	15 U	7.3 U	6.7 U	7.6 U	7.1 U	6.8 U
Freon 114	NV	NV	NV	NV	NA	NA	590 U	610 U	42 U	20 U	18 U	21 U	20 U	19 U
Heptane	6,100	NV	13,000	NV	NA	NA	42,000 J	43,000 J	82 U	39 U	36 U	41 U	38 U	36 U
Hexachlorobutadiene	NV	3.8	NV	38	NA	NA	60 U	62 U	4.3 U	2 U	1.9 U	2.1 U	2 U	1.9 U
Isopropylbenzene	6,100	NV	13,000	NV	NA	NA	2,800 U	2,900 U	200 U	93 U	86 U	97 U	91 U	88 U
m,p-Xylene	NV	NV	NV	NV	NA	NA	240 U	250 U	17 U	8.3 U	7.6 U	8.6 U	8.1 U	7.7 U
Methyl methacrylate	11,000	NV	23,000	NV	NA	NA	1,100 U	1,200 U	82 U	39 U	36 U	41 U	38 U	36 U
Methyl tert-butyl ether	46,000	320	100,000	3,200	NA	NA	2,000 U	2,100 U	140 U	69 U	63 U	71 U	67 U	64 U
Methylene chloride	9,100	2,200	20,000	83,000	NA	NA	9,700 U	10,000 U	690 U	330 U	300 U	340 U	320 U	310 U
Naphthalene	46	2.5	100	25	NA	NA	73 U	76 U	2.4 UJ	2.4 UJ	2.3 U	2.4 UJ	2.4 U	2.3 U
n-Butane	NV	NV	NV	NV	NA	NA	1,300 U	1,400 U	95 U	45 U	41 U	47 U	44 U	42 U
n-Hexane	11,000	NV	23,000	NV	NA	NA	27,000 J	28,000 J	70 U	33 U	31 U	35 U	33 U	31 U
n-Nonane	NV	NV	NV	NV	NA	NA	1,500 U	1,500 U	100 U	50 U	46 U	52 U	49 U	47 U
n-Pentane	NV	NV	NV	NV	NA	NA	1,900	1,900	120 U	56 U	51 U	58 U	55 U	53 U
n-Propylbenzene	15,000	NV	33,000	NV	NA	NA	1,400 U	1,400 U	98 U	47 U	43 U	49 U	46 U	44 U
o-Xylene	NV	NV	NV	NV	NA	NA	190	180	8.7 U	4.1 U	3.8 U	4.3 U	4 U	3.9 U
Propylene	NV	NV	NV	NV	NA	NA	340 U	350 U	24 U	11 U	10 U	12 U	11 U	11 U
Styrene	15,000	NV	33,000	NV	NA	NA	240 U	250 U	17 U	8.1 U	7.4 U	8.4 U	7.9 U	7.6 U

**Table 8**  
**SOIL VAPOR SAMPLING RESULTS SUMMARY - FORMER POTTER**  
**Potter Property - Vapor Intrusion Investigation**  
**Port of Tacoma**

Location:	MTCA Method B, Vapor Intrusion, Sub-Slab Soil Gas <sup>(1)</sup>		MTCA Method C, Vapor Intrusion, Sub-Slab Soil Gas <sup>(1)</sup>		Short-Term Action Level, Subsurface Soil Gas <sup>(2)</sup>	Methane Lower Explosive Limit <sup>(3)</sup>	TWA-SV-35		TWA-SV-36	TWA-SV-37	TWA-SV-38		TWA-SV-39	TWA-SV-40
	Sample Name:	Noncancer	Cancer	Noncancer			Cancer	Nonresidential	TWA-SV-35-072622	TWA-SV-DUP-072622	TWA-SV-36-072622	TWA-SV-37-072622	TWA-SV-38-072722	TWA-SV-DUP-072722
Sample Date:	Noncancer	Cancer	Noncancer	Cancer	Nonresidential		7/26/2022	7/26/2022	7/26/2022	7/26/2022	7/27/2022	7/27/2022	7/27/2022	7/26/2022
tert-Butyl alcohol	NV	NV	NV	NV	NA	NA	3,400 U	3,500 U	240 U	120 U	110 U	120 U	110 U	110 U
Tetrachloroethene	610	320	1,300	3,200	NA	NA	1,900 U	2,000 U	140 U	64 U	59 U	67 U	63 U	68
Tetrahydrofuran	30,000	NV	67,000	NV	NA	NA	170 U	170 U	12 U	5.6 U	5.1 U	5.8 U	5.5 U	5.2 U
Toluene	76,000	NV	170,000	NV	NA	NA	5,300 U	5,500 U	380 U	180 U	160 U	190 U	180 U	170 U
trans-1,2-Dichloroethene	610	NV	1,300	NV	NA	NA	110 U	110 U	7.9 U	3.8 U	3.4 U	3.9 U	3.7 U	3.5 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	NA	NA	130 U	130 U	9.1 U	4.3 U	3.9 U	4.5 U	4.2 U	4 U
Trichloroethene	30	11	67	200	250	NA	30 U	31 U	2.1 U	1 U	0.94 U	1.1 U	1 U	0.96 U
Trichlorofluoromethane (Freon 11)	11,000	NV	23,000	NV	NA	NA	630 U	650 U	45 U	21 U	20 U	22 U	21 U	20 U
Vinyl Acetate	3,000	NV	6,700	NV	NA	NA	2,000 U	2,000 U	140 U	67 U	61 U	70 U	65 U	63 U
Vinyl bromide	46	5.6	100	56	NA	NA	120 U	130 U	8.7 U	4.2 U	3.8 U	4.3 U	4.1 U	3.9 U
Vinyl chloride	1,500	9.5	3,300	95	NA	NA	72 U	74 U	5.1 U	2.4 U	2.2 U	2.5 U	2.4 U	2.3 U
Xylenes, Total <sup>(a)</sup>	1,500	NV	3,300	NV	NA	NA	310	305	17 U	8.3 U	7.6 U	8.6 U	8.1 U	7.7 U
<b>APH (ug/m3)</b>														
C5-C8 Aliphatic Hydrocarbons	NV	NV	NV	NV	NA	NA	770,000 J	780,000 J	1,600	710 U	650 U	740 U	940	670 U
C9-C12 Aliphatic Hydrocarbons	NV	NV	NV	NV	NA	NA	240,000	260,000 J	500 U	250	220 U	250 U	230 U	450
C9-C10 Aromatic Hydrocarbons	NV	NV	NV	NV	NA	NA	7,600	7,200 U	500 U	240 U	220 U	250 U	230 U	220 U
<b>TPH (ug/m3)</b>														
TPH <sup>(b)(2)</sup>	1,500	NV	1,500	NV	NA	NA	1,020,000 J	1,050,000 J	2,310	824	650 U	740 UJ	1,270	988

**Table 8**  
**SOIL VAPOR SAMPLING RESULTS SUMMARY - FORMER POTTER**  
**Potter Property - Vapor Intrusion Investigation**  
**Port of Tacoma**

Location:	MTCA Method B, Vapor Intrusion, Sub-Slab Soil Gas <sup>(1)</sup>		MTCA Method C, Vapor Intrusion, Sub-Slab Soil Gas <sup>(1)</sup>		Short-Term Action Level, Subsurface Soil Gas <sup>(2)</sup>	Methane Lower Explosive Limit <sup>(3)</sup>	TWA-SV-41	TWA-SV-42	TWA-SV-43
Sample Name:							TWA-SV-41-072622	TWA-SV-42-072622	TWA-SV-43-072722
Sample Date:	Noncancer	Cancer	Noncancer	Cancer	Nonresidential		7/26/2022	7/26/2022	7/27/2022
<b>Permanent Gases (%)</b>									
Carbon Dioxide	NV	NV	NV	NV	NA	NA	0.05 U	3.11	5.79
Methane	NV	NV	NV	NV	NA	5	0.05 U	0.05 U	0.05 U
Oxygen	NV	NV	NV	NV	NA	NA	24.8	24.9	21.7
<b>VOCs (ug/m3)</b>									
1,1,1-Trichloroethane	76,000	NV	170,000	NV	NA	NA	9.8 U	5 U	11 U
1,1,2,2-Tetrachloroethane	NV	1.4	NV	14	NA	NA	2.5 U	1.2 U	2.7 U
1,1,2-Trichloroethane	3	5.2	6.7	52	NA	NA	0.98 U	0.5 U	1.1 U
1,1-Dichloroethane	NV	52	NV	520	NA	NA	7.3 U	3.7 U	8.1 U
1,1-Dichloroethene	3,000	NV	6,700	NV	NA	NA	7.1 U	3.6 U	7.9 U
1,2,4-Trichlorobenzene	30	NV	67	NV	NA	NA	13 U	6.8 U	15 U
1,2,4-Trimethylbenzene	910	NV	2,000	NV	NA	NA	88 U	45 U	98 U
1,2-Dibromoethane	140	0.14	300	1.4	NA	NA	1.4 U	0.7 U	1.5 U
1,2-Dichlorobenzene	3,000	NV	6,700	NV	NA	NA	11 U	5.5 U	12 U
1,2-Dichloroethane	110	3.2	230	32	NA	NA	0.73 U	0.37 U	0.81 U
1,2-Dichloropropane	61	23	130	230	NA	NA	4.2 U	2.1 U	4.6 U
1,3,5-Trimethylbenzene	910	NV	2,000	NV	NA	NA	88 U	45 U	98 U
1,3-Butadiene	30	2.8	67	28	NA	NA	0.8 U	0.4 U	0.88 U
1,3-Dichlorobenzene	NV	NV	NV	NV	NA	NA	11 U	5.5 U	12 U
1,4-Dichlorobenzene	12,000	7.6	27,000	76	NA	NA	4.1 U	2.1 U	4.6 U
1,4-Dioxane	460	17	1,000	170	NA	NA	6.5 U	3.3 U	7.2 U
2,2,4-Trimethylpentane	NV	NV	NV	NV	NA	NA	84 U	43 U	93 U
2-Butanone	76,000	NV	170,000	NV	NA	NA	110 U	54 U	120 U
2-Chlorotoluene	NV	NV	NV	NV	NA	NA	93 U	47 U	100 U
2-Hexanone	460	NV	1,000	NV	NA	NA	74 U	37 U	82 U
2-Propanol	NV	NV	NV	NV	NA	NA	150 U	78 U	170 U
4-Ethyltoluene	NV	NV	NV	NV	NA	NA	88 U	45 U	98 U
4-Methyl-2-pentanone	46,000	NV	100,000	NV	NA	NA	74 U	37 U	82 U
Acetone	NV	NV	NV	NV	NA	NA	86 U	43 U	95 U
Acrolein	0.3	NV	0.67	NV	NA	NA	2.1 U	1 U	2.3 U
Allyl Chloride	15	14	33	140	NA	NA	56 U	28 U	63 U
Benzene	460	11	1,000	110	NA	NA	5.8 U	2.9 U	6.4 U
Benzyl Chloride	15	1.7	33	17	NA	NA	0.93 U	0.47 U	1 U
Bromodichloromethane	NV	2.3	NV	23	NA	NA	1.2 U	0.61 U	1.3 U

**Table 8**  
**SOIL VAPOR SAMPLING RESULTS SUMMARY - FORMER POTTER**  
**Potter Property - Vapor Intrusion Investigation**  
**Port of Tacoma**

Location:	MTCA Method B, Vapor Intrusion, Sub-Slab Soil Gas <sup>(1)</sup>		MTCA Method C, Vapor Intrusion, Sub-Slab Soil Gas <sup>(1)</sup>		Short-Term Action Level, Subsurface Soil Gas <sup>(2)</sup>	Methane Lower Explosive Limit <sup>(3)</sup>	TWA-SV-41	TWA-SV-42	TWA-SV-43
	Sample Name:	Noncancer	Cancer	Noncancer			Cancer	Nonresidential	TWA-SV-41-072622
Sample Date:	Noncancer	Cancer	Noncancer	Cancer	Nonresidential		7/26/2022	7/26/2022	7/27/2022
Bromoform	NV	76	NV	760	NA	NA	37 U	19 U	41 U
Bromomethane	76	NV	170	NV	NA	NA	70 U	35 U	78 U
Carbon disulfide	11,000	NV	23,000	NV	NA	NA	110 U	57 U	120 U
Carbon tetrachloride	1,500	14	3,300	140	NA	NA	5.7 U	2.9 U	6.3 U
Chlorobenzene	760	NV	1,700	NV	NA	NA	8.3 U	4.2 U	9.2 U
Chloroethane	150,000	NV	330,000	NV	NA	NA	47 U	24 U	53 U
Chloroform	1,500	3.6	3,300	36	NA	NA	2.2	0.67	0.98 U
Chloromethane	1,400	NV	3,000	NV	NA	NA	67 U	34 U	74 U
cis-1,2-Dichloroethene	NV	NV	NV	NV	NA	NA	7.1 U	3.6 U	7.9 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	NA	NA	16 U	8.3 U	18 U
Cyclohexane	91,000	NV	200,000	NV	NA	NA	120 U	63 U	140 U
Dibromochloromethane	NV	NV	NV	NV	NA	NA	1.5 U	0.78 U	1.7 U
Dichlorodifluoromethane (Freon 12)	1,500	NV	3,300	NV	NA	NA	18 U	9 U	20 U
Ethanol	NV	NV	NV	NV	NA	NA	140 U	69 U	150 U
Ethyl Acetate	1,100	NV	2,300	NV	NA	NA	130 U	66 U	140 U
Ethylbenzene	15,000	NV	33,000	NV	NA	NA	7.8 U	4 U	8.7 U
Freon 113	76,000	NV	170,000	NV	NA	NA	14 U	7 U	15 U
Freon 114	NV	NV	NV	NV	NA	NA	38 U	19 U	42 U
Heptane	6,100	NV	13,000	NV	NA	NA	74 U	37 U	82 U
Hexachlorobutadiene	NV	3.8	NV	38	NA	NA	3.8 U	1.9 U	4.3 U
Isopropylbenzene	6,100	NV	13,000	NV	NA	NA	180 U	89 U	200 U
m,p-Xylene	NV	NV	NV	NV	NA	NA	16 U	7.9 U	17 U
Methyl methacrylate	11,000	NV	23,000	NV	NA	NA	74 U	37 U	82 U
Methyl tert-butyl ether	46,000	320	100,000	3,200	NA	NA	130 U	66 U	140 U
Methylene chloride	9,100	2,200	20,000	83,000	NA	NA	630 U	320 U	690 U
Naphthalene	46	2.5	100	25	NA	NA	2.4 UJ	2.4 U	2.4 UJ
n-Butane	NV	NV	NV	NV	NA	NA	86 U	43 U	95 U
n-Hexane	11,000	NV	23,000	NV	NA	NA	63 U	32 U	70 U
n-Nonane	NV	NV	NV	NV	NA	NA	94 U	48 U	100 U
n-Pentane	NV	NV	NV	NV	NA	NA	110 U	54 U	120 U
n-Propylbenzene	15,000	NV	33,000	NV	NA	NA	88 U	45 U	98 U
o-Xylene	NV	NV	NV	NV	NA	NA	7.8 U	4 U	8.7 U
Propylene	NV	NV	NV	NV	NA	NA	22 U	11 U	24 U
Styrene	15,000	NV	33,000	NV	NA	NA	15 U	7.8 U	17 U

**Table 8**  
**SOIL VAPOR SAMPLING RESULTS SUMMARY - FORMER POTTER**  
**Potter Property - Vapor Intrusion Investigation**  
**Port of Tacoma**

Location:	MTCA Method B, Vapor Intrusion, Sub-Slab Soil Gas <sup>(1)</sup>		MTCA Method C, Vapor Intrusion, Sub-Slab Soil Gas <sup>(1)</sup>		Short-Term Action Level, Subsurface Soil Gas <sup>(2)</sup>	Methane Lower Explosive Limit <sup>(3)</sup>	TWA-SV-41	TWA-SV-42	TWA-SV-43
	Sample Name:						TWA-SV-41-072622	TWA-SV-42-072622	TWA-SV-43-072722
Sample Date:	Noncancer	Cancer	Noncancer	Cancer	Nonresidential		7/26/2022	7/26/2022	7/27/2022
tert-Butyl alcohol	NV	NV	NV	NV	NA	NA	220 U	110 U	240 U
Tetrachloroethene	610	320	1,300	3,200	NA	NA	8,200 J	900	500
Tetrahydrofuran	30,000	NV	67,000	NV	NA	NA	11 U	5.4 U	12 U
Toluene	76,000	NV	170,000	NV	NA	NA	340 U	170 U	380 U
trans-1,2-Dichloroethene	610	NV	1,300	NV	NA	NA	7.1 U	3.6 U	7.9 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	NA	NA	8.2 U	4.1 U	9.1 U
Trichloroethene	30	11	67	200	250	NA	100	0.98 U	2.1 U
Trichlorofluoromethane (Freon 11)	11,000	NV	23,000	NV	NA	NA	40 U	20 U	45 U
Vinyl Acetate	3,000	NV	6,700	NV	NA	NA	130 U	64 U	140 U
Vinyl bromide	46	5.6	100	56	NA	NA	7.9 U	4 U	8.7 U
Vinyl chloride	1,500	9.5	3,300	95	NA	NA	4.6 U	2.3 U	5.1 U
Xylenes, Total <sup>(a)</sup>	1,500	NV	3,300	NV	NA	NA	16 U	7.9 U	17 U
<b>APH (ug/m3)</b>									
C5-C8 Aliphatic Hydrocarbons	NV	NV	NV	NV	NA	NA	4,000	960	2,000
C9-C12 Aliphatic Hydrocarbons	NV	NV	NV	NV	NA	NA	450 U	230 U	500 U
C9-C10 Aromatic Hydrocarbons	NV	NV	NV	NV	NA	NA	450 U	230 U	500 U
<b>TPH (ug/m3)</b>									
TPH <sup>(b)(2)</sup>	1,500	NV	1,500	NV	NA	NA	4,640	1,280	2,710

**TABLE 9**  
**FIRST QUARTER 2022 GROUNDWATER SCREENING FOR VAPOR INTRUSION**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

VOCs	Vapor Intrusion Groundwater Screening Level from CLARC		CCW-1A	CCW-1B	CCW-2A	CCW-2B	CCW-2B (DUPLICATE)	CCW-3A	CCW-3B	CCW-5B	CCW-6B	CCW-6B (DUPLICATE)	CCW-7B
	Method B	Method C	2/1/2022	2/1/2022	1/20/2022	1/19/2022	1/19/2022	1/31/2022	1/31/2022	1/20/2022	2/3/2022	2/3/2022	2/2/2022
1,1,1,2-Tetrachloroethane	7.1	71	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	5,400	12,000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	5.9	59	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloroethane	5.1	11	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	11	110	1 U	1 U	1 U	<b>2.6</b>	<b>2.6</b>	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	130	280	1 U	1 U	<b>1.8</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	21	45	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	39	84	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	240	520	1 U	1 U	<b>42</b>	<b>94</b>	<b>96</b>	<b>3.5</b>	1 U	<b>11</b>	1 U	1 U	<b>2</b>
1,2-Dibromo-3-chloropropane	0.042	1.6	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane	0.3	3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	2,500	5,500	1 U	1 U	<b>11</b>	<b>6.4</b>	<b>6.3</b>	1 U	1 U	<b>1.7</b>	<b>1.7</b>	<b>1.8</b>	<b>11</b>
1,2-Dichloroethane	3.5	35	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	10	61	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	170	370	1 U	1 U	<b>5.5</b>	<b>21</b>	<b>21</b>	<b>1.1</b>	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	--	--	1 U	1 U	<b>1.9</b>	<b>13</b>	<b>12</b>	1 U	1 U	1 U	1 U	1 U	<b>4.4</b>
1,3-Dichloropropane	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	5	50	1 U	1 U	<b>4.3</b>	<b>78</b>	<b>77</b>	1 U	1 U	1 U	<b>1.4</b>	<b>1.4</b>	<b>12</b>
2,2-Dichloropropane	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	1,700,000	3,700,000	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
2-Chlorotoluene	--	--	1 U	1 U	1 U	<b>14</b>	<b>13</b>	<b>1</b>	1 U	1 U	1 U	1 U	1 U
2-Hexanone	7,300	16,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Acetone	--	--	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	2.4	24	0.35 U	0.35 U	<b>29</b>	<b>57</b>	<b>56</b>	<b>11</b>	<b>2.8</b>	<b>34</b>	<b>12</b>	<b>12</b>	<b>18</b>

**TABLE 9**  
**FIRST QUARTER 2022 GROUNDWATER SCREENING FOR VAPOR INTRUSION**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

VOCs	Vapor Intrusion Groundwater Screening Level from CLARC		CCW-8B	SB-1A	SB-2A	SB-3A	SB-3A (DUPLICATE)	MW-1	MW-4	TWA-1	TWA-2	TWA-3
	Method B	Method C	2/2/2022	1/24/2022	1/25/2022	1/25/2022	1/25/2022	1/25/2022	1/31/2022	1/24/2022	1/24/2022	1/24/2022
1,1,1,2-Tetrachloroethane	7.1	71	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	5,400	12,000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	5.9	59	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloroethane	5.1	11	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	11	110	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	130	280	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	--	--	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	21	45	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	39	84	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	240	520	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	0.042	1.6	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	10 U
1,2-Dibromoethane	0.3	3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	2,500	5,500	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
1,2-Dichloroethane	3.5	35	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	10	61	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	170	370	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	--	--	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
1,3-Dichloropropane	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	5	50	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
2,2-Dichloropropane	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	1,700,000	3,700,000	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
2-Chlorotoluene	--	--	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
2-Hexanone	7,300	16,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	--	--	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
Acetone	--	--	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	2.4	24	<b>1.7</b>	0.35 U	0.35 U	0.35 U	0.35 U	<b>29</b>	<b>3.5</b>	<b>10</b>	0.35 U	0.35 U



**TABLE 9**  
**FIRST QUARTER 2022 GROUNDWATER SCREENING FOR VAPOR INTRUSION**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

VOCs	Vapor Intrusion Groundwater Screening Level from CLARC		CCW-1A	CCW-1B	CCW-2A	CCW-2B	CCW-2B (DUPLICATE)	CCW-3A	CCW-3B	CCW-5B	CCW-6B	CCW-6B (DUPLICATE)	CCW-7B
	Method B	Method C	2/1/2022	2/1/2022	1/20/2022	1/19/2022	1/19/2022	1/31/2022	1/31/2022	1/20/2022	2/3/2022	2/3/2022	2/2/2022
Bromobenzene	630	1,400	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	220	2,200	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	11	24	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	0.62	6.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-11	120	260	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	4.2	9.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	340	750	1 U	1 U	36	800	840	1 U	1 U	46	14	14	50
Chloroethane	15,000	32,000	1 U	1 U	1 U	1.1	1.2	1 U	1 U	3.6	1 U	1 U	1 U
Chloroform	1.2	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	150	330	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	--	--	25	1 U	380	1.1	1.1	1 U	1 U	2.5	1 U	1 U	1 U
cis-1,3-Dichloropropene	8	80	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Dibromochloromethane	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorobromomethane	1.4	14	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	2,800	6,100	1 U	1 U	75	37	35	23	1 U	71	13	13	74
Hexachlorobutadiene	0.64	6.4	5.3	0.5 U	0.85	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexane	7.2	16	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)	910	2000	1 U	1 U	8.3	4.7	4.6	1 U	1 U	10	1.4	1.4	7.6
m, p-Xylene	320	710	2 U	2 U	41	100	94	9.5	2 U	13	2 U	2 U	6.3
Methyl isobutyl ketone	470,000	1,000,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl t-butyl ether	860	8,600	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	780	7,100	5 U	5 U	5 U	8.2	8.1	5 U	5 U	8.9 U	5 U	5 U	5 U
Naphthalene	8.9	89	1 U	1 U	51	62	61	3.8	3.1	8.9	3.6	4	39
n-Propylbenzene	2,300	4,900	1 U	1 U	14	7	7	1 U	1 U	19	1.5	1.6	12
o-Xylene	320	710	1 U	1 U	39	66	63	6.9	1 U	21	2.7	2.8	13
p-Isopropyltoluene	--	--	1 U	1 U	5.7	2.9	2.9	1 U	1 U	1 U	1 U	1 U	1 U
sec-Butylbenzene	--	--	1 U	1 U	3.5	1	1	1 U	1 U	2.6	1 U	1 U	1.6
Styrene	8,200	18,000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	--	--	1 U	1 U	2.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	25	100	41	1 U	870	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

**TABLE 9**  
**FIRST QUARTER 2022 GROUNDWATER SCREENING FOR VAPOR INTRUSION**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

VOCs	Vapor Intrusion Groundwater Screening Level from CLARC		CCW-8B	SB-1A	SB-2A	SB-3A	SB-3A (DUPLICATE)	MW-1	MW-4	TWA-1	TWA-2	TWA-3
	Method B	Method C	2/2/2022	1/24/2022	1/25/2022	1/25/2022	1/25/2022	1/25/2022	1/31/2022	1/24/2022	1/24/2022	1/24/2022
Bromobenzene	630	1,400	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
Bromoform	220	2,200	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	11	24	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	0.62	6.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-11	120	260	1 U	5 U	5 U	5 U	5 U	5 U	1 U	5 U	5 U	5 U
CFC-12	4.2	9.2	1 U	5 U	5 U	5 U	5 U	5 U	1 U	5 U	5 U	5 U
Chlorobenzene	340	750	<b>1.4</b>	1 U	1 U	1 U	1 U	1 U	<b>1.4</b>	1 U	1 U	1 U
Chloroethane	15,000	32,000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	1.2	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	150	330	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	8	80	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Dibromochloromethane	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorobromomethane	1.4	14	0.5 U	1 U	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U
Ethylbenzene	2,800	6,100	1 U	1 U	1 U	1 U	1 U	1 U	<b>1.6</b>	1 U	1 U	1 U
Hexachlorobutadiene	0.64	6.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Hexane	7.2	16	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene (Cumene)	910	2000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m, p-Xylene	320	710	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Methyl isobutyl ketone	470,000	1,000,000	10 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U
Methyl t-butyl ether	860	8,600	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	780	7,100	5 U	8.6 U	5.9 U	8.5 U	8.7 U	10 U	5 U	10 U	13 U	13 U
Naphthalene	8.9	89	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
n-Propylbenzene	2,300	4,900	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
o-Xylene	320	710	1 U	1 U	1 U	1 U	1 U	1 U	<b>2.9</b>	1 U	1 U	1 U
p-Isopropyltoluene	--	--	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
sec-Butylbenzene	--	--	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
Styrene	8,200	18,000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	--	--	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
Tetrachloroethene	25	100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

**TABLE 9**  
**FIRST QUARTER 2022 GROUNDWATER SCREENING FOR VAPOR INTRUSION**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

VOCs	Vapor Intrusion Groundwater Screening Level from CLARC		CCW-1A	CCW-1B	CCW-2A	CCW-2B	CCW-2B (DUPLICATE)	CCW-3A	CCW-3B	CCW-5B	CCW-6B	CCW-6B (DUPLICATE)	CCW-7B
	Method B	Method C	2/1/2022	2/1/2022	1/20/2022	1/19/2022	1/19/2022	1/31/2022	1/31/2022	1/20/2022	2/3/2022	2/3/2022	2/2/2022
Toluene	15,000	34,000	1 U	1 U	<b>53</b>	<b>150</b>	<b>140</b>	<b>19</b>	<b>7.3</b>	<b>20</b>	<b>3.7</b>	<b>3.7</b>	<b>24</b>
trans-1,2-Dichloroethene	77	170	<b>1.5</b>	1 U	<b>28</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	--	--	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichloroethene	1.4	8.6	<b>22</b>	0.5 U	<b>320</b>	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.33	3.3	<b>0.96</b>	<b>0.045</b>	<b>51</b>	<b>1.3</b>	<b>1.4</b>	<b>0.1</b>	<b>1.4</b>	<b>2.1</b>	<b>0.23</b>	<b>0.26</b>	<b>0.52</b>
1,4-Dioxane	4,700	47,000	0.4 U	<b>4.6</b>	0.4 U	0.4 U	0.4 U	<b>1.5</b>	<b>1.4</b>	<b>2.1</b>	0.4 U	--	0.4 U

**Notes:**

all concentrations in micrograms per liter (µg/L)

**BOLD** denotes a detection, shading denotes value above Method C screening level

**Abbreviations:**

U = Result is non-detect at the method reporting limit (MRL)

J = Result is estimated

-- = Screening level not available from CLARC

CLARC = cleanup level and risk calculation

VOC = volatile organic compound

**TABLE 9**  
**FIRST QUARTER 2022 GROUNDWATER SCREENING FOR VAPOR INTRUSION**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

VOCs	Vapor Intrusion Groundwater Screening Level from CLARC		CCW-8B	SB-1A	SB-2A	SB-3A	SB-3A (DUPLICATE)	MW-1	MW-4	TWA-1	TWA-2	TWA-3
	Method B	Method C	2/2/2022	1/24/2022	1/25/2022	1/25/2022	1/25/2022	1/25/2022	1/31/2022	1/24/2022	1/24/2022	1/24/2022
Toluene	15,000	34,000	1 U	1 U	1 U	1 U	1 U	1 U	<b>2.6</b>	1 U	1 U	1 U
trans-1,2-Dichloroethene	77	170	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	--	--	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichloroethene	1.4	8.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.33	3.3	<b>0.026</b>	0.02 U	0.02 U	0.02 U	0.02 U	<b>0.033</b>	<b>0.44</b>	<b>0.34</b>	0.02 U	0.02 U
1,4-Dioxane	4,700	47,000	0.4 U	0.4 U	0.4 U	0.4 U	--	0.4 U	<b>0.55</b>	<b>0.65</b>	0.4 U	0.4 U

**Notes:**

all concentrations in micrograms per liter (µg/L)

**BOLD** denotes a detection, shading denotes value above Method C screening level

**Abbreviations:**

U = Result is non-detect at the method reporting limit (MRL)

J = Result is estimated

-- = Screening level not available from CLARC

CLARC = cleanup level and risk calculation

VOC = volatile organic compound

**TABLE 10**  
**SECOND QUARTER 2022 GROUNDWATER SCREENING FOR VAPOR INTRUSION**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

VOCs	Vapor Intrusion Groundwater Screening Level from CLARC		CCW-1A	CCW-2A	CCW-3A	CCW-5B	CCW-6B	CCW-7B	CCW-8B	MW-1	MW-1 (Duplicate)	MW-4	SB-1A	SB-2A	SB-3A	TWA-1	TWA-2	TWA-3
	Method B	Method C	5/4/2022	5/5/2022	5/9/2022	5/6/2022	5/3/2022	5/3/2022	5/4/2022	5/4/2022	5/4/2022	5/4/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022
1,1,1,2-Tetrachloroethane	7.1	71	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	5,400	12,000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	5.9	59	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloroethane	5.1	11	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	11	110	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	130	280	1 U	<b>3.0</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	21	45	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	39	84	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	240	520	1 U	<b>40</b>	<b>3.6</b>	<b>8.2</b>	1 U	<b>2.1</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	0.042	1.6	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane (EDB)	0.3	3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	2,500	5,500	1 U	<b>13</b>	1 U	<b>1.6</b>	<b>2</b>	<b>12</b>	<b>1.0</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	3.5	35	0.2 U	0.2 U	0.2 U	<b>0.92</b>	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	10	61	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	170	370	1 U	<b>5.9</b>	<b>1.2</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	--	--	1 U	<b>1.8</b>	1 U	1 U	1 U	<b>4.2</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	5	50	1 U	<b>4.7</b>	1 U	<b>1.3</b>	<b>1.7</b>	<b>12</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,2-Dichloropropane	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone (MEK)	1,700,000	3,700,000	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
2-Chlorotoluene	--	--	1 U	1 U	<b>1.2</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone	7,300	16,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Acetone	--	--	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	2.4	24	0.35 U	<b>44</b>	<b>12</b>	<b>39</b>	<b>11</b>	<b>18</b>	<b>1.1</b>	<b>18</b>	<b>17</b>	<b>4.2</b>	0.35 U	0.35 U	0.35 U	<b>5.7</b>	0.35 U	0.35 U

**TABLE 10**  
**SECOND QUARTER 2022 GROUNDWATER SCREENING FOR VAPOR INTRUSION**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

VOCs	Vapor Intrusion Groundwater Screening Level from CLARC		CTMW-5	CTMW-8	CTMW-11R2	CTMW-14	CTMW-15	CTMW-17	CTMW-18	CTMW-20	CTMW-23R	CTMW-24
	Method B	Method C	5/11/2022	5/12/2022	5/10/2022	5/12/2022	5/4/2022	5/10/2022	5/11/2022	5/4/2022	5/10/2022	5/11/2022
1,1,1,2-Tetrachloroethane	7.1	71	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	5,400	12,000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Tetrachloroethane	5.9	59	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloroethane	5.1	11	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	11	110	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	130	280	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	21	45	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	39	84	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	240	520	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	0.042	1.6	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane (EDB)	0.3	3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	2,500	5,500	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	3.5	35	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	10	61	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	170	370	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	5	50	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,2-Dichloropropane	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone (MEK)	1,700,000	3,700,000	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
2-Chlorotoluene	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone	7,300	16,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Acetone	--	--	50 U	50 U	64	50 U	50 U	56	50 U	50 U	50 U	50 U
Benzene	2.4	24	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U

**TABLE 10**  
**SECOND QUARTER 2022 GROUNDWATER SCREENING FOR VAPOR INTRUSION**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

VOCs	Vapor Intrusion Groundwater Screening Level from CLARC		CCW-1A	CCW-2A	CCW-3A	CCW-5B	CCW-6B	CCW-7B	CCW-8B	MW-1	MW-1 (Duplicate)	MW-4	SB-1A	SB-2A	SB-3A	TWA-1	TWA-2	TWA-3
	Method B	Method C	5/4/2022	5/5/2022	5/9/2022	5/6/2022	5/3/2022	5/3/2022	5/4/2022	5/4/2022	5/4/2022	5/4/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022
Bromobenzene	630	1,400	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	220	2,200	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	11	24	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	0.62	6.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-11	120	260	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	4.2	9.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	340	750	1 U	<b>53</b>	1 U	<b>69</b>	<b>14</b>	<b>44</b>	<b>2.7</b>	1 U	1 U	<b>1.6</b>	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	15,000	32,000	1 U	1 U	1 U	<b>5</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	1.2	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	150	330	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	--	--	<b>26</b>	<b>720 J+</b>	1 U	<b>1.5</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	8	80	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Dibromochloromethane	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorobromomethane	1.4	14	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	2,800	6,100	1 U	<b>73</b>	<b>24</b>	<b>52</b>	<b>12</b>	<b>69</b>	1 U	1 U	1 U	<b>2.1</b>	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	0.64	6.4	<b>0.5 U</b>	<b>0.82</b>	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexane	7.2	16	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)	910	2000	1 U	<b>7</b>	<b>1</b>	<b>7.3</b>	<b>1.7</b>	<b>7.6</b>	<b>1.9</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m, p-Xylene	320	710	2 U	<b>58</b>	<b>10</b>	<b>11</b>	2 U	<b>6</b>	2 U	2 U	2 U	2.2	2 U	2 U	2 U	2 U	2 U	2 U
Methyl isobutyl ketone	470,000	1,000,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl t-butyl ether	860	8,600	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	780	7,100	8 U	20 U	9.6 U	<b>11</b>	11 U	13 U	20 U	6.3 U	6.9 U	20 U	11 UJ	5 U	5 U	6.4 UJ	11 UJ	12 UJ
Naphthalene	8.9	89	1 U	<b>55</b>	<b>3.9</b>	<b>9.1</b>	<b>3.6</b>	<b>64</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	2,300	4,900	1 U	<b>12</b>	1 U	<b>15</b>	<b>1.7</b>	<b>13</b>	<b>2</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
o-Xylene	320	710	1 U	<b>44</b>	<b>7.2</b>	<b>19</b>	<b>3</b>	<b>12</b>	1 U	1 U	1 U	<b>3.9</b>	1 U	1 U	1 U	1 U	1 U	1 U
p-Isopropyltoluene	--	--	1 U	<b>4.9</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
sec-Butylbenzene	--	--	1 U	<b>2.9</b>	1 U	<b>2</b>	1 U	<b>2.1</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	8,200	18,000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	--	--	1 U	<b>2</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	25	100	<b>21</b>	<b>1,900 J+</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

**TABLE 10**  
**SECOND QUARTER 2022 GROUNDWATER SCREENING FOR VAPOR INTRUSION**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

VOCs	Vapor Intrusion Groundwater Screening Level from CLARC		CTMW-5	CTMW-8	CTMW-11R2	CTMW-14	CTMW-15	CTMW-17	CTMW-18	CTMW-20	CTMW-23R	CTMW-24
	Method B	Method C	5/11/2022	5/12/2022	5/10/2022	5/12/2022	5/4/2022	5/10/2022	5/11/2022	5/4/2022	5/10/2022	5/11/2022
Bromobenzene	630	1,400	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	220	2,200	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	11	24	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	0.62	6.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-11	120	260	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	4.2	9.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	340	750	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	15,000	32,000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	1.2	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	150	330	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	8	80	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Dibromochloromethane	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorobromomethane	1.4	14	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	2,800	6,100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	0.64	6.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexane	7.2	16	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)	910	2000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m, p-Xylene	320	710	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Methyl isobutyl ketone	470,000	1,000,000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl t-butyl ether	860	8,600	1 U	1 U	1 U	1 U	1 U	1 U	<b>3.6</b>	1 U	1 U	1 U
Methylene chloride	780	7,100	5 U	<b>7.3</b>	5 U	<b>6.8</b>	5 U	<b>6.4</b>	5 U	7.5 U	5 U	5 U
Naphthalene	8.9	89	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	2,300	4,900	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
o-Xylene	320	710	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
p-Isopropyltoluene	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
sec-Butylbenzene	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	8,200	18,000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	25	100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U



**TABLE 10**  
**SECOND QUARTER 2022 GROUNDWATER SCREENING FOR VAPOR INTRUSION**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

VOCs	Vapor Intrusion Groundwater Screening Level from CLARC		CCW-1A	CCW-2A	CCW-3A	CCW-5B	CCW-6B	CCW-7B	CCW-8B	MW-1	MW-1 (Duplicate)	MW-4	SB-1A	SB-2A	SB-3A	TWA-1	TWA-2	TWA-3
	Method B	Method C	5/4/2022	5/5/2022	5/9/2022	5/6/2022	5/3/2022	5/3/2022	5/4/2022	5/4/2022	5/4/2022	5/4/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022
Toluene	15,000	34,000	1 U	<b>71</b>	<b>18</b>	<b>16</b>	<b>3.1</b>	<b>20</b>	1 U	1 U	1 U	<b>3.5</b>	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	77	170	<b>2</b>	<b>45</b>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	--	--	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichloroethene	1.4	8.6	<b>24</b>	<b>550 J+</b>	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.33	3.3	<b>0.61</b>	<b>47</b>	<b>0.087</b>	<b>1.5</b>	<b>0.18</b>	<b>0.22</b>	<b>0.036</b>	0.02 U	0.02 U	<b>0.59</b>	0.02 U	0.02 U	0.02 U	<b>0.1</b>	0.02 U	0.02 U
1,4-Dioxane	4,700	47,000	0.4 U	0.4 U	<b>1.5</b>	<b>2.3</b>	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	<b>3</b>	0.4 U	0.4 U	0.4 U	<b>0.7</b>	<b>0.42</b>	0.4 U

**Notes**

all concentrations in micrograms per liter (µg/L)

**BOLD** denotes a detection, shading denotes value above Method C screening level

**Abbreviations**

J = Result is estimated

J+ = Result is estimated, but the result may be biased high

U = Analyte is not detected above the reporting limit value shown

-- = Screening level not available from CLARC

CLARC = cleanup level and risk calculation

VOC = volatile organic compound

**TABLE 10**  
**SECOND QUARTER 2022 GROUNDWATER SCREENING FOR VAPOR INTRUSION**  
Taylor Way and Alexander Avenue Fill Area Site  
Tacoma, Washington

VOCs	Vapor Intrusion Groundwater Screening Level from CLARC		CTMW-5	CTMW-8	CTMW-11R2	CTMW-14	CTMW-15	CTMW-17	CTMW-18	CTMW-20	CTMW-23R	CTMW-24
	Method B	Method C	5/11/2022	5/12/2022	5/10/2022	5/12/2022	5/4/2022	5/10/2022	5/11/2022	5/4/2022	5/10/2022	5/11/2022
Toluene	15,000	34,000	<b>1.4</b>	1 U	1 U	1 U	1 U	<b>1.3</b>	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	77	170	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	--	--	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichloroethene	1.4	8.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	<b>1.0</b>	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.33	3.3	0.02 U	0.02 U	<b>0.068</b>	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
1,4-Dioxane	4,700	47,000	--	--	--	--	5.1	1.2 J-	--	--	--	--

**Notes**

all concentrations in micrograms per liter (µg/L)

**BOLD** denotes a detection, shading denotes value above Method C screening level

**Abbreviations**

J = Result is estimated

J+ = Result is estimated, but the result may be biased high

U = Analyte is not detected above the reporting limit value shown

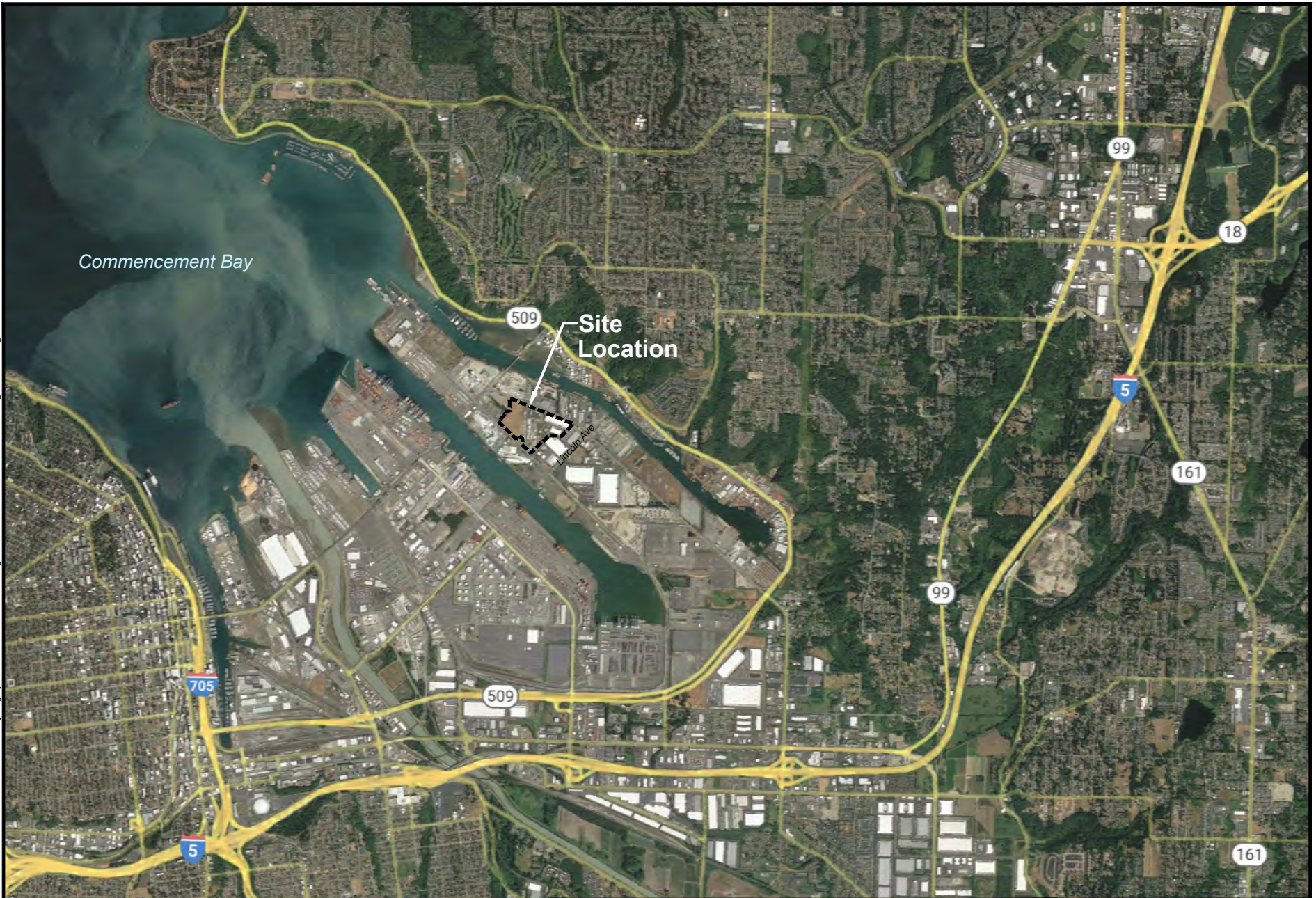
-- = Screening level not available from CLARC

CLARC = cleanup level and risk calculation

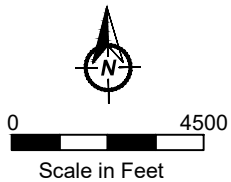
VOC = volatile organic compound

# FIGURES

PLOT TIME: 11/4/2022 4:58 PM MOD TIME: 11/4/2022 4:48 PM USER: Kelley Begley DWG: P:\TWAFA\CAD\Figures\2022-10\2022-10 TWAFA 01 Regional Loc.dwg



Source: Aerial Photography-Google Earth Pro, 08/14/2020.



**TWAFA Site  
Tacoma, Washington**

**Regional Location Map**

**DOF** DALTON  
OLMSTED  
FUGLEVAND

**FIGURE  
1**

11/04/2022



PLOT TIME: 11/4/2022 4:58 PM MOD TIME: 11/4/2022 4:46 PM USER: Kelley Begley DWG: P:\TWAFA\FACAD\Figures\2022-10\2022-10 TWAFA 02 Site Loc.dwg

**Legend**

- TWAFA Site Boundary
- Parcel Boundary

0  350  
Scale in Feet



**TWAFA Site  
Tacoma, Washington**

**Site Location Map**

**DOF** DALTON  
OLMSTED  
FUGLEVAND




**FIGURE  
2**

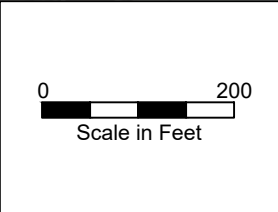
11/04/2022

PLOT TIME: 11/14/2022 4:56 PM MOD TIME: 11/14/2022 4:45 PM USER: Kelley Begley DWG: P:\TWAFA\CAD\Figures\2022-10\2022-10 TWAFA 03 Soil Samp Locs.dwg



**Legend**

-  Soil Sample Location
-  TWAFA Site Boundary
-  Parcel Boundary



**TWAFA Site  
Tacoma, Washington**

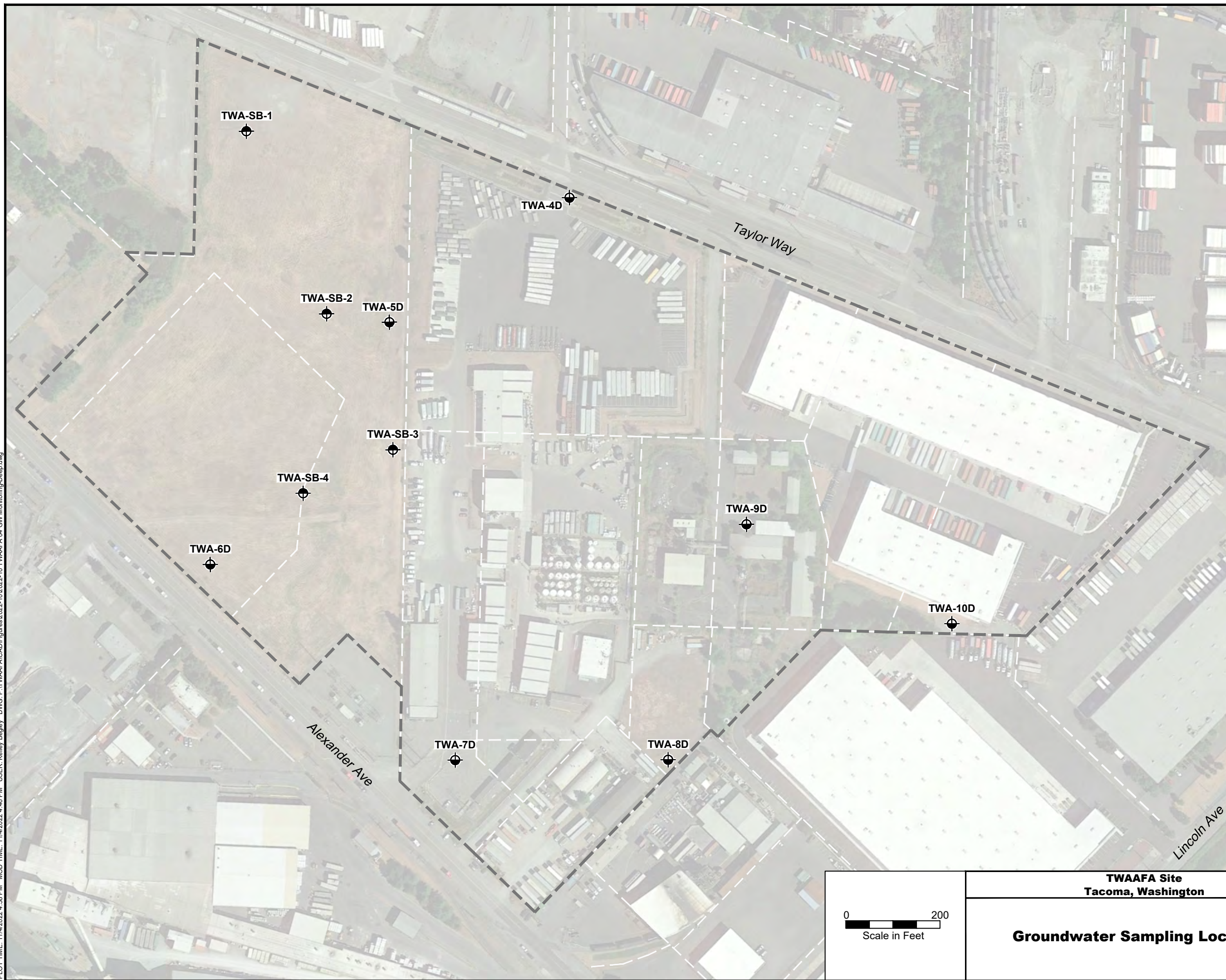
**Soil Sampling Locations**

**DOF** DALTON  
OLMSTED  
FUGLEVAND





**FIGURE  
3**

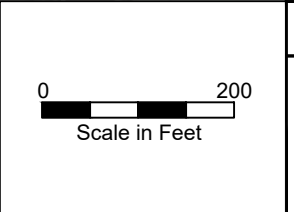
11/04/2022

PLOT TIME: 11/14/2022 4:56 PM MOD TIME: 11/14/2022 4:46 PM USER: Kelley Begley DWG: P:\TWAFA\CAD\Figures\2022-10\2022-10 TWAFA 04 GW Monitoring-Deep.dwg



**Legend**

-  Shallow Groundwater Sample Location
-  Deep Groundwater Sample Location
-  TWAFA Site Boundary
-  Parcel Boundary



**TWAFA Site  
Tacoma, Washington**

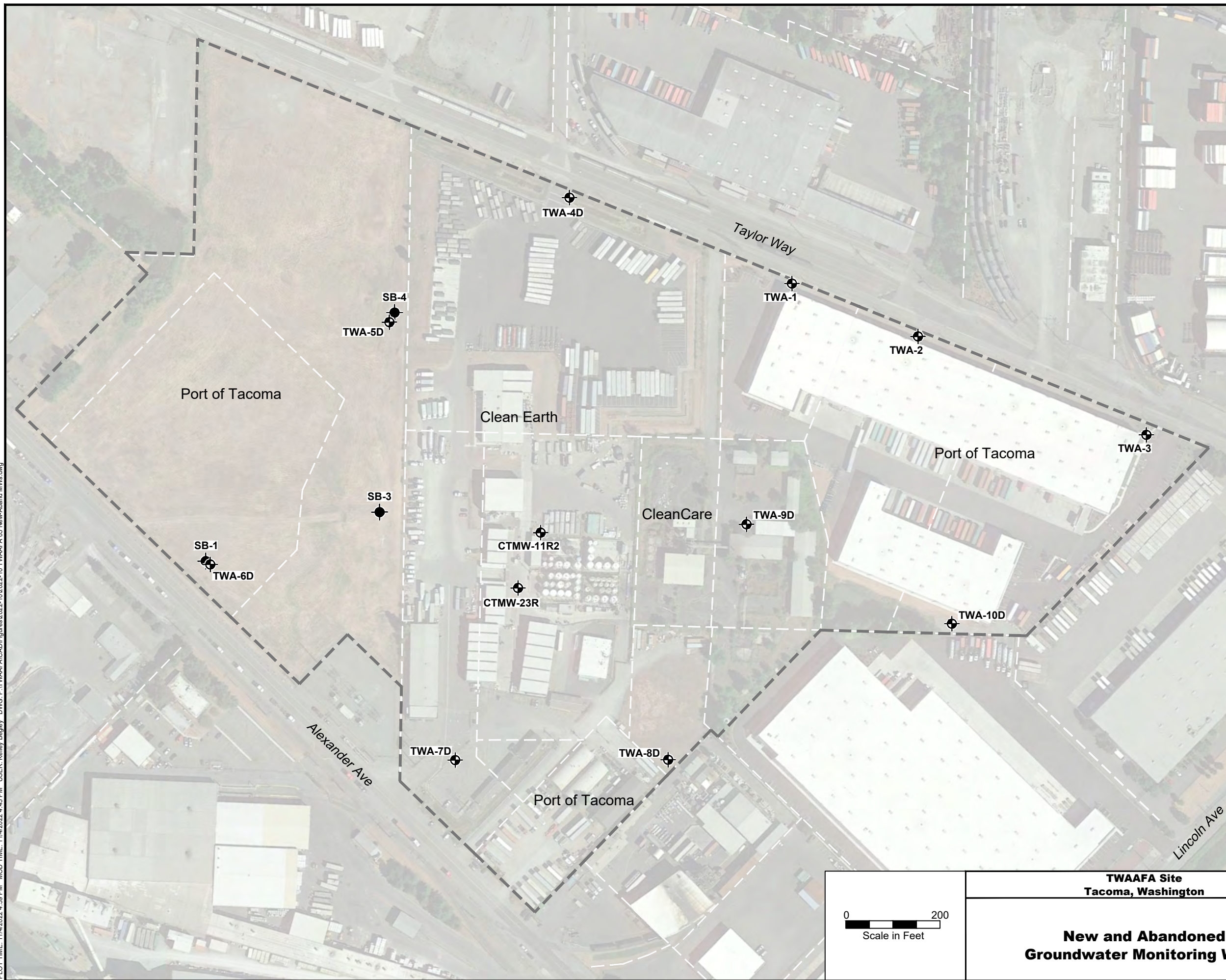
**Groundwater Sampling Locations**

**DOF** DALTON  
OLMSTED  
FUGLEVAND





**FIGURE  
4**

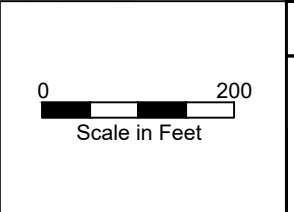
11/04/2022

PLOT TIME: 11/14/2022 4:59 PM MOD TIME: 11/14/2022 4:45 PM USER: Kelley Begley DWG: P:\TWAFA\CAD\Figures\2022-10\2022-10 TWAFA 05 New-Aband MWs.dwg



Legend

-  New Groundwater Well
-  Abandoned Groundwater Well
-  TWAFA Site Boundary
-  Parcel Boundary



**TWAFA Site  
Tacoma, Washington**

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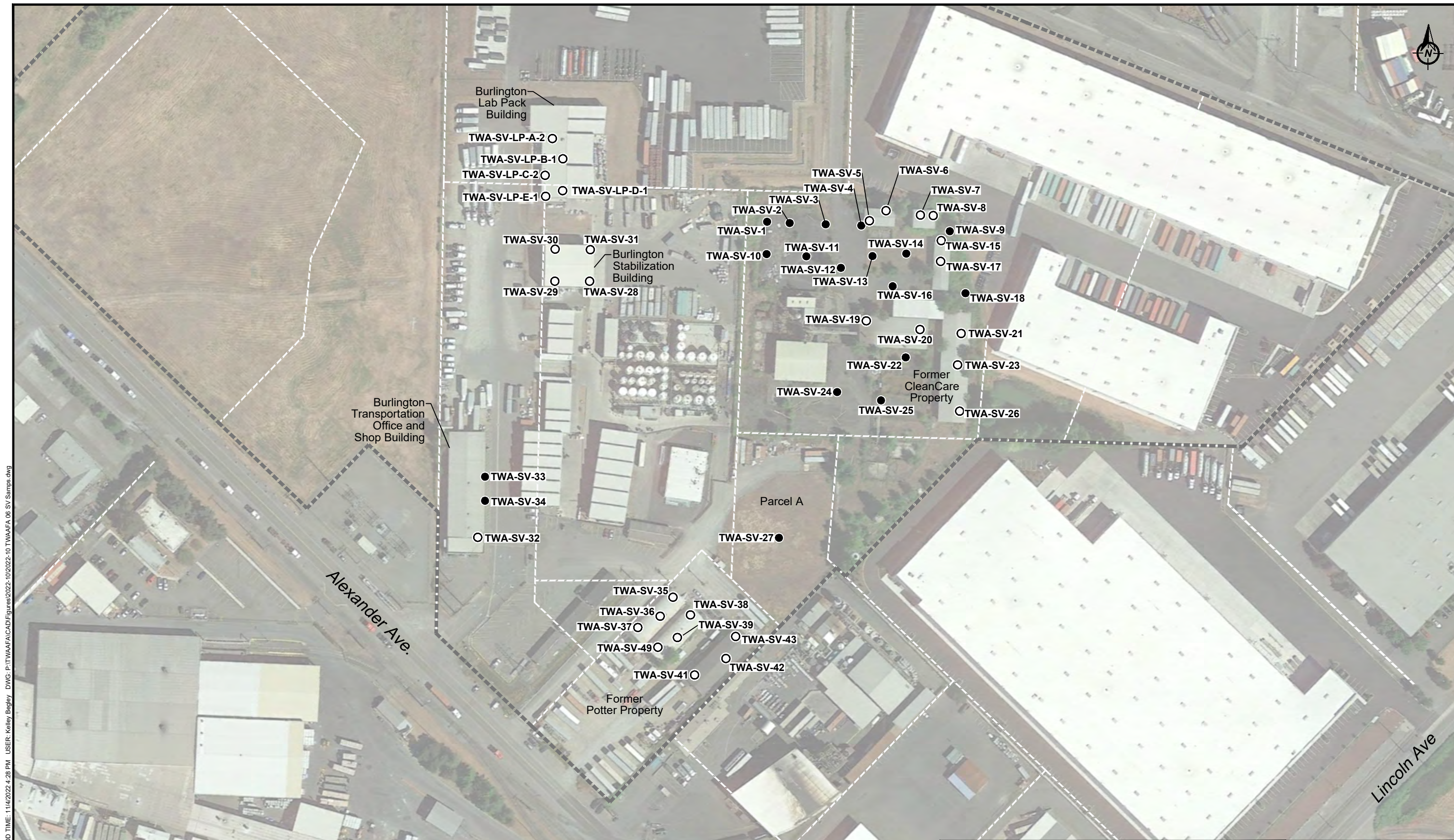
**New and Abandoned  
Groundwater Monitoring Wells**

**DOF** DALTON  
OLMSTED  
FUGLEVAND

**FIGURE  
5**

11/04/2022





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**Note:**  
 1. Differential pressure measurements collected from locations TWA-SV-LP-E-1, TWA-SV-30, and TWA-SV-32 on the Burlington Environmental Property and locations TWA-SV-37 and TWA-SV-43 on the Potter Property.

**Legend**

- Soil Vapor Well Location
- VaporPin® Soil Vapor Location
- TWAFA Site Boundary
- - - Parcel Boundary

0 150  
 Scale in Feet

**TWAFA Site  
Tacoma, Washington**

**Soil Vapor Monitoring Locations**

**DOF** DALTON OLMSTED FUGLEVAND

**FIGURE  
6**

11/04/2022

# APPENDIX A

CRETE Consulting Incorporated  
108 South Washington Street, Suite 300  
Seattle, WA 98104



March 27, 2020

Steve Teel, LHG  
Cleanup Project Manager/Hydrogeologist  
Toxics Cleanup Program – Southwest Regional Office  
Washington State Department of Ecology  
PO Box 47775  
Olympia, Washington 98504-7775

**RE: Soil and Groundwater Data Report  
Hylebos Marsh Property - 1205 Alexander Avenue and 1300 Taylor Way  
Taylor Way and Alexander Avenue Fill Area Site**

Dear Mr. Teel,

CRETE Consulting Incorporated, PC (CRETE) has prepared this Soil and Groundwater Data Report for the Port of Tacoma (Port) Hylebos Marsh property, which is a portion of the Taylor Way and Alexander Avenue Fill Area (TWAAFA) Site in Tacoma, Washington (Figure 1). Historical observations suggest that the TWAAFA Site received fill material from 1946 until at least 1991. Lime waste is present on the eastern portion of the TWAAFA Site and byproducts of auto scrapping (auto fluff) are present as well. A former road may have been used to transport lime waste and other fill materials across the Hylebos Marsh property for placement onto the TWAAFA. Materials discarded and used as fill materials at the TWAAFA included lime solvent sludge, auto fluff, wood debris, and other lime wastes.

The Port, Glenn Springs Holdings, Inc. (Occidental Chemical), General Metals of Tacoma, and Stericycle Environmental Solutions, Inc. are identified as potentially liable parties (PLPs) for the TWAAFA site in draft Agreed Order Number 14260 proposed by the Washington State Department of Ecology (Ecology). The PLPs agreed to prepare the Revised Data Gaps Work Plan (Work Plan [DOF 2019A<sup>1</sup>]) with the understanding that the finalized version will be an exhibit to the Agreed Order.

The Port performed the work described in the Work Plan for the Hylebos Marsh Property in 2019 to expedite investigation. The work described in this report is consistent with the Work Plan and items 1b and 1c of Ecology's January 8, 2020 comment letter (Ecology 2020<sup>2</sup>) on the Work Plan. The purpose of this soil and groundwater investigation was to: 1) evaluate several reported fill and waste disposal areas; 2) assess whether TWAAFA-related fill material (lime solvent sludge, auto fluff, wood debris, and other lime wastes) are present on the Hylebos Marsh property; 3) install 2 deep aquifer wells to improve coverage of deep aquifer groundwater elevation data; and 4) abandon wells that may be screened across the silt layer.

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<sup>1</sup> DOF 2019A. Revised Data Gaps Work Plan, Taylor Way and Alexander Avenue Fill Area Site, Tacoma Washington. Dalton Olmsted and Fuglevand, January 29, 2019.

<sup>2</sup> Ecology 2020. Letter dated January 8, 2020 re: "Comments on the Revised Data Gaps Work Plan, dated January 29, 2019, prepared by Dalton Olmsted Fuglevand (DOF)". Letter prepared by Steve Teel, Washington State Department of Ecology.

This Report provides the results of the field efforts completed by the Port between September 24 and November 9, 2019. This Report also provides results of the first quarterly groundwater sampling event at the Hylebos Marsh Property completed on December 10 and 11, 2019. The groundwater sampling event was completed in accordance with the Revised Groundwater Monitoring Plan (DOF 2019B<sup>3</sup>). Sampling results are to be included with data collected under the Data Gaps Work Plan and incorporated into the Agreed Order.

## Site Hydrogeology

Prior to the 1930s, the area consisted of tidal marsh/tide flats of the Puyallup River Delta. Dredging of the Blair and Hylebos Waterways and filling the intervening land with dredge spoils likely occurred at least once during each decade from the 1930s through the 1970s. By the late 1960s, the TWAAFA had been partially filled with dredge spoils from nearby waterways, resulting in a freshwater marsh 5 to 6 feet above the former saltwater marsh.

The hydrogeology underlying the TWAAFA site has been documented in prior investigations, as described in the Work Plan. The three hydrogeological units, listed in order of increasing depth, are discussed for the Hylebos Marsh property:

### *Shallow Aquifer*

- This unit consists of an upper fill unit composed of artificially placed material that is highly heterogeneous and is approximately 5 to 18.5 feet thick at the Hylebos Marsh property.
- The saturated thickness of the unconfined shallow groundwater unit varies seasonally. The Work Plan indicates that the saturated thickness is greatest in late winter or early spring and decreases in late summer or early autumn.
- Shallow groundwater generally flows radially out from a groundwater mound located near the center of the TWAAFA site, near the property boundary between the Stericycle and CleanCare properties. As a result, shallow groundwater generally flows southwest on the Hylebos Marsh property.

### *Silt Confining Unit*

- The silt unit is the former mudflat that underlies the upper fill unit and overlies the deep aquifer sand unit. The silt unit is soft and contains varying amounts of clay, sand, and organic matter. The silt unit appears continuous. At the two deeper borings completed at the Hylebos Marsh property, the silt was 7 feet (TWA-5) to 11.5 feet (TWA-6) thick.

### *Deep Aquifer*

- The deep aquifer consists of deltaic sands that are present throughout the tide flats. Silt layers are present within the deep aquifer and have been documented at the TWAAFA site at depths greater than 50 feet below ground surface (bgs). This unit was encountered at the Hylebos Marsh Property in deep borings TWA-5 and TWA-6. The top of the unit was encountered at 18.5 feet bgs at TWA-6 and at 24.5 feet bgs at TWA-5. Thin clay layers were noted, with layers no thicker than 1 foot. This deep aquifer sand unit extended to the bottom of the boreholes (60 feet bgs).

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<sup>3</sup> DOF 2019B. Revised Groundwater Monitoring Plan, Taylor Way and Alexander Avenue Fill Area Site, Tacoma Washington. Dalton Olmsted and Fuglevand, January 29, 2019, Exh to Agreed Order.

- Groundwater within the deep aquifer flows from the northeast to the southwest. The Work Plan indicates that groundwater elevations are generally flatter than the shallow groundwater, exhibiting approximately one foot or less variation across the TWAAFA site, and a downward gradient based on measurements at paired well locations.

## **Shallow Soil and Groundwater Samples**

### **Methods**

Four borings were drilled to characterize fill material and to obtain 5 soil and 4 groundwater samples for laboratory analysis. TWA-SB1 through TWA-SB4 were drilled using direct push equipment (Figure 2). Each borehole was continuously logged to describe lithology and measure volatile compounds in soil using a photoionization detector (PID). Borings were drilled through the fill interval into the silt layer, encountered 8 to 10 feet bgs. Borings were drilled by Holt Drilling, a licensed drilling contractor in the State of Washington between September 24 and 27, 2019. Field logs are included in Attachment 1.

Groundwater samples were collected from each of the four borings. Groundwater samples were collected from temporary wells constructed using a new, disposable 5-foot long, 0.010-inch slot PVC screen with retractable protective sheath. Low-flow purging and sampling was performed using a peristaltic pump and disposable polyethylene tubing. Three of the four wells purged dry; when this occurred the well was allowed to recharge and the groundwater sample was collected immediately after recharge. Sampling methods otherwise followed the methods described in the Standard Operating Procedure included in the TWAAFA Groundwater Monitoring Plan (DOF 2019B).

### **Shallow Soil Results**

Results are presented in Tables 1 and 2. Sample locations are shown on Figure 2. Borehole logs are included in Attachment 1. Laboratory reports are included in Attachment 2.

Soil samples were collected 1 to 2 feet above the water table and were analyzed for: volatile organic compounds (VOCs), northwest total petroleum hydrocarbon diesel and lube oil (NWTPH-Dx), NWTPH-gasoline (NWTPH-Gx), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc, and manganese). An additional sample was collected from a layer of wood debris observed in SB-3 and analyzed for the same parameters. Lime solvent sludge, auto fluff, other debris identified in Table 23 of the Work Plan, sheen, or discernable evidence of contamination was not noted in any of the borings. All borings were drilled through the vertical extent of fill materials until encountering the underlying native silt. No parameters were detected above site screening levels from any of the direct push soil samples.

### **Shallow Groundwater Results**

The top of silt was encountered between 8 feet bgs (SB-1 and 4) and 10 feet bgs (SB-3). The depth to groundwater was estimated at 7 feet bgs (SB-1 and SB-4) and 7.5 feet bgs (SB-2 and SB-3) based on the presence of water-saturated soil in the geoprobe core samples. Groundwater samples were collected from each of the four borings and analyzed for: VOCs, NWTPH-Dx, NWTPH-Gx, SVOCs, PCBs, total and dissolved metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc, and manganese), and methane. SVOC samples were filtered by the laboratory using a 0.70 um (micron) glass fiber filter prior to analyses.

A summary of field parameters measured during sampling are included on Table 3. Groundwater results are summarized on Tables 4 and 5. Copies of laboratory reports are included in Attachment 2.

The following parameters were detected in groundwater samples above laboratory reporting limits:

- TPH-Dx was reported to be present when silica gel cleanup was not performed in groundwater samples obtained from all four borings. One sample result (6,800 micrograms per liter [ $\mu\text{g/L}$ ] at SB-3) was elevated and oil range TPH was also detected (1,800  $\mu\text{g/L}$  at SB-3) in this sample, exceeding the 500  $\mu\text{g/L}$  screening level. TPH-Dx and oil range results with silica gel cleanup were below laboratory reporting limits for all groundwater samples.
  - TPH-Dx and oil range chromatograms for samples collected from the shallow wells (SB-1 through SB-4) that did not undergo silica gel cleanup do not resemble the laboratory fuel standard. This indicates that the results of samples that did not undergo silica gel cleanup are most likely not representative of actual concentrations of TPH-Dx and oil range TPH.
  - The borehole log for SB-3 identifies a wood debris layer between 9 and 10 feet bgs, within the groundwater sample screen interval. This suggests that the concentrations reported when silica gel cleanup was not performed may be associated with naturally occurring non-petroleum organic matter.
  - SB-3 is also located downgradient of monitoring wells on the adjacent Stericycle facility where groundwater concentrations exceeding the NWTPH-Dx screening level were previously reported.
- Dissolved manganese was detected in groundwater samples above the screening level of 100  $\mu\text{g/L}$  ranging from 631  $\mu\text{g/L}$  (SB-4) to 832  $\mu\text{g/L}$  (SB-3). A dissolved metals sample was not collected from SB-1 because there was insufficient water to fill a sample container. Total manganese was detected in groundwater samples obtained from all four site borings at concentrations ranging from 614  $\mu\text{g/L}$  (SB-4) to 2,990  $\mu\text{g/L}$  (SB-1).
- Total arsenic was detected just above the screening level of 5  $\mu\text{g/L}$  from SB-4 (5.66  $\mu\text{g/L}$ ); the dissolved arsenic result (1.07  $\mu\text{g/L}$ ) was below the screening level.
- Total copper was detected above the screening level of 2.4  $\mu\text{g/L}$  from SB-3 (3.78  $\mu\text{g/L}$ ) and SB-4 (22  $\mu\text{g/L}$ ). Dissolved copper was not detected above the laboratory reporting limit of 2.4  $\mu\text{g/L}$ .
- Dissolved and total chromium, nickel, selenium, and total zinc were detected in groundwater from site borings at concentrations below screening levels.
- Acetone, methylene chloride, 1-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, fluoranthene, fluorine, phenanthrene, and pyrene were detected in groundwater from select site borings at concentrations below screening levels.
- Dissolved methane was detected in groundwater samples collected from shallow borings SB-2 through SB-4 at values ranging from 1,210  $\mu\text{g/L}$  (SB-2) to 3,530  $\mu\text{g/L}$  (SB-4).

The reporting limit for bis(2-ethylhexyl) phthalate (BEHP) exceeded the screening level. The BEHP reporting limit was 3.2  $\mu\text{g/L}$  compared to the screening level of 0.046  $\mu\text{g/L}$ .

## **Deep Aquifer Borings**

### **Methods**

Two borings were drilled to sample groundwater in the deep aquifer beneath the silt unit at multiple depths. Samples were collected using the following approach:

- Conductor casing was used to seal off the upper aquifer and sample below the silt layer at both deep aquifer borings (Figure 2). TWA-5 and TWA-6 were drilled to a depth of 60 feet bgs. The bottom of the conductor casing was set at 20 feet bgs at TWA-5 and at 12 feet bgs at TWA-6.
- Depth-discrete groundwater samples were collected in higher transmissivity water-bearing units at approximately 10-foot intervals and/or at major lithology changes. At TWA-5, samples were collected at 25-30, 35-40, and 45-50 feet bgs. At TWA-6, samples were collected at 15-20, 25-35, 35-40, and 45-50 feet bgs. Samples were collected via a temporary well screen, using low flow purging and sampling methods with a peristaltic pump and polyethylene tubing.
- Soil samples were collected from fine-grained units encountered beneath the silt unit and were archived for contingent analysis in the event VOCs were detected in groundwater.

## **Deep Aquifer Groundwater Results**

Results are summarized in Tables 6 and 7. Sample locations are shown on Figure 2. Field logs are included in Attachment 1. Laboratory reports are included in Attachment 2.

At TWA-5, wood debris was encountered at 10 to 18.5 feet bgs. The top of the silt was encountered at 18.5 feet bgs. No wood debris was encountered at TWA-6 where the top of the silt was encountered at 10 feet bgs.

Groundwater samples were analyzed for: VOCs, NWTPH-Dx, NWTPH-Gx, SVOCs, PCBs, and total metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc, and manganese). SVOC samples were filtered by the laboratory using a 0.70  $\mu\text{m}$  (micron) glass fiber filter prior to analyses.

The highest metals concentrations were reported in the 25-30 feet bgs samples for both locations. VOCs, NWTPH-Gx, and PCBs were not detected in any sample. SVOC compounds bis(2-ethylhexyl) phthalate (BEHP) and di-n-butyl phthalate were detected in the 25-30 feet bgs sample in TWA-5.

TPH-Dx was reported to be present in all groundwater sample results when silica gel cleanup was not performed. None of the TPH-Dx chromatograms resembled the laboratory fuel standard. Accordingly, these reported results are not representative of the actual concentration of diesel (CAS# 68334-30-5) present in the samples.

No soil samples were analyzed for VOCs because VOCs were not detected at concentrations exceeding screening levels in any of the groundwater samples.

## **Well Installation and Development**

Two deep aquifer wells, TWA-5 and TWA-6, were installed between November 7 and 9, 2019. The well screen intervals for TWA-5 and TWA-6 were approved by Steve Teel on November 1, 2019 via electronic mail. The screen interval was selected as 25-30 feet bgs for both wells. Wells were installed by Holocene Drilling, a licensed drilling contractor in the State of Washington, using sonic drilling equipment. Wells were constructed in accordance with the Minimum Standards for Construction and Maintenance of Wells (Chapter 173-160 WAC). Well installation was overseen by an environmental professional familiar with environmental sampling and construction of resource protection wells.

The deep wells were constructed using the conductor casing method to obtain representative samples from the deep aquifer. The monitoring wells were constructed with 2-inch-diameter, flush-threaded, Schedule 40 PVC pipe with 0.010-inch machine-slotted well screens. Filter pack material consisting of pre-washed 2/12 silica sand was placed from the bottom of the well to approximately two feet above the top of the screen. Filter pack material was placed slowly and carefully to avoid bridging. A bentonite

seal was placed above the filter sand pack to within about 3 feet of ground surface. Wells were completed with above-ground protective casings and protective bollards. The well names and the identification numbers assigned by Ecology were marked on the well identification tags supplied by Ecology and were attached by the driller to each well casing following well installation.

The monitoring wells were developed on November 7 and 8, 2019 to remove formation material from the well and the filter pack prior to groundwater level measurement and sampling. Development was conducted consistent with Stericycle's previously approved SOP 121, included in the Groundwater Monitoring Plan (DOF 2019B).

### **Well Decommissioning**

Well abandonment methods were approved by Steve Teel via electronic mail on November 19, 2019. Well SB-1 was decommissioned by over-drilling and wells SB-3 and SB-4 were decommissioned by chipping-in-place. Wells were decommissioned by Holt Drilling (a licensed drilling contractor in the State of Washington) on December 11, 2019.

### **Deviations**

The following modifications were performed during execution of the work described in the Work Plan:

1. Work Plan Table 1 called for total metals analysis of shallow temporary groundwater samples collected from SB-1 through SB-4. Total and dissolved metals were analyzed for all shallow temporary groundwater samples with the exception of SB-1, where there was insufficient water produced to fill the sample containers for dissolved metals analysis.
2. Groundwater samples were analyzed for NWTPH-Dx both with and without silica gel cleanup because the chromatograms from samples without silica gel cleanup did not resemble the laboratory fuel standard and are not considered representative of petroleum. This may also be due to the presence of with naturally occurring non-petroleum organic matter.
3. The mercury analytical method specified in the Work Plan is EPA 7470A. The laboratory advised CRETE that the EPA 6020 trace level analysis would achieve an equivalent reporting limit.
4. The 8260SIM analytical method was specified in the Work Plan to achieve reporting limits that were below the screening levels for trichloroethylene and vinyl chloride. The laboratory advised CRETE that the standard 8260 method would achieve equivalent reporting limits.

### **Quarterly Groundwater Sampling**

On December 10 and 11, CRETE collected groundwater samples from five site monitoring wells: TWA-5, TWA-6, SB-1A, SB-2A, and SB-3A. All samples were collected in accordance with the Revised Groundwater Monitoring Plan ("Groundwater Monitoring Plan" DOF 2019B). A summary of water level and field parameters are included in Table 8 and sample collection documentation are provided in Attachment 1.

A summary of results is provided in Tables 8 through 10. Laboratory reports are included in Attachment 2. Sample locations are shown on Figures 3 and 4.

Groundwater samples were collected at each of the wells and analyzed for: VOCs, NWTPH-Dx, NWTPH-Gx, SVOCs, PCBs, and total and dissolved metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc, and manganese). SVOC samples were filtered by the laboratory using a 0.70 µm (micron) glass fiber filter prior to analyses.



The reporting limit for bis(2-ethylhexyl) phthalate (BEHP) exceeded the screening level. The BEHP reporting limit was 3.2 µg/L compared to the screening level of 0.046 µg/L.

The following parameters were detected in groundwater samples above laboratory reporting limits:

### **Shallow Aquifer Groundwater Results**

- TPH-Dx and oil range TPH analyses that did not undergo silica gel cleanup from shallow aquifer well SB-3A reported concentrations of 1,900 µg/L and 1,200 µg/L, respectively, exceeding the 500 µg/L screening level. TPH- Dx and oil range results for all groundwater samples with silica gel cleanup were below the laboratory reporting limit.
- TPH-Dx and oil range chromatograms from the SB-3A sample that did not undergo silica gel cleanup do not resemble the laboratory fuel standard. This indicates that the sample result is most likely not representative of actual concentrations of TPH-Dx and oil-range TPH.
- Figure 5 provides the chromatograms for SB-3A and direct push groundwater sample SB-3; chromatograms are also provided in Attachment 3. Figure 5 shows that the samples that did not receive silica gel cleanup have chromatograms that are shifted to the right relative to the diesel standard and do not have the regularly spaced array of *n*-alkane peaks that are characteristic of diesel.
- Dissolved manganese was detected above the screening level (100 µg/L) in all groundwater wells. Concentrations ranged from 194 µg/L (SB-3A) to 367 (SB-2A).
- Dissolved arsenic concentrations were all below the 5 µg/L screening level.
- Dissolved nickel concentrations were all below the 8.2 µg/L screening level.
- Acenaphthene concentrations were all below the 30 µg/L screening level.

### **Deep Aquifer Groundwater Results**

- TPH-Dx and oil range TPH analyses that did not undergo silica gel cleanup for all deep aquifer monitoring wells exceeded the 500 µg/L screening level. TPH-Dx and oil range results for all groundwater samples with silica gel cleanup are below the laboratory reporting limit.
- TPH-Dx and oil range chromatograms from the samples that did not undergo silica gel cleanup do not resemble the laboratory fuel standard. This indicates that the sample result is most likely not representative of actual concentrations of TPH-Dx and oil-range TPH.
- Figure 6 shows that the samples that did not receive silica gel cleanup have chromatograms that are shifted to the right relative to the diesel standard and do not have the regularly spaced array of *n*-alkane peaks that are characteristic of diesel.
- Dissolved arsenic concentrations ranged from 8.82 µg/L to 9.19 µg/L, slightly exceeding the 5 µg/L screening level
- Dissolved chromium concentrations were all below the 50 µg/L screening levels.
- Dissolved copper concentration in TWA-5 (7.6 µg/L) exceeded the 2.4 µg/L screening level.
- Dissolved manganese was detected above the screening level (100 µg/L) in all groundwater wells. Concentrations ranged from 262 µg/L (TWA-5) to 944 µg/L (TWA-6).
- Dissolved nickel concentrations in all samples were below the 8.2 µg/L screening level.
- Dissolved zinc concentrations in all samples were below the 81 µg/L screening level.
- Chloroform, dichlorobromomethane, and 1,4-dioxane concentrations were all below screening levels

## **Conclusions**

This investigation did not identify suspected shallow fill materials and did not find any hazardous substances in shallow soil. Hazardous substances measured in the groundwater during this investigation are not associated with shallow fill soils located on the Hylebos Marsh Property; rather impacts are likely a result of migration through the groundwater from a source off the Hylebos Marsh Property.

### **Soil**

A portion of this investigation targeted potential shallow fill areas identified in the Work Plan. Field observations and data indicate that suspected landfilling within shallow fill soils did not occur on the Hylebos Marsh Property. In addition, boreholes TWA-SB-3 and TWA-5 along the eastern portion of the property, did not identify TWAFA-related fill areas identified in Figures 8 through 10 of the Work Plan. Specifically, lime waste and auto fluff were not observed at TWA-SB-3 as mapped respectively on Figures 8 and 9 of the Work Plan and auto fluff and woodwaste/debris were not observed as mapped respectively on Figures 9 and 10 of the Work Plan. Sample results confirm that TWAFA-related hazardous substances, including lime solvent sludge and auto fluff mixed with other hazardous material, **do not** extend onto the Hylebos Marsh Property. The soil data exhibit no exceedances of soil screening levels on the Property, which is consistent with previous data summarized in the Data Gaps Work Plan (Table 14).

### **Groundwater**

#### **Metals in Groundwater**

The monitoring well data show relatively minor concentrations of hazardous constituents in shallow groundwater (Table 9). Dissolved manganese was detected at concentrations exceeding the 100 µg/L screening value (surface water, human health, Clean Water Act §304) in all samples, ranging from 194 µg/L (SB-3A) to 367 µg/L (SB-2A). Total copper was detected at concentrations exceeding the 2.4 µg/L screening value (surface water, aquatic life, chronic NTR 40 CFR 131) in all samples, ranging from 3.28 µg/L (SB-3A) to 23.1 µg/L (SB-1A). All dissolved copper concentrations are below screening levels. The difference in dissolved and total copper data is likely attributable to the presence of sediment with naturally-occurring metals in the unfiltered (totals) samples.

Direct push shallow groundwater sample data (Table 3) show higher concentrations of total and dissolved manganese relative to the monitoring well data, and comparable concentrations of total copper. Total arsenic was also detected at concentrations exceeding the 5.0 µg/L screening value (natural background concentration in Washington State) in a sample obtained from SB-4 (5.66 µg/L). Total nickel was also detected at concentrations exceeding the 8.2 µg/L screening value<sup>4</sup> in two samples, with concentrations up to 17.7 µg/L (SB-4); dissolved nickel was only detected in SB-3 (9.44 µg/L). The differences between the dissolved monitoring well data and the direct push sample results is attributable to the presence of sediment with metals in the unfiltered (totals) direct push samples.

The monitoring well data also show relatively minor concentrations of hazardous substances in deep groundwater (Table 9). Dissolved manganese was detected at concentrations exceeding the 100 µg/L screening value (surface water, human health, Clean Water Act §304) in all samples, ranging from 262 µg/L (TWA-5) to 944 µg/L (TWA-6). Dissolved and total arsenic were detected at concentrations exceeding the 5 µg/L screening level (background concentration in Washington State) in TWA-6 samples

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<sup>4</sup> Surface water, aquatic life, chronic, WAC 173-201A

at concentrations of 9.19 µg/L and 7.84 µg/L, respectively. Dissolved arsenic was also measured in samples obtained from TWA-5 (9.08 µg/L) and TW-6 (9.19 µg/L) slightly exceeding the 5 µg/L screening level. Total copper was detected at concentrations exceeding the 2.4 µg/L screening value (surface water, aquatic life, chronic NTR 40 CFR 131) in all samples, ranging from 35.4 µg/L (TWA-5) to 69 µg/L (Duplicate TWA-6). The dissolved copper concentrations are below screening levels with the exception of TWA-5 (7.6 “J” µg/L). The difference in dissolved and totals data is likely attributable to the presence of sediment with naturally-occurring metals in the unfiltered (totals) samples.

“Grab” total metals sample from the deep aquifer (Table 6) identified four additional metals that were not found at concentrations exceeding the screening levels in the groundwater samples obtained from the deep aquifer monitoring wells. Maximum concentrations for these metals are 137 µg/L (chromium<sup>5</sup>), 114 µg/L (lead<sup>6</sup>), 123 µg/L (nickel), and 488 µg/L (zinc<sup>7</sup>). The differences between the dissolved monitoring well data and the “Grab” total metals sample results is attributable to the presence of sediment with naturally-occurring metals in the “Grab” total metals samples.

#### TPH-Dx and Oil Range TPH in Groundwater

TPH-Dx and oil range TPH were present in monitoring well groundwater samples for which silica gel cleanup was not performed. Both deep aquifer well concentrations exceeded the 500 µg/L screening level while 1 of 3 shallow aquifer well concentrations exceeded the screening level. TPH-Dx and oil range TPH results were all below reporting limits for these same groundwater samples when silica gel cleanup was performed.

Silica gel cleanup removes polar organic compounds that may be present due to conditions such as wood debris, sea water mixing, or polar metabolites associated with the biodegradation of petroleum. Wood debris is present in some locations on the property, electrical conductance is elevated in deep groundwater, and a petroleum (diesel and oil) soil and groundwater source is present upgradient of the property in both the shallow and deep aquifers.

Figure 7 presents the chromatograms for a shallow well (SB-3A) and a deep well (TWA-5). The chromatograms for the samples without silica gel cleanup are shifted right of the diesel standard and do not have the regularly spaced array of *n*-alkane peaks that are characteristic of the diesel standard. These chromatograms are typical of chromatograms for biogenic material or polar metabolites associated with the biodegradation of petroleum. While this assessment has not definitively identified the nature of the material the laboratory has reported as TPH-Dx when silica gel cleanup was not performed, we have concluded that: (1) it is not representative of diesel [CAS# 68334-30-5] and (2) potential sources of TPH-Dx and/or oil range TPH are not associated with shallow fill soils at the Hylebos Marsh Property.

### **Quality Control**

A duplicate was collected from TWA-6; results are shown on Table 11. The relative percent difference goal for duplicate samples is less than 30%. This was achieved for all detected compounds except for total copper, which had a RPD of 47%. The dissolved copper RPD was 0%. For sample results below the laboratory detection limit, total metals reporting limits between the parent sample (TWA-6) and the

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<sup>5</sup> 50 µg/L – Surface water, aquatic life, chronic, WAC 173-201A

<sup>6</sup> 8.2 µg/L – Surface water, aquatic life, chronic, WAC 173-201A

<sup>7</sup> 81 µg/L – Surface water, aquatic life, chronic, WAC 173-201A

duplicate (TWA-1120) were different, which affects the RPD for total cadmium, lead, and zinc; all other laboratory reporting limits were consistent. Total cadmium, lead, and zinc compounds all were detected below the laboratory reporting limit, but the parent sample (TWA-6) was re-run at a dilution because of estimated flags in the initial run. Dissolved metal reporting limits are consistent between the parent and duplicate sample.

Results from the field blank are summarized on Table 11. Deionized water was provided by the laboratory and water was transferred to a new empty sampling container in the field. Results of the field blank indicate that metals, including copper, chromium, manganese, and zinc as well as chlorinated water byproducts (chloroform and dichlorobromomethane) were detected in the sample. The laboratory was contacted and it was determined that the water provided was not the highest quality deionized water but was a high volume supply of water that goes through less filtration compared to the deionized water used in the instruments. Future events will use the higher quality deionized water.

Laboratory validation and standards are all acceptable and within in the limits provided in Groundwater Monitoring Plan.

### **Schedule**

The following quarterly groundwater sampling event occurred on March 9 and 10, 2020. Monitoring wells were also surveyed on March 10, 2020. Laboratory results will be provided to Ecology within 30 days of data validation.

Sincerely,

CRETE CONSULTING INCORPORATED, PC



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cc: Scott Hooton – Port of Tacoma

#### Attachments:

Tables

Figures

Attachment 1-Field Notes and Borehole Logs

Attachment 2-Analytical Laboratory Data Reports

Attachment 3-Chromatograms

## Tables

**Table 1 Shallow Soil Analytical Data Summary Summary of Detections  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Soil Boring ID:	SB-1	SB-2	SB-3-1	SB-3-2	SB-4	
Sample Depth bgs:	5-6	6.5-7.5	6-7	9-10 *	6.5-7.5	
Sample Date:	9/24/19	9/24/19	9/24/19	9/24/19	9/24/19	
Parameter	Screening Level **					
<b>Metals</b>						
Arsenic	7.3	<b>3.53</b>	<b>1.63</b>	<b>1.13</b>	<b>7.83</b>	<b>1.65</b>
Chromium	2,000	<b>19.6</b>	<b>9.92</b>	<b>8.6</b>	<b>12.7</b>	<b>8.29</b>
Copper	3,200	<b>17</b>	<b>8.59</b>	<b>10.4</b>	<b>25.3</b>	<b>10.7</b>
Lead	24	<b>17.8</b>	<b>3.25</b>	<b>1.55</b>	<b>4.75</b>	<b>1.3</b>
Manganese	3,700	<b>104</b>	<b>44.7</b>	<b>58.2</b>	<b>70</b>	<b>57.7</b>
Nickel	1,600	<b>8.27</b>	<b>5.36</b>	<b>5.9</b>	<b>12.8</b>	<b>10.3</b>
Zinc	24,000	<b>36.4</b>	<b>17.9</b>	<b>17</b>	<b>26.3</b>	<b>16.4</b>
<b>VOC</b>						
Acetone	72,000	<b>0.62</b>	0.5 U	0.5 U	<b>1.9</b>	0.5 U
<b>SVOC</b>						
Acenaphthene	4,800	0.01 U	<b>0.046</b>	0.01 U	0.01 U	0.01 U
Fluoranthene	3,200	<b>0.036</b>	<b>0.054</b>	0.01 U	0.01 U	0.01 U
Phenanthrene	No SL	<b>0.023</b>	0.01 U	0.01 U	0.01 U	0.01 U
Naphthalene	5	<b>0.01</b>	0.01 U	0.01 U	0.01 U	0.01 U
Pyrene	2,400	<b>0.029</b>	<b>0.045</b>	0.01 U	0.01 U	0.01 U
Benz[a]anthracene	No SL	<b>0.016</b>	0.01 U	0.01 U	0.01 U	0.01 U
2-Methylnaphthalene	320	<b>0.014</b>	0.01 U	0.01 U	0.01 U	0.01 U
Chrysene	No SL	<b>0.021</b>	0.01 U	0.01 U	0.01 U	0.01 U
1-Methylnaphthalene	5,600	<b>0.012</b>	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(a)pyrene	0.1	<b>0.015</b>	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(b)fluoranthene	No SL	<b>0.021</b>	0.01 U	0.01 U	0.01 U	0.01 U

Notes:

NS - not sampled

U - detected below the laboratory reporting limit

Bold denotes a detection, shading denotes value above site Screening Levels

\* Sample collected from a layer of wood waste.

Only detected compounds are shown on this table.

\*\* - Screening Levels are from TWAFA Revised Data Gaps Work Plan, if provided. Otherwise the Method A/B default cleanup level is used.

mg/kg = milligram per kilogram. All units are in mg/kg.

**Table 2 Shallow Soil Analytical Data  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Soil Boring ID:	SB-1	SB-2	SB-3-1	SB-3-2	SB-4
Sample Depth bgs:	5-6	6.5-7.5	6-7	9-10 *	6.5-7.5
Sample Date:	9/24/19	9/24/19	9/24/19	9/24/19	9/24/19
TPH					
Diesel Range Organics	50 U	50 U	50 U	50 U	50 U
Lube Oil	250 U	250 U	250 U	250 U	250 U
Gasoline Range Organics	5 U	5 U	5 U	5 U	5 U
Metals					
Arsenic	<b>3.53</b>	<b>1.63</b>	<b>1.13</b>	<b>7.83</b>	<b>1.65</b>
Cadmium	1 U	1 U	1 U	1 U	1 U
Chromium	<b>19.6</b>	<b>9.92</b>	<b>8.6</b>	<b>12.7</b>	<b>8.29</b>
Copper	<b>17</b>	<b>8.59</b>	<b>10.4</b>	<b>25.3</b>	<b>10.7</b>
Lead	<b>17.8</b>	<b>3.25</b>	<b>1.55</b>	<b>4.75</b>	<b>1.3</b>
Manganese	<b>104</b>	<b>44.7</b>	<b>58.2</b>	<b>70</b>	<b>57.7</b>
Mercury	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	<b>8.27</b>	<b>5.36</b>	<b>5.9</b>	<b>12.8</b>	<b>10.3</b>
Selenium	1 U	1 U	1 U	1 U	1 U
Zinc	<b>36.4</b>	<b>17.9</b>	<b>17</b>	<b>26.3</b>	<b>16.4</b>
PCB					
PCB-aroclor 1221	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
PCB-aroclor 1232	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
PCB-aroclor 1016	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
PCB-aroclor 1242	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
PCB-aroclor 1248	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
PCB-aroclor 1254	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
PCB-aroclor 1260	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
PCB-aroclor 1262	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
PCB-aroclor 1268	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
VOC					
CFC-12	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Vinyl chloride	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Dibromochloromethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromoethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
CFC-11	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Acetone	<b>0.62</b>	0.5 U	0.5 U	<b>1.9</b>	0.5 U
1,1,1,2-Tetrachloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,1-Dichloroethene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
m, p-Xylene	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U

**Table 2 Shallow Soil Analytical Data**  
**Port of Tacoma Property**  
**Taylor Way and Alexander Avenue Fill Area Site**

Soil Boring ID:	SB-1	SB-2	SB-3-1	SB-3-2	SB-4
Sample Depth bgs:	5-6	6.5-7.5	6-7	9-10 *	6.5-7.5
Sample Date:	9/24/19	9/24/19	9/24/19	9/24/19	9/24/19
Hexane	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
o-Xylene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methylene chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methyl t-butyl ether	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Isopropylbenzene (Cumene)	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
trans-1,2-Dichloroethene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Bromoform	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,1-Dichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
n-Propylbenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
2,2-Dichloropropane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Bromobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
cis-1,2-Dichloroethene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,3,5-Trimethylbenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloroform	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,1,2,2-Tetrachloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
2-Butanone	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
2-Chlorotoluene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,1,1-Trichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4-Chlorotoluene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,1-Dichloropropene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
tert-Butylbenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Carbon tetrachloride	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2,4-Trimethylbenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Benzene	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
sec-Butylbenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Trichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
p-Isopropyltoluene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichloropropane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,3-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Dichlorobromomethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,4-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Dibromomethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methyl isobutyl ketone	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2,4-Trichlorobenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Toluene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Hexachlorobutadiene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U



**Table 2 Shallow Soil Analytical Data**  
**Port of Tacoma Property**  
**Taylor Way and Alexander Avenue Fill Area Site**

Soil Boring ID:	SB-1	SB-2	SB-3-1	SB-3-2	SB-4
Sample Depth bgs:	5-6	6.5-7.5	6-7	9-10 *	6.5-7.5
Sample Date:	9/24/19	9/24/19	9/24/19	9/24/19	9/24/19
trans-1,3-Dichloropropene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Naphthalene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,1,2-Trichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2,3-Trichlorobenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2-Hexanone	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
SVOC					
Phenol	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,6-Dinitrotoluene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bis(2-chloroethyl) ether	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
3-Nitroaniline	5 U	5 U	5 U	5 U	5 U
2-Chlorophenol	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Acenaphthene	0.01 U	<b>0.046</b>	0.01 U	0.01 U	0.01 U
1,3-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
2,4-Dinitrophenol	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
1,4-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Dibenzofuran	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
2,4-Dinitrotoluene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Benzyl alcohol	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Nitrophenol	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
2,2'-Oxybis(1-chloropropane)	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Diethyl phthalate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Methylphenol	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Fluorene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Hexachloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4-Chlorophenyl phenyl ether	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
N-Nitroso-di-n-propylamine	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
N-Nitrosodiphenylamine	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
3-Methylphenol + 4-Methylphenol	1 U	1 U	1 U	1 U	1 U
4-Nitroaniline	5 U	5 U	5 U	5 U	5 U
Nitrobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4,6-Dinitro-2-methylphenol	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
Isophorone	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4-Bromophenyl phenyl ether	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
2-Nitrophenol	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
2,4-Dimethylphenol	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Pentachlorophenol	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Benzoic acid	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Phenanthrene	<b>0.023</b>	0.01 U	0.01 U	0.01 U	0.01 U
Bis(2-chloroethoxy)methane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Anthracene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U

**Table 2 Shallow Soil Analytical Data  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Soil Boring ID:	SB-1	SB-2	SB-3-1	SB-3-2	SB-4
Sample Depth bgs:	5-6	6.5-7.5	6-7	9-10 *	6.5-7.5
Sample Date:	9/24/19	9/24/19	9/24/19	9/24/19	9/24/19
2,4-Dichlorophenol	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbazole	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2,4-Trichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Di-n-butyl phthalate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Naphthalene	<b>0.01</b>	0.01 U	0.01 U	0.01 U	0.01 U
Fluoranthene	<b>0.036</b>	<b>0.054</b>	0.01 U	0.01 U	0.01 U
Hexachlorobutadiene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Pyrene	<b>0.029</b>	<b>0.045</b>	0.01 U	0.01 U	0.01 U
4-Chloroaniline	5 U	5 U	5 U	5 U	5 U
Butylbenzyl phthalate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Chloro-3-methylphenol	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benz[a]anthracene	<b>0.016</b>	0.01 U	0.01 U	0.01 U	0.01 U
2-Methylnaphthalene	<b>0.014</b>	0.01 U	0.01 U	0.01 U	0.01 U
Chrysene	<b>0.021</b>	0.01 U	0.01 U	0.01 U	0.01 U
1-Methylnaphthalene	<b>0.012</b>	0.01 U	0.01 U	0.01 U	0.01 U
Bis(2-ethylhexyl) phthalate	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Hexachlorocyclopentadiene	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Di-n-octyl phthalate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,4,6-Trichlorophenol	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzo(a)pyrene	<b>0.015</b>	0.01 U	0.01 U	0.01 U	0.01 U
2,4,5-Trichlorophenol	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzo(b)fluoranthene	<b>0.021</b>	0.01 U	0.01 U	0.01 U	0.01 U
2-Chloronaphthalene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Benzo(k)fluoranthene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Nitroaniline	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Indeno(1,2,3-cd)pyrene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Dimethyl phthalate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibenzo(a,h)anthracene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Acenaphthylene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(ghi)perylene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U

Notes:

NS - not sampled

U - detected below the laboratory reporting limit

Bold denotes a detection

\* Sample collected from a layer of wood waste.

mg/kg = milligram per kilogram. All units are in mg/kg.

**Table 3 Monitoring Well Field Parameters - Shallow and Deep Temporary Groundwater Wells  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Location ID	Well Install Method	Screen depth (ft bgs)	Date	Time	Volume Purged (gal)	Temp (C)	pH	Spec. Cond. (uS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color/Odor	DTW
TWA-5-1	Sonic	25-30	9/24/2019	15:42	60	18.29	7.72	3790	0	-152	NM <sup>1</sup>	cloudy	15.21
TWA-5-2	Sonic	35-40	9/24/2019	15:51	10	well purged dry, well allowed to recharge over night and							
TWA-5-3	Sonic	45-50	9/25/2019	11:59	57	16:09	8.68	8360	0	-180	391		15.71
TWA-6-1	Sonic	15-20	9/26/2019	11:55	19.75	14.19	8.19	2000	0	-105	722		15.16
TWA-6-2	Sonic	25-30	9/26/2019	14:15	12.4	19.69	7.42	4000	0	-124	0		15.35
TWA-6-3	Sonic	35-40	9/26/2019	8:40	54	13.75	8.42	2880	0	-168	59.7		15.06
TWA-6-4	Sonic	45-50	9/26/2019	11:55	85.5	18.67	8.45	5160	0	-146	123		15.41
SB-1	Geoprobe	1.5-6.5	9/24/2019	9:10	>0.1	Well purged dry allowed to recharge and sample collected without purging							
SB-2	Geoprobe	3.5-8.5	9/24/2019	13:30	0.5*	19.55	8	791	3.4	-79	45.1		8.39
SB-3	Geoprobe	3.5-8.5	9/24/2019	12:04	0.5*	19.29	7.96	1190	1.93	-75	>100	cloudy	8.41
SB-4	Geoprobe	3.5-8.5	9/24/2019	10:55	0.5	Well purged dry allowed to recharge and sample collected without purging							

Notes

1. Turbidity value not recorded, unable to read the value on the instrument because of condensation on control screen.

\* = wells purged dry during sampling, last value recorded prior to going dry is included on this table.

**Table 4 Shallow Geoprobe Groundwater Analytical Data Summary of Detections  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Soil Boring ID:		SB-1	SB-2	SB-3	SB-4
Sample Date:		9/24/19	9/24/19	9/24/19	9/24/19
Screen Interval (ft bgs):		3-8	3.5-8.5	3.5-8.5	3.5-8.5
Units:		ug/L	ug/L	ug/L	ug/L
Parameter	Screening Level *				
<b>TPH</b>					
Diesel Range Organics	NA	<b>230x</b>	<b>180x</b>	<b>6800x</b>	<b>300x</b>
Diesel Range Organics with SGC	NA	NS	NS	70 U	NS
Lube Oil	NA	500 U	330 U	<b>1800x</b>	330 U
Lube Oil with SGC	NA	NS	NS	330 U	NS
NWTPH-Dx (Total)	500	<b>230x</b>	<b>180x</b>	<b>8600x</b>	<b>300x</b>
NWTPH-Dx with SGC (Total)	500	NS	NS	330 U	NS
<b>Metals - Dissolved</b>					
Arsenic Dissolved	5	NS	<b>1.49</b>	<b>1.94</b>	<b>1.07</b>
Copper Dissolved	2.4	NS	2.4 U	2.4 U	2.4 U
Chromium Dissolved	50	NS	<b>2.63</b>	<b>1.43</b>	1 U
Manganese Dissolved	100	NS	<b>635</b>	<b>832</b>	<b>631</b>
Nickel Dissolved	8.2	NS	<b>5.47</b>	<b>9.44</b>	<b>5.12</b>
Selenium Total	71	NS	<b>1.76</b>	<b>3.36</b>	<b>1.95</b>
<b>Metals - Total</b>					
Arsenic Total	5	<b>4.95</b>	<b>2.18</b>	<b>1.77</b>	<b>5.66</b>
Chromium Total	50	<b>4.33</b>	<b>4.94</b>	<b>3</b>	<b>15.6</b>
Copper Total	2.4	<b>6.8</b>	<b>3.81</b>	<b>3.78 J</b>	<b>22</b>
Lead Total	8.1	<b>3.59</b>	1 U	1 U	<b>4.31</b>
Manganese Total	100	<b>2990</b>	<b>665</b>	<b>892</b>	<b>614</b>
Nickel Total	8.2	<b>7.15</b>	<b>5.48</b>	<b>8.85</b>	<b>17.7</b>
Selenium Total	71	<b>1.3</b>	<b>1.41</b>	<b>2.33</b>	<b>1.44</b>
Zinc Total	81	<b>11.1</b>	<b>6.01</b>	<b>7.53</b>	<b>26.2</b>
<b>VOC</b>					
Acetone	No SL	<b>320</b>	50 U	50 U	50 U
Methylene chloride	3,600	<b>6.2</b>	5 U	5 U	5 U
<b>SVOC</b>					
1-Methylnaphthalene	No SL	0.3 U	<b>0.22</b>	<b>0.7</b>	0.2 U
Acenaphthene	30	0.03 U	<b>9.1</b>	<b>1.9</b>	0.26
Acenaphthylene	No SL	0.03 U	<b>0.029</b>	0.02 U	0.02 U
Anthracene	100	0.03 U	0.02 U	<b>0.036</b>	0.02 U
Fluoranthene	6	0.03 U	<b>0.068</b>	0.02 U	0.02 U
Fluorene	10	0.03 U	<b>0.052</b>	0.02 U	<b>0.048</b>
Phenanthrene	No SL	0.03 U	0.02 U	<b>0.042</b>	0.02 U
Pyrene	8	0.03 U	<b>0.16</b>	0.02 U	0.02 U
<b>Dissolved Gases</b>					
Methane	NA	1,000 U	<b>1,210</b>	<b>1,480</b>	<b>3,530</b>

Notes:

NS - not sampled

NA - not applicable

U - detected below the laboratory reporting limit

J - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

x = The sample chromatographic pattern does not resemble the fuel standard used for quantification.

No SL - no screening levels available

Bold denotes a detection, shading denotes value above site Screening Levels

Only detected compounds are shown on this table.

\* - Screening Levels are from TWAFA Revised Data Gaps Work Plan

All results are in micrograms per liter (ug/L)

**Table 5 Shallow Geoprobe Groundwater Analytical Data  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Soil Boring ID:	SB-1	SB-2	SB-3	SB-4
Sample Date:	9/24/19	9/24/19	9/24/19	9/24/19
Screen Interval (ft bgs):	3-8	3.5-8.5	3.5-8.5	3.5-8.5
Units:	ug/L	ug/L	ug/L	ug/L
<b>TPH</b>				
Diesel Range Organics	<b>230x</b>	<b>180x</b>	<b>6800x</b>	<b>300x</b>
Diesel Range Organics with SGC	NS	NS	70 U	NS
Lube Oil	500 U	330 U	<b>1800x</b>	330 U
Lube Oil with SGC	NS	NS	330 U	NS
Gasoline Range Organics	100 U	100 U	100 U	100 U
NWTPH-Dx (Total)	<b>230x</b>	<b>180x</b>	<b>8600x</b>	<b>300x</b>
NWTPH-Dx with SGC (Total)	NS	NS	330 U	NS
<b>Metals - Dissolved</b>				
Arsenic Dissolved	NS	<b>1.49</b>	<b>1.94</b>	<b>1.07</b>
Cadmium Dissolved	NS	1 U	1 U	1 U
Chromium Dissolved	NS	<b>2.63</b>	<b>1.43</b>	1 U
Copper Dissolved	NS	2.4 U	2.4 U	2.4 U
Lead Dissolved	NS	1 U	1 U	1 U
Manganese Dissolved	NS	<b>635</b>	<b>832</b>	<b>631</b>
Mercury Dissolved	NS	0.2 U	0.2 U	0.2 U
Nickel Dissolved	NS	<b>5.47</b>	<b>9.44</b>	<b>5.12</b>
Selenium Dissolved	NS	<b>1.76</b>	<b>3.36</b>	<b>1.95</b>
Zinc Dissolved	NS	25 U	25 U	25 U
<b>Metals - Total</b>				
Arsenic Total	<b>4.95</b>	<b>2.18</b>	<b>1.77</b>	<b>5.66</b>
Cadmium Total	1 U	1 U	1 U	1 U
Chromium Total	<b>4.33</b>	<b>4.94</b>	<b>3</b>	<b>15.6</b>
Copper Total	<b>6.8</b>	<b>3.81</b>	<b>3.78 J</b>	<b>22</b>
Lead Total	<b>3.59</b>	1 U	1 U	<b>4.31</b>
Manganese Total	<b>2990</b>	<b>665</b>	<b>892</b>	<b>614</b>
Mercury Total	0.2 U	0.2 U	0.2 U	0.2 U
Nickel Total	<b>7.15</b>	<b>5.48</b>	<b>8.85</b>	<b>17.7</b>
Selenium Total	<b>1.3</b>	<b>1.41</b>	<b>2.33</b>	<b>1.44</b>
Zinc Total	<b>11.1</b>	<b>6.01</b>	<b>7.53</b>	<b>26.2</b>
<b>PCB</b>				
PCB-aroclor 1221	0.1 U	0.1 U	0.1 U	0.1 U
PCB-aroclor 1232	0.1 U	0.1 U	0.1 U	0.1 U
PCB-aroclor 1016	0.1 U	0.1 U	0.1 U	0.1 U
PCB-aroclor 1242	0.1 U	0.1 U	0.1 U	0.1 U
PCB-aroclor 1248	0.1 U	0.1 U	0.1 U	0.1 U
PCB-aroclor 1254	0.1 U	0.1 U	0.1 U	0.1 U
PCB-aroclor 1260	0.1 U	0.1 U	0.1 U	0.1 U
PCB-aroclor 1262	0.1 U	0.1 U	0.1 U	0.1 U
PCB-aroclor 1268	0.1 U	0.1 U	0.1 U	0.1 U
<b>VOC</b>				
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U

**Table 5 Shallow Geoprobe Groundwater Analytical Data  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Soil Boring ID:	SB-1	SB-2	SB-3	SB-4
Sample Date:	9/24/19	9/24/19	9/24/19	9/24/19
Screen Interval (ft bgs):	3-8	3.5-8.5	3.5-8.5	3.5-8.5
Units:	ug/L	ug/L	ug/L	ug/L
1,1-Dichloropropene	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	0.3 U	0.2 U	0.2 U	0.2 U
1,2,4-Trichlorobenzene	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	10 U	10 U	10 U	10 U
1,2-Dibromoethane	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	0.3 U	0.2 U	0.2 U	0.2 U
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	0.3 U	0.2 U	0.2 U	0.2 U
1,3-Dichlorobenzene	1 U	1 U	1 U	1 U
1,3-Dichloropropane	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	0.3 U	0.2 U	0.2 U	0.2 U
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U
2,2-Dichloropropane	1 U	1 U	1 U	1 U
2-Butanone	10 U	10 U	10 U	10 U
2-Chlorotoluene	1 U	1 U	1 U	1 U
2-Hexanone	10 U	10 U	10 U	10 U
4-Chlorotoluene	1 U	1 U	1 U	1 U
Acetone	320	50 U	50 U	50 U
Benzene	0.35 U	0.35 U	0.35 U	0.35 U
Bromobenzene	1 U	1 U	1 U	1 U
Bromoform	1 U	1 U	1 U	1 U
Bromomethane	1 U	1 U	1 U	1 U
Carbon tetrachloride	1 U	1 U	1 U	1 U
CFC-11	1 U	1 U	1 U	1 U
CFC-12	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U
Chloroethane	1 U	1 U	1 U	1 U
Chloroform	1 U	1 U	1 U	1 U
Chloromethane	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropane	1 U	1 U	1 U	1 U
Dibromochloromethane	1 U	1 U	1 U	1 U
Dibromomethane	1 U	1 U	1 U	1 U
Dichlorobromomethane	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	1 U
Hexachlorobutadiene	0.3 U	0.2 U	0.2 U	0.2 U
Hexachlorobutadiene	1 U	1 U	1 U	1 U
Hexane	1 U	1 U	1 U	1 U
Isopropylbenzene (Cumene)	1 U	1 U	1 U	1 U
m, p-Xylene	2 U	2 U	2 U	2 U
Methyl isobutyl ketone	10 U	10 U	10 U	10 U

**Table 5 Shallow Geoprobe Groundwater Analytical Data  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Soil Boring ID:	SB-1	SB-2	SB-3	SB-4
Sample Date:	9/24/19	9/24/19	9/24/19	9/24/19
Screen Interval (ft bgs):	3-8	3.5-8.5	3.5-8.5	3.5-8.5
Units:	ug/L	ug/L	ug/L	ug/L
Methyl t-butyl ether	1 U	1 U	1 U	1 U
Methylene chloride	<b>6.2</b>	5 U	5 U	5 U
Naphthalene	0.3 U	0.2 U	0.2 U	0.2 U
Naphthalene	1 U	1 U	1 U	1 U
n-Propylbenzene	1 U	1 U	1 U	1 U
o-Xylene	1 U	1 U	1 U	1 U
p-Isopropyltoluene	1 U	1 U	1 U	1 U
sec-Butylbenzene	1 U	1 U	1 U	1 U
Styrene	1 U	1 U	1 U	1 U
tert-Butylbenzene	1 U	1 U	1 U	1 U
Tetrachloroethene	1 U	1 U	1 U	1 U
Toluene	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U
Trichloroethene	1 U	1 U	1 U	1 U
Vinyl chloride	0.1 U	0.1 U	0.1 U	0.1 U
<b>SVOC</b>				
1-Methylnaphthalene	0.3 U	<b>0.22</b>	<b>0.7</b>	0.2 U
2,2'-Oxybis(1-chloropropane)	0.3 U	0.2 U	0.2 U	0.2 U
2,4,5-Trichlorophenol	3 U	2 U	2 U	2 U
2,4,6-Trichlorophenol	3 U	2 U	2 U	2 U
2,4-Dichlorophenol	3 U	2 U	2 U	2 U
2,4-Dimethylphenol	3 U	2 U	2 U	2 U
2,4-Dinitrophenol	9 U	6 U	6 U	6 U
2,4-Dinitrotoluene	1.5 U	1 U	1 U	1 U
2,6-Dinitrotoluene	1.5 U	1 U	1 U	1 U
2-Chloronaphthalene	0.3 U	0.2 U	0.2 U	0.2 U
2-Chlorophenol	3 U	2 U	2 U	2 U
2-Methylnaphthalene	0.3 U	0.2 U	0.2 U	0.2 U
2-Methylphenol	3 U	2 U	2 U	2 U
2-Nitroaniline	1.5 U	1 U	1 U	1 U
2-Nitrophenol	3 U	2 U	2 U	2 U
3-Methylphenol + 4-Methylphenol	6 U	4 U	4 U	4 U
3-Nitroaniline	30 U	20 U	20 U	20 U
4,6-Dinitro-2-methylphenol	9 U	6 U	6 U	6 U
4-Bromophenyl phenyl ether	0.3 U	0.2 U	0.2 U	0.2 U
4-Chloro-3-methylphenol	3 U	2 U	2 U	2 U
4-Chloroaniline	30 U	20 U	20 U	20 U
4-Chlorophenyl phenyl ether	0.3 U	0.2 U	0.2 U	0.2 U
4-Nitroaniline	30 U	20 U	20 U	20 U
4-Nitrophenol	9 U	6 U	6 U	6 U
Acenaphthene	0.03 U	<b>9.1</b>	<b>1.9</b>	<b>0.26</b>
Acenaphthylene	0.03 U	<b>0.029</b>	0.02 U	0.02 U
Anthracene	0.03 U	0.02 U	<b>0.036</b>	0.02 U
Benz[a]anthracene	0.03 U	0.02 U	0.02 U	0.02 U
Benzo(a)pyrene	0.03 U	0.02 U	0.02 U	0.02 U
Benzo(b)fluoranthene	0.03 U	0.02 U	0.02 U	0.02 U

**Table 5 Shallow Geoprobe Groundwater Analytical Data  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Soil Boring ID:	SB-1	SB-2	SB-3	SB-4
Sample Date:	9/24/19	9/24/19	9/24/19	9/24/19
Screen Interval (ft bgs):	3-8	3.5-8.5	3.5-8.5	3.5-8.5
Units:	ug/L	ug/L	ug/L	ug/L
Benzo(ghi)perylene	0.06 U	0.04 U	0.04 U	0.04 U
Benzo(k)fluoranthene	0.03 U	0.02 U	0.02 U	0.02 U
Benzoic acid	15 U	10 U	10 U	10 U
Benzyl alcohol	3 U	2 U	2 U	2 U
Bis(2-chloroethoxy)methane	0.3 U	0.2 U	0.2 U	0.2 U
Bis(2-chloroethyl) ether	0.3 U	0.2 U	0.2 U	0.2 U
Bis(2-ethylhexyl) phthalate	4.8 U	3.2 U	3.2 U	3.2 U
Butylbenzyl phthalate	3 U	2 U	2 U	2 U
Carbazole	0.3 U	0.2 U	0.2 U	0.2 U
Chrysene	0.03 U	0.02 U	0.02 U	0.02 U
Dibenzo(a,h)anthracene	0.03 U	0.02 U	0.02 U	0.02 U
Dibenzofuran	0.3 U	0.2 U	0.2 U	0.2 U
Diethyl phthalate	3 U	2 U	2 U	2 U
Dimethyl phthalate	3 U	2 U	2 U	2 U
Di-n-butyl phthalate	3 U	2 U	2 U	2 U
Di-n-octyl phthalate	3 U	2 U	2 U	2 U
Fluoranthene	0.03 U	<b>0.068</b>	0.02 U	0.02 U
Fluorene	0.03 U	<b>0.052</b>	0.02 U	<b>0.048</b>
Hexachlorobenzene	0.3 U	0.2 U	0.2 U	0.2 U
Hexachlorocyclopentadiene	0.9 U	0.6 U	0.6 U	0.6 U
Hexachloroethane	0.3 U	0.2 U	0.2 U	0.2 U
Indeno(1,2,3-cd)pyrene	0.03 U	0.02 U	0.02 U	0.02 U
Isophorone	0.3 U	0.2 U	0.2 U	0.2 U
Nitrobenzene	0.3 U	0.2 U	0.2 U	0.2 U
N-Nitroso-di-n-propylamine	0.3 U	0.2 U	0.2 U	0.2 U
N-Nitrosodiphenylamine	0.3 U	0.2 U	0.2 U	0.2 U
Pentachlorophenol	1.5 U	1 U	1 U	1 U
Phenanthrene	0.03 U	0.02 U	<b>0.042</b>	0.02 U
Phenol	3 U	2 U	2 U	2 U
Pyrene	0.03 U	<b>0.16</b>	0.02 U	0.02 U
Dissolved Gases				
Methane	1,000 U	<b>1,210</b>	<b>1,480</b>	<b>3,530</b>

Notes:

NS - not sampled

U - detected below the laboratory reporting limit

x = The sample chromatographic pattern does not resemble the fuel standard used for quantification.

Bold denotes a detection

All results are in micrograms per liter (ug/L)



**Table 6 Deep Aquifer Analytical Data Summary of Detections  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Sample ID	TWA-5-1	TWA-5-2	TWA-5-3	TWA-6-1	TWA-6-2	TWA-6-3	TWA-6-4	
Date Sampled	9/24/19	9/25/19	9/25/19	9/26/19	9/26/19	9/27/19	9/27/19	
Screen Interval (ft bgs)	25-30	35-40	45-50	15-20	25-30	35-40	45-50	
Parameter	Screening Level *	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
<b>TPH</b>								
Diesel Range Organics	500	<b>410 x</b>	<b>400 x</b>	<b>560 x</b>	<b>97 x</b>	<b>380 x</b>	<b>320 x</b>	<b>190 x</b>
<b>Metals</b>								
<b>Total Metals (Dissolved Metals were not analyzed)</b>								
Arsenic	5	<b>53.9</b>	<b>25.4</b>	<b>14.9</b>	<b>6.39</b>	<b>20.7</b>	<b>7.56</b>	<b>10.1</b>
Chromium	50	<b>137</b>	<b>54.4</b>	<b>14.6</b>	<b>37.6</b>	<b>89.1</b>	<b>12.1</b>	<b>9.87</b>
Copper	2.4	<b>368</b>	<b>54.4</b>	50 U	50 U	<b>118</b>	<b>11</b>	<b>9.55</b>
Lead	8.1	<b>114</b>	<b>8.09</b>	<b>1.32</b>	<b>4.68</b>	<b>15</b>	1 U	1 U
Manganese	100	<b>1640</b>	<b>252</b>	<b>76.2</b>	<b>716</b>	<b>1480</b>	<b>132</b>	<b>67.5</b>
Nickel	8.2	<b>123</b>	50 U	50 U	50 U	<b>50</b>	5 U	5 U
Selenium	71	<b>14.9</b>	<b>21.3</b>	<b>35.3</b>	10 U	<b>21.6</b>	<b>10.4</b>	1 U
Zinc	81	<b>488</b>	<b>76.6</b>	50 U	50 U	<b>105</b>	<b>7.64</b>	<b>5.95</b>
<b>SVOCs</b>								
Bis(2-ethylhexyl) phthalate	0.046	<b>4.3</b>	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U
Di-n-butyl phthalate	8	<b>3.5</b>	<b>2.5</b>	2 U	2 U	2 U	2 U	2 U

Notes:

NS - not sampled

U - detected below the laboratory reporting limit

x = The sample chromatographic pattern does not resemble the fuel standard used for quantification.

Bold denotes a detection, shading denotes value above site Screening Levels

Only detected compounds are shown on this table.

All results are in micrograms per liter (ug/L)

**Table 7 Deep Aquifer Analytical Data  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

	TWA-5-1	TWA-5-2	TWA-5-3	TWA-6-1	TWA-6-2	TWA-6-3	TWA-6-4
	9/24/19	9/25/19	9/25/19	9/26/19	9/26/19	9/27/19	9/27/19
Screen Interval (ft bgs)	25-30	35-40	45-50	15-20	25-30	35-40	45-50
Parameter	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
<b>TPH</b>							
Diesel Range Organics	<b>410 x</b>	<b>400 x</b>	<b>560 x</b>	<b>97 x</b>	<b>380 x</b>	<b>320 x</b>	<b>190 x</b>
Lube Oil	330 U	300 U	300 U	250 U	250 U	320 U	320 U
Gasoline Range Organics	100 U	100 U	100 U	100 U	100 U	100 U	100 U
NWTPH-Dx (Total)	<b>410 x</b>	<b>400 x</b>	<b>560 x</b>	<b>97 x</b>	<b>380 x</b>	<b>320 x</b>	<b>190 x</b>
<b>Metals</b>							
<b>Total Metals</b>							
Arsenic	<b>53.9</b>	<b>25.4</b>	<b>14.9</b>	<b>6.39</b>	<b>20.7</b>	<b>7.56</b>	<b>10.1</b>
Cadmium	10 U	1 U	10 U	1 U	1 U	1 U	1 U
Chromium	<b>137</b>	<b>54.4</b>	<b>14.6</b>	<b>37.6</b>	<b>89.1</b>	<b>12.1</b>	<b>9.87</b>
Copper	<b>368</b>	<b>54.4</b>	50 U	50 U	<b>118</b>	<b>11</b>	<b>9.55</b>
Lead	<b>114</b>	<b>8.09</b>	<b>1.32</b>	<b>4.68</b>	<b>15</b>	1 U	1 U
Manganese	<b>1640</b>	<b>252</b>	<b>76.2</b>	<b>716</b>	<b>1480</b>	<b>132</b>	<b>67.5</b>
Mercury	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Nickel	<b>123</b>	50 U	50 U	50 U	<b>50</b>	5 U	5 U
Selenium	<b>14.9</b>	<b>21.3</b>	<b>35.3</b>	10 U	<b>21.6</b>	<b>10.4</b>	1 U
Zinc	<b>488</b>	<b>76.6</b>	50 U	50 U	<b>105</b>	<b>7.64</b>	<b>5.95</b>
<b>PCBs</b>							
PCB-aroclor 1016	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
PCB-aroclor 1221	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
PCB-aroclor 1232	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
PCB-aroclor 1242	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
PCB-aroclor 1248	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
PCB-aroclor 1254	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
PCB-aroclor 1260	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
PCB-aroclor 1262	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
PCB-aroclor 1268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
<b>VOCs</b>							
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U

**Table 7 Deep Aquifer Analytical Data  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

	TWA-5-1	TWA-5-2	TWA-5-3	TWA-6-1	TWA-6-2	TWA-6-3	TWA-6-4
	9/24/19	9/25/19	9/25/19	9/26/19	9/26/19	9/27/19	9/27/19
Screen Interval (ft bgs)	25-30	35-40	45-50	15-20	25-30	35-40	45-50
Parameter	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
2,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorotoluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Acetone	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Bromobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-11	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorobromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexane	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene (Cumene)	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m, p-Xylene	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Methyl isobutyl ketone	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl t-butyl ether	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Naphthalene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
o-Xylene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
p-Isopropyltoluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
sec-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
<b>SVOCs</b>							
1,2,4-Trichlorobenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichlorobenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,3-Dichlorobenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,4-Dichlorobenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

**Table 7 Deep Aquifer Analytical Data  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

	TWA-5-1	TWA-5-2	TWA-5-3	TWA-6-1	TWA-6-2	TWA-6-3	TWA-6-4
	9/24/19	9/25/19	9/25/19	9/26/19	9/26/19	9/27/19	9/27/19
Screen Interval (ft bgs)	25-30	35-40	45-50	15-20	25-30	35-40	45-50
Parameter	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
1-Methylnaphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2,2'-Oxybis(1-chloropropane)	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2,4,5-Trichlorophenol	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2,4,6-Trichlorophenol	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2,4-Dichlorophenol	2 U	2 U J	2 U J	2 U J	2 U J	2 U J	2 U J
2,4-Dimethylphenol	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2,4-Dinitrophenol	6 U J	6 U	6 U	6 U	6 U	6 U	6 U
2,4-Dinitrotoluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,6-Dinitrotoluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Chloronaphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-Chlorophenol	2 U	2 U J	2 U J	2 U J	2 U J	2 U J	2 U J
2-Methylnaphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-Methylphenol	2 U	2 U J	2 U J	2 U J	2 U J	2 U J	2 U J
2-Nitroaniline	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Nitrophenol	2 U	2 U	2 U	2 U	2 U	2 U	2 U
3-Methylphenol + 4-Methylphenol	4 U	4 U J	4 U J	4 U J	4 U J	4 U J	4 U J
3-Nitroaniline	20 U	20 U	20 U	20 U	20 U	20 U	20 U
4,6-Dinitro-2-methylphenol	6 U	6 U	6 U	6 U	6 U	6 U	6 U
4-Bromophenyl phenyl ether	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
4-Chloro-3-methylphenol	2 U	2 U	2 U	2 U	2 U	2 U	2 U
4-Chloroaniline	20 U	20 U	20 U	20 U	20 U	20 U	20 U
4-Chlorophenyl phenyl ether	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
4-Nitroaniline	20 U	20 U	20 U	20 U	20 U	20 U	20 U
4-Nitrophenol	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Acenaphthene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Acenaphthylene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Anthracene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Benz[a]anthracene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(a)pyrene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(b)fluoranthene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(ghi)perylene	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Benzo(k)fluoranthene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzoic acid	10 U J	10 U J	10 U J	10 U J	10 U J	10 U J	10 U J
Benzyl alcohol	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Bis(2-chloroethoxy)methane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bis(2-chloroethyl) ether	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bis(2-ethylhexyl) phthalate	<b>4.3</b>	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U
Butylbenzyl phthalate	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Carbazole	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chrysene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Dibenzo(a,h)anthracene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Dibenzofuran	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Diethyl phthalate	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Dimethyl phthalate	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Di-n-butyl phthalate	<b>3.5</b>	<b>2.5</b>	2 U	2 U	2 U	2 U	2 U
Di-n-octyl phthalate	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Fluoranthene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Fluorene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U

**Table 7 Deep Aquifer Analytical Data  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

	TWA-5-1	TWA-5-2	TWA-5-3	TWA-6-1	TWA-6-2	TWA-6-3	TWA-6-4
	9/24/19	9/25/19	9/25/19	9/26/19	9/26/19	9/27/19	9/27/19
Screen Interval (ft bgs)	25-30	35-40	45-50	15-20	25-30	35-40	45-50
Parameter	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Hexachlorobenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Hexachlorobutadiene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Hexachlorocyclopentadiene	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Hexachloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Indeno(1,2,3-cd)pyrene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Isophorone	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Naphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nitrobenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
N-Nitroso-di-n-propylamine	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
N-Nitrosodiphenylamine	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pentachlorophenol	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Phenanthrene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Phenol	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Pyrene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U

Notes:

U - detected below the laboratory reporting limit

x = The sample chromatographic pattern does not resemble the fuel standard used for quantification.

Bold denotes a detection, shading denotes value above site Screening Levels

All results are in micrograms per liter (ug/L)

**Table 8 Monitoring Well Field Parameters  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Location ID	Total Well Depth (ft TOC)	Top of Water (ft TOC)	Screen depth (ft bgs)	Date	Time	Volume Purged (L)	Temp (C)	pH	Spec. Cond. (uS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Color/Odor
SB-1A	11.6	6.26	5-10	12/11/19	9:30	4650	11.1	7.41	566	0.62	6.3	0	clear/no odor
SB-2A	12.7	6.38	6-11	12/11/19	11:18	3150	11.3	7.25	582	1.40	10.6	0	clear/no odor
SB-3A	12.81	5.37	6-11	12/11/19	13:18	3600	11.9	7.38	871	0.02	77.1	0	clear/no odor
TWA-5	33.11	12.26	25-30	12/10/19	9:46	1500	11.8	7.46	3269	0.00	147.3	0	clear/no odor
TWA-6	33.69	11.53	25-30	12/10/19	14:38	3200	9.8	7.18	3862	0.00	105.0	0	clear/no odor

**Notes**

ft TOC - feet below top of casing  
ft bgs - feet below ground surface

**Table 9 Monitoring Well Groundwater Analytical Data Summary of Detections  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Parameter	Screening Level *	Shallow Groundwater Monitoring Well			Deep Aquifer Monitoring Well		
		SB-1A	SB-2A	SB-3A	TWA-5	TWA-6	Duplicate TWA-6 (TWA-1120)
		12/11/19	12/11/19	12/11/19	12/10/19	12/10/19	12/10/19
<b>TPH</b>							
Diesel Range Organics	See SGC	50 U	50 U	<b>1900 x</b>	<b>500 x</b>	<b>710 x</b>	<b>710 x</b>
Lube Oil	See SGC	250 U	250 U	<b>1200 x</b>	<b>430 x</b>	<b>470 x</b>	<b>400 x</b>
Diesel Range Organics - SGC	500	50 U	50 U	50 U	50 U	50 U	50 U
Lube Oil - SGC	500	250 U	250 U	250 U	250 U	250 U	250 U
NWTPH-Dx (Total)	500	250 U	250 U	<b>3100 x</b>	<b>930 x</b>	<b>1180 x</b>	<b>1110 x</b>
NWTPH-Dx with SGC (Total)	500	250 U	250 U	250 U	250 U	250 U	250 U
<b>Metals</b>							
<b>Dissolved Metals</b>							
Arsenic	5	<b>1.82</b>	<b>3.54</b>	<b>2.84</b>	<b>9.08</b>	<b>9.19</b>	<b>8.82</b>
Chromium	50	1 U	1 U	1 U	<b>8.39</b>	<b>24.8</b>	<b>19.3</b>
Copper	2.4	2.4 U	2.4 U	2.4 U	<b>7.6 J</b>	2.4 U	2.4 U
Manganese	100	<b>284</b>	<b>367</b>	<b>194</b>	<b>262</b>	<b>944</b>	<b>938</b>
Nickel	8.2	<b>4.74</b>	<b>4.03</b>	<b>3.28</b>	<b>4.24</b>	<b>2.56</b>	<b>2.3</b>
Selenium	71	30 U	30 U	30 U	30 U	30 U	30 U
Zinc	81	5 U	5 U	5 U	5 U	1 U	1 U
<b>Total Metals</b>							
Arsenic	5	<b>1.79</b>	<b>3.38</b>	<b>2.19</b>	<b>6.97</b>	<b>7.84</b>	<b>7.34</b>
Chromium	50	1 U	1 U	1 U	<b>8.23</b>	<b>24.8</b>	<b>23.1</b>
Copper	2.4	<b>23.1</b>	<b>10.3</b>	<b>3.28</b>	<b>35.4</b>	<b>42.8</b>	<b>69</b>
Manganese	100	<b>213</b>	<b>330</b>	<b>173</b>	<b>259</b>	<b>970</b>	<b>868</b>
Nickel	8.2	<b>3.63</b>	<b>3.22</b>	<b>2.65</b>	2 U	2 U	<b>2.37</b>
Selenium	71	1 U	1 U	<b>7.17</b>	<b>15.8</b>	<b>20.6</b>	<b>18.1</b>
Zinc	81	5 U	5 U	5 U	10 U	10 U	5 U
<b>VOCs</b>							
1,4-Dioxane	160	0.4 U	0.4 U	0.4 U	<b>0.52</b>	<b>6.6</b>	<b>6.4</b>
<b>SVOCs</b>							
Acenaphthene	30	0.02 U	0.02 U	<b>0.072</b>	0.02 U	0.02 U	0.02 U

Notes:

U - detected below the laboratory reporting limit

J - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

x = The sample chromatographic pattern does not resemble the fuel standard used for quantification.

Bold denotes a detection, shading denotes value above site Screening Levels

Only detected compounds are shown on this table.

\* - Screening Levels are from TWAFA Revised Data Gaps Work Plan, if provided. Otherwise the Method B marine surface water default cleanup level is used.

All results are in micrograms per liter (ug/L)

**Table 10 Monitoring Well Groundwater Analytical Data  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Parameter	Shallow Groundwater Monitoring Well			Deep Aquifer Monitoring Well		
	SB-1A	SB-2A	SB-3A	TWA-5	TWA-6	Duplicate TWA-6 (TWA- 1120)
	12/11/19	12/11/19	12/11/19	12/10/19	12/10/19	12/10/19
<b>TPH</b>						
Diesel Range Organics	50 U	50 U	<b>1900 x</b>	<b>500 x</b>	<b>710 x</b>	<b>710 x</b>
Lube Oil	250 U	250 U	<b>1200 x</b>	<b>430 x</b>	<b>470 x</b>	<b>400 x</b>
Diesel Range Organics - SGC	50 U	50 U	50 U	50 U	50 U	50 U
Lube Oil - SGC	250 U	250 U	250 U	250 U	250 U	250 U
Gasoline Range Organics	100 U	100 U	100 U	100 U	100 U	100 U
NWTPH-Dx (Total)	250 U	250 U	<b>3100 x</b>	<b>930 x</b>	<b>1180 x</b>	<b>1110 x</b>
NWTPH-Dx with SGC (Total)	250 U	250 U	250 U	250 U	250 U	250 U
<b>Metals</b>						
<b>Dissolved Metals</b>						
Arsenic	<b>1.82</b>	<b>3.54</b>	<b>2.84</b>	<b>9.08</b>	<b>9.19</b>	<b>8.82</b>
Cadmium	1 U	1 U	1 U	1 U	1 U	1 U
Chromium	1 U	1 U	1 U	<b>8.39</b>	<b>24.8</b>	<b>19.3</b>
Copper	2.4 U	2.4 U	2.4 U	<b>7.6 J</b>	2.4 U	2.4 U
Lead	1 U	1 U	1 U	1 U	1 U	1 U
Manganese	<b>284</b>	<b>367</b>	<b>194</b>	<b>262</b>	<b>944</b>	<b>938</b>
Mercury	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	<b>4.74</b>	<b>4.03</b>	<b>3.28</b>	<b>4.24</b>	<b>2.56</b>	<b>2.3</b>
Selenium	30 U	30 U	30 U	30 U	30 U	30 U
Zinc	5 U	5 U	5 U	5 U	1 U	1 U
<b>Total Metals</b>						
Arsenic	<b>1.79</b>	<b>3.38</b>	<b>2.19</b>	<b>6.97</b>	<b>7.84</b>	<b>7.34</b>
Cadmium	1 U	1 U	1 U	2 U	2 U	1 U
Chromium	1 U	1 U	1 U	<b>8.23</b>	<b>24.8</b>	<b>23.1</b>
Copper	<b>23.1</b>	<b>10.3</b>	<b>3.28</b>	<b>35.4</b>	<b>42.8</b>	<b>69</b>
Lead	1 U	1 U	1 U	2 U	2 U	1 U
Manganese	<b>213</b>	<b>330</b>	<b>173</b>	<b>259</b>	<b>970</b>	<b>868</b>
Mercury	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	<b>3.63</b>	<b>3.22</b>	<b>2.65</b>	2 U	2 U	<b>2.37</b>
Selenium	1 U	1 U	<b>7.17</b>	<b>15.8</b>	<b>20.6</b>	<b>18.1</b>
Zinc	5 U	5 U	5 U	10 U	10 U	5 U
<b>PCBs</b>						
PCB-aroclor 1221	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
PCB-aroclor 1232	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
PCB-aroclor 1016	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
PCB-aroclor 1242	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
PCB-aroclor 1248	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
PCB-aroclor 1254	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
PCB-aroclor 1260	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
PCB-aroclor 1262	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
PCB-aroclor 1268	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
<b>VOCs</b>						
CFC-12	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U



**Table 10 Monitoring Well Groundwater Analytical Data  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Parameter	Shallow Groundwater Monitoring Well			Deep Aquifer Monitoring Well		
	SB-1A	SB-2A	SB-3A	TWA-5	TWA-6	Duplicate TWA-6 (TWA- 1120)
	12/11/19	12/11/19	12/11/19	12/10/19	12/10/19	12/10/19
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U
CFC-11	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U
Acetone	50 U	50 U	50 U	50 U	50 U	50 U
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U
m, p-Xylene	2 U	2 U	2 U	2 U	2 U	2 U
Hexane	1 U	1 U	1 U	1 U	1 U	1 U
o-Xylene	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	1 U	1 U	1 U	1 U	1 U	1 U
Methyl t-butyl ether	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene (Cumene)	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	1 U	1 U	1 U	1 U	1 U	1 U
2,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U
Bromobenzene	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U
2-Chlorotoluene	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U
4-Chlorotoluene	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
sec-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	1 U	1 U	1 U	1 U	1 U	1 U
p-Isopropyltoluene	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorobromomethane	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U

**Table 10 Monitoring Well Groundwater Analytical Data  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Parameter	Shallow Groundwater Monitoring Well			Deep Aquifer Monitoring Well		
	SB-1A	SB-2A	SB-3A	TWA-5	TWA-6	Duplicate TWA-6 (TWA- 1120)
	12/11/19	12/11/19	12/11/19	12/10/19	12/10/19	12/10/19
Methyl isobutyl ketone	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromo-3-chloropropane	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U
Naphthalene	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dioxane	0.4 U	0.4 U	0.4 U	0.52	6.6	6.4
<b>SVOCs</b>						
Phenol	2 U	2 U	2 U	2 U	2 U	2 U
2,6-Dinitrotoluene	1 U	1 U	1 U	1 U	1 U	1 U
Bis(2-chloroethyl) ether	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
3-Nitroaniline	20 U	20 U	20 U	20 U	20 U	20 U
2-Chlorophenol	2 U	2 U	2 U	2 U	2 U	2 U
Acenaphthene	0.02 U	0.02 U	0.072	0.02 U	0.02 U	0.02 U
1,3-Dichlorobenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2,4-Dinitrophenol	6 U	6 U	6 U	6 U	6 U	6 U
1,4-Dichlorobenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Dibenzofuran	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichlorobenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2,4-Dinitrotoluene	1 U	1 U	1 U	1 U	1 U	1 U
Benzyl alcohol	2 U	2 U	2 U	2 U	2 U	2 U
4-Nitrophenol	6 U	6 U	6 U	6 U	6 U	6 U
2,2'-Oxybis(1-chloropropane)	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Diethyl phthalate	2 U	2 U	2 U	2 U	2 U	2 U
2-Methylphenol	2 U	2 U	2 U	2 U	2 U	2 U
Fluorene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Hexachloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
4-Chlorophenyl phenyl ether	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
N-Nitroso-di-n-propylamine	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
N-Nitrosodiphenylamine	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
3-Methylphenol + 4-Methylphenol	4 U	4 U	4 U	4 U	4 U	4 U
4-Nitroaniline	20 U	20 U	20 U	20 U	20 U	20 U
Nitrobenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
4,6-Dinitro-2-methylphenol	6 U	6 U	6 U	6 U	6 U	6 U
Isophorone	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
4-Bromophenyl phenyl ether	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-Nitrophenol	2 U	2 U	2 U	2 U	2 U	2 U
Hexachlorobenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2,4-Dimethylphenol	2 U	2 U	2 U	2 U	2 U	2 U
Pentachlorophenol	1 U	1 U	1 U	1 U	1 U	1 U
Benzoic acid	10 U	10 U	10 U	10 U	10 U	10 U

**Table 10 Monitoring Well Groundwater Analytical Data  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Parameter	Shallow Groundwater Monitoring Well			Deep Aquifer Monitoring Well		
	SB-1A	SB-2A	SB-3A	TWA-5	TWA-6	Duplicate TWA-6 (TWA- 1120)
	12/11/19	12/11/19	12/11/19	12/10/19	12/10/19	12/10/19
Phenanthrene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Bis(2-chloroethoxy)methane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Anthracene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
2,4-Dichlorophenol	2 U	2 U	2 U	2 U	2 U	2 U
Carbazole	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,4-Trichlorobenzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Di-n-butyl phthalate	2 U	2 U	2 U	2 U	2 U	2 U
Naphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Fluoranthene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Hexachlorobutadiene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pyrene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
4-Chloroaniline	20 U	20 U	20 U	20 U	20 U	20 U
Butylbenzyl phthalate	2 U	2 U	2 U	2 U	2 U	2 U
4-Chloro-3-methylphenol	2 U	2 U	2 U	2 U	2 U	2 U
Benz[a]anthracene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
2-Methylnaphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chrysene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
1-Methylnaphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bis(2-ethylhexyl) phthalate	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U
Hexachlorocyclopentadiene	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Di-n-octyl phthalate	2 U	2 U	2 U	2 U	2 U	2 U
2,4,6-Trichlorophenol	2 U	2 U	2 U	2 U	2 U	2 U
Benzo(a)pyrene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
2,4,5-Trichlorophenol	2 U	2 U	2 U	2 U	2 U	2 U
Benzo(b)fluoranthene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
2-Chloronaphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(k)fluoranthene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
2-Nitroaniline	1 U	1 U	1 U	1 U	1 U	1 U
Indeno(1,2,3-cd)pyrene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Dimethyl phthalate	2 U	2 U	2 U	2 U	2 U	2 U
Dibenzo(a,h)anthracene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Acenaphthylene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(ghi)perylene	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U

Notes:

U - detected below the laboratory reporting limit

x = The sample chromatographic pattern does not resemble the fuel standard used for quantification.

J - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

x = The sample chromatographic pattern does not resemble the fuel standard used for quantification.

Bold denotes a detection

All results are in micrograms per liter (ug/L)

**Table 11 Monitoring Well Groundwater Analytical Data Field Quality Control  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Parameter	TWA-6	Duplicate TWA-6 (TWA- 1120)	RPD (less than 30%)	Field Blank (TWA- 1099-1219)
	12/10/19	12/10/19		12/11/19
<b>TPH</b>				
Diesel Range Organics	<b>710 x</b>	<b>710 x</b>	0	50 U
Lube Oil	<b>470 x</b>	<b>400 x</b>	16.09	250 U
Diesel Range Organics - SGC	50 U	50 U	0	50 U
Lube Oil - SGC	250 U	250 U	0	250 U
Gasoline Range Organics	100 U	100 U	0	100 U
<b>Metals</b>				
<b>Dissolved Metals</b>				
Arsenic	<b>9.19</b>	<b>8.82</b>	4.11	1 U
Cadmium	1 U	1 U	0	1 U
Chromium	<b>24.8</b>	<b>19.3</b>	24.94	<b>1.14</b>
Copper	2.4 U	2.4 U	0	<b>29.1</b>
Lead	1 U	1 U	0	1 U
Manganese	<b>944</b>	<b>938</b>	0.64	<b>2.37</b>
Mercury	0.2 U	0.2 U	0	0.2 U
Nickel	<b>2.56</b>	<b>2.3</b>	10.70	1 U
Selenium	30 U	30 U	0	30 U
Zinc	1 U	1 U	0	<b>8.35</b>
<b>Total Metals</b>				
Arsenic	<b>7.84</b>	<b>7.34</b>	6.59	1 U
Cadmium	2 U	1 U	See Note 1	1 U
Chromium	<b>24.8</b>	<b>23.1</b>	7.10	1 U
Copper	<b>42.8</b>	<b>69</b>	46.87	<b>29.7</b>
Lead	2 U	1 U	See Note 1	1 U
Manganese	<b>970</b>	<b>868</b>	11.10	<b>2.24</b>
Mercury	0.2 UJ	0.2 U	0	0.2 U
Nickel	2 U	<b>2.37</b>	16.93	1 U
Selenium	<b>20.6</b>	<b>18.1</b>	12.92	1 U
Zinc	10 U	5 U	See Note 1	<b>9.75</b>
<b>PCBs</b>				
PCB-aroclor 1221	0.1 UJ	0.1 U	0	0.1 U
PCB-aroclor 1232	0.1 UJ	0.1 U	0	0.1 U
PCB-aroclor 1016	0.1 UJ	0.1 U	0	0.1 U
PCB-aroclor 1242	0.1 UJ	0.1 U	0	0.1 U
PCB-aroclor 1248	0.1 UJ	0.1 U	0	0.1 U
PCB-aroclor 1254	0.1 UJ	0.1 U	0	0.1 U
PCB-aroclor 1260	0.1 UJ	0.1 U	0	0.1 U
PCB-aroclor 1262	0.1 UJ	0.1 U	0	0.1 U
PCB-aroclor 1268	0.1 UJ	0.1 U	0	0.1 U
<b>VOCs</b>				
CFC-12	1 U	1 U	0	1 U
1,3-Dichloropropane	1 U	1 U	0	1 U
Chloromethane	10 U	10 U	0	10 U
Tetrachloroethene	1 U	1 U	0	1 U
Vinyl chloride	0.1 UJ	0.1 UJ	0	0.1 UJ
Dibromochloromethane	1 U	1 U	0	1 U

**Table 11 Monitoring Well Groundwater Analytical Data Field Quality Control  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Parameter	TWA-6	Duplicate TWA-6 (TWA- 1120)	RPD (less than 30%)	Field Blank (TWA- 1099-1219)
	12/10/19	12/10/19		12/11/19
Bromomethane	1 U	1 U	0	1 U
1,2-Dibromoethane	1 U	1 U	0	1 U
Chloroethane	1 U	1 U	0	1 U
Chlorobenzene	1 U	1 U	0	1 U
CFC-11	1 U	1 U	0	1 U
Ethylbenzene	1 U	1 U	0	1 U
Acetone	50 U	50 U	0	50 U
1,1,1,2-Tetrachloroethane	1 U	1 U	0	1 U
1,1-Dichloroethene	1 U	1 U	0	1 U
m, p-Xylene	2 U	2 U	0	2 U
Hexane	1 U	1 U	0	1 U
o-Xylene	1 U	1 U	0	1 U
Methylene chloride	5 U	5 U	0	5 U
Styrene	1 U	1 U	0	1 U
Methyl t-butyl ether	1 U	1 U	0	1 U
Isopropylbenzene (Cumene)	1 U	1 U	0	1 U
trans-1,2-Dichloroethene	1 U	1 U	0	1 U
Bromoform	1 U	1 U	0	1 U
1,1-Dichloroethane	1 U	1 U	0	1 U
n-Propylbenzene	1 U	1 U	0	1 U
2,2-Dichloropropane	1 U	1 U	0	1 U
Bromobenzene	1 U	1 U	0	1 U
cis-1,2-Dichloroethene	1 U	1 U	0	1 U
1,3,5-Trimethylbenzene	1 U	1 U	0	1 U
Chloroform	1 U	1 U	0	23
1,1,1,2-Tetrachloroethane	1 U	1 U	0	1 U
2-Butanone	10 U	10 U	0	10 U
1,2,3-Trichloropropane	1 U	1 U	0	1 U
1,2-Dichloroethane	1 U	1 U	0	1 U
2-Chlorotoluene	1 U	1 U	0	1 U
1,1,1-Trichloroethane	1 U	1 U	0	1 U
4-Chlorotoluene	1 U	1 U	0	1 U
1,1-Dichloropropene	1 U	1 U	0	1 U
tert-Butylbenzene	1 U	1 U	0	1 U
Carbon tetrachloride	1 U	1 U	0	1 U
1,2,4-Trimethylbenzene	1 U	1 U	0	1 U
Benzene	0.35 U	0.35 U	0	0.35 U
sec-Butylbenzene	1 U	1 U	0	1 U
Trichloroethene	1 U	1 U	0	1 U
p-Isopropyltoluene	1 U	1 U	0	1 U
1,2-Dichloropropane	1 U	1 U	0	1 U
1,3-Dichlorobenzene	1 U	1 U	0	1 U
Dichlorobromomethane	1 U	1 U	0	1.7
1,4-Dichlorobenzene	1 U	1 U	0	1 U
Dibromomethane	1 U	1 U	0	1 U
1,2-Dichlorobenzene	1 U	1 U	0	1 U
Methyl isobutyl ketone	10 U	10 U	0	10 U

**Table 11 Monitoring Well Groundwater Analytical Data Field Quality Control  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Parameter	TWA-6	Duplicate TWA-6 (TWA- 1120)	RPD (less than 30%)	Field Blank (TWA- 1099-1219)
	12/10/19	12/10/19		12/11/19
1,2-Dibromo-3-chloropropane	10 U	10 U	0	10 U
cis-1,3-Dichloropropene	1 U	1 U	0	1 U
1,2,4-Trichlorobenzene	1 U	1 U	0	1 U
Toluene	1 U	1 U	0	1 U
Hexachlorobutadiene	1 U	1 U	0	1 U
trans-1,3-Dichloropropene	1 U	1 U	0	1 U
Naphthalene	1 U	1 U	0	1 U
1,1,2-Trichloroethane	1 U	1 U	0	1 U
1,2,3-Trichlorobenzene	1 U	1 U	0	1 U
2-Hexanone	10 U	10 U	0	10 U
1,4-Dioxane	6.6	6.4	3.076923077	0.4 U
<b>SVOCs</b>				
Phenol	2 U	2 U	0	2 U
2,6-Dinitrotoluene	1 U	1 U	0	1 U
Bis(2-chloroethyl) ether	0.2 U	0.2 U	0	0.2 U
3-Nitroaniline	20 U	20 U	0	20 U
2-Chlorophenol	2 U	2 U	0	2 U
Acenaphthene	0.02 U	0.02 U	0	0.02 U
1,3-Dichlorobenzene	0.2 U	0.2 U	0	0.2 U
2,4-Dinitrophenol	6 U	6 U	0	6 U
1,4-Dichlorobenzene	0.2 U	0.2 U	0	0.2 U
Dibenzofuran	0.2 U	0.2 U	0	0.2 U
1,2-Dichlorobenzene	0.2 U	0.2 U	0	0.2 U
2,4-Dinitrotoluene	1 U	1 U	0	1 U
Benzyl alcohol	2 U	2 U	0	2 U
4-Nitrophenol	6 U	6 U	0	6 U
2,2'-Oxybis(1-chloropropane)	0.2 U	0.2 U	0	0.2 U
Diethyl phthalate	2 U	2 U	0	2 U
2-Methylphenol	2 U	2 U	0	2 U
Fluorene	0.02 U	0.02 U	0	0.02 U
Hexachloroethane	0.2 U	0.2 U	0	0.2 U
4-Chlorophenyl phenyl ether	0.2 U	0.2 U	0	0.2 U
N-Nitroso-di-n-propylamine	0.2 U	0.2 U	0	0.2 U
N-Nitrosodiphenylamine	0.2 U	0.2 U	0	0.2 U
3-Methylphenol + 4-Methylph	4 U	4 U	0	4 U
4-Nitroaniline	20 U	20 U	0	20 U
Nitrobenzene	0.2 U	0.2 U	0	0.2 U
4,6-Dinitro-2-methylphenol	6 U	6 U	0	6 U
Isophorone	0.2 U	0.2 U	0	0.2 U
4-Bromophenyl phenyl ether	0.2 U	0.2 U	0	0.2 U
2-Nitrophenol	2 U	2 U	0	2 U
Hexachlorobenzene	0.2 U	0.2 U	0	0.2 U
2,4-Dimethylphenol	2 U	2 U	0	2 U
Pentachlorophenol	1 U	1 U	0	1 U
Benzoic acid	10 U	10 U	0	10 U
Phenanthrene	0.02 U	0.02 U	0	0.02 U
Bis(2-chloroethoxy)methane	0.2 U	0.2 U	0	0.2 U

**Table 11 Monitoring Well Groundwater Analytical Data Field Quality Control  
Port of Tacoma Property  
Taylor Way and Alexander Avenue Fill Area Site**

Parameter	TWA-6	Duplicate TWA-6 (TWA- 1120)	RPD (less than 30%)	Field Blank (TWA- 1099-1219)
	12/10/19	12/10/19		12/11/19
Anthracene	0.02 U	0.02 U	0	0.02 U
2,4-Dichlorophenol	2 U	2 U	0	2 U
Carbazole	0.2 U	0.2 U	0	0.2 U
1,2,4-Trichlorobenzene	0.2 U	0.2 U	0	0.2 U
Di-n-butyl phthalate	2 U	2 U	0	2 U
Naphthalene	0.2 U	0.2 U	0	0.2 U
Fluoranthene	0.02 U	0.02 U	0	0.02 U
Hexachlorobutadiene	0.2 U	0.2 U	0	0.2 U
Pyrene	0.02 U	0.02 U	0	0.02 U
4-Chloroaniline	20 U	20 U	0	20 U
Butylbenzyl phthalate	2 U	2 U	0	2 U
4-Chloro-3-methylphenol	2 U	2 U	0	2 U
Benz[a]anthracene	0.02 U	0.02 U	0	0.02 U
2-Methylnaphthalene	0.2 U	0.2 U	0	0.2 U
Chrysene	0.02 U	0.02 U	0	0.02 U
1-Methylnaphthalene	0.2 U	0.2 U	0	0.2 U
Bis(2-ethylhexyl) phthalate	3.2 U	3.2 U	0	3.2 U
Hexachlorocyclopentadiene	0.6 U	0.6 U	0	0.6 U
Di-n-octyl phthalate	2 U	2 U	0	2 U
2,4,6-Trichlorophenol	2 U	2 U	0	2 U
Benzo(a)pyrene	0.02 U	0.02 U	0	0.02 U
2,4,5-Trichlorophenol	2 U	2 U	0	2 U
Benzo(b)fluoranthene	0.02 U	0.02 U	0	0.02 U
2-Chloronaphthalene	0.2 U	0.2 U	0	0.2 U
Benzo(k)fluoranthene	0.02 U	0.02 U	0	0.02 U
2-Nitroaniline	1 U	1 U	0	1 U
Indeno(1,2,3-cd)pyrene	0.02 U	0.02 U	0	0.02 U
Dimethyl phthalate	2 U	2 U	0	2 U
Dibenzo(a,h)anthracene	0.02 U	0.02 U	0	0.02 U
Acenaphthylene	0.02 U	0.02 U	0	0.02 U
Benzo(ghi)perylene	0.04 U	0.04 U	0	0.04 U

Notes:

U - detected below the laboratory reporting limit

x = The sample chromatographic pattern does not resemble the fuel standard used for quantification.

Bold denotes a detection

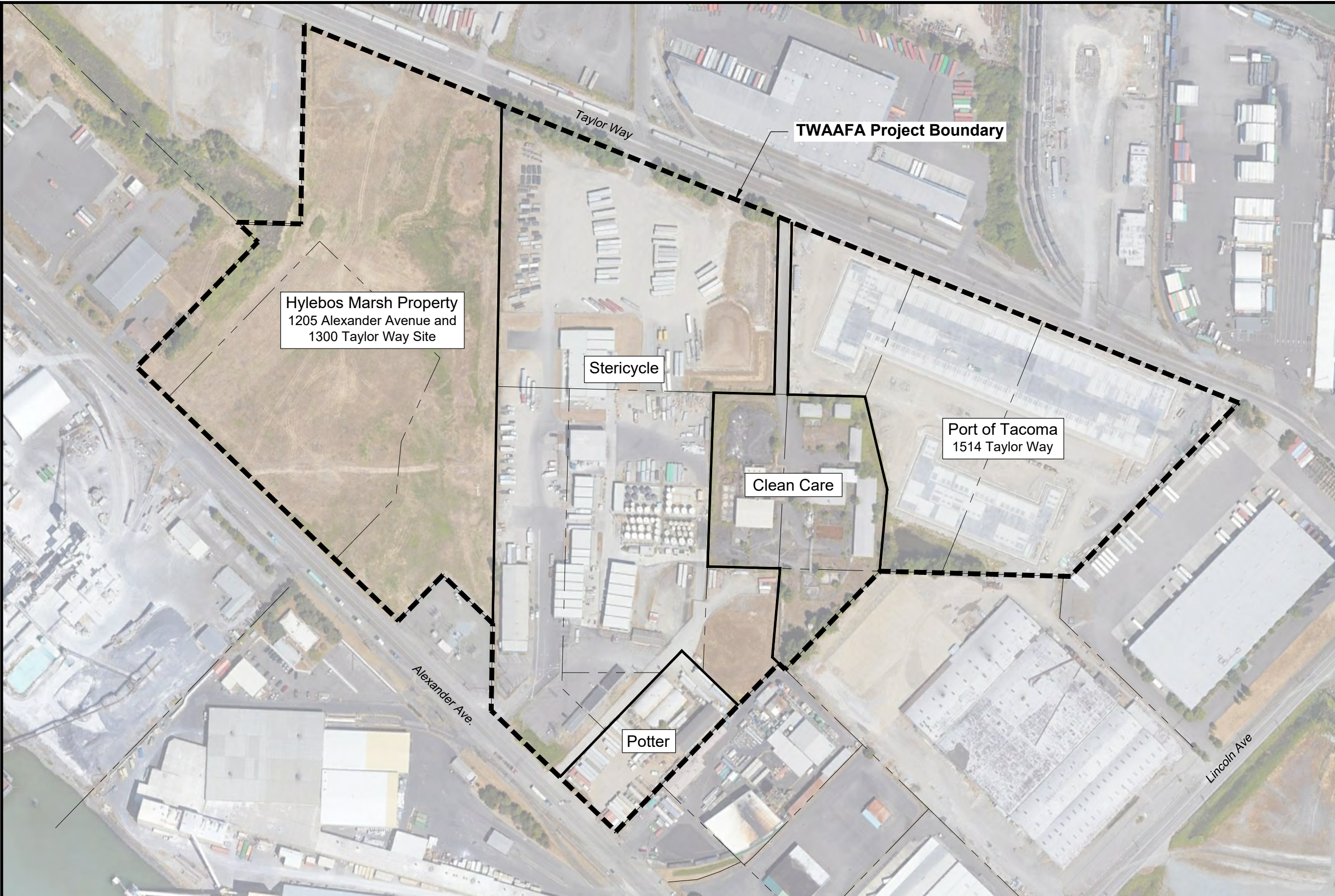
All results are in micrograms per liter (ug/L)

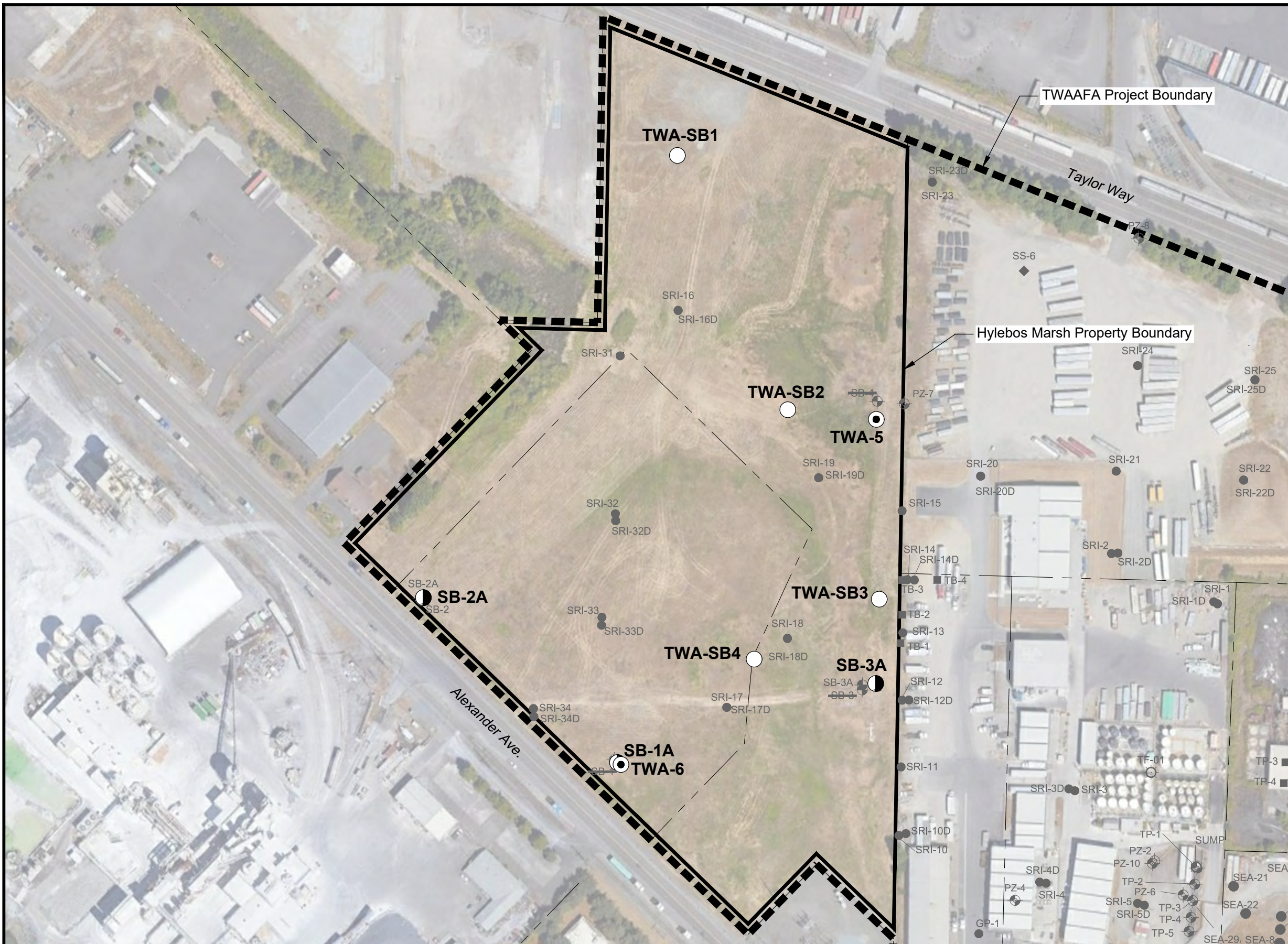
RPD - relative percent difference.

Note 1. Laboratory reporting limits were estimated in the parent sample at the same reporting limits as the duplicate, then the samples were diluted.

## Figures







- LEGEND**
- 2019 Shallow Borehole Locations
  - 2019 Monitoring Well Locations
  - Historical Sampling Locations
  - ⊕ Decommissioned Monitoring Well
  - ▬▬▬▬▬▬ TWAAFA Project Boundary



SB-1A	Dissolved		Total	
	Copper	Manganese	Copper	Manganese
12/11/2019	2.4 U	284	23.1	213
Screening Level	2.4	100		

SB-2A	Dissolved		Total	
	Copper	Manganese	Copper	Manganese
12/11/2019	2.4 U	367	10.3	330
Screening Level	2.4	100		

SB-3A	Dissolved		Total	
	Copper	Manganese	Copper	Manganese
12/11/2019	2.4 U	194	3.28	173
Screening Level	2.4	100		

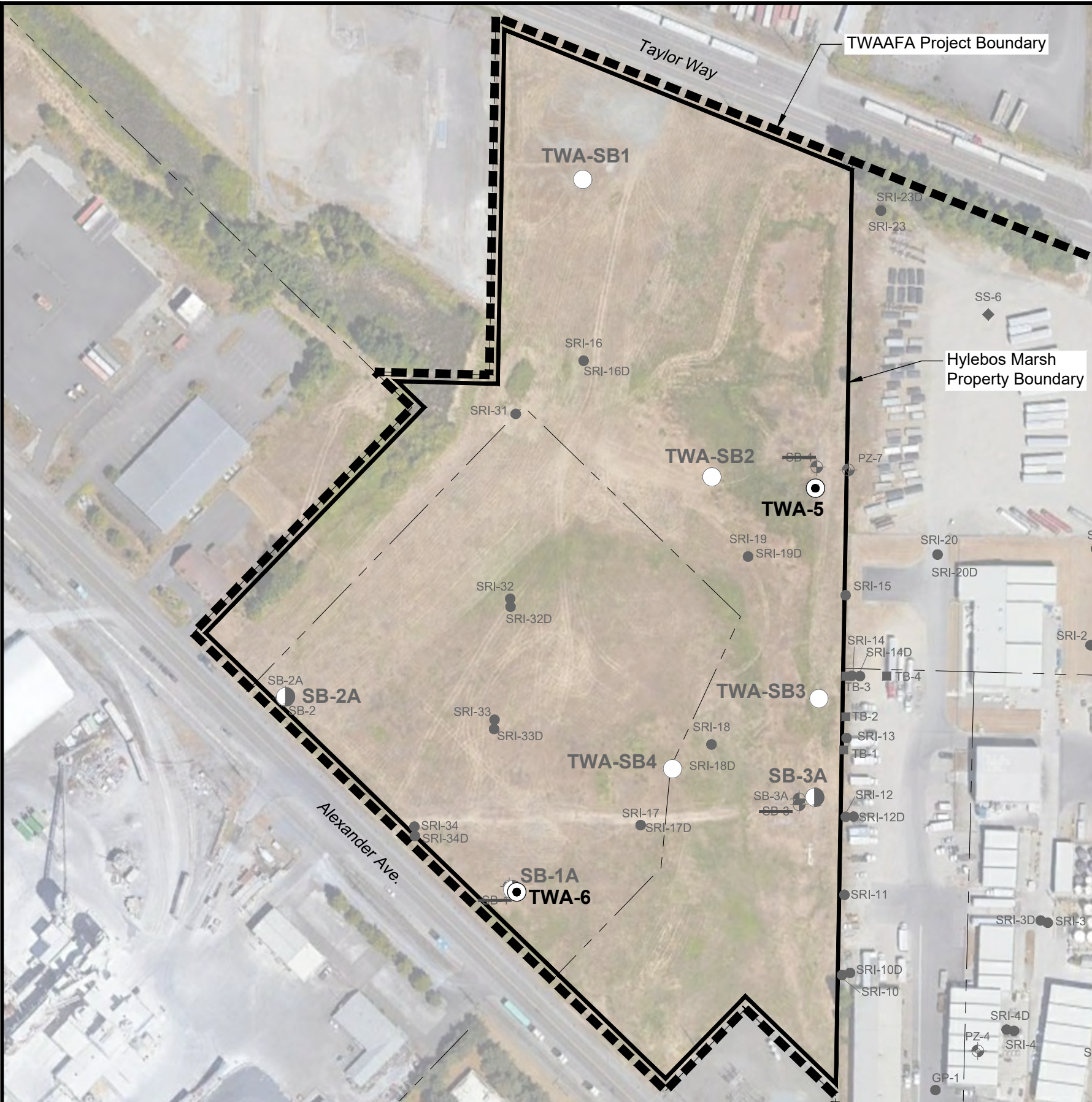
**LEGEND**

- 2019 Monitoring Well - Shallow
- 2019 Monitoring Well - Deep
- 2019 Shallow Borehole Locations
- Historical Sampling Locations
- Decommissioned Monitoring Well
- TWAAFA Project Boundary

**NOTES**

1. All results are in micrograms per liter (ug/L).
2. U - detected below the laboratory reporting limit.
3. Shading denotes value above Site Screening Levels
4. Only compounds detected above Site Screening Levels are shown on this figure.





TWA-5	Dissolved			Total		
	Arsenic	Copper	Manganese	Arsenic	Copper	Manganese
12/11/2019	9.08	7.6 J	262	6.97	35.4	259
Screening Level	5	2.4	100			

TWA-6	Dissolved			Total		
	Arsenic	Copper	Manganese	Arsenic	Copper	Manganese
12/11/2019	9.19	2.4 U	944	7.84	42.8	970
Screening Level	5	2.4	100			

**LEGEND**

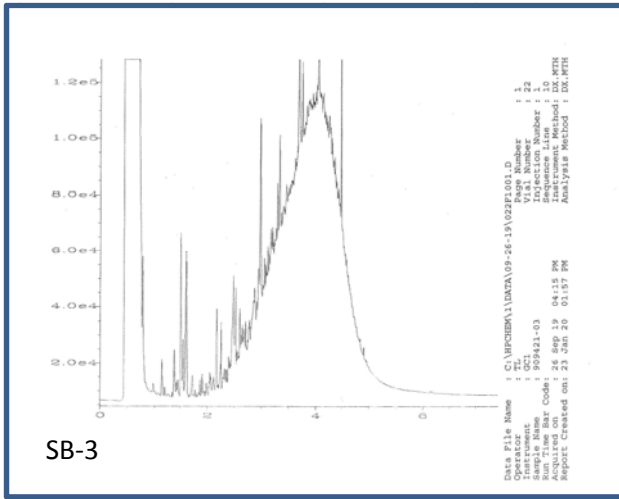
- 2019 Monitoring Well - Deep
- 2019 Monitoring Well - Shallow
- 2019 Shallow Borehole Locations
- Historical Sampling Locations
- Decommissioned Monitoring Well
- TWAFA Project Boundary

**NOTES**

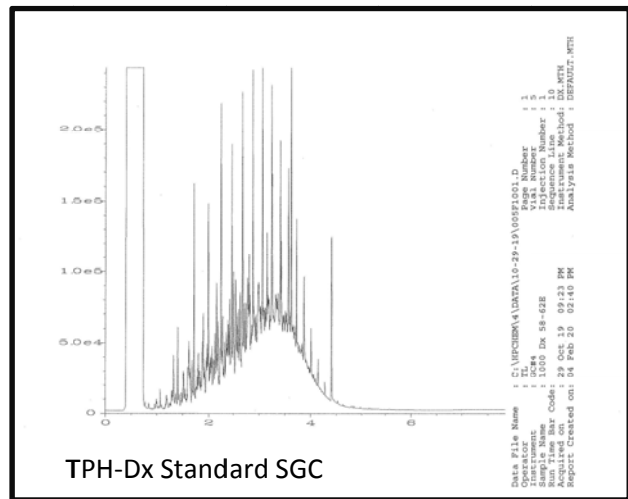
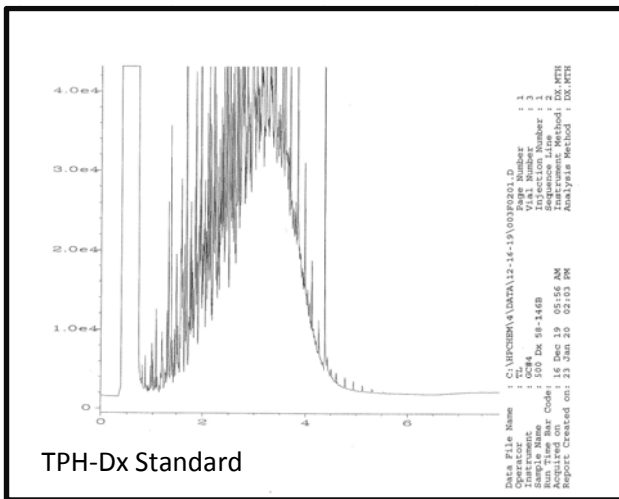
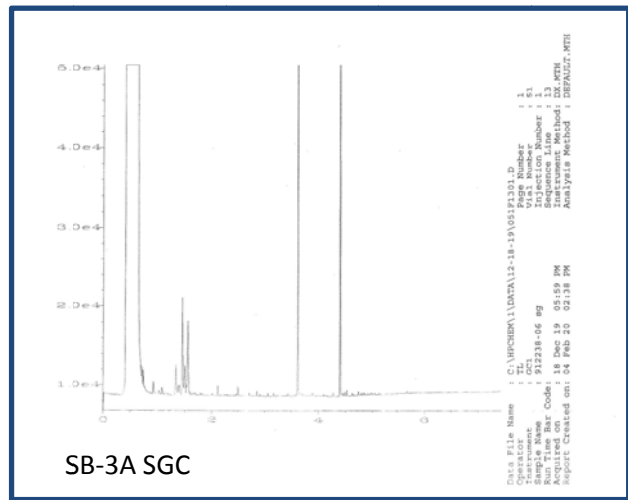
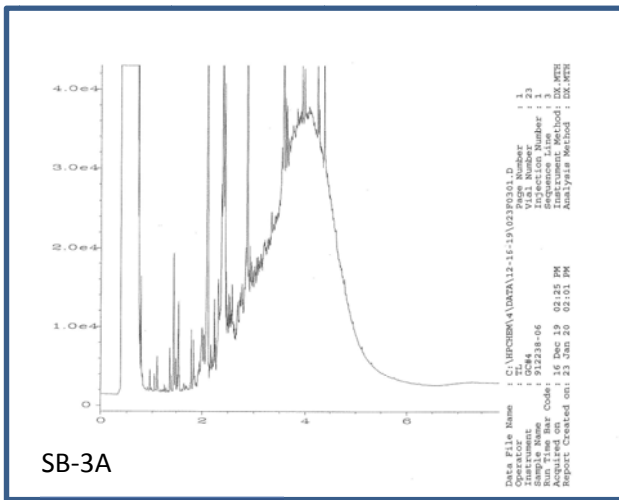
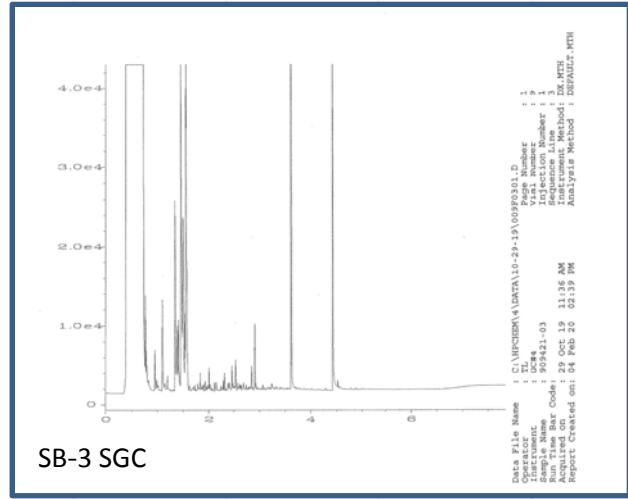
1. All results are in micrograms per liter (ug/L).
2. U = detected below the laboratory reporting limit.
3. J = estimated detection.
4. Shading denotes value above Site Screening Levels
5. Only compounds detected above Site Screening Levels are shown on this figure.



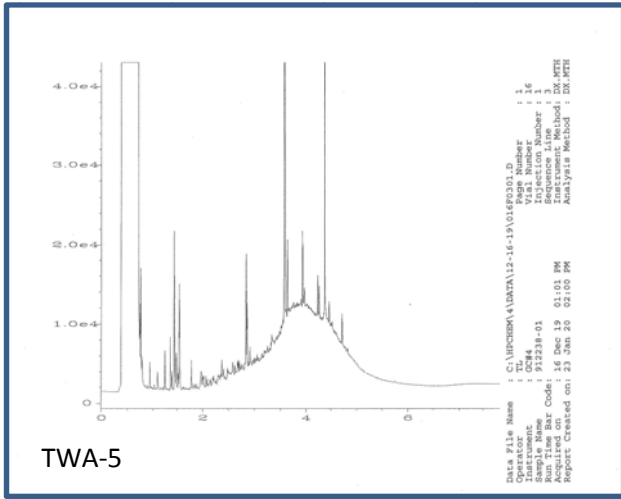
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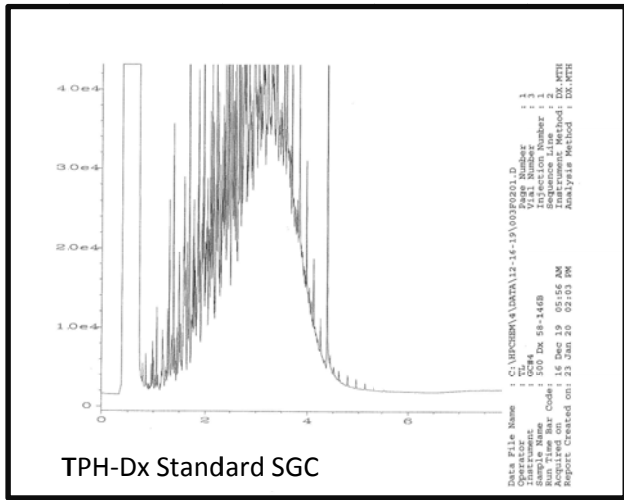
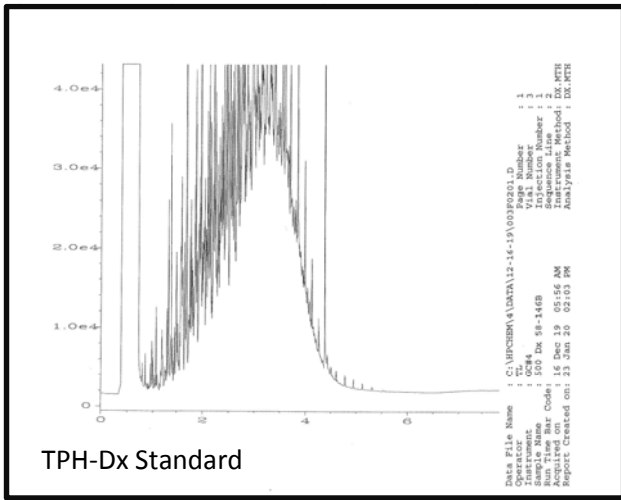
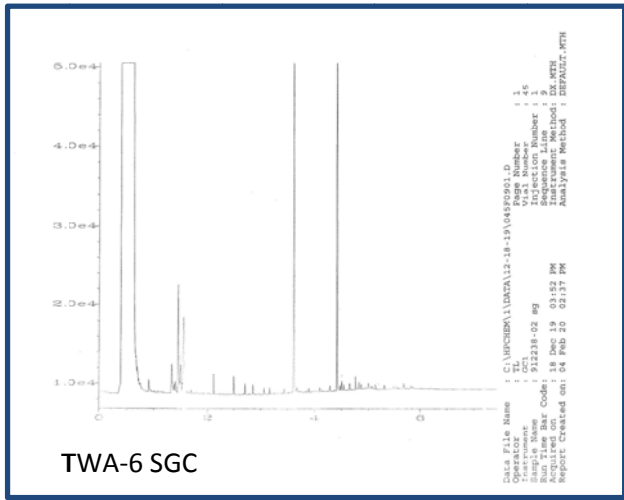
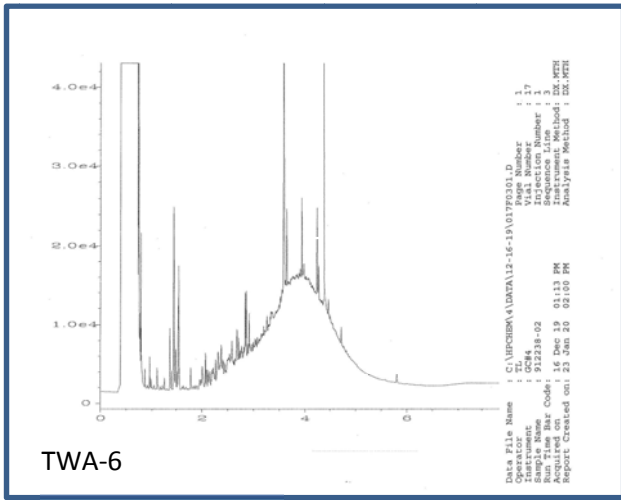
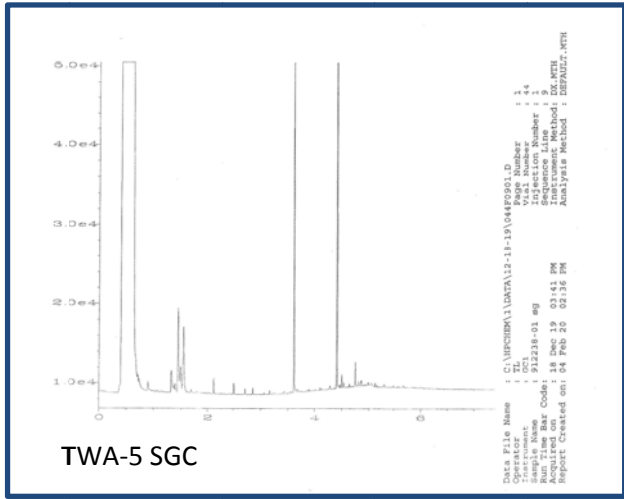
### NWTPH-Dx with Silica Gel



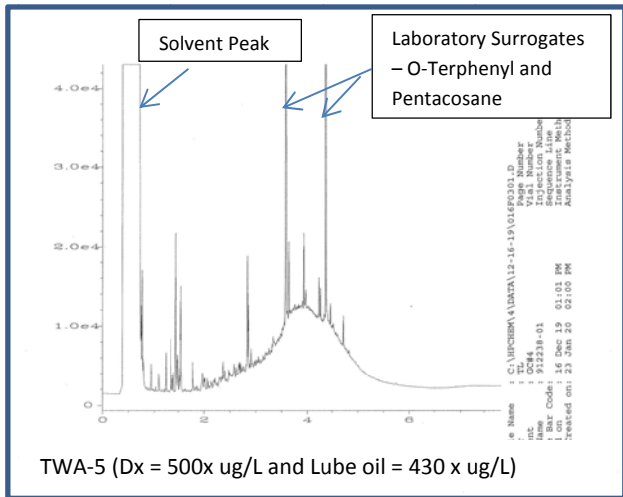
### NWTPH-Dx



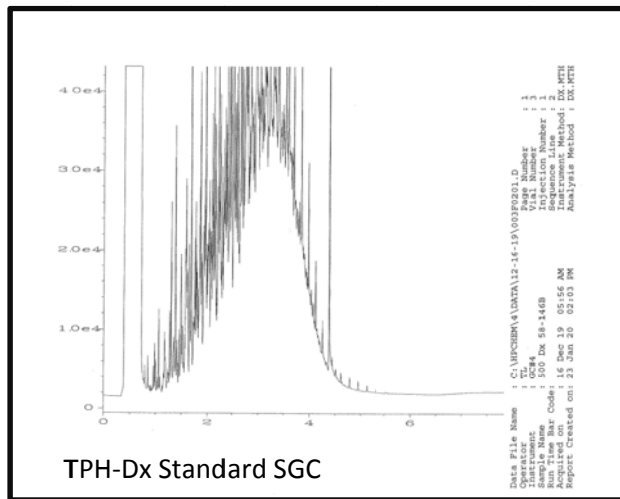
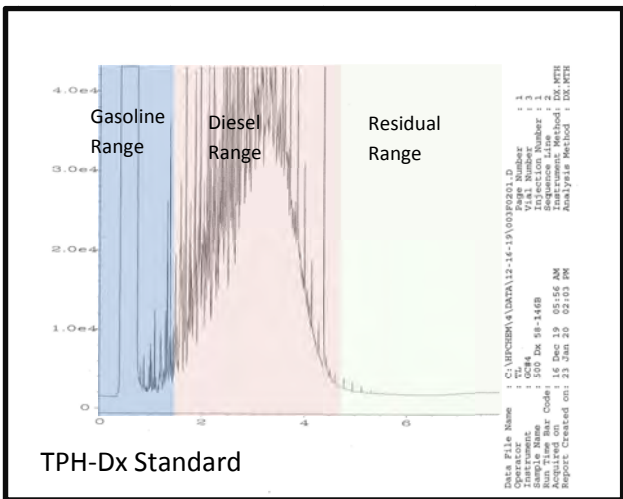
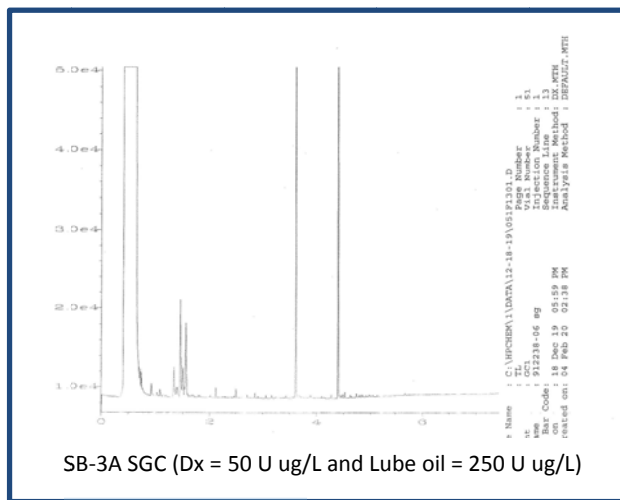
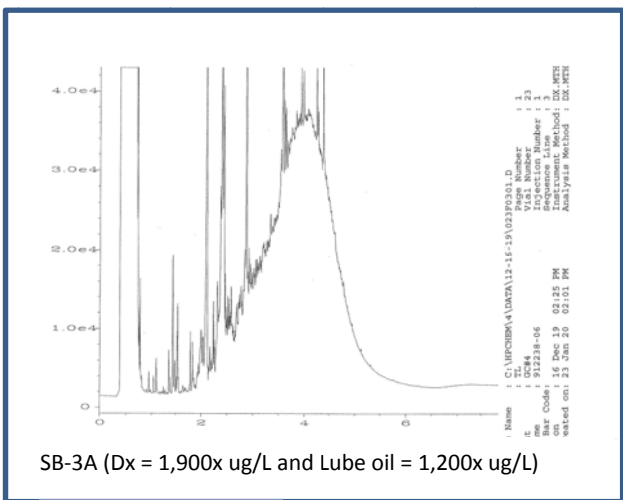
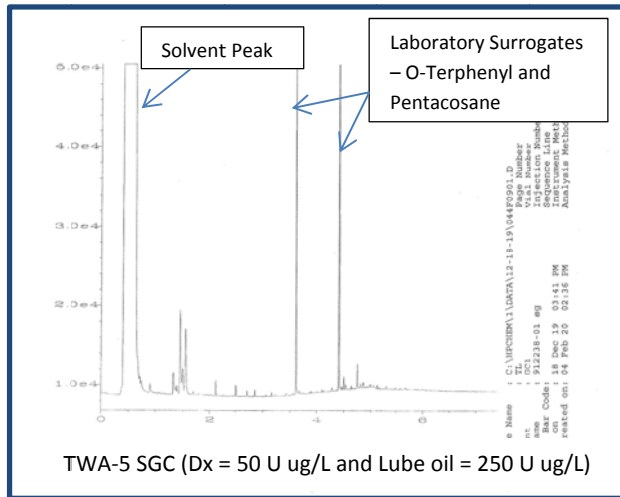
### NWTPH-Dx with Silica Gel



### NWTPH-Dx



### NWTPH-Dx with Silica Gel



**Attachment 1**  
**Field Notes and Borehole Logs**



**Low Flow Groundwater Sample Collection Record**

Date: 9/24/19	Well ID: TWA-5-1
Project Name: Hylebos Marsh	Location:
Project Number:	Collector(s): Nick Waldo
Start Time: 1255	End Time:

**Water Level Data**

Total Well Depth: 30	Water Table Depth: 16.08 to top of casing - 5.58 casing to ground 10.50 ft bgs
Screen Interval: 25-30	Tubing Placement Depth:
Well Volume	Well Volume = $3.14 * (R^2 * H * CF)$ R = Radius (feet), 2 inch = 0.17-foot H = Height of the water column CF = conversion factor = 7.48 gal/ft <sup>3</sup>
Purge Method: peristaltic pump well	Purge Rate:

**Water Quality Parameters** \*flag if spec cond > 1,000 us/cm

Time (24 hr)	Vol. Purged (L)	Temp (C)	pH	Spec. Cond (uS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)*	Flow Rate (ml/min)	DTW From Casing (-5.58)	Color/Odor
1258	<1	-	-	-	-	-	-	-	16.04	Dark Grey
1311	5	-	-	-	-	-	-	-	15.92	Dark Grey
1344	16	-	-	-	-	-	-	-	-	-
	~40?									
1401	0	17.77	8.5	3.90	0.56	-97	-	-	15.42	cloudy
1418	4	19.15	8.18	3.78	0.00	-117	-	-	15.35	cloudy
1432	12	18.21	7.78	3.78	0.00	-144	-	-	15.32	cloudy
1438	16	18.42	7.73	3.80	0.00	-151	-	-	15.30	cloudy
1442	20	18.29	7.72	3.79	0.00	-152	-	-	15.21	

peristaltic  
switch to bypass pump  
Back to peristaltic

Acceptance Criteria defined:

Temp 3%	pH +/- 0.1 unit	Spec. Cond 3%	DO $\Delta \leq 0.3$ mg/L
Turbidity X < 5 NTU*	ORP +/- 10 MV	Drawdown < 0.3'	
Sample Collection: 1445	*illegible due to condensation in guide screen		Duplicate Details:

\*Achievement of turbidity levels of less than 5 NTU, and stable drawdowns of less than 0.3 feet, while desirable, are not mandatory. If after 2 hours of purging indicator field parameters have not stabilized, discontinue purging, collect samples and provide full explanation of attempts to achieve stabilization. See SOP No. PSC-124

ORP +/- 20 mV

Equipment Accuracy - pH = +/- 0.2 unit

DO = +/- 0.2 mg/L

Turbidity +/- 0.02 NTU

Spec. cond. +/- 0.001 mS/cm



Low Flow Groundwater Sample Collection Record

Date: 9/24/19 & 9/25/19	Well ID: TWA-5 - <del>2</del> 2
Project Name: Hulebos Marsh	Location:
Project Number:	Collector(s): Nick Waldo
Start Time: 1551 & 0800	End Time:

Water Level Data

Total Well Depth: 40	Water Table Depth: 43.5 - 5.6 casing 37.9 ft <del>43.5</del> bgs 9/24
Screen Interval: 35 - 40	Tubing Placement Depth: 21.3 to casing 15.2 ft bgs 9/25 0800
Well Volume	Well Volume = $3.14 * (R^2 * H * CF)$ R = Radius (feet), 2 inch = 0.17 feet H = Height of the water column CF = conversion factor = 7.48 gal/ft <sup>3</sup>
Purge Method: well pump / peristaltic	Purge Rate:

Water Quality Parameters \* flag if spec cond > 1,000 uS/cm

Time (24 hr)	Vol. Purged (L)	Temp (C)	pH	Spec. Cond (uS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Flow Rate (ml/min)	DTW	Color/Odor

Acceptance Criteria defined:	$\Delta 0.1$	$\Delta \leq 0.3 \text{ mg/L}$
Temp 3%	pH <del>+/- 1.0</del> unit	Spec. Cond 3%
Turbidity $\times < 5 \text{ NTU}^*$	ORP +/- 10 MV	Drawdown < 0.3'
Sample Collection: 9/25 0810	Duplicate Details:	
note: slight effervescence in acidified samples.		

\*Achievement of turbidity levels of less than 5 NTU, and stable drawdowns of less than 0.3 feet, while desirable, are not mandatory. If after 2 hours of purging indicator field parameters have not stabilized, discontinue purging, collect samples and provide full explanation of attempts to achieve stabilization. See SOP No. PSC-124

ORP +/- 20 mV  
 Equipment Accuracy - pH = +/- 0.2 unit      Turbidity +/- 0.02 NTU  
 DO = +/- 0.2 mg/L      Spec. cond. +/- 0.001 mS/cm



Low Flow Groundwater Sample Collection Record

Date: 9/25/19	Well ID: TWA-5-3
Project Name: Hylebos Marsh	Location: Hylebos Marsh
Project Number:	Collector(s): MBW / Ja.
Start Time: 1017	End Time:

Water Level Data

Total Well Depth: 50	Water Table Depth: casing: 5.40 ft
Screen Interval: 45-50	Tubing Placement Depth:
Well Volume	Well Volume = $3.14 * (R^2 * H * CF)$ R = Radius (feet), 2 inch = 0.17 feet H = Height of the water column CF = conversion factor = 7.48 gal/ft <sup>3</sup>
Purge Method: well pump / peristaltic	Purge Rate:

Water Quality Parameters \* flag if spec cond > 1,000 us/cm

Time (24 hr)	Vol. Purged (gal)	Temp (C)	pH	Spec. Cond (uS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Flow Rate (ml/min)	DTW from casing	Color/Odor
<del>1102</del>										
1102	50									murky grey
1104	<1	16.80	10.13	8.25	3.90	-73	543	-	15.75	slightly sandy
1109	~1	16.39	9.68	8.61	0.53	-135	588	-	15.75	murky grey
1119	2	16.12	9.22	8.35	0.00	-165	602	-	15.73	
1129	3	16.13	8.94	8.33	0.00	-175	401	-	15.72	
1139	4.5	16.19	8.82	8.35	0.00	-177	358	-	15.71	
1149	5.0	16.12	8.33	8.33	0.00	-179	413	-	15.71	
1154	6.0	16.11	8.68	8.35	0.0	-180	390		15.71	
1159	7.0	16.09	8.68	8.36	0.0	-180	391		15.71	

Sw. fch to peristaltic

slightly sandy

Acceptance Criteria defined: $\Delta 0.1$ $\Delta \leq 0.3$ mg/L										
Temp	3%	pH	<del>+/- 1.0</del> unit	Spec. Cond	3%	DO	<del>10%</del>			
Turbidity	$\times < 5$ NTU*	ORP	+/- 10 MV	Drawdown	< 0.3'					
Sample Collection:	sample time 12:00							Duplicate Details:		

\*Achievement of turbidity levels of less than 5 NTU, and stable drawdowns of less than 0.3 feet, while desirable, are not mandatory. If after 2 hours of purging indicator field parameters have not stabilized, discontinue purging, collect samples and provide full explanation of attempts to achieve stabilization. See SOP No. PSC-124

ORP +/- 20 mV  
 Equipment Accuracy - pH = +/- 0.2 unit Turbidity +/- 0.02 NTU  
 DO = +/- 0.2 mg/L spec. cond. +/- 0.001 mS/cm



Low Flow Groundwater Sample Collection Record

Date: 9/26	Well ID: IWA-6-1
Project Name: Hylebos Marsh	Location:
Project Number:	Collector(s): NBW
Start Time: 1102	End Time:

Water Level Data

Total Well Depth: 20	Water Table Depth: 15.15 from casing -4.94 casing
Screen Interval: 15-20	Tubing Placement Depth: 10.21 bgs
Well Volume	Well Volume = $3.14 * (R^2 * H * CF)$ R = Radius (feet), 2 inch = 0.17 feet H = Height of the water column CF = conversion factor = 7.48 gal/ft <sup>3</sup>
Purge Method: well pump / resist + c	Purge Rate:

Water Quality Parameters \*flag if spec cond > 1,000 us/cm

Switch  
to  
peristaltic

Time (24 hr)	Vol. Purged (gal)	Temp (C)	pH	Spec. Cond (us/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Flow Rate (ml/min)	DTW	Color/Odor
1116	15									Gray
1118	< 1	14.76	11.25	2.36	2.55	-76	243	-	15.18	cloudy
1122	1	14.59	10.87	2.27	0.52	-84	138	-	15.13	
1127	15	14.12	10.14	2.13	0.00	-90	173	-	15.13	clear
1133	2	14.14	9.40	2.05	0.00	-95	343		15.12	
1138	3	14.06	8.98	2.00	0.00	-98	493		15.12	
1143	3 1/2	14.10	8.71	1.99	0.00	-100	619		15.14	
1149	4	14.09	8.32	1.99	0.00	-103	751		15.13	
1151	> 4	14.16	8.24	1.99	0.00	-104	729		-	
1155	4 3/4	14.19	8.19	2.00	0.00	-105	755/722*/799		15.16	

Acceptance Criteria defined:

Temp 3%	pH +/- 0.1 unit	Spec. Cond 3%	DO $\Delta \leq 0.3$ mg/L
Turbidity $\times < 5$ NTU*	ORP +/- 10 MV	Drawdown < 0.3'	

Sample Collection: 1155	* values going up and down over the course of 1-2 minutes	Duplicate Details:
-------------------------	---	--------------------

\*Achievement of turbidity levels of less than 5 NTU, and stable drawdowns of less than 0.3 feet, while desirable, are not mandatory. If after 2 hours of purging indicator field parameters have not stabilized, discontinue purging, collect samples and provide full explanation of attempts to achieve stabilization. See SOP No. PSC-124

ORP +/- 20 mV

Equipment Accuracy - pH = +/- 0.2 unit

DO = +/- 0.2 mg/L

Turbidity +/- 0.02 NTU

spec. cond. +/- 0.001 mS/cm

**Low Flow Groundwater Sample Collection Record**

Date: 7/26/19	Well ID: TWA-6-2
Project Name: Hylebos Marsh	Location:
Project Number:	Collector(s): NBW
Start Time: 1258	End Time:

**Water Level Data**

Total Well Depth: 30	Water Table Depth: 16.20 from casing 7.04 casing height 11.16 +/- 675
Screen Interval: 25-30	Tubing Placement Depth:
Well Volume	Well Volume = $3.14 * (R^2 * H * CF)$ R = Radius (feet), 2 inch = 0.17 feet H = Height of the water column CF = conversion factor = 7.48 gal/ft <sup>3</sup>
Purge Method: well pump peristaltic	Purge Rate:

**Water Quality Parameters** \* flag if spec cond > 1,000 us/cm

Switch to peristaltic set at full speed

Time (24 hr)	Vol. Purged (gal)	Temp (C)	pH	Spec. Cond (us/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Flow Rate (ml/min)	DTW from casing (-5.09)	Color/Odor
1312	~1.5									Gray
1315	<1	19.92	7.98	4.13	1.23	-70	0.0*	—	15.51	cloudy
1318	<1	18.69	7.81	4.24	0.22	-88	1000**	—	15.48	
1321	1	19.52	7.71	4.15	0.01	-92	736	—	15.49	
1329	1.5	20.07	7.57	4.03	0.00	-101	1000**	—	15.46	
1337	2	20.13	7.52	4.02	0.00	-106	0.0	—	15.43	cloudy
1347	2.5	20.09	7.47	4.00	0.00	-112	0.0	—	15.43	
1403	3.5	19.88	7.44	3.99	0.00	-120	0.0	—	15.38	
1406	~3.75	19.86	7.43	4.00	0.00	-121	0.0	—	15.37	cloudy
1411	4	19.75	7.42	4.00	0.00	-123	0.0	—	15.35	
1415	7.4	19.69	7.42	4.00	0.00	-124	0.0	—	15.35	

Acceptance Criteria defined: $\Delta 0.1$				$\Delta \leq 0.3$ mg/L			
Temp 3%	pH +/- 0.1 unit	Spec. Cond 3%	DO 30%				
Turbidity X < 5 NTU*	ORP +/- 10 MV	Drawdown < 0.3'					
Sample Collection:	* reset probe due to improbable value ** Flashing sampled at 1415, replicate @ 1420				Duplicate Details:	TWA-6-2-R	

\*Achievement of turbidity levels of less than 5 NTU, and stable drawdowns of less than 0.3 feet, while desirable, are not mandatory. If after 2 hours of purging indicator field parameters have not stabilized, discontinue purging, collect samples and provide full explanation of attempts to achieve stabilization. See SOP No. PSC-124

ORP +/- 20 mV  
Equipment Accuracy - pH = +/- 0.2 unit Turbidity +/- 0.02 NTU  
DO = +/- 0.2 mg/L Spec. cond. +/- 0.001 mS/cm



Low Flow Groundwater Sample Collection Record

Date: 9/26/19 & 9/27/19	Well ID: TWA-6-3
Project Name: Hylebos Marsh	Location:
Project Number:	Collector(s): NBW
Start Time:	End Time:

Water Level Data

Total Well Depth: 40	Water Table Depth: 9/26 1630-38ft 695 9/27 0737-1371-5.21 = 8.58 + 675
Screen Interval: 35-40	Tubing Placement Depth: total casing
Well Volume: well pump	Well Volume = $3.14 * (R^2 * H * CF)$ R = Radius (feet), 2 inch = 0.17 feet H = Height of the water column CF = conversion factor = 7.48 gal/ft <sup>3</sup>
Purge Method: well pump persist + c	Purge Rate:

Water Quality Parameters \*Flag if spec cond > 1,000 us/cm

9/26  
1635  
Put 50gal  
down  
to clear  
screen  
  
9/27  
0747  
start  
persist + c

Time (24 hr)	Vol. Purged Gal	Temp (C)	pH	Spec. Cond (uS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Flow Rate (ml/min)	DTW (ft) (-5.21)	Color/Odor
1710	50									gray
0749	<1	15.32	9.14	2.84	1.40	-1	820	—	15.48	cloudy
0753	<1	15.02	9.04	2.70	0.27	-93	1000*	1000*	14.80	
0801	1	14.19	8.78	2.83	0.00	-98	160	—	14.88	clear
0807	1.5	14.05	8.68	2.84	0.00	-119	101	—	14.99	
0811	2	13.97	8.62	2.85	0.00	-133	83.8	—	15.00	clear
0816	2.5	13.88	8.54	2.86	0.00	-147	68.3	—	15.08	
0822	3	13.83	8.50	2.87	0.00	-155	63.6	—	15.07	
0828	3.5	13.82	8.47	2.87	0.00	-160	57.3	—	15.09	
0832	<4	13.78	8.45	2.87	0.00	-164	54.4	—	15.04	
0835	4	13.77	8.44	2.87	0.00	-166	55.3	—	15.02	
0840	>4	13.75	8.42	2.88	0.00	-168	59.7	—	15.06	

Turned  
down  
pump  
rate

Acceptance Criteria defined:	Δ 0.1	Δ ≤ 0.3 mg/L
Temp 3%	pH +/- 0.1 unit	Spec. Cond 3%
Turbidity X < 5 NTU*	ORP +/- 10 MV	Drawdown < 0.3'
Sample Collection: * Flashing	Sample @ 0840	Duplicate Details:

\*Achievement of turbidity levels of less than 5 NTU, and stable drawdowns of less than 0.3 feet, while desirable, are not mandatory. If after 2 hours of purging indicator field parameters have not stabilized, discontinue purging, collect samples and provide full explanation of attempts to achieve stabilization. See SOP No. PSC-124

ORP +/- 20 MV  
Equipment Accuracy - pH = +/- 0.2 unit Turbidity +/- 0.02 NTU  
DO = +/- 0.2 mg/L Spec. cond. +/- 0.001 mS/cm

# Low flow sampling record

Hylebos Marsh TWA-6-4

collected by NBW

Start well pump purge at 0955

purged 80 gallons

Water level: 15.13 to casing - casing height: 5.29 ft = 9.84 ft bgs

Start peristaltic purge at 1049

## parameters:

Time	DTW from casing	vol purged	Temp (C)	pH	spec cond. (ms/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Notes
10 52	15.16	<1	15.62	8.59	4.77	4.18	35	994	
10 58	15.19	1	15.46	8.40	5.49	0.46	-66	914	Cloudy
11 04	15.22	1.5	16.03	8.41	5.37	0.16	-83	758	
11 12	15.25	2	16.35	8.41	5.35	0.00	-95	588	
11 19	15.28	2.5	16.68	8.44	5.34	0.00	-107	456	clear
11 26	15.31	3	17.06	8.44	5.31	0.00	-118	319	
11 31	15.35	3.5	17.38	8.45	5.26	0.00	-125	260	
11 37	15.37	4	17.75	8.46	5.22	0.00	-132	214	
11 44	15.39	4.5	18.12	8.45	5.21	0.00	-138	166	
11 49	15.40	5	18.37	8.45	5.18	0.00	-142	144	
11 55	15.41	5.5	18.67	8.45	5.16	0.00	-146	123	

Sample at 1155 - 2 hours after start of purge



Low Flow Groundwater Sample Collection Record

Date: 9.24.19	Well ID: temp well SB-1
Project Name: Hylebos Marsh	Location: Taylor Way
Project Number:	Collector(s): J. Stevens
Start Time: 0910	End Time:

Water Level Data

Total Well Depth: 6.5	Water Table Depth: 6.0
Screen Interval: 1.5 - 6.5	Tubing Placement Depth: 6.0
Well Volume	Well Volume = $3.14 * (R^2 * H) * (CF)$ R = Radius (feet), 2 inch = 0.17 feet H = Height of the water column CF = conversion factor = 7.48 gal/ft <sup>3</sup>
Purge Method: geopump	Purge Rate: 200 - dropped down to lowest setting <i>about 100 ml/min</i>

Water Quality Parameters \*flag if spec cond > 1,000 us/cm

Time (24 hr)	Vol. Purged (L)	Temp (C)	pH	Spec. Cond (uS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Flow Rate (ml/min)	DTW	Color/Odor
Well purged dry after about 4 ounces. let recharge and tried to collect samples										
well turbid										
collected:										
VOC										
total metals										
20.5 ambece (non-preserved)										

Acceptance Criteria defined:

Temp	3%	pH	$\Delta \leq 0.1$	Spec. Cond	3%	DO	$\Delta \leq 0.3 \text{ mg/L}$
Turbidity	X < 5 NTU*	ORP	+/- 10 unit	Drawdown	< 0.3'		

Sample Collection:

See table SB1-0919 @ 0922

Duplicate Details:

\*Achievement of turbidity levels of less than 5 NTU, and stable drawdowns of less than 0.3 feet, while desirable, are not mandatory. If after 2 hours of purging indicator field parameters have not stabilized, discontinue purging, collect samples and provide full explanation of attempts to achieve stabilization. See SOP No. PSC-124

ORP +/- 20 mV

Equipment Accuracy - pH = +/- 0.2 unit

DO = +/- 0.2 mg/L

Turbidity +/- 0.02 NTU

spec. cond. +/- 0.001 mS/cm





**Low Flow Groundwater Sample Collection Record**

Date: 9.24.2019	Well ID: SB-2
Project Name: Hylebos Marsh	Location: Taylor Way
Project Number:	Collector(s): J. Stevens
Start Time: 12:59	End Time: 13:50

**Water Level Data**

Total Well Depth: 8.5	Water Table Depth: 7.5
Screen Interval: 3.5-8.5	Tubing Placement Depth: 8.0
Well Volume	Well Volume = $3.14 \cdot (R^2 \cdot H) \cdot (CF)$ R = Radius (feet), 2 inch = 0.17 feet H = Height of the water column CF = conversion factor = 7.48 gal/ft <sup>3</sup>
Purge Method: peristaltic pump	Purge Rate: 150 ml/min

**Water Quality Parameters** \*flag if spec cond > 1,000 us/cm

Time (24 hr)	Vol. Purged (L)	Temp (C)	pH	Spec. Cond (uS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Flow Rate (ml/min)	DTW	Color/Odor
13:21	1.0	19.38	8.36	794	3.50	40	412	150	7.5	cloudy
13:24	1.450	19.72	8.10	768	2.76	65	102	150	7.89	clearing up
13:27	1.90	19.60	8.00	791	2.80	74	65.1	150	8.05	clearing up
13:30	1.35	19.55	8.00	791	3.40	-77	45.1	150	8.39	
well purged dry										
let recharge and collect samples										
min. tubing volume =										
$2(500 + 9.7 \times 8.5)$										
1,164.9 ml										

Acceptance Criteria defined: $\Delta \leq 0.1$	$\Delta \leq 0.3 \text{ mg/L}$
Temp 3%	DO 10%
pH +/- 0.2 unit	Spec. Cond 3%
Turbidity $\times < 5 \text{ NTU}^*$	Drawdown $< 0.3'$
ORP +/- 10 MV	

Sample Collection:

see table SB-2-0919 @ 13:30

Duplicate Details:

\*Achievement of turbidity levels of less than 5 NTU, and stable drawdowns of less than 0.3 feet, while desirable, are not mandatory. If after 2 hours of purging indicator field parameters have not stabilized, discontinue purging, collect samples and provide full explanation of attempts to achieve stabilization. See SOP No. PSC-124

ORP +/- 20 MV

Equipment Accuracy - pH = +/- 0.2 unit

DO = +/- 0.2 mg/L

Turbidity +/- 0.02 NTU

spec. cond. +/- 0.001 mS/cm

## Low Flow Groundwater Sample Collection Record

Date: 9.24.19	Well ID: SB-3
Project Name: Hylebos Marsh	Location: Taylor way
Project Number:	Collector(s): J. Stevens
Start Time: 1155	End Time: 1249

### Water Level Data

Total Well Depth:	8.5	Water Table Depth:	7.0
Screen interval:	3.5-8.5	Tubing Placement Depth:	8.0
Well Volume	Well Volume = $3.14 \times (R^2 \times H) \times (CF)$ R = Radius (feet), 2 inch = 0.17 feet H = Height of the water column CF = conversion factor = 7.48 gal/ft <sup>3</sup>		
Purge Method:	peristaltic pump	Purge Rate:	150 ml/min

### Water Quality Parameters \* Flag if spec cond > 1,000 us/cm

Time (24 hr)	Vol. Purged (L)	Temp (C)	pH	Spec. Cond (uS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Flow Rate (ml/min)	DTW	Color/Odor
11:59	2L	Purge	2L							
12:04	2.5	19.29	7.96	1190	1.93	-75	>100	150	8.41	cloudy
				well went dry						
				1st recharge, collected today						
				min sample volume						
				$2(500 + 9.7 \times 8.5) = 1,164.9 \text{ ml}$						

Acceptance Criteria defined:

Temp	3%	pH	$\pm 0.1$ unit	Spec. Cond	3%	DO	$\Delta \leq 0.3 \text{ mg/L}$
Turbidity	$\times < 5 \text{ NTU}^*$	ORP	$\pm 10 \text{ MV}$	Drawdown	$< 0.3'$		

Sample Collection:

See table  
SB-3-099 @ 12:04

Duplicate Details:

\* Achievement of turbidity levels of less than 5 NTU, and stable drawdowns of less than 0.3 feet, while desirable, are not mandatory. If after 2 hours of purging indicator field parameters have not stabilized, discontinue purging, collect samples and provide full explanation of attempts to achieve stabilization. See SOP No. PSC-124

ORP  $\pm 20 \text{ mV}$

Equipment Accuracy - pH =  $\pm 0.2$  unit

DO =  $\pm 0.2 \text{ mg/L}$

Turbidity  $\pm 0.02 \text{ NTU}$

Spec. cond.  $\pm 0.001 \text{ mS/cm}$

Low Flow Groundwater Sample Collection Record

Date: 9.24.19	Well ID: SB-4
Project Name: Hylebos Marsh	Location: Taylor way
Project Number:	Collector(s): J. Stevens
Start Time: 10:55	End Time: 11:50

Water Level Data

Total Well Depth: 8.5	Water Table Depth: 7.0
Screen interval: 3.5-8.5	Tubing Placement Depth: 8.0
Well Volume	Well Volume = $3.14 \cdot (R^2 \cdot H) \cdot (CF)$ R = Radius (feet), 2 inch = 0.17 feet H = Height of the water column CF = conversion factor = 7.48 gal/ft <sup>3</sup>
Purge Method: peristaltic pump	Purge Rate: ~150 ml/min

Water Quality Parameters \*flag if spec cond > 1,000 us/cm

Time (24 hr)	Vol. Purged (L)	Temp (C)	pH	Spec. Cond (uS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Flow Rate (ml/min)	DTW	Color/Odor
	well went dry after allow recharge				1.5 L of purge					
	min well volume = $2(500 + 9.7 \times 8.5) = 1,164.9 \text{ ml}$									
	spec. cond measured from up after sample 0.92 <u>us/cm</u>									

Acceptance Criteria defined:	$\Delta \leq 0.1$	$\Delta \leq 0.3 \text{ mg/L}$
Temp 3%	pH <del>+/- 1.0</del> unit	Spec. Cond 3%
Turbidity X < 5 NTU*	ORP +/- 10 MV	Drawdown < 0.3'

Sample Collection:	see table SB.4-0919 @ 10:55	Duplicate Details:
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\*Achievement of turbidity levels of less than 5 NTU, and stable drawdowns of less than 0.3 feet, while desirable, are not mandatory. If after 2 hours of purging indicator field parameters have not stabilized, discontinue purging, collect samples and provide full explanation of attempts to achieve stabilization. See SOP No. PSC-124

ORP +/- 20 mV  
 Equipment Accuracy - pH = +/- 0.2 unit      Turbidity +/- 0.02 NTU  
 DO = +/- 0.2 mg/L      Spec. cond. +/- 0.001 mS/cm

Low Flow Groundwater Sample Collection Record – PoT Hylebos

Date: 12.11.19	Well ID: SB-2A
Project Name: POT-HYLEBOS	Location:
Project Number:	Collector(s): PB
Start Time: 10:54	End Time:

Water Level Data

Total Well Depth: 12.7	Water Table Depth: 6.38
Screen Interval:	Tubing Placement Depth:
Well Volume	Well Volume (gallons) = $0.041 \times H(D^2)$ D = is in the inside diameter of the well casing, in inches H = Height of the water column (in feet)
Purge Method:	Purge Rate: 150

Water Quality Parameters

Time (24 hr)	Vol. Purged (L)	Temp (C)	pH	Spec. Cond (uS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Flow Rate (ml/min)	DTW	Color/Odor
10:57	0	11.03	7.56	635	3.03	33.3	0	150	6.58	clear P.O.
11:00	1050	11.7	7.42	620	1.21	16.2	0	125	6.54	
11:03	825	11.5	7.35	628	1.0	7.8	0	125	6.53	
11:06	1200	11.4	7.33	602	1.02	0.5	0	125	6.53	
11:09		11.3	7.31	587	1.14	5.1	0	125	6.53	
11:12		11.3	7.29	583	1.56	8.1	0	125	6.53	
11:15		11.3	7.27	582	1.45	9.3	0	125	6.53	
11:18		11.3	7.25	582	1.40	10.6	0	125	6.53	
SAMPLE 11:30										

Acceptance Criteria defined:

Temp	3%	pH	+/- 0.1 unit	Spec. Cond	3%	DO	+/- 0.3 mg/L
Turbidity	<5 NTU*	ORP	+/- 10 MV	Drawdown	<0.3'*		
Sample Collection:							Duplicate Details:

\*Achievement of turbidity levels of less than 5 NTU, and stable drawdowns of less than 0.3 feet, while desirable, are not mandatory. If after 2 hours of purging indicator field parameters have not stabilized, discontinue purging, collect samples and provide full explanation of attempts to achieve stabilization.

Low Flow Groundwater Sample Collection Record – PoT Hylebos

Date: 12-11-19	Well ID: SA-1A
Project Name: PoT-Hylebos	Location:
Project Number:	Collector(s): PB
Start Time: 8:55	End Time:

Water Level Data

Total Well Depth: 11.6' TOC	Water Table Depth: 6.26' TOC
Screen Interval:	Tubing Placement Depth: 7.5' BGS
Well Volume	Well Volume (gallons) = $0.041 \times H(D^2)$ D = is in the inside diameter of the well casing, in inches H = Height of the water column (in feet)
Purge Method:	Purge Rate: 200 ml/min

Water Quality Parameters

Time (24 hr)	Vol. Purged (L)	Temp (C)	pH	Spec. Cond (uS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Flow Rate (ml/min)	DTW	Color/Odor
9:00	0	9.53	8.48	609	2.2	76.1	0	200	6.26	Clear NO ODOR
9:03	600	11.15	7.96	624	1.19	56.1	0	150	6.41	SAME
9:06	900	11.1	7.81	623	1.16	32.5	0	150	6.34	SAME
9:09	1350	11.2	7.71	608	1.09	23.0	0	150	6.33	SAME
9:12	1950	11.1	7.63	600	0.98	14.6	0	150	6.32	SAME
9:15	2400	11.1	7.57	594	0.87	9.6	0	150	6.32	SAME
9:18	2850	11.1	7.51	590	0.73	4.1	0	150	6.32	SAME
9:21	3300	11.1	7.46	578	0.68	0.1	0	150	6.32	SAME
9:24	3750	11.1	7.44	575	0.63	2.6	0	150	6.32	SAME
9:27	4200	11.1	7.42	570	0.62	4.9	0	150	6.32	SAME
9:30	4650	11.1	7.41	566	0.62	6.3	0	150	6.32	SAME
SAMPLE @ 9:45										

Acceptance Criteria defined:

Temp	3%	pH	+/- 0.1 unit	Spec. Cond	3%	DO	+/- 0.3 mg/L		
Turbidity	<5 NTU*	ORP	+/- 10 MV	Drawdown	<0.3'				
Sample Collection:							Duplicate Details:		

\*Achievement of turbidity levels of less than 5 NTU, and stable drawdowns of less than 0.3 feet, while desirable, are not mandatory. If after 2 hours of purging indicator field parameters have not stabilized, discontinue purging, collect samples and provide full explanation of attempts to achieve stabilization.

EVERY 3 MINUTES

Low Flow Groundwater Sample Collection Record – PoT Hylebos

Date: 12.11.19	Well ID: 5B-3A
Project Name: POT HYLEBOS	Location:
Project Number:	Collector(s): PB
Start Time: 12:53	End Time:

Water Level Data

Total Well Depth: 12.81' TOC	Water Table Depth: 5.37' TOC
Screen Interval:	Tubing Placement Depth: 8.5' BGS
Well Volume	Well Volume (gallons) = $0.041 \times H(D^2)$ D = is in the inside diameter of the well casing, in inches H = Height of the water column (in feet)
Purge Method:	Purge Rate: 200 ml/min

Water Quality Parameters

Time (24 hr)	Vol. Purged (L)	Temp (C)	pH	Spec. Cond (uS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Flow Rate (ml/min)	DTW	Color/Odor
12:57	0	10.80	7.46	899	0.64	72.3	0	200	5.43	Clear N.O.
13:00	600	11.4	7.44	890	0.23	36.4	0	200	5.44	same
13:03	1200	11.6	7.42	891	0.11	10.6	0	200	5.44	
13:06	1500	11.7	7.40	890	0.07	46.9	0	200	5.44	
13:09	1800	11.7	7.40	888	0.06	59.9	0	200	5.44	
13:12	2400	11.7	7.39	881	0.04	69.7	0	200	5.44	
13:15	3000	11.9	7.38	873	0.03	75.4	0	200	5.44	
13:18	3600	11.9	7.38	871	0.02	77.1	0	200	5.44	
			Sample @ 13:30							

Acceptance Criteria defined:

Temp	3%	pH	+/- 0.1 unit	Spec. Cond	3%	DO	+/- 0.3 mg/L		
Turbidity	<5 NTU*	ORP	+/- 10 MV	Drawdown	<0.3'*				
Sample Collection:							Duplicate Details:		

\*Achievement of turbidity levels of less than 5 NTU, and stable drawdowns of less than 0.3 feet, while desirable, are not mandatory. If after 2 hours of purging indicator field parameters have not stabilized, discontinue purging, collect samples and provide full explanation of attempts to achieve stabilization.

Low Flow Groundwater Sample Collection Record – PoT Hylebos

Date: 12.10.19	Well ID: TWA-5
Project Name: PoT-Hylebos	Location:
Project Number:	Collector(s):
Start Time:	End Time:

Water Level Data

Total Well Depth: 33.11' BTOC	Water Table Depth: 12.26' Below TOC	TOC = 3' above ground surface
Screen Interval: 25' ~ 30'	Tubing Placement Depth: 27.5' BGS	
Well Volume	Well Volume (gallons) = $0.041 \times H(D^2)$ D = is in the inside diameter of the well casing, in inches H = Height of the water column (in feet)	
Purge Method:	Purge Rate: 100 ml/min	

Water Quality Parameters

Time (24 hr)	Vol. Purged (L)	Temp (C)	pH	Spec. Cond (uS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Flow Rate (ml/min)	DTW	Color/Odor
9:31	0	10.73	7.50	3366	0.82	73.4	0	100	12.29	Brown/cl N.O.
9:34	300	11.60	7.47	3356	0.14	118.5	0	100	12.29	SAME
9:37	600	11.70	7.46	3328	0.05	121.1	0	100	12.29	SAME
9:40	900	11.70	7.45	3304	0.02	139.9	0	100	12.29	SAME
9:43	1200	11.70	7.45	3293	0	144.2	0	100	12.29	SAME
9:46	1500	11.80	7.46	3269	0	147.3	0	100	12.29	SAME
Readings stabilized										
collect sample @ 9:50										

Acceptance Criteria defined:

Temp	3%	pH	+/- 0.1 unit	Spec. Cond	3%	DO	+/- 0.3 mg/L		
Turbidity	<5 NTU*	ORP	+/- 10 MV	Drawdown	<0.3'				
Sample Collection:	6-NOA 2-1L Amber 1-500ml Amber						2-250 ml Poly	Duplicate Details:	

\*Achievement of turbidity levels of less than 5 NTU, and stable drawdowns of less than 0.3 feet, while desirable, are not mandatory. If after 2 hours of purging indicator field parameters have not stabilized, discontinue purging, collect samples and provide full explanation of attempts to achieve stabilization.

Low Flow Groundwater Sample Collection Record – PoT Hylebos

Date: 12.10.19	Well ID: TWA-6
Project Name: PoT-Hylebos	Location:
Project Number:	Collector(s):
Start Time:	End Time:

Water Level Data

Total Well Depth: 33.69	Water Table Depth: 11.53
Screen Interval: 25~30	Tubing Placement Depth: 27.50
Well Volume	Well Volume (gallons) = 0.041xH(D <sup>2</sup> ) D = is in the inside diameter of the well casing, in inches H = Height of the water column (in feet)
Purge Method:	Purge Rate: 200

Water Quality Parameters

Time (24 hr)	Vol. Purged (L)	Temp (C)	pH	Spec. Cond (uS/cm)	DO (mg/L)	ORP (mv)	Turbidity (NTU)	Flow Rate (ml/min)	DTW	Color/Odor
14:21	0	9.20	7.38	3595	0.21	10.3	0	200	11.52	Turb N.O.
14:26	600	9.80	7.30	3610	0.07	81.3	0	200	11.52	same
14:29		9.9	7.24	3683	0.01	89.7	0	200	11.52	
14:32		9.88	7.2	3799	0	95.2	0	200	11.52	
14:35		9.9	7.19	3857	0	101.9	0	200	11.52	
14:38	3200	9.8	7.18	3862	0	105	0	200	11.52	
Sample @ 14:30										
Dup @ 15:00 TWA-1120										

Acceptance Criteria defined:

Temp	3%	pH	+/- 0.1 unit	Spec. Cond	3%	DO	+/- 0.3 mg/L		
Turbidity	<5 NTU*	ORP	+/- 10 MV	Drawdown	<0.3'*				
Sample Collection:								Duplicate Details:	

\*Achievement of turbidity levels of less than 5 NTU, and stable drawdowns of less than 0.3 feet, while desirable, are not mandatory. If after 2 hours of purging indicator field parameters have not stabilized, discontinue purging, collect samples and provide full explanation of attempts to achieve stabilization.



Project: Hylebos Marsh		Project Number:		Client: Port of Tacoma		Boring No. SB-1		
Address, City, State 1212 Taylor Way				Drilling Contractor: Holt		Drill Rig Type: Geoprobe		
Logged By: Jamie Stevens		Date	Started: 9/24/2019 9:40		Bit Type: Geoprobe		Diameter: 2 inch	
Drill Crew: Lowie			Completed: 9/24/2019 10:35		Hammer Type: NA			
USA Ticket Number: 19408678			Backfilled: 9/24/2019		Hammer Weight: NA		Hammer Drop: NA	
N: 47.27.41.23 W: 122.39.45.58		Groundwater Depth: 7 feet bgs		Elevation:		Total Depth of Boring: 10 feet		
Depth (feet)	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	Lithology	Recovery %	Odor/Sheen	PID (PPM)
5 10 15 20	S - 5-6 W - 3-8		▽		<b>Lithology</b> <u>Soil Group Name:</u> modifier, color, moisture, density/consistency, grain size, other descriptors  <u>Rock Description:</u> modifier color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.	100    100	No    No  No	0    0  0  0  0
					Surface - grass			
					Loose, dry dark brown to brown medium sand (SP)			
					trace of silt			
					Dark gray/black/brown sand, little to no fines. (SP)			
					Damp at 5.5			
					Soft saturated, gray brown clay (CL) with roots and some sand (SP)			
					Clay (CL) gray, wet, dense, saturated.			
					Boring terminated at 10 feet bgs			
					Backfilled with bentonite chips.			

Civil Engineering

Boring Log: Sheet 1 of 1



Project: Hylebos Marsh		Project Number:		Client: Port of Tacoma	Boring No. SB-2			
Address, City, State 1212 Taylor Way				Drilling Contractor: Holt	Drill Rig Type: Geoprobe			
Logged By: Jamie Stevens		Date	Started: 9/24/2019 12:50	Bit Type: Geoprobe	Diameter: 2 inch			
Drill Crew: Lowie			Completed: 9/24/2019 13:30	Hammer Type: NA				
USA Ticket Number: 19408678			Backfilled: 9/24/2019	Hammer Weight: NA	Hammer Drop: NA			
N: 47.16.22.3 W: 122.23.37.9		Groundwater Depth: 7.5 feet bgs		Elevation:	Total Depth of Boring: 10 feet			
Depth (feet)	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	Lithology	Recovery %	Odor/Sheen	PID (PPM)
5 10 15 20	S - 6.5-7 W - 3.5-8.5		▽		<b>Lithology</b> <u>Soil Group Name:</u> modifier, color, moisture, density/consistency, grain size, other descriptors  <u>Rock Description:</u> modifier color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.	100	No	0
					Surface - grass			
					Sand (SP) red, brown, white medium sand (SP)			
					Very soft clay, gray, fine sand at 4.75, 1" thick			
					Dark gray/black/brown sand, little to no fines. (SP)			
					Damp at 5.5, shell fragments			
					Soft saturated, gray brown clay (CL) with roots and some fine sand (SP)			
					Clay (CL) gray, wet, dense, saturated.			
					Boring terminated at 10 feet bgs			
					Backfilled with bentonite chips.			

Civil Engineering

Boring Log: Sheet 1 of 1



Project: Hylebos Marsh		Project Number:		Client: Port of Tacoma	Boring No. SB-3			
Address, City, State 1212 Taylor Way				Drilling Contractor: Holt		Drill Rig Type: Geoprobe		
Logged By: Jamie Stevens		Date	Started: 9/24/2019 11:55		Bit Type: Geoprobe		Diameter: 2 inch	
Drill Crew: Lowie			Completed: 9/24/2019 12:50		Hammer Type: NA			
USA Ticket Number: 19408678			Backfilled: 9/24/2019		Hammer Weight: NA		Hammer Drop: NA	
N: 47.16.18.4 W: 122.23.38.3		Groundwater Depth: 7.5 feet bgs		Elevation:		Total Depth of Boring: 12 feet		
Depth (feet)	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	Lithology	Recovery %	Odor/Sheen	PID (PPM)
					<b>Lithology</b> <u>Soil Group Name:</u> modifier, color, moisture, density/consistency, grain size, other descriptors  <u>Rock Description:</u> modifier color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.	100	No	0
					Surface - grass			
					Loose, dry brown, black medium sand (SP)			
					trace of silt			
					Damp at 4.5			
					Dark gray/black/brown sand, little to no fines, shells (SP)			
					Soft saturated, gray brown clay (CL) w/roots and some sand (SP), layer of wood at 9-10			
					Clay (CL) gray, wet, dense, saturated.			
					Through end of boring.			
					Boring terminated at 12 feet bgs			
					Backfilled with bentonite chips.			

Civil Engineering

Boring Log: Sheet 1 of 1



Project: Hylebos Marsh		Project Number:		Client: Port of Tacoma		Boring No. SB-4		
Address, City, State 1212 Taylor Way				Drilling Contractor: Holt		Drill Rig Type: Geoprobe		
Logged By: Jamie Stevens		Date	Started: 9/24/2019 10:40		Bit Type: Geoprobe		Diameter: 2 inch	
Drill Crew: Lowie			Completed: 9/24/2019 11:55		Hammer Type: NA			
USA Ticket Number: 19408678			Backfilled: 9/24/2019		Hammer Weight: NA		Hammer Drop: NA	
N: 47.16.19.7 W: 122.23.35.6		Groundwater Depth: 7 feet bgs		Elevation:		Total Depth of Boring: 10 feet		
Depth (feet)	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	Lithology	Recovery %	Odor/Sheen	PID (PPM)
					<b>Lithology</b> <u>Soil Group Name:</u> modifier, color, moisture, density/consistency, grain size, other descriptors  <u>Rock Description:</u> modifier color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.	100	No	0
					Surface - grass			
					Loose, dry dark brown to brown fine to medium sand (SP)			
					trace of silt			
					Sand increases with depth, damp at 5			
					Dark gray/black/brown sand, little to no fines. (SP)			
					Shell fragments			
					Soft saturated, gray brown clay (CL)			
					Clay (CL) gray, wet, dense, saturated.			
					Some black modeling at the bottom of the 4" of the boring			
Boring terminated at 10 feet bgs								
Backfilled with bentonite chips.								

# Civil Engineering

Boring Log: Sheet 1 of 1













Project: Hylebos Marsh		Project Number:		Client: Port of Tacoma		Boring No. TWA-5					
Address, City, State 1212 Taylor Way				Drilling Contractor: Holt		Drill Rig Type: Sonic					
Logged By: Nick Waldo		Date	Started: 9/24/2019 9:00		Bit Type: Sonic		Diameter: 4				
Drill Crew: Holt			Completed: 9/25/2019 14:30		Hammer Type: NA						
USA Ticket Number: 19408678			Backfilled: 9/25/2019		Hammer Weight: NA		Hammer Drop: NA				
N: To be measured W: To be measured		Groundwater Depth: 9 feet bgs		Elevation:		Total Depth of Boring: 60 feet					
Depth (feet)	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	Lithology		Recovery %	Odor/Sheen	PID (PPM)		
5				<p><b>Lithology</b></p> <p><u>Soil Group Name:</u> modifier, color, moisture, density/consistency, grain size, other descriptors</p> <p><u>Rock Description:</u> modifier color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.</p>	<p>Surface - grass</p> <p>Moist weathered wood fill</p>			No			
										9' - moist gray clay to 10 feet	
										Moist weathered wood fill with occasional gravel and chunks of wood	
										16' discrete gay clay interbedded with weathered wood fill	
										0.5 to 2 inches thick	
										18.5 - wet gray clay	
										8" conductor casing set - chipped with 1 bag of bentonite, hydrated, and pulled back about 3"	
										wet gray clayey silt	
										wet gray clayey silt with sea shells (at 23-24.5')	
										24.5' wet gray med to coarse sand	
										25	W
30	S	TWA-5-30-S			wet gray clayey silt				0		

Project: Hylebos Marsh		Project Number:		Client: Port of Tacoma		Boring No. TWA-5	
Address, City, State 1212 Taylor Way				Drilling Contractor: Holt		Drill Rig Type: Sonic	
Logged By: Nick Waldo		Date	Started: 9/24/2019 9:00		Bit Type: Sonic		Diameter: 4
Drill Crew: Holt			Completed: 9/25/2019 14:30		Hammer Type: NA		
USA Ticket Number: 19408678			Backfilled: 9/25/2019		Hammer Weight: NA		Hammer Drop: NA
N: To be measured W: To be measured		Groundwater Depth: 9 feet bgs		Elevation:		Total Depth of Boring: 60 feet	

Depth (feet)	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	Lithology			
					Recovery %	Odor/Sheen	PID (PPM)	
30					No recovery, heaving sands.	100	No	0
35					Very wet silts and sands, poor recovery	100	No	0
38	s	TWA-5-38-s			wet grey clay			0
39					wet grey silt			0
40	w	TWA-5-2			39.5 wet grey coarse sand water sample collected 35-40'		No	0
41					Wet dark grey med to coarse med to coarse sand			0
42					1" gray clay lens			0
45	w	TWA-5-3			wet dark grey med to coarse Sand water sample collected 45-50'			0
50					wet dark grey med to coarse Sand			0
55					wet dark grey med to coarse Sand with sea shells			0
57.5					57.5 - grey sand with white coarse sand/shell lens			0
58	s	TWA-5-59-s			wet grey silt with shells			0

Project: Hylebos Marsh		Project Number:		Client: Port of Tacoma		Boring No. TWA-6			
Address, City, State 1212 Taylor Way				Drilling Contractor: Holt		Drill Rig Type: Sonic			
Logged By: Nick Waldo		Date	Started: 9/24/2019 9:00		Bit Type: Sonic		Diameter: 4		
Drill Crew: Holt			Completed: 9/25/2019 14:30		Hammer Type: NA				
USA Ticket Number: 19408678			Backfilled: 9/25/2019		Hammer Weight: NA		Hammer Drop: NA		
N: To be measured W: To be measured		Groundwater Depth: 6 feet bgs		Elevation:		Total Depth of Boring: 60 feet			
Depth (feet)	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	Lithology		Recovery %	Odor/Sheen	PID (PPM)
					<b>Soil Group Name:</b> modifier, color, moisture, density/consistency, grain size, other descriptors  <b>Rock Description:</b> modifier color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.				
5					Surface - grass Moist brown medium grain sand (SP)			No	
					Moist dark gray sand with some shells (SP)			No	
					Wet layers of gray silts and sand				
					0.5' layer of wet gray clay (CL)				
10					Moist brown and gray silts and clay with organics			No	
					Wet gray silt Clay with lots of embedded organics				
					8" conductor casing set at 12- chipped with 1 bag of bentonite, hydrated, and pulled back about 3"				
					Gray Clay (CL)				
15	W	TWA-6-1			Water sample collected 15-20' at 17' some sand mixed with clay				
					Gray clay				
					Gray clay with sandy silt				
20	S	TWA-6-21-S			Wet dark gray medium sand.				
					Wet gray sandy silt, 0.5 thick.				
					Wet dark gray medium sand.				
25	W	TWA-6-2			Water collected at 25-30				
					Wet dark gray medium sand.				
					Wet dark gray silty fine to medium sand.				
30									0

Project: Hylebos Marsh		Project Number:		Client: Port of Tacoma		Boring No. TWA-6	
Address, City, State 1212 Taylor Way				Drilling Contractor: Holt		Drill Rig Type: Sonic	
Logged By: Nick Waldo		Date	Started: 9/24/2019 9:00		Bit Type: Sonic		Diameter: 4
Drill Crew: Holt			Completed: 9/25/2019 14:30		Hammer Type: NA		
USA Ticket Number: 19408678			Backfilled: 9/25/2019		Hammer Weight: NA		Hammer Drop: NA
N: To be measured W: To be measured		Groundwater Depth: 6 feet bgs		Elevation:		Total Depth of Boring: 60 feet	

Depth (feet)	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	Lithology	Recovery %	Odor/Sheen	PID (PPM)
30					Wet gray fine to medium sand.	100	No	0
35	W	TWA-6-3			water sample collected 35-40'	100	No	0
					Wet gray layer of sand, silt and clay (0.5' thick)			
					Wet gray fine to coarse sand.		No	0
40					Wet gray medium sand.			0
45	W	TWA-6-4			water sample collected 45-50'			0
					Wet dark gray silty fine sand			0
50	S	TWA-6-48-S			Wet gray medium to coarse sand.			
55					Wet sand with coarse sand- white intact shells - 2" clay layer at 57.5			0
					Wet medium sand with shells			

Civil Engineering

Boring Log: Sheet 2 of 2



# WELL INSTALLATION REPORT

Well No. TWA-5

Date 11.7.2019

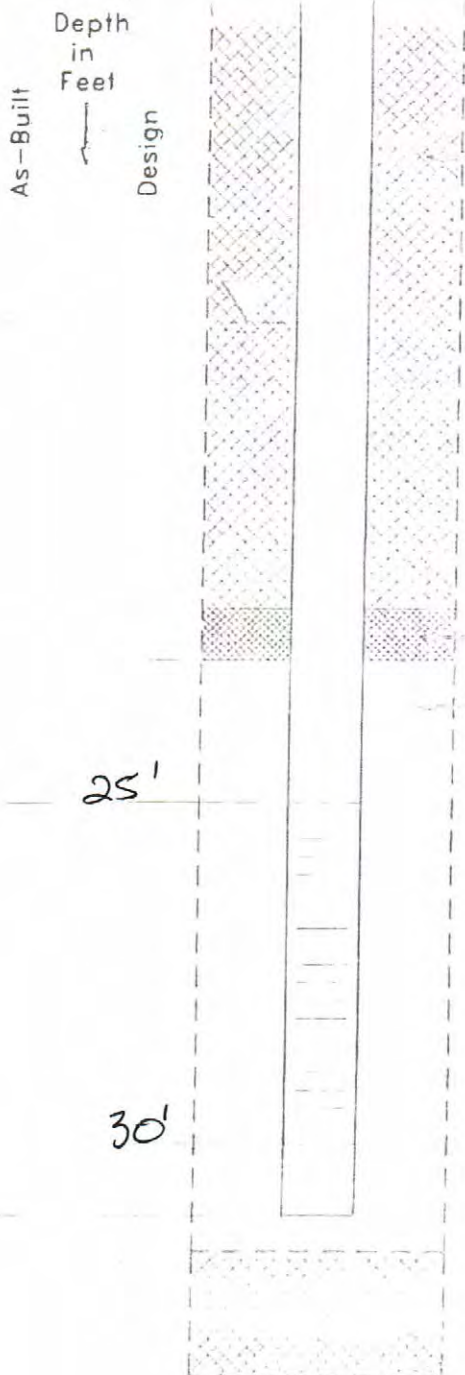
Job Well tag ID# BLU-457

Job No.

Observer Waldo

Drilling Method Sonic

Draw Appropriate Monument (Flush or Above Ground) →



Approx. Elevation

Type of Monument groundwater well

Stickup Monument  Well

0' feet Seal Material

Drillers:  
Holocene  
Drilling

Borehole Diameter

Water Level Date

26.0 11/7/2019

Riser Pipe Diameter 2 inch

Riser Pipe Material schedule 40 pvc

Type of Joints

"O"-Ring Seals?  Yes  No

Seal Material Bentonite to surface

23' Filter Pack Material 2/12 silica sand

Filter Pack Size

25'

Screen Diameter 2 inch

Screen Material

Screen Slot Size 0.010 inch slotted

Screen Construction: Milled  
Wire Wound

30'

Tail Pipe Diameter 2"

Tail Pipe Length 4"

Tail Pipe Material

Bottom Seal Type

conductor casing set to 20' to separate shallow and deep groundwater

CONSULTING, INC.

# WELL INSTALLATION REPORT

Well No. TWA-6

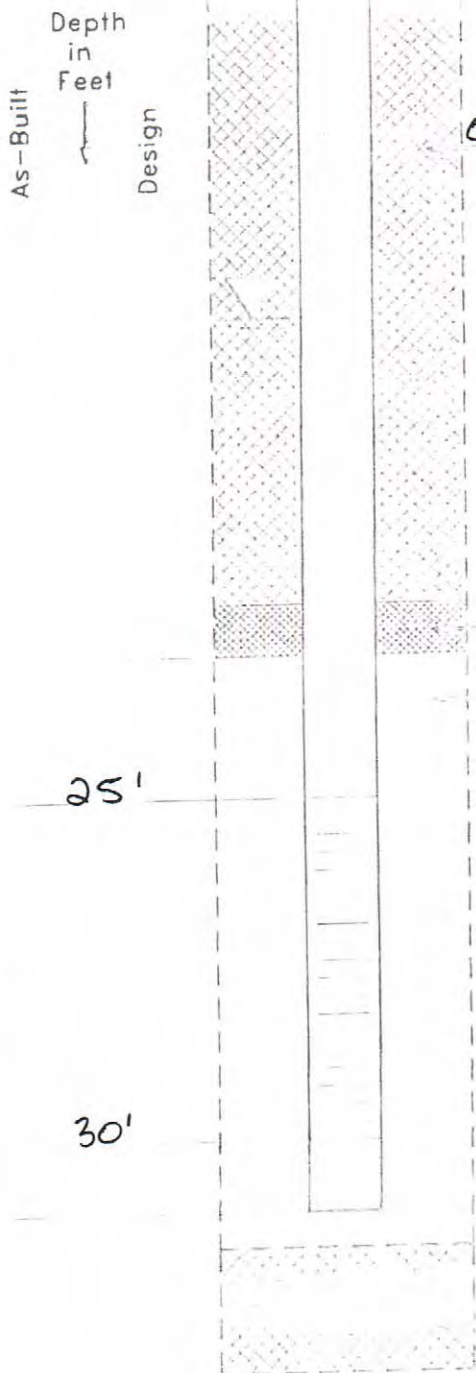
Date 11.7.2019

Job Well tag ID# BLU-456

Job No.

Observer Waldo Drilling Method Sonic

Draw Appropriate Monument (Flush or Above Ground) →



Approx. Elevation

Type of Monument groundwater well

Stickup Monument  Well

Seal Material Drillers: Holocene Drilling

Borehole Diameter

Water Level Date

~6.5 ~~10.7~~ 11.7.2019

Riser Pipe Diameter 2 inch

Riser Pipe Material schedule 40 PVC

Type of Joints

"O"-Ring Seals?  Yes  No

Seal Material Bentonite to surface

Filter Pack Material 2/12 silica sand  
Filter Pack Size     

Screen Diameter 2 inch

Screen Material     

Screen Slot Size 0.010-inch slotted

Screen Construction:  Milled  Wire Wound

Tail Pipe Diameter 2"

Tail Pipe Length 4"

Tail Pipe Material

Bottom Seal Type

( ) CONSULTING, INC.

conductor set at 9.5 to 12.5' to separate shallow and deep groundwaters

**Attachment 2**  
**Analytical Laboratory Data Reports**

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
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October 9, 2019

Jamie Stevens, Project Manager  
Crete Consulting  
108 S. Washington St., Suite 300  
Seattle, WA 98104

Dear Ms Stevens:

Included are the results from the testing of material submitted on September 27, 2019 from the Hylebos, F&BI 909487 project. There are 23 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
CTC1009R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 27, 2019 by Friedman & Bruya, Inc. from the Crete Consulting Hylebos, F&BI 909487 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Crete Consulting</u>
909487 -01	TWA-6-3
909487 -02	TWA-6-4
909487 -03	TWA-6-48-S

Several compounds in the 8270D laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

The 8260C calibration standard failed the acceptance criteria for methylene chloride. The data were flagged accordingly. In addition, several compounds in the 8260C laboratory control sample and matrix spike exceeded the acceptance criteria. The analytes were not detected in the sample, therefore the data were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/09/19  
Date Received: 09/27/19  
Project: Hylebos, F&BI 909487  
Date Extracted: 10/02/19  
Date Analyzed: 10/02/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TWA-6-3 909487-01	<100	85
TWA-6-4 909487-02	<100	82
Method Blank 09-2321 MB	<100	84

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/09/19  
Date Received: 09/27/19  
Project: Hylebos, F&BI 909487  
Date Extracted: 10/01/19  
Date Analyzed: 10/01/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 51-134)
TWA-6-3 909487-01 1/1.3	320 x	<320	134
TWA-6-4 909487-02 1/1.3	190 x	<320	124
Method Blank 09-2405 MB	<50	<250	112

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6-3	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos, F&BI 909487
Date Extracted:	10/01/19	Lab ID:	909487-01
Date Analyzed:	10/01/19	Data File:	909487-01.148
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	7.56
Cadmium	<1
Chromium	12.1
Copper	11.0
Lead	<1
Manganese	132
Mercury	<1
Nickel	<5
Zinc	7.64



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6-4	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos, F&BI 909487
Date Extracted:	10/01/19	Lab ID:	909487-02
Date Analyzed:	10/01/19	Data File:	909487-02.149
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	10.1
Cadmium	<1
Chromium	9.87
Copper	9.55
Lead	<1
Manganese	67.5
Mercury	<1
Nickel	<5
Zinc	5.95

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	NA	Project:	Hylebos, F&BI 909487
Date Extracted:	10/01/19	Lab ID:	I9-610 mb
Date Analyzed:	10/01/19	Data File:	I9-610 mb.128
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	<1
Mercury	<1
Nickel	<5
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID: TWA-6-3  
 Date Received: 09/27/19  
 Date Extracted: 10/02/19  
 Date Analyzed: 10/02/19  
 Matrix: Water  
 Units: ug/L (ppb)

Client: Crete Consulting  
 Project: Hylebos, F&BI 909487  
 Lab ID: 909487-01  
 Data File: 100225.D  
 Instrument: GCMS8  
 Operator: ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	20	15	99
Phenol-d6	13	11	65
Nitrobenzene-d5	54	50	150
2-Fluorobiphenyl	35 ip	50	150
2,4,6-Tribromophenol	52	50	150
Terphenyl-d14	31 ip	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2 jl	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2 jl	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4 jl	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10 jl	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2 jl	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID: TWA-6-4  
 Date Received: 09/27/19  
 Date Extracted: 10/02/19  
 Date Analyzed: 10/02/19  
 Matrix: Water  
 Units: ug/L (ppb)

Client: Crete Consulting  
 Project: Hylebos, F&BI 909487  
 Lab ID: 909487-02  
 Data File: 100226.D  
 Instrument: GCMS8  
 Operator: ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	22	15	99
Phenol-d6	13	11	65
Nitrobenzene-d5	71	50	150
2-Fluorobiphenyl	56	50	150
2,4,6-Tribromophenol	78	50	150
Terphenyl-d14	55	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2 j1	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2 j1	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4 j1	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10 j1	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2 j1	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos, F&BI 909487
Date Extracted:	10/02/19	Lab ID:	09-2403 mb
Date Analyzed:	10/02/19	Data File:	100217.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	24	15	99
Phenol-d6	14	11	65
Nitrobenzene-d5	81	50	150
2-Fluorobiphenyl	83	50	150
2,4,6-Tribromophenol	64	50	150
Terphenyl-d14	94	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2 j1	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2 j1	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4 j1	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10 j1	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2 j1	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TWA-6-3	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos, F&BI 909487
Date Extracted:	10/03/19	Lab ID:	909487-01
Date Analyzed:	10/03/19	Data File:	100328.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	AEN/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	93	107
Toluene-d8	99	91	108
4-Bromofluorobenzene	93	90	108

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5 ca	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TWA-6-4	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos, F&BI 909487
Date Extracted:	10/03/19	Lab ID:	909487-02
Date Analyzed:	10/04/19	Data File:	100329.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	AEN/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	93	107
Toluene-d8	104	91	108
4-Bromofluorobenzene	90	90	108

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5 ca	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos, F&BI 909487
Date Extracted:	10/03/19	Lab ID:	09-2395 mb
Date Analyzed:	10/03/19	Data File:	100312.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	AEN/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	93	107
Toluene-d8	100	91	108
4-Bromofluorobenzene	101	90	108

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5 ca	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-6-3	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos, F&BI 909487
Date Extracted:	09/30/19	Lab ID:	909487-01
Date Analyzed:	10/01/19	Data File:	100114.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	17 ip	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-6-4	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos, F&BI 909487
Date Extracted:	09/30/19	Lab ID:	909487-02
Date Analyzed:	10/01/19	Data File:	100115.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	41	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos, F&BI 909487
Date Extracted:	09/30/19	Lab ID:	09-2402 mb
Date Analyzed:	10/01/19	Data File:	100106.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	47	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/09/19

Date Received: 09/27/19

Project: Hylebos, F&BI 909487

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 909487-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	91	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/09/19

Date Received: 09/27/19

Project: Hylebos, F&BI 909487

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	76	92	58-134	19

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/09/19

Date Received: 09/27/19

Project: Hylebos, F&BI 909487

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 910005-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	3.26	97	97	75-125	0
Cadmium	ug/L (ppb)	5	<1	100	96	75-125	4
Chromium	ug/L (ppb)	20	6.39	91	93	75-125	2
Copper	ug/L (ppb)	20	21.3	83	85	75-125	2
Lead	ug/L (ppb)	10	10.6	80	86	75-125	7
Manganese	ug/L (ppb)	20	234	130 b	174 b	75-125	29 b
Mercury	ug/L (ppb)	5	<1	84	85	75-125	1
Nickel	ug/L (ppb)	20	7.50	87	86	75-125	1
Zinc	ug/L (ppb)	50	179	91	97	75-125	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	87	80-120
Cadmium	ug/L (ppb)	5	98	80-120
Chromium	ug/L (ppb)	20	95	80-120
Copper	ug/L (ppb)	20	99	80-120
Lead	ug/L (ppb)	10	96	80-120
Manganese	ug/L (ppb)	20	94	80-120
Mercury	ug/L (ppb)	5	97	80-120
Nickel	ug/L (ppb)	20	96	80-120
Zinc	ug/L (ppb)	50	94	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/09/19

Date Received: 09/27/19

Project: Hylebos, F&BI 909487

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	5	14	16	10-86	13
Bis(2-chloroethyl) ether	ug/L (ppb)	5	81	89	65-121	9
2-Chlorophenol	ug/L (ppb)	5	48 vo	57 vo	58-123	17
1,3-Dichlorobenzene	ug/L (ppb)	5	72	81	66-113	12
1,4-Dichlorobenzene	ug/L (ppb)	5	72	81	62-114	12
1,2-Dichlorobenzene	ug/L (ppb)	5	74	83	63-115	11
Benzyl alcohol	ug/L (ppb)	5	38	41	37-125	8
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	79	87	70-130	10
2-Methylphenol	ug/L (ppb)	5	37 vo	41	38-119	10
Hexachloroethane	ug/L (ppb)	5	76	81	64-117	6
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	86	93	70-130	8
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	32 vo	35 vo	44-110	9
Nitrobenzene	ug/L (ppb)	5	80	86	70-130	7
Isophorone	ug/L (ppb)	5	87	93	70-130	7
2-Nitrophenol	ug/L (ppb)	5	64	76	61-141	17
2,4-Dimethylphenol	ug/L (ppb)	5	57	63	12-127	10
Benzoic acid	ug/L (ppb)	32.5	4 vo	8 vo	10-102	67 vo
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	84	91	70-130	8
2,4-Dichlorophenol	ug/L (ppb)	5	67 vo	75	70-130	11
1,2,4-Trichlorobenzene	ug/L (ppb)	5	75	84	70-130	11
Naphthalene	ug/L (ppb)	5	80	87	65-111	8
Hexachlorobutadiene	ug/L (ppb)	5	73	84	65-115	14
4-Chloroaniline	ug/L (ppb)	10	77	81	24-146	5
4-Chloro-3-methylphenol	ug/L (ppb)	5	62	68	58-133	9
2-Methylnaphthalene	ug/L (ppb)	5	83	89	70-130	7
1-Methylnaphthalene	ug/L (ppb)	5	84	89	70-130	6
Hexachlorocyclopentadiene	ug/L (ppb)	5	81	96	36-112	17
2,4,6-Trichlorophenol	ug/L (ppb)	5	74	84	70-130	13
2,4,5-Trichlorophenol	ug/L (ppb)	5	76	89	70-130	16
2-Chloronaphthalene	ug/L (ppb)	5	85	92	70-130	8
2-Nitroaniline	ug/L (ppb)	5	88	95	64-143	8
Dimethyl phthalate	ug/L (ppb)	5	91	100	64-140	9
Acenaphthylene	ug/L (ppb)	5	91	97	70-130	6
2,6-Dinitrotoluene	ug/L (ppb)	5	98	103	70-130	5
3-Nitroaniline	ug/L (ppb)	10	83	87	53-134	5
Acenaphthene	ug/L (ppb)	5	90	96	65-122	6
2,4-Dinitrophenol	ug/L (ppb)	5	62	90	58-139	37 vo
Dibenzofuran	ug/L (ppb)	5	92	98	70-130	6
2,4-Dinitrotoluene	ug/L (ppb)	5	89	97	70-130	9
4-Nitrophenol	ug/L (ppb)	5	18	21	10-89	15
Diethyl phthalate	ug/L (ppb)	5	90	97	56-141	7
Fluorene	ug/L (ppb)	5	93	99	70-130	6
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	89	94	70-130	5
N-Nitrosodiphenylamine	ug/L (ppb)	5	91	97	70-130	6
4-Nitroaniline	ug/L (ppb)	10	78	82	66-134	5
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	83	97	69-138	16
4-Bromophenyl phenyl ether	ug/L (ppb)	5	92	99	70-130	7
Hexachlorobenzene	ug/L (ppb)	5	91	98	70-130	7
Pentachlorophenol	ug/L (ppb)	5	84	94	70-130	11
Phenanthrene	ug/L (ppb)	5	92	98	70-130	6
Anthracene	ug/L (ppb)	5	96	100	70-130	4
Carbazole	ug/L (ppb)	5	99	104	70-130	5
Di-n-butyl phthalate	ug/L (ppb)	5	92	97	70-130	5
Fluoranthene	ug/L (ppb)	5	99	104	70-130	5
Pyrene	ug/L (ppb)	5	94	104	70-130	10
Benzyl butyl phthalate	ug/L (ppb)	5	89	93	70-130	4
Benz(a)anthracene	ug/L (ppb)	5	99	102	70-130	3
Chrysene	ug/L (ppb)	5	102	106	70-130	4
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	94	95	63-139	1
Di-n-octyl phthalate	ug/L (ppb)	5	89	88	67-147	1
Benzo(a)pyrene	ug/L (ppb)	5	95	98	70-130	3
Benzo(b)fluoranthene	ug/L (ppb)	5	96	98	70-130	2
Benzo(k)fluoranthene	ug/L (ppb)	5	96	98	70-130	2
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	90	97	57-141	7
Dibenz(a,h)anthracene	ug/L (ppb)	5	87	94	57-137	8
Benzo(g,h,i)perylene	ug/L (ppb)	5	87	95	50-143	9

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/09/19

Date Received: 09/27/19

Project: Hylebos, F&BI 909487

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 909510-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance Criteria
				Recovery MS	
Dichlorodifluoromethane	ug/L (ppb)	50	8.1	94	55-137
Chloromethane	ug/L (ppb)	50	<10	96	57-129
Vinyl chloride	ug/L (ppb)	50	<0.2	114	61-139
Bromomethane	ug/L (ppb)	50	<1	117	20-265
Chloroethane	ug/L (ppb)	50	<1	118	55-149
Trichlorofluoromethane	ug/L (ppb)	50	<1	118	65-137
Acetone	ug/L (ppb)	250	<50	163 vo	48-149
1,1-Dichloroethene	ug/L (ppb)	50	<1	112	71-123
Hexane	ug/L (ppb)	50	<1	95	44-139
Methylene chloride	ug/L (ppb)	50	<5	93	61-126
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	102	68-125
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	97	72-122
1,1-Dichloroethane	ug/L (ppb)	50	<1	97	79-113
2,2-Dichloropropane	ug/L (ppb)	50	<1	98	48-157
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	95	63-126
Chloroform	ug/L (ppb)	50	<1	101	77-117
2-Butanone (MEK)	ug/L (ppb)	250	<10	128	70-135
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	118	70-119
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	100	75-121
1,1-Dichloropropene	ug/L (ppb)	50	<1	100	67-121
Carbon tetrachloride	ug/L (ppb)	50	<1	105	70-132
Benzene	ug/L (ppb)	50	<0.35	105	75-114
Trichloroethene	ug/L (ppb)	50	<1	97	73-122
1,2-Dichloropropane	ug/L (ppb)	50	<1	112 vo	80-111
Bromodichloromethane	ug/L (ppb)	50	<1	114	78-117
Dibromomethane	ug/L (ppb)	50	<1	114	73-125
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	129	79-140
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	117	76-120
Toluene	ug/L (ppb)	50	<1	98	73-117
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	112	75-122
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	107	81-116
2-Hexanone	ug/L (ppb)	250	<10	116	74-127
1,3-Dichloropropane	ug/L (ppb)	50	<1	111	80-113
Tetrachloroethene	ug/L (ppb)	50	<1	96	40-155
Dibromochloromethane	ug/L (ppb)	50	<1	105	69-129
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	114	79-120
Chlorobenzene	ug/L (ppb)	50	<1	97	75-115
Ethylbenzene	ug/L (ppb)	50	<1	98	66-124
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	102	76-130
m,p-Xylene	ug/L (ppb)	100	<2	99	63-128
o-Xylene	ug/L (ppb)	50	<1	98	64-129
Styrene	ug/L (ppb)	50	<1	101	56-142
Isopropylbenzene	ug/L (ppb)	50	<1	98	74-122
Bromoform	ug/L (ppb)	50	<1	104	49-138
n-Propylbenzene	ug/L (ppb)	50	<1	103	65-129
Bromobenzene	ug/L (ppb)	50	<1	101	70-121
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	109	60-138
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	110	77-120
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	112	62-125
2-Chlorotoluene	ug/L (ppb)	50	<1	102	40-159
4-Chlorotoluene	ug/L (ppb)	50	<1	109	76-122
tert-Butylbenzene	ug/L (ppb)	50	<1	104	74-125
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	107	59-136
sec-Butylbenzene	ug/L (ppb)	50	<1	107	69-127
p-Isopropyltoluene	ug/L (ppb)	50	<1	105	64-132
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	99	77-113
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	99	75-110
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	101	70-120
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	133 vo	69-129
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	98	66-123
Hexachlorobutadiene	ug/L (ppb)	50	<1	93	53-136
Naphthalene	ug/L (ppb)	50	<1	97	60-145
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	94	59-130



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/09/19

Date Received: 09/27/19

Project: Hylebos, F&BI 909487

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	136	116	50-157	16
Chloromethane	ug/L (ppb)	50	114	99	62-130	14
Vinyl chloride	ug/L (ppb)	50	118	105	70-128	12
Bromomethane	ug/L (ppb)	50	128	113	60-143	12
Chloroethane	ug/L (ppb)	50	118	104	66-149	13
Trichlorofluoromethane	ug/L (ppb)	50	125	110	65-138	13
Acetone	ug/L (ppb)	250	100	86	44-145	15
1,1-Dichloroethene	ug/L (ppb)	50	124 vo	106	72-121	16
Hexane	ug/L (ppb)	50	99	99	51-153	0
Methylene chloride	ug/L (ppb)	50	104	88	63-132	17
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	103	87	70-122	17
trans-1,2-Dichloroethene	ug/L (ppb)	50	105	91	76-118	14
1,1-Dichloroethane	ug/L (ppb)	50	98	89	77-119	10
2,2-Dichloropropane	ug/L (ppb)	50	113	95	62-141	17
cis-1,2-Dichloroethene	ug/L (ppb)	50	102	93	76-119	9
Chloroform	ug/L (ppb)	50	101	92	78-117	9
2-Butanone (MEK)	ug/L (ppb)	250	83	91	48-150	9
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	97	96	75-116	1
1,1,1-Trichloroethane	ug/L (ppb)	50	103	91	80-116	12
1,1-Dichloropropene	ug/L (ppb)	50	99	97	78-119	2
Carbon tetrachloride	ug/L (ppb)	50	111	99	72-128	11
Benzene	ug/L (ppb)	50	102	98	75-116	4
Trichloroethene	ug/L (ppb)	50	97	95	72-119	2
1,2-Dichloropropane	ug/L (ppb)	50	101	100	79-121	1
Bromodichloromethane	ug/L (ppb)	50	105	103	76-120	2
Dibromomethane	ug/L (ppb)	50	104	104	79-121	0
4-Methyl-2-pentanone	ug/L (ppb)	250	107	110	54-153	3
cis-1,3-Dichloropropene	ug/L (ppb)	50	106	107	76-128	1
Toluene	ug/L (ppb)	50	101	98	79-115	3
trans-1,3-Dichloropropene	ug/L (ppb)	50	103	109	76-128	6
1,1,2-Trichloroethane	ug/L (ppb)	50	101	105	78-120	4
2-Hexanone	ug/L (ppb)	250	83	94	49-147	12
1,3-Dichloropropane	ug/L (ppb)	50	100	106	81-111	6
Tetrachloroethene	ug/L (ppb)	50	108	105	78-109	3
Dibromochloromethane	ug/L (ppb)	50	107	108	63-140	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	109	113	82-118	4
Chlorobenzene	ug/L (ppb)	50	101	98	80-113	3
Ethylbenzene	ug/L (ppb)	50	99	95	83-111	4
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	112	103	76-125	8
m,p-Xylene	ug/L (ppb)	100	103	98	81-112	5
o-Xylene	ug/L (ppb)	50	104	95	81-117	9
Styrene	ug/L (ppb)	50	105	101	83-121	4
Isopropylbenzene	ug/L (ppb)	50	106	95	78-118	11
Bromoform	ug/L (ppb)	50	113	110	40-161	3
n-Propylbenzene	ug/L (ppb)	50	100	100	81-115	0
Bromobenzene	ug/L (ppb)	50	104	106	80-113	2
1,3,5-Trimethylbenzene	ug/L (ppb)	50	112	106	83-117	6
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	101	104	79-118	3
1,2,3-Trichloropropane	ug/L (ppb)	50	96	102	74-116	6
2-Chlorotoluene	ug/L (ppb)	50	101	99	79-112	2
4-Chlorotoluene	ug/L (ppb)	50	104	103	80-116	1
tert-Butylbenzene	ug/L (ppb)	50	108	106	81-119	2
1,2,4-Trimethylbenzene	ug/L (ppb)	50	109	104	81-121	5
sec-Butylbenzene	ug/L (ppb)	50	109	106	83-123	3
p-Isopropyltoluene	ug/L (ppb)	50	109	105	81-117	4
1,3-Dichlorobenzene	ug/L (ppb)	50	103	102	80-115	1
1,4-Dichlorobenzene	ug/L (ppb)	50	103	101	77-112	2
1,2-Dichlorobenzene	ug/L (ppb)	50	107	101	79-115	6
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	114	119	62-133	4
1,2,4-Trichlorobenzene	ug/L (ppb)	50	112	105	75-119	6
Hexachlorobutadiene	ug/L (ppb)	50	113	104	70-116	8
Naphthalene	ug/L (ppb)	50	106	102	72-131	4
1,2,3-Trichlorobenzene	ug/L (ppb)	50	106	102	74-122	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/09/19

Date Received: 09/27/19

Project: Hylebos, F&BI 909487

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	52	59	35-111	13
Aroclor 1260	ug/L (ppb)	0.25	58	63	29-130	8

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

**SAMPLE CHAIN OF CUSTODY** NE 9/27/19 Box/wa2/US1/A12

Report to 909487 Stevens  
 Company crete  
 Address 108 S Washington St.  
 City, State, ZIP Seattle WA 98104  
 Phone 206-399-3799 Email janice.stevens@creteconsulting.com

SAMPLERS (signature) Nick Waldo NWA  
 PROJECT NAME Hylebos PO #  
 REMARKS PTS 10/9/19 mtg INVOICE TO  
 TURNAROUND TIME  
 Standard Turnaround  
 RUSH  
 Rush charges authorized by:  
 SAMPLE DISPOSAL  
 Dispose after 30 days  
 Archive Samples  
 Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	PCBs	Metals: As, Cd, Cr, Cu, Pb, Hg, Ni, Zn, etc		
TWA-6-3	01 A-F	9/27/19	0840	water	6	X	X	X	X	X	X	X	X	X		
TWA-6-4	02 A-F	9/27/19	1155	water	6	X	X	X	X	X	X	X	X	X		
<del>TWA-48</del>																
TWA-6-48-5	03 A-D	9/27/19	0945	Sediment	4					X						ARCHIVE do not run yet
TWA-6-																
																Samples received at 220C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>NWA</u>	<u>Nick Waldo</u>	<u>PLG</u>	<u>9/27/19</u>	<u>15:40</u>
Received by: <u>HONG</u>	<u>HONG BANGUEN</u>	<u>FBI</u>		
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
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Arina Podnozova, B.S.  
Eric Young, B.S.

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www.friedmanandbruya.com

January 28, 2020

Jamie Stevens, Project Manager  
Crete Consulting  
108 S. Washington St., Suite 300  
Seattle, WA 98104

Dear Ms Stevens:

Included are the additional results from the testing of material submitted on September 27, 2019 from the Hylebos, F&BI 909487 project. There are 6 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
CTC0128R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 27, 2019 by Friedman & Bruya, Inc. from the Crete Consulting Hylebos, F&BI 909487 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Crete Consulting</u>
909487 -01	TWA-6-3
909487 -02	TWA-6-4
909487 -03	TWA-6-48-S

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6-3	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos, F&BI 909487
Date Extracted:	10/01/19	Lab ID:	909487-01
Date Analyzed:	10/01/19	Data File:	909487-01.148
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Selenium	10.4
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6-4	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos, F&BI 909487
Date Extracted:	10/01/19	Lab ID:	909487-02
Date Analyzed:	10/01/19	Data File:	909487-02.149
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Selenium	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos, F&BI 909487
Date Extracted:	10/01/19	Lab ID:	I9-610 mb
Date Analyzed:	10/01/19	Data File:	I9-610 mb.128
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Selenium	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/28/20

Date Received: 09/27/19

Project: Hylebos, F&BI 909487

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 910005-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Selenium	ug/L (ppb)	5	<1	97	98	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Selenium	ug/L (ppb)	5	90	80-120

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

SAMPLE CHAIN OF CUSTODY **ME 9/27/19** **Bo4/Wald/VS1/AIT2**

Report ID: **909487** **stevens**  
 Company: **crete**  
 Address: **108 S Washington St**  
 City, State, ZIP: **Seattle, WA 98104**  
 Phone: **206-799-2779** Email: **janie.stevens@creteconsulting.com**

SAMPLERS (signature) <b>Nick Wald</b>	PROJECT NAME <b>Hglebas parts lot 9/19 mt</b>	PO #
REMARKS	INVOICE TO	
TURNAROUND TIME		
<input type="checkbox"/> Standard Turnaround <input type="checkbox"/> RUSH Rush charges authorized by:		
SAMPLE DISPOSAL		
<input type="checkbox"/> Dispose after 30 days <input type="checkbox"/> Archive Samples <input type="checkbox"/> Other		

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	PCBs	Metals: As, Cd, Cr, Cu, Pb, Hg, Ni, Zn, etc		
TWA-6-3	01 A-E	9/27/19	0840	water	6	X	X	X	X	X	X	X	X	X		Per Notes 1/24 1/18
TWA-6-4	02 A-F	9/27/19	1155	water	6	X	X	X	X	X	X	X	X	X		
<del>TWA-48</del>																
TWA-6-48-5	03 A-D	9/27/19	0945	Sediment	4						X					ARCHIVE do not run yet
TWA-6-																
																Samples received at 200

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

Relinquished by: <b>NWA</b>	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Received by: <b>Nick Wald</b>		<b>Nick Wald</b>	<b>PLG</b>	<b>9/27/19</b>	<b>15:40</b>
Relinquished by: <b>HOULT</b>		<b>HEUTE WAUWELD</b>	<b>FBI</b>		
Received by:					

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

October 9, 2019

Jamie Stevens, Project Manager  
Crete Consulting  
108 S. Washington St., Suite 300  
Seattle, WA 98104

Dear Ms Stevens:

Included are the results from the testing of material submitted on September 25, 2019 from the Hylebos Marsh, F&BI 909421 project. There are 47 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
CTC1009R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 25, 2019 by Friedman & Bruya, Inc. from the Crete Consulting Hylebos Marsh project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Crete Consulting</u>
909421 -01	SB-1-0919
909421 -02	SB-2-0919
909421 -03	SB-3-0919
909421 -04	SB-4-0919
909421 -05	SB-1
909421 -06	SB-2
909421 -07	SB-3-1
909421 -08	SB-3-2
909421 -09	SB-4
909421 -10	TWA-5-1
909421 -11	TWA-5-30-S
909421 -12	TWA-5-38-S
909421 -13	Trip blank-01

The 6020B calibration standard failed the acceptance criteria for arsenic. The samples were reanalyzed with acceptable results. Both data sets were reported. In addition, copper and lead in the matrix spike and matrix spike duplicate failed the acceptance criteria. The data were flagged accordingly.

The 8260C surrogate in samples SB-1-0919 and TWA-5-1 did not pass acceptance criteria. The data were flagged accordingly.

Benzoic acid and 2,4-dinitrophenol in the 8270D laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

The 8260C calibration standard failed the acceptance criteria for acetone. The data were flagged accordingly.

The 8270 SVOC samples were filtered at Friedman and Bruya prior to extraction. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/09/19  
Date Received: 09/25/19  
Project: Hylebos Marsh, F&BI 909421  
Date Extracted: 09/30/19  
Date Analyzed: 09/30/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
SB-1-0919 909421-01	<100	95
SB-2-0919 909421-02	<100	95
SB-3-0919 909421-03	<100	97
SB-4-0919 909421-04	<100	ip
TWA-5-1 909421-10	<100	91
Method Blank 09-2316 MB	<100	94

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/09/19  
Date Received: 09/25/19  
Project: Hylebos Marsh, F&BI 909421  
Date Extracted: 09/26/19  
Date Analyzed: 09/26/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 41-152)
SB-1-0919 909421-01 1/2	230 x	<500	91
SB-2-0919 909421-02 1/1.3	180 x	<330	103
SB-3-0919 909421-03 1/1.3	6,800 x	1,800 x	117
SB-4-0919 909421-04 1/1.3	300 x	<330	83
TWA-5-1 909421-10 1/1.3	410 x	<330	78
Method Blank 09-2368 MB	<50	<250	97



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	SB-2-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/02/19	Lab ID:	909421-02
Date Analyzed:	10/02/19	Data File:	909421-02.168
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.49
Cadmium	<1
Chromium	2.63
Copper	<5
Lead	<1
Manganese	635
Mercury	<1
Nickel	5.47
Zinc	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	SB-3-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/02/19	Lab ID:	909421-03
Date Analyzed:	10/02/19	Data File:	909421-03.169
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.94
Cadmium	<1
Chromium	1.43
Copper	<5
Lead	<1
Manganese	832
Mercury	<1
Nickel	9.44
Zinc	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	SB-4-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/02/19	Lab ID:	909421-04
Date Analyzed:	10/02/19	Data File:	909421-04.172
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.07
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	631
Mercury	<1
Nickel	5.12
Zinc	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	NA	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/02/19	Lab ID:	I9-613 mb
Date Analyzed:	10/02/19	Data File:	I9-613 mb.154
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	<1
Mercury	<1
Nickel	<1
Zinc	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-1-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	909421-01
Date Analyzed:	09/30/19	Data File:	909421-01.184
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	4.12 ca
Cadmium	<1
Chromium	4.33
Copper	6.80
Lead	3.59
Manganese	2,450 ve
Mercury	<1
Nickel	7.15
Zinc	11.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-1-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	909421-01
Date Analyzed:	10/01/19	Data File:	909421-01.108
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Arsenic	4.95
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-1-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	909421-01 x10
Date Analyzed:	10/01/19	Data File:	909421-01 x10.070
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	2,990

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-2-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	909421-02
Date Analyzed:	10/01/19	Data File:	909421-02.109
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.18
Cadmium	<1
Chromium	4.94
Copper	<5
Lead	<1
Manganese	665
Mercury	<1
Nickel	5.48
Zinc	6.01



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-3-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	909421-03
Date Analyzed:	10/01/19	Data File:	909421-03.110
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.77
Cadmium	<1
Chromium	3.00
Copper	<5
Lead	<1
Manganese	892
Mercury	<1
Nickel	8.85
Zinc	7.53

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-4-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	909421-04
Date Analyzed:	10/01/19	Data File:	909421-04.111
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	5.66
Cadmium	<1
Chromium	15.6
Copper	22.0
Lead	4.31
Manganese	614
Mercury	<1
Nickel	17.7
Zinc	26.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-5-1	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	909421-10 x10
Date Analyzed:	09/30/19	Data File:	909421-10 x10.190
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	42.7 ca
Cadmium	<10
Chromium	137
Copper	368
Lead	114
Manganese	1,640
Mercury	<10
Nickel	123
Zinc	488

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-5-1	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	909421-10 x20
Date Analyzed:	10/04/19	Data File:	909421-10 x20.060
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	53.9

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	NA	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	I9-599 mb
Date Analyzed:	09/30/19	Data File:	I9-599 mb.104
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	<1
Mercury	<1
Nickel	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID: SB-1-0919 f	Client: Crete Consulting
Date Received: 09/25/19	Project: Hylebos Marsh, F&BI 909421
Date Extracted: 09/26/19	Lab ID: 909421-01 1/1.5
Date Analyzed: 09/27/19	Data File: 092710.D
Matrix: Water	Instrument: GCMS8
Units: ug/L (ppb)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	38	15	99
Phenol-d6	37	11	65
Nitrobenzene-d5	86	50	150
2-Fluorobiphenyl	86	50	150
2,4,6-Tribromophenol	68	50	150
Terphenyl-d14	114	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<3	2,6-Dinitrotoluene	<1.5
Bis(2-chloroethyl) ether	<0.3	3-Nitroaniline	<30
2-Chlorophenol	<3	Acenaphthene	<0.03
1,3-Dichlorobenzene	<0.3	2,4-Dinitrophenol	<9 jl
1,4-Dichlorobenzene	<0.3	Dibenzofuran	<0.3
1,2-Dichlorobenzene	<0.3	2,4-Dinitrotoluene	<1.5
Benzyl alcohol	<3	4-Nitrophenol	<9
2,2'-Oxybis(1-chloropropane)	<0.3	Diethyl phthalate	<3
2-Methylphenol	<3	Fluorene	<0.03
Hexachloroethane	<0.3	4-Chlorophenyl phenyl ether	<0.3
N-Nitroso-di-n-propylamine	<0.3	N-Nitrosodiphenylamine	<0.3
3-Methylphenol + 4-Methylphenol	<6	4-Nitroaniline	<30
Nitrobenzene	<0.3	4,6-Dinitro-2-methylphenol	<9
Isophorone	<0.3	4-Bromophenyl phenyl ether	<0.3
2-Nitrophenol	<3	Hexachlorobenzene	<0.3
2,4-Dimethylphenol	<3	Pentachlorophenol	<1.5
Benzoic acid	<15 jl	Phenanthrene	<0.03
Bis(2-chloroethoxy)methane	<0.3	Anthracene	<0.03
2,4-Dichlorophenol	<3	Carbazole	<0.3
1,2,4-Trichlorobenzene	<0.3	Di-n-butyl phthalate	<3
Naphthalene	<0.3	Fluoranthene	<0.03
Hexachlorobutadiene	<0.3	Pyrene	<0.03
4-Chloroaniline	<30	Benzyl butyl phthalate	<3
4-Chloro-3-methylphenol	<3	Benz(a)anthracene	<0.03
2-Methylnaphthalene	<0.3	Chrysene	<0.03
1-Methylnaphthalene	<0.3	Bis(2-ethylhexyl) phthalate	<4.8
Hexachlorocyclopentadiene	<0.9	Di-n-octyl phthalate	<3
2,4,6-Trichlorophenol	<3	Benzo(a)pyrene	<0.03
2,4,5-Trichlorophenol	<3	Benzo(b)fluoranthene	<0.03
2-Chloronaphthalene	<0.3	Benzo(k)fluoranthene	<0.03
2-Nitroaniline	<1.5	Indeno(1,2,3-cd)pyrene	<0.03
Dimethyl phthalate	<3	Dibenz(a,h)anthracene	<0.03
Acenaphthylene	<0.03	Benzo(g,h,i)perylene	<0.06

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID: SB-2-0919 f	Client: Crete Consulting
Date Received: 09/25/19	Project: Hylebos Marsh, F&BI 909421
Date Extracted: 09/26/19	Lab ID: 909421-02
Date Analyzed: 09/27/19	Data File: 092711.D
Matrix: Water	Instrument: GCMS8
Units: ug/L (ppb)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	37	15	99
Phenol-d6	30	11	65
Nitrobenzene-d5	77	50	150
2-Fluorobiphenyl	83	50	150
2,4,6-Tribromophenol	90	50	150
Terphenyl-d14	117	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	9.1
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6 jl
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	0.052
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10 jl	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	0.068
Hexachlorobutadiene	<0.2	Pyrene	0.16
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	0.22	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	0.029	Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID: SB-3-0919 f	Client: Crete Consulting
Date Received: 09/25/19	Project: Hylebos Marsh, F&BI 909421
Date Extracted: 09/26/19	Lab ID: 909421-03
Date Analyzed: 09/27/19	Data File: 092712.D
Matrix: Water	Instrument: GCMS8
Units: ug/L (ppb)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	27	15	99
Phenol-d6	26	11	65
Nitrobenzene-d5	72	50	150
2-Fluorobiphenyl	60	50	150
2,4,6-Tribromophenol	61	50	150
Terphenyl-d14	91	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	1.9
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6 jl
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10 jl	Phenanthrene	0.042
Bis(2-chloroethoxy)methane	<0.2	Anthracene	0.036
2,4-Dichlorophenol	<2	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	0.70	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	SB-4-0919 f	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/26/19	Lab ID:	909421-04
Date Analyzed:	09/27/19	Data File:	092713.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	21	15	99
Phenol-d6	29	11	65
Nitrobenzene-d5	77	50	150
2-Fluorobiphenyl	82	50	150
2,4,6-Tribromophenol	93	50	150
Terphenyl-d14	106	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	0.26
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6 jl
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	0.048
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10 jl	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	TWA-5-1 f	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/26/19	Lab ID:	909421-10
Date Analyzed:	09/27/19	Data File:	092714.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	35	15	99
Phenol-d6	25	11	65
Nitrobenzene-d5	82	50	150
2-Fluorobiphenyl	81	50	150
2,4,6-Tribromophenol	104	50	150
Terphenyl-d14	95	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6 jl
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10 jl	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	3.5
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	4.3
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	Method Blank f	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/26/19	Lab ID:	09-2361 mb2
Date Analyzed:	09/27/19	Data File:	092709.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	30	15	99
Phenol-d6	21	11	65
Nitrobenzene-d5	88	50	150
2-Fluorobiphenyl	91	50	150
2,4,6-Tribromophenol	91	50	150
Terphenyl-d14	103	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6 jl
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10 jl	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TWA-5-30-S	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/26/19	Lab ID:	909421-11
Date Analyzed:	09/26/19	Data File:	092613.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	145
Toluene-d8	98	55	145
4-Bromofluorobenzene	93	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TWA-5-38-S	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/26/19	Lab ID:	909421-12
Date Analyzed:	09/26/19	Data File:	092614.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	62	145
Toluene-d8	98	55	145
4-Bromofluorobenzene	92	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/26/19	Lab ID:	09-2351 mb
Date Analyzed:	09/26/19	Data File:	092611.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	62	145
Toluene-d8	99	55	145
4-Bromofluorobenzene	93	65	139

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-1-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/02/19	Lab ID:	909421-01
Date Analyzed:	10/03/19	Data File:	100258.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	AEN/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	93	107
Toluene-d8	88 vo	91	108
4-Bromofluorobenzene	102	90	108

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1 js
Chloromethane	<10	Tetrachloroethene	<1 js
Vinyl chloride	<0.2	Dibromochloromethane	<1 js
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1 js
Chloroethane	<1	Chlorobenzene	<1 js
Trichlorofluoromethane	<1	Ethylbenzene	<1 js
Acetone	320 ca	1,1,1,2-Tetrachloroethane	<1 js
1,1-Dichloroethene	<1	m,p-Xylene	<2 js
Hexane	<1	o-Xylene	<1 js
Methylene chloride	6.2 lc	Styrene	<1 js
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1 js
trans-1,2-Dichloroethene	<1	Bromoform	<1 js
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1 js	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10 js	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1 js	1,2,4-Trichlorobenzene	<1
Toluene	<1 js	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1 js	Naphthalene	<1
1,1,2-Trichloroethane	<1 js	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10 js		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-2-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/02/19	Lab ID:	909421-02
Date Analyzed:	10/03/19	Data File:	100259.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	AEN/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	93	107
Toluene-d8	93	91	108
4-Bromofluorobenzene	100	90	108

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: SB-3-0919	Client: Crete Consulting
Date Received: 09/25/19	Project: Hylebos Marsh, F&BI 909421
Date Extracted: 10/02/19	Lab ID: 909421-03
Date Analyzed: 10/03/19	Data File: 100260.D
Matrix: Water	Instrument: GCMS9
Units: ug/L (ppb)	Operator: AEN/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	111 vo	93	107
Toluene-d8	99	91	108
4-Bromofluorobenzene	90	90	108

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: SB-4-0919	Client: Crete Consulting
Date Received: 09/25/19	Project: Hylebos Marsh, F&BI 909421
Date Extracted: 10/02/19	Lab ID: 909421-04
Date Analyzed: 10/03/19	Data File: 100262.D
Matrix: Water	Instrument: GCMS9
Units: ug/L (ppb)	Operator: AEN/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	123 vo	93	107
Toluene-d8	130 vo	91	108
4-Bromofluorobenzene	105	90	108

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TWA-5-1	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/02/19	Lab ID:	909421-10
Date Analyzed:	10/03/19	Data File:	100263.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	AEN/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	93	107
Toluene-d8	97	91	108
4-Bromofluorobenzene	76 vo	90	108

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1 js
2,2-Dichloropropane	<1	Bromobenzene	<1 js
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1 js
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1 js
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1 js
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1 js
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1 js
1,1-Dichloropropene	<1	tert-Butylbenzene	<1 js
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1 js
Benzene	<0.35	sec-Butylbenzene	<1 js
Trichloroethene	<1	p-Isopropyltoluene	<1 js
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1 js
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1 js
Dibromomethane	<1	1,2-Dichlorobenzene	<1 js
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10 js
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1 js
Toluene	<1	Hexachlorobutadiene	<1 js
trans-1,3-Dichloropropene	<1	Naphthalene	<1 js
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1 js
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/02/19	Lab ID:	09-2392 mb
Date Analyzed:	10/03/19	Data File:	100254.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	AEN/MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	93	107
Toluene-d8	100	91	108
4-Bromofluorobenzene	100	90	108

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-1-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/26/19	Lab ID:	909421-01
Date Analyzed:	09/27/19	Data File:	092706.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	41	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-2-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/26/19	Lab ID:	909421-02
Date Analyzed:	09/27/19	Data File:	092707.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	42	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-3-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/26/19	Lab ID:	909421-03
Date Analyzed:	09/27/19	Data File:	092708.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	49	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-4-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/26/19	Lab ID:	909421-04
Date Analyzed:	09/27/19	Data File:	092709.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	36	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-5-1	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/26/19	Lab ID:	909421-10
Date Analyzed:	09/27/19	Data File:	092710.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	25	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/26/19	Lab ID:	09-2366 mb2
Date Analyzed:	09/27/19	Data File:	092705.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	48	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/09/19

Date Received: 09/25/19

Project: Hylebos Marsh, F&BI 909421

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 909383-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	3,200	3,100	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	92	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/09/19

Date Received: 09/25/19

Project: Hylebos Marsh, F&BI 909421

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	110	103	63-142	7

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/09/19

Date Received: 09/25/19

Project: Hylebos Marsh, F&BI 909421

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR DISSOLVED METALS USING EPA METHOD 6020B**

Laboratory Code: 909421-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	1.94	98	100	75-125	2
Cadmium	ug/L (ppb)	5	<1	101	102	75-125	1
Chromium	ug/L (ppb)	20	1.43	83	84	75-125	1
Copper	ug/L (ppb)	20	<5	71 vo	72 vo	75-125	1
Lead	ug/L (ppb)	10	<1	74 vo	75	75-125	1
Manganese	ug/L (ppb)	20	832	41 b	3 b	75-125	173 b
Mercury	ug/L (ppb)	5	<1	77	77	75-125	0
Nickel	ug/L (ppb)	20	9.44	76 b	74 b	75-125	3 b
Zinc	ug/L (ppb)	50	<25	73 b	72 b	75-125	1 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	98	80-120
Cadmium	ug/L (ppb)	5	96	80-120
Chromium	ug/L (ppb)	20	97	80-120
Copper	ug/L (ppb)	20	97	80-120
Lead	ug/L (ppb)	10	93	80-120
Manganese	ug/L (ppb)	20	98	80-120
Mercury	ug/L (ppb)	5	91	80-120
Nickel	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	97	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/09/19

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Project: Hylebos Marsh, F&BI 909421

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 909377-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<1 ca	83	79	75-125	5
Cadmium	ug/L (ppb)	5	<1	96	94	75-125	2
Chromium	ug/L (ppb)	20	<1 ca	86	86	75-125	0
Copper	ug/L (ppb)	20	<5	101	97	75-125	4
Lead	ug/L (ppb)	10	<1	84	83	75-125	1
Manganese	ug/L (ppb)	20	6.95 ca	85	82	75-125	4
Mercury	ug/L (ppb)	5	<1	87	87	75-125	0
Nickel	ug/L (ppb)	20	1.71	93	92	75-125	1
Zinc	ug/L (ppb)	50	<5	99	93	75-125	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	88	80-120
Cadmium	ug/L (ppb)	5	96	80-120
Chromium	ug/L (ppb)	20	89	80-120
Copper	ug/L (ppb)	20	101	80-120
Lead	ug/L (ppb)	10	97	80-120
Manganese	ug/L (ppb)	20	92	80-120
Mercury	ug/L (ppb)	5	94	80-120
Nickel	ug/L (ppb)	20	99	80-120
Zinc	ug/L (ppb)	50	103	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	5	18	20	10-86	11
Bis(2-chloroethyl) ether	ug/L (ppb)	5	84	87	65-121	4
2-Chlorophenol	ug/L (ppb)	5	70	73	58-123	4
1,3-Dichlorobenzene	ug/L (ppb)	5	80	82	66-113	2
1,4-Dichlorobenzene	ug/L (ppb)	5	81	83	62-114	2
1,2-Dichlorobenzene	ug/L (ppb)	5	83	86	63-115	4
Benzyl alcohol	ug/L (ppb)	5	49	52	37-125	6
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	83	84	70-130	1
2-Methylphenol	ug/L (ppb)	5	56	60	38-119	7
Hexachloroethane	ug/L (ppb)	5	80	85	64-117	6
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	95	98	70-130	3
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	47	50	44-110	6
Nitrobenzene	ug/L (ppb)	5	86	89	70-130	3
Isophorone	ug/L (ppb)	5	98	100	70-130	2
2-Nitrophenol	ug/L (ppb)	5	94	101	61-141	7
2,4-Dimethylphenol	ug/L (ppb)	5	82	85	12-127	4
Benzoic acid	ug/L (ppb)	32.5	6 vo	9 vo	10-102	40 vo
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	88	91	70-130	3
2,4-Dichlorophenol	ug/L (ppb)	5	89	92	70-130	3
1,2,4-Trichlorobenzene	ug/L (ppb)	5	85	87	70-130	2
Naphthalene	ug/L (ppb)	5	83	85	65-111	2
Hexachlorobutadiene	ug/L (ppb)	5	81	84	65-115	4
4-Chloroaniline	ug/L (ppb)	10	85	88	24-146	3
4-Chloro-3-methylphenol	ug/L (ppb)	5	88	93	58-133	6
2-Methylnaphthalene	ug/L (ppb)	5	89	91	70-130	2
1-Methylnaphthalene	ug/L (ppb)	5	90	91	70-130	1
Hexachlorocyclopentadiene	ug/L (ppb)	5	96	101	36-112	5
2,4,6-Trichlorophenol	ug/L (ppb)	5	94	97	70-130	3
2,4,5-Trichlorophenol	ug/L (ppb)	5	96	97	70-130	1
2-Chloronaphthalene	ug/L (ppb)	5	86	88	70-130	2
2-Nitroaniline	ug/L (ppb)	5	92	98	64-143	6
Dimethyl phthalate	ug/L (ppb)	5	90	93	64-140	3
Acenaphthylene	ug/L (ppb)	5	93	95	70-130	2
2,6-Dinitrotoluene	ug/L (ppb)	5	99	102	70-130	3
3-Nitroaniline	ug/L (ppb)	10	87	90	53-134	3
Acenaphthene	ug/L (ppb)	5	89	90	65-122	1
2,4-Dinitrophenol	ug/L (ppb)	5	46 vo	57 vo	58-139	21 vo
Dibenzofuran	ug/L (ppb)	5	88	90	70-130	2
2,4-Dinitrotoluene	ug/L (ppb)	5	93	102	70-130	9
4-Nitrophenol	ug/L (ppb)	5	25	26	10-89	4
Diethyl phthalate	ug/L (ppb)	5	93	96	56-141	3
Fluorene	ug/L (ppb)	5	93	95	70-130	2
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	91	94	70-130	3
N-Nitrosodiphenylamine	ug/L (ppb)	5	88	93	70-130	6
4-Nitroaniline	ug/L (ppb)	10	81	86	66-134	6
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	85	95	69-138	11
4-Bromophenyl phenyl ether	ug/L (ppb)	5	90	95	70-130	5
Hexachlorobenzene	ug/L (ppb)	5	87	92	70-130	6
Pentachlorophenol	ug/L (ppb)	5	75	82	70-130	9
Phenanthrene	ug/L (ppb)	5	88	92	70-130	4
Anthracene	ug/L (ppb)	5	90	93	70-130	3
Carbazole	ug/L (ppb)	5	95	101	70-130	6
Di-n-butyl phthalate	ug/L (ppb)	5	90	97	70-130	7
Fluoranthene	ug/L (ppb)	5	90	96	70-130	6
Pyrene	ug/L (ppb)	5	92	93	70-130	1
Benzyl butyl phthalate	ug/L (ppb)	5	105	110	70-130	5
Benz(a)anthracene	ug/L (ppb)	5	93	97	70-130	4
Chrysene	ug/L (ppb)	5	91	95	70-130	4
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	101	113	63-139	11
Di-n-octyl phthalate	ug/L (ppb)	5	108	107	67-147	1
Benzo(a)pyrene	ug/L (ppb)	5	93	97	70-130	4
Benzo(b)fluoranthene	ug/L (ppb)	5	93	94	70-130	1
Benzo(k)fluoranthene	ug/L (ppb)	5	90	92	70-130	2
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	92	101	57-141	9
Dibenz(a,h)anthracene	ug/L (ppb)	5	91	102	57-137	11
Benzo(g,h,i)perylene	ug/L (ppb)	5	88	96	50-143	9

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 909430-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	19	22	10-142	15
Chloromethane	mg/kg (ppm)	2.5	<0.5	49	49	10-126	0
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	48	48	10-138	0
Bromomethane	mg/kg (ppm)	2.5	<0.5	67	70	10-163	4
Chloroethane	mg/kg (ppm)	2.5	<0.5	64	65	10-176	2
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	58	59	10-176	2
Acetone	mg/kg (ppm)	12.5	<0.5	83	80	10-163	4
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	71	72	10-160	1
Hexane	mg/kg (ppm)	2.5	<0.25	44	43	10-137	2
Methylene chloride	mg/kg (ppm)	2.5	<0.5	82	83	10-156	1
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	89	90	21-145	1
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	79	80	14-137	1
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	80	81	19-140	1
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	76	79	10-158	4
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	85	87	25-135	2
Chloroform	mg/kg (ppm)	2.5	<0.05	90	92	21-145	2
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	90	86	19-147	5
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	89	88	12-160	1
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	88	89	10-156	1
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	81	81	17-140	0
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	82	83	9-164	1
Benzene	mg/kg (ppm)	2.5	<0.03	84	84	29-129	0
Trichloroethene	mg/kg (ppm)	2.5	<0.02	91	90	21-139	1
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	85	84	30-135	1
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	92	92	23-155	0
Dibromomethane	mg/kg (ppm)	2.5	<0.05	93	93	23-145	0
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	91	89	24-155	2
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	88	87	28-144	1
Toluene	mg/kg (ppm)	2.5	<0.05	85	84	35-130	1
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	85	83	26-149	2
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	89	87	10-205	2
2-Hexanone	mg/kg (ppm)	12.5	<0.5	87	84	15-166	4
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	87	86	31-137	1
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	89	89	20-133	0
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	90	91	28-150	1
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	89	88	28-142	1
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	90	90	32-129	0
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	89	89	32-137	0
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	92	94	31-143	2
m,p-Xylene	mg/kg (ppm)	5	<0.1	89	89	34-136	0
o-Xylene	mg/kg (ppm)	2.5	<0.05	89	90	33-134	1
Styrene	mg/kg (ppm)	2.5	<0.05	90	89	35-137	1
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	91	92	31-142	1
Bromoform	mg/kg (ppm)	2.5	<0.05	96	98	21-156	2
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	87	88	23-146	1
Bromobenzene	mg/kg (ppm)	2.5	<0.05	90	92	34-130	2
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	89	90	18-149	1
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	89	90	28-140	1
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	89	89	25-144	0
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	89	90	31-134	1
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	88	88	31-136	0
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	94	94	30-137	0
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	89	90	10-182	1
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	90	91	23-145	1
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	89	90	21-149	1
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	92	93	30-131	1
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	91	91	29-129	0
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	94	96	31-132	2
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	86	88	11-161	2
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	96	99	22-142	3
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	97	101	10-142	4
Naphthalene	mg/kg (ppm)	2.5	<0.05	89	94	14-157	5
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	96	101	20-144	5



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ENVIRONMENTAL CHEMISTS

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**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	66	10-146
Chloromethane	mg/kg (ppm)	2.5	86	27-133
Vinyl chloride	mg/kg (ppm)	2.5	89	22-139
Bromomethane	mg/kg (ppm)	2.5	97	38-114
Chloroethane	mg/kg (ppm)	2.5	102	9-163
Trichlorofluoromethane	mg/kg (ppm)	2.5	106	10-196
Acetone	mg/kg (ppm)	12.5	94	52-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	108	47-128
Hexane	mg/kg (ppm)	2.5	88	43-142
Methylene chloride	mg/kg (ppm)	2.5	101	42-132
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	109	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	108	67-129
1,1-Dichloroethane	mg/kg (ppm)	2.5	101	68-115
2,2-Dichloropropane	mg/kg (ppm)	2.5	119	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	106	72-127
Chloroform	mg/kg (ppm)	2.5	107	66-120
2-Butanone (MEK)	mg/kg (ppm)	12.5	84	72-127
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	95	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	114	62-131
1,1-Dichloropropene	mg/kg (ppm)	2.5	97	69-128
Carbon tetrachloride	mg/kg (ppm)	2.5	108	60-139
Benzene	mg/kg (ppm)	2.5	95	68-114
Trichloroethene	mg/kg (ppm)	2.5	97	64-117
1,2-Dichloropropane	mg/kg (ppm)	2.5	88	72-127
Bromodichloromethane	mg/kg (ppm)	2.5	97	72-130
Dibromomethane	mg/kg (ppm)	2.5	95	70-120
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	86	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	85	75-136
Toluene	mg/kg (ppm)	2.5	93	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	83	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	87	75-113
2-Hexanone	mg/kg (ppm)	12.5	78	33-152
1,3-Dichloropropane	mg/kg (ppm)	2.5	84	72-130
Tetrachloroethene	mg/kg (ppm)	2.5	101	72-114
Dibromochloromethane	mg/kg (ppm)	2.5	95	74-125
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	86	74-132
Chlorobenzene	mg/kg (ppm)	2.5	95	76-111
Ethylbenzene	mg/kg (ppm)	2.5	97	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	110	69-135
m,p-Xylene	mg/kg (ppm)	5	97	78-122
o-Xylene	mg/kg (ppm)	2.5	101	77-124
Styrene	mg/kg (ppm)	2.5	93	74-126
Isopropylbenzene	mg/kg (ppm)	2.5	104	76-127
Bromoform	mg/kg (ppm)	2.5	101	56-132
n-Propylbenzene	mg/kg (ppm)	2.5	96	74-124
Bromobenzene	mg/kg (ppm)	2.5	94	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	100	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	94	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	90	61-137
2-Chlorotoluene	mg/kg (ppm)	2.5	100	74-121
4-Chlorotoluene	mg/kg (ppm)	2.5	93	75-122
tert-Butylbenzene	mg/kg (ppm)	2.5	102	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	99	76-125
sec-Butylbenzene	mg/kg (ppm)	2.5	100	71-130
p-Isopropyltoluene	mg/kg (ppm)	2.5	99	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	97	75-121
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	96	74-117
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	104	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	97	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	112	64-135
Hexachlorobutadiene	mg/kg (ppm)	2.5	107	50-153
Naphthalene	mg/kg (ppm)	2.5	107	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	119	63-138

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	133	130	50-157	2
Chloromethane	ug/L (ppb)	50	108	102	62-130	6
Vinyl chloride	ug/L (ppb)	50	108	103	70-128	5
Bromomethane	ug/L (ppb)	50	110	105	60-143	5
Chloroethane	ug/L (ppb)	50	106	102	66-149	4
Trichlorofluoromethane	ug/L (ppb)	50	107	106	65-138	1
Acetone	ug/L (ppb)	250	125	119	44-145	5
1,1-Dichloroethene	ug/L (ppb)	50	117	110	72-121	6
Hexane	ug/L (ppb)	50	88	88	51-153	0
Methylene chloride	ug/L (ppb)	50	103	100	63-132	3
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	107	100	70-122	7
trans-1,2-Dichloroethene	ug/L (ppb)	50	104	99	76-118	5
1,1-Dichloroethane	ug/L (ppb)	50	104	101	77-119	3
2,2-Dichloropropane	ug/L (ppb)	50	83	72	62-141	14
cis-1,2-Dichloroethene	ug/L (ppb)	50	104	99	76-119	5
Chloroform	ug/L (ppb)	50	102	101	78-117	1
2-Butanone (MEK)	ug/L (ppb)	250	115	118	48-150	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	105	106	75-116	1
1,1,1-Trichloroethane	ug/L (ppb)	50	102	101	80-116	1
1,1-Dichloropropene	ug/L (ppb)	50	99	102	78-119	3
Carbon tetrachloride	ug/L (ppb)	50	106	105	72-128	1
Benzene	ug/L (ppb)	50	105	104	75-116	1
Trichloroethene	ug/L (ppb)	50	98	98	72-119	0
1,2-Dichloropropane	ug/L (ppb)	50	107	108	79-121	1
Bromodichloromethane	ug/L (ppb)	50	106	109	76-120	3
Dibromomethane	ug/L (ppb)	50	107	108	79-121	1
4-Methyl-2-pentanone	ug/L (ppb)	250	117	120	54-153	3
cis-1,3-Dichloropropene	ug/L (ppb)	50	106	108	76-128	2
Toluene	ug/L (ppb)	50	101	101	79-115	0
trans-1,3-Dichloropropene	ug/L (ppb)	50	107	110	76-128	3
1,1,2-Trichloroethane	ug/L (ppb)	50	111	112	78-120	1
2-Hexanone	ug/L (ppb)	250	108	114	49-147	5
1,3-Dichloropropane	ug/L (ppb)	50	108	116 vo	81-111	7
Tetrachloroethene	ug/L (ppb)	50	100	100	78-109	0
Dibromochloromethane	ug/L (ppb)	50	108	111	63-140	3
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	114	116	82-118	2
Chlorobenzene	ug/L (ppb)	50	100	101	80-113	1
Ethylbenzene	ug/L (ppb)	50	102	102	83-111	0
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	109	107	76-125	2
m,p-Xylene	ug/L (ppb)	100	104	102	81-112	2
o-Xylene	ug/L (ppb)	50	104	103	81-117	1
Styrene	ug/L (ppb)	50	108	107	83-121	1
Isopropylbenzene	ug/L (ppb)	50	106	103	78-118	3
Bromoform	ug/L (ppb)	50	115	114	40-161	1
n-Propylbenzene	ug/L (ppb)	50	104	104	81-115	0
Bromobenzene	ug/L (ppb)	50	103	104	80-113	1
1,3,5-Trimethylbenzene	ug/L (ppb)	50	112	112	83-117	0
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	111	114	79-118	3
1,2,3-Trichloropropane	ug/L (ppb)	50	112	111	74-116	1
2-Chlorotoluene	ug/L (ppb)	50	104	104	79-112	0
4-Chlorotoluene	ug/L (ppb)	50	109	110	80-116	1
tert-Butylbenzene	ug/L (ppb)	50	109	108	81-119	1
1,2,4-Trimethylbenzene	ug/L (ppb)	50	110	109	81-121	1
sec-Butylbenzene	ug/L (ppb)	50	108	108	83-123	0
p-Isopropyltoluene	ug/L (ppb)	50	103	105	81-117	2
1,3-Dichlorobenzene	ug/L (ppb)	50	101	101	80-115	0
1,4-Dichlorobenzene	ug/L (ppb)	50	101	101	77-112	0
1,2-Dichlorobenzene	ug/L (ppb)	50	107	103	79-115	4
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	134 vo	127	62-133	5
1,2,4-Trichlorobenzene	ug/L (ppb)	50	105	104	75-119	1
Hexachlorobutadiene	ug/L (ppb)	50	105	104	70-116	1
Naphthalene	ug/L (ppb)	50	108	109	72-131	1
1,2,3-Trichlorobenzene	ug/L (ppb)	50	108	108	74-122	0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/09/19

Date Received: 09/25/19

Project: Hylebos Marsh, F&BI 909421

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	58	52	35-111	11
Aroclor 1260	ug/L (ppb)	0.25	62	60	29-130	3

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



3600 Fremont Ave. N.  
Seattle, WA 98103  
T: (206) 352-3790  
F: (206) 352-7178  
info@fremontanalytical.com

**Friedman & Bruya**  
Michael Erdahl  
3012 16th Ave. W.  
Seattle, WA 98119

**RE: 909421**  
**Work Order Number: 1909424**

October 03, 2019

**Attention Michael Erdahl:**

Fremont Analytical, Inc. received 4 sample(s) on 9/26/2019 for the analyses presented in the following report.

***Dissolved Gases by RSK-175***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

A handwritten signature in blue ink, appearing to read "Brianna Barnes".

Brianna Barnes  
Project Manager

*DoD/ELAP Certification #L17-135, ISO/IEC 17025:2005*  
*ORELAP Certification: WA 100009-007 (NELAP Recognized)*



Date: 10/03/2019

---

**CLIENT:** Friedman & Bruya  
**Project:** 909421  
**Work Order:** 1909424

## Work Order Sample Summary

---

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1909424-001	SB-1-0919	09/26/2019 9:22 AM	09/26/2019 1:51 PM
1909424-002	SB-2-0919	09/26/2019 1:30 PM	09/26/2019 1:51 PM
1909424-003	SB-3-0919	09/26/2019 11:40 AM	09/26/2019 1:51 PM
1909424-004	SB-4-0919	09/26/2019 10:55 AM	09/26/2019 1:51 PM

**CLIENT:** Friedman & Bruya

**Project:** 909421

---

**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

### Qualifiers:

- \* - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

### Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate





**CLIENT:** Friedman & Bruya  
**Project:** 909421

**Lab ID:** 1909424-001

**Client Sample ID:** SB-1-0919

**Collection Date:** 9/26/2019 9:22:00 AM

**Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Dissolved Gases by RSK-175**

Batch ID: R54250 Analyst: AD

Methane	ND	0.00863		mg/L	1	9/30/2019 1:22:00 PM
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**Lab ID:** 1909424-002

**Client Sample ID:** SB-2-0919

**Collection Date:** 9/26/2019 1:30:00 PM

**Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Dissolved Gases by RSK-175**

Batch ID: R54250 Analyst: AD

Methane	1.21	0.0863	D	mg/L	10	9/30/2019 1:34:00 PM
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**Lab ID:** 1909424-003

**Client Sample ID:** SB-3-0919

**Collection Date:** 9/26/2019 11:40:00 AM

**Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Dissolved Gases by RSK-175**

Batch ID: R54250 Analyst: AD

Methane	1.48	0.173	D	mg/L	20	9/30/2019 1:46:00 PM
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**CLIENT:** Friedman & Bruya  
**Project:** 909421

**Lab ID:** 1909424-004

**Collection Date:** 9/26/2019 10:55:00 AM

**Client Sample ID:** SB-4-0919

**Matrix:** Water

<b>Analyses</b>	<b>Result</b>	<b>RL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
-----------------	---------------	-----------	-------------	--------------	-----------	----------------------

**Dissolved Gases by RSK-175**

Batch ID: R54250      Analyst: AD

Methane	3.53	0.173	D	mg/L	20	9/30/2019 1:40:00 PM
---------	------	-------	---	------	----	----------------------

Work Order: 1909424  
 CLIENT: Friedman & Bruya  
 Project: 909421

**QC SUMMARY REPORT**  
**Dissolved Gases by RSK-175**

Sample ID: <b>MB-R54250</b>	SampType: <b>MBLK</b>	Units: <b>mg/L</b>	Prep Date: <b>9/30/2019</b>	RunNo: <b>54250</b>							
Client ID: <b>MBLKW</b>	Batch ID: <b>R54250</b>	Analysis Date: <b>9/30/2019</b>	SeqNo: <b>1074475</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane ND 0.00863

Sample ID: <b>LCS-R54250</b>	SampType: <b>LCS</b>	Units: <b>mg/L</b>	Prep Date: <b>9/30/2019</b>	RunNo: <b>54250</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R54250</b>	Analysis Date: <b>9/30/2019</b>	SeqNo: <b>1074491</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane 1,170 0.00863 1,000 0 117 70 130

Sample ID: <b>1909342-001DREP</b>	SampType: <b>REP</b>	Units: <b>mg/L</b>	Prep Date: <b>9/30/2019</b>	RunNo: <b>54250</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>R54250</b>	Analysis Date: <b>9/30/2019</b>	SeqNo: <b>1074464</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane ND 0.00863 0 30

Client Name: **FB**  
 Logged by: **Clare Griggs**

Work Order Number: **1909424**  
 Date Received: **9/26/2019 1:51:00 PM**

### Chain of Custody

1. Is Chain of Custody complete? Yes  No  Not Present   
 2. How was the sample delivered? FedEx

### Log In

3. Coolers are present? Yes  No  NA   
 4. Shipping container/cooler in good condition? Yes  No   
 5. Custody Seals present on shipping container/cooler?  
 (Refer to comments for Custody Seals not intact) Yes  No  Not Required   
 6. Was an attempt made to cool the samples? Yes  No  NA   
 7. Were all items received at a temperature of >0°C to 10.0°C \* Yes  No  NA   
 8. Sample(s) in proper container(s)? Yes  No   
 9. Sufficient sample volume for indicated test(s)? Yes  No   
 10. Are samples properly preserved? Yes  No   
 11. Was preservative added to bottles? Yes  No  NA   
 12. Is there headspace in the VOA vials? Yes  No  NA   
 13. Did all samples containers arrive in good condition(unbroken)? Yes  No   
 14. Does paperwork match bottle labels? Yes  No   
 15. Are matrices correctly identified on Chain of Custody? Yes  No   
 16. Is it clear what analyses were requested? Yes  No   
 17. Were all holding times able to be met? Yes  No

### Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

### Item Information

Item #	Temp °C
Cooler	4.0
Sample	4.0

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

**SUBCONTRACT SAMPLE CHAIN OF CUSTODY**

**1009421**

Page # 1 of 1

Send Report To Michael Erdahl  
 Company Friedman and Bruya, Inc.  
 Address 3012 16th Ave W  
 City, State, ZIP Seattle, WA 98119  
 Phone # (206) 285-8282 Fax # (206) 283-5044

<b>SUBCONTRACTOR</b> <u>Friedman</u>	
<b>PROJECT NAME/NO.</b>	<b>PO #</b>
<u>A09421</u>	<u>A-465</u>
<b>REMARKS</b>	
<u>Please Email Results</u>	

<input checked="" type="checkbox"/> Standard (2 Weeks) Walk <input type="checkbox"/> RUSH Rush charges authorized by: _____	<b>SAMPLE DISPOSAL</b> <input type="checkbox"/> Dispose after 30 days <input type="checkbox"/> Return samples <input type="checkbox"/> Will call with instructions
---	---

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED				Notes
						Dioxins/Furans	EPH	VPH	RSB RSK Dissolved Methane	
SB-1-0919		9/24/19	922	H <sub>2</sub> O				X		
SB-2-0919			1330					X		
SB-3-0919			1140					X		
SB-4-0919			1055					X		

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282  
 Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	<u>Michael Erdahl</u>	<u>Friedman &amp; Bruya</u>	<u>9/26/19</u>	<u>9:45 AM</u>
Received by: <u>[Signature]</u>	<u>Zoe Rouleau</u>	<u>FBI</u>	<u>9/26/19</u>	<u>15:51</u>
Relinquished by:				
Received by:				

909421

SAMPLE CHAIN OF CUSTODY

ME 09/25/19 W03/1474/804

Report To Jamie Stevens

Company Crete

Address 108 S. Washington St

City, State, ZIP Seattle WA 98104

Phone 206 799 2744 Email Jamie.Stevens@grateconsulting.com

SAMPLERS (signature) Jamie Stevens

PROJECT NAME N Wards

PROJECT NAME

REMARKS Hylebos Marsh

PO #

INVOICE TO

Page # 1 of 2

TURNAROUND TIME USA

Standard Turnaround

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	PCBs	Total Metals	Diss Metals	
SB-1-0919	01A-F	9.24.19	09:22	Water	6	X	X	X	X	X	X	X	X	X	X	lab filter SVOC
SB-2-0919	02A-G		13:30	Water	7	X	X	X	X	X	X	X	X	X	X	lab filter SVOC
SB-3-0919	03		11:40	Water	7	X	X	X	X	X	X	X	X	X	X	lab filter SVOC
SB-4-0919	04		10:55	Water	7	X	X	X	X	X	X	X	X	X	X	lab filter SVOC
SB-1	05A-E	9/24-09.18	<del>09:22</del>	Soil	5											
SB-2	06		12:55	Soil	5											+ Also run
SB-3-1	07		11:58	Soil	5											with DOR
SB-3-2	08		11:55	Soil	5											
SB-4	09		10:45	Soil	5											
TWA-5-1	10A-F		14:45	Water	6	X	X	X	X	X	X	X	X	X	X	lab filter SVOC

SIGNATURE

Reimposed by: [Signature]

PRINT NAME Grant Hainsworth

COMPANY

CRETE

DATE 9/25/19 TIME 10:45 AM

Received by: [Signature]

PRINT NAME Cathy Smith

COMPANY FEDEX

DATE 9/25/19 TIME 10:10 AM

Received by: [Signature]

PRINT NAME Nhan Phan

COMPANY FEDEX

DATE 9/25/19 TIME 11:10 AM

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

909421

SAMPLE CHAIN OF CUSTODY

ME 09/25/19

003/ATY/

Report to: Jamie Stevens

Company: crete

Address: 106 S. Washington St

City, State, ZIP: Seattle WA 98104

Phone: 2062992244 Email: jamie.stevens@creteconsulting.com

SAMPLERS (signature) Jamie Stevens

PROJECT NAME: N. Waldo

PO #

REMARKS: Hydros Wash

INVOICE TO

Page # 2 of 2 / boy

TURNAROUND TIME

Standard Turnaround

RUSH

Rush charges authorized by:

SAMPLE DISPOSAL  
 Dispose after 30 days  
 Archive Samples  
 Other

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	
TWA-5-30- <del>S</del> S	11A-D	9/24	1223	Soil	4					<input checked="" type="checkbox"/>			VOC only
TWA-5-38-S	12A-D	9/24	1530	Soil	4					<input checked="" type="checkbox"/>			VOC only
Tr. Blank - 01	13	9/24	1806	Water	1								Samples received at 4 °C

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Requisitioned by: [Signature]

Grant Hainsworth

CRETE

9/25/19

10:42 AM

Received by: [Signature]

Cathy Smith

FEDEx

9/25/19

10:42

Relinquished by: [Signature]

Dawn Ryan

FERT

9/25/19

11:10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

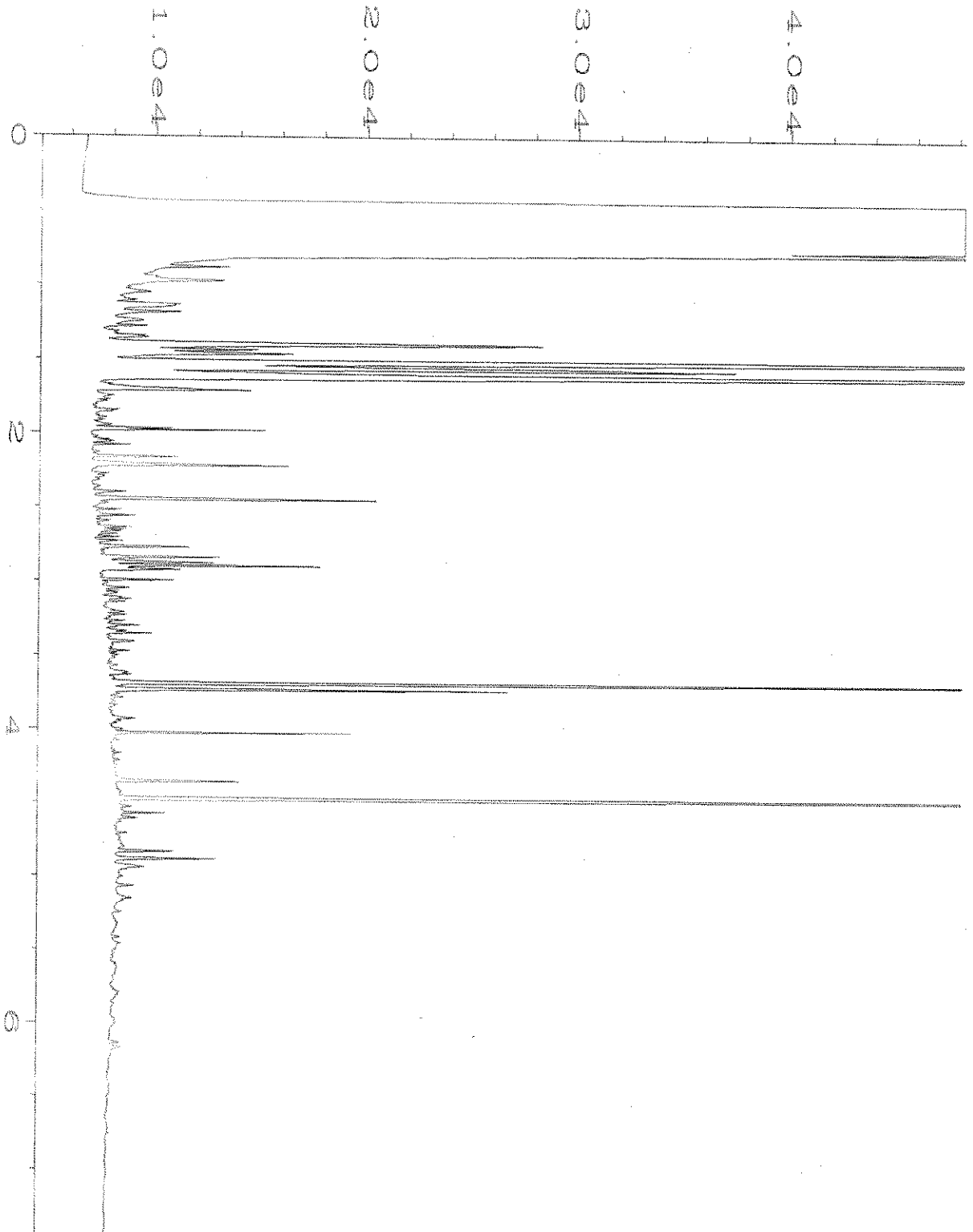
Date of Report: 10/09/19  
 Date Received: 09/25/19  
 Project: Hylebos Marsh, F&BI 909421  
 Date Extracted: 09/26/19  
 Date Analyzed: 09/26/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
 FOR TOTAL PETROLEUM HYDROCARBONS AS  
 DIESEL AND MOTOR OIL  
 USING METHOD NWTPH-Dx**  
 Results Reported as ug/L (ppb)

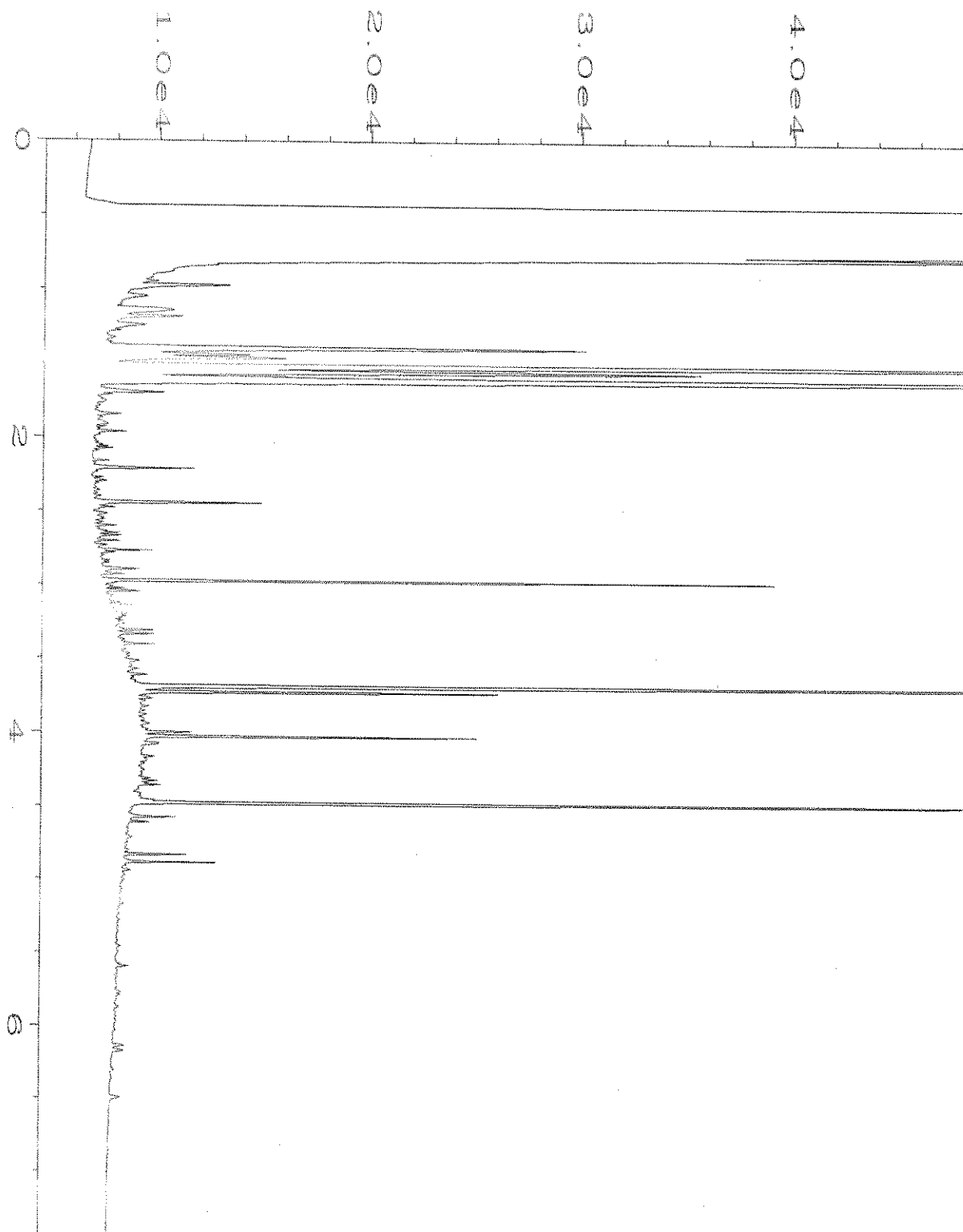
CC1

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C10-C25)	<u>Motor Oil Range</u> (C25-C36)	<u>Surrogate</u> (% Recovery) (Limit 41-152)
SB-1-0919 909421-01 1/2	230 x	<500	91
SB-2-0919 909421-02 1/1.3	180 x	<330	103
SB-3-0919 909421-03 1/1.3	6,800 x	1,800 x	117
SB-4-0919 909421-04 1/1.3	300 x	<330	83
TWA-5-1 909421-10 1/1.3	410 x	<330	78
Method Blank 09-2368 MB	<50	<250	97

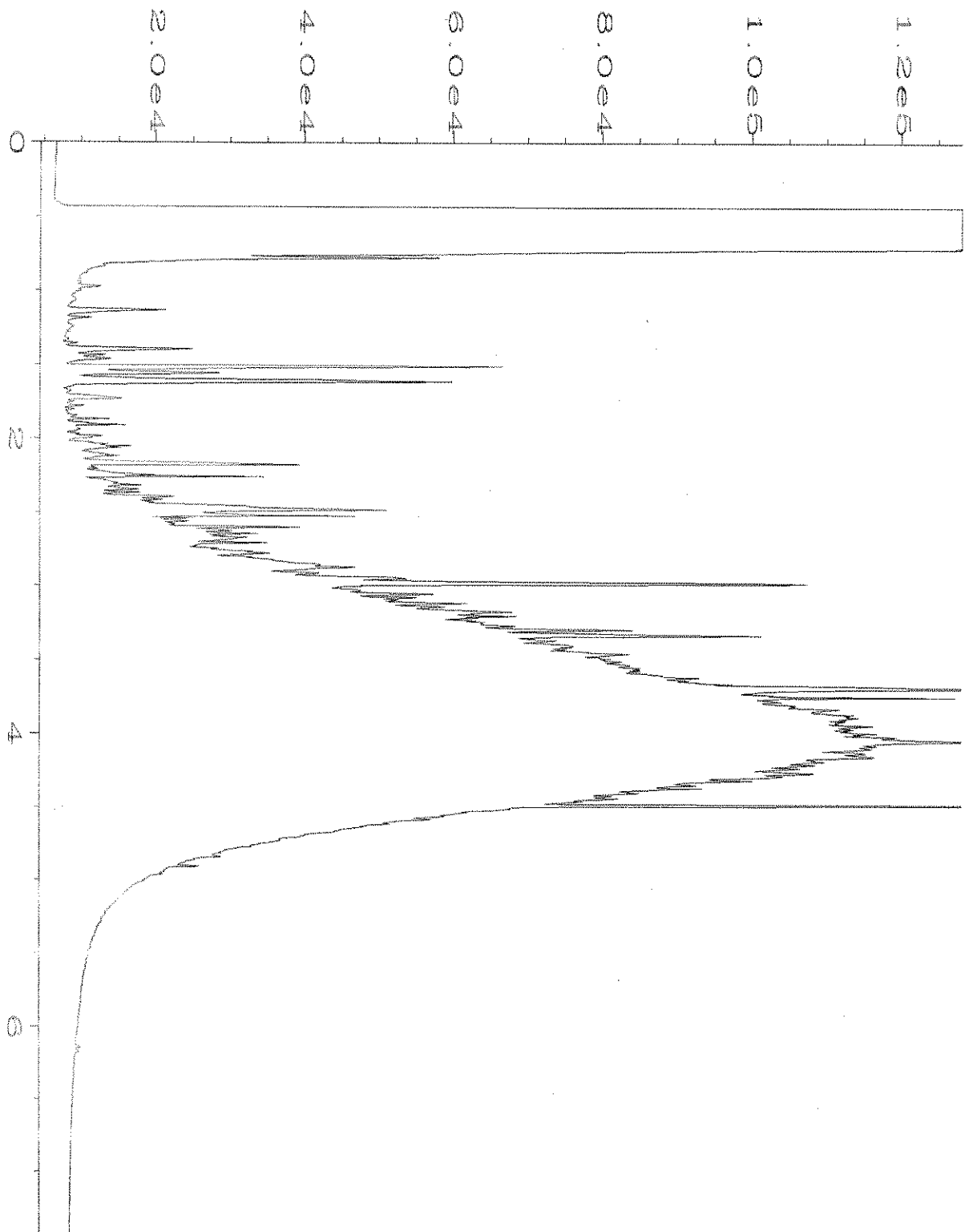




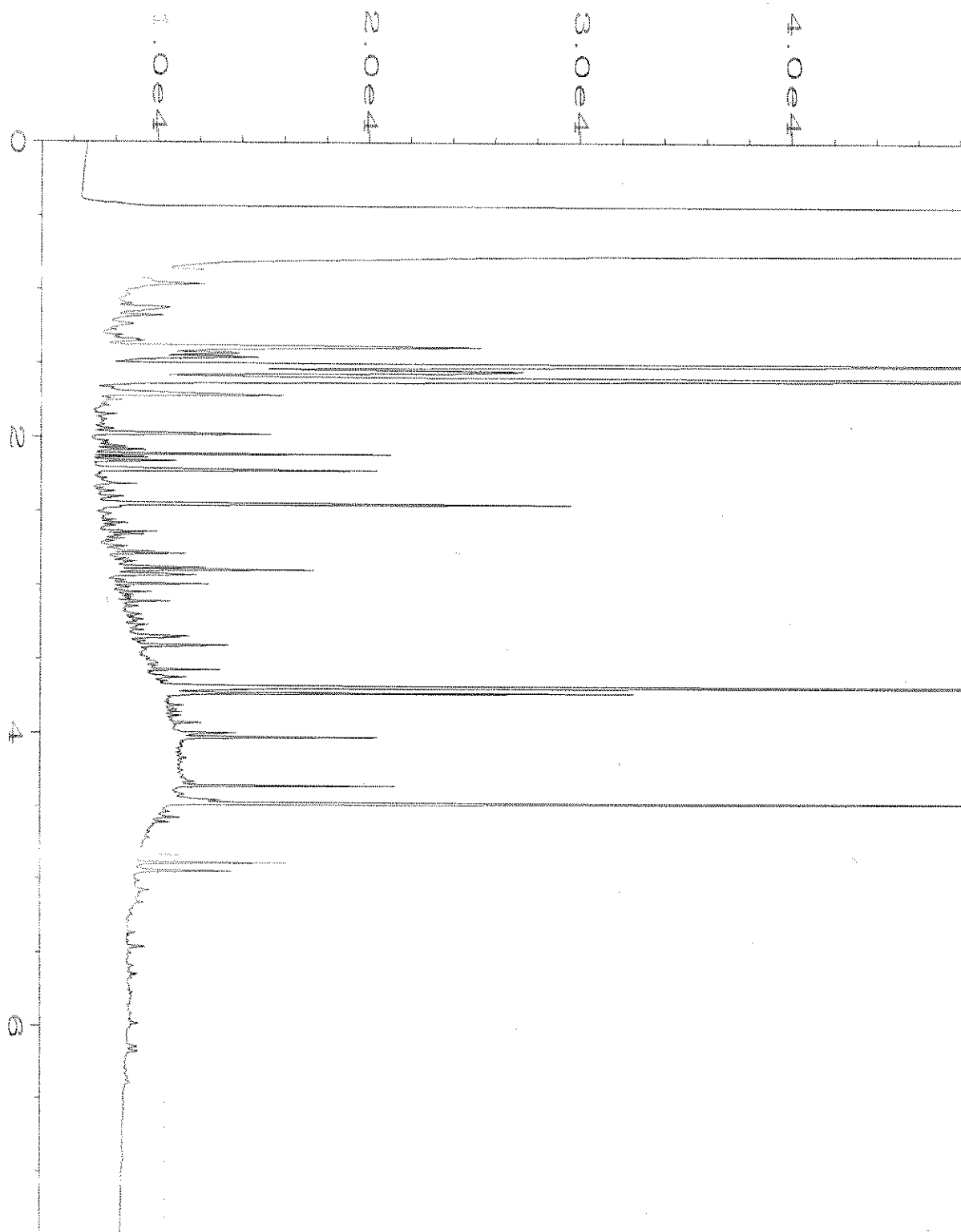
Data File Name	: C:\HPCHEM\1\DATA\09-26-19\020F1001.D	Page Number	: 1
Operator	: TL	Vial Number	: 20
Instrument	: GC1	Injection Number	: 1
Sample Name	: 909421-01	Sequence Line	: 10
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 26 Sep 19 03:52 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jan 20 01:57 PM		



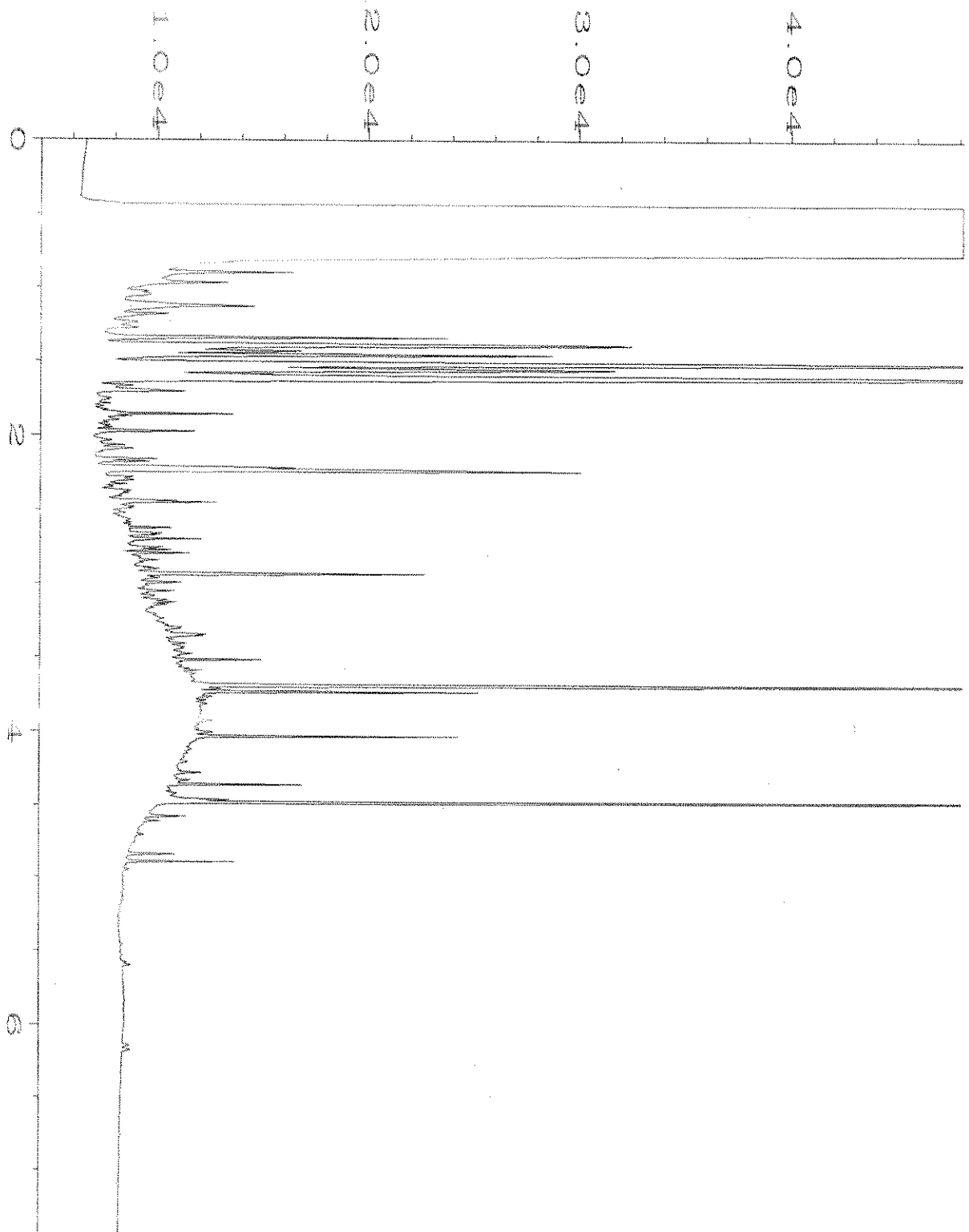
Data File Name	: C:\HPCHEM\1\DATA\09-26-19\021F1001.D	Page Number	: 1
Operator	: TL	Vial Number	: 21
Instrument	: GC1	Injection Number	: 1
Sample Name	: 909421-02	Sequence Line	: 10
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 26 Sep 19 04:03 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jan 20 01:57 PM		



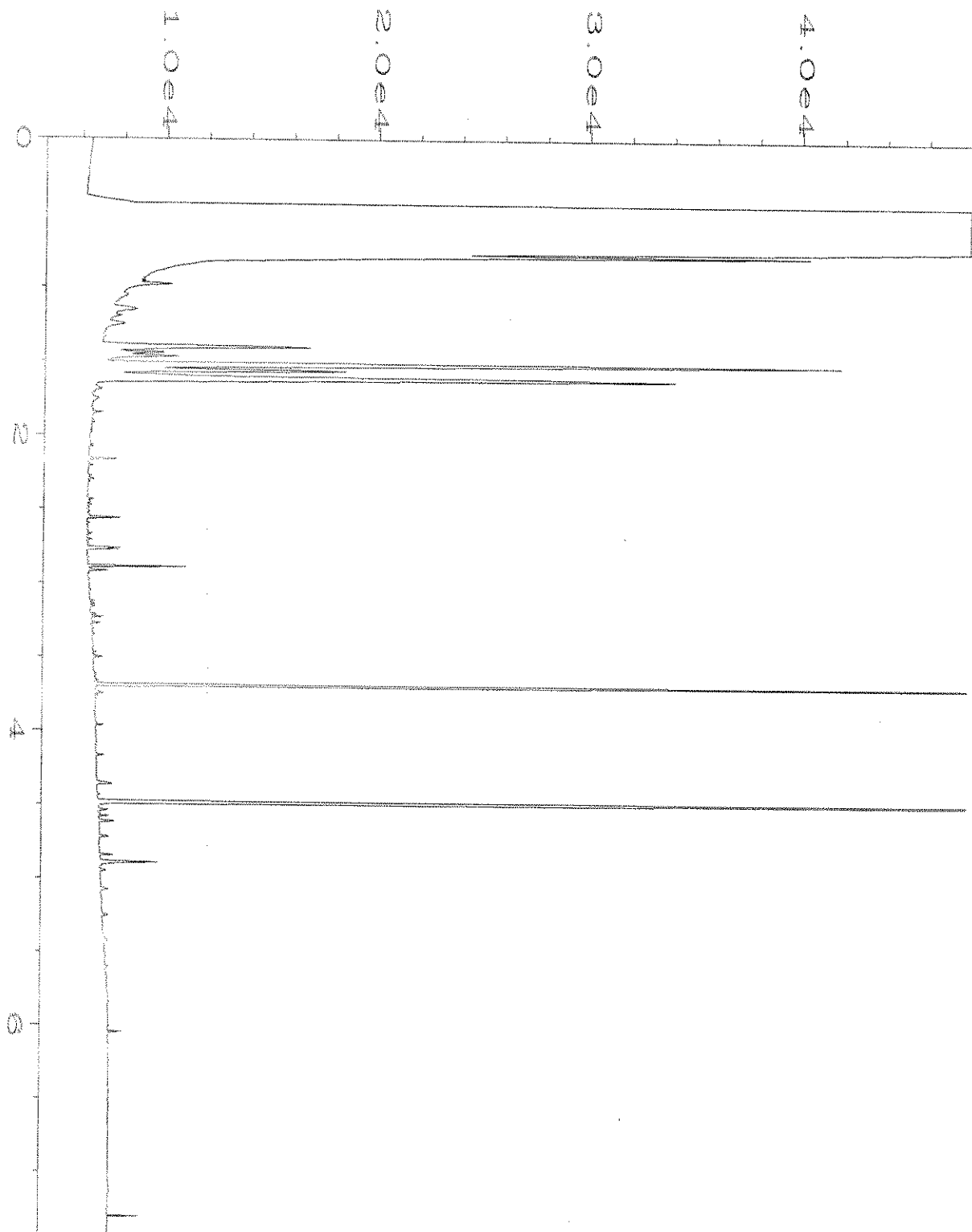
Data File Name	: C:\HPCHEM\1\DATA\09-26-19\022F1001.D	Page Number	: 1
Operator	: TL	Vial Number	: 22
Instrument	: GC1	Injection Number	: 1
Sample Name	: 909421-03	Sequence Line	: 10
Run Time Bar Code:		Instrument Method	: DX.MTH
Acquired on	: 26 Sep 19 04:15 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jan 20 01:57 PM		



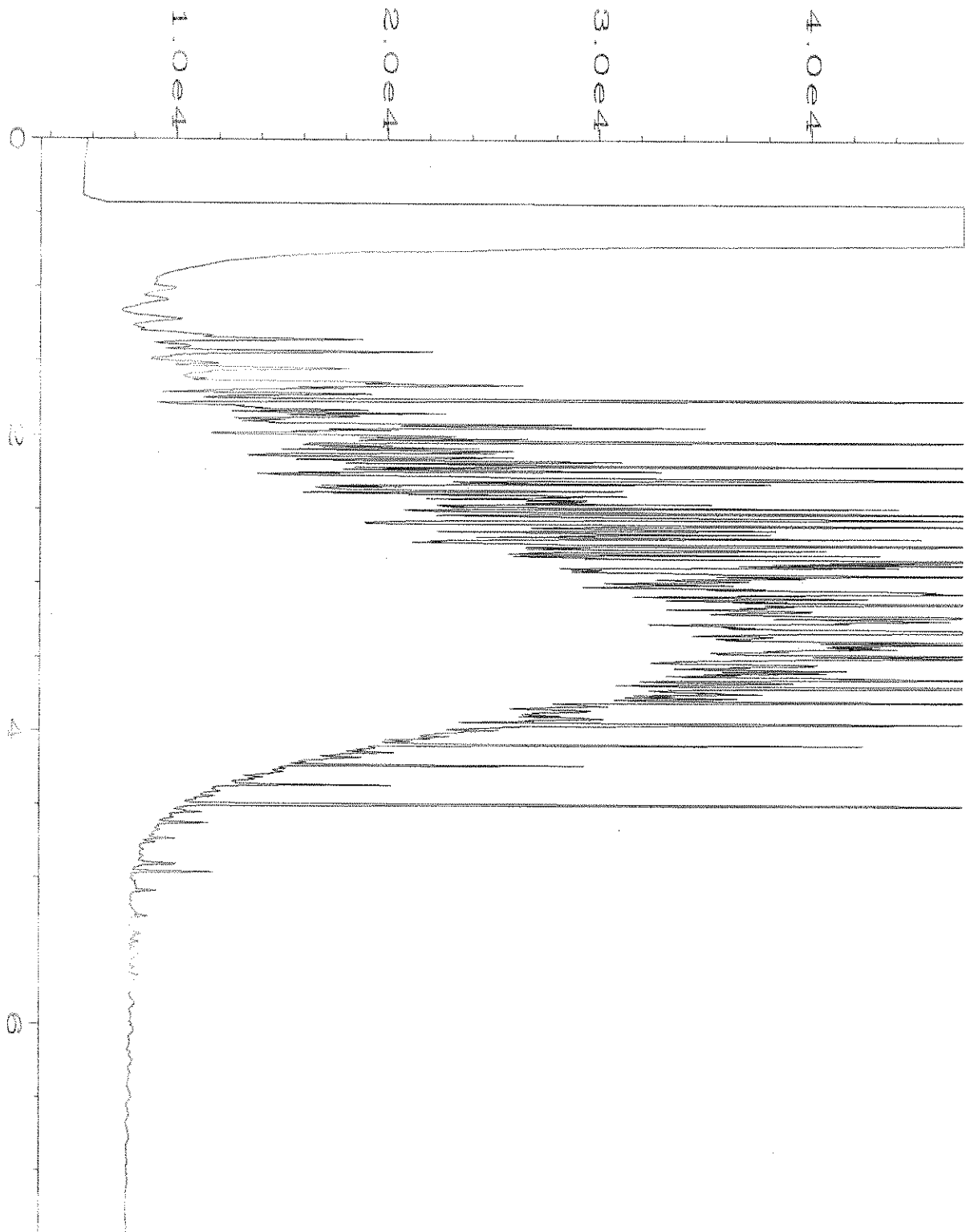
Data File Name	: C:\HPCHEM\1\DATA\09-26-19\023F1001.D	Page Number	: 1
Operator	: TL	Vial Number	: 23
Instrument	: GC1	Injection Number	: 1
Sample Name	: 909421-04	Sequence Line	: 10
Run Time Bar Code:		Instrument Method	: DX.MTH
Acquired on	: 26 Sep 19 04:26 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jan 20 01:58 PM		



Data File Name	: C:\HPCHEM\1\DATA\09-26-19\024F1001.D	Page Number	: 1
Operator	: TL	Vial Number	: 24
Instrument	: GC1	Injection Number	: 1
Sample Name	: 909421-10	Sequence Line	: 10
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 26 Sep 19 04:38 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jan 20 01:58 PM		



Data File Name	: C:\HPCHEM\1\DATA\09-26-19\013F0501.D	Page Number	: 1
Operator	: TL	Vial Number	: 13
Instrument	: GC1	Injection Number	: 1
Sample Name	: 09-2368 mb	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 26 Sep 19 01:44 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jan 20 01:57 PM		



Data File Name	: C:\HPCHEM\1\DATA\09-26-19\003F0201.D	Page Number	: 1
Operator	: TL	Vial Number	: 3
Instrument	: GC1	Injection Number	: 1
Sample Name	: 500 Dx 57-78E	Sequence Line	: 2
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 26 Sep 19 06:16 AM	Analysis Method	: DX.MTH
Report Created on:	23 Jan 20 01:58 PM		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

October 31, 2019

Jamie Stevens, Project Manager  
Crete Consulting  
108 S. Washington St., Suite 300  
Seattle, WA 98104

Dear Ms Stevens:

Included are the additional results from the testing of material submitted on September 25, 2019 from the Hylebos Marsh, F&BI 909421 project. There are 4 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
CTC1031R.DOC



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 25, 2019 by Friedman & Bruya, Inc. from the Crete Consulting Hylebos Marsh, F&BI 909421 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Crete Consulting</u>
909421 -01	SB-1-0919
909421 -02	SB-2-0919
909421 -03	SB-3-0919
909421 -04	SB-4-0919
909421 -05	SB-1
909421 -06	SB-2
909421 -07	SB-3-1
909421 -08	SB-3-2
909421 -09	SB-4
909421 -10	TWA-5-1
909421 -11	TWA-5-30-S
909421 -12	TWA-5-38-S
909421 -13	Trip blank-01

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/31/19  
Date Received: 09/25/19  
Project: Hylebos Marsh, F&BI 909421  
Date Extracted: 10/29/19  
Date Analyzed: 10/29/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx  
Sample Extracts Passed Through a  
Silica Gel Column Prior to Analysis  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
SB-3-0919 909421-03 1/1.3	<70	<330	108
Method Blank 09-2368 MB	<50	<250	110

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/31/19

Date Received: 09/25/19

Project: Hylebos Marsh, F&BI 909421

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	100	92	61-133	8

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



3600 Fremont Ave. N.  
Seattle, WA 98103  
T: (206) 352-3790  
F: (206) 352-7178  
info@fremontanalytical.com

**Friedman & Bruya**  
Michael Erdahl  
3012 16th Ave. W.  
Seattle, WA 98119

**RE: 909421**  
**Work Order Number: 1909424**

October 03, 2019

**Attention Michael Erdahl:**

Fremont Analytical, Inc. received 4 sample(s) on 9/26/2019 for the analyses presented in the following report.

***Dissolved Gases by RSK-175***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

A handwritten signature in blue ink, appearing to read "Brianna Barnes".

Brianna Barnes  
Project Manager

DoD/ELAP Certification #L17-135, ISO/IEC 17025:2005  
ORELAP Certification: WA 100009-007 (NELAP Recognized)



Date: 10/03/2019

---

**CLIENT:** Friedman & Bruya  
**Project:** 909421  
**Work Order:** 1909424

## Work Order Sample Summary

---

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1909424-001	SB-1-0919	09/26/2019 9:22 AM	09/26/2019 1:51 PM
1909424-002	SB-2-0919	09/26/2019 1:30 PM	09/26/2019 1:51 PM
1909424-003	SB-3-0919	09/26/2019 11:40 AM	09/26/2019 1:51 PM
1909424-004	SB-4-0919	09/26/2019 10:55 AM	09/26/2019 1:51 PM

**CLIENT:** Friedman & Bruya

**Project:** 909421

---

**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.



Qualifiers:

- \* - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate





**CLIENT:** Friedman & Bruya  
**Project:** 909421

**Lab ID:** 1909424-001

**Client Sample ID:** SB-1-0919

**Collection Date:** 9/26/2019 9:22:00 AM

**Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**Dissolved Gases by RSK-175**

Batch ID: R54250 Analyst: AD

Methane	ND	0.00863		mg/L	1	9/30/2019 1:22:00 PM
---------	----	---------	--	------	---	----------------------

**Lab ID:** 1909424-002

**Client Sample ID:** SB-2-0919

**Collection Date:** 9/26/2019 1:30:00 PM

**Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**Dissolved Gases by RSK-175**

Batch ID: R54250 Analyst: AD

Methane	1.21	0.0863	D	mg/L	10	9/30/2019 1:34:00 PM
---------	------	--------	---	------	----	----------------------

**Lab ID:** 1909424-003

**Client Sample ID:** SB-3-0919

**Collection Date:** 9/26/2019 11:40:00 AM

**Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**Dissolved Gases by RSK-175**

Batch ID: R54250 Analyst: AD

Methane	1.48	0.173	D	mg/L	20	9/30/2019 1:46:00 PM
---------	------	-------	---	------	----	----------------------



**CLIENT:** Friedman & Bruya  
**Project:** 909421

**Lab ID:** 1909424-004

**Collection Date:** 9/26/2019 10:55:00 AM

**Client Sample ID:** SB-4-0919

**Matrix:** Water

<b>Analyses</b>	<b>Result</b>	<b>RL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
-----------------	---------------	-----------	-------------	--------------	-----------	----------------------

**Dissolved Gases by RSK-175**

Batch ID: R54250      Analyst: AD

Methane	3.53	0.173	D	mg/L	20	9/30/2019 1:40:00 PM
---------	------	-------	---	------	----	----------------------

Work Order: 1909424  
 CLIENT: Friedman & Bruya  
 Project: 909421

**QC SUMMARY REPORT**  
**Dissolved Gases by RSK-175**

Sample ID: <b>MB-R54250</b>	SampType: <b>MBLK</b>	Units: <b>mg/L</b>	Prep Date: <b>9/30/2019</b>	RunNo: <b>54250</b>							
Client ID: <b>MBLKW</b>	Batch ID: <b>R54250</b>		Analysis Date: <b>9/30/2019</b>	SeqNo: <b>1074475</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane ND 0.00863

Sample ID: <b>LCS-R54250</b>	SampType: <b>LCS</b>	Units: <b>mg/L</b>	Prep Date: <b>9/30/2019</b>	RunNo: <b>54250</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R54250</b>		Analysis Date: <b>9/30/2019</b>	SeqNo: <b>1074491</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane 1,170 0.00863 1,000 0 117 70 130

Sample ID: <b>1909342-001DREP</b>	SampType: <b>REP</b>	Units: <b>mg/L</b>	Prep Date: <b>9/30/2019</b>	RunNo: <b>54250</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>R54250</b>		Analysis Date: <b>9/30/2019</b>	SeqNo: <b>1074464</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane ND 0.00863 0 30

Client Name: **FB**  
 Logged by: **Clare Griggs**

 Work Order Number: **1909424**  
 Date Received: **9/26/2019 1:51:00 PM**
**Chain of Custody**

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? FedEx

**Log In**

3. Coolers are present? Yes  No  NA
4. Shipping container/cooler in good condition? Yes  No
5. Custody Seals present on shipping container/cooler?  
(Refer to comments for Custody Seals not intact) Yes  No  Not Required
6. Was an attempt made to cool the samples? Yes  No  NA
7. Were all items received at a temperature of >0°C to 10.0°C \* Yes  No  NA
8. Sample(s) in proper container(s)? Yes  No
9. Sufficient sample volume for indicated test(s)? Yes  No
10. Are samples properly preserved? Yes  No
11. Was preservative added to bottles? Yes  No  NA
12. Is there headspace in the VOA vials? Yes  No  NA
13. Did all samples containers arrive in good condition(unbroken)? Yes  No
14. Does paperwork match bottle labels? Yes  No
15. Are matrices correctly identified on Chain of Custody? Yes  No
16. Is it clear what analyses were requested? Yes  No
17. Were all holding times able to be met? Yes  No

**Special Handling (if applicable)**

18. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

**Item Information**

Item #	Temp °C
Cooler	4.0
Sample	4.0

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

**SUBCONTRACT SAMPLE CHAIN OF CUSTODY**

1909424  
Page # 1 of 1

Send Report To Michael Erdahl  
 Company Friedman and Bruya, Inc.  
 Address 3012 16th Ave W  
 City, State, ZIP Seattle, WA 98119  
 Phone # (206) 285-8282 Fax # (206) 283-5044

SUBCONTRACTER <i>Friedman and Bruya</i>	
PROJECT NAME/NO. <u>009421</u>	PO # <u>A-405</u>
REMARKS <u>Please Email Results</u>	

<input checked="" type="checkbox"/> Standard (2 Weeks) Turn <input type="checkbox"/> RUSH Rush charges authorized by: _____	TURNAROUND TIME _____
<input type="checkbox"/> Dispose after 30 days <input type="checkbox"/> Return samples <input type="checkbox"/> Will call with instructions	SAMPLE DISPOSAL _____

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED				Notes
						Dioxins/Furans	EPH	VPH	RSB RSK Dissolved Methane	
SB-1-0919		9/24/19	922	H <sub>2</sub> O				X		
SB-2-0919			1330					X		
SB-3-0919			1140					X		
SB-4-0919			1055					X		

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282  
 Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<i>[Signature]</i>	Michael Erdahl	Friedman & Bruya	9/26/19	9:45 AM.
Received by: <i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	9/20/19	13:51
Relinquished by:				
Received by:				

909421

SAMPLE CHAIN OF CUSTODY

ME 09/25/19

W03/11/24/2019

Report To Jamie Stevens

Company Crete

Address 108 S. Washington St

City, State, ZIP Seattle WA 98104

Phone 206-497-7444 Email jamie.stevens@creteconsulting.com

SAMPLERS (signature) Jamie Stevens

PROJECT NAME Hylebos Marsh

PO # N waldo

INVOICE TO

TURNAROUND TIME 10/14/19

Standard Turnaround VS2

Rush charges authorized by:

SAMPLE DISPOSAL

- Standard after 30 days
- Archive Samples
- Other

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	PCBs	Total Metals	Diss Metals	Methane		
SB-1-0919	01A-F	9.24.19	09:00	Water	6	X	X	X	X	X	X	X	X	X	X	X	lab filter SVOC	✓-over JS
SB-2-0919	02A-G		13:30	Water	7	X	X	X	X	X	X	X	X	X	X	X	lab filter SVOC	Notes 9/10
SB-3-0919	03		11:40	Water	7	X	X	X	X	X	X	X	X	X	X	X	lab filter SVOC	
SB-4-0919	04		10:55	Water	7	X	X	X	X	X	X	X	X	X	X	X	lab filter SVOC	
SB-1	05A-E	9/24-09.18	<del>09:00</del>	Soil	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	lab filter SVOC	
SB-2	06		12:55	Soil	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	lab filter SVOC	Also run
SB-3-1	07		11:58	Soil	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	lab filter SVOC	with DQR
SB-3-2	08		11:55	Soil	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	lab filter SVOC	
SB-4	09		10:45	Soil	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	lab filter SVOC	
TWA-5-1	10A-F		14:45	Water	6	X	X	X	X	X	X	X	X	X	X	X	lab filter SVOC	

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Reinquired by: [Signature]

Grant Hainsworth

CRETE

9/25/19 10:14 AM

Received by: [Signature]

Carey Smith

CRETE

9/25/19 10:10 AM

Reinquired by:

Samples received at

9/25/19 11:10

Received by: [Signature]

Nhan Phan

FEBI

9/25/19 11:10

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

909421

SAMPLE CHAIN OF CUSTODY

ME 09/25/19

09/25/19

Report to: Jamie Stevens

Company: Crete

Address: 106 S. Washington St

City, State, ZIP: Seattle WA 98104

Phone: 2062992244 Email: jamie.stevens@creteconsulting.com

SAMPLERS (signature) Jamie Stevens

PROJECT NAME: Hydrex Wash

N. Walden

PO #

REMARKS

INVOICE TO

Page # 2 of 2

TURNAROUND TIME

Standard Turnaround

RUSH

Rush charges authorized by: VSJ

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	
<del>TWA-5-30-S</del> S	11A-D	9/24	1223	Soil	4				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			VOC only
TWA-5-38-S	12A-D	9/24	1530	Soil	4				<input checked="" type="checkbox"/>				VOC only
Trip blank - 01	13	9/24	1806	Water	1								Samples received at 4:00

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Reinquired by: [Signature] SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Received by: [Signature]

Grant Hainsworth

CRETE

9/25/19

10:42 AM

Reinquired by: [Signature]

Casey Smith

FEDER

9/25/19

10:42

Received by: [Signature]

Dwan Ryan

FERT

9/25/19

11:10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

January 28, 2020

Jamie Stevens, Project Manager  
Crete Consulting  
108 S. Washington St., Suite 300  
Seattle, WA 98104

Dear Ms Stevens:

Included are the additional results from the testing of material submitted on September 25, 2019 from the Hylebos Marsh, F&BI 909421 project. There are 25 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
CTC0128R.DOC



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 25, 2019 by Friedman & Bruya, Inc. from the Crete Consulting Hylebos Marsh, F&BI 909421 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Crete Consulting</u>
909421 -01	SB-1-0919
909421 -02	SB-2-0919
909421 -03	SB-3-0919
909421 -04	SB-4-0919
909421 -05	SB-1
909421 -06	SB-2
909421 -07	SB-3-1
909421 -08	SB-3-2
909421 -09	SB-4
909421 -10	TWA-5-1
909421 -11	TWA-5-30-S
909421 -12	TWA-5-38-S
909421 -13	Trip blank-01

Per request, 6020B copper and mercury were requantified using a lower reporting limit and selenium was added to the samples. The copper calibration was out of control limits for the full strength analysis of sample SB-3-0919, the data were qualified accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-1-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	909421-01
Date Analyzed:	09/30/19	Data File:	909421-01.184
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Copper	6.80
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-1-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	909421-01
Date Analyzed:	10/01/19	Data File:	909421-01 rr.108
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Mercury	<0.2
Selenium	1.30

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-2-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	909421-02
Date Analyzed:	09/30/19	Data File:	909421-02.185
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	3.81

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-2-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	909421-02
Date Analyzed:	10/01/19	Data File:	909421-02 rr.109
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Mercury	<0.2
Selenium	1.41

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-3-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	909421-03 x10
Date Analyzed:	09/30/19	Data File:	909421-03 x10.186
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	<24

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-3-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	909421-03
Date Analyzed:	10/01/19	Data File:	909421-03.110
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	3.78 ca
Mercury	<0.2
Selenium	2.33

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-4-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	909421-04
Date Analyzed:	10/01/19	Data File:	909421-04 rr.111
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	22.0
Mercury	<0.2
Selenium	1.44



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-5-1	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	909421-10 x10
Date Analyzed:	09/30/19	Data File:	909421-10 x10.190
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	368
Mercury	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-5-1	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	909421-10 x10
Date Analyzed:	10/01/19	Data File:	909421-10 x10 rr.146
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Selenium	14.9
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	09/30/19	Lab ID:	I9-599 mb
Date Analyzed:	09/30/19	Data File:	I9-599 mb rr.104
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	<2.4
Mercury	<0.2
Selenium	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	SB-2-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/02/19	Lab ID:	909421-02
Date Analyzed:	10/02/19	Data File:	909421-02 rr.168
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	<2.4
Mercury	<0.2
Selenium	1.76

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	SB-3-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/02/19	Lab ID:	909421-03
Date Analyzed:	10/02/19	Data File:	909421-03 rr.169
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	<2.4
Mercury	<0.2
Selenium	3.36

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	SB-4-0919	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/02/19	Lab ID:	909421-04
Date Analyzed:	10/02/19	Data File:	909421-04 rr.172
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	<2.4
Mercury	<0.2
Selenium	1.95

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/02/19	Lab ID:	I9-613 mb
Date Analyzed:	10/02/19	Data File:	I9-613 mb.154
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	<2.4
Mercury	<0.2
Selenium	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-1	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/14/19	Lab ID:	909421-05
Date Analyzed:	10/15/19	Data File:	909421-05 rr.147
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Copper	17.0
Mercury	<0.2
Selenium	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-2	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/14/19	Lab ID:	909421-06
Date Analyzed:	10/15/19	Data File:	909421-06 rr.148
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Copper	8.59
Mercury	<0.2
Selenium	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-3-1	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/14/19	Lab ID:	909421-07
Date Analyzed:	10/14/19	Data File:	909421-07.085
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Copper	10.4
Mercury	<0.2
Selenium	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-3-2	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/14/19	Lab ID:	909421-08
Date Analyzed:	10/15/19	Data File:	909421-08 rr.149
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Copper	25.3
Mercury	<0.2
Selenium	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-4	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/14/19	Lab ID:	909421-09
Date Analyzed:	10/15/19	Data File:	909421-09 rr.152
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Copper	10.7
Mercury	<0.2
Selenium	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/14/19	Lab ID:	I9-648 mb
Date Analyzed:	10/14/19	Data File:	I9-648 mb.083
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Copper	<2.4
Mercury	<0.2
Selenium	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/28/20

Date Received: 09/25/19

Project: Hylebos Marsh, F&BI 909421

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 909377-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Copper	ug/L (ppb)	20	<5	101	97	75-125	4
Mercury	ug/L (ppb)	5	<1	87	87	75-125	0
Selenium	ug/L (ppb)	5	<1	90	85	75-125	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Copper	ug/L (ppb)	20	101	80-120
Mercury	ug/L (ppb)	5	94	80-120
Selenium	ug/L (ppb)	5	96	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/28/20

Date Received: 09/25/19

Project: Hylebos Marsh, F&BI 909421

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR DISSOLVED METALS USING EPA METHOD 6020B**

Laboratory Code: 909421-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Copper	ug/L (ppb)	20	<2.4	71 vo	72 vo	75-125	1
Mercury	ug/L (ppb)	5	<0.2	77	77	75-125	0
Selenium	ug/L (ppb)	5	3.36	101	100	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Copper	ug/L (ppb)	20	97	80-120
Mercury	ug/L (ppb)	5	91	80-120
Selenium	ug/L (ppb)	5	102	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/28/20

Date Received: 09/25/19

Project: Hylebos Marsh, F&BI 909421

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 909421-07 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Copper	mg/kg (ppm)	50	8.63	93	87	75-125	7
Mercury	mg/kg (ppm)	5	<0.2	100	96	75-125	4
Selenium	mg/kg (ppm)	5	<1	102	104	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Copper	mg/kg (ppm)	50	101	80-120
Mercury	mg/kg (ppm)	5	103	80-120
Selenium	mg/kg (ppm)	5	105	80-120



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

**Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

909421

Report To Jamie Stevens

Company Crete

Address 108 S Washington St

City, State, ZIP Seattle WA 98104

Phone 206-497-2744 Email jamie@stevenscrete.com

SAMPLE CHAIN OF CUSTODY

ME 09/25/19 WU3

10/24/19

SAMPLERS (signature) Jamie Stevens

PROJECT NAME Hylabos Marsh

REMARKS

PO #

INVOICE TO

Page # of PURNAROUND TIME

Standard Turnaround

Rush charges authorized by:

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED											
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	PCBs	Total Metals	Diss Metals	Methane	
SB-1-0919	01AF	9.24.19	0930	Water	6	X	X	X	X	X	X	X	X	X	X	X	lab filter Svoc
SB-2-0919	02AG		1330	Water	7	X	X	X	X	X	X	X	X	X	X	X	lab filter Svoc
SB-3-0919	03		1140	Water	7	X	X	X	X	X	X	X	X	X	X	X	lab filter Svoc
SB-4-0919	04		1055	Water	7	X	X	X	X	X	X	X	X	X	X	X	lab filter Svoc
SB-1	05A-E	9/24-09.18		Soil	5	X	X	X	X	X	X	X	X	X	X	X	lab filter Svoc
SB-2	06		12:55	Soil	5	X	X	X	X	X	X	X	X	X	X	X	Also run
SB-3-1	07		11:58	Soil	5	X	X	X	X	X	X	X	X	X	X	X	with DOR
SB-3-2	08		11:55	Soil	5	X	X	X	X	X	X	X	X	X	X	X	
SB-4	09		10:45	Soil	5	X	X	X	X	X	X	X	X	X	X	X	
TWA-5-1	10AF		1445	Water	6	X	X	X	X	X	X	X	X	X	X	X	lab filter Svoc

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
Retrieved by:	<u>[Signature]</u>	Grant Hainsworth	CRETE	9/25/19	10:14		
Received by:	<u>[Signature]</u>	Gayle Smith	FED EX	9/25/19	10:10		
Retrieved by:	<u>[Signature]</u>	Nhan Phan	FED EX	9/25/19	11:10		

Friedman & Bryga, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

Notes 9/10  
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 pus  
 10/24

909421

SAMPLE CHAIN OF CUSTODY

ME 09/25/19

003/AT4/

Report to: Jamie Stevens

Company: Crete

Address: 106 S. Washington St

City, State, ZIP: Seattle WA 98104

Phone: 206 299 2744

Email: jamie.stevens@creteconsulting.com

SAMPLERS (signature) Jamie Stevens

PROJECT NAME: N. Waddo

PO #

REMARKS: Hydrobas Wash

INVOICE TO

Page # 2 of 2 / Boy  
TURNAROUND TIME  
 Standard Turnaround  
 RUSH  
Rush charges authorized by: VSD  
SAMPLE DISPOSAL  
 Dispose after 30 days  
 Archive Samples  
 Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	
TWA-5-30-5 S	11A-D	9/24	1233	Soil	4					<input checked="" type="checkbox"/>			VOC only
TWA-5-38-5	12A-D	9/24	1530	Soil	4					<input checked="" type="checkbox"/>			VOC only
Triphank - 01	13	9/24	1806	Wet	1								

Samples received at 4 °C

Friedman & Bruya, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029  
Ph. (206) 285-3282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	<u>Grant Hainsworth</u>	<u>CRETE</u>	<u>9/25/19</u>	<u>10:45 AM</u>
<u>[Signature]</u>	<u>Casey Smith</u>	<u>FEDX</u>	<u>9/25/19</u>	<u>10:42</u>
<u>[Signature]</u>	<u>Dylan Pagan</u>	<u>FEDX</u>	<u>9/25/19</u>	<u>11:10</u>

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

October 21, 2019

Jamie Stevens, Project Manager  
Crete Consulting  
108 S. Washington St., Suite 300  
Seattle, WA 98104

Dear Ms Stevens:

Included are the additional results from the testing of material submitted on September 25, 2019 from the Hylebos Marsh, F&BI 909421 project. There are 35 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
CTC1021R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 25, 2019 by Friedman & Bruya, Inc. from the Crete Consulting Hylebos Marsh, F&BI 909421 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Crete Consulting</u>
909421 -01	SB-1-0919
909421 -02	SB-2-0919
909421 -03	SB-3-0919
909421 -04	SB-4-0919
909421 -05	SB-1
909421 -06	SB-2
909421 -07	SB-3-1
909421 -08	SB-3-2
909421 -09	SB-4
909421 -10	TWA-5-1
909421 -11	TWA-5-30-S
909421 -12	TWA-5-38-S
909421 -13	Trip blank-01

The 8270D laboratory control sample and laboratory control sample duplicate failed the relative percent difference for 2,4-dimethylphenol. The analyte was not detected therefore the data were acceptable.

Methylene chloride in the 8260C laboratory control sample exceeded the acceptance criteria. The analyte was not detected in the sample, therefore the data were acceptable. In addition, acetone was detected in samples SB-1 and SB-3-2. The data were flagged accordingly.

The NWTPH-Gx, NWTPH-Dx, 8260C, and 8270D tests were requested outside of the holding time. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/21/19  
Date Received: 09/25/19  
Project: Hylebos Marsh, F&BI 909421  
Date Extracted: 10/16/19  
Date Analyzed: 10/16/19

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**

Results Reported on a Dry Weight Basis  
Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
SB-1 ht 909421-05	<5	87
SB-2 ht 909421-06	<5	84
SB-3-1 ht 909421-07	<5	83
SB-3-2 ht 909421-08	<5	88
SB-4 ht 909421-09	<5	86
Method Blank 09-2504 MB2	<5	87

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/21/19  
Date Received: 09/25/19  
Project: Hylebos Marsh, F&BI 909421  
Date Extracted: 10/11/19  
Date Analyzed: 10/11/19

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**

Results Reported on a Dry Weight Basis  
Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 53-144)
SB-1 ht 909421-05	<50	<250	105
SB-2 ht 909421-06	<50	<250	99
SB-3-1 ht 909421-07	<50	<250	98
SB-3-2 ht 909421-08	<50	<250	97
SB-4 ht 909421-09	<50	<250	102
Method Blank 09-2496 MB	<50	<250	95

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-1	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/14/19	Lab ID:	909421-05
Date Analyzed:	10/15/19	Data File:	909421-05.147
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.53
Cadmium	<1
Chromium	19.6
Copper	17.0
Lead	17.8
Manganese	104
Mercury	<1
Nickel	8.27
Zinc	36.4



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-2	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/14/19	Lab ID:	909421-06
Date Analyzed:	10/15/19	Data File:	909421-06.148
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.63
Cadmium	<1
Chromium	9.92
Copper	8.59
Lead	3.25
Manganese	44.7
Mercury	<1
Nickel	5.36
Zinc	17.9

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-3-1	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/14/19	Lab ID:	909421-07
Date Analyzed:	10/14/19	Data File:	909421-07.085
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.13
Cadmium	<1
Chromium	8.60
Copper	10.4
Lead	1.55
Manganese	58.2
Mercury	<1
Nickel	5.90
Zinc	17.0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-3-2	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/14/19	Lab ID:	909421-08
Date Analyzed:	10/15/19	Data File:	909421-08.149
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	7.83
Cadmium	<1
Chromium	12.7
Copper	25.3
Lead	4.75
Manganese	70.0
Mercury	<1
Nickel	12.8
Zinc	26.3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-4	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/14/19	Lab ID:	909421-09
Date Analyzed:	10/15/19	Data File:	909421-09.152
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	1.65
Cadmium	<1
Chromium	8.29
Copper	10.7
Lead	1.30
Manganese	57.7
Mercury	<1
Nickel	10.3
Zinc	16.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	NA	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/14/19	Lab ID:	I9-648 mb
Date Analyzed:	10/14/19	Data File:	I9-648 mb.083
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	<1
Mercury	<1
Nickel	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID: SB-1 ht	Client: Crete Consulting
Date Received: 09/25/19	Project: Hylebos Marsh, F&BI 909421
Date Extracted: 10/15/19	Lab ID: 909421-05 1/5
Date Analyzed: 10/17/19	Data File: 101710.D
Matrix: Soil	Instrument: GCMS8
Units: mg/kg (ppm) Dry Weight	Operator: ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	92	50	150
Phenol-d6	86	50	150
Nitrobenzene-d5	83	50	150
2-Fluorobiphenyl	83	50	150
2,4,6-Tribromophenol	78	50	150
Terphenyl-d14	70	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	2,6-Dinitrotoluene	<0.25
Bis(2-chloroethyl) ether	<0.05	3-Nitroaniline	<5
2-Chlorophenol	<0.5	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.05	2,4-Dinitrophenol	<1.5
1,4-Dichlorobenzene	<0.05	Dibenzofuran	<0.05
1,2-Dichlorobenzene	<0.05	2,4-Dinitrotoluene	<0.25
Benzyl alcohol	<0.5	4-Nitrophenol	<1.5
2,2'-Oxybis(1-chloropropane)	<0.05	Diethyl phthalate	<0.5
2-Methylphenol	<0.5	Fluorene	<0.01
Hexachloroethane	<0.05	4-Chlorophenyl phenyl ether	<0.05
N-Nitroso-di-n-propylamine	<0.05	N-Nitrosodiphenylamine	<0.05
3-Methylphenol + 4-Methylphenol	<1	4-Nitroaniline	<5
Nitrobenzene	<0.05	4,6-Dinitro-2-methylphenol	<1.5
Isophorone	<0.05	4-Bromophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	Hexachlorobenzene	<0.05
2,4-Dimethylphenol	<0.5	Pentachlorophenol	<0.25
Benzoic acid	<2.5	Phenanthrene	0.023
Bis(2-chloroethoxy)methane	<0.05	Anthracene	<0.01
2,4-Dichlorophenol	<0.5	Carbazole	<0.05
1,2,4-Trichlorobenzene	<0.05	Di-n-butyl phthalate	<0.5
Naphthalene	0.010	Fluoranthene	0.036
Hexachlorobutadiene	<0.05	Pyrene	0.029
4-Chloroaniline	<5	Benzyl butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benz(a)anthracene	0.016
2-Methylnaphthalene	0.014	Chrysene	0.021
1-Methylnaphthalene	0.012	Bis(2-ethylhexyl) phthalate	<0.8
Hexachlorocyclopentadiene	<0.15	Di-n-octyl phthalate	<0.5
2,4,6-Trichlorophenol	<0.5	Benzo(a)pyrene	0.015
2,4,5-Trichlorophenol	<0.5	Benzo(b)fluoranthene	0.021
2-Chloronaphthalene	<0.05	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.25	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<0.5	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID: SB-2 ht	Client: Crete Consulting
Date Received: 09/25/19	Project: Hylebos Marsh, F&BI 909421
Date Extracted: 10/15/19	Lab ID: 909421-06 1/5
Date Analyzed: 10/17/19	Data File: 101711.D
Matrix: Soil	Instrument: GCMS8
Units: mg/kg (ppm) Dry Weight	Operator: ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	91	50	150
Phenol-d6	83	50	150
Nitrobenzene-d5	78	50	150
2-Fluorobiphenyl	78	50	150
2,4,6-Tribromophenol	70	50	150
Terphenyl-d14	69	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	2,6-Dinitrotoluene	<0.25
Bis(2-chloroethyl) ether	<0.05	3-Nitroaniline	<5
2-Chlorophenol	<0.5	Acenaphthene	0.046
1,3-Dichlorobenzene	<0.05	2,4-Dinitrophenol	<1.5
1,4-Dichlorobenzene	<0.05	Dibenzofuran	<0.05
1,2-Dichlorobenzene	<0.05	2,4-Dinitrotoluene	<0.25
Benzyl alcohol	<0.5	4-Nitrophenol	<1.5
2,2'-Oxybis(1-chloropropane)	<0.05	Diethyl phthalate	<0.5
2-Methylphenol	<0.5	Fluorene	<0.01
Hexachloroethane	<0.05	4-Chlorophenyl phenyl ether	<0.05
N-Nitroso-di-n-propylamine	<0.05	N-Nitrosodiphenylamine	<0.05
3-Methylphenol + 4-Methylphenol	<1	4-Nitroaniline	<5
Nitrobenzene	<0.05	4,6-Dinitro-2-methylphenol	<1.5
Isophorone	<0.05	4-Bromophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	Hexachlorobenzene	<0.05
2,4-Dimethylphenol	<0.5	Pentachlorophenol	<0.25
Benzoic acid	<2.5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.05	Anthracene	<0.01
2,4-Dichlorophenol	<0.5	Carbazole	<0.05
1,2,4-Trichlorobenzene	<0.05	Di-n-butyl phthalate	<0.5
Naphthalene	<0.01	Fluoranthene	0.054
Hexachlorobutadiene	<0.05	Pyrene	0.045
4-Chloroaniline	<5	Benzyl butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.01	Chrysene	<0.01
1-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.8
Hexachlorocyclopentadiene	<0.15	Di-n-octyl phthalate	<0.5
2,4,6-Trichlorophenol	<0.5	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<0.5	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.05	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.25	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<0.5	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID: SB-3-1 ht	Client: Crete Consulting
Date Received: 09/25/19	Project: Hylebos Marsh, F&BI 909421
Date Extracted: 10/15/19	Lab ID: 909421-07 1/5
Date Analyzed: 10/17/19	Data File: 101712.D
Matrix: Soil	Instrument: GCMS8
Units: mg/kg (ppm) Dry Weight	Operator: ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	95	50	150
Phenol-d6	90	50	150
Nitrobenzene-d5	85	50	150
2-Fluorobiphenyl	84	50	150
2,4,6-Tribromophenol	82	50	150
Terphenyl-d14	77	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	2,6-Dinitrotoluene	<0.25
Bis(2-chloroethyl) ether	<0.05	3-Nitroaniline	<5
2-Chlorophenol	<0.5	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.05	2,4-Dinitrophenol	<1.5
1,4-Dichlorobenzene	<0.05	Dibenzofuran	<0.05
1,2-Dichlorobenzene	<0.05	2,4-Dinitrotoluene	<0.25
Benzyl alcohol	<0.5	4-Nitrophenol	<1.5
2,2'-Oxybis(1-chloropropane)	<0.05	Diethyl phthalate	<0.5
2-Methylphenol	<0.5	Fluorene	<0.01
Hexachloroethane	<0.05	4-Chlorophenyl phenyl ether	<0.05
N-Nitroso-di-n-propylamine	<0.05	N-Nitrosodiphenylamine	<0.05
3-Methylphenol + 4-Methylphenol	<1	4-Nitroaniline	<5
Nitrobenzene	<0.05	4,6-Dinitro-2-methylphenol	<1.5
Isophorone	<0.05	4-Bromophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	Hexachlorobenzene	<0.05
2,4-Dimethylphenol	<0.5	Pentachlorophenol	<0.25
Benzoic acid	<2.5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.05	Anthracene	<0.01
2,4-Dichlorophenol	<0.5	Carbazole	<0.05
1,2,4-Trichlorobenzene	<0.05	Di-n-butyl phthalate	<0.5
Naphthalene	<0.01	Fluoranthene	<0.01
Hexachlorobutadiene	<0.05	Pyrene	<0.01
4-Chloroaniline	<5	Benzyl butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.01	Chrysene	<0.01
1-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.8
Hexachlorocyclopentadiene	<0.15	Di-n-octyl phthalate	<0.5
2,4,6-Trichlorophenol	<0.5	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<0.5	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.05	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.25	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<0.5	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.01



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID: SB-3-2 ht	Client: Crete Consulting
Date Received: 09/25/19	Project: Hylebos Marsh, F&BI 909421
Date Extracted: 10/15/19	Lab ID: 909421-08 1/5
Date Analyzed: 10/17/19	Data File: 101713.D
Matrix: Soil	Instrument: GCMS8
Units: mg/kg (ppm) Dry Weight	Operator: ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	107	50	150
Phenol-d6	97	50	150
Nitrobenzene-d5	91	50	150
2-Fluorobiphenyl	69	50	150
2,4,6-Tribromophenol	86	50	150
Terphenyl-d14	56	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	2,6-Dinitrotoluene	<0.25
Bis(2-chloroethyl) ether	<0.05	3-Nitroaniline	<5
2-Chlorophenol	<0.5	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.05	2,4-Dinitrophenol	<1.5
1,4-Dichlorobenzene	<0.05	Dibenzofuran	<0.05
1,2-Dichlorobenzene	<0.05	2,4-Dinitrotoluene	<0.25
Benzyl alcohol	<0.5	4-Nitrophenol	<1.5
2,2'-Oxybis(1-chloropropane)	<0.05	Diethyl phthalate	<0.5
2-Methylphenol	<0.5	Fluorene	<0.01
Hexachloroethane	<0.05	4-Chlorophenyl phenyl ether	<0.05
N-Nitroso-di-n-propylamine	<0.05	N-Nitrosodiphenylamine	<0.05
3-Methylphenol + 4-Methylphenol	<1	4-Nitroaniline	<5
Nitrobenzene	<0.05	4,6-Dinitro-2-methylphenol	<1.5
Isophorone	<0.05	4-Bromophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	Hexachlorobenzene	<0.05
2,4-Dimethylphenol	<0.5	Pentachlorophenol	<0.25
Benzoic acid	<2.5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.05	Anthracene	<0.01
2,4-Dichlorophenol	<0.5	Carbazole	<0.05
1,2,4-Trichlorobenzene	<0.05	Di-n-butyl phthalate	<0.5
Naphthalene	<0.01	Fluoranthene	<0.01
Hexachlorobutadiene	<0.05	Pyrene	<0.01
4-Chloroaniline	<5	Benzyl butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.01	Chrysene	<0.01
1-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.8
Hexachlorocyclopentadiene	<0.15	Di-n-octyl phthalate	<0.5
2,4,6-Trichlorophenol	<0.5	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<0.5	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.05	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.25	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<0.5	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID: SB-4 ht	Client: Crete Consulting
Date Received: 09/25/19	Project: Hylebos Marsh, F&BI 909421
Date Extracted: 10/15/19	Lab ID: 909421-09 1/5
Date Analyzed: 10/17/19	Data File: 101714.D
Matrix: Soil	Instrument: GCMS8
Units: mg/kg (ppm) Dry Weight	Operator: ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	95	50	150
Phenol-d6	86	50	150
Nitrobenzene-d5	82	50	150
2-Fluorobiphenyl	80	50	150
2,4,6-Tribromophenol	77	50	150
Terphenyl-d14	70	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	2,6-Dinitrotoluene	<0.25
Bis(2-chloroethyl) ether	<0.05	3-Nitroaniline	<5
2-Chlorophenol	<0.5	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.05	2,4-Dinitrophenol	<1.5
1,4-Dichlorobenzene	<0.05	Dibenzofuran	<0.05
1,2-Dichlorobenzene	<0.05	2,4-Dinitrotoluene	<0.25
Benzyl alcohol	<0.5	4-Nitrophenol	<1.5
2,2'-Oxybis(1-chloropropane)	<0.05	Diethyl phthalate	<0.5
2-Methylphenol	<0.5	Fluorene	<0.01
Hexachloroethane	<0.05	4-Chlorophenyl phenyl ether	<0.05
N-Nitroso-di-n-propylamine	<0.05	N-Nitrosodiphenylamine	<0.05
3-Methylphenol + 4-Methylphenol	<1	4-Nitroaniline	<5
Nitrobenzene	<0.05	4,6-Dinitro-2-methylphenol	<1.5
Isophorone	<0.05	4-Bromophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	Hexachlorobenzene	<0.05
2,4-Dimethylphenol	<0.5	Pentachlorophenol	<0.25
Benzoic acid	<2.5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.05	Anthracene	<0.01
2,4-Dichlorophenol	<0.5	Carbazole	<0.05
1,2,4-Trichlorobenzene	<0.05	Di-n-butyl phthalate	<0.5
Naphthalene	<0.01	Fluoranthene	<0.01
Hexachlorobutadiene	<0.05	Pyrene	<0.01
4-Chloroaniline	<5	Benzyl butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.01	Chrysene	<0.01
1-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.8
Hexachlorocyclopentadiene	<0.15	Di-n-octyl phthalate	<0.5
2,4,6-Trichlorophenol	<0.5	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<0.5	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.05	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.25	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<0.5	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/15/19	Lab ID:	09-2543 mb
Date Analyzed:	10/17/19	Data File:	101709.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	68	50	150
Phenol-d6	97	50	150
Nitrobenzene-d5	90	50	150
2-Fluorobiphenyl	88	50	150
2,4,6-Tribromophenol	81	50	150
Terphenyl-d14	85	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.1	2,6-Dinitrotoluene	<0.05
Bis(2-chloroethyl) ether	<0.01	3-Nitroaniline	<1
2-Chlorophenol	<0.1	Acenaphthene	<0.002
1,3-Dichlorobenzene	<0.01	2,4-Dinitrophenol	<0.3
1,4-Dichlorobenzene	<0.01	Dibenzofuran	<0.01
1,2-Dichlorobenzene	<0.01	2,4-Dinitrotoluene	<0.05
Benzyl alcohol	<0.1	4-Nitrophenol	<0.3
2,2'-Oxybis(1-chloropropane)	<0.01	Diethyl phthalate	<0.1
2-Methylphenol	<0.1	Fluorene	<0.002
Hexachloroethane	<0.01	4-Chlorophenyl phenyl ether	<0.01
N-Nitroso-di-n-propylamine	<0.01	N-Nitrosodiphenylamine	<0.01
3-Methylphenol + 4-Methylphenol	<0.2	4-Nitroaniline	<1
Nitrobenzene	<0.01	4,6-Dinitro-2-methylphenol	<0.3
Isophorone	<0.01	4-Bromophenyl phenyl ether	<0.01
2-Nitrophenol	<0.1	Hexachlorobenzene	<0.01
2,4-Dimethylphenol	<0.1	Pentachlorophenol	<0.05
Benzoic acid	<0.5	Phenanthrene	<0.002
Bis(2-chloroethoxy)methane	<0.01	Anthracene	<0.002
2,4-Dichlorophenol	<0.1	Carbazole	<0.01
1,2,4-Trichlorobenzene	<0.01	Di-n-butyl phthalate	<0.1
Naphthalene	<0.002	Fluoranthene	<0.002
Hexachlorobutadiene	<0.01	Pyrene	<0.002
4-Chloroaniline	<1	Benzyl butyl phthalate	<0.1
4-Chloro-3-methylphenol	<0.1	Benz(a)anthracene	<0.002
2-Methylnaphthalene	<0.002	Chrysene	<0.002
1-Methylnaphthalene	<0.002	Bis(2-ethylhexyl) phthalate	<0.16
Hexachlorocyclopentadiene	<0.03	Di-n-octyl phthalate	<0.1
2,4,6-Trichlorophenol	<0.1	Benzo(a)pyrene	<0.002
2,4,5-Trichlorophenol	<0.1	Benzo(b)fluoranthene	<0.002
2-Chloronaphthalene	<0.01	Benzo(k)fluoranthene	<0.002
2-Nitroaniline	<0.05	Indeno(1,2,3-cd)pyrene	<0.002
Dimethyl phthalate	<0.1	Dibenz(a,h)anthracene	<0.002
Acenaphthylene	<0.002	Benzo(g,h,i)perylene	<0.002

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: SB-1 ht	Client: Crete Consulting
Date Received: 09/25/19	Project: Hylebos Marsh, F&BI 909421
Date Extracted: 10/14/19	Lab ID: 909421-05
Date Analyzed: 10/14/19	Data File: 101430.D
Matrix: Soil	Instrument: GCMS9
Units: mg/kg (ppm) Dry Weight	Operator: MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	93	107
Toluene-d8	99	87	110
4-Bromofluorobenzene	97	85	112

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	0.62 lc ca	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: SB-2 ht	Client: Crete Consulting
Date Received: 09/25/19	Project: Hylebos Marsh, F&BI 909421
Date Extracted: 10/14/19	Lab ID: 909421-06
Date Analyzed: 10/14/19	Data File: 101431.D
Matrix: Soil	Instrument: GCMS9
Units: mg/kg (ppm) Dry Weight	Operator: MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	93	107
Toluene-d8	98	87	110
4-Bromofluorobenzene	97	85	112

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

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ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-3-1 ht	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/14/19	Lab ID:	909421-07
Date Analyzed:	10/14/19	Data File:	101432.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	93	107
Toluene-d8	100	87	110
4-Bromofluorobenzene	99	85	112

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

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ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: SB-3-2 ht	Client: Crete Consulting
Date Received: 09/25/19	Project: Hylebos Marsh, F&BI 909421
Date Extracted: 10/14/19	Lab ID: 909421-08
Date Analyzed: 10/14/19	Data File: 101433.D
Matrix: Soil	Instrument: GCMS9
Units: mg/kg (ppm) Dry Weight	Operator: MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	93	107
Toluene-d8	100	87	110
4-Bromofluorobenzene	96	85	112

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	1.9 lc ca	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: SB-4 ht	Client: Crete Consulting
Date Received: 09/25/19	Project: Hylebos Marsh, F&BI 909421
Date Extracted: 10/14/19	Lab ID: 909421-09
Date Analyzed: 10/14/19	Data File: 101434.D
Matrix: Soil	Instrument: GCMS9
Units: mg/kg (ppm) Dry Weight	Operator: MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	93	107
Toluene-d8	102	87	110
4-Bromofluorobenzene	98	85	112

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/14/19	Lab ID:	09-2462 mb
Date Analyzed:	10/14/19	Data File:	101414.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	93	107
Toluene-d8	93	87	110
4-Bromofluorobenzene	90	85	112

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-1	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/16/19	Lab ID:	909421-05 1/6
Date Analyzed:	10/16/19	Data File:	101624.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	72	23	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-2	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/16/19	Lab ID:	909421-06 1/6
Date Analyzed:	10/16/19	Data File:	101625.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	84	23	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-3-1	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/16/19	Lab ID:	909421-07 1/6
Date Analyzed:	10/16/19	Data File:	101626.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	73	23	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-3-2	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/16/19	Lab ID:	909421-08 1/6
Date Analyzed:	10/17/19	Data File:	101627.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	93	23	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-4	Client:	Crete Consulting
Date Received:	09/25/19	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/16/19	Lab ID:	909421-09 1/6
Date Analyzed:	10/17/19	Data File:	101628.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	79	23	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos Marsh, F&BI 909421
Date Extracted:	10/16/19	Lab ID:	09-2535 mb 1/6
Date Analyzed:	10/16/19	Data File:	101620.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	94	23	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/21/19

Date Received: 09/25/19

Project: Hylebos Marsh, F&BI 909421

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 910309-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	110	71-131



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/21/19

Date Received: 09/25/19

Project: Hylebos Marsh, F&BI 909421

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: 910228-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	600	88	86	64-133	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	90	58-147

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/21/19

Date Received: 09/25/19

Project: Hylebos Marsh, F&BI 909421

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 909421-07 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	<1	92	92	75-125	0
Cadmium	mg/kg (ppm)	10	<1	103	97	75-125	6
Chromium	mg/kg (ppm)	50	7.14	94	88	75-125	7
Copper	mg/kg (ppm)	50	8.63	93	87	75-125	7
Lead	mg/kg (ppm)	50	1.29	105	100	75-125	5
Manganese	mg/kg (ppm)	20	48.3	112	95	75-125	16
Mercury	mg/kg (ppm)	5	<1	100	96	75-125	4
Nickel	mg/kg (ppm)	25	4.90	99	91	75-125	8
Zinc	mg/kg (ppm)	50	14.1	105	96	75-125	9

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	89	80-120
Cadmium	mg/kg (ppm)	10	101	80-120
Chromium	mg/kg (ppm)	50	101	80-120
Copper	mg/kg (ppm)	50	101	80-120
Lead	mg/kg (ppm)	50	108	80-120
Manganese	mg/kg (ppm)	20	106	80-120
Mercury	mg/kg (ppm)	5	103	80-120
Nickel	mg/kg (ppm)	25	104	80-120
Zinc	mg/kg (ppm)	50	109	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/21/19

Date Received: 09/25/19

Project: Hylebos Marsh, F&BI 909421

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR SEMIVOLATILES BY EPA METHOD 8270D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCS/D	Acceptance Criteria	RPD (Limit 20)
Phenol	mg/kg (ppm)	0.33	98	92	70-130	6
Bis(2-chloroethyl) ether	mg/kg (ppm)	0.33	86	80	70-130	7
2-Chlorophenol	mg/kg (ppm)	0.33	91	85	70-130	7
1,3-Dichlorobenzene	mg/kg (ppm)	0.33	82	75	62-115	9
1,4-Dichlorobenzene	mg/kg (ppm)	0.33	83	77	63-114	7
1,2-Dichlorobenzene	mg/kg (ppm)	0.33	83	77	68-113	7
Benzyl alcohol	mg/kg (ppm)	0.33	94	91	70-130	3
2,2'-Oxybis(1-chloropropane)	mg/kg (ppm)	0.33	90	81	70-130	11
2-Methylphenol	mg/kg (ppm)	0.33	90	86	70-130	5
Hexachloroethane	mg/kg (ppm)	0.33	83	77	70-130	7
N-Nitroso-di-n-propylamine	mg/kg (ppm)	0.33	95	90	70-130	5
3-Methylphenol + 4-Methylphenol	mg/kg (ppm)	0.33	95	88	70-130	8
Nitrobenzene	mg/kg (ppm)	0.33	86	83	70-130	4
Isophorone	mg/kg (ppm)	0.33	92	93	70-130	1
2-Nitrophenol	mg/kg (ppm)	0.33	93	91	70-130	2
2,4-Dimethylphenol	mg/kg (ppm)	0.33	81	64	58-118	23 vo
Benzoic acid	mg/kg (ppm)	0.5	123	124	61-153	1
Bis(2-chloroethoxy)methane	mg/kg (ppm)	0.33	90	88	70-130	2
2,4-Dichlorophenol	mg/kg (ppm)	0.33	89	86	70-130	3
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.33	83	77	70-130	7
Naphthalene	mg/kg (ppm)	0.33	83	80	70-130	4
Hexachlorobutadiene	mg/kg (ppm)	0.33	80	78	70-130	3
4-Chloroaniline	mg/kg (ppm)	0.66	44	42	10-90	5
4-Chloro-3-methylphenol	mg/kg (ppm)	0.33	92	93	70-130	1
2-Methylnaphthalene	mg/kg (ppm)	0.33	87	85	70-130	2
1-Methylnaphthalene	mg/kg (ppm)	0.33	87	85	70-130	2
Hexachlorocyclopentadiene	mg/kg (ppm)	0.33	92	94	48-154	2
2,4,6-Trichlorophenol	mg/kg (ppm)	0.33	92	94	70-130	2
2,4,5-Trichlorophenol	mg/kg (ppm)	0.33	93	97	70-130	4
2-Chloronaphthalene	mg/kg (ppm)	0.33	87	89	70-130	2
2-Nitroaniline	mg/kg (ppm)	0.33	91	93	70-130	2
Dimethyl phthalate	mg/kg (ppm)	0.33	78	77	70-130	1
Acenaphthylene	mg/kg (ppm)	0.33	91	92	70-130	1
2,6-Dinitrotoluene	mg/kg (ppm)	0.33	85	89	70-130	5
3-Nitroaniline	mg/kg (ppm)	0.66	86	86	54-104	0
Acenaphthene	mg/kg (ppm)	0.33	89	90	70-130	1
2,4-Dinitrophenol	mg/kg (ppm)	0.33	106	93	51-159	13
Dibenzofuran	mg/kg (ppm)	0.33	92	92	70-130	0
2,4-Dinitrotoluene	mg/kg (ppm)	0.33	95	92	70-130	3
4-Nitrophenol	mg/kg (ppm)	0.33	102	100	60-146	2
Diethyl phthalate	mg/kg (ppm)	0.33	96	92	63-133	4
Fluorene	mg/kg (ppm)	0.33	94	92	70-130	2
4-Chlorophenyl phenyl ether	mg/kg (ppm)	0.33	93	92	70-130	1
N-Nitrosodiphenylamine	mg/kg (ppm)	0.33	88	91	70-130	3
4-Nitroaniline	mg/kg (ppm)	0.66	89	84	50-124	6
4,6-Dinitro-2-methylphenol	mg/kg (ppm)	0.33	114	109	68-139	4
4-Bromophenyl phenyl ether	mg/kg (ppm)	0.33	90	92	43-167	2
Hexachlorobenzene	mg/kg (ppm)	0.33	92	93	70-130	1
Pentachlorophenol	mg/kg (ppm)	0.33	110	108	61-136	2
Phenanthrene	mg/kg (ppm)	0.33	92	92	70-130	0
Anthracene	mg/kg (ppm)	0.33	92	90	70-130	2
Carbazole	mg/kg (ppm)	0.33	101	98	70-130	3
Di-n-butyl phthalate	mg/kg (ppm)	0.33	99	95	70-130	4
Fluoranthene	mg/kg (ppm)	0.33	103	98	70-130	5
Pyrene	mg/kg (ppm)	0.33	83	87	70-130	5
Benzyl butyl phthalate	mg/kg (ppm)	0.33	93	95	70-130	2
Benz(a)anthracene	mg/kg (ppm)	0.33	92	94	70-130	2
Chrysene	mg/kg (ppm)	0.33	92	94	70-130	2
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.33	92	93	70-130	1
Di-n-octyl phthalate	mg/kg (ppm)	0.33	93	86	57-156	8
Benzo(a)pyrene	mg/kg (ppm)	0.33	81	79	70-130	2
Benzo(b)fluoranthene	mg/kg (ppm)	0.33	88	81	70-130	8
Benzo(k)fluoranthene	mg/kg (ppm)	0.33	85	82	70-130	4
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.33	79	85	63-145	7
Dibenzo(a,h)anthracene	mg/kg (ppm)	0.33	77	81	60-150	5
Benzo(g,h,i)perylene	mg/kg (ppm)	0.33	73	79	57-144	8

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/21/19

Date Received: 09/25/19

Project: Hylebos Marsh, F&BI 909421

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 910170-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	25	23	10-56	8
Chloromethane	mg/kg (ppm)	2.5	<0.5	47	46	10-90	2
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	46	47	10-91	2
Bromomethane	mg/kg (ppm)	2.5	<0.5	58	59	10-110	2
Chloroethane	mg/kg (ppm)	2.5	<0.5	57	57	10-101	0
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	50	52	10-95	4
Acetone	mg/kg (ppm)	12.5	<0.5	102	102	11-141	0
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	61	63	22-107	3
Hexane	mg/kg (ppm)	2.5	<0.25	35	38	10-95	8
Methylene chloride	mg/kg (ppm)	2.5	<0.5	58	59	14-128	2
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	85	87	17-134	2
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	71	72	13-112	1
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	76	79	23-115	4
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	77	76	18-117	1
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	77	78	25-120	1
Chloroform	mg/kg (ppm)	2.5	<0.05	82	85	29-117	4
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	83	87	20-133	5
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	79	84	22-124	6
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	79	81	27-112	2
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	73	76	26-107	4
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	76	79	28-126	4
Benzene	mg/kg (ppm)	2.5	<0.03	76	77	26-114	1
Trichloroethene	mg/kg (ppm)	2.5	<0.02	77	81	30-112	5
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	80	85	31-119	6
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	83	86	31-131	4
Dibromomethane	mg/kg (ppm)	2.5	<0.05	81	87	27-124	7
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	84	89	16-147	6
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	77	84	28-137	9
Toluene	mg/kg (ppm)	2.5	<0.05	78	80	34-112	3
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	77	79	30-136	3
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	80	82	32-126	2
2-Hexanone	mg/kg (ppm)	12.5	<0.5	81	85	17-147	5
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	77	81	29-125	5
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	77	79	25-114	3
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	84	83	32-143	1
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	78	80	32-126	3
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	79	84	37-113	6
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	80	83	34-115	4
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	86	90	35-126	5
m,p-Xylene	mg/kg (ppm)	5	<0.1	81	86	25-125	6
o-Xylene	mg/kg (ppm)	2.5	<0.05	84	85	27-126	1
Styrene	mg/kg (ppm)	2.5	<0.05	83	86	39-121	4
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	86	87	34-123	1
Bromoform	mg/kg (ppm)	2.5	<0.05	83	76	18-155	9
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	81	84	31-120	4
Bromobenzene	mg/kg (ppm)	2.5	<0.05	80	83	40-115	4
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	84	88	24-130	5
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	85	88	27-148	3
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	-115	-111	33-123	
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	81	85	39-110	5
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	79	84	39-111	6
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	85	89	36-116	5
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	85	88	35-116	3
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	86	89	33-118	3
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	83	87	32-119	5
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	80	85	38-111	6
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	77	82	39-109	6
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	83	87	40-111	5
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	90	86	44-112	5
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	88	90	31-121	2
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	85	96	24-128	12
Naphthalene	mg/kg (ppm)	2.5	<0.05	88	93	24-139	6
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	85	92	35-117	8

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/21/19

Date Received: 09/25/19

Project: Hylebos Marsh, F&BI 909421

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	68	10-76
Chloromethane	mg/kg (ppm)	2.5	86	34-98
Vinyl chloride	mg/kg (ppm)	2.5	92	42-107
Bromomethane	mg/kg (ppm)	2.5	97	46-113
Chloroethane	mg/kg (ppm)	2.5	97	47-115
Trichlorofluoromethane	mg/kg (ppm)	2.5	100	53-112
Acetone	mg/kg (ppm)	12.5	105	39-147
1,1-Dichloroethene	mg/kg (ppm)	2.5	104	65-110
Hexane	mg/kg (ppm)	2.5	88	55-107
Methylene chloride	mg/kg (ppm)	2.5	167 vo	50-127
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	107	72-122
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	103	71-113
1,1-Dichloroethane	mg/kg (ppm)	2.5	102	74-109
2,2-Dichloropropane	mg/kg (ppm)	2.5	111	63-145
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	100	73-110
Chloroform	mg/kg (ppm)	2.5	103	76-110
2-Butanone (MEK)	mg/kg (ppm)	12.5	88	60-121
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	91	73-111
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	108	72-116
1,1-Dichloropropene	mg/kg (ppm)	2.5	96	72-112
Carbon tetrachloride	mg/kg (ppm)	2.5	107	67-123
Benzene	mg/kg (ppm)	2.5	93	72-106
Trichloroethene	mg/kg (ppm)	2.5	91	72-107
1,2-Dichloropropane	mg/kg (ppm)	2.5	95	74-115
Bromodichloromethane	mg/kg (ppm)	2.5	98	75-126
Dibromomethane	mg/kg (ppm)	2.5	94	76-116
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	95	80-128
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	94	71-138
Toluene	mg/kg (ppm)	2.5	93	74-111
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	89	73-124
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	87	76-118
2-Hexanone	mg/kg (ppm)	12.5	83	67-123
1,3-Dichloropropane	mg/kg (ppm)	2.5	86	75-118
Tetrachloroethene	mg/kg (ppm)	2.5	94	73-111
Dibromochloromethane	mg/kg (ppm)	2.5	102	64-152
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	88	77-117
Chlorobenzene	mg/kg (ppm)	2.5	91	76-109
Ethylbenzene	mg/kg (ppm)	2.5	93	75-112
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	104	75-129
m,p-Xylene	mg/kg (ppm)	5	97	77-115
o-Xylene	mg/kg (ppm)	2.5	100	76-115
Styrene	mg/kg (ppm)	2.5	96	76-119
Isopropylbenzene	mg/kg (ppm)	2.5	102	76-120
Bromoform	mg/kg (ppm)	2.5	108	50-174
n-Propylbenzene	mg/kg (ppm)	2.5	91	77-115
Bromobenzene	mg/kg (ppm)	2.5	88	76-112
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	96	77-121
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	94	74-121
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	85	73-117
2-Chlorotoluene	mg/kg (ppm)	2.5	91	75-113
4-Chlorotoluene	mg/kg (ppm)	2.5	88	77-115
tert-Butylbenzene	mg/kg (ppm)	2.5	95	77-123
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	95	77-119
sec-Butylbenzene	mg/kg (ppm)	2.5	97	78-120
p-Isopropyltoluene	mg/kg (ppm)	2.5	96	77-120
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	92	76-112
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	88	74-109
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	95	75-114
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	106	68-122
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	111	75-122
Hexachlorobutadiene	mg/kg (ppm)	2.5	122	74-130
Naphthalene	mg/kg (ppm)	2.5	112	73-122
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	113	75-117

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/21/19

Date Received: 09/25/19

Project: Hylebos Marsh, F&BI 909421

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF SOIL SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: 90942105 1/6 (Matrix Spike) 1/6

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Control Limits
Aroclor 1016	mg/kg (ppm)	0.25	<0.02	89	30-123
Aroclor 1260	mg/kg (ppm)	0.25	<0.02	89	26-131

Laboratory Code: Laboratory Control Sample 1/6

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.25	108	115	55-137	6
Aroclor 1260	mg/kg (ppm)	0.25	110	117	51-150	6

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

909421

SAMPLE CHAIN OF CUSTODY

ME 09/25/19

W03/11/19

Report To Jamie Stevens

Company Crete

Address 108 S. Washington St

City, State, ZIP Seattle WA 98104

Phone 206-497-7444 Email jamie@stevenscreteconsulting.com

SAMPLERS (signature) Jamie Stevens

PROJECT NAME Hylebos Marsh

PO # N waldo

INVOICE TO

Page # 1 of 2  
TURNOURND TIME US2

Standard Turnaround  RUSH

Rush charges authorized by:

SAMPLE DISPOSAL  
 Dispose after 30 days  
 Archive Samples  
 Other

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	PCBs	Total Metals	Diss Metals	Methane		
SB-1-0919	01A-F	9.24.19	0930	Water	6	X	X	X	X	X	X	X	X	X	X	X	lab filter SVOC	✓-over JS
SB-2-0919	02A-G		1330	Water	7	X	X	X	X	X	X	X	X	X	X	X	lab filter SVOC	Notes 9/10
SB-3-0919	03		1140	Water	7	X	X	X	X	X	X	X	X	X	X	X	lab filter SVOC	
SB-4-0919	04		1055	Water	7	X	X	X	X	X	X	X	X	X	X	X	lab filter SVOC	
SB-1	05A-E	9/24-09.18	<del>0930</del>	Soil	5	X	X	X	X	X	X	X	X	X	X	X		
SB-2	06		12:55	Soil	5	X	X	X	X	X	X	X	X	X	X	X		Also run
SB-3-1	07		11:58	Soil	5	X	X	X	X	X	X	X	X	X	X	X		with DQR
SB-3-2	08		11:55	Soil	5	X	X	X	X	X	X	X	X	X	X	X		
SB-4	09		10:45	Soil	5	X	X	X	X	X	X	X	X	X	X	X		
TWA-5-1	10A-F		1445	Water	6	X	X	X	X	X	X	X	X	X	X	X	lab filter SVOC	

SIGNATURE

Reinquired by: [Signature]

Received by: [Signature]

PRINT NAME

Grant Hainsworth

Carey Smith

COMPANY

CRETE

CRETE

DATE

9/25/19

9/25/19

TIME

10:14 AM

10:10 AM

Reinquired by:

[Signature]

Nhan Phan

FEBI

at 4 of

9/25/19

11:10

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282



909421

SAMPLE CHAIN OF CUSTODY

ME 09/25/19

09/25/19

Report: Jamie Stevens

Company: Crete

Address: 106 S. Washington St

City, State, ZIP: Seattle WA 98104

Phone: 2062992244

Email: jamie.stevens@creteconsulting.com

SAMPLERS (signature) Jamie Stevens

PROJECT NAME: N. Walden

PO #

REMARKS: Hydrobas Wash

INVOICE TO

Page # 2 of 2

TURNAROUND TIME

Standard Turnaround

RUSH

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	
<del>TWA-5-30-S</del> S	11A-D	9/24	1223	Soil	4				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			VOC only
TWA-5-38-S	12A-D	9/24	1530	Soil	4				<input checked="" type="checkbox"/>				VOC only
Trip blank - 01	13	9/24	1806	Water	1								Samples received at 4:00

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Reinquired by: [Signature] SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Received by: [Signature]

Grant Hainsworth

CRETE

9/25/19

10:42 AM

Reinquired by: [Signature]

Casey Smith

FEDEx

9/25/19

10:42

Received by: [Signature]

Dwan Ryan

FERT

9/25/19

11:10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

October 8, 2019

Jamie Stevens, Project Manager  
Crete Consulting  
108 S. Washington St., Suite 300  
Seattle, WA 98104

Dear Ms Stevens:

Included are the results from the testing of material submitted on September 27, 2019 from the Hylebos Marsh, F&BI 909483 project. There are 46 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
CTC1008R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 27, 2019 by Friedman & Bruya, Inc. from the Crete Consulting Hylebos Marsh, F&BI 909483 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Crete Consulting</u>
909483 -01	TWA-6-2-R
909483 -02	TWA-6-2
909483 -03	TWA-6-1
909483 -04	TWA-5-S9-S
909483 -05	TWA-6-21-S
909483 -06	DRUM-1
909483 -07	TWA-5-3
909483 -08	TWA-5-2
909483 -09	Trip Blank

A 6020B calibration standard and internal standard failed the acceptance criteria for samples TWA-6-2-R, TWA-6-2, TWA-6-1, DRUM-1, TWA-5-3, and TWA-5-2. The samples were diluted and reanalyzed with acceptable results. Both data sets were reported.

Several compounds in the 8270D laboratory control sample, laboratory control sample duplicate, and the associated relative percent difference failed the acceptance criteria. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/19  
Date Received: 09/27/19  
Project: Hylebos Marsh, F&BI 909483  
Date Extracted: 10/01/19  
Date Analyzed: 10/01/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TWA-6-2-R 909483-01	<100	85
TWA-6-2 909483-02	<100	85
TWA-6-1 909483-03	<100	85
TWA-5-3 909483-07	<100	84
TWA-5-2 909483-08	<100	87
Method Blank 09-2319 MB	<100	95

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/19  
Date Received: 09/27/19  
Project: Hylebos Marsh, F&BI 909483  
Date Extracted: 09/30/19  
Date Analyzed: 09/30/19

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx**

Results Reported on a Dry Weight Basis  
Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 48-168)
DRUM-1 909483-06	<50	<250	100
Method Blank 09-2387 MB	<50	<250	92

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/19  
Date Received: 09/27/19  
Project: Hylebos Marsh, F&BI 909483  
Date Extracted: 09/30/19  
Date Analyzed: 09/30/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 51-134)
TWA-6-2-R 909483-01	560 x	<250	69
TWA-6-2 909483-02	380 x	<250	59
TWA-6-1 909483-03	97 x	<250	86
TWA-5-3 909483-07 1/1.2	560 x	<300	102
TWA-5-2 909483-08 1/1.2	400 x	<300	51
Method Blank 09-2383 MB	<50	<250	128

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	DRUM-1	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/03/19	Lab ID:	909483-06
Date Analyzed:	10/03/19	Data File:	909483-06.125
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.66
Cadmium	<1
Chromium	8.68 J
Copper	13.1 J
Lead	2.07
Manganese	60.2 J
Mercury	<1
Nickel	6.94 J
Zinc	16.4 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	DRUM-1	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/03/19	Lab ID:	909483-06 x5
Date Analyzed:	10/04/19	Data File:	909483-06 x5.047
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Chromium	7.97
Copper	<25
Manganese	56.8
Nickel	7.17
Zinc	<25



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	NA	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/03/19	Lab ID:	I9-615 mb2
Date Analyzed:	10/04/19	Data File:	I9-615 mb2.045
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	<1
Mercury	<1
Nickel	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6-2-R	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/01/19	Lab ID:	909483-01
Date Analyzed:	10/01/19	Data File:	909483-01.162
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	20.4
Cadmium	<1
Chromium	64.1 J ca
Copper	60.3 J ca
Lead	14.8
Manganese	951 J ca
Mercury	<1
Nickel	29.3 J ca
Zinc	53.9 J ca

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6-2-R	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/01/19	Lab ID:	909483-01 x10
Date Analyzed:	10/01/19	Data File:	909483-01 x10.135
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Chromium	84.8
Copper	113
Manganese	1,420
Nickel	<50
Zinc	101

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6-2	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/01/19	Lab ID:	909483-02
Date Analyzed:	10/01/19	Data File:	909483-02.163
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	20.7
Cadmium	<1
Chromium	66.8 J ca
Copper	66.4 J ca
Lead	15.0
Manganese	990 J ca
Mercury	<1
Nickel	31.4 J ca
Zinc	58.3 J ca

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6-2	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/01/19	Lab ID:	909483-02 x10
Date Analyzed:	10/01/19	Data File:	909483-02 x10.136
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Chromium	89.1
Copper	118
Manganese	1,480
Nickel	50.0
Zinc	105

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6-1	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/01/19	Lab ID:	909483-03
Date Analyzed:	10/01/19	Data File:	909483-03.164
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	6.39
Cadmium	<1
Chromium	35.3 ca
Copper	22.4 ca
Lead	4.68
Manganese	663 ca
Mercury	<1
Nickel	14.4 ca
Zinc	21.1 ca

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6-1	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/01/19	Lab ID:	909483-03 x10
Date Analyzed:	10/01/19	Data File:	909483-03 x10.137
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Chromium	37.6
Copper	<50
Manganese	716
Nickel	<50
Zinc	<50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-5-3	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/01/19	Lab ID:	909483-07
Date Analyzed:	10/01/19	Data File:	909483-07.165
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	15.4 J
Cadmium	<1 J
Chromium	13.3 ca
Copper	16.1 ca
Lead	1.32
Manganese	72.4 ca
Mercury	<1
Nickel	6.07 ca
Zinc	11.9 ca



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-5-3	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/01/19	Lab ID:	909483-07 x10
Date Analyzed:	10/01/19	Data File:	909483-07 x10.138
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	14.9
Cadmium	<10
Chromium	14.6
Copper	<50
Manganese	76.2
Nickel	<50
Zinc	<50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-5-2	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/01/19	Lab ID:	909483-08
Date Analyzed:	10/01/19	Data File:	909483-08.166
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	25.4
Cadmium	<1
Chromium	47.2 ca
Copper	61.6 ca
Lead	8.09
Manganese	217 ca
Mercury	<1
Nickel	20.2 ca
Zinc	50.9 ca

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-5-2	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/01/19	Lab ID:	909483-08 x10
Date Analyzed:	10/01/19	Data File:	909483-08 x10.142
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Chromium	54.4
Copper	89.8
Manganese	252
Nickel	<50
Zinc	76.6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	NA	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/01/19	Lab ID:	I9-610 mb
Date Analyzed:	10/01/19	Data File:	I9-610 mb.128
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	<1
Mercury	<1
Nickel	<5
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	TWA-6-2-R	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/02/19	Lab ID:	909483-01
Date Analyzed:	10/02/19	Data File:	100227.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	39	15	99
Phenol-d6	27	11	65
Nitrobenzene-d5	64	50	150
2-Fluorobiphenyl	52	50	150
2,4,6-Tribromophenol	78	50	150
Terphenyl-d14	48 ip	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2 jl	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2 jl	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4 jl	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10 jl	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2 jl	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	TWA-6-2	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/02/19	Lab ID:	909483-02
Date Analyzed:	10/02/19	Data File:	100228.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	38	15	99
Phenol-d6	27	11	65
Nitrobenzene-d5	65	50	150
2-Fluorobiphenyl	53	50	150
2,4,6-Tribromophenol	74	50	150
Terphenyl-d14	50	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2 j1	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2 j1	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4 j1	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10 j1	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2 j1	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

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ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID: TWA-6-1  
 Date Received: 09/27/19  
 Date Extracted: 10/02/19  
 Date Analyzed: 10/02/19  
 Matrix: Water  
 Units: ug/L (ppb)

Client: Crete Consulting  
 Project: Hylebos Marsh, F&BI 909483  
 Lab ID: 909483-03  
 Data File: 100229.D  
 Instrument: GCMS8  
 Operator: ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	39	15	99
Phenol-d6	26	11	65
Nitrobenzene-d5	58	50	150
2-Fluorobiphenyl	49 ip	50	150
2,4,6-Tribromophenol	67	50	150
Terphenyl-d14	42 ip	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2 jl	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2 jl	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4 jl	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10 jl	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2 jl	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	TWA-5-3	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/02/19	Lab ID:	909483-07
Date Analyzed:	10/03/19	Data File:	100230.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	38	15	99
Phenol-d6	27	11	65
Nitrobenzene-d5	80	50	150
2-Fluorobiphenyl	84	50	150
2,4,6-Tribromophenol	88	50	150
Terphenyl-d14	93	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2 j1	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2 j1	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4 j1	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10 j1	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2 j1	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	TWA-5-2	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/02/19	Lab ID:	909483-08
Date Analyzed:	10/03/19	Data File:	100231.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	41	15	99
Phenol-d6	31	11	65
Nitrobenzene-d5	67	50	150
2-Fluorobiphenyl	57	50	150
2,4,6-Tribromophenol	78	50	150
Terphenyl-d14	51	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2 j1	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2 j1	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4 j1	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10 j1	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2 j1	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	2.5
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/02/19	Lab ID:	09-2403 mb2
Date Analyzed:	10/02/19	Data File:	100218.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	40	15	99
Phenol-d6	26	11	65
Nitrobenzene-d5	80	50	150
2-Fluorobiphenyl	80	50	150
2,4,6-Tribromophenol	68	50	150
Terphenyl-d14	82	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2 j1	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2 j1	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4 j1	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1
Benzoic acid	<10 j1	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2 j1	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TWA-6-2-R	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	09/30/19	Lab ID:	909483-01
Date Analyzed:	09/30/19	Data File:	093023.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	94	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TWA-6-2	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	09/30/19	Lab ID:	909483-02
Date Analyzed:	09/30/19	Data File:	093024.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	94	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TWA-6-1	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	09/30/19	Lab ID:	909483-03
Date Analyzed:	09/30/19	Data File:	093025.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	94	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TWA-5-3	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	09/30/19	Lab ID:	909483-07
Date Analyzed:	09/30/19	Data File:	093026.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	94	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TWA-5-2	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	09/30/19	Lab ID:	909483-08
Date Analyzed:	09/30/19	Data File:	093027.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	94	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	09/30/19	Lab ID:	09-2389 mb
Date Analyzed:	09/30/19	Data File:	093022.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS/AEN

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	94	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-6-2-R	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	09/30/19	Lab ID:	909483-01
Date Analyzed:	10/01/19	Data File:	100109.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	20 ip	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-6-2	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	09/30/19	Lab ID:	909483-02
Date Analyzed:	10/01/19	Data File:	100110.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	10 ip	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-6-1	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	09/30/19	Lab ID:	909483-03
Date Analyzed:	10/01/19	Data File:	100111.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	8 ip	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-5-3	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	09/30/19	Lab ID:	909483-07
Date Analyzed:	10/01/19	Data File:	100112.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	41	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-5-2	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	09/30/19	Lab ID:	909483-08
Date Analyzed:	10/01/19	Data File:	100113.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	23 ip	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	09/30/19	Lab ID:	09-2402 mb
Date Analyzed:	10/01/19	Data File:	100106.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	47	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/19

Date Received: 09/27/19

Project: Hylebos Marsh, F&BI 909483

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 909483-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	94	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/19

Date Received: 09/27/19

Project: Hylebos Marsh, F&BI 909483

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: 909483-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	88	90	73-135	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	92	74-139



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/19

Date Received: 09/27/19

Project: Hylebos Marsh, F&BI 909483

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	100	100	58-134	0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/19

Date Received: 09/27/19

Project: Hylebos Marsh, F&BI 909483

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 910056-01 x5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	8.00	96	100	75-125	4
Cadmium	mg/kg (ppm)	5	<5	102	104	75-125	2
Chromium	mg/kg (ppm)	20	5.26	100	98	75-125	2
Copper	mg/kg (ppm)	20	<25	94	93	75-125	1
Lead	mg/kg (ppm)	10	6.63	108	97	75-125	11
Manganese	mg/kg (ppm)	20	543	0 b	0 b	75-125	0 b
Mercury	mg/kg (ppm)	5	<5	96	106	75-125	10
Nickel	mg/kg (ppm)	20	<5	93	92	75-125	1
Zinc	mg/kg (ppm)	50	53.0	96	101	75-125	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	119	80-120
Cadmium	mg/kg (ppm)	5	97	80-120
Chromium	mg/kg (ppm)	20	98	80-120
Copper	mg/kg (ppm)	20	98	80-120
Lead	mg/kg (ppm)	10	110	80-120
Manganese	mg/kg (ppm)	20	97	80-120
Mercury	mg/kg (ppm)	5	108	80-120
Nickel	mg/kg (ppm)	20	95	80-120
Zinc	mg/kg (ppm)	50	103	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/19

Date Received: 09/27/19

Project: Hylebos Marsh, F&BI 909483

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 910005-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	3.26	97	97	75-125	0
Cadmium	ug/L (ppb)	5	<1	100	96	75-125	4
Chromium	ug/L (ppb)	20	6.39	91	93	75-125	2
Copper	ug/L (ppb)	20	21.3	83	85	75-125	2
Lead	ug/L (ppb)	10	10.6	80	86	75-125	7
Manganese	ug/L (ppb)	20	234	130 b	174 b	75-125	29 b
Mercury	ug/L (ppb)	5	<1	84	85	75-125	1
Nickel	ug/L (ppb)	20	7.50	87	86	75-125	1
Zinc	ug/L (ppb)	50	179	91	97	75-125	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	87	80-120
Cadmium	ug/L (ppb)	5	98	80-120
Chromium	ug/L (ppb)	20	95	80-120
Copper	ug/L (ppb)	20	99	80-120
Lead	ug/L (ppb)	10	96	80-120
Manganese	ug/L (ppb)	20	94	80-120
Mercury	ug/L (ppb)	5	97	80-120
Nickel	ug/L (ppb)	20	96	80-120
Zinc	ug/L (ppb)	50	94	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/19

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Project: Hylebos Marsh, F&BI 909483

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	5	14	16	10-86	13
Bis(2-chloroethyl) ether	ug/L (ppb)	5	81	89	65-121	9
2-Chlorophenol	ug/L (ppb)	5	48 vo	57 vo	58-123	17
1,3-Dichlorobenzene	ug/L (ppb)	5	72	81	66-113	12
1,4-Dichlorobenzene	ug/L (ppb)	5	72	81	62-114	12
1,2-Dichlorobenzene	ug/L (ppb)	5	74	83	63-115	11
Benzyl alcohol	ug/L (ppb)	5	38	41	37-125	8
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	79	87	70-130	10
2-Methylphenol	ug/L (ppb)	5	37 vo	41	38-119	10
Hexachloroethane	ug/L (ppb)	5	76	81	64-117	6
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	86	93	70-130	8
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	32 vo	35 vo	44-110	9
Nitrobenzene	ug/L (ppb)	5	80	86	70-130	7
Isophorone	ug/L (ppb)	5	87	93	70-130	7
2-Nitrophenol	ug/L (ppb)	5	64	76	61-141	17
2,4-Dimethylphenol	ug/L (ppb)	5	57	63	12-127	10
Benzoic acid	ug/L (ppb)	32.5	4 vo	8 vo	10-102	67 vo
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	84	91	70-130	8
2,4-Dichlorophenol	ug/L (ppb)	5	67 vo	75	70-130	11
1,2,4-Trichlorobenzene	ug/L (ppb)	5	75	84	70-130	11
Naphthalene	ug/L (ppb)	5	80	87	65-111	8
Hexachlorobutadiene	ug/L (ppb)	5	73	84	65-115	14
4-Chloroaniline	ug/L (ppb)	10	77	81	24-146	5
4-Chloro-3-methylphenol	ug/L (ppb)	5	62	68	58-133	9
2-Methylnaphthalene	ug/L (ppb)	5	83	89	70-130	7
1-Methylnaphthalene	ug/L (ppb)	5	84	89	70-130	6
Hexachlorocyclopentadiene	ug/L (ppb)	5	81	96	36-112	17
2,4,6-Trichlorophenol	ug/L (ppb)	5	74	84	70-130	13
2,4,5-Trichlorophenol	ug/L (ppb)	5	76	89	70-130	16
2-Chloronaphthalene	ug/L (ppb)	5	85	92	70-130	8
2-Nitroaniline	ug/L (ppb)	5	88	95	64-143	8
Dimethyl phthalate	ug/L (ppb)	5	91	100	64-140	9
Acenaphthylene	ug/L (ppb)	5	91	97	70-130	6
2,6-Dinitrotoluene	ug/L (ppb)	5	98	103	70-130	5
3-Nitroaniline	ug/L (ppb)	10	83	87	53-134	5
Acenaphthene	ug/L (ppb)	5	90	96	65-122	6
2,4-Dinitrophenol	ug/L (ppb)	5	62	90	58-139	37 vo
Dibenzofuran	ug/L (ppb)	5	92	98	70-130	6
2,4-Dinitrotoluene	ug/L (ppb)	5	89	97	70-130	9
4-Nitrophenol	ug/L (ppb)	5	18	21	10-89	15
Diethyl phthalate	ug/L (ppb)	5	90	97	56-141	7
Fluorene	ug/L (ppb)	5	93	99	70-130	6
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	89	94	70-130	5
N-Nitrosodiphenylamine	ug/L (ppb)	5	91	97	70-130	6
4-Nitroaniline	ug/L (ppb)	10	78	82	66-134	5
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	83	97	69-138	16
4-Bromophenyl phenyl ether	ug/L (ppb)	5	92	99	70-130	7
Hexachlorobenzene	ug/L (ppb)	5	91	98	70-130	7
Pentachlorophenol	ug/L (ppb)	5	84	94	70-130	11
Phenanthrene	ug/L (ppb)	5	92	98	70-130	6
Anthracene	ug/L (ppb)	5	96	100	70-130	4
Carbazole	ug/L (ppb)	5	99	104	70-130	5
Di-n-butyl phthalate	ug/L (ppb)	5	92	97	70-130	5
Fluoranthene	ug/L (ppb)	5	99	104	70-130	5
Pyrene	ug/L (ppb)	5	94	104	70-130	10
Benzyl butyl phthalate	ug/L (ppb)	5	89	93	70-130	4
Benz(a)anthracene	ug/L (ppb)	5	99	102	70-130	3
Chrysene	ug/L (ppb)	5	102	106	70-130	4
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	94	95	63-139	1
Di-n-octyl phthalate	ug/L (ppb)	5	89	88	67-147	1
Benzo(a)pyrene	ug/L (ppb)	5	95	98	70-130	3
Benzo(b)fluoranthene	ug/L (ppb)	5	96	98	70-130	2
Benzo(k)fluoranthene	ug/L (ppb)	5	96	98	70-130	2
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	90	97	57-141	7
Dibenz(a,h)anthracene	ug/L (ppb)	5	87	94	57-137	8
Benzo(g,h,i)perylene	ug/L (ppb)	5	87	95	50-143	9

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/19

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Project: Hylebos Marsh, F&BI 909483

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 909479-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	106	10-172
Chloromethane	ug/L (ppb)	50	<10	99	25-166
Vinyl chloride	ug/L (ppb)	50	0.40	101	36-166
Bromomethane	ug/L (ppb)	50	<1	115	47-169
Chloroethane	ug/L (ppb)	50	<1	105	46-160
Trichlorofluoromethane	ug/L (ppb)	50	<1	112	44-165
Acetone	ug/L (ppb)	250	<50	67	10-182
1,1-Dichloroethene	ug/L (ppb)	50	<1	105	60-136
Hexane	ug/L (ppb)	50	<1	91	52-150
Methylene chloride	ug/L (ppb)	50	<5	98	67-132
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	102	74-127
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	104	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	97	70-128
2,2-Dichloropropane	ug/L (ppb)	50	<1	103	36-154
cis-1,2-Dichloroethene	ug/L (ppb)	50	4.4	101	71-127
Chloroform	ug/L (ppb)	50	<1	103	65-132
2-Butanone (MEK)	ug/L (ppb)	250	<10	84	10-129
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	100	48-149
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	108	60-146
1,1-Dichloropropene	ug/L (ppb)	50	<1	100	69-133
Carbon tetrachloride	ug/L (ppb)	50	<1	103	56-152
Benzene	ug/L (ppb)	50	<0.35	97	76-125
Trichloroethene	ug/L (ppb)	50	1.9	103	66-135
1,2-Dichloropropane	ug/L (ppb)	50	<1	94	78-125
Bromodichloromethane	ug/L (ppb)	50	<1	104	61-150
Dibromomethane	ug/L (ppb)	50	<1	102	66-141
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	94	10-185
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	99	72-132
Toluene	ug/L (ppb)	50	<1	92	76-122
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	91	76-130
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	92	68-131
2-Hexanone	ug/L (ppb)	250	<10	82	10-185
1,3-Dichloropropane	ug/L (ppb)	50	<1	91	71-128
Tetrachloroethene	ug/L (ppb)	50	<1	99	10-226
Dibromochloromethane	ug/L (ppb)	50	<1	99	70-139
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	92	69-134
Chlorobenzene	ug/L (ppb)	50	<1	95	77-122
Ethylbenzene	ug/L (ppb)	50	<1	95	69-135
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	99	73-137
m,p-Xylene	ug/L (ppb)	100	<2	95	69-135
o-Xylene	ug/L (ppb)	50	<1	94	60-140
Styrene	ug/L (ppb)	50	<1	92	71-133
Isopropylbenzene	ug/L (ppb)	50	<1	96	65-142
Bromoform	ug/L (ppb)	50	<1	104	65-142
n-Propylbenzene	ug/L (ppb)	50	<1	92	58-144
Bromobenzene	ug/L (ppb)	50	<1	95	75-124
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	93	66-137
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	92	51-154
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	90	53-150
2-Chlorotoluene	ug/L (ppb)	50	<1	93	66-127
4-Chlorotoluene	ug/L (ppb)	50	<1	92	65-130
tert-Butylbenzene	ug/L (ppb)	50	<1	98	65-137
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	93	59-146
sec-Butylbenzene	ug/L (ppb)	50	<1	93	64-140
p-Isopropyltoluene	ug/L (ppb)	50	<1	92	65-141
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	96	72-123
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	93	69-126
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	97	69-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	91	32-164
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	98	66-136
Hexachlorobutadiene	ug/L (ppb)	50	<1	94	60-143
Naphthalene	ug/L (ppb)	50	<1	93	44-164
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	99	69-148

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/19

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Project: Hylebos Marsh, F&BI 909483

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCS/D	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	107	109	25-158	2
Chloromethane	ug/L (ppb)	50	101	99	45-156	2
Vinyl chloride	ug/L (ppb)	50	105	99	50-154	6
Bromomethane	ug/L (ppb)	50	119	116	55-143	3
Chloroethane	ug/L (ppb)	50	108	106	58-146	2
Trichlorofluoromethane	ug/L (ppb)	250	114	112	50-150	2
Acetone	ug/L (ppb)	250	73	74	53-131	1
1,1-Dichloroethene	ug/L (ppb)	50	107	107	67-136	0
Hexane	ug/L (ppb)	50	93	92	57-137	1
Methylene chloride	ug/L (ppb)	50	98	97	39-148	1
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	105	103	64-147	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	105	103	68-128	2
1,1-Dichloroethane	ug/L (ppb)	50	99	97	79-121	2
2,2-Dichloropropane	ug/L (ppb)	50	106	103	55-143	3
cis-1,2-Dichloroethene	ug/L (ppb)	50	101	99	80-123	2
Chloroform	ug/L (ppb)	50	105	104	80-121	1
2-Butanone (MEK)	ug/L (ppb)	250	91	92	57-149	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	103	103	73-132	0
1,1,1-Trichloroethane	ug/L (ppb)	50	111	109	81-125	2
1,1-Dichloropropene	ug/L (ppb)	50	101	100	77-129	1
Carbon tetrachloride	ug/L (ppb)	50	105	104	75-158	1
Benzene	ug/L (ppb)	50	99	99	69-134	0
Trichloroethene	ug/L (ppb)	50	104	103	79-113	1
1,2-Dichloropropane	ug/L (ppb)	50	96	96	77-123	0
Bromodichloromethane	ug/L (ppb)	50	107	106	81-133	1
Dibromomethane	ug/L (ppb)	50	106	107	82-125	1
4-Methyl-2-pentanone	ug/L (ppb)	250	99	100	65-138	1
cis-1,3-Dichloropropene	ug/L (ppb)	50	103	102	82-132	1
Toluene	ug/L (ppb)	50	95	95	72-122	0
trans-1,3-Dichloropropene	ug/L (ppb)	50	96	96	80-136	0
1,1,2-Trichloroethane	ug/L (ppb)	50	96	97	75-124	1
2-Hexanone	ug/L (ppb)	250	88	89	60-136	1
1,3-Dichloropropane	ug/L (ppb)	50	95	95	76-126	0
Tetrachloroethene	ug/L (ppb)	50	102	102	76-121	0
Dibromochloromethane	ug/L (ppb)	50	104	105	84-133	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	98	98	82-115	0
Chlorobenzene	ug/L (ppb)	50	98	97	83-114	1
Ethylbenzene	ug/L (ppb)	50	97	97	77-124	0
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	104	103	84-127	1
m,p-Xylene	ug/L (ppb)	100	98	96	81-112	2
o-Xylene	ug/L (ppb)	50	97	96	81-121	1
Styrene	ug/L (ppb)	50	97	96	84-119	1
Isopropylbenzene	ug/L (ppb)	50	99	99	80-117	0
Bromoform	ug/L (ppb)	50	112	113	74-136	1
n-Propylbenzene	ug/L (ppb)	50	95	96	74-126	1
Bromobenzene	ug/L (ppb)	50	99	99	80-121	0
1,3,5-Trimethylbenzene	ug/L (ppb)	50	96	98	78-123	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	97	100	66-126	3
1,2,3-Trichloropropane	ug/L (ppb)	50	96	97	67-124	1
2-Chlorotoluene	ug/L (ppb)	50	97	97	77-127	0
4-Chlorotoluene	ug/L (ppb)	50	95	96	78-128	1
tert-Butylbenzene	ug/L (ppb)	50	101	103	80-123	2
1,2,4-Trimethylbenzene	ug/L (ppb)	50	96	97	79-122	1
sec-Butylbenzene	ug/L (ppb)	50	97	99	80-116	2
p-Isopropyltoluene	ug/L (ppb)	50	96	97	81-123	1
1,3-Dichlorobenzene	ug/L (ppb)	50	99	99	83-113	0
1,4-Dichlorobenzene	ug/L (ppb)	50	97	98	83-107	1
1,2-Dichlorobenzene	ug/L (ppb)	50	101	102	84-112	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	98	99	57-141	1
1,2,4-Trichlorobenzene	ug/L (ppb)	50	102	102	72-130	0
Hexachlorobutadiene	ug/L (ppb)	50	102	103	53-141	1
Naphthalene	ug/L (ppb)	50	97	99	64-133	2
1,2,3-Trichlorobenzene	ug/L (ppb)	50	102	103	65-136	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/08/19

Date Received: 09/27/19

Project: Hylebos Marsh, F&BI 909483

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	52	59	35-111	13
Aroclor 1260	ug/L (ppb)	0.25	58	63	29-130	8

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

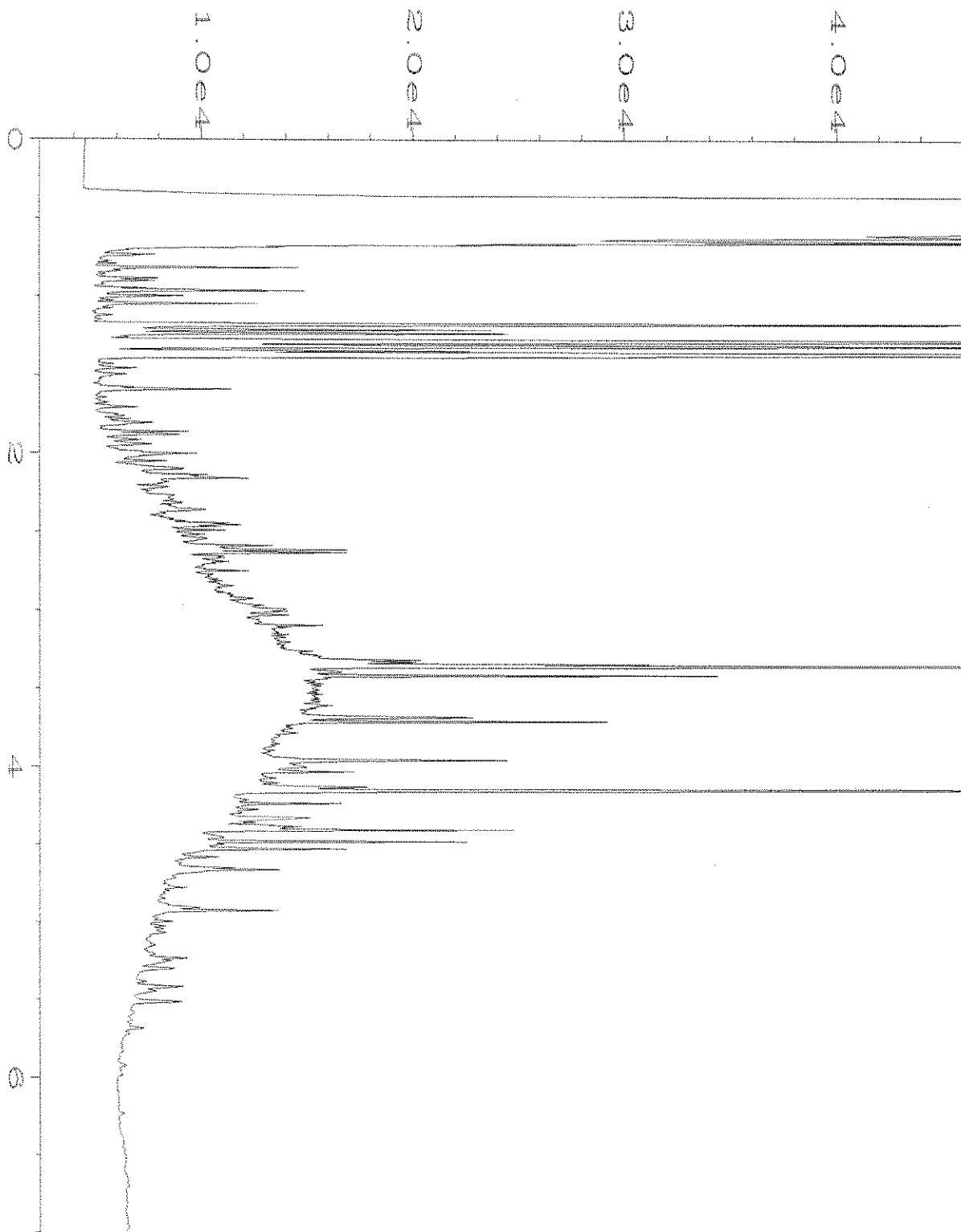
pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

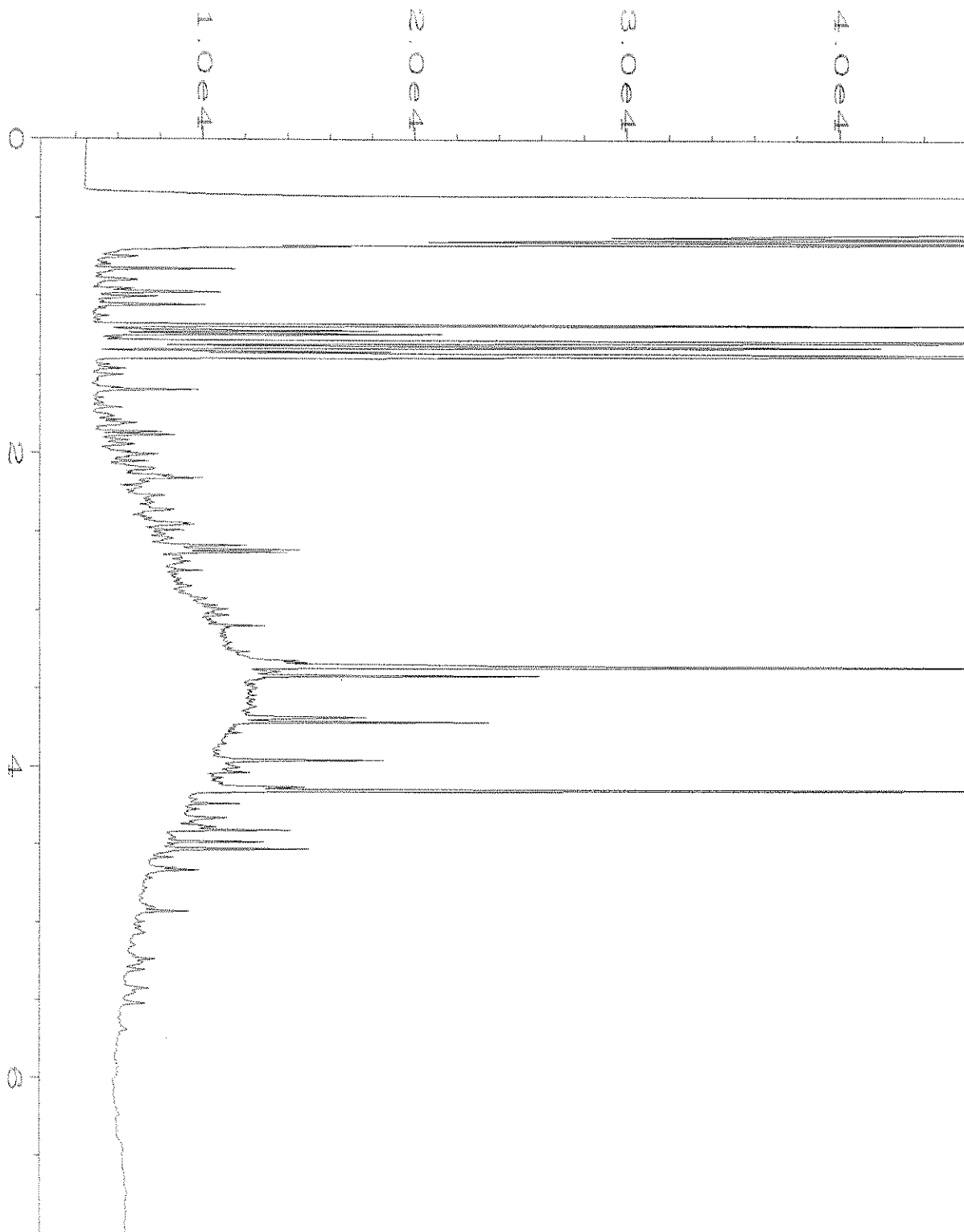
vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

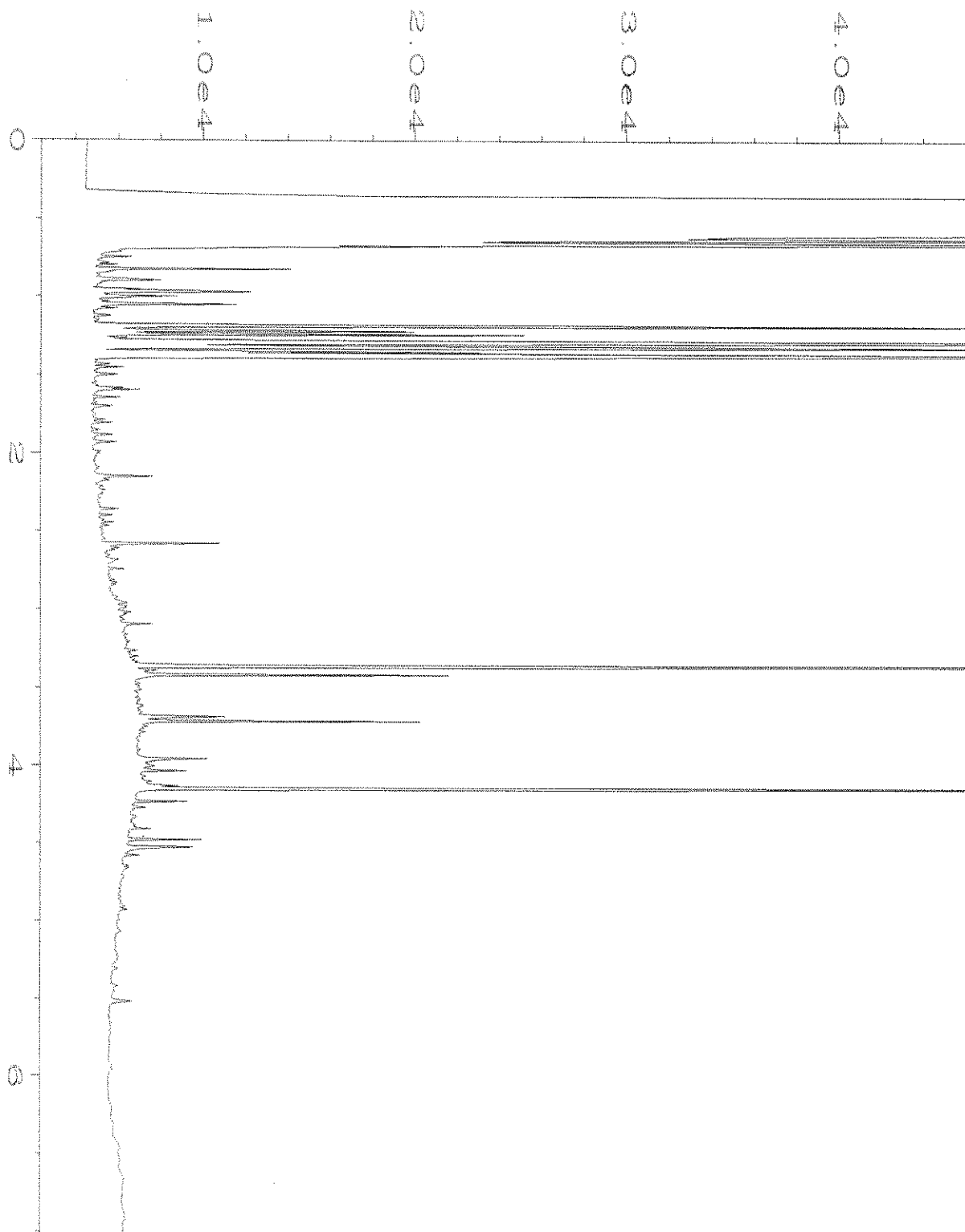




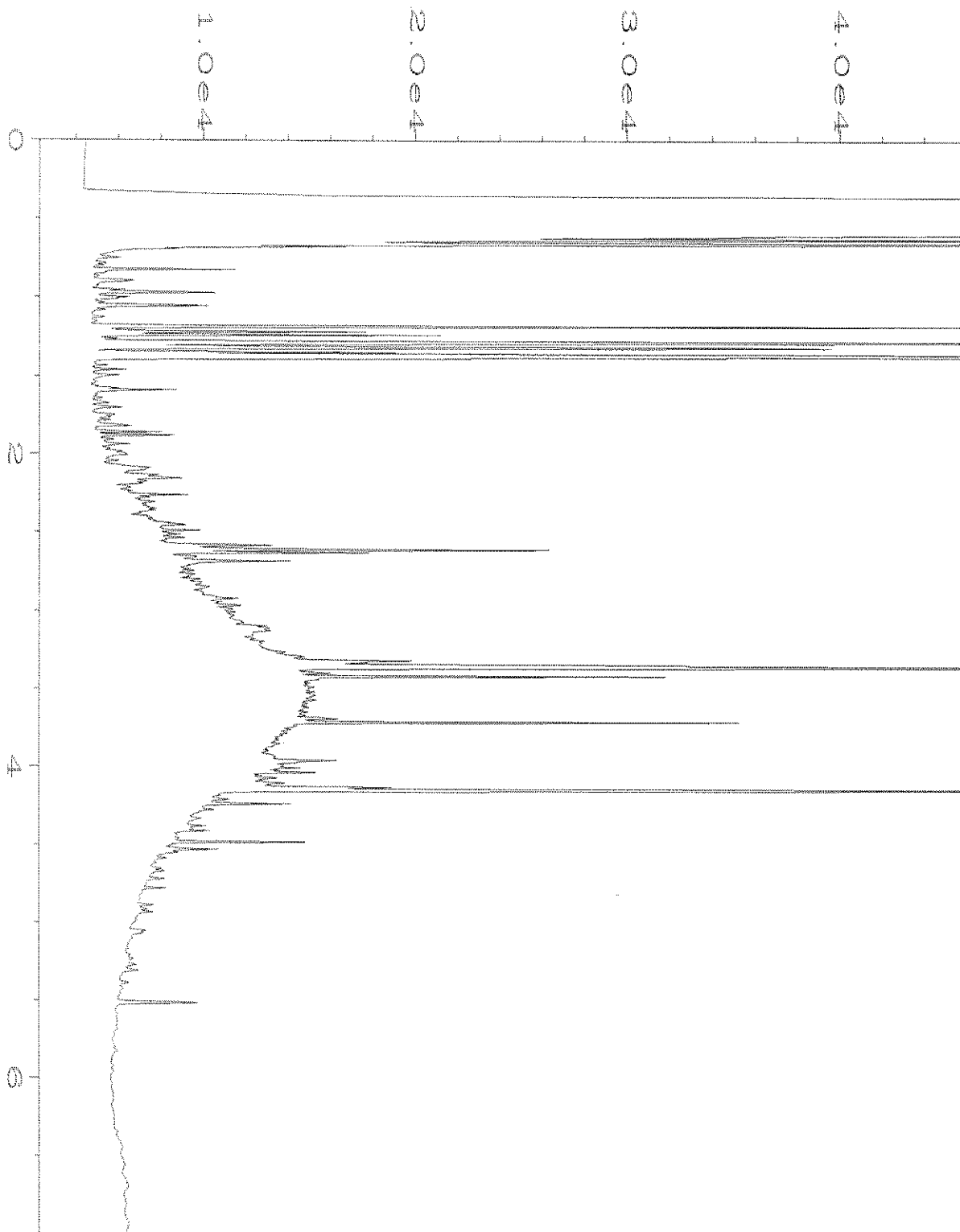
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Sample Name	: 909483-01	Sequence Line	: 7
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Acquired on	: 30 Sep 19 06:39 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	01 Oct 19 09:50 AM		



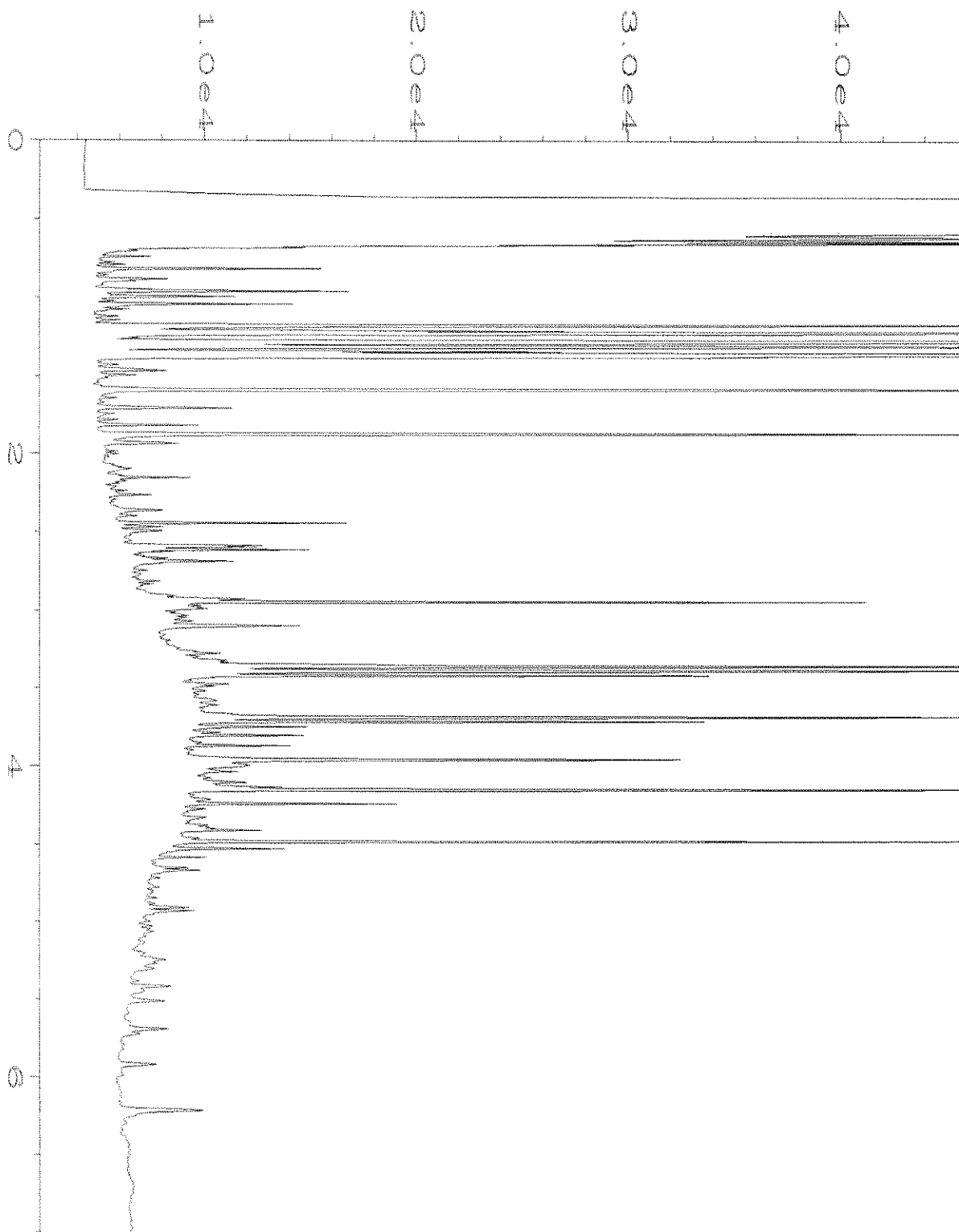
Data File Name	: C:\HPCHEM\6\DATA\09-30-19\040F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 40
Instrument	: GC6	Injection Number	: 1
Sample Name	: 909483-02	Sequence Line	: 7
Run Time Bar Code:		Instrument Method	: DX.MTH
Acquired on	: 30 Sep 19 06:50 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	01 Oct 19 09:50 AM		



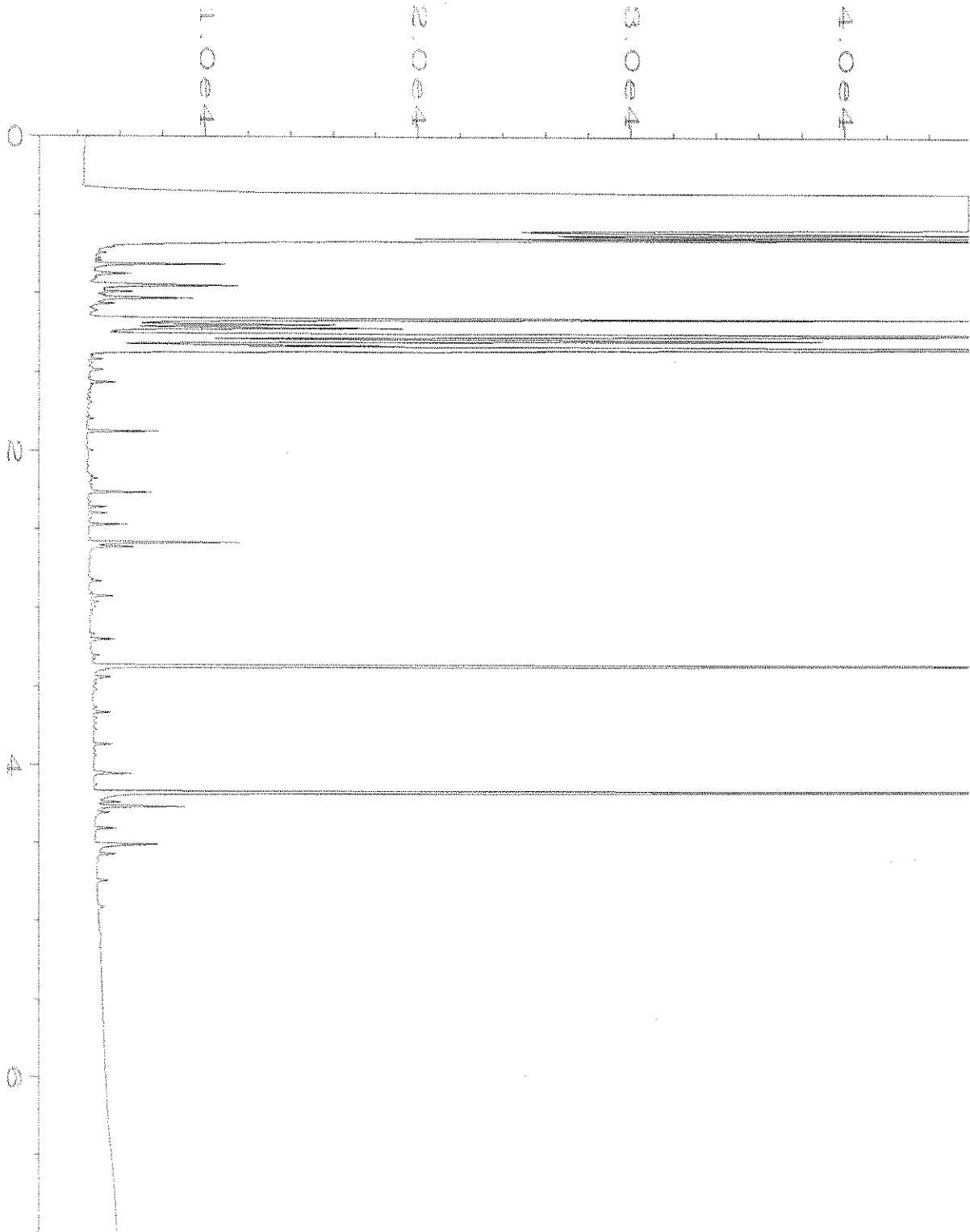
Data File Name	: C:\HPCHEM\6\DATA\09-30-19\041F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 41
Instrument	: GC6	Injection Number	: 1
Sample Name	: 909483-03	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 30 Sep 19 07:01 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	01 Oct 19 09:50 AM		



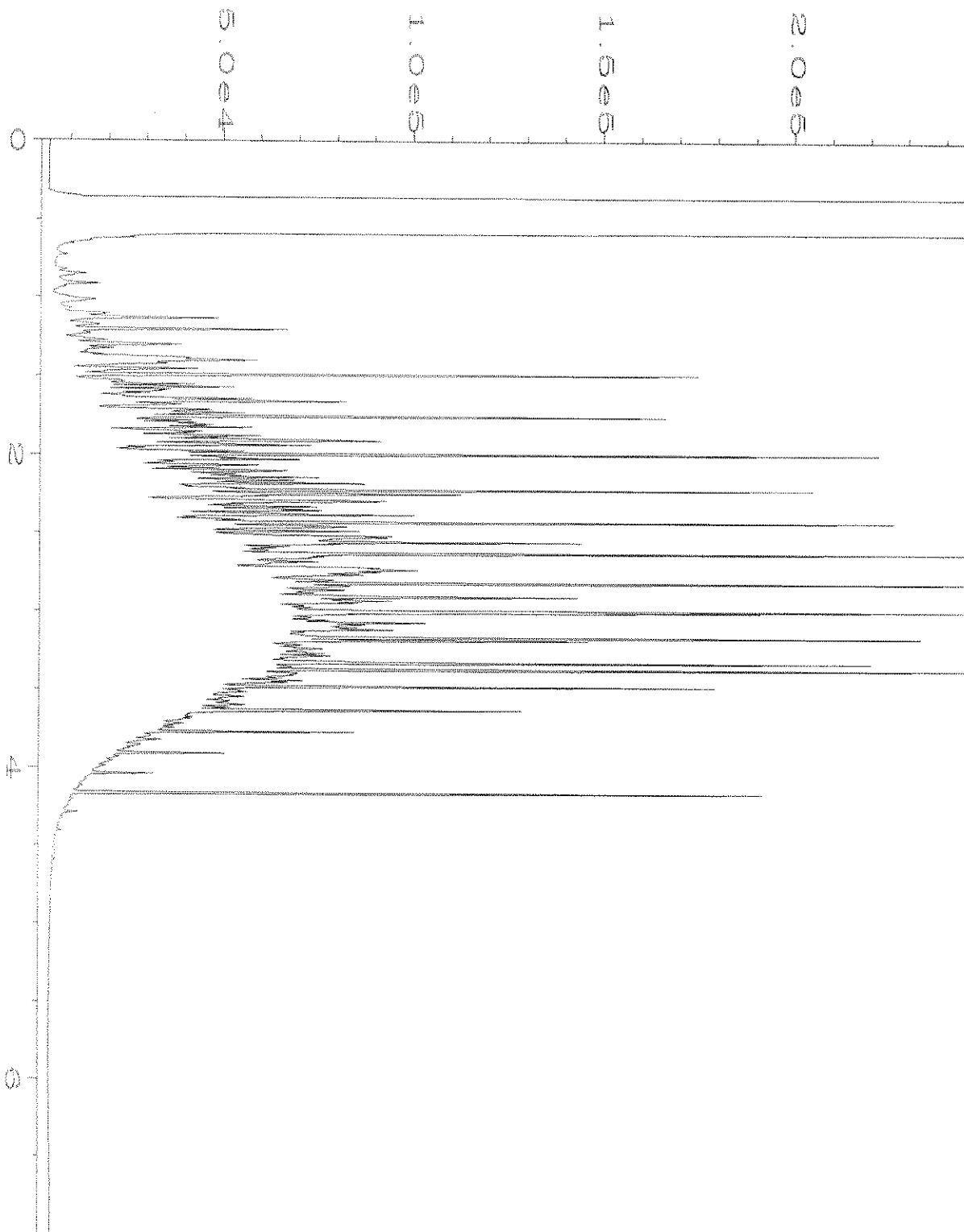
Data File Name	: C:\HPCHEM\6\DATA\09-30-19\042F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 42
Instrument	: GC6	Injection Number	: 1
Sample Name	: 909483-07	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 30 Sep 19 07:12 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	01 Oct 19 09:50 AM		



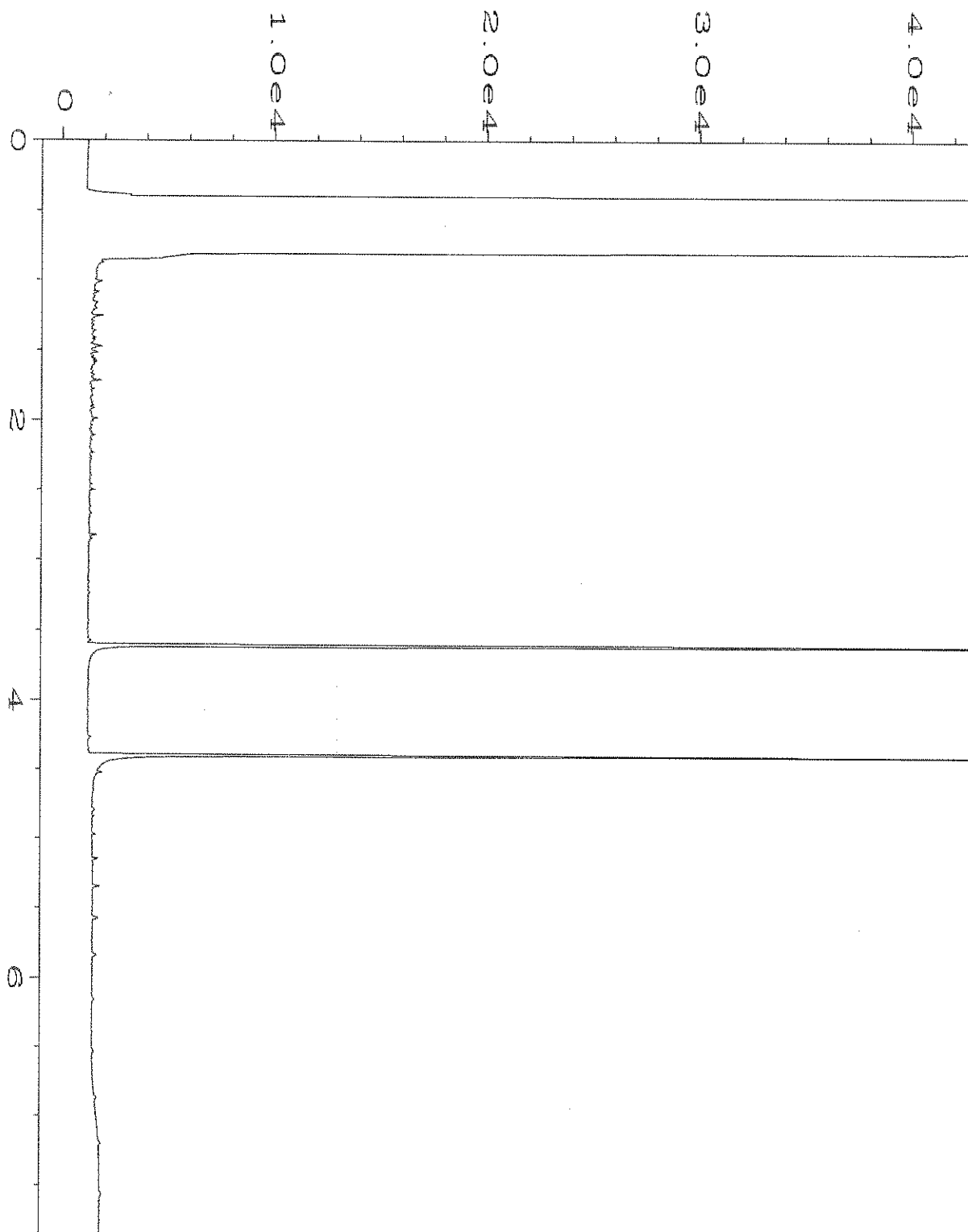
Data File Name	: C:\HPCHEM\6\DATA\09-30-19\043F0701.D	Page Number	: 1
Operator	: TL	Vial Number	: 43
Instrument	: GC6	Injection Number	: 1
Sample Name	: 909483-08	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 30 Sep 19 07:23 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	01 Oct 19 09:50 AM		



Data File Name	: C:\HPCHEM\6\DATA\09-30-19\021F0501.D	Page Number	: 1
Operator	: TL	Vial Number	: 21
Instrument	: GC6	Injection Number	: 1
Sample Name	: 09-2383 mb	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 30 Sep 19 02:55 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	01 Oct 19 09:46 AM		

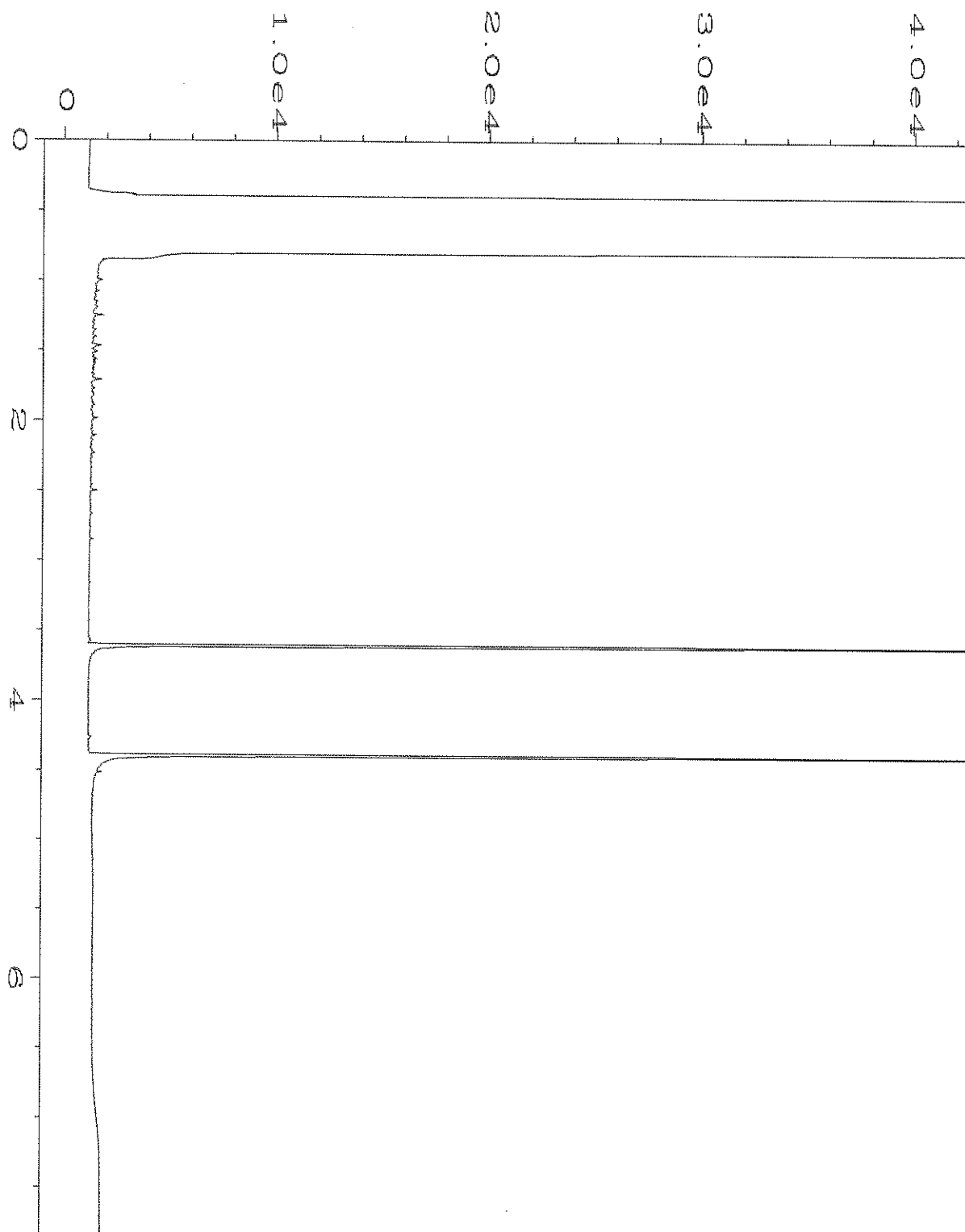


Data File Name	: C:\HPCHEM\6\DATA\09-30-19\005F0401.D	Page Number	: 1
Operator	: TL	Vial Number	: 5
Instrument	: GC6	Injection Number	: 1
Sample Name	: 1000 Dx 57-78B	Sequence Line	: 4
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 30 Sep 19 02:22 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	01 Oct 19 09:47 AM		

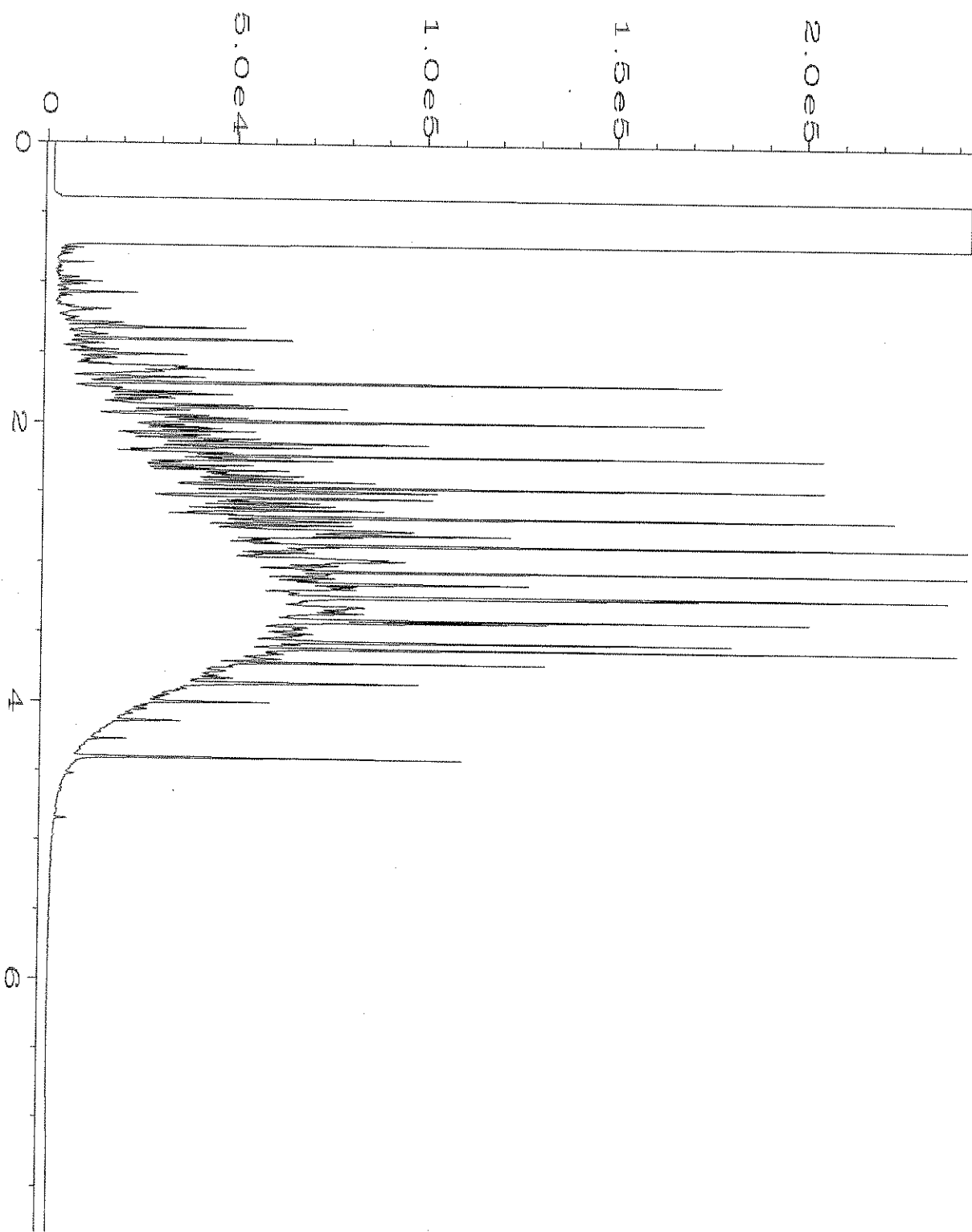


Data File Name	: C:\HPCHEM\4\DATA\09-30-19\019F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 19
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 909483-06	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 30 Sep 19 11:30 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	01 Oct 19 08:58 AM		





Data File Name	: C:\HPCHEM\4\DATA\09-30-19\015F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 15
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 09-2387 mb	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 30 Sep 19 10:41 AM	Analysis Method	: DEFAULT.MTH
Report Created on:	01 Oct 19 08:58 AM		



Data File Name	: C:\HPCHEM\4\DATA\09-30-19\005F0401.D	Page Number	: 1
Operator	: TL	Vial Number	: 5
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 1000 Dx 57-78B	Sequence Line	: 4
Run Time Bar Code:		Instrument Method	: DX.MTH
Acquired on	: 30 Sep 19 02:30 PM	Analysis Method	: DEFAULT.MTH
Report Created on:	01 Oct 19 08:58 AM		

909483

SAMPLE CHAIN OF CUSTODY

ME 09-27-19 Page # 1 of 1 USI

Report To J. Stevens

Company Crete

Address 108 S Washington St

City, State, ZIP Seattle WA

Phone 206 999 2744 Email jane.stevens@creteconsulting.com

SAMPLERS (signature) [Signature]

PROJECT NAME Hylabos Marsh

REMARKS Mt.H: As, Cd, Cr, Cu, Pb, Hg, Ni, Zn, Mn

INVOICE TO Hylabos Marsh

ANALYSES REQUESTED

TURNAROUND TIME 805  
Standard Turnaround 1W3  
Rush charges authorized by: AT4

SAMPLE DISPOSAL  
 Standard Turnaround  
 RUSH  
 Dispose after 30 days  
 Archive Samples  
 Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	PCB	Metals-total	Notes
TWA-6-2-R	01 A-F	9.26.19	1420	Water	2	X	X	X	X	X	X	X	X	X	lab filter svoc
TWA-6-2	02	9.26.19	1415	Water	2	X	X	X	X	X	X	X	X	X	lab filter svoc
TWA-6-1	03	9.26.19	1155	Water	2	X	X	X	X	X	X	X	X	X	lab filter svoc
TWA-5-59-S	04 A-D	9.25.19	1325	Soil	4										HOLD
TWA-6-21-5	05	9.26.19	1235	Soil	4										HOLD
DEUM-1	06 A-B	9.26.19	1540	Soil	2	X	X	X	X	X	X	X	X	X	negs.
TWA-5-3	07 A-F	9.25.19	1200	Water	2	X	X	X	X	X	X	X	X	X	lab filter svoc
TWA-5-2	08	9.25.19	0810	Water	2	X	X	X	X	X	X	X	X	X	lab filter svoc
Tipblak	09	9.26.19	1545		1										

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	Michael Berger	CRETE	9-27-19	11:00
<u>[Signature]</u>	Jesse J.	Fedex	9-27-19	11:00am
<u>[Signature]</u>	HONG DEWYEN	FBI	9/27/19	11:40

Friedman & Bruya, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029  
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

January 28, 2020

Jamie Stevens, Project Manager  
Crete Consulting  
108 S. Washington St., Suite 300  
Seattle, WA 98104

Dear Ms Stevens:

Included are the additional results from the testing of material submitted on September 27, 2019 from the Hylebos Marsh, F&BI 909483 project. There are 12 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
CTC0128R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 27, 2019 by Friedman & Bruya, Inc. from the Crete Consulting Hylebos Marsh, F&BI 909483 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Crete Consulting</u>
909483 -01	TWA-6-2-R
909483 -02	TWA-6-2
909483 -03	TWA-6-1
909483 -04	TWA-5-S9-S
909483 -05	TWA-6-21-S
909483 -06	DRUM-1
909483 -07	TWA-5-3
909483 -08	TWA-5-2
909483 -09	Trip Blank

Review of the 6020B data shows the water samples reported for selenium may be affected by a brackish sample matrix.

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6-2-R	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/01/19	Lab ID:	909483-01 x10
Date Analyzed:	10/01/19	Data File:	909483-01 x10.135
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Selenium	22.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6-2	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/01/19	Lab ID:	909483-02 x10
Date Analyzed:	10/01/19	Data File:	909483-02 x10.136
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Selenium	21.6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6-1	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/01/19	Lab ID:	909483-03 x10
Date Analyzed:	10/01/19	Data File:	909483-03 x10.137
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Selenium	<10
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-5-3	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/01/19	Lab ID:	909483-07 x10
Date Analyzed:	10/01/19	Data File:	909483-07 x10.138
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Selenium	35.3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-5-2	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/01/19	Lab ID:	909483-08 x10
Date Analyzed:	10/01/19	Data File:	909483-08 x10.142
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Selenium	21.3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/01/19	Lab ID:	I9-610 mb
Date Analyzed:	10/01/19	Data File:	I9-610 mb.128
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Selenium	<1
----------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	DRUM-1	Client:	Crete Consulting
Date Received:	09/27/19	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/03/19	Lab ID:	909483-06
Date Analyzed:	10/03/19	Data File:	909483-06.125
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
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Selenium	<1
----------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	Hylebos Marsh, F&BI 909483
Date Extracted:	10/03/19	Lab ID:	I9-615 mb2
Date Analyzed:	10/04/19	Data File:	I9-615 mb2.045
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Selenium	<1
----------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/28/20

Date Received: 09/27/19

Project: Hylebos Marsh, F&BI 909483

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 910005-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Selenium	ug/L (ppb)	5	<1	97	98	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Selenium	ug/L (ppb)	5	90	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/28/20

Date Received: 09/27/19

Project: Hylebos Marsh, F&BI 909483

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 910056-01 x5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Selenium	mg/kg (ppm)	5	<5	97	93	75-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Selenium	mg/kg (ppm)	5	94	80-120

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



909483

SAMPLE CHAIN OF CUSTODY

ME 09-27-19

Page # 1 of 1 US/

Report To J. Stevens

Company Crete

Address 108 S Washington St

City, State, ZIP Seattle WA

Phone 206 999 2344 Email Jane.Stevens@creteconsulting.com

SAMPLERS (signature) R. Waldo  
PROJECT NAME Hylabos Marsh  
PO # Hylabos Marsh

REMARKS  
Mult: As, Cd, Cr, Cu, Pb, Hg, Ni, Zn, Mn  
INVOICE TO

TURNAROUND TIME 805  
Standard Turnaround W3  
RUSH charges authorized by: AT4  
SAMPLE DISPOSAL  
 Dispose after 30 days  
 Archive Samples  
 Other

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED									
						TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	PCB	Metals-total	
TWA-6-2-R	01 A-F	9-26-19	1420	Water	26	X	X	X	X	X	X	X	X	X	Lab filter SVOC
TWA-6-2	02	9-26-19	1415	Water	26	X	X	X	X	X	X	X	X	X	Lab filter SVOC
TWA-6-1	03	9-26-19	1155	Water	26	X	X	X	X	X	X	X	X	X	Lab filter SVOC
TWA-5-59S	04 A-D	9-25-19	1325	Soil	4										HOLD
TWA-6-21-5	05	9-26-19	1235	Soil	4										HOLD
DEUM-1	06 A-B	9-26-19	1540	Soil	2	X	X	X	X	X	X	X	X	X	negs.
TWA-5-3	07 A-F	9-25-19	1200	Water	26	X	X	X	X	X	X	X	X	X	Lab filter SVOC
TWA-5-2	08	9-25-19	0810	Water	26	X	X	X	X	X	X	X	X	X	Lab filter SVOC
Tripback	09	9-26-19	1545		1										

Report  
SE per  
Notes  
GRT 1/2/21

Friedman & Bruya, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029  
Ph. (206) 285-8282

RECEIVED BY	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	<u>Michael Myers</u>	<u>CRETE</u>	<u>9-27-19</u>	<u>11:00</u>
<u>[Signature]</u>	<u>Jesse J.</u>	<u>Federal</u>	<u>9-27-19</u>	<u>11:00am</u>
<u>[Signature]</u>	<u>HONG DINGYUAN</u>	<u>CPG</u>	<u>9/27/19</u>	<u>11:40</u>

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

November 12, 2019

Jamie Stevens, Project Manager  
Crete Consulting  
108 S. Washington St., Suite 300  
Seattle, WA 98104

Dear Ms Stevens:

Included are the results from the testing of material submitted on November 1, 2019 from the POS T-30, F&BI 911020 project. There are 15 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
CTC1112R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on November 1, 2019 by Friedman & Bruya, Inc. from the Crete Consulting POS T-30, F&BI 911020 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Crete Consulting</u>
911020 -01	Disposal-19

The sample was sent to Fremont Analytical for flashpoint analysis. The report is enclosed.

The 8270D SIM phenanthrene concentration exceeded the calibration range of the instrument. The data were flagged accordingly.

Bromomethane in the 8260C matrix spike, laboratory control sample, and laboratory control sample duplicate exceeded the acceptance criteria. The analyte was not detected in the sample, therefore the data were acceptable.

The 8260C acetone laboratory control sample and calibration standard did not pass the acceptance criteria. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Disposal-19	Client:	Crete Consulting
Date Received:	11/01/19	Project:	POS T-30, F&BI 911020
Date Extracted:	11/05/19	Lab ID:	911020-01
Date Analyzed:	11/06/19	Data File:	911020-01.188
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	4.58
Barium	26.5
Cadmium	<1
Chromium	1.36
Copper	6.49
Lead	18.8
Mercury	<1
Nickel	2.63
Selenium	1.33
Silver	<1
Zinc	22.8

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	POS T-30, F&BI 911020
Date Extracted:	11/05/19	Lab ID:	I9-710 mb
Date Analyzed:	11/06/19	Data File:	I9-710 mb.183
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	<1
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Mercury	<1
Nickel	<1
Selenium	<1
Silver	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Disposal-19	Client:	Crete Consulting
Date Received:	11/01/19	Project:	POS T-30, F&BI 911020
Date Extracted:	11/05/19	Lab ID:	911020-01 1/1000
Date Analyzed:	11/05/19	Data File:	110522.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	386 d	31	160
Benzo(a)anthracene-d12	265 d	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	320
Acenaphthylene	<20
Acenaphthene	1,400
Fluorene	6,000
Phenanthrene	9,500 ve
Anthracene	<20
Fluoranthene	220
Pyrene	400
Benz(a)anthracene	35
Chrysene	86
Benzo(a)pyrene	<20
Benzo(b)fluoranthene	<20
Benzo(k)fluoranthene	<20
Indeno(1,2,3-cd)pyrene	<20
Dibenz(a,h)anthracene	<20
Benzo(g,h,i)perylene	<20

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	POS T-30, F&BI 911020
Date Extracted:	11/05/19	Lab ID:	09-2710 mb
Date Analyzed:	11/05/19	Data File:	110517.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	93	31	160
Benzo(a)anthracene-d12	96	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Disposal-19	Client:	Crete Consulting
Date Received:	11/01/19	Project:	POS T-30, F&BI 911020
Date Extracted:	11/05/19	Lab ID:	911020-01 1/10
Date Analyzed:	11/05/19	Data File:	110541.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	57	121
Toluene-d8	116	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<10	1,3-Dichloropropane	<10
Chloromethane	<100	Tetrachloroethene	<10
Vinyl chloride	<2	Dibromochloromethane	<10
Bromomethane	<10	1,2-Dibromoethane (EDB)	<10
Chloroethane	<10	Chlorobenzene	<10
Trichlorofluoromethane	<10	Ethylbenzene	<10
Acetone	<500 ca jl	1,1,1,2-Tetrachloroethane	<10
1,1-Dichloroethene	<10	m,p-Xylene	<20
Hexane	<10	o-Xylene	<10
Methylene chloride	<50	Styrene	<10
Methyl t-butyl ether (MTBE)	<10	Isopropylbenzene	<10
trans-1,2-Dichloroethene	<10	Bromoform	<10
1,1-Dichloroethane	<10	n-Propylbenzene	11
2,2-Dichloropropane	<10	Bromobenzene	<10
cis-1,2-Dichloroethene	<10	1,3,5-Trimethylbenzene	<10
Chloroform	<10	1,1,2,2-Tetrachloroethane	<10
2-Butanone (MEK)	<100	1,2,3-Trichloropropane	<10
1,2-Dichloroethane (EDC)	<10	2-Chlorotoluene	<10
1,1,1-Trichloroethane	<10	4-Chlorotoluene	<10
1,1-Dichloropropene	<10	tert-Butylbenzene	<10
Carbon tetrachloride	<10	1,2,4-Trimethylbenzene	<10
Benzene	<3.5	sec-Butylbenzene	<10
Trichloroethene	<10	p-Isopropyltoluene	<10
1,2-Dichloropropane	<10	1,3-Dichlorobenzene	<10
Bromodichloromethane	<10	1,4-Dichlorobenzene	<10
Dibromomethane	<10	1,2-Dichlorobenzene	<10
4-Methyl-2-pentanone	<100	1,2-Dibromo-3-chloropropane	<100
cis-1,3-Dichloropropene	<10	1,2,4-Trichlorobenzene	<10
Toluene	<10	Hexachlorobutadiene	<10
trans-1,3-Dichloropropene	<10	Naphthalene	<10
1,1,2-Trichloroethane	<10	1,2,3-Trichlorobenzene	<10
2-Hexanone	<100		



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	POS T-30, F&BI 911020
Date Extracted:	11/05/19	Lab ID:	09-2682 mb
Date Analyzed:	11/05/19	Data File:	110509.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	57	121
Toluene-d8	108	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 ca jl	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Disposal-19	Client:	Crete Consulting
Date Received:	11/01/19	Project:	POS T-30, F&BI 911020
Date Extracted:	11/05/19	Lab ID:	911020-01 1/100
Date Analyzed:	11/06/19	Data File:	110628.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	35 d	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<100
Aroclor 1232	<100
Aroclor 1016	<100
Aroclor 1242	<100
Aroclor 1248	<100
Aroclor 1254	<10
Aroclor 1260	<10
Aroclor 1262	<10
Aroclor 1268	<10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	POS T-30, F&BI 911020
Date Extracted:	11/05/19	Lab ID:	09-2706 mb
Date Analyzed:	11/06/19	Data File:	110627.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	50	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/12/19

Date Received: 11/01/19

Project: POS T-30, F&BI 911020

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 911022-01 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<10	105	104	75-125	1
Barium	ug/L (ppb)	50	12.7	100	100	75-125	0
Cadmium	ug/L (ppb)	5	<10	97	98	75-125	1
Chromium	ug/L (ppb)	20	<10	93	91	75-125	2
Copper	ug/L (ppb)	20	<50	93	92	75-125	1
Lead	ug/L (ppb)	10	<10	98	101	75-125	3
Mercury	ug/L (ppb)	5	<10	97	100	75-125	3
Nickel	ug/L (ppb)	20	<10	93	92	75-125	1
Selenium	ug/L (ppb)	5	<10	100	103	75-125	3
Silver	ug/L (ppb)	5	<10	90	92	75-125	2
Zinc	ug/L (ppb)	50	<50	94	96	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	98	80-120
Barium	ug/L (ppb)	50	95	80-120
Cadmium	ug/L (ppb)	5	97	80-120
Chromium	ug/L (ppb)	20	94	80-120
Copper	ug/L (ppb)	20	97	80-120
Lead	ug/L (ppb)	10	98	80-120
Mercury	ug/L (ppb)	5	95	80-120
Nickel	ug/L (ppb)	20	98	80-120
Selenium	ug/L (ppb)	5	100	80-120
Silver	ug/L (ppb)	5	97	80-120
Zinc	ug/L (ppb)	50	98	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/12/19

Date Received: 11/01/19

Project: POS T-30, F&BI 911020

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR PAHS BY EPA METHOD 8270D SIM**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	1	77	69	57-114	11
Acenaphthylene	ug/L (ppb)	1	81	73	65-119	10
Acenaphthene	ug/L (ppb)	1	83	75	66-118	10
Fluorene	ug/L (ppb)	1	84	77	64-125	9
Phenanthrene	ug/L (ppb)	1	86	80	67-120	7
Anthracene	ug/L (ppb)	1	82	78	65-122	5
Fluoranthene	ug/L (ppb)	1	80	78	65-127	3
Pyrene	ug/L (ppb)	1	86	79	62-130	8
Benz(a)anthracene	ug/L (ppb)	1	90	83	60-118	8
Chrysene	ug/L (ppb)	1	94	83	66-125	12
Benzo(b)fluoranthene	ug/L (ppb)	1	74	71	55-135	4
Benzo(k)fluoranthene	ug/L (ppb)	1	79	71	62-125	11
Benzo(a)pyrene	ug/L (ppb)	1	73	69	58-127	6
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	1	64	65	36-142	2
Dibenz(a,h)anthracene	ug/L (ppb)	1	66	66	37-133	0
Benzo(g,h,i)perylene	ug/L (ppb)	1	66	66	34-135	0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/12/19

Date Received: 11/01/19

Project: POS T-30, F&BI 911020

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 911010-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	114	10-172
Chloromethane	ug/L (ppb)	50	<10	118	25-166
Vinyl chloride	ug/L (ppb)	50	10	122	36-166
Bromomethane	ug/L (ppb)	50	<1	176 vo	47-169
Chloroethane	ug/L (ppb)	50	<1	124	46-160
Trichlorofluoromethane	ug/L (ppb)	50	<1	122	44-165
Acetone	ug/L (ppb)	250	<50 ca	67	10-182
1,1-Dichloroethene	ug/L (ppb)	50	<1	122	60-136
Hexane	ug/L (ppb)	50	<1	106	52-150
Methylene chloride	ug/L (ppb)	50	<5	119	67-132
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	120	74-127
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	115	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	120	70-128
2,2-Dichloropropane	ug/L (ppb)	50	<1	102	36-154
cis-1,2-Dichloroethene	ug/L (ppb)	50	27	120 b	71-127
Chloroform	ug/L (ppb)	50	<1	120	65-132
2-Butanone (MEK)	ug/L (ppb)	250	<10	96	10-129
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	124	48-149
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	118	60-146
1,1-Dichloropropene	ug/L (ppb)	50	<1	119	69-133
Carbon tetrachloride	ug/L (ppb)	50	<1	125	56-152
Benzene	ug/L (ppb)	50	6.7	120	76-125
Trichloroethene	ug/L (ppb)	50	1.5	116	66-135
1,2-Dichloropropane	ug/L (ppb)	50	<1	120	78-125
Bromodichloromethane	ug/L (ppb)	50	<1	124	61-150
Dibromomethane	ug/L (ppb)	50	<1	118	66-141
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	123	10-185
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	127	72-132
Toluene	ug/L (ppb)	50	<1	92	76-122
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	95	76-130
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	94	68-131
2-Hexanone	ug/L (ppb)	250	<10	75	10-185
1,3-Dichloropropane	ug/L (ppb)	50	<1	95	71-128
Tetrachloroethene	ug/L (ppb)	50	<1	87	10-226
Dibromochloromethane	ug/L (ppb)	50	<1	100	70-139
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	98	69-134
Chlorobenzene	ug/L (ppb)	50	<1	91	77-122
Ethylbenzene	ug/L (ppb)	50	<1	91	69-135
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	93	73-137
m,p-Xylene	ug/L (ppb)	100	4.3	90	69-135
o-Xylene	ug/L (ppb)	50	<1	90	60-140
Styrene	ug/L (ppb)	50	<1	91	71-133
Isopropylbenzene	ug/L (ppb)	50	<1	91	65-142
Bromoform	ug/L (ppb)	50	<1	103	65-142
n-Propylbenzene	ug/L (ppb)	50	<1	86	58-144
Bromobenzene	ug/L (ppb)	50	<1	86	75-124
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	85	66-137
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	88	51-154
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	85	53-150
2-Chlorotoluene	ug/L (ppb)	50	<1	85	66-127
4-Chlorotoluene	ug/L (ppb)	50	<1	85	65-130
tert-Butylbenzene	ug/L (ppb)	50	<1	86	65-137
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	84	59-146
sec-Butylbenzene	ug/L (ppb)	50	<1	85	64-140
p-Isopropyltoluene	ug/L (ppb)	50	<1	84	65-141
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	86	72-123
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	85	69-126
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	85	69-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	82	32-164
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	83	66-136
Hexachlorobutadiene	ug/L (ppb)	50	<1	76	60-143
Naphthalene	ug/L (ppb)	50	<1	86	44-164
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	85	69-148

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/12/19

Date Received: 11/01/19

Project: POS T-30, F&BI 911020

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	112	105	25-158	6
Chloromethane	ug/L (ppb)	50	104	96	45-156	8
Vinyl chloride	ug/L (ppb)	50	112	103	50-154	8
Bromomethane	ug/L (ppb)	50	160 vo	154 vo	55-143	4
Chloroethane	ug/L (ppb)	50	117	109	58-146	7
Trichlorofluoromethane	ug/L (ppb)	250	112	106	50-150	6
Acetone	ug/L (ppb)	250	58	52 vo	53-131	11
1,1-Dichloroethene	ug/L (ppb)	50	116	110	67-136	5
Hexane	ug/L (ppb)	50	97	95	57-137	2
Methylene chloride	ug/L (ppb)	50	108	102	39-148	6
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	112	105	64-147	6
trans-1,2-Dichloroethene	ug/L (ppb)	50	108	103	68-128	5
1,1-Dichloroethane	ug/L (ppb)	50	108	104	79-121	4
2,2-Dichloropropane	ug/L (ppb)	50	111	104	55-143	7
cis-1,2-Dichloroethene	ug/L (ppb)	50	110	106	80-123	4
Chloroform	ug/L (ppb)	50	107	104	80-121	3
2-Butanone (MEK)	ug/L (ppb)	250	72	68	57-149	6
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	101	98	73-132	3
1,1,1-Trichloroethane	ug/L (ppb)	50	106	100	81-125	6
1,1-Dichloropropene	ug/L (ppb)	50	100	99	77-129	1
Carbon tetrachloride	ug/L (ppb)	50	115	108	75-158	6
Benzene	ug/L (ppb)	50	101	98	69-134	3
Trichloroethene	ug/L (ppb)	50	95	94	79-113	1
1,2-Dichloropropane	ug/L (ppb)	50	97	94	77-123	3
Bromodichloromethane	ug/L (ppb)	50	103	100	81-133	3
Dibromomethane	ug/L (ppb)	50	95	93	82-125	2
4-Methyl-2-pentanone	ug/L (ppb)	250	95	91	65-138	4
cis-1,3-Dichloropropene	ug/L (ppb)	50	102	101	82-132	1
Toluene	ug/L (ppb)	50	97	94	72-122	3
trans-1,3-Dichloropropene	ug/L (ppb)	50	96	92	80-136	4
1,1,2-Trichloroethane	ug/L (ppb)	50	93	90	75-124	3
2-Hexanone	ug/L (ppb)	250	70	68	60-136	3
1,3-Dichloropropane	ug/L (ppb)	50	93	89	76-126	4
Tetrachloroethene	ug/L (ppb)	50	93	91	76-121	2
Dibromochloromethane	ug/L (ppb)	50	106	101	84-133	5
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	96	93	82-115	3
Chlorobenzene	ug/L (ppb)	50	94	92	83-114	2
Ethylbenzene	ug/L (ppb)	50	98	95	77-124	3
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	104	99	84-127	5
m,p-Xylene	ug/L (ppb)	100	96	94	81-112	2
o-Xylene	ug/L (ppb)	50	100	96	81-121	4
Styrene	ug/L (ppb)	50	96	94	84-119	2
Isopropylbenzene	ug/L (ppb)	50	102	97	80-117	5
Bromoform	ug/L (ppb)	50	114	109	74-136	4
n-Propylbenzene	ug/L (ppb)	50	94	94	74-126	0
Bromobenzene	ug/L (ppb)	50	90	91	80-121	1
1,3,5-Trimethylbenzene	ug/L (ppb)	50	95	94	78-123	1
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	92	93	66-126	1
1,2,3-Trichloropropane	ug/L (ppb)	50	88	89	67-124	1
2-Chlorotoluene	ug/L (ppb)	50	93	94	77-127	1
4-Chlorotoluene	ug/L (ppb)	50	91	92	78-128	1
tert-Butylbenzene	ug/L (ppb)	50	95	94	80-123	1
1,2,4-Trimethylbenzene	ug/L (ppb)	50	95	94	79-122	1
sec-Butylbenzene	ug/L (ppb)	50	96	95	80-116	1
p-Isopropyltoluene	ug/L (ppb)	50	95	94	81-123	1
1,3-Dichlorobenzene	ug/L (ppb)	50	95	94	83-113	1
1,4-Dichlorobenzene	ug/L (ppb)	50	92	91	83-107	1
1,2-Dichlorobenzene	ug/L (ppb)	50	96	93	84-112	3
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	99	97	57-141	2
1,2,4-Trichlorobenzene	ug/L (ppb)	50	99	96	72-130	3
Hexachlorobutadiene	ug/L (ppb)	50	95	92	53-141	3
Naphthalene	ug/L (ppb)	50	100	96	64-133	4
1,2,3-Trichlorobenzene	ug/L (ppb)	50	100	95	65-136	5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/12/19

Date Received: 11/01/19

Project: POS T-30, F&BI 911020

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	62	62	35-111	0
Aroclor 1260	ug/L (ppb)	0.25	77	81	29-130	5



# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



3600 Fremont Ave. N.  
Seattle, WA 98103  
T: (206) 352-3790  
F: (206) 352-7178  
info@fremontanalytical.com

**Friedman & Bruya**  
Michael Erdahl  
3012 16th Ave. W.  
Seattle, WA 98119

**RE: 911020**  
**Work Order Number: 1911023**

November 05, 2019

**Attention Michael Erdahl:**

Fremont Analytical, Inc. received 1 sample(s) on 11/4/2019 for the analyses presented in the following report.

***Flashpoint by EPA 1010/ASTM D93***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

A handwritten signature in blue ink, appearing to read "Brianna Barnes".

Brianna Barnes  
Project Manager

DoD/ELAP Certification #L 17-135, ISO/IEC 17025:2005  
ORELAP Certification: WA 100009-007 (NELAP Recognized)



Date: 11/05/2019

---

**CLIENT:** Friedman & Bruya  
**Project:** 911020  
**Work Order:** 1911023

## Work Order Sample Summary

---

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1911023-001	Disposal-19	11/01/2019 12:30 PM	11/04/2019 10:31 AM

**CLIENT:** Friedman & Bruya

**Project:** 911020

---

**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry"). Flashpoint is reported in °F.

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.



Qualifiers:

- \* - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



**Client:** Friedman & Bruya

**Collection Date:** 11/1/2019 12:30:00 PM

**Project:** 911020

**Lab ID:** 1911023-001

**Matrix:** Water

**Client Sample ID:** Disposal-19

**Analyses**

**Result**

**RL**

**Qual**

**Units**

**DF**

**Date Analyzed**

**Flashpoint by EPA 1010/ASTM D93**

Batch ID: R55060

Analyst: CJ

Flashpoint

187

°F

1

11/4/2019 1:48:04 PM

Client Name: **FB**  
 Logged by: **Clare Griggs**

Work Order Number: **1911023**  
 Date Received: **11/4/2019 10:31:00 AM**

**Chain of Custody**

1. Is Chain of Custody complete? Yes  No  Not Present   
 2. How was the sample delivered? FedEx

**Log In**

3. Coolers are present? Yes  No  NA   
**No cooler present.**  
 4. Shipping container/cooler in good condition? Yes  No   
 5. Custody Seals present on shipping container/cooler?  
 (Refer to comments for Custody Seals not intact) Yes  No  Not Required   
 6. Was an attempt made to cool the samples? Yes  No  NA   
 7. Were all items received at a temperature of >0°C to 10.0°C \* Yes  No  NA   
 8. Sample(s) in proper container(s)? Yes  No   
 9. Sufficient sample volume for indicated test(s)? Yes  No   
 10. Are samples properly preserved? Yes  No   
 11. Was preservative added to bottles? Yes  No  NA   
 12. Is there headspace in the VOA vials? Yes  No  NA   
 13. Did all samples containers arrive in good condition(unbroken)? Yes  No   
 14. Does paperwork match bottle labels? Yes  No   
 15. Are matrices correctly identified on Chain of Custody? Yes  No   
 16. Is it clear what analyses were requested? Yes  No   
 17. Were all holding times able to be met? Yes  No

**Special Handling (if applicable)**

18. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

**Item Information**

Item #	Temp °C
Sample	6.3

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

### SUBCONTRACT SAMPLE CHAIN OF CUSTODY

1411023

Send Report To Michael Erdahl  
 Company Friedman and Bruya, Inc.  
 Address 3012 16th Ave W  
 City, State, ZIP Seattle, WA 98119  
 Phone # (206) 285-8282 Fax # (206) 283-5044


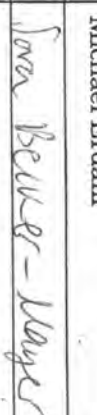
SUBCONTRACTOR <u>Fremont</u>	PROJECT NAME/NO. <u>911620</u>
PO # <u>A.448</u>	REMARKS Please Email Results

Page # 1 of 1

TURNDOWN TIME  
 Standard (2 Weeks)  
 RUSH 4 & 1/2 hr  
 Rush charges authorized by: ME

SAMPLE DISPOSAL  
 Dispose after 30 days  
 Return samples  
 Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED				Notes
						Dioxins/Furans	EPH	VPH	Flashpoint	
Disposal-19		11/1/19	12:30	wt/slen	1			X		

Friedman & Bruya, Inc. 3012 16th Avenue West Seattle, WA 98119-2029 Ph. (206) 285-8282 Fax (206) 283-5044	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 		Michael Erdahl	Friedman & Bruya	11/4/19	08:25AM
Received by: 		Jonna Becker-Layes	FAI	11/4/19	1051
Relinquished by:					
Received by:					



911020

SAMPLE CHAIN OF CUSTODY ME 11-01-19

AD3

Report To Ms. Jamie Stevens

Company Crete Consulting Inc.

Address 108 S. Washington St., Suite 300

City, State, ZIP Seattle, WA 98104

Phone 206-799-2744 Email creteconsulting.com

SAMPLERS (signature) <u>Paul B. ...</u>	PROJECT NAME <u>PDS T-30</u>	PO #
REMARKS <u>Crete</u>	INVOICE TO <u>Crete</u>	

TURNAROUND TIME Standard turnaround <u>RUSH 2 DAY</u>
Rush charges authorized by: <u>PVB</u>
SAMPLE DISPOSAL <input type="checkbox"/> Standard samples <input type="checkbox"/> Archive samples <input type="checkbox"/> Other _____
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Flash Point EPA 1010	RECA 8 METALS + Cu, Ni, Zn		
<u>Disposed-19</u>	<u>01A-G</u>	<u>11.1.19</u>	<u>12:30</u>	<u>M</u>	<u>7</u>						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Received by: <u>[Signature]</u>	SIGNATURE
Received by: <u>[Signature]</u>	PRINT NAME
Received by: <u>[Signature]</u>	COMPANY
Received by: <u>[Signature]</u>	DATE
Received by: <u>[Signature]</u>	TIME

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

January 2, 2020

Jamie Stevens, Project Manager  
Crete Consulting  
108 S. Washington St., Suite 300  
Seattle, WA 98104

Dear Ms Stevens:

Included are the results from the testing of material submitted on December 13, 2019 from the POT-Hylebos, F&BI 912238 project. There are 69 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
CTC0102R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 13, 2019 by Friedman & Bruya, Inc. from the Crete Consulting POT-Hylebos, F&BI 912238 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Crete Consulting</u>
912238 -01	TWA-5
912238 -02	TWA-6
912238 -03	TWA-1120
912238 -04	SB-1A-1219
912238 -05	SB-2A-1219
912238 -06	SB-3A-1219
912238 -07	TWA-1099-1219
912238 -08	Trip Blank

A 6020B internal standard failed the acceptance criteria for samples TWA-5 and TWA-6. The samples were diluted and reanalyzed with acceptable results. Both data sets were reported.

The 8082A PCB surrogate failed below the acceptance criteria in sample TWA-6. The data were flagged accordingly. There was insufficient sample for reextraction and reanalysis.

Several compounds in the 8260C matrix spike, matrix spike duplicate, laboratory control sample and laboratory control sample duplicate exceeded the acceptance criteria. The analytes were not detected in the samples, therefore the data were acceptable.

Benz(a)anthracene in the 8270D matrix spike and matrix spike duplicate exceeded the acceptance criteria. The analyte was not detected in the samples, therefore the data were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/20  
Date Received: 12/13/19  
Project: POT-Hylebos, F&BI 912238  
Date Extracted: 12/17/19  
Date Analyzed: 12/17/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TWA-5 912238-01	<100	91
TWA-6 912238-02	<100	92
TWA-1120 912238-03	<100	88
SB-1A-1219 912238-04	<100	69
SB-2A-1219 912238-05	<100	91
SB-3A-1219 912238-06	<100	90
TWA-1099-1219 912238-07	<100	93
Trip Blank 912238-08	<100	91
Method Blank 09-2929 MB	<100	90

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/20  
Date Received: 12/13/19  
Project: POT-Hylebos, F&BI 912238  
Date Extracted: 12/16/19  
Date Analyzed: 12/18/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>  
Sample Extracts Passed Through a  
Silica Gel Column Prior to Analysis  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 41-152)
TWA-5 912238-01	<50	<250	84
TWA-6 912238-02	<50	<250	96
TWA-1120 912238-03	<50	<250	91
SB-1A-1219 912238-04	<50	<250	95
SB-2A-1219 912238-05	<50	<250	103
SB-3A-1219 912238-06	<50	<250	110
TWA-1099-1219 912238-07	<50	<250	99
Method Blank 09-3043 MB	<50	<250	83

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/20  
Date Received: 12/13/19  
Project: POT-Hylebos, F&BI 912238  
Date Extracted: 12/16/19  
Date Analyzed: 12/16/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 47-140)
TWA-5 912238-01	500 x	430 x	111
TWA-6 912238-02	710 x	470 x	122
TWA-1120 912238-03	710 x	400 x	109
SB-1A-1219 912238-04	<50	<250	124
SB-2A-1219 912238-05	<50	<250	123
SB-3A-1219 912238-06	1,900 x	1,200 x	120
TWA-1099-1219 912238-07	<50	<250	134
Method Blank 09-3043 MB	<50	<250	110

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-5	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-01
Date Analyzed:	12/24/19	Data File:	912238-01.200
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	9.08
Cadmium	<1
Chromium	8.39
Copper	7.60
Lead	<1
Manganese	262
Nickel	4.24
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-5	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-01
Date Analyzed:	12/26/19	Data File:	912238-01.075
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Mercury	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-6	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-02
Date Analyzed:	12/24/19	Data File:	912238-02.202
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	9.19
Cadmium	<1
Chromium	24.8
Copper	<5
Lead	<1
Manganese	944
Nickel	2.56
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-6	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-02
Date Analyzed:	12/26/19	Data File:	912238-02.076
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Mercury	<1
---------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-1120	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-03
Date Analyzed:	12/24/19	Data File:	912238-03.204
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	8.82
Cadmium	<1
Chromium	19.3
Copper	<5
Lead	<1
Manganese	938
Nickel	2.30
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-1120	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-03
Date Analyzed:	12/26/19	Data File:	912238-03.077
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Mercury	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	SB-1A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-04
Date Analyzed:	12/23/19	Data File:	912238-04.172
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.82
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	284
Mercury	<1
Nickel	4.74
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	SB-2A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-05
Date Analyzed:	12/23/19	Data File:	912238-05.173
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	3.54
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	367
Mercury	<1
Nickel	4.03
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	SB-3A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-06
Date Analyzed:	12/23/19	Data File:	912238-06.174
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.84
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	194
Mercury	<1
Nickel	3.28
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-1099-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-07
Date Analyzed:	12/23/19	Data File:	912238-07.175
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	1.14
Copper	29.1
Lead	<1
Manganese	2.37
Mercury	<1
Nickel	<1
Zinc	8.35



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	NA	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	I9-816 mb
Date Analyzed:	12/19/19	Data File:	I9-816 mb.065
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	<1
Mercury	<1
Nickel	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-5	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-01
Date Analyzed:	12/16/19	Data File:	912238-01.101
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	7.04 J
Cadmium	<1 J
Chromium	7.81 J
Copper	35.6 J
Lead	<1 J
Manganese	248 J
Mercury	<1 J
Nickel	1.92 J
Zinc	<5 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-5	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-01 x2
Date Analyzed:	12/17/19	Data File:	912238-01 x2.196
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	6.97
Cadmium	<2
Chromium	8.23
Copper	35.4
Lead	<2
Manganese	259
Mercury	<2
Nickel	<2
Zinc	<10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-02
Date Analyzed:	12/16/19	Data File:	912238-02.102
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	7.55 J
Cadmium	<1 J
Chromium	22.9 J
Copper	56.7 J
Lead	<1 J
Manganese	871 J
Mercury	<1 J
Nickel	2.43 J
Zinc	<5 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-02 x2
Date Analyzed:	12/17/19	Data File:	912238-02 x2.197
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	7.84
Cadmium	<2
Chromium	24.8
Copper	42.8
Lead	<2
Manganese	970
Mercury	<2
Nickel	<2
Zinc	<10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-1120	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-03
Date Analyzed:	12/16/19	Data File:	912238-03.103
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	7.34
Cadmium	<1
Chromium	23.1
Copper	69.0
Lead	<1
Manganese	868
Mercury	<1
Nickel	2.37
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-1A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-04
Date Analyzed:	12/16/19	Data File:	912238-04.104
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.79
Cadmium	<1
Chromium	<1
Copper	23.1
Lead	<1
Manganese	213
Mercury	<1
Nickel	3.63
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-2A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-05
Date Analyzed:	12/16/19	Data File:	912238-05.105
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	3.38
Cadmium	<1
Chromium	<1
Copper	10.3
Lead	<1
Manganese	330
Mercury	<1
Nickel	3.22
Zinc	<5



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-3A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-06
Date Analyzed:	12/16/19	Data File:	912238-06.114
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.19
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	173
Mercury	<1
Nickel	2.65
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-1099-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-07
Date Analyzed:	12/16/19	Data File:	912238-07.115
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	29.7
Lead	<1
Manganese	2.24
Mercury	<1
Nickel	<1
Zinc	9.75

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	NA	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	I9-797 mb
Date Analyzed:	12/16/19	Data File:	I9-797 mb.079
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	<1
Mercury	<1
Nickel	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C SIM

Client Sample ID:	TWA-5	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-01
Date Analyzed:	12/20/19	Data File:	121949.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	0.52

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C SIM

Client Sample ID:	TWA-6	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-02
Date Analyzed:	12/20/19	Data File:	121950.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	6.6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C SIM

Client Sample ID:	TWA-1120	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-03
Date Analyzed:	12/20/19	Data File:	121951.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	6.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C SIM

Client Sample ID:	SB-1A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-04
Date Analyzed:	12/20/19	Data File:	121952.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C SIM

Client Sample ID:	SB-2A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-05
Date Analyzed:	12/20/19	Data File:	121953.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C SIM

Client Sample ID:	SB-3A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-06
Date Analyzed:	12/20/19	Data File:	121954.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C SIM

Client Sample ID:	TWA-1099-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-07
Date Analyzed:	12/20/19	Data File:	121955.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C SIM

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	09-3066 mb
Date Analyzed:	12/19/19	Data File:	121948.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	TWA-5	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-01
Date Analyzed:	12/17/19	Data File:	121718.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	96	31	160
Benzo(a)anthracene-d12	101	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	TWA-6	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-02
Date Analyzed:	12/17/19	Data File:	121719.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	96	31	160
Benzo(a)anthracene-d12	97	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	TWA-1120	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-03
Date Analyzed:	12/17/19	Data File:	121720.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	96	31	160
Benzo(a)anthracene-d12	91	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-1A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-04
Date Analyzed:	12/17/19	Data File:	121721.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	100	31	160
Benzo(a)anthracene-d12	103	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-2A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-05
Date Analyzed:	12/17/19	Data File:	121710.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	99	31	160
Benzo(a)anthracene-d12	108	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.02



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	SB-3A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-06
Date Analyzed:	12/17/19	Data File:	121722.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	94	31	160
Benzo(a)anthracene-d12	94	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	0.059
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	TWA-1099-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-07
Date Analyzed:	12/17/19	Data File:	121723.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	99	31	160
Benzo(a)anthracene-d12	105	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	09-3044 mb
Date Analyzed:	12/17/19	Data File:	121709.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	100	31	160
Benzo(a)anthracene-d12	105	25	165

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TWA-5	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/17/19	Lab ID:	912238-01
Date Analyzed:	12/17/19	Data File:	121745.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	104	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TWA-6	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/17/19	Lab ID:	912238-02
Date Analyzed:	12/17/19	Data File:	121746.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	104	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TWA-1120	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/17/19	Lab ID:	912238-03
Date Analyzed:	12/17/19	Data File:	121747.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	104	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: SB-1A-1219	Client: Crete Consulting
Date Received: 12/13/19	Project: POT-Hylebos, F&BI 912238
Date Extracted: 12/17/19	Lab ID: 912238-04
Date Analyzed: 12/17/19	Data File: 121748.D
Matrix: Water	Instrument: GCMS9
Units: ug/L (ppb)	Operator: MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	112	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-2A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/17/19	Lab ID:	912238-05
Date Analyzed:	12/17/19	Data File:	121749.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	105	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	SB-3A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/17/19	Lab ID:	912238-06
Date Analyzed:	12/17/19	Data File:	121750.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	109	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TWA-1099-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/17/19	Lab ID:	912238-07
Date Analyzed:	12/17/19	Data File:	121751.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	111	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	23	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	1.7	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Trip Blank	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/17/19	Lab ID:	912238-08
Date Analyzed:	12/18/19	Data File:	121752.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	107	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	09-3021 mb
Date Analyzed:	12/17/19	Data File:	121712.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	105	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-5	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-01
Date Analyzed:	12/18/19	Data File:	121776.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	51	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-6	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-02
Date Analyzed:	12/18/19	Data File:	121777.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	22 vo	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1 js
Aroclor 1232	<0.1 js
Aroclor 1016	<0.1 js
Aroclor 1242	<0.1 js
Aroclor 1248	<0.1 js
Aroclor 1254	<0.1 js
Aroclor 1260	<0.1 js
Aroclor 1262	<0.1 js
Aroclor 1268	<0.1 js

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-1120	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-03
Date Analyzed:	12/18/19	Data File:	121778.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	31	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-1A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-04
Date Analyzed:	12/18/19	Data File:	121779.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	50	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-2A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-05
Date Analyzed:	12/18/19	Data File:	121780.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	51	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-3A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-06
Date Analyzed:	12/18/19	Data File:	121784.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	55	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-1099-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-07
Date Analyzed:	12/18/19	Data File:	121785.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	61	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	09-3045 mb
Date Analyzed:	12/18/19	Data File:	121775.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	64	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/20

Date Received: 12/13/19

Project: POT-Hylebos, F&BI 912238

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-Gx**

Laboratory Code: 912238-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	ug/L (ppb)	1,000	<100	90	95	53-117	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	97	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/20

Date Received: 12/13/19

Project: POT-Hylebos, F&BI 912238

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	108	104	63-142	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/20

Date Received: 12/13/19

Project: POT-Hylebos, F&BI 912238

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: 912238-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	<50	128	109	64-141	16

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	100	100	61-133	0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/20

Date Received: 12/13/19

Project: POT-Hylebos, F&BI 912238

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR DISSOLVED METALS USING EPA METHOD 6020B**

Laboratory Code: 912238-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	3.70	103	99	75-125	4
Cadmium	ug/L (ppb)	5	<1	101	100	75-125	1
Chromium	ug/L (ppb)	20	<1	94	92	75-125	2
Copper	ug/L (ppb)	20	<5	90	88	75-125	2
Lead	ug/L (ppb)	10	<1	82	82	75-125	0
Manganese	ug/L (ppb)	20	326	138 b	93 b	75-125	39 b
Mercury	ug/L (ppb)	5	<1	81	83	75-125	2
Nickel	ug/L (ppb)	20	4.19	96	93	75-125	3
Zinc	ug/L (ppb)	50	<5	86	83	75-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	98	80-120
Cadmium	ug/L (ppb)	5	98	80-120
Chromium	ug/L (ppb)	20	100	80-120
Copper	ug/L (ppb)	20	100	80-120
Lead	ug/L (ppb)	10	101	80-120
Manganese	ug/L (ppb)	20	110	80-120
Mercury	ug/L (ppb)	5	96	80-120
Nickel	ug/L (ppb)	20	100	80-120
Zinc	ug/L (ppb)	50	97	80-120



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/20

Date Received: 12/13/19

Project: POT-Hylebos, F&BI 912238

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 912238-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	3.38	97	95	75-125	2
Cadmium	ug/L (ppb)	5	<1	99	98	75-125	1
Chromium	ug/L (ppb)	20	<1	88	87	75-125	1
Copper	ug/L (ppb)	20	10.3	56 b	39 b	75-125	36 b
Lead	ug/L (ppb)	10	<1	83	84	75-125	1
Manganese	ug/L (ppb)	20	330	42 b	44 b	75-125	5 b
Mercury	ug/L (ppb)	5	<1	85	86	75-125	1
Nickel	ug/L (ppb)	20	3.22	91	91	75-125	0
Zinc	ug/L (ppb)	50	<5	83	81	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	96	80-120
Cadmium	ug/L (ppb)	5	98	80-120
Chromium	ug/L (ppb)	20	98	80-120
Copper	ug/L (ppb)	20	97	80-120
Lead	ug/L (ppb)	10	99	80-120
Manganese	ug/L (ppb)	20	102	80-120
Mercury	ug/L (ppb)	5	95	80-120
Nickel	ug/L (ppb)	20	100	80-120
Zinc	ug/L (ppb)	50	98	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/20

Date Received: 12/13/19

Project: POT-Hylebos, F&BI 912238

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260C SIM**

Laboratory Code: 912238-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
1,4-Dioxane	ug/L (ppb)	2	<0.4	104	91	50-150	13

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
1,4-Dioxane	ug/L (ppb)	2	82	91	41-159	10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/20

Date Received: 12/13/19

Project: POT-Hylebos, F&BI 912238

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR PAHS BY EPA METHOD 8270D SIM**

Laboratory Code: 912238-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	1	<0.2	82	82	10-172	0
Acenaphthylene	ug/L (ppb)	1	<0.02	90	90	38-137	0
Acenaphthene	ug/L (ppb)	1	<0.02	89	86	20-150	3
Fluorene	ug/L (ppb)	1	<0.02	95	95	10-181	0
Phenanthrene	ug/L (ppb)	1	<0.02	90	91	58-109	1
Anthracene	ug/L (ppb)	1	<0.02	93	95	47-114	2
Fluoranthene	ug/L (ppb)	1	<0.02	100	101	10-171	1
Pyrene	ug/L (ppb)	1	<0.02	99	103	63-107	4
Benz(a)anthracene	ug/L (ppb)	1	<0.02	95 vo	94 vo	60-93	1
Chrysene	ug/L (ppb)	1	<0.02	89	88	60-102	1
Benzo(b)fluoranthene	ug/L (ppb)	1	<0.02	81	79	62-91	2
Benzo(k)fluoranthene	ug/L (ppb)	1	<0.02	68	69	51-98	1
Benzo(a)pyrene	ug/L (ppb)	1	<0.02	78	76	60-86	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	1	<0.02	69	62	10-98	11
Dibenz(a,h)anthracene	ug/L (ppb)	1	<0.02	50	49	10-97	2
Benzo(g,h,i)perylene	ug/L (ppb)	1	<0.02	59	57	10-102	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	1	85	85	57-114	0
Acenaphthylene	ug/L (ppb)	1	85	92	65-119	8
Acenaphthene	ug/L (ppb)	1	86	90	66-118	5
Fluorene	ug/L (ppb)	1	90	95	64-125	5
Phenanthrene	ug/L (ppb)	1	91	91	67-120	0
Anthracene	ug/L (ppb)	1	93	96	65-122	3
Fluoranthene	ug/L (ppb)	1	94	98	65-127	4
Pyrene	ug/L (ppb)	1	100	107	62-130	7
Benz(a)anthracene	ug/L (ppb)	1	97	98	60-118	1
Chrysene	ug/L (ppb)	1	92	93	66-125	1
Benzo(b)fluoranthene	ug/L (ppb)	1	90	94	55-135	4
Benzo(k)fluoranthene	ug/L (ppb)	1	79	77	62-125	3
Benzo(a)pyrene	ug/L (ppb)	1	86	87	58-127	1
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	1	92	91	36-142	1
Dibenz(a,h)anthracene	ug/L (ppb)	1	80	81	37-133	1
Benzo(g,h,i)perylene	ug/L (ppb)	1	84	85	34-135	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/20

Date Received: 12/13/19

Project: POT-Hylebos, F&BI 912238

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 912238-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	<1	106	107	55-137	1
Chloromethane	ug/L (ppb)	50	<10	109	110	57-129	1
Vinyl chloride	ug/L (ppb)	50	<0.2	100	102	61-139	2
Bromomethane	ug/L (ppb)	50	<1	94	94	20-265	0
Chloroethane	ug/L (ppb)	50	<1	94	93	55-149	1
Trichlorofluoromethane	ug/L (ppb)	50	<1	89	87	65-137	2
Acetone	ug/L (ppb)	250	<50	109	133	48-149	20
1,1-Dichloroethene	ug/L (ppb)	50	<1	91	92	71-123	1
Hexane	ug/L (ppb)	50	<1	108	110	44-139	2
Methylene chloride	ug/L (ppb)	50	<5	113	112	61-126	1
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	109	113	68-125	4
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	104	107	72-122	3
1,1-Dichloroethane	ug/L (ppb)	50	<1	115 vo	116 vo	79-113	1
2,2-Dichloropropane	ug/L (ppb)	50	<1	98	99	48-157	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	104	106	63-126	2
Chloroform	ug/L (ppb)	50	<1	109	110	77-117	1
2-Butanone (MEK)	ug/L (ppb)	250	<10	132	136 vo	70-135	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	117	118	70-119	1
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	104	106	75-121	2
1,1-Dichloropropene	ug/L (ppb)	50	<1	110	110	67-121	0
Carbon tetrachloride	ug/L (ppb)	50	<1	102	104	70-132	2
Benzene	ug/L (ppb)	50	<0.35	104	105	75-114	1
Trichloroethene	ug/L (ppb)	50	<1	101	102	73-122	1
1,2-Dichloropropane	ug/L (ppb)	50	<1	114 vo	114 vo	80-111	0
Bromodichloromethane	ug/L (ppb)	50	<1	113	114	78-117	1
Dibromomethane	ug/L (ppb)	50	<1	101	101	73-125	0
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	124	129	79-140	4
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	110	111	76-120	1
Toluene	ug/L (ppb)	50	<1	105	106	73-117	1
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	113	112	75-122	1
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	112	115	81-116	3
2-Hexanone	ug/L (ppb)	250	<10	134 vo	136 vo	74-127	1
1,3-Dichloropropane	ug/L (ppb)	50	<1	110	112	80-113	2
Tetrachloroethene	ug/L (ppb)	50	<1	98	99	40-155	1
Dibromochloromethane	ug/L (ppb)	50	<1	101	101	69-129	0
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	111	112	79-120	1
Chlorobenzene	ug/L (ppb)	50	<1	103	105	75-115	2
Ethylbenzene	ug/L (ppb)	50	<1	108	110	66-124	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	109	110	76-130	1
m,p-Xylene	ug/L (ppb)	100	<2	106	107	63-128	1
o-Xylene	ug/L (ppb)	50	<1	107	109	64-129	2
Styrene	ug/L (ppb)	50	<1	109	110	56-142	1
Isopropylbenzene	ug/L (ppb)	50	<1	108	110	74-122	2
Bromoform	ug/L (ppb)	50	<1	103	101	49-138	2
n-Propylbenzene	ug/L (ppb)	50	<1	110	110	65-129	0
Bromobenzene	ug/L (ppb)	50	<1	101	101	70-121	0
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	108	109	60-138	1
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	127 vo	127 vo	77-120	0
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	123	123	62-125	0
2-Chlorotoluene	ug/L (ppb)	50	<1	109	107	40-159	2
4-Chlorotoluene	ug/L (ppb)	50	<1	108	108	76-122	0
tert-Butylbenzene	ug/L (ppb)	50	<1	108	108	74-125	0
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	107	108	59-136	1
sec-Butylbenzene	ug/L (ppb)	50	<1	111	112	69-127	1
p-Isopropyltoluene	ug/L (ppb)	50	<1	108	109	64-132	1
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	102	104	77-113	2
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	102	102	75-110	0
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	104	106	70-120	2
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	135 vo	139 vo	69-129	3
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	106	114	66-123	7
Hexachlorobutadiene	ug/L (ppb)	50	<1	98	104	53-136	6
Naphthalene	ug/L (ppb)	50	<1	120	123	60-145	2
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	110	118	59-130	7

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/20

Date Received: 12/13/19

Project: POT-Hylebos, F&BI 912238

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	101	105	50-157	4
Chloromethane	ug/L (ppb)	50	107	111	62-130	4
Vinyl chloride	ug/L (ppb)	50	97	101	70-128	4
Bromomethane	ug/L (ppb)	50	94	96	60-143	2
Chloroethane	ug/L (ppb)	50	92	94	66-149	2
Trichlorofluoromethane	ug/L (ppb)	50	88	89	65-138	1
Acetone	ug/L (ppb)	250	130	119	44-145	9
1,1-Dichloroethene	ug/L (ppb)	50	90	90	72-121	0
Hexane	ug/L (ppb)	50	110	109	51-153	1
Methylene chloride	ug/L (ppb)	50	110	108	63-132	2
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	109	107	70-122	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	101	102	76-118	1
1,1-Dichloroethane	ug/L (ppb)	50	111	111	77-119	0
2,2-Dichloropropane	ug/L (ppb)	50	96	95	62-141	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	102	102	76-119	0
Chloroform	ug/L (ppb)	50	107	108	78-117	1
2-Butanone (MEK)	ug/L (ppb)	250	127	130	48-150	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	117 vo	117 vo	75-116	0
1,1,1-Trichloroethane	ug/L (ppb)	50	103	102	80-116	1
1,1-Dichloropropene	ug/L (ppb)	50	109	110	78-119	1
Carbon tetrachloride	ug/L (ppb)	50	100	99	72-128	1
Benzene	ug/L (ppb)	50	104	104	75-116	0
Trichloroethene	ug/L (ppb)	50	102	102	72-119	0
1,2-Dichloropropane	ug/L (ppb)	50	112	113	79-121	1
Bromodichloromethane	ug/L (ppb)	50	114	113	76-120	1
Dibromomethane	ug/L (ppb)	50	102	102	79-121	0
4-Methyl-2-pentanone	ug/L (ppb)	250	120	122	54-153	2
cis-1,3-Dichloropropene	ug/L (ppb)	50	114	112	76-128	2
Toluene	ug/L (ppb)	50	103	104	79-115	1
trans-1,3-Dichloropropene	ug/L (ppb)	50	114	112	76-128	2
1,1,2-Trichloroethane	ug/L (ppb)	50	110	111	78-120	1
2-Hexanone	ug/L (ppb)	250	124	127	49-147	2
1,3-Dichloropropane	ug/L (ppb)	50	109	110	81-111	1
Tetrachloroethene	ug/L (ppb)	50	96	98	78-109	2
Dibromochloromethane	ug/L (ppb)	50	100	99	63-140	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	109	110	82-118	1
Chlorobenzene	ug/L (ppb)	50	102	103	80-113	1
Ethylbenzene	ug/L (ppb)	50	107	107	83-111	0
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	104	107	76-125	3
m,p-Xylene	ug/L (ppb)	100	105	106	81-112	1
o-Xylene	ug/L (ppb)	50	105	105	81-117	0
Styrene	ug/L (ppb)	50	109	108	83-121	1
Isopropylbenzene	ug/L (ppb)	50	106	107	78-118	1
Bromoform	ug/L (ppb)	50	101	99	40-161	2
n-Propylbenzene	ug/L (ppb)	50	111	111	81-115	0
Bromobenzene	ug/L (ppb)	50	102	102	80-113	0
1,3,5-Trimethylbenzene	ug/L (ppb)	50	110	110	83-117	0
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	124 vo	126 vo	79-118	2
1,2,3-Trichloropropane	ug/L (ppb)	50	119 vo	122 vo	74-116	2
2-Chlorotoluene	ug/L (ppb)	50	109	109	79-112	0
4-Chlorotoluene	ug/L (ppb)	50	109	110	80-116	1
tert-Butylbenzene	ug/L (ppb)	50	108	108	81-119	0
1,2,4-Trimethylbenzene	ug/L (ppb)	50	108	108	81-121	0
sec-Butylbenzene	ug/L (ppb)	50	111	111	83-123	0
p-Isopropyltoluene	ug/L (ppb)	50	108	108	81-117	0
1,3-Dichlorobenzene	ug/L (ppb)	50	103	104	80-115	1
1,4-Dichlorobenzene	ug/L (ppb)	50	103	103	77-112	0
1,2-Dichlorobenzene	ug/L (ppb)	50	105	106	79-115	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	128	130	62-133	2
1,2,4-Trichlorobenzene	ug/L (ppb)	50	109	111	75-119	2
Hexachlorobutadiene	ug/L (ppb)	50	101	103	70-116	2
Naphthalene	ug/L (ppb)	50	111	116	72-131	4
1,2,3-Trichlorobenzene	ug/L (ppb)	50	110	112	74-122	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/20

Date Received: 12/13/19

Project: POT-Hylebos, F&BI 912238

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: 912238-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	<0.1	62	63	50-150	2
Aroclor 1260	ug/L (ppb)	0.25	<0.1	65	72	50-150	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	76	78	35-111	3
Aroclor 1260	ug/L (ppb)	0.25	72	74	29-130	3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

**Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

912238

SAMPLE CHAIN OF CUSTODY

ME 12-13-19

Page # 1 of 1

Report To Ms. Jamie Stevens

Company Crete Consulting

Address 108 S. Washington St., Suite 300

City, State, ZIP Seattle, WA 98104

Phone 206-799-2744 Email creteconsulting.com

SAMPLERS (signature) <u>PVB</u>	PO #
PROJECT NAME	INVOICE TO
<u>POT - HYLEBOS</u>	<u>Crete</u>
REMARKS	Project specific Pls? - Yes / No

TURNAROUND TIME	Page # 1 of 1
<input checked="" type="checkbox"/> Standard turnaround	10/4
<input type="checkbox"/> RUSH	
Rush charges authorized by:	
SAMPLE DISPOSAL	
<input type="checkbox"/> Archive samples	
<input type="checkbox"/> Other	
Default: Dispose after 30 days	

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes per SS ME 12/13/19
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	1,4 Dioxane	TOTAL METALS 6020	DISSOLVED METALS 6020	
TWA-5	01A-K	12.10.19	9:50	W	11	X	X			X	X	X	X	X	X	Dx w + wo SGC
TWA-6	02	12.10.19	14:30	W	11	X	X			X	X	X	X	X	X	Dx w + wo SGC
TWA-1120	03	12.10.19	15:00	W	11	X	X			X	X	X	X	X	X	Dx w + wo SGC
SB-1A-1219	04	12.11.19	9:45	W	11	X	X			X	X	X	X	X	X	Dx w + wo SGC
SB-2A-1219	05A-	12.11.19	11:30	W	29	X	X			X	X	X	X	X	X	MS/MSD
SB-3A-1219	06A-K	12.11.19	13:30	W	11	X	X			X	X	X	X	X	X	Dx w + wo SGC
TWA-1099-1219	07	12.11.19	16:30	W	11	X	X			X	X	X	X	X	X	
TRIP BLANK	08A-B				2		X			X						Filtered samples are for dissolved metals

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	<u>Paul Bianco</u>	<u>Crete</u>	<u>12.13.19</u>	<u>12:27</u>
Received by: <u>[Signature]</u>	<u>Liz Webber-Bryce</u>	<u>FBI</u>	<u>12/13/19</u>	<u>1227</u>
Received by:		<u>Samples received at</u>		<u>3:00</u>

QNB  
 Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282



FRIEDMAN & BRUYA, INC.

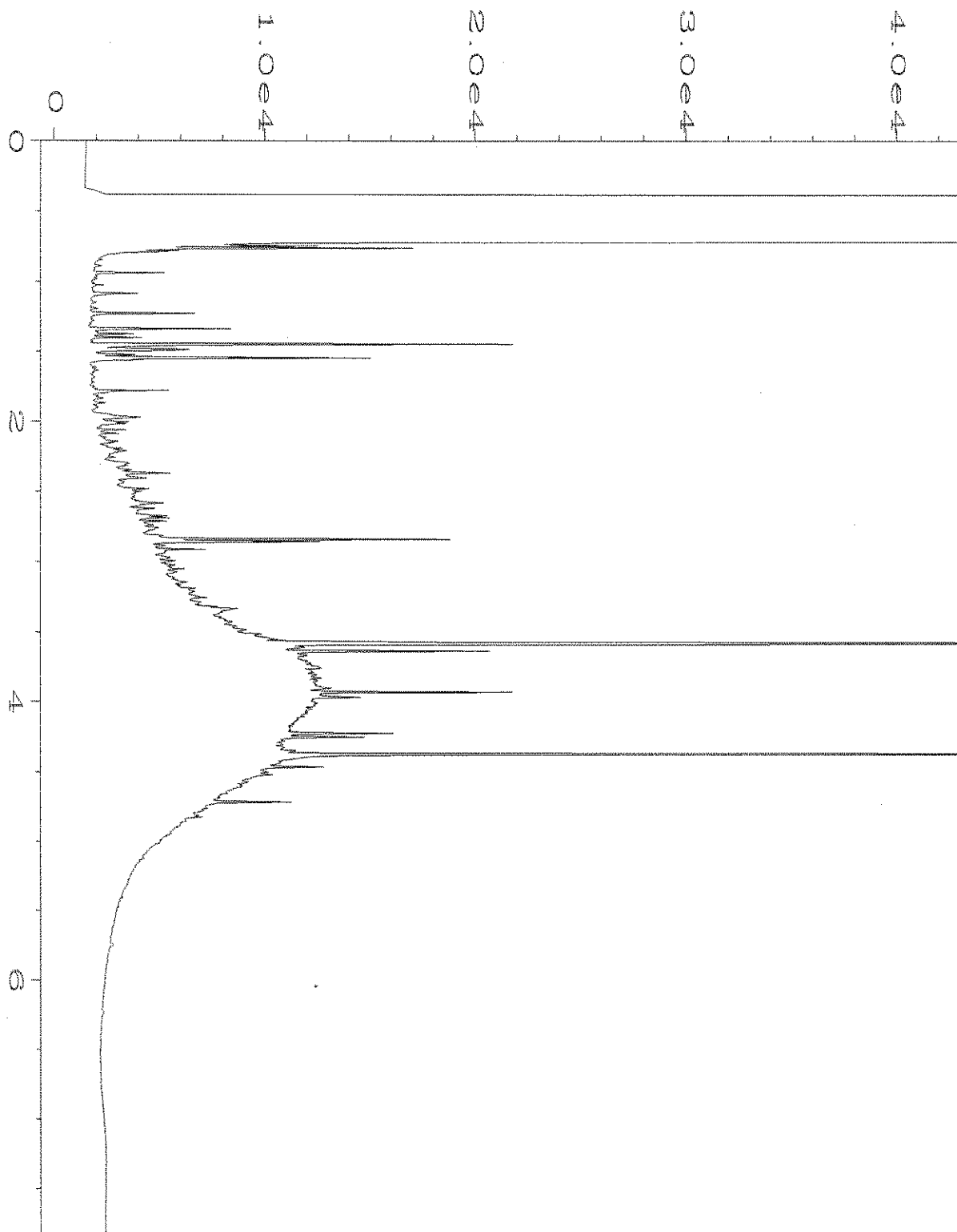
ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/20  
 Date Received: 12/13/19  
 Project: POT-Hylebos, F&BI 912238  
 Date Extracted: 12/16/19  
 Date Analyzed: 12/16/19

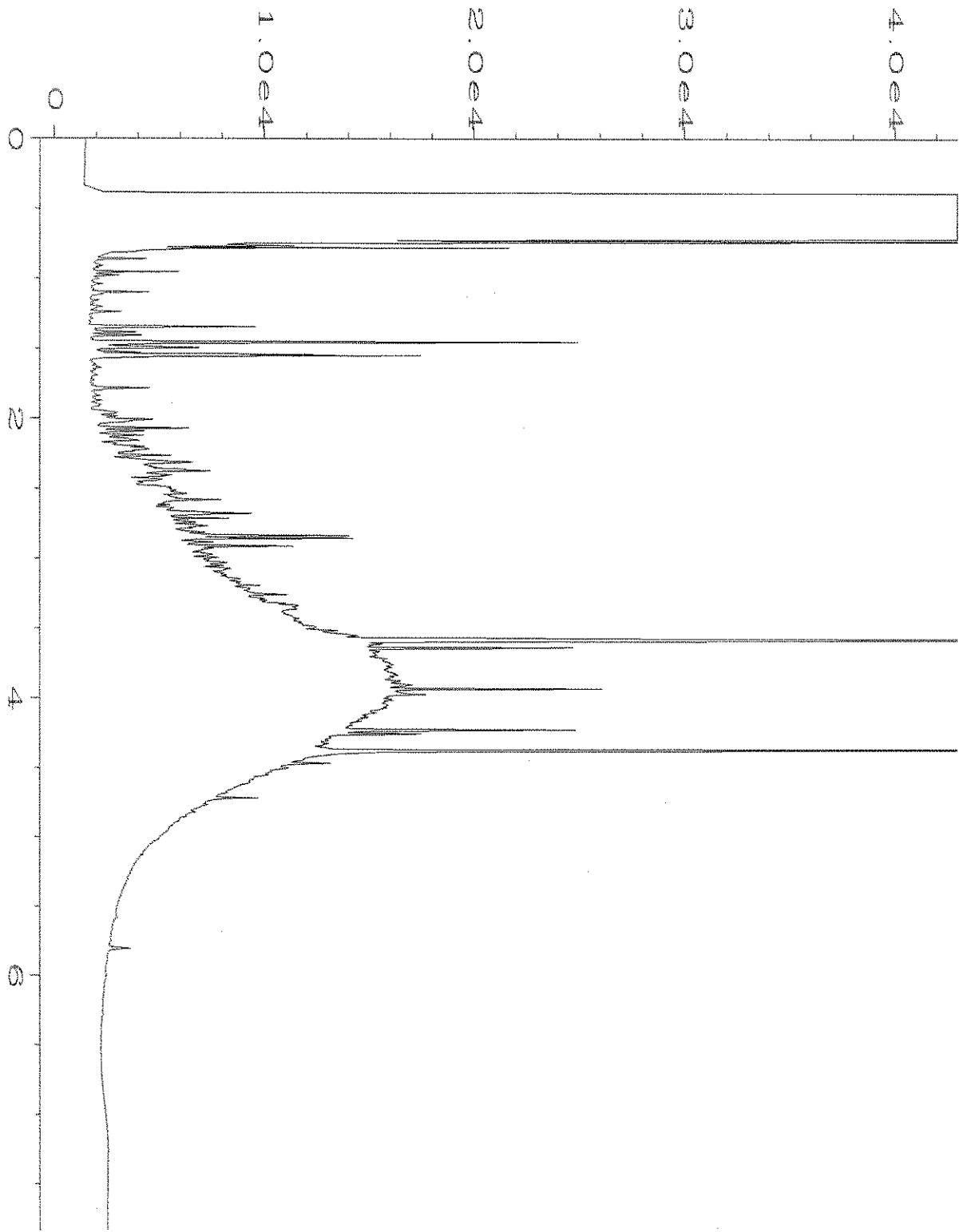
**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
 FOR TOTAL PETROLEUM HYDROCARBONS AS  
 DIESEL AND MOTOR OIL  
 USING METHOD NWTPH-Dx**  
 Results Reported as ug/L (ppb)

*GCY*

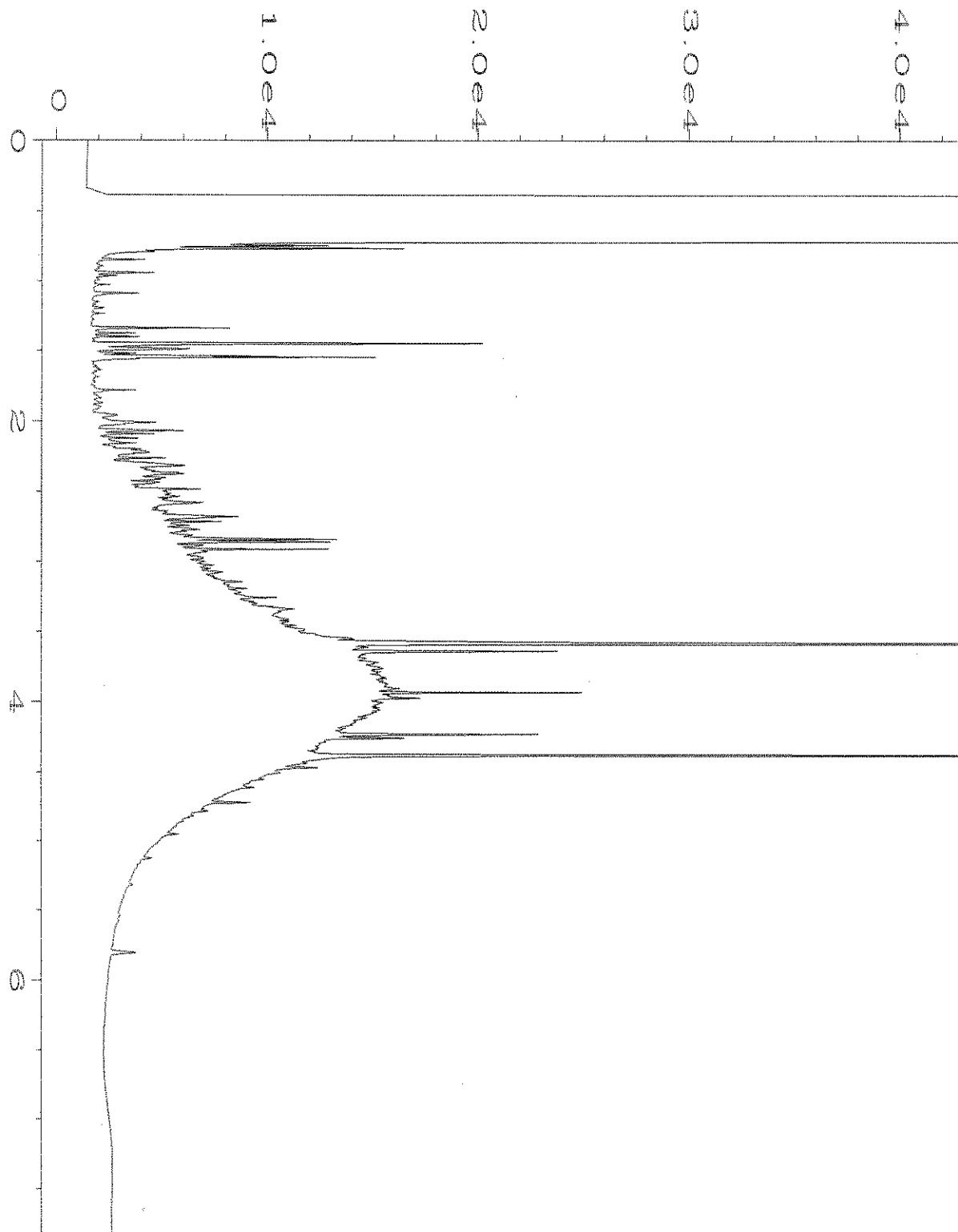
<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
TWA-5 912238-01	500 x	430 x	111
TWA-6 912238-02	710 x	470 x	122
TWA-1120 912238-03	710 x	400 x	109
SB-1A-1219 912238-04	<50	<250	124
SB-2A-1219 912238-05	<50	<250	123
SB-3A-1219 912238-06	1,900 x	1,200 x	120
TWA-1099-1219 912238-07	<50	<250	134
Method Blank 09-3043 MB	<50	<250	110



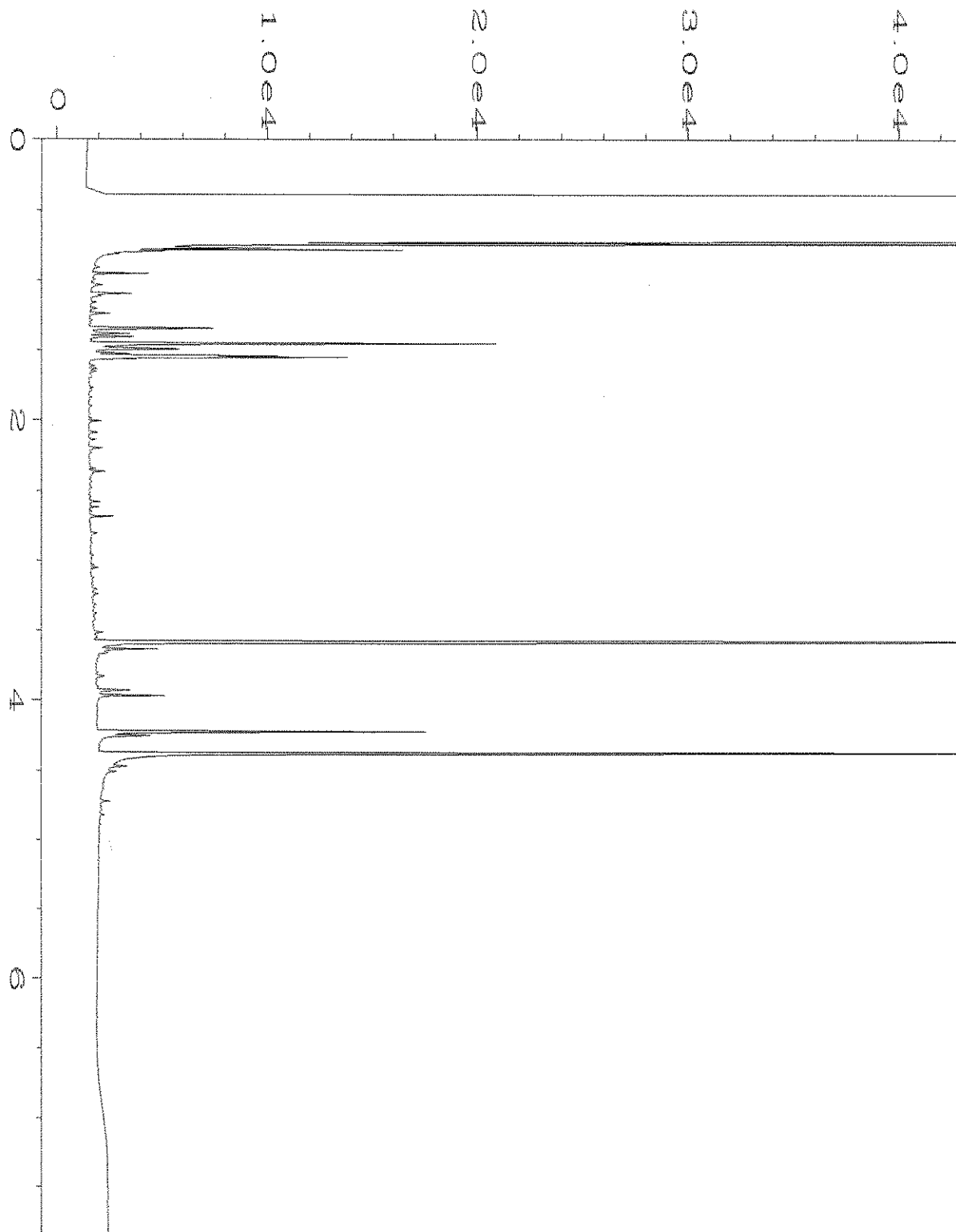
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Operator	: TL	Vial Number	: 16
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 912238-01	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 16 Dec 19 01:01 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jan 20 02:00 PM		



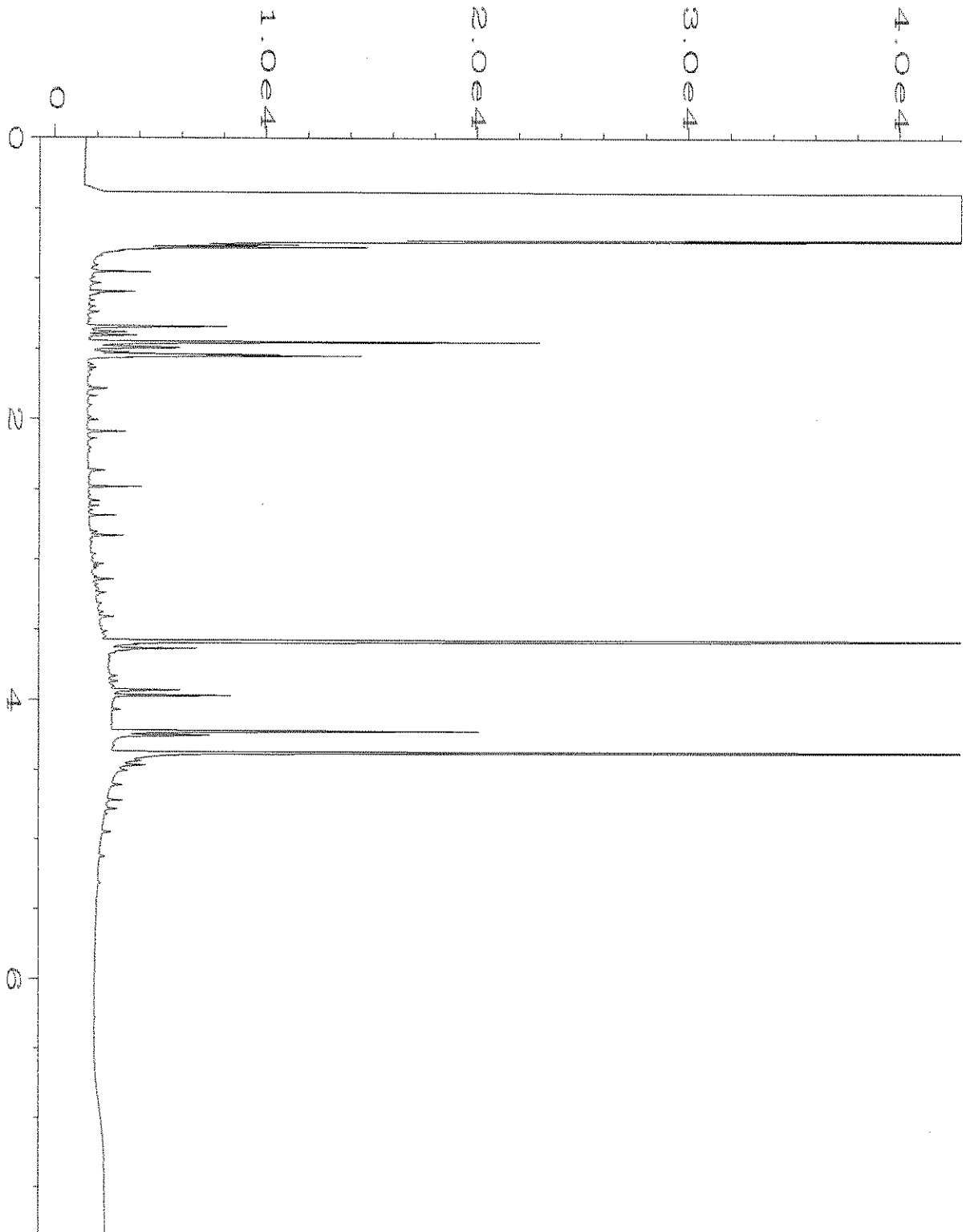
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Operator	: TL	Vial Number	: 17
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 912238-02	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 16 Dec 19 01:13 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jan 20 02:00 PM		



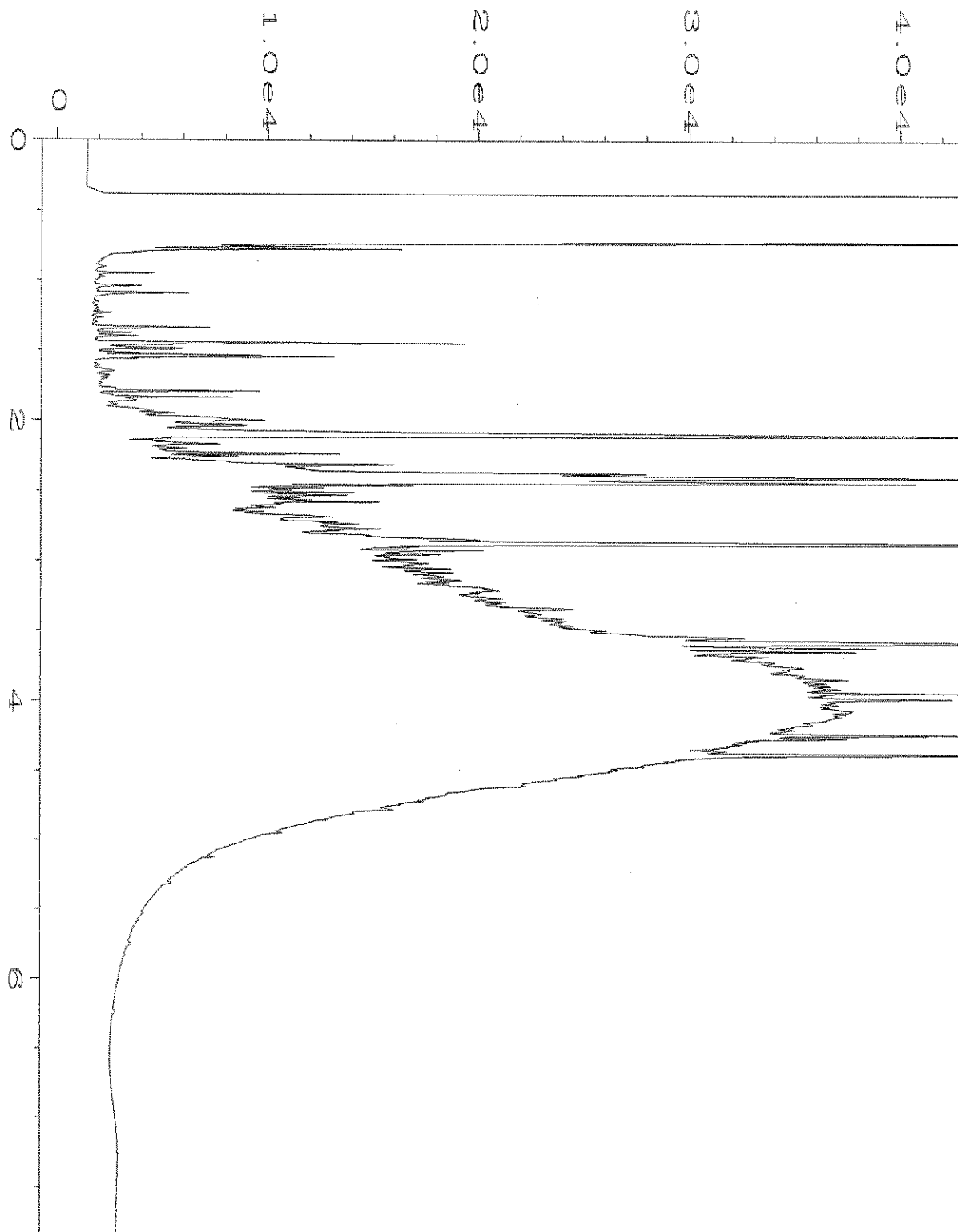
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Operator	: TL	Vial Number	: 18
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 912238-03	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 16 Dec 19 01:25 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jan 20 02:00 PM		



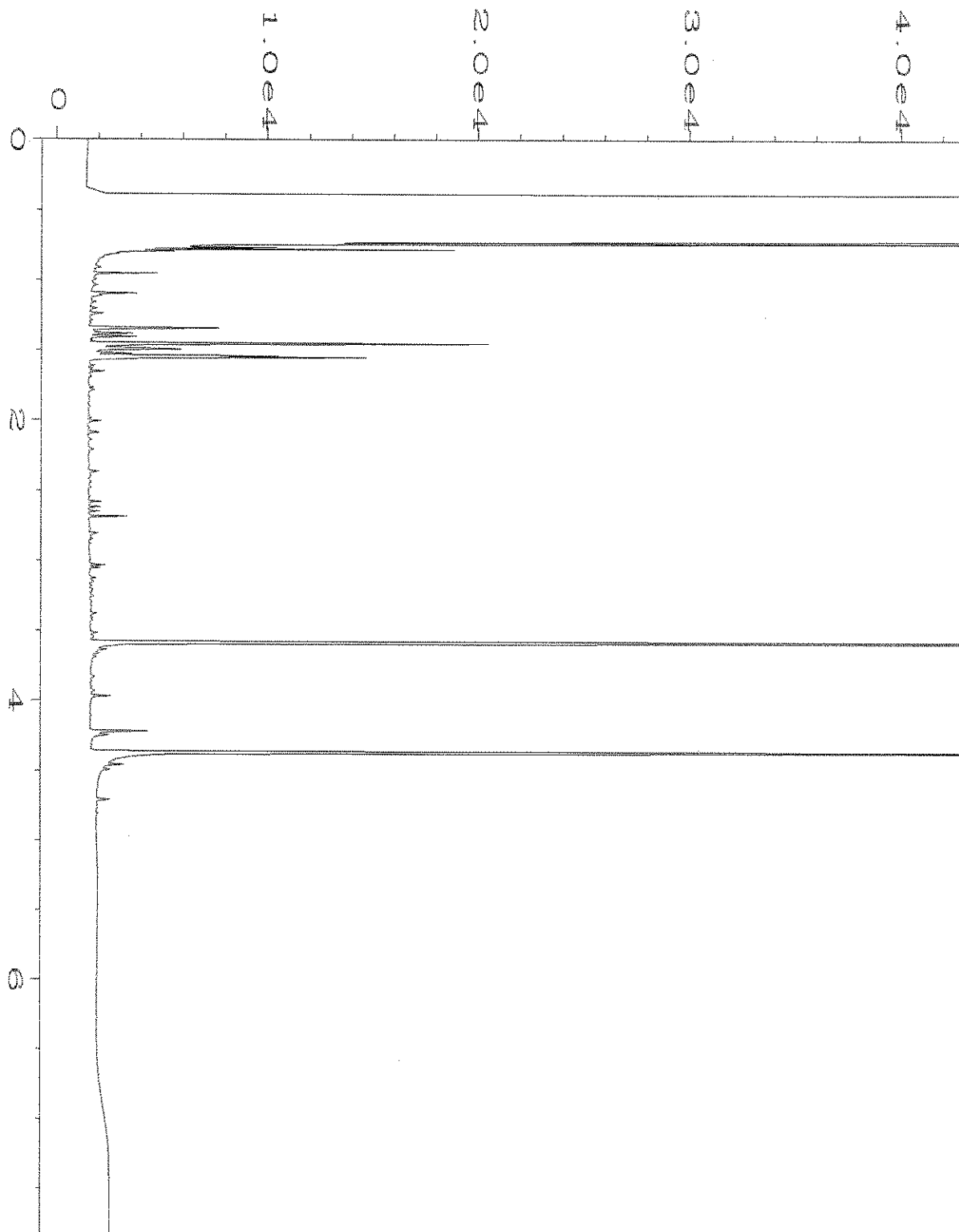
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Operator	: TL	Vial Number	: 19
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 912238-04	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 16 Dec 19 01:37 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jan 20 02:00 PM		



Data File Name	: C:\HPCHEM\4\DATA\12-16-19\020F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 20
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 912238-05	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 16 Dec 19 01:49 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jan 20 02:00 PM		

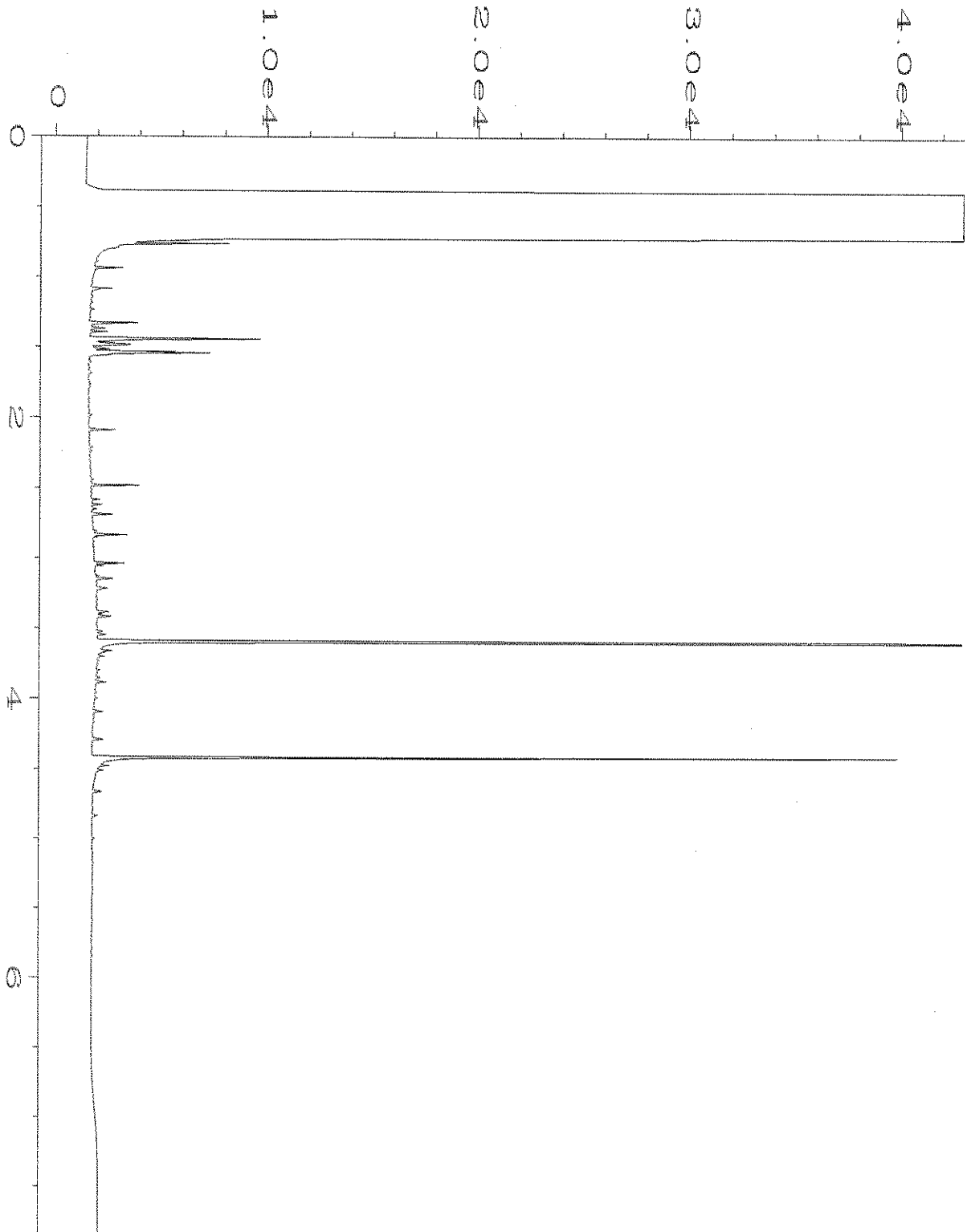


Data File Name	: C:\HPCHEM\4\DATA\12-16-19\023F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 23
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 912238-06	Sequence Line	: 3
Run Time Bar Code:		Instrument Method	: DX.MTH
Acquired on	: 16 Dec 19 02:25 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jan 20 02:01 PM		

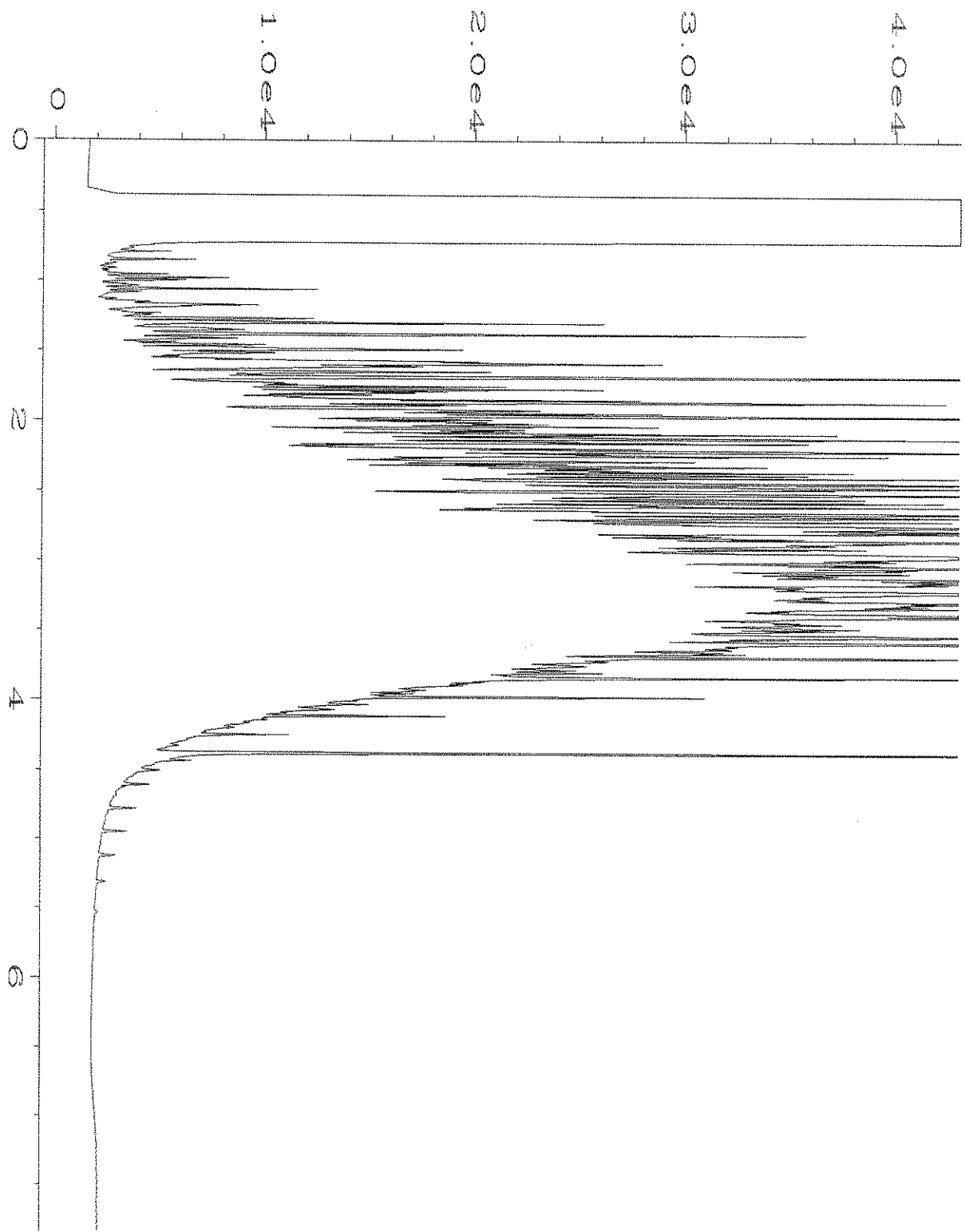


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Operator	: TL	Vial Number	: 24
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 912238-07	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 16 Dec 19 02:37 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jan 20 02:03 PM		





Data File Name	: C:\HPCHEM\4\DATA\12-16-19\006F0301.D	Page Number	: 1
Operator	: TL	Vial Number	: 6
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 09-3043 mb	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 16 Dec 19 11:02 AM	Analysis Method	: DX.MTH
Report Created on:	23 Jan 20 01:59 PM		



Data File Name	: C:\HPCHEM\4\DATA\12-16-19\003F0201.D	Page Number	: 1
Operator	: TL	Vial Number	: 3
Instrument	: GC#4	Injection Number	: 1
Sample Name	: 500 Dx 58-146B	Sequence Line	: 2
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 16 Dec 19 05:56 AM	Analysis Method	: DX.MTH
Report Created on:	23 Jan 20 02:03 PM		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
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fbi@isomedia.com  
www.friedmanandbruya.com

January 14, 2020

Jamie Stevens, Project Manager  
Crete Consulting  
108 S. Washington St., Suite 300  
Seattle, WA 98104

Dear Ms Stevens:

Included are the additional results from the testing of material submitted on December 13, 2019 from the POT-Hylebos, F&BI 912238 project. There are 10 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
CTC0114R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 13, 2019 by Friedman & Bruya, Inc. from the Crete Consulting POT-Hylebos, F&BI 912238 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Crete Consulting</u>
912238 -01	TWA-5
912238 -02	TWA-6
912238 -03	TWA-1120
912238 -04	SB-1A-1219
912238 -05	SB-2A-1219
912238 -06	SB-3A-1219
912238 -07	TWA-1099-1219
912238 -08	Trip Blank

The 8270D full list analysis was performed using 8270D SIM extracts. The samples were not prepared using full list 8270D surrogates or QC, therefore the reported concentrations should be considered estimates. In addition, an acid phase separation was not performed and the affected compounds were reported with a ca qualifier.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D Screen

Client Sample ID:	TWA-5	Client:	Crete Consulting
Date Received:	12/13/20	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-01
Date Analyzed:	01/06/20	Data File:	010612.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	0 vo	15	99
Phenol-d6	0 vo	11	65
Nitrobenzene-d5	0 vo	50	150
2-Fluorobiphenyl	0 vo	50	150
2,4,6-Tribromophenol	0 vo	34	132
Terphenyl-d14	0 vo	45	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2 ca	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2 ca	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6 ca
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6 ca
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2 ca	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4 ca	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6 ca
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2 ca	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2 ca	Pentachlorophenol	<1 ca
Benzoic acid	<10 ca	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2 ca	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2 ca	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2 ca	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2 ca	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Note: Surrogates have not been added.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D Screen

Client Sample ID:	TWA-6	Client:	Crete Consulting
Date Received:	12/13/20	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-02
Date Analyzed:	01/06/20	Data File:	010613.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	0 vo	15	99
Phenol-d6	0 vo	11	65
Nitrobenzene-d5	0 vo	50	150
2-Fluorobiphenyl	0 vo	50	150
2,4,6-Tribromophenol	0 vo	34	132
Terphenyl-d14	0 vo	45	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2 ca	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2 ca	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6 ca
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6 ca
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2 ca	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4 ca	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6 ca
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2 ca	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2 ca	Pentachlorophenol	<1 ca
Benzoic acid	<10 ca	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2 ca	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2 ca	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2 ca	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2 ca	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Note: Surrogates have not been added.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D Screen

Client Sample ID:	TWA-1120	Client:	Crete Consulting
Date Received:	12/13/20	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-03
Date Analyzed:	01/06/20	Data File:	010614.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	0 vo	15	99
Phenol-d6	0 vo	11	65
Nitrobenzene-d5	0 vo	50	150
2-Fluorobiphenyl	0 vo	50	150
2,4,6-Tribromophenol	0 vo	34	132
Terphenyl-d14	0 vo	45	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2 ca	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2 ca	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6 ca
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6 ca
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2 ca	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4 ca	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6 ca
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2 ca	Pentachlorophenol	<1 ca
Benzoic acid	<10 ca	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2 ca	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2 ca	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2 ca	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2 ca	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Note: Surrogates have not been added

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D Screen

Client Sample ID:	SB-1A-1219	Client:	Crete Consulting
Date Received:	12/13/20	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-04
Date Analyzed:	01/06/20	Data File:	010615.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	0 vo	15	99
Phenol-d6	0 vo	11	65
Nitrobenzene-d5	0 vo	50	150
2-Fluorobiphenyl	0 vo	50	150
2,4,6-Tribromophenol	0 vo	34	132
Terphenyl-d14	0 vo	45	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2 ca	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2 ca	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6 ca
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6 ca
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2 ca	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4 ca	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6 ca
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2 ca	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2 ca	Pentachlorophenol	<1 ca
Benzoic acid	<10 ca	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2 ca	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2 ca	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2 ca	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Note: Surrogates have not been added



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D Screen

Client Sample ID: SB-2A-1219	Client: Crete Consulting
Date Received: 12/13/20	Project: POT-Hylebos, F&BI 912238
Date Extracted: 12/16/19	Lab ID: 912238-05
Date Analyzed: 01/06/20	Data File: 010616.D
Matrix: Water	Instrument: GCMS8
Units: ug/L (ppb)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	0 vo	15	99
Phenol-d6	0 vo	11	65
Nitrobenzene-d5	0 vo	50	150
2-Fluorobiphenyl	0 vo	50	150
2,4,6-Tribromophenol	0 vo	34	132
Terphenyl-d14	0 vo	45	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2 ca	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2 ca	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6 ca
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6 ca
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2 ca	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4 ca	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6 ca
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2 ca	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2	Pentachlorophenol	<1 ca
Benzoic acid	<10 ca	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2 ca	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2 ca	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2 ca	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2 ca	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Note: Surrogates have not been added.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D Screen

Client Sample ID: SB-3A-1219	Client: Crete Consulting
Date Received: 12/13/20	Project: POT-Hylebos, F&BI 912238
Date Extracted: 12/16/19	Lab ID: 912238-06
Date Analyzed: 01/06/20	Data File: 010617.D
Matrix: Water	Instrument: GCMS8
Units: ug/L (ppb)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	0 vo	15	99
Phenol-d6	0 vo	11	65
Nitrobenzene-d5	0 vo	50	150
2-Fluorobiphenyl	0 vo	50	150
2,4,6-Tribromophenol	0 vo	34	132
Terphenyl-d14	0 vo	45	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2 ca	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2 ca	Acenaphthene	0.072
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6 ca
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6 ca
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2 ca	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4 ca	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6 ca
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2 ca	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2 ca	Pentachlorophenol	<1 ca
Benzoic acid	<10	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2 ca	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2 ca	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2 ca	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2 ca	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Note: Surrogates have not been added.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D Screen

Client Sample ID:	TWA-1099-1219	Client:	Crete Consulting
Date Received:	12/13/20	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-07
Date Analyzed:	01/08/20	Data File:	010740.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	0 vo	15	99
Phenol-d6	0 vo	11	65
Nitrobenzene-d5	0 vo	50	150
2-Fluorobiphenyl	0 vo	50	150
2,4,6-Tribromophenol	0 vo	34	132
Terphenyl-d14	0 vo	45	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2 ca	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2 ca	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6 ca
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6 ca
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2 ca	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4 ca	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2 ca	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2 ca	Pentachlorophenol	<1
Benzoic acid	<10	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2 ca	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2 ca	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6 ca	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Note: Surrogates have not been added.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D Screen

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	09-3044 mb
Date Analyzed:	01/06/20	Data File:	010607.D
Matrix:	Water	Instrument:	GCMS8
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	0 vo	15	99
Phenol-d6	0 vo	11	65
Nitrobenzene-d5	0 vo	50	150
2-Fluorobiphenyl	0 vo	50	150
2,4,6-Tribromophenol	0 vo	34	132
Terphenyl-d14	0 vo	45	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<2 ca	2,6-Dinitrotoluene	<1
Bis(2-chloroethyl) ether	<0.2	3-Nitroaniline	<20
2-Chlorophenol	<2 ca	Acenaphthene	<0.02
1,3-Dichlorobenzene	<0.2	2,4-Dinitrophenol	<6 ca
1,4-Dichlorobenzene	<0.2	Dibenzofuran	<0.2
1,2-Dichlorobenzene	<0.2	2,4-Dinitrotoluene	<1
Benzyl alcohol	<2	4-Nitrophenol	<6 ca
2,2'-Oxybis(1-chloropropane)	<0.2	Diethyl phthalate	<2
2-Methylphenol	<2 ca	Fluorene	<0.02
Hexachloroethane	<0.2	4-Chlorophenyl phenyl ether	<0.2
N-Nitroso-di-n-propylamine	<0.2	N-Nitrosodiphenylamine	<0.2
3-Methylphenol + 4-Methylphenol	<4 ca	4-Nitroaniline	<20
Nitrobenzene	<0.2	4,6-Dinitro-2-methylphenol	<6 ca
Isophorone	<0.2	4-Bromophenyl phenyl ether	<0.2
2-Nitrophenol	<2 ca	Hexachlorobenzene	<0.2
2,4-Dimethylphenol	<2 ca	Pentachlorophenol	<1 ca
Benzoic acid	<10 ca	Phenanthrene	<0.02
Bis(2-chloroethoxy)methane	<0.2	Anthracene	<0.02
2,4-Dichlorophenol	<2 ca	Carbazole	<0.2
1,2,4-Trichlorobenzene	<0.2	Di-n-butyl phthalate	<2
Naphthalene	<0.2	Fluoranthene	<0.02
Hexachlorobutadiene	<0.2	Pyrene	<0.02
4-Chloroaniline	<20	Benzyl butyl phthalate	<2
4-Chloro-3-methylphenol	<2	Benz(a)anthracene	<0.02
2-Methylnaphthalene	<0.2	Chrysene	<0.02
1-Methylnaphthalene	<0.2	Bis(2-ethylhexyl) phthalate	<3.2
Hexachlorocyclopentadiene	<0.6	Di-n-octyl phthalate	<2
2,4,6-Trichlorophenol	<2 ca	Benzo(a)pyrene	<0.02
2,4,5-Trichlorophenol	<2 ca	Benzo(b)fluoranthene	<0.02
2-Chloronaphthalene	<0.2	Benzo(k)fluoranthene	<0.02
2-Nitroaniline	<1	Indeno(1,2,3-cd)pyrene	<0.02
Dimethyl phthalate	<2	Dibenz(a,h)anthracene	<0.02
Acenaphthylene	<0.02	Benzo(g,h,i)perylene	<0.04

Note: Surrogates have not been added.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

**Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

912238

SAMPLE CHAIN OF CUSTODY

ME 12-13-19

Page # 1 of 1

Report To Ms. Jamie Stevens

Company Crete Consulting

Address 108 S Washington St, Suite 300

City, State, ZIP Seattle, WA 98104

Phone 206-799-2144 Email creteconsulting.com

SAMPLERS (signature) <u>Paul Bianco</u>	PO #
PROJECT NAME	POT-HYDROS
REMARKS	INVOICE TO
Project specific Ris? - Yes / No	Crete

TURNAROUND TIME	CO 4
Standard turnaround	
RUSH	
Rush charges authorized by:	
SAMPLE DISPOSAL	
Archive samples	
Other	
Default: Dispose after 30 days	

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes	
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	1,4 Dioxane	TOTAL METALS 6020	DISSOLVED METALS 6020		Full List SVOLs
TWA-S	01A-K	12.10.19	9:50	W	11	X	X			X	X	X	X	X	X	X	Dx w + 100 SGC
TWA-6	02	12.10.19	14:30	W	11	X	X			X	X	X	X	X	X	X	Dx w + 100 SGC
TWA-1120	03	12.10.19	15:00	W	11	X	X			X	X	X	X	X	X	X	Dx w + 100 SGC
Sb-1A-1219	04	12.11.19	9:45	W	11	X	X			X	X	X	X	X	X	X	Dx w + 100 SGC
Sb-2A-1219	05A-	12.11.19	11:30	W	29	X	X			X	X	X	X	X	X	X	MS/MSD
Sb-3A-1219	06A-K	12.11.19	13:30	W	11	X	X			X	X	X	X	X	X	X	Dx w + 100 SGC
TWA-1099-1219	07	12.11.19	16:30	W	11	X	X			X	X	X	X	X	X	X	Dx w + 100 SGC
TRIP BLANK	08A-B				2	X	X			X	X	X	X	X	X	X	Filtered samples are for dissolved metals

**CRB**  
 Friedman & Bryga, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Pl. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>Paul Bianco</u>	Paul Bianco	Crete	12.13.19	12:27
Received by: <u>Paul Bianco</u>	Received by: <u>Liz Webber-Bryga</u>	FBI	12/13/19	12:27
Relinquished by:	Relinquished by:	Samples received at		3:00

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

January 28, 2020

Jamie Stevens, Project Manager  
Crete Consulting  
108 S. Washington St., Suite 300  
Seattle, WA 98104

Dear Ms Stevens:

Included are the additional results from the testing of material submitted on December 13, 2019 from the POT-Hylebos, F&BI 912238 project. There are 26 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
CTC0128R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 13, 2019 by Friedman & Bruya, Inc. from the Crete Consulting POT-Hylebos, F&BI 912238 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Crete Consulting</u>
912238 -01	TWA-5
912238 -02	TWA-6
912238 -03	TWA-1120
912238 -04	SB-1A-1219
912238 -05	SB-2A-1219
912238 -06	SB-3A-1219
912238 -07	TWA-1099-1219
912238 -08	Trip Blank

Per request, 6020B copper and mercury were requantified using a lower reporting limit and selenium was added to the samples.

The 6020B dissolved copper internal standard recoveries in samples TWA-5 and TWA-6 were outside of control limits. The data were qualified accordingly.

All other quality control requirements were acceptable.



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-5	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-01
Date Analyzed:	12/24/19	Data File:	912238-01 rr.200
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	7.60 J
Selenium	<30

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-5	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-01
Date Analyzed:	12/26/19	Data File:	912238-01 rr.075
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Mercury	<0.2
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-5	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-01 x5
Date Analyzed:	12/24/19	Data File:	912238-01 x5.199
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	<12
Selenium	<150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-6	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-02
Date Analyzed:	12/24/19	Data File:	912238-02 rr.202
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	<2.4
Selenium	<30

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-6	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-02
Date Analyzed:	12/26/19	Data File:	912238-02 rr.076
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Mercury	<0.2
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-1120	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-03
Date Analyzed:	12/24/19	Data File:	912238-03 rr.204
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	<2.4
Selenium	<30

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-1120	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-03
Date Analyzed:	12/26/19	Data File:	912238-03 rr.077
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Mercury	<0.2
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	SB-1A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-04
Date Analyzed:	12/23/19	Data File:	912238-04 rr.172
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	<2.4
Mercury	<0.2
Selenium	<30



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	SB-2A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-05
Date Analyzed:	12/23/19	Data File:	912238-05 rr.173
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	<2.4
Mercury	<0.2
Selenium	<30

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	SB-3A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-06
Date Analyzed:	12/23/19	Data File:	912238-06 rr.174
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	<2.4
Mercury	<0.2
Selenium	<30

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-1099-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	912238-07
Date Analyzed:	12/23/19	Data File:	912238-07 rr.175
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	29.1
Mercury	<0.2
Selenium	<30

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/19/19	Lab ID:	I9-816 mb
Date Analyzed:	12/19/19	Data File:	I9-816 mb.065
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	<2.4
Mercury	<0.2
Selenium	<30

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-5	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-01
Date Analyzed:	12/16/19	Data File:	912238-01.101
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	35.6 J
Mercury	<0.2 J
Selenium	15.5 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-5	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-01 x2
Date Analyzed:	12/17/19	Data File:	912238-01 x2.196
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	35.4
Mercury	<0.4
Selenium	15.8

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-02
Date Analyzed:	12/16/19	Data File:	912238-02.102
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	56.7 J
Mercury	<0.2 J
Selenium	19.3 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-02 x2
Date Analyzed:	12/17/19	Data File:	912238-02 x2.197
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	42.8
Mercury	<0.4
Selenium	20.6



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-1120	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-03
Date Analyzed:	12/16/19	Data File:	912238-03.103
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	69.0
Mercury	<0.2
Selenium	18.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-1A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-04
Date Analyzed:	12/16/19	Data File:	912238-04.104
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	23.1
Mercury	<0.2
Selenium	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-2A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-05
Date Analyzed:	12/16/19	Data File:	912238-05.105
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	10.3
Mercury	<0.2
Selenium	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-3A-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-06
Date Analyzed:	12/16/19	Data File:	912238-06.114
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	3.28
Mercury	<0.2
Selenium	7.17

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-1099-1219	Client:	Crete Consulting
Date Received:	12/13/19	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	912238-07
Date Analyzed:	12/16/19	Data File:	912238-07.115
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	29.7
Mercury	<0.2
Selenium	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	POT-Hylebos, F&BI 912238
Date Extracted:	12/16/19	Lab ID:	I9-797 mb
Date Analyzed:	12/16/19	Data File:	I9-797 mb.079
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Copper	<2.4
Mercury	<0.2
Selenium	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/28/20

Date Received: 12/13/19

Project: POT-Hylebos, F&BI 912238

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR DISSOLVED METALS USING EPA METHOD 6020B**

Laboratory Code: 912238-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Copper	ug/L (ppb)	20	<2.4	90	88	75-125	2
Mercury	ug/L (ppb)	5	<0.2	81	83	75-125	2
Selenium	ug/L (ppb)	5	<30	86	85	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Copper	ug/L (ppb)	20	100	80-120
Mercury	ug/L (ppb)	5	96	80-120
Selenium	ug/L (ppb)	5	95	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/28/20

Date Received: 12/13/19

Project: POT-Hylebos, F&BI 912238

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 912238-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Copper	ug/L (ppb)	20	10.3	56 b	39 b	75-125	36 b
Mercury	ug/L (ppb)	5	<0.2	85	86	75-125	1
Selenium	ug/L (ppb)	5	<1	111	114	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Copper	ug/L (ppb)	20	97	80-120
Mercury	ug/L (ppb)	5	95	80-120
Selenium	ug/L (ppb)	5	96	80-120



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

**Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

912238

Report To Ms. Jamie Stevens

Company Crete Consulting

Address 108 S Washington St, Suite 300

City, State, ZIP Seattle, WA 98104

Phone 206-799-2744 Email creteconsulting.com

SAMPLE CHAIN OF CUSTODY

ME 12-13-19 Page # 1 of 1

SAMPLERS (signature) <u>PWB</u>	PO #
PROJECT NAME	INVOICE TO
PO T - HYLEBOS	Crete
REMARKS	

TURNAROUND TIME	60
Standard turnaround	<input checked="" type="checkbox"/>
RUSH	<input type="checkbox"/>
Rush charges authorized by:	
SAMPLE DISPOSAL	
Archive samples	<input type="checkbox"/>
Other	<input type="checkbox"/>
Default: Dispose after 30 days	

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	1,4 Dioxane	TOTAL METALS 6020	DISSOLVED METALS 6020	Notes
TWA-5	01A-K	12.10.19	9:50	W	11	X	X			X	X	X	X	X	X	Dx w + wo SGC
TWA-6	02	12.10.19	14:30	W	11	X	X			X	X	X	X	X	X	Dx w + wo SGC
TWA-1120	03	12.10.19	15:00	W	11	X	X			X	X	X	X	X	X	Dx w + wo SGC
SB-1A-1219	04	12.11.19	9:45	W	11	X	X			X	X	X	X	X	X	Dx w + wo SGC
SB-2A-1219	05A-	12.11.19	11:30	W	29	X	X			X	X	X	X	X	X	MS/MSD
SB-3A-1219	06A-K	12.11.19	13:30	W	11	X	X			X	X	X	X	X	X	Dx w + wo SGC
TWA-1099-1219	07	12.11.19	16:30	W	11	X	X			X	X	X	X	X	X	9 - lower Cu, Ni
TRIP BLANK	08A-B				2	X	X			X	X	X	X	X	X	report see per GALT for filled samplers are for dissolved metals

GWB

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Relinquished by: <u>[Signature]</u>	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>Paul Bianco</u>		Paul Bianco	Crete	12.13.19	12:27
Relinquished by: <u>[Signature]</u>		Liz Webber-Bryce	F2B1	12/13/19	12:27
Received by:			Samples received at		3

**Attachment 3**  
**Chromatograms**

FRIEDMAN & BRUYA, INC.

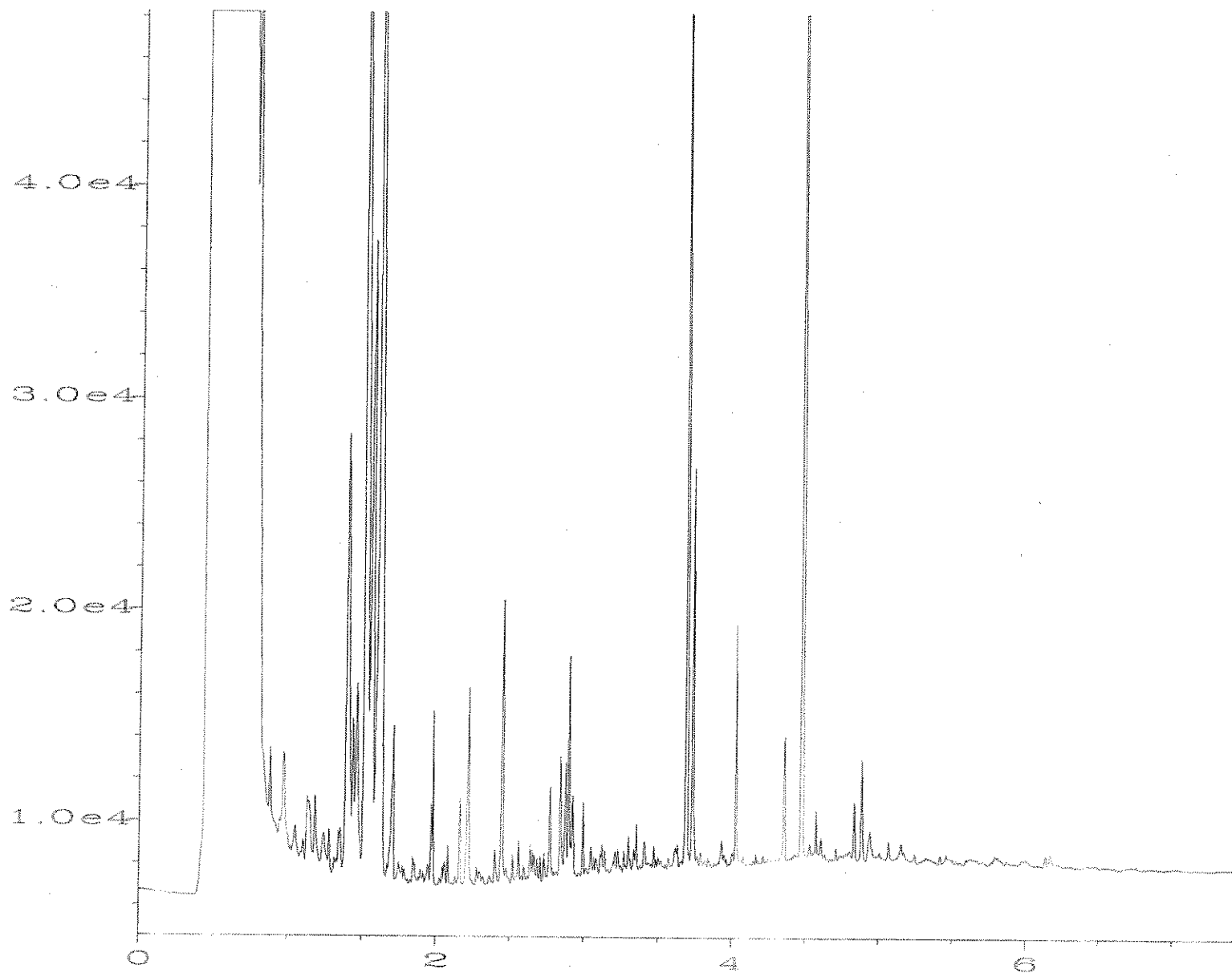
ENVIRONMENTAL CHEMISTS

Date of Report: 10/09/19  
 Date Received: 09/25/19  
 Project: Hylebos Marsh, F&BI 909421  
 Date Extracted: 09/26/19  
 Date Analyzed: 09/26/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
 FOR TOTAL PETROLEUM HYDROCARBONS AS  
 DIESEL AND MOTOR OIL  
 USING METHOD NWTPH-Dx**  
 Results Reported as ug/L (ppb)

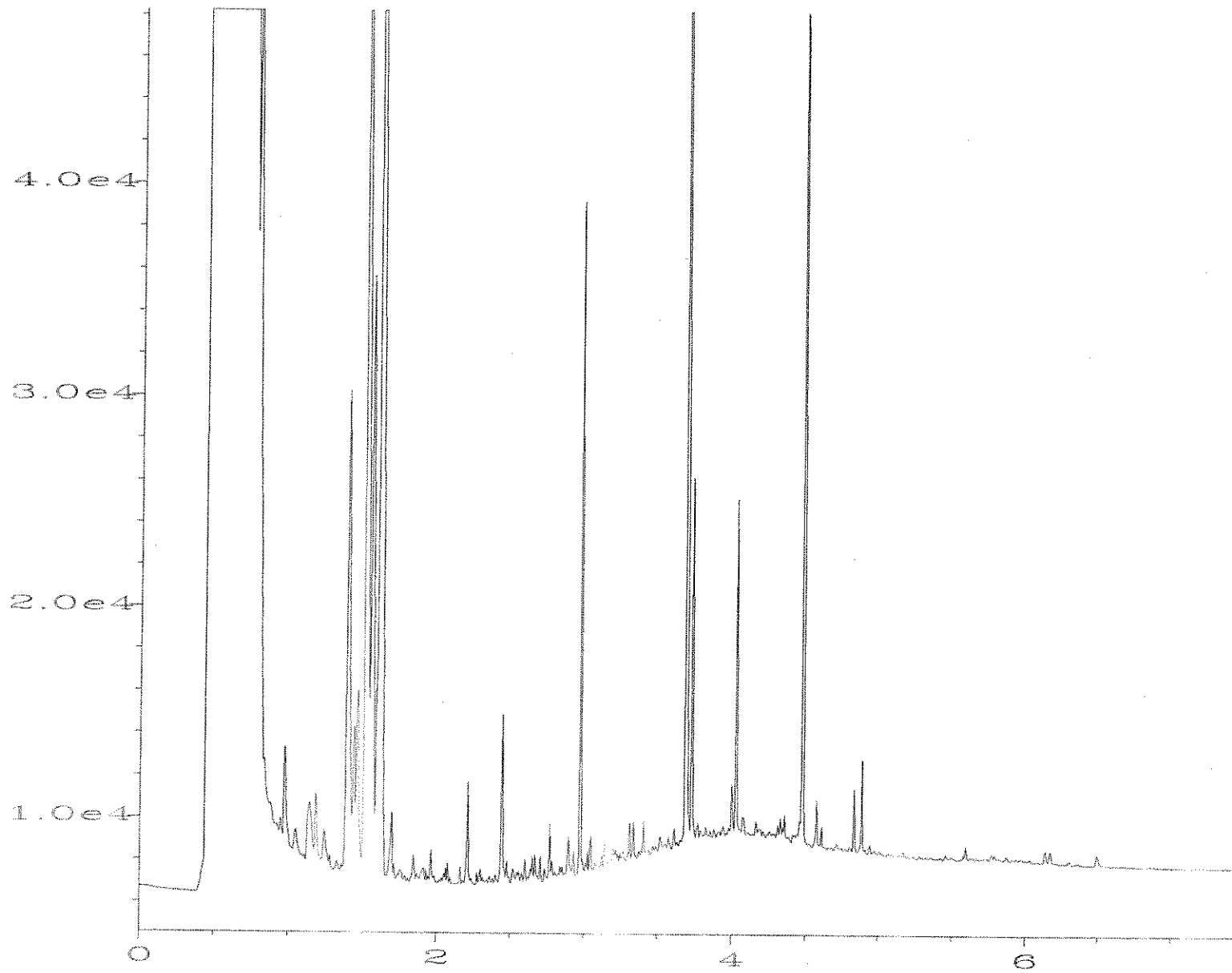
CC1

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 41-152)
SB-1-0919 909421-01 1/2	230 x	<500	91
SB-2-0919 909421-02 1/1.3	180 x	<330	103
SB-3-0919 909421-03 1/1.3	6,800 x	1,800 x	117
SB-4-0919 909421-04 1/1.3	300 x	<330	83
TWA-5-1 909421-10 1/1.3	410 x	<330	78
Method Blank 09-2368 MB	<50	<250	97



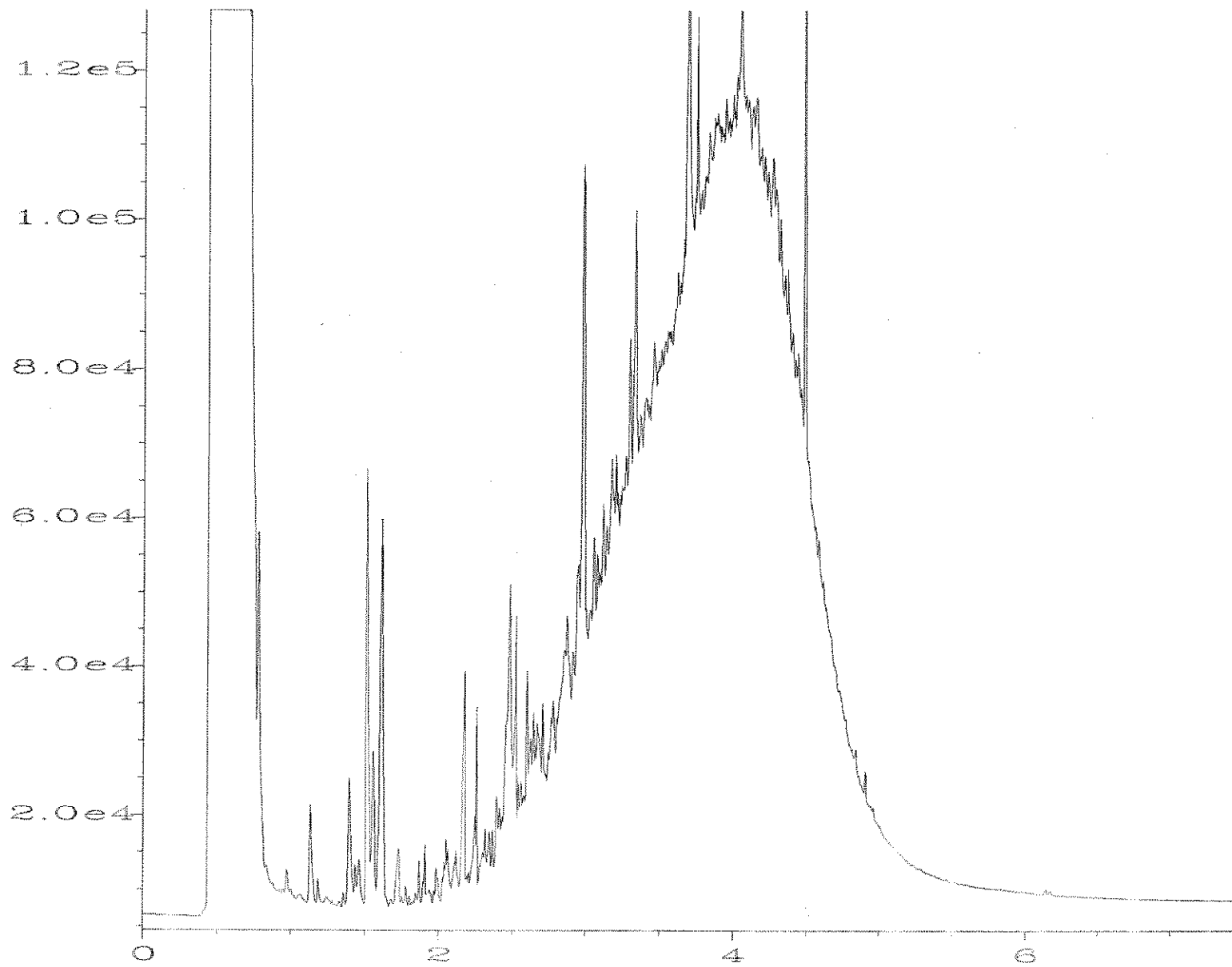
SB-1-0919

Data File Name	: C:\HPCHEM\1\DATA\09-26-19\020F1001.D	Page Number	: 1
Operator	: TL	Vial Number	: 20
Instrument	: GC1	Injection Number	: 1
Sample Name	: 909421-01	Sequence Line	: 10
Run Time Bar Code	: 26 Sep 19 03:52 PM	Instrument Method	: DX.MTH
Acquired on	: 23 Jan 20 01:57 PM	Analysis Method	: DX.MTH
Report Created on:			



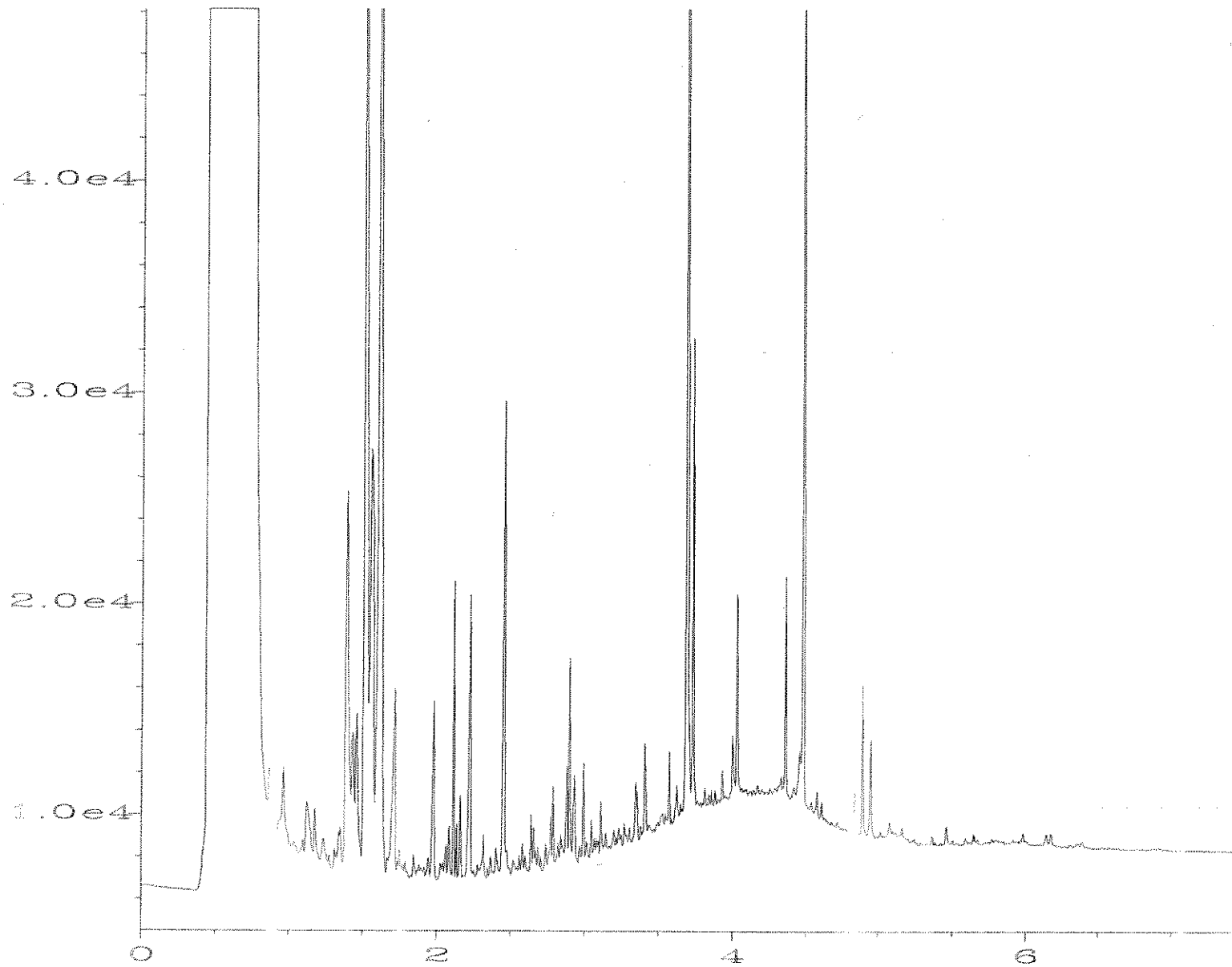
SB-2-0919

Data File Name : C:\HPCHEM\1\DATA\09-26-19\021F1001.D  
 Operator : TL  
 Instrument : GC1  
 Sample Name : 909421-02  
 Run Time Bar Code : 26 Sep 19 04:03 PM  
 Acquired on : 23 Jan 20 01:57 PM  
 Page Number : 1  
 Vial Number : 21  
 Injection Number : 1  
 Sequence Line : 10  
 Instrument Method: DX.MTH  
 Analysis Method : DX.MTH



SB-3-0919

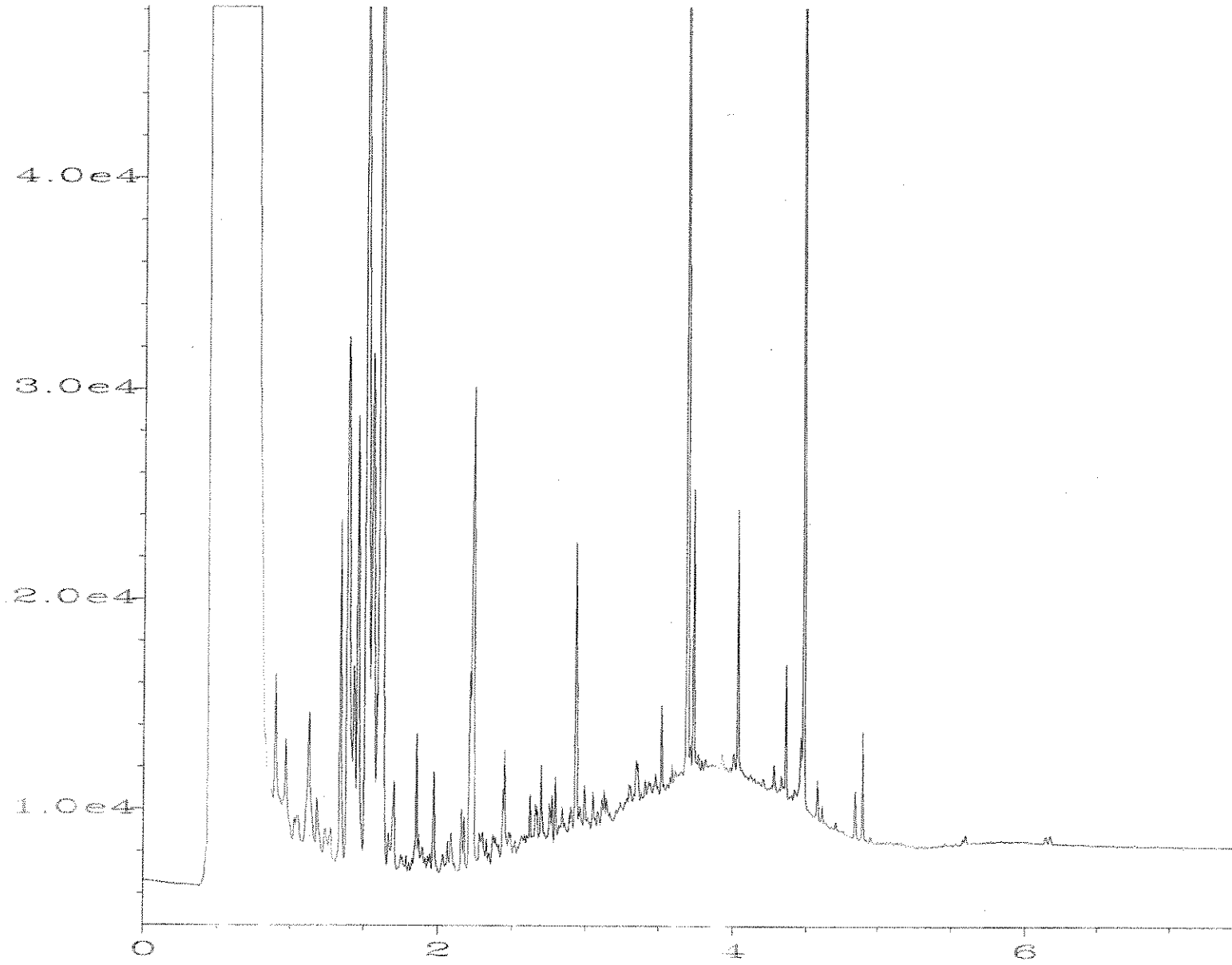
Data File Name : C:\HPCHEM\1\DATA\09-26-19\022F1001.D  
Operator : TL  
Instrument : GC1  
Sample Name : 909421-03  
Run Time Bar Code : 26 Sep 19 04:15 PM  
Acquired on : 23 Jan 20 01:57 PM  
Page Number : 1  
Vial Number : 22  
Injection Number : 1  
Sequence Line : 10  
Instrument Method: DX.MTH  
Analysis Method : DX.MTH



SB-4-0919

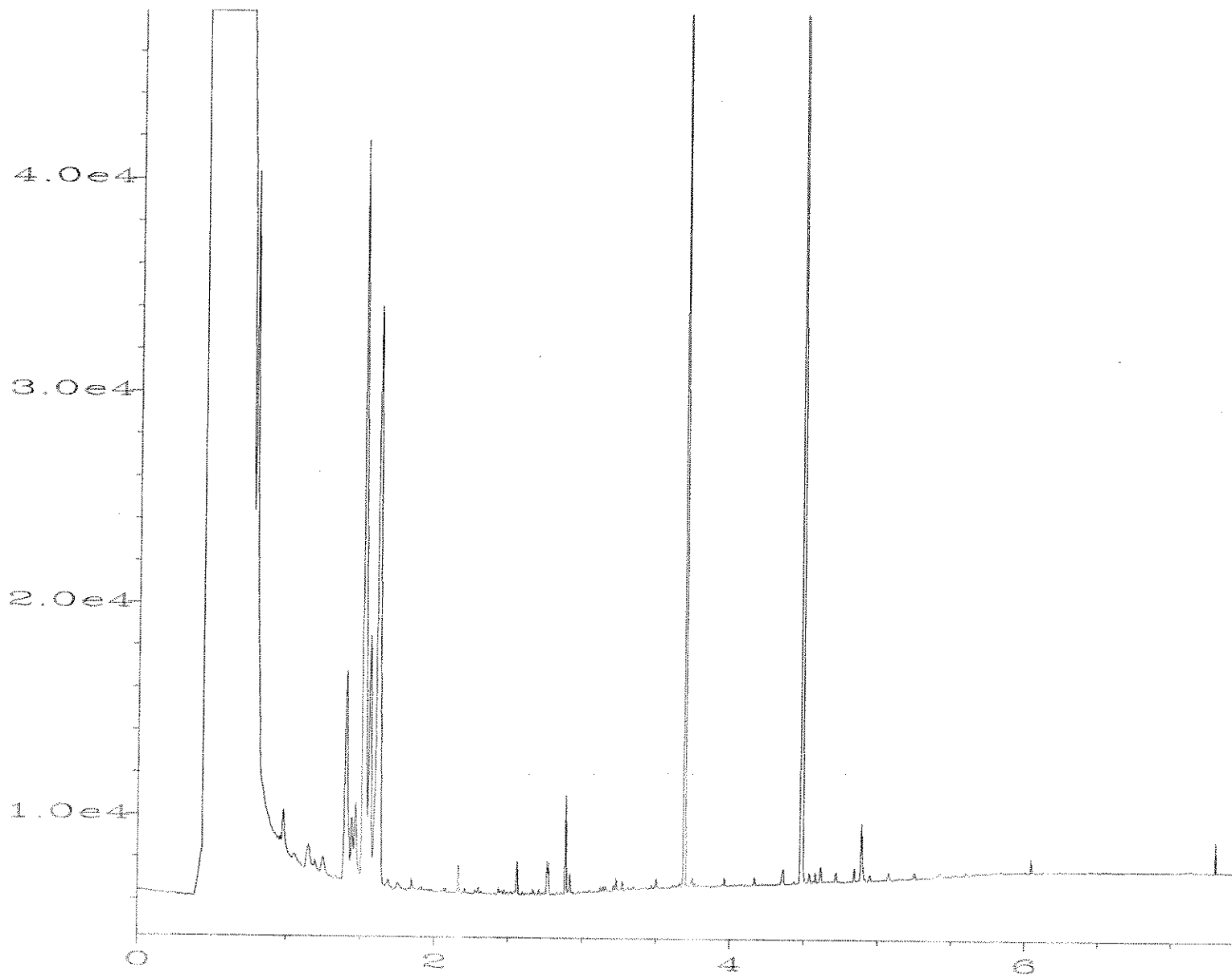
Data File Name : C:\HPCHEM\1\DATA\09-26-19\023F1001.D  
 Operator : TL  
 Instrument : GC1  
 Sample Name : 909421-04  
 Run Time Bar Code : 26 Sep 19 04:26 PM  
 Acquired on : 23 Jan 20 01:58 PM  
 Page Number : 1  
 Vial Number : 23  
 Injection Number : 1  
 Sequence Line : 10  
 Instrument Method: DX.MTH  
 Analysis Method : DX.MTH





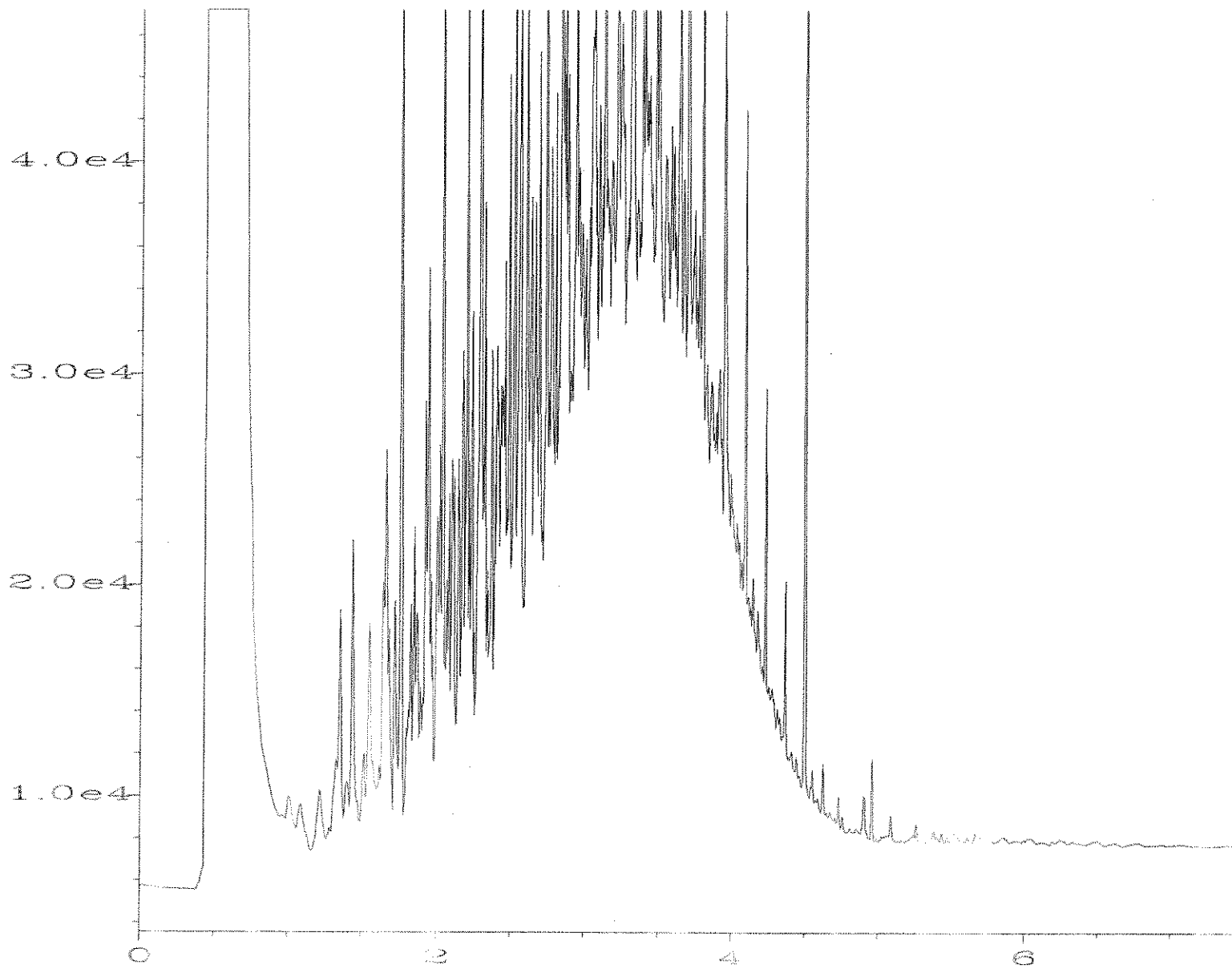
TWA-5-1

Data File Name : C:\HPCHEM\1\DATA\09-26-19\024F1001.D  
Operator : TL  
Instrument : GC1  
Sample Name : 909421-10  
Run Time Bar Code : 26 Sep 19 04:38 PM  
Acquired on : 23 Jan 20 01:58 PM  
Page Number : 1  
Vial Number : 24  
Injection Number : 1  
Sequence Line : 10  
Instrument Method: DX.MTH  
Analysis Method : DX.MTH



method blank  
(report 909421)

Data File Name : C:\HPCHEM\1\DATA\09-26-19\013F0501.D  
Operator : TL  
Instrument : GC1  
Sample Name : 09-2368 mb  
Run Time Bar Code : 26 Sep 19 01:44 PM  
Acquired on : 23 Jan 20 01:57 PM  
Page Number : 1  
Vial Number : 13  
Injection Number : 1  
Sequence Line : 5  
Instrument Method : DX.MTH  
Analysis Method : DX.MTH



standard  
(report 909421)

Data File Name : C:\HPCHEM\1\DATA\09-26-19\003F0201.D  
Operator : TL  
Instrument : GC1  
Sample Name : 500 Dx 57-78E  
Run Time Bar Code : 26 Sep 19 06:16 AM  
Acquired on : 23 Jan 20 01:58 PM  
Page Number : 1  
Vial Number : 3  
Injection Number : 1  
Sequence Line : 2  
Instrument Method: DX.MTH  
Analysis Method : DX.MTH

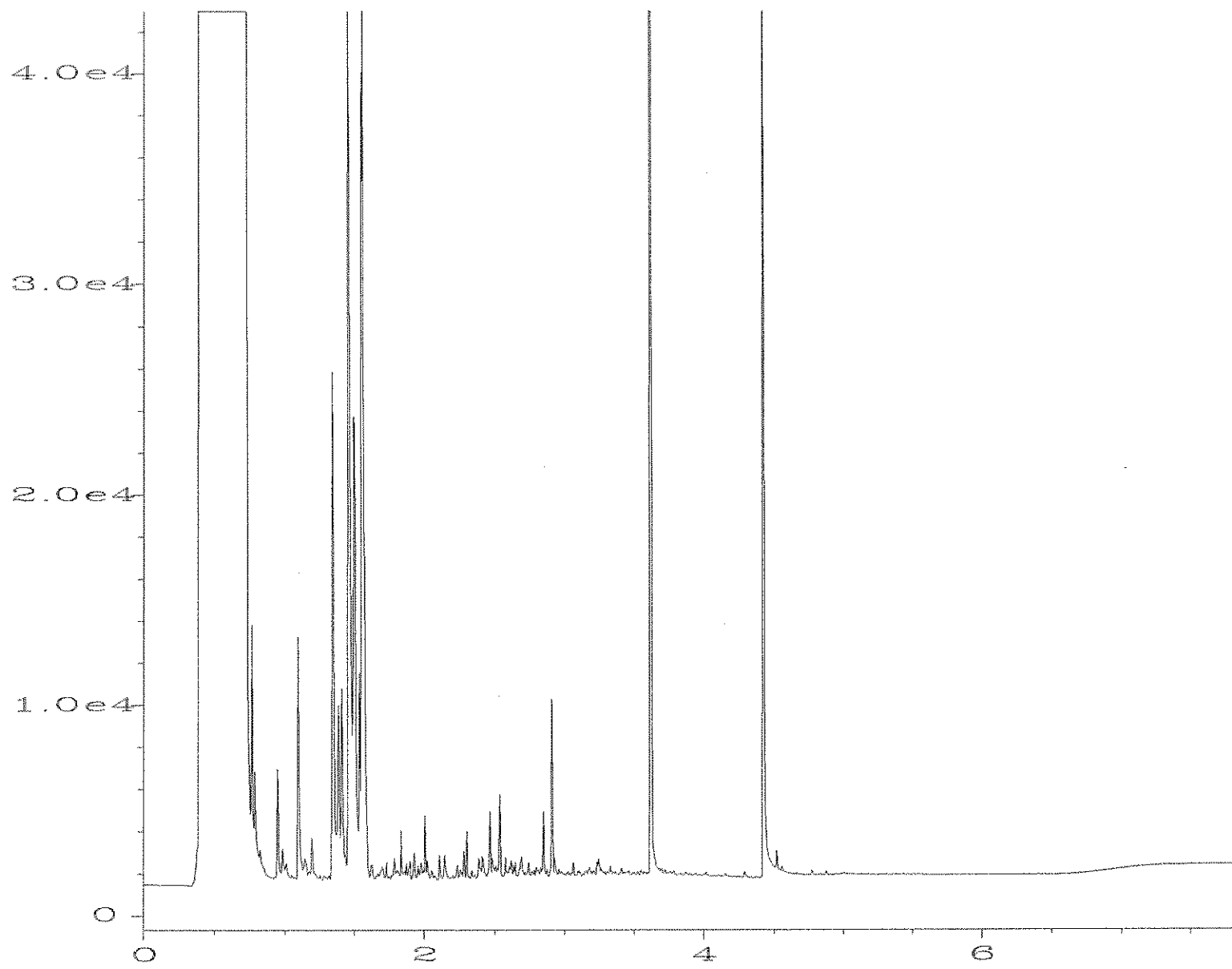
FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/31/19  
Date Received: 09/25/19  
Project: Hylebos Marsh, F&BI 909421  
Date Extracted: 10/29/19  
Date Analyzed: 10/29/19

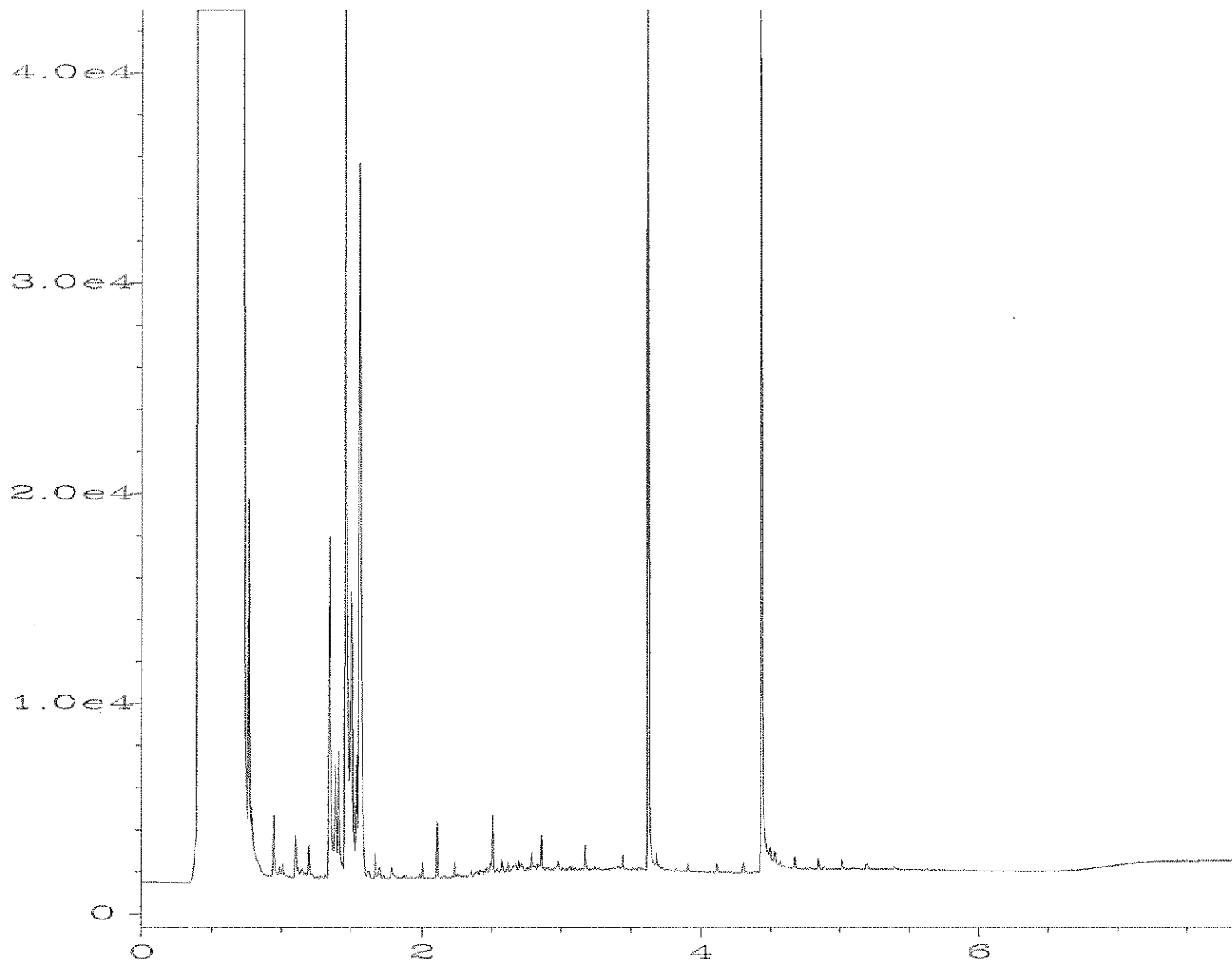
**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>  
Sample Extracts Passed Through a  
Silica Gel Column Prior to Analysis  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
SB-3-0919 909421-03 1/1.3	<70	<330	108
Method Blank 09-2368 MB	<50	<250	110



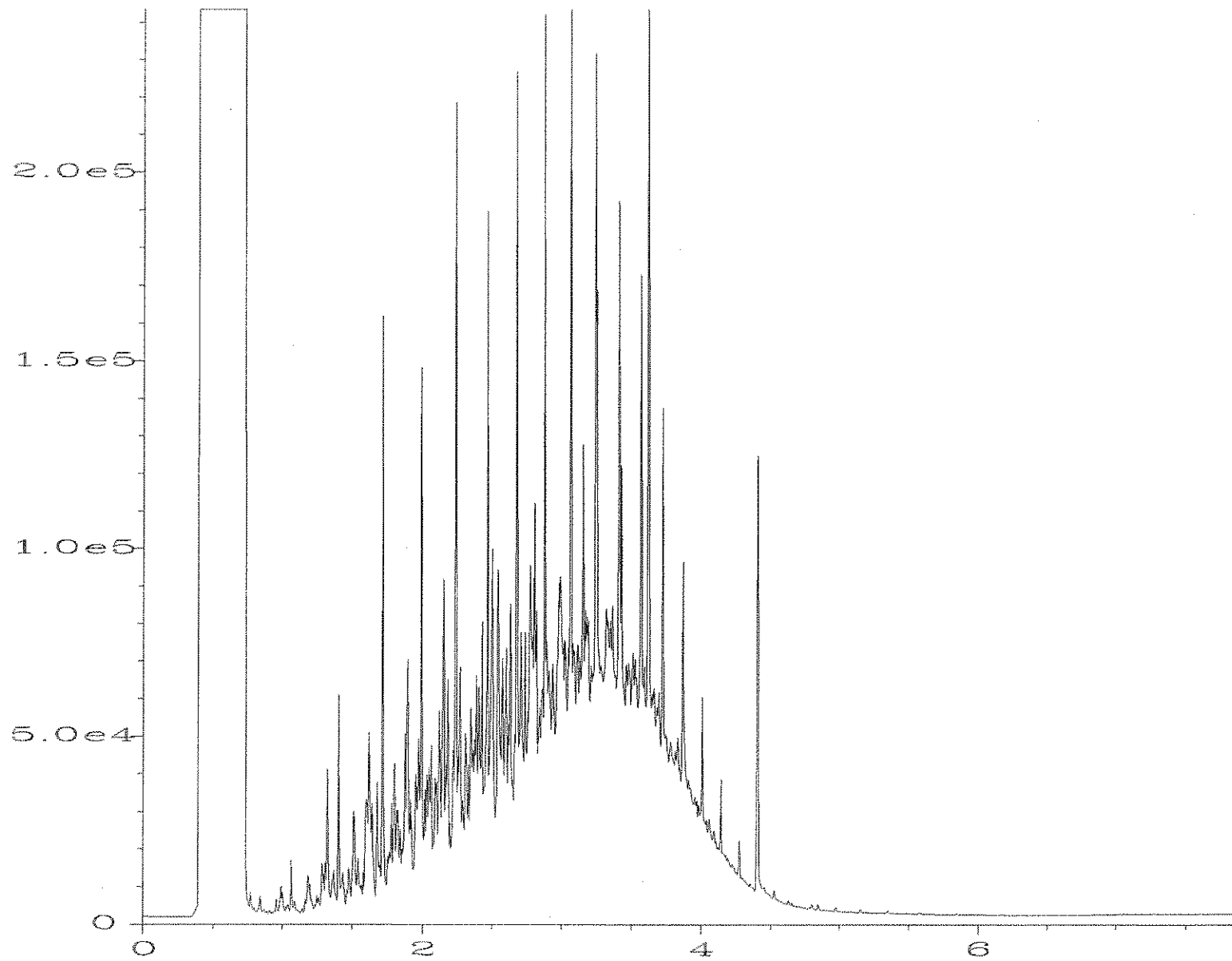
SB-3-0919 with SGC

Data File Name : C:\HPCHEM\4\DATA\10-29-19\009F0301.D  
 Operator : TL  
 Instrument : GC#4  
 Sample Name : 909421-03  
 Run Time Bar Code : 29 Oct 19 11:36 AM  
 Acquired on : 04 Feb 20 02:39 PM  
 Page Number : 1  
 Vial Number : 9  
 Injection Number : 1  
 Sequence Line : 3  
 Instrument Method: DX.MTH  
 Analysis Method : DEFAULT.MTH



method blank

Data File Name : C:\HPCHEM\4\DATA\10-29-19\006F0301.D  
Operator : TL  
Instrument : GC#4  
Sample Name : 09-2368 mb  
Run Time Bar Code : 29 Oct 19 11:02 AM  
Acquired on : 04 Feb 20 02:40 PM  
Page Number : 1  
Vial Number : 6  
Injection Number : 1  
Sequence Line : 3  
Instrument Method: DX.MTH  
Analysis Method : DEFAULT.MTH



standard

Data File Name : C:\HPCHEM\4\DATA\10-29-19\005F1001.D  
 Operator : TL  
 Instrument : GC#4  
 Sample Name : 1000 Dx 58-62E  
 Run Time Bar Code : 29 Oct 19 09:23 PM  
 Acquired on : 04 Feb 20 02:40 PM  
 Page Number : 1  
 Vial Number : 5  
 Injection Number : 1  
 Sequence Line : 10  
 Instrument Method: DX.MTH  
 Analysis Method : DEFAULT.MTH

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

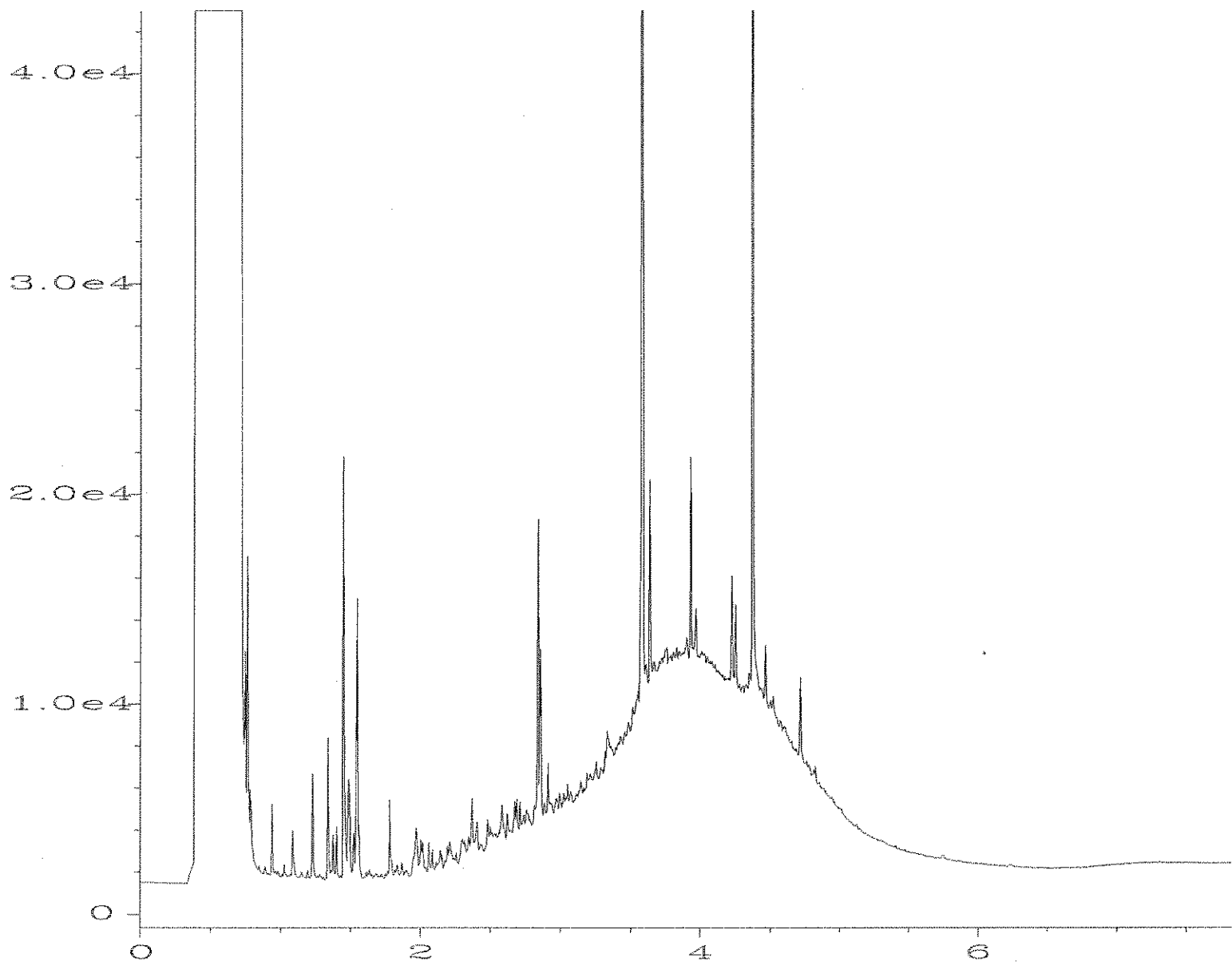
Date of Report: 01/02/20  
 Date Received: 12/13/19  
 Project: POT-Hylebos, F&BI 912238  
 Date Extracted: 12/16/19  
 Date Analyzed: 12/16/19

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
 FOR TOTAL PETROLEUM HYDROCARBONS AS  
 DIESEL AND MOTOR OIL  
 USING METHOD NWTPH-Dx**  
 Results Reported as ug/L (ppb)

*GCY*

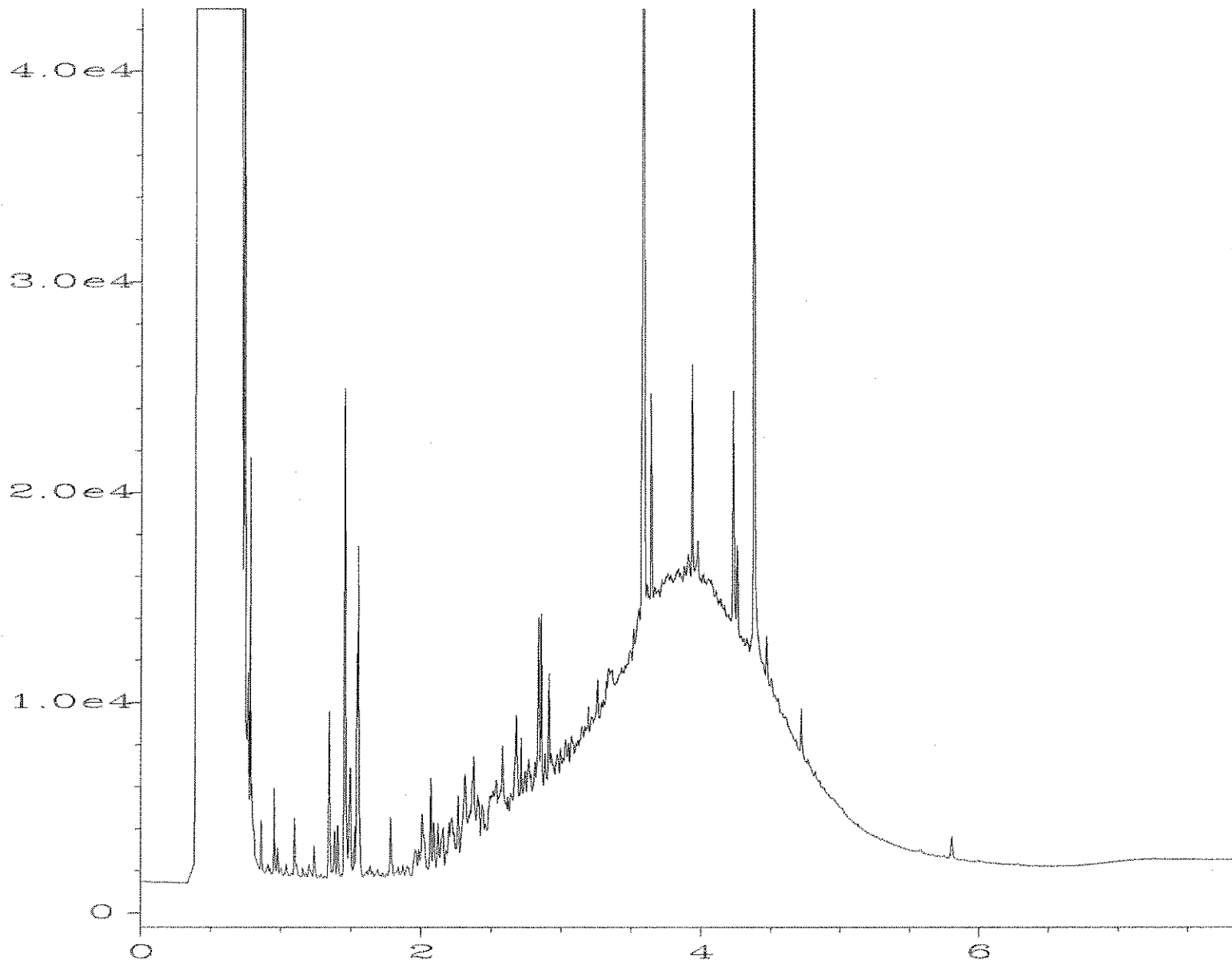
<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
TWA-5 912238-01	500 x	430 x	111
TWA-6 912238-02	710 x	470 x	122
TWA-1120 912238-03	710 x	400 x	109
SB-1A-1219 912238-04	<50	<250	124
SB-2A-1219 912238-05	<50	<250	123
SB-3A-1219 912238-06	1,900 x	1,200 x	120
TWA-1099-1219 912238-07	<50	<250	134
Method Blank 09-3043 MB	<50	<250	110





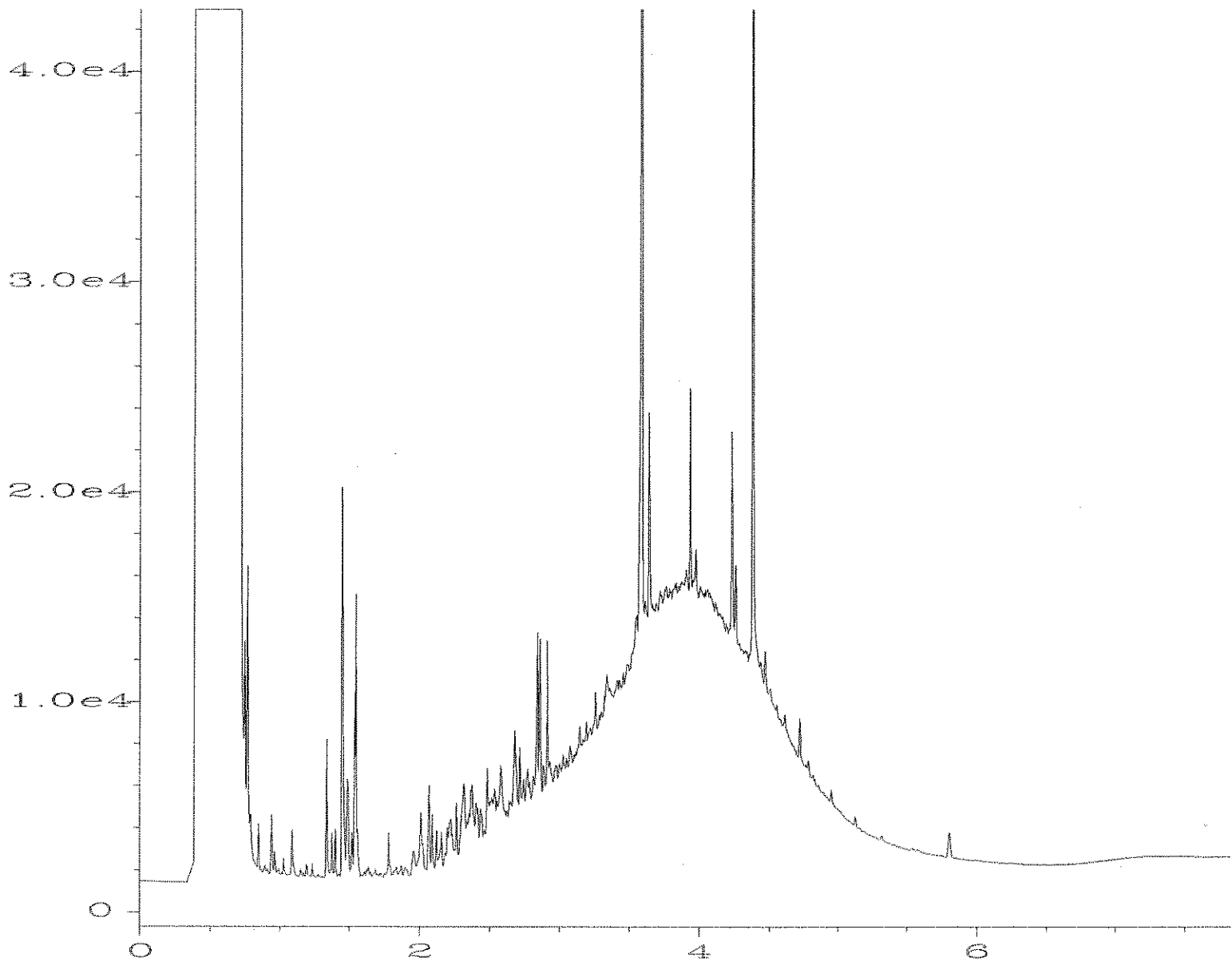
TWA-5

Data File Name : C:\HPCHEM\4\DATA\12-16-19\016F0301.D  
 Operator : TL  
 Instrument : GC#4  
 Sample Name : 912238-01  
 Run Time Bar Code :  
 Acquired on : 16 Dec 19 01:01 PM  
 Report Created on: 23 Jan 20 02:00 PM  
 Page Number : 1  
 Vial Number : 16  
 Injection Number : 1  
 Sequence Line : 3  
 Instrument Method: DX.MTH  
 Analysis Method : DX.MTH



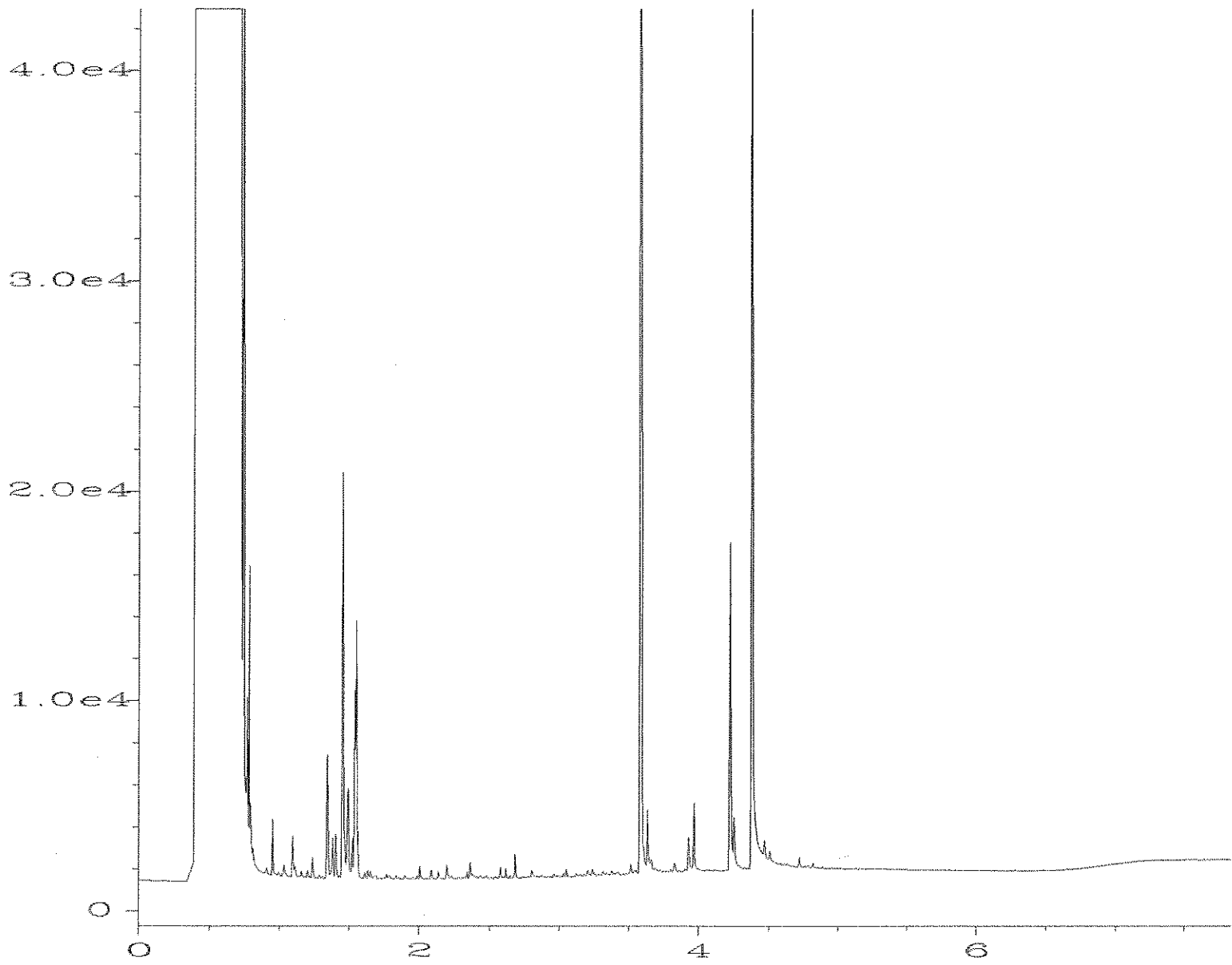
TWA-6

Data File Name : C:\HPCHEM\4\DATA\12-16-19\017F0301.D  
Operator : TL  
Instrument : GC#4  
Sample Name : 912238-02  
Run Time Bar Code :  
Acquired on : 16 Dec 19 01:13 PM  
Report Created on: 23 Jan 20 02:00 PM  
Page Number : 1  
Vial Number : 17  
Injection Number : 1  
Sequence Line : 3  
Instrument Method: DX.MTH  
Analysis Method : DX.MTH



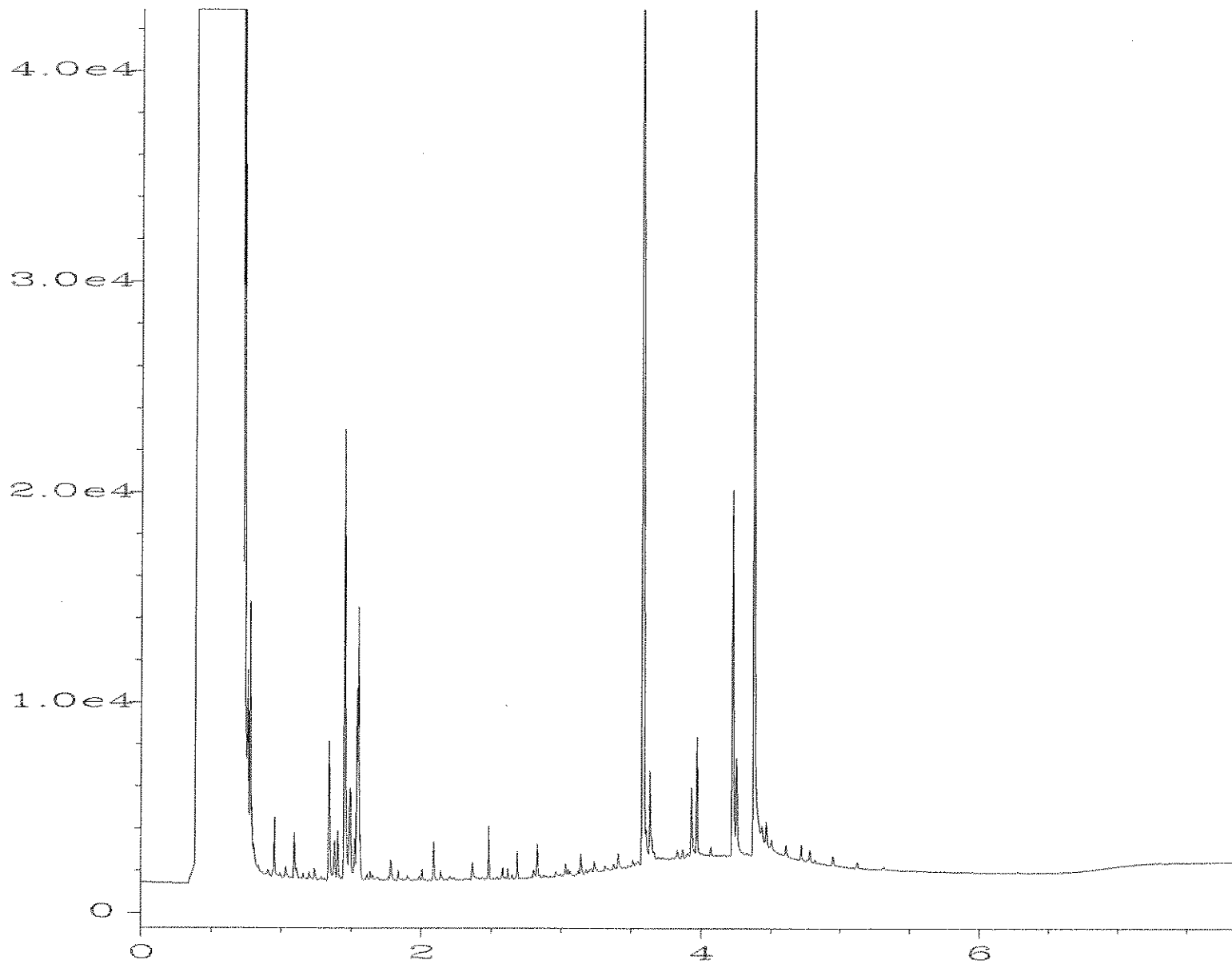
TWA-1120

Data File Name : C:\HPCHEM\4\DATA\12-16-19\018F0301.D  
 Operator : TL  
 Instrument : GC#4  
 Sample Name : 912238-03  
 Run Time Bar Code :  
 Acquired on : 16 Dec 19 01:25 PM  
 Report Created on: 23 Jan 20 02:00 PM  
 Page Number : 1  
 Vial Number : 18  
 Injection Number : 1  
 Sequence Line : 3  
 Instrument Method: DX.MTH  
 Analysis Method : DX.MTH



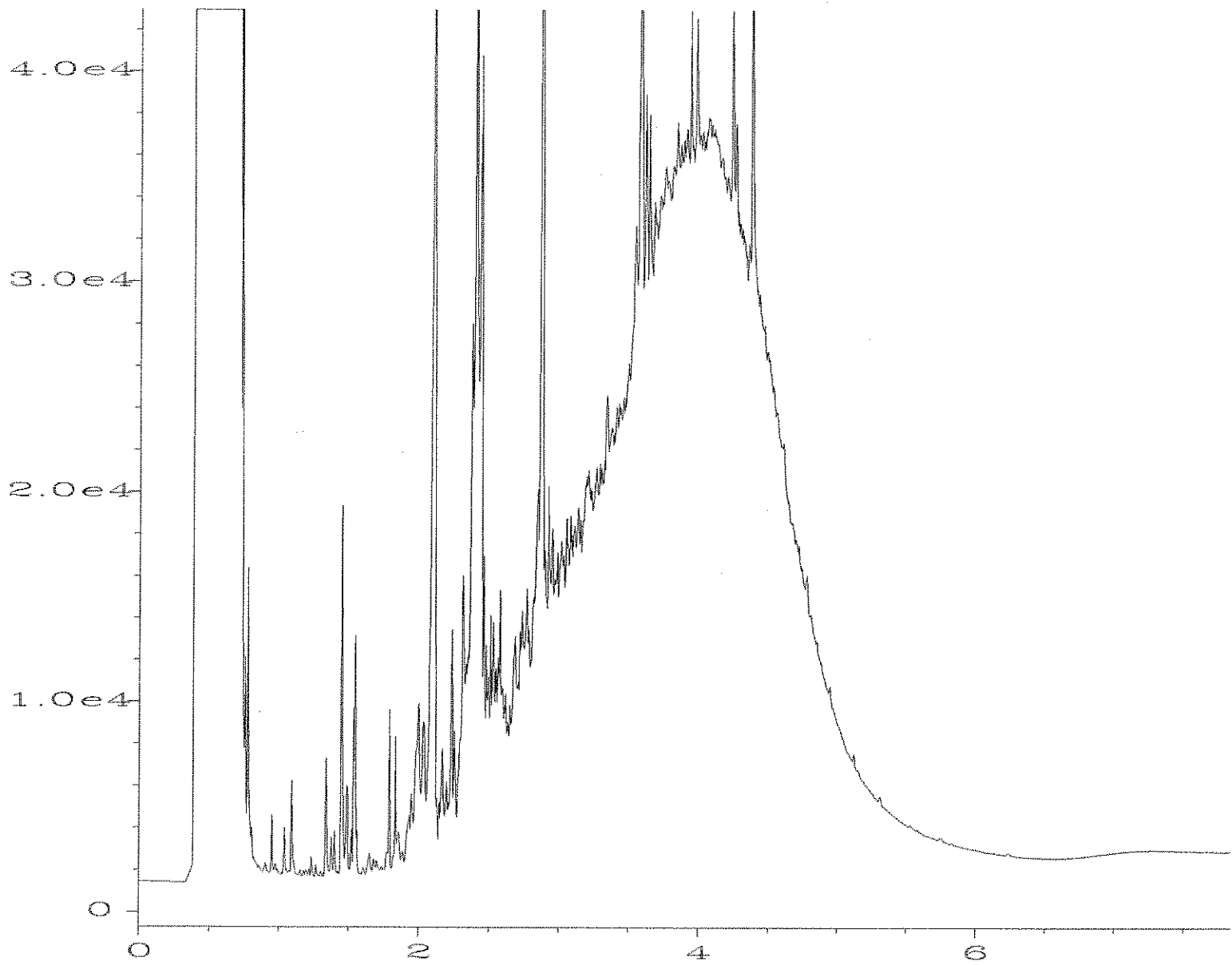
SB-1A

Data File Name : C:\HPCHEM\4\DATA\12-16-19\019F0301.D  
Operator : TL  
Instrument : GC#4  
Sample Name : 912238-04  
Run Time Bar Code :  
Acquired on : 16 Dec 19 01:37 PM  
Report Created on: 23 Jan 20 02:00 PM  
Page Number : 1  
Vial Number : 19  
Injection Number : 1  
Sequence Line : 3  
Instrument Method: DX.MTH  
Analysis Method : DX.MTH



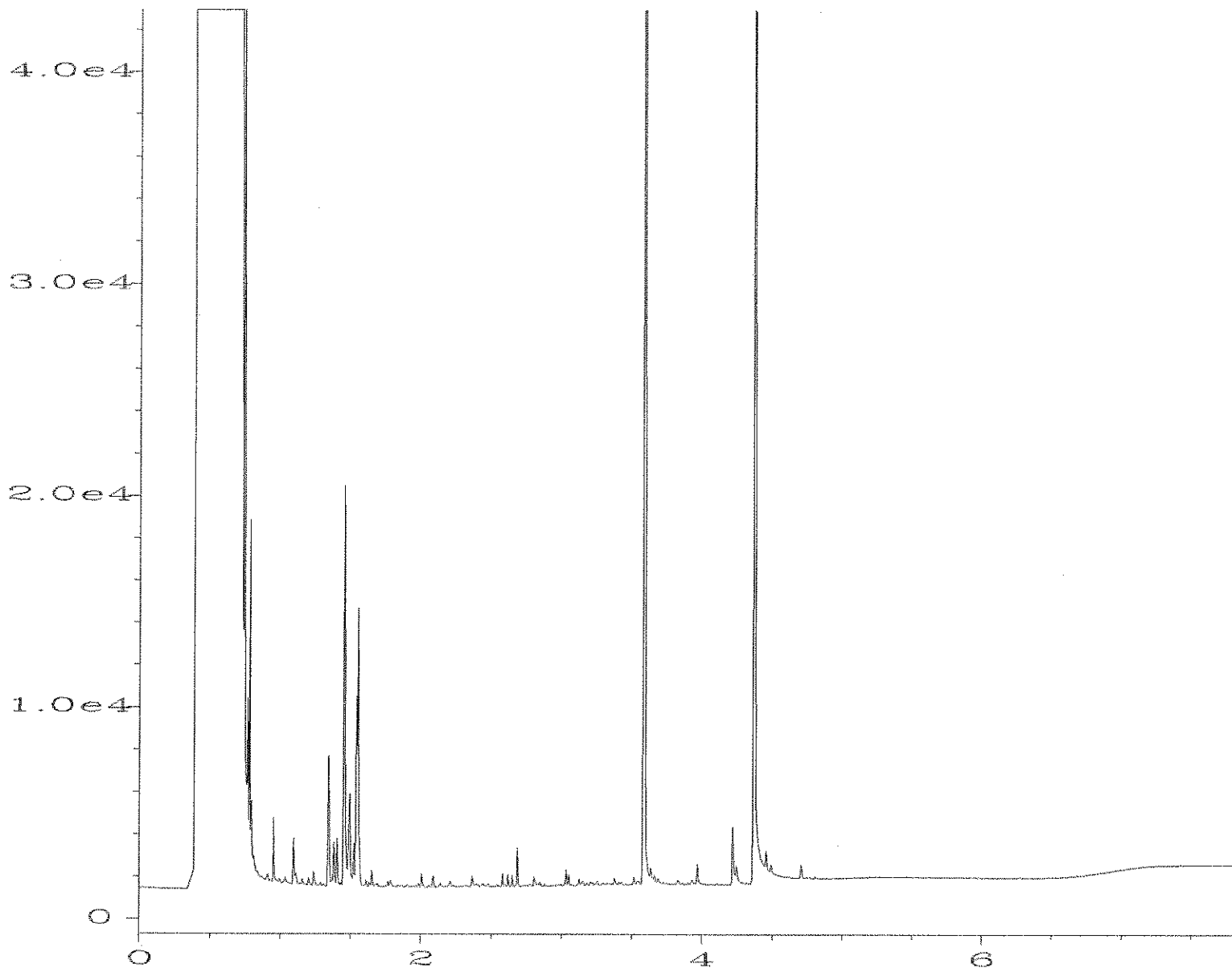
SB-2A

Data File Name : C:\HPCHEM\4\DATA\12-16-19\020F0301.D  
Operator : TL  
Instrument : GC#4  
Sample Name : 912238-05  
Run Time Bar Code :  
Acquired on : 16 Dec 19 01:49 PM  
Report Created on: 23 Jan 20 02:00 PM  
Page Number : 1  
Vial Number : 20  
Injection Number : 1  
Sequence Line : 3  
Instrument Method: DX.MTH  
Analysis Method : DX.MTH



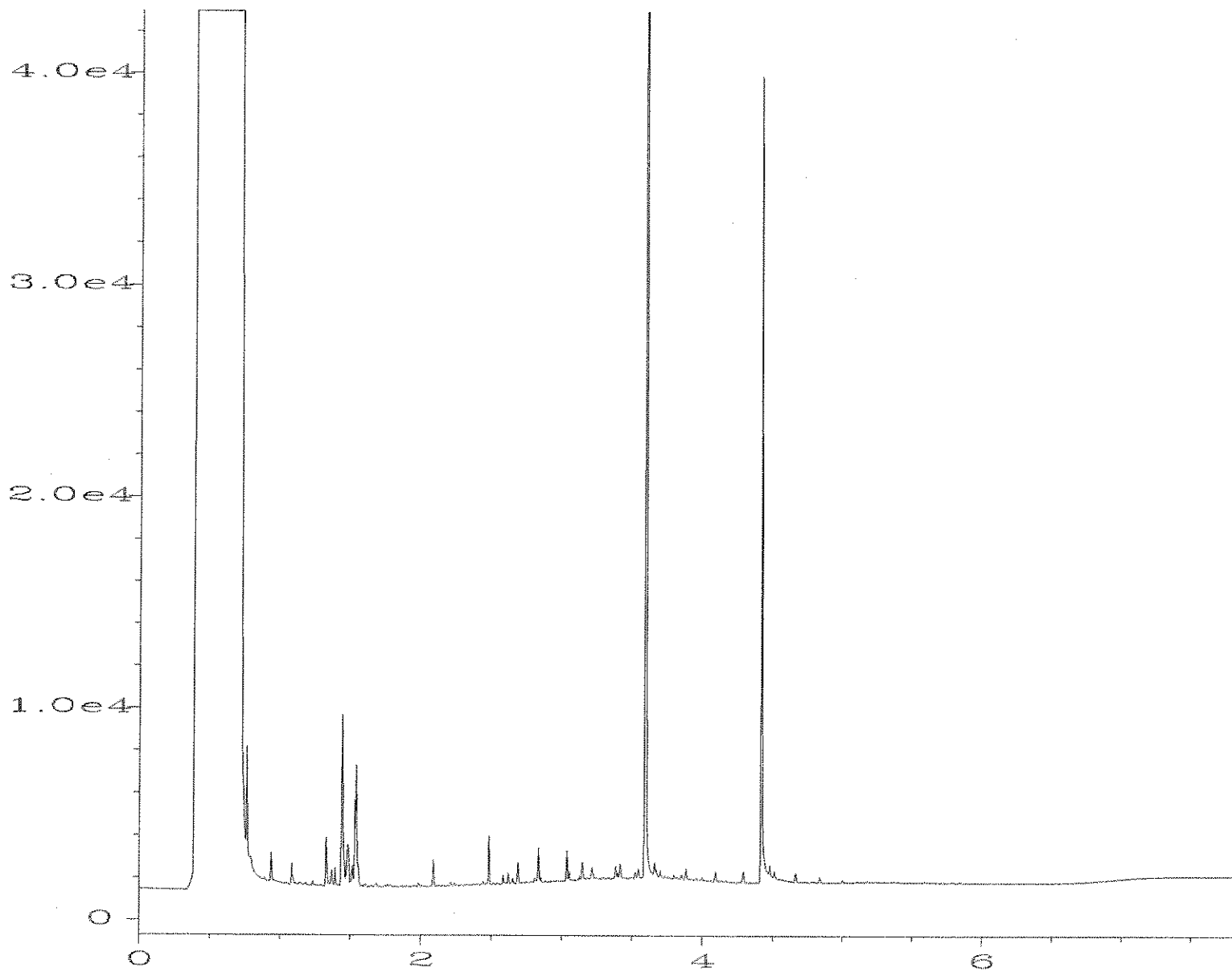
SB-3A

Data File Name : C:\HPCHEM\4\DATA\12-16-19\023F0301.D  
Operator : TL  
Instrument : GC#4  
Sample Name : 912238-06  
Run Time Bar Code :  
Acquired on : 16 Dec 19 02:25 PM  
Report Created on: 23 Jan 20 02:01 PM  
Page Number : 1  
Vial Number : 23  
Injection Number : 1  
Sequence Line : 3  
Instrument Method: DX.MTH  
Analysis Method : DX.MTH



TWA-1099

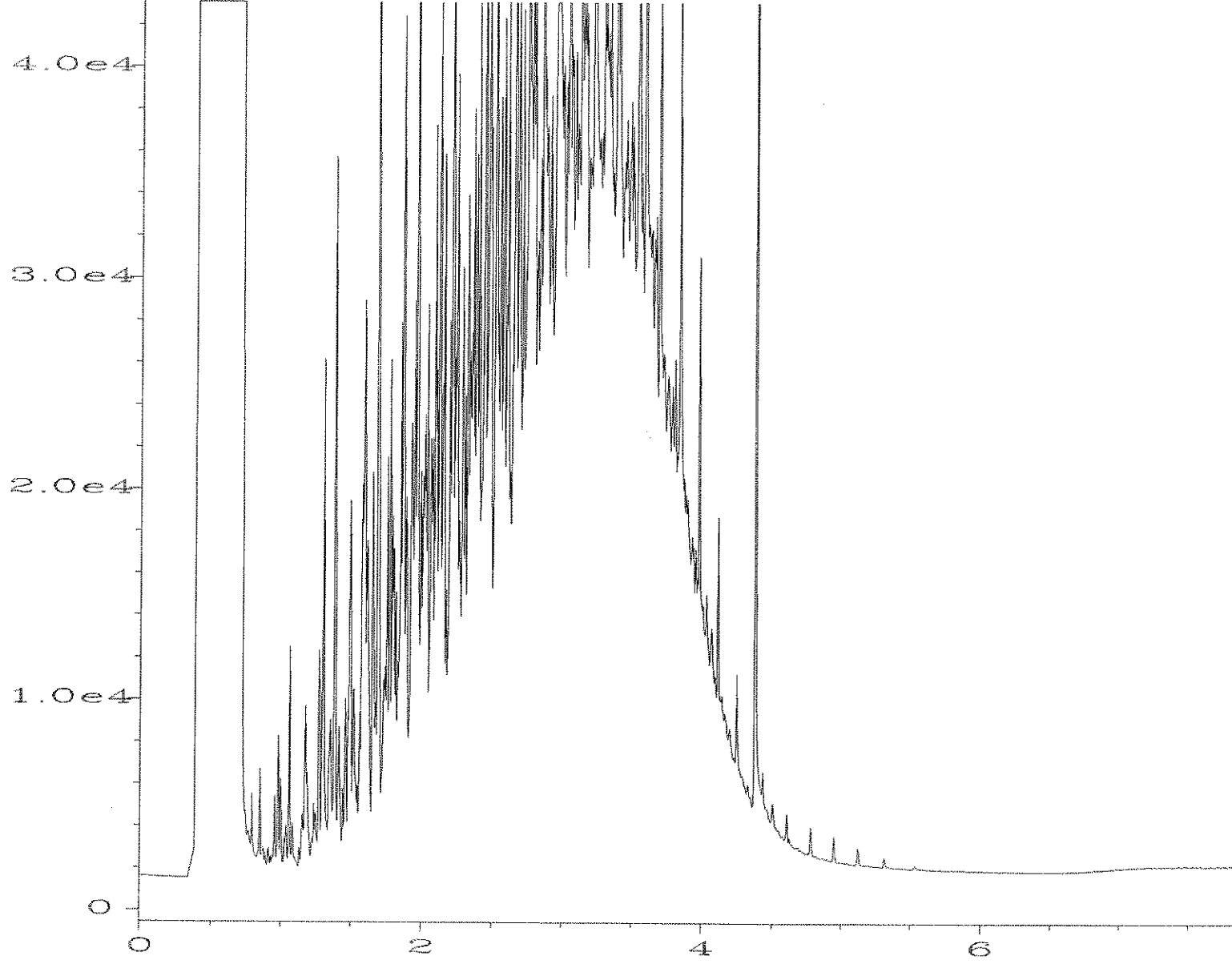
Data File Name : C:\HPCHEM\4\DATA\12-16-19\024F0301.D  
Operator : TL  
Instrument : GC#4  
Sample Name : 912238-07  
Run Time Bar Code :  
Acquired on : 16 Dec 19 02:37 PM  
Report Created on: 23 Jan 20 02:03 PM  
Page Number : 1  
Vial Number : 24  
Injection Number : 1  
Sequence Line : 3  
Instrument Method: DX.MTH  
Analysis Method : DX.MTH



Method Blank  
(report 912238)

Data File Name : C:\HPCHEM\4\DATA\12-16-19\006F0301.D  
Operator : TL  
Instrument : GC#4  
Sample Name : 09-3043 mb  
Run Time Bar Code :  
Acquired on : 16 Dec 19 11:02 AM  
Report Created on: 23 Jan 20 01:59 PM  
Page Number : 1  
Vial Number : 6  
Injection Number : 1  
Sequence Line : 3  
Instrument Method: DX.MTH  
Analysis Method : DX.MTH





## Method Blank (report 912238)

Data File Name : C:\HPCHEM\4\DATA\12-16-19\003F0201.D  
Operator : TL  
Instrument : GC#4  
Sample Name : 500 DX 58-146B  
Run Time Bar Code : 16 Dec 19 05:56 AM  
Acquired on : 23 Jan 20 02:03 PM  
Page Number : 1  
Vial Number : 3  
Injection Number : 1  
Sequence Line : 2  
Instrument Method : DX.MTH  
Analysis Method : DX.MTH

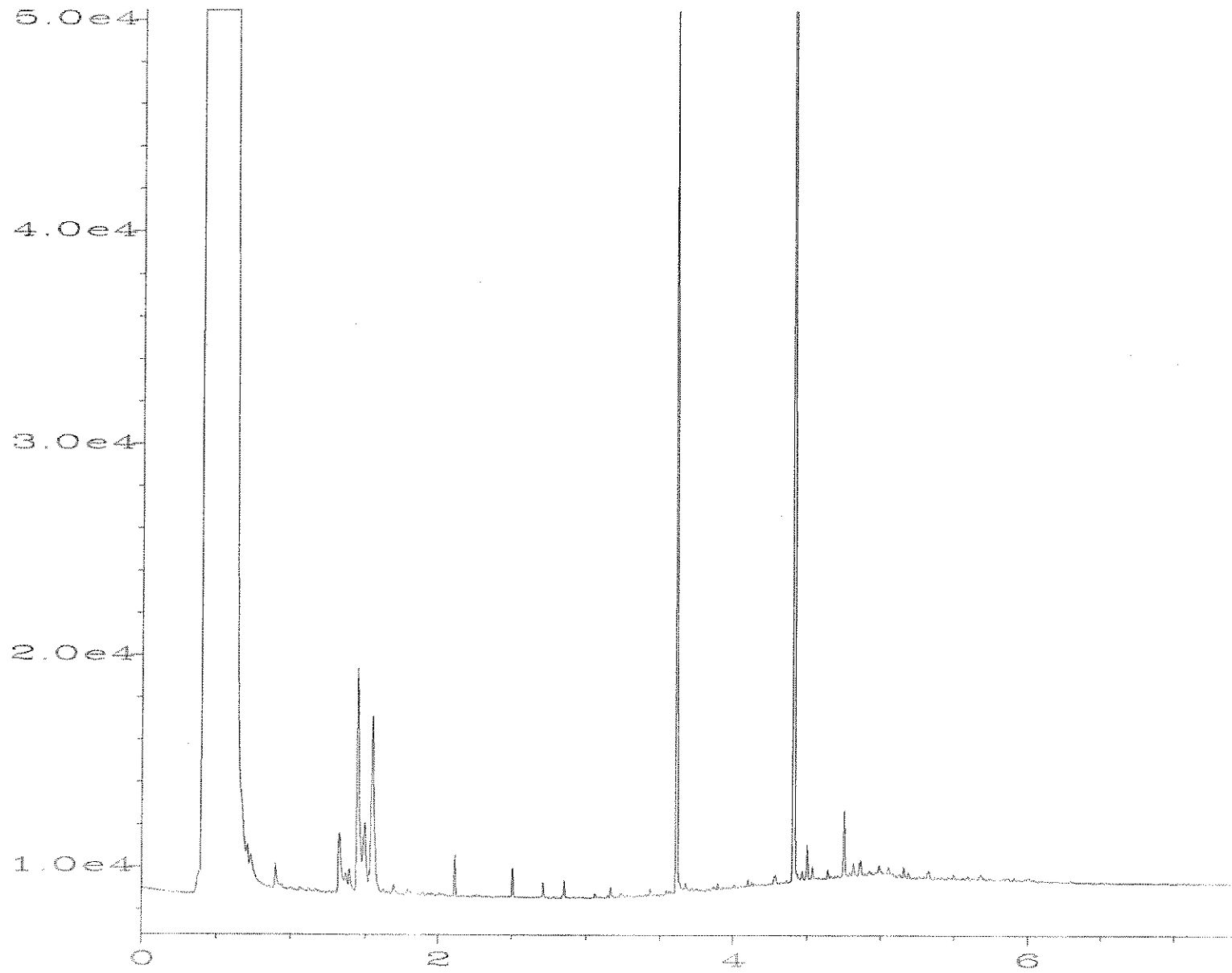
FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 01/02/20  
Date Received: 12/13/19  
Project: POT-Hylebos, F&BI 912238  
Date Extracted: 12/16/19  
Date Analyzed: 12/18/19

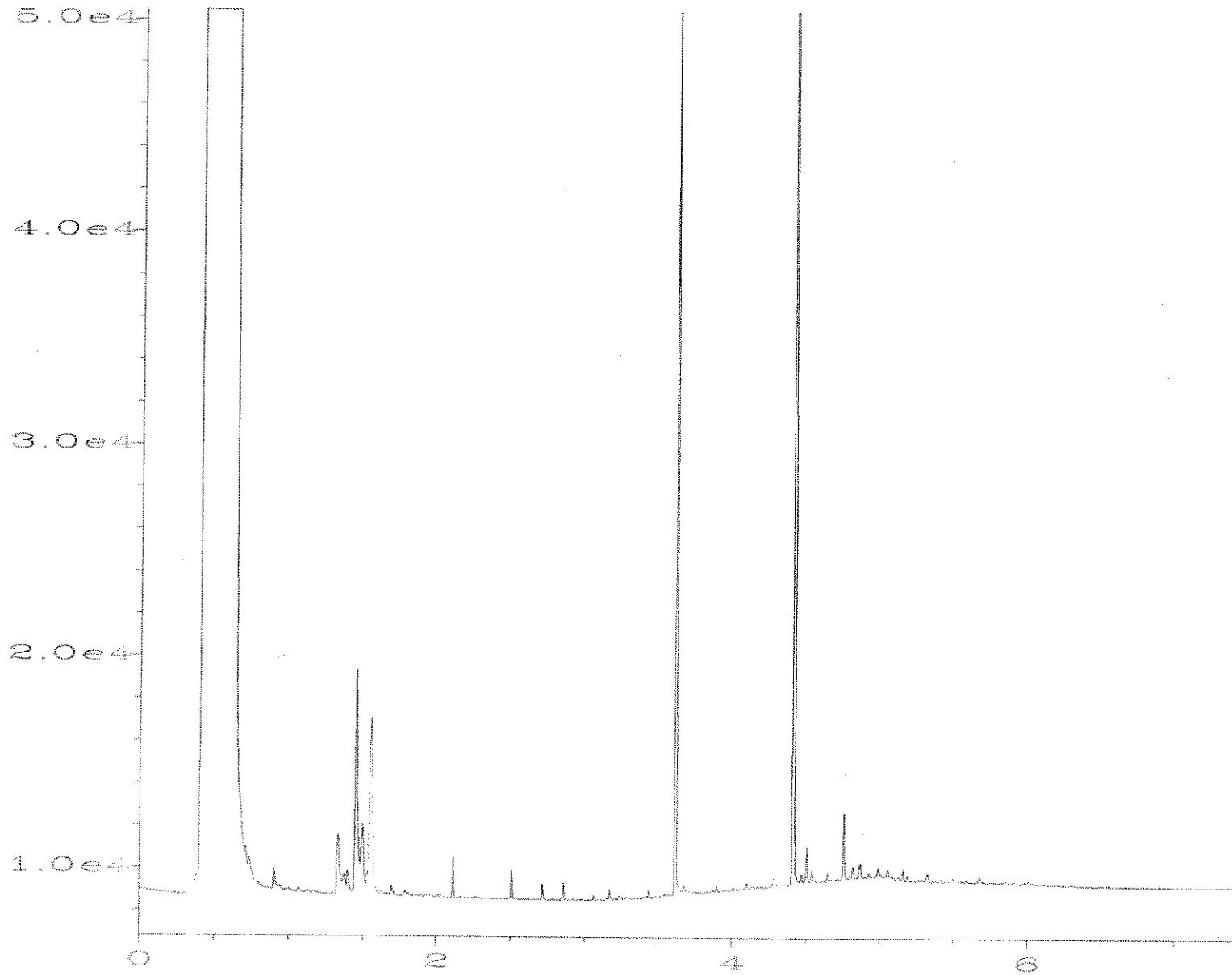
**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>  
Sample Extracts Passed Through a  
Silica Gel Column Prior to Analysis  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 41-152)
TWA-5 912238-01	<50	<250	84
TWA-6 912238-02	<50	<250	96
TWA-1120 912238-03	<50	<250	91
SB-1A-1219 912238-04	<50	<250	95
SB-2A-1219 912238-05	<50	<250	103
SB-3A-1219 912238-06	<50	<250	110
TWA-1099-1219 912238-07	<50	<250	99
Method Blank 09-3043 MB	<50	<250	83



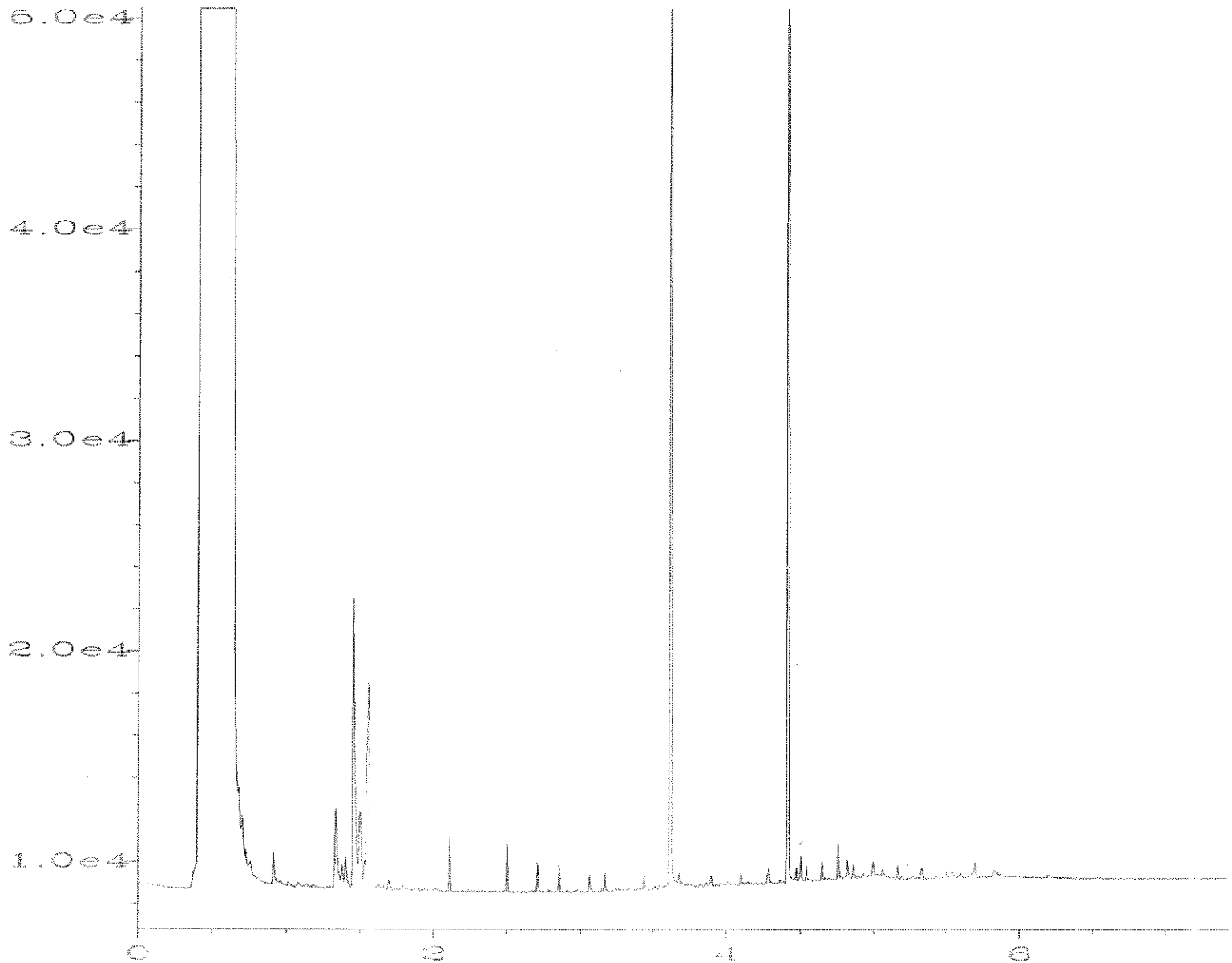
TWA-5 with SGC

Data File Name : C:\HPCHEM\1\DATA\12-18-19\044F0901.D  
Operator : TL  
Instrument : GC1  
Sample Name : 912238-01 sg  
Run Time Bar Code : 18 Dec 19 03:41 PM  
Acquired on : 04 Feb 20 02:36 PM  
Page Number : 1  
Vial Number : 44  
Injection Number : 1  
Sequence Line : 9  
Instrument Method: DX.MTH  
Analysis Method : DEFAULT.MTH



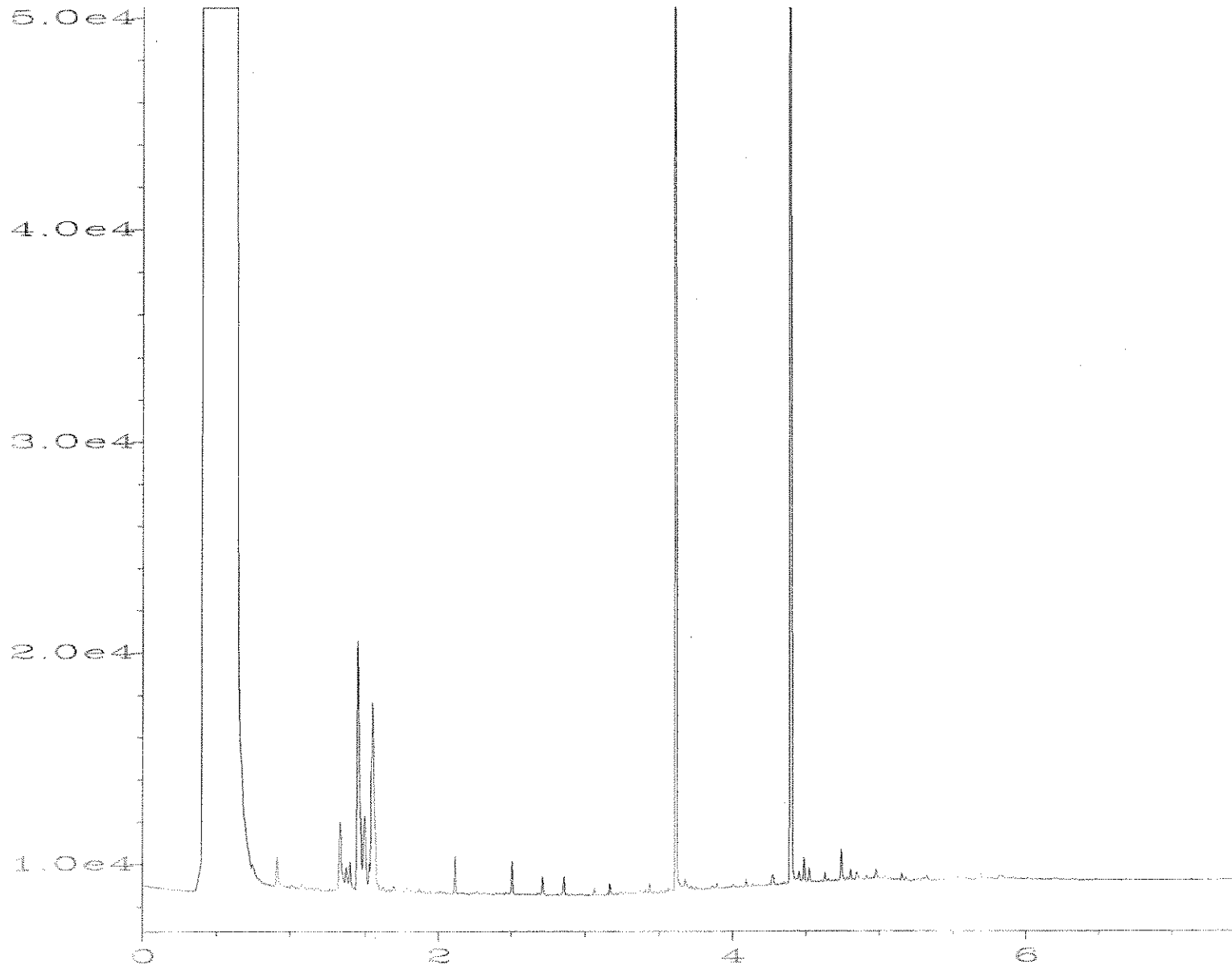
# TWA-5 with SGC

Data File Name : C:\HPCHEM\1\DATA\12-18-19\044F0901.D  
Operator : TL  
Instrument : GC1  
Sample Name : 912238-01 sg  
Run Time Bar Code : 18 Dec 19 03:41 PM  
Acquired on : 04 Feb 20 02:37 PM  
Page Number : 1  
Vial Number : 44  
Injection Number : 1  
Sequence Line : 9  
Instrument Method: DX.MTH  
Analysis Method : DEFAULT.MTH



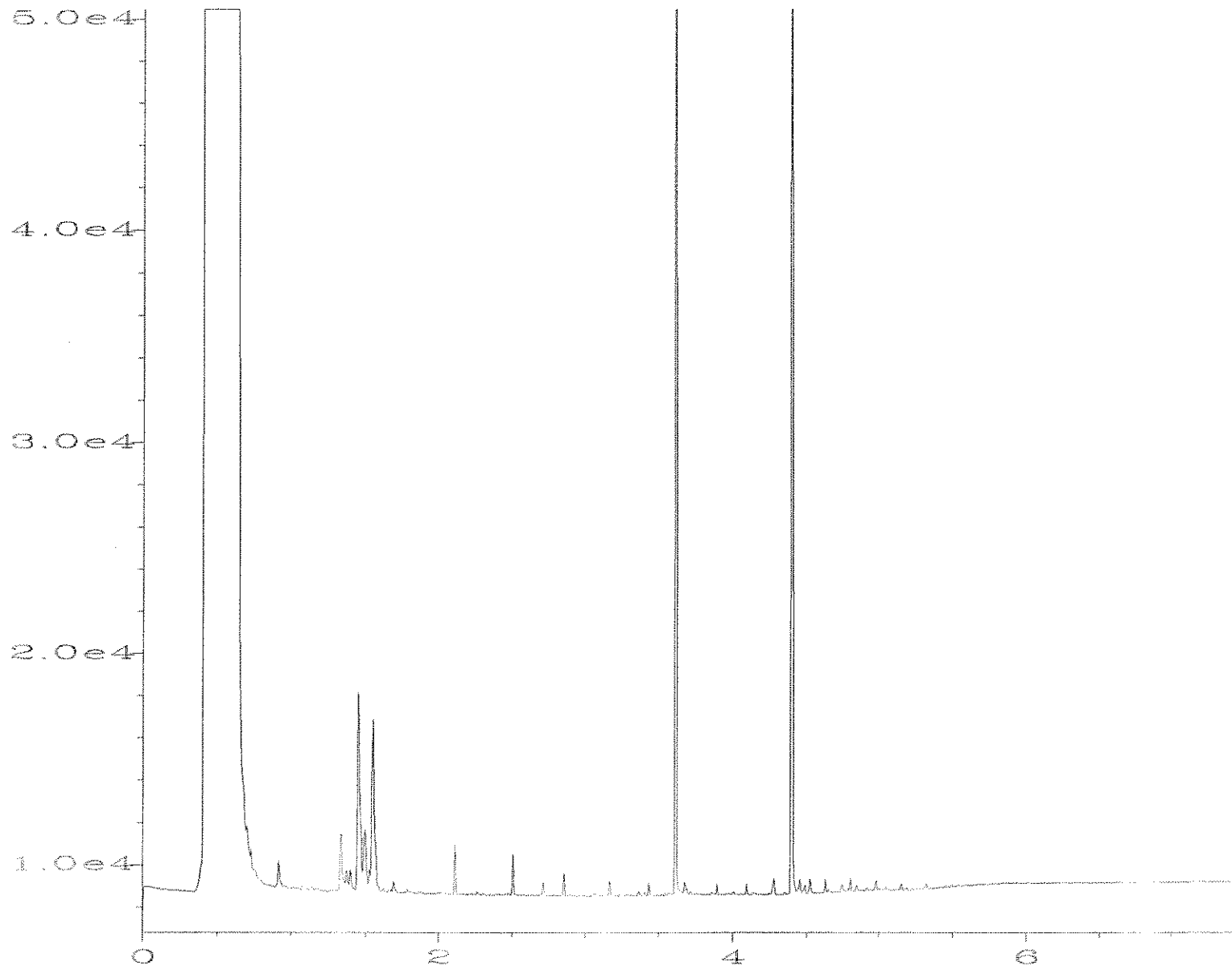
### TWA-6 with SGC

Data File Name : C:\HPCHEM\1\DATA\12-18-19\045F0901.D  
Operator : TL  
Instrument : GC1  
Sample Name : 912238-02 sg  
Run Time Bar Code : 18 Dec 19 03:52 PM  
Acquired on : 04 Feb 20 02:37 PM  
Page Number : 1  
Vial Number : 45  
Injection Number : 1  
Sequence Line : 9  
Instrument Method: DX.MTH  
Analysis Method : DEFAULT.MTH



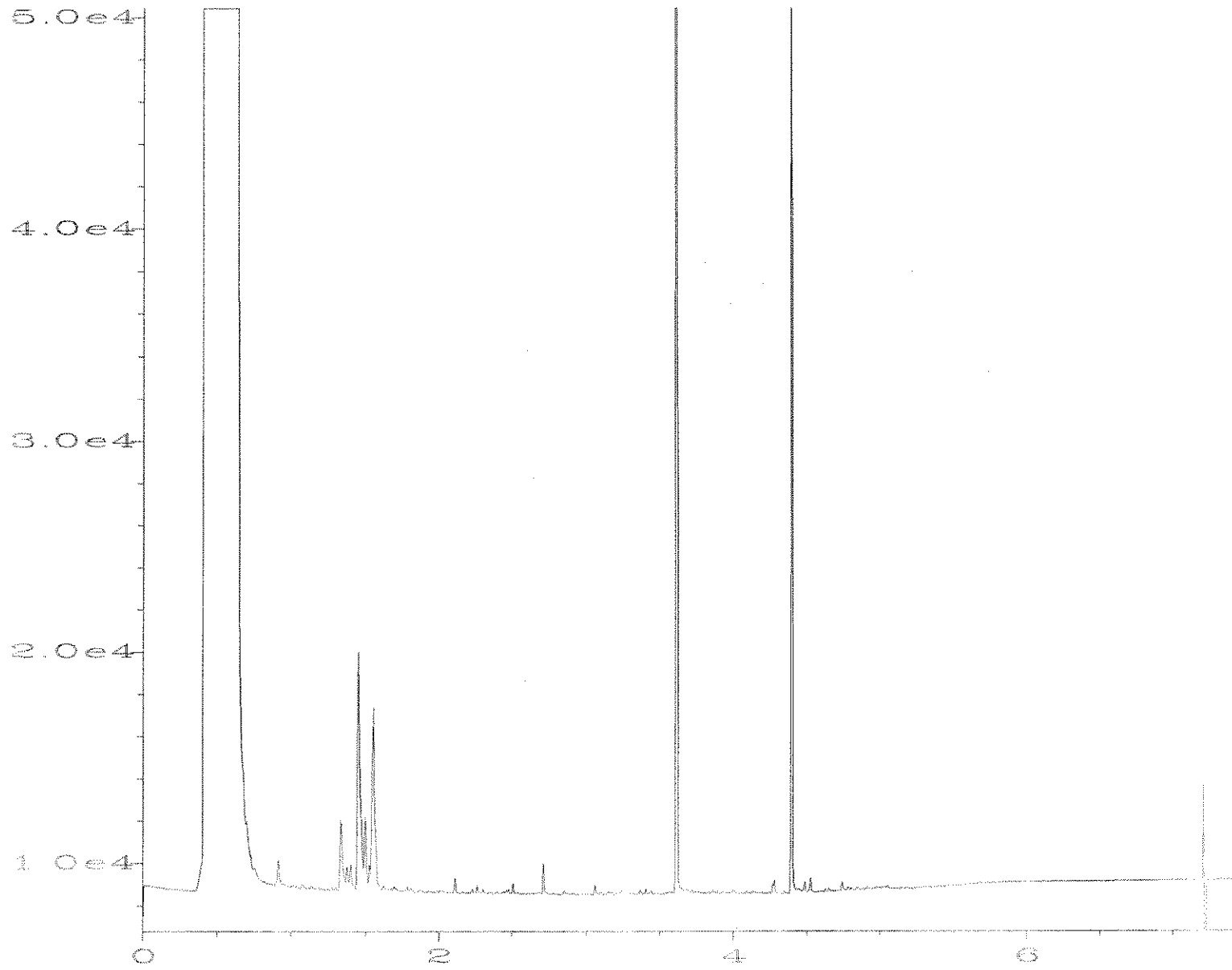
TWA-1120 with  
SGC

Data File Name : C:\HPCHEM\1\DATA\12-18-19\046F1101.D  
Operator : TL  
Instrument : GC1  
Sample Name : 912238-03 sg  
Run Time Bar Code : 18 Dec 19 04:50 PM  
Acquired on : 04 Feb 20 02:38 PM  
Page Number : 1  
Vial Number : 46  
Injection Number : 1  
Sequence Line : 11  
Instrument Method: DX.MTH  
Analysis Method : DEFAULT.MTH



SB-1A with SGC

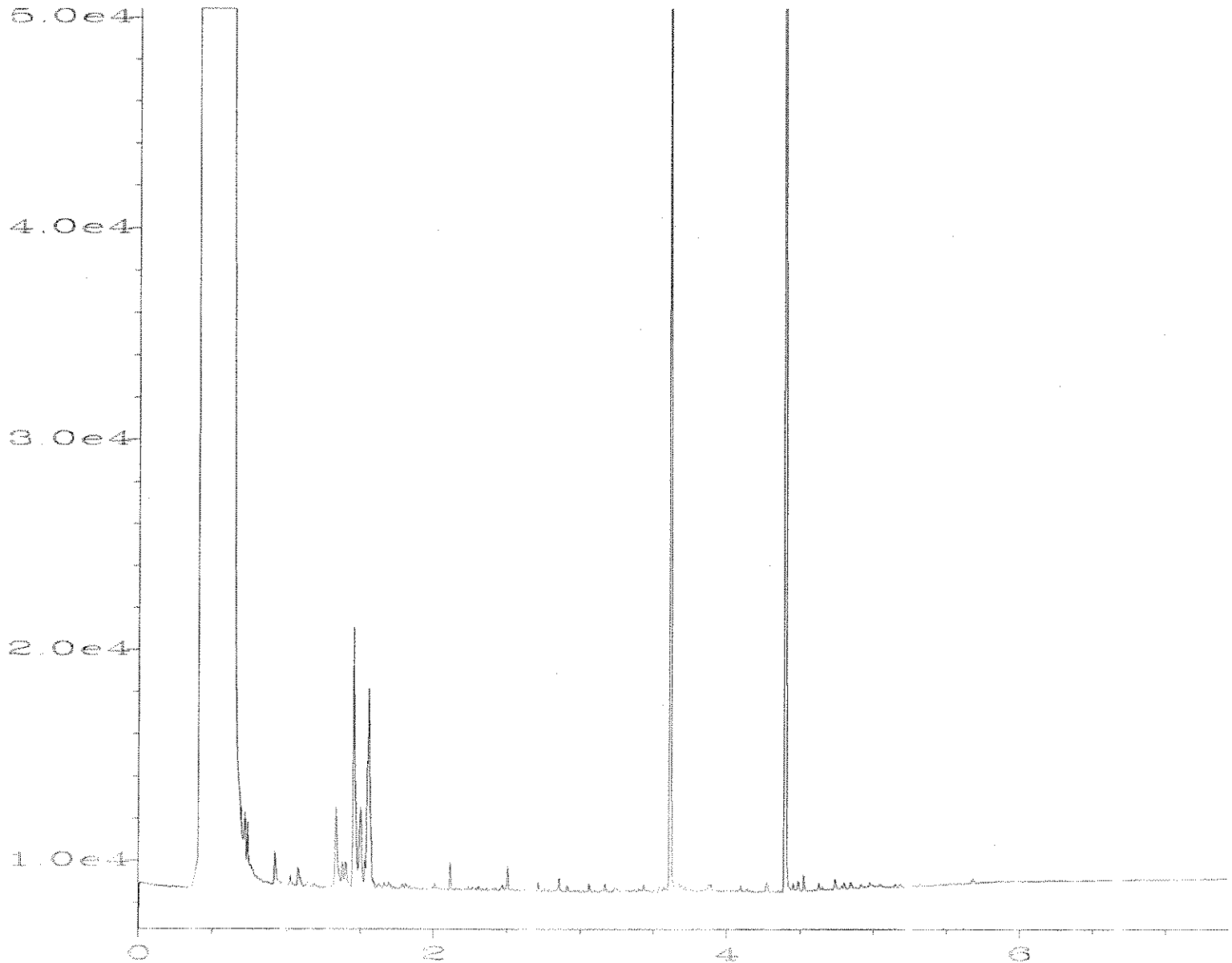
Data File Name : C:\HPCHEM\1\DATA\12-18-19\047F1301.D  
Operator : TL  
Instrument : GC1  
Sample Name : 912238-04 sg  
Run Time Bar Code : 18 Dec 19 05:13 PM  
Acquired on : 04 Feb 20 02:38 PM  
Page Number : 1  
Vial Number : 47  
Injection Number : 1  
Sequence Line : 13  
Instrument Method: DX.MTH  
Analysis Method : DEFAULT.MTH



### SB-2A with SGC

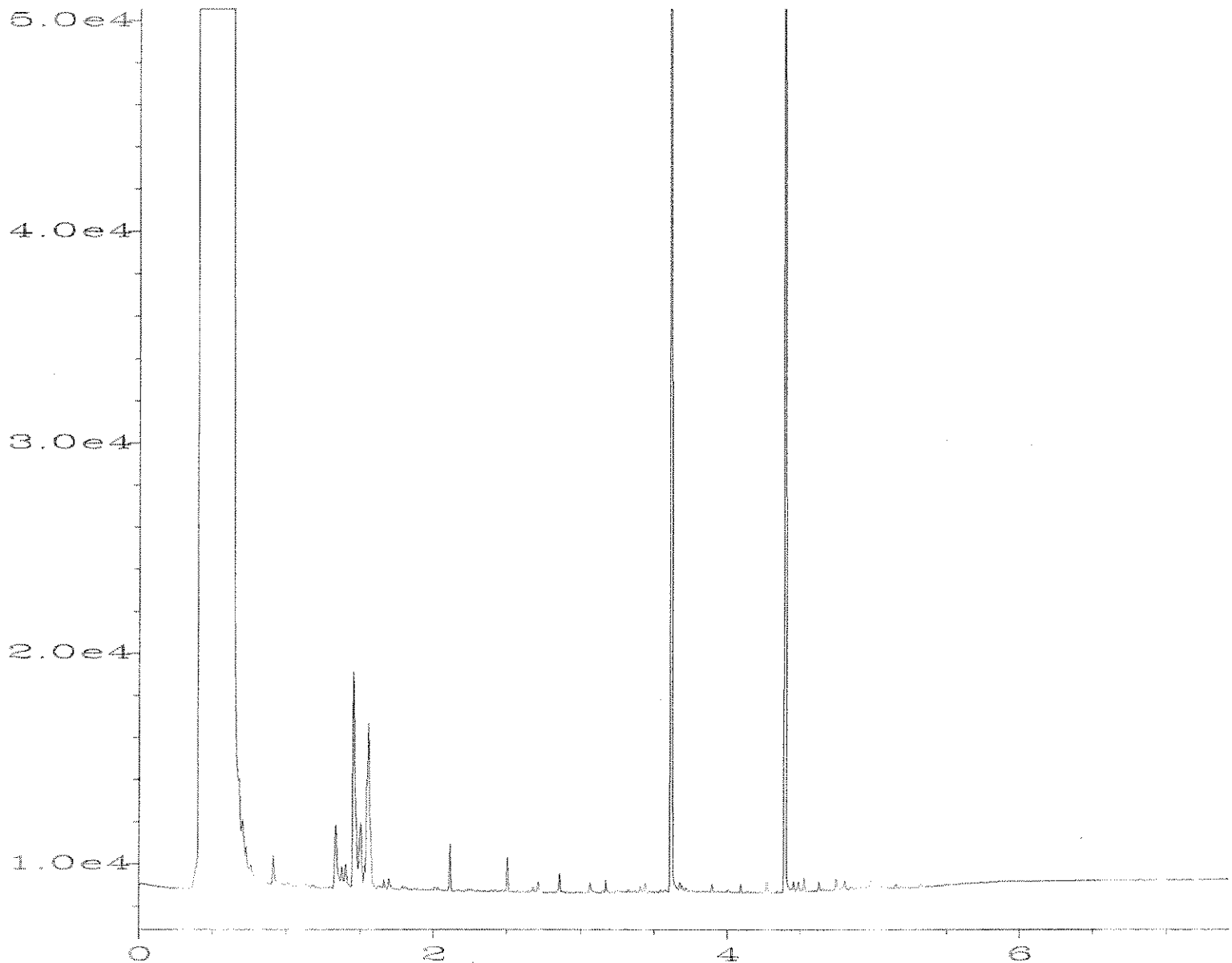
Data File Name : C:\HPCHEM\1\DATA\12-18-19\048F1301.D  
Operator : TL  
Instrument : GC1  
Sample Name : 912238-05 sg  
Run Time Bar Code :  
Acquired on : 18 Dec 19 05:24 PM  
Report Created on: 04 Feb 20 02:38 PM  
Page Number : 1  
Vial Number : 48  
Injection Number : 1  
Sequence Line : 13  
Instrument Method: DX.MTH  
Analysis Method : DEFAULT.MTH





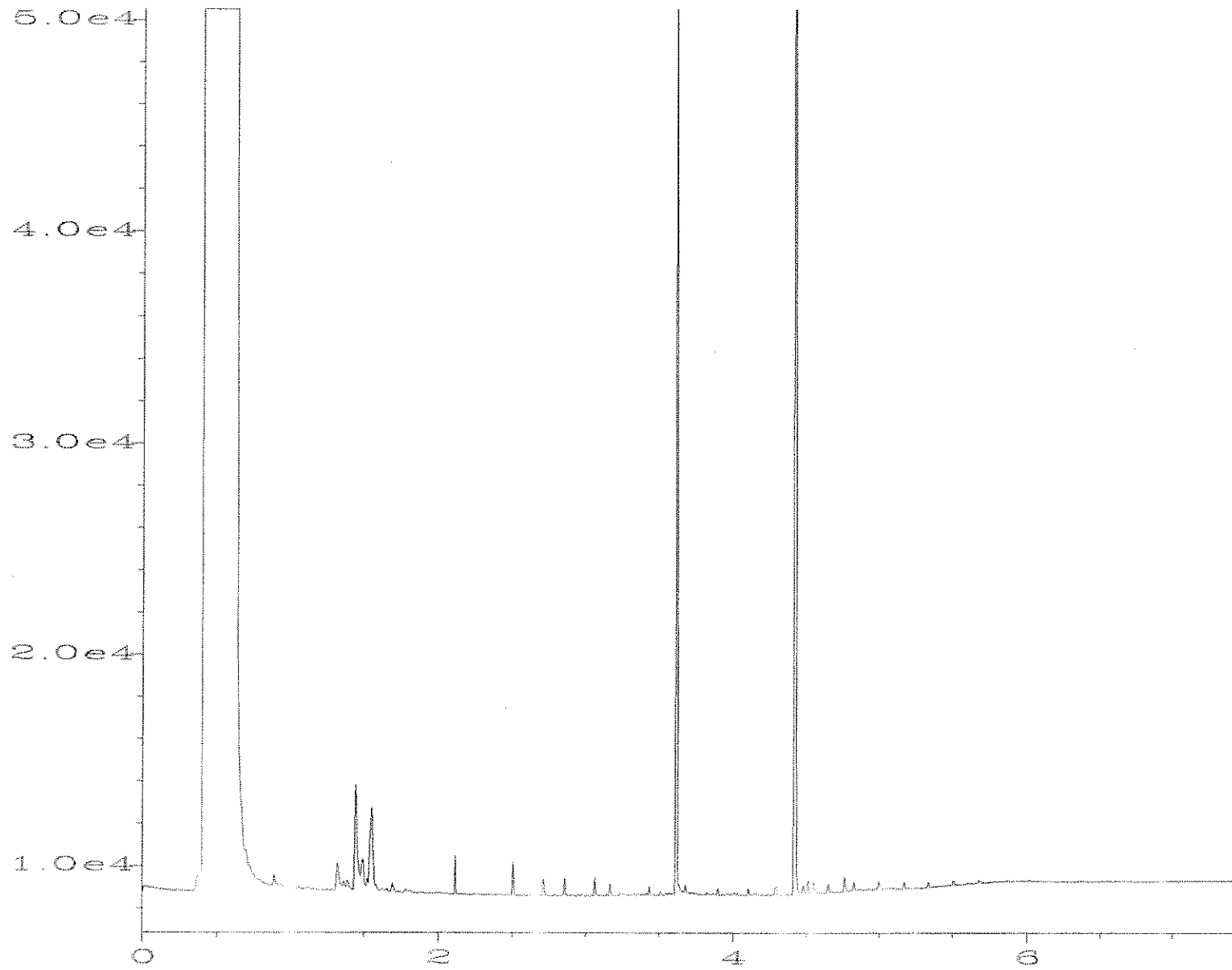
SB-3A with SGC

Data File Name : C:\HPCHEM\1\DATA\12-18-19\051F1301.D  
 Operator : TL  
 Instrument : GC1  
 Sample Name : 912238-06 sg  
 Run Time Bar Code :  
 Acquired on : 18 Dec 19 05:59 PM  
 Report Created on: 04 Feb 20 02:38 PM  
 Page Number : 1  
 Vial Number : 51  
 Injection Number : 1  
 Sequence Line : 13  
 Instrument Method: DX.MTH  
 Analysis Method : DEFAULT.MTH



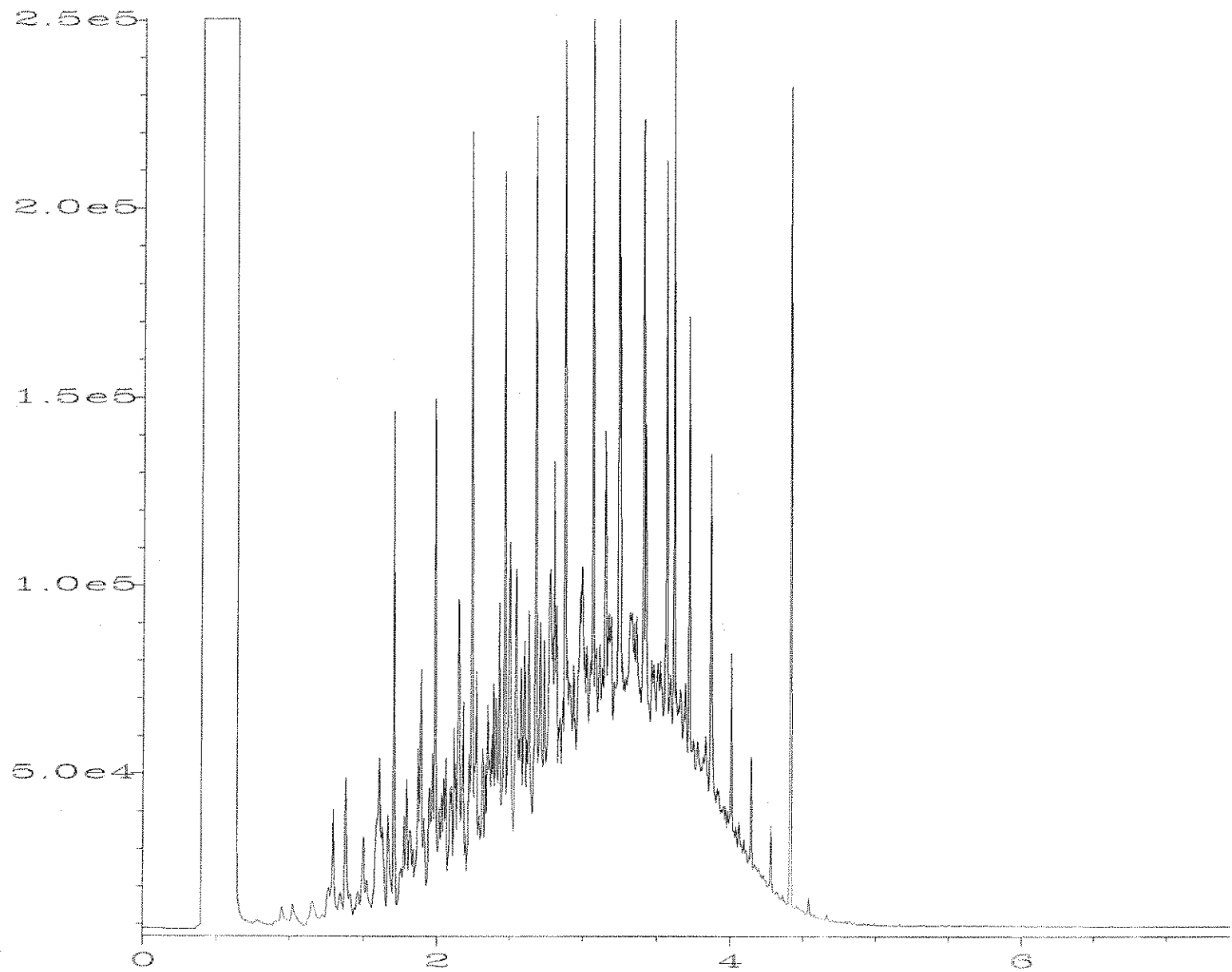
TWA-1099 with SGC

Data File Name : C:\HPCHEM\1\DATA\12-18-19\052F1301.D  
 Operator : TL  
 Instrument : GC1  
 Sample Name : 912238-07 sg  
 Run Time Bar Code : 18 Dec 19 06:10 PM  
 Acquired on : 04 Feb 20 02:38 PM  
 Page Number : 1  
 Vial Number : 52  
 Injection Number : 1  
 Sequence Line : 13  
 Instrument Method: DX.MTH  
 Analysis Method : DEFAULT.MTH



method blank with  
SGC (report 912238)

Data File Name : C:\HPCHEM\1\DATA\12-18-19\041F0901.D  
Operator : TL  
Instrument : GC1  
Sample Name : 09-3043 mb sg  
Run Time Bar Code : 18 Dec 19 03:07 PM  
Acquired on : 04 Feb 20 02:38 PM  
Page Number : 1  
Vial Number : 41  
Injection Number : 1  
Sequence Line : 9  
Instrument Method: DX.MTH  
Analysis Method : DEFAULT.MTH



standard with SGC  
(report 912238)

Data File Name : C:\HPCHEM\1\DATA\12-18-19\005F0801.D  
 Operator : TL  
 Instrument : GC1  
 Sample Name : 1000 Dx 58-146C  
 Run Time Bar Code : 18 Dec 19 02:55 PM  
 Acquired on : 04 Feb 20 02:39 PM  
 Page Number : 1  
 Vial Number : 5  
 Injection Number : 1  
 Sequence Line : 8  
 Instrument Method: DX.MTH  
 Analysis Method : DEFAULT.MTH

# APPENDIX B

PROJECT: TWAafa		COORDINATES: N 712465.1 E 1170801.5 (NAD83)	
LOCATION: Tacoma, WA	SURFACE ELEV. (NAVD88): 21.0 ft	TOC ELEV. (NAVD88): 20.77 ft	
DRILLING CONTRACTOR: Cascade Drilling	DATE: 10/23/2021		
DRILLING EQUIPMENT: CME 75	TOTAL DEPTH OF BORING: 16.5ft	ECOLOGY   BMM-968	
DRILLING METHOD: 4" Hollow Stem Auger	LOGGED BY: D.Cooper		
SAMPLING METHOD: 3"x18" SPT 300# auto	RESPONSIBLE PROF.: D.Cooper	REG. NO.: 1600	

NOTES:

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION  Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	BORING AND WELL CONSTRUCTION DETAILS
	Lab Sample	Sample Recovery	Blow Counts	PID (ppm)		
1					Surface - Crushed Rock	
2					<p><b>POORLY GRADED SAND WITH SILT (SM):</b> brown to gray (7.5YR-5/3-5/1) , moist to wet 80% sand, 15% silt, 5% gravel</p>	8" Morris Flush-Mount Well Box
3			21/50-6"	0.0		2-inch Diameter SCH 40 PVC Casing TOC elev. 20.77' North rim
4						Concrete 0-2.0'
5			20/21/20	0.0		Hydrated medium Bentonite Chip 2.0-5.0'
6						
7					<p><b>SLUDGE (ML):</b> white (7.5YR 8/1), wet, pasty, non-plastic, with limestone fragments No odor</p>	
8			1/2/1	0.0		#2-12 Monterey Silica Sand 5.0-16.0'
9						
10			2/3/3	0.0		
11						
12			1/2/2	0.0	<p>2-inch Diameter SCH 40 PVC Screen 0.010" slot 5.5-15.5' 0.4' end cap Total well depth: 15.9'</p>	
13						
14						
15			3/3/4	0.1		
16						
					<b>SILT (ML)</b>	

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: TWAafa		COORDINATES: N 712347.6 E 1170753.5 (NAD83)	
LOCATION: Tacoma, WA	SURFACE ELEV. (NAVD88): 21.1 ft	TOC ELEV. (NAVD88): 19.88 ft	
DRILLING CONTRACTOR: Cascade Drilling	DATE: 10/23/2021		
DRILLING EQUIPMENT: CME 75	TOTAL DEPTH OF BORING: 14.0ft	ECOLOGY   BMM-969	
DRILLING METHOD: 4" Hollow Stem Auger	LOGGED BY: D.Cooper		
SAMPLING METHOD: 3"x18" SPT 300# auto	RESPONSIBLE PROF.: D.Cooper	REG. NO.: 1600	

NOTES:

DEPTH (feet)	SAMPLES				VISUAL SOIL DESCRIPTION  <u>Soil Group Name (USCS):</u> color, moisture, density/consistency, grain size, other descriptors	BORING AND WELL CONSTRUCTION DETAILS
	Lab Sample	Sample Recovery	Blow Counts	PID (ppm)		
1					Surface - Crushed Rock	<p>8" Morris Flush-Mount Well Box</p> <p>2-inch Diameter SCH 40 PVC Casing TOC elev. = 19.88' North rim</p> <p>Concrete 0-1.5'</p> <p>Hydrated medium Bentonite Chip 1.5-3.0'</p> <p>#2-12 Monterey Silica Sand 3.0-14.0'</p> <p>2-inch Diameter SCH 40 PVC Screen 0.010" slot 3.5-13.5' 0.4' end cap Total well depth: 13.9'</p>
2					<b>POORLY GRADED SAND WITH GRAVEL (SP):</b> medium brown, moist to wet	
3			50-6"	0.0		
4						
5			26/28/30	0.0		
6						
7						
8			2/4/2	0.0		
9					<b>SLUDGE (ML):</b> white, wet, pasty, non-plastic, with limestone fragments No odor	
10						
11			1/1/1	0.0		
12						
13			3/4/6	0.0		
14					<b>SILT (ML)</b>	
15						
16						

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.



MAUL FOSTER ALONG

# Geologic Borehole Log

Project Number  
**M0615.20.001**

Well Number  
**TWA-1**

Sheet  
**1 of 1**

Project Name **Taylor Way TWAFA Site**  
 Project Location **1514 Taylor Way, Tacoma, WA**  
 Start/End Date **12/14/21 to 12/14/21**  
 Driller/Equipment **Holt Drilling Services, Inc./Hollow Stem Auger**  
 Geologist/Engineer **C. Wise & C. Sifford**  
 Sample Method **Split Spoon**

TOC Elevation (feet) **14.78**  
 Surface Elevation (feet) **14.9**  
 Northing **712993.9**  
 Easting **1171335.1**  
 Total Depth of Borehole **17.0 feet**  
 Outer Hole Diam **9 inch**

Depth (feet, bgs)	Well Details		Sample Data			Blows/6"	PID (ppm)	Lithologic Column	Soil Description
	Water Levels	Interval	Percent Recovery	Collection Method	Sample ID				
1									0.0 to 3.0 feet: GRAVELLY SAND (SW); dark grayish brown (10YR 4/2); 5% fines; 60% sand, fine to medium; 35% gravel, fine to coarse, subangular to subrounded; loose; trace cobbles up to 3-inches in size, subrounded to rounded; no odor; moist. @ 0.5 feet: Rusty metal rivet or bolt, 1.5-inches by 0.5-inches in size.
2									
3					SPT	2	4.2		3.0 to 5.0 feet: SAND WITH SILT (SP-SM); light olive brown (2.5Y 5/3); 10% fines; 90% sand, very fine; medium dense; trace gravel, fine, subrounded; no odor; moist. @ 4.0 feet: Rusty metal fragment 0.5-inches in size.
4				67		5			
5					SPT	2	6.1		5.0 to 17 feet: SAND (SP); black (7.5YR 2.5/1); 100% sand, fine to medium; medium dense; no odor; moist. @ 5.0 feet: Water encountered during drilling. @ 5.9 feet: Silt lamina; 0.3-inches thick; tan; 100% fines, medium plasticity; soft, orange rind present; moist. @ 6.1 feet: Silty sand lamina; 0.5-inches thick; 40% fines, low plasticity; 60% sand, fine; firm; moist. @ 7.0 feet: Decrease in density to very loose. @ 8.8 feet: Decrease in sand grain size to fine.
6				72		4			
7							4.4		@ 10.7 to 11.0 feet: Silt lens; medium dark gray (10YR 3/1); 95% fines, medium plasticity; 5% sand, fine; medium dense; moist. @ 11.0 to 11.2 feet: Laminations of silt and sand.
8					SPT	1	6.3		
9				67		1			@ 12.5 to 13.2 feet: Moisture increases to wet. @ 13.2 to 13.5 feet: Silt lens; very dark gray (10YR 3/1); 95% fines, medium plasticity; 5% sand, fine; firm; moist.
10						1			
11					SPT	0	6.6		@ 16.0 to 17.0 feet: Density increases to hard.
12				100		4			
13					SPT	4	5.9		
14						4			
15					SPT	3	5.8		
16				100		5			
17					SPT	6	6.6		
				100		15			
						25	4.2		

Total Depth = 17.0 feet bgs

### NOTES:

1. bgs = below ground surface. 2. Depths are relative to feet below ground surface. 3. ID = identification. 4. PID = photoionization detector. 5. ppm = parts per million. 6. SPT = standard penetration test.

#### Borehole Completion Details

0 to 1.0 feet: Concrete.  
 1.0 to 4.0 feet: Bentonite chips hydrated with potable water.  
 4.0 to 15.0 feet: 10/20 silica sand.  
 15.0 to 17.0 feet: Slough.

#### Monitoring Well Completion Details

Washington State Department of Ecology Well No. BNN191.  
 Traffic-grade, flush-mounted, monitoring well vault.  
 0 to 5.0 feet: 2-inch diameter, schedule 40, polyvinyl chloride riser pipe.  
 5.0 to 15.0 feet: 2-inch diameter, schedule 40, polyvinyl chloride, 0.010 machine slot, prepacked well screen with threaded polyvinyl chloride end cap.  
 Total well completion depth is approximate.

▽ Water level at approximately 5.0 feet bgs at time of drilling.

CDA BOREHOLE W/ WELL W:\AGINT\GINT\PROJECTS\0615.20.01\DEC2021\_MONITORING\_WELL\_INSTALL.GPJ 03/29/22





MAUL FOSTER ALONG

# Geologic Borehole Log

Project Number  
**M0615.20.001**

Well Number  
**TWA-2**

Sheet  
**1 of 1**

Project Name **Taylor Way TWAAFA Site**  
 Project Location **1514 Taylor Way, Tacoma, WA**  
 Start/End Date **12/13/21 to 12/13/21**  
 Driller/Equipment **Holt Drilling Services, Inc./Hollow Stem Auger**  
 Geologist/Engineer **C. Wise**  
 Sample Method **Split Spoon**

TOC Elevation (feet) **11.69**  
 Surface Elevation (feet) **12.0**  
 Northing **712881.6**  
 Easting **1171602.8**  
 Total Depth of Borehole **11.5 feet**  
 Outer Hole Diam **9 inch**

Depth (feet, bgs)	Well Details		Sample Data				Blows/6"	PID (ppm)	Lithologic Column	Soil Description
	Water Levels	Interval	Percent Recovery	Collection Method	Sample ID					
0.0							0.0			0.0 to 5.0 feet: GRAVELLY SAND (SW); dark grayish brown (10YR 4/2); 5% fines; 65% sand, fine to medium; 30% gravel, fine to coarse, subangular to subrounded; medium dense; trace cobbles, up to 3-inches in size, subrounded to rounded; no odor; moist.
1										
2										
3				SPT			16			
4							6			@ 4.0 feet: Water.
5				SPT			4			5.0 to 10.5 feet: SANDY GRAVEL (GW); dark grayish brown (10YR 4/2); 5% fines; 45% sand, fine to coarse; 50% gravel, fine to coarse, angular to subrounded; very loose; no odor; wet.
6							4			
7							1			
8				SPT			0			@ 7.5 feet: Gravel increases to 70%.
9							0			
10				SPT			0			@ 10.0 feet: About 2-inches of heave.
11							1			10.5 to 11.5 feet: SILT (ML); gray (10YR 5/1); 95% fines, medium plasticity; 5% sand, very fine; soft; trace organics (rootlets); no odor; wet.
							2			

Total Depth = 11.5 feet bgs

**NOTES:**

1. bgs = below ground surface. 2. Depths are relative to feet below ground surface. 3. ID = identification. 4. PID = photoionization detector. 5. ppm = parts per million. 6. SPT = standard penetration test.

**Borehole Completion Details**

0 to 1.0 feet: Concrete.  
 1.0 to 4.0 feet: Bentonite chips hydrated with potable water.  
 4.0 to 10.0 feet: 10/20 silica sand.  
 10.0 to 11.5 feet: Slough.

**Monitoring Well Completion Details**

Washington State Department of Ecology Well No. BNN190.  
 Traffic-grade, flush-mounted, monitoring well vault.  
 0 to 5.0 feet: 2-inch diameter, schedule 40, polyvinyl chloride riser pipe.  
 5.0 to 10.0 feet: 2-inch diameter, schedule 40, polyvinyl chloride, 0.010 machine slot, prepacked well screen with threaded polyvinyl chloride end cap.  
 Total well completion depth is approximate.

▽ Water level at approximately 4.0 feet bgs at time of drilling.

CDA BOREHOLE WTWELL\_W:\GINT\GINT\PROJECTS\0615.20.01\DEC2021\_MONITORING\_WELL\_INSTALL.GPJ 03/29/22



MAUL FOSTER ALONG

# Geologic Borehole Log

Project Number  
**M0615.20.001**

Well Number  
**TWA-3**

Sheet  
**1 of 1**

Project Name **Taylor Way TWAAFA Site**  
 Project Location **1514 Taylor Way, Tacoma, WA**  
 Start/End Date **12/14/21 to 12/14/21**  
 Driller/Equipment **Holt Drilling Services, Inc./Hollow Stem Auger**  
 Geologist/Engineer **C. Wise & C. Sifford**  
 Sample Method **Split Spoon**

TOC Elevation (feet) **15.48**  
 Surface Elevation (feet) **16.1**  
 Northing **712672.7**  
 Easting **1172087.7**  
 Total Depth of Borehole **11.5 feet**  
 Outer Hole Diam **9 inch**

Depth (feet, bgs)	Well Details	Water Levels	Interval	Percent Recovery	Collection Method	Sample Data			Lithologic Column	Soil Description
						Sample ID	Blows/6"	PID (ppm)		
0.0										0.0 to 7.5 feet: SAND WITH GRAVEL (SW); brown (7.5YR 4/3); 5% fines; 80% sand, very fine to medium; 15% gravel, fine to medium, subangular to subrounded; loose to dense; no odor; dry to wet.
1										
2										
3										
4										
5										
5.5					SPT		3	1.6		
6						6	4			
7										
8					SPT		2	2.0		7.5 to 8.0 feet: GRAVEL (GP); gray (10YR 5/1); 10% sand, fine to medium; 90% gravel, medium to coarse, angular; loose; no odor; no sheen; wet.
8.5						44	2			8.0 to 10.5 feet: SILTY SAND (SM); brown (7.5YR 4/3); 20% fines; 80% sand, very fine to medium; firm; no odor; no sheen; wet.
9										
10					SPT		0	2.1		10.5 to 11.5 feet: SILT (ML); very dark gray (10YR 3/1); 100% fines, medium plasticity; soft to firm; trace organics (woody debris); no odor; moist.
11						94	0			
							1	2.8		

Total Depth = 11.5 feet bgs

**NOTES:**

1. bgs = below ground surface. 2. Depths are relative to feet below ground surface. 3. ID = identification. 4. PID = photoionization detector. 5. ppm = parts per million. 6. SPT = standard penetration test.

**Borehole Completion Details**

0 to 1.0 feet: Concrete.  
 1.0 to 3.0 feet: Bentonite chips hydrated with potable water.  
 3.0 to 10.0 feet: 10/20 silica sand.  
 10.0 to 11.7 feet: Slough.

**Monitoring Well Completion Details**

Washington State Department of Ecology Well No. BNN181.  
 Traffic-grade, flush-mounted, monitoring well vault.  
 0 to 5.0 feet: 2-inch diameter, schedule 40, polyvinyl chloride riser pipe.  
 5.0 to 10.0 feet: 2-inch diameter, schedule 40, polyvinyl chloride, 0.010 machine slot, prepacked well screen with threaded polyvinyl chloride end cap.  
 Total well completion depth is approximate.

▽ Water level at approximately 7.5 feet bgs at time of drilling.

CDA BOREHOLE WTWELL\_W:\GINT\GINT\PROJECTS\0615.20.01\DEC2021\_MONITORING\_WELL\_INSTALL.GPJ 03/29/22

PROJECT: TWAafa		COORDINATES: N 712176.2 E 1170862.7 (NAD 83)	
BORING LOCATION: Clean Earth - N Trailer Parking Lot		SURFACE ELEV. (NAVD88): 15.6 ft	TOC ELEV. (NAVD88) : 15.28 ft
DRILLING CONTRACTOR: CASCADE DRILLING		START/END DATE: 12/7/2021	
DRILLING METHOD: Sonic, with telescoping casing		TOTAL DEPTH: 60'	Ecology Tag # BNW-193
DRILLING EQUIPMENT: Boart Longyear DB100		LOGGED BY: D.COOPER	
SAMPLING METHOD: Soil - 4" Core Barrel sampler, 5' drive length		RESPONSIBLE PROF.: D.COOPER	REG. NO.: 1600

NOTES: Groundwater grab samples collected during drilling using 24" x 2" dia. 0.010"-slot, retractable, SS wire-wrap screen

DEPTH (FT)	SAMPLES			VISUAL SOIL DESCRIPTION  <u>Soil Group Name (USCS):</u> color, moisture, density/consistency, grain size, other descriptors	BORING AND WELL CONSTRUCTION DETAILS
	SAMPLE	SHEEN/ODOR	Recovery PID READING (ppm)		
1				-Asphalt surface	
2	ns/no		0.0	5/8" minus crushed rock base <b>POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM)</b> gray brown, wet, loose, gravelly SAND with silt	
3					
4	ns/no		0.0	- wood shavings and sawdust layer 4.0' to 6.5'	
5					
6	ns/no		0.9		
7				<b>POORLY GRADED SAND (SP)</b> saturated, gray, fine to medium sand	
8	ns/no		0.0	- wood shavings and sawdust layer 7.5'-8.5'	
9					
10	ns/no		0.0	- scattered fine organics and trace silts	
11					
12	ns/no		0.0		
13				<b>SILT (ML)</b> wet, gray, firm, rapid dilatency, non-plastic silt with fine sand becomes medium plasticity silt with scattered thin roots at 13.0'	
14	ns/no		0.0		
15				<b>POORLY GRADED SAND (SP)</b> wet, dark gray, fine to medium sand with trace silt	
16	ns/no		0.2		
17					
18	ns/no		0.1		
19					
20					

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: TWAafa		COORDINATES: N 712176.2 E 1170862.7 (NAD 83)	
BORING LOCATION: Clean Earth - N Trailer Parking Lot		SURFACE ELEV. (NAVD88): 15.6 ft	TOC ELEV. (NAVD88) : 15.28 ft
DRILLING CONTRACTOR: CASCADE DRILLING		START/END DATE: 12/7/2021	
DRILLING METHOD: Sonic, with telescoping casing		TOTAL DEPTH: 60'	Ecology Tag # BNW-193
DRILLING EQUIPMENT: Boart Longyear DB100		LOGGED BY: D.COOPER	
SAMPLING METHOD: Soil - 4" Core Barrel sampler, 5' drive length		RESPONSIBLE PROF.: D.COOPER	REG. NO.: 1600

NOTES: Groundwater grab samples collected during drilling using 24" x 2" dia. 0.010"-slot, retractable, SS wire-wrap screen

DEPTH (FT)	SAMPLES				VISUAL SOIL DESCRIPTION  <u>Soil Group Name (USCS):</u> color, moisture, density/consistency, grain size, other descriptors	BORING AND WELL CONSTRUCTION DETAILS
	SAMPLE	SHEEN/ODOR	RECOVERY	PID READING (ppm)		
20					<b>POORLY GRADED SAND (SP)</b> wet, dark gray, fine to medium sand with trace silt	20 -
21						
22		ns/no		0.1	- thin silt layer at 24'	22 -
23						23 -
24		ns/no		0.2		24 -
25					- increasing silt	25 -
26		ns/no		0		26 -
27					<b>SILTY SAND (SM)</b> - recovery lost between 30 to 35'	27 -
28		ns/no		0		28 -
29					<b>SILTY SAND (SM)</b> saturated, dark gray, silty, very fine sand	29 -
30						30 -
31					<b>POORLY GRADED SAND (SP)</b> saturated, dark gray, fine sand with trace silt	31 -
32						32 -
33						33 -
34						34 -
35						35 -
36		ns/no		0.0		36 -
37						37 -
38		ns/no		0.0		38 -
39						39 -
40						39 -

Temporary 7" diameter conductor casing

Cetco Gold Medium Bentonite Chips

2-inch diameter SCH-40 PVC casing.

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: TWAFA		COORDINATES: N 712176.2 E 1170862.7 (NAD 83)	
BORING LOCATION: Clean Earth - N Trailer Parking Lot		SURFACE ELEV. (NAVD88): 15.6 ft	TOC ELEV. (NAVD88) : 15.28 ft
DRILLING CONTRACTOR: CASCADE DRILLING		START/END DATE: 12/7/2021	
DRILLING METHOD: Sonic, with telescoping casing		TOTAL DEPTH: 60'	Ecology Tag # BNW-193
DRILLING EQUIPMENT: Boart Longyear DB100		LOGGED BY: D.COOPER	
SAMPLING METHOD: Soil - 4" Core Barrel sampler, 5' drive length		RESPONSIBLE PROF.: D.COOPER	REG. NO.: 1600

NOTES: Groundwater grab samples collected during drilling using 24" x 2" dia. 0.010"-slot, retractable, SS wire-wrap screen

DEPTH (FT)	SAMPLES				VISUAL SOIL DESCRIPTION  <u>Soil Group Name (USCS):</u> color, moisture, density/consistency, grain size, other descriptors	BORING AND WELL CONSTRUCTION DETAILS
	SAMPLE	SHEEN/ODOR	RECOVERY	PID READING (ppm)		
40	*GW	ns/no		0.1	<p><b>POORLY GRADED SAND (SP)</b> saturated, dark gray, fine to medium sand with trace silt</p>	<p>2-inch diameter SCH-40 blank PVC casing.</p> <p>Cetco Gold Medium Bentonite Chips</p> <p>Temporary 7" diameter conductor casing</p> <p>Filter Pack 2/12 sand outside pre-pack</p> <p>2-inch Diameter SCH 40 PVC 5' Pre-Pac Screen: 0.010" slot with 20-40 sand SS #64 wire mesh 52.3'-57.3' with 0.4' end cap Total well depth: 57.7'</p>
41						
42		ns/no		0.2		
43						
44		ns/no		0.1		
45		ns/no		0.1		
46						
47		ns/no		0.1		
48						
49		ns/no		0.1		
50	*GW	ns/no		0.1	*GW - Groundwater grab sample: TWA-4_50-52_1221 @ 50-52'	
51					<p>Boring backfilled with bentonite 58'-60'</p>	
52		ns/no		0.1		
53						
54		ns/no		0.1		
55						
56		ns/no		0.0		
57						
58		ns/no		0.0		
59						
60		ns/no		0.0		
END OF BORING AT 60' Below ground surface						
<p><b>SILTY SAND (SM)</b> saturated, dark gray, silty, fine sand with shell fragments</p>						

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

Project: Hylebos Marsh		Project Number:		Client: Port of Tacoma		Boring No. TWA-5D																	
Address, City, State 1212 Taylor Way				Drilling Contractor: Holt		Drill Rig Type: Sonic																	
Logged By: Nick Waldo		Date	Started: 9/24/2019 9:00		Bit Type: Sonic		Diameter: 4																
Drill Crew: Holt			Completed: 9/25/2019 14:30		Hammer Type: NA																		
USA Ticket Number: 19408678			Backfilled: 9/25/2019		Hammer Weight: NA		Hammer Drop: NA																
N: To be measured W: To be measured		Groundwater Depth: 9 feet bgs		Elevation:		Total Depth of Boring: 60 feet																	
Depth (feet)	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	Lithology		Recovery %	Odor/Sheen	PID (PPM)														
5				<p>Surface - grass</p> <p>Moist weathered wood fill</p>	<p><b>Lithology</b></p> <p><u>Soil Group Name:</u> modifier, color, moisture, density/consistency, grain size, other descriptors</p> <p><u>Rock Description:</u> modifier color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.</p>			No															
										9' - moist gray clay to 10 feet	Moist weathered wood fill with occasional gravel and chunks of wood	No											
													16' discrete gay clay interbedded with weathered wood fill 0.5 to 2 inches thick	18.5 - wet gray clay	8" conductor casing set - chipped with 1 bag of bentonite, hydrated, and pulled back about 3"	wet gray clayey silt							
																	wet gray clayey silt with sea shells (at 23-24.5')	24.5' wet gray med to coarse sand					
																			water sample collected 25-30'	wet gray clayey silt			
																					W TWA-5-1	S TWA-5-30-S	
																							0

Project: Hylebos Marsh		Project Number:		Client: Port of Tacoma		Boring No. TWA-5D	
Address, City, State 1212 Taylor Way				Drilling Contractor: Holt		Drill Rig Type: Sonic	
Logged By: Nick Waldo		Date	Started: 9/24/2019 9:00		Bit Type: Sonic		Diameter: 4
Drill Crew: Holt			Completed: 9/25/2019 14:30		Hammer Type: NA		
USA Ticket Number: 19408678			Backfilled: 9/25/2019		Hammer Weight: NA		Hammer Drop: NA
N: To be measured W: To be measured		Groundwater Depth: 9 feet bgs		Elevation:		Total Depth of Boring: 60 feet	

Depth (feet)	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	Lithology	Recovery %	Odor/Sheen	PID (PPM)
30					No recovery, heaving sands.	100	No	0
35					Very wet silts and sands, poor recovery	100	No	0
38	s	TWA-5-38-s			wet grey clay			0
39					wet grey silt			0
40	w	TWA-5-2			39.5 wet grey coarse sand water sample collected 35-40'		No	0
41					Wet dark grey med to coarse med to coarse sand			0
42					1" gray clay lens			0
45	w	TWA-5-3			wet dark grey med to coarse Sand water sample collected 45-50'			0
50					wet dark grey med to coarse Sand			0
55					wet dark grey med to coarse Sand with sea shells			0
57.5					57.5 - grey sand with white coarse sand/shell lens			0
58	s	TWA-5-59-s			wet grey silt with shells			0

# WELL INSTALLATION REPORT

Well No. TWA-5D

Date 11.7.2019

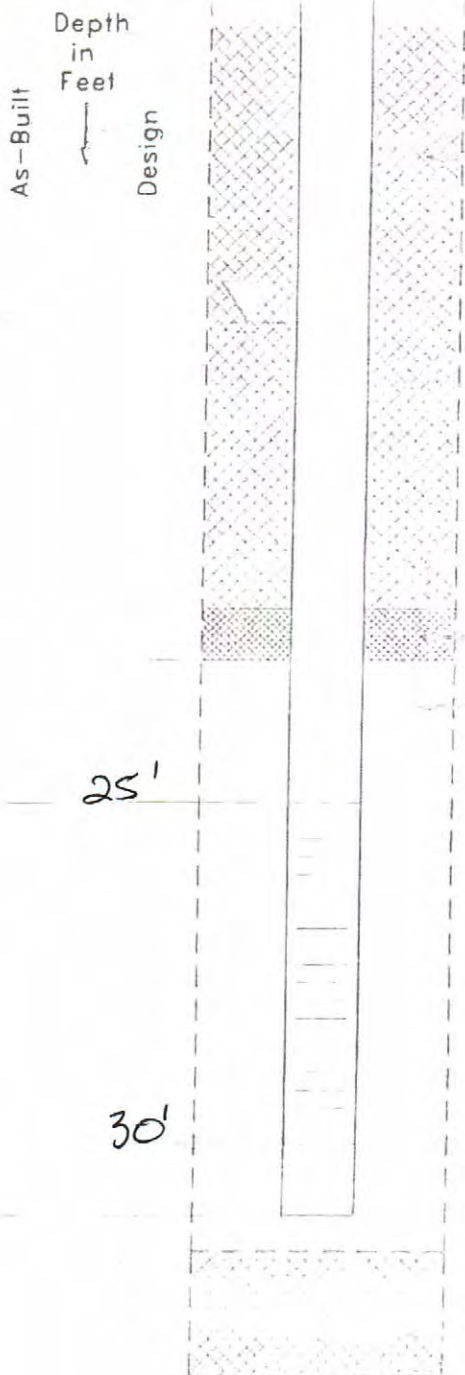
Job Well tag ID# BLU-457

Job No.

Observer Waldo

Drilling Method Sonic

Draw Appropriate Monument (Flush or Above Ground) →



Approx. Elevation

Type of Monument groundwater well

Stickup Monument  Well

0' feet Seal Material

Drillers:  
Holocene  
Drilling

Borehole Diameter

Water Level Date

26.0 11/7/2019

Riser Pipe Diameter 2 inch

Riser Pipe Material schedule 40 pvc

Type of Joints

"O"-Ring Seals?  Yes  No

Seal Material Bentonite to surface

23' Filter Pack Material 2/12 silica sand

Filter Pack Size

25'

Screen Diameter 2 inch

Screen Material

Screen Slot Size 0.010 inch slotted

Screen Construction: Milled  
Wire Wound

30'

Tail Pipe Diameter 2"

Tail Pipe Length 4"

Tail Pipe Material

Bottom Seal Type











conductor casing set to 20' to separate shallow and deep groundwater

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CONSULTING, INC



Project: Hylebos Marsh		Project Number:		Client: Port of Tacoma		Boring No. TWA-6D			
Address, City, State 1212 Taylor Way				Drilling Contractor: Holt		Drill Rig Type: Sonic			
Logged By: Nick Waldo		Date	Started: 9/24/2019 9:00		Bit Type: Sonic		Diameter: 4		
Drill Crew: Holt			Completed: 9/25/2019 14:30		Hammer Type: NA				
USA Ticket Number: 19408678			Backfilled: 9/25/2019		Hammer Weight: NA		Hammer Drop: NA		
N: To be measured W: To be measured		Groundwater Depth: 6 feet bgs		Elevation:		Total Depth of Boring: 60 feet			
Depth (feet)	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	Lithology		Recovery %	Odor/Sheen	PID (PPM)
					<b>Soil Group Name:</b> modifier, color, moisture, density/consistency, grain size, other descriptors  <b>Rock Description:</b> modifier color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.				
5					Surface - grass Moist brown medium grain sand (SP)			No	
					Moist dark gray sand with some shells (SP)			No	
					Wet layers of gray silts and sand				
					0.5' layer of wet gray clay (CL)				
10					Moist brown and gray silts and clay with organics			No	
					Wet gray silt Clay with lots of embedded organics				
					8" conductor casing set at 12- chipped with 1 bag of bentonite, hydrated, and pulled back about 3"				
					Gray Clay (CL)				
15	W	TWA-6-1			Water sample collected 15-20' at 17' some sand mixed with clay				
					Gray clay				
					Gray clay with sandy silt				
20	S	TWA-6-21-S			Wet dark gray medium sand.				
					Wet gray sandy silt, 0.5 thick.				
					Wet dark gray medium sand.				
25	W	TWA-6-2			Water collected at 25-30				
					Wet dark gray medium sand.				
					Wet dark gray silty fine to medium sand.				
30									0

Project: Hylebos Marsh		Project Number:		Client: Port of Tacoma		Boring No. TWA-6D	
Address, City, State 1212 Taylor Way				Drilling Contractor: Holt		Drill Rig Type: Sonic	
Logged By: Nick Waldo		Date	Started: 9/24/2019 9:00		Bit Type: Sonic		Diameter: 4
Drill Crew: Holt			Completed: 9/25/2019 14:30		Hammer Type: NA		
USA Ticket Number: 19408678			Backfilled: 9/25/2019		Hammer Weight: NA		Hammer Drop: NA
N: To be measured W: To be measured		Groundwater Depth: 6 feet bgs		Elevation:		Total Depth of Boring: 60 feet	

Depth (feet)	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	Lithology	Recovery %	Odor/Sheen	PID (PPM)
30					Wet gray fine to medium sand.	100	No	0
35	W	TWA-6-3			water sample collected 35-40'	100	No	0
					Wet gray layer of sand, silt and clay (0.5' thick)			
					Wet gray fine to coarse sand.			0
40					Wet gray medium sand.		No	0
45	W	TWA-6-4			water sample collected 45-50'			0
					Wet dark gray silty fine sand			0
50	S	TWA-6-48-S			Wet gray medium to coarse sand.			
55					Wet sand with coarse sand- white intact shells - 2" clay layer at 57.5			0
					Wet medium sand with shells			

# WELL INSTALLATION REPORT

Well No. TWA-60D

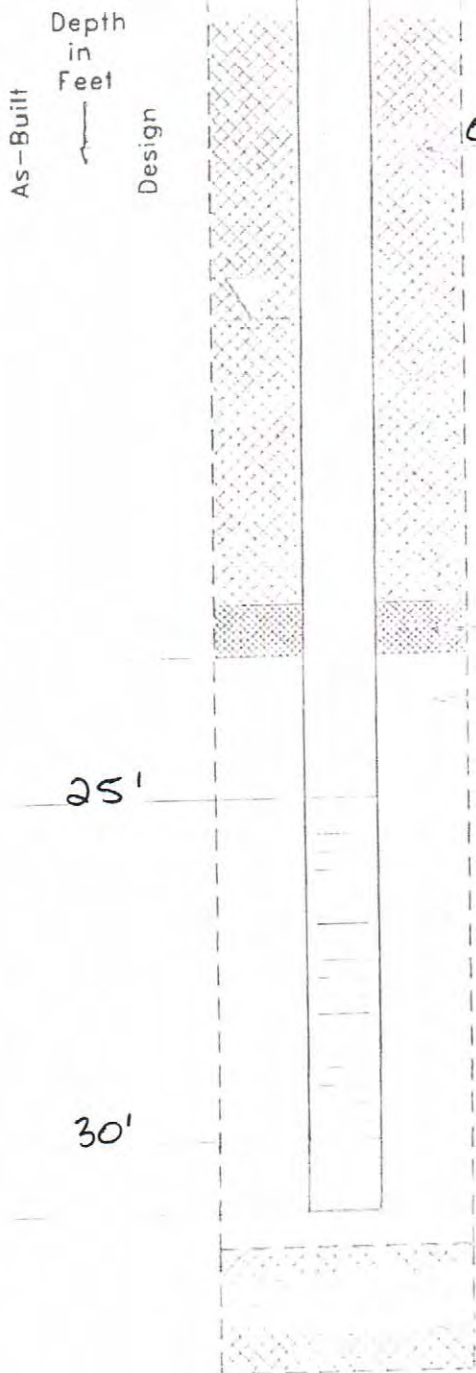
Date 11.7.2019

Job well tag ID# BLU-456

Job No.

Observer Waldo Drilling Method Sonic

Draw Appropriate Monument (Flush or Above Ground) →



Approx. Elevation

Type of Monument groundwater well

Stickup Monument  Well

0' feet Seal Material

Drillers:  
Holocore  
Drilling

Borehole Diameter

Water Level Date

~6.5 ~~10.7~~ 11.7.2019

Riser Pipe Diameter 2 inch

Riser Pipe Material schedule 40 PVC

Type of Joints

"O"-Ring Seals?  Yes  No

Seal Material Bentonite to surface

23' Filter Pock Material 2/12 silica sand  
Filter Pock Size     

25'

Screen Diameter 2 inch

Screen Material     

Screen Slot Size 0.010-inch slotted

Screen Construction:  Milled  
 Wire Wound

30'

Tail Pipe Diameter 2"

Tail Pipe Length 4"

Tail Pipe Material

Bottom Seal Type

( ) CONSULTING, INC.

conductor set at 9.5 to 12.5' to separate shallow and deep groundwaters

PROJECT: TWAafa		COORDINATES: N 711980.5 E 1170617.8 (NAD 83)	
BORING LOCATION: Clean Earth - S Employee Parking Lot		SURFACE ELEV. (NAVD88): 15.7 ft	TOC ELEV. (NAVD88): 15.40 ft
DRILLING CONTRACTOR: CASCADE DRILLING		START/END DATE: 1/26/2022	
DRILLING METHOD: Sonic, with telescoping casing		TOTAL DEPTH OF BOREHOLE: 60'	Ecology Tag # BNW-082
DRILLING EQUIPMENT: Boart Longyear DB100		LOGGED BY: D.COOPER	
SAMPLING METHOD: Soil - 4" Core Barrel sampler, 5' drive length		RESPONSIBLE PROF.: D. COOPER	REG. NO.: 1600

NOTES: Groundwater grab samples collected during drilling using 24" x 2" dia. 0.010"-slot, retractable, SS wire-wrap screen

DEPTH (FT)	SAMPLES			VISUAL SOIL DESCRIPTION  Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	BORING AND WELL CONSTRUCTION DETAILS  Morris Heavy Duty Flush-mount 8-inch dia. monument with 3-bolt cover.
	SAMPLE	SHEEN/ODOR	Recovery PID READING (ppm)		
1				ashphalt surface <b>POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM)</b> wet, mottled gray-brown, gravelly, sand with silt	
2	ns/no		0.0		
3					
4	ns/no		0.0		
5					
6	ns/no		0.9	- white, lime-like sludge material mixed with gravel at 6.0'	
7				<b>POORLY GRADED SAND (SP)</b> wet, gray, fine to medium sand , with trace gravel and silt	
8	ns/no		0.0		
9					
10	ns/no		0.0	poor recovery - clean out showed: <b>SILT (ML)</b> wet, brown, firm, medium-plastic silt with fine sand	
11					
12	ns/no		0.0		
13					
14	ns/no		0.0		
15				- becomes sandy	
16	ns/no		0.2	<b>no recovery</b>	
17					
18	ns/no		0.1		
19					
20					

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: TWAafa		COORDINATES: N 711980.5 E 1170617.8 (NAD 83)	
BORING LOCATION: Clean Earth - S Employee Parking Lot		SURFACE ELEV. (NAVD88): 15.7 ft	TOC ELEV. (NAVD88): 15.40 ft
DRILLING CONTRACTOR: CASCADE DRILLING		START/END DATE: 1/26/2022	
DRILLING METHOD: Sonic, with telescoping casing		TOTAL DEPTH OF BOREHOLE: 60'	Ecology Tag # BNW-082
DRILLING EQUIPMENT: Boart Longyear DB100		LOGGED BY: D.COOPER	
SAMPLING METHOD: Soil - 4" Core Barrel sampler, 5' drive length		RESPONSIBLE PROF.: D.COOPER	REG. NO.: 1600

NOTES: Groundwater grab samples collected during drilling using 24" x 2" dia. 0.010"-slot, retractable, SS wire-wrap screen

DEPTH (FT)	SAMPLES				VISUAL SOIL DESCRIPTION  <u>Soil Group Name (USCS):</u> color, moisture, density/consistency, grain size, other descriptors	BORING AND WELL CONSTRUCTION DETAILS
	SAMPLE	SHEEN/ODOR	RECOVERY	PID READING (ppm)		
20					<b>POORLY GRADED SAND (SP)</b> saturated, dark gray, fine sand with trace silt and scattered shell fragments	20 -
21						
22		ns/no		0.1		22 -
23						23 -
24		ns/no		0.2		24 -
25						25 -
26		ns/no		0		26 -
27						27 -
28		ns/no		0		28 -
29						29 -
30					- becomes silty	30 -
31						31 -
32					<b>SILT (ML)</b> wet, brown, medium plastic silt	32 -
33						33 -
34					<b>POORLY GRADED SAND WITH SILT (SP)</b> saturated, dark gray, silty, fine sand	34 -
35						35 -
36		ns/no		0.0		36 -
37						37 -
38		ns/no		0.0		38 -
39						39 -
40					<b>POORLY GRADED SAND (SP)</b> saturated, dark gray, fine sand with trace silt  - increasing silt with depth	39 -

Temporary 6" diameter conductor casing

Cetco Gold Medium Bentonite Chips

2-inch diameter SCH-40 PVC casing.

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: TWAafa		COORDINATES: N 711980.5 E 1170617.8 (NAD 83)	
BORING LOCATION: Clean Earth - S Employee Parking Lot		SURFACE ELEV. (NAVD88): 15.7 ft	TOC ELEV. (NAVD88): 15.40 ft
DRILLING CONTRACTOR: CASCADE DRILLING		START/END DATE: 1/26/2022	
DRILLING METHOD: Sonic, with telescoping casing		TOTAL DEPTH OF BOREHOLE: 60'	Ecology Tag # BNW-082
DRILLING EQUIPMENT: Boart Longyear DB100		LOGGED BY: D.COOPER	
SAMPLING METHOD: Soil - 4" Core Barrel sampler, 5' drive length		RESPONSIBLE PROF.: D.COOPER	REG. NO.: 1600

NOTES: Groundwater grab samples collected during drilling using 24" x 2" dia. 0.010"-slot, retractable, SS wire-wrap screen

DEPTH (FT)	SAMPLES				VISUAL SOIL DESCRIPTION  <u>Soil Group Name (USCS):</u> color, moisture, density/consistency, grain size, other descriptors	BORING AND WELL CONSTRUCTION DETAILS
	SAMPLE	SHEEN/ODOR	RECOVERY	PID READING (ppm)		
40	*GW				*GW - Groundwater grab sample: TWA-7_40-42_1221 @ 40-42'	<p>2-inch diameter SCH-40 blank PVC casing.</p> <p>Cetco Gold Medium Bentonite Chips</p> <p>Temporary 6" diameter conductor casing</p> <p>Filter Pack 2/12 sand outside pre-pack</p> <p>2-inch Diameter SCH 40 PVC 5' Pre-Pac Screen: 0.010" slot with 20-40 sand SS #64 wire mesh 54.3'-59.3' with 0.4' end cap Total well depth: 59.7'</p>
41					<p><b>POORLY GRADED SAND (SP)</b> saturated, dark gray, fine to medium sand with trace silt</p>	
42		ns/no		0.0		
43						
44		ns/no		0.0		
45						
46		ns/no		0.0		
47					<p><b>SILTY SAND (SM)</b> saturated, dark gray, silty, fine to medium sand with scattered shell fragments</p>	
48		ns/no		0.0		
49						
50		ns/no		0.0		
51						
52		ns/no		0.0		
53					<p><b>POORLY GRADED SAND (SP)</b> saturated, dark gray, fine to medium sand with trace silt</p>	
54		ns/no		0.0		
55						
56	*GW					*GW - Groundwater grab sample: TWA-7_55-57_1221 @ 55' - 57'
57		ns/no		0.0		
58						
59		ns/no		0.0	<p><b>SILTY SAND (SM)</b> saturated, dark gray, silty, fine sand with shell fragments</p>	
60						END OF BORING AT 60' Below ground surface

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: TWAafa	COORDINATES: N 711983.0 E 1171072.2 (NAD 83)	
BORING LOCATION: PARCEL A	SURFACE ELEV. (NAVD88): 15.0 ft	TOC ELEV. (NAVD88): 14.92 ft
DRILLING CONTRACTOR: CASCADE DRILLING	START/END DATE: 10/13/2021	
DRILLING METHOD: Sonic, with telescoping casing	TOTAL DEPTH OF BOREHOLE: 60'	Ecology Tag # BNW-164
DRILLING EQUIPMENT: TerraSonic TSI 150CC	LOGGED BY: A. CERRUTI	
SAMPLING METHOD: Soil - 4" Core Barrel sampler, 5' drive length	RESPONSIBLE PROF.: A. CERRUTI	REG. NO.: 21013797

NOTES: Groundwater grab samples collected during drilling using 24" x 2" dia. 0.010"-slot, retractable, SS wire-wrap screen

DEPTH (FT)	SAMPLES			VISUAL SOIL DESCRIPTION  Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	BORING AND WELL CONSTRUCTION DETAILS
	SAMPLE	SHEEN/ODOR	Recovery PID READING (ppm)		
1	ns/no		0.2	<b>POORLY GRADED SAND with trace silt and gravel (SP)</b> medium brown, loose, moist, fine to medium sand, trace subrounded gravel, silt, and broken shells becomes wet at 2.2'	<p>Morris Heavy Duty Flush-mount 8-inch dia. monument with 3-bolt cover.</p> <p>2-inch diameter SCH-40 PVC casing. TOC 14.92' (NAVD88) North rim</p> <p>Concrete</p> <p>Cetco Gold Medium Bentonite Chips</p> <p>Temporary 8" diameter conductor casing</p> <p>Temporary 7" diameter conductor casing</p>
2					
3	ns/no		0.1	grassy surface fine roots and organics	
4					
5	ns/no		0.2	<b>POORLY GRADED SAND with silt (SP-SM)</b> medium gray, medium dense, wet, very fine to medium sand with silt increasing silt content with depth, broken shells throughout	
6					
7	ns/no		0.8	<b>SILT (ML)</b> light gray, firm, slow dilatency, non-plastic silt fine sand interbeds between 11.3' and 12.3'	
8					
9	ns/no		0.1	<b>POORLY GRADED SAND with silt (SP-SM)</b> gray, medium dense, wet, very fine to medium sand with silt	
10					
11	ns/no			<b>SILTY SAND (SM)</b> medium brown, slightly dense, wet, silty, fine to medium sand organic grasses and roots at 16.7' to 16.9'	
12					
13	ns/no		0.3	<b>POORLY GRADED SAND with silt (SP-SM)</b> medium gray, loose, wet, fine to medium sand with silt	
14					
15	ns/no		0.0		
16	ns/no		0.0		
17	ns/no		0.0		
18					
19	ns/no		0.0		
20					

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: TWAafa		COORDINATES: N 711983.0 E 1171072.2 (NAD 83)	
BORING LOCATION: PARCEL A		SURFACE ELEV. (NAVD88): 15.0 ft	TOC ELEV. (NAVD88): 14.92 ft
DRILLING CONTRACTOR: CASCADE DRILLING		START/END DATE: 10/13/2021	
DRILLING METHOD: Sonic, with telescoping casing		TOTAL DEPTH OF BOREHOLE: 60'	Ecology Tag # BNW-164
DRILLING EQUIPMENT: TerraSonic TSI 150CC		LOGGED BY: A. CERRUTI	
SAMPLING METHOD: Soil - 4" Core Barrel sampler, 5' drive length		RESPONSIBLE PROF.: A. CERRUTI	REG. NO.: 21013797

NOTES: Groundwater grab samples collected during drilling using 24" x 2" dia. 0.010"-slot, retractable, SS wire-wrap screen

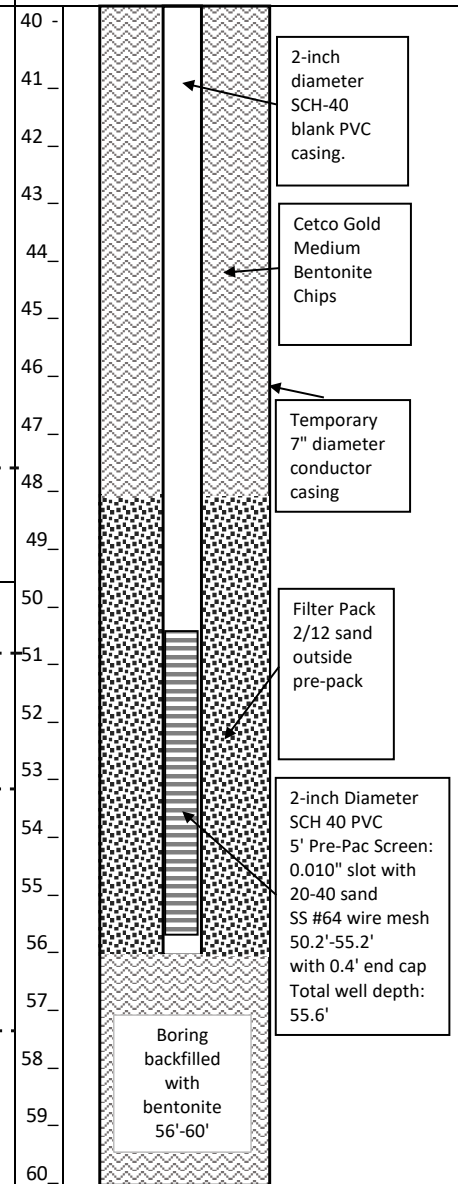
DEPTH (FT)	SAMPLES				VISUAL SOIL DESCRIPTION  <i>Soil Group Name (USCS):</i> color, moisture, density/consistency, grain size, other descriptors	BORING AND WELL CONSTRUCTION DETAILS	
	SAMPLE	SHEEN/ODOR	RECOVERY	PID READING (ppm)			
20	*GW	ns/no		0.2	*GW - Groundwater grab sample: TWA-8_20-22_1021 @ 20-22'	<p>Temporary 7" diameter conductor casing</p> <p>Cetco Gold Medium Bentonite Chips</p> <p>2-inch diameter SCH-40 PVC casing.</p>	
21					<p><b>POORLY GRADED SAND with silt (SP-SM)</b> medium gray, loose, wet, fine to medium sand with silt</p> <p>-increasing silt and density</p> <p><b>SILT with sand (ML)</b> dark gray, firm, slow dilatency, non-plastic silt with very fine to medium sand</p> <p><b>SILTY SAND (SM)</b> medium gray, medium dense, wet, silty very fine to fine sand with trace organics and broken shells</p> <p>-becomes dark gray, sand content increases</p> <p>-silty laminations at 35.5'</p> <p><b>POORLY GRADED SAND (SP)</b> dark gray, medium dense, wet, fine to medium sand with trace silt</p>		
22		ns/no		0.1			
23							
24		ns/no		0.2			
25		ns/no					
26							
27		ns/no		0.0			
28							
29		ns/no		0.0			
30		ns/no		0.0			
31							
32		ns/no		0.0			
33							
34		ns/no		0.0			
35							
36		ns/no		0.0			
37							
38		ns/no		0.0			
39		ns/no					
40		ns/no		0.0			

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.



PROJECT: TWAFA		COORDINATES: N 711983.0 E 1171072.2 (NAD 83)	
BORING LOCATION: PARCEL A		SURFACE ELEV. (NAVD88): 15.0 ft	TOC ELEV. (NAVD88): 14.92 ft
DRILLING CONTRACTOR: CASCADE DRILLING		START/END DATE: 10/13/2021	
DRILLING METHOD: Sonic, with telescoping casing		TOTAL DEPTH OF BOREHOLE: 60'	Ecology Tag # BNW-164
DRILLING EQUIPMENT: TerraSonic TSI 150CC		LOGGED BY: A. CERRUTI	
SAMPLING METHOD: Soil - 4" Core Barrel sampler, 5' drive length		RESPONSIBLE PROF.: A. CERRUTI	REG. NO.: 21013797

NOTES: Groundwater grab samples collected during drilling using 24" x 2" dia. 0.010"-slot, retractable, SS wire-wrap screen

DEPTH (FT)	SAMPLES				VISUAL SOIL DESCRIPTION  <u>Soil Group Name (USCS):</u> color, moisture, density/consistency, grain size, other descriptors	BORING AND WELL CONSTRUCTION DETAILS
	SAMPLE	SHEEN/ODOR	RECOVERY	PID READING (ppm)		
40	*GW	ns/no		0.1	*GW - Groundwater grab sample: TWA-8_40-42_1021 @ 40-42'	 <p>2-inch diameter SCH-40 blank PVC casing.</p> <p>Cetco Gold Medium Bentonite Chips</p> <p>Temporary 7" diameter conductor casing</p> <p>Filter Pack 2/12 sand outside pre-pack</p> <p>2-inch Diameter SCH 40 PVC 5' Pre-Pac Screen: 0.010" slot with 20-40 sand SS #64 wire mesh 50.2'-55.2' with 0.4' end cap Total well depth: 55.6'</p> <p>Boring backfilled with bentonite 56'-60'</p>
41					<b>POORLY GRADED SAND with SILT (SP)</b> dark gray, medium dense, wet, fine to medium sand with silt densely laminated with silt stringers and trace broken shells between 42' and 42.7'	
42		ns/no		0.2		
43						
44		ns/no		0.1		
45		ns/no		0.1		
46						
47		ns/no		0.1		
48					<b>POORLY GRADED SAND (SP)</b> dark gray, loose, wet, fine to medium sand	
49		ns/no		0.1	-silt lense/nodule at 48.7'	
50		ns/no		0.1	*GW - Groundwater grab sample: TWA-8_50-52_1021 @ 50-52'	
51					<b>SILTY SAND (SM)</b> dark gray, dense, wet, silty, very fine to medium sand. broken shells throughout, fine to medium sand lense at 51.8' to 52.1'	
52		ns/no		0.1		
53						
54		ns/no		0.1	<b>POORLY GRADED SAND (SP)</b> dark gray, loose, wet, fine to medium sand with trace silt	
55					-54.4' organic mat	
56		ns/no		0.0		
57					-silty nodules and fine rounded gravel at 56.7'	
58		ns/no		0.0	<b>POORLY GRADED SAND with silt (SP-SM)</b> dark gray, medium dense, wet, very fine to medium sand with silt,	
59						
60		ns/no		0.0	END OF BORING AT 60' Below ground surface	

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: TWAFA		COORDINATES: N 712482.8 E 1171238.6 (NAD 83)	
BORING LOCATION: Clean Care Property		SURFACE ELEV. (NAVD 88): 15.6 ft	TOC ELEV. (NAVD 88): 15.84 ft
DRILLING CONTRACTOR: Cascade Drilling		START/END DATE: 10/11/2021 - 10/12/2021	
DRILLING METHOD: Sonic, with telescoping casing		TOTAL DEPTH OF BOREHOLE: 60'	Ecology Tag # BNW-163
DRILLING EQUIPMENT: TerraSonic TSI 150CC		LOGGED BY: A. CERRUTI	
SAMPLING METHOD: Soil - 4" Core Barrel sampler, 5' drive length		RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Groundwater grab samples collected during drilling using 24" x 2" dia. 0.010"-slot, retractable, SS wire-wrap screen

DEPTH (FT)	SAMPLES			VISUAL SOIL DESCRIPTION  Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	BORING AND WELL CONSTRUCTION DETAILS
	SAMPLE	SHEEN/ODOR	RECOVERY		
1	ns/no			3.6	<p>Morris Heavy Duty Flush-mount 8-inch dia. monument with 3-bolt cover.</p> <p>2-inch diameter SCH-40 PVC casing. TOC 15.84' (NAVD88) North rim</p> <p>Concrete</p> <p>Cetco Gold Medium Bentonite Chips</p> <p>Temporary 8" dia. conductor casing</p> <p>Temporary 7" dia. conductor casing</p>
2	ns/no			4.8	
3	ns/slo			140	
4					
5					
6	ms/so			232	
7					
8					
9					
10	ns/no			7.8	
11	ns/no			0.9	
12					
13					
14					
15	ns/so			0.2	
16					
17	ns/no			0.1	
18					
19					
20					

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: TWAafa		COORDINATES: N 712482.8 E 1171238.6 (NAD 83)	
BORING LOCATION: Clean Care Property		SURFACE ELEV. (NAVD 88): 15.6 ft	TOC ELEV. (NAVD 88): 15.84 ft
DRILLING CONTRACTOR: Cascade Drilling		START/END DATE: 10/11/2021 - 10/12/2021	
DRILLING METHOD: Sonic, with telescoping casing		TOTAL DEPTH OF BOREHOLE: 60'	Ecology Tag # BNW-163
DRILLING EQUIPMENT: TerraSonic TSI 150CC		LOGGED BY: A. CERRUTI	
SAMPLING METHOD: Soil - 4" Core Barrel sampler, 5' drive length		RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Groundwater grab samples collected during drilling using 24" x 2" dia. 0.010"-slot, retractable, SS wire-wrap screen

DEPTH (FT)	SAMPLES				VISUAL SOIL DESCRIPTION  <i>Soil Group Name (USCS):</i> color, moisture, density/consistency, grain size, other descriptors	BORING AND WELL CONSTRUCTION DETAILS
	SAMPLE	SHEEN/ODOR	RECOVERY	PID READING (ppm)		
20				0.2	<p><b>POORLY GRADED SAND (SP)</b> dark gray, loose, saturated, fine to medium sand with trace silt -silty inclusion at 20' to 20.3'</p> <p>-silty interbed at 26'</p>	
21		ns/no		0.2		
22		ns/no		0.2		
23						
24		ns/no		0.2		
25		ns/no		0.7		
26				0.5		
27		ns/no		0.0		
28						
29		ns/no		0.0		
30		ns/no		0.0		
31						
32						
33						
34						
35						
36		ns/no		0.0	<p><b>SILT (ML)</b> medium gray, medium firm, wet, slow dilatency, non-plastic silt -becomes firm 36' with fibrous organics between 36.3' and 38.8'</p>	
37						
38		ns/no		0.0		
39						
40						

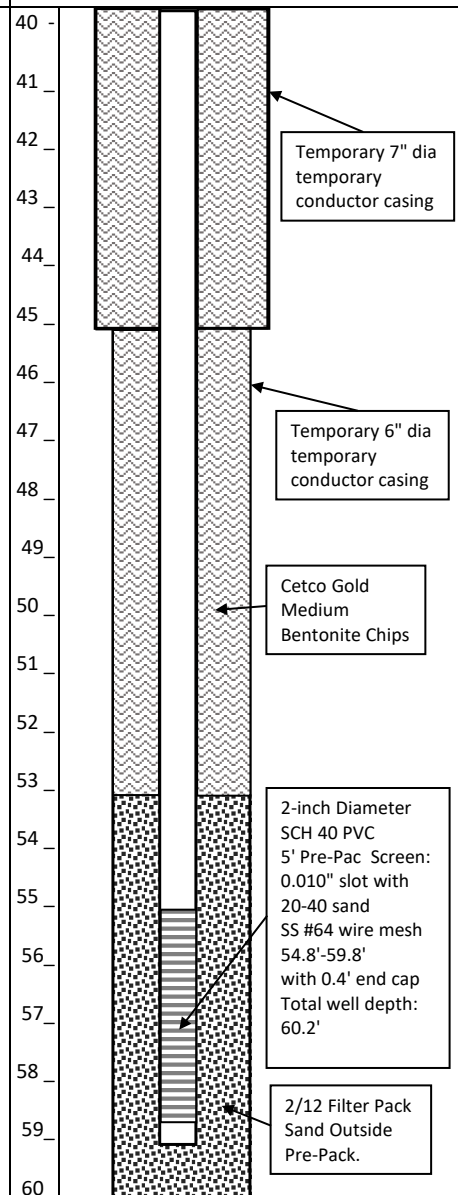
Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.

PROJECT: TWAafa		COORDINATES: N 712482.8 E 1171238.6 (NAD 83)	
BORING LOCATION: Clean Care Property		SURFACE ELEV. (NAVD 88): 15.6 ft	TOC ELEV. (NAVD 88): 15.84 ft
DRILLING CONTRACTOR: Cascade Drilling		START/END DATE: 10/11/2021 - 10/12/2021	
DRILLING METHOD: Sonic, with telescoping casing		TOTAL DEPTH OF BOREHOLE: 60'	Ecology Tag # BNW-163
DRILLING EQUIPMENT: TerraSonic TSI 150CC		LOGGED BY: A. CERRUTI	
SAMPLING METHOD: Soil - 4" Core Barrel sampler, 5' drive length		RESPONSIBLE PROF.: D. Cooper	REG. NO.: 1600

NOTES: Groundwater grab samples collected during drilling using 24" x 2" dia. 0.010"-slot, retractable, SS wire-wrap screen

DEPTH (FT)	SAMPLES				VISUAL SOIL DESCRIPTION  <u>Soil Group Name (USCS):</u> color, moisture, density/consistency, grain size, other descriptors	BORING AND WELL CONSTRUCTION DETAILS
	SAMPLE	SHEEN/ODOR	RECOVERY	PID READING (ppm)		
40		ns/no		0.0	<b>SILT (ML)</b> medium gray, firm, slow dilatancy, non-plastic silt with trace very fine sand	40 - 41
41						
42		ns/no		0.1		42 - 43
43	*SS				*SS - Soil sample: TWA-9_43_1021 @ 43'	
44		ns/no		0.1	<b>SILTY SAND (SM)</b> medium gray, medium dense, saturated, silty, very fine to fine sand	44 - 45
45	*GW				*GW -Groundwater grab sample: TWA-9_45-47_1021 @ 45-47'	
46		ns/no		0.0		46 - 47
47		ns/no		0.1		
48					-silty interbeds between 47' to 49'	48 - 49
49						
50		ns/no		0.0	dark gray, loose, saturated, fine to medium sand	50 - 51
51						
52		ns/no		0.0		52 - 53
53						
54		ns/no		0.0	-trace silt between 53' to 54' -broken shells at 54'	54 - 55
55	*GW				*GW - Groundwater grab sample: TWA-9_55-57_1021 @ 55-57'	
56		ns/no		0.0	-woody debris at 56'	56 - 57
57						
58		ns/no		0.0	<b>SILTY SAND (SM)</b> medium gray, dense, saturated, silty, very fine to medium sand	58 - 59
59		ns/no		0.0	broken shell lenses throughout	
60					END OF BORING AT 60' Below ground surface	60

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.





MAUL FOSTER ALONG

# Geologic Borehole Log

Project Number  
**M0615.20.001**

Well Number  
**TWA-10D**

Sheet  
**1 of 3**

Project Name **Taylor Way TWAFA Site**  
 Project Location **1514 Taylor Way, Tacoma, WA**  
 Start/End Date **12/9/21 to 12/14/21**  
 Driller/Equipment **Holt Drilling Services, Inc./Sonic**  
 Geologist/Engineer **C. Wise & A. Bixby**  
 Sample Method **Core Barrel**

TOC Elevation (feet) **15.97**  
 Surface Elevation (feet) **13.7**  
 Northing **712271.8**  
 Easting **1171674.7**  
 Total Depth of Borehole **60.0 feet**  
 Outer Hole Diam **inch**

Depth (feet, bgs)	Well Details		Sample Data			Blows/6"	PID (ppm)	Lithologic Column	Soil Description
	Water Levels	Interval	Percent Recovery	Collection Method	Sample ID				
1				CB				0.0 to 1.5 feet: GRAVEL WITH SAND (GW); very dark grayish brown (10YR 3/2); 5% fines; 15% sand, fine to coarse; 80% gravel, fine to coarse, subangular to rounded; loose; no odor; moist. --- 0 to 12.5 feet: 10-inch casing.	
2								0.1	
3			100					0.2	
4								0.5	
5								1.2	
6				CB				0.7	
7								0.9	
8			100					0.3	
9								0.4	
10								0.4	
11				CB				0.5	
12			100					0.6	
13				CB				0.6	
14			0					0.6	
15								0.3	
16				CB				0.3	
17								0.9	
18			100					0.8	
19								0.8	
20								2.1	
21			100	CB				2.1	
22								2.1	

CDA BOREHOLE W/WELL. W:\GINT\GINT\PROJECTS\0615.20.01\DEC2021\_MONITORING\_WELL\_INSTALL.GPJ 03/29/22



# Geologic Borehole Log

Project Number  
M0615.20.001

Well Number  
TWA-10D

Sheet  
2 of 3

Depth (feet, bgs)	Well Details		Sample Data				Lithologic Column	Soil Description
	Water Levels	Interval	Percent Recovery	Collection Method	Sample ID	Blows/6"		
23				GW	TWA-10_20-25_1210		1.6	
24		100						1.7
25				CB			4.1	
26								
27								
28		100					4.6	
29								
30				CB			4.3	
31							3.6	30.0 to 31.0 feet: SILT (ML); dark gray (10YR 4/1); 90% fines, low plasticity; 10% sand, fine; soft; trace shell fragments; no odor; moist.
32								31.0 to 34.0 feet: SILTY SAND (SM); very dark gray (10YR 3/1); 40% fines, low plasticity; 60% sand, fine to medium; medium dense; trace trace organics (rootlets, grass); no odor; moist.
33		100		GW	TWA-10_30-35_1210		5.0	
34								4.1
35				CB			5.4	34.0 to 35.3 feet: SAND WITH SILT (SP-SM); black (10YR 2/1); 10% fines, low plasticity; 90% sand, fine to medium; loose; no odor; small orange grains present; moist.
36							2.7	@ 34.1 to 34.3 feet: Silt laminae; dark grayish brown (10YR 4/2). --- 34.5 to 40 feet: Bentonite seal set at base of 8-inch casing.
37							5.7	35.5 to 45.0 feet: SILT WITH SAND (ML); very dark gray (10YR 3/1); 90% fines, low plasticity; 10% sand, fine; firm; no odor; moist.
38		100					6.4	@ 35.5 to 36.0 feet: Shell fragments.
39							4.6	@ 36.0 feet: Sand laminae.
40				CB	TWA-10_39-40_1210		6.8	@ 38.0 feet: Woody debris.
41				CB				
42							0.0	
43		100					0.0	
44								@ 44.0 to 45.0 feet: Small lenses of sand; ~1-inch width; black (10YR 2/1); 10% fines, low plasticity; 90% sand, fine to medium; loose; no odor; small orange grains present; moist.
45				CB			0.0	45.0 to 48.0 feet: SAND (SP); black (10YR 2/1); 5% fines; 95% sand, fine to medium; loose; no odor; small orange grains present; moist.
46		100						

CDA BOREHOLE W/WELL. W:\GINT\GINT\PROJECTS\0615.20.01\DEC2021\_MONITORING\_WELL\_INSTALL.GPJ 03/29/22



### Geologic Borehole Log

Project Number  
**M0615.20.001**

Well Number  
**TWA-10D**

Sheet  
**3 of 3**

Depth (feet, bgs)	Well Details		Sample Data				Soil Description	
	Water Levels	Interval	Percent Recovery	Collection Method	Sample ID	Blows/6"	PID (ppm)	Lithologic Column
47								
48			100	GW	TWA-10_45-50_1213		0.0	
49							0.0	48.0 to 50.0 feet: SILTY SAND (SM); very dark gray (10YR 3/1); 40% fines, low plasticity; 60% sand, very fine; firm; no odor; abundant bivalve shells present; moist.
50				CB				
51							12.8	50.0 to 54.0 feet: SAND (SP); black (10YR 2/1); 5% fines; 95% sand, fine to medium; loose; trace shells; no odor; small orange grains present; moist to wet.
52			100					@ 52.5 feet: Increase in shell fragments.
53							6.9	
54				GW	TWA-10_51-56_1213			
55				CB			2.9	54.0 to 55.0 feet: SILTY SAND (SM); very dark gray (10YR 3/1); 40% fines, low plasticity; 60% sand, very fine; firm; no odor; abundant bivalve shells present; moist to wet. 55.0 to 57.0 feet: SAND (SP); black (10YR 2/1); 5% fines; 95% sand, fine to medium; loose; trace shells; no odor; small orange grains present; moist to wet.
56								
57			100				2.8	57.0 to 59.0 feet: SILTY SAND (SM); very dark gray (10YR 3/1); 40% fines, low plasticity; 60% sand, very fine; firm; no odor; abundant bivalve shells present; wet.
58								
59							2.7	59.0 to 60.0 feet: SILTY SAND (SM); very dark gray (10YR 3/1); 30% fines, low plasticity; 70% sand, fine to medium; loose; no odor; abundant bivalves; moist.
60								

Total Depth = 60.0 feet bgs

**NOTES:**

1. bgs = below ground surface.
2. Depths are relative to feet below ground surface.
3. ID = identification.
4. PID = photoionization detector.
5. ppm = parts per million.
6. CB = core barrel.
7. GW = groundwater sample.

**Borehole Completion Details**

- 0 to 3.0 feet: Concrete.
- 3.0 to 50.0 feet: Bentonite chips hydrated with potable water.
- 50.0 to 58.0 feet: 10/20 silica sand.
- 58.0 to 60.0 feet: Slough.

**Monitoring Well Completion Details**

- Washington State Department of Ecology Well No. BNN188.
- Traffic-grade, above ground monument with 3 bollards, 3 foot stickup.
- +2.5 to 52.0 feet: 2-inch diameter, schedule 40, polyvinyl chloride riser pipe.
- 52.0 to 57.0 feet: 2-inch diameter, schedule 40, polyvinyl chloride, 0.010 machine slot, well screen with threaded polyvinyl chloride end cap.
- Total well completion depth is approximate.

PROJECT: TWAFA				COORDINATES: <b>not surveyed</b>			
LOCATION: Tacoma, Wa				SURFACE ELEVATION: not surveyed			
DRILLING CONTRACTOR: Cascade				DATE: 8/31/2021			
DRILLING EQUIPMENT: Geoprobe 7822 DT				TOTAL DEPTH OF BORING: 14 ft		ECOLOGY ID: N/A	
DRILLING METHOD: Direct-Push				LOGGED BY: A. Cerruti			
SAMPLING METHOD: 2.25"x5' with 2" acetate liner				RESPONSIBLE PROF.: A.Cerruti		REG. NO.: 21013797	
DEPTH (feet bgs)	SAMPLES				VISUAL SOIL DESCRIPTION  Soil Group Name (USCS): color, moisture, density/consistency, grain size, other descriptors	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS	
	Lab Sample (Soil)	Sample Name	Sample Recovery	PID (ppm)			
					grassy surface		
1					<b>SILTY SAND (SM)</b> light brown, dry, loose, 55% very fine to medium sand, 40% silt, 5% gravel with clear plastic liner at 10" bgs		Rapid Set CementAll
2				0.0	<b>POORLY GRADED SAND with GRAVEL (SP)</b> white to dark gray, moist, loose, 30% gravels, 65% fine to coarse sands, 5% fines		Lapist Lustre Sand #2/12
3							
4					cored thick black plastic at 1.2'		
5		TWA-SB5			<b>POORLY GRADED SAND (SP)</b> dark brown, moist, loose, 95% fine to coarse sand, 5% silt strong odor, light sheen		
6					cored red, brittle rubber debris and plastic shreds at 5.2'		
7				0.0	5cm thick Silty interbed red and white sand grains throughout		Cetco Crumbles #8 Hydrated Bentonite chips
8							
9							
10							
11							
12				0.0	<b>SILTY SAND (SM)</b> gray, saturated, medium dense, 30% silt, 70% fine to medium sand red and white sand grains and grasses with other organic fibers		
13							
14							
15					Bottom of Boring 14' bgs Temporary boring abandoned with 3/8" Bentonite Chips		

Note: The summary log is an interpretation based on samples, drill action, and interpolation. Variations between what is shown and actual conditions should be anticipated.



Project: Hylebos Marsh		Project Number:		Client: Port of Tacoma	Boring No. SB-1		
Address, City, State 1212 Taylor Way				Drilling Contractor: Holt		Drill Rig Type: Geoprobe	
Logged By: Jamie Stevens		Date	Started: 9/24/2019 9:40		Bit Type: Geoprobe		Diameter: 2 inch
Drill Crew: Lowie			Completed: 9/24/2019 10:35		Hammer Type: NA		
USA Ticket Number: 19408678			Backfilled: 9/24/2019		Hammer Weight: NA		Hammer Drop: NA
N: 47.27.41.23 W: 122.39.45.58		Groundwater Depth: 7 feet bgs		Elevation:		Total Depth of Boring: 10 feet	
Depth (feet)	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	Lithology		
					Recovery %	Odor/Sheen	PID (PPM)
0 5 10 15 20	S - 5-6  W - 3-8		▽		<b>Soil Group Name:</b> modifier, color, moisture, density/consistency, grain size, other descriptors  <b>Rock Description:</b> modifier color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.		
					100	No	0
							0
							0
						No	0
					100		0
							0
						No	0

# Civil Engineering

Boring Log: Sheet 1 of 1



Project: Hylebos Marsh		Project Number:		Client: Port of Tacoma		Boring No. SB-2	
Address, City, State 1212 Taylor Way				Drilling Contractor: Holt		Drill Rig Type: Geoprobe	
Logged By: Jamie Stevens		Date	Started: 9/24/2019 12:50		Bit Type: Geoprobe		Diameter: 2 inch
Drill Crew: Lowie			Completed: 9/24/2019 13:30		Hammer Type: NA		
USA Ticket Number: 19408678			Backfilled: 9/24/2019		Hammer Weight: NA		Hammer Drop: NA
N: 47.16.22.3 W: 122.23.37.9		Groundwater Depth: 7.5 feet bgs		Elevation:		Total Depth of Boring: 10 feet	

Depth (feet)	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	Lithology	Recovery %	Odor/Sheen	PID (PPM)
					<b>Lithology</b> <u>Soil Group Name:</u> modifier, color, moisture, density/consistency, grain size, other descriptors  <u>Rock Description:</u> modifier color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.			
0					Surface - grass	100	No	0
0					Sand (SP) red, brown, white medium sand (SP)			0
0					Very soft clay, gray, fine sand at 4.75, 1" thick			0
5	S - 6.5-7				Dark gray/black/brown sand, little to no fines. (SP)		No	0
5					Damp at 5.5, shell fragments	100		0
5					Soft saturated, gray brown clay (CL) with roots and some fine sand (SP)			0
10	W - 3.5-8.5				Clay (CL) gray, wet, dense, saturated.		No	0
10					Boring terminated at 10 feet bgs			
10					Backfilled with bentonite chips.			
15								
20								

Civil Engineering

Boring Log: Sheet 1 of 1



Project: Hylebos Marsh		Project Number:		Client: Port of Tacoma	Boring No. SB-3
Address, City, State 1212 Taylor Way				Drilling Contractor: Holt	Drill Rig Type: Geoprobe
Logged By: Jamie Stevens		Date	Started: 9/24/2019 11:55	Bit Type: Geoprobe	Diameter: 2 inch
Drill Crew: Lowie			Completed: 9/24/2019 12:50	Hammer Type: NA	
USA Ticket Number: 19408678			Backfilled: 9/24/2019	Hammer Weight: NA	Hammer Drop: NA
N: 47.16.18.4 W: 122.23.38.3		Groundwater Depth: 7.5 feet bgs		Elevation:	Total Depth of Boring: 12 feet

Depth (feet)	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	Lithology	Recovery %	Odor/Sheen	PID (PPM)
					<b>Lithology</b> <u>Soil Group Name:</u> modifier, color, moisture, density/consistency, grain size, other descriptors  <u>Rock Description:</u> modifier color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.			
0					Surface - grass	100	No	0
1					Loose, dry brown, black medium sand (SP)			
2					trace of silt			0
3					Damp at 4.5			
4					Dark gray/black/brown sand, little to no fines, shells (SP)		No	0
5	S - 6-7					100		
6								
7								
8								
9								
10	W- 3.5-8.5				Soft saturated, gray brown clay (CL) w/roots and some sand (SP), layer of wood at 9-10			0
11							No	0
12	S - 9-10				Clay (CL) gray, wet, dense, saturated.			0
13					Through end of boring.			
14								
15					Boring terminated at 12 feet bgs			
16					Backfilled with bentonite chips.			
17								
18								
19								
20								

Civil Engineering

Boring Log: Sheet 1 of 1



Project: Hylebos Marsh		Project Number:		Client: Port of Tacoma		Boring No. SB-4		
Address, City, State 1212 Taylor Way				Drilling Contractor: Holt		Drill Rig Type: Geoprobe		
Logged By: Jamie Stevens		Date	Started: 9/24/2019 10:40		Bit Type: Geoprobe		Diameter: 2 inch	
Drill Crew: Lowie			Completed: 9/24/2019 11:55		Hammer Type: NA			
USA Ticket Number: 19408678			Backfilled: 9/24/2019		Hammer Weight: NA		Hammer Drop: NA	
N: 47.16.19.7 W: 122.23.35.6		Groundwater Depth: 7 feet bgs		Elevation:		Total Depth of Boring: 10 feet		
Depth (feet)	Sample Type	Sample Number	Blow Counts (blows/foot)	Graphic Log	Lithology	Recovery %	Odor/Sheen	PID (PPM)
					<b>Lithology</b> <u>Soil Group Name:</u> modifier, color, moisture, density/consistency, grain size, other descriptors  <u>Rock Description:</u> modifier color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.	100	No	0
					Surface - grass			
					Loose, dry dark brown to brown fine to medium sand (SP)			
					trace of silt			
					Sand increases with depth, damp at 5			
					Dark gray/black/brown sand, little to no fines. (SP)			
					Shell fragments			
					Soft saturated, gray brown clay (CL)			
					Clay (CL) gray, wet, dense, saturated.			
					Some black modeling at the bottom of the 4" of the boring			
Boring terminated at 10 feet bgs								
Backfilled with bentonite chips.								

# Civil Engineering

Boring Log: Sheet 1 of 1



# WELL INSTALLATION REPORT

Well No. TWA-5

Date 11.7.2019

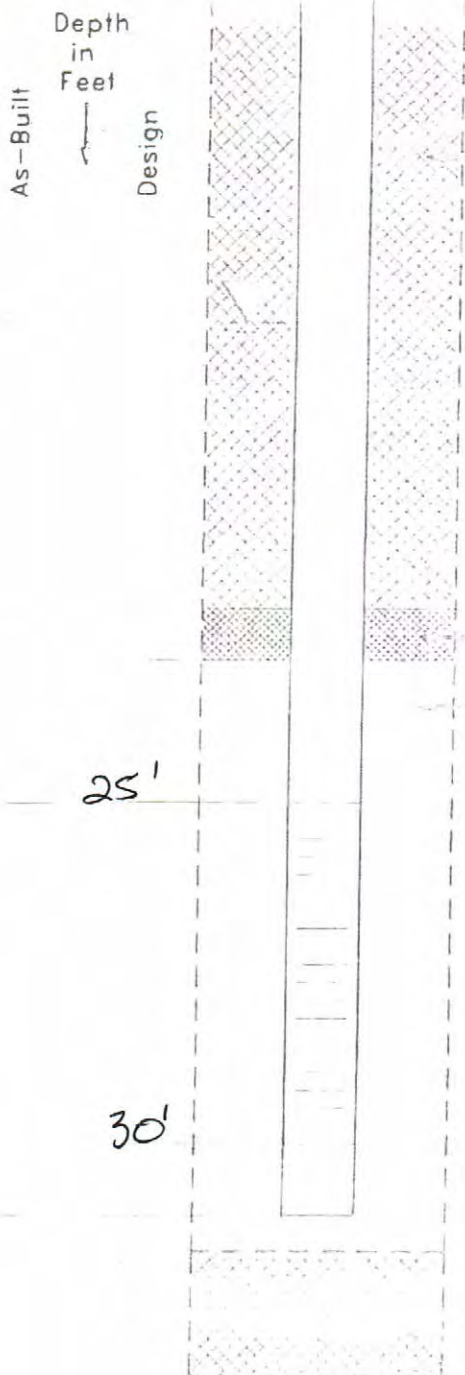
Job Well tag ID# BLU-457

Job No.

Observer Waldo

Drilling Method Sonic

Draw Appropriate Monument (Flush or Above Ground) →



Approx. Elevation

Type of Monument groundwater well

Stickup Monument  Well

0' feet Seal Material

Drillers:  
Holocene  
Drilling

Borehole Diameter

Water Level Date

26.0 11/7/2019

Riser Pipe Diameter 2 inch

Riser Pipe Material schedule 40 pvc

Type of Joints

"O"-Ring Seals?  Yes  No

Seal Material Bentonite to surface

23' Filter Pack Material 2/12 silica sand

Filter Pack Size

25'

Screen Diameter 2 inch

Screen Material

Screen Slot Size 0.010 inch slotted

Screen Construction: Milled  
Wire Wound

30'

Tail Pipe Diameter 2"

Tail Pipe Length 4"

Tail Pipe Material

Bottom Seal Type

conductor casing set to 20' to separate shallow and deep groundwater

CONSULTING, INC.

# WELL INSTALLATION REPORT

Well No. TWA-6

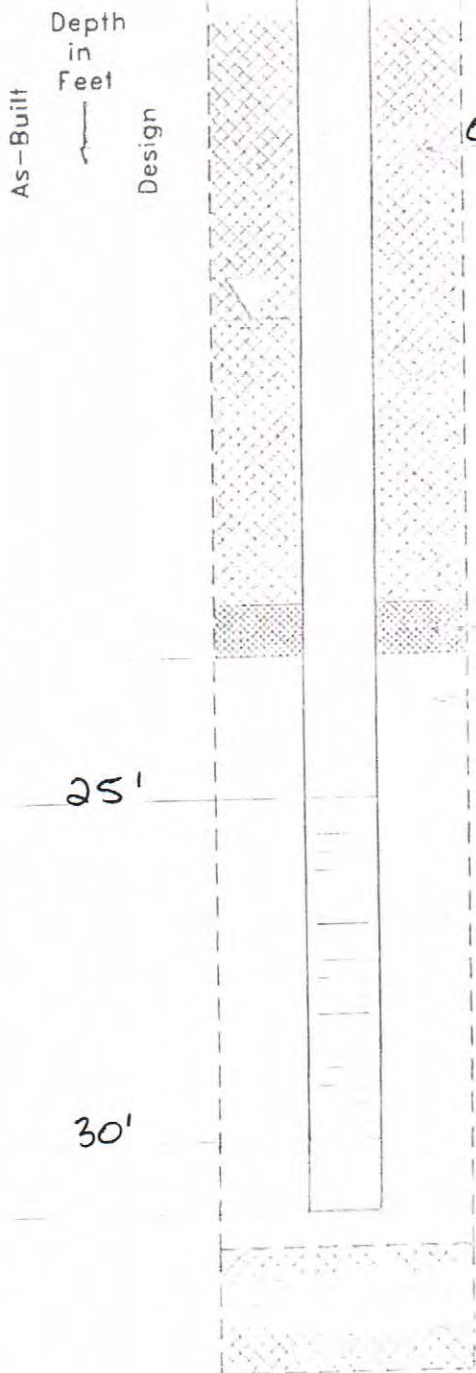
Date 11.7.2019

Job Well tag ID# BLU-456

Job No.

Observer Waldo Drilling Method Sonic

Draw Appropriate Monument (Flush or Above Ground) →



Approx. Elevation

Type of Monument groundwater well

Stickup Monument  Well

0' feet

Seal Material

Drillers:  
Holocene  
Drilling

Borehole Diameter

Water Level Date

~6.5 ~~10.7~~ 11.7.2019

Riser Pipe Diameter 2 inch

Riser Pipe Material schedule 40 PVC

Type of Joints

"O"-Ring Seals?  Yes  No

Seal Material Bentonite to surface

23'

Filter Pock Material 2/12 silica sand

Filter Pock Size

25'

Screen Diameter 2 inch

Screen Material

Screen Slot Size 0.010-inch slotted

Screen Construction:  Milled  Wire Wound

30'

Tail Pipe Diameter 2"

Tail Pipe Length 4"

Tail Pipe Material

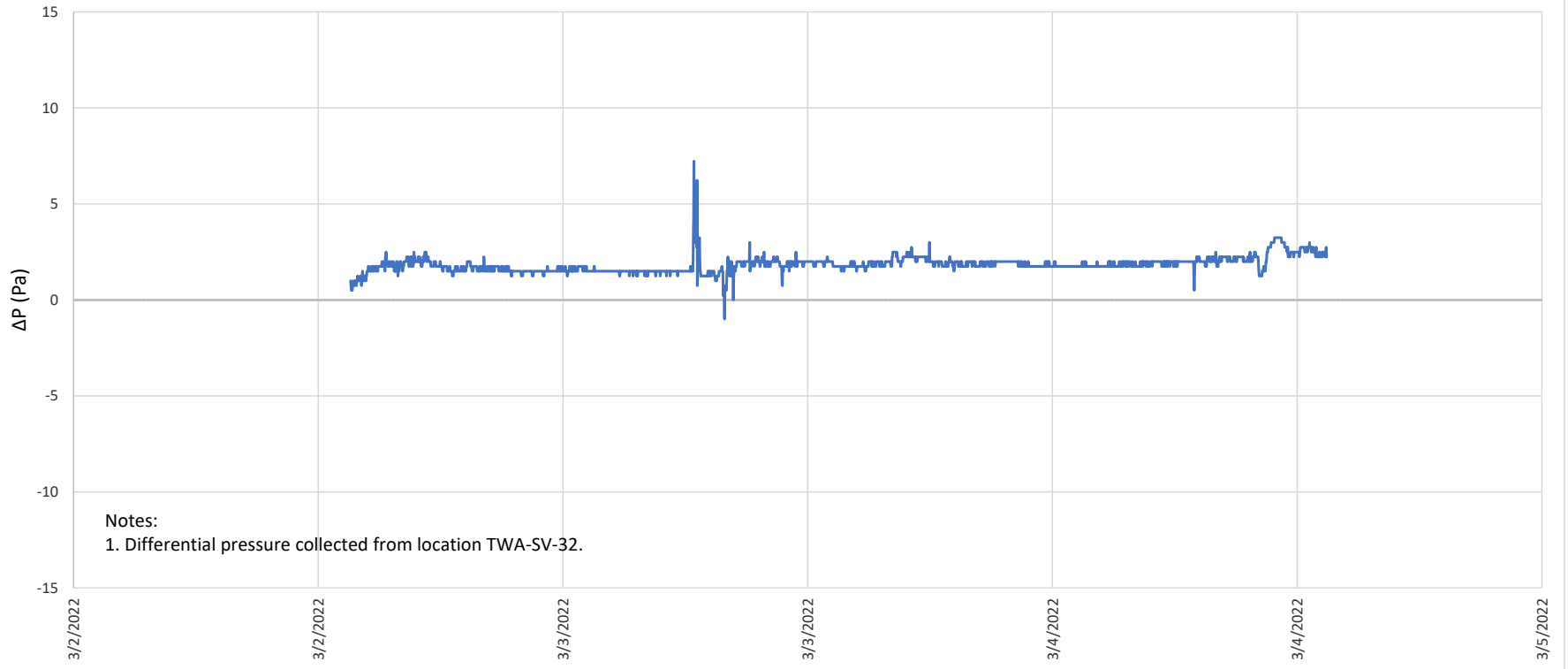
Bottom Seal Type

( ) CONSULTING, INC.

conductor set at 9.5 to 12.5' to separate shallow and deep groundwaters

# APPENDIX C

### Burlington Property - Transportation Building



Notes:  
1. Differential pressure collected from location TWA-SV-32.



Transportation Building

Date Time	$\Delta P$ Pa
2-Mar-2022 1:35:21 PM	0.9963
2-Mar-2022 1:36:21 PM	0.7472
2-Mar-2022 1:37:21 PM	0.4982
2-Mar-2022 1:38:21 PM	0.4982
2-Mar-2022 1:39:21 PM	0.4982
2-Mar-2022 1:40:21 PM	0.4982
2-Mar-2022 1:41:21 PM	0.7472
2-Mar-2022 1:42:21 PM	0.9963
2-Mar-2022 1:43:21 PM	0.7472
2-Mar-2022 1:44:21 PM	0.7472
2-Mar-2022 1:45:21 PM	0.7472
2-Mar-2022 1:46:21 PM	0.7472
2-Mar-2022 1:47:21 PM	0.9963
2-Mar-2022 1:48:21 PM	0.9963
2-Mar-2022 1:49:21 PM	0.9963
2-Mar-2022 1:50:21 PM	0.9963
2-Mar-2022 1:51:21 PM	0.9963
2-Mar-2022 1:52:21 PM	0.7472
2-Mar-2022 1:53:21 PM	0.9963
2-Mar-2022 1:54:21 PM	0.9963
2-Mar-2022 1:55:21 PM	1.2454
2-Mar-2022 1:56:21 PM	0.9963
2-Mar-2022 1:57:21 PM	0.9963
2-Mar-2022 1:58:21 PM	0.9963
2-Mar-2022 1:59:21 PM	0.9963
2-Mar-2022 2:00:21 PM	0.9963
2-Mar-2022 2:01:21 PM	0.9963
2-Mar-2022 2:02:21 PM	0.9963
2-Mar-2022 2:03:21 PM	1.2454
2-Mar-2022 2:04:21 PM	1.2454
2-Mar-2022 2:05:21 PM	1.2454
2-Mar-2022 2:06:21 PM	1.2454
2-Mar-2022 2:07:21 PM	0.7472
2-Mar-2022 2:08:21 PM	1.2454
2-Mar-2022 2:09:21 PM	1.2454
2-Mar-2022 2:10:21 PM	1.4945
2-Mar-2022 2:11:21 PM	1.2454
2-Mar-2022 2:12:21 PM	0.9963
2-Mar-2022 2:13:21 PM	0.9963
2-Mar-2022 2:14:21 PM	0.9963
2-Mar-2022 2:15:21 PM	0.9963
2-Mar-2022 2:16:21 PM	1.2454
2-Mar-2022 2:17:21 PM	1.2454
2-Mar-2022 2:18:21 PM	0.9963
2-Mar-2022 2:19:21 PM	1.2454
2-Mar-2022 2:20:21 PM	0.9963
2-Mar-2022 2:21:21 PM	1.2454
2-Mar-2022 2:22:21 PM	1.2454
2-Mar-2022 2:23:21 PM	1.4945
2-Mar-2022 2:24:21 PM	1.4945
2-Mar-2022 2:25:21 PM	1.4945
2-Mar-2022 2:26:21 PM	1.4945
2-Mar-2022 2:27:21 PM	1.7436
2-Mar-2022 2:28:21 PM	1.7436

Transportation Building

Date Time	$\Delta P$ Pa
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2-Mar-2022 2:31:21 PM	1.4945
2-Mar-2022 2:32:21 PM	1.4945
2-Mar-2022 2:33:21 PM	1.4945
2-Mar-2022 2:34:21 PM	1.4945
2-Mar-2022 2:35:21 PM	1.4945
2-Mar-2022 2:36:21 PM	1.7436
2-Mar-2022 2:37:21 PM	1.7436
2-Mar-2022 2:38:21 PM	1.7436
2-Mar-2022 2:39:21 PM	1.4945
2-Mar-2022 2:40:21 PM	1.4945
2-Mar-2022 2:41:21 PM	1.7436
2-Mar-2022 2:42:21 PM	1.7436
2-Mar-2022 2:43:21 PM	1.4945
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2-Mar-2022 2:46:21 PM	1.7436
2-Mar-2022 2:47:21 PM	1.7436
2-Mar-2022 2:48:21 PM	1.7436
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2-Mar-2022 2:53:21 PM	1.4945
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2-Mar-2022 3:01:21 PM	1.7436
2-Mar-2022 3:02:21 PM	1.7436
2-Mar-2022 3:03:21 PM	1.7436
2-Mar-2022 3:04:21 PM	1.7436
2-Mar-2022 3:05:21 PM	1.7436
2-Mar-2022 3:06:21 PM	1.7436
2-Mar-2022 3:07:21 PM	1.9926
2-Mar-2022 3:08:21 PM	1.9926
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2-Mar-2022 3:15:21 PM	1.7436
2-Mar-2022 3:16:21 PM	1.4945
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2-Mar-2022 3:18:21 PM	2.2417
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2-Mar-2022 3:20:21 PM	2.2417
2-Mar-2022 3:21:21 PM	1.9926
2-Mar-2022 3:22:21 PM	1.9926

Transportation Building

Date Time	$\Delta P$ Pa
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2-Mar-2022 3:24:21 PM	1.7436
2-Mar-2022 3:25:21 PM	1.7436
2-Mar-2022 3:26:21 PM	1.7436
2-Mar-2022 3:27:21 PM	1.7436
2-Mar-2022 3:28:21 PM	1.7436
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2-Mar-2022 3:32:21 PM	1.9926
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2-Mar-2022 3:37:21 PM	1.7436
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2-Mar-2022 3:47:21 PM	1.4945
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Transportation Building

Date Time	$\Delta P$ Pa
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2-Mar-2022 4:19:21 PM	1.9926
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2-Mar-2022 4:22:21 PM	2.2417
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Transportation Building

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2-Mar-2022 5:17:21 PM	2.4908
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2-Mar-2022 6:04:21 PM	1.7436

Transportation Building

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2-Mar-2022 8:41:21 PM	1.7436
2-Mar-2022 8:42:21 PM	1.7436
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Transportation Building

Date Time	$\Delta P$ Pa
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2-Mar-2022 8:57:21 PM	1.4945
2-Mar-2022 8:58:21 PM	1.7436
2-Mar-2022 8:59:21 PM	1.7436
2-Mar-2022 9:00:21 PM	1.7436
2-Mar-2022 9:01:21 PM	1.4945
2-Mar-2022 9:02:21 PM	1.4945
2-Mar-2022 9:03:21 PM	1.4945
2-Mar-2022 9:04:21 PM	1.7436
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Transportation Building

Date Time	$\Delta P$ Pa
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Transportation Building

Date Time	$\Delta P$ Pa
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Transportation Building

Date Time	$\Delta P$ Pa
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3-Mar-2022 12:21:21 AM	1.7436
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Transportation Building

Date Time	$\Delta P$ Pa
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3-Mar-2022 12:25:21 AM	1.4945
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3-Mar-2022 12:27:21 AM	1.4945
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Transportation Building

Date Time	$\Delta P$ Pa
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Transportation Building

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Transportation Building

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3-Mar-2022 3:22:21 AM	1.4945
3-Mar-2022 3:23:21 AM	1.4945
3-Mar-2022 3:24:21 AM	1.4945
3-Mar-2022 3:25:21 AM	1.4945
3-Mar-2022 3:26:21 AM	1.2454
3-Mar-2022 3:27:21 AM	1.4945
3-Mar-2022 3:28:21 AM	1.4945
3-Mar-2022 3:29:21 AM	1.4945
3-Mar-2022 3:30:21 AM	1.4945
3-Mar-2022 3:31:21 AM	1.4945
3-Mar-2022 3:32:21 AM	1.4945
3-Mar-2022 3:33:21 AM	1.4945
3-Mar-2022 3:34:21 AM	1.4945
3-Mar-2022 3:35:21 AM	1.4945
3-Mar-2022 3:36:21 AM	1.2454
3-Mar-2022 3:37:21 AM	1.4945
3-Mar-2022 3:38:21 AM	1.4945
3-Mar-2022 3:39:21 AM	1.2454
3-Mar-2022 3:40:21 AM	1.4945
3-Mar-2022 3:41:21 AM	1.4945
3-Mar-2022 3:42:21 AM	1.4945
3-Mar-2022 3:43:21 AM	1.4945
3-Mar-2022 3:44:21 AM	1.4945
3-Mar-2022 3:45:21 AM	1.4945
3-Mar-2022 3:46:21 AM	1.4945
3-Mar-2022 3:47:21 AM	1.4945
3-Mar-2022 3:48:21 AM	1.4945
3-Mar-2022 3:49:21 AM	1.4945
3-Mar-2022 3:50:21 AM	1.4945
3-Mar-2022 3:51:21 AM	1.4945
3-Mar-2022 3:52:21 AM	1.4945
3-Mar-2022 3:53:21 AM	1.4945
3-Mar-2022 3:54:21 AM	1.4945
3-Mar-2022 3:55:21 AM	1.4945
3-Mar-2022 3:56:21 AM	1.4945
3-Mar-2022 3:57:21 AM	1.4945
3-Mar-2022 3:58:21 AM	1.4945



Transportation Building

Date Time	$\Delta P$ Pa
3-Mar-2022 3:59:21 AM	1.4945
3-Mar-2022 4:00:21 AM	1.2454
3-Mar-2022 4:01:21 AM	1.4945
3-Mar-2022 4:02:21 AM	1.4945
3-Mar-2022 4:03:21 AM	1.4945
3-Mar-2022 4:04:21 AM	1.4945
3-Mar-2022 4:05:21 AM	1.2454
3-Mar-2022 4:06:21 AM	1.2454
3-Mar-2022 4:07:21 AM	1.2454
3-Mar-2022 4:08:21 AM	1.4945
3-Mar-2022 4:09:21 AM	1.2454
3-Mar-2022 4:10:21 AM	1.4945
3-Mar-2022 4:11:21 AM	1.4945
3-Mar-2022 4:12:21 AM	1.4945
3-Mar-2022 4:13:21 AM	1.4945
3-Mar-2022 4:14:21 AM	1.4945
3-Mar-2022 4:15:21 AM	1.4945
3-Mar-2022 4:16:21 AM	1.4945
3-Mar-2022 4:17:21 AM	1.4945
3-Mar-2022 4:18:21 AM	1.4945
3-Mar-2022 4:19:21 AM	1.4945
3-Mar-2022 4:20:21 AM	1.4945
3-Mar-2022 4:21:21 AM	1.4945
3-Mar-2022 4:22:21 AM	1.4945
3-Mar-2022 4:23:21 AM	1.4945
3-Mar-2022 4:24:21 AM	1.4945
3-Mar-2022 4:25:21 AM	1.4945
3-Mar-2022 4:26:21 AM	1.4945
3-Mar-2022 4:27:21 AM	1.4945
3-Mar-2022 4:28:21 AM	1.4945
3-Mar-2022 4:29:21 AM	1.4945
3-Mar-2022 4:30:21 AM	1.4945
3-Mar-2022 4:31:21 AM	1.4945
3-Mar-2022 4:32:21 AM	1.2454
3-Mar-2022 4:33:21 AM	1.2454
3-Mar-2022 4:34:21 AM	1.4945
3-Mar-2022 4:35:21 AM	1.4945
3-Mar-2022 4:36:21 AM	1.4945
3-Mar-2022 4:37:21 AM	1.4945
3-Mar-2022 4:38:21 AM	1.4945
3-Mar-2022 4:39:21 AM	1.4945
3-Mar-2022 4:40:21 AM	1.4945
3-Mar-2022 4:41:21 AM	1.4945
3-Mar-2022 4:42:21 AM	1.4945
3-Mar-2022 4:43:21 AM	1.4945
3-Mar-2022 4:44:21 AM	1.4945
3-Mar-2022 4:45:21 AM	1.4945
3-Mar-2022 4:46:21 AM	1.2454
3-Mar-2022 4:47:21 AM	1.4945
3-Mar-2022 4:48:21 AM	1.4945
3-Mar-2022 4:49:21 AM	1.4945
3-Mar-2022 4:50:21 AM	1.4945
3-Mar-2022 4:51:21 AM	1.4945
3-Mar-2022 4:52:21 AM	1.4945

Transportation Building

Date Time	$\Delta P$ Pa
3-Mar-2022 4:53:21 AM	1.4945
3-Mar-2022 4:54:21 AM	1.4945
3-Mar-2022 4:55:21 AM	1.4945
3-Mar-2022 4:56:21 AM	1.4945
3-Mar-2022 4:57:21 AM	1.4945
3-Mar-2022 4:58:21 AM	1.4945
3-Mar-2022 4:59:21 AM	1.4945
3-Mar-2022 5:00:21 AM	1.4945
3-Mar-2022 5:01:21 AM	1.4945
3-Mar-2022 5:02:21 AM	1.4945
3-Mar-2022 5:03:21 AM	1.4945
3-Mar-2022 5:04:21 AM	1.2454
3-Mar-2022 5:05:21 AM	1.4945
3-Mar-2022 5:06:21 AM	1.4945
3-Mar-2022 5:07:21 AM	1.4945
3-Mar-2022 5:08:21 AM	1.4945
3-Mar-2022 5:09:21 AM	1.4945
3-Mar-2022 5:10:21 AM	1.4945
3-Mar-2022 5:11:21 AM	1.4945
3-Mar-2022 5:12:21 AM	1.4945
3-Mar-2022 5:13:21 AM	1.4945
3-Mar-2022 5:14:21 AM	1.4945
3-Mar-2022 5:15:21 AM	1.2454
3-Mar-2022 5:16:21 AM	1.4945
3-Mar-2022 5:17:21 AM	1.4945
3-Mar-2022 5:18:21 AM	1.4945
3-Mar-2022 5:19:21 AM	1.4945
3-Mar-2022 5:20:21 AM	1.4945
3-Mar-2022 5:21:21 AM	1.4945
3-Mar-2022 5:22:21 AM	1.4945
3-Mar-2022 5:23:21 AM	1.4945
3-Mar-2022 5:24:21 AM	1.4945
3-Mar-2022 5:25:21 AM	1.4945
3-Mar-2022 5:26:21 AM	1.4945
3-Mar-2022 5:27:21 AM	1.4945
3-Mar-2022 5:28:21 AM	1.4945
3-Mar-2022 5:29:21 AM	1.4945
3-Mar-2022 5:30:21 AM	1.4945
3-Mar-2022 5:31:21 AM	1.4945
3-Mar-2022 5:32:21 AM	1.4945
3-Mar-2022 5:33:21 AM	1.4945
3-Mar-2022 5:34:21 AM	1.4945
3-Mar-2022 5:35:21 AM	1.4945
3-Mar-2022 5:36:21 AM	1.4945
3-Mar-2022 5:37:21 AM	1.2454
3-Mar-2022 5:38:21 AM	1.4945
3-Mar-2022 5:39:21 AM	1.4945
3-Mar-2022 5:40:21 AM	1.4945
3-Mar-2022 5:41:21 AM	1.4945
3-Mar-2022 5:42:21 AM	1.4945
3-Mar-2022 5:43:21 AM	1.4945
3-Mar-2022 5:44:21 AM	1.4945
3-Mar-2022 5:45:21 AM	1.4945
3-Mar-2022 5:46:21 AM	1.4945

Transportation Building

Date Time	$\Delta P$ Pa
3-Mar-2022 5:47:21 AM	1.4945
3-Mar-2022 5:48:21 AM	1.4945
3-Mar-2022 5:49:21 AM	1.4945
3-Mar-2022 5:50:21 AM	1.4945
3-Mar-2022 5:51:21 AM	1.4945
3-Mar-2022 5:52:21 AM	1.4945
3-Mar-2022 5:53:21 AM	1.4945
3-Mar-2022 5:54:21 AM	1.4945
3-Mar-2022 5:55:21 AM	1.4945
3-Mar-2022 5:56:21 AM	1.4945
3-Mar-2022 5:57:21 AM	1.4945
3-Mar-2022 5:58:21 AM	1.4945
3-Mar-2022 5:59:21 AM	1.4945
3-Mar-2022 6:00:21 AM	1.4945
3-Mar-2022 6:01:21 AM	1.4945
3-Mar-2022 6:02:21 AM	1.4945
3-Mar-2022 6:03:21 AM	1.4945
3-Mar-2022 6:04:21 AM	1.4945
3-Mar-2022 6:05:21 AM	1.4945
3-Mar-2022 6:06:21 AM	1.4945
3-Mar-2022 6:07:21 AM	1.4945
3-Mar-2022 6:08:21 AM	1.4945
3-Mar-2022 6:09:21 AM	1.4945
3-Mar-2022 6:10:21 AM	1.4945
3-Mar-2022 6:11:21 AM	1.4945
3-Mar-2022 6:12:21 AM	1.4945
3-Mar-2022 6:13:21 AM	1.4945
3-Mar-2022 6:14:21 AM	1.4945
3-Mar-2022 6:15:21 AM	1.7436
3-Mar-2022 6:16:21 AM	1.4945
3-Mar-2022 6:17:21 AM	1.4945
3-Mar-2022 6:18:21 AM	1.7436
3-Mar-2022 6:19:21 AM	1.4945
3-Mar-2022 6:20:21 AM	1.4945
3-Mar-2022 6:21:21 AM	1.4945
3-Mar-2022 6:22:21 AM	1.4945
3-Mar-2022 6:23:21 AM	3.2380
3-Mar-2022 6:24:21 AM	4.2344
3-Mar-2022 6:25:21 AM	7.2233
3-Mar-2022 6:26:21 AM	3.7362
3-Mar-2022 6:27:21 AM	2.9890
3-Mar-2022 6:28:21 AM	3.9853
3-Mar-2022 6:29:21 AM	5.2307
3-Mar-2022 6:30:21 AM	4.7325
3-Mar-2022 6:31:21 AM	4.2344
3-Mar-2022 6:32:21 AM	3.7362
3-Mar-2022 6:33:21 AM	2.7399
3-Mar-2022 6:34:21 AM	6.2270
3-Mar-2022 6:35:21 AM	0.7472
3-Mar-2022 6:36:21 AM	2.2417
3-Mar-2022 6:37:21 AM	1.9926
3-Mar-2022 6:38:21 AM	2.2417
3-Mar-2022 6:39:21 AM	2.2417
3-Mar-2022 6:40:21 AM	2.4908

Transportation Building

Date Time	$\Delta P$ Pa
3-Mar-2022 6:41:21 AM	3.2380
3-Mar-2022 6:42:21 AM	2.4908
3-Mar-2022 6:43:21 AM	1.4945
3-Mar-2022 6:44:21 AM	1.4945
3-Mar-2022 6:45:21 AM	1.2454
3-Mar-2022 6:46:21 AM	1.2454
3-Mar-2022 6:47:21 AM	1.2454
3-Mar-2022 6:48:21 AM	1.2454
3-Mar-2022 6:49:21 AM	1.2454
3-Mar-2022 6:50:21 AM	1.2454
3-Mar-2022 6:51:21 AM	1.2454
3-Mar-2022 6:52:21 AM	1.2454
3-Mar-2022 6:53:21 AM	1.2454
3-Mar-2022 6:54:21 AM	1.2454
3-Mar-2022 6:55:21 AM	1.2454
3-Mar-2022 6:56:21 AM	1.2454
3-Mar-2022 6:57:21 AM	1.2454
3-Mar-2022 6:58:21 AM	1.2454
3-Mar-2022 6:59:21 AM	1.2454
3-Mar-2022 7:00:21 AM	1.2454
3-Mar-2022 7:01:21 AM	1.2454
3-Mar-2022 7:02:21 AM	1.2454
3-Mar-2022 7:03:21 AM	1.2454
3-Mar-2022 7:04:21 AM	1.2454
3-Mar-2022 7:05:21 AM	1.2454
3-Mar-2022 7:06:21 AM	1.4945
3-Mar-2022 7:07:21 AM	1.4945
3-Mar-2022 7:08:21 AM	1.4945
3-Mar-2022 7:09:21 AM	1.2454
3-Mar-2022 7:10:21 AM	1.4945
3-Mar-2022 7:11:21 AM	1.4945
3-Mar-2022 7:12:21 AM	1.4945
3-Mar-2022 7:13:21 AM	1.4945
3-Mar-2022 7:14:21 AM	1.2454
3-Mar-2022 7:15:21 AM	1.2454
3-Mar-2022 7:16:21 AM	1.2454
3-Mar-2022 7:17:21 AM	1.4945
3-Mar-2022 7:18:21 AM	1.4945
3-Mar-2022 7:19:21 AM	1.4945
3-Mar-2022 7:20:21 AM	1.4945
3-Mar-2022 7:21:21 AM	1.4945
3-Mar-2022 7:22:21 AM	1.4945
3-Mar-2022 7:23:21 AM	1.4945
3-Mar-2022 7:24:21 AM	1.4945
3-Mar-2022 7:25:21 AM	1.2454
3-Mar-2022 7:26:21 AM	1.2454
3-Mar-2022 7:27:21 AM	1.2454
3-Mar-2022 7:28:21 AM	0.9963
3-Mar-2022 7:29:21 AM	0.9963
3-Mar-2022 7:30:21 AM	0.9963
3-Mar-2022 7:31:21 AM	0.9963
3-Mar-2022 7:32:21 AM	0.9963
3-Mar-2022 7:33:21 AM	1.2454
3-Mar-2022 7:34:21 AM	1.2454

Transportation Building

Date Time	$\Delta P$ Pa
3-Mar-2022 7:35:21 AM	1.2454
3-Mar-2022 7:36:21 AM	1.2454
3-Mar-2022 7:37:21 AM	1.2454
3-Mar-2022 7:38:21 AM	1.2454
3-Mar-2022 7:39:21 AM	1.4945
3-Mar-2022 7:40:21 AM	1.4945
3-Mar-2022 7:41:21 AM	1.4945
3-Mar-2022 7:42:21 AM	1.4945
3-Mar-2022 7:43:21 AM	1.4945
3-Mar-2022 7:44:21 AM	1.4945
3-Mar-2022 7:45:21 AM	1.4945
3-Mar-2022 7:46:21 AM	1.4945
3-Mar-2022 7:47:21 AM	1.7436
3-Mar-2022 7:48:21 AM	1.4945
3-Mar-2022 7:49:21 AM	1.4945
3-Mar-2022 7:50:21 AM	1.4945
3-Mar-2022 7:51:21 AM	0.2491
3-Mar-2022 7:52:21 AM	0.4982
3-Mar-2022 7:53:21 AM	0.2491
3-Mar-2022 7:54:21 AM	0.4982
3-Mar-2022 7:55:21 AM	-0.9963
3-Mar-2022 7:56:21 AM	0.4982
3-Mar-2022 7:57:21 AM	0.7472
3-Mar-2022 7:58:21 AM	0.7472
3-Mar-2022 7:59:21 AM	0.7472
3-Mar-2022 8:00:21 AM	0.4982
3-Mar-2022 8:01:21 AM	0.7472
3-Mar-2022 8:02:21 AM	1.4945
3-Mar-2022 8:03:21 AM	1.4945
3-Mar-2022 8:04:21 AM	1.9926
3-Mar-2022 8:05:21 AM	2.2417
3-Mar-2022 8:06:21 AM	1.4945
3-Mar-2022 8:07:21 AM	1.7436
3-Mar-2022 8:08:21 AM	1.7436
3-Mar-2022 8:09:21 AM	1.9926
3-Mar-2022 8:10:21 AM	1.2454
3-Mar-2022 8:11:21 AM	1.9926
3-Mar-2022 8:12:21 AM	1.9926
3-Mar-2022 8:13:21 AM	1.4945
3-Mar-2022 8:14:21 AM	1.2454
3-Mar-2022 8:15:21 AM	1.7436
3-Mar-2022 8:16:21 AM	1.9926
3-Mar-2022 8:17:21 AM	1.4945
3-Mar-2022 8:18:21 AM	1.4945
3-Mar-2022 8:19:21 AM	1.7436
3-Mar-2022 8:20:21 AM	0.9963
3-Mar-2022 8:21:21 AM	0.0000
3-Mar-2022 8:22:21 AM	1.2454
3-Mar-2022 8:23:21 AM	1.4945
3-Mar-2022 8:24:21 AM	1.4945
3-Mar-2022 8:25:21 AM	1.7436
3-Mar-2022 8:26:21 AM	1.7436
3-Mar-2022 8:27:21 AM	1.4945
3-Mar-2022 8:28:21 AM	1.7436

Transportation Building

Date Time	$\Delta P$ Pa
3-Mar-2022 8:29:21 AM	1.7436
3-Mar-2022 8:30:21 AM	1.7436
3-Mar-2022 8:31:21 AM	1.9926
3-Mar-2022 8:32:21 AM	1.9926
3-Mar-2022 8:33:21 AM	1.9926
3-Mar-2022 8:34:21 AM	1.9926
3-Mar-2022 8:35:21 AM	1.9926
3-Mar-2022 8:36:21 AM	1.9926
3-Mar-2022 8:37:21 AM	1.9926
3-Mar-2022 8:38:21 AM	1.9926
3-Mar-2022 8:39:21 AM	1.9926
3-Mar-2022 8:40:21 AM	1.9926
3-Mar-2022 8:41:21 AM	1.9926
3-Mar-2022 8:42:21 AM	1.9926
3-Mar-2022 8:43:21 AM	1.9926
3-Mar-2022 8:44:21 AM	1.9926
3-Mar-2022 8:45:21 AM	1.7436
3-Mar-2022 8:46:21 AM	1.7436
3-Mar-2022 8:47:21 AM	1.7436
3-Mar-2022 8:48:21 AM	1.7436
3-Mar-2022 8:49:21 AM	1.7436
3-Mar-2022 8:50:21 AM	1.9926
3-Mar-2022 8:51:21 AM	1.9926
3-Mar-2022 8:52:21 AM	1.9926
3-Mar-2022 8:53:21 AM	1.9926
3-Mar-2022 8:54:21 AM	1.7436
3-Mar-2022 8:55:21 AM	1.9926
3-Mar-2022 8:56:21 AM	1.9926
3-Mar-2022 8:57:21 AM	1.9926
3-Mar-2022 8:58:21 AM	1.9926
3-Mar-2022 8:59:21 AM	1.9926
3-Mar-2022 9:00:21 AM	1.9926
3-Mar-2022 9:01:21 AM	1.9926
3-Mar-2022 9:02:21 AM	1.9926
3-Mar-2022 9:03:21 AM	1.9926
3-Mar-2022 9:04:21 AM	1.9926
3-Mar-2022 9:05:21 AM	1.9926
3-Mar-2022 9:06:21 AM	1.9926
3-Mar-2022 9:07:21 AM	1.9926
3-Mar-2022 9:08:21 AM	1.9926
3-Mar-2022 9:09:21 AM	2.9890
3-Mar-2022 9:10:21 AM	1.4945
3-Mar-2022 9:11:21 AM	1.9926
3-Mar-2022 9:12:21 AM	1.7436
3-Mar-2022 9:13:21 AM	1.7436
3-Mar-2022 9:14:21 AM	1.7436
3-Mar-2022 9:15:21 AM	1.7436
3-Mar-2022 9:16:21 AM	1.9926
3-Mar-2022 9:17:21 AM	1.9926
3-Mar-2022 9:18:21 AM	1.9926
3-Mar-2022 9:19:21 AM	1.9926
3-Mar-2022 9:20:21 AM	1.9926
3-Mar-2022 9:21:21 AM	1.9926
3-Mar-2022 9:22:21 AM	1.9926

Transportation Building

Date Time	$\Delta P$ Pa
3-Mar-2022 9:23:21 AM	1.7436
3-Mar-2022 9:24:21 AM	1.9926
3-Mar-2022 9:25:21 AM	1.9926
3-Mar-2022 9:26:21 AM	1.9926
3-Mar-2022 9:27:21 AM	2.2417
3-Mar-2022 9:28:21 AM	1.9926
3-Mar-2022 9:29:21 AM	1.9926
3-Mar-2022 9:30:21 AM	2.2417
3-Mar-2022 9:31:21 AM	2.2417
3-Mar-2022 9:32:21 AM	2.2417
3-Mar-2022 9:33:21 AM	1.9926
3-Mar-2022 9:34:21 AM	2.2417
3-Mar-2022 9:35:21 AM	1.9926
3-Mar-2022 9:36:21 AM	1.9926
3-Mar-2022 9:37:21 AM	1.9926
3-Mar-2022 9:38:21 AM	1.9926
3-Mar-2022 9:39:21 AM	1.7436
3-Mar-2022 9:40:21 AM	1.7436
3-Mar-2022 9:41:21 AM	1.9926
3-Mar-2022 9:42:21 AM	1.9926
3-Mar-2022 9:43:21 AM	1.9926
3-Mar-2022 9:44:21 AM	1.9926
3-Mar-2022 9:45:21 AM	2.2417
3-Mar-2022 9:46:21 AM	1.9926
3-Mar-2022 9:47:21 AM	1.9926
3-Mar-2022 9:48:21 AM	1.9926
3-Mar-2022 9:49:21 AM	1.9926
3-Mar-2022 9:50:21 AM	1.9926
3-Mar-2022 9:51:21 AM	2.4908
3-Mar-2022 9:52:21 AM	1.9926
3-Mar-2022 9:53:21 AM	1.7436
3-Mar-2022 9:54:21 AM	1.9926
3-Mar-2022 9:55:21 AM	1.7436
3-Mar-2022 9:56:21 AM	1.7436
3-Mar-2022 9:57:21 AM	1.9926
3-Mar-2022 9:58:21 AM	1.9926
3-Mar-2022 9:59:21 AM	1.9926
3-Mar-2022 10:00:21 AM	1.9926
3-Mar-2022 10:01:21 AM	1.7436
3-Mar-2022 10:02:21 AM	1.9926
3-Mar-2022 10:03:21 AM	1.9926
3-Mar-2022 10:04:21 AM	1.9926
3-Mar-2022 10:05:21 AM	1.9926
3-Mar-2022 10:06:21 AM	1.7436
3-Mar-2022 10:07:21 AM	1.7436
3-Mar-2022 10:08:21 AM	1.7436
3-Mar-2022 10:09:21 AM	1.7436
3-Mar-2022 10:10:21 AM	1.7436
3-Mar-2022 10:11:21 AM	1.9926
3-Mar-2022 10:12:21 AM	1.9926
3-Mar-2022 10:13:21 AM	1.9926
3-Mar-2022 10:14:21 AM	1.9926
3-Mar-2022 10:15:21 AM	1.9926
3-Mar-2022 10:16:21 AM	1.9926

Transportation Building

Date Time	$\Delta P$ Pa
3-Mar-2022 10:17:21 AM	1.9926
3-Mar-2022 10:18:21 AM	1.9926
3-Mar-2022 10:19:21 AM	2.2417
3-Mar-2022 10:20:21 AM	2.2417
3-Mar-2022 10:21:21 AM	1.9926
3-Mar-2022 10:22:21 AM	1.9926
3-Mar-2022 10:23:21 AM	1.9926
3-Mar-2022 10:24:21 AM	1.9926
3-Mar-2022 10:25:21 AM	1.9926
3-Mar-2022 10:26:21 AM	1.9926
3-Mar-2022 10:27:21 AM	1.9926
3-Mar-2022 10:28:21 AM	2.2417
3-Mar-2022 10:29:21 AM	2.2417
3-Mar-2022 10:30:21 AM	2.2417
3-Mar-2022 10:31:21 AM	2.2417
3-Mar-2022 10:32:21 AM	1.9926
3-Mar-2022 10:33:21 AM	1.9926
3-Mar-2022 10:34:21 AM	1.9926
3-Mar-2022 10:35:21 AM	1.9926
3-Mar-2022 10:36:21 AM	1.9926
3-Mar-2022 10:37:21 AM	1.9926
3-Mar-2022 10:38:21 AM	1.7436
3-Mar-2022 10:39:21 AM	1.7436
3-Mar-2022 10:40:21 AM	1.7436
3-Mar-2022 10:41:21 AM	1.7436
3-Mar-2022 10:42:21 AM	1.7436
3-Mar-2022 10:43:21 AM	1.7436
3-Mar-2022 10:44:21 AM	0.9963
3-Mar-2022 10:45:21 AM	0.7472
3-Mar-2022 10:46:21 AM	1.4945
3-Mar-2022 10:47:21 AM	1.4945
3-Mar-2022 10:48:21 AM	1.4945
3-Mar-2022 10:49:21 AM	1.7436
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3-Mar-2022 10:51:21 AM	1.7436
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3-Mar-2022 10:54:21 AM	1.7436
3-Mar-2022 10:55:21 AM	1.7436
3-Mar-2022 10:56:21 AM	1.7436
3-Mar-2022 10:57:21 AM	1.7436
3-Mar-2022 10:58:21 AM	1.7436
3-Mar-2022 10:59:21 AM	1.9926
3-Mar-2022 11:00:21 AM	1.9926
3-Mar-2022 11:01:21 AM	1.7436
3-Mar-2022 11:02:21 AM	1.9926
3-Mar-2022 11:03:21 AM	1.9926
3-Mar-2022 11:04:21 AM	1.9926
3-Mar-2022 11:05:21 AM	1.4945
3-Mar-2022 11:06:21 AM	1.7436
3-Mar-2022 11:07:21 AM	1.9926
3-Mar-2022 11:08:21 AM	1.9926
3-Mar-2022 11:09:21 AM	1.9926
3-Mar-2022 11:10:21 AM	1.7436



Transportation Building

Date Time	$\Delta P$ Pa
3-Mar-2022 11:11:21 AM	1.9926
3-Mar-2022 11:12:21 AM	1.7436
3-Mar-2022 11:13:21 AM	1.9926
3-Mar-2022 11:14:21 AM	1.9926
3-Mar-2022 11:15:21 AM	1.9926
3-Mar-2022 11:16:21 AM	1.9926
3-Mar-2022 11:17:21 AM	1.9926
3-Mar-2022 11:18:21 AM	1.9926
3-Mar-2022 11:19:21 AM	1.9926
3-Mar-2022 11:20:21 AM	1.9926
3-Mar-2022 11:21:21 AM	1.9926
3-Mar-2022 11:22:21 AM	1.7436
3-Mar-2022 11:23:21 AM	1.9926
3-Mar-2022 11:24:21 AM	1.9926
3-Mar-2022 11:25:21 AM	2.4908
3-Mar-2022 11:26:21 AM	2.2417
3-Mar-2022 11:27:21 AM	1.9926
3-Mar-2022 11:28:21 AM	1.7436
3-Mar-2022 11:29:21 AM	1.7436
3-Mar-2022 11:30:21 AM	1.9926
3-Mar-2022 11:31:21 AM	1.9926
3-Mar-2022 11:32:21 AM	1.9926
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3-Mar-2022 11:34:21 AM	1.9926
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3-Mar-2022 11:36:21 AM	1.9926
3-Mar-2022 11:37:21 AM	1.9926
3-Mar-2022 11:38:21 AM	1.9926
3-Mar-2022 11:39:21 AM	1.9926
3-Mar-2022 11:40:21 AM	1.9926
3-Mar-2022 11:41:21 AM	1.9926
3-Mar-2022 11:42:21 AM	1.9926
3-Mar-2022 11:43:21 AM	1.9926
3-Mar-2022 11:44:21 AM	1.9926
3-Mar-2022 11:45:21 AM	1.7436
3-Mar-2022 11:46:21 AM	1.7436
3-Mar-2022 11:47:21 AM	1.7436
3-Mar-2022 11:48:21 AM	1.7436
3-Mar-2022 11:49:21 AM	1.9926
3-Mar-2022 11:50:21 AM	1.9926
3-Mar-2022 11:51:21 AM	1.9926
3-Mar-2022 11:52:21 AM	1.9926
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3-Mar-2022 11:54:21 AM	1.9926
3-Mar-2022 11:55:21 AM	1.9926
3-Mar-2022 11:56:21 AM	1.9926
3-Mar-2022 11:57:21 AM	1.9926
3-Mar-2022 11:58:21 AM	1.9926
3-Mar-2022 11:59:21 AM	1.9926
3-Mar-2022 12:00:21 PM	1.9926
3-Mar-2022 12:01:21 PM	1.9926
3-Mar-2022 12:02:21 PM	1.9926
3-Mar-2022 12:03:21 PM	1.9926
3-Mar-2022 12:04:21 PM	1.9926

Transportation Building

Date Time	$\Delta P$ Pa
3-Mar-2022 12:05:21 PM	1.9926
3-Mar-2022 12:06:21 PM	1.9926
3-Mar-2022 12:07:21 PM	1.9926
3-Mar-2022 12:08:21 PM	1.9926
3-Mar-2022 12:09:21 PM	1.9926
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3-Mar-2022 12:11:21 PM	1.9926
3-Mar-2022 12:12:21 PM	1.9926
3-Mar-2022 12:13:21 PM	1.9926
3-Mar-2022 12:14:21 PM	1.9926
3-Mar-2022 12:15:21 PM	1.9926
3-Mar-2022 12:16:21 PM	1.9926
3-Mar-2022 12:17:21 PM	1.7436
3-Mar-2022 12:18:21 PM	1.7436
3-Mar-2022 12:19:21 PM	1.7436
3-Mar-2022 12:20:21 PM	1.7436
3-Mar-2022 12:21:21 PM	1.7436
3-Mar-2022 12:22:21 PM	1.7436
3-Mar-2022 12:23:21 PM	1.7436
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3-Mar-2022 12:55:21 PM	1.9926
3-Mar-2022 12:56:21 PM	1.9926
3-Mar-2022 12:57:21 PM	2.2417
3-Mar-2022 12:58:21 PM	2.2417

Transportation Building

Date Time	$\Delta P$ Pa
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3-Mar-2022 1:00:21 PM	1.9926
3-Mar-2022 1:01:21 PM	1.9926
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Transportation Building

Date Time	$\Delta P$ Pa
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3-Mar-2022 1:58:21 PM	1.7436
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3-Mar-2022 2:03:21 PM	1.7436
3-Mar-2022 2:04:21 PM	1.7436
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3-Mar-2022 2:08:21 PM	1.7436
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3-Mar-2022 2:41:21 PM	1.7436
3-Mar-2022 2:42:21 PM	1.7436
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3-Mar-2022 2:44:21 PM	1.7436
3-Mar-2022 2:45:21 PM	1.7436
3-Mar-2022 2:46:21 PM	1.7436

Transportation Building

Date Time	$\Delta P$ Pa
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3-Mar-2022 2:49:21 PM	1.4945
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3-Mar-2022 2:52:21 PM	1.7436
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3-Mar-2022 2:56:21 PM	1.7436
3-Mar-2022 2:57:21 PM	1.7436
3-Mar-2022 2:58:21 PM	1.7436
3-Mar-2022 2:59:21 PM	1.9926
3-Mar-2022 3:00:21 PM	1.9926
3-Mar-2022 3:01:21 PM	1.9926
3-Mar-2022 3:02:21 PM	1.9926
3-Mar-2022 3:03:21 PM	1.9926
3-Mar-2022 3:04:21 PM	1.9926
3-Mar-2022 3:05:21 PM	1.9926
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3-Mar-2022 3:38:21 PM	1.9926
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3-Mar-2022 3:40:21 PM	1.7436

Transportation Building

Date Time	$\Delta P$ Pa
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3-Mar-2022 3:42:21 PM	1.7436
3-Mar-2022 3:43:21 PM	1.7436
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Transportation Building

Date Time	$\Delta P$ Pa
3-Mar-2022 4:35:21 PM	1.9926
3-Mar-2022 4:36:21 PM	1.9926
3-Mar-2022 4:37:21 PM	1.9926
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3-Mar-2022 4:44:21 PM	2.2417
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3-Mar-2022 4:47:21 PM	2.2417
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3-Mar-2022 4:57:21 PM	2.2417
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3-Mar-2022 5:02:21 PM	2.2417
3-Mar-2022 5:03:21 PM	2.2417
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3-Mar-2022 5:28:21 PM	2.2417

Transportation Building

Date Time	$\Delta P$ Pa
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3-Mar-2022 5:42:21 PM	2.2417
3-Mar-2022 5:43:21 PM	2.2417
3-Mar-2022 5:44:21 PM	2.2417
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Transportation Building

Date Time	$\Delta P$ Pa
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Transportation Building

Date Time	$\Delta P$ Pa
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Transportation Building

Date Time	$\Delta P$ Pa
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Transportation Building

Date Time	$\Delta P$ Pa
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Transportation Building

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Transportation Building

Date Time	$\Delta P$ Pa
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Transportation Building

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4-Mar-2022 12:32:21 AM	1.7436
4-Mar-2022 12:33:21 AM	1.7436
4-Mar-2022 12:34:21 AM	1.7436
4-Mar-2022 12:35:21 AM	1.7436
4-Mar-2022 12:36:21 AM	1.7436
4-Mar-2022 12:37:21 AM	1.7436
4-Mar-2022 12:38:21 AM	1.7436
4-Mar-2022 12:39:21 AM	1.7436
4-Mar-2022 12:40:21 AM	1.7436

Transportation Building

Date Time	$\Delta P$ Pa
4-Mar-2022 12:41:21 AM	1.7436
4-Mar-2022 12:42:21 AM	1.7436
4-Mar-2022 12:43:21 AM	1.7436
4-Mar-2022 12:44:21 AM	1.7436
4-Mar-2022 12:45:21 AM	1.7436
4-Mar-2022 12:46:21 AM	1.7436
4-Mar-2022 12:47:21 AM	1.7436
4-Mar-2022 12:48:21 AM	1.7436
4-Mar-2022 12:49:21 AM	1.7436
4-Mar-2022 12:50:21 AM	1.7436
4-Mar-2022 12:51:21 AM	1.7436
4-Mar-2022 12:52:21 AM	1.7436
4-Mar-2022 12:53:21 AM	1.7436
4-Mar-2022 12:54:21 AM	1.7436
4-Mar-2022 12:55:21 AM	1.7436
4-Mar-2022 12:56:21 AM	1.7436
4-Mar-2022 12:57:21 AM	1.7436
4-Mar-2022 12:58:21 AM	1.7436
4-Mar-2022 12:59:21 AM	1.7436
4-Mar-2022 1:00:21 AM	1.7436
4-Mar-2022 1:01:21 AM	1.7436
4-Mar-2022 1:02:21 AM	1.7436
4-Mar-2022 1:03:21 AM	1.7436
4-Mar-2022 1:04:21 AM	1.7436
4-Mar-2022 1:05:21 AM	1.7436
4-Mar-2022 1:06:21 AM	1.7436
4-Mar-2022 1:07:21 AM	1.7436
4-Mar-2022 1:08:21 AM	1.7436
4-Mar-2022 1:09:21 AM	1.7436
4-Mar-2022 1:10:21 AM	1.7436
4-Mar-2022 1:11:21 AM	1.7436
4-Mar-2022 1:12:21 AM	1.7436
4-Mar-2022 1:13:21 AM	1.7436
4-Mar-2022 1:14:21 AM	1.7436
4-Mar-2022 1:15:21 AM	1.7436
4-Mar-2022 1:16:21 AM	1.7436
4-Mar-2022 1:17:21 AM	1.7436
4-Mar-2022 1:18:21 AM	1.7436
4-Mar-2022 1:19:21 AM	1.7436
4-Mar-2022 1:20:21 AM	1.7436
4-Mar-2022 1:21:21 AM	1.7436
4-Mar-2022 1:22:21 AM	1.7436
4-Mar-2022 1:23:21 AM	1.7436
4-Mar-2022 1:24:21 AM	1.7436
4-Mar-2022 1:25:21 AM	1.7436
4-Mar-2022 1:26:21 AM	1.7436
4-Mar-2022 1:27:21 AM	1.9926
4-Mar-2022 1:28:21 AM	1.9926
4-Mar-2022 1:29:21 AM	1.7436
4-Mar-2022 1:30:21 AM	1.7436
4-Mar-2022 1:31:21 AM	1.7436
4-Mar-2022 1:32:21 AM	1.7436
4-Mar-2022 1:33:21 AM	1.9926
4-Mar-2022 1:34:21 AM	1.7436



Transportation Building

Date Time	$\Delta P$ Pa
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4-Mar-2022 1:36:21 AM	1.7436
4-Mar-2022 1:37:21 AM	1.9926
4-Mar-2022 1:38:21 AM	1.9926
4-Mar-2022 1:39:21 AM	1.7436
4-Mar-2022 1:40:21 AM	1.7436
4-Mar-2022 1:41:21 AM	1.7436
4-Mar-2022 1:42:21 AM	1.7436
4-Mar-2022 1:43:21 AM	1.7436
4-Mar-2022 1:44:21 AM	1.7436
4-Mar-2022 1:45:21 AM	1.7436
4-Mar-2022 1:46:21 AM	1.7436
4-Mar-2022 1:47:21 AM	1.7436
4-Mar-2022 1:48:21 AM	1.7436
4-Mar-2022 1:49:21 AM	1.7436
4-Mar-2022 1:50:21 AM	1.7436
4-Mar-2022 1:51:21 AM	1.7436
4-Mar-2022 1:52:21 AM	1.7436
4-Mar-2022 1:53:21 AM	1.7436
4-Mar-2022 1:54:21 AM	1.7436
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4-Mar-2022 1:58:21 AM	1.7436
4-Mar-2022 1:59:21 AM	1.7436
4-Mar-2022 2:00:21 AM	1.7436
4-Mar-2022 2:01:21 AM	1.7436
4-Mar-2022 2:02:21 AM	1.7436
4-Mar-2022 2:03:21 AM	1.7436
4-Mar-2022 2:04:21 AM	1.7436
4-Mar-2022 2:05:21 AM	1.7436
4-Mar-2022 2:06:21 AM	1.7436
4-Mar-2022 2:07:21 AM	1.7436
4-Mar-2022 2:08:21 AM	1.7436
4-Mar-2022 2:09:21 AM	1.7436
4-Mar-2022 2:10:21 AM	1.7436
4-Mar-2022 2:11:21 AM	1.9926
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4-Mar-2022 2:18:21 AM	1.7436
4-Mar-2022 2:19:21 AM	1.7436
4-Mar-2022 2:20:21 AM	1.7436
4-Mar-2022 2:21:21 AM	1.7436
4-Mar-2022 2:22:21 AM	1.7436
4-Mar-2022 2:23:21 AM	1.7436
4-Mar-2022 2:24:21 AM	1.7436
4-Mar-2022 2:25:21 AM	1.7436
4-Mar-2022 2:26:21 AM	1.7436
4-Mar-2022 2:27:21 AM	1.7436
4-Mar-2022 2:28:21 AM	1.7436

Transportation Building

Date Time	$\Delta P$ Pa
4-Mar-2022 2:29:21 AM	1.7436
4-Mar-2022 2:30:21 AM	1.7436
4-Mar-2022 2:31:21 AM	1.7436
4-Mar-2022 2:32:21 AM	1.7436
4-Mar-2022 2:33:21 AM	1.7436
4-Mar-2022 2:34:21 AM	1.7436
4-Mar-2022 2:35:21 AM	1.7436
4-Mar-2022 2:36:21 AM	1.7436
4-Mar-2022 2:37:21 AM	1.7436
4-Mar-2022 2:38:21 AM	1.7436
4-Mar-2022 2:39:21 AM	1.7436
4-Mar-2022 2:40:21 AM	1.7436
4-Mar-2022 2:41:21 AM	1.7436
4-Mar-2022 2:42:21 AM	1.7436
4-Mar-2022 2:43:21 AM	1.7436
4-Mar-2022 2:44:21 AM	1.9926
4-Mar-2022 2:45:21 AM	1.9926
4-Mar-2022 2:46:21 AM	1.9926
4-Mar-2022 2:47:21 AM	1.7436
4-Mar-2022 2:48:21 AM	1.9926
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4-Mar-2022 2:50:21 AM	1.9926
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4-Mar-2022 2:53:21 AM	1.9926
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4-Mar-2022 2:57:21 AM	1.7436
4-Mar-2022 2:58:21 AM	1.7436
4-Mar-2022 2:59:21 AM	1.7436
4-Mar-2022 3:00:21 AM	1.9926
4-Mar-2022 3:01:21 AM	1.9926
4-Mar-2022 3:02:21 AM	1.7436
4-Mar-2022 3:03:21 AM	1.7436
4-Mar-2022 3:04:21 AM	1.7436
4-Mar-2022 3:05:21 AM	1.7436
4-Mar-2022 3:06:21 AM	1.7436
4-Mar-2022 3:07:21 AM	1.7436
4-Mar-2022 3:08:21 AM	1.7436
4-Mar-2022 3:09:21 AM	1.7436
4-Mar-2022 3:10:21 AM	1.7436
4-Mar-2022 3:11:21 AM	1.7436
4-Mar-2022 3:12:21 AM	1.7436
4-Mar-2022 3:13:21 AM	1.7436
4-Mar-2022 3:14:21 AM	1.7436
4-Mar-2022 3:15:21 AM	1.7436
4-Mar-2022 3:16:21 AM	1.9926
4-Mar-2022 3:17:21 AM	1.9926
4-Mar-2022 3:18:21 AM	1.9926
4-Mar-2022 3:19:21 AM	1.9926
4-Mar-2022 3:20:21 AM	1.7436
4-Mar-2022 3:21:21 AM	1.7436
4-Mar-2022 3:22:21 AM	1.7436

Transportation Building

Date Time	$\Delta P$ Pa
4-Mar-2022 3:23:21 AM	1.7436
4-Mar-2022 3:24:21 AM	1.7436
4-Mar-2022 3:25:21 AM	1.9926
4-Mar-2022 3:26:21 AM	1.9926
4-Mar-2022 3:27:21 AM	1.7436
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4-Mar-2022 3:34:21 AM	1.7436
4-Mar-2022 3:35:21 AM	1.7436
4-Mar-2022 3:36:21 AM	1.9926
4-Mar-2022 3:37:21 AM	1.9926
4-Mar-2022 3:38:21 AM	1.9926
4-Mar-2022 3:39:21 AM	1.7436
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4-Mar-2022 3:41:21 AM	1.9926
4-Mar-2022 3:42:21 AM	1.7436
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4-Mar-2022 3:44:21 AM	1.7436
4-Mar-2022 3:45:21 AM	1.9926
4-Mar-2022 3:46:21 AM	1.9926
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4-Mar-2022 3:48:21 AM	1.9926
4-Mar-2022 3:49:21 AM	1.9926
4-Mar-2022 3:50:21 AM	1.7436
4-Mar-2022 3:51:21 AM	1.7436
4-Mar-2022 3:52:21 AM	1.7436
4-Mar-2022 3:53:21 AM	1.7436
4-Mar-2022 3:54:21 AM	1.7436
4-Mar-2022 3:55:21 AM	1.9926
4-Mar-2022 3:56:21 AM	1.9926
4-Mar-2022 3:57:21 AM	1.7436
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4-Mar-2022 3:59:21 AM	1.7436
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4-Mar-2022 4:01:21 AM	1.7436
4-Mar-2022 4:02:21 AM	1.7436
4-Mar-2022 4:03:21 AM	1.7436
4-Mar-2022 4:04:21 AM	1.9926
4-Mar-2022 4:05:21 AM	1.7436
4-Mar-2022 4:06:21 AM	1.7436
4-Mar-2022 4:07:21 AM	1.7436
4-Mar-2022 4:08:21 AM	1.7436
4-Mar-2022 4:09:21 AM	1.7436
4-Mar-2022 4:10:21 AM	1.7436
4-Mar-2022 4:11:21 AM	1.7436
4-Mar-2022 4:12:21 AM	1.7436
4-Mar-2022 4:13:21 AM	1.7436
4-Mar-2022 4:14:21 AM	1.7436
4-Mar-2022 4:15:21 AM	1.7436
4-Mar-2022 4:16:21 AM	1.7436

Transportation Building

Date Time	$\Delta P$ Pa
4-Mar-2022 4:17:21 AM	1.7436
4-Mar-2022 4:18:21 AM	1.9926
4-Mar-2022 4:19:21 AM	1.7436
4-Mar-2022 4:20:21 AM	1.7436
4-Mar-2022 4:21:21 AM	1.7436
4-Mar-2022 4:22:21 AM	1.9926
4-Mar-2022 4:23:21 AM	1.7436
4-Mar-2022 4:24:21 AM	1.9926
4-Mar-2022 4:25:21 AM	1.9926
4-Mar-2022 4:26:21 AM	1.7436
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4-Mar-2022 4:28:21 AM	1.9926
4-Mar-2022 4:29:21 AM	1.9926
4-Mar-2022 4:30:21 AM	1.9926
4-Mar-2022 4:31:21 AM	1.9926
4-Mar-2022 4:32:21 AM	1.9926
4-Mar-2022 4:33:21 AM	1.9926
4-Mar-2022 4:34:21 AM	1.9926
4-Mar-2022 4:35:21 AM	1.7436
4-Mar-2022 4:36:21 AM	1.7436
4-Mar-2022 4:37:21 AM	1.9926
4-Mar-2022 4:38:21 AM	1.9926
4-Mar-2022 4:39:21 AM	1.9926
4-Mar-2022 4:40:21 AM	1.7436
4-Mar-2022 4:41:21 AM	1.9926
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4-Mar-2022 4:43:21 AM	1.7436
4-Mar-2022 4:44:21 AM	1.7436
4-Mar-2022 4:45:21 AM	1.7436
4-Mar-2022 4:46:21 AM	1.7436
4-Mar-2022 4:47:21 AM	1.9926
4-Mar-2022 4:48:21 AM	1.9926
4-Mar-2022 4:49:21 AM	1.9926
4-Mar-2022 4:50:21 AM	1.9926
4-Mar-2022 4:51:21 AM	1.9926
4-Mar-2022 4:52:21 AM	1.9926
4-Mar-2022 4:53:21 AM	1.7436
4-Mar-2022 4:54:21 AM	1.9926
4-Mar-2022 4:55:21 AM	1.9926
4-Mar-2022 4:56:21 AM	1.9926
4-Mar-2022 4:57:21 AM	1.9926
4-Mar-2022 4:58:21 AM	1.9926
4-Mar-2022 4:59:21 AM	1.9926
4-Mar-2022 5:00:21 AM	1.9926
4-Mar-2022 5:01:21 AM	1.9926
4-Mar-2022 5:02:21 AM	1.9926
4-Mar-2022 5:03:21 AM	1.9926
4-Mar-2022 5:04:21 AM	1.9926
4-Mar-2022 5:05:21 AM	1.9926
4-Mar-2022 5:06:21 AM	1.9926
4-Mar-2022 5:07:21 AM	1.9926
4-Mar-2022 5:08:21 AM	1.9926
4-Mar-2022 5:09:21 AM	1.9926
4-Mar-2022 5:10:21 AM	1.9926

Transportation Building

Date Time	$\Delta P$ Pa
4-Mar-2022 5:11:21 AM	1.9926
4-Mar-2022 5:12:21 AM	1.9926
4-Mar-2022 5:13:21 AM	1.9926
4-Mar-2022 5:14:21 AM	1.9926
4-Mar-2022 5:15:21 AM	1.9926
4-Mar-2022 5:16:21 AM	1.9926
4-Mar-2022 5:17:21 AM	1.9926
4-Mar-2022 5:18:21 AM	1.9926
4-Mar-2022 5:19:21 AM	1.9926
4-Mar-2022 5:20:21 AM	1.9926
4-Mar-2022 5:21:21 AM	1.7436
4-Mar-2022 5:22:21 AM	1.7436
4-Mar-2022 5:23:21 AM	1.7436
4-Mar-2022 5:24:21 AM	1.7436
4-Mar-2022 5:25:21 AM	1.7436
4-Mar-2022 5:26:21 AM	1.9926
4-Mar-2022 5:27:21 AM	1.9926
4-Mar-2022 5:28:21 AM	1.7436
4-Mar-2022 5:29:21 AM	1.9926
4-Mar-2022 5:30:21 AM	1.7436
4-Mar-2022 5:31:21 AM	1.9926
4-Mar-2022 5:32:21 AM	1.9926
4-Mar-2022 5:33:21 AM	1.9926
4-Mar-2022 5:34:21 AM	1.9926
4-Mar-2022 5:35:21 AM	1.7436
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4-Mar-2022 5:38:21 AM	1.9926
4-Mar-2022 5:39:21 AM	1.7436
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4-Mar-2022 5:41:21 AM	1.9926
4-Mar-2022 5:42:21 AM	1.9926
4-Mar-2022 5:43:21 AM	1.9926
4-Mar-2022 5:44:21 AM	1.9926
4-Mar-2022 5:45:21 AM	1.7436
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4-Mar-2022 5:53:21 AM	1.9926
4-Mar-2022 5:54:21 AM	1.9926
4-Mar-2022 5:55:21 AM	1.7436
4-Mar-2022 5:56:21 AM	1.7436
4-Mar-2022 5:57:21 AM	1.9926
4-Mar-2022 5:58:21 AM	1.9926
4-Mar-2022 5:59:21 AM	1.9926
4-Mar-2022 6:00:21 AM	1.7436
4-Mar-2022 6:01:21 AM	1.7436
4-Mar-2022 6:02:21 AM	1.9926
4-Mar-2022 6:03:21 AM	1.7436
4-Mar-2022 6:04:21 AM	1.9926

Transportation Building

Date Time	$\Delta P$ Pa
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4-Mar-2022 6:06:21 AM	1.9926
4-Mar-2022 6:07:21 AM	1.7436
4-Mar-2022 6:08:21 AM	1.9926
4-Mar-2022 6:09:21 AM	1.9926
4-Mar-2022 6:10:21 AM	1.9926
4-Mar-2022 6:11:21 AM	1.9926
4-Mar-2022 6:12:21 AM	1.9926
4-Mar-2022 6:13:21 AM	1.9926
4-Mar-2022 6:14:21 AM	1.9926
4-Mar-2022 6:15:21 AM	1.9926
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4-Mar-2022 6:21:21 AM	1.9926
4-Mar-2022 6:22:21 AM	1.9926
4-Mar-2022 6:23:21 AM	1.9926
4-Mar-2022 6:24:21 AM	1.9926
4-Mar-2022 6:25:21 AM	1.9926
4-Mar-2022 6:26:21 AM	1.9926
4-Mar-2022 6:27:21 AM	1.9926
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4-Mar-2022 6:40:21 AM	1.9926
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4-Mar-2022 6:42:21 AM	1.9926
4-Mar-2022 6:43:21 AM	1.9926
4-Mar-2022 6:44:21 AM	1.9926
4-Mar-2022 6:45:21 AM	1.9926
4-Mar-2022 6:46:21 AM	1.9926
4-Mar-2022 6:47:21 AM	1.9926
4-Mar-2022 6:48:21 AM	1.9926
4-Mar-2022 6:49:21 AM	1.9926
4-Mar-2022 6:50:21 AM	1.9926
4-Mar-2022 6:51:21 AM	1.9926
4-Mar-2022 6:52:21 AM	1.9926
4-Mar-2022 6:53:21 AM	1.9926
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4-Mar-2022 6:56:21 AM	0.7472
4-Mar-2022 6:57:21 AM	0.4982
4-Mar-2022 6:58:21 AM	1.4945

Transportation Building

Date Time	$\Delta P$ Pa
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4-Mar-2022 7:01:21 AM	1.9926
4-Mar-2022 7:02:21 AM	1.9926
4-Mar-2022 7:03:21 AM	1.9926
4-Mar-2022 7:04:21 AM	2.2417
4-Mar-2022 7:05:21 AM	1.9926
4-Mar-2022 7:06:21 AM	2.2417
4-Mar-2022 7:07:21 AM	2.2417
4-Mar-2022 7:08:21 AM	2.2417
4-Mar-2022 7:09:21 AM	2.2417
4-Mar-2022 7:10:21 AM	2.2417
4-Mar-2022 7:11:21 AM	2.2417
4-Mar-2022 7:12:21 AM	2.2417
4-Mar-2022 7:13:21 AM	1.9926
4-Mar-2022 7:14:21 AM	1.9926
4-Mar-2022 7:15:21 AM	1.9926
4-Mar-2022 7:16:21 AM	1.9926
4-Mar-2022 7:17:21 AM	1.9926
4-Mar-2022 7:18:21 AM	1.9926
4-Mar-2022 7:19:21 AM	1.9926
4-Mar-2022 7:20:21 AM	1.9926
4-Mar-2022 7:21:21 AM	1.9926
4-Mar-2022 7:22:21 AM	1.9926
4-Mar-2022 7:23:21 AM	1.9926
4-Mar-2022 7:24:21 AM	1.9926
4-Mar-2022 7:25:21 AM	1.9926
4-Mar-2022 7:26:21 AM	1.9926
4-Mar-2022 7:27:21 AM	1.9926
4-Mar-2022 7:28:21 AM	1.9926
4-Mar-2022 7:29:21 AM	1.7436
4-Mar-2022 7:30:21 AM	1.7436
4-Mar-2022 7:31:21 AM	1.7436
4-Mar-2022 7:32:21 AM	1.7436
4-Mar-2022 7:33:21 AM	1.7436
4-Mar-2022 7:34:21 AM	1.9926
4-Mar-2022 7:35:21 AM	2.2417
4-Mar-2022 7:36:21 AM	2.2417
4-Mar-2022 7:37:21 AM	2.2417
4-Mar-2022 7:38:21 AM	2.2417
4-Mar-2022 7:39:21 AM	2.2417
4-Mar-2022 7:40:21 AM	2.2417
4-Mar-2022 7:41:21 AM	2.2417
4-Mar-2022 7:42:21 AM	1.9926
4-Mar-2022 7:43:21 AM	2.2417
4-Mar-2022 7:44:21 AM	1.9926
4-Mar-2022 7:45:21 AM	1.9926
4-Mar-2022 7:46:21 AM	1.9926
4-Mar-2022 7:47:21 AM	1.9926
4-Mar-2022 7:48:21 AM	1.9926
4-Mar-2022 7:49:21 AM	2.2417
4-Mar-2022 7:50:21 AM	1.9926
4-Mar-2022 7:51:21 AM	2.2417
4-Mar-2022 7:52:21 AM	2.2417

Transportation Building

Date Time	$\Delta P$ Pa
4-Mar-2022 7:53:21 AM	2.2417
4-Mar-2022 7:54:21 AM	2.2417
4-Mar-2022 7:55:21 AM	2.2417
4-Mar-2022 7:56:21 AM	1.9926
4-Mar-2022 7:57:21 AM	1.9926
4-Mar-2022 7:58:21 AM	1.9926
4-Mar-2022 7:59:21 AM	1.9926
4-Mar-2022 8:00:21 AM	2.4908
4-Mar-2022 8:01:21 AM	2.2417
4-Mar-2022 8:02:21 AM	1.9926
4-Mar-2022 8:03:21 AM	1.7436
4-Mar-2022 8:04:21 AM	1.7436
4-Mar-2022 8:05:21 AM	1.7436
4-Mar-2022 8:06:21 AM	1.7436
4-Mar-2022 8:07:21 AM	1.7436
4-Mar-2022 8:08:21 AM	1.9926
4-Mar-2022 8:09:21 AM	1.9926
4-Mar-2022 8:10:21 AM	1.9926
4-Mar-2022 8:11:21 AM	2.2417
4-Mar-2022 8:12:21 AM	1.9926
4-Mar-2022 8:13:21 AM	1.9926
4-Mar-2022 8:14:21 AM	2.2417
4-Mar-2022 8:15:21 AM	2.2417
4-Mar-2022 8:16:21 AM	2.2417
4-Mar-2022 8:17:21 AM	1.9926
4-Mar-2022 8:18:21 AM	2.2417
4-Mar-2022 8:19:21 AM	2.2417
4-Mar-2022 8:20:21 AM	2.2417
4-Mar-2022 8:21:21 AM	2.2417
4-Mar-2022 8:22:21 AM	2.2417
4-Mar-2022 8:23:21 AM	2.2417
4-Mar-2022 8:24:21 AM	2.2417
4-Mar-2022 8:25:21 AM	2.2417
4-Mar-2022 8:26:21 AM	2.2417
4-Mar-2022 8:27:21 AM	2.2417
4-Mar-2022 8:28:21 AM	2.2417
4-Mar-2022 8:29:21 AM	2.2417
4-Mar-2022 8:30:21 AM	2.2417
4-Mar-2022 8:31:21 AM	2.2417
4-Mar-2022 8:32:21 AM	2.2417
4-Mar-2022 8:33:21 AM	2.2417
4-Mar-2022 8:34:21 AM	1.9926
4-Mar-2022 8:35:21 AM	1.9926
4-Mar-2022 8:36:21 AM	2.2417
4-Mar-2022 8:37:21 AM	2.2417
4-Mar-2022 8:38:21 AM	2.2417
4-Mar-2022 8:39:21 AM	2.2417
4-Mar-2022 8:40:21 AM	2.2417
4-Mar-2022 8:41:21 AM	2.2417
4-Mar-2022 8:42:21 AM	2.2417
4-Mar-2022 8:43:21 AM	1.9926
4-Mar-2022 8:44:21 AM	1.9926
4-Mar-2022 8:45:21 AM	1.9926
4-Mar-2022 8:46:21 AM	1.9926



Transportation Building

Date Time	$\Delta P$ Pa
4-Mar-2022 8:47:21 AM	1.9926
4-Mar-2022 8:48:21 AM	1.9926
4-Mar-2022 8:49:21 AM	1.9926
4-Mar-2022 8:50:21 AM	1.9926
4-Mar-2022 8:51:21 AM	1.9926
4-Mar-2022 8:52:21 AM	1.9926
4-Mar-2022 8:53:21 AM	2.2417
4-Mar-2022 8:54:21 AM	2.2417
4-Mar-2022 8:55:21 AM	2.2417
4-Mar-2022 8:56:21 AM	2.2417
4-Mar-2022 8:57:21 AM	2.2417
4-Mar-2022 8:58:21 AM	2.2417
4-Mar-2022 8:59:21 AM	1.9926
4-Mar-2022 9:00:21 AM	1.9926
4-Mar-2022 9:01:21 AM	1.9926
4-Mar-2022 9:02:21 AM	1.9926
4-Mar-2022 9:03:21 AM	2.2417
4-Mar-2022 9:04:21 AM	2.2417
4-Mar-2022 9:05:21 AM	2.2417
4-Mar-2022 9:06:21 AM	2.2417
4-Mar-2022 9:07:21 AM	2.2417
4-Mar-2022 9:08:21 AM	2.2417
4-Mar-2022 9:09:21 AM	2.2417
4-Mar-2022 9:10:21 AM	2.2417
4-Mar-2022 9:11:21 AM	2.2417
4-Mar-2022 9:12:21 AM	2.2417
4-Mar-2022 9:13:21 AM	2.2417
4-Mar-2022 9:14:21 AM	2.2417
4-Mar-2022 9:15:21 AM	2.2417
4-Mar-2022 9:16:21 AM	2.2417
4-Mar-2022 9:17:21 AM	2.2417
4-Mar-2022 9:18:21 AM	2.2417
4-Mar-2022 9:19:21 AM	2.2417
4-Mar-2022 9:20:21 AM	2.2417
4-Mar-2022 9:21:21 AM	1.9926
4-Mar-2022 9:22:21 AM	2.2417
4-Mar-2022 9:23:21 AM	1.9926
4-Mar-2022 9:24:21 AM	1.9926
4-Mar-2022 9:25:21 AM	1.9926
4-Mar-2022 9:26:21 AM	1.9926
4-Mar-2022 9:27:21 AM	1.9926
4-Mar-2022 9:28:21 AM	1.9926
4-Mar-2022 9:29:21 AM	1.9926
4-Mar-2022 9:30:21 AM	1.9926
4-Mar-2022 9:31:21 AM	1.9926
4-Mar-2022 9:32:21 AM	1.9926
4-Mar-2022 9:33:21 AM	1.9926
4-Mar-2022 9:34:21 AM	2.2417
4-Mar-2022 9:35:21 AM	2.2417
4-Mar-2022 9:36:21 AM	2.2417
4-Mar-2022 9:37:21 AM	2.2417
4-Mar-2022 9:38:21 AM	1.9926
4-Mar-2022 9:39:21 AM	1.9926
4-Mar-2022 9:40:21 AM	2.2417

Transportation Building

Date Time	$\Delta P$ Pa
4-Mar-2022 9:41:21 AM	2.4908
4-Mar-2022 9:42:21 AM	2.2417
4-Mar-2022 9:43:21 AM	1.9926
4-Mar-2022 9:44:21 AM	1.9926
4-Mar-2022 9:45:21 AM	2.2417
4-Mar-2022 9:46:21 AM	2.2417
4-Mar-2022 9:47:21 AM	2.2417
4-Mar-2022 9:48:21 AM	1.9926
4-Mar-2022 9:49:21 AM	2.2417
4-Mar-2022 9:50:21 AM	2.2417
4-Mar-2022 9:51:21 AM	2.2417
4-Mar-2022 9:52:21 AM	2.2417
4-Mar-2022 9:53:21 AM	2.2417
4-Mar-2022 9:54:21 AM	2.4908
4-Mar-2022 9:55:21 AM	2.4908
4-Mar-2022 9:56:21 AM	2.4908
4-Mar-2022 9:57:21 AM	2.4908
4-Mar-2022 9:58:21 AM	2.2417
4-Mar-2022 9:59:21 AM	2.2417
4-Mar-2022 10:00:21 AM	2.2417
4-Mar-2022 10:01:21 AM	2.2417
4-Mar-2022 10:02:21 AM	2.2417
4-Mar-2022 10:03:21 AM	2.2417
4-Mar-2022 10:04:21 AM	2.2417
4-Mar-2022 10:05:21 AM	2.2417
4-Mar-2022 10:06:21 AM	1.7436
4-Mar-2022 10:07:21 AM	1.4945
4-Mar-2022 10:08:21 AM	1.2454
4-Mar-2022 10:09:21 AM	1.2454
4-Mar-2022 10:10:21 AM	1.2454
4-Mar-2022 10:11:21 AM	1.2454
4-Mar-2022 10:12:21 AM	1.2454
4-Mar-2022 10:13:21 AM	1.2454
4-Mar-2022 10:14:21 AM	1.2454
4-Mar-2022 10:15:21 AM	1.2454
4-Mar-2022 10:16:21 AM	1.2454
4-Mar-2022 10:17:21 AM	1.4945
4-Mar-2022 10:18:21 AM	1.4945
4-Mar-2022 10:19:21 AM	1.4945
4-Mar-2022 10:20:21 AM	1.4945
4-Mar-2022 10:21:21 AM	1.7436
4-Mar-2022 10:22:21 AM	1.4945
4-Mar-2022 10:23:21 AM	1.4945
4-Mar-2022 10:24:21 AM	1.4945
4-Mar-2022 10:25:21 AM	1.4945
4-Mar-2022 10:26:21 AM	1.4945
4-Mar-2022 10:27:21 AM	1.7436
4-Mar-2022 10:28:21 AM	1.9926
4-Mar-2022 10:29:21 AM	1.9926
4-Mar-2022 10:30:21 AM	2.2417
4-Mar-2022 10:31:21 AM	2.4908
4-Mar-2022 10:32:21 AM	2.4908
4-Mar-2022 10:33:21 AM	2.4908
4-Mar-2022 10:34:21 AM	2.7399

Transportation Building

Date Time	$\Delta P$ Pa
4-Mar-2022 10:35:21 AM	2.7399
4-Mar-2022 10:36:21 AM	2.7399
4-Mar-2022 10:37:21 AM	2.7399
4-Mar-2022 10:38:21 AM	2.7399
4-Mar-2022 10:39:21 AM	2.7399
4-Mar-2022 10:40:21 AM	2.7399
4-Mar-2022 10:41:21 AM	2.7399
4-Mar-2022 10:42:21 AM	2.7399
4-Mar-2022 10:43:21 AM	2.9890
4-Mar-2022 10:44:21 AM	2.9890
4-Mar-2022 10:45:21 AM	2.9890
4-Mar-2022 10:46:21 AM	2.9890
4-Mar-2022 10:47:21 AM	2.9890
4-Mar-2022 10:48:21 AM	2.9890
4-Mar-2022 10:49:21 AM	2.9890
4-Mar-2022 10:50:21 AM	2.9890
4-Mar-2022 10:51:21 AM	2.9890
4-Mar-2022 10:52:21 AM	2.9890
4-Mar-2022 10:53:21 AM	3.2380
4-Mar-2022 10:54:21 AM	3.2380
4-Mar-2022 10:55:21 AM	3.2380
4-Mar-2022 10:56:21 AM	3.2380
4-Mar-2022 10:57:21 AM	3.2380
4-Mar-2022 10:58:21 AM	3.2380
4-Mar-2022 10:59:21 AM	3.2380
4-Mar-2022 11:00:21 AM	3.2380
4-Mar-2022 11:01:21 AM	3.2380
4-Mar-2022 11:02:21 AM	3.2380
4-Mar-2022 11:03:21 AM	3.2380
4-Mar-2022 11:04:21 AM	3.2380
4-Mar-2022 11:05:21 AM	3.2380
4-Mar-2022 11:06:21 AM	3.2380
4-Mar-2022 11:07:21 AM	3.2380
4-Mar-2022 11:08:21 AM	3.2380
4-Mar-2022 11:09:21 AM	3.2380
4-Mar-2022 11:10:21 AM	3.2380
4-Mar-2022 11:11:21 AM	3.2380
4-Mar-2022 11:12:21 AM	3.2380
4-Mar-2022 11:13:21 AM	3.2380
4-Mar-2022 11:14:21 AM	2.9890
4-Mar-2022 11:15:21 AM	2.9890
4-Mar-2022 11:16:21 AM	2.9890
4-Mar-2022 11:17:21 AM	2.9890
4-Mar-2022 11:18:21 AM	2.9890
4-Mar-2022 11:19:21 AM	2.9890
4-Mar-2022 11:20:21 AM	2.9890
4-Mar-2022 11:21:21 AM	2.9890
4-Mar-2022 11:22:21 AM	2.9890
4-Mar-2022 11:23:21 AM	2.7399
4-Mar-2022 11:24:21 AM	2.7399
4-Mar-2022 11:25:21 AM	2.7399
4-Mar-2022 11:26:21 AM	2.7399
4-Mar-2022 11:27:21 AM	2.7399
4-Mar-2022 11:28:21 AM	2.7399

Transportation Building

Date Time	$\Delta P$ Pa
4-Mar-2022 11:29:21 AM	2.7399
4-Mar-2022 11:30:21 AM	2.4908
4-Mar-2022 11:31:21 AM	2.7399
4-Mar-2022 11:32:21 AM	2.7399
4-Mar-2022 11:33:21 AM	2.2417
4-Mar-2022 11:34:21 AM	2.2417
4-Mar-2022 11:35:21 AM	2.2417
4-Mar-2022 11:36:21 AM	2.2417
4-Mar-2022 11:37:21 AM	2.2417
4-Mar-2022 11:38:21 AM	2.2417
4-Mar-2022 11:39:21 AM	2.2417
4-Mar-2022 11:40:21 AM	2.4908
4-Mar-2022 11:41:21 AM	2.4908
4-Mar-2022 11:42:21 AM	2.4908
4-Mar-2022 11:43:21 AM	2.4908
4-Mar-2022 11:44:21 AM	2.4908
4-Mar-2022 11:45:21 AM	2.4908
4-Mar-2022 11:46:21 AM	2.4908
4-Mar-2022 11:47:21 AM	2.4908
4-Mar-2022 11:48:21 AM	2.4908
4-Mar-2022 11:49:21 AM	2.2417
4-Mar-2022 11:50:21 AM	2.2417
4-Mar-2022 11:51:21 AM	2.4908
4-Mar-2022 11:52:21 AM	2.4908
4-Mar-2022 11:53:21 AM	2.4908
4-Mar-2022 11:54:21 AM	2.4908
4-Mar-2022 11:55:21 AM	2.4908
4-Mar-2022 11:56:21 AM	2.4908
4-Mar-2022 11:57:21 AM	2.4908
4-Mar-2022 11:58:21 AM	2.4908
4-Mar-2022 11:59:21 AM	2.4908
4-Mar-2022 12:00:21 PM	2.4908
4-Mar-2022 12:01:21 PM	2.4908
4-Mar-2022 12:02:21 PM	2.4908
4-Mar-2022 12:03:21 PM	2.4908
4-Mar-2022 12:04:21 PM	2.4908
4-Mar-2022 12:05:21 PM	2.4908
4-Mar-2022 12:06:21 PM	2.2417
4-Mar-2022 12:07:21 PM	2.4908
4-Mar-2022 12:08:21 PM	2.4908
4-Mar-2022 12:09:21 PM	2.7399
4-Mar-2022 12:10:21 PM	2.7399
4-Mar-2022 12:11:21 PM	2.7399
4-Mar-2022 12:12:21 PM	2.7399
4-Mar-2022 12:13:21 PM	2.7399
4-Mar-2022 12:14:21 PM	2.7399
4-Mar-2022 12:15:21 PM	2.7399
4-Mar-2022 12:16:21 PM	2.7399
4-Mar-2022 12:17:21 PM	2.7399
4-Mar-2022 12:18:21 PM	2.7399
4-Mar-2022 12:19:21 PM	2.7399
4-Mar-2022 12:20:21 PM	2.7399
4-Mar-2022 12:21:21 PM	2.7399
4-Mar-2022 12:22:21 PM	2.4908

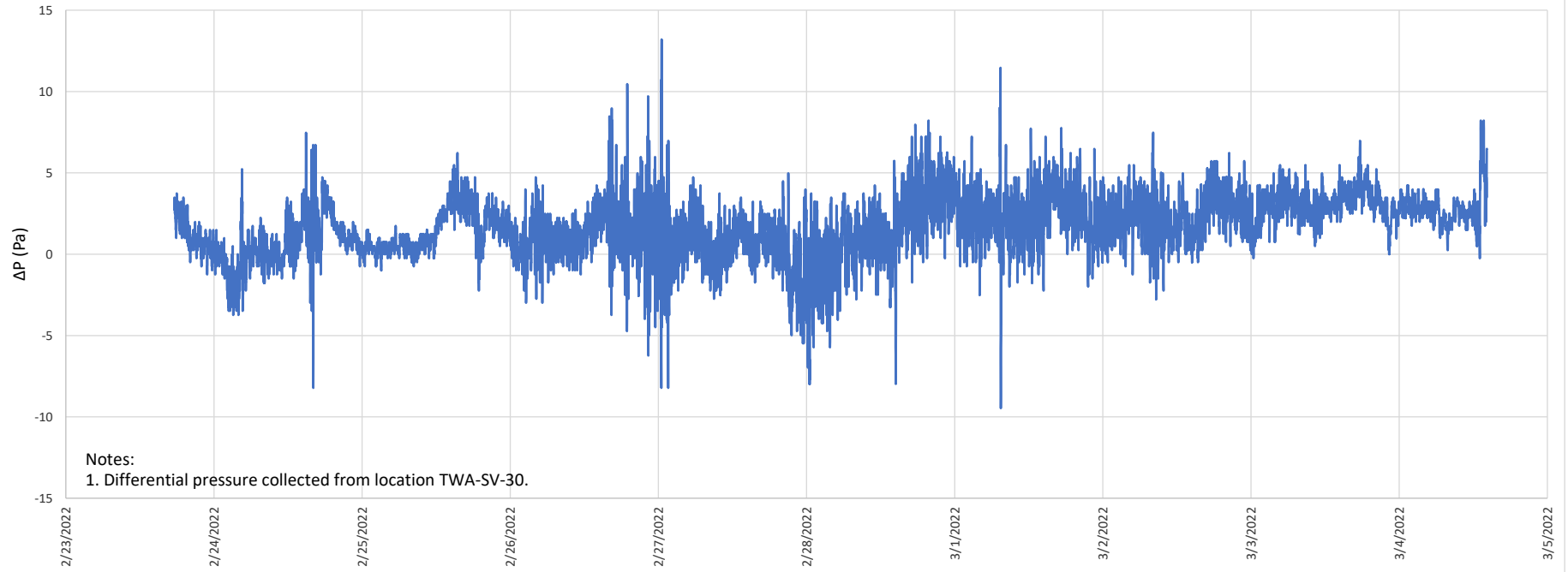
Transportation Building

Date Time	$\Delta P$ Pa
4-Mar-2022 12:23:21 PM	2.4908
4-Mar-2022 12:24:21 PM	2.4908
4-Mar-2022 12:25:21 PM	2.4908
4-Mar-2022 12:26:21 PM	2.7399
4-Mar-2022 12:27:21 PM	2.7399
4-Mar-2022 12:28:21 PM	2.7399
4-Mar-2022 12:29:21 PM	2.7399
4-Mar-2022 12:30:21 PM	2.4908
4-Mar-2022 12:31:21 PM	2.7399
4-Mar-2022 12:32:21 PM	2.7399
4-Mar-2022 12:33:21 PM	2.7399
4-Mar-2022 12:34:21 PM	2.7399
4-Mar-2022 12:35:21 PM	2.7399
4-Mar-2022 12:36:21 PM	2.9890
4-Mar-2022 12:37:21 PM	2.7399
4-Mar-2022 12:38:21 PM	2.7399
4-Mar-2022 12:39:21 PM	2.7399
4-Mar-2022 12:40:21 PM	2.7399
4-Mar-2022 12:41:21 PM	2.4908
4-Mar-2022 12:42:21 PM	2.4908
4-Mar-2022 12:43:21 PM	2.7399
4-Mar-2022 12:44:21 PM	2.7399
4-Mar-2022 12:45:21 PM	2.7399
4-Mar-2022 12:46:21 PM	2.7399
4-Mar-2022 12:47:21 PM	2.7399
4-Mar-2022 12:48:21 PM	2.4908
4-Mar-2022 12:49:21 PM	2.4908
4-Mar-2022 12:50:21 PM	2.4908
4-Mar-2022 12:51:21 PM	2.4908
4-Mar-2022 12:52:21 PM	2.4908
4-Mar-2022 12:53:21 PM	2.4908
4-Mar-2022 12:54:21 PM	2.2417
4-Mar-2022 12:55:21 PM	2.7399
4-Mar-2022 12:56:21 PM	2.7399
4-Mar-2022 12:57:21 PM	2.2417
4-Mar-2022 12:58:21 PM	2.2417
4-Mar-2022 12:59:21 PM	2.2417
4-Mar-2022 1:00:21 PM	2.2417
4-Mar-2022 1:01:21 PM	2.2417
4-Mar-2022 1:02:21 PM	2.2417
4-Mar-2022 1:03:21 PM	2.2417
4-Mar-2022 1:04:21 PM	2.2417
4-Mar-2022 1:05:21 PM	2.4908
4-Mar-2022 1:06:21 PM	2.4908
4-Mar-2022 1:07:21 PM	2.2417
4-Mar-2022 1:08:21 PM	2.2417
4-Mar-2022 1:09:21 PM	2.2417
4-Mar-2022 1:10:21 PM	2.2417
4-Mar-2022 1:11:21 PM	2.2417
4-Mar-2022 1:12:21 PM	2.2417
4-Mar-2022 1:13:21 PM	2.4908
4-Mar-2022 1:14:21 PM	2.2417
4-Mar-2022 1:15:21 PM	2.4908
4-Mar-2022 1:16:21 PM	2.4908

Transportation Building

Date Time	$\Delta P$ Pa
4-Mar-2022 1:17:21 PM	2.4908
4-Mar-2022 1:18:21 PM	2.4908
4-Mar-2022 1:19:21 PM	2.4908
4-Mar-2022 1:20:21 PM	2.4908
4-Mar-2022 1:21:21 PM	2.4908
4-Mar-2022 1:22:21 PM	2.2417
4-Mar-2022 1:23:21 PM	2.2417
4-Mar-2022 1:24:21 PM	2.2417
4-Mar-2022 1:25:21 PM	2.7399
4-Mar-2022 1:26:21 PM	2.2417

### Burlington Property - Stabilization Building



Notes:  
1. Differential pressure collected from location TWA-SV-30.

Stabilization Building

Date Time	$\Delta P$ (Pa)
23-Feb-2022 5:34:05 PM	2.73988
23-Feb-2022 5:35:05 PM	2.73988
23-Feb-2022 5:36:05 PM	2.73988
23-Feb-2022 5:37:05 PM	3.48712
23-Feb-2022 5:38:05 PM	3.23804
23-Feb-2022 5:39:05 PM	2.98896
23-Feb-2022 5:40:05 PM	2.73988
23-Feb-2022 5:41:05 PM	2.4908
23-Feb-2022 5:42:05 PM	2.73988
23-Feb-2022 5:43:05 PM	2.73988
23-Feb-2022 5:44:05 PM	2.24172
23-Feb-2022 5:45:05 PM	2.24172
23-Feb-2022 5:46:05 PM	1.99264
23-Feb-2022 5:47:05 PM	1.99264
23-Feb-2022 5:48:05 PM	1.99264
23-Feb-2022 5:49:05 PM	1.49448
23-Feb-2022 5:50:05 PM	1.74356
23-Feb-2022 5:51:05 PM	1.99264
23-Feb-2022 5:52:05 PM	1.74356
23-Feb-2022 5:53:05 PM	0.99632
23-Feb-2022 5:54:05 PM	1.2454
23-Feb-2022 5:55:05 PM	1.49448
23-Feb-2022 5:56:05 PM	1.74356
23-Feb-2022 5:57:05 PM	1.99264
23-Feb-2022 5:58:05 PM	3.23804
23-Feb-2022 5:59:05 PM	3.7362
23-Feb-2022 6:00:05 PM	2.98896
23-Feb-2022 6:01:05 PM	2.24172
23-Feb-2022 6:02:05 PM	2.24172
23-Feb-2022 6:03:05 PM	2.24172
23-Feb-2022 6:04:05 PM	2.73988
23-Feb-2022 6:05:05 PM	2.4908
23-Feb-2022 6:06:05 PM	2.73988
23-Feb-2022 6:07:05 PM	2.4908
23-Feb-2022 6:08:05 PM	2.73988
23-Feb-2022 6:09:05 PM	2.24172
23-Feb-2022 6:10:05 PM	2.73988
23-Feb-2022 6:11:05 PM	2.73988
23-Feb-2022 6:12:05 PM	2.24172
23-Feb-2022 6:13:05 PM	2.4908
23-Feb-2022 6:14:05 PM	2.73988
23-Feb-2022 6:15:05 PM	3.23804
23-Feb-2022 6:16:05 PM	2.73988
23-Feb-2022 6:17:05 PM	2.73988
23-Feb-2022 6:18:05 PM	2.73988
23-Feb-2022 6:19:05 PM	2.73988
23-Feb-2022 6:20:05 PM	2.98896
23-Feb-2022 6:21:05 PM	2.4908
23-Feb-2022 6:22:05 PM	1.99264
23-Feb-2022 6:23:05 PM	1.99264
23-Feb-2022 6:24:05 PM	1.49448
23-Feb-2022 6:25:05 PM	1.49448
23-Feb-2022 6:26:05 PM	1.99264
23-Feb-2022 6:27:05 PM	1.74356



23-Feb-2022 6:28:05 PM	1.49448
23-Feb-2022 6:29:05 PM	1.74356
23-Feb-2022 6:30:05 PM	1.2454
23-Feb-2022 6:31:05 PM	1.49448
23-Feb-2022 6:32:05 PM	1.99264
23-Feb-2022 6:33:05 PM	1.99264
23-Feb-2022 6:34:05 PM	1.99264
23-Feb-2022 6:35:05 PM	2.4908
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26-Feb-2022 3:29:05 AM	2.4908
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26-Feb-2022 4:03:05 AM	0
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26-Feb-2022 8:24:05 AM	0
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26-Feb-2022 9:23:05 AM	0.74724
26-Feb-2022 9:24:05 AM	1.49448
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26-Feb-2022 9:27:05 AM	0.24908
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27-Feb-2022 12:36:05 AM	4.9816
27-Feb-2022 12:37:05 AM	0
27-Feb-2022 12:38:05 AM	-2.4908
27-Feb-2022 12:39:05 AM	-2.4908
27-Feb-2022 12:40:05 AM	-0.74724
27-Feb-2022 12:41:05 AM	1.99264
27-Feb-2022 12:42:05 AM	4.73252
27-Feb-2022 12:43:05 AM	-0.24908
27-Feb-2022 12:44:05 AM	-2.73988
27-Feb-2022 12:45:05 AM	0.74724
27-Feb-2022 12:46:05 AM	0.24908
27-Feb-2022 12:47:05 AM	-1.99264
27-Feb-2022 12:48:05 AM	-0.99632
27-Feb-2022 12:49:05 AM	0.99632
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27-Feb-2022 12:57:05 AM	0.49816
27-Feb-2022 12:58:05 AM	-0.99632
27-Feb-2022 12:59:05 AM	0.74724
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27-Feb-2022 1:02:05 AM	-3.7362
27-Feb-2022 1:03:05 AM	-0.99632
27-Feb-2022 1:04:05 AM	2.24172
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27-Feb-2022 1:08:05 AM	-0.99632
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27-Feb-2022 1:12:05 AM	3.48712
27-Feb-2022 1:13:05 AM	0.99632
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27-Feb-2022 1:21:05 AM	-3.98528
27-Feb-2022 1:22:05 AM	4.48344
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27-Feb-2022 1:26:05 AM	2.24172
27-Feb-2022 1:27:05 AM	-4.23436
27-Feb-2022 1:28:05 AM	-0.99632
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27-Feb-2022 1:30:05 AM	1.49448
27-Feb-2022 1:31:05 AM	-4.73252
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27-Feb-2022 1:33:05 AM	6.47608
27-Feb-2022 1:34:05 AM	-0.24908
27-Feb-2022 1:35:05 AM	-8.21964
27-Feb-2022 1:36:05 AM	1.49448
27-Feb-2022 1:37:05 AM	6.97424
27-Feb-2022 1:38:05 AM	5.72884
27-Feb-2022 1:39:05 AM	-1.99264
27-Feb-2022 1:40:05 AM	0.74724
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27-Feb-2022 2:04:05 AM	-1.49448
27-Feb-2022 2:05:05 AM	-0.49816
27-Feb-2022 2:06:05 AM	-1.49448
27-Feb-2022 2:07:05 AM	-0.49816
27-Feb-2022 2:08:05 AM	0
27-Feb-2022 2:09:05 AM	-1.99264
27-Feb-2022 2:10:05 AM	-0.74724
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27-Feb-2022 2:17:05 AM	0.49816
27-Feb-2022 2:18:05 AM	0
27-Feb-2022 2:19:05 AM	-0.49816
27-Feb-2022 2:20:05 AM	-0.74724
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27-Feb-2022 2:23:05 AM	0.74724
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27-Feb-2022 2:25:05 AM	0.99632
27-Feb-2022 2:26:05 AM	0
27-Feb-2022 2:27:05 AM	-0.24908
27-Feb-2022 2:28:05 AM	0
27-Feb-2022 2:29:05 AM	0.49816
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27-Feb-2022 2:31:05 AM	0.49816
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27-Feb-2022 2:35:05 AM	0.99632
27-Feb-2022 2:36:05 AM	0.24908
27-Feb-2022 2:37:05 AM	-0.49816
27-Feb-2022 2:38:05 AM	0.49816
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27-Feb-2022 2:42:05 AM	0.99632
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27-Feb-2022 2:46:05 AM	1.2454
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27-Feb-2022 3:20:05 AM	0
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27-Feb-2022 3:22:05 AM	-0.49816
27-Feb-2022 3:23:05 AM	0.24908
27-Feb-2022 3:24:05 AM	0.74724
27-Feb-2022 3:25:05 AM	0
27-Feb-2022 3:26:05 AM	0.49816
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27-Feb-2022 3:28:05 AM	1.49448
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27-Feb-2022 3:30:05 AM	0
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27-Feb-2022 3:38:05 AM	0.74724
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27-Feb-2022 3:42:05 AM	0.24908
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27-Feb-2022 4:08:05 AM	0.99632
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27-Feb-2022 4:12:05 AM	0.24908
27-Feb-2022 4:13:05 AM	-0.49816
27-Feb-2022 4:14:05 AM	-0.24908
27-Feb-2022 4:15:05 AM	0.74724
27-Feb-2022 4:16:05 AM	0
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27-Feb-2022 4:19:05 AM	0.49816
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27-Feb-2022 4:22:05 AM	0.74724
27-Feb-2022 4:23:05 AM	0.74724
27-Feb-2022 4:24:05 AM	0
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27-Feb-2022 4:27:05 AM	1.2454
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27-Feb-2022 4:34:05 AM	0.74724
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27-Feb-2022 4:37:05 AM	0.24908
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27-Feb-2022 4:40:05 AM	0
27-Feb-2022 4:41:05 AM	0.24908
27-Feb-2022 4:42:05 AM	0.24908
27-Feb-2022 4:43:05 AM	-0.99632
27-Feb-2022 4:44:05 AM	-0.24908
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27-Feb-2022 4:46:05 AM	-0.49816
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27-Feb-2022 4:48:05 AM	1.49448
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27-Feb-2022 5:03:05 AM	2.24172
27-Feb-2022 5:04:05 AM	1.99264
27-Feb-2022 5:05:05 AM	0.74724
27-Feb-2022 5:06:05 AM	0.24908
27-Feb-2022 5:07:05 AM	2.24172
27-Feb-2022 5:08:05 AM	1.49448
27-Feb-2022 5:09:05 AM	1.74356
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27-Feb-2022 5:21:05 AM	1.74356
27-Feb-2022 5:22:05 AM	0
27-Feb-2022 5:23:05 AM	0
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27-Feb-2022 5:25:05 AM	2.4908
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27-Feb-2022 5:31:05 AM	2.98896

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27-Feb-2022 5:35:05 AM	0.49816
27-Feb-2022 5:36:05 AM	1.2454
27-Feb-2022 5:37:05 AM	3.48712
27-Feb-2022 5:38:05 AM	4.73252
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27-Feb-2022 5:43:05 AM	0.99632
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27-Feb-2022 5:45:05 AM	2.4908
27-Feb-2022 5:46:05 AM	2.24172
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27-Feb-2022 5:58:05 AM	-0.49816
27-Feb-2022 5:59:05 AM	0.99632
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27-Feb-2022 6:01:05 AM	1.99264
27-Feb-2022 6:02:05 AM	3.98528
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27-Feb-2022 6:10:05 AM	0.74724
27-Feb-2022 6:11:05 AM	-0.24908
27-Feb-2022 6:12:05 AM	-0.49816
27-Feb-2022 6:13:05 AM	-0.24908
27-Feb-2022 6:14:05 AM	0.24908
27-Feb-2022 6:15:05 AM	1.2454
27-Feb-2022 6:16:05 AM	0.74724
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27-Feb-2022 6:18:05 AM	1.2454
27-Feb-2022 6:19:05 AM	1.74356
27-Feb-2022 6:20:05 AM	0.74724
27-Feb-2022 6:21:05 AM	0.99632
27-Feb-2022 6:22:05 AM	0.99632
27-Feb-2022 6:23:05 AM	1.49448
27-Feb-2022 6:24:05 AM	1.74356
27-Feb-2022 6:25:05 AM	0.99632
27-Feb-2022 6:26:05 AM	-0.24908
27-Feb-2022 6:27:05 AM	0.99632

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27-Feb-2022 6:29:05 AM	1.99264
27-Feb-2022 6:30:05 AM	3.48712
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27-Feb-2022 6:32:05 AM	1.74356
27-Feb-2022 6:33:05 AM	1.2454
27-Feb-2022 6:34:05 AM	0.99632
27-Feb-2022 6:35:05 AM	-0.24908
27-Feb-2022 6:36:05 AM	0.99632
27-Feb-2022 6:37:05 AM	2.24172
27-Feb-2022 6:38:05 AM	0.49816
27-Feb-2022 6:39:05 AM	0.99632
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27-Feb-2022 6:44:05 AM	1.99264
27-Feb-2022 6:45:05 AM	1.2454
27-Feb-2022 6:46:05 AM	0.49816
27-Feb-2022 6:47:05 AM	1.2454
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27-Feb-2022 6:49:05 AM	4.23436
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27-Feb-2022 6:58:05 AM	0.74724
27-Feb-2022 6:59:05 AM	0.99632
27-Feb-2022 7:00:05 AM	0.74724
27-Feb-2022 7:01:05 AM	0.24908
27-Feb-2022 7:02:05 AM	-0.49816
27-Feb-2022 7:03:05 AM	0.49816
27-Feb-2022 7:04:05 AM	0.99632
27-Feb-2022 7:05:05 AM	2.24172
27-Feb-2022 7:06:05 AM	2.73988
27-Feb-2022 7:07:05 AM	0.49816
27-Feb-2022 7:08:05 AM	-1.74356
27-Feb-2022 7:09:05 AM	-0.24908
27-Feb-2022 7:10:05 AM	2.98896
27-Feb-2022 7:11:05 AM	2.24172
27-Feb-2022 7:12:05 AM	0.74724
27-Feb-2022 7:13:05 AM	0.74724
27-Feb-2022 7:14:05 AM	0.24908
27-Feb-2022 7:15:05 AM	-0.74724
27-Feb-2022 7:16:05 AM	-1.49448
27-Feb-2022 7:17:05 AM	1.2454
27-Feb-2022 7:18:05 AM	1.49448
27-Feb-2022 7:19:05 AM	-0.49816
27-Feb-2022 7:20:05 AM	-0.74724
27-Feb-2022 7:21:05 AM	0.74724
27-Feb-2022 7:22:05 AM	-0.49816
27-Feb-2022 7:23:05 AM	-1.2454

27-Feb-2022 7:24:05 AM	-1.2454
27-Feb-2022 7:25:05 AM	-0.49816
27-Feb-2022 7:26:05 AM	-0.74724
27-Feb-2022 7:27:05 AM	0
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27-Feb-2022 7:29:05 AM	0.24908
27-Feb-2022 7:30:05 AM	0.74724
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27-Feb-2022 7:34:05 AM	1.74356
27-Feb-2022 7:35:05 AM	1.49448
27-Feb-2022 7:36:05 AM	1.49448
27-Feb-2022 7:37:05 AM	0
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27-Feb-2022 7:39:05 AM	0
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27-Feb-2022 9:54:05 PM	-0.49816
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28-Feb-2022 4:31:05 AM	-1.2454
28-Feb-2022 4:32:05 AM	0
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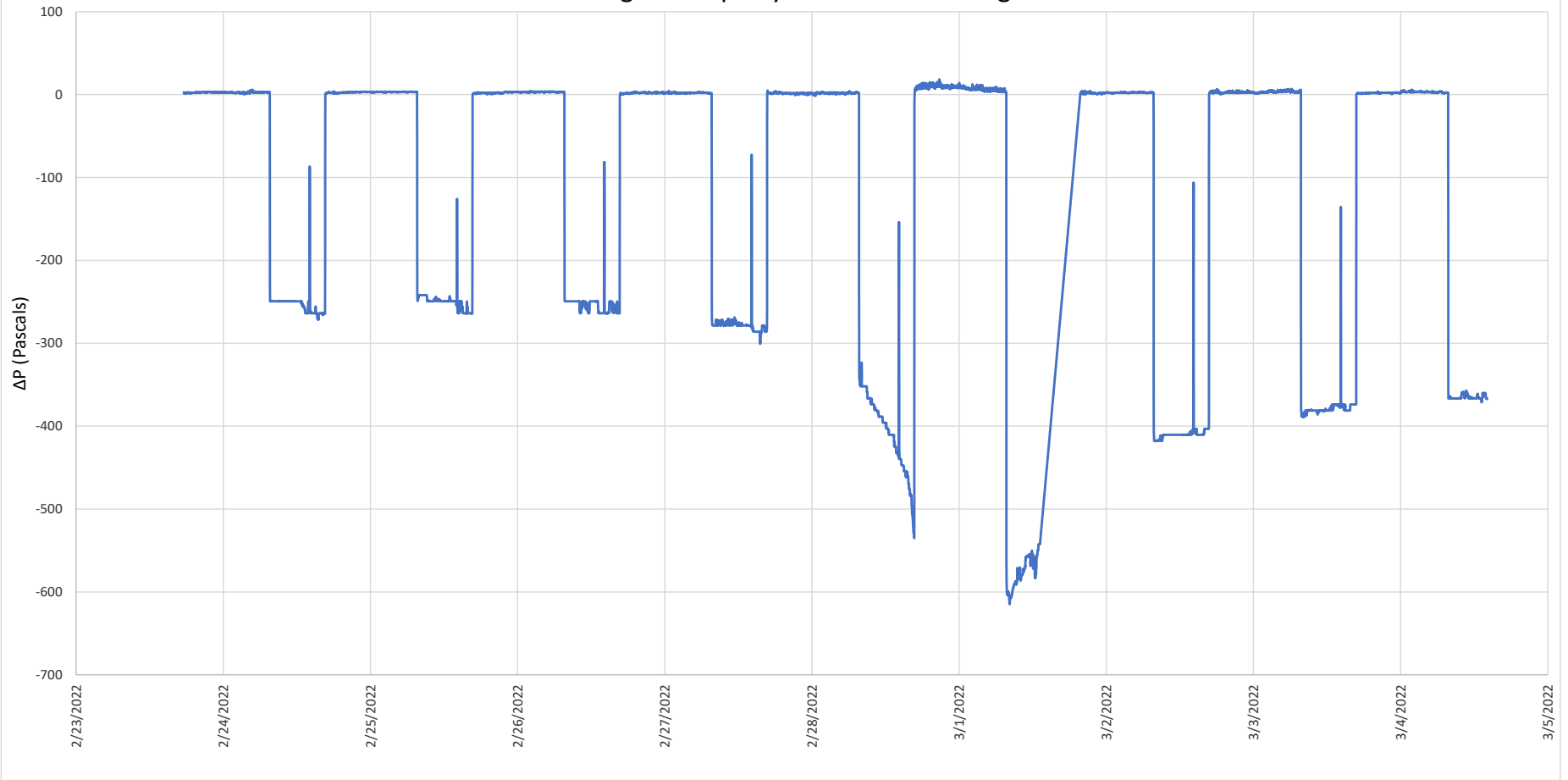


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4-Mar-2022 1:26:05 PM	6.47608
4-Mar-2022 1:27:05 PM	5.97792
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# Burlington Property - Lab Pack Building



Date Time	Lab Pack Building $\Delta P$ inH2O	$\Delta P$ Pa
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23-Feb-2022 5:35:27 PM	0.011	2.73988
23-Feb-2022 5:36:27 PM	0.006	1.49448
23-Feb-2022 5:37:27 PM	0.007	1.74356
23-Feb-2022 5:38:27 PM	0.007	1.74356
23-Feb-2022 5:39:27 PM	0.005	1.2454
23-Feb-2022 5:40:27 PM	0.007	1.74356
23-Feb-2022 5:41:27 PM	0.008	1.99264
23-Feb-2022 5:42:27 PM	0.006	1.49448
23-Feb-2022 5:43:27 PM	0.006	1.49448
23-Feb-2022 5:44:27 PM	0.005	1.2454
23-Feb-2022 5:45:27 PM	0.007	1.74356
23-Feb-2022 5:46:27 PM	0.006	1.49448
23-Feb-2022 5:47:27 PM	0.006	1.49448
23-Feb-2022 5:48:27 PM	0.007	1.74356
23-Feb-2022 5:49:27 PM	0.006	1.49448
23-Feb-2022 5:50:27 PM	0.006	1.49448
23-Feb-2022 5:51:27 PM	0.007	1.74356
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23-Feb-2022 5:53:27 PM	0.009	2.24172
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23-Feb-2022 5:55:27 PM	0.009	2.24172
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23-Feb-2022 5:57:27 PM	0.008	1.99264
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23-Feb-2022 6:02:27 PM	0.008	1.99264
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23-Feb-2022 11:52:27 PM	0.011	2.73988
23-Feb-2022 11:53:27 PM	0.011	2.73988
23-Feb-2022 11:54:27 PM	0.011	2.73988
23-Feb-2022 11:55:27 PM	0.011	2.73988
23-Feb-2022 11:56:27 PM	0.012	2.98896
23-Feb-2022 11:57:27 PM	0.011	2.73988
23-Feb-2022 11:58:27 PM	0.011	2.73988
23-Feb-2022 11:59:27 PM	0.011	2.73988
24-Feb-2022 12:00:27 AM	0.011	2.73988
24-Feb-2022 12:01:27 AM	0.012	2.98896
24-Feb-2022 12:02:27 AM	0.012	2.98896
24-Feb-2022 12:03:27 AM	0.012	2.98896

24-Feb-2022 12:04:27 AM	0.012	2.98896
24-Feb-2022 12:05:27 AM	0.012	2.98896
24-Feb-2022 12:06:27 AM	0.012	2.98896
24-Feb-2022 12:07:27 AM	0.012	2.98896
24-Feb-2022 12:08:27 AM	0.012	2.98896
24-Feb-2022 12:09:27 AM	0.011	2.73988
24-Feb-2022 12:10:27 AM	0.012	2.98896
24-Feb-2022 12:11:27 AM	0.012	2.98896
24-Feb-2022 12:12:27 AM	0.011	2.73988
24-Feb-2022 12:13:27 AM	0.012	2.98896
24-Feb-2022 12:14:27 AM	0.012	2.98896
24-Feb-2022 12:15:27 AM	0.012	2.98896
24-Feb-2022 12:16:27 AM	0.010	2.4908
24-Feb-2022 12:17:27 AM	0.010	2.4908
24-Feb-2022 12:18:27 AM	0.009	2.24172
24-Feb-2022 12:19:27 AM	0.010	2.4908
24-Feb-2022 12:20:27 AM	0.009	2.24172
24-Feb-2022 12:21:27 AM	0.008	1.99264
24-Feb-2022 12:22:27 AM	0.009	2.24172
24-Feb-2022 12:23:27 AM	0.010	2.4908
24-Feb-2022 12:24:27 AM	0.010	2.4908
24-Feb-2022 12:25:27 AM	0.010	2.4908
24-Feb-2022 12:26:27 AM	0.010	2.4908
24-Feb-2022 12:27:27 AM	0.011	2.73988
24-Feb-2022 12:28:27 AM	0.012	2.98896
24-Feb-2022 12:29:27 AM	0.013	3.23804
24-Feb-2022 12:30:27 AM	0.013	3.23804
24-Feb-2022 12:31:27 AM	0.013	3.23804
24-Feb-2022 12:32:27 AM	0.012	2.98896
24-Feb-2022 12:33:27 AM	0.011	2.73988
24-Feb-2022 12:34:27 AM	0.009	2.24172
24-Feb-2022 12:35:27 AM	0.008	1.99264
24-Feb-2022 12:36:27 AM	0.009	2.24172
24-Feb-2022 12:37:27 AM	0.009	2.24172
24-Feb-2022 12:38:27 AM	0.010	2.4908
24-Feb-2022 12:39:27 AM	0.010	2.4908
24-Feb-2022 12:40:27 AM	0.009	2.24172
24-Feb-2022 12:41:27 AM	0.009	2.24172
24-Feb-2022 12:42:27 AM	0.009	2.24172
24-Feb-2022 12:43:27 AM	0.010	2.4908
24-Feb-2022 12:44:27 AM	0.010	2.4908
24-Feb-2022 12:45:27 AM	0.009	2.24172
24-Feb-2022 12:46:27 AM	0.009	2.24172
24-Feb-2022 12:47:27 AM	0.009	2.24172
24-Feb-2022 12:48:27 AM	0.009	2.24172
24-Feb-2022 12:49:27 AM	0.010	2.4908
24-Feb-2022 12:50:27 AM	0.010	2.4908
24-Feb-2022 12:51:27 AM	0.010	2.4908
24-Feb-2022 12:52:27 AM	0.011	2.73988
24-Feb-2022 12:53:27 AM	0.010	2.4908
24-Feb-2022 12:54:27 AM	0.010	2.4908
24-Feb-2022 12:55:27 AM	0.011	2.73988
24-Feb-2022 12:56:27 AM	0.010	2.4908
24-Feb-2022 12:57:27 AM	0.010	2.4908
24-Feb-2022 12:58:27 AM	0.010	2.4908
24-Feb-2022 12:59:27 AM	0.010	2.4908

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24-Feb-2022 1:01:27 AM	0.009	2.24172
24-Feb-2022 1:02:27 AM	0.010	2.4908
24-Feb-2022 1:03:27 AM	0.011	2.73988
24-Feb-2022 1:04:27 AM	0.012	2.98896
24-Feb-2022 1:05:27 AM	0.012	2.98896
24-Feb-2022 1:06:27 AM	0.011	2.73988
24-Feb-2022 1:07:27 AM	0.011	2.73988
24-Feb-2022 1:08:27 AM	0.011	2.73988
24-Feb-2022 1:09:27 AM	0.010	2.4908
24-Feb-2022 1:10:27 AM	0.011	2.73988
24-Feb-2022 1:11:27 AM	0.012	2.98896
24-Feb-2022 1:12:27 AM	0.011	2.73988
24-Feb-2022 1:13:27 AM	0.010	2.4908
24-Feb-2022 1:14:27 AM	0.009	2.24172
24-Feb-2022 1:15:27 AM	0.010	2.4908
24-Feb-2022 1:16:27 AM	0.011	2.73988
24-Feb-2022 1:17:27 AM	0.010	2.4908
24-Feb-2022 1:18:27 AM	0.010	2.4908
24-Feb-2022 1:19:27 AM	0.011	2.73988
24-Feb-2022 1:20:27 AM	0.011	2.73988
24-Feb-2022 1:21:27 AM	0.010	2.4908
24-Feb-2022 1:22:27 AM	0.010	2.4908
24-Feb-2022 1:23:27 AM	0.010	2.4908
24-Feb-2022 1:24:27 AM	0.010	2.4908
24-Feb-2022 1:25:27 AM	0.010	2.4908
24-Feb-2022 1:26:27 AM	0.010	2.4908
24-Feb-2022 1:27:27 AM	0.011	2.73988
24-Feb-2022 1:28:27 AM	0.012	2.98896
24-Feb-2022 1:29:27 AM	0.012	2.98896
24-Feb-2022 1:30:27 AM	0.011	2.73988
24-Feb-2022 1:31:27 AM	0.010	2.4908
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24-Feb-2022 1:33:27 AM	0.010	2.4908
24-Feb-2022 1:34:27 AM	0.009	2.24172
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24-Feb-2022 1:36:27 AM	0.010	2.4908
24-Feb-2022 1:37:27 AM	0.011	2.73988
24-Feb-2022 1:38:27 AM	0.010	2.4908
24-Feb-2022 1:39:27 AM	0.009	2.24172
24-Feb-2022 1:40:27 AM	0.007	1.74356
24-Feb-2022 1:41:27 AM	0.008	1.99264
24-Feb-2022 1:42:27 AM	0.009	2.24172
24-Feb-2022 1:43:27 AM	0.009	2.24172
24-Feb-2022 1:44:27 AM	0.009	2.24172
24-Feb-2022 1:45:27 AM	0.009	2.24172
24-Feb-2022 1:46:27 AM	0.010	2.4908
24-Feb-2022 1:47:27 AM	0.010	2.4908
24-Feb-2022 1:48:27 AM	0.009	2.24172
24-Feb-2022 1:49:27 AM	0.009	2.24172
24-Feb-2022 1:50:27 AM	0.009	2.24172
24-Feb-2022 1:51:27 AM	0.008	1.99264
24-Feb-2022 1:52:27 AM	0.009	2.24172
24-Feb-2022 1:53:27 AM	0.010	2.4908
24-Feb-2022 1:54:27 AM	0.010	2.4908
24-Feb-2022 1:55:27 AM	0.010	2.4908

24-Feb-2022 1:56:27 AM	0.008	1.99264
24-Feb-2022 1:57:27 AM	0.007	1.74356
24-Feb-2022 1:58:27 AM	0.008	1.99264
24-Feb-2022 1:59:27 AM	0.008	1.99264
24-Feb-2022 2:00:27 AM	0.009	2.24172
24-Feb-2022 2:01:27 AM	0.010	2.4908
24-Feb-2022 2:02:27 AM	0.008	1.99264
24-Feb-2022 2:03:27 AM	0.007	1.74356
24-Feb-2022 2:04:27 AM	0.009	2.24172
24-Feb-2022 2:05:27 AM	0.008	1.99264
24-Feb-2022 2:06:27 AM	0.007	1.74356
24-Feb-2022 2:07:27 AM	0.010	2.4908
24-Feb-2022 2:08:27 AM	0.011	2.73988
24-Feb-2022 2:09:27 AM	0.010	2.4908
24-Feb-2022 2:10:27 AM	0.009	2.24172
24-Feb-2022 2:11:27 AM	0.009	2.24172
24-Feb-2022 2:12:27 AM	0.009	2.24172
24-Feb-2022 2:13:27 AM	0.009	2.24172
24-Feb-2022 2:14:27 AM	0.008	1.99264
24-Feb-2022 2:15:27 AM	0.010	2.4908
24-Feb-2022 2:16:27 AM	0.009	2.24172
24-Feb-2022 2:17:27 AM	0.009	2.24172
24-Feb-2022 2:18:27 AM	0.012	2.98896
24-Feb-2022 2:19:27 AM	0.011	2.73988
24-Feb-2022 2:20:27 AM	0.010	2.4908
24-Feb-2022 2:21:27 AM	0.009	2.24172
24-Feb-2022 2:22:27 AM	0.008	1.99264
24-Feb-2022 2:23:27 AM	0.009	2.24172
24-Feb-2022 2:24:27 AM	0.009	2.24172
24-Feb-2022 2:25:27 AM	0.010	2.4908
24-Feb-2022 2:26:27 AM	0.011	2.73988
24-Feb-2022 2:27:27 AM	0.010	2.4908
24-Feb-2022 2:28:27 AM	0.009	2.24172
24-Feb-2022 2:29:27 AM	0.009	2.24172
24-Feb-2022 2:30:27 AM	0.009	2.24172
24-Feb-2022 2:31:27 AM	0.011	2.73988
24-Feb-2022 2:32:27 AM	0.009	2.24172
24-Feb-2022 2:33:27 AM	0.013	3.23804
24-Feb-2022 2:34:27 AM	0.009	2.24172
24-Feb-2022 2:35:27 AM	0.012	2.98896
24-Feb-2022 2:36:27 AM	0.010	2.4908
24-Feb-2022 2:37:27 AM	0.010	2.4908
24-Feb-2022 2:38:27 AM	0.007	1.74356
24-Feb-2022 2:39:27 AM	0.011	2.73988
24-Feb-2022 2:40:27 AM	0.012	2.98896
24-Feb-2022 2:41:27 AM	0.007	1.74356
24-Feb-2022 2:42:27 AM	0.008	1.99264
24-Feb-2022 2:43:27 AM	0.008	1.99264
24-Feb-2022 2:44:27 AM	0.007	1.74356
24-Feb-2022 2:45:27 AM	0.006	1.49448
24-Feb-2022 2:46:27 AM	0.009	2.24172
24-Feb-2022 2:47:27 AM	0.009	2.24172
24-Feb-2022 2:48:27 AM	0.009	2.24172
24-Feb-2022 2:49:27 AM	0.007	1.74356
24-Feb-2022 2:50:27 AM	0.008	1.99264
24-Feb-2022 2:51:27 AM	0.008	1.99264

24-Feb-2022 2:52:27 AM	0.009	2.24172
24-Feb-2022 2:53:27 AM	0.011	2.73988
24-Feb-2022 2:54:27 AM	0.009	2.24172
24-Feb-2022 2:55:27 AM	0.007	1.74356
24-Feb-2022 2:56:27 AM	0.007	1.74356
24-Feb-2022 2:57:27 AM	0.006	1.49448
24-Feb-2022 2:58:27 AM	0.004	0.99632
24-Feb-2022 2:59:27 AM	0.005	1.2454
24-Feb-2022 3:00:27 AM	0.006	1.49448
24-Feb-2022 3:01:27 AM	0.008	1.99264
24-Feb-2022 3:02:27 AM	0.007	1.74356
24-Feb-2022 3:03:27 AM	0.009	2.24172
24-Feb-2022 3:04:27 AM	0.009	2.24172
24-Feb-2022 3:05:27 AM	0.010	2.4908
24-Feb-2022 3:06:27 AM	0.011	2.73988
24-Feb-2022 3:07:27 AM	0.012	2.98896
24-Feb-2022 3:08:27 AM	0.010	2.4908
24-Feb-2022 3:09:27 AM	0.011	2.73988
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24-Feb-2022 3:11:27 AM	0.010	2.4908
24-Feb-2022 3:12:27 AM	0.010	2.4908
24-Feb-2022 3:13:27 AM	0.009	2.24172
24-Feb-2022 3:14:27 AM	0.008	1.99264
24-Feb-2022 3:15:27 AM	0.009	2.24172
24-Feb-2022 3:16:27 AM	0.010	2.4908
24-Feb-2022 3:17:27 AM	0.011	2.73988
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24-Feb-2022 3:19:27 AM	0.003	0.74724
24-Feb-2022 3:20:27 AM	0.002	0.49816
24-Feb-2022 3:21:27 AM	0.007	1.74356
24-Feb-2022 3:22:27 AM	0.009	2.24172
24-Feb-2022 3:23:27 AM	0.012	2.98896
24-Feb-2022 3:24:27 AM	0.009	2.24172
24-Feb-2022 3:25:27 AM	0.006	1.49448
24-Feb-2022 3:26:27 AM	0.008	1.99264
24-Feb-2022 3:27:27 AM	0.011	2.73988
24-Feb-2022 3:28:27 AM	0.012	2.98896
24-Feb-2022 3:29:27 AM	0.009	2.24172
24-Feb-2022 3:30:27 AM	0.007	1.74356
24-Feb-2022 3:31:27 AM	0.006	1.49448
24-Feb-2022 3:32:27 AM	0.002	0.49816
24-Feb-2022 3:33:27 AM	0.002	0.49816
24-Feb-2022 3:34:27 AM	0.007	1.74356
24-Feb-2022 3:35:27 AM	0.009	2.24172
24-Feb-2022 3:36:27 AM	0.008	1.99264
24-Feb-2022 3:37:27 AM	0.010	2.4908
24-Feb-2022 3:38:27 AM	0.006	1.49448
24-Feb-2022 3:39:27 AM	0.007	1.74356
24-Feb-2022 3:40:27 AM	0.010	2.4908
24-Feb-2022 3:41:27 AM	0.008	1.99264
24-Feb-2022 3:42:27 AM	0.009	2.24172
24-Feb-2022 3:43:27 AM	0.007	1.74356
24-Feb-2022 3:44:27 AM	0.005	1.2454
24-Feb-2022 3:45:27 AM	0.007	1.74356
24-Feb-2022 3:46:27 AM	0.008	1.99264
24-Feb-2022 3:47:27 AM	0.008	1.99264

24-Feb-2022 3:48:27 AM	0.010	2.4908
24-Feb-2022 3:49:27 AM	0.007	1.74356
24-Feb-2022 3:50:27 AM	0.007	1.74356
24-Feb-2022 3:51:27 AM	0.005	1.2454
24-Feb-2022 3:52:27 AM	0.006	1.49448
24-Feb-2022 3:53:27 AM	0.006	1.49448
24-Feb-2022 3:54:27 AM	0.009	2.24172
24-Feb-2022 3:55:27 AM	0.009	2.24172
24-Feb-2022 3:56:27 AM	0.009	2.24172
24-Feb-2022 3:57:27 AM	0.008	1.99264
24-Feb-2022 3:58:27 AM	0.010	2.4908
24-Feb-2022 3:59:27 AM	0.010	2.4908
24-Feb-2022 4:00:27 AM	0.009	2.24172
24-Feb-2022 4:01:27 AM	0.010	2.4908
24-Feb-2022 4:02:27 AM	0.010	2.4908
24-Feb-2022 4:03:27 AM	0.017	4.23436
24-Feb-2022 4:04:27 AM	0.011	2.73988
24-Feb-2022 4:05:27 AM	0.012	2.98896
24-Feb-2022 4:06:27 AM	0.008	1.99264
24-Feb-2022 4:07:27 AM	0.006	1.49448
24-Feb-2022 4:08:27 AM	0.010	2.4908
24-Feb-2022 4:09:27 AM	0.011	2.73988
24-Feb-2022 4:10:27 AM	0.011	2.73988
24-Feb-2022 4:11:27 AM	0.011	2.73988
24-Feb-2022 4:12:27 AM	0.012	2.98896
24-Feb-2022 4:13:27 AM	0.009	2.24172
24-Feb-2022 4:14:27 AM	0.011	2.73988
24-Feb-2022 4:15:27 AM	0.012	2.98896
24-Feb-2022 4:16:27 AM	0.012	2.98896
24-Feb-2022 4:17:27 AM	0.013	3.23804
24-Feb-2022 4:18:27 AM	0.010	2.4908
24-Feb-2022 4:19:27 AM	0.005	1.2454
24-Feb-2022 4:20:27 AM	0.005	1.2454
24-Feb-2022 4:21:27 AM	0.011	2.73988
24-Feb-2022 4:22:27 AM	0.020	4.9816
24-Feb-2022 4:23:27 AM	0.021	5.23068
24-Feb-2022 4:24:27 AM	0.020	4.9816
24-Feb-2022 4:25:27 AM	0.014	3.48712
24-Feb-2022 4:26:27 AM	0.019	4.73252
24-Feb-2022 4:27:27 AM	0.017	4.23436
24-Feb-2022 4:28:27 AM	0.016	3.98528
24-Feb-2022 4:29:27 AM	0.018	4.48344
24-Feb-2022 4:30:27 AM	0.021	5.23068
24-Feb-2022 4:31:27 AM	0.020	4.9816
24-Feb-2022 4:32:27 AM	0.018	4.48344
24-Feb-2022 4:33:27 AM	0.021	5.23068
24-Feb-2022 4:34:27 AM	0.017	4.23436
24-Feb-2022 4:35:27 AM	0.020	4.9816
24-Feb-2022 4:36:27 AM	0.021	5.23068
24-Feb-2022 4:37:27 AM	0.017	4.23436
24-Feb-2022 4:38:27 AM	0.021	5.23068
24-Feb-2022 4:39:27 AM	0.018	4.48344
24-Feb-2022 4:40:27 AM	0.016	3.98528
24-Feb-2022 4:41:27 AM	0.019	4.73252
24-Feb-2022 4:42:27 AM	0.023	5.72884
24-Feb-2022 4:43:27 AM	0.022	5.47976



24-Feb-2022 4:44:27 AM	0.019	4.73252
24-Feb-2022 4:45:27 AM	0.023	5.72884
24-Feb-2022 4:46:27 AM	0.019	4.73252
24-Feb-2022 4:47:27 AM	0.012	2.98896
24-Feb-2022 4:48:27 AM	0.011	2.73988
24-Feb-2022 4:49:27 AM	0.011	2.73988
24-Feb-2022 4:50:27 AM	0.017	4.23436
24-Feb-2022 4:51:27 AM	0.012	2.98896
24-Feb-2022 4:52:27 AM	0.008	1.99264
24-Feb-2022 4:53:27 AM	0.008	1.99264
24-Feb-2022 4:54:27 AM	0.009	2.24172
24-Feb-2022 4:55:27 AM	0.011	2.73988
24-Feb-2022 4:56:27 AM	0.012	2.98896
24-Feb-2022 4:57:27 AM	0.012	2.98896
24-Feb-2022 4:58:27 AM	0.012	2.98896
24-Feb-2022 4:59:27 AM	0.013	3.23804
24-Feb-2022 5:00:27 AM	0.011	2.73988
24-Feb-2022 5:01:27 AM	0.014	3.48712
24-Feb-2022 5:02:27 AM	0.013	3.23804
24-Feb-2022 5:03:27 AM	0.016	3.98528
24-Feb-2022 5:04:27 AM	0.016	3.98528
24-Feb-2022 5:05:27 AM	0.013	3.23804
24-Feb-2022 5:06:27 AM	0.014	3.48712
24-Feb-2022 5:07:27 AM	0.014	3.48712
24-Feb-2022 5:08:27 AM	0.013	3.23804
24-Feb-2022 5:09:27 AM	0.011	2.73988
24-Feb-2022 5:10:27 AM	0.012	2.98896
24-Feb-2022 5:11:27 AM	0.011	2.73988
24-Feb-2022 5:12:27 AM	0.011	2.73988
24-Feb-2022 5:13:27 AM	0.013	3.23804
24-Feb-2022 5:14:27 AM	0.010	2.4908
24-Feb-2022 5:15:27 AM	0.010	2.4908
24-Feb-2022 5:16:27 AM	0.009	2.24172
24-Feb-2022 5:17:27 AM	0.009	2.24172
24-Feb-2022 5:18:27 AM	0.009	2.24172
24-Feb-2022 5:19:27 AM	0.008	1.99264
24-Feb-2022 5:20:27 AM	0.008	1.99264
24-Feb-2022 5:21:27 AM	0.009	2.24172
24-Feb-2022 5:22:27 AM	0.009	2.24172
24-Feb-2022 5:23:27 AM	0.009	2.24172
24-Feb-2022 5:24:27 AM	0.010	2.4908
24-Feb-2022 5:25:27 AM	0.010	2.4908
24-Feb-2022 5:26:27 AM	0.010	2.4908
24-Feb-2022 5:27:27 AM	0.009	2.24172
24-Feb-2022 5:28:27 AM	0.010	2.4908
24-Feb-2022 5:29:27 AM	0.010	2.4908
24-Feb-2022 5:30:27 AM	0.009	2.24172
24-Feb-2022 5:31:27 AM	0.010	2.4908
24-Feb-2022 5:32:27 AM	0.011	2.73988
24-Feb-2022 5:33:27 AM	0.012	2.98896
24-Feb-2022 5:34:27 AM	0.010	2.4908
24-Feb-2022 5:35:27 AM	0.011	2.73988
24-Feb-2022 5:36:27 AM	0.011	2.73988
24-Feb-2022 5:37:27 AM	0.011	2.73988
24-Feb-2022 5:38:27 AM	0.011	2.73988
24-Feb-2022 5:39:27 AM	0.011	2.73988

24-Feb-2022 5:40:27 AM	0.011	2.73988
24-Feb-2022 5:41:27 AM	0.012	2.98896
24-Feb-2022 5:42:27 AM	0.011	2.73988
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26-Feb-2022 1:46:27 AM	0.012	2.98896
26-Feb-2022 1:47:27 AM	0.010	2.4908
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26-Feb-2022 1:49:27 AM	0.009	2.24172
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26-Feb-2022 2:42:27 AM	0.009	2.24172
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26-Feb-2022 3:23:27 AM	0.013	3.23804

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26-Feb-2022 4:02:27 AM	0.014	3.48712
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26-Feb-2022 4:19:27 AM	0.012	2.98896

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26-Feb-2022 4:22:27 AM	0.009	2.24172
26-Feb-2022 4:23:27 AM	0.009	2.24172
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26-Feb-2022 5:07:27 AM	0.012	2.98896
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26-Feb-2022 5:37:27 AM	0.013	3.23804
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26-Feb-2022 5:41:27 AM	0.013	3.23804
26-Feb-2022 5:42:27 AM	0.013	3.23804
26-Feb-2022 5:43:27 AM	0.013	3.23804
26-Feb-2022 5:44:27 AM	0.013	3.23804
26-Feb-2022 5:45:27 AM	0.013	3.23804
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26-Feb-2022 5:59:27 AM	0.014	3.48712
26-Feb-2022 6:00:27 AM	0.013	3.23804
26-Feb-2022 6:01:27 AM	0.013	3.23804
26-Feb-2022 6:02:27 AM	0.013	3.23804
26-Feb-2022 6:03:27 AM	0.013	3.23804
26-Feb-2022 6:04:27 AM	0.013	3.23804
26-Feb-2022 6:05:27 AM	0.013	3.23804
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26-Feb-2022 6:12:27 AM	0.013	3.23804
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26-Feb-2022 6:19:27 AM	0.009	2.24172
26-Feb-2022 6:20:27 AM	0.010	2.4908
26-Feb-2022 6:21:27 AM	0.011	2.73988
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26-Feb-2022 6:23:27 AM	0.013	3.23804
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26-Feb-2022 7:41:27 AM	-1.001	-249.32908
26-Feb-2022 7:42:27 AM	-1.001	-249.32908
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26-Feb-2022 8:01:27 AM	-1.001	-249.32908
26-Feb-2022 8:02:27 AM	-1.001	-249.32908
26-Feb-2022 8:03:27 AM	-1.001	-249.32908







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26-Feb-2022 9:57:27 AM	-1.001	-249.32908
26-Feb-2022 9:58:27 AM	-1.001	-249.32908
26-Feb-2022 9:59:27 AM	-1.001	-249.32908
26-Feb-2022 10:00:27 AM	-1.001	-249.32908
26-Feb-2022 10:01:27 AM	-1.001	-249.32908
26-Feb-2022 10:02:27 AM	-1.002	-249.57816
26-Feb-2022 10:03:27 AM	-1.002	-249.57816
26-Feb-2022 10:04:27 AM	-1.003	-249.82724
26-Feb-2022 10:05:27 AM	-1.001	-249.32908
26-Feb-2022 10:06:27 AM	-1.015	-252.8162
26-Feb-2022 10:07:27 AM	-1.047	-260.78676
26-Feb-2022 10:08:27 AM	-1.038	-258.54504
26-Feb-2022 10:09:27 AM	-1.056	-263.02848
26-Feb-2022 10:10:27 AM	-1.059	-263.77572
26-Feb-2022 10:11:27 AM	-1.059	-263.77572
26-Feb-2022 10:12:27 AM	-1.059	-263.77572
26-Feb-2022 10:13:27 AM	-1.052	-262.03216
26-Feb-2022 10:14:27 AM	-1.059	-263.77572
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26-Feb-2022 10:19:27 AM	-1.052	-262.03216
26-Feb-2022 10:20:27 AM	-1.058	-263.52664
26-Feb-2022 10:21:27 AM	-1.058	-263.52664
26-Feb-2022 10:22:27 AM	-1.054	-262.53032
26-Feb-2022 10:23:27 AM	-1.023	-254.80884
26-Feb-2022 10:24:27 AM	-1.026	-255.55608
26-Feb-2022 10:25:27 AM	-1.024	-255.05792
26-Feb-2022 10:26:27 AM	-1.040	-259.0432
26-Feb-2022 10:27:27 AM	-1.029	-256.30332
26-Feb-2022 10:28:27 AM	-1.011	-251.81988
26-Feb-2022 10:29:27 AM	-1.010	-251.5708
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26-Feb-2022 10:32:27 AM	-1.022	-254.55976
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26-Feb-2022 10:35:27 AM	-1.014	-252.56712
26-Feb-2022 10:36:27 AM	-1.017	-253.31436
26-Feb-2022 10:37:27 AM	-1.026	-255.55608
26-Feb-2022 10:38:27 AM	-1.016	-253.06528
26-Feb-2022 10:39:27 AM	-1.003	-249.82724
26-Feb-2022 10:40:27 AM	-1.003	-249.82724
26-Feb-2022 10:41:27 AM	-1.004	-250.07632
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26-Feb-2022 10:43:27 AM	-1.001	-249.32908
26-Feb-2022 10:44:27 AM	-1.001	-249.32908
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26-Feb-2022 10:46:27 AM	-1.002	-249.57816
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26-Feb-2022 10:48:27 AM	-1.002	-249.57816
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26-Feb-2022 10:51:27 AM	-1.002	-249.57816

26-Feb-2022 10:52:27 AM	-1.002	-249.57816
26-Feb-2022 10:53:27 AM	-1.004	-250.07632
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26-Feb-2022 10:58:27 AM	-1.009	-251.32172
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26-Feb-2022 11:00:27 AM	-1.021	-254.31068
26-Feb-2022 11:01:27 AM	-1.007	-250.82356
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26-Feb-2022 11:03:27 AM	-1.017	-253.31436
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26-Feb-2022 11:05:27 AM	-1.011	-251.81988
26-Feb-2022 11:06:27 AM	-1.012	-252.06896
26-Feb-2022 11:07:27 AM	-1.012	-252.06896
26-Feb-2022 11:08:27 AM	-1.039	-258.79412
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26-Feb-2022 11:10:27 AM	-1.004	-250.07632
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26-Feb-2022 11:12:27 AM	-1.012	-252.06896
26-Feb-2022 11:13:27 AM	-1.017	-253.31436
26-Feb-2022 11:14:27 AM	-1.010	-251.5708
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26-Feb-2022 11:30:27 AM	-1.058	-263.52664
26-Feb-2022 11:31:27 AM	-1.059	-263.77572
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26-Feb-2022 2:10:27 PM	-0.990	-246.5892
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26-Feb-2022 2:46:27 PM	-1.058	-263.52664
26-Feb-2022 2:47:27 PM	-1.058	-263.52664
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26-Feb-2022 2:49:27 PM	-1.056	-263.02848
26-Feb-2022 2:50:27 PM	-1.057	-263.27756
26-Feb-2022 2:51:27 PM	-1.057	-263.27756
26-Feb-2022 2:52:27 PM	-1.056	-263.02848
26-Feb-2022 2:53:27 PM	-1.058	-263.52664
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26-Feb-2022 3:23:27 PM	-1.045	-260.2886
26-Feb-2022 3:24:27 PM	-1.049	-261.28492
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26-Feb-2022 3:37:27 PM	-1.021	-254.31068
26-Feb-2022 3:38:27 PM	-1.033	-257.29964
26-Feb-2022 3:39:27 PM	-1.042	-259.54136
26-Feb-2022 3:40:27 PM	-1.045	-260.2886
26-Feb-2022 3:41:27 PM	-1.035	-257.7978
26-Feb-2022 3:42:27 PM	-1.020	-254.0616
26-Feb-2022 3:43:27 PM	-1.047	-260.78676
26-Feb-2022 3:44:27 PM	-1.036	-258.04688
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26-Feb-2022 4:03:27 PM	-1.032	-257.05056
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26-Feb-2022 6:02:27 PM	0.006	1.49448
26-Feb-2022 6:03:27 PM	0.005	1.2454
26-Feb-2022 6:04:27 PM	0.006	1.49448
26-Feb-2022 6:05:27 PM	0.007	1.74356
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26-Feb-2022 6:07:27 PM	0.004	0.99632
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26-Feb-2022 6:47:27 PM	0.008	1.99264
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26-Feb-2022 7:05:27 PM	0.010	2.4908
26-Feb-2022 7:06:27 PM	0.015	3.7362
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26-Feb-2022 7:26:27 PM	0.010	2.4908
26-Feb-2022 7:27:27 PM	0.009	2.24172
26-Feb-2022 7:28:27 PM	0.008	1.99264
26-Feb-2022 7:29:27 PM	0.009	2.24172
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26-Feb-2022 7:32:27 PM	0.008	1.99264
26-Feb-2022 7:33:27 PM	0.008	1.99264
26-Feb-2022 7:34:27 PM	0.009	2.24172
26-Feb-2022 7:35:27 PM	0.011	2.73988
26-Feb-2022 7:36:27 PM	0.011	2.73988
26-Feb-2022 7:37:27 PM	0.010	2.4908
26-Feb-2022 7:38:27 PM	0.010	2.4908
26-Feb-2022 7:39:27 PM	0.010	2.4908
26-Feb-2022 7:40:27 PM	0.010	2.4908
26-Feb-2022 7:41:27 PM	0.010	2.4908
26-Feb-2022 7:42:27 PM	0.010	2.4908
26-Feb-2022 7:43:27 PM	0.010	2.4908
26-Feb-2022 7:44:27 PM	0.009	2.24172
26-Feb-2022 7:45:27 PM	0.008	1.99264
26-Feb-2022 7:46:27 PM	0.008	1.99264
26-Feb-2022 7:47:27 PM	0.007	1.74356
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26-Feb-2022 7:50:27 PM	0.007	1.74356
26-Feb-2022 7:51:27 PM	0.009	2.24172
26-Feb-2022 7:52:27 PM	0.008	1.99264
26-Feb-2022 7:53:27 PM	0.007	1.74356
26-Feb-2022 7:54:27 PM	0.007	1.74356
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26-Feb-2022 7:56:27 PM	0.008	1.99264
26-Feb-2022 7:57:27 PM	0.007	1.74356
26-Feb-2022 7:58:27 PM	0.008	1.99264
26-Feb-2022 7:59:27 PM	0.009	2.24172
26-Feb-2022 8:00:27 PM	0.009	2.24172
26-Feb-2022 8:01:27 PM	0.009	2.24172
26-Feb-2022 8:02:27 PM	0.009	2.24172
26-Feb-2022 8:03:27 PM	0.009	2.24172
26-Feb-2022 8:04:27 PM	0.010	2.4908
26-Feb-2022 8:05:27 PM	0.009	2.24172
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26-Feb-2022 9:07:27 PM	0.006	1.49448

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26-Feb-2022 11:03:27 PM	0.009	2.24172
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26-Feb-2022 11:43:27 PM	0.008	1.99264
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26-Feb-2022 11:53:27 PM	0.008	1.99264
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26-Feb-2022 11:55:27 PM	0.009	2.24172



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27-Feb-2022 12:03:27 AM	0.008	1.99264
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27-Feb-2022 12:42:27 AM	0.006	1.49448
27-Feb-2022 12:43:27 AM	0.007	1.74356
27-Feb-2022 12:44:27 AM	0.010	2.4908
27-Feb-2022 12:45:27 AM	0.009	2.24172
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27-Feb-2022 1:26:27 AM	0.008	1.99264
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27-Feb-2022 1:31:27 AM	0.011	2.73988
27-Feb-2022 1:32:27 AM	0.008	1.99264
27-Feb-2022 1:33:27 AM	0.010	2.4908
27-Feb-2022 1:34:27 AM	0.012	2.98896
27-Feb-2022 1:35:27 AM	0.008	1.99264
27-Feb-2022 1:36:27 AM	0.007	1.74356
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27-Feb-2022 1:38:27 AM	0.012	2.98896
27-Feb-2022 1:39:27 AM	0.009	2.24172
27-Feb-2022 1:40:27 AM	0.008	1.99264
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27-Feb-2022 1:42:27 AM	0.012	2.98896
27-Feb-2022 1:43:27 AM	0.008	1.99264
27-Feb-2022 1:44:27 AM	0.010	2.4908
27-Feb-2022 1:45:27 AM	0.011	2.73988
27-Feb-2022 1:46:27 AM	0.011	2.73988
27-Feb-2022 1:47:27 AM	0.009	2.24172

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27-Feb-2022 1:49:27 AM	0.008	1.99264
27-Feb-2022 1:50:27 AM	0.010	2.4908
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27-Feb-2022 1:53:27 AM	0.006	1.49448
27-Feb-2022 1:54:27 AM	0.009	2.24172
27-Feb-2022 1:55:27 AM	0.010	2.4908
27-Feb-2022 1:56:27 AM	0.011	2.73988
27-Feb-2022 1:57:27 AM	0.010	2.4908
27-Feb-2022 1:58:27 AM	0.008	1.99264
27-Feb-2022 1:59:27 AM	0.006	1.49448
27-Feb-2022 2:00:27 AM	0.006	1.49448
27-Feb-2022 2:01:27 AM	0.004	0.99632
27-Feb-2022 2:02:27 AM	0.004	0.99632
27-Feb-2022 2:03:27 AM	0.004	0.99632
27-Feb-2022 2:04:27 AM	0.005	1.2454
27-Feb-2022 2:05:27 AM	0.005	1.2454
27-Feb-2022 2:06:27 AM	0.005	1.2454
27-Feb-2022 2:07:27 AM	0.009	2.24172
27-Feb-2022 2:08:27 AM	0.008	1.99264
27-Feb-2022 2:09:27 AM	0.008	1.99264
27-Feb-2022 2:10:27 AM	0.007	1.74356
27-Feb-2022 2:11:27 AM	0.004	0.99632
27-Feb-2022 2:12:27 AM	0.005	1.2454
27-Feb-2022 2:13:27 AM	0.006	1.49448
27-Feb-2022 2:14:27 AM	0.007	1.74356
27-Feb-2022 2:15:27 AM	0.005	1.2454
27-Feb-2022 2:16:27 AM	0.006	1.49448
27-Feb-2022 2:17:27 AM	0.005	1.2454
27-Feb-2022 2:18:27 AM	0.005	1.2454
27-Feb-2022 2:19:27 AM	0.007	1.74356
27-Feb-2022 2:20:27 AM	0.007	1.74356
27-Feb-2022 2:21:27 AM	0.005	1.2454
27-Feb-2022 2:22:27 AM	0.006	1.49448
27-Feb-2022 2:23:27 AM	0.007	1.74356
27-Feb-2022 2:24:27 AM	0.007	1.74356
27-Feb-2022 2:25:27 AM	0.006	1.49448
27-Feb-2022 2:26:27 AM	0.006	1.49448
27-Feb-2022 2:27:27 AM	0.005	1.2454
27-Feb-2022 2:28:27 AM	0.006	1.49448
27-Feb-2022 2:29:27 AM	0.006	1.49448
27-Feb-2022 2:30:27 AM	0.007	1.74356
27-Feb-2022 2:31:27 AM	0.008	1.99264
27-Feb-2022 2:32:27 AM	0.008	1.99264
27-Feb-2022 2:33:27 AM	0.007	1.74356
27-Feb-2022 2:34:27 AM	0.007	1.74356
27-Feb-2022 2:35:27 AM	0.007	1.74356
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27-Feb-2022 2:37:27 AM	0.008	1.99264
27-Feb-2022 2:38:27 AM	0.008	1.99264
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27-Feb-2022 2:42:27 AM	0.008	1.99264
27-Feb-2022 2:43:27 AM	0.009	2.24172

27-Feb-2022 2:44:27 AM	0.009	2.24172
27-Feb-2022 2:45:27 AM	0.008	1.99264
27-Feb-2022 2:46:27 AM	0.008	1.99264
27-Feb-2022 2:47:27 AM	0.009	2.24172
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27-Feb-2022 2:52:27 AM	0.009	2.24172
27-Feb-2022 2:53:27 AM	0.008	1.99264
27-Feb-2022 2:54:27 AM	0.008	1.99264
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27-Feb-2022 2:57:27 AM	0.008	1.99264
27-Feb-2022 2:58:27 AM	0.009	2.24172
27-Feb-2022 2:59:27 AM	0.007	1.74356
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27-Feb-2022 3:01:27 AM	0.009	2.24172
27-Feb-2022 3:02:27 AM	0.008	1.99264
27-Feb-2022 3:03:27 AM	0.008	1.99264
27-Feb-2022 3:04:27 AM	0.009	2.24172
27-Feb-2022 3:05:27 AM	0.009	2.24172
27-Feb-2022 3:06:27 AM	0.007	1.74356
27-Feb-2022 3:07:27 AM	0.008	1.99264
27-Feb-2022 3:08:27 AM	0.008	1.99264
27-Feb-2022 3:09:27 AM	0.008	1.99264
27-Feb-2022 3:10:27 AM	0.007	1.74356
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27-Feb-2022 3:13:27 AM	0.007	1.74356
27-Feb-2022 3:14:27 AM	0.007	1.74356
27-Feb-2022 3:15:27 AM	0.007	1.74356
27-Feb-2022 3:16:27 AM	0.007	1.74356
27-Feb-2022 3:17:27 AM	0.007	1.74356
27-Feb-2022 3:18:27 AM	0.007	1.74356
27-Feb-2022 3:19:27 AM	0.006	1.49448
27-Feb-2022 3:20:27 AM	0.006	1.49448
27-Feb-2022 3:21:27 AM	0.006	1.49448
27-Feb-2022 3:22:27 AM	0.007	1.74356
27-Feb-2022 3:23:27 AM	0.008	1.99264
27-Feb-2022 3:24:27 AM	0.008	1.99264
27-Feb-2022 3:25:27 AM	0.009	2.24172
27-Feb-2022 3:26:27 AM	0.008	1.99264
27-Feb-2022 3:27:27 AM	0.006	1.49448
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27-Feb-2022 3:34:27 AM	0.008	1.99264
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27-Feb-2022 3:37:27 AM	0.007	1.74356
27-Feb-2022 3:38:27 AM	0.005	1.2454
27-Feb-2022 3:39:27 AM	0.007	1.74356

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27-Feb-2022 3:41:27 AM	0.008	1.99264
27-Feb-2022 3:42:27 AM	0.008	1.99264
27-Feb-2022 3:43:27 AM	0.007	1.74356
27-Feb-2022 3:44:27 AM	0.009	2.24172
27-Feb-2022 3:45:27 AM	0.010	2.4908
27-Feb-2022 3:46:27 AM	0.009	2.24172
27-Feb-2022 3:47:27 AM	0.009	2.24172
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27-Feb-2022 3:55:27 AM	0.008	1.99264
27-Feb-2022 3:56:27 AM	0.009	2.24172
27-Feb-2022 3:57:27 AM	0.009	2.24172
27-Feb-2022 3:58:27 AM	0.009	2.24172
27-Feb-2022 3:59:27 AM	0.009	2.24172
27-Feb-2022 4:00:27 AM	0.009	2.24172
27-Feb-2022 4:01:27 AM	0.008	1.99264
27-Feb-2022 4:02:27 AM	0.007	1.74356
27-Feb-2022 4:03:27 AM	0.009	2.24172
27-Feb-2022 4:04:27 AM	0.009	2.24172
27-Feb-2022 4:05:27 AM	0.007	1.74356
27-Feb-2022 4:06:27 AM	0.010	2.4908
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27-Feb-2022 4:16:27 AM	0.009	2.24172
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27-Feb-2022 4:19:27 AM	0.009	2.24172
27-Feb-2022 4:20:27 AM	0.007	1.74356
27-Feb-2022 4:21:27 AM	0.007	1.74356
27-Feb-2022 4:22:27 AM	0.008	1.99264
27-Feb-2022 4:23:27 AM	0.008	1.99264
27-Feb-2022 4:24:27 AM	0.009	2.24172
27-Feb-2022 4:25:27 AM	0.009	2.24172
27-Feb-2022 4:26:27 AM	0.009	2.24172
27-Feb-2022 4:27:27 AM	0.009	2.24172
27-Feb-2022 4:28:27 AM	0.008	1.99264
27-Feb-2022 4:29:27 AM	0.009	2.24172
27-Feb-2022 4:30:27 AM	0.009	2.24172
27-Feb-2022 4:31:27 AM	0.008	1.99264
27-Feb-2022 4:32:27 AM	0.009	2.24172
27-Feb-2022 4:33:27 AM	0.008	1.99264
27-Feb-2022 4:34:27 AM	0.009	2.24172
27-Feb-2022 4:35:27 AM	0.009	2.24172

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27-Feb-2022 4:37:27 AM	0.009	2.24172
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27-Feb-2022 4:39:27 AM	0.008	1.99264
27-Feb-2022 4:40:27 AM	0.008	1.99264
27-Feb-2022 4:41:27 AM	0.008	1.99264
27-Feb-2022 4:42:27 AM	0.009	2.24172
27-Feb-2022 4:43:27 AM	0.008	1.99264
27-Feb-2022 4:44:27 AM	0.008	1.99264
27-Feb-2022 4:45:27 AM	0.007	1.74356
27-Feb-2022 4:46:27 AM	0.008	1.99264
27-Feb-2022 4:47:27 AM	0.009	2.24172
27-Feb-2022 4:48:27 AM	0.008	1.99264
27-Feb-2022 4:49:27 AM	0.008	1.99264
27-Feb-2022 4:50:27 AM	0.008	1.99264
27-Feb-2022 4:51:27 AM	0.008	1.99264
27-Feb-2022 4:52:27 AM	0.007	1.74356
27-Feb-2022 4:53:27 AM	0.007	1.74356
27-Feb-2022 4:54:27 AM	0.007	1.74356
27-Feb-2022 4:55:27 AM	0.007	1.74356
27-Feb-2022 4:56:27 AM	0.008	1.99264
27-Feb-2022 4:57:27 AM	0.009	2.24172
27-Feb-2022 4:58:27 AM	0.009	2.24172
27-Feb-2022 4:59:27 AM	0.008	1.99264
27-Feb-2022 5:00:27 AM	0.008	1.99264
27-Feb-2022 5:01:27 AM	0.008	1.99264
27-Feb-2022 5:02:27 AM	0.009	2.24172
27-Feb-2022 5:03:27 AM	0.009	2.24172
27-Feb-2022 5:04:27 AM	0.009	2.24172
27-Feb-2022 5:05:27 AM	0.009	2.24172
27-Feb-2022 5:06:27 AM	0.009	2.24172
27-Feb-2022 5:07:27 AM	0.009	2.24172
27-Feb-2022 5:08:27 AM	0.010	2.4908
27-Feb-2022 5:09:27 AM	0.009	2.24172
27-Feb-2022 5:10:27 AM	0.009	2.24172
27-Feb-2022 5:11:27 AM	0.009	2.24172
27-Feb-2022 5:12:27 AM	0.009	2.24172
27-Feb-2022 5:13:27 AM	0.009	2.24172
27-Feb-2022 5:14:27 AM	0.008	1.99264
27-Feb-2022 5:15:27 AM	0.009	2.24172
27-Feb-2022 5:16:27 AM	0.010	2.4908
27-Feb-2022 5:17:27 AM	0.009	2.24172
27-Feb-2022 5:18:27 AM	0.010	2.4908
27-Feb-2022 5:19:27 AM	0.011	2.73988
27-Feb-2022 5:20:27 AM	0.011	2.73988
27-Feb-2022 5:21:27 AM	0.010	2.4908
27-Feb-2022 5:22:27 AM	0.009	2.24172
27-Feb-2022 5:23:27 AM	0.010	2.4908
27-Feb-2022 5:24:27 AM	0.010	2.4908
27-Feb-2022 5:25:27 AM	0.011	2.73988
27-Feb-2022 5:26:27 AM	0.011	2.73988
27-Feb-2022 5:27:27 AM	0.010	2.4908
27-Feb-2022 5:28:27 AM	0.009	2.24172
27-Feb-2022 5:29:27 AM	0.010	2.4908
27-Feb-2022 5:30:27 AM	0.009	2.24172
27-Feb-2022 5:31:27 AM	0.008	1.99264

27-Feb-2022 5:32:27 AM	0.009	2.24172
27-Feb-2022 5:33:27 AM	0.010	2.4908
27-Feb-2022 5:34:27 AM	0.010	2.4908
27-Feb-2022 5:35:27 AM	0.010	2.4908
27-Feb-2022 5:36:27 AM	0.010	2.4908
27-Feb-2022 5:37:27 AM	0.011	2.73988
27-Feb-2022 5:38:27 AM	0.011	2.73988
27-Feb-2022 5:39:27 AM	0.012	2.98896
27-Feb-2022 5:40:27 AM	0.011	2.73988
27-Feb-2022 5:41:27 AM	0.009	2.24172
27-Feb-2022 5:42:27 AM	0.009	2.24172
27-Feb-2022 5:43:27 AM	0.009	2.24172
27-Feb-2022 5:44:27 AM	0.009	2.24172
27-Feb-2022 5:45:27 AM	0.010	2.4908
27-Feb-2022 5:46:27 AM	0.011	2.73988
27-Feb-2022 5:47:27 AM	0.012	2.98896
27-Feb-2022 5:48:27 AM	0.011	2.73988
27-Feb-2022 5:49:27 AM	0.010	2.4908
27-Feb-2022 5:50:27 AM	0.009	2.24172
27-Feb-2022 5:51:27 AM	0.009	2.24172
27-Feb-2022 5:52:27 AM	0.009	2.24172
27-Feb-2022 5:53:27 AM	0.010	2.4908
27-Feb-2022 5:54:27 AM	0.010	2.4908
27-Feb-2022 5:55:27 AM	0.009	2.24172
27-Feb-2022 5:56:27 AM	0.008	1.99264
27-Feb-2022 5:57:27 AM	0.009	2.24172
27-Feb-2022 5:58:27 AM	0.010	2.4908
27-Feb-2022 5:59:27 AM	0.009	2.24172
27-Feb-2022 6:00:27 AM	0.009	2.24172
27-Feb-2022 6:01:27 AM	0.009	2.24172
27-Feb-2022 6:02:27 AM	0.010	2.4908
27-Feb-2022 6:03:27 AM	0.009	2.24172
27-Feb-2022 6:04:27 AM	0.008	1.99264
27-Feb-2022 6:05:27 AM	0.008	1.99264
27-Feb-2022 6:06:27 AM	0.008	1.99264
27-Feb-2022 6:07:27 AM	0.007	1.74356
27-Feb-2022 6:08:27 AM	0.009	2.24172
27-Feb-2022 6:09:27 AM	0.009	2.24172
27-Feb-2022 6:10:27 AM	0.010	2.4908
27-Feb-2022 6:11:27 AM	0.011	2.73988
27-Feb-2022 6:12:27 AM	0.010	2.4908
27-Feb-2022 6:13:27 AM	0.011	2.73988
27-Feb-2022 6:14:27 AM	0.011	2.73988
27-Feb-2022 6:15:27 AM	0.010	2.4908
27-Feb-2022 6:16:27 AM	0.011	2.73988
27-Feb-2022 6:17:27 AM	0.011	2.73988
27-Feb-2022 6:18:27 AM	0.011	2.73988
27-Feb-2022 6:19:27 AM	0.009	2.24172
27-Feb-2022 6:20:27 AM	0.008	1.99264
27-Feb-2022 6:21:27 AM	0.008	1.99264
27-Feb-2022 6:22:27 AM	0.008	1.99264
27-Feb-2022 6:23:27 AM	0.009	2.24172
27-Feb-2022 6:24:27 AM	0.009	2.24172
27-Feb-2022 6:25:27 AM	0.009	2.24172
27-Feb-2022 6:26:27 AM	0.009	2.24172
27-Feb-2022 6:27:27 AM	0.009	2.24172

27-Feb-2022 6:28:27 AM	0.009	2.24172
27-Feb-2022 6:29:27 AM	0.009	2.24172
27-Feb-2022 6:30:27 AM	0.009	2.24172
27-Feb-2022 6:31:27 AM	0.009	2.24172
27-Feb-2022 6:32:27 AM	0.009	2.24172
27-Feb-2022 6:33:27 AM	0.009	2.24172
27-Feb-2022 6:34:27 AM	0.009	2.24172
27-Feb-2022 6:35:27 AM	0.008	1.99264
27-Feb-2022 6:36:27 AM	0.009	2.24172
27-Feb-2022 6:37:27 AM	0.009	2.24172
27-Feb-2022 6:38:27 AM	0.009	2.24172
27-Feb-2022 6:39:27 AM	0.010	2.4908
27-Feb-2022 6:40:27 AM	0.009	2.24172
27-Feb-2022 6:41:27 AM	0.008	1.99264
27-Feb-2022 6:42:27 AM	0.009	2.24172
27-Feb-2022 6:43:27 AM	0.009	2.24172
27-Feb-2022 6:44:27 AM	0.008	1.99264
27-Feb-2022 6:45:27 AM	0.010	2.4908
27-Feb-2022 6:46:27 AM	0.009	2.24172
27-Feb-2022 6:47:27 AM	0.008	1.99264
27-Feb-2022 6:48:27 AM	0.008	1.99264
27-Feb-2022 6:49:27 AM	0.008	1.99264
27-Feb-2022 6:50:27 AM	0.008	1.99264
27-Feb-2022 6:51:27 AM	0.008	1.99264
27-Feb-2022 6:52:27 AM	0.008	1.99264
27-Feb-2022 6:53:27 AM	0.009	2.24172
27-Feb-2022 6:54:27 AM	0.009	2.24172
27-Feb-2022 6:55:27 AM	0.008	1.99264
27-Feb-2022 6:56:27 AM	0.008	1.99264
27-Feb-2022 6:57:27 AM	0.008	1.99264
27-Feb-2022 6:58:27 AM	0.008	1.99264
27-Feb-2022 6:59:27 AM	0.008	1.99264
27-Feb-2022 7:00:27 AM	0.007	1.74356
27-Feb-2022 7:01:27 AM	0.008	1.99264
27-Feb-2022 7:02:27 AM	0.008	1.99264
27-Feb-2022 7:03:27 AM	0.007	1.74356
27-Feb-2022 7:04:27 AM	0.007	1.74356
27-Feb-2022 7:05:27 AM	0.008	1.99264
27-Feb-2022 7:06:27 AM	0.007	1.74356
27-Feb-2022 7:07:27 AM	0.008	1.99264
27-Feb-2022 7:08:27 AM	0.008	1.99264
27-Feb-2022 7:09:27 AM	0.007	1.74356
27-Feb-2022 7:10:27 AM	0.007	1.74356
27-Feb-2022 7:11:27 AM	0.006	1.49448
27-Feb-2022 7:12:27 AM	0.007	1.74356
27-Feb-2022 7:13:27 AM	0.008	1.99264
27-Feb-2022 7:14:27 AM	0.009	2.24172
27-Feb-2022 7:15:27 AM	0.010	2.4908
27-Feb-2022 7:16:27 AM	0.008	1.99264
27-Feb-2022 7:17:27 AM	0.006	1.49448
27-Feb-2022 7:18:27 AM	0.008	1.99264
27-Feb-2022 7:19:27 AM	0.009	2.24172
27-Feb-2022 7:20:27 AM	0.008	1.99264
27-Feb-2022 7:21:27 AM	0.007	1.74356
27-Feb-2022 7:22:27 AM	0.007	1.74356
27-Feb-2022 7:23:27 AM	0.005	1.2454



27-Feb-2022 7:24:27 AM	0.004	0.99632
27-Feb-2022 7:25:27 AM	0.004	0.99632
27-Feb-2022 7:26:27 AM	0.006	1.49448
27-Feb-2022 7:27:27 AM	0.006	1.49448
27-Feb-2022 7:28:27 AM	0.004	0.99632
27-Feb-2022 7:29:27 AM	0.005	1.2454
27-Feb-2022 7:30:27 AM	0.005	1.2454
27-Feb-2022 7:31:27 AM	0.005	1.2454
27-Feb-2022 7:32:27 AM	0.004	0.99632
27-Feb-2022 7:33:27 AM	0.005	1.2454
27-Feb-2022 7:34:27 AM	0.006	1.49448
27-Feb-2022 7:35:27 AM	0.006	1.49448
27-Feb-2022 7:36:27 AM	0.007	1.74356
27-Feb-2022 7:37:27 AM	0.006	1.49448
27-Feb-2022 7:38:27 AM	0.005	1.2454
27-Feb-2022 7:39:27 AM	-0.174	-43.33992
27-Feb-2022 7:40:27 AM	-0.988	-246.09104
27-Feb-2022 7:41:27 AM	-1.089	-271.24812
27-Feb-2022 7:42:27 AM	-1.092	-271.99536
27-Feb-2022 7:43:27 AM	-1.104	-274.98432
27-Feb-2022 7:44:27 AM	-1.113	-277.22604
27-Feb-2022 7:45:27 AM	-1.116	-277.97328
27-Feb-2022 7:46:27 AM	-1.118	-278.47144
27-Feb-2022 7:47:27 AM	-1.118	-278.47144
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27-Feb-2022 2:05:27 PM	-1.126	-280.46408
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27-Feb-2022 2:22:27 PM	-1.132	-281.95856
27-Feb-2022 2:23:27 PM	-1.141	-284.20028
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27-Feb-2022 4:02:27 PM	-1.119	-278.72052
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27-Feb-2022 4:38:27 PM	-1.130	-281.4604
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27-Feb-2022 4:50:27 PM	0.005	1.2454
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27-Feb-2022 4:53:27 PM	0.007	1.74356
27-Feb-2022 4:54:27 PM	0.008	1.99264
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27-Feb-2022 5:51:27 PM	0.010	2.4908
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27-Feb-2022 6:04:27 PM	0.016	3.98528
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27-Feb-2022 6:08:27 PM	0.015	3.7362
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27-Feb-2022 6:10:27 PM	0.010	2.4908
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27-Feb-2022 6:24:27 PM	0.006	1.49448
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27-Feb-2022 6:46:27 PM	0.009	2.24172
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28-Feb-2022 12:41:27 AM	0.004	0.99632
28-Feb-2022 12:42:27 AM	0.006	1.49448
28-Feb-2022 12:43:27 AM	0.007	1.74356
28-Feb-2022 12:44:27 AM	0.005	1.2454
28-Feb-2022 12:45:27 AM	0.007	1.74356
28-Feb-2022 12:46:27 AM	0.011	2.73988
28-Feb-2022 12:47:27 AM	0.009	2.24172
28-Feb-2022 12:48:27 AM	0.011	2.73988
28-Feb-2022 12:49:27 AM	0.011	2.73988
28-Feb-2022 12:50:27 AM	0.009	2.24172
28-Feb-2022 12:51:27 AM	0.009	2.24172
28-Feb-2022 12:52:27 AM	0.010	2.4908
28-Feb-2022 12:53:27 AM	0.008	1.99264
28-Feb-2022 12:54:27 AM	0.011	2.73988
28-Feb-2022 12:55:27 AM	0.009	2.24172
28-Feb-2022 12:56:27 AM	0.006	1.49448
28-Feb-2022 12:57:27 AM	0.006	1.49448
28-Feb-2022 12:58:27 AM	0.006	1.49448
28-Feb-2022 12:59:27 AM	0.008	1.99264
28-Feb-2022 1:00:27 AM	0.008	1.99264
28-Feb-2022 1:01:27 AM	0.009	2.24172
28-Feb-2022 1:02:27 AM	0.010	2.4908
28-Feb-2022 1:03:27 AM	0.010	2.4908
28-Feb-2022 1:04:27 AM	0.007	1.74356
28-Feb-2022 1:05:27 AM	0.005	1.2454
28-Feb-2022 1:06:27 AM	0.009	2.24172
28-Feb-2022 1:07:27 AM	0.009	2.24172

28-Feb-2022 1:08:27 AM	0.007	1.74356
28-Feb-2022 1:09:27 AM	0.009	2.24172
28-Feb-2022 1:10:27 AM	0.010	2.4908
28-Feb-2022 1:11:27 AM	0.004	0.99632
28-Feb-2022 1:12:27 AM	0.007	1.74356
28-Feb-2022 1:13:27 AM	0.005	1.2454
28-Feb-2022 1:14:27 AM	0.003	0.74724
28-Feb-2022 1:15:27 AM	0.004	0.99632
28-Feb-2022 1:16:27 AM	0.005	1.2454
28-Feb-2022 1:17:27 AM	0.005	1.2454
28-Feb-2022 1:18:27 AM	0.004	0.99632
28-Feb-2022 1:19:27 AM	0.008	1.99264
28-Feb-2022 1:20:27 AM	0.010	2.4908
28-Feb-2022 1:21:27 AM	0.010	2.4908
28-Feb-2022 1:22:27 AM	0.008	1.99264
28-Feb-2022 1:23:27 AM	0.006	1.49448
28-Feb-2022 1:24:27 AM	0.006	1.49448
28-Feb-2022 1:25:27 AM	0.006	1.49448
28-Feb-2022 1:26:27 AM	0.008	1.99264
28-Feb-2022 1:27:27 AM	0.010	2.4908
28-Feb-2022 1:28:27 AM	0.010	2.4908
28-Feb-2022 1:29:27 AM	0.011	2.73988
28-Feb-2022 1:30:27 AM	0.012	2.98896
28-Feb-2022 1:31:27 AM	0.010	2.4908
28-Feb-2022 1:32:27 AM	0.006	1.49448
28-Feb-2022 1:33:27 AM	0.007	1.74356
28-Feb-2022 1:34:27 AM	0.008	1.99264
28-Feb-2022 1:35:27 AM	0.008	1.99264
28-Feb-2022 1:36:27 AM	0.009	2.24172
28-Feb-2022 1:37:27 AM	0.009	2.24172
28-Feb-2022 1:38:27 AM	0.011	2.73988
28-Feb-2022 1:39:27 AM	0.013	3.23804
28-Feb-2022 1:40:27 AM	0.011	2.73988
28-Feb-2022 1:41:27 AM	0.008	1.99264
28-Feb-2022 1:42:27 AM	0.008	1.99264
28-Feb-2022 1:43:27 AM	0.011	2.73988
28-Feb-2022 1:44:27 AM	0.010	2.4908
28-Feb-2022 1:45:27 AM	0.009	2.24172
28-Feb-2022 1:46:27 AM	0.011	2.73988
28-Feb-2022 1:47:27 AM	0.012	2.98896
28-Feb-2022 1:48:27 AM	0.012	2.98896
28-Feb-2022 1:49:27 AM	0.012	2.98896
28-Feb-2022 1:50:27 AM	0.012	2.98896
28-Feb-2022 1:51:27 AM	0.012	2.98896
28-Feb-2022 1:52:27 AM	0.013	3.23804
28-Feb-2022 1:53:27 AM	0.012	2.98896
28-Feb-2022 1:54:27 AM	0.011	2.73988
28-Feb-2022 1:55:27 AM	0.010	2.4908
28-Feb-2022 1:56:27 AM	0.007	1.74356
28-Feb-2022 1:57:27 AM	0.006	1.49448
28-Feb-2022 1:58:27 AM	0.007	1.74356
28-Feb-2022 1:59:27 AM	0.008	1.99264
28-Feb-2022 2:00:27 AM	0.007	1.74356
28-Feb-2022 2:01:27 AM	0.007	1.74356
28-Feb-2022 2:02:27 AM	0.007	1.74356
28-Feb-2022 2:03:27 AM	0.007	1.74356

28-Feb-2022 2:04:27 AM	0.006	1.49448
28-Feb-2022 2:05:27 AM	0.005	1.2454
28-Feb-2022 2:06:27 AM	0.006	1.49448
28-Feb-2022 2:07:27 AM	0.006	1.49448
28-Feb-2022 2:08:27 AM	0.007	1.74356
28-Feb-2022 2:09:27 AM	0.007	1.74356
28-Feb-2022 2:10:27 AM	0.006	1.49448
28-Feb-2022 2:11:27 AM	0.005	1.2454
28-Feb-2022 2:12:27 AM	0.006	1.49448
28-Feb-2022 2:13:27 AM	0.006	1.49448
28-Feb-2022 2:14:27 AM	0.007	1.74356
28-Feb-2022 2:15:27 AM	0.007	1.74356
28-Feb-2022 2:16:27 AM	0.007	1.74356
28-Feb-2022 2:17:27 AM	0.008	1.99264
28-Feb-2022 2:18:27 AM	0.004	0.99632
28-Feb-2022 2:19:27 AM	0.006	1.49448
28-Feb-2022 2:20:27 AM	0.008	1.99264
28-Feb-2022 2:21:27 AM	0.009	2.24172
28-Feb-2022 2:22:27 AM	0.007	1.74356
28-Feb-2022 2:23:27 AM	0.008	1.99264
28-Feb-2022 2:24:27 AM	0.006	1.49448
28-Feb-2022 2:25:27 AM	0.006	1.49448
28-Feb-2022 2:26:27 AM	0.005	1.2454
28-Feb-2022 2:27:27 AM	0.007	1.74356
28-Feb-2022 2:28:27 AM	0.005	1.2454
28-Feb-2022 2:29:27 AM	0.007	1.74356
28-Feb-2022 2:30:27 AM	0.009	2.24172
28-Feb-2022 2:31:27 AM	0.008	1.99264
28-Feb-2022 2:32:27 AM	0.009	2.24172
28-Feb-2022 2:33:27 AM	0.009	2.24172
28-Feb-2022 2:34:27 AM	0.007	1.74356
28-Feb-2022 2:35:27 AM	0.006	1.49448
28-Feb-2022 2:36:27 AM	0.005	1.2454
28-Feb-2022 2:37:27 AM	0.009	2.24172
28-Feb-2022 2:38:27 AM	0.009	2.24172
28-Feb-2022 2:39:27 AM	0.007	1.74356
28-Feb-2022 2:40:27 AM	0.006	1.49448
28-Feb-2022 2:41:27 AM	0.010	2.4908
28-Feb-2022 2:42:27 AM	0.006	1.49448
28-Feb-2022 2:43:27 AM	0.010	2.4908
28-Feb-2022 2:44:27 AM	0.010	2.4908
28-Feb-2022 2:45:27 AM	0.007	1.74356
28-Feb-2022 2:46:27 AM	0.005	1.2454
28-Feb-2022 2:47:27 AM	0.008	1.99264
28-Feb-2022 2:48:27 AM	0.006	1.49448
28-Feb-2022 2:49:27 AM	0.003	0.74724
28-Feb-2022 2:50:27 AM	0.002	0.49816
28-Feb-2022 2:51:27 AM	0.007	1.74356
28-Feb-2022 2:52:27 AM	0.009	2.24172
28-Feb-2022 2:53:27 AM	0.007	1.74356
28-Feb-2022 2:54:27 AM	0.006	1.49448
28-Feb-2022 2:55:27 AM	0.007	1.74356
28-Feb-2022 2:56:27 AM	0.006	1.49448
28-Feb-2022 2:57:27 AM	0.005	1.2454
28-Feb-2022 2:58:27 AM	0.006	1.49448
28-Feb-2022 2:59:27 AM	0.011	2.73988

28-Feb-2022 3:00:27 AM	0.012	2.98896
28-Feb-2022 3:01:27 AM	0.008	1.99264
28-Feb-2022 3:02:27 AM	0.008	1.99264
28-Feb-2022 3:03:27 AM	0.008	1.99264
28-Feb-2022 3:04:27 AM	0.006	1.49448
28-Feb-2022 3:05:27 AM	0.004	0.99632
28-Feb-2022 3:06:27 AM	0.004	0.99632
28-Feb-2022 3:07:27 AM	0.006	1.49448
28-Feb-2022 3:08:27 AM	0.006	1.49448
28-Feb-2022 3:09:27 AM	0.006	1.49448
28-Feb-2022 3:10:27 AM	0.005	1.2454
28-Feb-2022 3:11:27 AM	0.010	2.4908
28-Feb-2022 3:12:27 AM	0.008	1.99264
28-Feb-2022 3:13:27 AM	0.007	1.74356
28-Feb-2022 3:14:27 AM	0.006	1.49448
28-Feb-2022 3:15:27 AM	0.007	1.74356
28-Feb-2022 3:16:27 AM	0.005	1.2454
28-Feb-2022 3:17:27 AM	0.007	1.74356
28-Feb-2022 3:18:27 AM	0.005	1.2454
28-Feb-2022 3:19:27 AM	0.009	2.24172
28-Feb-2022 3:20:27 AM	0.010	2.4908
28-Feb-2022 3:21:27 AM	0.006	1.49448
28-Feb-2022 3:22:27 AM	0.006	1.49448
28-Feb-2022 3:23:27 AM	0.005	1.2454
28-Feb-2022 3:24:27 AM	0.005	1.2454
28-Feb-2022 3:25:27 AM	0.003	0.74724
28-Feb-2022 3:26:27 AM	0.005	1.2454
28-Feb-2022 3:27:27 AM	0.004	0.99632
28-Feb-2022 3:28:27 AM	0.005	1.2454
28-Feb-2022 3:29:27 AM	0.005	1.2454
28-Feb-2022 3:30:27 AM	0.005	1.2454
28-Feb-2022 3:31:27 AM	0.008	1.99264
28-Feb-2022 3:32:27 AM	0.011	2.73988
28-Feb-2022 3:33:27 AM	0.012	2.98896
28-Feb-2022 3:34:27 AM	0.009	2.24172
28-Feb-2022 3:35:27 AM	0.006	1.49448
28-Feb-2022 3:36:27 AM	0.007	1.74356
28-Feb-2022 3:37:27 AM	0.009	2.24172
28-Feb-2022 3:38:27 AM	0.008	1.99264
28-Feb-2022 3:39:27 AM	0.005	1.2454
28-Feb-2022 3:40:27 AM	0.008	1.99264
28-Feb-2022 3:41:27 AM	0.005	1.2454
28-Feb-2022 3:42:27 AM	0.004	0.99632
28-Feb-2022 3:43:27 AM	0.006	1.49448
28-Feb-2022 3:44:27 AM	0.009	2.24172
28-Feb-2022 3:45:27 AM	0.008	1.99264
28-Feb-2022 3:46:27 AM	0.008	1.99264
28-Feb-2022 3:47:27 AM	0.010	2.4908
28-Feb-2022 3:48:27 AM	0.008	1.99264
28-Feb-2022 3:49:27 AM	0.003	0.74724
28-Feb-2022 3:50:27 AM	0.005	1.2454
28-Feb-2022 3:51:27 AM	0.002	0.49816
28-Feb-2022 3:52:27 AM	0.007	1.74356
28-Feb-2022 3:53:27 AM	0.007	1.74356
28-Feb-2022 3:54:27 AM	0.004	0.99632
28-Feb-2022 3:55:27 AM	0.004	0.99632

28-Feb-2022 3:56:27 AM	0.002	0.49816
28-Feb-2022 3:57:27 AM	0.000	0
28-Feb-2022 3:58:27 AM	0.005	1.2454
28-Feb-2022 3:59:27 AM	0.007	1.74356
28-Feb-2022 4:00:27 AM	0.010	2.4908
28-Feb-2022 4:01:27 AM	0.011	2.73988
28-Feb-2022 4:02:27 AM	0.008	1.99264
28-Feb-2022 4:03:27 AM	0.008	1.99264
28-Feb-2022 4:04:27 AM	0.006	1.49448
28-Feb-2022 4:05:27 AM	0.006	1.49448
28-Feb-2022 4:06:27 AM	0.008	1.99264
28-Feb-2022 4:07:27 AM	0.011	2.73988
28-Feb-2022 4:08:27 AM	0.009	2.24172
28-Feb-2022 4:09:27 AM	0.006	1.49448
28-Feb-2022 4:10:27 AM	0.007	1.74356
28-Feb-2022 4:11:27 AM	0.007	1.74356
28-Feb-2022 4:12:27 AM	0.006	1.49448
28-Feb-2022 4:13:27 AM	0.005	1.2454
28-Feb-2022 4:14:27 AM	0.005	1.2454
28-Feb-2022 4:15:27 AM	0.007	1.74356
28-Feb-2022 4:16:27 AM	0.006	1.49448
28-Feb-2022 4:17:27 AM	0.007	1.74356
28-Feb-2022 4:18:27 AM	0.007	1.74356
28-Feb-2022 4:19:27 AM	0.004	0.99632
28-Feb-2022 4:20:27 AM	0.004	0.99632
28-Feb-2022 4:21:27 AM	0.003	0.74724
28-Feb-2022 4:22:27 AM	0.006	1.49448
28-Feb-2022 4:23:27 AM	0.004	0.99632
28-Feb-2022 4:24:27 AM	0.007	1.74356
28-Feb-2022 4:25:27 AM	0.009	2.24172
28-Feb-2022 4:26:27 AM	0.008	1.99264
28-Feb-2022 4:27:27 AM	0.009	2.24172
28-Feb-2022 4:28:27 AM	0.008	1.99264
28-Feb-2022 4:29:27 AM	0.009	2.24172
28-Feb-2022 4:30:27 AM	0.008	1.99264
28-Feb-2022 4:31:27 AM	0.008	1.99264
28-Feb-2022 4:32:27 AM	0.005	1.2454
28-Feb-2022 4:33:27 AM	0.006	1.49448
28-Feb-2022 4:34:27 AM	0.003	0.74724
28-Feb-2022 4:35:27 AM	0.005	1.2454
28-Feb-2022 4:36:27 AM	0.007	1.74356
28-Feb-2022 4:37:27 AM	0.008	1.99264
28-Feb-2022 4:38:27 AM	0.007	1.74356
28-Feb-2022 4:39:27 AM	0.008	1.99264
28-Feb-2022 4:40:27 AM	0.008	1.99264
28-Feb-2022 4:41:27 AM	0.010	2.4908
28-Feb-2022 4:42:27 AM	0.008	1.99264
28-Feb-2022 4:43:27 AM	0.007	1.74356
28-Feb-2022 4:44:27 AM	0.007	1.74356
28-Feb-2022 4:45:27 AM	0.009	2.24172
28-Feb-2022 4:46:27 AM	0.010	2.4908
28-Feb-2022 4:47:27 AM	0.008	1.99264
28-Feb-2022 4:48:27 AM	0.005	1.2454
28-Feb-2022 4:49:27 AM	0.005	1.2454
28-Feb-2022 4:50:27 AM	0.005	1.2454
28-Feb-2022 4:51:27 AM	0.004	0.99632

28-Feb-2022 4:52:27 AM	0.006	1.49448
28-Feb-2022 4:53:27 AM	0.008	1.99264
28-Feb-2022 4:54:27 AM	0.008	1.99264
28-Feb-2022 4:55:27 AM	0.010	2.4908
28-Feb-2022 4:56:27 AM	0.011	2.73988
28-Feb-2022 4:57:27 AM	0.010	2.4908
28-Feb-2022 4:58:27 AM	0.010	2.4908
28-Feb-2022 4:59:27 AM	0.011	2.73988
28-Feb-2022 5:00:27 AM	0.008	1.99264
28-Feb-2022 5:01:27 AM	0.009	2.24172
28-Feb-2022 5:02:27 AM	0.008	1.99264
28-Feb-2022 5:03:27 AM	0.009	2.24172
28-Feb-2022 5:04:27 AM	0.009	2.24172
28-Feb-2022 5:05:27 AM	0.010	2.4908
28-Feb-2022 5:06:27 AM	0.008	1.99264
28-Feb-2022 5:07:27 AM	0.007	1.74356
28-Feb-2022 5:08:27 AM	0.008	1.99264
28-Feb-2022 5:09:27 AM	0.007	1.74356
28-Feb-2022 5:10:27 AM	0.005	1.2454
28-Feb-2022 5:11:27 AM	0.005	1.2454
28-Feb-2022 5:12:27 AM	0.004	0.99632
28-Feb-2022 5:13:27 AM	0.005	1.2454
28-Feb-2022 5:14:27 AM	0.004	0.99632
28-Feb-2022 5:15:27 AM	0.003	0.74724
28-Feb-2022 5:16:27 AM	0.005	1.2454
28-Feb-2022 5:17:27 AM	0.008	1.99264
28-Feb-2022 5:18:27 AM	0.006	1.49448
28-Feb-2022 5:19:27 AM	0.004	0.99632
28-Feb-2022 5:20:27 AM	0.005	1.2454
28-Feb-2022 5:21:27 AM	0.004	0.99632
28-Feb-2022 5:22:27 AM	0.002	0.49816
28-Feb-2022 5:23:27 AM	0.008	1.99264
28-Feb-2022 5:24:27 AM	0.008	1.99264
28-Feb-2022 5:25:27 AM	0.005	1.2454
28-Feb-2022 5:26:27 AM	0.000	0
28-Feb-2022 5:27:27 AM	-0.001	-0.24908
28-Feb-2022 5:28:27 AM	0.004	0.99632
28-Feb-2022 5:29:27 AM	0.003	0.74724
28-Feb-2022 5:30:27 AM	0.005	1.2454
28-Feb-2022 5:31:27 AM	0.006	1.49448
28-Feb-2022 5:32:27 AM	0.006	1.49448
28-Feb-2022 5:33:27 AM	0.005	1.2454
28-Feb-2022 5:34:27 AM	0.006	1.49448
28-Feb-2022 5:35:27 AM	0.006	1.49448
28-Feb-2022 5:36:27 AM	0.006	1.49448
28-Feb-2022 5:37:27 AM	0.004	0.99632
28-Feb-2022 5:38:27 AM	0.006	1.49448
28-Feb-2022 5:39:27 AM	0.007	1.74356
28-Feb-2022 5:40:27 AM	0.008	1.99264
28-Feb-2022 5:41:27 AM	0.006	1.49448
28-Feb-2022 5:42:27 AM	0.007	1.74356
28-Feb-2022 5:43:27 AM	0.007	1.74356
28-Feb-2022 5:44:27 AM	0.008	1.99264
28-Feb-2022 5:45:27 AM	0.009	2.24172
28-Feb-2022 5:46:27 AM	0.007	1.74356
28-Feb-2022 5:47:27 AM	0.009	2.24172



28-Feb-2022 5:48:27 AM	0.010	2.4908
28-Feb-2022 5:49:27 AM	0.007	1.74356
28-Feb-2022 5:50:27 AM	0.008	1.99264
28-Feb-2022 5:51:27 AM	0.009	2.24172
28-Feb-2022 5:52:27 AM	0.009	2.24172
28-Feb-2022 5:53:27 AM	0.010	2.4908
28-Feb-2022 5:54:27 AM	0.006	1.49448
28-Feb-2022 5:55:27 AM	0.004	0.99632
28-Feb-2022 5:56:27 AM	0.009	2.24172
28-Feb-2022 5:57:27 AM	0.012	2.98896
28-Feb-2022 5:58:27 AM	0.011	2.73988
28-Feb-2022 5:59:27 AM	0.008	1.99264
28-Feb-2022 6:00:27 AM	0.010	2.4908
28-Feb-2022 6:01:27 AM	0.011	2.73988
28-Feb-2022 6:02:27 AM	0.010	2.4908
28-Feb-2022 6:03:27 AM	0.012	2.98896
28-Feb-2022 6:04:27 AM	0.015	3.7362
28-Feb-2022 6:05:27 AM	0.015	3.7362
28-Feb-2022 6:06:27 AM	0.015	3.7362
28-Feb-2022 6:07:27 AM	0.017	4.23436
28-Feb-2022 6:08:27 AM	0.013	3.23804
28-Feb-2022 6:09:27 AM	0.010	2.4908
28-Feb-2022 6:10:27 AM	0.010	2.4908
28-Feb-2022 6:11:27 AM	0.009	2.24172
28-Feb-2022 6:12:27 AM	0.010	2.4908
28-Feb-2022 6:13:27 AM	0.010	2.4908
28-Feb-2022 6:14:27 AM	0.010	2.4908
28-Feb-2022 6:15:27 AM	0.007	1.74356
28-Feb-2022 6:16:27 AM	0.009	2.24172
28-Feb-2022 6:17:27 AM	0.010	2.4908
28-Feb-2022 6:18:27 AM	0.010	2.4908
28-Feb-2022 6:19:27 AM	0.009	2.24172
28-Feb-2022 6:20:27 AM	0.010	2.4908
28-Feb-2022 6:21:27 AM	0.010	2.4908
28-Feb-2022 6:22:27 AM	0.008	1.99264
28-Feb-2022 6:23:27 AM	0.007	1.74356
28-Feb-2022 6:24:27 AM	0.004	0.99632
28-Feb-2022 6:25:27 AM	0.004	0.99632
28-Feb-2022 6:26:27 AM	0.004	0.99632
28-Feb-2022 6:27:27 AM	0.005	1.2454
28-Feb-2022 6:28:27 AM	0.006	1.49448
28-Feb-2022 6:29:27 AM	0.006	1.49448
28-Feb-2022 6:30:27 AM	0.006	1.49448
28-Feb-2022 6:31:27 AM	0.007	1.74356
28-Feb-2022 6:32:27 AM	0.006	1.49448
28-Feb-2022 6:33:27 AM	0.005	1.2454
28-Feb-2022 6:34:27 AM	0.005	1.2454
28-Feb-2022 6:35:27 AM	0.006	1.49448
28-Feb-2022 6:36:27 AM	0.004	0.99632
28-Feb-2022 6:37:27 AM	0.004	0.99632
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28-Feb-2022 6:41:27 AM	0.006	1.49448
28-Feb-2022 6:42:27 AM	0.009	2.24172
28-Feb-2022 6:43:27 AM	0.008	1.99264

28-Feb-2022 6:44:27 AM	0.009	2.24172
28-Feb-2022 6:45:27 AM	0.009	2.24172
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28-Feb-2022 6:50:27 AM	0.007	1.74356
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28-Feb-2022 6:52:27 AM	0.007	1.74356
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28-Feb-2022 7:02:27 AM	0.008	1.99264
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28-Feb-2022 7:04:27 AM	0.007	1.74356
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28-Feb-2022 7:06:27 AM	0.010	2.4908
28-Feb-2022 7:07:27 AM	0.012	2.98896
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28-Feb-2022 7:50:27 AM	-1.391	-346.47028
28-Feb-2022 7:51:27 AM	-1.394	-347.21752
28-Feb-2022 7:52:27 AM	-1.398	-348.21384
28-Feb-2022 7:53:27 AM	-1.409	-350.95372
28-Feb-2022 7:54:27 AM	-1.413	-351.95004
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28-Feb-2022 8:01:27 AM	-1.384	-344.72672
28-Feb-2022 8:02:27 AM	-1.384	-344.72672
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28-Feb-2022 8:04:27 AM	-1.390	-346.2212
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28-Feb-2022 12:00:27 PM	-1.589	-395.78812
28-Feb-2022 12:01:27 PM	-1.590	-396.0372
28-Feb-2022 12:02:27 PM	-1.594	-397.03352
28-Feb-2022 12:03:27 PM	-1.610	-401.0188
28-Feb-2022 12:04:27 PM	-1.614	-402.01512
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28-Feb-2022 12:09:27 PM	-1.612	-401.51696
28-Feb-2022 12:10:27 PM	-1.616	-402.51328
28-Feb-2022 12:11:27 PM	-1.617	-402.76236
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28-Feb-2022 11:22:27 PM	0.040	9.9632
28-Feb-2022 11:23:27 PM	0.037	9.21596
28-Feb-2022 11:24:27 PM	0.038	9.46504
28-Feb-2022 11:25:27 PM	0.043	10.71044
28-Feb-2022 11:26:27 PM	0.043	10.71044
28-Feb-2022 11:27:27 PM	0.040	9.9632
28-Feb-2022 11:28:27 PM	0.033	8.21964
28-Feb-2022 11:29:27 PM	0.037	9.21596
28-Feb-2022 11:30:27 PM	0.039	9.71412
28-Feb-2022 11:31:27 PM	0.038	9.46504

28-Feb-2022 11:32:27 PM	0.042	10.46136
28-Feb-2022 11:33:27 PM	0.036	8.96688
28-Feb-2022 11:34:27 PM	0.036	8.96688
28-Feb-2022 11:35:27 PM	0.034	8.46872
28-Feb-2022 11:36:27 PM	0.033	8.21964
28-Feb-2022 11:37:27 PM	0.038	9.46504
28-Feb-2022 11:38:27 PM	0.035	8.7178
28-Feb-2022 11:39:27 PM	0.043	10.71044
28-Feb-2022 11:40:27 PM	0.037	9.21596
28-Feb-2022 11:41:27 PM	0.035	8.7178
28-Feb-2022 11:42:27 PM	0.038	9.46504
28-Feb-2022 11:43:27 PM	0.037	9.21596
28-Feb-2022 11:44:27 PM	0.046	11.45768
28-Feb-2022 11:45:27 PM	0.040	9.9632
28-Feb-2022 11:46:27 PM	0.034	8.46872
28-Feb-2022 11:47:27 PM	0.038	9.46504
28-Feb-2022 11:48:27 PM	0.044	10.95952
28-Feb-2022 11:49:27 PM	0.039	9.71412
28-Feb-2022 11:50:27 PM	0.030	7.4724
28-Feb-2022 11:51:27 PM	0.036	8.96688
28-Feb-2022 11:52:27 PM	0.039	9.71412
28-Feb-2022 11:53:27 PM	0.045	11.2086
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28-Feb-2022 11:55:27 PM	0.043	10.71044
28-Feb-2022 11:56:27 PM	0.037	9.21596
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28-Feb-2022 11:58:27 PM	0.042	10.46136
28-Feb-2022 11:59:27 PM	0.039	9.71412
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1-Mar-2022 12:03:27 AM	0.036	8.96688
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1-Mar-2022 12:07:27 AM	0.037	9.21596
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1-Mar-2022 12:42:27 AM	0.029	7.22332
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1-Mar-2022 1:03:27 AM	0.033	8.21964
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1-Mar-2022 1:42:27 AM	0.025	6.227
1-Mar-2022 1:43:27 AM	0.026	6.47608
1-Mar-2022 1:44:27 AM	0.023	5.72884
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1-Mar-2022 2:19:27 AM	0.031	7.72148

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1-Mar-2022 3:36:27 AM	0.028	6.97424
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1-Mar-2022 4:00:27 AM	0.019	4.73252
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1-Mar-2022 4:02:27 AM	0.019	4.73252
1-Mar-2022 4:03:27 AM	0.017	4.23436
1-Mar-2022 4:04:27 AM	0.016	3.98528
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1-Mar-2022 4:06:27 AM	0.019	4.73252
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1-Mar-2022 4:10:27 AM	0.016	3.98528
1-Mar-2022 4:11:27 AM	0.015	3.7362



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1-Mar-2022 4:14:27 AM	0.020	4.9816
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1-Mar-2022 4:33:27 AM	0.019	4.73252
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1-Mar-2022 4:35:27 AM	0.014	3.48712
1-Mar-2022 4:36:27 AM	0.018	4.48344
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1-Mar-2022 4:38:27 AM	0.019	4.73252
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1-Mar-2022 4:40:27 AM	0.029	7.22332
1-Mar-2022 4:41:27 AM	0.023	5.72884
1-Mar-2022 4:42:27 AM	0.015	3.7362
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1-Mar-2022 4:46:27 AM	0.017	4.23436
1-Mar-2022 4:47:27 AM	0.023	5.72884
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1-Mar-2022 4:56:27 AM	0.017	4.23436
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1-Mar-2022 4:59:27 AM	0.017	4.23436
1-Mar-2022 5:00:27 AM	0.019	4.73252
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1-Mar-2022 5:02:27 AM	0.016	3.98528
1-Mar-2022 5:03:27 AM	0.016	3.98528
1-Mar-2022 5:04:27 AM	0.018	4.48344
1-Mar-2022 5:05:27 AM	0.013	3.23804
1-Mar-2022 5:06:27 AM	0.014	3.48712
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1-Mar-2022 5:09:27 AM	0.020	4.9816
1-Mar-2022 5:10:27 AM	0.019	4.73252
1-Mar-2022 5:11:27 AM	0.019	4.73252
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1-Mar-2022 5:14:27 AM	0.023	5.72884
1-Mar-2022 5:15:27 AM	0.017	4.23436
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1-Mar-2022 5:17:27 AM	0.028	6.97424
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1-Mar-2022 5:25:27 AM	0.019	4.73252
1-Mar-2022 5:26:27 AM	0.025	6.227
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1-Mar-2022 5:30:27 AM	0.018	4.48344
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1-Mar-2022 5:32:27 AM	0.017	4.23436
1-Mar-2022 5:33:27 AM	0.026	6.47608
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1-Mar-2022 6:46:27 AM	0.016	3.98528
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1-Mar-2022 8:58:27 AM	-2.373	-591.06684
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1-Mar-2022 10:52:27 AM	-2.252	-560.92816
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3-Mar-2022 12:43:06 AM	0.008	1.99264
3-Mar-2022 12:44:06 AM	0.007	1.74356
3-Mar-2022 12:45:06 AM	0.009	2.24172
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3-Mar-2022 5:33:06 AM	0.018	4.48344
3-Mar-2022 5:34:06 AM	0.023	5.72884
3-Mar-2022 5:35:06 AM	0.021	5.23068
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3-Mar-2022 5:37:06 AM	0.022	5.47976
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3-Mar-2022 6:04:06 AM	0.010	2.4908
3-Mar-2022 6:05:06 AM	0.015	3.7362
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4-Mar-2022 10:47:06 AM	-1.441	-358.92428
4-Mar-2022 10:48:06 AM	-1.440	-358.6752
4-Mar-2022 10:49:06 AM	-1.442	-359.17336
4-Mar-2022 10:50:06 AM	-1.444	-359.67152
4-Mar-2022 10:51:06 AM	-1.444	-359.67152
4-Mar-2022 10:52:06 AM	-1.448	-360.66784
4-Mar-2022 10:53:06 AM	-1.448	-360.66784
4-Mar-2022 10:54:06 AM	-1.447	-360.41876
4-Mar-2022 10:55:06 AM	-1.456	-362.66048
4-Mar-2022 10:56:06 AM	-1.457	-362.90956
4-Mar-2022 10:57:06 AM	-1.459	-363.40772
4-Mar-2022 10:58:06 AM	-1.465	-364.9022
4-Mar-2022 10:59:06 AM	-1.465	-364.9022
4-Mar-2022 11:00:06 AM	-1.461	-363.90588
4-Mar-2022 11:01:06 AM	-1.458	-363.15864
4-Mar-2022 11:02:06 AM	-1.467	-365.40036
4-Mar-2022 11:03:06 AM	-1.458	-363.15864
4-Mar-2022 11:04:06 AM	-1.464	-364.65312
4-Mar-2022 11:05:06 AM	-1.470	-366.1476
4-Mar-2022 11:06:06 AM	-1.471	-366.39668
4-Mar-2022 11:07:06 AM	-1.471	-366.39668
4-Mar-2022 11:08:06 AM	-1.470	-366.1476
4-Mar-2022 11:09:06 AM	-1.470	-366.1476
4-Mar-2022 11:10:06 AM	-1.470	-366.1476
4-Mar-2022 11:11:06 AM	-1.468	-365.64944
4-Mar-2022 11:12:06 AM	-1.468	-365.64944
4-Mar-2022 11:13:06 AM	-1.470	-366.1476
4-Mar-2022 11:14:06 AM	-1.471	-366.39668
4-Mar-2022 11:15:06 AM	-1.471	-366.39668
4-Mar-2022 11:16:06 AM	-1.471	-366.39668
4-Mar-2022 11:17:06 AM	-1.471	-366.39668
4-Mar-2022 11:18:06 AM	-1.471	-366.39668
4-Mar-2022 11:19:06 AM	-1.468	-365.64944
4-Mar-2022 11:20:06 AM	-1.470	-366.1476
4-Mar-2022 11:21:06 AM	-1.471	-366.39668
4-Mar-2022 11:22:06 AM	-1.465	-364.9022
4-Mar-2022 11:23:06 AM	-1.467	-365.40036
4-Mar-2022 11:24:06 AM	-1.469	-365.89852
4-Mar-2022 11:25:06 AM	-1.465	-364.9022
4-Mar-2022 11:26:06 AM	-1.465	-364.9022
4-Mar-2022 11:27:06 AM	-1.471	-366.39668
4-Mar-2022 11:28:06 AM	-1.471	-366.39668
4-Mar-2022 11:29:06 AM	-1.471	-366.39668
4-Mar-2022 11:30:06 AM	-1.471	-366.39668
4-Mar-2022 11:31:06 AM	-1.471	-366.39668
4-Mar-2022 11:32:06 AM	-1.471	-366.39668
4-Mar-2022 11:33:06 AM	-1.471	-366.39668
4-Mar-2022 11:34:06 AM	-1.469	-365.89852

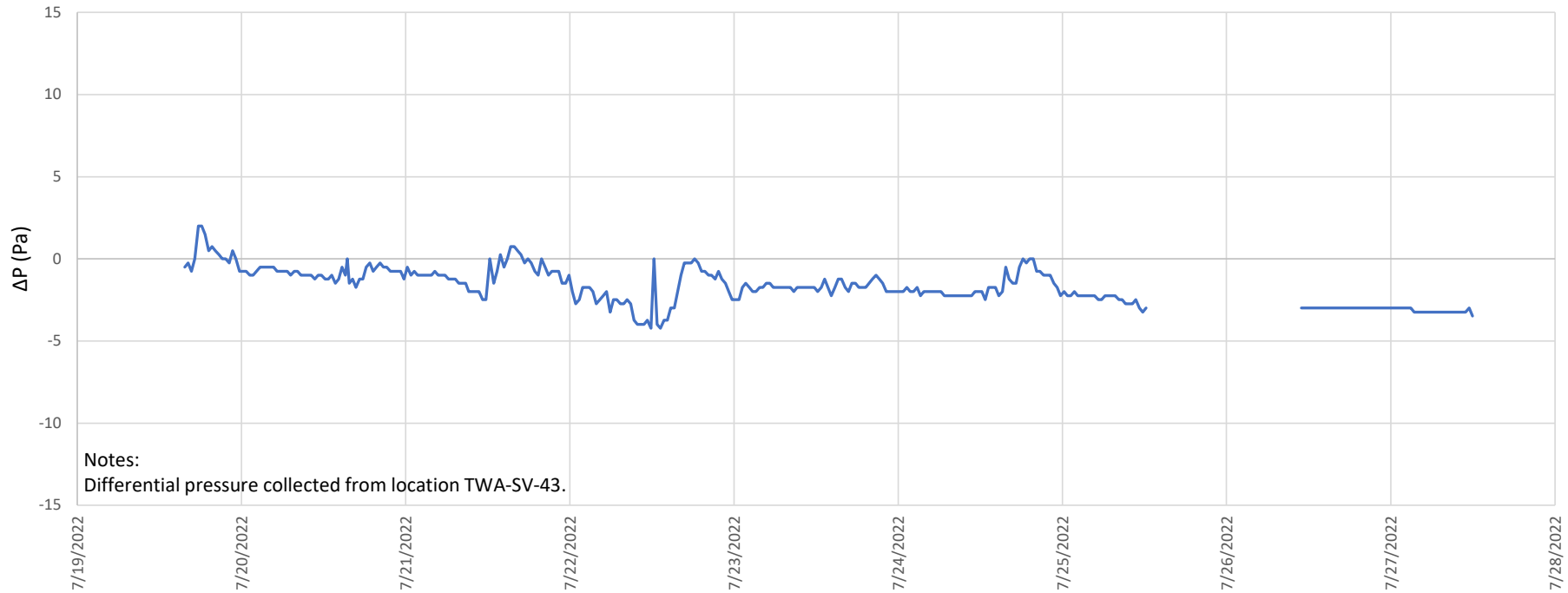
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4-Mar-2022 11:36:06 AM	-1.471	-366.39668
4-Mar-2022 11:37:06 AM	-1.471	-366.39668
4-Mar-2022 11:38:06 AM	-1.471	-366.39668
4-Mar-2022 11:39:06 AM	-1.471	-366.39668
4-Mar-2022 11:40:06 AM	-1.471	-366.39668
4-Mar-2022 11:41:06 AM	-1.471	-366.39668
4-Mar-2022 11:42:06 AM	-1.471	-366.39668
4-Mar-2022 11:43:06 AM	-1.471	-366.39668
4-Mar-2022 11:44:06 AM	-1.468	-365.64944
4-Mar-2022 11:45:06 AM	-1.468	-365.64944
4-Mar-2022 11:46:06 AM	-1.471	-366.39668
4-Mar-2022 11:47:06 AM	-1.471	-366.39668
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4-Mar-2022 11:49:06 AM	-1.471	-366.39668
4-Mar-2022 11:50:06 AM	-1.471	-366.39668
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4-Mar-2022 11:53:06 AM	-1.471	-366.39668
4-Mar-2022 11:54:06 AM	-1.471	-366.39668
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4-Mar-2022 11:56:06 AM	-1.471	-366.39668
4-Mar-2022 11:57:06 AM	-1.471	-366.39668
4-Mar-2022 11:58:06 AM	-1.471	-366.39668
4-Mar-2022 11:59:06 AM	-1.471	-366.39668
4-Mar-2022 12:00:06 PM	-1.471	-366.39668
4-Mar-2022 12:01:06 PM	-1.471	-366.39668
4-Mar-2022 12:02:06 PM	-1.471	-366.39668
4-Mar-2022 12:03:06 PM	-1.471	-366.39668
4-Mar-2022 12:04:06 PM	-1.471	-366.39668
4-Mar-2022 12:05:06 PM	-1.471	-366.39668
4-Mar-2022 12:06:06 PM	-1.471	-366.39668
4-Mar-2022 12:07:06 PM	-1.471	-366.39668
4-Mar-2022 12:08:06 PM	-1.471	-366.39668
4-Mar-2022 12:09:06 PM	-1.471	-366.39668
4-Mar-2022 12:10:06 PM	-1.471	-366.39668
4-Mar-2022 12:11:06 PM	-1.471	-366.39668
4-Mar-2022 12:12:06 PM	-1.471	-366.39668
4-Mar-2022 12:13:06 PM	-1.471	-366.39668
4-Mar-2022 12:14:06 PM	-1.471	-366.39668
4-Mar-2022 12:15:06 PM	-1.472	-366.64576
4-Mar-2022 12:16:06 PM	-1.471	-366.39668
4-Mar-2022 12:17:06 PM	-1.471	-366.39668
4-Mar-2022 12:18:06 PM	-1.471	-366.39668
4-Mar-2022 12:19:06 PM	-1.471	-366.39668
4-Mar-2022 12:20:06 PM	-1.471	-366.39668
4-Mar-2022 12:21:06 PM	-1.471	-366.39668
4-Mar-2022 12:22:06 PM	-1.471	-366.39668
4-Mar-2022 12:23:06 PM	-1.471	-366.39668
4-Mar-2022 12:24:06 PM	-1.470	-366.1476
4-Mar-2022 12:25:06 PM	-1.470	-366.1476
4-Mar-2022 12:26:06 PM	-1.468	-365.64944
4-Mar-2022 12:27:06 PM	-1.468	-365.64944
4-Mar-2022 12:28:06 PM	-1.459	-363.40772
4-Mar-2022 12:29:06 PM	-1.458	-363.15864
4-Mar-2022 12:30:06 PM	-1.452	-361.66416

4-Mar-2022 12:31:06 PM	-1.453	-361.91324
4-Mar-2022 12:32:06 PM	-1.459	-363.40772
4-Mar-2022 12:33:06 PM	-1.458	-363.15864
4-Mar-2022 12:34:06 PM	-1.459	-363.40772
4-Mar-2022 12:35:06 PM	-1.449	-360.91692
4-Mar-2022 12:36:06 PM	-1.454	-362.16232
4-Mar-2022 12:37:06 PM	-1.457	-362.90956
4-Mar-2022 12:38:06 PM	-1.467	-365.40036
4-Mar-2022 12:39:06 PM	-1.466	-365.15128
4-Mar-2022 12:40:06 PM	-1.467	-365.40036
4-Mar-2022 12:41:06 PM	-1.469	-365.89852
4-Mar-2022 12:42:06 PM	-1.469	-365.89852
4-Mar-2022 12:43:06 PM	-1.468	-365.64944
4-Mar-2022 12:44:06 PM	-1.470	-366.1476
4-Mar-2022 12:45:06 PM	-1.470	-366.1476
4-Mar-2022 12:46:06 PM	-1.471	-366.39668
4-Mar-2022 12:47:06 PM	-1.471	-366.39668
4-Mar-2022 12:48:06 PM	-1.471	-366.39668
4-Mar-2022 12:49:06 PM	-1.471	-366.39668
4-Mar-2022 12:50:06 PM	-1.471	-366.39668
4-Mar-2022 12:51:06 PM	-1.471	-366.39668
4-Mar-2022 12:52:06 PM	-1.471	-366.39668
4-Mar-2022 12:53:06 PM	-1.471	-366.39668
4-Mar-2022 12:54:06 PM	-1.471	-366.39668
4-Mar-2022 12:55:06 PM	-1.472	-366.64576
4-Mar-2022 12:56:06 PM	-1.472	-366.64576
4-Mar-2022 12:57:06 PM	-1.472	-366.64576
4-Mar-2022 12:58:06 PM	-1.472	-366.64576
4-Mar-2022 12:59:06 PM	-1.472	-366.64576
4-Mar-2022 1:00:06 PM	-1.472	-366.64576
4-Mar-2022 1:01:06 PM	-1.472	-366.64576
4-Mar-2022 1:02:06 PM	-1.472	-366.64576
4-Mar-2022 1:03:06 PM	-1.476	-367.64208
4-Mar-2022 1:04:06 PM	-1.472	-366.64576
4-Mar-2022 1:05:06 PM	-1.472	-366.64576
4-Mar-2022 1:06:06 PM	-1.472	-366.64576
4-Mar-2022 1:07:06 PM	-1.472	-366.64576
4-Mar-2022 1:08:06 PM	-1.472	-366.64576
4-Mar-2022 1:09:06 PM	-1.472	-366.64576
4-Mar-2022 1:10:06 PM	-1.472	-366.64576
4-Mar-2022 1:11:06 PM	-1.475	-367.393
4-Mar-2022 1:12:06 PM	-1.484	-369.63472
4-Mar-2022 1:13:06 PM	-1.491	-371.37828
4-Mar-2022 1:14:06 PM	-1.474	-367.14392
4-Mar-2022 1:15:06 PM	-1.479	-368.38932
4-Mar-2022 1:16:06 PM	-1.475	-367.393
4-Mar-2022 1:17:06 PM	-1.473	-366.89484
4-Mar-2022 1:18:06 PM	-1.469	-365.89852
4-Mar-2022 1:19:06 PM	-1.467	-365.40036
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4-Mar-2022 1:21:06 PM	-1.451	-361.41508
4-Mar-2022 1:22:06 PM	-1.446	-360.16968
4-Mar-2022 1:23:06 PM	-1.444	-359.67152
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4-Mar-2022 1:25:06 PM	-1.460	-363.6568
4-Mar-2022 1:26:06 PM	-1.466	-365.15128



4-Mar-2022 1:27:06 PM	-1.456	-362.66048
4-Mar-2022 1:28:06 PM	-1.460	-363.6568
4-Mar-2022 1:29:06 PM	-1.448	-360.66784
4-Mar-2022 1:30:06 PM	-1.451	-361.41508
4-Mar-2022 1:31:06 PM	-1.454	-362.16232
4-Mar-2022 1:32:06 PM	-1.447	-360.41876
4-Mar-2022 1:33:06 PM	-1.449	-360.91692
4-Mar-2022 1:34:06 PM	-1.448	-360.66784
4-Mar-2022 1:35:06 PM	-1.445	-359.9206
4-Mar-2022 1:36:06 PM	-1.453	-361.91324
4-Mar-2022 1:37:06 PM	-1.456	-362.66048
4-Mar-2022 1:38:06 PM	-1.446	-360.16968
4-Mar-2022 1:39:06 PM	-1.450	-361.166
4-Mar-2022 1:40:06 PM	-1.457	-362.90956
4-Mar-2022 1:41:06 PM	-1.451	-361.41508
4-Mar-2022 1:42:06 PM	-1.454	-362.16232
4-Mar-2022 1:43:06 PM	-1.447	-360.41876
4-Mar-2022 1:44:06 PM	-1.445	-359.9206
4-Mar-2022 1:45:06 PM	-1.449	-360.91692
4-Mar-2022 1:46:06 PM	-1.453	-361.91324
4-Mar-2022 1:47:06 PM	-1.458	-363.15864
4-Mar-2022 1:48:06 PM	-1.452	-361.66416
4-Mar-2022 1:49:06 PM	-1.461	-363.90588
4-Mar-2022 1:50:06 PM	-1.450	-361.166
4-Mar-2022 1:51:06 PM	-1.446	-360.16968
4-Mar-2022 1:52:06 PM	-1.456	-362.66048
4-Mar-2022 1:53:06 PM	-1.461	-363.90588
4-Mar-2022 1:54:06 PM	-1.467	-365.40036
4-Mar-2022 1:55:06 PM	-1.471	-366.39668
4-Mar-2022 1:56:06 PM	-1.471	-366.39668
4-Mar-2022 1:57:06 PM	-1.471	-366.39668
4-Mar-2022 1:58:06 PM	-1.471	-366.39668
4-Mar-2022 1:59:06 PM	-1.471	-366.39668
4-Mar-2022 2:00:06 PM	-1.471	-366.39668
4-Mar-2022 2:01:06 PM	-1.471	-366.39668
4-Mar-2022 2:02:06 PM	-1.471	-366.39668
4-Mar-2022 2:03:06 PM	-1.472	-366.64576
4-Mar-2022 2:04:06 PM	-1.475	-367.393
4-Mar-2022 2:05:06 PM	-1.471	-366.39668

# Potter Property - Shop Building



Notes:  
Differential pressure collected from location TWA-SV-43.

Potter Shop Building

date time	Differential Pressure (Pa)
7/19/2022 15:41	-0.49816
7/19/2022 16:11	-0.24908
7/19/2022 16:41	-0.74724
7/19/2022 17:11	0
7/19/2022 17:41	1.99264
7/19/2022 18:11	1.99264
7/19/2022 18:41	1.49448
7/19/2022 19:11	0.49816
7/19/2022 19:41	0.74724
7/19/2022 20:11	0.49816
7/19/2022 20:41	0.24908
7/19/2022 21:11	0
7/19/2022 21:41	0
7/19/2022 22:11	-0.24908
7/19/2022 22:41	0.49816
7/19/2022 23:11	0
7/19/2022 23:41	-0.74724
7/20/2022 0:11	-0.74724
7/20/2022 0:41	-0.74724
7/20/2022 1:11	-0.99632
7/20/2022 1:41	-0.99632
7/20/2022 2:11	-0.74724
7/20/2022 2:41	-0.49816
7/20/2022 3:11	-0.49816
7/20/2022 3:41	-0.49816
7/20/2022 4:11	-0.49816
7/20/2022 4:41	-0.49816
7/20/2022 5:11	-0.74724
7/20/2022 5:41	-0.74724
7/20/2022 6:11	-0.74724
7/20/2022 6:41	-0.74724
7/20/2022 7:11	-0.99632
7/20/2022 7:41	-0.74724
7/20/2022 8:11	-0.74724
7/20/2022 8:41	-0.99632
7/20/2022 9:11	-0.99632
7/20/2022 9:41	-0.99632
7/20/2022 10:11	-0.99632
7/20/2022 10:41	-1.2454
7/20/2022 11:11	-0.99632
7/20/2022 11:41	-0.99632
7/20/2022 12:11	-1.2454
7/20/2022 12:41	-1.2454
7/20/2022 13:11	-0.99632

Potter Shop Building

date time	Differential Pressure (Pa)
7/20/2022 13:41	-1.49448
7/20/2022 14:11	-1.2454
7/20/2022 14:41	-0.49816
7/20/2022 15:11	-0.99632
7/20/2022 15:28	0
7/20/2022 15:44	-1.49448
7/20/2022 16:14	-1.2454
7/20/2022 16:44	-1.74356
7/20/2022 17:14	-1.2454
7/20/2022 17:44	-1.2454
7/20/2022 18:14	-0.49816
7/20/2022 18:44	-0.24908
7/20/2022 19:14	-0.74724
7/20/2022 19:44	-0.49816
7/20/2022 20:14	-0.24908
7/20/2022 20:44	-0.49816
7/20/2022 21:14	-0.49816
7/20/2022 21:44	-0.74724
7/20/2022 22:14	-0.74724
7/20/2022 22:44	-0.74724
7/20/2022 23:14	-0.74724
7/20/2022 23:44	-1.2454
7/21/2022 0:14	-0.49816
7/21/2022 0:44	-0.99632
7/21/2022 1:14	-0.74724
7/21/2022 1:44	-0.99632
7/21/2022 2:14	-0.99632
7/21/2022 2:44	-0.99632
7/21/2022 3:14	-0.99632
7/21/2022 3:44	-0.99632
7/21/2022 4:14	-0.74724
7/21/2022 4:44	-0.99632
7/21/2022 5:14	-0.99632
7/21/2022 5:44	-0.99632
7/21/2022 6:14	-1.2454
7/21/2022 6:44	-1.2454
7/21/2022 7:14	-1.2454
7/21/2022 7:44	-1.49448
7/21/2022 8:14	-1.49448
7/21/2022 8:44	-1.49448
7/21/2022 9:14	-1.99264
7/21/2022 9:44	-1.99264
7/21/2022 10:14	-1.99264
7/21/2022 10:44	-1.99264

Potter Shop Building

date time	Differential Pressure (Pa)
7/21/2022 11:14	-2.4908
7/21/2022 11:44	-2.4908
7/21/2022 12:18	0
7/21/2022 12:51	-1.49448
7/21/2022 13:21	-0.74724
7/21/2022 13:51	0.24908
7/21/2022 14:21	-0.49816
7/21/2022 14:51	0
7/21/2022 15:21	0.74724
7/21/2022 15:51	0.74724
7/21/2022 16:21	0.49816
7/21/2022 16:51	0.24908
7/21/2022 17:21	-0.24908
7/21/2022 17:51	0
7/21/2022 18:21	-0.24908
7/21/2022 18:51	-0.74724
7/21/2022 19:21	-0.99632
7/21/2022 19:51	0
7/21/2022 20:21	-0.49816
7/21/2022 20:51	-0.99632
7/21/2022 21:21	-0.74724
7/21/2022 21:51	-0.74724
7/21/2022 22:21	-0.74724
7/21/2022 22:51	-1.49448
7/21/2022 23:21	-1.49448
7/21/2022 23:51	-0.99632
7/22/2022 0:21	-1.99264
7/22/2022 0:51	-2.73988
7/22/2022 1:21	-2.4908
7/22/2022 1:51	-1.74356
7/22/2022 2:21	-1.74356
7/22/2022 2:51	-1.74356
7/22/2022 3:21	-1.99264
7/22/2022 3:51	-2.73988
7/22/2022 4:21	-2.4908
7/22/2022 4:51	-2.24172
7/22/2022 5:21	-1.99264
7/22/2022 5:51	-3.23804
7/22/2022 6:21	-2.4908
7/22/2022 6:51	-2.4908
7/22/2022 7:21	-2.73988
7/22/2022 7:51	-2.73988
7/22/2022 8:21	-2.4908
7/22/2022 8:51	-2.73988

Potter Shop Building

date time	Differential Pressure (Pa)
7/22/2022 9:21	-3.7362
7/22/2022 9:51	-3.98528
7/22/2022 10:21	-3.98528
7/22/2022 10:51	-3.98528
7/22/2022 11:21	-3.7362
7/22/2022 11:51	-4.23436
7/22/2022 12:18	0
7/22/2022 12:44	-3.98528
7/22/2022 13:14	-4.23436
7/22/2022 13:44	-3.7362
7/22/2022 14:14	-3.7362
7/22/2022 14:44	-2.98896
7/22/2022 15:14	-2.98896
7/22/2022 15:44	-1.99264
7/22/2022 16:14	-0.99632
7/22/2022 16:44	-0.24908
7/22/2022 17:14	-0.24908
7/22/2022 17:44	-0.24908
7/22/2022 18:14	0
7/22/2022 18:44	-0.24908
7/22/2022 19:14	-0.74724
7/22/2022 19:44	-0.74724
7/22/2022 20:14	-0.99632
7/22/2022 20:44	-0.99632
7/22/2022 21:14	-1.2454
7/22/2022 21:44	-0.74724
7/22/2022 22:14	-1.2454
7/22/2022 22:44	-1.49448
7/22/2022 23:14	-1.99264
7/22/2022 23:44	-2.4908
7/23/2022 0:14	-2.4908
7/23/2022 0:44	-2.4908
7/23/2022 1:14	-1.74356
7/23/2022 1:44	-1.49448
7/23/2022 2:14	-1.74356
7/23/2022 2:44	-1.99264
7/23/2022 3:14	-1.99264
7/23/2022 3:44	-1.74356
7/23/2022 4:14	-1.74356
7/23/2022 4:44	-1.49448
7/23/2022 5:14	-1.49448
7/23/2022 5:44	-1.74356
7/23/2022 6:14	-1.74356
7/23/2022 6:44	-1.74356

Potter Shop Building

date time	Differential Pressure (Pa)
7/23/2022 7:14	-1.74356
7/23/2022 7:44	-1.74356
7/23/2022 8:14	-1.74356
7/23/2022 8:44	-1.99264
7/23/2022 9:14	-1.74356
7/23/2022 9:44	-1.74356
7/23/2022 10:14	-1.74356
7/23/2022 10:44	-1.74356
7/23/2022 11:14	-1.74356
7/23/2022 11:44	-1.74356
7/23/2022 12:14	-1.99264
7/23/2022 12:44	-1.74356
7/23/2022 13:14	-1.2454
7/23/2022 13:44	-1.74356
7/23/2022 14:14	-2.24172
7/23/2022 14:44	-1.74356
7/23/2022 15:14	-1.2454
7/23/2022 15:44	-1.2454
7/23/2022 16:14	-1.74356
7/23/2022 16:44	-1.99264
7/23/2022 17:14	-1.49448
7/23/2022 17:44	-1.49448
7/23/2022 18:14	-1.74356
7/23/2022 18:44	-1.74356
7/23/2022 19:14	-1.74356
7/23/2022 19:44	-1.49448
7/23/2022 20:14	-1.2454
7/23/2022 20:44	-0.99632
7/23/2022 21:14	-1.2454
7/23/2022 21:44	-1.49448
7/23/2022 22:14	-1.99264
7/23/2022 22:44	-1.99264
7/23/2022 23:14	-1.99264
7/23/2022 23:44	-1.99264
7/24/2022 0:14	-1.99264
7/24/2022 0:44	-1.99264
7/24/2022 1:14	-1.74356
7/24/2022 1:44	-1.99264
7/24/2022 2:14	-1.99264
7/24/2022 2:44	-1.74356
7/24/2022 3:14	-2.24172
7/24/2022 3:44	-1.99264
7/24/2022 4:14	-1.99264
7/24/2022 4:44	-1.99264

Potter Shop Building

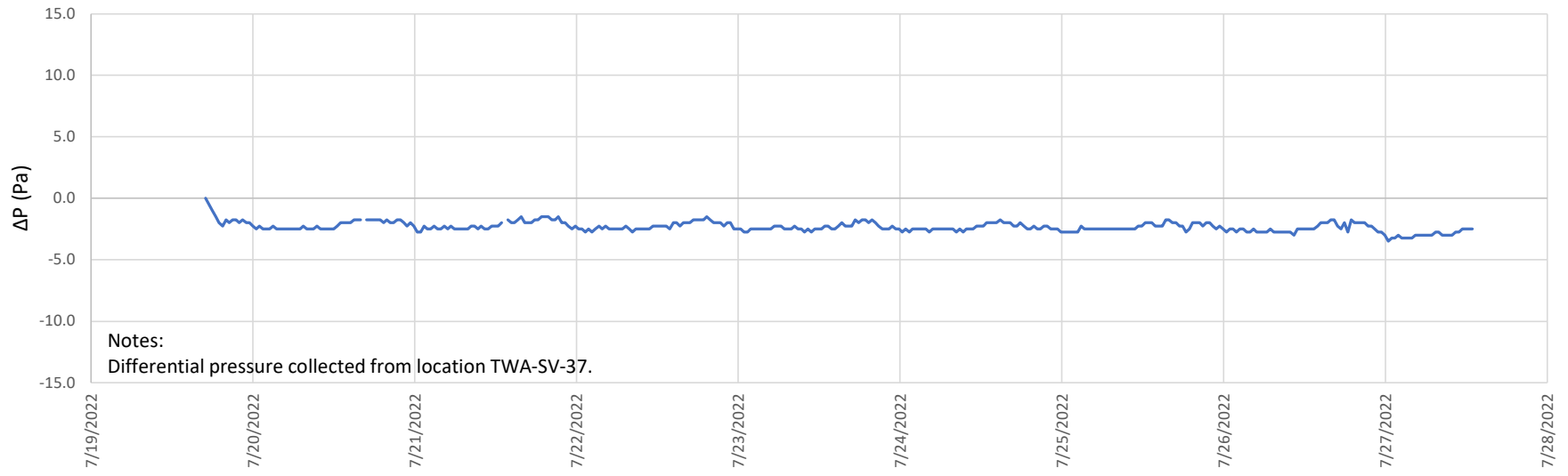
date time	Differential Pressure (Pa)
7/24/2022 5:14	-1.99264
7/24/2022 5:44	-1.99264
7/24/2022 6:14	-1.99264
7/24/2022 6:44	-2.24172
7/24/2022 7:14	-2.24172
7/24/2022 7:44	-2.24172
7/24/2022 8:14	-2.24172
7/24/2022 8:44	-2.24172
7/24/2022 9:14	-2.24172
7/24/2022 9:44	-2.24172
7/24/2022 10:14	-2.24172
7/24/2022 10:44	-2.24172
7/24/2022 11:14	-1.99264
7/24/2022 11:44	-1.99264
7/24/2022 12:14	-1.99264
7/24/2022 12:44	-2.4908
7/24/2022 13:14	-1.74356
7/24/2022 13:44	-1.74356
7/24/2022 14:14	-1.74356
7/24/2022 14:44	-2.24172
7/24/2022 15:14	-1.99264
7/24/2022 15:44	-0.49816
7/24/2022 16:14	-1.2454
7/24/2022 16:44	-1.49448
7/24/2022 17:14	-1.49448
7/24/2022 17:44	-0.49816
7/24/2022 18:14	0
7/24/2022 18:44	-0.24908
7/24/2022 19:14	0
7/24/2022 19:44	0
7/24/2022 20:14	-0.74724
7/24/2022 20:44	-0.74724
7/24/2022 21:14	-0.99632
7/24/2022 21:44	-0.99632
7/24/2022 22:14	-0.99632
7/24/2022 22:44	-1.49448
7/24/2022 23:14	-1.74356
7/24/2022 23:44	-2.24172
7/25/2022 0:14	-1.99264
7/25/2022 0:44	-2.24172
7/25/2022 1:14	-2.24172
7/25/2022 1:44	-1.99264
7/25/2022 2:14	-2.24172
7/25/2022 2:44	-2.24172



Potter Shop Building

date time	Differential Pressure (Pa)
7/25/2022 3:14	-2.24172
7/25/2022 3:44	-2.24172
7/25/2022 4:14	-2.24172
7/25/2022 4:44	-2.24172
7/25/2022 5:14	-2.4908
7/25/2022 5:44	-2.4908
7/25/2022 6:14	-2.24172
7/25/2022 6:44	-2.24172
7/25/2022 7:14	-2.24172
7/25/2022 7:44	-2.24172
7/25/2022 8:14	-2.4908
7/25/2022 8:44	-2.4908
7/25/2022 9:14	-2.73988
7/25/2022 9:44	-2.73988
7/25/2022 10:14	-2.73988
7/25/2022 10:44	-2.4908
7/25/2022 11:14	-2.98896
7/25/2022 11:44	-3.23804
7/25/2022 12:14	-2.98896

### Potter Property - Quonset Hut



Notes:  
Differential pressure collected from location TWA-SV-37.

Potter Quonset Hut

date time	Differential Pressure (Pa)
7/19/2022 17:00	0
7/19/2022 17:30	-0.49816
7/19/2022 18:00	-0.99632
7/19/2022 18:30	-1.49448
7/19/2022 19:00	-1.99264
7/19/2022 19:30	-2.24172
7/19/2022 20:00	-1.74356
7/19/2022 20:30	-1.99264
7/19/2022 21:00	-1.74356
7/19/2022 21:30	-1.74356
7/19/2022 22:00	-1.99264
7/19/2022 22:30	-1.74356
7/19/2022 23:00	-1.99264
7/19/2022 23:30	-1.99264
7/20/2022 0:00	-2.24172
7/20/2022 0:30	-2.4908
7/20/2022 1:00	-2.24172
7/20/2022 1:30	-2.4908
7/20/2022 2:00	-2.4908
7/20/2022 2:30	-2.4908
7/20/2022 3:00	-2.24172
7/20/2022 3:30	-2.4908
7/20/2022 4:00	-2.4908
7/20/2022 4:30	-2.4908
7/20/2022 5:00	-2.4908
7/20/2022 5:30	-2.4908
7/20/2022 6:00	-2.4908
7/20/2022 6:30	-2.4908
7/20/2022 7:00	-2.4908
7/20/2022 7:30	-2.24172
7/20/2022 8:00	-2.4908
7/20/2022 8:30	-2.4908
7/20/2022 9:00	-2.4908
7/20/2022 9:30	-2.24172
7/20/2022 10:00	-2.4908
7/20/2022 10:30	-2.4908
7/20/2022 11:00	-2.4908
7/20/2022 11:30	-2.4908
7/20/2022 12:00	-2.4908
7/20/2022 12:30	-2.24172
7/20/2022 13:00	-1.99264
7/20/2022 13:30	-1.99264
7/20/2022 14:00	-1.99264
7/20/2022 14:30	-1.99264

7/20/2022 15:00		-1.74356
7/20/2022 15:30		-1.74356
7/20/2022 16:00		-1.74356
7/20/2022 16:26	#N/A	
7/20/2022 16:53		-1.74356
7/20/2022 17:23		-1.74356
7/20/2022 17:53		-1.74356
7/20/2022 18:23		-1.74356
7/20/2022 18:53		-1.74356
7/20/2022 19:23		-1.99264
7/20/2022 19:53		-1.74356
7/20/2022 20:23		-1.99264
7/20/2022 20:53		-1.99264
7/20/2022 21:23		-1.74356
7/20/2022 21:53		-1.74356
7/20/2022 22:23		-1.99264
7/20/2022 22:53		-2.24172
7/20/2022 23:23		-1.99264
7/20/2022 23:53		-2.24172
7/21/2022 0:23		-2.73988
7/21/2022 0:53		-2.73988
7/21/2022 1:23		-2.24172
7/21/2022 1:53		-2.4908
7/21/2022 2:23		-2.4908
7/21/2022 2:53		-2.24172
7/21/2022 3:23		-2.4908
7/21/2022 3:53		-2.4908
7/21/2022 4:23		-2.24172
7/21/2022 4:53		-2.4908
7/21/2022 5:23		-2.24172
7/21/2022 5:53		-2.4908
7/21/2022 6:23		-2.4908
7/21/2022 6:53		-2.4908
7/21/2022 7:23		-2.4908
7/21/2022 7:53		-2.4908
7/21/2022 8:23		-2.24172
7/21/2022 8:53		-2.24172
7/21/2022 9:23		-2.4908
7/21/2022 9:53		-2.24172
7/21/2022 10:23		-2.4908
7/21/2022 10:53		-2.4908
7/21/2022 11:23		-2.24172
7/21/2022 11:53		-2.24172
7/21/2022 12:23		-2.24172
7/21/2022 12:53		-1.99264
7/21/2022 13:21	#N/A	
7/21/2022 13:49		-1.74356

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7/21/2022 14:49	-1.99264
7/21/2022 15:19	-1.74356
7/21/2022 15:49	-1.49448
7/21/2022 16:19	-1.99264
7/21/2022 16:49	-1.99264
7/21/2022 17:19	-1.99264
7/21/2022 17:49	-1.74356
7/21/2022 18:19	-1.74356
7/21/2022 18:49	-1.49448
7/21/2022 19:19	-1.49448
7/21/2022 19:49	-1.49448
7/21/2022 20:19	-1.74356
7/21/2022 20:49	-1.74356
7/21/2022 21:19	-1.49448
7/21/2022 21:49	-1.99264
7/21/2022 22:19	-1.99264
7/21/2022 22:49	-2.24172
7/21/2022 23:19	-2.4908
7/21/2022 23:49	-2.24172
7/22/2022 0:19	-2.4908
7/22/2022 0:49	-2.4908
7/22/2022 1:19	-2.73988
7/22/2022 1:49	-2.4908
7/22/2022 2:19	-2.73988
7/22/2022 2:49	-2.4908
7/22/2022 3:19	-2.24172
7/22/2022 3:49	-2.4908
7/22/2022 4:19	-2.24172
7/22/2022 4:49	-2.4908
7/22/2022 5:19	-2.4908
7/22/2022 5:49	-2.4908
7/22/2022 6:19	-2.4908
7/22/2022 6:49	-2.4908
7/22/2022 7:19	-2.24172
7/22/2022 7:49	-2.4908
7/22/2022 8:19	-2.73988
7/22/2022 8:49	-2.4908
7/22/2022 9:19	-2.4908
7/22/2022 9:49	-2.4908
7/22/2022 10:19	-2.4908
7/22/2022 10:49	-2.4908
7/22/2022 11:19	-2.24172
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7/22/2022 13:19	-2.24172

7/22/2022 13:51	-2.4908
7/22/2022 14:21	-1.99264
7/22/2022 14:51	-1.99264
7/22/2022 15:21	-2.24172
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7/22/2022 16:21	-1.99264
7/22/2022 16:51	-1.99264
7/22/2022 17:21	-1.74356
7/22/2022 17:51	-1.74356
7/22/2022 18:21	-1.74356
7/22/2022 18:51	-1.74356
7/22/2022 19:21	-1.49448
7/22/2022 19:51	-1.74356
7/22/2022 20:21	-1.99264
7/22/2022 20:51	-1.99264
7/22/2022 21:21	-1.99264
7/22/2022 21:51	-2.24172
7/22/2022 22:21	-1.99264
7/22/2022 22:51	-1.99264
7/22/2022 23:21	-2.4908
7/22/2022 23:51	-2.4908
7/23/2022 0:21	-2.4908
7/23/2022 0:51	-2.73988
7/23/2022 1:21	-2.73988
7/23/2022 1:51	-2.4908
7/23/2022 2:21	-2.4908
7/23/2022 2:51	-2.4908
7/23/2022 3:21	-2.4908
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7/23/2022 4:21	-2.4908
7/23/2022 4:51	-2.4908
7/23/2022 5:21	-2.24172
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7/23/2022 6:51	-2.4908
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7/23/2022 7:51	-2.4908
7/23/2022 8:21	-2.24172
7/23/2022 8:51	-2.4908
7/23/2022 9:21	-2.4908
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7/23/2022 11:51	-2.4908
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7/23/2022 13:51	-2.4908
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7/23/2022 16:51	-2.24172
7/23/2022 17:21	-1.74356
7/23/2022 17:51	-1.99264
7/23/2022 18:21	-1.74356
7/23/2022 18:51	-1.74356
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7/23/2022 20:21	-1.99264
7/23/2022 20:51	-2.24172
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7/23/2022 21:51	-2.4908
7/23/2022 22:21	-2.4908
7/23/2022 22:51	-2.24172
7/23/2022 23:21	-2.4908
7/23/2022 23:51	-2.4908
7/24/2022 0:21	-2.73988
7/24/2022 0:51	-2.4908
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7/24/2022 1:51	-2.4908
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7/24/2022 2:51	-2.4908
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7/24/2022 3:51	-2.4908
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7/24/2022 5:21	-2.4908
7/24/2022 5:51	-2.4908
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7/24/2022 6:51	-2.4908
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7/24/2022 12:21	-2.24172

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7/24/2022 19:51	-2.24172
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7/24/2022 20:51	-2.4908
7/24/2022 21:21	-2.24172
7/24/2022 21:51	-2.24172
7/24/2022 22:21	-2.4908
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7/24/2022 23:21	-2.4908
7/24/2022 23:51	-2.73988
7/25/2022 0:21	-2.73988
7/25/2022 0:51	-2.73988
7/25/2022 1:21	-2.73988
7/25/2022 1:51	-2.73988
7/25/2022 2:21	-2.73988
7/25/2022 2:51	-2.24172
7/25/2022 3:21	-2.4908
7/25/2022 3:51	-2.4908
7/25/2022 4:21	-2.4908
7/25/2022 4:51	-2.4908
7/25/2022 5:21	-2.4908
7/25/2022 5:51	-2.4908
7/25/2022 6:21	-2.4908
7/25/2022 6:51	-2.4908
7/25/2022 7:21	-2.4908
7/25/2022 7:51	-2.4908
7/25/2022 8:21	-2.4908
7/25/2022 8:51	-2.4908
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7/25/2022 11:21	-2.24172
7/25/2022 11:51	-2.24172



7/25/2022 12:21	-1.99264
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7/25/2022 15:25	-1.74356
7/25/2022 15:55	-1.74356
7/25/2022 16:25	-1.99264
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7/25/2022 19:25	-1.99264
7/25/2022 19:55	-1.99264
7/25/2022 20:25	-1.99264
7/25/2022 20:55	-2.24172
7/25/2022 21:25	-1.99264
7/25/2022 21:55	-1.99264
7/25/2022 22:25	-2.24172
7/25/2022 22:55	-2.4908
7/25/2022 23:25	-2.24172
7/25/2022 23:55	-2.4908
7/26/2022 0:25	-2.73988
7/26/2022 0:55	-2.4908
7/26/2022 1:25	-2.4908
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7/26/2022 6:55	-2.4908
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7/26/2022 7:55	-2.73988
7/26/2022 8:25	-2.73988
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7/26/2022 9:25	-2.73988
7/26/2022 9:55	-2.73988
7/26/2022 10:25	-2.98896
7/26/2022 10:55	-2.4908
7/26/2022 11:25	-2.4908

7/26/2022 11:55	-2.4908
7/26/2022 12:25	-2.4908
7/26/2022 12:55	-2.4908
7/26/2022 13:25	-2.4908
7/26/2022 13:55	-2.24172
7/26/2022 14:25	-1.99264
7/26/2022 14:55	-1.99264
7/26/2022 15:25	-1.99264
7/26/2022 15:55	-1.74356
7/26/2022 16:25	-1.74356
7/26/2022 16:55	-2.24172
7/26/2022 17:25	-2.4908
7/26/2022 17:55	-1.99264
7/26/2022 18:25	-2.73988
7/26/2022 18:55	-1.74356
7/26/2022 19:25	-1.99264
7/26/2022 19:55	-1.99264
7/26/2022 20:25	-1.99264
7/26/2022 20:55	-1.99264
7/26/2022 21:25	-2.24172
7/26/2022 21:55	-2.24172
7/26/2022 22:25	-2.4908
7/26/2022 22:55	-2.73988
7/26/2022 23:25	-2.73988
7/26/2022 23:55	-2.98896
7/27/2022 0:25	-3.48712
7/27/2022 0:55	-3.23804
7/27/2022 1:25	-3.23804
7/27/2022 1:55	-2.98896
7/27/2022 2:25	-3.23804
7/27/2022 2:55	-3.23804
7/27/2022 3:25	-3.23804
7/27/2022 3:55	-3.23804
7/27/2022 4:25	-2.98896
7/27/2022 4:55	-2.98896
7/27/2022 5:25	-2.98896
7/27/2022 5:55	-2.98896
7/27/2022 6:25	-2.98896
7/27/2022 6:55	-2.98896
7/27/2022 7:25	-2.73988
7/27/2022 7:55	-2.73988
7/27/2022 8:25	-2.98896
7/27/2022 8:55	-2.98896
7/27/2022 9:25	-2.98896
7/27/2022 9:55	-2.98896
7/27/2022 10:25	-2.73988
7/27/2022 10:55	-2.73988

7/27/2022 11:25	-2.4908
7/27/2022 11:55	-2.4908
7/27/2022 12:25	-2.4908
7/27/2022 12:55	-2.4908

# APPENDIX D

## QA/QC SOLUTIONS, LLC



James J. Mc Ateer, Jr., BS, MRSC  
Managing Member  
7532 Champion Hill Rd. SE  
Salem, Oregon 97306  
Telephone: 503.763.6948  
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October 18, 2021

Tasya Gray, LG  
DOF Dalton, Olmsted & Fuglevand  
1001 SW Klickitat Way, Suite 200B  
Seattle, Washington 98134

Subject: Taylor Way and Alexander Ave Fill Area (TWAAFA) Site - CleanCare Vapor Sampling and Parcel A Soil Sample Data Validation Summary  
Client Project No.: Not Specified  
QA/QC Solutions, LLC Project No.: 092221.1

Dear Tasya:

This letter documents the results of the data validation summary of selected organic compounds completed on soil and soil vapor gas samples associated with the August and September sampling events associated with the Taylor Way and Alexander Ave Fill Area (TWAAFA) Site - CleanCare Vapor Sampling and Parcel A Soil Sample located in Tacoma, Washington.

The available data were validated to verify applicable laboratory quality assurance and quality control (QA/QC) measurements were reported, documented, and of sufficient quality to support its intended purpose(s). A summary of the overall assessment of data quality, the data set, a summary of the analytical methods used to complete the chemical analyses, a summary of the data validation procedures used, and a summary of the reasons why data were qualified (including other items noted during data validation) is presented below.

### Overall Assessment of Data Quality

Overall, the data reported are of good quality and the results for the applicable QA/QC measurements that were used by the laboratories during the analysis of the samples were generally acceptable. Some sample results required qualification during data validation because method-specific QA/QC criteria were not met; results maybe qualified for more than one reason. During data validation the following actions were taken:

- A total of 46 results required qualification as estimated (*J*).
- A total of 4 results required restatement as undetected and estimated (*UJ*).
- No results reported as detected required restatement as undetected (assigned a *U* qualifier).
- No results required rejection (*R*).

Analytical data that did not meet method- and/or laboratory-established control limits for applicable quality control measurements were qualified as estimated (*J or UJ*) by the laboratory or during data validation. These qualified data are usable and represent data of good quality and reasonable confidence and have an acceptable degree of uncertainty (i.e., may be less precise or less accurate than unqualified data). Analytical data that were reported as undetected (*U or UJ*) by the laboratory or during data validation are usable.

## Data Set

The data set consisted of one soil sample, one aqueous trip blank, and 27 soil gas samples, and 1 soil gas field duplicate sample that were collected on between August 31, 2021 and September 1, 2021.

Analyses were completed by Friedman & Bruya, Inc. Environmental Chemists located in Seattle, Washington. The laboratory submitted three hardcopy data validation deliverable and electronic data deliverable (EDDs).

## Analytical Methods

The analytical methods used to complete the chemical analyses are listed as follows and are also listed in Table 2.

- On the soil sample and trip blank, gasoline-range petroleum hydrocarbons by purge and trap and analysis by gas chromatography/flame ionization detection (GC/FID) using the Washington Department of Ecology NWTPH-Gx method (Ecology 1997).
- On the soil sample, diesel- and oil-range petroleum hydrocarbons by extraction and analysis by GC/FID using the Washington Department of Ecology NWTPH-Dx (extended) method (Ecology 1997).
- On the soil sample, total metals (arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, and zinc) by digestion with nitric acid and analysis by inductively coupled plasma-mass spectrometry (ICP-MS) EPA Method 200.8 (U.S. EPA 1994).
- On the soil sample, semivolatile organic compounds (SVOCs) for 66 target analytes (including co-eluting SVOCs) by extraction and analysis by gas chromatography/mass spectrometry (GC/MS) using U.S. EPA SW-846 Method 8270E (U.S. EPA 2021).
- On the soil sample and trip blank, volatile organic compounds (VOCs) for 63 target analytes (including co-eluting VOCs) by purge and trap and analysis by GC/MS using U.S. EPA SW-846 Method 8260D, respectively (U.S. EPA 2021).
- On the soil sample, polychlorinated biphenyls (PCBs) for nine Aroclors<sup>®</sup> by extraction and analysis by gas chromatography/electron capture detection (GC/ECD) using U.S. EPA SW-846 method 8082A (U.S. EPA 2020).
- On all air samples, analyses were completed for air phase hydrocarbon (APH) ranges for APH EC5-8 and EC9-10 Aliphatics and APH EC9-10 Aromatics by the Method for the Determination of Air Phase Hydrocarbons (MA APH) prepared by the Massachusetts Department of Environmental Protection (MA APH 2009) using GC/MS).

- On all air samples, analyses were completed for 11 VOCs (including co-eluting VOCs) by gas chromatography/mass spectrometry (GC/MS) EPA Method TO-15 (U.S. EPA 1999).

## Data Validation Procedures

Data validation procedures included evaluating a summary of the sample results and applicable quality control results reported by the laboratory; this level of validation is also referred to as an abbreviated data review (equivalent to “Stage 2A/2B” review per U.S. EPA 2009). The analytical data were validated generally following the applicable guidance and requirements:

- Method-specific and laboratory-established quality control requirements, as applicable.
- Guidance on Environmental Data Verification and Validation (U.S. EPA 2002)
- Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use. OSWER No. 9200.1-85. EPA 540-R-08-005. (U.S. EPA 2009).
- National Functional Guidelines for Organic Superfund Methods Data Review. OLEM 9240.0-51 EPA 540-R-20-005 November 2020 OLEM 9355.0-136. USEPA-540-R-2017-002. June 2017. U.S. Environmental Protection Agency (EPA), Office of Superfund Remediation and Technology Innovation (OSRTI), Washington, DC. (U.S. EPA 2020a).
- National Functional Guidelines for Inorganic Data Superfund Data Review. Final. OLEM 9240.1-66 EPA 542-R-20-006 November 2020. U.S. Environmental Protection Agency (EPA), Office of Superfund Remediation and Technology Innovation (OSRTI), Washington, DC. (U.S. EPA 2020b).

The laboratory data deliverables that were validated and available for review included the following:

- Case narratives discussing analytical problems (if any) and procedures.
- Chain-of-custody documentation to verify completeness of the data set.
- Sample preparation logs or laboratory summary result forms to verify analytical holding times were met.
- Results for applicable method blanks and trip blanks to determine whether an analyte that may have been reported as detected in a sample was the result of possible contamination introduced at the laboratory or during transport of samples, respectively.
- Results for applicable surrogate compound, laboratory control sample (LCS) (i.e., blank spike), duplicate LCS, matrix spike (MS), and matrix spike duplicate (MSD) recoveries to assess analytical accuracy.
- Results for applicable laboratory duplicate sample, duplicate LCS, and MSD analyses to assess analytical precision.
- Laboratory summary of analytical results.

Verification and validation of 100-percent of all applicable laboratory calculations, transcriptions, review of instrument printouts, and review of bench sheets were not completed during the data validation review. There may be analytical problems that could only be identified by reviewing every instrument printout and

associated analytical quality control results. Verification of all possible factors that could result in the degradation of data quality was not completed nor should be inferred at this time. The laboratory case narratives did not indicate any significant problems with data that were not reviewed during data validation. The adequacy of the sampling procedures was not completed during the data validation.

Performance based control limits established by the laboratory, applicable control limits specified in the analytical methods, and best professional judgement were used to evaluate data quality and to determine if specific data required qualification. Data qualifiers were assigned during data validation following guidance specified by U.S. EPA (2002, 2020a, and 2020b) to the EDD when applicable QC measurement criteria were not met and qualification of the data was warranted.

### Reasons for Data Qualification

The reasons for qualification of samples results are summarized in Table 2 (Summary of Qualified Data).

### General Comments:

- Several samples required multiple dilutions.

This concludes the data validation review. Should you have any questions regarding the information presented herein, please contact me by telephone at 503.763.6948 or by e-mail at [jjmcateer@msn.com](mailto:jjmcateer@msn.com).

Cordially,



James J. Mc Ateer, Jr., BS, MRSC  
Managing Member

cc: Trevor Louviere, DOF Dalton, Olmsted & Fuglevand, Inc.

Attachment



## References

Ecology. 1997. Analytical methods for petroleum hydrocarbons. June 1997. Washington Department of Ecology, Olympia, WA.

MA APH 2009. Method for the Determination of Air Phase Hydrocarbons (APH). December 2009. Final, Revision 1. Massachusetts Department of Environmental Protection. Office of Research and Standards. Bureau of Waste Site Cleanup. Commonwealth of Massachusetts.

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U.S. EPA. 1999. Compendium of methods for the determination of toxic organic compounds in ambient air. EPA/625/R-96/010b. Second Edition. January 1999. U.S. Environmental Protection Agency, Center for Environmental Research Information, Office of Research and Development, Cincinnati, OH.

U.S. EPA 2002. Guidance on Environmental Data Verification and Data Validation. EPA QA/G-8. EPA/240/R-02/004. November 2002. U.S. Environmental Protection Agency, Office of Environmental Information, Washington DC.

U.S. EPA 2009. Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use. OSWER No. 9200.1-85. EPA 540-R-08-005. January 13, 2009. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, DC.

U.S. EPA 2020a. National Functional Guidelines for Organic Superfund Methods Data Review. Final. OLEM 9240.0-51 EPA 542-R-20-007. November 2020. Office of Superfund Remediation and Technology Innovation (OSRTI), U.S. Environmental Protection Agency.

U.S. EPA 2020b. National Functional Guidelines for Inorganic Data Superfund Data Review. Final. OLEM 9240.1-66 EPA 542-R-20-006. November 2020. Office of Superfund Remediation and Technology Innovation (OSRTI), U.S. Environmental Protection Agency.

U.S. EPA 2021. SW-846 on-line. Test methods for evaluating solid wastes, physical/chemical methods. <https://www.epa.gov/hw-sw846/sw-846-compendium> (last updated on July 30, 2021). U.S. Environmental Protection Agency, Office of Solid Waste, Washington, DC.

**Table 1. Summary of Samples Collected and Analyses Completed**

Sample Number	Laboratory ID	Matrix	Date Collected	Time Collected	Gasoline-Range	Diesel- and Oil-Range	Metals by	SVOCs by	VOCs by	PCBs by	APH EC5-8 and EC9-10 Aliphatics and		VOCs by
					Hydrocarbons by WDOE NWTPH-Gx	Hydrocarbons by WDOE NWTPH-Dx, ext	SW-846 6020B	SW-846 8270E	SW-846 8260D	SW-846 8082A	APH EC9-10 Aromatics by	MA-APH	TO-15
TWS-SV-1-083121	108515-01	Air	08/31/21	9:05								✓	✓
TWS-SV-10-083121	108515-02	Air	08/31/21	9:37								✓	✓
TWS-SV-2-083121	108515-03	Air	08/31/21	10:07								✓	✓
TWS-SV-11-083121	108515-04	Air	08/31/21	10:31								✓	✓
TWS-SV-3-083121	108515-05	Air	08/31/21	10:58								✓	✓
TWS-SV-4-083121	108515-06	Air	08/31/21	11:22								✓	✓
TWS-SV-12-083121	108515-07	Air	08/31/21	11:49								✓	✓
TWS-SV-13-083121	108515-08	Air	08/31/21	12:40								✓	✓
TWS-SV-13-083121-D	108515-09	Air	08/31/21	12:40								✓	✓
TWS-SV-14-083121	108515-10	Air	08/31/21	13:14								✓	✓
TWS-SV-9-083121	108515-11	Air	08/31/21	13:50								✓	✓
TWS-SV-16-083121	108515-12	Air	08/31/21	14:22								✓	✓
TWS-SV-6-083121	108515-13	Air	08/31/21	14:50								✓	✓
TWS-SV-5-083121	108515-14	Air	08/31/21	15:07								✓	✓
TWA-SV-7-090121	109030-01	Air	09/01/21	7:48								✓	✓
TWA-SV-8-090121	109030-02	Air	09/01/21	8:12								✓	✓
TWA-SV-15-090121	109030-03	Air	09/01/21	8:33								✓	✓
TWA-SV-17-090121	109030-04	Air	09/01/21	8:53								✓	✓
TWA-SV-18-090121	109030-05	Air	09/01/21	9:19								✓	✓
TWA-SV-19-090121	109030-06	Air	09/01/21	9:43								✓	✓
TWA-SV-20-090121	109030-07	Air	09/01/21	9:59								✓	✓
TWA-SV-21-090121	109030-08	Air	09/01/21	10:20								✓	✓
TWA-SV-22-090121	109030-09	Air	09/01/21	11:01								✓	✓
TWA-SV-23-090121	109030-10	Air	09/01/21	11:21								✓	✓
TWA-SV-26-090121	109030-11	Air	09/01/21	11:37								✓	✓

Table 1, continued

Sample Number	Laboratory ID	Matrix	Date Collected	Time Collected	Gasoline-Range	Diesel- and Oil-Range	Metals by	SVOCs by	VOCs by	PCBs by	APH EC5-8 and EC9-10 Aliphatics and APH EC9-10 Aromatics by MA-APH		VOCs by	
					Hydrocarbons by WDOE NWTPH-Gx	Hydrocarbons by WDOE NWTPH-Dx, ext	SW-846 6020B	SW-846 8270E	SW-846 8260D	SW-846 8082A	TO-15			
TWA-SV-25-090121	109030-12	Air	09/01/21	11:57								✓	✓	
TWA-SV-24-090121	109030-13	Air	09/01/21	12:28								✓	✓	
TWA-SV-27-090121	109030-14	Air	09/01/21	14:01								✓	✓	
TWA-SB5	1085410-01	Soil	08/31/21	13:45	✓	✓	✓	✓	✓	✓				
Trip Blank	1085410-02	Aqueous	-	-	✓					✓				
<b>Notes</b>					<b>Total Number of Samples:</b>		2	1	1	1	2	1	28	28

APH - air phase hydrocarbon ranges  
 Dx - diesel-range and oil-range hydrocarbons  
 Gx - gasoline-range hydrocarbons  
 NWTPH - Northwest Total Petroleum Hydrocarbons  
 PCBs - polychlorinated biphenyls  
 SVOC - semivolatle organic compound  
 VOC - volatile organic compound  
 WDOE - Washington Department of Ecology

Table 2. Summary of Qualified Data

Sample ID	Method	Chemical	Concentration	Units	Lab Qualifier	Final DV Qualifier	MDL	RL	Reason for Qualification
<b>Gasoline-Range Hydrocarbons</b>									
TWA-SB5	NWTPH-Gx	Gasoline Range TPH	1600	mg/kg		J	3.6	50	Surrogate compound recovery outside control limit
<b>Metals</b>									
TWA-SB5	SW6020B	Manganese	101	mg/kg		J	0.18	1.0	MS/MSD recoveries and RPDs between MS/MSD Recoveries outside control limit
		Zinc	56.2	mg/kg		J	0.94	5.0	MS/MSD recoveries and RPDs between MS/MSD Recoveries outside control limit
		Chromium	217	mg/kg		J	1.9	5.0	MS/MSD recoveries and RPDs between MS/MSD Recoveries outside control limit
		Lead	152	mg/kg		J	0.21	5.0	MS/MSD recoveries and RPDs between MS/MSD Recoveries outside control limit
<b>PCBs</b>									
TWA-SB5	EPA 8082	Aroclor 1260		mg/kg	U	UJ	0.0072	0.10	Elevated reporting limit due to matrix interferences noted by laboratory
		Aroclor 1262		mg/kg	U	UJ	0.0072	0.10	Elevated reporting limit due to matrix interferences noted by laboratory
<b>SVOCs</b>									
TWA-SB5	EPA 8270E	2-Nitroaniline		mg/kg	UJ	UJ	6.2	12	QC limit for associated calibration outside control
<b>Air Phase Hydrocarbons</b>									
TWA-SV-21-090121	MA-APH	APH EC5-8 aliphatics	3500	ug/m3	E	J	410	410	Concentration above upper instrument calibration limit in diluted sample
TWA-SV-22-090121	MA-APH	APH EC5-8 aliphatics	3800000	ug/m3	E	J	160,000	160,000	Concentration above upper instrument calibration limit in diluted sample
TWA-SV-25-090121	MA-APH	APH EC5-8 aliphatics	7300000	ug/m3	E	J	160,000	160,000	Concentration above upper instrument calibration limit in diluted sample
TWA-SV-27-090121	MA-APH	APH EC5-8 aliphatics	1200000	ug/m3	E	J	82,000	82,000	Concentration above upper instrument calibration limit in diluted sample
TWS-SV-1-083121	MA-APH	APH EC5-8 aliphatics	2000000	ug/m3	E	J	190,000	190,000	Concentration above upper instrument calibration limit in diluted sample
		APH EC9-12 aliphatics	2200000	ug/m3	E	J	62,000	62,000	Concentration above upper instrument calibration limit in diluted sample
TWS-SV-10-083121	MA-APH	APH EC5-8 aliphatics	850000	ug/m3	E	J	82,000	82,000	Concentration above upper instrument calibration limit in diluted sample
		APH EC5-8 aliphatics	660000	ug/m3	E	J	16,000	16,000	Concentration above upper instrument calibration limit in diluted sample
		APH EC9-12 aliphatics	440000	ug/m3	E	J	5,200	5,200	Concentration above upper instrument calibration limit in diluted sample
TWS-SV-11-083121	MA-APH	APH EC5-8 aliphatics	2600000	ug/m3	E	J	75,000	75,000	Concentration above upper instrument calibration limit in diluted sample
		APH EC9-12 aliphatics	4400000	ug/m3	E	J	25,000	25,000	Concentration above upper instrument calibration limit in diluted sample
		APH EC9-10 aromatics	1300000	ug/m3	E	J	25,000	25,000	Concentration above upper instrument calibration limit in diluted sample
TWS-SV-12-083121	MA-APH	APH EC5-8 aliphatics	6700000	ug/m3	E	J	160,000	160,000	Concentration above upper instrument calibration limit in diluted sample
TWS-SV-13-083121	MA-APH	APH EC5-8 aliphatics	5200000	ug/m3	E	J	82,000	82,000	Concentration above upper instrument calibration limit in diluted sample
		APH EC9-12 aliphatics	1800000	ug/m3	E	J	27,000	27,000	Concentration above upper instrument calibration limit in diluted sample
TWS-SV-13-083121-D	MA-APH	APH EC5-8 aliphatics	5400000	ug/m3	E	J	75,000	75,000	Concentration above upper instrument calibration limit in diluted sample
		APH EC9-12 aliphatics	1800000	ug/m3	E	J	25,000	25,000	Concentration above upper instrument calibration limit in diluted sample
TWS-SV-14-083121	MA-APH	APH EC5-8 aliphatics	1900000	ug/m3	E	J	82,000	82,000	Concentration above upper instrument calibration limit in diluted sample
		APH EC9-12 aliphatics	1200000	ug/m3	E	J	27,000	27,000	Concentration above upper instrument calibration limit in diluted sample
TWS-SV-16-083121	MA-APH	APH EC5-8 aliphatics	1900000	ug/m3	E	J	75,000	75,000	Concentration above upper instrument calibration limit in diluted sample
		APH EC9-12 aliphatics	1100000	ug/m3	E	J	25,000	25,000	Concentration above upper instrument calibration limit in diluted sample
TWS-SV-2-083121	MA-APH	APH EC5-8 aliphatics	1000000	ug/m3	E	J	75,000	75,000	Concentration above upper instrument calibration limit in diluted sample
		APH EC9-12 aliphatics	1100000	ug/m3	E	J	25,000	25,000	Concentration above upper instrument calibration limit in diluted sample

Table 2, continued

Sample ID	Method	Chemical	Concentration	Units	Lab Qualifier	Final DV Qualifier	MDL	RL	Reason for Qualification
TWS-SV-3-083121	MA-APH	APH EC5-8 aliphatics	5900000	ug/m3	E	J	82,000	82,000	Concentration above upper instrument calibration limit in diluted sample
		APH EC9-12 aliphatics	1200000	ug/m3	E	J	27,000	27,000	Concentration above upper instrument calibration limit in diluted sample
TWS-SV-4-083121	MA-APH	APH EC5-8 aliphatics	5600000	ug/m3	E	J	75,000	75,000	Concentration above upper instrument calibration limit in diluted sample
		APH EC9-12 aliphatics	1500000	ug/m3	E	J	25,000	25,000	Concentration above upper instrument calibration limit in diluted sample
<b>VOCs</b>									
TWA-SB5	EPA 8260D	2-Hexanone		mg/kg	UJ	UJ	0.23	2.5	QC limit for associated calibration outside control
TWA-SV-19-090121	TO-15	Trichloroethene	1500	ug/m3	E	J	0.46	1.9	Concentration above upper instrument calibration limit in diluted sample
		Tetrachloroethene	21000	ug/m3	E	J	5.9	120	Concentration above upper instrument calibration limit in diluted sample
TWA-SV-25-090121	TO-15	Toluene	120000	ug/m3	E	J	340	40,000	Concentration above upper instrument calibration limit in diluted sample
TWS-SV-10-083121	TO-15	Vinyl chloride	70000	ug/m3	E	J	79	280	Concentration above upper instrument calibration limit in diluted sample
		cis-1,2-Dichloroethene	240000	ug/m3	E	J	15	440	Concentration above upper instrument calibration limit in diluted sample
		Tetrachloroethene	990000	ug/m3	E	J	380	7,500	Concentration above upper instrument calibration limit in diluted sample
		Vinyl chloride	53000	ug/m3	E	J	15	54	Concentration above upper instrument calibration limit in diluted sample
		cis-1,2-Dichloroethene	190000	ug/m3	E	J	2.9	83	Concentration above upper instrument calibration limit in diluted sample
		Trichloroethene	60000	ug/m3	E	J	5.7	23	Concentration above upper instrument calibration limit in diluted sample
TWS-SV-11-083121	TO-15	Toluene	61000	ug/m3	E	J	160	19,000	Concentration above upper instrument calibration limit in diluted sample
		m,p-Xylene	220000	ug/m3	E	J	30	870	Concentration above upper instrument calibration limit in diluted sample
TWS-SV-2-083121	TO-15	Vinyl chloride	52000	ug/m3	E	J	72	260	Concentration above upper instrument calibration limit in diluted sample
		cis-1,2-Dichloroethene	100000	ug/m3	E	J	14	400	Concentration above upper instrument calibration limit in diluted sample

Notes:

- E = exceeds calibration range
- J = estimated
- MS/MSD = matrix spike/matrix spike duplicate
- QC = quality control
- RPD = relative percent difference
- UJ = undetected at value shown and estimated

Total results qualified "J" =	46
Total results qualified "UJ" =	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

September 17, 2021

Trevor Louviere, Project Manager  
Dalton Olmsted Fuglevand  
1001 SW Klickitat Way  
Seattle, WA 98134

Dear Mr Louviere:

Included are the results from the testing of material submitted on August 31, 2021 from the TWAAFA-001, F&BI 108515 project. There are 36 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Tasya Gray, Anthony Cerruti  
DOF0917R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 31, 2021 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 108515 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Dalton Olmsted Fuglevand</u>
108515 -01	TWS-SV-1-083121
108515 -02	TWS-SV-10-083121
108515 -03	TWS-SV-2-083121
108515 -04	TWS-SV-11-083121
108515 -05	TWS-SV-3-083121
108515 -06	TWS-SV-4-083121
108515 -07	TWS-SV-12-083121
108515 -08	TWS-SV-13-083121
108515 -09	TWS-SV-13-083121-D
108515 -10	TWS-SV-14-083121
108515 -11	TWS-SV-9-083121
108515 -12	TWS-SV-16-083121
108515 -13	TWS-SV-6-083121
108515 -14	TWS-SV-5-083121

Individually certified canisters were provided for TO-15 sampling.

Non-petroleum compounds identified in the air phase hydrocarbon (APH) ranges were subtracted per the MA-APH method.

Several APH ranges and TO-15 target analytes exceeded the calibration range of the instrument. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWS-SV-1-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-01 1/2500
Date Analyzed:	09/02/21	Data File:	090127.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	102	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	2,000,000 ve
APH EC9-12 aliphatics	2,200,000 ve
APH EC9-10 aromatics	160,000



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWS-SV-10-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-02 1/1100
Date Analyzed:	09/02/21	Data File:	090129.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	101	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	850,000 ve
APH EC9-12 aliphatics	540,000
APH EC9-10 aromatics	65,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWS-SV-10-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-02 1/210
Date Analyzed:	09/02/21	Data File:	090130.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	99	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	660,000 ve
APH EC9-12 aliphatics	440,000 ve
APH EC9-10 aromatics	55,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWS-SV-2-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-03 1/1000
Date Analyzed:	09/02/21	Data File:	090124.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	99	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	1,000,000 ve
APH EC9-12 aliphatics	1,100,000 ve
APH EC9-10 aromatics	230,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWS-SV-11-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-04 1/1000
Date Analyzed:	09/01/21	Data File:	090119.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	118	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	2,600,000 ve
APH EC9-12 aliphatics	4,400,000 ve
APH EC9-10 aromatics	1,300,000 ve

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWS-SV-3-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-05 1/1100
Date Analyzed:	09/01/21	Data File:	090121.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	105	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	5,900,000 ve
APH EC9-12 aliphatics	1,200,000 ve
APH EC9-10 aromatics	77,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWS-SV-4-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-06 1/1000
Date Analyzed:	09/02/21	Data File:	090123.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	111	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	5,600,000 ve
APH EC9-12 aliphatics	1,500,000 ve
APH EC9-10 aromatics	52,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWS-SV-12-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-07 1/2200
Date Analyzed:	09/02/21	Data File:	090125.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	99	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	6,700,000 ve
APH EC9-12 aliphatics	190,000
APH EC9-10 aromatics	<55,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWS-SV-13-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-08 1/1100
Date Analyzed:	09/01/21	Data File:	090117.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	109	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	5,200,000 ve
APH EC9-12 aliphatics	1,800,000 ve
APH EC9-10 aromatics	100,000



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWS-SV-13-083121-D	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-09 1/1000
Date Analyzed:	09/01/21	Data File:	090120.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	109	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	5,400,000 ve
APH EC9-12 aliphatics	1,800,000 ve
APH EC9-10 aromatics	110,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWS-SV-14-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-10 1/1100
Date Analyzed:	09/01/21	Data File:	090116.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	104	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	1,900,000 ve
APH EC9-12 aliphatics	1,200,000 ve
APH EC9-10 aromatics	43,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWS-SV-9-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-11 1/6.0
Date Analyzed:	09/01/21	Data File:	090111.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	99	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	510
APH EC9-12 aliphatics	1,100
APH EC9-10 aromatics	<150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWS-SV-16-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-12 1/1000
Date Analyzed:	09/01/21	Data File:	090115.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	105	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	1,900,000 ve
APH EC9-12 aliphatics	1,100,000 ve
APH EC9-10 aromatics	48,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWS-SV-6-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-13 1/5.8
Date Analyzed:	09/01/21	Data File:	090113.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	101	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<430
APH EC9-12 aliphatics	1,100
APH EC9-10 aromatics	<140

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWS-SV-5-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-14 1/5.4
Date Analyzed:	09/01/21	Data File:	090114.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	101	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<400
APH EC9-12 aliphatics	1,400
APH EC9-10 aromatics	<130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 108515
Date Collected:	Not Applicable	Lab ID:	01-2000 MB
Date Analyzed:	09/01/21	Data File:	090110.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWS-SV-1-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-01 1/2500
Date Analyzed:	09/02/21	Data File:	090127.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	102	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	670	260
Methylene chloride	<87,000	<25,000
cis-1,2-Dichloroethene	<990	<250
Benzene	25,000	7,900
Trichloroethene	<270	<50
Toluene	69,000	18,000
Tetrachloroethene	<17,000	<2,500
Ethylbenzene	7,000	1,600
m,p-Xylene	21,000	4,900
o-Xylene	13,000	3,100
Naphthalene	<660	<120



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWS-SV-10-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-02 1/1100
Date Analyzed:	09/02/21	Data File:	090129.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	99	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	70,000 ve	27,000 ve
Methylene chloride	<38,000	<11,000
cis-1,2-Dichloroethene	240,000 ve	60,000 ve
Benzene	<350	<110
Trichloroethene	77,000	14,000
Toluene	<21,000	<5,500
Tetrachloroethene	990,000 ve	150,000 ve
Ethylbenzene	<480	<110
m,p-Xylene	960	220
o-Xylene	640	150
Naphthalene	<290	<55

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWS-SV-10-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-02 1/210
Date Analyzed:	09/02/21	Data File:	090130.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	53,000 ve	21,000 ve
Methylene chloride	<7,300	<2,100
cis-1,2-Dichloroethene	190,000 ve	47,000 ve
Benzene	110	34
Trichloroethene	60,000 ve	11,000 ve
Toluene	<4,000	<1,000
Tetrachloroethene	760,000 ve	110,000 ve
Ethylbenzene	210	47
m,p-Xylene	710	160
o-Xylene	480	110
Naphthalene	<55	<10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWS-SV-2-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-03 1/1000
Date Analyzed:	09/02/21	Data File:	090124.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	101	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	52,000 ve	20,000 ve
Methylene chloride	<35,000	<10,000
cis-1,2-Dichloroethene	100,000 ve	26,000 ve
Benzene	33,000	10,000
Trichloroethene	200	37
Toluene	27,000	7,100
Tetrachloroethene	<6,800	<1,000
Ethylbenzene	2,900	670
m,p-Xylene	16,000	3,700
o-Xylene	7,700	1,800
Naphthalene	1,100	220

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWS-SV-11-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-04 1/1000
Date Analyzed:	09/01/21	Data File:	090119.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	116	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	1,600	640
Methylene chloride	<35,000	<10,000
cis-1,2-Dichloroethene	1,100	290
Benzene	19,000	6,100
Trichloroethene	1,600	290
Toluene	61,000 ve	16,000 ve
Tetrachloroethene	<6,800	<1,000
Ethylbenzene	27,000	6,200
m,p-Xylene	220,000 ve	52,000 ve
o-Xylene	86,000	20,000
Naphthalene	13,000	2,400

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWS-SV-3-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-05 1/1100
Date Analyzed:	09/01/21	Data File:	090121.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	104	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	4,700	1,800
Methylene chloride	<38,000	<11,000
cis-1,2-Dichloroethene	750	190
Benzene	12,000	3,900
Trichloroethene	240	44
Toluene	<21,000	<5,500
Tetrachloroethene	<7,500	<1,100
Ethylbenzene	22,000	5,100
m,p-Xylene	9,600	2,200
o-Xylene	8,700	2,000
Naphthalene	<290	<55

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWS-SV-4-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-06 1/1000
Date Analyzed:	09/02/21	Data File:	090123.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	109	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	640	250
Methylene chloride	<35,000	<10,000
cis-1,2-Dichloroethene	<400	<100
Benzene	11,000	3,400
Trichloroethene	<110	<20
Toluene	<19,000	<5,000
Tetrachloroethene	<6,800	<1,000
Ethylbenzene	22,000	5,100
m,p-Xylene	2,900	670
o-Xylene	2,100	480
Naphthalene	<260	<50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWS-SV-12-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-07 1/2200
Date Analyzed:	09/02/21	Data File:	090125.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	9,500	3,700
Methylene chloride	<76,000	<22,000
cis-1,2-Dichloroethene	9,500	2,400
Benzene	1,600	490
Trichloroethene	46,000	8,600
Toluene	<41,000	<11,000
Tetrachloroethene	37,000	5,500
Ethylbenzene	1,600	370
m,p-Xylene	4,500	1,000
o-Xylene	1,400	330
Naphthalene	<580	<110

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWS-SV-13-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-08 1/1100
Date Analyzed:	09/01/21	Data File:	090117.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	107	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<280	<110
Methylene chloride	<38,000	<11,000
cis-1,2-Dichloroethene	<440	<110
Benzene	8,500	2,700
Trichloroethene	<120	<22
Toluene	<21,000	<5,500
Tetrachloroethene	<7,500	<1,100
Ethylbenzene	28,000	6,400
m,p-Xylene	1,500	340
o-Xylene	1,700	400
Naphthalene	<290	<55



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWS-SV-13-083121-D	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-09 1/1000
Date Analyzed:	09/01/21	Data File:	090120.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	107	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	280	110
Methylene chloride	<35,000	<10,000
cis-1,2-Dichloroethene	<400	<100
Benzene	8,900	2,800
Trichloroethene	<110	<20
Toluene	<19,000	<5,000
Tetrachloroethene	<6,800	<1,000
Ethylbenzene	28,000	6,400
m,p-Xylene	1,600	380
o-Xylene	1,800	410
Naphthalene	<260	<50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWS-SV-14-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-10 1/1100
Date Analyzed:	09/01/21	Data File:	090116.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	103	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<280	<110
Methylene chloride	<38,000	<11,000
cis-1,2-Dichloroethene	<440	<110
Benzene	3,300	1,000
Trichloroethene	<120	<22
Toluene	<21,000	<5,500
Tetrachloroethene	<7,500	<1,100
Ethylbenzene	640	150
m,p-Xylene	<960	<220
o-Xylene	<480	<110
Naphthalene	<290	<55

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWS-SV-9-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-11 1/6.0
Date Analyzed:	09/01/21	Data File:	090111.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.5	<0.6
Methylene chloride	<210	<60
cis-1,2-Dichloroethene	<2.4	<0.6
Benzene	2.0	0.61
Trichloroethene	1.7	0.32
Toluene	<110	<30
Tetrachloroethene	<41	<6
Ethylbenzene	<2.6	<0.6
m,p-Xylene	7.8	1.8
o-Xylene	3.5	0.80
Naphthalene	1.7	0.32

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWS-SV-16-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-12 1/1000
Date Analyzed:	09/01/21	Data File:	090115.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	110	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<260	<100
Methylene chloride	<35,000	<10,000
cis-1,2-Dichloroethene	<400	<100
Benzene	3,000	940
Trichloroethene	<110	<20
Toluene	<19,000	<5,000
Tetrachloroethene	<6,800	<1,000
Ethylbenzene	6,600	1,500
m,p-Xylene	940	220
o-Xylene	660	150
Naphthalene	<260	<50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWS-SV-6-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-13 1/5.8
Date Analyzed:	09/01/21	Data File:	090113.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	99	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.5	<0.58
Methylene chloride	<200	<58
cis-1,2-Dichloroethene	<2.3	<0.58
Benzene	<1.9	<0.58
Trichloroethene	7.0	1.3
Toluene	<110	<29
Tetrachloroethene	<39	<5.8
Ethylbenzene	<2.5	<0.58
m,p-Xylene	<5	<1.2
o-Xylene	<2.5	<0.58
Naphthalene	<1.5	<0.29

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWS-SV-5-083121	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAAFA-001, F&BI 108515
Date Collected:	08/31/21	Lab ID:	108515-14 1/5.4
Date Analyzed:	09/01/21	Data File:	090114.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	99	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.4	<0.54
Methylene chloride	<190	<54
cis-1,2-Dichloroethene	<2.1	<0.54
Benzene	<1.7	<0.54
Trichloroethene	2.7	0.50
Toluene	<100	<27
Tetrachloroethene	<37	<5.4
Ethylbenzene	<2.3	<0.54
m,p-Xylene	5.0	1.2
o-Xylene	<2.3	<0.54
Naphthalene	<1.4	<0.27

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 108515
Date Collected:	Not Applicable	Lab ID:	01-2000 MB
Date Analyzed:	09/01/21	Data File:	090110.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Methylene chloride	<35	<10
cis-1,2-Dichloroethene	<0.4	<0.1
Benzene	<0.32	<0.1
Trichloroethene	<0.11	<0.02
Toluene	<19	<5
Tetrachloroethene	<6.8	<1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.26	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/17/21

Date Received: 08/31/21

Project: TWAAFA-001, F&BI 108515

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD MA-APH**

Laboratory Code: 108515-11 1/6.0 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	510	460	10
APH EC9-12 aliphatics	ug/m3	1,100	1,100	0
APH EC9-10 aromatics	ug/m3	<150	<150	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	95	70-130
APH EC9-12 aliphatics	ug/m3	67	125	70-130
APH EC9-10 aromatics	ug/m3	67	109	70-130



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/17/21

Date Received: 08/31/21

Project: TWAAFA-001, F&BI 108515

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD TO-15**

Laboratory Code: 108515-11 1/6.0 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<1.5	<1.5	nm
Methylene chloride	ug/m3	<210	<210	nm
cis-1,2-Dichloroethene	ug/m3	<2.4	<2.4	nm
Benzene	ug/m3	2.0	<1.9	nm
Trichloroethene	ug/m3	1.7	1.5	12
Toluene	ug/m3	<110	<110	nm
Tetrachloroethene	ug/m3	<41	<41	nm
Ethylbenzene	ug/m3	<2.6	<2.6	nm
m,p-Xylene	ug/m3	7.8	<5.2	nm
o-Xylene	ug/m3	3.5	<2.6	nm
Naphthalene	ug/m3	1.7	<1.6	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	108	70-130
Methylene chloride	ug/m3	94	111	70-130
cis-1,2-Dichloroethene	ug/m3	54	114	70-130
Benzene	ug/m3	43	112	70-130
Trichloroethene	ug/m3	73	111	70-130
Toluene	ug/m3	51	116	70-130
Tetrachloroethene	ug/m3	92	120	70-130
Ethylbenzene	ug/m3	59	110	70-130
m,p-Xylene	ug/m3	120	113	70-130
o-Xylene	ug/m3	59	111	70-130
Naphthalene	ug/m3	71	91	70-130

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

# Chain of Custody, Shipping & Receiving Documents, Sample Condition Checklist

F&B Project 108515

**SAMPLE CHAIN OF CUSTODY**

ME 08/31/21

Page # 1 of 2

108515

Report To Trevor Louviere

Company DOF

Address 1601 SW Klickitat Way, Ste 200B

City, State, ZIP Seattle, WA 98134

Phone 425-785-6322 Email tlouviere@dofnw.com

SAMPLES (signature)

PROJECT NAME & ADDRESS  
TWAAREA

PO #

TWAAREA-001

NOTES:

INVOICE TO  
DOF

TURNAROUND TIME

Standard  
RUSH  
Rush charges authorized by:

SAMPLE DISPOSAL  
Default: Clean after 3 days  
Archive (Fee may apply)

**SAMPLE INFORMATION**

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. (°Hg)	Field Initial Time	Final Vac. (°Hg)	Field Final Time	ANALYSIS REQUESTED				Notes	
										TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	Helium	To-15 Project List
TWA-SV-1-083121	01	3390	18	IA / SG	8/31/21	30	0859	5	0905	X					
TWA-SV-10-083121	02	8255	02	IA / SG	8/31/21	29	0927	5	0934	X					
TWA-SV-2-083121	03	3251	111	IA / SG	8/31/21	30	1001	4	1007	X					
TWA-SV-11-083121	04	4184	17	IA / SG	8/31/21	30	1027	5	1031	X					
TWA-SV-3-083121	05	3675	230	IA / SG	8/31/21	30	1053	5	1058	X					
TWA-SV-4-083121	06	3676	240	IA / SG	8/31/21	30	1110	5	1122 <del>1122</del> <del>1122</del>	X					
TWA-SV-12-083121	07	8264	225	IA / SG	8/31/21	30	1138	5	1149	X					
TWA-SV-13-083121	08	2303	299	IA / SG	8/31/21	29	1234	5	1240	X					

**SIGNATURE**

Reinquished by:

Received by:

Reinquished by:

Received by:

**PRINT NAME**

Trevor Louviere

VVA

**COMPANY**

DOF

FB

**DATE**

8/31/21

8/31/21

**TIME**

1545

1545

Samples received at 19 °C

Friedman & Bruya, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029  
Ph. (206) 285-8282

Fax (206) 283-5044

**SAMPLE CHAIN OF CUSTODY** ME 08/31/21

108515

Report To: Irener Leuviere  
 Company: DOF  
 Address: 1001 SW Klickitat Way, Ste 2008  
 City, State, ZIP: Seattle WA 98134  
 Phone: 425-785-6322 Email: tleuviere@dofnw.com

SAMPLERS (signature)	
PROJECT NAME & ADDRESS	<u>TWAARA</u>
PO #	<u>TWAARA-DCI</u>
NOTES:	<u>DOF</u>

TURNAROUND TIME

Standard  
 RUSH  
 Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL  
 Default: Clean after 3 days  
 Archive (Fee may apply)

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. (Hg)	Field Initial Time	Final Vac. (Hg)	Field Final Time	ANALYSIS REQUESTED			Notes
										TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	
TWA-SV-13-083121-D	09	4179	231	IA / <u>SG</u>	8/31/21	30	1234	5	1240	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
TWA-SV-14-083121	10	3664	228	IA / <u>SG</u>	8/31/21	29	1307	5	1314	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
TWA-SV-9-083121	11	2297	203	IA / <u>SG</u>	8/31/21	29	1343	5	1350	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
TWA-SV-16-083121	12	3674	222	IA / <u>SG</u>	8/31/21	30	1416	5	1422	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
TWA-SV-6-083121	13	8232	224	IA / <u>SG</u>	8/31/21	30	1443	5	1450	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
TWA-SV-5-083121	14	4178	220	IA / <u>SG</u>	8/31/21	30	1501	5	1507	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
				IA / SG									
				IA / SG									
				IA / SG									

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282  
 Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
	<u>Irener Leuviere</u>	<u>DOF</u>	<u>8/31/21</u>	<u>1545</u>
	<u>Taylor Leuviere</u>	<u>DOF</u>	<u>8/31/21</u>	<u>1545</u>
Received by:				
Relinquished by:				

**SAMPLE CONDITION UPON RECEIPT CHECKLIST**

PROJECT # 108515 CLIENT DOF INITIALS/ DATE: (NP) 8/31/21

If custody seals are present on cooler, are they intact?  NA  YES  NO

Cooler/Sample temperature 19 °C

Were samples received on ice/cold packs?  YES  NO

How did samples arrive?  Over the Counter  
 Picked up by F&BI  
 FedEx/UPS/GSO

Number of days samples have been sitting prior to receipt at laboratory 0 days

Is there a Chain-of-Custody\* (COC)?  YES  NO  
\*or other representative documents, letters, and/or shipping memos

Are the samples clearly identified? (explain "no" answer below)  YES  NO

Is the following information provided on the COC\* ? (explain "no" answer below)

Sample ID's	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	# of Containers	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Date Sampled	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Relinquished	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Time Sampled	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Requested analysis	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below)  YES  NO

Were appropriate sample containers used? (explain "no" answer below)  YES  NO

If custody seals are present on samples, are they intact?  NA  YES  NO

Are samples requiring no headspace, headspace free?  NA  YES  NO

Air Samples: Were any additional canisters received?  NA  YES  NO

If Yes, number of unused 1L canisters \_\_\_\_\_  
number of unused 6L canisters \_\_\_\_\_

**Explain "no" items from above (use the back if needed)**

**EPA TO-15**  
**Laboratory Worksheets**

**F&B Project 108515**

**TO-15 EXTRACTION WORKSHEET (AIR)**

(1 of 2)

Project #: 108515  
 Client: DOF-TWAFAA  
 QC Batch ID: 01-2000  
 Samples checked against COC AS

HT \_\_\_\_\_  
 Date Received: 8/31/21  
 Date Extracted: 9/01/21  
 Date Analyzed: \_\_\_\_\_  
 GCMS  7  8, Seq. Date \_\_\_\_\_

<b>Sample Type:</b> <input checked="" type="checkbox"/> Soil Gas <input type="checkbox"/> Indoor Air <input type="checkbox"/> Other _____  Due Date: <u>9/14/21</u>	<b>Requested Analytes:</b> <input type="checkbox"/> TO-15 Full List (sDF=3.3) <input checked="" type="checkbox"/> BTEX (sDF=33) <input type="checkbox"/> cVOCs (sDF=10) <input checked="" type="checkbox"/> Naphthalene (sDF=3.3) <input checked="" type="checkbox"/> APH (sDF=39) <input checked="" type="checkbox"/> cis-1,2-DCE <input type="checkbox"/> _____ <input checked="" type="checkbox"/> PCE, TCE, VC, MeCl2  sDF = Acceptable Dilution Factor For Soil Gas iDF = Acceptable Dilution Factor For Indoor Air	<b>Reporting Units:</b> <input checked="" type="checkbox"/> µg/m3 <input type="checkbox"/> Other _____  <input type="checkbox"/> ve's not Acceptable <input type="checkbox"/> Dilutions Not Acceptable for Non-Detects <input checked="" type="checkbox"/> Screen Samples First
--	---	---

Sample ID	Canister ID	Initial Vacuum (Pi)	Final Vacuum (Pf)	Initial Dilution Factor	Volume Injected (cc)	Final Dilution Factor	Observations		
							Pi2	Pf2	DL2
✓ 01	3390	12.30	20.36	1.66	20	1/2500	0.25	30	120
02	8255	11.33	19.98	1.76	25	1/1100	0.5	30	60
✓ 03	3251	11.77	20.24	1.72	25	1/1000	0.5	30	60
✓ 04	4184	11.47	20.40	1.78	25	1/1000	0.5 <sup>2x4</sup>	30	58
✓ 05	3675	11.67	20.78	1.78	25	1/1100	0.5	30	60
✓ 06	3676	12.18	20.55	1.69	25	1/1000	0.5	30	60
✓ 07	8267	11.30	20.30	1.80	25	1/2200	0.25	30	120
✓ 08	2303	11.12	20.53	1.85	25	1/1100	0.5	30	60
✓ 09	4179	11.72	20.42	1.74	25	1/1000	0.5	30	60
✓ 10	3666	11.07	20.32	1.84	25	1/1100	0.5	30	60
✓ 11	2297	11.41	20.29	1.83	75	1/6			

Initials \_\_\_\_\_

	✓	Volume	Conc. (ppm)	Compound(s)	Lot #	Initials	Date
Solvent		NA	NA	NA			
Other							
Internal Standard(s)/ Surrogate(s)	✓	50 cc	50 ppbv	TO-15 IS/Surr Mix	64632	K	9/01
Other							

Project Leader Initials: \_\_\_\_\_  
 NOTES: TIER IV DATA PACKAGE  
Screened on 9/01 - 13x

Calculated by: K 09/03/21      Reviewed by: YA 09/07/21



### TO-15 EXTRACTION WORKSHEET (AIR)

HT \_\_\_\_\_

Project #: 108515  
 Client: DOF-TWAFAA  
 QC Batch ID: 01-2000  
 Samples checked against COC Ret

Date Received: 8/31/21  
 Date Extracted: 9/01/21  
 Date Analyzed: \_\_\_\_\_  
 GCMS  7  8, Seq. Date \_\_\_\_\_

<b>Sample Type:</b> <input checked="" type="checkbox"/> Soil Gas <input type="checkbox"/> Indoor Air <input type="checkbox"/> Other _____  Due Date: <u>9/14/21</u>	<b>Requested Analytes:</b> <input type="checkbox"/> TO-15 Full List (sDF=3.3) <input type="checkbox"/> cVOCs (sDF=10) <input checked="" type="checkbox"/> APH (sDF=39) <input type="checkbox"/> <small>sDF = Acceptable Dilution Factor For Soil Gas          iDF = Acceptable Dilution Factor For Indoor Air</small>	<input checked="" type="checkbox"/> BTEX (sDF=33) <input checked="" type="checkbox"/> Naphthalene (sDF=3.3) <input checked="" type="checkbox"/> cis-1,2-DCE <input checked="" type="checkbox"/> PCE, TCE, VC, MeCl2 <input type="checkbox"/> ve's not Acceptable <input type="checkbox"/> Dilutions Not Acceptable for Non-Detects <input checked="" type="checkbox"/> Screen Samples First
--	--	---

Sample ID	Canister ID	Initial Vacuum (Pi)	Final Vacuum (Pf)	Initial Dilution Factor	Volume Injected (cc)	Final Dilution Factor	Observations		
							Pi	Pf	DL
✓ 12	3674	12.17	20.38	1.67	25	1/1000	0.5	30	60
✓ 13	8232	11.59	20.52	1.77	75	1/5.8			
✓ 14	4178	12.54	20.51	1.64	75	1/5.4			
Ret	9/01/21								
02					125	1/210			
Ret	09/01/21								

Initials \_\_\_\_\_

	✓	Volume	Conc. (ppm)	Compound(s)	Lot #	Initials	Date
Solvent		NA	NA	NA			
Other							
Internal Standard(s)/ Surrogate(s)	✓	50 cc	50 ppbv	TO-15 IS/Surr Mix	64-632	Ret	8/01
Other							

Project Leader Initials: \_\_\_\_\_  
 NOTES: TIER IV DATA PACKAGE

Calculated by: Ret 09/03/21 Reviewed by: YA 09/07/21

# BATCH ORGANIC EXTRACTION WORKSHEET

Date Extracted: 09-01-21 08:07 Technician: Bob

QA Batch: **01-2000**

**Matrix**

- Soil
- Water
- Product
- Wipe
- Other air

**Solvent**

- Methylene Chloride
- Acetone
- Methanol
- Hexane
- Other \_\_\_\_\_

**Analysis**

- Diesel
- Gas/BTEX
- HClD
- 8270 SIM
- 8270
- 8260
- PCB
- Organic Lead
- Methamphetamine
- Other TOIS/APH

Clean Up:  Florsil (FL)  Copper (Cu)  
 Silica  Filtration  H<sub>2</sub>SO<sub>4</sub>  Other \_\_\_\_\_

Sample ID	pH Waters only	Sample Weight/ Volume	Extraction Solvent Volume	Final Volume	Dilutions		Clean Up (Circle)			Observations
					Amt. Extract	Amt. Solvent	Silica	FL Filter	Cu H <sub>2</sub> SO <sub>4</sub>	
MB										
LCS (TOIS)										
LCS (APH)										
108515-11										
108515-11 dup										
B 09/01/21										

Initials \_\_\_\_\_

**Samples in Batch**

108515-01	108515-05	108515-09	108515-13

**Matrix Spikes:**

25cc  $\mu$ L of 25ppbv ppm of TOIS ccv/LCS  
 Amount Concentration Analytes and Solvent

Date/Initials  
 Lot # 64-87a 09/01/21 Bob

**Matrix Spikes:**

150cc  $\mu$ L of 112.5ug/l ppm of APH LCS  
 Amount Concentration Analytes and Solvent

Lot # 64-81b

**Surrogates:**

\_\_\_\_\_  $\mu$ L of \_\_\_\_\_ ppm of \_\_\_\_\_  
 Amount Concentration Analytes and Solvent

Lot # \_\_\_\_\_

**Internal Standards:**

50cc  $\mu$ L of 50ppbv ppm of TOIS IS  
 Amount Concentration Analytes and Solvent

Lot # 64-63a

**Notes:**

\_\_\_\_\_

Matrix	Collected	Analyzed	Data File	Client ID	Lab ID	Concentration
Air	08/31/21	09/02/21 02:48	090127.D	QQQ-01	108515-01 1/2500	670
Air	08/31/21	09/02/21 04:10	090129.D	QQQ-02	108515-02 1/1100	70,000 ve
Air	08/31/21	09/02/21 04:50	090130.D	QQQ-02	108515-02 1/210	53,000 ve
Air	08/31/21	09/02/21 00:52	090124.D	QQQ-03	108515-03 1/1000	52,000 ve
Air	08/31/21	09/01/21 21:42	090119.D	QQQ-04	108515-04 1/1000	1,600
Air	08/31/21	09/01/21 22:54	090121.D	QQQ-05	108515-05 1/1100	4,700
Air	08/31/21	09/02/21 00:16	090123.D	QQQ-06	108515-06 1/1000	640
Air	08/31/21	09/02/21 01:27	090125.D	QQQ-07	108515-07 1/2200	9,500
Air	08/31/21	09/01/21 20:19	090117.D	QQQ-08	108515-08 1/1100	<280
Air	08/31/21	09/01/21 22:18	090120.D	QQQ-09	108515-09 1/1000	280
Air	08/31/21	09/01/21 19:43	090116.D	QQQ-10	108515-10 1/1100	<280
Air	08/31/21	09/01/21 16:37	090111.D	QQQ-11	108515-11 1/6.0	<1.5
Air	08/31/21	09/01/21 19:06	090115.D	QQQ-12	108515-12 1/1000	<260
Air	08/31/21	09/01/21 17:51	090113.D	QQQ-13	108515-13 1/5.8	<1.5
Air	08/31/21	09/01/21 18:29	090114.D	QQQ-14	108515-14 1/5.4	<1.4
Air	09/01/21	09/01/21 14:10	090110.D	Method Blank	01-2000 MB	<0.26

Sample Extracted and Analyzed

9/01/21 08:07      9/01/21 16:37

Duplicate Sample Extracted and Analyzed

09/01/21 08:07      09/01/21 17:14

LCS Extracted and Analyzed

09/01/21 08:07      09/01/21 09:13

LCSD Extracted and Analyzed

LCSD Not Analyzed

ata File	Lab ID	Matrix	Dil Factor	Calc Factor	Init Cal	Limit	Position	Cleaning Procedure
090127.D	108515-01	1/2500	Air	2500	1	37500	27	**PRE-CLEAN**
090129.D	108515-02	1/1100	Air	1100	1	16500	29	**PRE-CLEAN**
090130.D	108515-02	1/210	Air	210	1	3150	30	**PRE-CLEAN**
090124.D	108515-03	1/1000	Air	1000	1	15000	24	**PRE-CLEAN**
090119.D	108515-04	1/1000	Air	1000	1	15000	19	**PRE-CLEAN**
090121.D	108515-05	1/1100	Air	1100	1	16500	21	**PRE-CLEAN**
090123.D	108515-06	1/1000	Air	1000	1	15000	23	**PRE-CLEAN**
090125.D	108515-07	1/2200	Air	2200	1	33000	25	**PRE-CLEAN**
090117.D	108515-08	1/1100	Air	1100	1	16500	16	**PRE-CLEAN**
090120.D	108515-09	1/1000	Air	1000	1	15000	20	**PRE-CLEAN**
090116.D	108515-10	1/1100	Air	1100	1	16500	15	**PRE-CLEAN**
090111.D	108515-11	1/6.0	Air	6	1	90	11	**STANDARD**
090115.D	108515-12	1/1000	Air	1000	1	15000	15	**PRE-CLEAN**
090113.D	108515-13	1/5.8	Air	5.8	1	87	13	**STANDARD**
090114.D	108515-14	1/5.4	Air	5.4	1	81	14	**STANDARD**
090110.D	01-2000 MB	Air	1	1	15		10	**STANDARD**

ata File	Lab ID	Matrix	Dil Factor	Calc Factor	Init Cal	Limit	Position	Cleaning Procedure
090127.D	108515-01	1/2500	Air	2500	1	1437500	*****	*****
090129.D	108515-02	1/1100	Air	1100	1	632500	*****	*****
090130.D	108515-02	1/210	Air	210	1	120750	*****	*****
090124.D	108515-03	1/1000	Air	1000	1	575000	*****	*****
090119.D	108515-04	1/1000	Air	1000	1	575000	*****	*****
090121.D	108515-05	1/1100	Air	1100	1	632500	*****	*****
090123.D	108515-06	1/1000	Air	1000	1	575000	*****	*****
090125.D	108515-07	1/2200	Air	2200	1	1265000	*****	*****
090117.D	108515-08	1/1100	Air	1100	1	632500	*****	*****
090120.D	108515-09	1/1000	Air	1000	1	575000	*****	*****
090116.D	108515-10	1/1100	Air	1100	1	632500	*****	*****
090111.D	108515-11	1/6.0	Air	6	1	3450	*****	*****
090115.D	108515-12	1/1000	Air	1000	1	575000	*****	*****
090113.D	108515-13	1/5.8	Air	5.8	1	3335	*****	*****
090114.D	108515-14	1/5.4	Air	5.4	1	3105	*****	*****
090110.D	01-2000 MB	Air	1	1	575	*****	*****	*****

ata File	Lab ID	Matrix	Dil Factor	Calc Factor	Init	Cal Limit	Position	Cleaning Procedure
090129.D	108515-02	1/1100	Air	1100	1	632500		*****
090130.D	108515-02	1/210	Air	210	1	120750		*****

ata File	Lab ID	Matrix	Dil Factor	Calc Factor	Init	Cal Limit	Position	Cleaning Procedure
090129.D	108515-02	1/1100	Air	1100	1	632500		*****
090130.D	108515-02	1/210	Air	210	1	120750		*****

EPA TO-15  
MDLs

F&B Project 108515



Reported MDL Data and Calculations

Converted from Reported Air MDLs ppb

Analysis: TO-15  
 Matrix: Air  
 Instrument ID: GCMS #7  
 Reporting Units: ug/m3

Standard(s) spiked:  
 Volume spiked:  
 Date(s) Extracted:  
 Date(s) Analyzed:  
 Date Calculated:  
 Calculation Analyst:

Analyte	(StdDev*2.998) MDL	(2*MDL) PQL	(5*MDL) PQL	Std Dev	Mean	Spike Level	% Rec.
Propane	0.2076	0.4153	1.0382	0.0693	0.2741	0.1721	159
Dichlorodifluoromethane	0.1843	0.3686	0.9214	0.0615	0.5254	0.4945	106
Chloromethane	0.3534	0.7068	1.7671	0.1179	0.2607	0.2065	126
F-114	0.4876	0.9752	2.4379	0.1626	0.8520	0.6991	122
Vinyl chloride	0.0718	0.1435	0.3588	0.0239	0.2694	0.2556	105
1,3-Butadiene	0.0207	0.0413	0.1034	0.0069	0.0597	0.0442	135
Butane	0.9806	1.9612	4.9030	0.3271	5.3752	4.7542	113
Bromomethane	1.9932	3.9865	9.9661	0.6649	9.0945	7.7661	117
Chloroethane	0.0645	0.1291	0.3227	0.0215	0.3166	0.2638	120
Vinyl Bromide	0.0436	0.0873	0.2182	0.0146	0.4298	0.4375	98
Ethanol	1.4828	2.9256	7.3139	0.4879	4.7490	3.7685	128
Acrolein	0.0249	0.0498	0.1245	0.0083	0.0633	0.0459	138
Pentane	1.2873	2.5745	6.4363	0.4294	6.4898	5.9018	110
Trichlorofluoromethane	0.1282	0.2564	0.6410	0.0428	0.6082	0.5618	108
Acetone	1.0166	2.0331	5.0828	0.3391	5.1984	4.7509	109
2-Propanol	0.9926	1.9852	4.9631	0.3311	4.9069	4.9162	100
1,1-Dichloroethane	0.0250	0.0499	0.1248	0.0083	0.0917	0.0793	116
trans-1,2-Dichloroethane	0.0324	0.0648	0.1620	0.0108	0.0892	0.0793	113
Methylene chloride	1.8037	3.6074	9.0185	0.6016	7.9854	6.9472	115
t-Butyl alcohol (TBA)	1.1670	2.3340	5.8351	0.3893	6.6117	6.0630	109
3-Chloropropene	1.2985	2.5969	6.4923	0.4331	6.9483	6.2601	111
CFC-113	0.2973	0.5946	1.4864	0.0992	0.8382	0.7664	109
Carbon disulfide	0.1575	0.3150	0.7875	0.0525	0.4126	0.3114	133
Methyl t-butyl ether (...)	0.2554	0.5107	1.2768	0.0852	0.3898	0.3605	108
Vinyl acetate	1.5317	3.0634	7.6586	0.5109	7.1944	7.0421	102
1,1-Dichloroethane	0.0137	0.0273	0.0683	0.0046	0.0885	0.0809	109
cis-1,2-Dichloroethane	0.0141	0.0282	0.0706	0.0047	0.0808	0.0793	102
Hexane	1.3331	2.6662	6.6655	0.4447	7.1777	7.0495	102
Chloroform	0.0111	0.0221	0.0553	0.0037	0.1025	0.0977	105
Ethyl acetate	1.8660	3.7319	9.3298	0.6224	8.0200	7.2074	111
Tetrahydrofuran	0.2951	0.5901	1.4753	0.0984	0.3152	0.2949	107
2-Butanone (MEK)	1.2899	2.5798	6.4494	0.4302	6.2399	5.8988	106
1,2-Dichloroethane (EDC)	0.0090	0.0181	0.0451	0.0030	0.0835	0.0809	103
1,1,1-Trichloroethane	0.0105	0.0210	0.0524	0.0035	0.1098	0.1091	101
Carbon tetrachloride	0.0121	0.0242	0.0604	0.0040	0.1266	0.1258	101
Benzene	0.0089	0.0177	0.0443	0.0030	0.0703	0.0639	110
Cyclohexane	0.7457	1.4914	3.7285	0.2487	6.8662	6.8843	100
1,2-Dichloropropane	0.0209	0.0419	0.1047	0.0070	0.1202	0.0924	130
1,4-Dioxane	0.1284	0.2568	0.6421	0.0428	0.4293	0.3604	119
2,2,4-Trimethylpentane	1.6877	3.3754	8.4385	0.5629	10.3128	9.3440	110
Methyl methacrylate	1.1190	2.2380	5.5951	0.3733	9.3087	8.1898	114
Heptane	2.0434	4.0868	10.2170	0.6816	8.9866	8.1971	110
Bromodichloromethane	0.0330	0.0660	0.1649	0.0110	0.1617	0.1340	121
Trichloroethane	0.0271	0.0543	0.1357	0.0091	0.1310	0.1075	122
cis-1,3-Dichloropropene	0.2220	0.4440	1.1101	0.0741	0.6184	0.4539	136
4-Methyl-2-pentanone	3.1185	6.2370	15.5924	1.0402	7.7373	8.1930	94
trans-1,3-Dichloropropene	0.2321	0.4641	1.1603	0.0774	0.5917	0.4539	130
Toluene	0.1619	0.3237	0.8093	0.0540	0.5007	0.3769	133
1,1,2-Trichloroethane	0.0137	0.0273	0.0683	0.0046	0.1248	0.1091	114
2-Hexanone	1.3178	2.6357	6.5892	0.4396	9.2310	8.1930	113
Tetrachloroethane	0.3508	0.7017	1.7542	0.1170	0.8639	0.6782	127
Dibromochloromethane	0.0181	0.0361	0.0903	0.0060	0.1768	0.1704	104
1,2-Dibromoethane (EDB)	0.0320	0.0640	0.1599	0.0107	0.1825	0.1537	119
Chlorobenzene	0.1294	0.2588	0.6471	0.0432	0.5099	0.4604	111
Ethylbenzene	0.0269	0.0538	0.1345	0.0090	0.4011	0.4342	92
1,1,2,2-Tetrachloroethane	0.0156	0.0311	0.0778	0.0052	0.1545	0.1373	113
Nonane	1.9662	3.9324	9.8309	0.6558	10.9205	10.4916	104
Isopropylbenzene	1.4037	2.8073	7.0183	0.4682	10.3188	9.8315	105
2-Chlorotoluene	1.6996	3.3992	8.4980	0.5669	10.6456	10.3550	103
Propylbenzene	1.3501	2.7003	6.7507	0.4503	10.2530	9.8315	104
4-Ethyltoluene	1.4291	2.8582	7.1454	0.4767	10.1135	9.8315	103
m,p-Xylene	0.0295	0.0590	0.1476	0.0098	0.7751	0.8685	89
o-Xylene	0.0214	0.0428	0.1069	0.0071	0.3729	0.4342	86
Styrene	0.5502	1.1003	2.7508	0.1835	0.4941	0.4260	116
Bromoform	0.6428	1.2857	3.2142	0.2144	0.9623	1.0337	93
Benzyl chloride	0.0080	0.0161	0.0402	0.0027	0.0900	0.1035	87
1,3,5-Trimethylbenzene	1.2339	2.4678	6.1695	0.4116	9.6226	9.8315	98
1,2,4-Trimethylbenzene	1.1681	2.3363	5.8407	0.3896	9.6834	9.8315	98
1,3-Dichlorobenzene	0.0911	0.1822	0.4556	0.0304	0.5599	0.6012	93
1,4-Dichlorobenzene	0.0911	0.1822	0.4556	0.0304	0.5298	0.6012	88
1,2-Dichlorobenzene	0.0684	0.1368	0.3421	0.0228	0.5644	0.6012	94
1,2,4-Trichlorobenzene	0.1748	0.3496	0.8739	0.0583	0.8126	0.7421	110
Naphthalene	0.0319	0.0638	0.1596	0.0106	0.0989	0.1048	94
Hexachlorobutadiene	0.0165	0.0331	0.0827	0.0055	0.2280	0.2133	107

Reported MDL Data and Calculations

Analyst fill in all below (attach extraction

Analysis: TO-15  
 Matrix: Air  
 Instrument ID: GCMS #7  
 Reporting Units: ppbv

Standard(s) spiked:  
 Volume spiked:  
 Date(s) Extracted:  
 Date(s) Analyzed:  
 Date Calculated:  
 Calculation Analyst:

Analyte	(StdDev*2.998) MDL	(2*MDL) PQL	(5*MDL) PQL	Std Dev	Mean	Spike Level	% Rec.
Propene	0.1206	0.2413	0.6032	0.0402	0.1593	0.1000	159
Dichlorodifluoromethane	0.0373	0.0745	0.1863	0.0124	0.1063	0.1000	106
Chloromethane	0.1711	0.3423	0.8557	0.0571	0.1263	0.1000	126
F-114	0.0697	0.1395	0.3487	0.0233	0.1219	0.1000	122
Vinyl chloride	0.0281	0.0562	0.1404	0.0094	0.1054	0.1000	105
1,3-Butadiene	0.0093	0.0187	0.0467	0.0031	0.0270	0.0200	135
Butane	0.4125	0.8250	2.0626	0.1376	2.2613	2.0000	113
Bromomethane	0.5133	1.0266	2.5666	0.1712	2.3421	2.0000	117
Chloroethane	0.0245	0.0489	0.1223	0.0082	0.1200	0.1000	120
Vinyl Bromide	0.0100	0.0200	0.0499	0.0033	0.0983	0.1000	98
Ethanol	0.7763	1.5526	3.8816	0.2589	2.5204	2.0000	126
Acrolein	0.0109	0.0217	0.0543	0.0036	0.0276	0.0200	138
Pentane	0.4362	0.8724	2.1811	0.1455	2.1993	2.0000	110
Trichlorofluoromethane	0.0228	0.0456	0.1141	0.0076	0.1083	0.1000	108
Acetone	0.4279	0.8559	2.1397	0.1427	2.1884	2.0000	109
2-Propanol	0.4038	0.8076	2.0191	0.1347	1.9963	2.0000	100
1,1-Dichloroethene	0.0063	0.0126	0.0315	0.0021	0.0231	0.0200	116
trans-1,2-Dichloroethene	0.0082	0.0163	0.0409	0.0027	0.0225	0.0200	113
Methylene chloride	0.5193	1.0385	2.5963	0.1732	2.2989	2.0000	115
t-Butyl alcohol (TBA)	0.3850	0.7699	1.9248	0.1284	2.1810	2.0000	109
3-Chloropropene	0.4148	0.8297	2.0742	0.1384	2.2199	2.0000	111
CFC-113	0.0388	0.0776	0.1940	0.0129	0.1094	0.1000	109
Carbon disulfide	0.0506	0.1011	0.2529	0.0169	0.1325	0.1000	133
Methyl t-butyl ether (...)	0.0708	0.1417	0.3541	0.0236	0.1081	0.1000	108
Vinyl acetate	0.4350	0.8700	2.1751	0.1451	2.0433	2.0000	102
1,1-Dichloroethane	0.0034	0.0068	0.0169	0.0011	0.0219	0.0200	109
cis-1,2-Dichloroethene	0.0036	0.0071	0.0178	0.0012	0.0204	0.0200	102
Hexane	0.3782	0.7564	1.8911	0.1262	2.0364	2.0000	102
Chloroform	0.0023	0.0045	0.0113	0.0008	0.0210	0.0200	105
Ethyl acetate	0.5178	1.0356	2.5890	0.1727	2.2255	2.0000	111
Tetrahydrofuran	0.1000	0.2001	0.5002	0.0334	0.1069	0.1000	107
2-Butanone (MEK)	0.4374	0.8747	2.1868	0.1459	2.1158	2.0000	106
1,2-Dichloroethane (EDC)	0.0022	0.0045	0.0112	0.0007	0.0206	0.0200	103
1,1,1-Trichloroethane	0.0019	0.0038	0.0096	0.0006	0.0201	0.0200	101
Carbon tetrachloride	0.0019	0.0038	0.0096	0.0006	0.0201	0.0200	101
Benzene	0.0028	0.0056	0.0139	0.0009	0.0220	0.0200	110
Cyclohexane	0.2166	0.4333	1.0832	0.0723	1.9948	2.0000	100
1,2-Dichloropropane	0.0045	0.0091	0.0227	0.0015	0.0260	0.0200	130
1,4-Dioxane	0.0356	0.0713	0.1782	0.0119	0.1191	0.1000	119
2,2,4-Trimethylpentane	0.3612	0.7225	1.8062	0.1205	2.2074	2.0000	110
Methyl methacrylate	0.2733	0.5465	1.3664	0.0912	2.2733	2.0000	114
Heptane	0.4986	0.9971	2.4928	0.1663	2.1926	2.0000	110
Bromodichloromethane	0.0049	0.0098	0.0246	0.0016	0.0241	0.0200	121
Trichloroethene	0.0051	0.0101	0.0253	0.0017	0.0244	0.0200	122
cis-1,3-Dichloropropene	0.0489	0.0978	0.2446	0.0163	0.1363	0.1000	136
4-Methyl-2-pentanone	0.7613	1.5225	3.8063	0.2539	1.8888	2.0000	94
trans-1,3-Dichloropropene	0.0511	0.1023	0.2556	0.0171	0.1304	0.1000	130
Toluene	0.0430	0.0859	0.2148	0.0143	0.1329	0.1000	133
1,1,2-Trichloroethane	0.0025	0.0050	0.0125	0.0008	0.0229	0.0200	114
2-Hexanone	0.3217	0.6434	1.6085	0.1073	2.2534	2.0000	113
Tetrachloroethene	0.0517	0.1035	0.2586	0.0173	0.1274	0.1000	127
Dibromochloromethane	0.0021	0.0042	0.0106	0.0007	0.0208	0.0200	104
1,2-Dibromoethane (EDB)	0.0042	0.0083	0.0208	0.0014	0.0238	0.0200	119
Chlorobenzene	0.0281	0.0562	0.1406	0.0094	0.1108	0.1000	111
Ethylbenzene	0.0062	0.0124	0.0310	0.0021	0.0924	0.1000	92
1,1,2,2-Tetrachloroethane	0.0023	0.0045	0.0113	0.0008	0.0225	0.0200	113
Nonane	0.3748	0.7496	1.8740	0.1250	2.0818	2.0000	104
Isopropylbenzene	0.2855	0.5711	1.4277	0.0952	2.0991	2.0000	105
2-Chlorotoluene	0.3283	0.6565	1.6413	0.1095	2.0561	2.0000	103
Propylbenzene	0.2747	0.5493	1.3733	0.0916	2.0858	2.0000	104
4-Ethyltoluene	0.2907	0.5814	1.4536	0.0970	2.0574	2.0000	103
m,p-Xylene	0.0068	0.0136	0.0340	0.0023	0.1785	0.2000	89
o-Xylene	0.0049	0.0098	0.0246	0.0016	0.0859	0.1000	86
Styrene	0.1292	0.2583	0.6458	0.0431	0.1160	0.1000	116
Bromoform	0.0622	0.1244	0.3110	0.0207	0.0931	0.1000	93
Benzyl chloride	0.0016	0.0031	0.0078	0.0005	0.0174	0.0200	87
1,3,5-Trimethylbenzene	0.2510	0.5020	1.2550	0.0837	1.9575	2.0000	98
1,2,4-Trimethylbenzene	0.2376	0.4753	1.1882	0.0793	1.9699	2.0000	98
1,3-Dichlorobenzene	0.0152	0.0303	0.0758	0.0051	0.0931	0.1000	93
1,4-Dichlorobenzene	0.0152	0.0303	0.0758	0.0051	0.0881	0.1000	88
1,2-Dichlorobenzene	0.0114	0.0228	0.0569	0.0038	0.0939	0.1000	94
1,2,4-Trichlorobenzene	0.0236	0.0471	0.1178	0.0079	0.1095	0.1000	110
Naphthalene	0.0061	0.0122	0.0304	0.0020	0.0189	0.0200	94
Hexachlorobutadiene	0.0016	0.0031	0.0078	0.0005	0.0214	0.0200	107

EPA TO-15  
Sequence Tables

F&B Project 108515

Sequence Name: C:\msdchem\1\sequence\08-19-21.s ✓AS 8/20/21

Comment:

Operator: bat

Data Path: D:\GCMS7\DATA\08-19-21\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run            On A Barcode Mismatch  
(X) Full Method                    (X) Inject Anyway  
( ) Reprocessing Only            ( ) Don't Inject

-----

Line	Sample Name/Misc Info
1) Sample	1 081901 TO15DC rinse
2) Sample	2 081902 TO15DC BFB 63-15a
3) Sample	3 081903 TO15DC 25ppbv aph prime
4) Sample	4 081904 TO15DC 2.5ppbv aph prime
5) Sample	5 081905 TO15DC 112.5 ug/ml lcs prime
6) Sample	6 081906 SRINSE short rinse
7) Sample	7 081907 SRINSE short rinse
8) Sample	8 081908 SRINSE short rinse
9) Sample	9 081909 TO15DC rinse
10) Sample	10 081910 TO15DC rinse
11) Sample	11 081911 TO15DC rinse
12) Sample	12 081912 TO15DC 0.2 ppbv, 64-38c
13) Sample	13 081913 TO15DC 0.2 ppbv, 64-38c
14) Sample	14 081914 TO15DC 0.5 ppbv, 64-38c
15) Sample	15 081915 TO15DC 1 ppbv, 64-38c
16) Sample	16 081916 TO15DC 2.5 ppbv, 64-38c
17) Sample	17 081917 TO15DC 5 ppbv, 64-38a
18) Sample	18 081918 TO15DC 10 ppbv, 64-38a
19) Sample	19 081919 TO15DC 25 ppbv, 64-38a
20) Sample	20 081920 TO15DC rinse
21) Sample	21 081921 TO15DC rinse
22) Sample	22 081922 TO15DC SCV 64-81b
23) Sample	23 081923 TO15DC rinse
24) Sample	24 081924 TO15DC rinse
25) Sample	25 081925 TO15DC BFB
26) Sample	26 081926 TO15DC TO15 CCV 2.5ppbv
27) Sample	27 081927 TO15DC rinse
28) Sample	28 081928 TO15DC rinse
29) Sample	29 081929 TO15DC mb
30) Sample	30 081930 TO15DC 2299
31) Sample	31 081931 TO15DC 4180
32) Sample	32 081932 TO15DC 8267
33) Sample	33 081933 TO15DC 4183
34) Sample	34 081934 TO15DC rinse

Sequence Name: C:\msdchem\1\sequence\08-24-21.s ✓AS8/25/24

Comment:

Operator: bat

Data Path: D:\GCMS7\DATA\08-24-21\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run            On A Barcode Mismatch  
(X) Full Method                    (X) Inject Anyway  
( ) Reprocessing Only            ( ) Don't Inject

-----

Line	Sample		Sample Name/Misc Info
1)	Sample	1	082401 TO15DC rinse
2)	Sample	2	082402 TO15DC BFB 64-63a
3)	Sample	3	082403 TO15DC 25ppbv prime
4)	Sample	4	082404 TO15DC 1 ppbv prime
5)	Sample	5	082405 TO15DC 0.1 ppbv prime
6)	Sample	6	082406 TO15DC SCV prime
7)	Sample	7	082407 SRINSE rinse
8)	Sample	8	082408 SRINSE rinse
9)	Sample	9	082409 SRINSE rinse
10)	Sample	10	082410 TO15DC rinse
11)	Sample	11	082411 TO15DC rinse
12)	Sample	12	082412 TO15DC rinse
13)	Sample	13	082413 TO15DC 0.01 ppbv 64-87c
14)	Sample	14	082414 TO15DC 0.01 ppbv 64-87c
15)	Sample	15	082415 TO15DC 0.02 ppbv 64-87c
16)	Sample	16	082416 TO15DC 0.05 ppbv 64-87c
17)	Sample	17	082417 TO15DC 0.1 ppbv 64-87c
18)	Sample	18	082418 TO15DC 0.2 ppbv 64-87b
19)	Sample	19	082419 TO15DC 0.5 ppbv 64-87b
20)	Sample	20	082420 TO15DC 1.0 ppbv 64-87b
21)	Sample	21	082421 TO15DC 2.5 ppbv 64-87a
22)	Sample	22	082422 TO15DC 4.0 ppbv 64-87a
23)	Sample	23	082423 TO15DC 5.0 ppbv 64-87a
24)	Sample	24	082424 TO15DC 8.0 ppbv 64-87a
25)	Sample	25	082425 TO15DC 10 ppbv 64-87a
26)	Sample	26	082426 TO15DC 15 ppbv 64-87a
27)	Sample	27	082427 SRINSE rinse
28)	Sample	28	082428 TO15DC rinse
29)	Sample	29	082429 TO15DC scv 2.5ppbv 64-64a
30)	Sample	30	082430 SRINSE rinse
31)	Sample	31	082431 TO15DC rinse

Sequence Name: C:\msdchem\1\sequence\09-01-21.s vAS9/2/21

Comment:

Operator: bat

Data Path: D:\GCMS7\DATA\09-01-21\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run            On A Barcode Mismatch  
(X) Full Method                    (X) Inject Anyway  
( ) Reprocessing Only            ( ) Don't Inject

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Line	Sample Name/Misc Info
1) Sample	1 090101 TO15DC rinse
2) Sample	2 090102 TO15DC BFB 64-63a
3) Sample	3 090103 TO15DC 01-2000 lcs/ 2.5ppbv 64-87a
4) Sample	4 090104 TO15DC 5 ppbv APH 64-91a
5) Sample	5 090105 TO15DC 01-2000 lcs/ 67 ug/m3 64-81b
6) Sample	6 090106 SRINSE tree rinse
7) Sample	7 090107 SRINSE tree rinse
8) Sample	8 090108 TO15DC rinse
9) Sample	9 090109 TO15DC rinse
10) Sample	10 090110 TO15DC 01-2000 MB
11) Sample	11 090111 TO15DC 108515-11 1/6.0
12) Sample	12 090112 TO15DC 108515-11 dup 1/6.0
13) Sample	13 090113 TO15DC 108515-13 1/5.8
14) Sample	14 090114 TO15DC 108515-14 1/5.4
15) Sample	15 090115 TO15DC 108515-12 1/1000
16) Sample	15 090116 TO15DC 108515-10 1/1100
17) Sample	16 090117 TO15DC 108515-08 1/1100
18) Sample	18 090118 TO15DC rinse
19) Sample	19 090119 TO15DC 108515-04 1/1000
20) Sample	20 090120 TO15DC 108515-09 1/1000
21) Sample	21 090121 TO15DC 108515-05 1/1100
22) Sample	22 090122 TO15DC rinse
23) Sample	23 090123 TO15DC 108515-06 1/1000
24) Sample	24 090124 TO15DC 108515-03 1/1000
25) Sample	25 090125 TO15DC 108515-07 1/2200
26) Sample	26 090126 TO15DC rinse
27) Sample	27 090127 TO15DC 108515-01 1/2500
28) Sample	28 090128 TO15DC rinse
29) Sample	29 090129 TO15DC 108515-02 1/1100
30) Sample	30 090130 TO15DC 108515-02 1/210
31) Sample	31 090131 TO15DC rinse
32) Sample	32 090132 TO15DC rinse
33) Sample	33 090133 TO15DC rinse

Sample	1	rinse	TO15DC	81901	
Sample	2	BFB 63-15a	TO15DC	81902	T1
Sample	3	25ppbv aph prime	TO15DC	81903	line 2
Sample	4	2.5ppbv aph prime	TO15DC	81904	T2
Sample	5	112.5 ug/ml lcs prime	TO15DC	81905	line 3
Sample	6	short rinse	SRINSE	81906	T1
Sample	7	short rinse	SRINSE	81907	T1
Sample	8	short rinse	SRINSE	81908	T1
Sample	9	rinse	TO15DC	81909	T1
Sample	10	rinse	TO15DC	81910	T1
Sample	11	rinse	TO15DC	81911	T1
Sample	12	0.2 ppbv, 64-38c	TO15DC	81912	T2, 20cc
Sample	13	0.2 ppbv, 64-38c	TO15DC	81913	T2, 20cc
Sample	14	0.5 ppbv, 64-38c	TO15DC	81914	T2, 50cc
Sample	15	1 ppbv, 64-38c	TO15DC	81915	T2, 100cc
Sample	16	2.5 ppbv, 64-38c	TO15DC	81916	T2, 250cc
Sample	17	5 ppbv, 64-38a	TO15DC	81917	line 2, 50cc
Sample	18	10 ppbv, 64-38a	TO15DC	81918	line 2, 100cc
Sample	19	25 ppbv, 64-38a	TO15DC	81919	line 2, 250cc
Sample	20	rinse	TO15DC	81920	T1
Sample	21	rinse	TO15DC	81921	T1
Sample	22	SCV 64-81b	TO15DC	81922	Line 3, 150cc
Sample	23	rinse	TO15DC	81923	T1
Sample	24	rinse	TO15DC	81924	T1
Sample	25	BFB	TO15DC	81925	T1
Sample	26	TO15 CCV 2.5ppbv	TO15DC	81926	T1
Sample	27	rinse	TO15DC	81927	T1
Sample	28	rinse	TO15DC	81928	T1
Sample	29	mb	TO15DC	81929	T1
Sample	30	2299	TO15DC	81930	T3
Sample	31	4180	TO15DC	81931	T4
Sample	32	8267	TO15DC	81932	T5
Sample	33	4183	TO15DC	81933	T6
Sample	34	rinse	TO15DC	81934	T1

Sample	1	rinse	TO15DC	82401	
Sample	2	BFB 64-63a	TO15DC	82402	T1
Sample	3	25ppbv prime	TO15DC	82403	Cal Line
Sample	4	1 ppbv prime	TO15DC	82404	T3
Sample	5	0.1 ppbv prime	TO15DC	82405	T2
Sample	6	SCV prime	TO15DC	82406	T4
Sample	7	rinse	SRINSE	82407	T1
Sample	8	rinse	SRINSE	82408	T1
Sample	9	rinse	SRINSE	82409	T1
Sample	10	rinse	TO15DC	82410	T1
Sample	11	rinse	TO15DC	82411	T1
Sample	12	rinse	TO15DC	82412	T1
Sample	13	0.01 ppbv 64-87c	TO15DC	82413	T2, 25cc of 0.1ppbv
Sample	14	0.01 ppbv 64-87c	TO15DC	82414	T2, 25cc of 0.1ppbv
Sample	15	0.02 ppbv 64-87c	TO15DC	82415	T2, 50cc of 0.1ppbv
Sample	16	0.05 ppbv 64-87c	TO15DC	82416	T2, 125cc of 0.1ppbv
Sample	17	0.1 ppbv 64-87c	TO15DC	82417	T2, 250cc of 0.1ppbv
Sample	18	0.2 ppbv 64-87b	TO15DC	82418	T3, 50cc of 1ppbv
Sample	19	0.5 ppbv 64-87b	TO15DC	82419	T3, 125cc of 1ppbv
Sample	20	1.0 ppbv 64-87b	TO15DC	82420	T3, 250cc of 1ppbv
Sample	21	2.5 ppbv 64-87a	TO15DC	82421	cal line, 25cc of 25ppbv
Sample	22	4.0 ppbv 64-87a	TO15DC	82422	cal line, 40cc of 25ppbv
Sample	23	5.0 ppbv 64-87a	TO15DC	82423	cal line, 50cc of 25ppbv
Sample	24	8.0 ppbv 64-87a	TO15DC	82424	cal line, 80cc of 25ppbv
Sample	25	10 ppbv 64-87a	TO15DC	82425	cal line, 100cc of 25ppbv
Sample	26	15 ppbv 64-87a	TO15DC	82426	cal line, 150cc of 25ppbv
Sample	27	rinse	SRINSE	82427	T1
Sample	28	rinse	TO15DC	82428	T1
Sample	29	scv 2.5ppbv 64-64a	TO15DC	82429	T4, 25cc of 25ppbv
Sample	30	rinse	SRINSE	82430	T1
Sample	31	rinse	TO15DC	82431	T1

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 8/24



Sample	1	rinse	TO15DC	90101	
Sample	2	BFB 64-63a	TO15DC	90102	T1
Sample	3	01-2000 lcs/ 2.5ppbv 64-87a	TO15DC	90103	cal line
Sample	4	5 ppbv APH 64-91a	TO15DC	90104	line 2
Sample	5	01-2000 lcs/ 67 ug/m3 64-81b	TO15DC	90105	line 3
Sample	6	tree rinse	SRINSE	90106	T1
Sample	7	tree rinse	SRINSE	90107	T1
Sample	8	rinse	TO15DC	90108	T1
Sample	9	rinse	TO15DC	90109	T1
Sample	10	01-2000 MB	TO15DC	90110	T1
Sample	11	108515-11 1/6.0	TO15DC	90111	T2
Sample	12	108515-11 dup 1/6.0	TO15DC	90112	T2
Sample	13	108515-13 1/5.8	TO15DC	90113	T3
Sample	14	108515-14 1/5.4	TO15DC	90114	T4
Sample	15	108515-12 1/1000	TO15DC	90115	T5
Sample	15	108515-10 1/1100	TO15DC	90116	T6
Sample	16	108515-08 1/1100	TO15DC	90117	T7
Sample	18	rinse	TO15DC	90118	T1
Sample	19	108515-04 1/1000	TO15DC	90119	T8
Sample	20	108515-09 1/1000	TO15DC	90120	T9
Sample	21	108515-05 1/1100	TO15DC	90121	T10
Sample	22	rinse	TO15DC	90122	T1
Sample	23	108515-06 1/1000	TO15DC	90123	T11
Sample	24	108515-03 1/1000	TO15DC	90124	T12
Sample	25	108515-07 1/2200	TO15DC	90125	T13
Sample	26	rinse	TO15DC	90126	T1
Sample	27	108515-01 1/2500	TO15DC	90127	T14
Sample	28	rinse	TO15DC	90128	T1
Sample	29	108515-02 1/1100	TO15DC	90129	T15
Sample	30	108515-02 1/210	TO15DC	90130	T15
Sample	31	rinse	TO15DC	90131	T1
Sample	32	rinse	TO15DC	90132	T1

12 09/01/21

## Injection Log

Data Directory: I:\08-19-21\

SampleName	MiscInfo	Vial	Multiplier	Injection Time
1) 081933.D No data found			0.000	N/A
2) 081901.D rinse		1	1.000	19 Aug 2021 9:42 am
3) 081902.D BFB 63-15a	T1	2	1.000	19 Aug 2021 10:18 am
4) 081903.D 25ppbv aph prime	line 2	3	1.000	19 Aug 2021 10:54 am
5) 081904.D 2.5ppbv aph prime	T2	4	1.000	19 Aug 2021 11:31 am
6) 081905.D 112.5 ug/ml lcs prim line 3		5	1.000	19 Aug 2021 12:08 pm
7) 081906.D short rinse	T1	6	1.000	19 Aug 2021 12:46 pm
8) 081907.D short rinse	T1	7	1.000	19 Aug 2021 1:22 pm
9) 081908.D short rinse	T1	8	1.000	19 Aug 2021 1:58 pm
10) 081909.D rinse	T1	9	1.000	19 Aug 2021 2:40 pm
11) 081910.D rinse	T1	10	1.000	19 Aug 2021 3:23 pm
12) 081911.D rinse	T1	11	1.000	19 Aug 2021 4:07 pm
13) 081912.D 0.2 ppbv, 64-38c	T2, 20cc	12	1.000	19 Aug 2021 4:44 pm
14) 081913.D 0.2 ppbv, 64-38c	T2, 20cc	13	1.000	19 Aug 2021 5:22 pm
15) 081914.D 0.5 ppbv, 64-38c	T2, 50cc	14	1.000	19 Aug 2021 6:00 pm
16) 081915.D 1 ppbv, 64-38c	T2, 100cc	15	1.000	19 Aug 2021 6:38 pm
17) 081916.D 2.5 ppbv, 64-38c	T2, 250cc	16	1.000	19 Aug 2021 7:21 pm
18) 081917.D 5 ppbv, 64-38a	line 2, 50cc	17	1.000	19 Aug 2021 7:59 pm
19) 081918.D 10 ppbv, 64-38a	line 2, 100cc	18	1.000	19 Aug 2021 8:36 pm
20) 081919.D 25 ppbv, 64-38a	line 2, 250cc	19	1.000	19 Aug 2021 9:20 pm
21) 081920.D				

## Injection Log

Data Directory: I:\08-24-21\

SampleName	MiscInfo	Vial	Multiplier	Injection Time
1) 082401.D rinse		AS 1	1.000	24 Aug 2021 7:34 am
2) 082402.D BFB 64-63a	T1	2	1.000	24 Aug 2021 8:10 am
3) 082403.D 25ppbv prime	Cal Line	3	1.000	24 Aug 2021 8:45 am
4) 082404.D 1 ppbv prime	T3	4	1.000	24 Aug 2021 9:21 am
5) 082405.D 0.1 ppbv prime	T2	5	1.000	24 Aug 2021 9:58 am
6) 082406.D SCV prime	T4	6	1.000	24 Aug 2021 10:34 am
7) 082407.D rinse	T1	7	1.000	24 Aug 2021 11:12 am
8) 082408.D rinse	T1	8	1.000	24 Aug 2021 11:48 am
9) 082409.D rinse	T1	9	1.000	24 Aug 2021 12:24 pm
10) 082410.D rinse	T1	10	1.000	24 Aug 2021 1:05 pm
11) 082411.D rinse	T1	11	1.000	24 Aug 2021 1:49 pm
12) 082412.D rinse	T1	12	1.000	24 Aug 2021 2:32 pm
13) 082413.D 0.01 ppbv 64-87c	T2, 25cc of 0.1ppbv	13	1.000	24 Aug 2021 3:10 pm
14) 082414.D 0.01 ppbv 64-87c	T2, 25cc of 0.1ppbv	14	1.000	24 Aug 2021 3:48 pm
15) 082415.D 0.02 ppbv 64-87c	T2, 50cc of 0.1ppbv	15	1.000	24 Aug 2021 4:25 pm
16) 082416.D 0.05 ppbv 64-87c	T2, 125cc of 0.1ppbv	16	1.000	24 Aug 2021 5:04 pm
17) 082417.D 0.1 ppbv 64-87c	T2, 250cc of 0.1ppbv	17	1.000	24 Aug 2021 5:47 pm
18) 082418.D 0.2 ppbv 64-87b	T3, 50cc of 1ppbv	18	1.000	24 Aug 2021 6:25 pm
19) 082419.D 0.5 ppbv 64-87b	T3, 125cc of 1ppbv	19	1.000	24 Aug 2021 7:03 pm
20) 082420.D 1.0 ppbv 64-87b	T3, 250cc of 1ppbv	20	1.000	24 Aug 2021 7:47 pm
21) 082421.D				

2.5 ppbv 64-87a	cal line, 25cc of 25	21	1.000	24 Aug 2021	8:24 pm
22) 082422.D					
4.0 ppbv 64-87a	cal line, 40cc of 25	22	1.000	24 Aug 2021	9:01 pm
23) 082423.D					
5.0 ppbv 64-87a	cal line, 50cc of 25	23	1.000	24 Aug 2021	9:38 pm
24) 082424.D					
8.0 ppbv 64-87a	cal line, 80cc of 25	24	1.000	24 Aug 2021	10:14 pm
25) 082425.D					
10 ppbv 64-87a	cal line, 100cc of 2	25	1.000	24 Aug 2021	10:51 pm
26) 082426.D					
15 ppbv 64-87a	cal line, 150cc of 2	26	1.000	24 Aug 2021	11:29 pm
27) 082427.D					
rinse	T1	27	1.000	25 Aug 2021	12:15 am
28) 082428.D					
rinse	T1	28	1.000	25 Aug 2021	12:56 am
29) 082429.D					
scv 2.5ppbv 64-64a	T4, 25cc of 25ppbv	29	1.000	25 Aug 2021	1:32 am
30) 082430.D					
rinse	T1	30	1.000	25 Aug 2021	2:17 am
31) 082431.D					
rinse	T1	31	1.000	25 Aug 2021	2:58 am

rinse	T1	20	1.000	19 Aug 2021	10:03 pm
22) 081921.D					
rinse	T1	21	1.000	19 Aug 2021	10:47 pm
23) 081922.D					
SCV 64-81b	Line 3, 150cc	22	1.000	19 Aug 2021	11:26 pm
24) 081923.D					
rinse	T1	23	1.000	20 Aug 2021	12:09 am
25) 081924.D					
rinse	T1	24	1.000	20 Aug 2021	12:52 am
26) 081925.D					
BFB	T1	25	1.000	20 Aug 2021	1:29 am
27) 081926.D					
TO15 CCV 2.5ppbv	T1	26	1.000	20 Aug 2021	2:05 am
28) 081927.D					
rinse	T1	27	1.000	20 Aug 2021	2:48 am
29) 081928.D					
rinse	T1	28	1.000	20 Aug 2021	3:31 am
30) 081929.D					
mb	T1	29	1.000	20 Aug 2021	4:15 am
31) 081930.D					
2299	T3	30	1.000	20 Aug 2021	4:58 am
32) 081931.D					
4180	T4	31	1.000	20 Aug 2021	5:41 am
33) 081932.D					
8267	T5	32	1.000	20 Aug 2021	6:24 am

Injection Log

Data Directory: F:\Proc\_GCMS7\09-01-21\

SampleName	MiscInfo	Vial	Multiplier	Injection Time
1) 090101.D rinse		1	1.000	1 Sep 2021 8:02 am
2) 090102.D BFB 64-63a	T1	2	1.000	1 Sep 2021 8:37 am
3) 090103.D 01-2000 lcs/ 2.5ppbv cal line		3	1.000	1 Sep 2021 9:13 am
4) 090104.D 5 ppbv APH 64-91a	line 2	4	1.000	1 Sep 2021 9:57 am
5) 090105.D 01-2000 lcs/ 67 ug/m line 3		5	1.000	1 Sep 2021 10:37 am
6) 090106.D tree rinse	T1	6	1.000	1 Sep 2021 11:17 am
7) 090107.D tree rinse	T1	7	1.000	1 Sep 2021 11:55 am
8) 090108.D rinse	T1	8	1.000	1 Sep 2021 12:39 pm
9) 090109.D rinse	T1	9	1.000	1 Sep 2021 1:24 pm
10) 090110.D 01-2000 MB	T1	10	1.000	1 Sep 2021 2:10 pm
11) 090111.D 108515-11 1/6.0	T2	11	1.000	1 Sep 2021 4:37 pm
12) 090112.D 108515-11 dup 1/6.0	T2	12	1.000	1 Sep 2021 5:14 pm
13) 090113.D 108515-13 1/5.8	T3	13	1.000	1 Sep 2021 5:51 pm
14) 090114.D 108515-14 1/5.4	T4	14	1.000	1 Sep 2021 6:29 pm
15) 090115.D 108515-12 1/1000	T5	15	1.000	1 Sep 2021 7:06 pm
16) 090116.D 108515-10 1/1100	T6	15	1.000	1 Sep 2021 7:43 pm
17) 090117.D 108515-08 1/1100	T7	16	1.000	1 Sep 2021 8:19 pm
18) 090118.D rinse	T1	18	1.000	1 Sep 2021 9:06 pm
19) 090119.D 108515-04 1/1000	T8	19	1.000	1 Sep 2021 9:42 pm
20) 090120.D 108515-09 1/1000	T9	20	1.000	1 Sep 2021 10:18 pm
21) 090121.D				

R  
09/02/4

ADD STS  
FOR  
APH  
BTEX, N/A, MeLz  
PCE, TCE  
25-12106  
VC

*B 09/21/21*

108515-05 1/1100	T10	21	1.000	1 Sep 2021	10:54 pm
-----					
22) 090122.D rinse	T1	22	1.000	1 Sep 2021	11:40 pm
-----					
23) 090123.D 108515-06 1/1000	T11	23	1.000	2 Sep 2021	12:16 am
-----					
24) 090124.D 108515-03 1/1000	T12	24	1.000	2 Sep 2021	12:52 am
-----					
25) 090125.D 108515-07 1/2200	T13	25	1.000	2 Sep 2021	1:27 am
-----					
26) 090126.D rinse	T1	26	1.000	2 Sep 2021	2:13 am
-----					
27) 090127.D 108515-01 1/2500	T14	27	1.000	2 Sep 2021	2:48 am
-----					
28) 090128.D rinse	T1	28	1.000	2 Sep 2021	3:35 am
-----					
29) 090129.D 108515-02 1/1100	T15	29	1.000	2 Sep 2021	4:10 am
-----					
30) 090130.D 108515-02 1/210	T15	30	1.000	2 Sep 2021	4:50 am
-----					
31) 090131.D rinse	T1	31	1.000	2 Sep 2021	5:36 am
-----					
32) 090132.D rinse	T1	32	1.000	2 Sep 2021	6:22 am
-----					
33) 090133.D rinse	T1	33	1.000	2 Sep 2021	7:09 am
-----					

EPA TO-15  
Checklists

F&B Project 108515



# TO15 Sequence Procedure

## 7016D Previous Run

<input checked="" type="checkbox"/>	Print sequence from Chemstation (colored and white paper).
<input checked="" type="checkbox"/>	Compare Entech and Chemstation sequences
<input checked="" type="checkbox"/>	Check Entech position and canister #: Position <u>  2  </u> to <u>  6  </u> Position _____ to _____

## TO15 Tear Down (previous day samples done running)

<input checked="" type="checkbox"/>	Close all canisters (blue valves)
<input checked="" type="checkbox"/>	Remove canisters on tree- EXCEPT Rinse (Position 1) loosten nut closest to tree. <b>If hissing occurs. List cans below under "Canisters Vented".</b>
<input checked="" type="checkbox"/>	Handtighten caps onto canisters
<input checked="" type="checkbox"/>	Place canisters on floor next to tree
<input checked="" type="checkbox"/>	If certified canisters, check starting pressure. Record any less than 20 PSI below

## TO15 Start Up

<input checked="" type="checkbox"/>	Check all canisters closed: Rinse, Cal, IS, and lines 2,3, 4
<input checked="" type="checkbox"/>	Cleaning System ~1hr Flush x2: (O) <u>  ✓  </u> (C) <u>  ✓  </u> (If only can cert was ran x1, closed) Leak check : <u>  ✓  </u>
<input checked="" type="checkbox"/>	Clean Lines ~35min _____ Entech: Load Morning System Condition
<input checked="" type="checkbox"/>	Entech: Load sequence: TO15MorningSTARTUP Change name to month, day, and sample: (080501) Chemstation: Load TO15Morning sequence Change name, data path, and batch number Run Sequence
<input checked="" type="checkbox"/>	Open all cans attached: Rinse, Cal, IS, and lines 2,3, 4 Run sequence on Entech

<p><b>Certified Canisters with starting pressure below 20 PSI</b></p> <p style="text-align: center;"><input type="checkbox"/> Check if none</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">_____</p>	<p><b>Canisters Vented</b></p> <p style="text-align: center;"><input type="checkbox"/> Check if none</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">_____</p>
<p><b>Notes:</b> _____</p> <p style="text-align: center;">_____</p>	
<p><b>Initials/Date:</b> _____</p>	

# TO15 Sequence Procedure

## 7016D Previous Run

<input checked="" type="checkbox"/>	Print sequence from Chemstation (colored and white paper).
<input checked="" type="checkbox"/>	Compare Entech and Chemstation sequences
<input checked="" type="checkbox"/>	Check Entech position and canister #: Position <u>2</u> to <u>15</u> Position _____ to _____

## TO15 Tear Down (previous day samples done running)

<input checked="" type="checkbox"/>	Close all canisters (blue valves)
<input checked="" type="checkbox"/>	Remove canisters on tree- EXCEPT Rinse (Position 1) loosten nut closest to tree. <b>If hissing occurs. List cans below under "Canisters Vented".</b>
<input checked="" type="checkbox"/>	Handtighten caps onto canisters
<input checked="" type="checkbox"/>	Place canisters on floor next to tree
<input type="checkbox"/>	If certified canisters, check starting pressure. Record any less than 20 PSI below

## TO15 Start Up

<input checked="" type="checkbox"/>	Check all canisters closed: Rinse, Cal, IS, and lines 2,3, 4
<input checked="" type="checkbox"/>	Cleaning System ~1hr Flush x2: (O) <u>7:25</u> (C) <u>8:20</u> (If only can cert was ran x1, closed) Leak check: <u>8:46</u>
<input checked="" type="checkbox"/>	Clean Lines ~35min <u>✓</u> Entech: Load Morning System Condition
<input checked="" type="checkbox"/>	Entech: Load sequence: TO15MorningSTARTUP Change name to month, day, and sample: (080501) Chemstation: Load TO15Morning sequence Change name, data path, and batch number Run Sequence
<input checked="" type="checkbox"/>	Open all cans attached: Rinse, Cal, IS, and lines 2,3, 4 Run sequence on Entech

<p><b>Certified Canisters with starting pressure below 20 PSI</b></p> <p style="text-align: center;"><input type="checkbox"/> Check if none</p> <p>_____</p> <p>_____</p>	<p style="text-align: center;"><b>Canisters Vented</b></p> <p style="text-align: center;"><input type="checkbox"/> Check if none</p> <p>_____</p> <p>_____</p>
---	--

**Notes:** \_\_\_\_\_

\_\_\_\_\_

**Initials/Date:** AS 9/14/08

## GC/MS ICAL Checklist

Instrument: GC/MS 7

Sequence Date: 08/19/21

Shift # 1

Item	Initial	Date
Shift and Batch		
Initial Calibration Analyzed, Evaluated and Passed	✓	AS 8/20/21
2 <sup>nd</sup> source passed	✓	
Analyte retention time checked	✓	
Tune passed	✓	
Non-Conformance Report filled out (if needed)	NA	

Notes: \_\_\_\_\_

Attach this sheet to raw data package.

YA 08/23/21  
Supervisor Initials and Date

### GC/MS ICAL Checklist

Instrument: GC/MS 7

Sequence Date: 08/24/21

Shift # 1

Item	Initial	Date
Shift and Batch		
Initial Calibration Analyzed, Evaluated and Passed	✓ AS	8/25/21
2 <sup>nd</sup> source passed	✓	
Analyte retention time checked	✓	
Tune passed	✓	
Non-Conformance Report filled out (if needed)	NA	

Notes: \_\_\_\_\_

Attach this sheet to raw data package.

YA 08/25/21  
Supervisor Initials and Date

## TO-15/TO-17 Daily Checklist

Instrument: GC/MS 7

Sequence Date: 09-01-21

Shift # 1

Item	Initial	Date
Shift and Batch		
All samples analyzed within 24 hour shift	✓ Bat	09-03-21
Internal Standards within limits 60%-140% of the CCV	✓	
Surrogate recoveries within limits (TO-15 only)	✓	
Laboratory control sample (LCS) recoveries within limits <span style="float: right; font-size: small;">of <u>See Note</u></span>	✓	
Tune Analyzed and Passed	✓	
Continuing Calibration Analyzed, Evaluated and Passed <span style="float: right; font-size: small;">x <u>See Note</u></span>	✓	
Non-Conformance Report filled out (if needed)	NSA	

Notes: vinyl acetate & Benzyl Chloride recovered high  
in CCV/LCS - Both analytes not requested  
for the reported project

Attach this sheet to raw data package.

YA 09/07/21  
 Supervisor Initials and Date

**EPA TO-15**  
**Internal Standard/Surrogate Summaries**

**F&B Project 108515**

## GC/MS QA-QC Check Report

Tune File : I:\08-24-21\082402.D  
 Tune Time : 24 Aug 2021 8:10 am

Daily Calibration File : I:\08-24-21\082421.D

(BFB)

115065 562076 489363

File	Sample	Surrogate Recovery %	Internal Standard Responses
082412.D	rinse	98	116538 568103 498327
082413.D	0.01 ppbv	99	115567 558032 493420
082414.D	0.01 ppbv	98	116099 553684 491349
082415.D	0.02 ppbv	100	114914 562536 491774
082416.D	0.05 ppbv	100	118766 561168 488496
082417.D	0.1 ppbv 6	100	119517 567176 494412
082418.D	0.2 ppbv 6	100	115938 563785 487035
082419.D	0.5 ppbv 6	99	115414 554707 487886
082420.D	1.0 ppbv 6	100	119489 570054 495165
082421.D	2.5 ppbv 6	101	115065 562076 489363
082422.D	4.0 ppbv 6	101	117039 562321 490750
082423.D	5.0 ppbv 6	100	115886 567250 503966
082424.D	8.0 ppbv 6	101	117340 560061 491505
082425.D	10 ppbv 64	101	119230 575285 505882
082426.D	15 ppbv 64	100	116041 572424 508460
082428.D	rinse	97	117539 565282 488472
082429.D	scv 2.5ppb	97	110485 541551 484092
082431.D	rinse	98	110155 532438 457406

(fails) - fails 24hr time check \* - fails criteria

GC/MS QA-QC Check Report

Tune File : F:\Proc\_GCMS7\08-19-21\081902.D  
 Tune Time : 19 Aug 2021 10:18 am

Daily Calibration File : F:\Proc\_GCMS7\08-19-21\081917.D

(BFB)

126790 602586 527015

File	Sample	Surrogate	Recovery %	Internal	Standard	Responses
081913.D	0.2 ppbv,	99		125069	603050	522210
081914.D	0.5 ppbv,	100		124186	596531	521481
081915.D	1 ppbv, 64	100		125230	604762	528441
081916.D	2.5 ppbv,	99		126939	610241	535599
081917.D	5 ppbv, 64	100		126790	602586	527015
081918.D	10 ppbv, 6	99		125914	603448	536705
081919.D	25 ppbv, 6	103		127775	606081	536029
081922.D	SCV 64-81b	98		127010	599277	538456

(fails) - fails 24hr time check \* - fails criteria

Created: Mon Sep 13 13:25:17 2021 GCMS7



GC/MS QA-QC Check Report

Tune File : F:\Proc\_GCMS7\09-01-21\090102.D  
 Tune Time : 1 Sep 2021 8:37 am

*TOIS*  
*page 10/2*  
*9/03/21*

Daily Calibration File : F:\Proc\_GCMS7\09-01-21\090103.D

(BFB)

104710 496734 437903

File	Sample	Surrogate Recovery %	Internal	Standard	Responses
090108.D	rinse	98	101457	490555	429632
090109.D	rinse	98	99384	485211	426101
090110.D	01-2000 MB	97	105072	487528	437452
090111.D	108515-11	97	95676	457951	406061
090112.D	108515-11	98	101031	476642	419940
090113.D	108515-13	99	101534	489651	426483
090114.D	108515-14	99	104522	488509	435799
090115.D	108515-12	109	103496	491770	436816
090116.D	108515-10	103	102411	483608	435821
090117.D	108515-08	107	103536	498419	448442
090118.D	rinse	98	107270	493616	436109
090119.D	108515-04	116	102635	487166	430726
090120.D	108515-09	107	101728	506561	458627
090121.D	108515-05	104	105198	511313	454305
090122.D	rinse	97	104029	495573	433032
090123.D	108515-06	109	100652	498527	436273
090124.D	108515-03	101	103425	503941	437982
090125.D	108515-07	97	103721	496701	441493
090126.D	rinse	99	101190	490091	423456

090127.D	108515-01	102	103538	482493	420082
090128.D	rinse	99	99391	469809	410618
090129.D	108515-02	99	98220	463068	410143
090130.D	108515-02	97	98769	465672	429720
090131.D	rinse	97	92603	444044	379593
090132.D	rinse	97	104778	499858	435724
090133.D	rinse	96	102125	491756	427198

(fails) - fails 24hr time check \* - fails criteria

Created: Fri Sep 03 14:34:06 2021 GCMS7

Tois

page 2 of 2

h  
09/03/21

GC/MS QA-QC Check Report

Tune File : F:\Proc\_GCMS7\09-01-21\090102.D  
 Tune Time : 1 Sep 2021 8:37 am

*ADH*  
*page 1 of 2*

Daily Calibration File : F:\Proc\_GCMS7\09-01-21\090104.D

(BFB)

103502 490230 431335

File	Sample	Surrogate Recovery %	Internal	Standard	Responses
090105.D	01-2000 lc	99	105662	505279	450204
090110.D	01-2000 MB	98	105072	487528	437452
090111.D	108515-11	99	95676	457951	406061
090112.D	108515-11	99	101031	476642	419940
090113.D	108515-13	101	101534	489651	426483
090114.D	108515-14	101	104522	488509	435799
090115.D	108515-12	105	103496	491770	436816
090116.D	108515-10	104	102411	483608	435821
090117.D	108515-08	109	103536	498419	448442
090119.D	108515-04	118	102635	487166	430726
090120.D	108515-09	109	101728	506561	458627
090121.D	108515-05	105	105198	511313	454305
090123.D	108515-06	111	100652	498527	436273
090124.D	108515-03	99	103425	503941	437982
090125.D	108515-07	99	103721	496701	441493
090127.D	108515-01	102	103538	482560	420082
090129.D	108515-02	101	98220	463068	410143
090130.D	108515-02	99	98769	465672	429720

*R*  
*09/02/21*

(fails) - fails 24hr time check \* - fails criteria

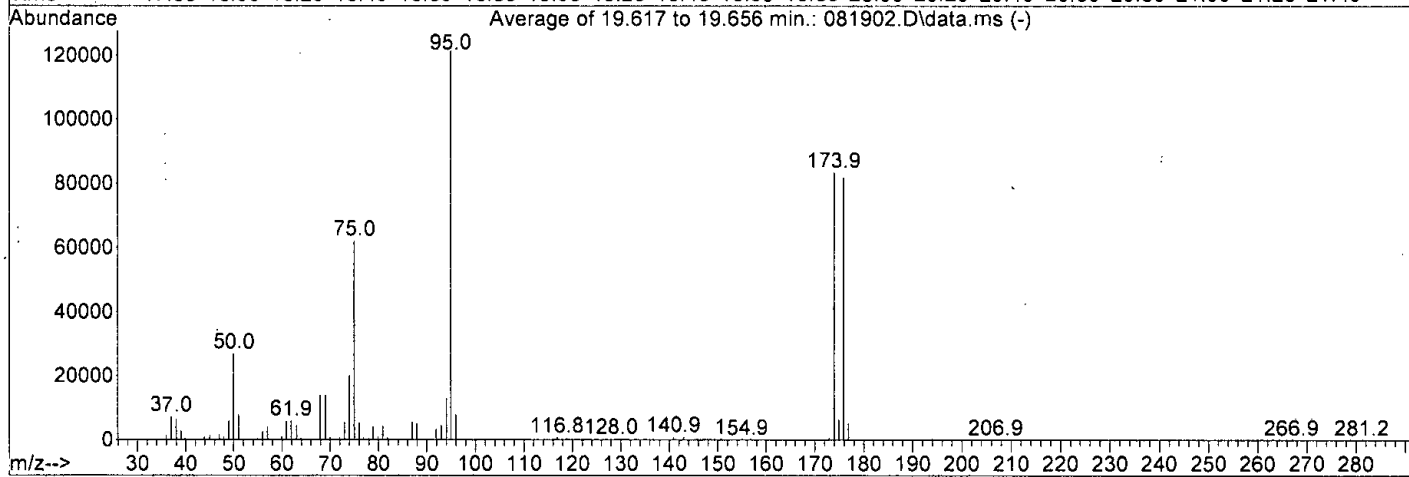
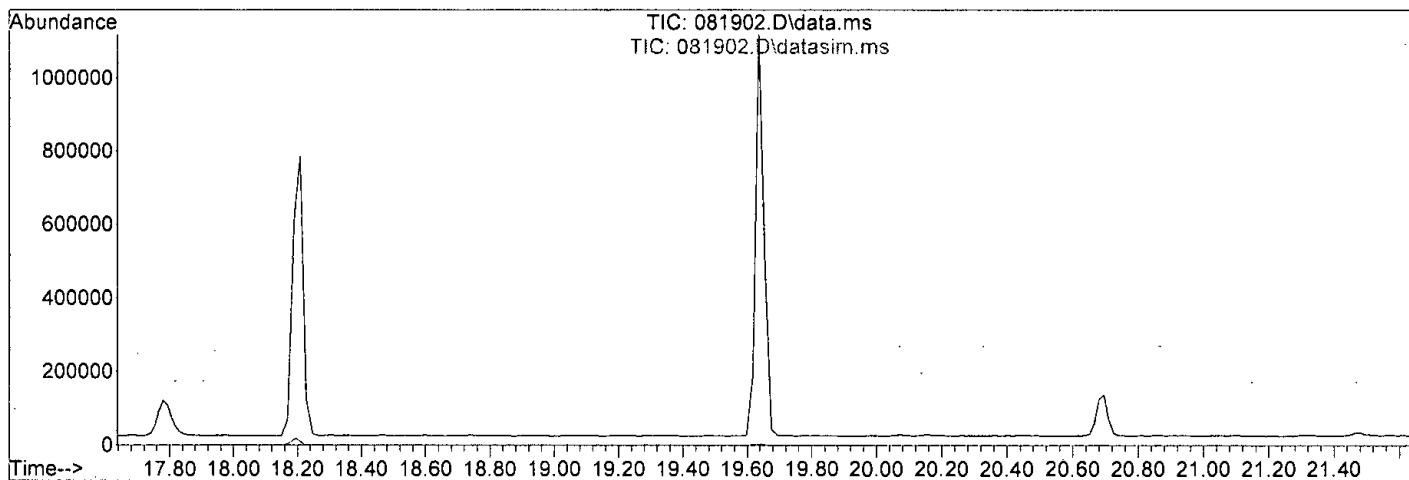
**EPA TO-15  
Tune Summaries**

**F&B Project 108515**

Data Path : F:\Proc\_GCMS7\08-19-21\  
 Data File : 081902.D  
 Acq On : 19 Aug 2021 10:18 am  
 Operator : bat  
 Sample : BFB 63-15a  
 Misc : T1  
 ALS Vial : 2 Sample Multiplier: 1

Integration File signal 1: rteint.p  
 Integration File signal 2: rteint2.p

Method : F:\METHODS\Inst7\0818TO15ss7.M  
 Title : TO-15 SS method  
 Last Update : Thu Aug 19 11:41:18 2021



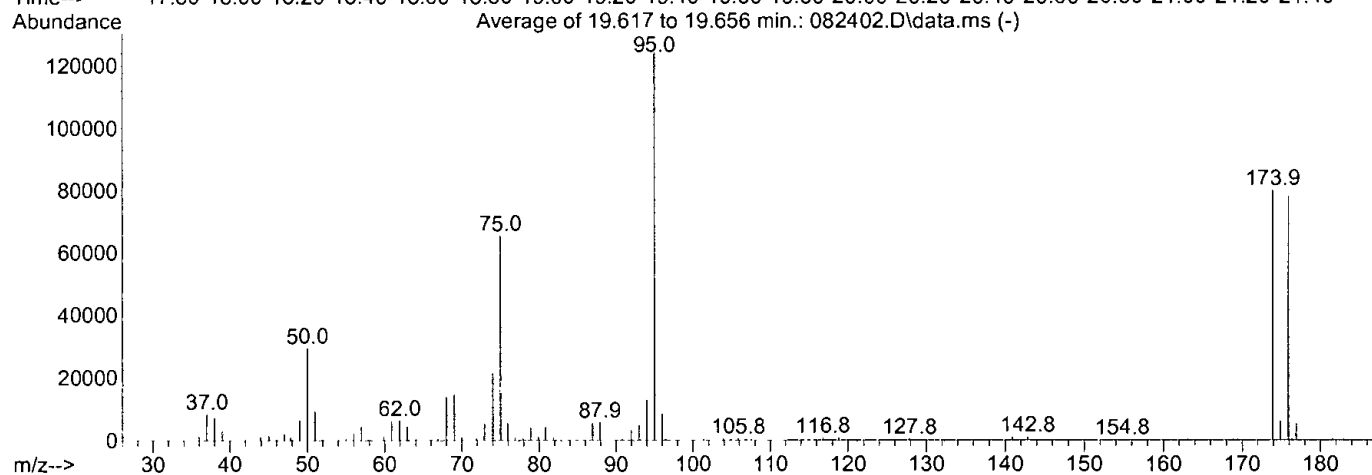
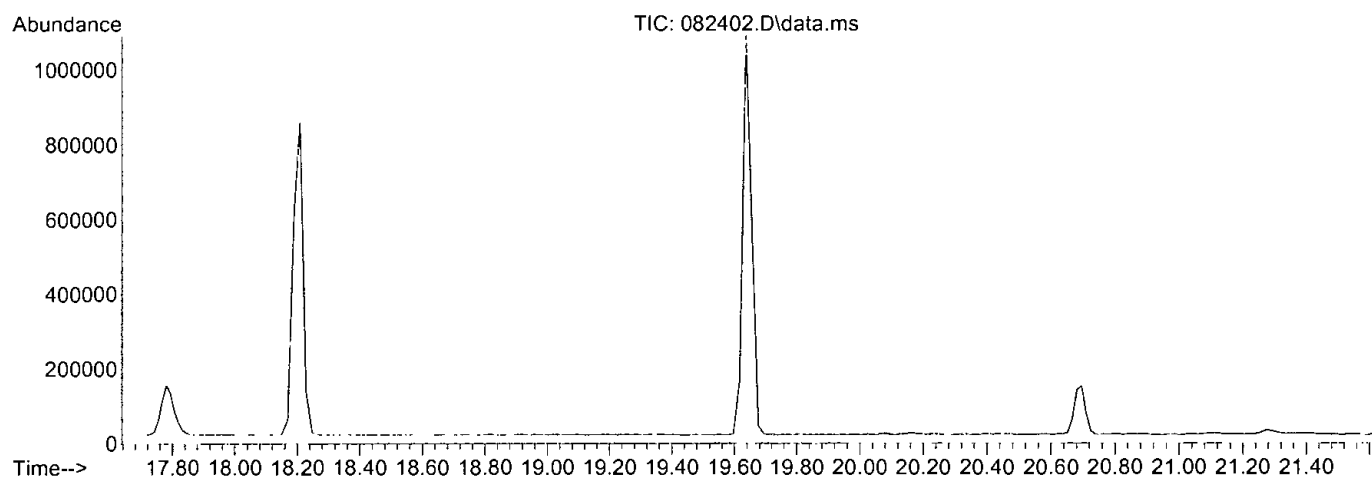
AutoFind: Scans 794, 795, 796; Background Corrected with Scan 790

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	22.2	27022	PASS
75	95	30	66	51.1	62195	PASS
95	95	100	100	100.0	121725	PASS
96	95	5	9	6.5	7900	PASS
173	174	0.00	2	0.8	685	PASS
174	95	50	120	68.6	83472	PASS
175	174	4	9	7.7	6416	PASS
176	174	93	101	98.2	81936	PASS
177	176	5	9	6.5	5301	PASS

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082402.D  
 Acq On : 24 Aug 2021 8:10 am  
 Operator : bat  
 Sample : BFB 64-63a  
 Misc : T1  
 ALS Vial : 2 Sample Multiplier: 1

Integration File signal 1: rteint.p  
 Integration File signal 2: rteint2.p

Method : Z:\METHODS\Inst7\0818TO15ss7.M  
 Title : TO-15 SS method  
 Last Update : Thu Aug 19 11:41:18 2021



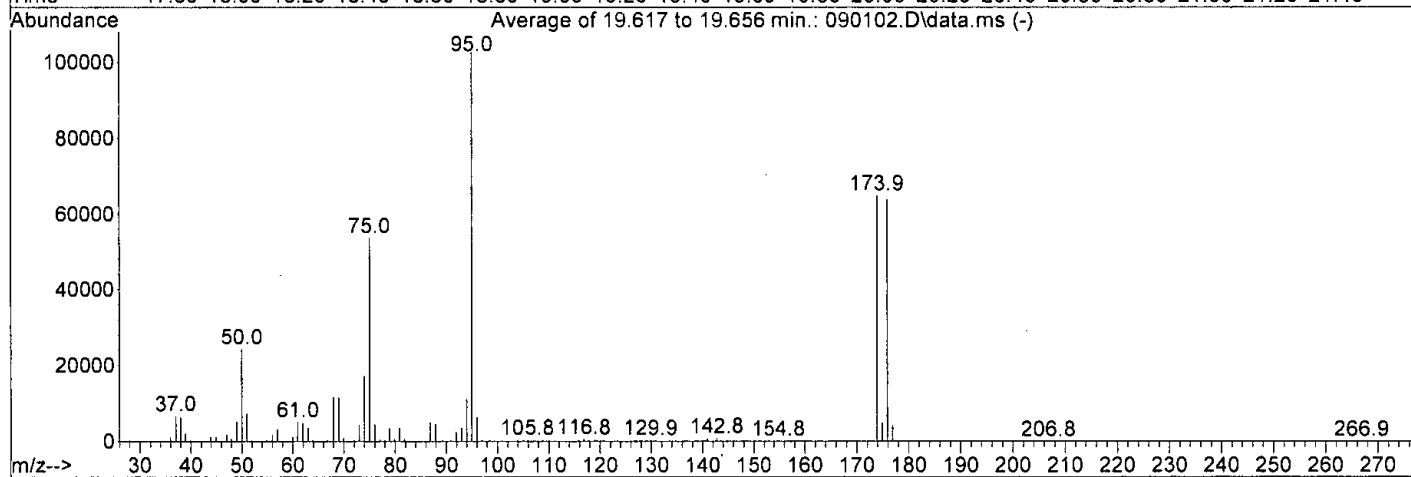
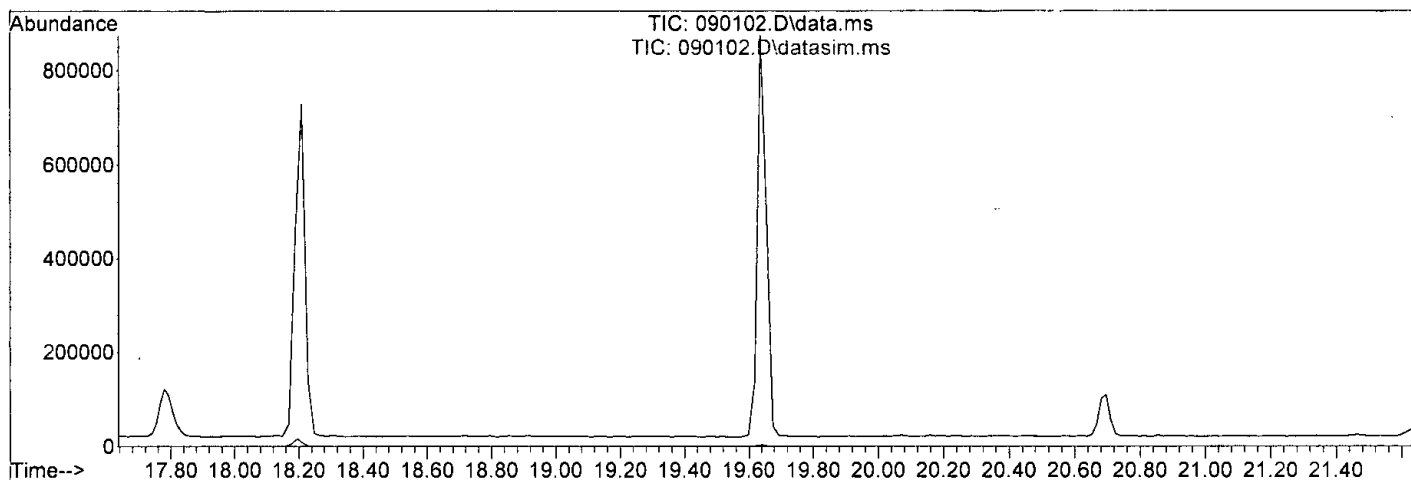
AutoFind: Scans 794, 795, 796; Background Corrected with Scan 790

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	23.7	29460	PASS
75	95	30	66	52.6	65360	PASS
95	95	100	100	100.0	124211	PASS
96	95	5	9	6.7	8357	PASS
173	174	0.00	2	0.1	85	PASS
174	95	50	120	64.3	79909	PASS
175	174	4	9	7.6	6057	PASS
176	174	93	101	97.6	78008	PASS
177	176	5	9	6.7	5228	PASS

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090102.D  
 Acq On : 1 Sep 2021 8:37 am  
 Operator : bat  
 Sample : BFB 64-63a  
 Misc : T1  
 ALS Vial : 2 Sample Multiplier: 1

Integration File signal 1: rteint.p  
 Integration File signal 2: rteint2.p

Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Title : TO-15 SS method  
 Last Update : Wed Aug 25 09:28:09 2021



AutoFind: Scans 794, 795, 796; Background Corrected with Scan 790

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	23.7	24402	PASS
75	95	30	66	52.2	53676	PASS
95	95	100	100	100.0	102805	PASS
96	95	5	9	6.3	6467	PASS
173	174	0.00	2	0.4	270	PASS
174	95	50	120	63.1	64845	PASS
175	174	4	9	7.6	4956	PASS
176	174	93	101	98.3	63730	PASS
177	176	5	9	6.5	4166	PASS

EPA TO-15  
Initial Calibrations

F&B Project 108515



Method Path : Z:\METHODS\Inst7\  
 Method File : 0819APH7.M  
 Title : APH TO-15 method  
 Last Update : Fri Aug 20 08:33:26 2021  
 Response Via : Initial Calibration

Calibration Files

0.20=081913.D 0.5 =081914.D 1.0 =081915.D 2.5 =081916.D 5 =081917.D 10 =081918.D 25 =081919.D

-----  
 Compound 0.20 0.5 1.0 2.5 5 10 25 Avg %RSD  
 -----

Compound	0.20	0.5	1.0	2.5	5	10	25	Avg	%RSD
1) I Bromochloromethane									
2) T IS-1 Bromochlo...	8.782	8.793	8.852	8.817	8.816	8.966	8.772	8.828	0.75
3) T IS-2 1,4-Diflu...	1.304	1.332	1.391	1.273	1.307	1.088	1.076	1.253	9.76
4) T IS-3 Chloroben...	1.514	1.507	1.520	1.510	1.504	1.544	1.540	1.520	1.06
5) T Methylene chlo...							0.447	0.447	0.00
6) Acetone							2.358	2.358	0.00
7) 2-Propanol		0.137						0.137	0.00
8) T 1,3-Butadiene	3.761	2.918	3.000	2.645	2.760	2.806	2.721	2.944	12.88
9) T Methyl t-butyl...	4.345	3.973	3.865	3.615	3.748	3.724	3.710	3.854	6.37

Compound	0.20	0.5	1.0	2.5	5	10	25	Avg	%RSD
10) I 1,4-Difluorobenzene									
11) T Benzene	1.793	1.714	1.660	1.716	1.675	1.642	1.700	3.20	3.20
12) L1 Isopentane	3.748	3.086	3.158	3.616	3.368	3.281	3.376	7.69	7.69
13) L1 Hexane	3.578	3.532	3.367	3.478	3.297	3.276	3.421	3.69	3.69
14) L1 Cyclohexane	2.784	3.562	3.392	3.309	4.087	3.691	3.471	12.50	12.50
15) L1 2,3-Dimethylpe...	5.055	4.452	4.105	4.565	4.198	4.201	4.429	7.96	7.96
16) L1 Heptane	3.636	3.779	3.581	3.590	3.604	3.527	3.620	2.38	2.38
17) L1 Octane	4.135	3.961	5.352	5.273	5.164	5.895	4.963	15.21	15.21
18) L1 APH EC5-8 alip...	3.853	3.795	3.938	4.071	4.043	4.104	3.967	3.17	3.17
19) H APH EC5-8 alip...	3.853	3.795	3.938	4.071	4.043	4.104	3.967	3.17	3.17

Compound	0.20	0.5	1.0	2.5	5	10	25	Avg	%RSD
20) I Chlorobenzene-d5									
21) T S 4-Bromofluor...	4.193	4.192	4.213	4.168	4.269	4.201	4.310	4.221	1.19
22) Hexamethylcycl...	0.884	0.749	0.983	1.134	1.017	1.171	1.339	1.040	18.77
23) Octamethylcycl...	0.669	0.777	0.823	1.021	1.409	1.678	2.706	1.298	55.47
24) T Toluene	1.187	1.123	0.992	1.146	1.027	1.017	1.017	1.073	7.17
25) T Ethylbenzene	2.579	2.279	2.157	2.075	2.186	2.113	2.119	2.215	7.82
26) T m,p-Xylene	0.873	0.762	0.714	0.702	0.730	0.717	0.718	0.745	8.01
27) T o-Xylene	0.760	0.729	0.665	0.665	0.707	0.697	0.710	0.705	4.79
28) T Naphthalene	2.001	1.784	1.747	1.745	1.685	1.767	1.864	1.799	5.79
29) L2 2,3-Dimethylhe...	5.848	5.084	4.782	4.816	4.969	4.845	4.833	5.025	7.52
30) L2 Nonane	5.745	5.480	5.186	4.904	5.239	5.049	5.126	5.247	5.38
31) L2 Decane	6.281	4.960	5.080	4.901	5.135	5.059	5.073	5.213	9.16
32) L2 Butylcyclohexane	6.722	6.160	5.733	5.528	5.841	5.719	5.747	5.921	6.78
33) L2 Undecane	6.222	5.074	4.994	4.799	5.084	4.987	5.029	5.170	9.16
34) L2 Dodecane	5.088	4.262	4.163	3.861	4.225	4.053	4.050	4.243	9.33
35) L2 APH EC9-12 ali...	6.017	5.175	4.956	4.761	5.046	4.916	4.940	5.116	8.15
36) H APH EC9-12 ali...	6.017	5.175	4.956	4.761	5.046	4.916	4.940	5.116	8.15
37) S 4-Bromofluorob...	0.623	0.625	0.626	0.619	0.628	0.622	0.642	0.626	1.22

Response Factor Report GCMS7

Method Path : Z:\METHODS\Inst7\  
 Method File : 0819APH7.M

38)	L3	Isopropylbenzene	0.458	0.406	0.362	0.363	0.390	0.386	0.380	0.392	8.36
39)	L3	1-Methyl-3-eth...	0.636	0.525	0.538	0.524	0.540	0.537	0.538	0.548	7.16
40)	L3	1,3,5-Trimethy...	0.826	0.670	0.663	0.651	0.691	0.675	0.682	0.694	8.58
41)	L3	p-Isopropyltol...	0.372	0.341	0.339	0.313	0.337	0.339	0.346	0.341	5.04
42)	L3	1,2,3-Trimethy...	0.948	0.814	0.777	0.748	0.809	0.793	0.813	0.814	7.79
43)	L3	APH EC9-10 aro...	0.550	0.533	0.515	0.549	0.541	0.548	0.539	0.539	2.48
44)	H	APH EC9-10 aro...	0.604	0.585	0.572	0.608	0.602	0.604	0.596	0.596	2.39
45)	H	APH EC9-10 aro...	0.353	0.339	0.314	0.342	0.340	0.347	0.339	0.339	3.94

(#) = Out of Range

## Compound List Report GCMS7

Method Path : Z:\METHODS\Inst7\  
 Method File : 0819APH7.M  
 Title : APH TO-15 method  
 Last Update : Fri Aug 20 08:33:26 2021  
 Response Via : Initial Calibration

Total Cpnds : 45

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Bromochloromethane	128	9.99	1.000	A	2	A	B
2	T	IS-1 Bromochloromethane	TIC	9.99	1.000	A	3	A	B
3	T	IS-2 1,4-Difluorobenzene	TIC	13.23	1.325	A	3	A	B
4	T	IS-3 Chlorobenzene-d5	TIC	18.21	1.823	A	3	A	B
5	T	Methylene chloride	TIC	6.86	0.686	A	3	A	B
6		Acetone	TIC	5.68	0.569	A	0	A	B
7		2-Propanol	TIC	5.84	0.585	A	0	A	B
8	T	1,3-Butadiene	54	4.28	0.428	A	1	A	B
9	T	Methyl t-butyl ether	73	8.51	0.852	A	1	A	B
10	I	1,4-Difluorobenzene	114	13.23	1.000	A	2	A	B
11	T	Benzene	78	12.71	0.961	A	1	A	B
12	L1	Isopentane	TIC	5.68	0.430	A	3	A	B
13	L1	Hexane	TIC	10.12	0.764	L	3	A	B
14	L1	Cyclohexane	TIC	13.16	0.995	A	3	A	B
15	L1	2,3-Dimethylpentane	TIC	13.52	1.022	A	3	A	B
16	L1	Heptane	TIC	14.63	1.106	A	3	A	B
17	L1	Octane	TIC	17.41	1.316	A	3	A	B
18	L1	APH EC5-8 aliphatics TOTAL	TIC	12.71	0.961	A	0	A	B
19	H	APH EC5-8 aliphatics	TIC	12.40	0.937	A	0	A	B
20	I	Chlorobenzene-d5	117	18.21	1.000	A	2	A	B
21	T	S 4-Bromofluorobenzene	TIC	19.64	1.078	A	3	A	B
22		Hexamethylcyclotrisiloxane	TIC	17.78	0.976	A	0	A	B
23		Octamethylcyclotetrasiloxane	TIC	20.70	1.137	A	0	A	B
24	T	Toluene	92	16.39	0.900	A	1	A	B
25	T	Ethylbenzene	91	18.60	1.021	A	1	A	B
26	T	m,p-Xylene	106	18.76	1.030	A	1	A	B
27	T	o-Xylene	106	19.21	1.055	A	1	A	B
28	T	Naphthalene	128	23.94	1.315	A	2	A	B
29	L2	2,3-Dimethylheptane	TIC	18.66	1.025	A	3	A	B
30	L2	Nonane	TIC	19.36	1.063	A	3	A	B
31	L2	Decane	TIC	20.90	1.148	A	3	A	B
32	L2	Butylcyclohexane	TIC	21.57	1.184	A	3	A	B
33	L2	Undecane	TIC	22.28	1.224	A	3	A	B
34	L2	Dodecane	TIC	23.79	1.307	A	3	A	B
35	L2	APH EC9-12 aliphatics TOTAL	TIC	21.57	1.184	A	0	A	B
36	H	APH EC9-12 aliphatics	TIC	21.65	1.189	A	0	A	B
37	S	4-Bromofluorobenzene	95	19.64	1.078	A	2	A	B
38	L3	Isopropylbenzene	120	19.75	1.085	A	1	A	B
39	L3	1-Methyl-3-ethylbenzene	120	20.33	1.117	A	1	A	B
40	L3	1,3,5-Trimethylbenzene	120	20.45	1.123	A	1	A	B
41	L3	p-Isopropyltoluene	134	21.28	1.169	A	2	A	B
42	L3	1,2,3-Trimethylbenzene	120	21.31	1.170	A	1	A	B
43	L3	APH EC9-10 aromatics TOTAL	TIC	21.57	1.184	A	0	A	B
44	H	APH EC9-10 aromatics (1)	120	21.64	1.188	A	0	A	B
45	H	APH EC9-10 aromatics (2)	134	21.64	1.188	A	0	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin  
 #Qual = number of qualifiers  
 A/H = Area or Height

ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

---

0819APH7.M Fri Aug 20 09:42:05 2021

Calibration Status Report GCMS7

Method Path : Z:\METHODS\Inst7\  
 Method File : 0819APH7.M  
 Title : APH TO-15 method  
 Last Update : Fri Aug 20 08:33:26 2021  
 Response Via : Initial Calibration

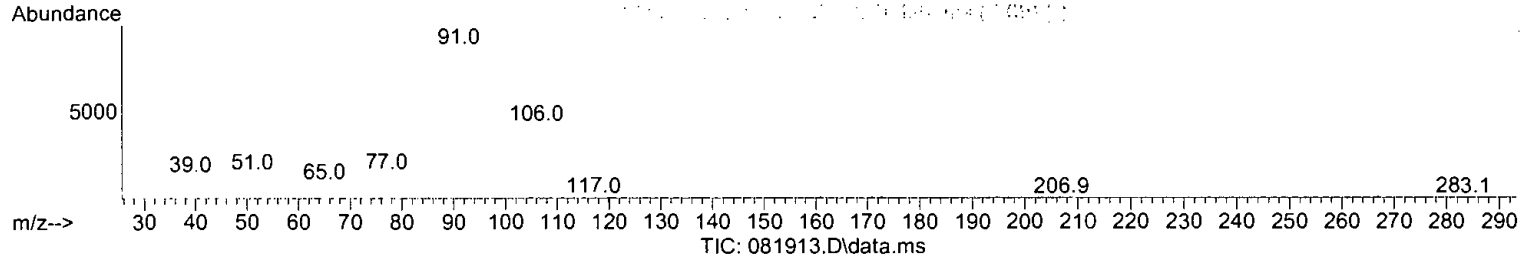
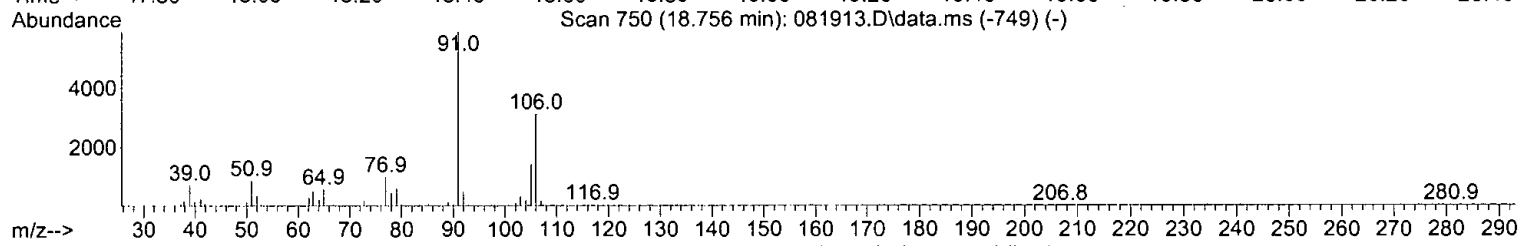
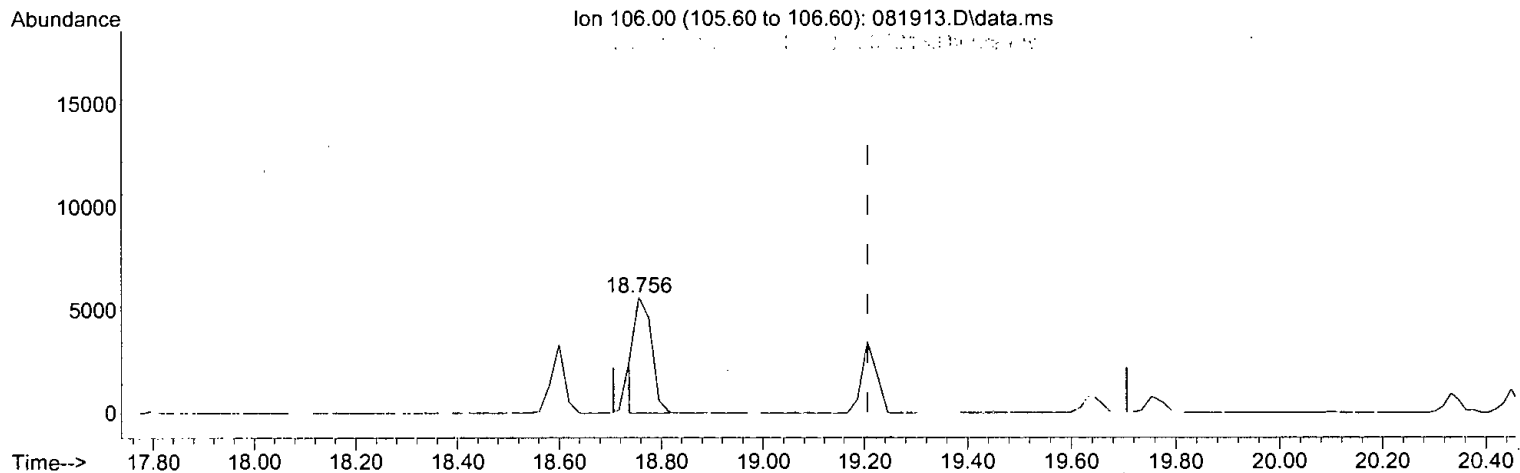
#	ID	Conc	ISTD Conc	Path\File
1	0.20	0	50	I:\08-19-21\081913.D
2	0.5	1	50	I:\08-19-21\081914.D
3	1.0	2	50	I:\08-19-21\081915.D
4	2.5	6	50	I:\08-19-21\081916.D
5	5	11	50	I:\08-19-21\081917.D
6	10	22	50	I:\08-19-21\081918.D
7	25	55	50	I:\08-19-21\081919.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.20	Aug 20 07:39 2021	Aug 20 08:31 2021	19 Aug 2021 5:22 pm
2	0.5	Aug 20 07:39 2021	Aug 20 08:33 2021	19 Aug 2021 6:00 pm
3	1.0	Aug 20 07:39 2021	Aug 20 08:35 2021	19 Aug 2021 6:38 pm
4	2.5	Aug 20 07:39 2021	Aug 20 08:36 2021	19 Aug 2021 7:21 pm
5	5	Aug 20 07:39 2021	Aug 20 08:37 2021	19 Aug 2021 7:59 pm
6	10	Aug 20 07:39 2021	Aug 20 08:37 2021	19 Aug 2021 8:36 pm
7	25	Aug 20 07:39 2021	Aug 20 08:39 2021	19 Aug 2021 9:20 pm

0819APH7.M Fri Aug 20 09:42:11 2021

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:22 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

18.756min (-0.450) 1.736 ug/m3

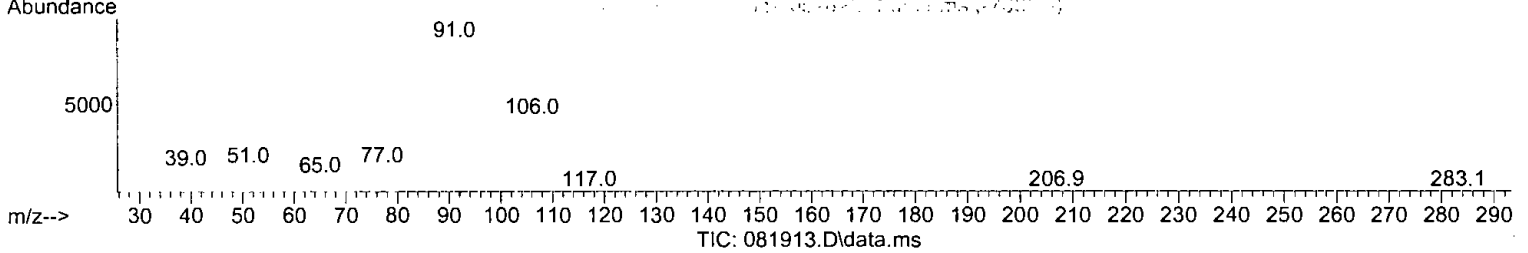
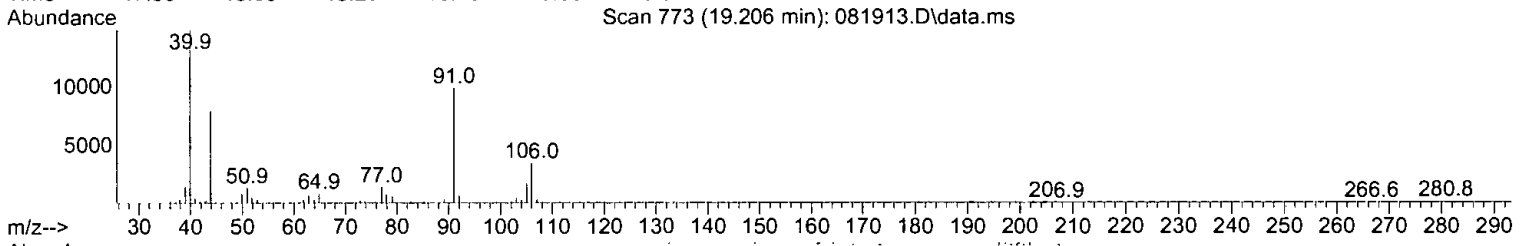
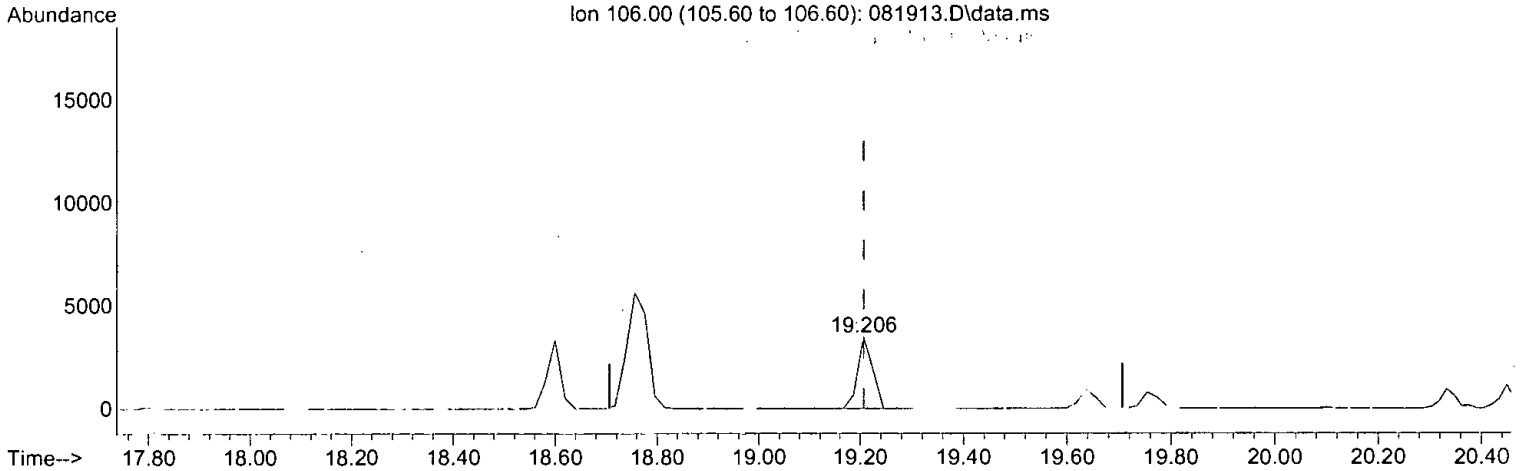
response 12780

Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	212.40
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:22 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

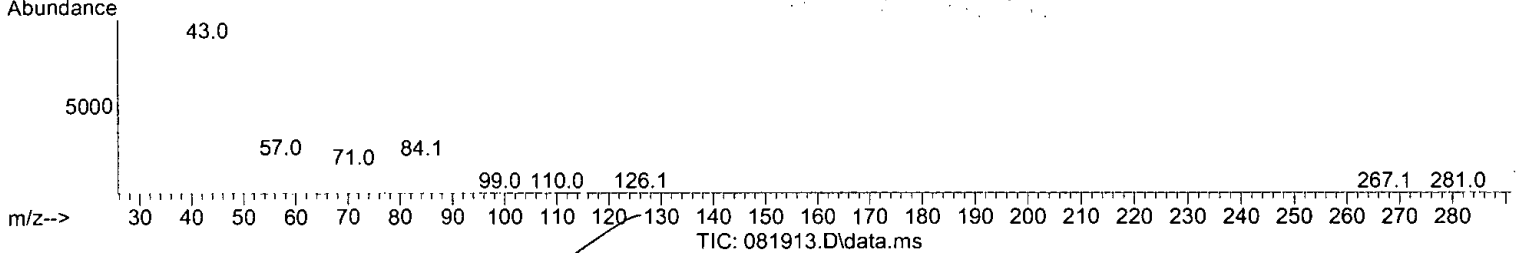
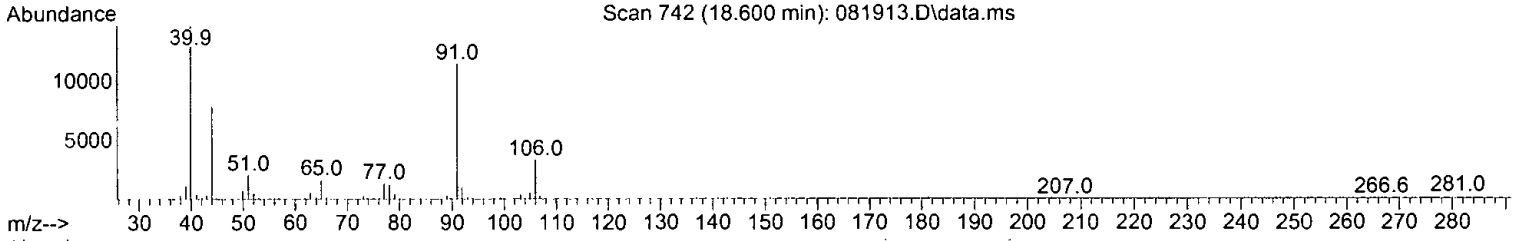
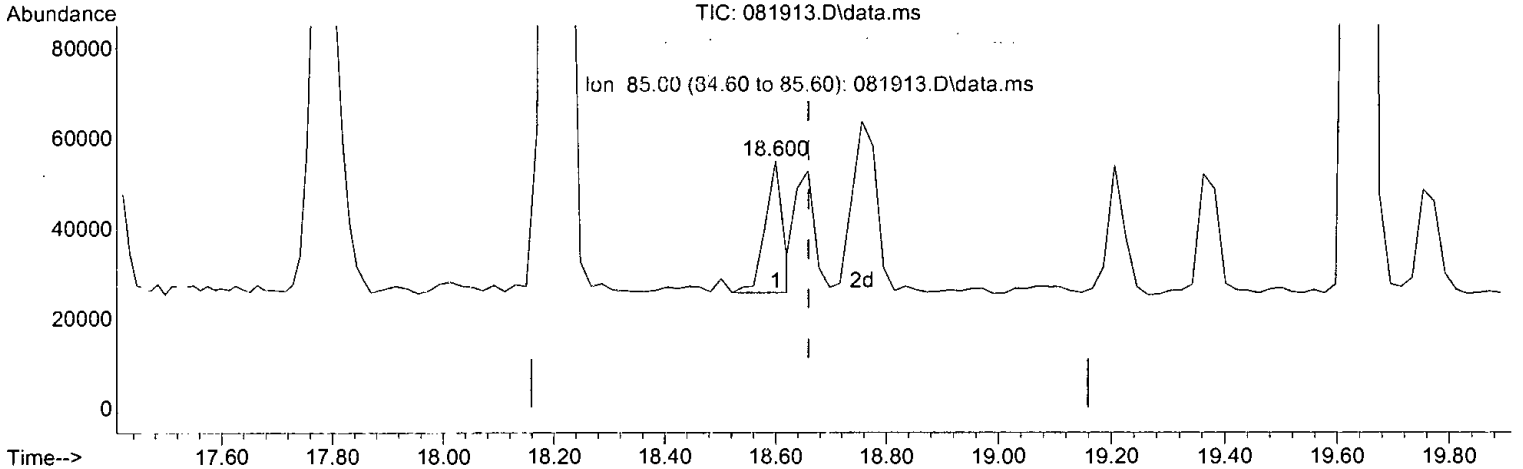
19.206min (-0.000) 0.938 ug/m3 m

response	6903	
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	284.28#
0.00	0.00	0.00
0.00	0.00	0.00

*AS 8/20/21*

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:22 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.600min (-0.059) 1.215 ug/m3

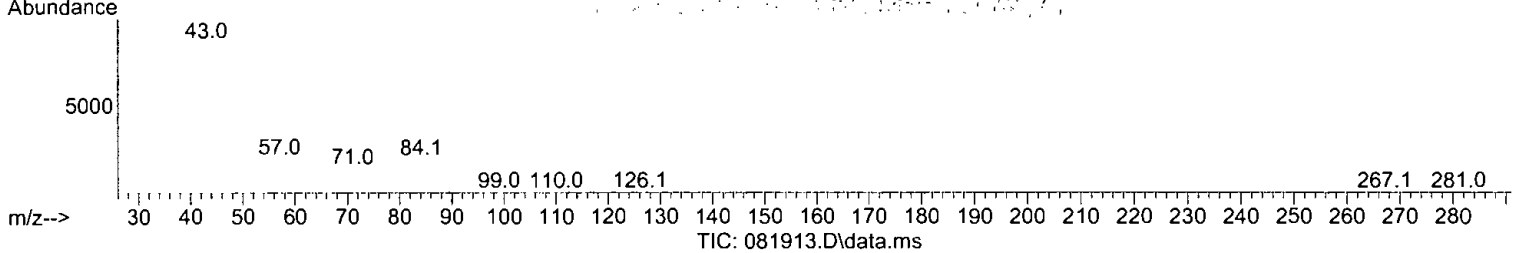
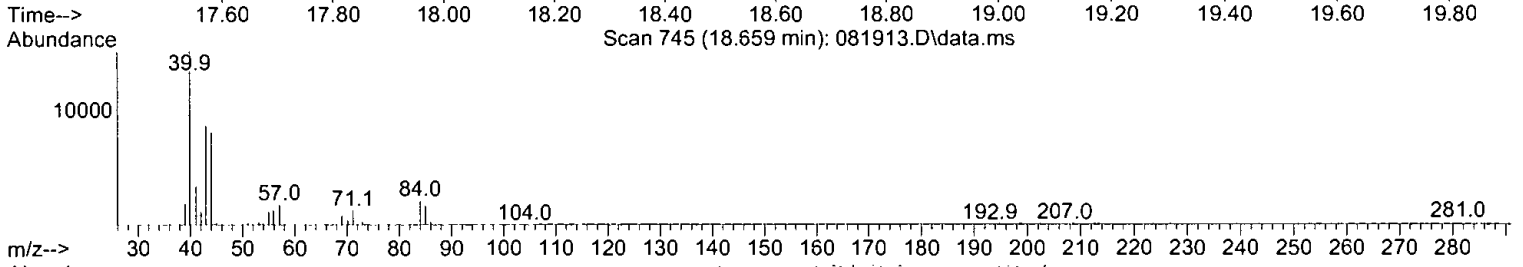
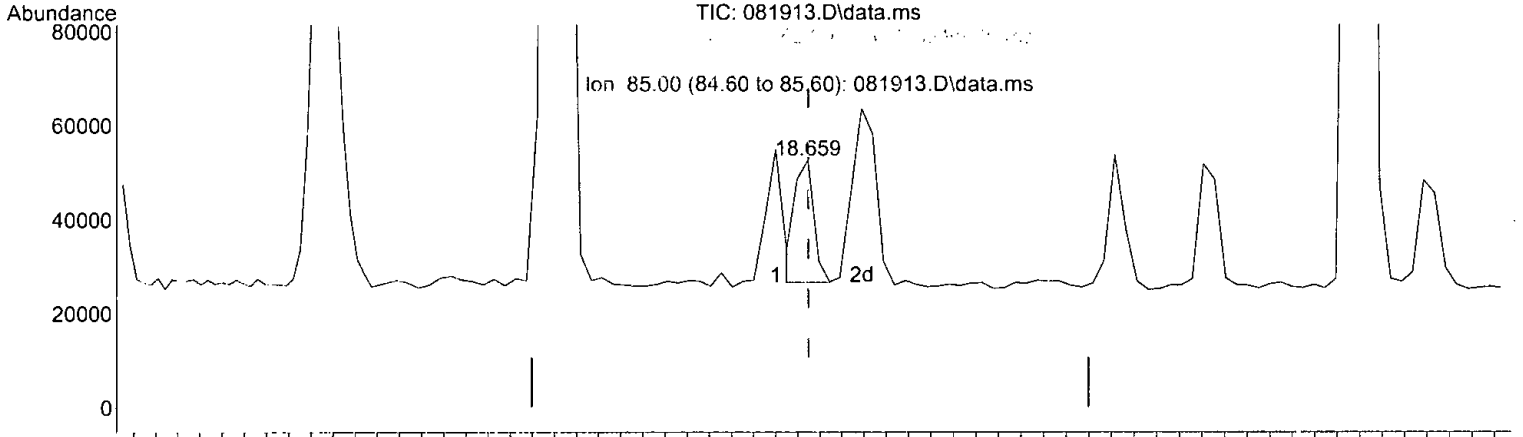
response	Exp%	Act%
Signal		
TIC	100.00	100.00
43.00	28.20	38.69#
84.00	9.90	8.46
85.00	9.20	6.91#

AS 8/20/21



Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:22 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

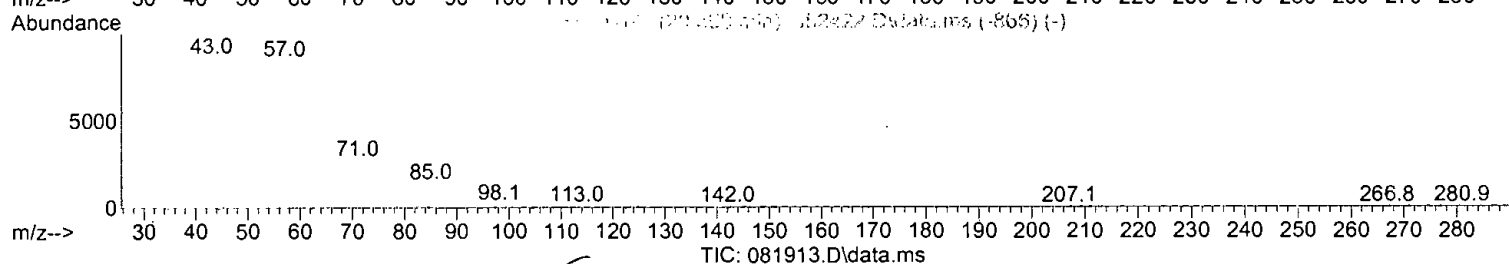
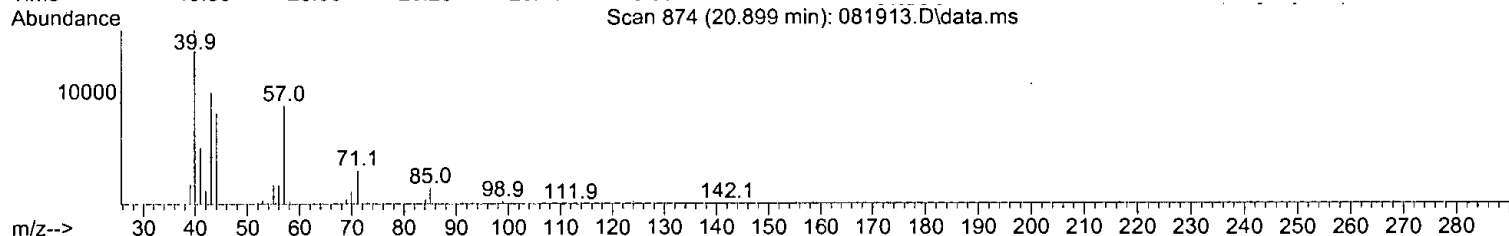
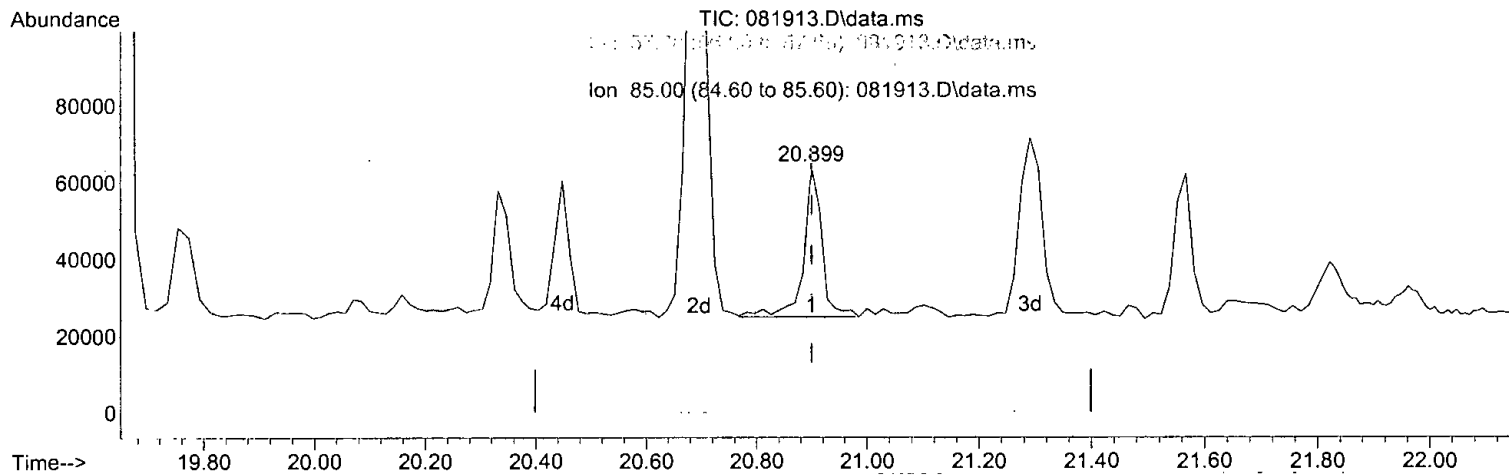
18.659min (-0.000) 1.176 ug/m3 m

response	61695		
Signal	Exp%	Act%	
TIC	100.00	100.00	
43.00	28.20	39.98#	
84.00	9.90	8.74	
85.00	9.20	7.14#	

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:06 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(31) Decane (L2)

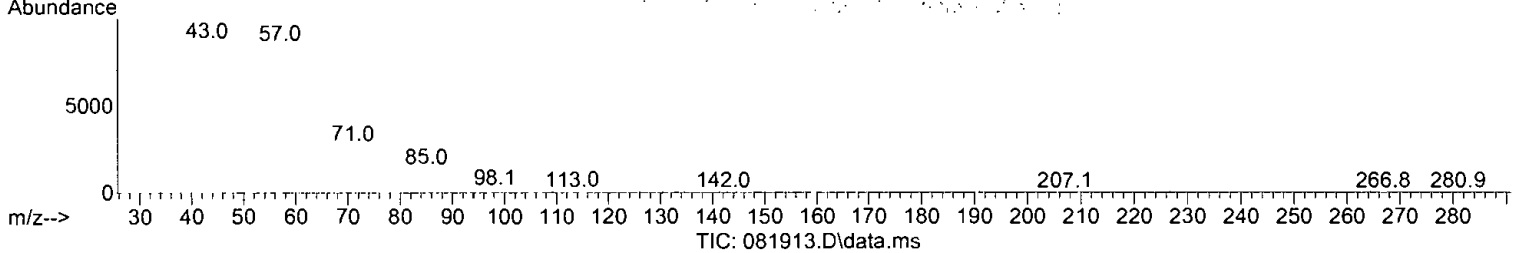
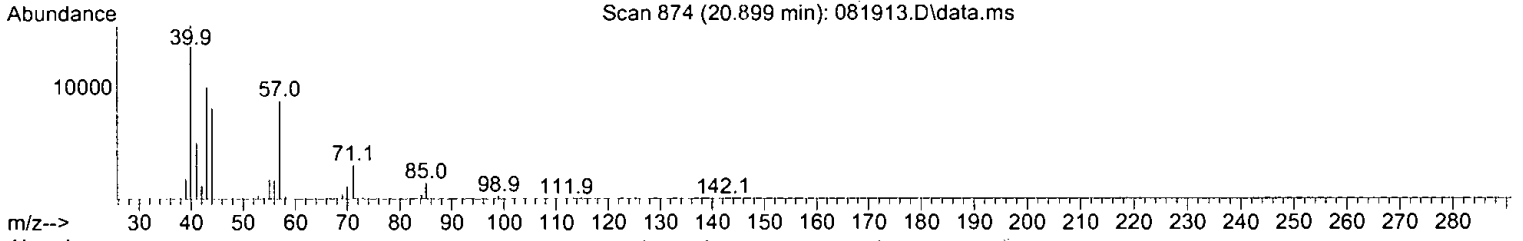
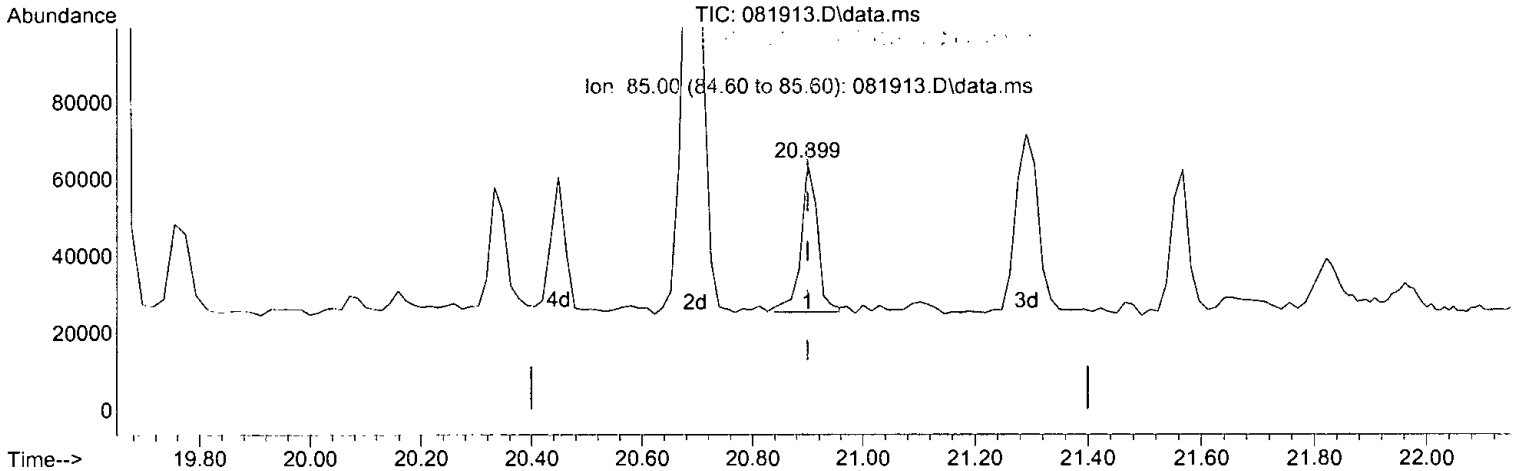
20.899min (-0.000) 1.638 ug/m3

response	Exp%	Act%
89152		
Signal	Exp%	Act%
TIC	100.00	100.00
57.00	21.30	18.57
43.00	19.70	21.43
85.00	4.90	3.70

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:06 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(31) Decane (I2)

20.899min (-0.000) 1.476 ug/m3 m

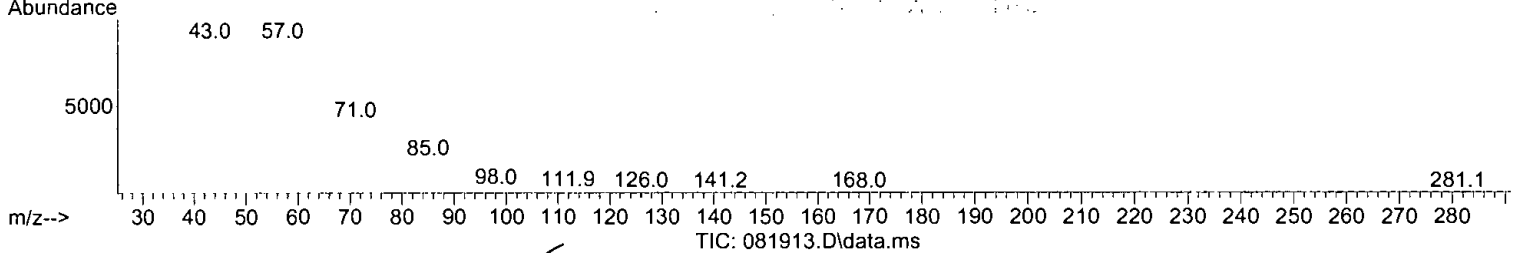
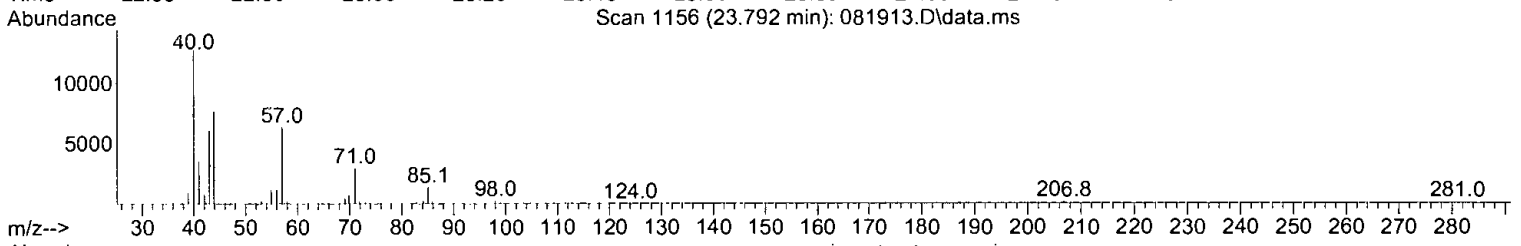
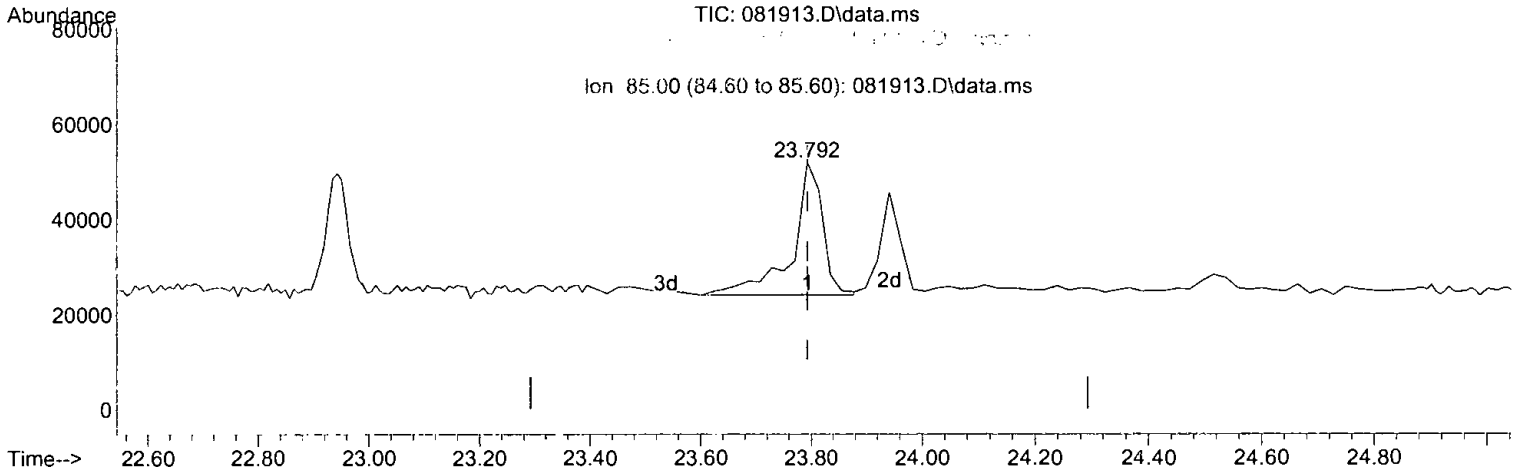
response	80365
Signal	Exp% Act%
TIC	100.00 100.00
57.00	21.30 20.60
43.00	19.70 23.77
85.00	4.90 4.10

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:06 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(34) Dodecane (L2)

23.792min (-0.000) 2.395 ug/m3

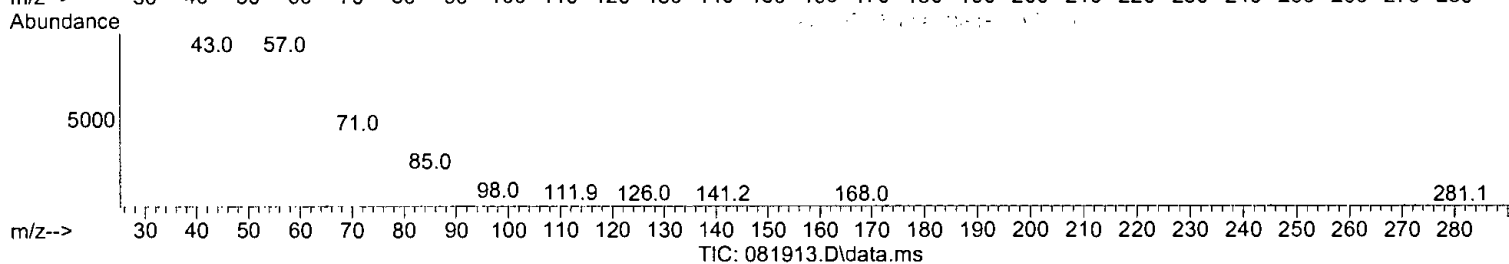
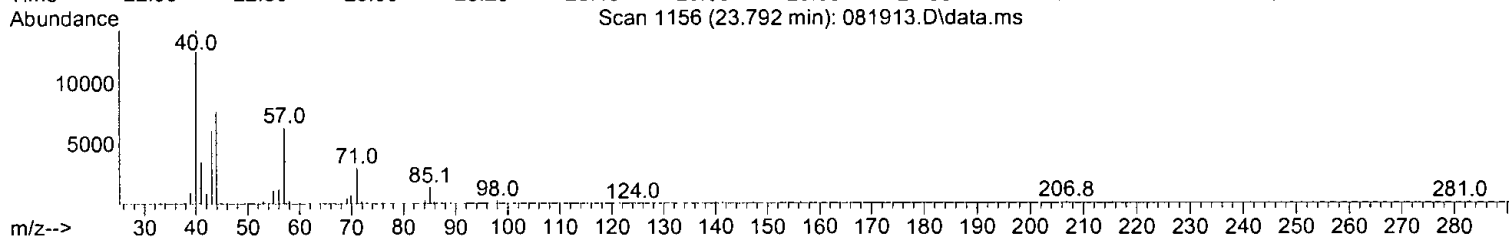
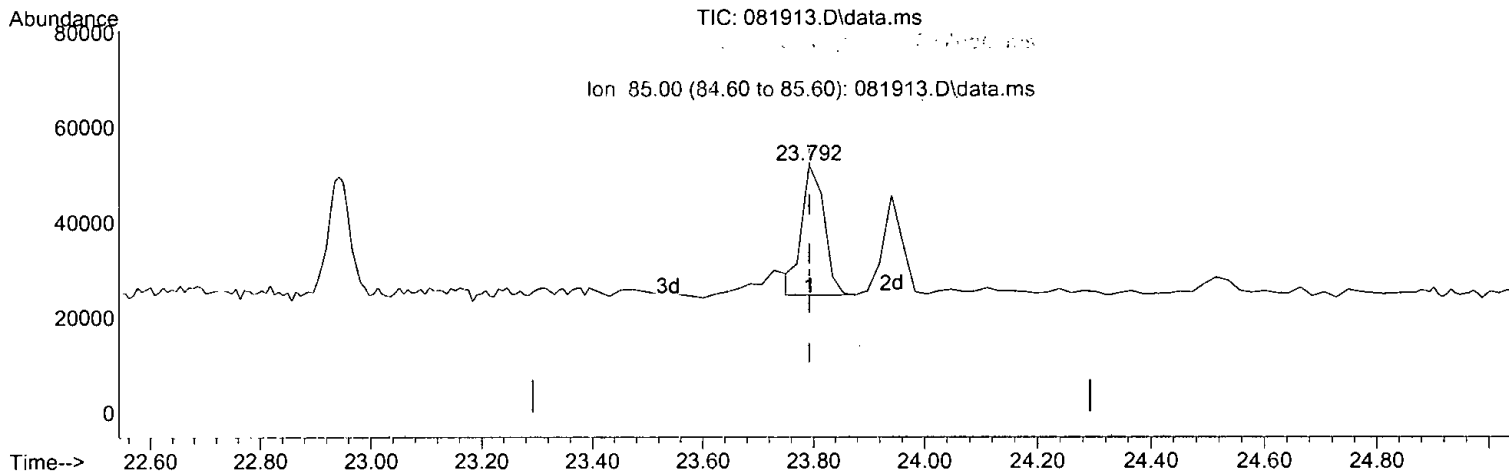
response	Signal	Exp%	Act%
106125	TIC	100.00	100.00
	57.00	21.40	15.97
	43.00	17.70	16.08
	85.00	6.40	3.29

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:06 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(34) Dodecane (L2)

23.792min (-0.000) 1.711 ug/m3 m

response 75821

Signal	Exp%	Act%
TIC	100.00	100.00
57.00	21.40	22.35
43.00	17.70	22.50
85.00	6.40	4.60

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:54 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	125069	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	603050	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	522210	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	461705	70.569	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	99.39%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1098354	49.738	ug/m3	88
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1631283	52.045	ug/m3	93
4) IS-3 Chlorobenzene-d5	18.21	TIC	1893522	49.807	ug/m3	92
5) Methylene chloride	0.00		0	N.D.	d	
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.	d	
8) 1,3-Butadiene	4.28	54	4139	0.562	ug/m3	98
9) Methyl t-butyl ether	8.51	73	7826	0.812	ug/m3	84
11) Benzene	0.00		0	N.D.	d	
12) Isopentane	0.00		0	N.D.	d	
13) Hexane	0.00		0	N.D.	d	
14) Cyclohexane	0.00		0	N.D.	d	
15) 2,3-Dimethylpentane	0.00		0	N.D.	d	
16) Heptane	0.00		0	N.D.	d	
17) Octane	0.00		0	N.D.	d	
18) APH EC5-8 aliphatics T...	0.00		0	N.D.		
19) APH EC5-8 aliphatics	0.00		0	N.D.	d	
21) S 4-Bromofluorobenzene	19.64	TIC	2189970	49.676	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	461477	42.499	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	349329	25.777	ppbv	100
24) Toluene	16.39	92	9295	0.830	ug/m3	96
25) Ethylbenzene	18.60	91	23431	1.013	ug/m3	98
26) m,p-Xylene	18.76	106	15869	2.040	ug/m3	97
27) o-Xylene	19.21	106	6903m	0.938	ug/m3	
28) Naphthalene	23.94	128	20904	1.113	ug/m3	92
29) 2,3-Dimethylheptane	18.66	TIC	61695m	1.176	ug/m3	
30) Nonane	19.36	TIC	68182	1.244	ug/m3	95
31) Decane	20.90	TIC	80365m	1.476	ug/m3	
32) Butylcyclohexane	21.57	TIC	84469	1.366	ug/m3	95
33) Undecane	22.28	TIC	84484	1.565	ug/m3	95
34) Dodecane	23.79	TIC	75821m	1.711	ug/m3	
35) APH EC9-12 aliphatics ...	21.57	TIC	455016m	8.516	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	3250021m	60.829	ug/m3	
38) Isopropylbenzene	19.75	120	4685	1.144	ug/m3#	85
39) 1-Methyl-3-ethylbenzene	20.33	120	6512	1.137	ug/m3#	82
40) 1,3,5-Trimethylbenzene	20.45	120	8451	1.166	ug/m3	96
41) p-Isopropyltoluene	21.28	134	4270	1.199	ug/m3#	71
42) 1,2,3-Trimethylbenzene	21.31	120	9704	1.141	ug/m3	97
43) APH EC9-10 aromatics T...	0.00	TIC	33622	N.D.		
44) APH EC9-10 aromatics (1)	0.00		0	N.D.	d	

Data Path : Z:\Proc\_GCMS7\08-19-21\  
Data File : 081913.D  
Acq On : 19 Aug 2021 5:22 pm  
Operator : bat  
Sample : 0.2 ppbv, 64-38c  
Misc : T2, 20cc  
ALS Vial : 13 Sample Multiplier: 1  
InstName : GCMS7

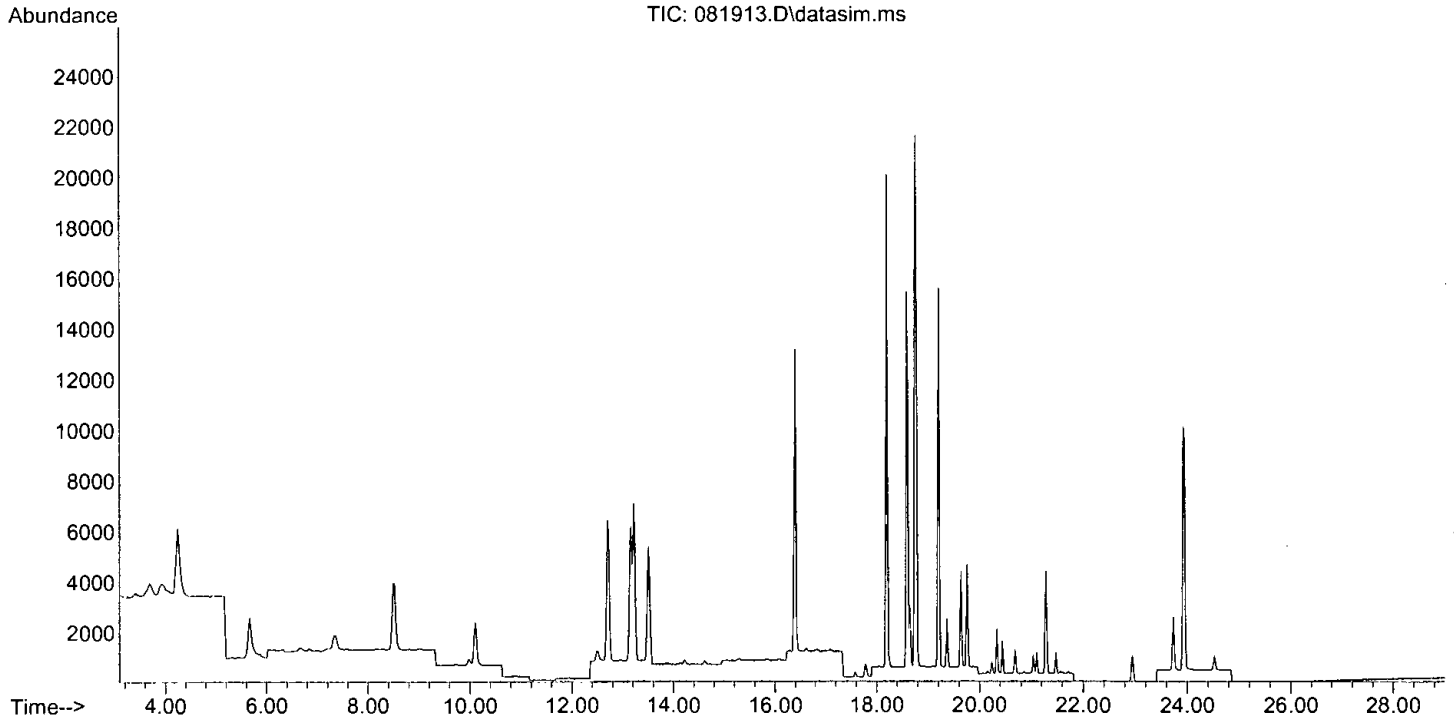
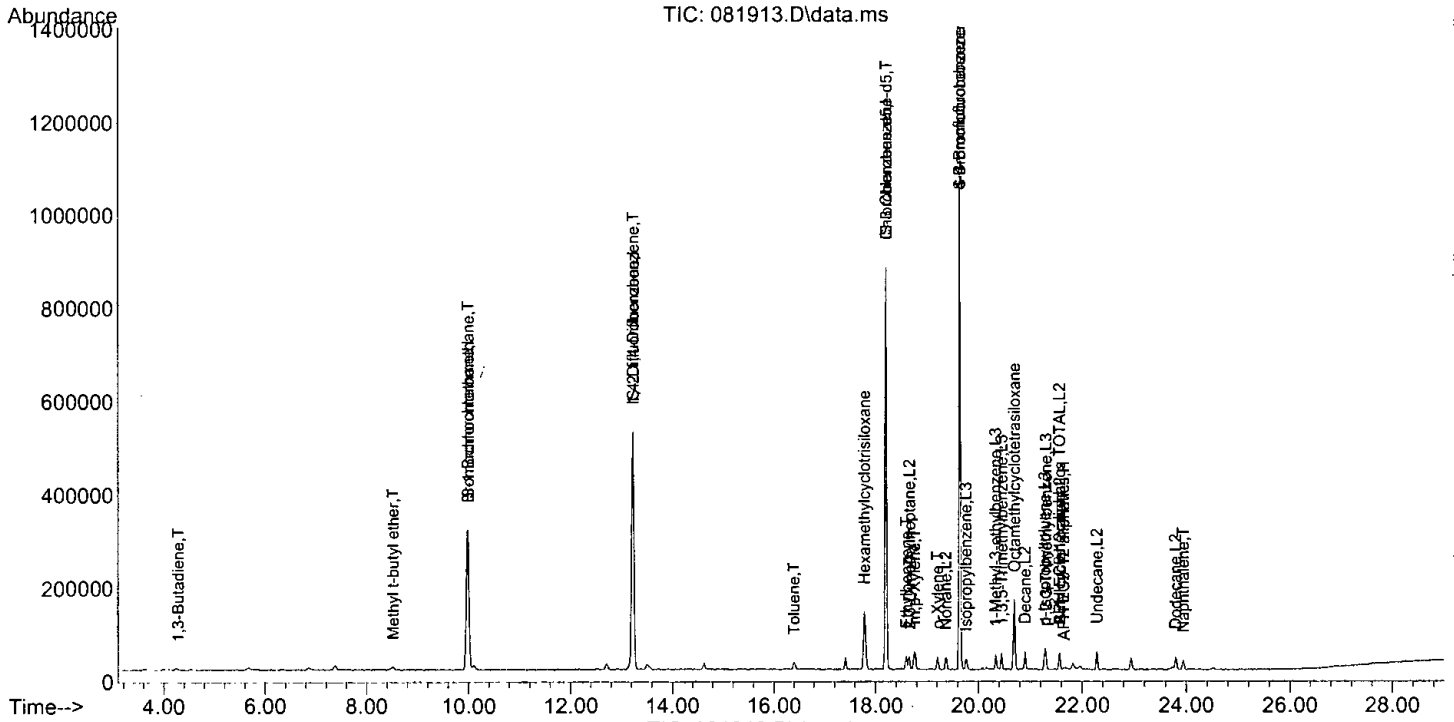
Quant Time: Aug 20 10:34:54 2021  
Quant Method : Z:\METHODS\Inst7\0819APH7.M  
Quant Title : APH TO-15 method  
QLast Update : Fri Aug 20 08:33:26 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----	-----	-----	-----	-----	-----	-----
45) APH EC9-10 aromatics (2)	0.00		0	N.D.	d	
-----	-----	-----	-----	-----	-----	-----

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:54 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:54 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	50.000	49.738	0.5	100	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	52.045	-4.1	100	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	49.807	0.4	100	0.00
5 T	Methylene chloride	50.000	0.000	100.0#	0	-6.86#
6	Acetone	50.000	0.000	100.0#	0	-5.68#
7	2-Propanol	50.000	0.000	100.0#	0	-5.84#
8 T	1,3-Butadiene	0.440	0.562	-27.7	100	0.00
9 T	Methyl t-butyl ether	0.720	0.812	-12.8	100	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.00
11 T	Benzene	-1.000	0.000	0.0	0	-12.71#
12 L1	Isopentane	-1.000	0.000	0.0	0	-5.68#
13 L1	Hexane	-1.000	0.000	0.0	0	-10.12#
14 L1	Cyclohexane	-1.000	0.000	0.0	0	-13.16#
15 L1	2,3-Dimethylpentane	-1.000	0.000	0.0	0	-13.52#
16 L1	Heptane	-1.000	0.000	0.0	0	-14.63#
17 L1	Octane	-1.000	0.000	0.0	0	-17.41#
18 L1	APH EC5-8 aliphatics TOTAL	-1.000	0.000	0.0	0	-12.71#
19 H	APH EC5-8 aliphatics	-1.000	0.000	0.0	0	-12.40#
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	49.676	0.6	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	42.499	15.0	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	25.777	48.4#	100	0.00
24 T	Toluene	0.750	0.830	-10.7	100	0.00
25 T	Ethylbenzene	0.870	1.013	-16.4	100	0.00
26 T	m,p-Xylene	1.740	2.040	-17.2	100	0.00
27 T	o-Xylene	0.870	0.938	-7.8	100	0.00
28 T	Naphthalene	1.000	1.113	-11.3	100	0.00
29 L2	2,3-Dimethylheptane	1.000	1.176	-17.6	101	0.00
30 L2	Nonane	1.000	1.244	-24.4	114	0.00
31 L2	Decane	1.200	1.476	-23.0	102	0.00
32 L2	Butylcyclohexane	1.100	1.366	-24.2	109	0.00
33 L2	Undecane	1.300	1.565	-20.4	100	0.00
34 L2	Dodecane	1.400	1.711	-22.2	102	0.00
35 L2	APH EC9-12 aliphatics TOTAL	7.000	8.516	-21.7	103	0.00
36 H	APH EC9-12 aliphatics	7.000	60.829	-769.0#	739	0.00
37 S	4-Bromofluorobenzene	71.000	70.569	0.6	100	0.00
38 L3	Isopropylbenzene	0.980	1.144	-16.7	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.980	1.137	-16.0	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.980	1.166	-19.0	100	0.00
41 L3	p-Isopropyltoluene	1.100	1.199	-9.0	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.980	1.141	-16.4	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	-1.000	5.968	0.0	0	-21.57#
44 H	APH EC9-10 aromatics (1)	-1.000	0.000	0.0	0	-21.64#

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:54 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	-1.000	0.000	0.0	0	-21.64#

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:54 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I Bromochloromethane	1.000	1.000	0.0	100	0.00
2 T IS-1 Bromochloromethane	8.828	8.782	0.5	100	0.00
3 T IS-2 1,4-Difluorobenzene	12.530	13.043	-4.1	100	0.00
4 T IS-3 Chlorobenzene-d5	15.199	15.140	0.4	100	0.00
5 T Methylene chloride	0.447	0.000	100.0#	0#	-6.86#
6 Acetone	23.578	0.000	100.0#	0#	-5.68#
7 2-Propanol	0.137	0.000	100.0#	0#	-5.84#
8 T 1,3-Butadiene	2.944	3.761	-27.8	100	0.00
9 T Methyl t-butyl ether	3.854	4.345	-12.7	100	0.00
10 I 1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
11 T Benzene	1.700	0.000	100.0#	0#	-12.71#
12 L1 Isopentane	3.376	0.000	100.0#	0#	-5.68#
13 L1 Hexane	3.421	0.000	100.0#	0#	-10.12#
14 L1 Cyclohexane	3.471	0.000	100.0#	0#	-13.16#
15 L1 2,3-Dimethylpentane	4.429	0.000	100.0#	0#	-13.52#
16 L1 Heptane	3.620	0.000	100.0#	0#	-14.63#
17 L1 Octane	4.963	0.000	100.0#	0#	-17.41#
18 L1 APH EC5-8 aliphatics TOTAL	3.967	0.000	100.0#	0#	-12.71#
19 H APH EC5-8 aliphatics	3.967	0.000	100.0#	0#	-12.40#
20 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T S 4-Bromofluorobenzene	4.221	4.194	0.6	100	0.00
22 Hexamethylcyclotrisiloxane	1.040	0.884	15.0	100	0.00
23 Octamethylcyclotetrasiloxan	1.298	0.669	48.5#	100	0.00
24 T Toluene	1.073	1.187	-10.6	100	0.00
25 T Ethylbenzene	2.215	2.579	-16.4	100	0.00
26 T m,p-Xylene	0.745	0.873	-17.2	100	0.00
27 T o-Xylene	0.705	0.760	-7.8	100	0.00
28 T Naphthalene	1.799	2.001	-11.2	100	0.00
29 L2 2,3-Dimethylheptane	5.025	5.907	-17.6	101	0.00
30 L2 Nonane	5.247	6.528	-24.4	114	0.00
31 L2 Decane	5.213	6.412	-23.0	102	0.00
32 L2 Butylcyclohexane	5.921	7.352	-24.2	109	0.00
33 L2 Undecane	5.170	6.222	-20.3	100	0.00
34 L2 Dodecane	4.243	5.185	-22.2	102	0.00
35 L2 APH EC9-12 aliphatics TOTAL	5.116	6.224	-21.7	103	0.00
36 H APH EC9-12 aliphatics	5.116	44.454	-768.9#	739#	0.00
37 S 4-Bromofluorobenzene	0.626	0.623	0.5	100	0.00
38 L3 Isopropylbenzene	0.392	0.458	-16.8	100	0.00
39 L3 1-Methyl-3-ethylbenzene	0.548	0.636	-16.1	100	0.00
40 L3 1,3,5-Trimethylbenzene	0.694	0.826	-19.0	100	0.00
41 L3 p-Isopropyltoluene	0.341	0.372	-9.1	100	0.00
42 L3 1,2,3-Trimethylbenzene	0.814	0.948	-16.5	100	0.00
43 L3 APH EC9-10 aromatics TOTAL	0.539	0.000	100.0#	0#	-21.57#
44 H APH EC9-10 aromatics (1)	0.596	0.000	100.0#	0#	-21.64#

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:54 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.339	0.000	100.0#	0#	-21.64#

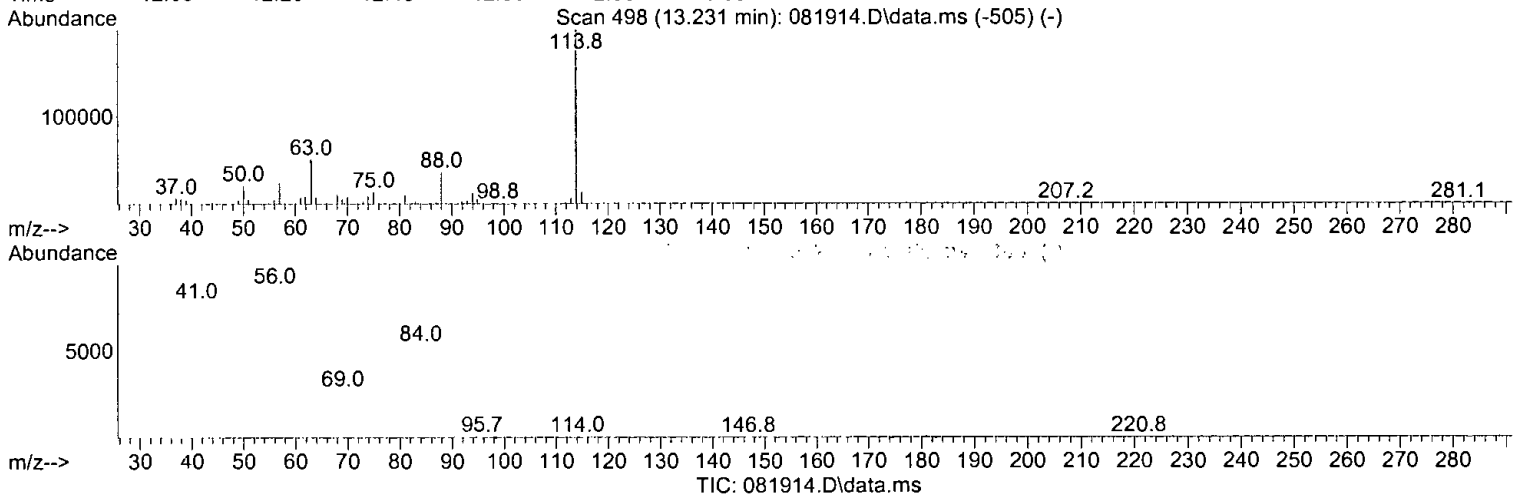
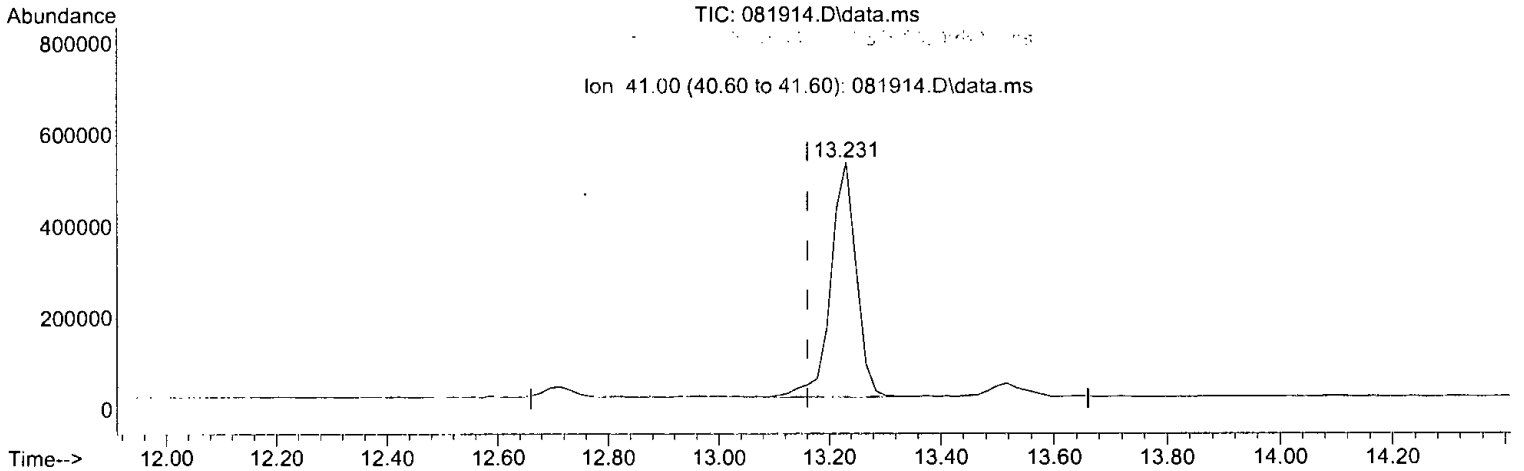
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:26 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.231min (+ 0.071) 39.959 ug/m3

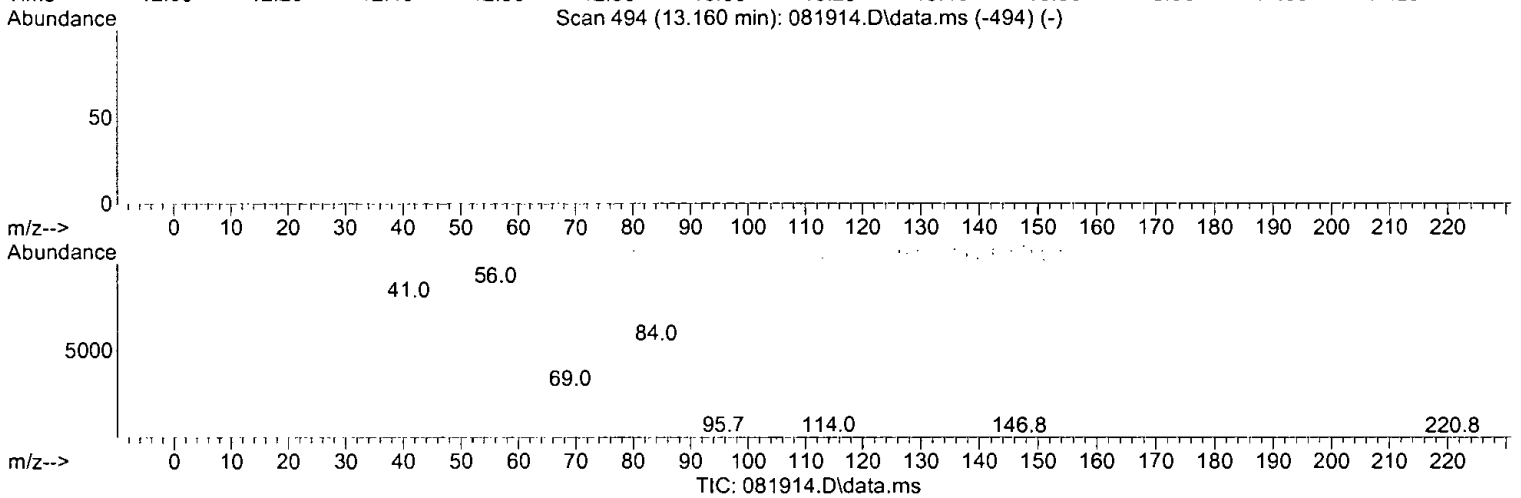
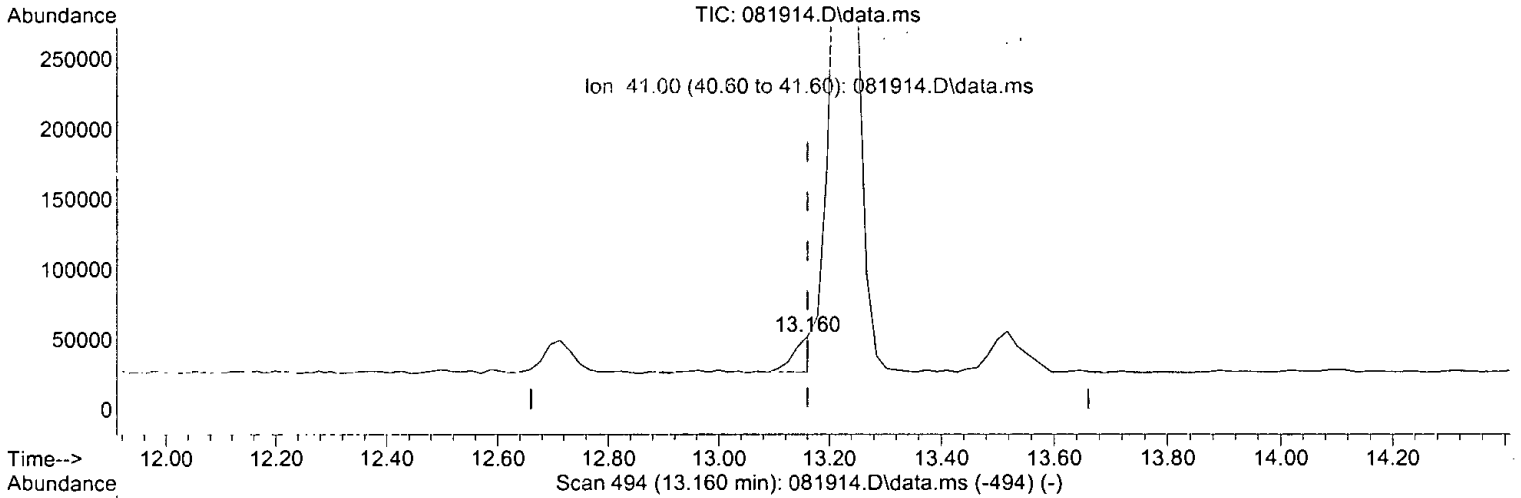
response 1654619

Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.80	0.99
84.00	1.00	0.05
41.00	0.50	0.03

AS/wh

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:26 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.160min (-0.000) 1.364 ug/m3 m

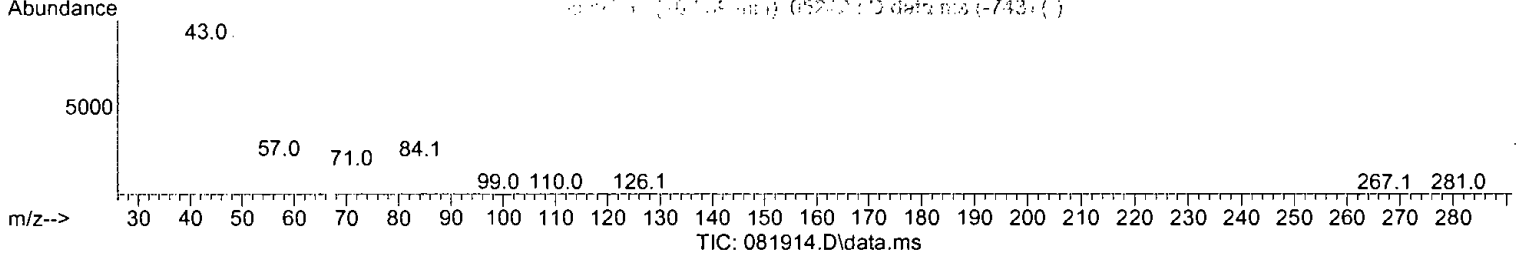
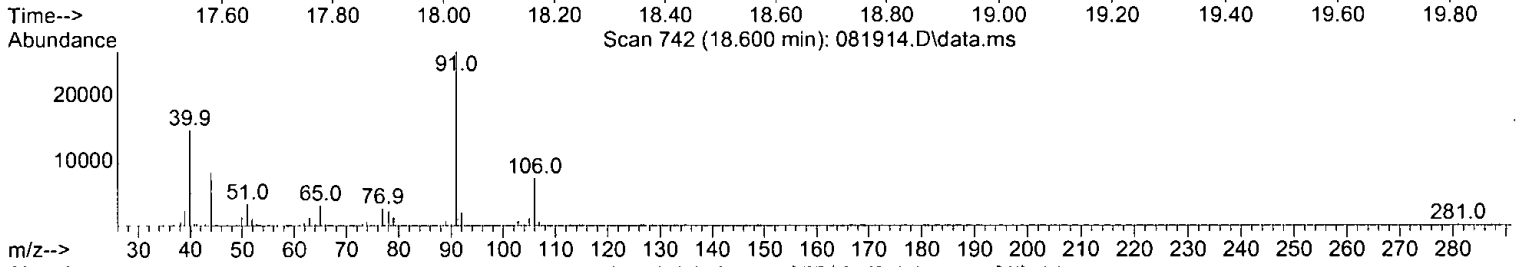
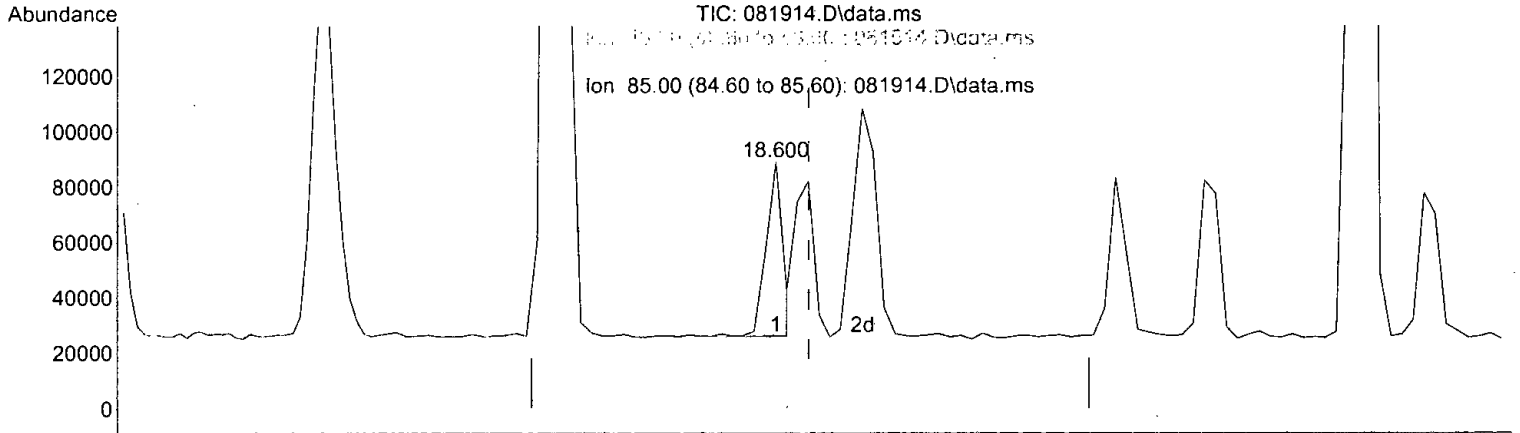
response	56490		
Signal	Exp%	Act%	
TIC	100.00	100.00	
56.00	3.80	29.14	
84.00	1.00	1.41	
41.00	0.50	0.77	

*AS 8/20/21*

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:26 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (E2)

18.600min (-0.059) 2.510 ug/m3

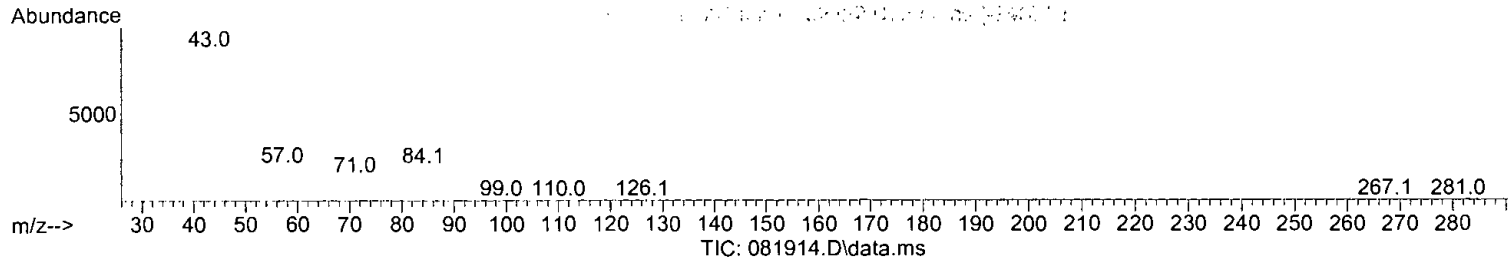
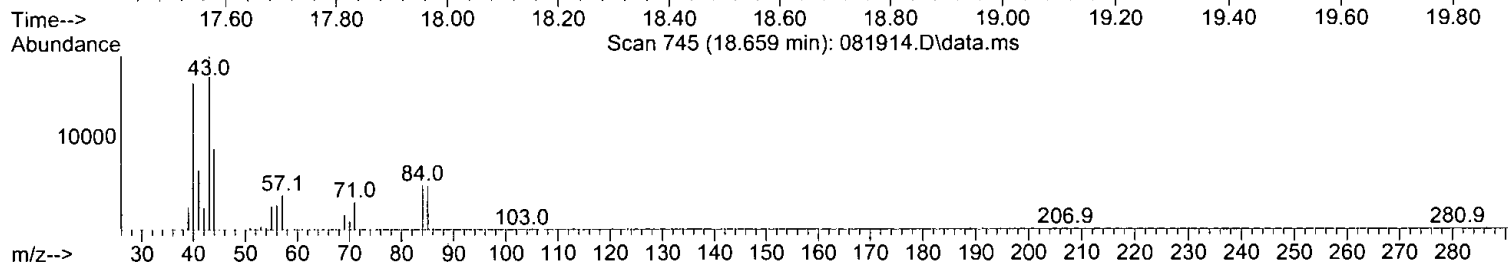
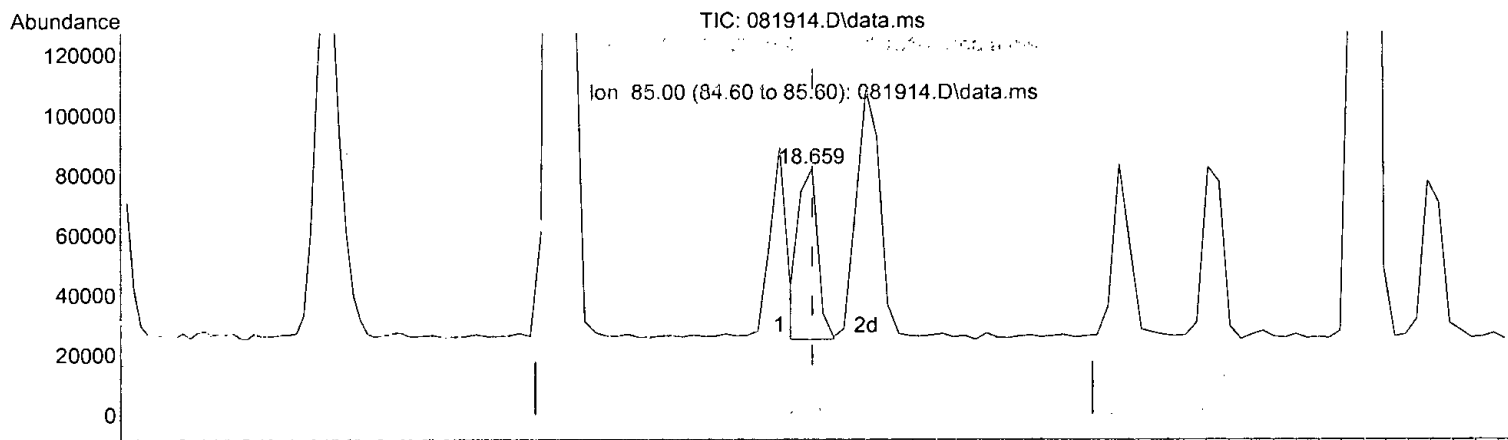
response	Exp%	Act%
131542		
TIC	100.00	100.00
43.00	28.20	35.79#
84.00	9.90	8.08
85.00	9.20	8.16

AS8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:26 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.659min (-0.000) 2.595 ug/m3 m

response 135997

Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	34.62#
84.00	9.90	7.82#
85.00	9.20	7.89

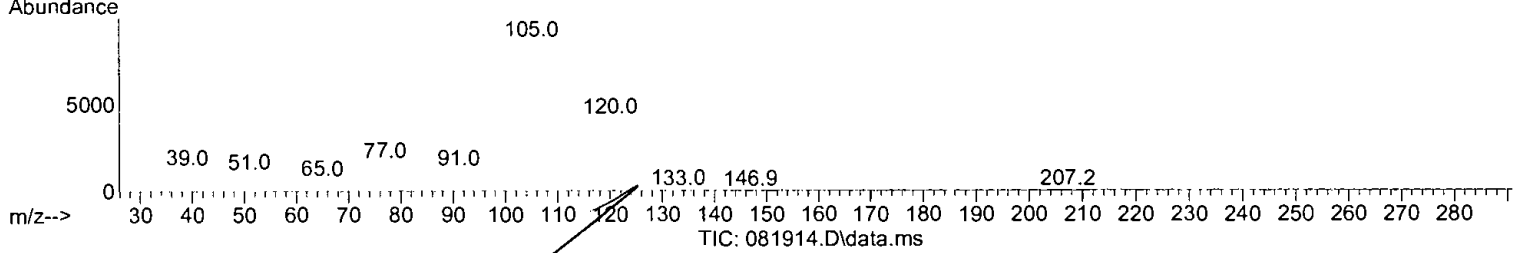
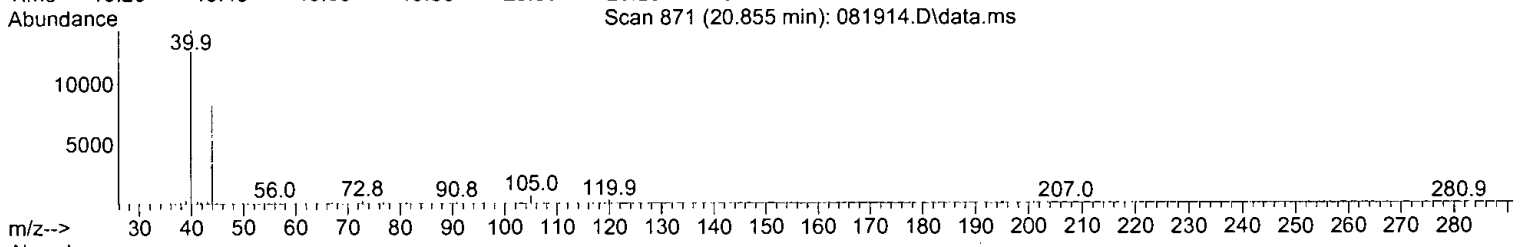
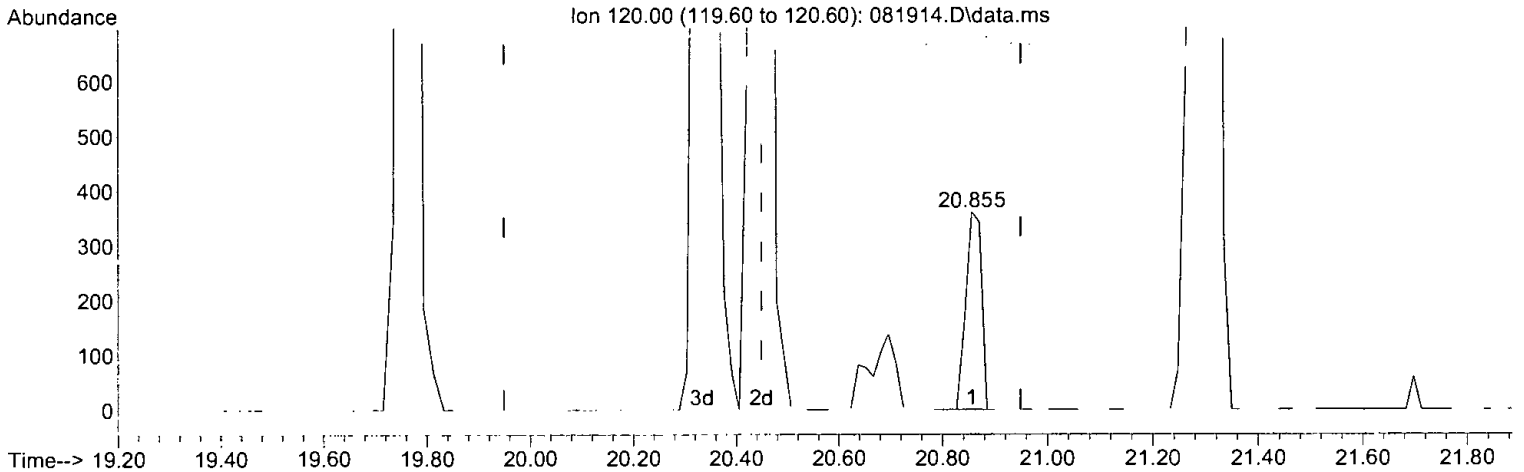
*AS 8/20/21*



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:26 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(40) 1,3,5-Trimethylbenzene (L3)

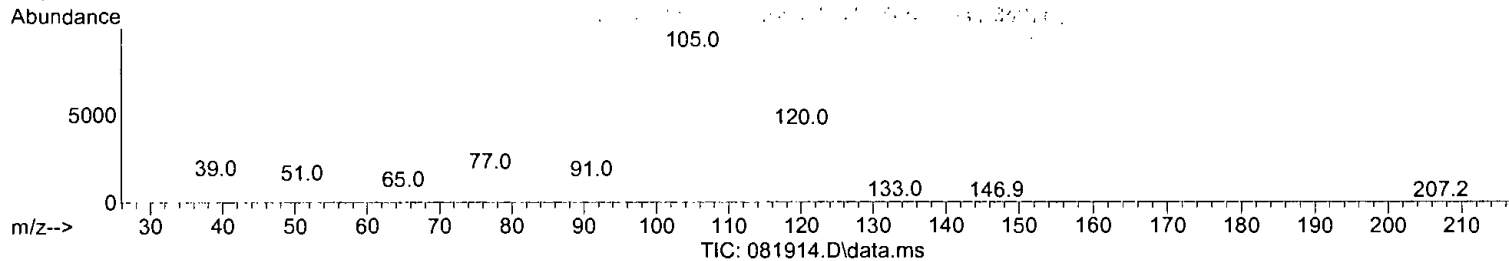
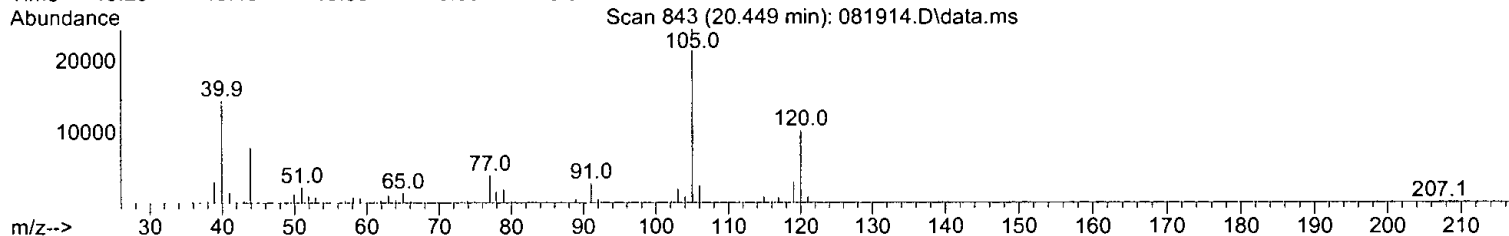
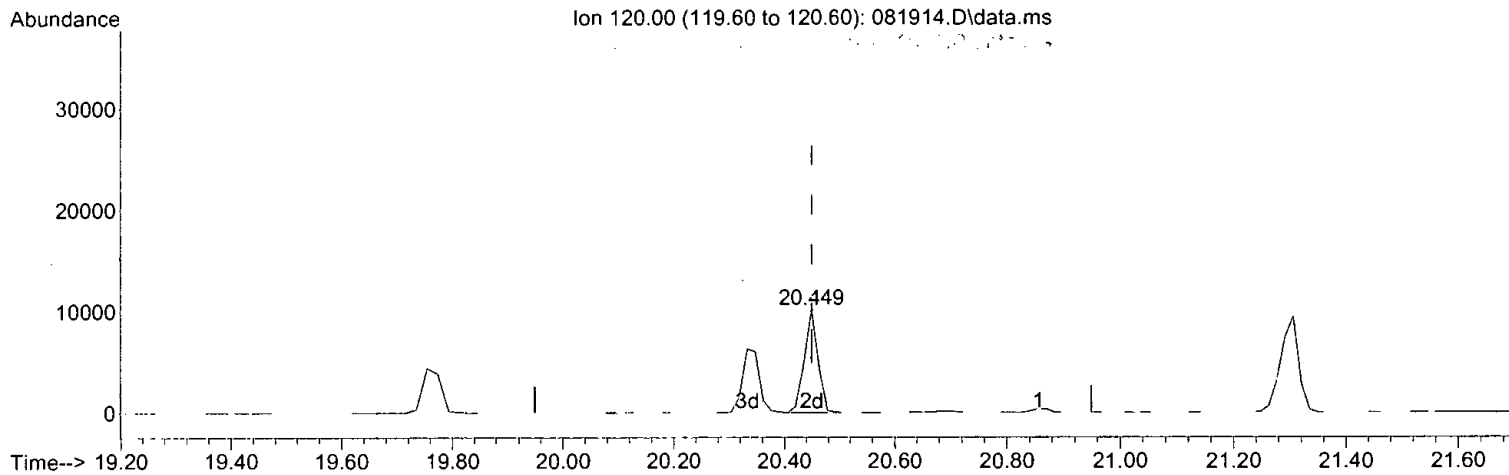
20.855min (+ 0.407) 0.103 ug/m3

response	744	
Ion	Exp%	Act%
120.00	100.00	100.00
104.90	225.90	230.51
0.00	0.00	0.00
0.00	0.00	0.00

AS8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
Data File : 081914.D  
Acq On : 19 Aug 2021 6:00 pm  
Operator : bat  
Sample : 0.5 ppbv, 64-38c  
Misc : T2, 50cc  
ALS Vial : 14 Sample Multiplier: 1  
InstName : GCMS7

Quant Time: Aug 20 10:30:26 2021  
Quant Method : Z:\METHODS\Inst7\0819APH7.M  
Quant Title : APH TO-15 method  
QLast Update : Fri Aug 20 08:33:26 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M



(40) 1,3,5-Trimethylbenzene (L3)

20.449min (+ 0.000) 2.366 ug/m3 m

response 17125

Ion	Exp%	Act%
120.00	100.00	100.00
104.90	225.90	10.01#
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:36:56 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	124186	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	596531	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	521481	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	462850	70.843	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	99.77%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1091963	49.800	ug/m3	89
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1654619	53.165	ug/m3	94
4) IS-3 Chlorobenzene-d5	18.21	TIC	1871091	49.567	ug/m3	92
5) Methylene chloride	0.00		0	N.D.	d	
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	5.80	TIC	17013	50.000	ppbv	100
8) 1,3-Butadiene	4.24	54	7971	1.090	ug/m3	74
9) Methyl t-butyl ether	8.51	73	17762	1.855	ug/m3	87
11) Benzene	12.71	78	34234	1.688	ug/m3	85
12) Isopentane	5.66	TIC	67069	1.665	ug/m3	97
13) Hexane	10.11	TIC	74705	1.678	ug/m3	98
14) Cyclohexane	13.16	TIC	56490m	1.364	ug/m3	
15) 2,3-Dimethylpentane	13.52	TIC	126657	2.397	ug/m3	97
16) Heptane	14.63	TIC	105701	2.448	ug/m3	95
17) Octane	17.41	TIC	160697	2.714	ug/m3	85
18) APH EC5-8 aliphatics T...	12.71	TIC	591319m	12.493	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	9837378m	207.839	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2186035	49.656	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	390529	36.015	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	405241	29.944	ppbv	100
24) Toluene	16.39	92	21955	1.962	ug/m3	99
25) Ethylbenzene	18.60	91	52299	2.264	ug/m3	94
26) m,p-Xylene	18.76	106	34949	4.498	ug/m3	84
27) o-Xylene	19.21	106	16723	2.275	ug/m3	95
28) Naphthalene	23.94	128	46509	2.479	ug/m3	99
29) 2,3-Dimethylheptane	18.66	TIC	135997m	2.595	ug/m3	
30) Nonane	19.36	TIC	135453	2.475	ug/m3	91
31) Decane	20.90	TIC	177790	3.270	ug/m3	96
32) Butylcyclohexane	21.57	TIC	179896	2.913	ug/m3	96
33) Undecane	22.28	TIC	174631	3.239	ug/m3	97
34) Dodecane	23.79	TIC	168252	3.802	ug/m3	97
35) APH EC9-12 aliphatics ...	21.57	TIC	972019m	18.218	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	3918248m	73.438	ug/m3	
38) Isopropylbenzene	19.75	120	10375	2.537	ug/m3	91
39) 1-Methyl-3-ethylbenzene	20.33	120	13426	2.347	ug/m3#	76
40) 1,3,5-Trimethylbenzene	20.45	120	17125m	2.366	ug/m3	
41) p-Isopropyltoluene	21.29	134	9944	2.796	ug/m3#	78
42) 1,2,3-Trimethylbenzene	21.31	120	20790	2.447	ug/m3	91
43) APH EC9-10 aromatics T...	21.57	TIC	71660m	12.738	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	49650	N.D.		

Data Path : Z:\Proc\_GCMS7\08-19-21\  
Data File : 081914.D  
Acq On : 19 Aug 2021 6:00 pm  
Operator : bat  
Sample : 0.5 ppbv, 64-38c  
Misc : T2, 50cc  
ALS Vial : 14 Sample Multiplier: 1  
InstName : GCMS7

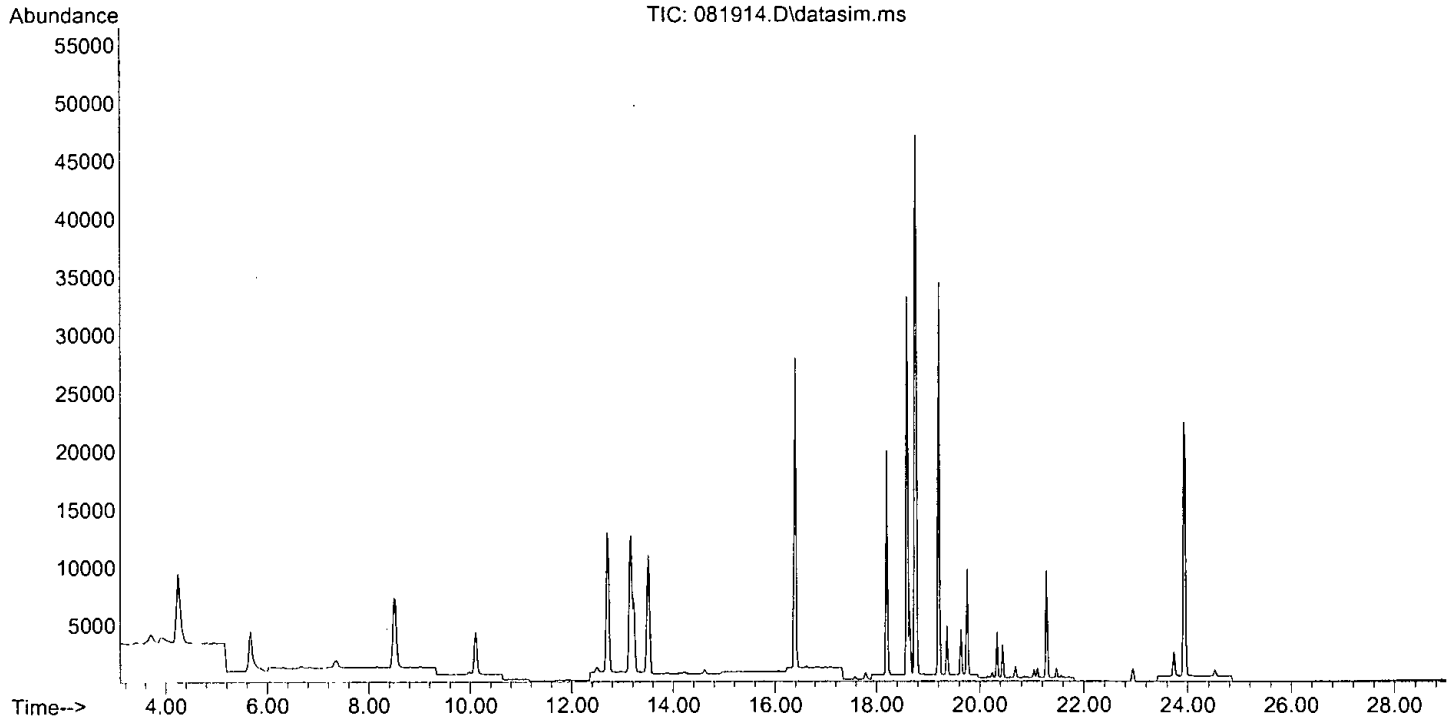
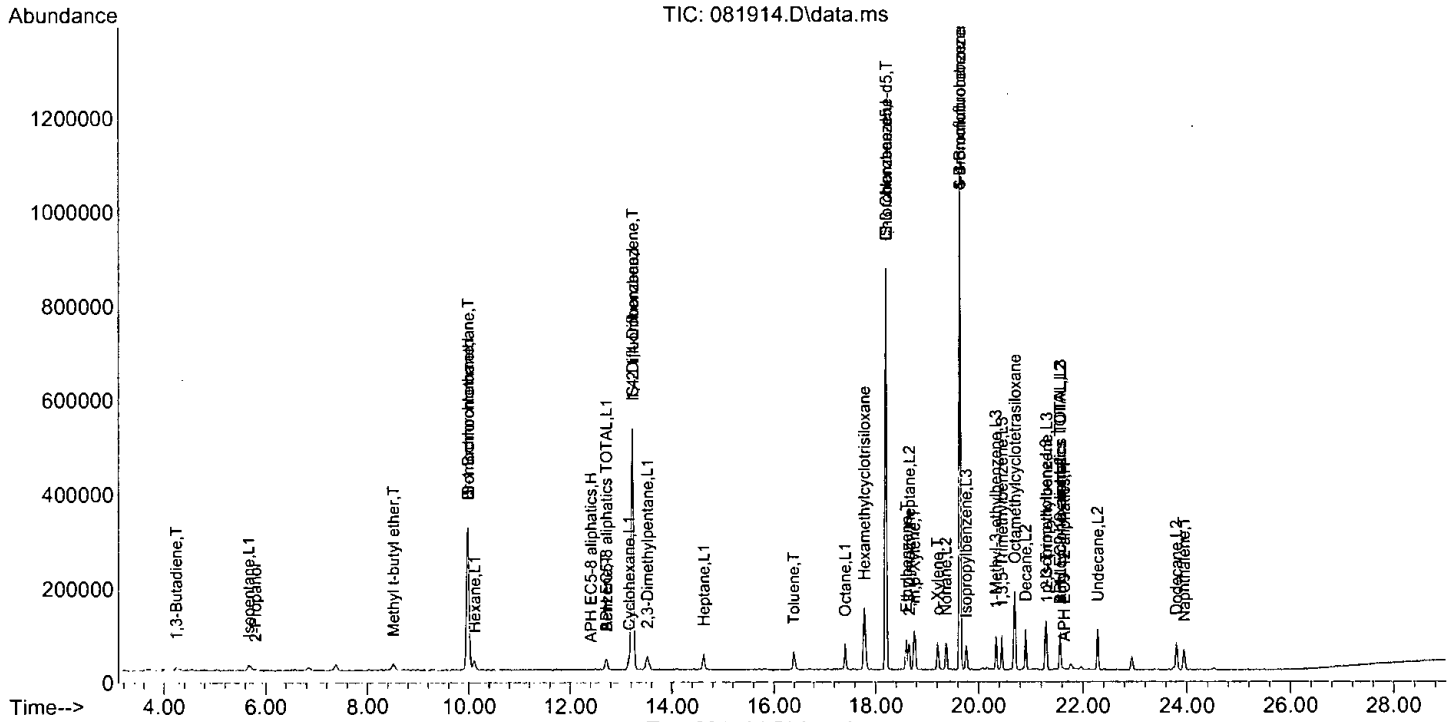
Quant Time: Aug 20 10:36:56 2021  
Quant Method : Z:\METHODS\Inst7\0819APH7.M  
Quant Title : APH TO-15 method  
QLast Update : Fri Aug 20 08:33:26 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----	-----	-----	-----	-----	-----	-----
45) APH EC9-10 aromatics (2)	21.64	134	10053		N.D.	
-----	-----	-----	-----	-----	-----	-----

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:36:56 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:36:56 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	50.000	49.800	0.4	100	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	53.165	-6.3	100	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	49.567	0.9	100	0.00
5 T	Methylene chloride	50.000	0.000	100.0#	0	-6.86#
6	Acetone	50.000	0.000	100.0#	0	-5.68#
7	2-Propanol	50.000	50.000	0.0	100	-0.04
8 T	1,3-Butadiene	1.100	1.090	0.9	100	-0.04
9 T	Methyl t-butyl ether	1.800	1.855	-3.1	100	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.00
11 T	Benzene	1.600	1.688	-5.5	100	0.00
12 L1	Isopentane	1.500	1.665	-11.0	100	-0.02
13 L1	Hexane	1.750	1.678	4.1	100	0.00
14 L1	Cyclohexane	1.750	1.364	22.1	97	0.00
15 L1	2,3-Dimethylpentane	2.100	2.397	-14.1	100	0.00
16 L1	Heptane	2.100	2.448	-16.6	116	0.00
17 L1	Octane	2.300	2.714	-18.0	142	0.00
18 L1	APH EC5-8 aliphatics TOTAL	11.500	12.493	-8.6	112	0.00
19 H	APH EC5-8 aliphatics	11.500	207.839	-1707.3#	1861	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	49.656	0.7	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	36.015	28.0	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	29.944	40.1#	100	0.00
24 T	Toluene	1.875	1.962	-4.6	100	0.00
25 T	Ethylbenzene	2.200	2.264	-2.9	100	0.00
26 T	m,p-Xylene	4.400	4.498	-2.2	100	0.00
27 T	o-Xylene	2.200	2.275	-3.4	100	0.00
28 T	Naphthalene	2.500	2.479	0.8	100	0.00
29 L2	2,3-Dimethylheptane	2.500	2.595	-3.8	103	0.00
30 L2	Nonane	2.500	2.475	1.0	95	0.00
31 L2	Decane	3.000	3.270	-9.0	115	0.00
32 L2	Butylcyclohexane	2.800	2.913	-4.0	100	0.00
33 L2	Undecane	3.300	3.239	1.8	100	0.00
34 L2	Dodecane	3.500	3.802	-8.6	108	0.00
35 L2	APH EC9-12 aliphatics TOTAL	17.500	18.218	-4.1	103	0.00
36 H	APH EC9-12 aliphatics	17.500	73.438	-319.6#	415	0.00
37 S	4-Bromofluorobenzene	71.000	70.843	0.2	100	0.00
38 L3	Isopropylbenzene	2.450	2.537	-3.6	100	0.00
39 L3	1-Methyl-3-ethylbenzene	2.450	2.347	4.2	100	0.00
40 L3	1,3,5-Trimethylbenzene	2.450	2.366	3.4	100	0.00
41 L3	p-Isopropyltoluene	2.800	2.796	0.1	100	0.01
42 L3	1,2,3-Trimethylbenzene	2.450	2.447	0.1	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	12.500	12.738	-1.9	100	0.00
44 H	APH EC9-10 aromatics (1)	9.800	7.993	18.4	80	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:36:56 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	2.700	2.841	-5.2	101	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:36:56 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	8.828	8.793	0.4	100	0.00
3 T	IS-2 1,4-Difluorobenzene	12.530	13.324	-6.3	100	0.00
4 T	IS-3 Chlorobenzene-d5	15.199	15.067	0.9	100	0.00
5 T	Methylene chloride	0.447	0.000	100.0#	0#	-6.86#
6	Acetone	23.578	0.000	100.0#	0#	-5.68#
7	2-Propanol	0.137	0.137	0.0	100	-0.04
8 T	1,3-Butadiene	2.944	2.918	0.9	100	-0.04
9 T	Methyl t-butyl ether	3.854	3.973	-3.1	100	0.00
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
11 T	Benzene	1.700	1.793	-5.5	100	0.00
12 L1	Isopentane	3.376	3.748	-11.0	100	-0.02
13 L1	Hexane	3.421	3.578	-4.6	100	0.00
14 L1	Cyclohexane	3.471	2.706	22.0	97	0.00
15 L1	2,3-Dimethylpentane	4.429	5.055	-14.1	100	0.00
16 L1	Heptane	3.620	4.219	-16.5	116	0.00
17 L1	Octane	4.963	5.856	-18.0	142	0.00
18 L1	APH EC5-8 aliphatics TOTAL	3.967	4.310	-8.6	112	0.00
19 H	APH EC5-8 aliphatics	3.967	71.700	-1707.4#	1861#	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	4.221	4.192	0.7	100	0.00
22	Hexamethylcyclotrisiloxane	1.040	0.749	28.0	100	0.00
23	Octamethylcyclotetrasiloxan	1.298	0.777	40.1#	100	0.00
24 T	Toluene	1.073	1.123	-4.7	100	0.00
25 T	Ethylbenzene	2.215	2.279	-2.9	100	0.00
26 T	m,p-Xylene	0.745	0.762	-2.3	100	0.00
27 T	o-Xylene	0.705	0.729	-3.4	100	0.00
28 T	Naphthalene	1.799	1.784	0.8	100	0.00
29 L2	2,3-Dimethylheptane	5.025	5.216	-3.8	103	0.00
30 L2	Nonane	5.247	5.195	1.0	95	0.00
31 L2	Decane	5.213	5.682	-9.0	115	0.00
32 L2	Butylcyclohexane	5.921	6.160	-4.0	100	0.00
33 L2	Undecane	5.170	5.074	1.9	100	0.00
34 L2	Dodecane	4.243	4.609	-8.6	108	0.00
35 L2	APH EC9-12 aliphatics TOTAL	5.116	5.326	-4.1	103	0.00
36 H	APH EC9-12 aliphatics	5.116	21.468	-319.6#	415#	0.00
37 S	4-Bromofluorobenzene	0.626	0.625	0.2	100	0.00
38 L3	Isopropylbenzene	0.392	0.406	-3.6	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.548	0.525	4.2	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.694	0.670	3.5	100	0.00
41 L3	p-Isopropyltoluene	0.341	0.341	0.0	100	0.01
42 L3	1,2,3-Trimethylbenzene	0.814	0.814	0.0	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.539	0.550	-2.0	100	0.00
44 H	APH EC9-10 aromatics (1)	0.596	0.486	18.5	80	0.00



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:36:56 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.339	0.357	-5.3	101	0.00

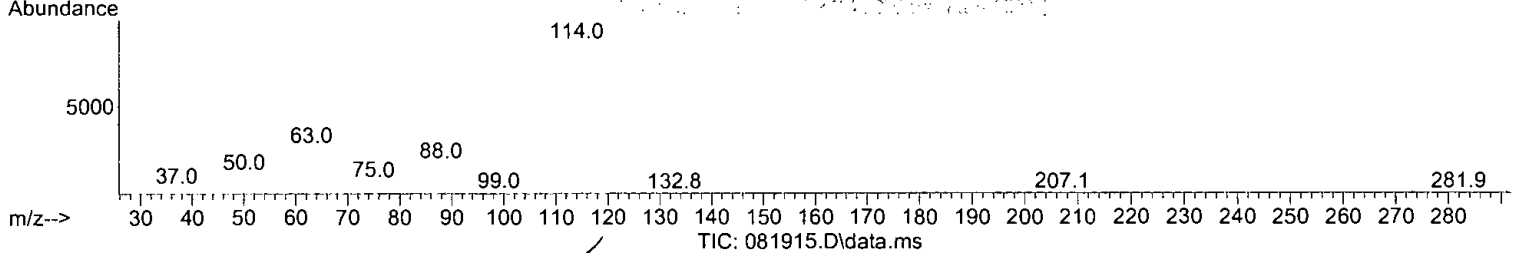
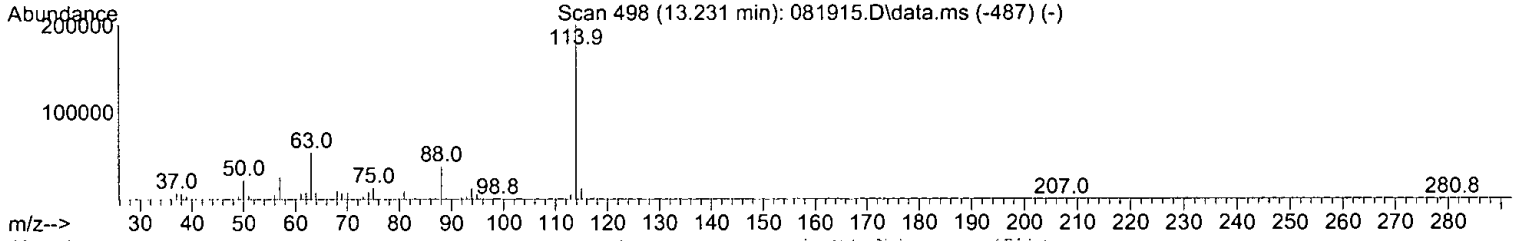
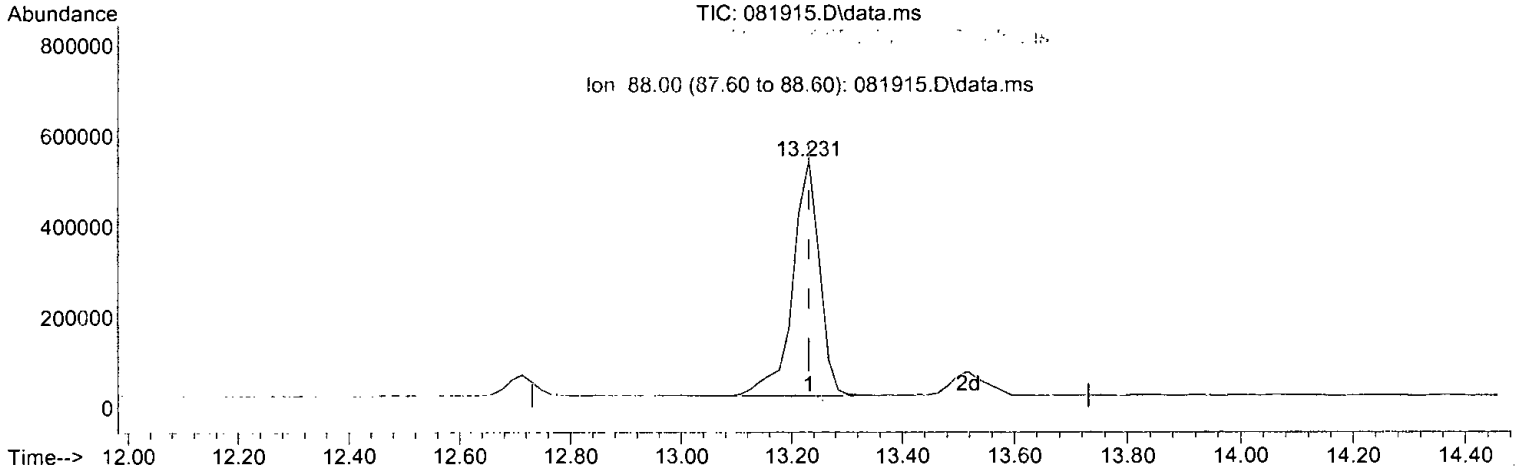
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:30 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (F)

13.231min (+ 0.000) 55.493 ug/m3

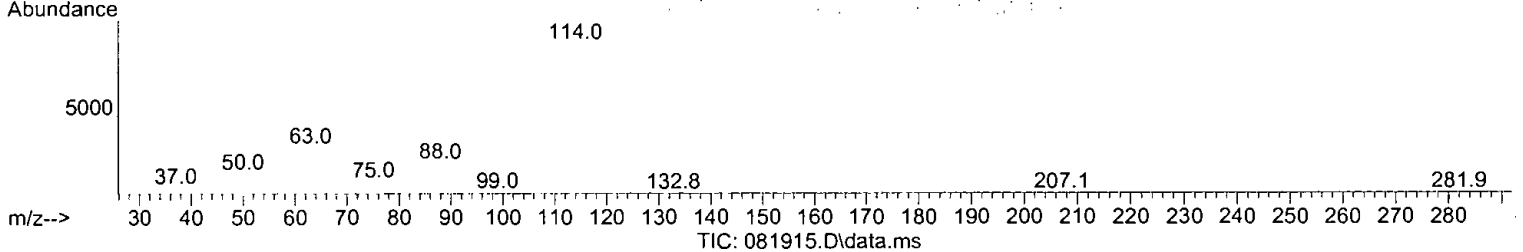
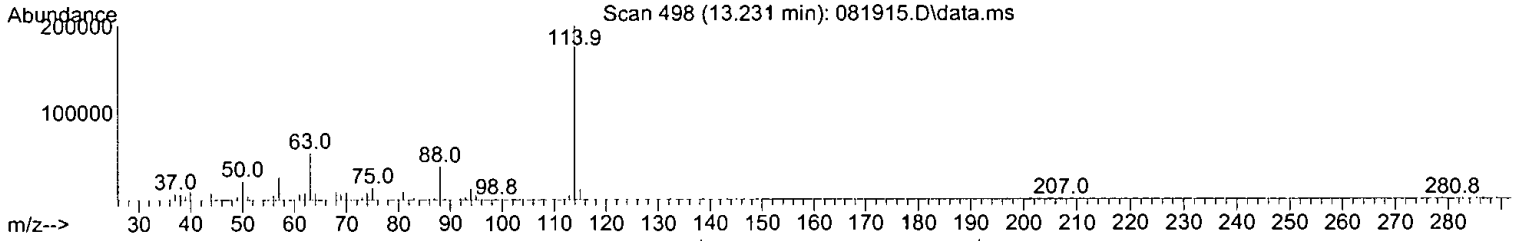
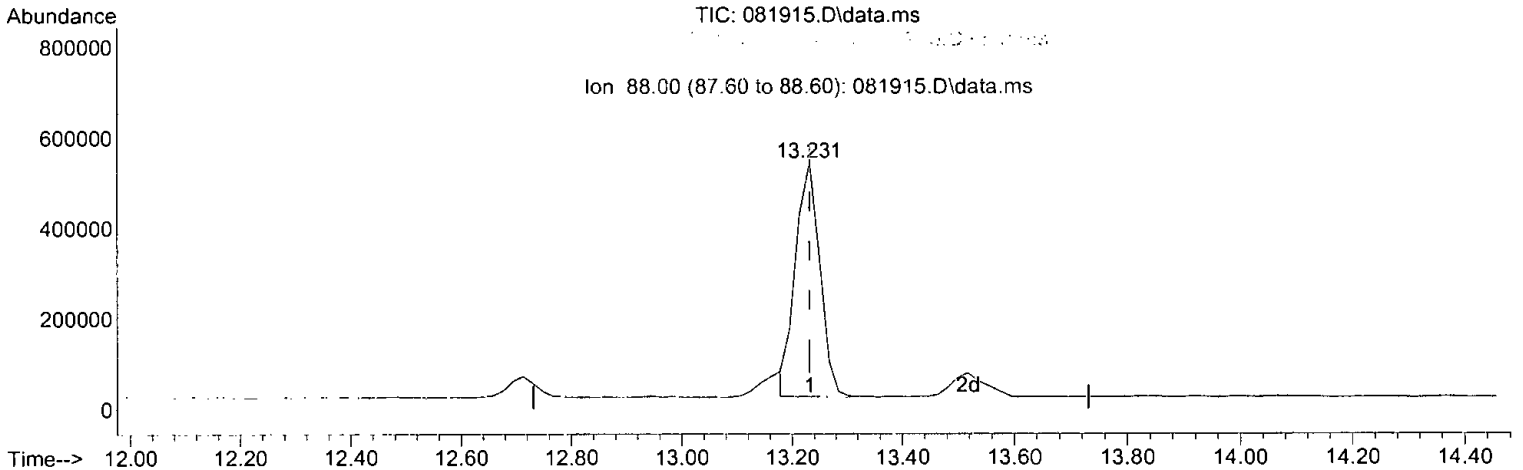
response 1741578

Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	38.57
63.00	8.40	10.35
88.00	7.60	7.37

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:30 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000) 50.015 ug/m3 m

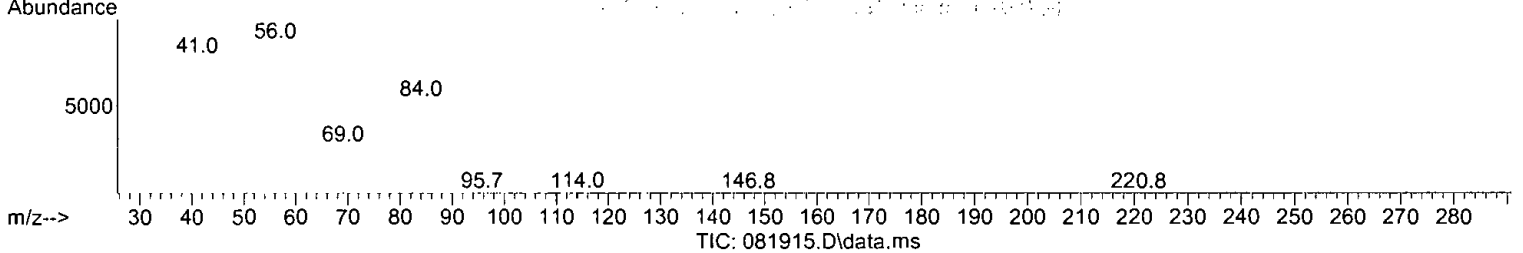
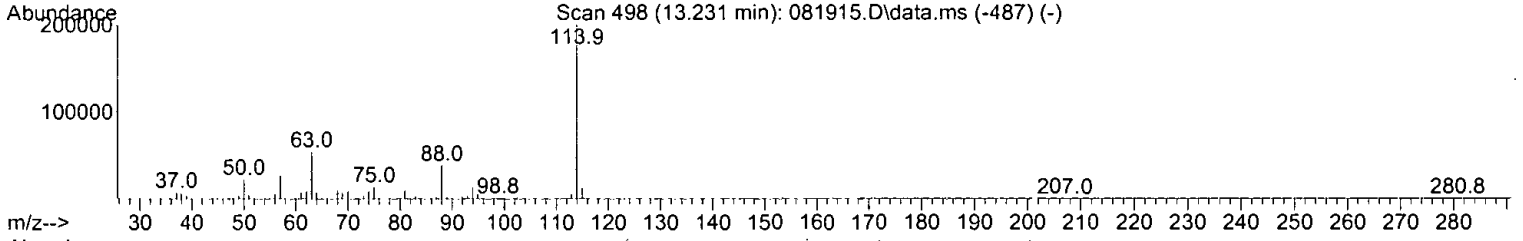
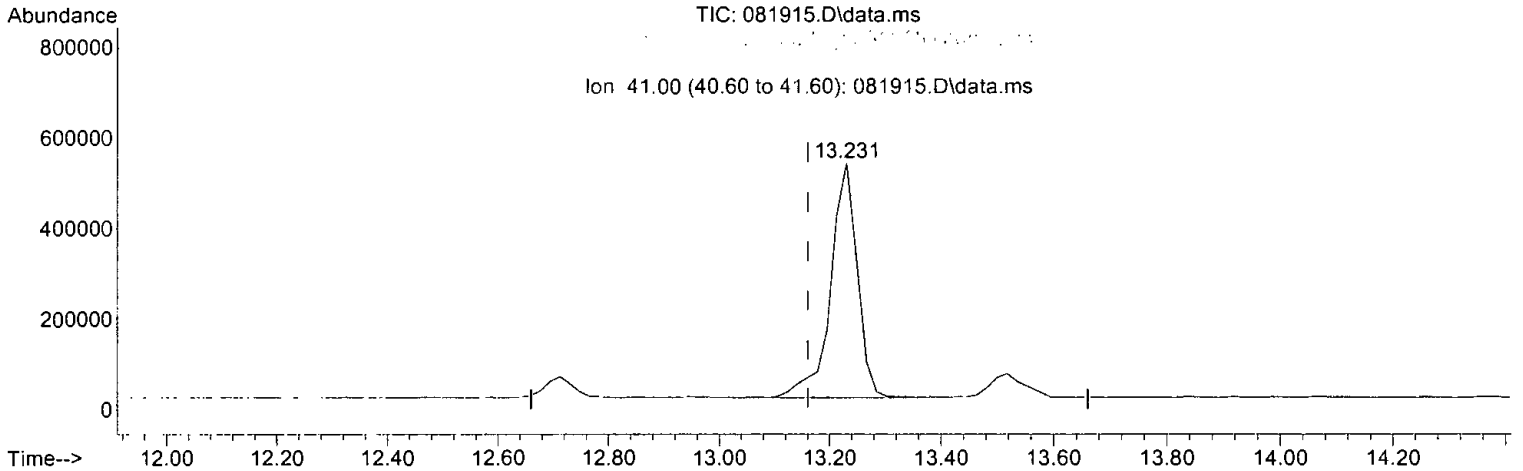
response	1569676
Signal	Exp% Act%
TIC	100.00 100.00
114.00	43.50 42.79
63.00	8.40 11.48
88.00	7.60 8.18

*AS 8/20/21*

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:30 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.231min (+ 0.071) 41.487 ug/m3

response 1741578

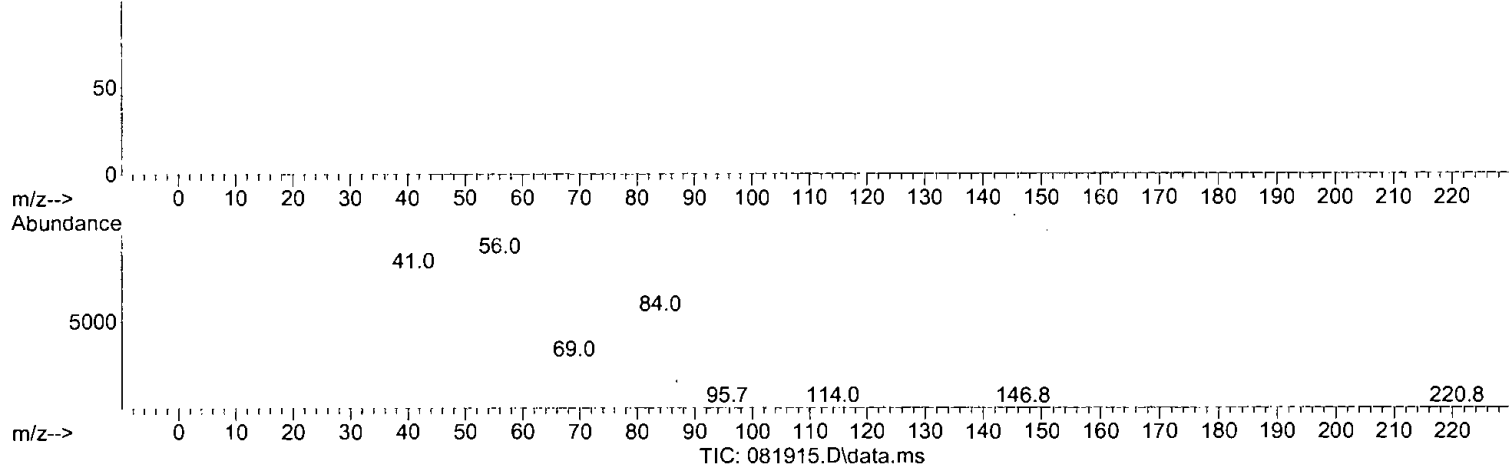
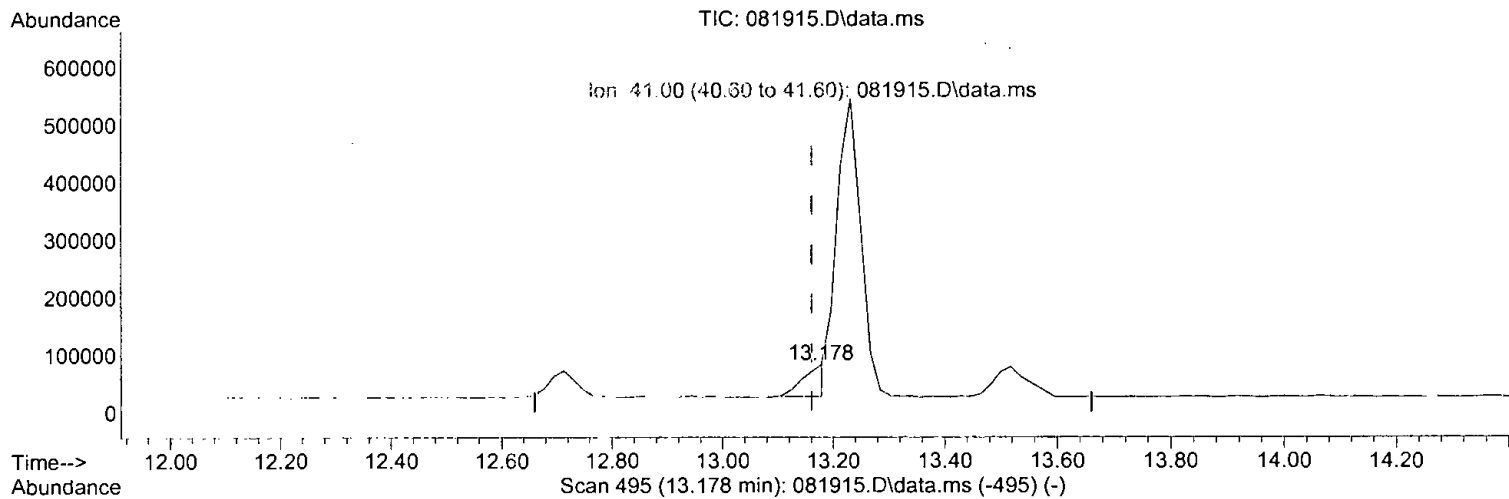
Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.80	1.06
84.00	1.00	0.05
41.00	0.50	0.02

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:30 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.178min (+ 0.018) 3.550 ug/m3 m

response 149029

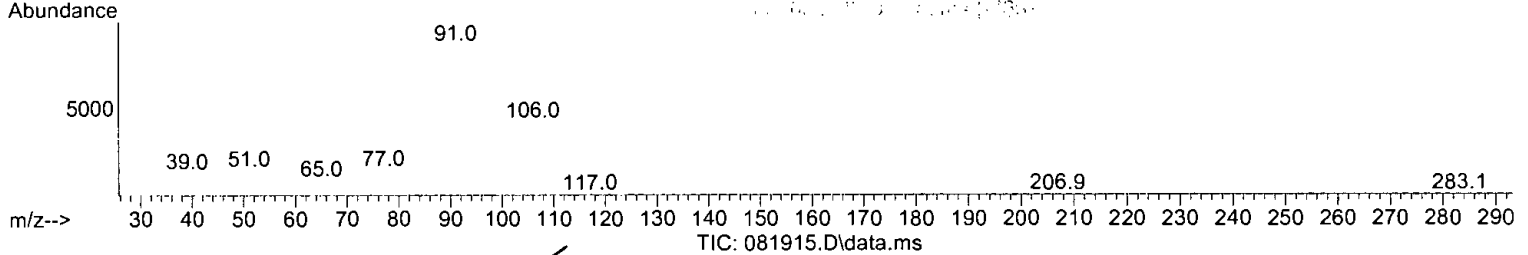
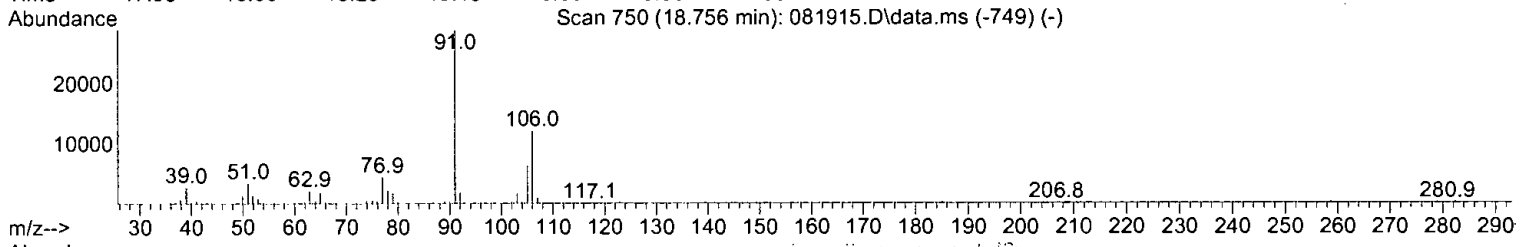
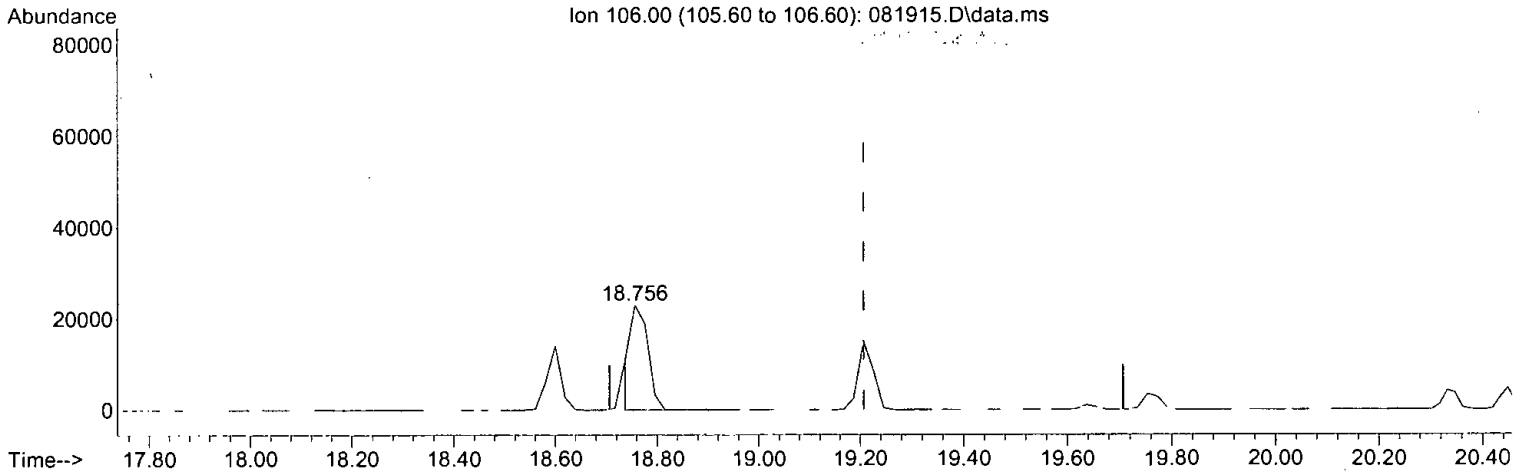
Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.80	12.35
84.00	1.00	0.61
41.00	0.50	0.18

*AS 8/20/21*

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:30 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

18.756min (-0.450) 7.136 ug/m3

response 53152

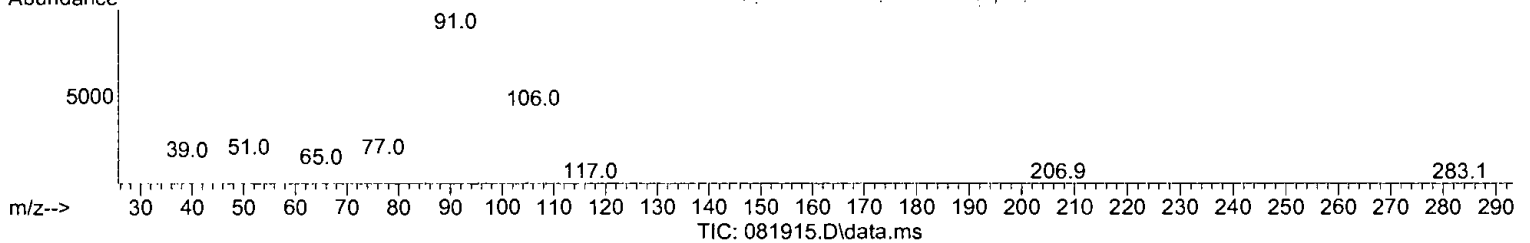
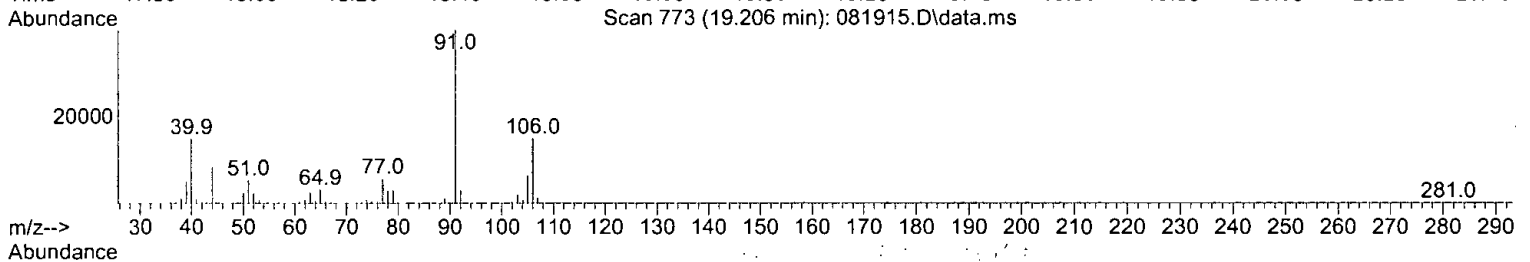
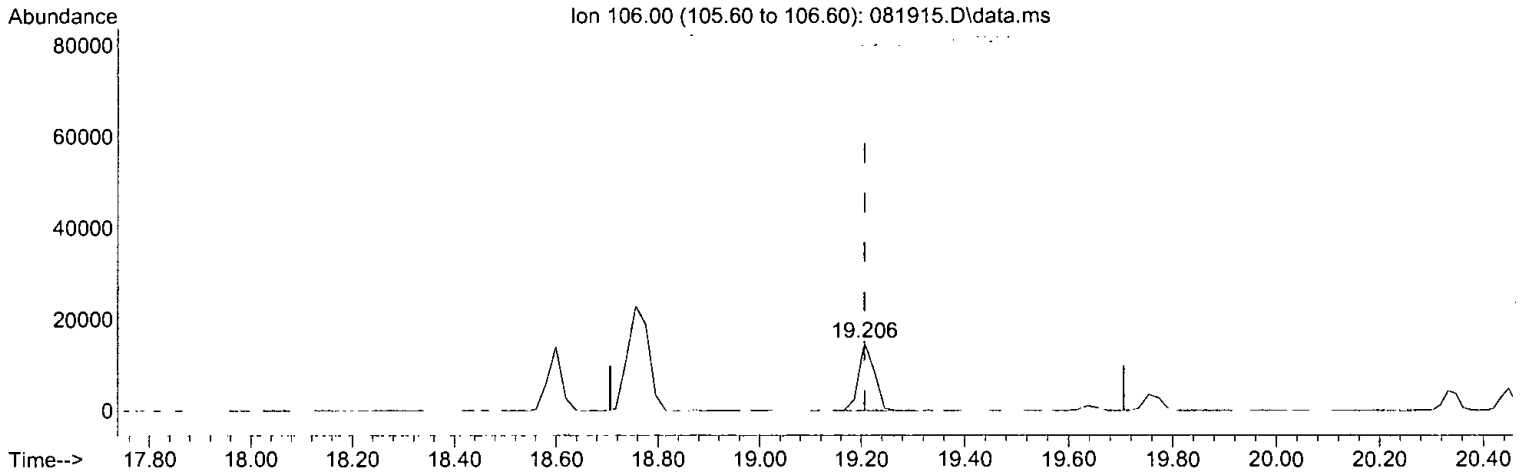
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	234.82
0.00	0.00	0.00
0.00	0.00	0.00

*AS8/20/21*

Quantitation Report (Qedit)

Data Path : Z:\Proc GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:30 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

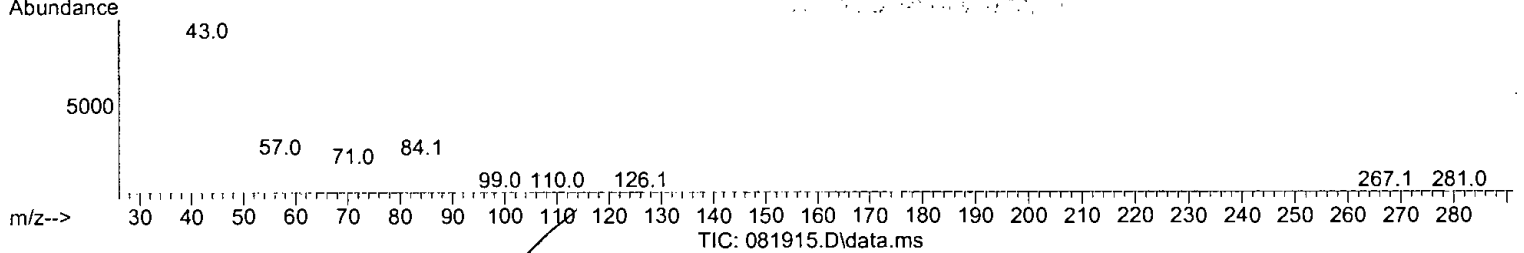
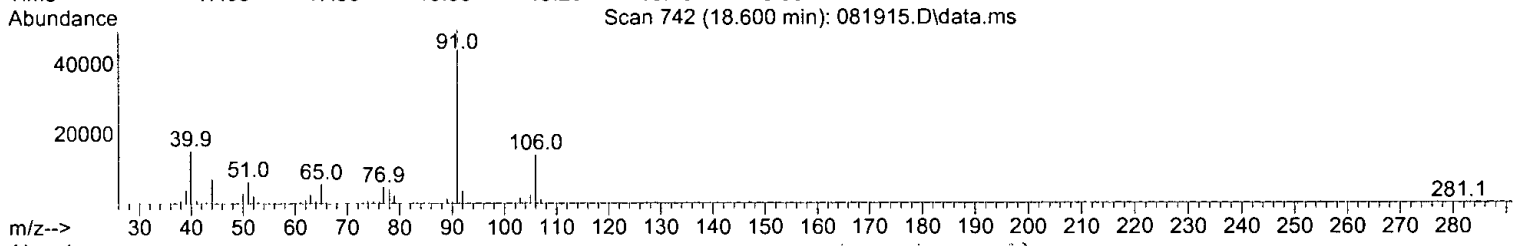
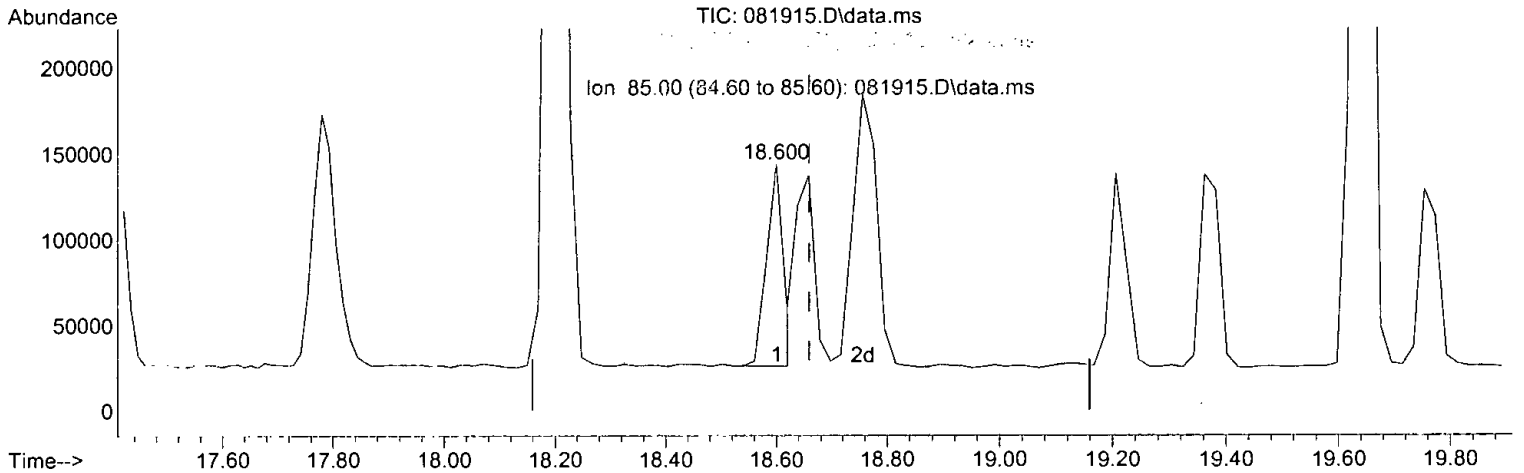
19.206min (-0.000) 4.154 ug/m3 m

response	30938	
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	266.13#
0.00	0.00	0.00
0.00	0.00	0.00

*AS8120/4*

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:30 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)  
 18.600min (-0.059) 4.652 ug/m3

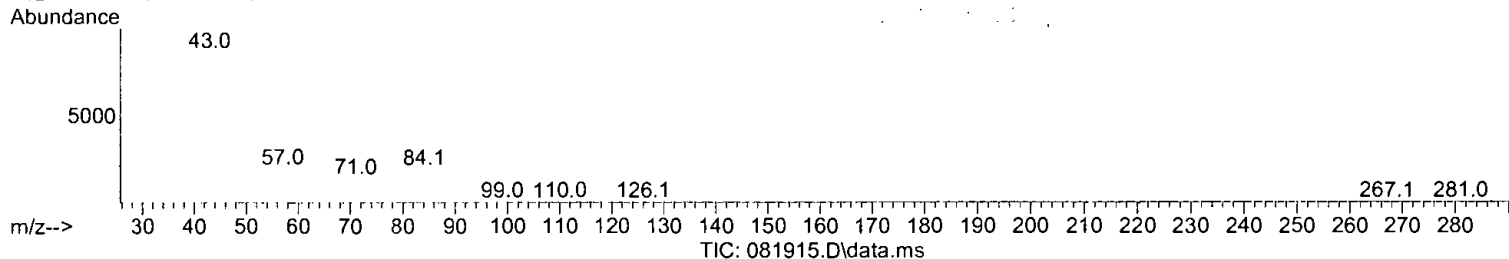
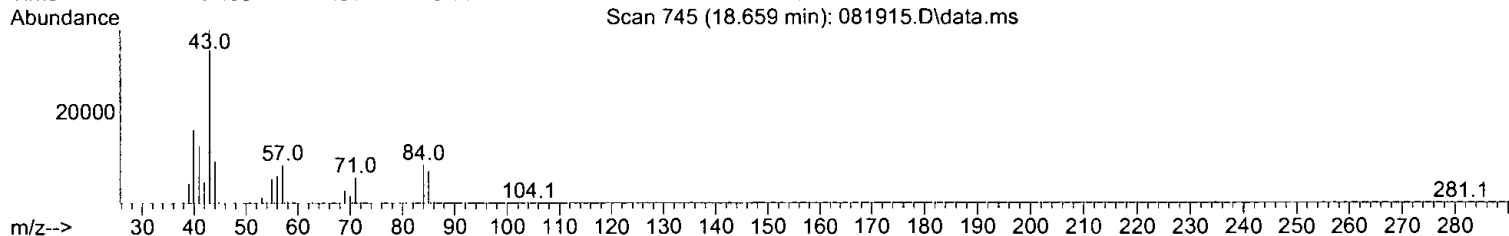
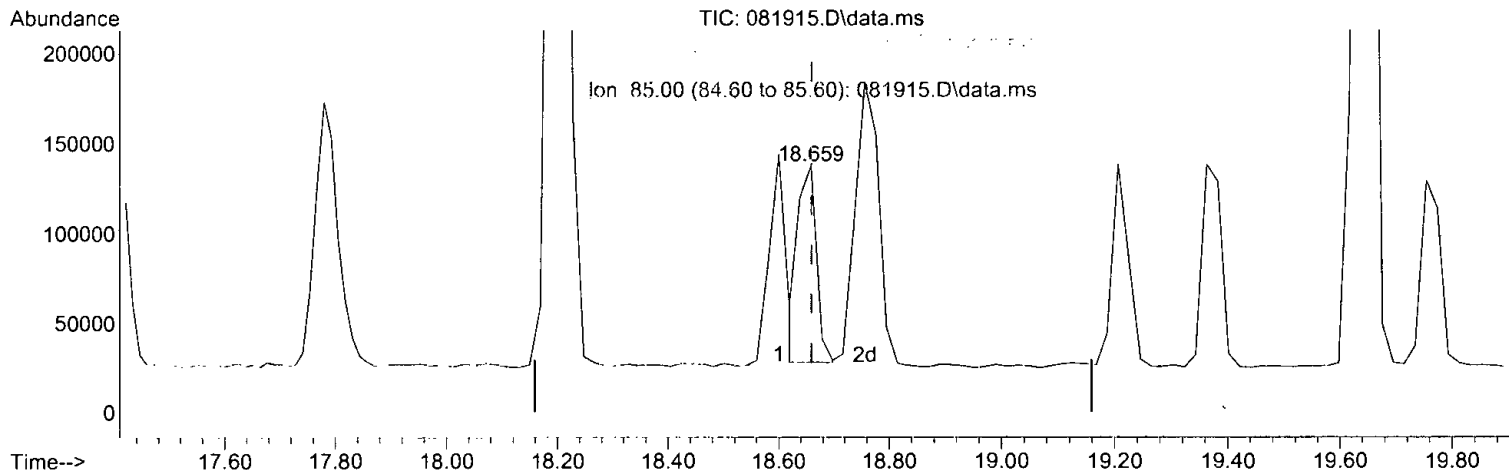
response	Exp%	Act%
247078		
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	37.69#
84.00	9.90	8.33
85.00	9.20	7.44

AS 8/20/21



Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:30 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.659min (-0.000) 4.765 ug/m3 m

response 253079

Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	36.79#
84.00	9.90	8.14
85.00	9.20	7.26#

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:39:00 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	125230	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	604762	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	528441	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	469371	70.895	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	99.86%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1108581	50.136	ug/m3	88
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1569676m	50.015	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1902954	49.990	ug/m3	92
5) Methylene chloride	0.00		0	N.D.	d	
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.28	54	16530	2.242	ug/m3	83
9) Methyl t-butyl ether	8.51	73	34847	3.610	ug/m3	91
11) Benzene	12.71	78	66341	3.226	ug/m3	88
12) Isopentane	5.68	TIC	117607	2.880	ug/m3	93
13) Hexane	10.11	TIC	149538	3.533	ug/m3	94
14) Cyclohexane	13.18	TIC	149029m	3.550	ug/m3	
15) 2,3-Dimethylpentane	13.52	TIC	226171	4.222	ug/m3	96
16) Heptane	14.63	TIC	191997	4.385	ug/m3	92
17) Octane	17.41	TIC	225161	3.751	ug/m3	74
18) APH EC5-8 aliphatics T...	12.71	TIC	1059503m	22.080	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	11172713m	232.839	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2224521	49.865	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	519449	47.274	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	434649	31.694	ppbv	100
24) Toluene	16.39	92	39309	3.467	ug/m3	87
25) Ethylbenzene	18.60	91	99159	4.235	ug/m3	96
26) m,p-Xylene	18.76	106	66388	8.432	ug/m3	89
27) o-Xylene	19.21	106	30938m	4.154	ug/m3	
28) Naphthalene	23.94	128	92309	4.855	ug/m3	99
29) 2,3-Dimethylheptane	18.66	TIC	253079m	4.765	ug/m3	
30) Nonane	19.36	TIC	274027	4.941	ug/m3	93
31) Decane	20.90	TIC	322135	5.847	ug/m3	96
32) Butylcyclohexane	21.57	TIC	333260	5.325	ug/m3	97
33) Undecane	22.29	TIC	343053	6.279	ug/m3	96
34) Dodecane	23.79	TIC	308022	6.868	ug/m3	95
35) APH EC9-12 aliphatics ...	21.57	TIC	1833576m	33.913	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	5201006m	96.196	ug/m3	
38) Isopropylbenzene	19.75	120	18734	4.520	ug/m3#	71
39) 1-Methyl-3-ethylbenzene	20.33	120	27871	4.808	ug/m3#	89
40) 1,3,5-Trimethylbenzene	20.45	120	34320	4.679	ug/m3	88
41) p-Isopropyltoluene	21.28	134	19714	5.471	ug/m3#	78
42) 1,2,3-Trimethylbenzene	21.31	120	40220	4.672	ug/m3	88
43) APH EC9-10 aromatics T...	21.57	TIC	140859m	24.708	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	97043m	15.416	ug/m3	

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 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

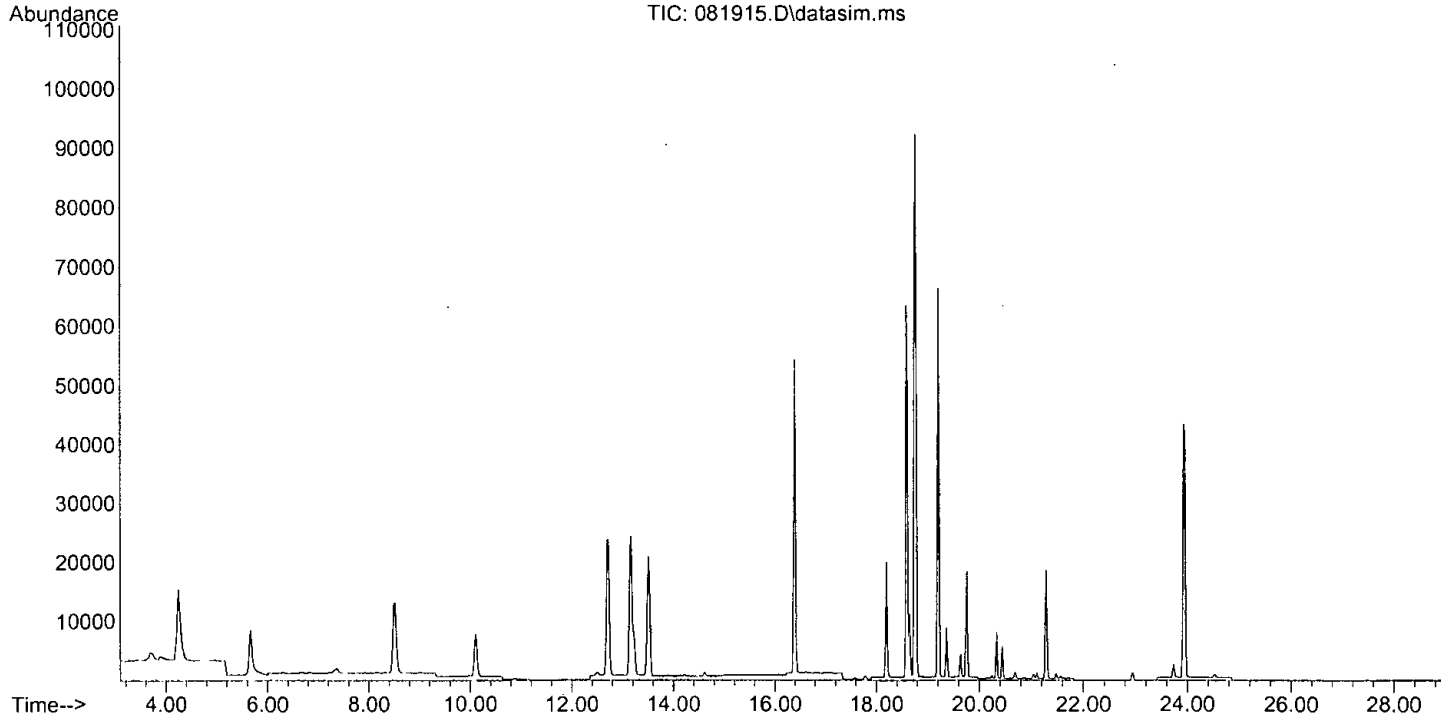
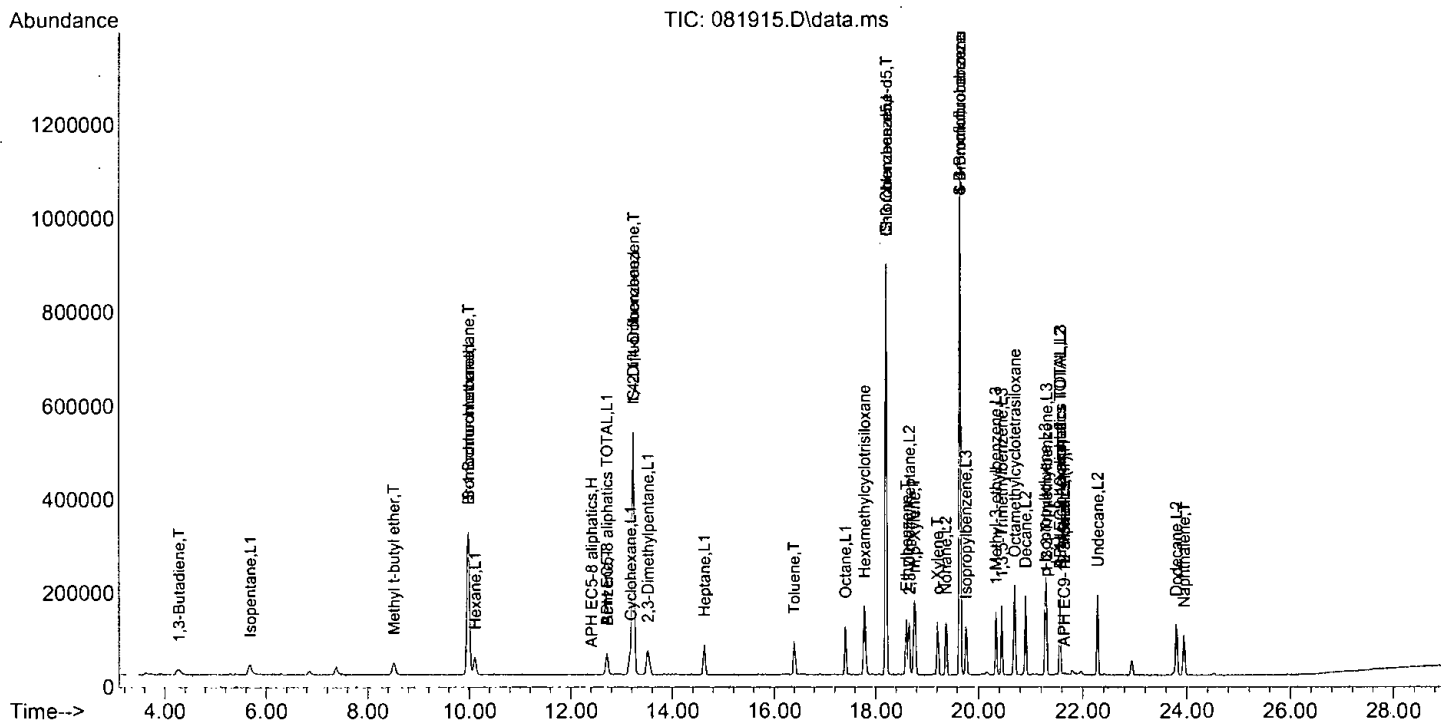
Quant Time: Aug 20 10:39:00 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	18794		N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-19-21\  
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 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
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Quant Time: Aug 20 10:39:00 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
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 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
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Quant Time: Aug 20 10:39:00 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	50.000	50.136	-0.3	100	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	50.015	-0.0	90	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	49.990	0.0	100	0.00
5 T	Methylene chloride	50.000	0.000	100.0#	0	-6.86#
6	Acetone	50.000	0.000	100.0#	0	-5.68#
7	2-Propanol	50.000	0.000	100.0#	0	-5.84#
8 T	1,3-Butadiene	2.200	2.242	-1.9	100	0.00
9 T	Methyl t-butyl ether	3.600	3.610	-0.3	100	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.00
11 T	Benzene	3.200	3.226	-0.8	100	0.00
12 L1	Isopentane	3.000	2.880	4.0	105	0.00
13 L1	Hexane	3.500	3.533	-0.9	100	0.00
14 L1	Cyclohexane	3.500	3.550	-1.4	99	0.02
15 L1	2,3-Dimethylpentane	4.200	4.222	-0.5	100	0.00
16 L1	Heptane	4.200	4.385	-4.4	100	0.00
17 L1	Octane	4.700	3.751	20.2	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	23.000	22.080	4.0	100	0.00
19 H	APH EC5-8 aliphatics	23.000	232.839	-912.3#	1058	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	49.865	0.3	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	47.274	5.5	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	31.694	36.6#	100	0.00
24 T	Toluene	3.750	3.467	7.5	100	0.00
25 T	Ethylbenzene	4.350	4.235	2.6	100	0.00
26 T	m,p-Xylene	8.800	8.432	4.2	100	0.00
27 T	o-Xylene	4.400	4.154	5.6	100	0.00
28 T	Naphthalene	5.000	4.855	2.9	100	0.00
29 L2	2,3-Dimethylheptane	5.000	4.765	4.7	100	0.00
30 L2	Nonane	5.000	4.941	1.2	100	0.00
31 L2	Decane	6.000	5.847	2.5	100	0.00
32 L2	Butylcyclohexane	5.500	5.325	3.2	100	0.00
33 L2	Undecane	6.500	6.279	3.4	100	0.00
34 L2	Dodecane	7.000	6.868	1.9	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	35.000	33.913	3.1	100	0.00
36 H	APH EC9-12 aliphatics	35.000	96.196	-174.8#	284	0.00
37 S	4-Bromofluorobenzene	71.000	70.895	0.1	100	0.00
38 L3	Isopropylbenzene	4.900	4.520	7.8	100	0.00
39 L3	1-Methyl-3-ethylbenzene	4.900	4.808	1.9	100	0.00
40 L3	1,3,5-Trimethylbenzene	4.900	4.679	4.5	100	0.00
41 L3	p-Isopropyltoluene	5.500	5.471	0.5	100	0.00
42 L3	1,2,3-Trimethylbenzene	4.900	4.672	4.7	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	25.000	24.708	1.2	100	0.00
44 H	APH EC9-10 aromatics (1)	19.600	15.416	21.3	80	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:39:00 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	5.500	5.242	4.7	95	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
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Quant Time: Aug 20 10:39:00 2021  
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 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	8.828	8.852	-0.3	100	0.00
3 T	IS-2 1,4-Difluorobenzene	12.530	12.534	-0.0	90	0.00
4 T	IS-3 Chlorobenzene-d5	15.199	15.196	0.0	100	0.00
5 T	Methylene chloride	0.447	0.000	100.0#	0#	-6.86#
6	Acetone	23.578	0.000	100.0#	0#	-5.68#
7	2-Propanol	0.137	0.000	100.0#	0#	-5.84#
8 T	1,3-Butadiene	2.944	3.000	-1.9	100	0.00
9 T	Methyl t-butyl ether	3.854	3.865	-0.3	100	0.00
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
11 T	Benzene	1.700	1.714	-0.8	100	0.00
12 L1	Isopentane	3.376	3.241	4.0	105	0.00
13 L1	Hexane	3.421	3.532	-3.2	100	0.00
14 L1	Cyclohexane	3.471	3.520	-1.4	99	0.02
15 L1	2,3-Dimethylpentane	4.429	4.452	-0.5	100	0.00
16 L1	Heptane	3.620	3.779	-4.4	100	0.00
17 L1	Octane	4.963	3.961	20.2	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	3.967	3.809	4.0	100	0.00
19 H	APH EC5-8 aliphatics	3.967	40.162	-912.4#	1058#	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	4.221	4.210	0.3	100	0.00
22	Hexamethylcyclotrisiloxane	1.040	0.983	5.5	100	0.00
23	Octamethylcyclotetrasiloxan	1.298	0.823	36.6#	100	0.00
24 T	Toluene	1.073	0.992	7.5	100	0.00
25 T	Ethylbenzene	2.215	2.157	2.6	100	0.00
26 T	m,p-Xylene	0.745	0.714	4.2	100	0.00
27 T	o-Xylene	0.705	0.665	5.7	100	0.00
28 T	Naphthalene	1.799	1.747	2.9	100	0.00
29 L2	2,3-Dimethylheptane	5.025	4.789	4.7	100	0.00
30 L2	Nonane	5.247	5.186	1.2	100	0.00
31 L2	Decane	5.213	5.080	2.6	100	0.00
32 L2	Butylcyclohexane	5.921	5.733	3.2	100	0.00
33 L2	Undecane	5.170	4.994	3.4	100	0.00
34 L2	Dodecane	4.243	4.163	1.9	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	5.116	4.957	3.1	100	0.00
36 H	APH EC9-12 aliphatics	5.116	14.060	-174.8#	284#	0.00
37 S	4-Bromofluorobenzene	0.626	0.626	0.0	100	0.00
38 L3	Isopropylbenzene	0.392	0.362	7.7	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.548	0.538	1.8	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.694	0.663	4.5	100	0.00
41 L3	p-Isopropyltoluene	0.341	0.339	0.6	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.814	0.777	4.5	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.539	0.533	1.1	100	0.00
44 H	APH EC9-10 aromatics (1)	0.596	0.468	21.5	80	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:39:00 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.339	0.323	4.7	95	0.00

(#) = Out of Range

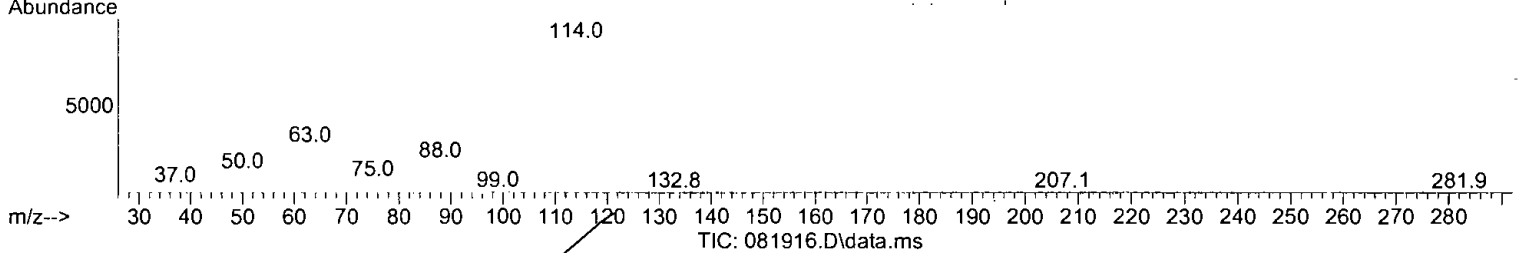
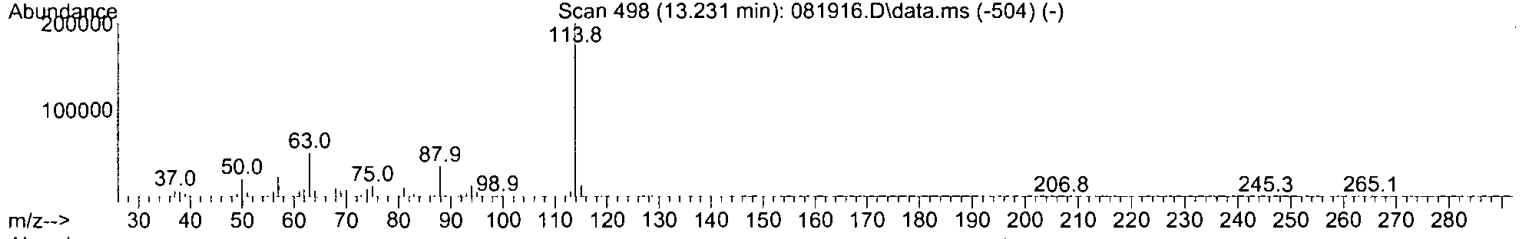
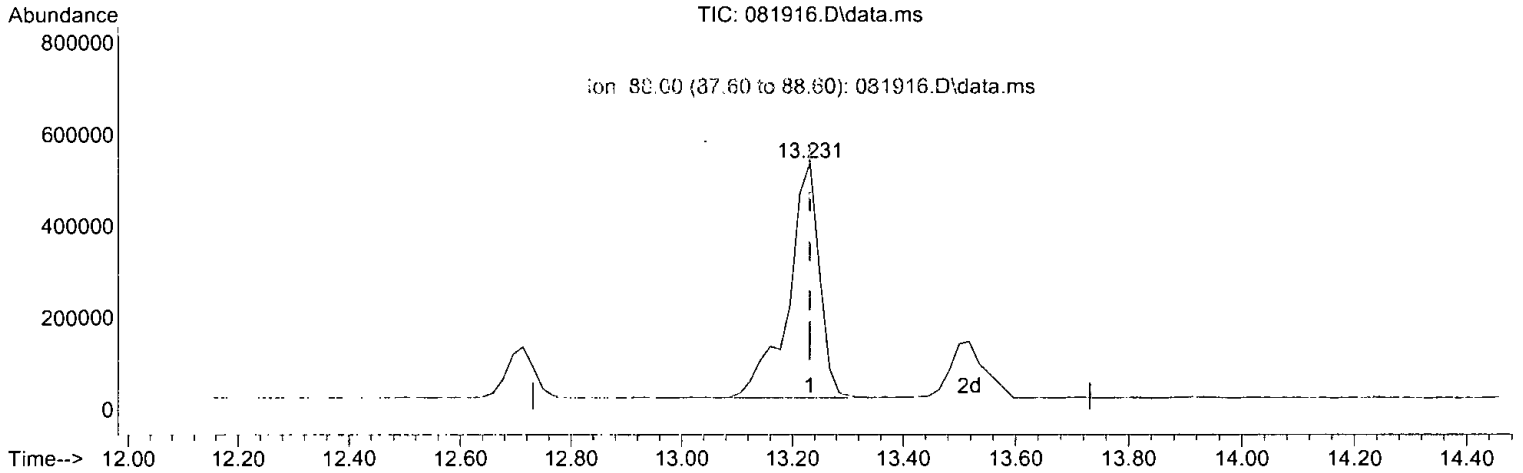
SPCC's out = 0 CCC's out = 0



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:34 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000) 62.137 ug/m3

response 1976718

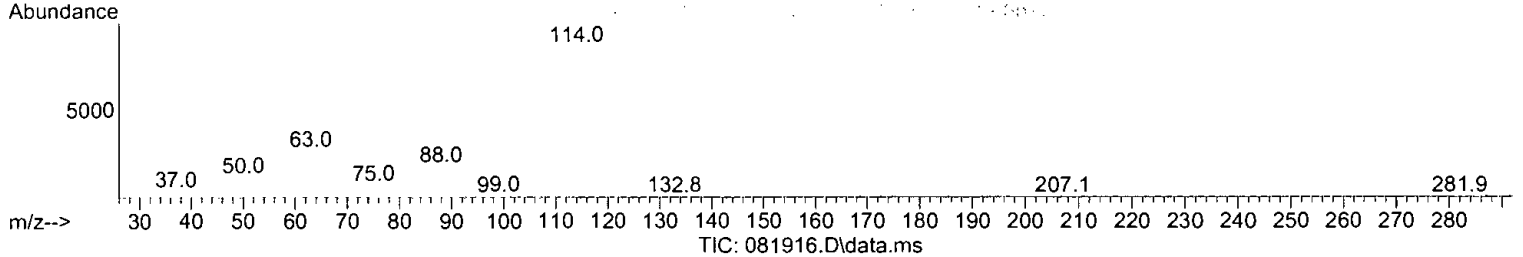
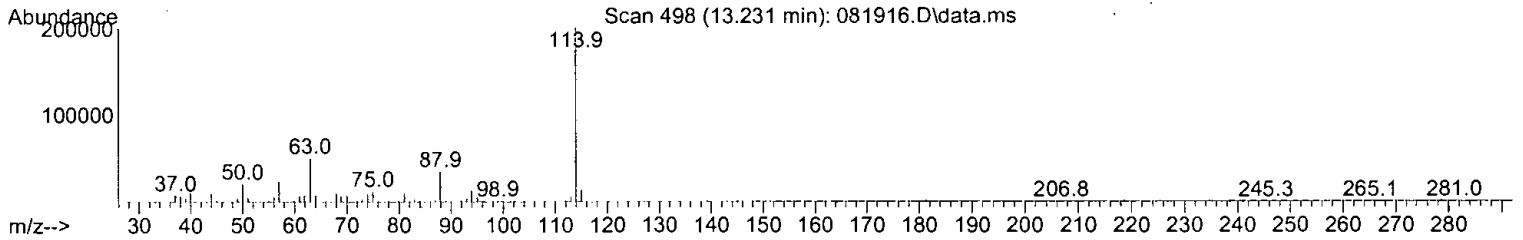
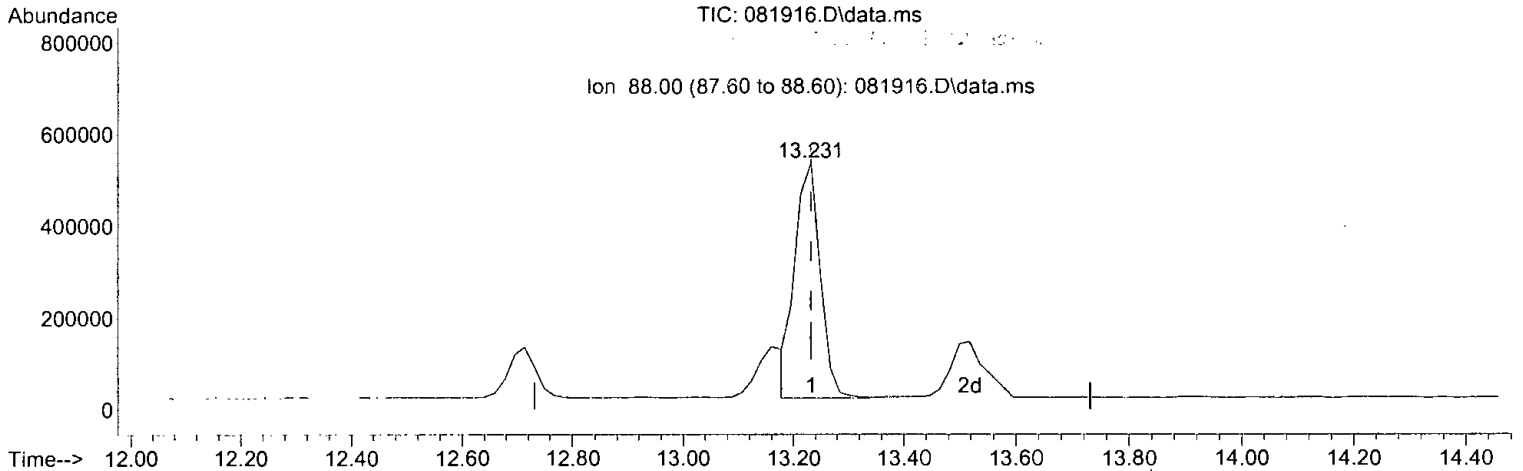
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	39.23
63.00	8.40	9.87
88.00	7.60	6.80

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:34 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000) 50.990 ug/m3 m

response 1622089

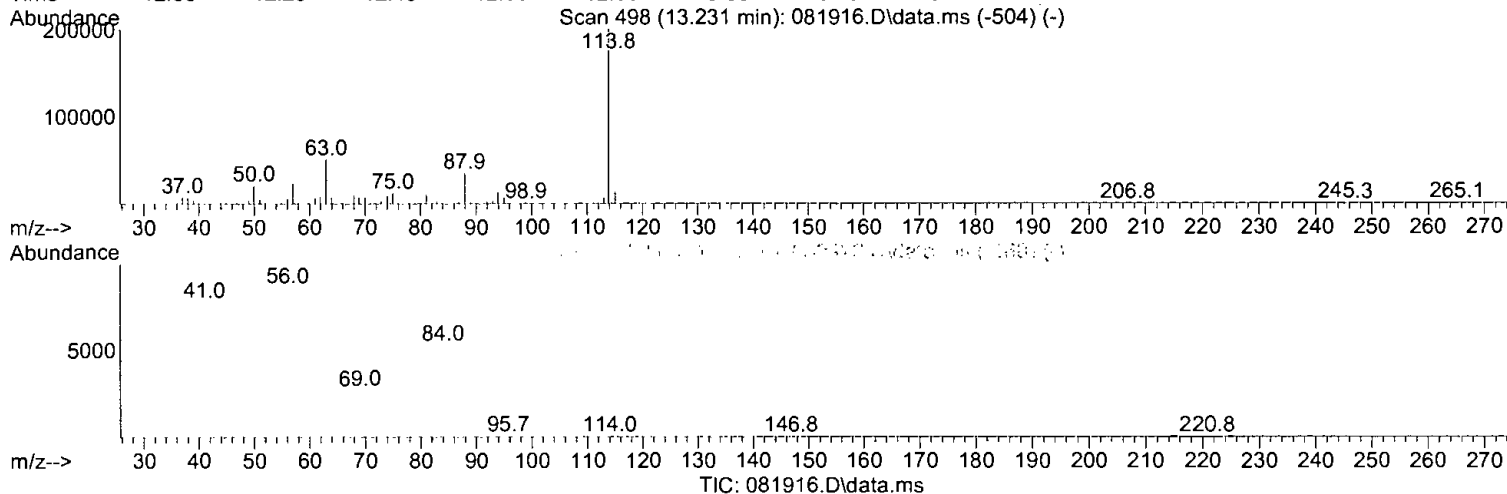
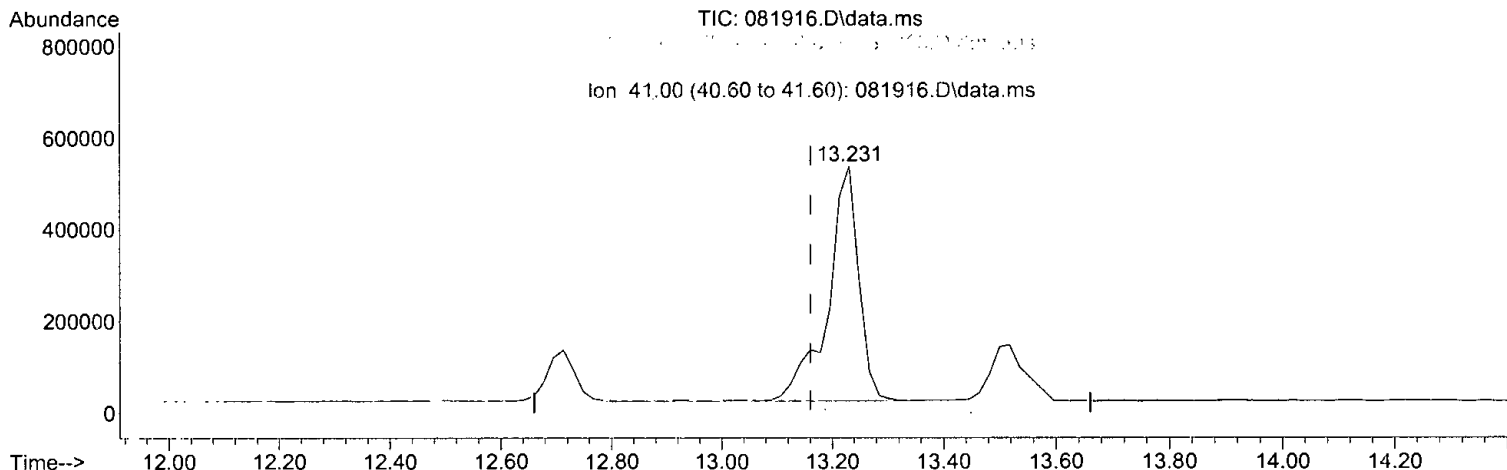
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	47.80
63.00	8.40	12.03
88.00	7.60	8.29

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:34 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.231min (+ 0.071) 46.665 ug/m3

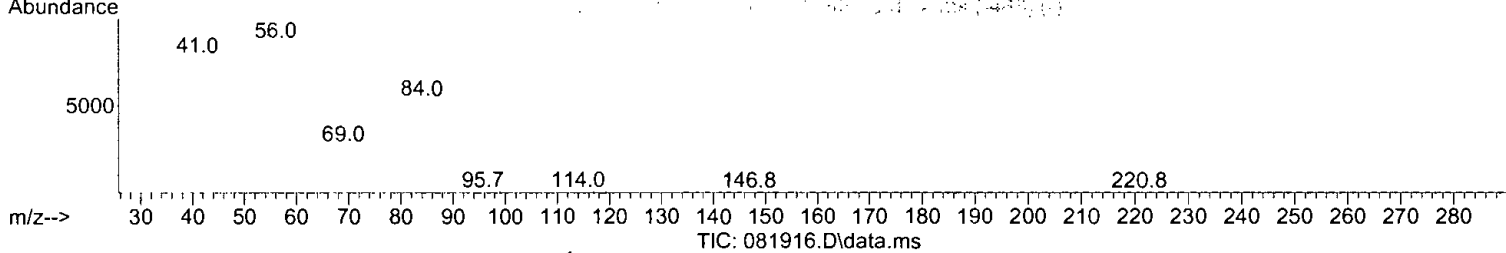
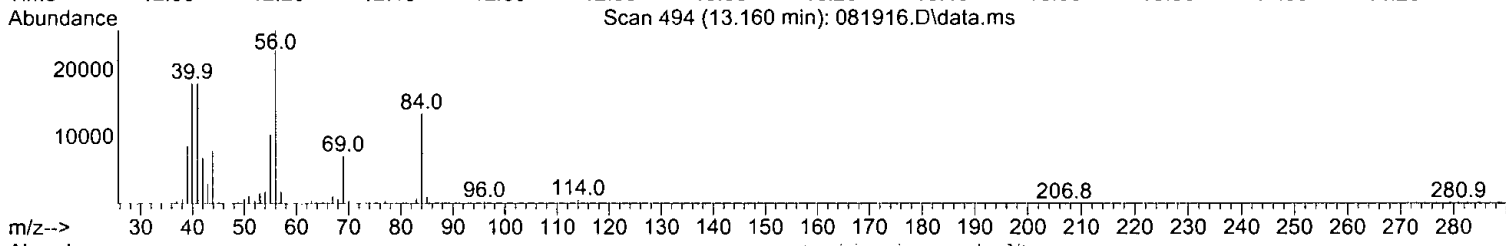
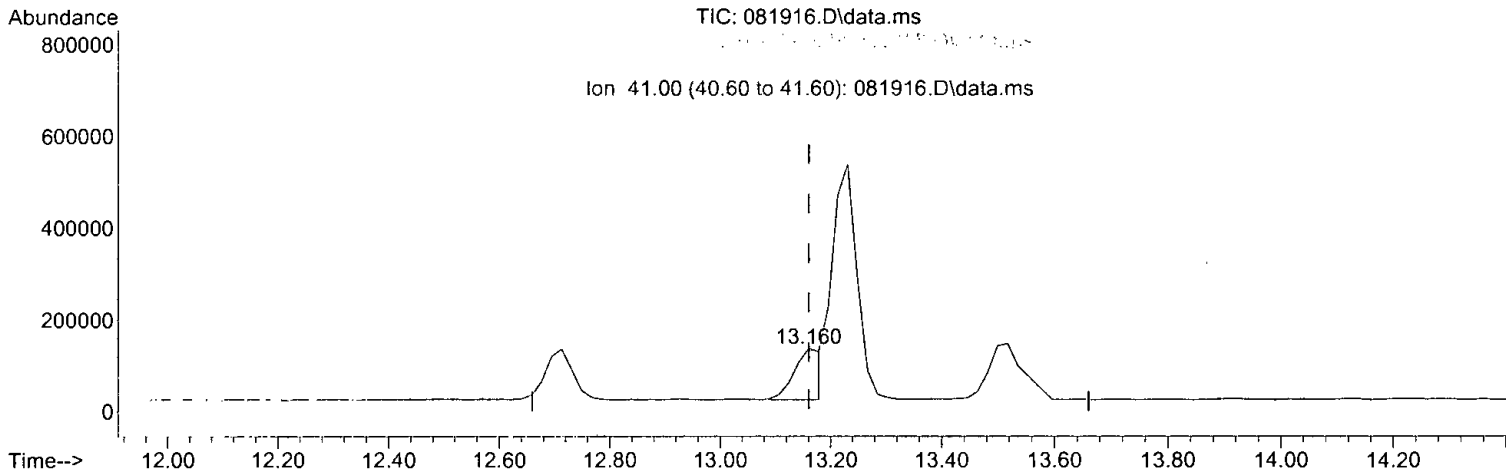
response 1976718

Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.80	1.17
84.00	1.00	0.07
41.00	0.50	0.05

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:34 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.160min (-0.000) 8.719 ug/m3 m

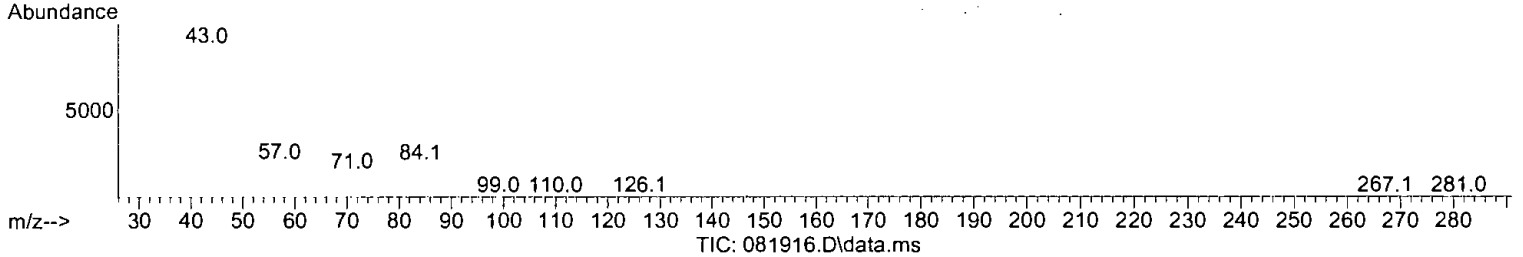
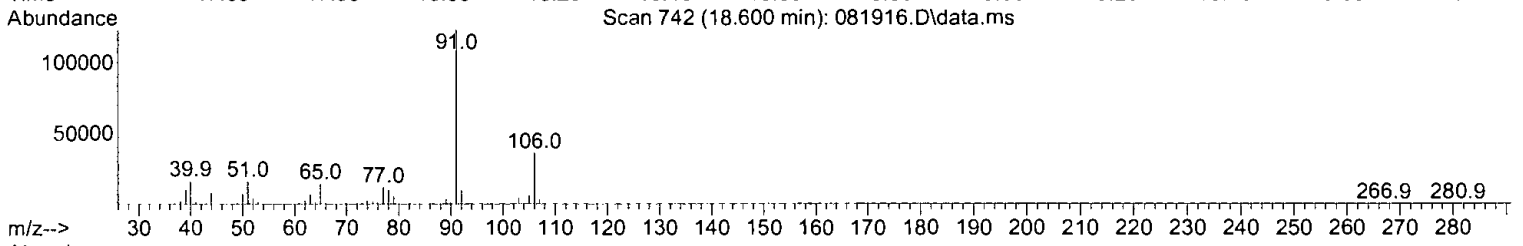
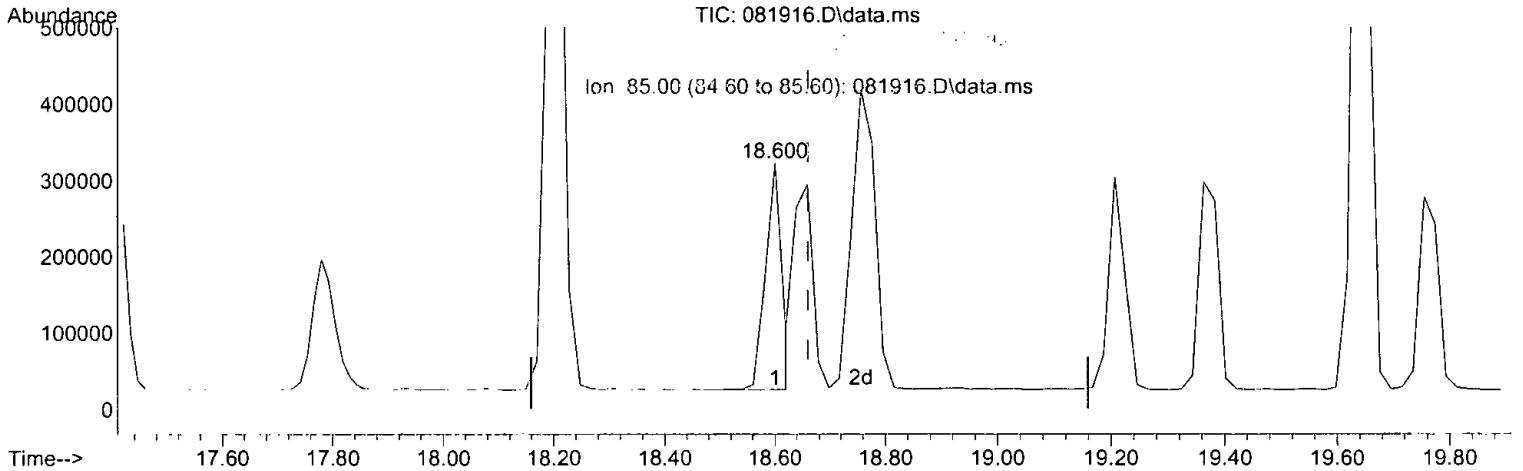
response	Exp%	Act%
Signal		
TIC	100.00	100.00
56.00	3.80	6.28
84.00	1.00	0.36
41.00	0.50	0.25

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:34 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.600min (-0.059) 11.300 ug/m3

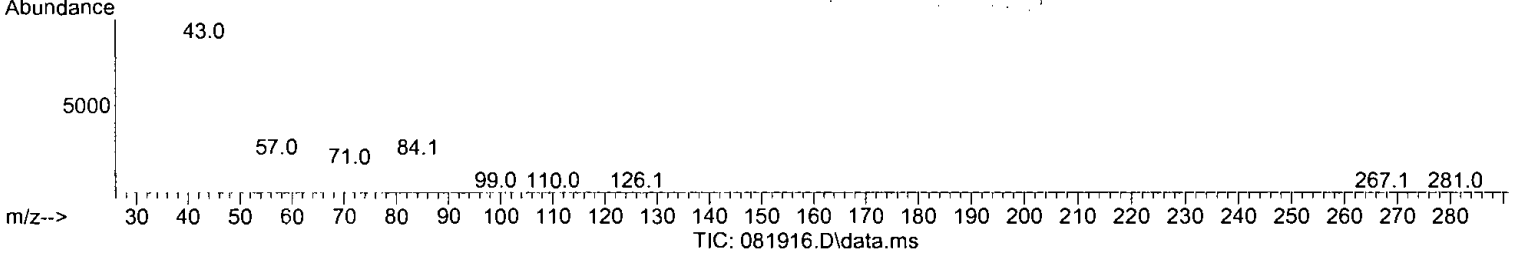
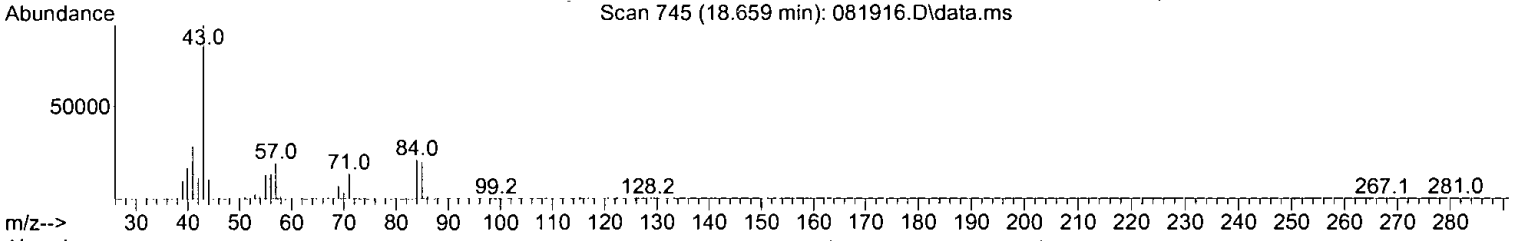
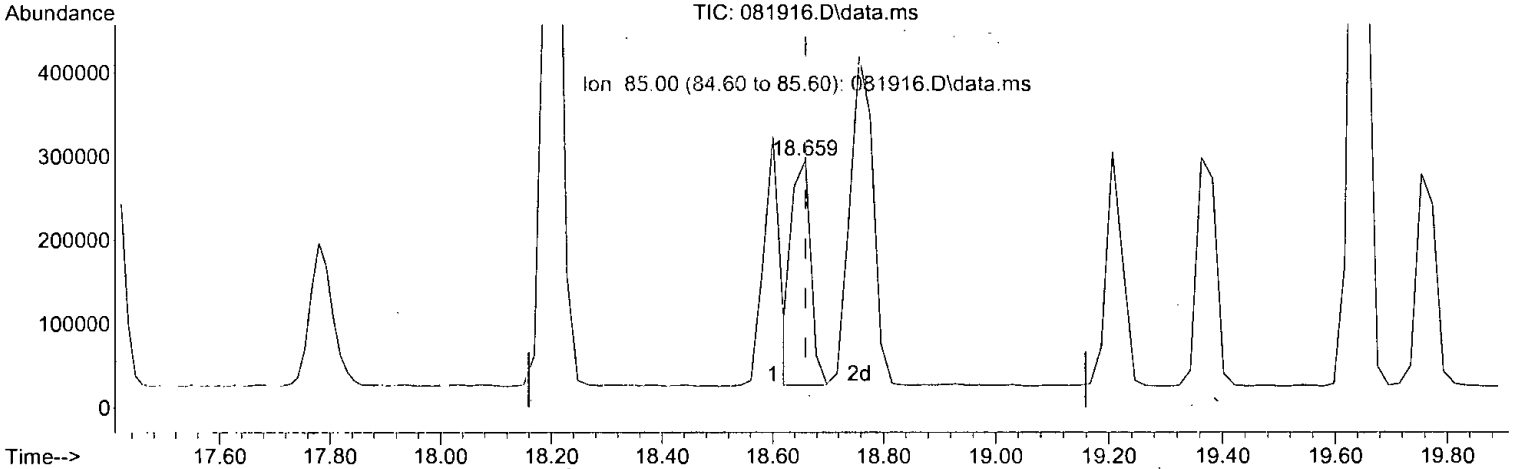
response 608252

Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	38.16#
84.00	9.90	8.23
85.00	9.20	7.91

*AS 8/20/21*

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:34 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.659min (-0.000) 11.823 ug/m3 m

response	Exp%	Act%
Signal		
TIC	100.00	100.00
43.00	28.20	36.47#
84.00	9.90	7.86#
85.00	9.20	7.56

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:40:50 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.97	128	126939	50.000	ug/m3	#-0.02
10) 1,4-Difluorobenzene	13.23	114	610241	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	535599	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	470952	70.183	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	98.85%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.97	TIC	1119240	49.937	ug/m3	88
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1622089m	50.990	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1917348	49.691	ug/m3	92
5) Methylene chloride	0.00		0	N.D.	d	
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.28	54	36938	4.942	ug/m3	80
9) Methyl t-butyl ether	8.51	73	82604	8.442	ug/m3	95
11) Benzene	12.71	78	162080	7.812	ug/m3	94
12) Isopentane	5.66	TIC	289043	7.014	ug/m3	95
13) Hexane	10.11	TIC	359600	8.732	ug/m3	92
14) Cyclohexane	13.16	TIC	369320m	8.719	ug/m3	
15) 2,3-Dimethylpentane	13.52	TIC	526007	9.730	ug/m3	93
16) Heptane	14.63	TIC	458926	10.388	ug/m3	94
17) Octane	17.41	TIC	767547	12.671	ug/m3	91
18) APH EC5-8 aliphatics T...	12.71	TIC	2770443m	57.218	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	14888356m	307.487	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2232521	49.375	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	607511	54.549	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	546883	39.345	ppbv	100
24) Toluene	16.39	92	115056	10.013	ug/m3	98
25) Ethylbenzene	18.60	91	241714	10.186	ug/m3	98
26) m,p-Xylene	18.76	106	165323	20.718	ug/m3	87
27) o-Xylene	19.21	106	78348	10.379	ug/m3	85
28) Naphthalene	23.94	128	233590	12.122	ug/m3	100
29) 2,3-Dimethylheptane	18.66	TIC	636405m	11.823	ug/m3	
30) Nonane	19.36	TIC	656616	11.682	ug/m3	92
31) Decane	20.90	TIC	787418	14.102	ug/m3	95
32) Butylcyclohexane	21.57	TIC	814192	12.836	ug/m3	97
33) Undecane	22.28	TIC	835330	15.084	ug/m3	97
34) Dodecane	23.79	TIC	723865	15.925	ug/m3	95
35) APH EC9-12 aliphatics ...	21.57	TIC	4453826m	81.276	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	9145616m	166.894	ug/m3	
38) Isopropylbenzene	19.75	120	47636	11.339	ug/m3#	79
39) 1-Methyl-3-ethylbenzene	20.33	120	68765	11.705	ug/m3#	89
40) 1,3,5-Trimethylbenzene	20.45	120	85413	11.490	ug/m3	91
41) p-Isopropyltoluene	21.28	134	46097	12.622	ug/m3#	70
42) 1,2,3-Trimethylbenzene	21.31	120	98194	11.255	ug/m3	87
43) APH EC9-10 aromatics T...	21.57	TIC	346105m	59.899	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	238914m	37.446	ug/m3	

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:40:50 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

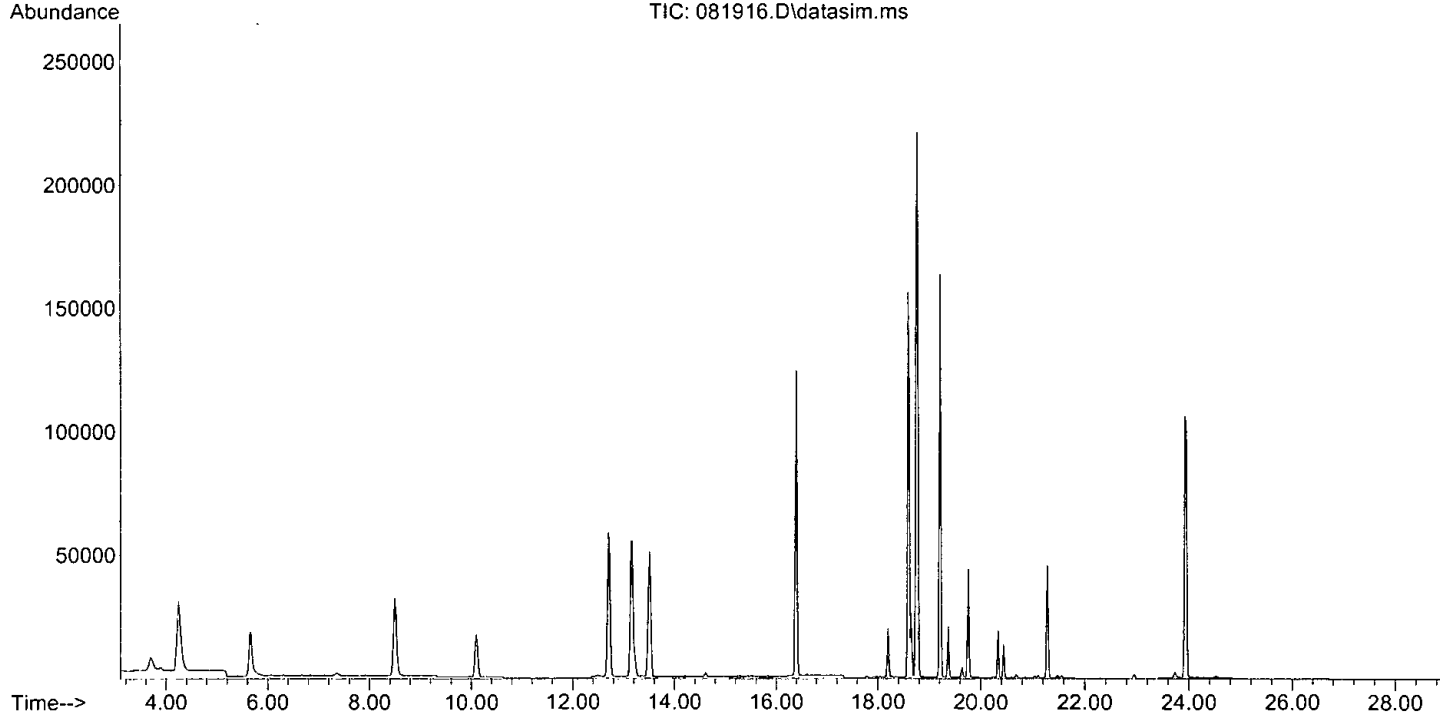
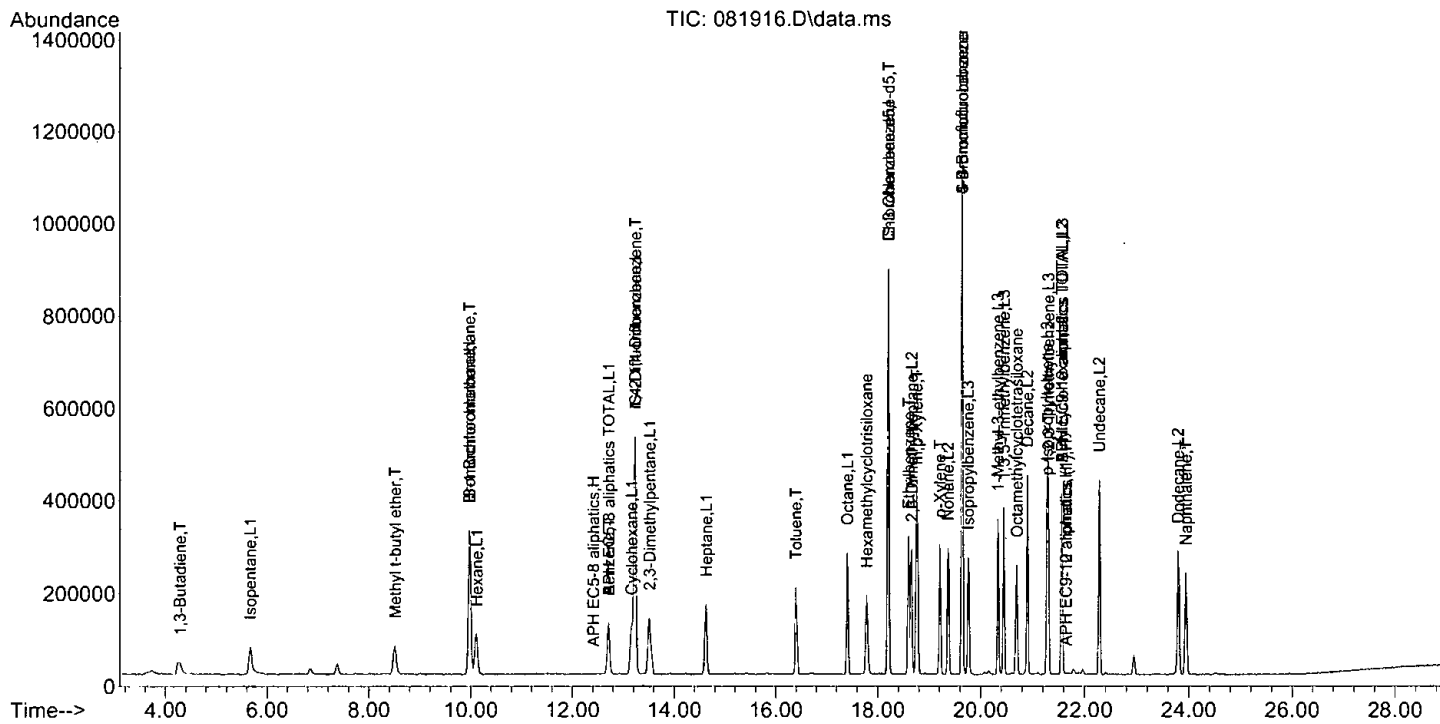
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	39551	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed



Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:40:50 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:40:50 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	-0.02
2 T	IS-1 Bromochloromethane	50.000	49.937	0.1	100	-0.02
3 T	IS-2 1,4-Difluorobenzene	50.000	50.990	-2.0	100	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	49.691	0.6	100	0.00
5 T	Methylene chloride	50.000	0.000	100.0#	0	-6.86#
6	Acetone	50.000	0.000	100.0#	0	-5.68#
7	2-Propanol	50.000	0.000	100.0#	0	-5.84#
8 T	1,3-Butadiene	5.500	4.942	10.1	100	0.00
9 T	Methyl t-butyl ether	9.000	8.442	6.2	100	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.00
11 T	Benzene	8.000	7.812	2.3	100	0.00
12 L1	Isopentane	7.500	7.014	6.5	100	-0.02
13 L1	Hexane	8.750	8.732	0.2	100	0.00
14 L1	Cyclohexane	8.750	8.719	0.4	102	0.00
15 L1	2,3-Dimethylpentane	10.500	9.730	7.3	100	0.00
16 L1	Heptane	10.500	10.388	1.1	100	0.00
17 L1	Octane	11.750	12.671	-7.8	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	57.500	57.218	0.5	100	0.00
19 H	APH EC5-8 aliphatics	57.500	307.487	-434.8#	539	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	49.375	1.3	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	54.549	-9.1	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	39.345	21.3	100	0.00
24 T	Toluene	9.375	10.013	-6.8	100	0.00
25 T	Ethylbenzene	10.875	10.186	6.3	100	0.00
26 T	m,p-Xylene	22.000	20.718	5.8	100	0.00
27 T	o-Xylene	11.000	10.379	5.6	100	0.00
28 T	Naphthalene	12.500	12.122	3.0	100	0.00
29 L2	2,3-Dimethylheptane	12.500	11.823	5.4	99	0.00
30 L2	Nonane	12.500	11.682	6.5	100	0.00
31 L2	Decane	15.000	14.102	6.0	100	0.00
32 L2	Butylcyclohexane	13.750	12.836	6.6	100	0.00
33 L2	Undecane	16.250	15.084	7.2	100	0.00
34 L2	Dodecane	17.500	15.925	9.0	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	87.500	81.276	7.1	100	0.00
36 H	APH EC9-12 aliphatics	87.500	166.894	-90.7#	205	0.00
37 S	4-Bromofluorobenzene	71.000	70.183	1.2	100	0.00
38 L3	Isopropylbenzene	12.250	11.339	7.4	100	0.00
39 L3	1-Methyl-3-ethylbenzene	12.250	11.705	4.4	100	0.00
40 L3	1,3,5-Trimethylbenzene	12.250	11.490	6.2	100	0.00
41 L3	p-Isopropyltoluene	13.750	12.622	8.2	100	0.00
42 L3	1,2,3-Trimethylbenzene	12.250	11.255	8.1	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	62.700	59.899	4.5	100	0.00
44 H	APH EC9-10 aromatics (1)	49.000	37.446	23.6	80	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:40:50 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	13.700	10.884	20.6	86	0.00

(#) = Out of Range                      SPCC's out = 0    CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:40:50 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	-0.02
2 T	IS-1 Bromochloromethane	8.828	8.817	0.1	100	-0.02
3 T	IS-2 1,4-Difluorobenzene	12.530	12.778	-2.0	100	0.00
4 T	IS-3 Chlorobenzene-d5	15.199	15.104	0.6	100	0.00
5 T	Methylene chloride	0.447	0.000	100.0#	0#	-6.86#
6	Acetone	23.578	0.000	100.0#	0#	-5.68#
7	2-Propanol	0.137	0.000	100.0#	0#	-5.84#
8 T	1,3-Butadiene	2.944	2.645	10.2	100	0.00
9 T	Methyl t-butyl ether	3.854	3.615	6.2	100	0.00
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
11 T	Benzene	1.700	1.660	2.4	100	0.00
12 L1	Isopentane	3.376	3.158	6.5	100	-0.02
13 L1	Hexane	3.421	3.367	1.6	100	0.00
14 L1	Cyclohexane	3.471	3.458	0.4	102	0.00
15 L1	2,3-Dimethylpentane	4.429	4.105	7.3	100	0.00
16 L1	Heptane	3.620	3.581	1.1	100	0.00
17 L1	Octane	4.963	5.352	-7.8	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	3.967	3.948	0.5	100	0.00
19 H	APH EC5-8 aliphatics	3.967	21.215	-434.8#	539#	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	4.221	4.168	1.3	100	0.00
22	Hexamethylcyclotrisiloxane	1.040	1.134	-9.0	100	0.00
23	Octamethylcyclotetrasiloxan	1.298	1.021	21.3	100	0.00
24 T	Toluene	1.073	1.146	-6.8	100	0.00
25 T	Ethylbenzene	2.215	2.075	6.3	100	0.00
26 T	m,p-Xylene	0.745	0.702	5.8	100	0.00
27 T	o-Xylene	0.705	0.665	5.7	100	0.00
28 T	Naphthalene	1.799	1.745	3.0	100	0.00
29 L2	2,3-Dimethylheptane	5.025	4.753	5.4	99	0.00
30 L2	Nonane	5.247	4.904	6.5	100	0.00
31 L2	Decane	5.213	4.901	6.0	100	0.00
32 L2	Butylcyclohexane	5.921	5.528	6.6	100	0.00
33 L2	Undecane	5.170	4.799	7.2	100	0.00
34 L2	Dodecane	4.243	3.861	9.0	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	5.116	4.752	7.1	100	0.00
36 H	APH EC9-12 aliphatics	5.116	9.757	-90.7#	205#	0.00
37 S	4-Bromofluorobenzene	0.626	0.619	1.1	100	0.00
38 L3	Isopropylbenzene	0.392	0.363	7.4	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.548	0.524	4.4	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.694	0.651	6.2	100	0.00
41 L3	p-Isopropyltoluene	0.341	0.313	8.2	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.814	0.748	8.1	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.539	0.515	4.5	100	0.00
44 H	APH EC9-10 aromatics (1)	0.596	0.455	23.7	80	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:40:50 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.339	0.270	20.4	86	0.00

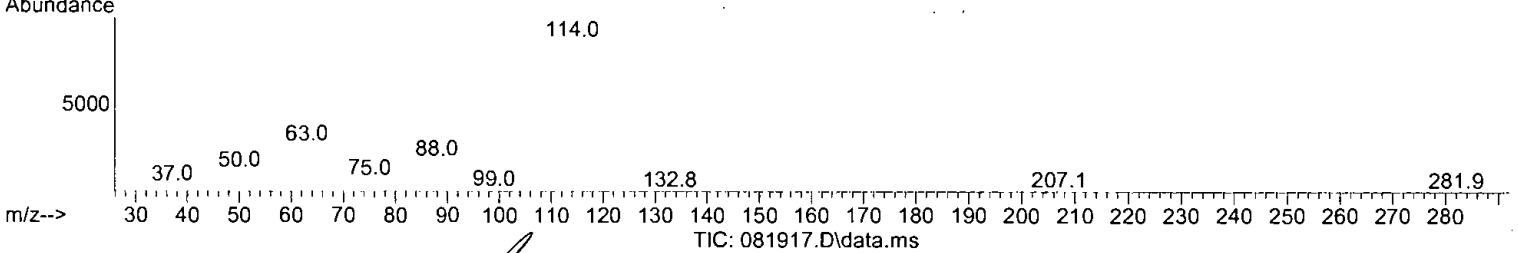
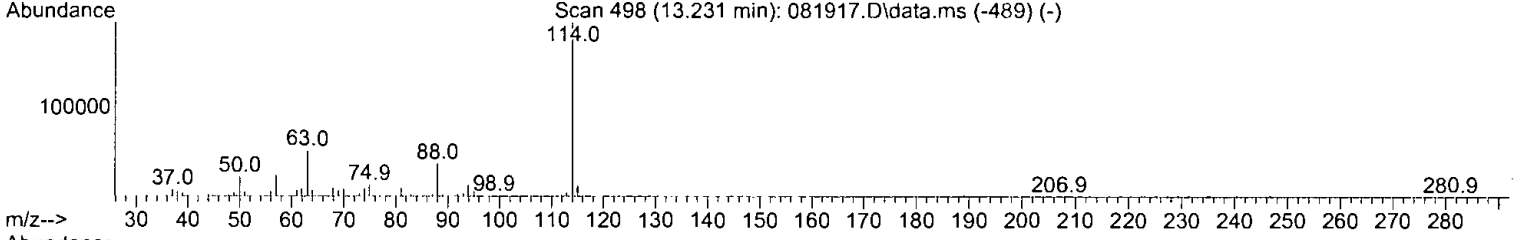
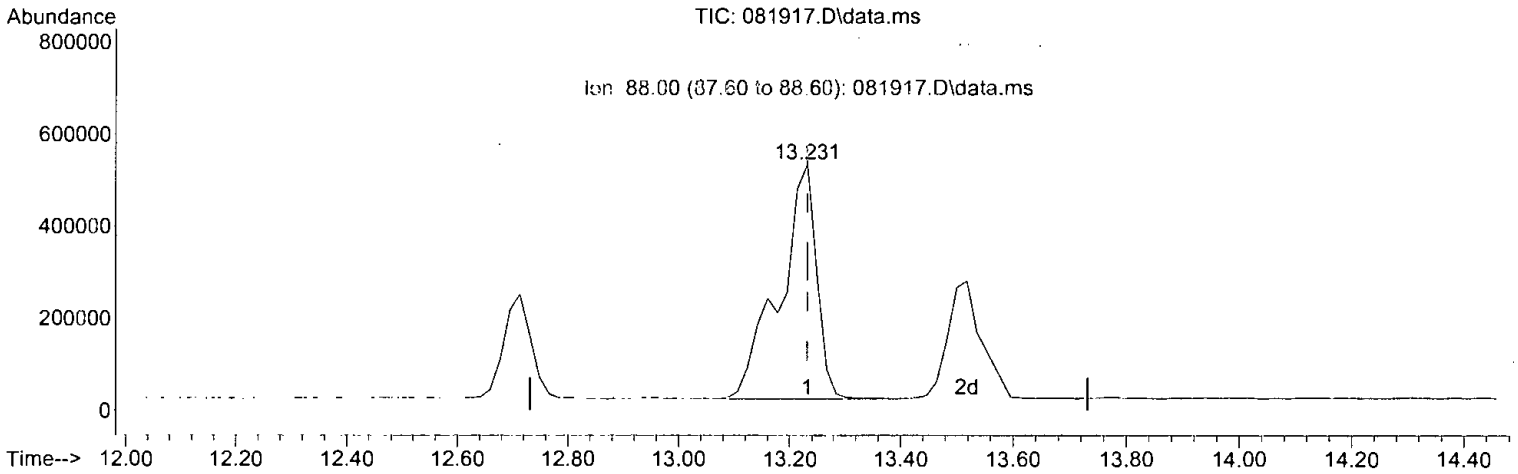
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:38 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000) 73.996 ug/m3

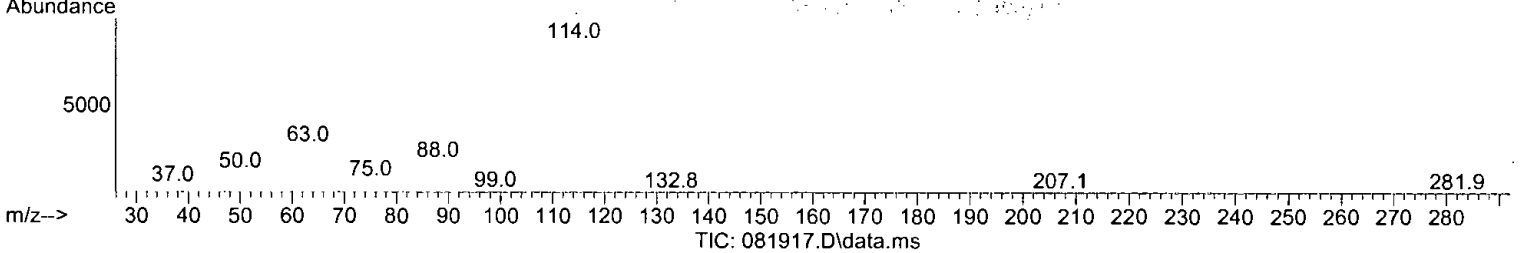
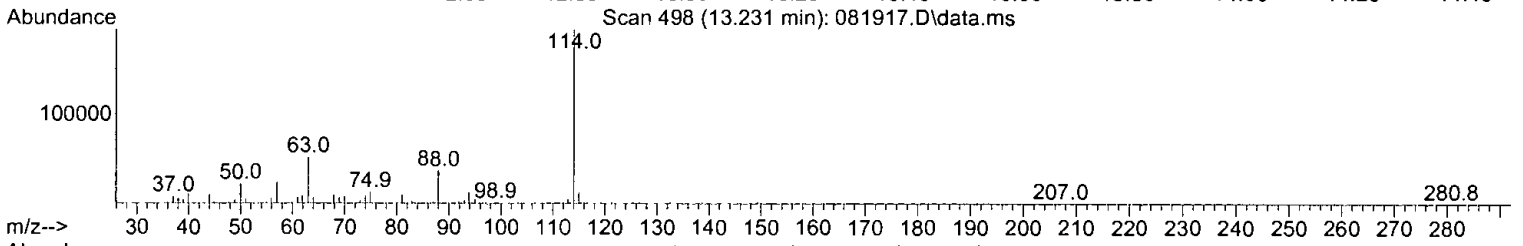
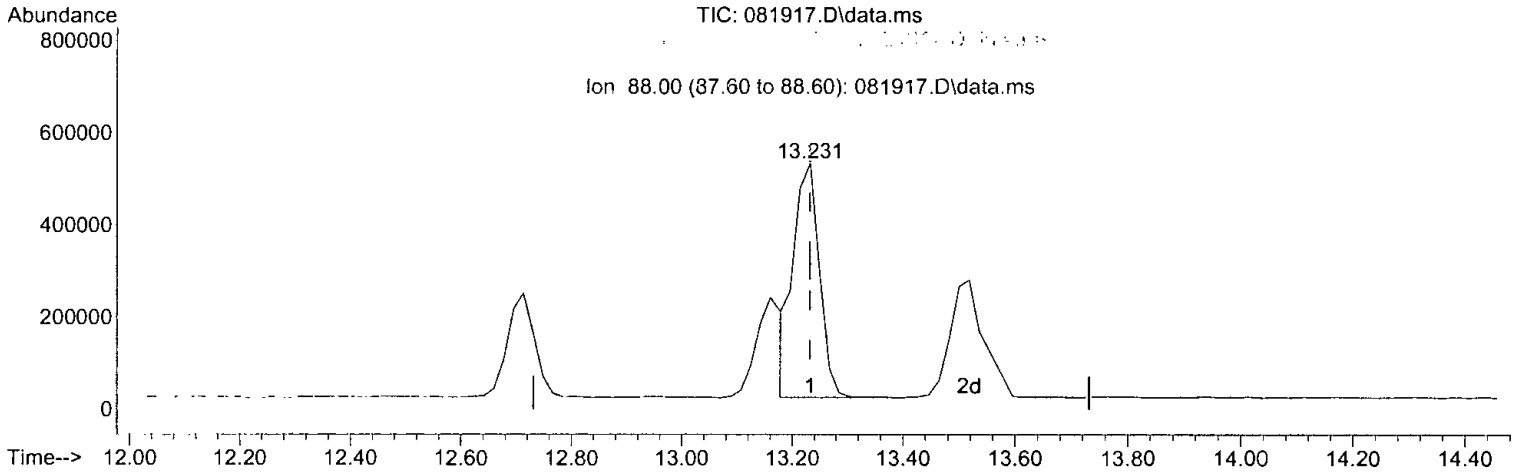
response 2351213

Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	38.38
63.00	8.40	10.09
88.00	7.60	7.18

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:38 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000) 51.711 ug/m3 m

response 1643117

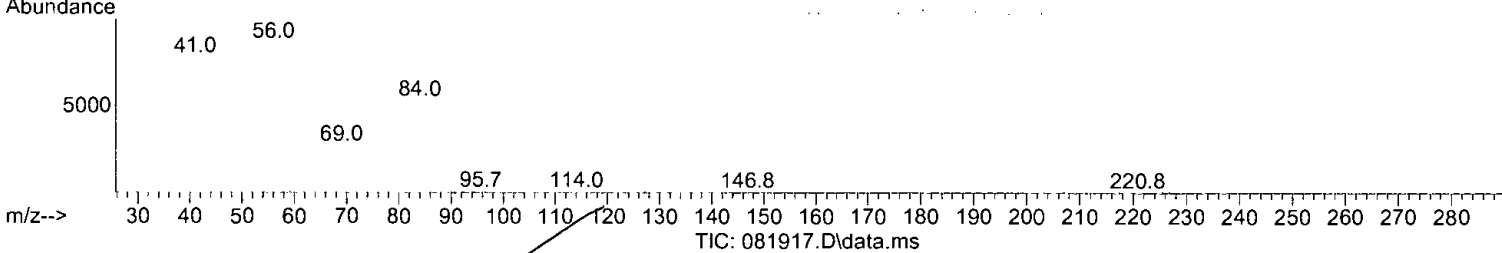
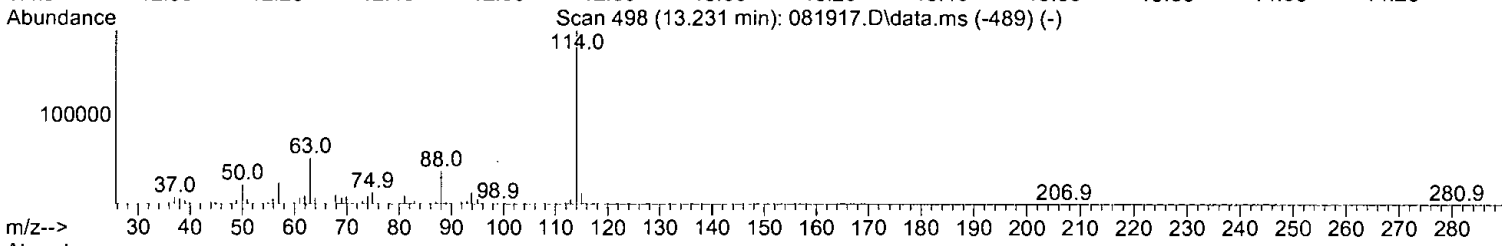
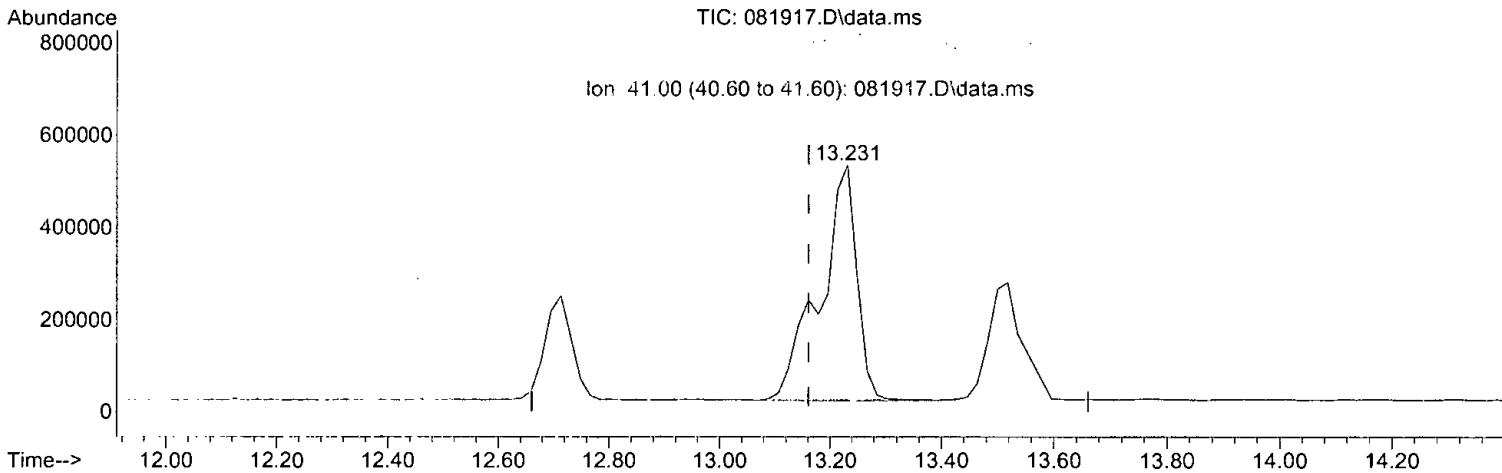
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	54.91
63.00	8.40	14.44
88.00	7.60	10.28

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:38 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.231min (+ 0.071) 56.211 ug/m3

response 2351213

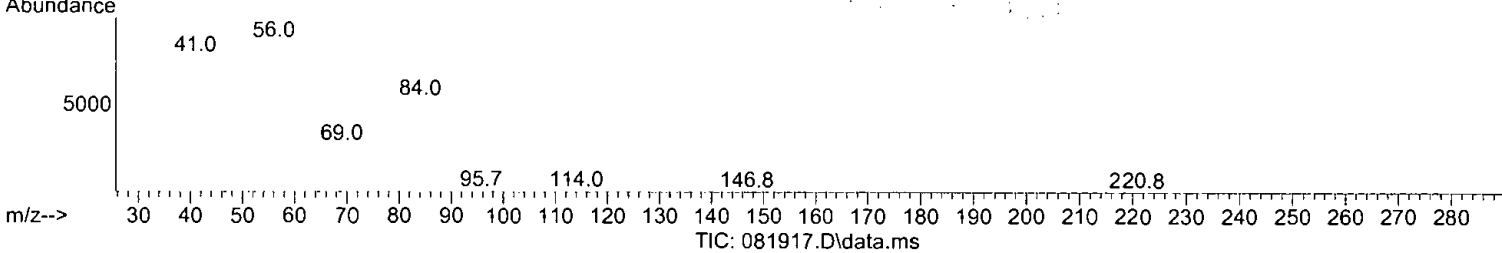
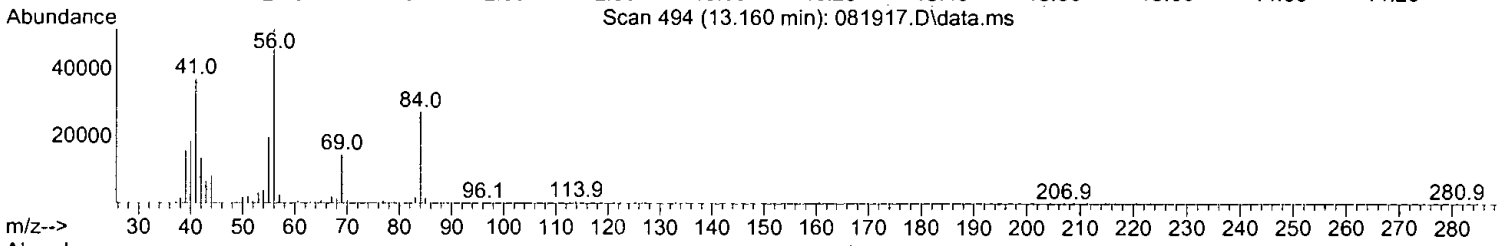
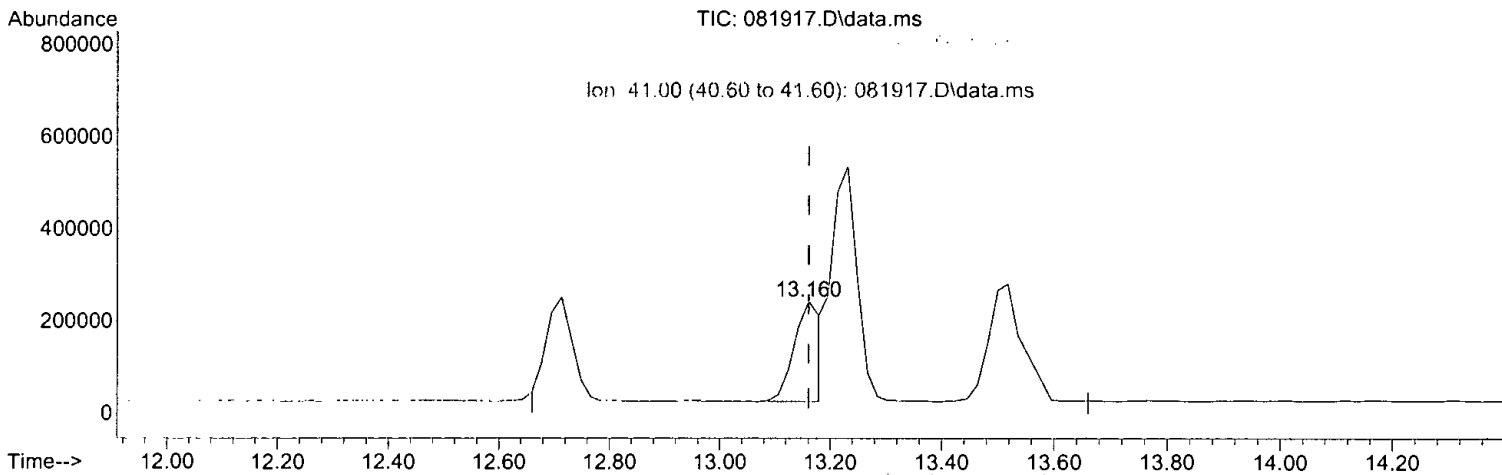
Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.80	1.18
84.00	1.00	0.15
41.00	0.50	0.06

AS 8/20/21



Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:38 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.160min (-0.000) 16.594 ug/m3 m

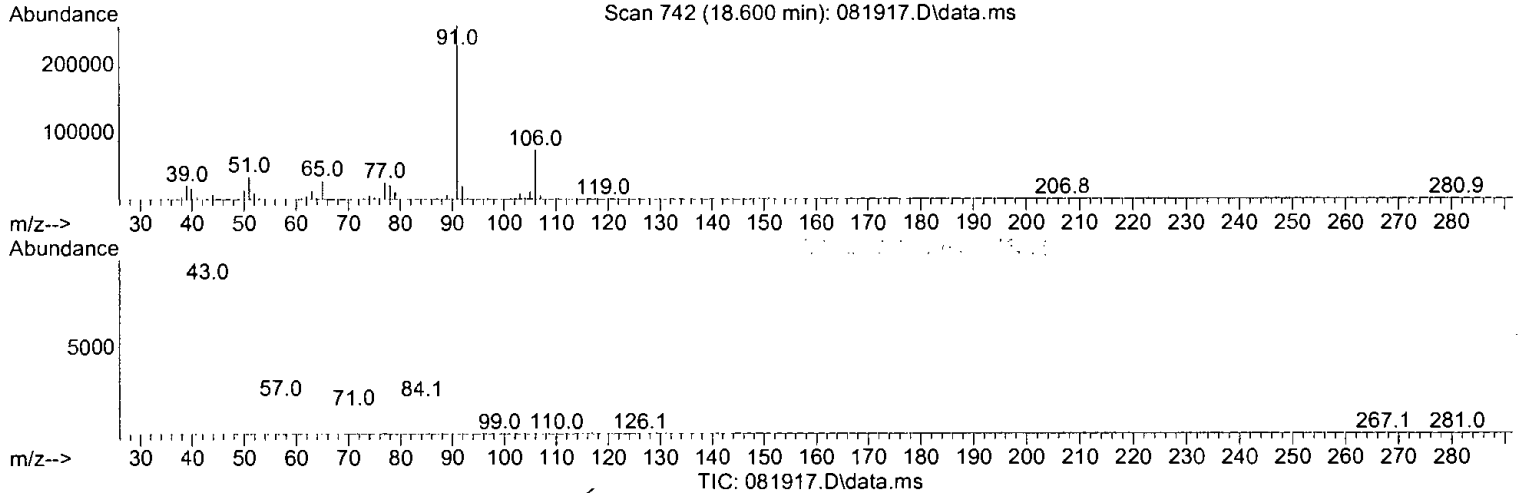
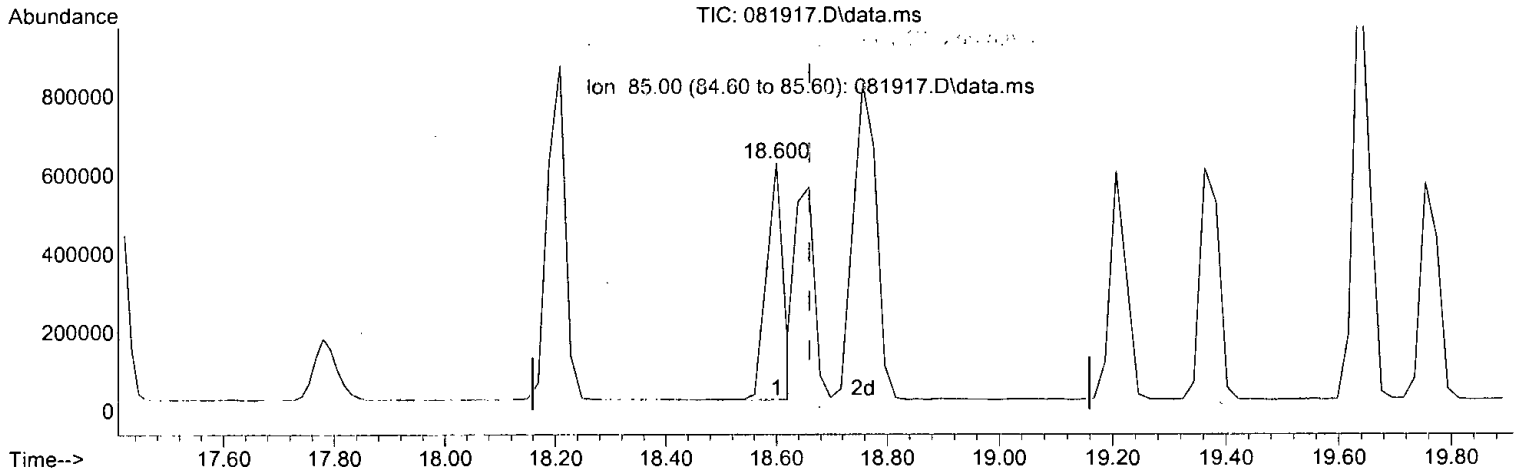
response	Signal	Exp%	Act%
694098	TIC	100.00	100.00
	56.00	3.80	4.01
	84.00	1.00	0.51
	41.00	0.50	0.21

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:38 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.600min (-0.059) 23.928 ug/m3

response 1267359

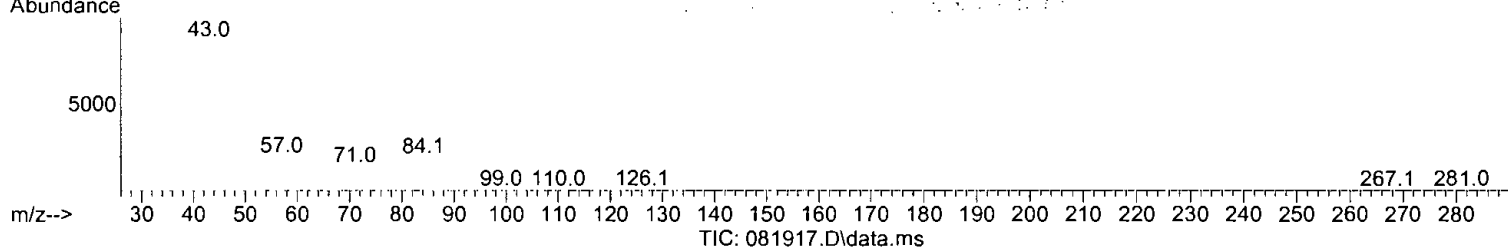
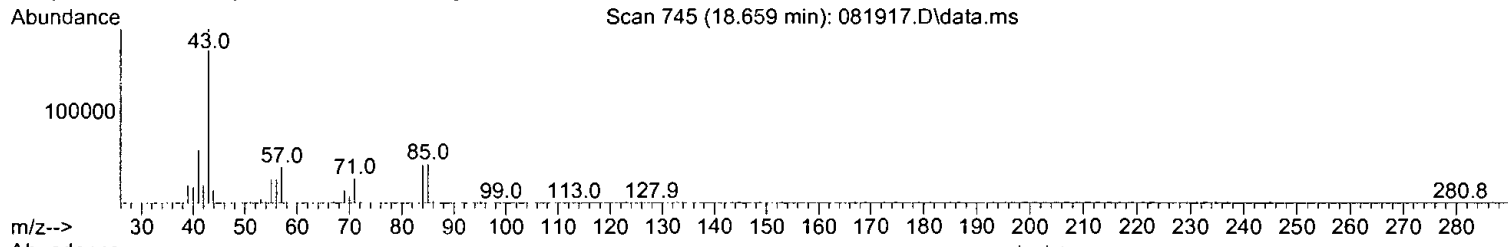
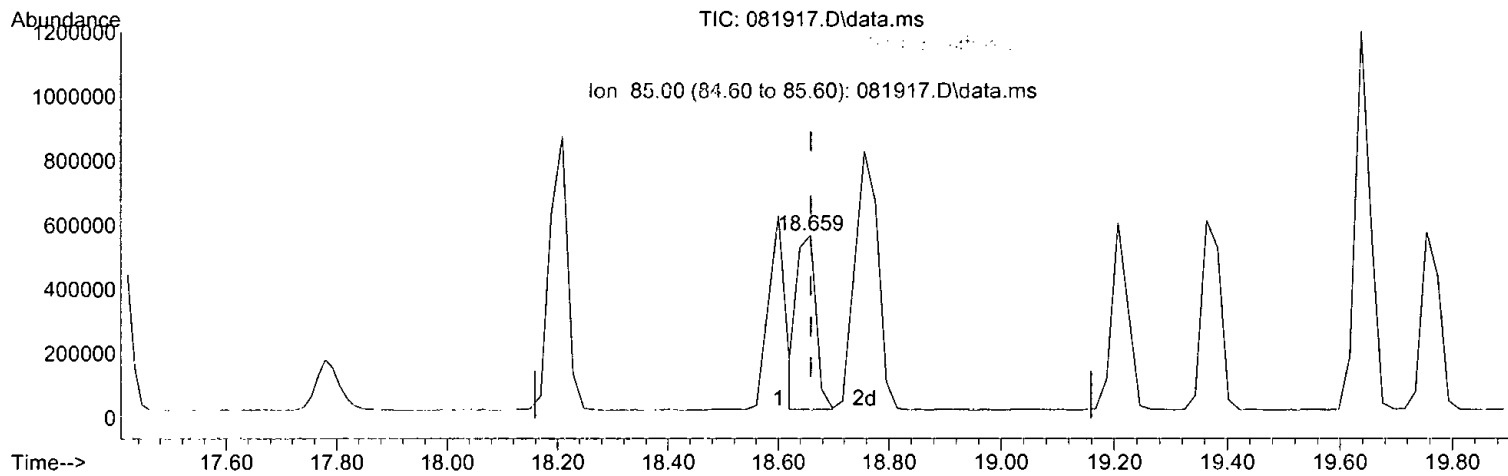
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	37.98#
84.00	9.90	8.00
85.00	9.20	8.17

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:38 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.659min (-0.000) 24.592 ug/m3 m

response 1302509

Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	36.95#
84.00	9.90	7.79#
85.00	9.20	7.95

*AS 8/20/21*

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:43:11 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	126790	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	602586	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	527015	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	470123	71.201	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	100.28%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1116797	49.887	ug/m3	89
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1643117m	51.711	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1906696	49.473	ug/m3	92
5) Methylene chloride	0.00		0	N.D.	d	
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.28	54	76976	10.310	ug/m3	76
9) Methyl t-butyl ether	8.51	73	171084	17.504	ug/m3	89
11) Benzene	12.71	78	330937	16.153	ug/m3	91
12) Isopentane	5.68	TIC	653767	16.067	ug/m3	96
13) Hexane	10.11	TIC	733552	18.279	ug/m3	93
14) Cyclohexane	13.16	TIC	694098m	16.594	ug/m3	
15) 2,3-Dimethylpentane	13.52	TIC	1155278	21.643	ug/m3	97
16) Heptane	14.63	TIC	908569	20.828	ug/m3	93
17) Octane	17.41	TIC	1493322	24.965	ug/m3	87
18) APH EC5-8 aliphatics T...	12.71	TIC	5638586m	117.932	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	21451038m	448.653	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2250031	50.573	ug/m3	92
22) Hexamethylcyclotrisilo...	17.78	TIC	536187	48.929	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	742718	54.305	ppbv	100
24) Toluene	16.39	92	203030	17.956	ug/m3	99
25) Ethylbenzene	18.60	91	501128	21.461	ug/m3	96
26) m,p-Xylene	18.76	106	338431	43.102	ug/m3	88
27) o-Xylene	19.21	106	163974	22.076	ug/m3	83
28) Naphthalene	23.94	128	443989	23.416	ug/m3	99
29) 2,3-Dimethylheptane	18.66	TIC	1302509m	24.592	ug/m3	
30) Nonane	19.36	TIC	1380595	24.963	ug/m3	92
31) Decane	20.90	TIC	1623627	29.551	ug/m3	94
32) Butylcyclohexane	21.57	TIC	1693071	27.127	ug/m3	97
33) Undecane	22.28	TIC	1741622	31.961	ug/m3	97
34) Dodecane	23.79	TIC	1558724	34.850	ug/m3	94
35) APH EC9-12 aliphatics ...	21.57	TIC	9300148m	172.478	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	16586255m	307.604	ug/m3	
38) Isopropylbenzene	19.75	120	100783	24.381	ug/m3#	82
39) 1-Methyl-3-ethylbenzene	20.33	120	139321	24.101	ug/m3#	87
40) 1,3,5-Trimethylbenzene	20.45	120	178557	24.411	ug/m3	91
41) p-Isopropyltoluene	21.28	134	98707	27.467	ug/m3#	75
42) 1,2,3-Trimethylbenzene	21.31	120	208865	24.330	ug/m3	90
43) APH EC9-10 aromatics T...	21.57	TIC	726233m	127.733	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	499360m	79.542	ug/m3	

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

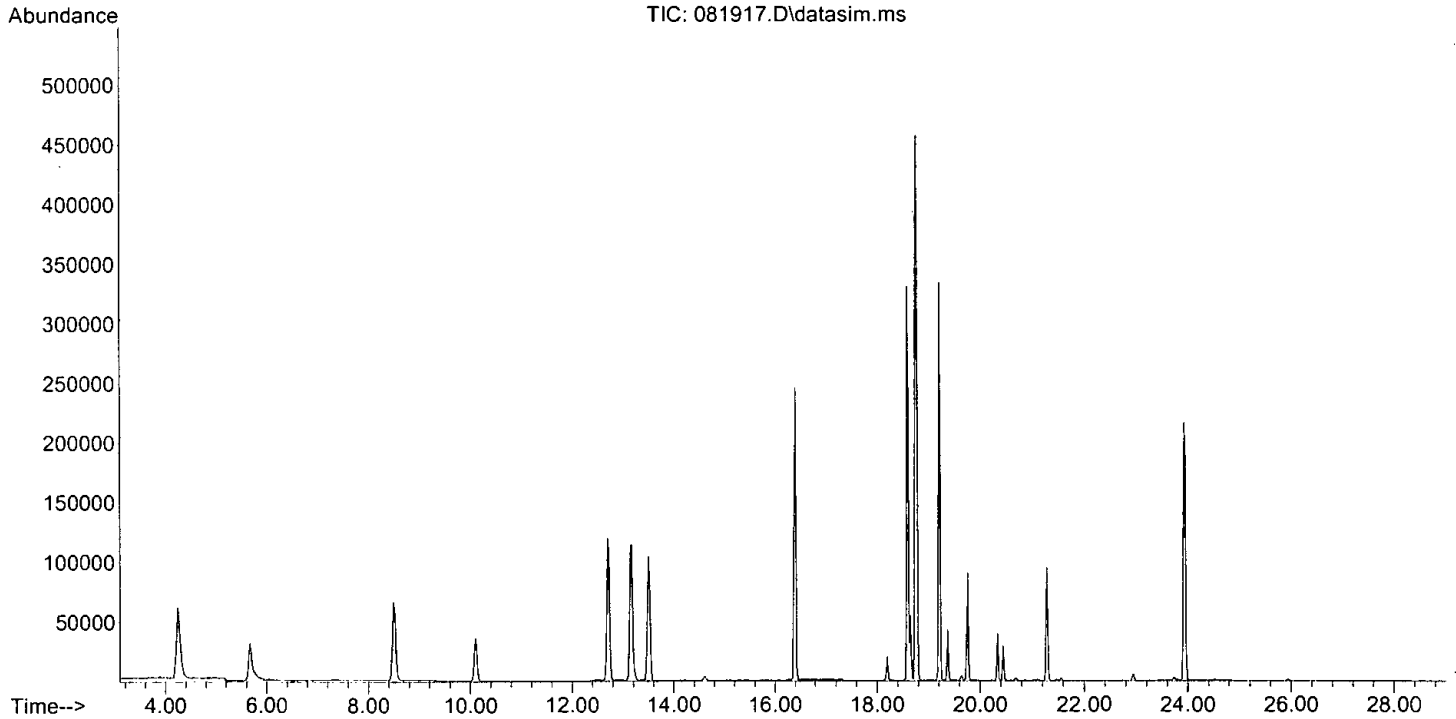
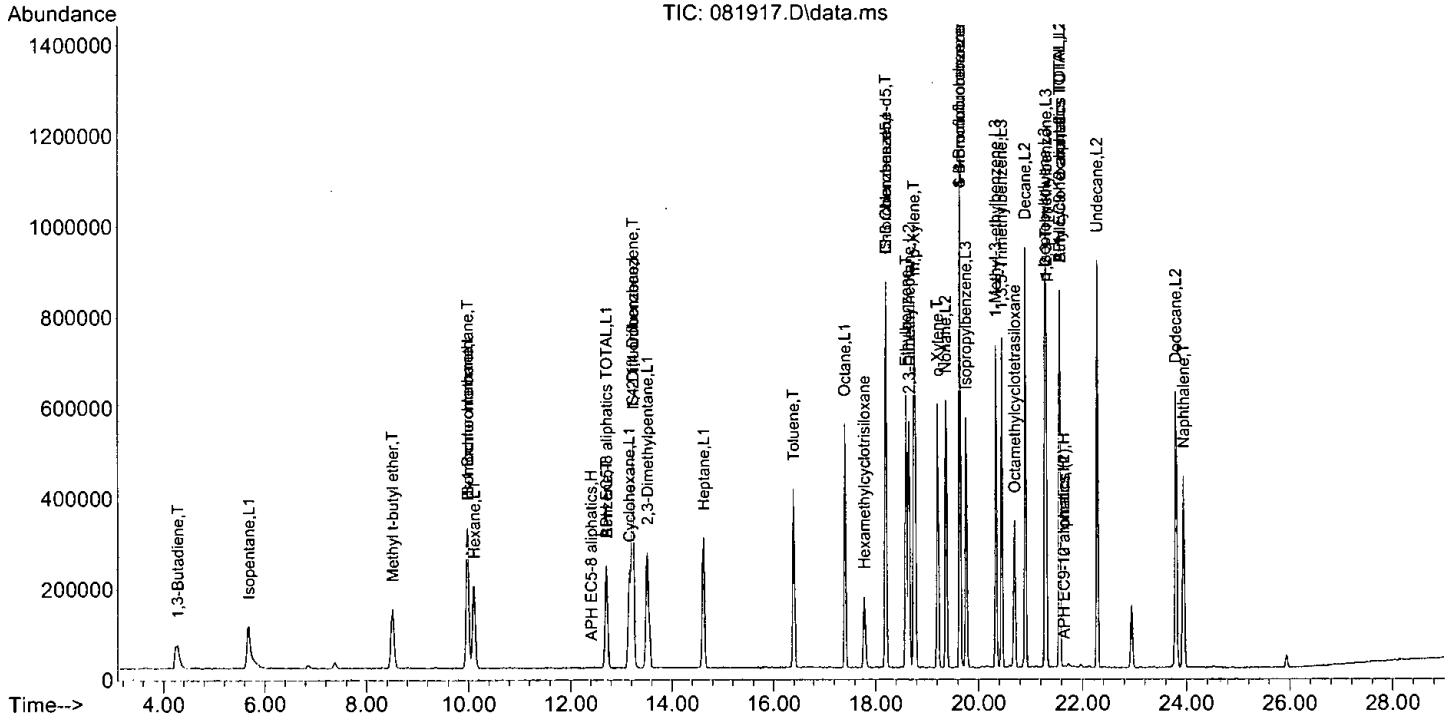
Quant Time: Aug 20 10:43:11 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	98711m	27.606	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:43:11 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:43:11 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	50.000	49.887	0.2	100	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	51.711	-3.4	99	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	49.473	1.1	100	0.00
5 T	Methylene chloride	50.000	0.000	100.0#	0	-6.86#
6	Acetone	50.000	0.000	100.0#	0	-5.68#
7	2-Propanol	50.000	0.000	100.0#	0	-5.84#
8 T	1,3-Butadiene	11.000	10.310	6.3	100	0.00
9 T	Methyl t-butyl ether	18.000	17.504	2.8	100	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.00
11 T	Benzene	16.000	16.153	-1.0	100	0.00
12 L1	Isopentane	15.000	16.067	-7.1	100	0.00
13 L1	Hexane	17.500	18.279	-4.5	100	0.00
14 L1	Cyclohexane	17.500	16.594	5.2	99	0.00
15 L1	2,3-Dimethylpentane	21.000	21.643	-3.1	100	0.00
16 L1	Heptane	21.000	20.828	0.8	100	0.00
17 L1	Octane	23.500	24.965	-6.2	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	115.000	117.932	-2.5	100	0.00
19 H	APH EC5-8 aliphatics	115.000	448.653	-290.1#	380	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	50.573	-1.1	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	48.929	2.1	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	54.305	-8.6	100	0.00
24 T	Toluene	18.750	17.956	4.2	100	0.00
25 T	Ethylbenzene	21.750	21.461	1.3	100	0.00
26 T	m,p-Xylene	44.000	43.102	2.0	100	0.00
27 T	o-Xylene	22.000	22.076	-0.3	100	0.00
28 T	Naphthalene	25.000	23.416	6.3	100	0.00
29 L2	2,3-Dimethylheptane	25.000	24.592	1.6	99	0.00
30 L2	Nonane	25.000	24.963	0.1	100	0.00
31 L2	Decane	30.000	29.551	1.5	100	0.00
32 L2	Butylcyclohexane	27.500	27.127	1.4	100	0.00
33 L2	Undecane	32.500	31.961	1.7	100	0.00
34 L2	Dodecane	35.000	34.850	0.4	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	175.000	172.478	1.4	100	0.00
36 H	APH EC9-12 aliphatics	175.000	307.604	-75.8#	178	0.00
37 S	4-Bromofluorobenzene	71.000	71.201	-0.3	100	0.00
38 L3	Isopropylbenzene	24.500	24.381	0.5	100	0.00
39 L3	1-Methyl-3-ethylbenzene	24.500	24.101	1.6	100	0.00
40 L3	1,3,5-Trimethylbenzene	24.500	24.411	0.4	100	0.00
41 L3	p-Isopropyltoluene	27.750	27.467	1.0	100	0.00
42 L3	1,2,3-Trimethylbenzene	24.500	24.330	0.7	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	125.400	127.733	-1.9	100	0.00
44 H	APH EC9-10 aromatics (1)	98.000	79.542	18.8	80	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:43:11 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	27.400	27.606	-0.8	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:43:11 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	8.828	8.808	0.2	100	0.00
3 T	IS-2 1,4-Difluorobenzene	12.530	12.959	-3.4	99	0.00
4 T	IS-3 Chlorobenzene-d5	15.199	15.038	1.1	100	0.00
5 T	Methylene chloride	0.447	0.000	100.0#	0#	-6.86#
6	Acetone	23.578	0.000	100.0#	0#	-5.68#
7	2-Propanol	0.137	0.000	100.0#	0#	-5.84#
8 T	1,3-Butadiene	2.944	2.760	6.3	100	0.00
9 T	Methyl t-butyl ether	3.854	3.748	2.8	100	0.00
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
11 T	Benzene	1.700	1.716	-0.9	100	0.00
12 L1	Isopentane	3.376	3.616	-7.1	100	0.00
13 L1	Hexane	3.421	3.478	-1.7	100	0.00
14 L1	Cyclohexane	3.471	3.291	5.2	99	0.00
15 L1	2,3-Dimethylpentane	4.429	4.565	-3.1	100	0.00
16 L1	Heptane	3.620	3.590	0.8	100	0.00
17 L1	Octane	4.963	5.273	-6.2	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	3.967	4.068	-2.5	100	0.00
19 H	APH EC5-8 aliphatics	3.967	15.478	-290.2#	380#	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	4.221	4.269	-1.1	100	0.00
22	Hexamethylcyclotrisiloxane	1.040	1.017	2.2	100	0.00
23	Octamethylcyclotetrasiloxan	1.298	1.409	-8.6	100	0.00
24 T	Toluene	1.073	1.027	4.3	100	0.00
25 T	Ethylbenzene	2.215	2.186	1.3	100	0.00
26 T	m,p-Xylene	0.745	0.730	2.0	100	0.00
27 T	o-Xylene	0.705	0.707	-0.3	100	0.00
28 T	Naphthalene	1.799	1.685	6.3	100	0.00
29 L2	2,3-Dimethylheptane	5.025	4.943	1.6	99	0.00
30 L2	Nonane	5.247	5.239	0.2	100	0.00
31 L2	Decane	5.213	5.135	1.5	100	0.00
32 L2	Butylcyclohexane	5.921	5.841	1.4	100	0.00
33 L2	Undecane	5.170	5.084	1.7	100	0.00
34 L2	Dodecane	4.243	4.225	0.4	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	5.116	5.042	1.4	100	0.00
36 H	APH EC9-12 aliphatics	5.116	8.992	-75.8#	178	0.00
37 S	4-Bromofluorobenzene	0.626	0.628	-0.3	100	0.00
38 L3	Isopropylbenzene	0.392	0.390	0.5	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.548	0.540	1.5	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.694	0.691	0.4	100	0.00
41 L3	p-Isopropyltoluene	0.341	0.337	1.2	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.814	0.809	0.6	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.539	0.549	-1.9	100	0.00
44 H	APH EC9-10 aromatics (1)	0.596	0.483	19.0	80	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:43:11 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.339	0.342	-0.9	100	0.00

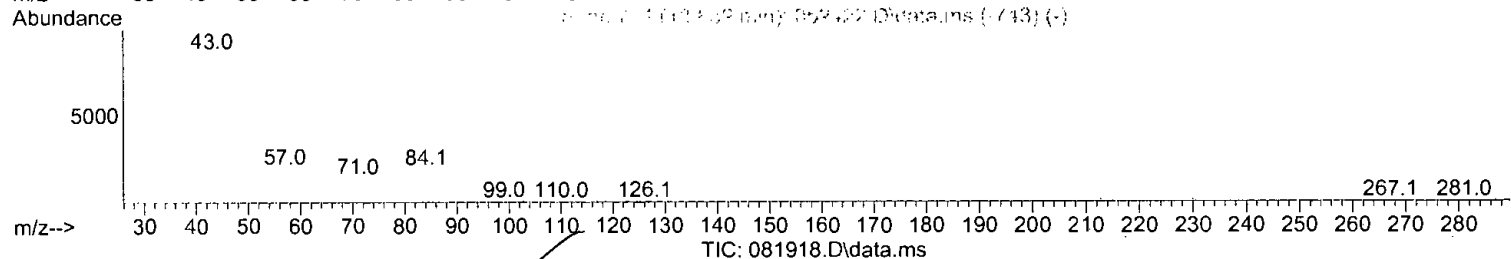
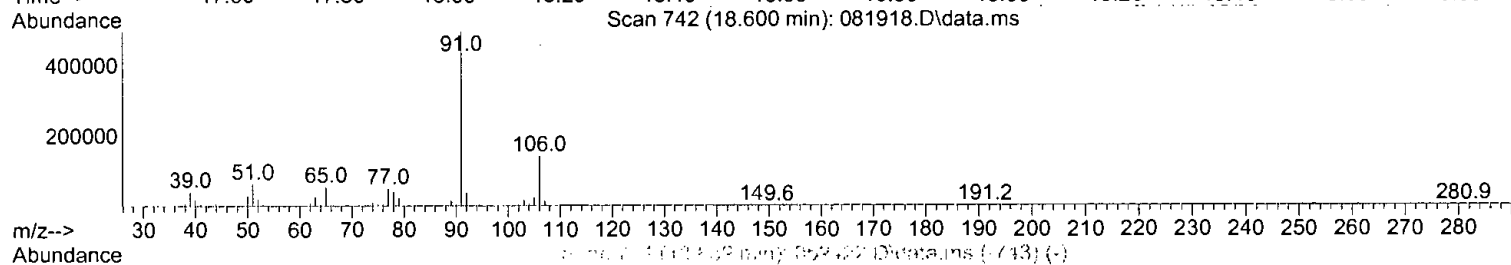
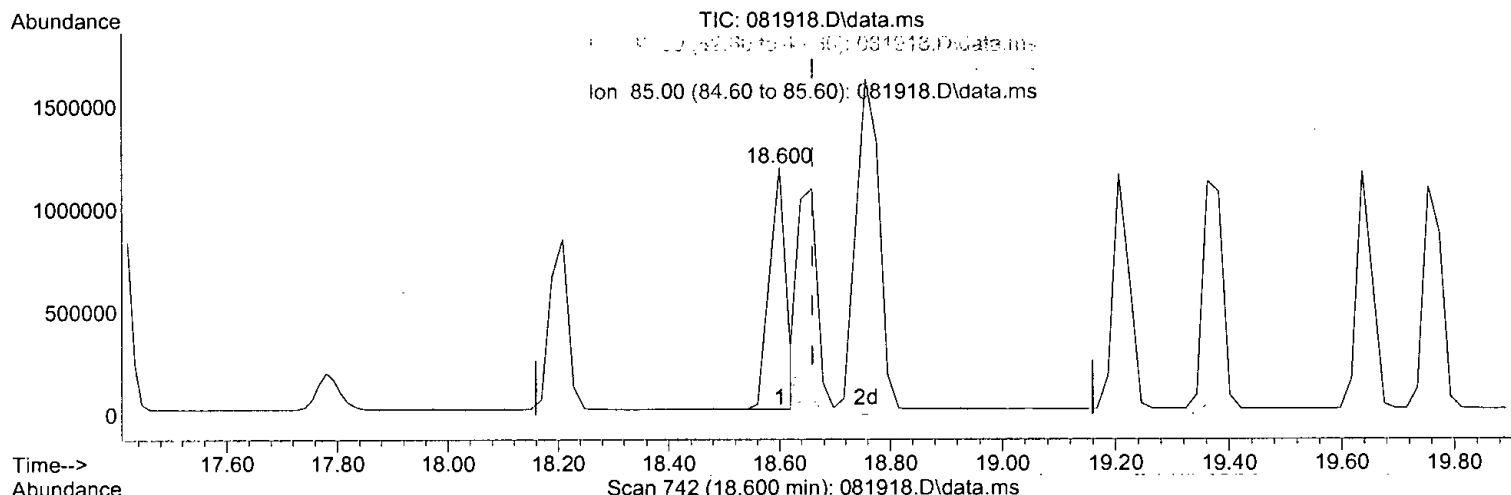
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081918.D  
 Acq On : 19 Aug 2021 8:36 pm  
 Operator : bat  
 Sample : 10 ppbv, 64-38a  
 Misc : line 2, 100cc  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:42 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.600min (-0.059) 45.639 ug/m3

response 2461722

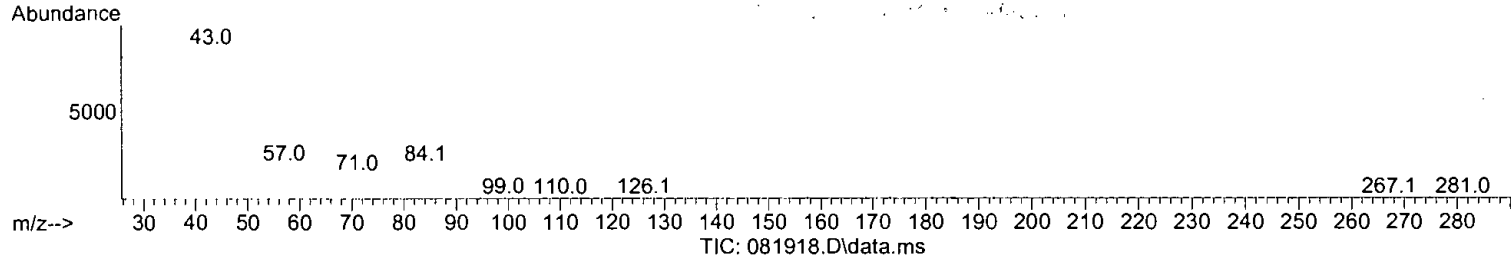
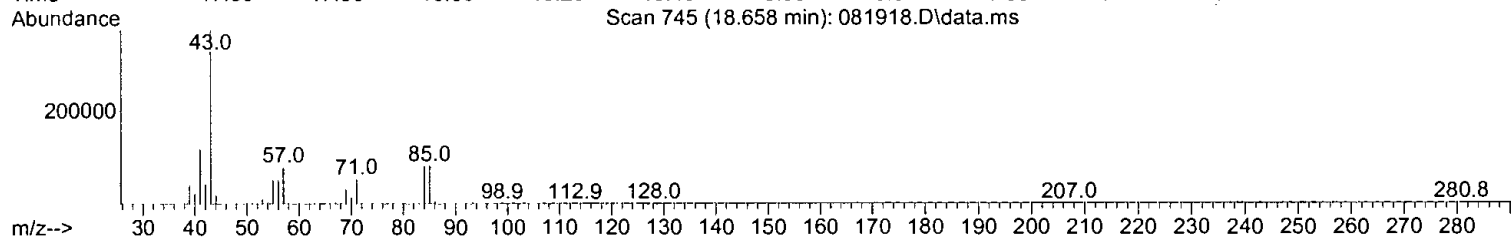
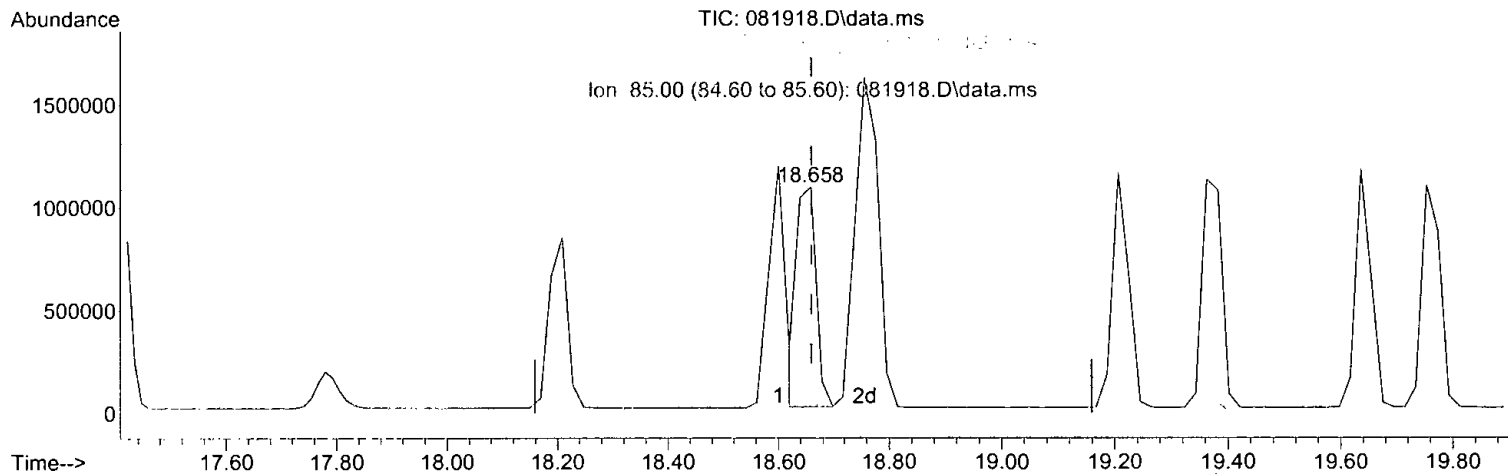
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	39.03#
84.00	9.90	8.13
85.00	9.20	8.15

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081918.D  
 Acq On : 19 Aug 2021 8:36 pm  
 Operator : bat  
 Sample : 10 ppbv, 64-38a  
 Misc : line 2, 100cc  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:42 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.658min (-0.001) 48.090 ug/m3 m

response 2593963

Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	37.04#
84.00	9.90	7.71#
85.00	9.20	7.73

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081918.D  
 Acq On : 19 Aug 2021 8:36 pm  
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 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	125914	50.000	ug/m3	#-0.02
10) 1,4-Difluorobenzene	13.23	114	603448	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	536705	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	473978	70.489	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	99.28%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.97	TIC	1128925	50.779	ug/m3	87
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1368359	43.364	ug/m3	93
4) IS-3 Chlorobenzene-d5	18.21	TIC	1944315	50.800	ug/m3	92
5) Methylene chloride	0.00		0	N.D.	d	
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.24	54	155465	20.968	ug/m3	81
9) Methyl t-butyl ether	8.51	73	337567	34.778	ug/m3	90
11) Benzene	12.71	78	646762	31.523	ug/m3	92
12) Isopentane	5.66	TIC	1233754	30.277	ug/m3	97
13) Hexane	10.10	TIC	1392611	34.855	ug/m3	94
14) Cyclohexane	13.16	TIC	1726325	41.213	ug/m3	49
15) 2,3-Dimethylpentane	13.50	TIC	2127731	39.803	ug/m3	94
16) Heptane	14.60	TIC	1826958	41.821	ug/m3	93
17) Octane	17.41	TIC	2929013	48.898	ug/m3	86
18) APH EC5-8 aliphatics T...	12.71	TIC	11236392m	234.676	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	37597885m	785.244	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2253032	49.726	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	628585	56.325	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	900747	64.670	ppbv	100
24) Toluene	16.39	92	409537	35.566	ug/m3	100
25) Ethylbenzene	18.60	91	986533	41.487	ug/m3	96
26) m,p-Xylene	18.76	106	676903	84.653	ug/m3	88
27) o-Xylene	19.21	106	329101	43.507	ug/m3	88
28) Naphthalene	23.94	128	948496	49.120	ug/m3	100
29) 2,3-Dimethylheptane	18.66	TIC	2593963m	48.090	ug/m3	
30) Nonane	19.36	TIC	2710077	48.117	ug/m3	92
31) Decane	20.90	TIC	3258199	58.231	ug/m3	94
32) Butylcyclohexane	21.57	TIC	3376173	53.117	ug/m3	97
33) Undecane	22.28	TIC	3479336	62.698	ug/m3	97
34) Dodecane	23.79	TIC	3045103	66.854	ug/m3	94
35) APH EC9-12 aliphatics ...	21.57	TIC	18462851m	336.225	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	29242734m	532.536	ug/m3	
38) Isopropylbenzene	19.75	120	203037	48.232	ug/m3#	85
39) 1-Methyl-3-ethylbenzene	20.33	120	282597	48.003	ug/m3#	88
40) 1,3,5-Trimethylbenzene	20.45	120	354783	47.627	ug/m3	90
41) p-Isopropyltoluene	21.28	134	200117	54.681	ug/m3#	77
42) 1,2,3-Trimethylbenzene	21.31	120	416898	47.686	ug/m3	90
43) APH EC9-10 aromatics T...	21.57	TIC	1457432m	251.712	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	993205m	155.349	ug/m3	

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081918.D  
 Acq On : 19 Aug 2021 8:36 pm  
 Operator : bat  
 Sample : 10 ppbv, 64-38a  
 Misc : line 2, 100cc  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

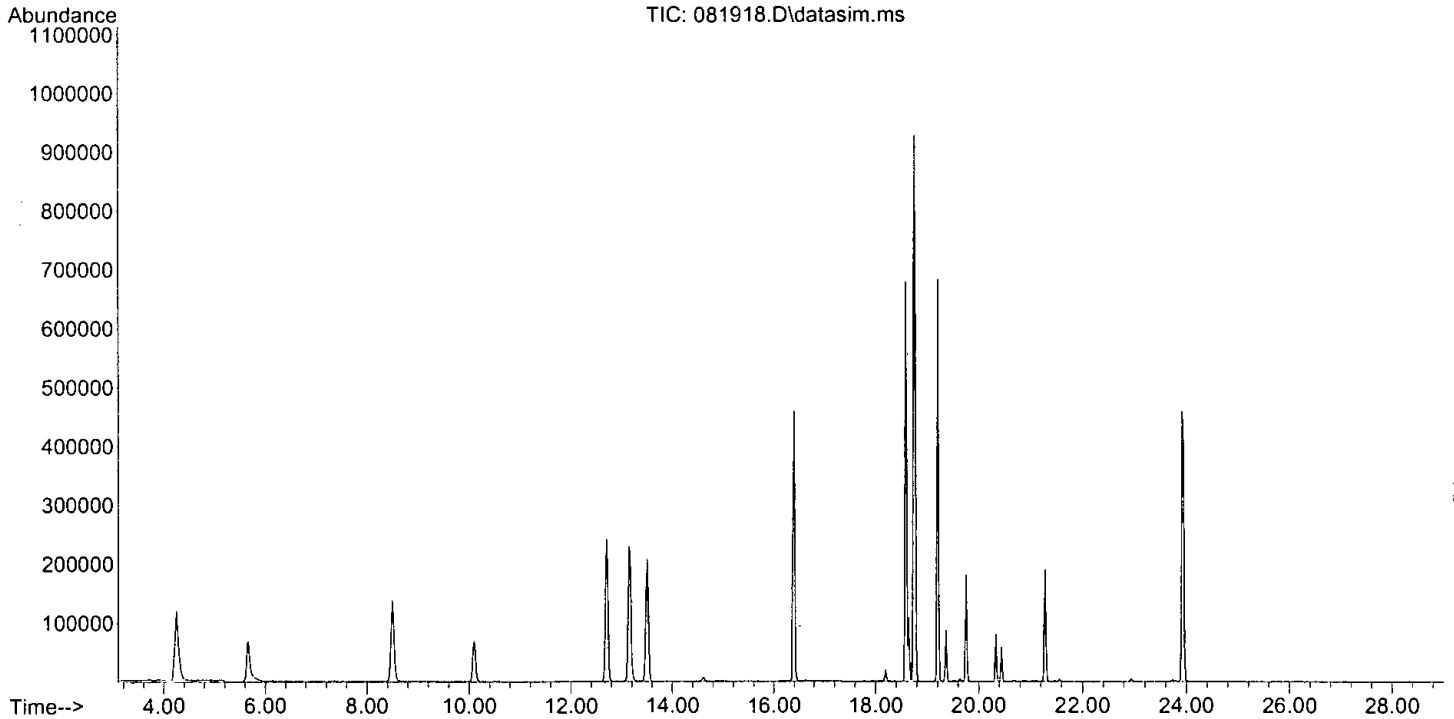
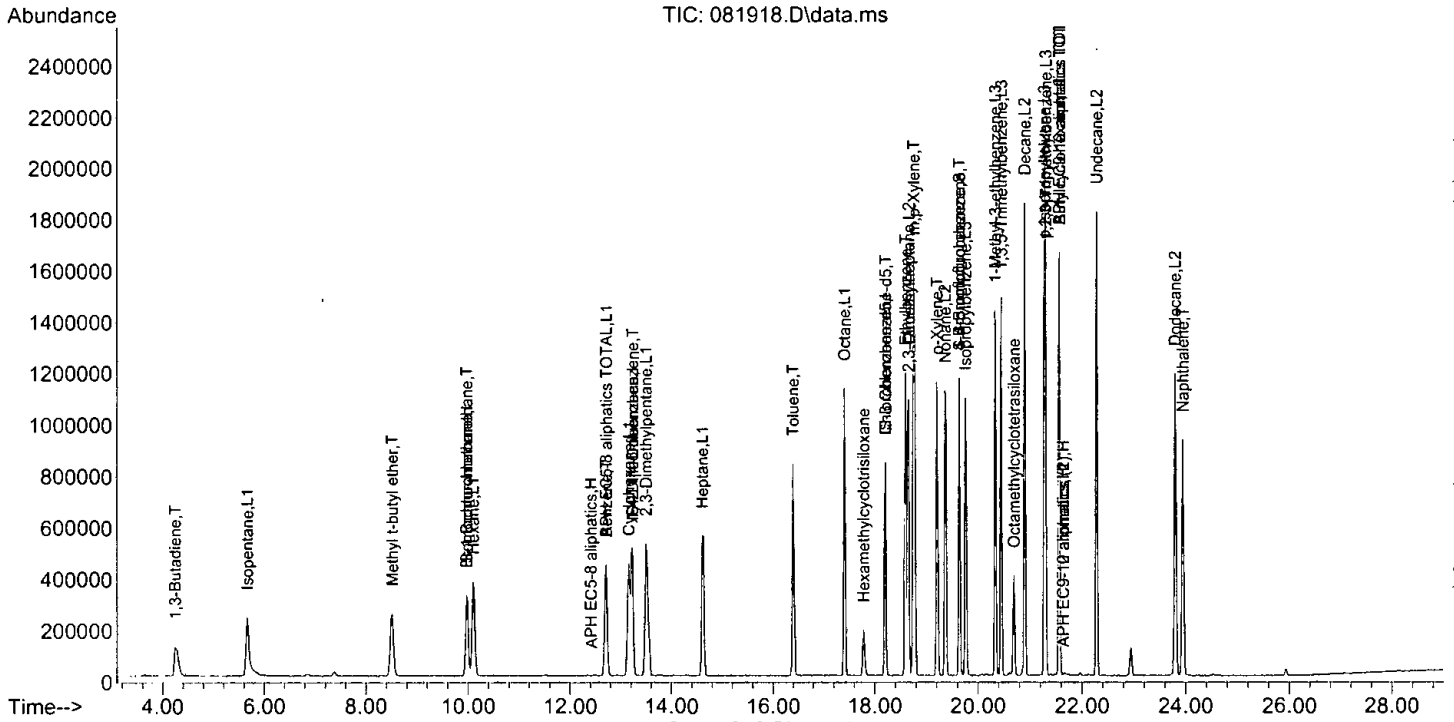
Quant Time: Aug 20 10:44:42 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	200104m	54.951	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081918.D  
 Acq On : 19 Aug 2021 8:36 pm  
 Operator : bat  
 Sample : 10 ppbv, 64-38a  
 Misc : line 2, 100cc  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:44:42 2021  
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 QLast Update : Fri Aug 20 08:33:26 2021  
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 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081918.D  
 Acq On : 19 Aug 2021 8:36 pm  
 Operator : bat  
 Sample : 10 ppbv, 64-38a  
 Misc : line 2, 100cc  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:44:42 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	-0.02
2 T	IS-1 Bromochloromethane	50.000	50.779	-1.6	100	-0.02
3 T	IS-2 1,4-Difluorobenzene	50.000	43.364	13.3	100	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	50.800	-1.6	100	0.00
5 T	Methylene chloride	50.000	0.000	100.0#	0	-6.86#
6	Acetone	50.000	0.000	100.0#	0	-5.68#
7	2-Propanol	50.000	0.000	100.0#	0	-5.84#
8 T	1,3-Butadiene	22.000	20.968	4.7	100	-0.04
9 T	Methyl t-butyl ether	36.000	34.778	3.4	100	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.00
11 T	Benzene	32.000	31.523	1.5	100	0.00
12 L1	Isopentane	30.000	30.277	-0.9	101	-0.02
13 L1	Hexane	35.000	34.855	0.4	100	-0.02
14 L1	Cyclohexane	35.000	41.213	-17.8	100	0.00
15 L1	2,3-Dimethylpentane	42.000	39.803	5.2	100	-0.02
16 L1	Heptane	42.000	41.821	0.4	100	-0.02
17 L1	Octane	47.000	48.898	-4.0	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	230.000	234.676	-2.0	100	0.00
19 H	APH EC5-8 aliphatics	230.000	785.244	-241.4#	335	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	49.726	0.5	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	56.325	-12.7	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	64.670	-29.3	100	0.00
24 T	Toluene	37.500	35.566	5.2	100	0.00
25 T	Ethylbenzene	43.500	41.487	4.6	100	0.00
26 T	m,p-Xylene	88.000	84.653	3.8	100	0.00
27 T	o-Xylene	44.000	43.507	1.1	100	0.00
28 T	Naphthalene	50.000	49.120	1.8	100	0.00
29 L2	2,3-Dimethylheptane	50.000	48.090	3.8	100	0.00
30 L2	Nonane	50.000	48.117	3.8	100	0.00
31 L2	Decane	60.000	58.231	2.9	100	0.00
32 L2	Butylcyclohexane	55.000	53.117	3.4	100	0.00
33 L2	Undecane	65.000	62.698	3.5	100	0.00
34 L2	Dodecane	70.000	66.854	4.5	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	350.000	336.225	3.9	100	0.00
36 H	APH EC9-12 aliphatics	350.000	532.536	-52.2#	158	0.00
37 S	4-Bromofluorobenzene	71.000	70.489	0.7	100	0.00
38 L3	Isopropylbenzene	49.000	48.232	1.6	100	0.00
39 L3	1-Methyl-3-ethylbenzene	49.000	48.003	2.0	100	0.00
40 L3	1,3,5-Trimethylbenzene	49.000	47.627	2.8	100	0.00
41 L3	p-Isopropyltoluene	55.000	54.681	0.6	100	0.00
42 L3	1,2,3-Trimethylbenzene	49.000	47.686	2.7	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	250.800	251.712	-0.4	100	0.00
44 H	APH EC9-10 aromatics (1)	196.000	155.349	20.7	78	0.00



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081918.D  
 Acq On : 19 Aug 2021 8:36 pm  
 Operator : bat  
 Sample : 10 ppbv, 64-38a  
 Misc : line 2, 100cc  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:44:42 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	54.800	54.951	-0.3	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081918.D  
 Acq On : 19 Aug 2021 8:36 pm  
 Operator : bat  
 Sample : 10 ppbv, 64-38a  
 Misc : line 2, 100cc  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:44:42 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	-0.02
2 T	IS-1 Bromochloromethane	8.828	8.966	-1.6	100	-0.02
3 T	IS-2 1,4-Difluorobenzene	12.530	10.867	13.3	100	0.00
4 T	IS-3 Chlorobenzene-d5	15.199	15.442	-1.6	100	0.00
5 T	Methylene chloride	0.447	0.000	100.0#	0#	-6.86#
6	Acetone	23.578	0.000	100.0#	0#	-5.68#
7	2-Propanol	0.137	0.000	100.0#	0#	-5.84#
8 T	1,3-Butadiene	2.944	2.806	4.7	100	-0.04
9 T	Methyl t-butyl ether	3.854	3.724	3.4	100	0.00
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
11 T	Benzene	1.700	1.675	1.5	100	0.00
12 L1	Isopentane	3.376	3.408	-0.9	101	-0.02
13 L1	Hexane	3.421	3.297	3.6	100	-0.02
14 L1	Cyclohexane	3.471	4.087	-17.7	100	0.00
15 L1	2,3-Dimethylpentane	4.429	4.198	5.2	100	-0.02
16 L1	Heptane	3.620	3.604	0.4	100	-0.02
17 L1	Octane	4.963	5.164	-4.0	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	3.967	4.048	-2.0	100	0.00
19 H	APH EC5-8 aliphatics	3.967	13.545	-241.4#	335#	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	4.221	4.198	0.5	100	0.00
22	Hexamethylcyclotrisiloxane	1.040	1.171	-12.6	100	0.00
23	Octamethylcyclotetrasiloxan	1.298	1.678	-29.3	100	0.00
24 T	Toluene	1.073	1.017	5.2	100	0.00
25 T	Ethylbenzene	2.215	2.113	4.6	100	0.00
26 T	m,p-Xylene	0.745	0.717	3.8	100	0.00
27 T	o-Xylene	0.705	0.697	1.1	100	0.00
28 T	Naphthalene	1.799	1.767	1.8	100	0.00
29 L2	2,3-Dimethylheptane	5.025	4.833	3.8	100	0.00
30 L2	Nonane	5.247	5.049	3.8	100	0.00
31 L2	Decane	5.213	5.059	3.0	100	0.00
32 L2	Butylcyclohexane	5.921	5.719	3.4	100	0.00
33 L2	Undecane	5.170	4.987	3.5	100	0.00
34 L2	Dodecane	4.243	4.053	4.5	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	5.116	4.914	3.9	100	0.00
36 H	APH EC9-12 aliphatics	5.116	7.784	-52.2#	158	0.00
37 S	4-Bromofluorobenzene	0.626	0.622	0.6	100	0.00
38 L3	Isopropylbenzene	0.392	0.386	1.5	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.548	0.537	2.0	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.694	0.675	2.7	100	0.00
41 L3	p-Isopropyltoluene	0.341	0.339	0.6	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.814	0.793	2.6	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.539	0.541	-0.4	100	0.00
44 H	APH EC9-10 aromatics (1)	0.596	0.472	20.8	78	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081918.D  
 Acq On : 19 Aug 2021 8:36 pm  
 Operator : bat  
 Sample : 10 ppbv, 64-38a  
 Misc : line 2, 100cc  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:44:42 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.339	0.340	-0.3	100	0.00

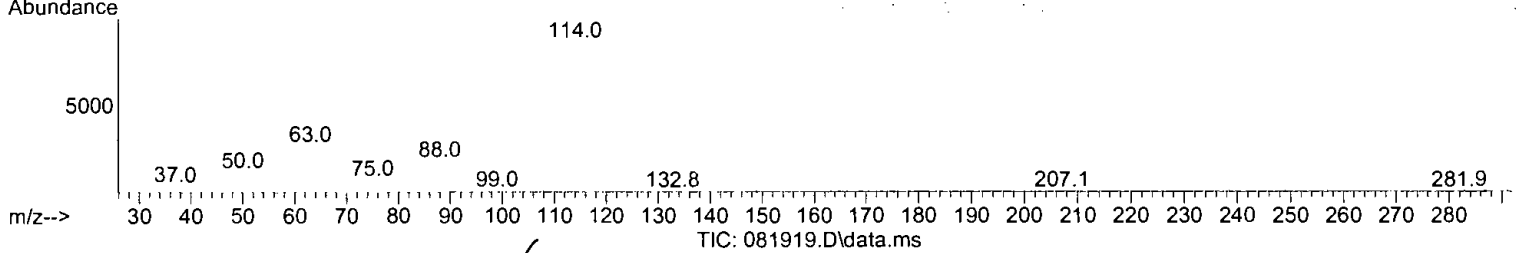
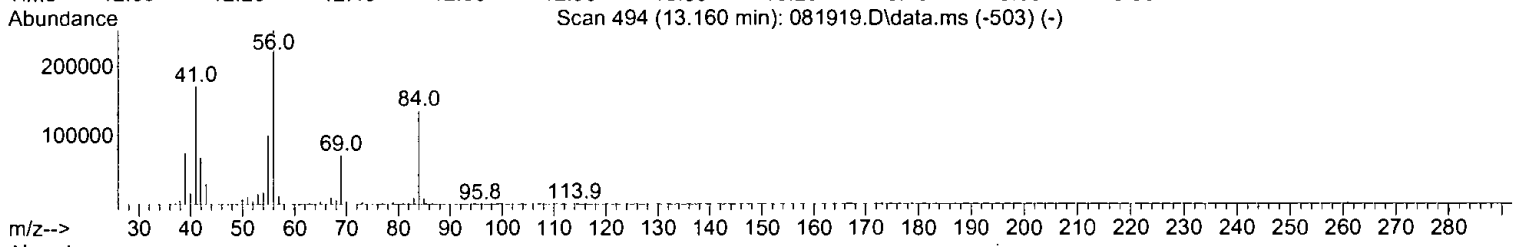
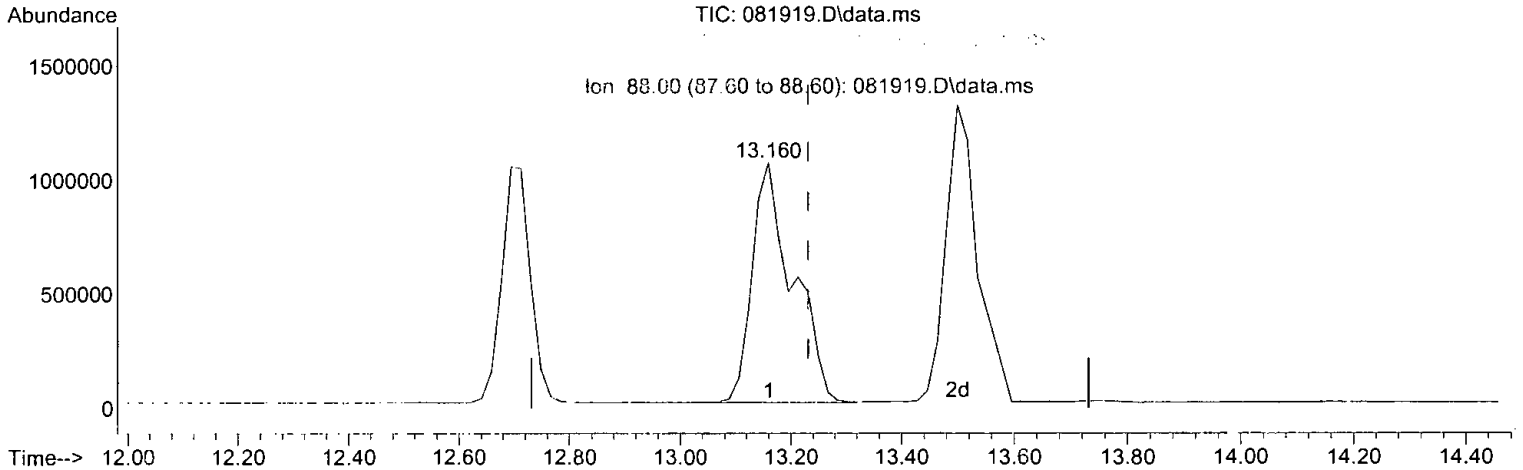
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.160min (-0.071) 166.486 ug/m3

response 5331143

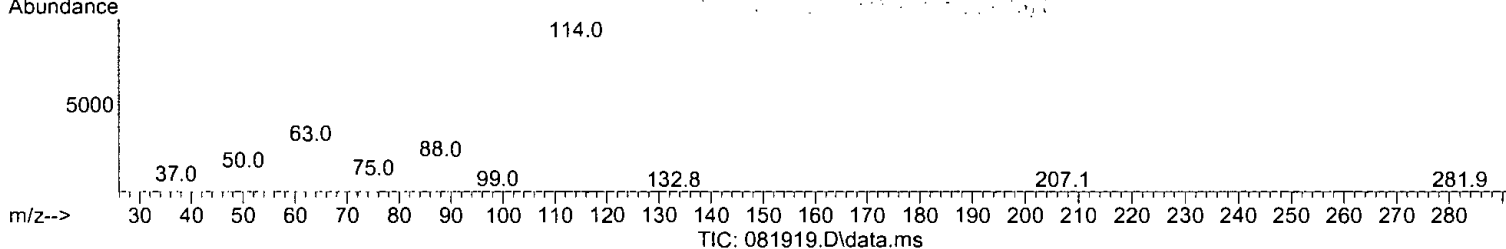
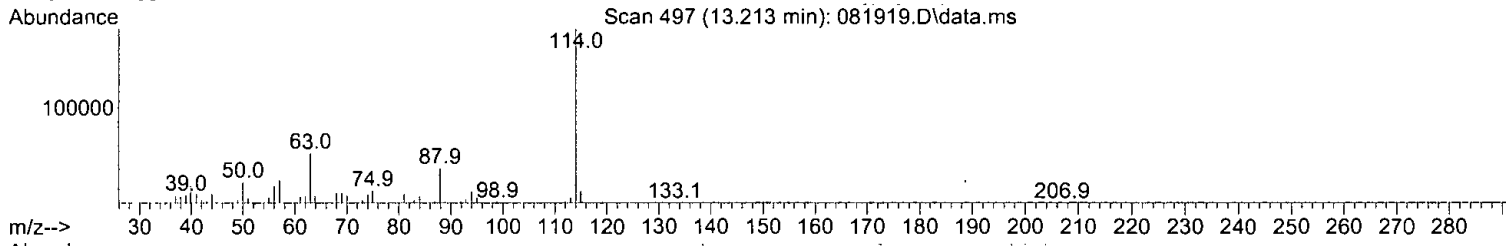
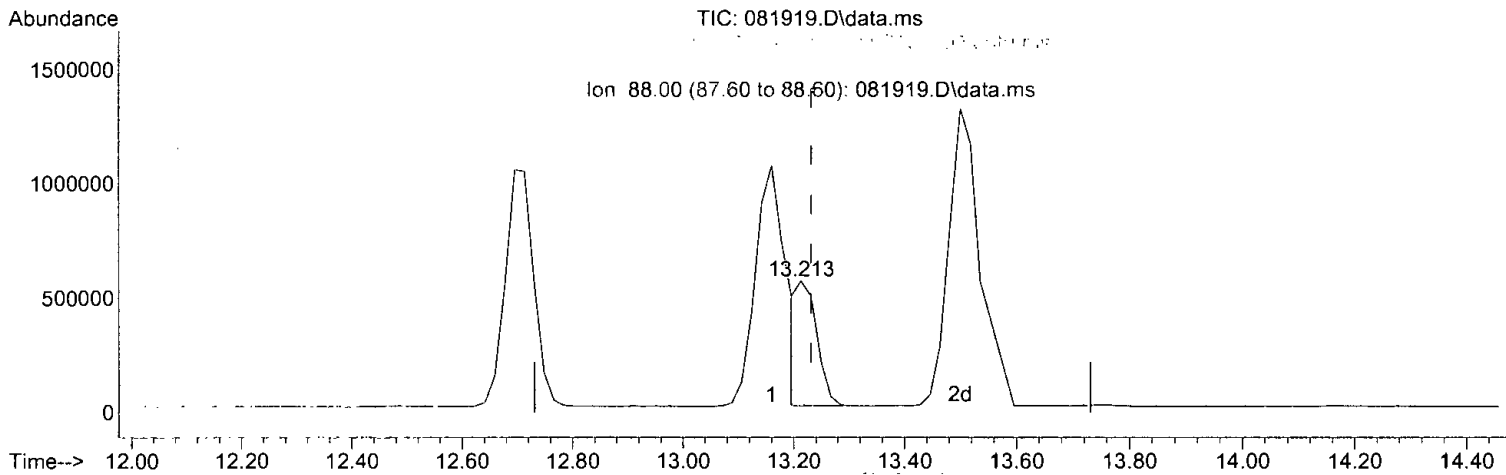
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	0.13#
63.00	8.40	0.22
88.00	7.60	0.03

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.213min (-0.018) 42.236 ug/m3 m

response 1352476

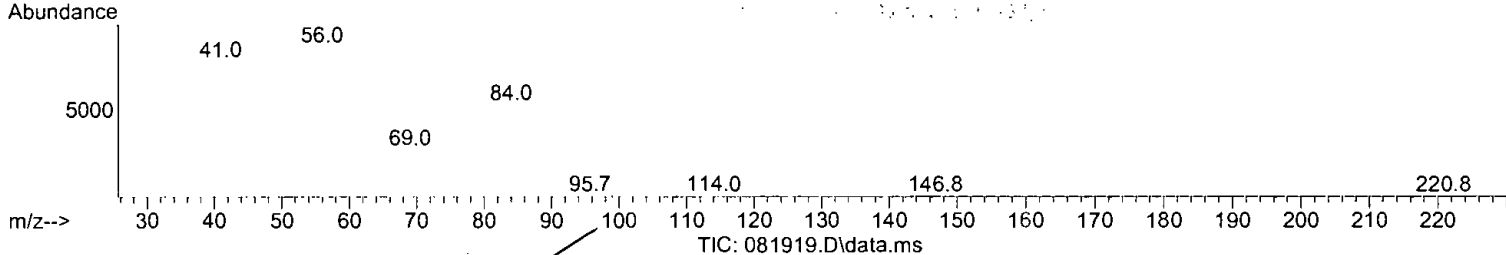
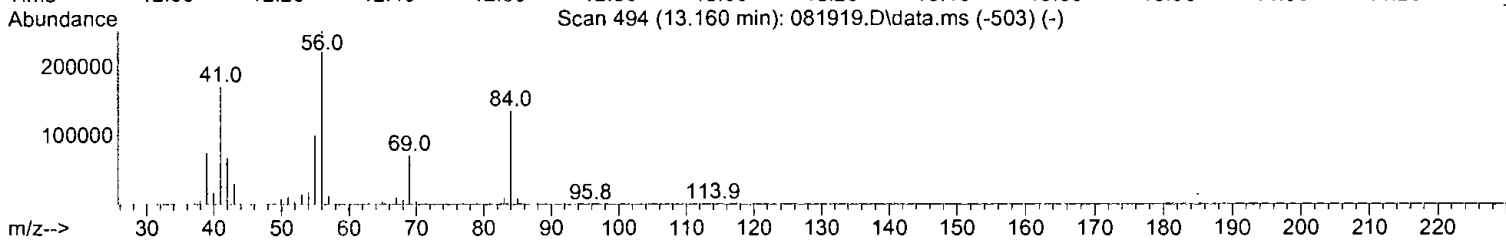
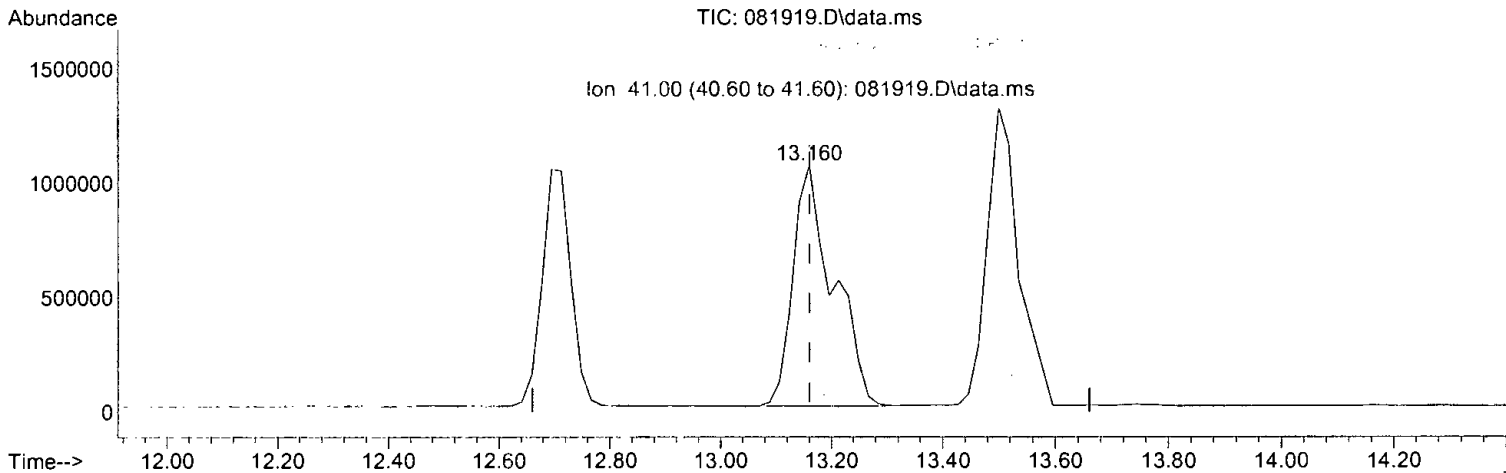
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	0.51#
63.00	8.40	0.86
88.00	7.60	0.11

*AS 8/20/21*

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.160min (-0.000) 126.719 ug/m3

response 5331143

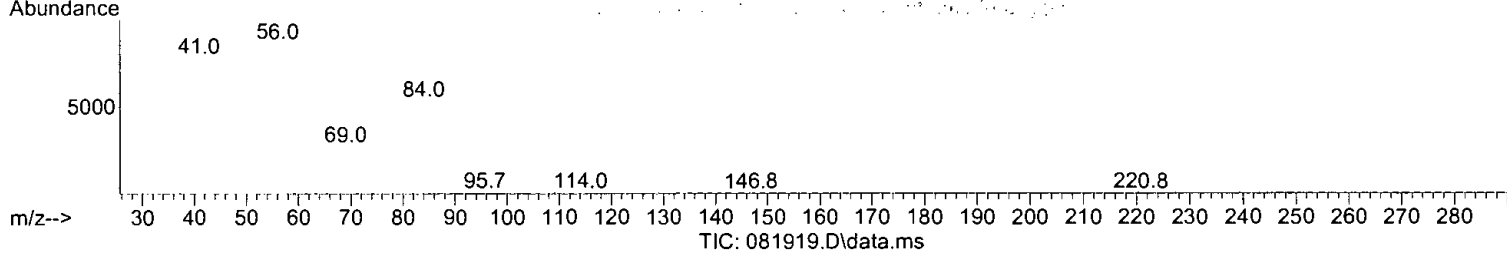
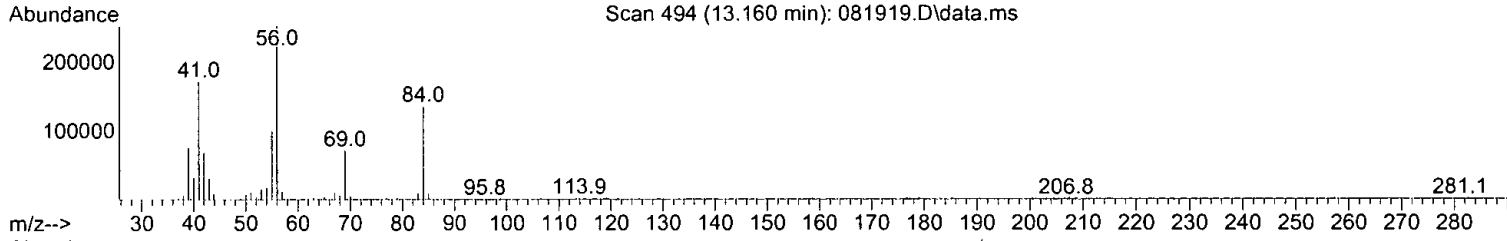
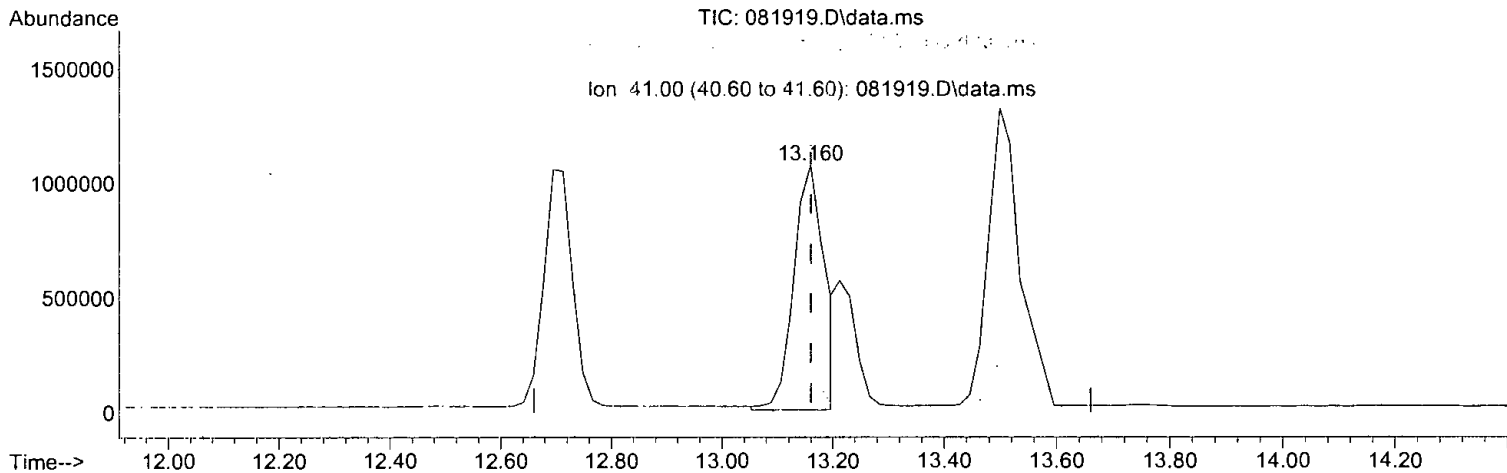
Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.80	23.96
84.00	1.00	12.87
41.00	0.50	16.24

A88/20/4

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

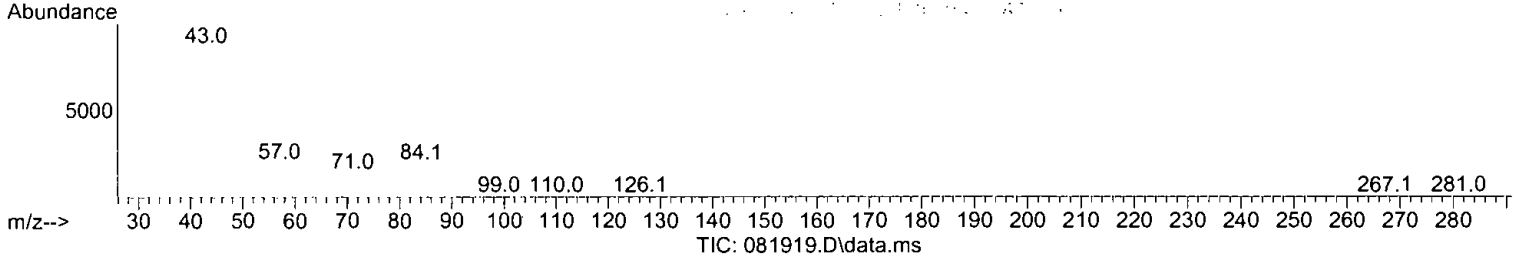
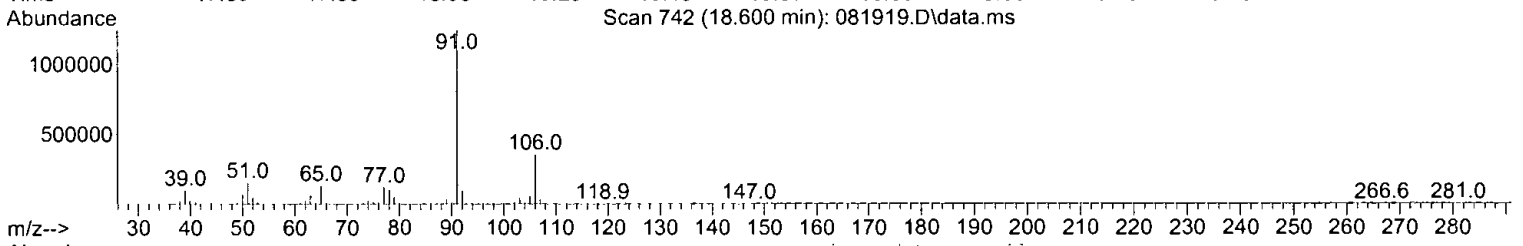
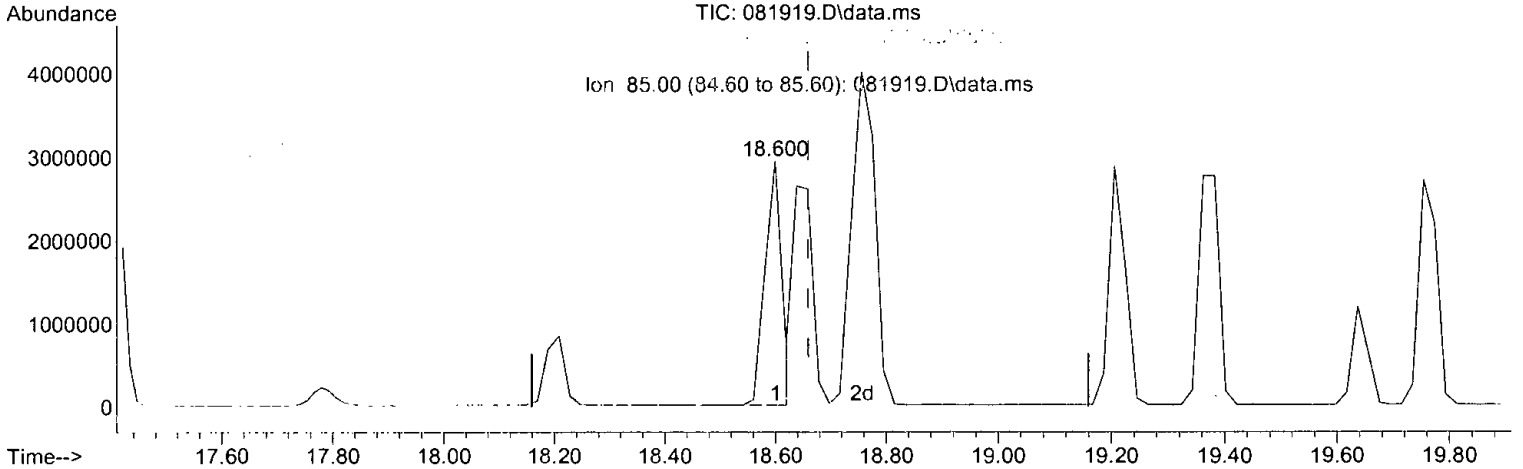
13.160min (-0.000) 97.017 ug/m3 m

response	4081563
Signal	Exp% Act%
TIC	100.00 100.00
56.00	3.80 31.30
84.00	1.00 16.81
41.00	0.50 21.22

*AS 8/20/21*

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



~~(29) 2,3-Dimethylheptane (L2)~~

~~18.600min (-0.059) 114.933 ug/m3~~

~~response 6191617~~

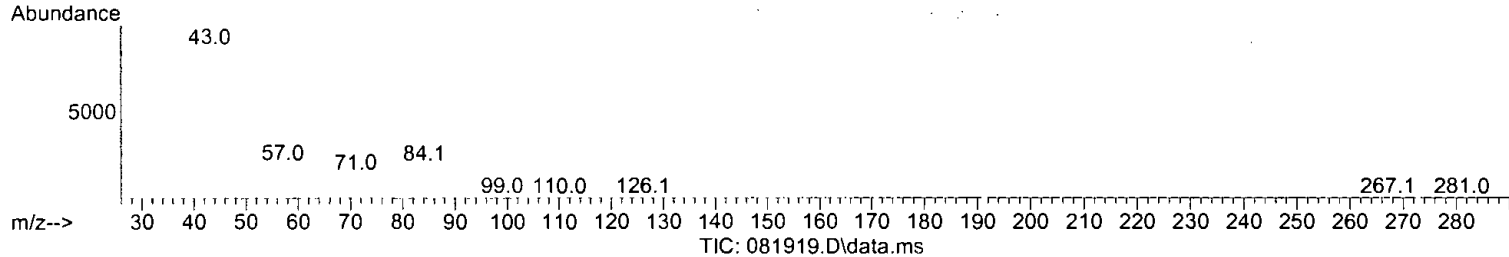
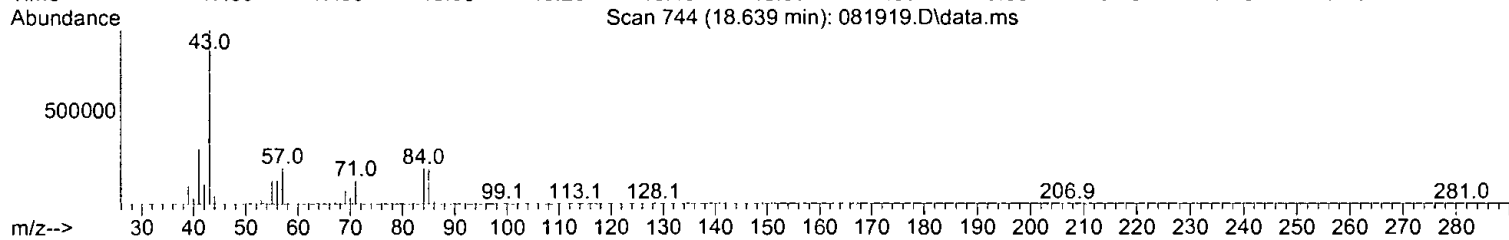
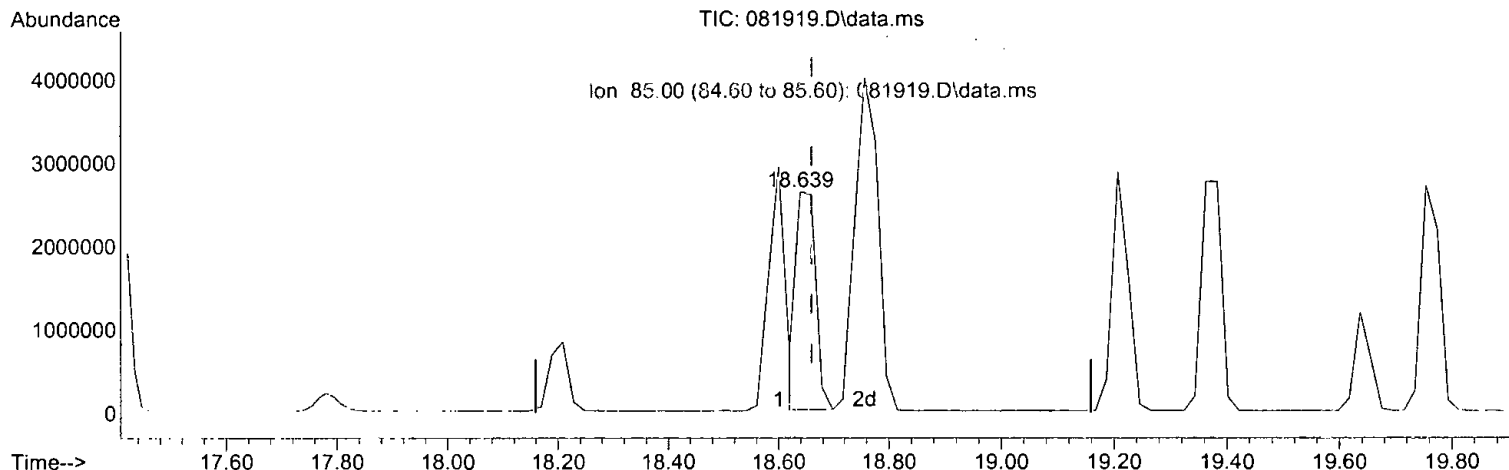
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	38.66#
84.00	9.90	8.18
85.00	9.20	8.05

ASB/oh



Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.639min (-0.020) 118.835 ug/m3 m

response 6401805

Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	37.39#
84.00	9.90	7.91#
85.00	9.20	7.78

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:46:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	127775	50.000	ug/m3	#-0.02
10) 1,4-Difluorobenzene	13.23	114	606081	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	536029	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	489034	72.819	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	102.56%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.97	TIC	1120832	49.681	ug/m3	87
3) IS-2 1,4-Difluorobenzene	13.21	TIC	1352476m	42.236	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1968155	50.674	ug/m3	91
5) Methylene chloride	6.83	TIC	57111	50.000	ug/m3	92
6) Acetone	5.66	TIC	2983281	49.511	ppbv	100
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.24	54	382421	50.826	ug/m3	81
9) Methyl t-butyl ether	8.49	73	853374	86.639	ug/m3	90
11) Benzene	12.71	78	1592011	77.257	ug/m3	92
12) Isopentane	5.66	TIC	3012737	73.614	ug/m3	97
13) Hexane	10.10	TIC	3474715	86.923	ug/m3	93
14) Cyclohexane	13.16	TIC	4081563m	97.017	ug/m3	
15) 2,3-Dimethylpentane	13.50	TIC	5346903	99.589	ug/m3	94
16) Heptane	14.60	TIC	4489010	102.312	ug/m3	93
17) Octane	17.41	TIC	8396817	139.569	ug/m3	94
18) APH EC5-8 aliphatics T...	12.69	TIC	28801745m	598.921	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	74070449m	1540.265	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2310544	51.060	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	717895	64.409	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	1450406	104.265	ppbv	100
24) Toluene	16.39	92	1022632	88.923	ug/m3	97
25) Ethylbenzene	18.60	91	2470238	104.012	ug/m3	96
26) m,p-Xylene	18.76	106	1693653	212.074	ug/m3	90
27) o-Xylene	19.21	106	837522	110.859	ug/m3	90
28) Naphthalene	23.94	128	2497652	129.508	ug/m3	100
29) 2,3-Dimethylheptane	18.64	TIC	6401805m	118.835	ug/m3	
30) Nonane	19.36	TIC	6869714	122.123	ug/m3	92
31) Decane	20.90	TIC	8157969	145.985	ug/m3	93
32) Butylcyclohexane	21.57	TIC	8470801	133.439	ug/m3	97
33) Undecane	22.28	TIC	8761506	158.082	ug/m3	97
34) Dodecane	23.79	TIC	7599099	167.045	ug/m3	93
35) APH EC9-12 aliphatics ...	21.57	TIC	46260894m	843.515	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	70010543m	1276.562	ug/m3	
38) Isopropylbenzene	19.75	120	499553	118.819	ug/m3#	56
39) 1-Methyl-3-ethylbenzene	20.33	120	707148	120.270	ug/m3#	88
40) 1,3,5-Trimethylbenzene	20.45	120	896048	120.439	ug/m3	91
41) p-Isopropyltoluene	21.28	134	509814	139.481	ug/m3#	80
42) 1,2,3-Trimethylbenzene	21.31	120	1067907	122.305	ug/m3	91
43) APH EC9-10 aromatics T...	21.57	TIC	3680470m	636.452	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	2519442m	394.568	ug/m3	

Data Path : Z:\Proc\_GCMS7\08-19-21\  
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Misc : line 2, 250cc  
ALS Vial : 19 Sample Multiplier: 1  
InstName : GCMS7

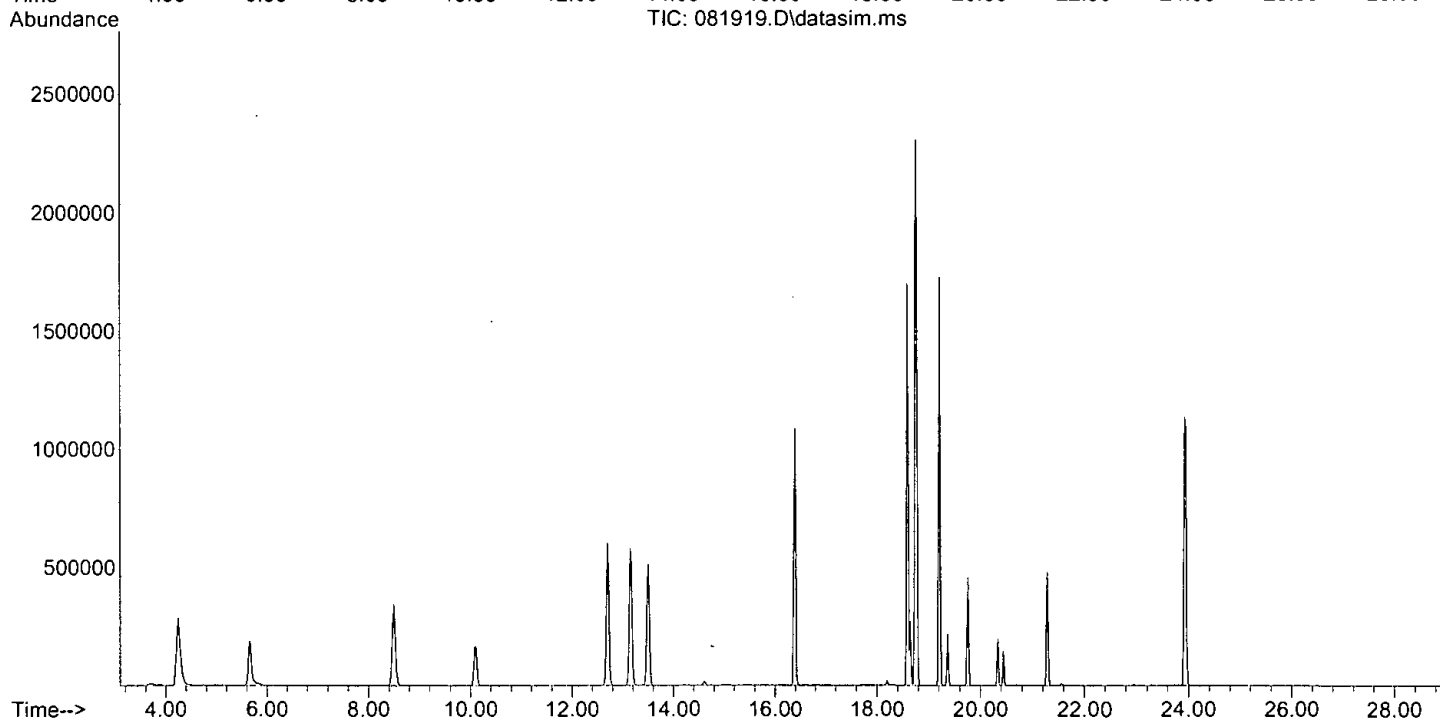
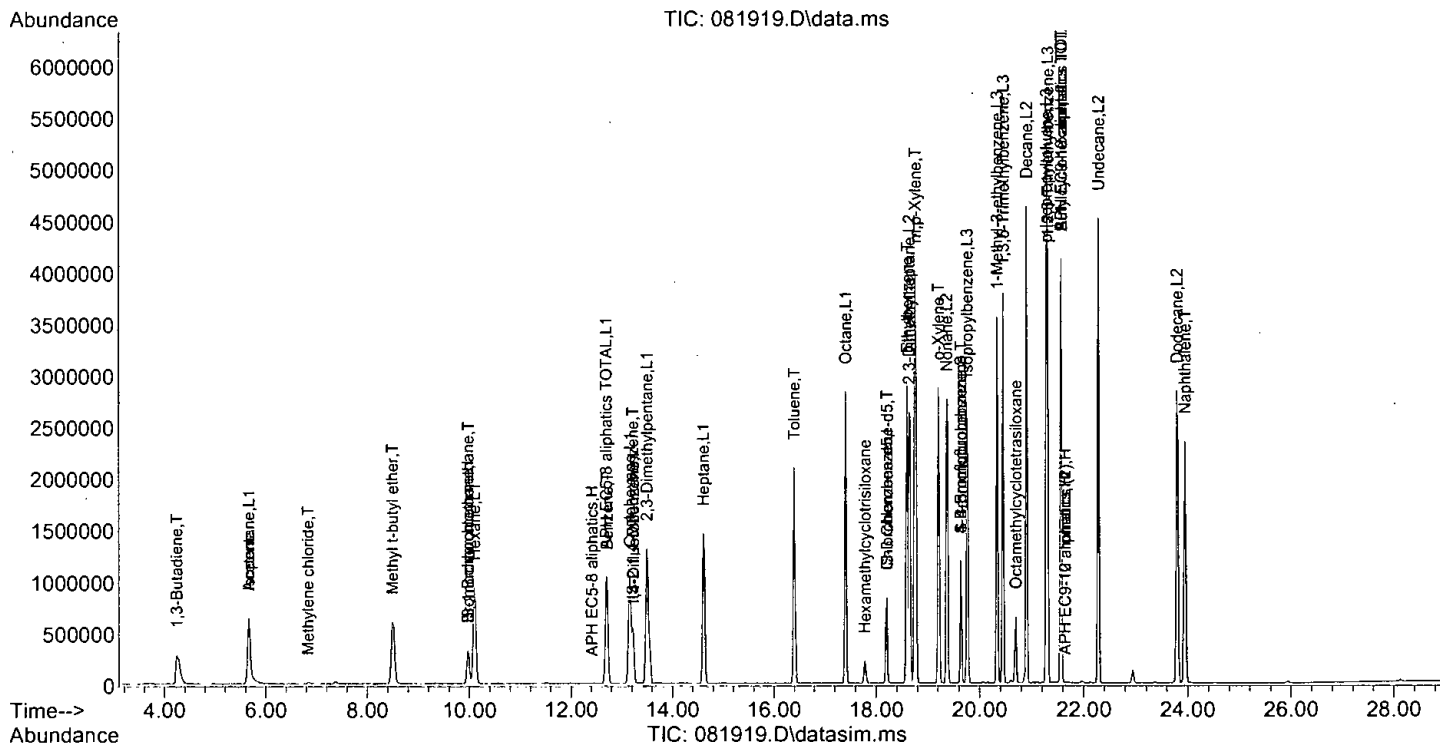
Quant Time: Aug 20 10:46:47 2021  
Quant Method : Z:\METHODS\Inst7\0819APH7.M  
Quant Title : APH TO-15 method  
QLast Update : Fri Aug 20 08:33:26 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----	-----	-----	-----	-----	-----	-----
45) APH EC9-10 aromatics (2)	21.64	134	426896m	117.379	ug/m3	
-----	-----	-----	-----	-----	-----	-----

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
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Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
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 Sample : 25 ppbv, 64-38a  
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 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	-0.02
2 T	IS-1 Bromochloromethane	50.000	49.681	0.6	100	-0.02
3 T	IS-2 1,4-Difluorobenzene	50.000	42.236	15.5	98	-0.02
4 T	IS-3 Chlorobenzene-d5	50.000	50.674	-1.3	100	0.00
5 T	Methylene chloride	50.000	50.000	0.0	100	-0.03
6	Acetone	50.000	49.511	1.0	99	-0.02
7	2-Propanol	50.000	0.000	100.0#	0	-5.84#
8 T	1,3-Butadiene	55.000	50.826	7.6	100	-0.04
9 T	Methyl t-butyl ether	90.000	86.639	3.7	100	-0.03
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.00
11 T	Benzene	80.000	77.257	3.4	100	0.00
12 L1	Isopentane	75.000	73.614	1.8	101	-0.02
13 L1	Hexane	87.500	86.923	0.7	100	-0.02
14 L1	Cyclohexane	87.500	97.017	-10.9	104	0.00
15 L1	2,3-Dimethylpentane	105.000	99.589	5.2	100	-0.02
16 L1	Heptane	105.000	102.312	2.6	100	-0.02
17 L1	Octane	117.500	139.569	-18.8	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	575.000	598.921	-4.2	101	-0.02
19 H	APH EC5-8 aliphatics	575.000	1540.265	-167.9#	259	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	51.060	-2.1	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	64.409	-28.8	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	104.265	-108.5#	100	0.00
24 T	Toluene	93.750	88.923	5.1	100	0.00
25 T	Ethylbenzene	108.750	104.012	4.4	100	0.00
26 T	m,p-Xylene	220.000	212.074	3.6	100	0.00
27 T	o-Xylene	110.000	110.859	-0.8	100	0.00
28 T	Naphthalene	125.000	129.508	-3.6	100	0.00
29 L2	2,3-Dimethylheptane	125.000	118.835	4.9	99	-0.02
30 L2	Nonane	125.000	122.123	2.3	100	0.00
31 L2	Decane	150.000	145.985	2.7	100	0.00
32 L2	Butylcyclohexane	137.500	133.439	3.0	100	0.00
33 L2	Undecane	162.500	158.082	2.7	100	0.00
34 L2	Dodecane	175.000	167.045	4.5	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	875.000	843.515	3.6	100	0.00
36 H	APH EC9-12 aliphatics	875.000	1276.562	-45.9#	151	0.00
37 S	4-Bromofluorobenzene	71.000	72.819	-2.6	100	0.00
38 L3	Isopropylbenzene	122.500	118.819	3.0	100	0.00
39 L3	1-Methyl-3-ethylbenzene	122.500	120.270	1.8	100	0.00
40 L3	1,3,5-Trimethylbenzene	122.500	120.439	1.7	100	0.00
41 L3	p-Isopropyltoluene	137.500	139.481	-1.4	100	0.00
42 L3	1,2,3-Trimethylbenzene	122.500	122.305	0.2	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	627.000	636.452	-1.5	100	0.00
44 H	APH EC9-10 aromatics (1)	490.000	394.568	19.5	79	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:46:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	137.000	117.379	14.3	84	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:46:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	-0.02
2 T	IS-1 Bromochloromethane	8.828	8.772	0.6	100	-0.02
3 T	IS-2 1,4-Difluorobenzene	12.530	10.585	15.5	98	-0.02
4 T	IS-3 Chlorobenzene-d5	15.199	15.403	-1.3	100	0.00
5 T	Methylene chloride	0.447	0.447	0.0	100	-0.03
6	Acetone	23.578	23.348	1.0	99	-0.02
7	2-Propanol	0.137	0.000	100.0#	0#	-5.84#
8 T	1,3-Butadiene	2.944	2.721	7.6	100	-0.04
9 T	Methyl t-butyl ether	3.854	3.710	3.7	100	-0.03
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
11 T	Benzene	1.700	1.642	3.4	100	0.00
12 L1	Isopentane	3.376	3.314	1.8	101	-0.02
13 L1	Hexane	3.421	3.276	4.2	100	-0.02
14 L1	Cyclohexane	3.471	3.848	-10.9	104	0.00
15 L1	2,3-Dimethylpentane	4.429	4.201	5.1	100	-0.02
16 L1	Heptane	3.620	3.527	2.6	100	-0.02
17 L1	Octane	4.963	5.895	-18.8	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	3.967	4.132	-4.2	101	-0.02
19 H	APH EC5-8 aliphatics	3.967	10.627	-167.9#	259#	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	4.221	4.310	-2.1	100	0.00
22	Hexamethylcyclotrisiloxane	1.040	1.339	-28.7	100	0.00
23	Octamethylcyclotetrasiloxan	1.298	2.706	-108.5#	100	0.00
24 T	Toluene	1.073	1.017	5.2	100	0.00
25 T	Ethylbenzene	2.215	2.119	4.3	100	0.00
26 T	m,p-Xylene	0.745	0.718	3.6	100	0.00
27 T	o-Xylene	0.705	0.710	-0.7	100	0.00
28 T	Naphthalene	1.799	1.864	-3.6	100	0.00
29 L2	2,3-Dimethylheptane	5.025	4.777	4.9	99	-0.02
30 L2	Nonane	5.247	5.126	2.3	100	0.00
31 L2	Decane	5.213	5.073	2.7	100	0.00
32 L2	Butylcyclohexane	5.921	5.747	2.9	100	0.00
33 L2	Undecane	5.170	5.029	2.7	100	0.00
34 L2	Dodecane	4.243	4.050	4.5	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	5.116	4.932	3.6	100	0.00
36 H	APH EC9-12 aliphatics	5.116	7.463	-45.9#	151	0.00
37 S	4-Bromofluorobenzene	0.626	0.642	-2.6	100	0.00
38 L3	Isopropylbenzene	0.392	0.380	3.1	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.548	0.538	1.8	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.694	0.682	1.7	100	0.00
41 L3	p-Isopropyltoluene	0.341	0.346	-1.5	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.814	0.813	0.1	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.539	0.548	-1.7	100	0.00
44 H	APH EC9-10 aromatics (1)	0.596	0.480	19.5	79	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:46:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.339	0.291	14.2	84	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0



Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081922.D  
 Acq On : 19 Aug 2021 11:26 pm  
 Operator : bat  
 Sample : SCV 64-81b  
 Misc : Line 3, 150cc  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:52 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	127010	50.000	ug/m3	#-0.02
10) 1,4-Difluorobenzene	13.21	114	599277	50.000	ug/m3	-0.02
20) Chlorobenzene-d5	18.21	117	538456	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	468501	69.448	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	97.82%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.97	TIC	1138516	50.769	ug/m3	89
3) IS-2 1,4-Difluorobenzene	13.21	TIC	1577045	49.546	ug/m3	93
4) IS-3 Chlorobenzene-d5	18.21	TIC	1927807	49.934	ug/m3	92
5) Methylene chloride	6.83	TIC	83754	73.767	ug/m3	93
6) Acetone	5.60	TIC	13287	0.222	ppbv	100
7) 2-Propanol	5.84	TIC	11286	32.431	ppbv	100
8) 1,3-Butadiene	4.28	54	124	0.017	ug/m3#	1
9) Methyl t-butyl ether	0.00		0	N.D.		
11) Benzene	12.71	78	1343	0.066	ug/m3	97
12) Isopentane	5.74	TIC	915	0.023	ug/m3#	51
13) Hexane	10.10	TIC	2171705	54.861	ug/m3	93
14) Cyclohexane	13.21	TIC	1577045	37.911	ug/m3	93
15) 2,3-Dimethylpentane	13.21	TIC	1577045	29.707	ug/m3	64
16) Heptane	14.60	TIC	12137	0.280	ug/m3	70
17) Octane	17.78	TIC	470611	7.911	ug/m3	62
18) APH EC5-8 aliphatics T...	12.91	TIC	5809458m	122.177	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	2880131m	60.571	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2226697	48.985	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	490092	43.772	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	391073	27.986	ppbv	100
24) Toluene	16.14	92	92	0.008	ug/m3#	12
25) Ethylbenzene	18.60	91	1189	0.050	ug/m3	86
26) m,p-Xylene	18.78	106	465	0.058	ug/m3#	22
27) o-Xylene	19.23	106	168	0.022	ug/m3	99
28) Naphthalene	23.94	128	4097	0.211	ug/m3	96
29) 2,3-Dimethylheptane	0.00		0	N.D.		
30) Nonane	19.64	TIC	2226697	39.406	ug/m3	60
31) Decane	20.90	TIC	4049669	72.141	ug/m3	93
32) Butylcyclohexane	21.58	TIC	32240	0.506	ug/m3	61
33) Undecane	22.28	TIC	33872	0.608	ug/m3	98
34) Dodecane	23.79	TIC	4403259	96.357	ug/m3	94
35) APH EC9-12 aliphatics ...	0.00	TIC	10745737m	195.053	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	12708263m	230.676	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	20.45	120	538510	91.176	ug/m3#	62
40) 1,3,5-Trimethylbenzene	20.45	120	538510	72.056	ug/m3	91
41) p-Isopropyltoluene	21.28	134	58	0.016	ug/m3#	1
42) 1,2,3-Trimethylbenzene	21.29	120	391	0.045	ug/m3#	37
43) APH EC9-10 aromatics T...	0.00	TIC	1077469m	185.483	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	440443m	68.667	ug/m3	

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081922.D  
 Acq On : 19 Aug 2021 11:26 pm  
 Operator : bat  
 Sample : SCV 64-81b  
 Misc : Line 3, 150cc  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

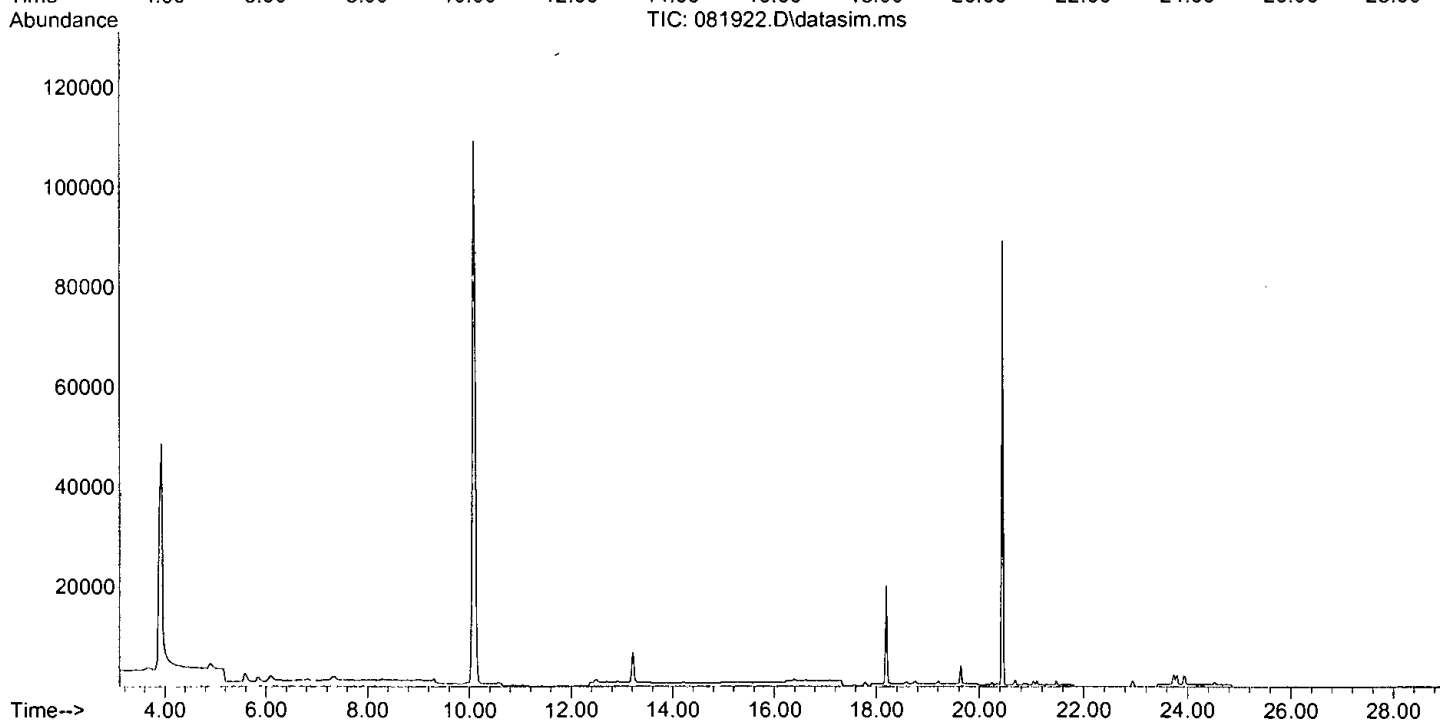
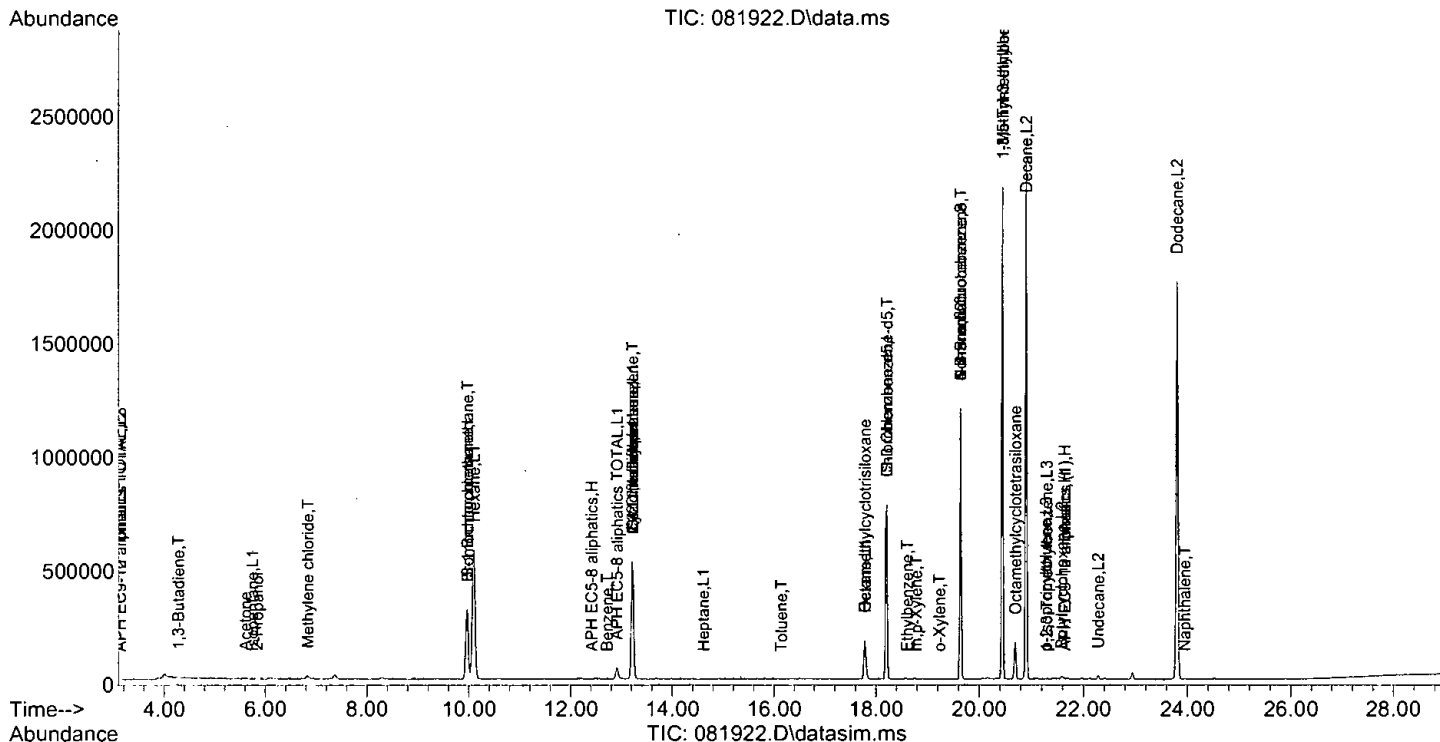
Quant Time: Aug 20 10:30:52 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	-95841m	Below	Cal	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081922.D  
 Acq On : 19 Aug 2021 11:26 pm  
 Operator : bat  
 Sample : SCV 64-81b  
 Misc : Line 3, 150cc  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:52 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081922.D  
 Acq On : 19 Aug 2021 11:26 pm  
 Operator : bat  
 Sample : SCV 64-81b  
 Misc : Line 3, 150cc  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:52 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I Bromochloromethane	50.000	50.000	0.0	100	-0.02
2 T IS-1 Bromochloromethane	50.000	50.769	-1.5	102	-0.02
3 T IS-2 1,4-Difluorobenzene	50.000	49.546	0.9	95	-0.02
4 T IS-3 Chlorobenzene-d5	50.000	49.934	0.1	101	0.00
5 T Methylene chloride	50.000	73.767	-47.5#	0	-0.03
6 Acetone	50.000	0.222	99.6#	0	-0.08
7 2-Propanol	50.000	32.431	35.1#	0	0.00
8 T 1,3-Butadiene	11.000	0.017	99.8#	0	0.00
9 T Methyl t-butyl ether	18.000	0.000	100.0#	0	-8.51#
10 I 1,4-Difluorobenzene	50.000	50.000	0.0	99	-0.02
11 T Benzene	16.000	0.066	99.6#	0	0.00
12 L1 Isopentane	15.000	0.023	99.8#	0	0.06
13 L1 Hexane	<del>17.500</del> 67 17.500	54.861	-213.5#	296	-0.02
14 L1 Cyclohexane	17.500	37.911	-116.6#	226	0.05
15 L1 2,3-Dimethylpentane	21.000	29.707	-41.5#	137	-0.30
16 L1 Heptane	21.000	0.280	98.7#	1	-0.02
17 L1 Octane	23.500	7.911	66.3#	32	0.37
18 L1 APH EC5-8 aliphatics TOTAL	115.000	122.177	-6.2	103	0.20
19 H APH EC5-8 aliphatics	115.000	60.571	47.3#	51	0.00
20 I Chlorobenzene-d5	50.000	50.000	0.0	102	0.00
21 T S 4-Bromofluorobenzene	50.000	48.985	2.0	99	0.00
22 Hexamethylcyclotrisiloxane	50.000	43.772	12.5	91	0.00
23 Octamethylcyclotetrasiloxan	50.000	27.986	44.0#	53	0.00
24 T Toluene	18.750	0.008	100.0#	0	-0.25
25 T Ethylbenzene	21.750	0.050	99.8#	0	0.00
26 T m,p-Xylene	44.000	0.058	99.9#	0	0.02
27 T o-Xylene	22.000	0.022	99.9#	0	0.02
28 T Naphthalene	25.000	0.211	99.2#	1	0.00
29 L2 2,3-Dimethylheptane	25.000	0.000	100.0#	0	-18.66#
30 L2 Nonane	25.000	39.406	-57.6#	161	0.27
31 L2 Decane	<del>30.000</del> 67 30.000	72.141	-140.5#	249	0.00
32 L2 Butylcyclohexane	27.500	0.506	98.2#	2	0.01
33 L2 Undecane	32.500	0.608	98.1#	2	0.00
34 L2 Dodecane	35.000	96.357	-175.3#	282	0.00
35 L2 APH EC9-12 aliphatics TOTAL	175.000	195.053	-11.5	115	-21.57#
36 H APH EC9-12 aliphatics	175.000	230.676	-31.8#	137	0.00
37 S 4-Bromofluorobenzene	71.000	69.448	2.2	100	0.00
38 L3 Isopropylbenzene	24.500	0.000	100.0#	0	-19.75#
39 L3 1-Methyl-3-ethylbenzene	24.500	91.176	-272.1#	387	0.12
40 L3 1,3,5-Trimethylbenzene	<del>24.500</del> 67 24.500	72.056	-194.1#	302	0.00
41 L3 p-Isopropyltoluene	27.750	0.016	99.9#	0	0.00
42 L3 1,2,3-Trimethylbenzene	24.500	0.045	99.8#	0	-0.01
43 L3 APH EC9-10 aromatics TOTAL	125.400	185.483	-47.9#	148	-21.57#
44 H APH EC9-10 aromatics (1)	98.000	68.667	29.9	70	0.00

81.9%

108%

108%

AS 8/20/21

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081922.D  
 Acq On : 19 Aug 2021 11:26 pm  
 Operator : bat  
 Sample : SCV 64-81b  
 Misc : Line 3, 150cc  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:52 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	27.400	-26.234	195.7#	-97	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081922.D  
 Acq On : 19 Aug 2021 11:26 pm  
 Operator : bat  
 Sample : SCV 64-81b  
 Misc : Line 3, 150cc  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:52 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	-0.02
2 T	IS-1 Bromochloromethane	8.828	8.964	-1.5	102	-0.02
3 T	IS-2 1,4-Difluorobenzene	12.530	12.417	0.9	95	-0.02
4 T	IS-3 Chlorobenzene-d5	15.199	15.178	0.1	101	0.00
5 T	Methylene chloride	0.447	0.659	-47.4#	0#	-0.03
6	Acetone	23.578	0.105	99.6#	0#	-0.08
7	2-Propanol	0.137	0.089	35.0#	0#	0.00
8 T	1,3-Butadiene	2.944	0.004	99.9#	0#	0.00
9 T	Methyl t-butyl ether	3.854	0.000	100.0#	0#	-8.51#
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	99	-0.02
11 T	Benzene	1.700	0.007	99.6#	0#	0.00
12 L1	Isopentane	3.376	0.005	99.9#	0#	0.06
13 L1	Hexane	3.421	10.354	-202.7#	296#	-0.02
14 L1	Cyclohexane	3.471	7.519	-116.6#	226#	0.05
15 L1	2,3-Dimethylpentane	4.429	6.266	-41.5#	137	-0.30
16 L1	Heptane	3.620	0.048	98.7#	1#	-0.02
17 L1	Octane	4.963	1.671	66.3#	32#	0.37
18 L1	APH EC5-8 aliphatics TOTAL	3.967	4.215	-6.3	103	0.20
19 H	APH EC5-8 aliphatics	3.967	2.090	47.3#	51	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	102	0.00
21 T	S 4-Bromofluorobenzene	4.221	4.135	2.0	99	0.00
22	Hexamethylcyclotrisiloxane	1.040	0.910	12.5	91	0.00
23	Octamethylcyclotetrasiloxan	1.298	0.726	44.1#	53	0.00
24 T	Toluene	1.073	0.000	100.0#	0#	-0.25
25 T	Ethylbenzene	2.215	0.005	99.8#	0#	0.00
26 T	m,p-Xylene	0.745	0.001	99.9#	0#	0.02
27 T	o-Xylene	0.705	0.001	99.9#	0#	0.02
28 T	Naphthalene	1.799	0.015	99.2#	1#	0.00
29 L2	2,3-Dimethylheptane	5.025	0.000	100.0#	0#	-18.66#
30 L2	Nonane	5.247	8.271	-57.6#	161	0.27
31 L2	Decane	5.213	12.535	-140.5#	249#	0.00
32 L2	Butylcyclohexane	5.921	0.109	98.2#	2#	0.01
33 L2	Undecane	5.170	0.097	98.1#	2#	0.00
34 L2	Dodecane	4.243	11.682	-175.3#	282#	0.00
35 L2	APH EC9-12 aliphatics TOTAL	5.116	5.702	-11.5	115	-21.57#
36 H	APH EC9-12 aliphatics	5.116	6.743	-31.8#	137	0.00
37 S	4-Bromofluorobenzene	0.626	0.613	2.1	100	0.00
38 L3	Isopropylbenzene	0.392	0.000	100.0#	0#	-19.75#
39 L3	1-Methyl-3-ethylbenzene	0.548	2.041	-272.4#	387#	0.12
40 L3	1,3,5-Trimethylbenzene	0.694	2.041	-194.1#	302#	0.00
41 L3	p-Isopropyltoluene	0.341	0.000	100.0#	0#	0.00
42 L3	1,2,3-Trimethylbenzene	0.814	0.001	99.9#	0#	-0.01
43 L3	APH EC9-10 aromatics TOTAL	0.539	0.798	-48.1#	148	-21.57#
44 H	APH EC9-10 aromatics (1)	0.596	0.417	30.0#	70	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081922.D  
 Acq On : 19 Aug 2021 11:26 pm  
 Operator : bat  
 Sample : SCV 64-81b  
 Misc : Line 3, 150cc  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:52 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.339	-0.325#	195.9#	-97#	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : Z:\Proc GCMS7\08-24-21\  
 Data File : 082414.D  
 Acq On : 24 Aug 2021 3:48 pm  
 Operator : bat  
 Sample : 0.01 ppbv 64-87c  
 Misc : T2, 25cc of 0.1ppbv  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:01:29 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	116099	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	553684	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	491349	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	436803	9.813	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	98.10%
Target Compounds						
						Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.		
6) Vinyl chloride	0.00		0	N.D.	d	
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.	d	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	0.00		0	N.D.	d	
19) trans-1,2-Dichloroethene	0.00		0	N.D.	d	
20) Methylene chloride	0.00		0	N.D.	d	
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	0.00		0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00		0	N.D.	d	
29) Hexane	0.00		0	N.D.	d	
30] Chloroform	10.19	83	669	0.013	ppbv	95
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.		
34] 1,2-Dichloroethane (EDC)	11.44	62	499	0.013	ppbv	95
35) 1,1,1-Trichloroethane	0.00		0	N.D.	d	
36) Carbon tetrachloride	0.00		0	N.D.	d	
37) Benzene	0.00		0	N.D.	d	
38) Cyclohexane	0.00		0	N.D.	d	
40] 1,2-Dichloropropane	13.90	63	447	0.013	ppbv	98
41) 1,4-Dioxane	0.00		0	N.D.	d	
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082414.D  
 Acq On : 24 Aug 2021 3:48 pm  
 Operator : bat  
 Sample : 0.01 ppbv 64-87c  
 Misc : T2, 25cc of 0.1ppbv  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

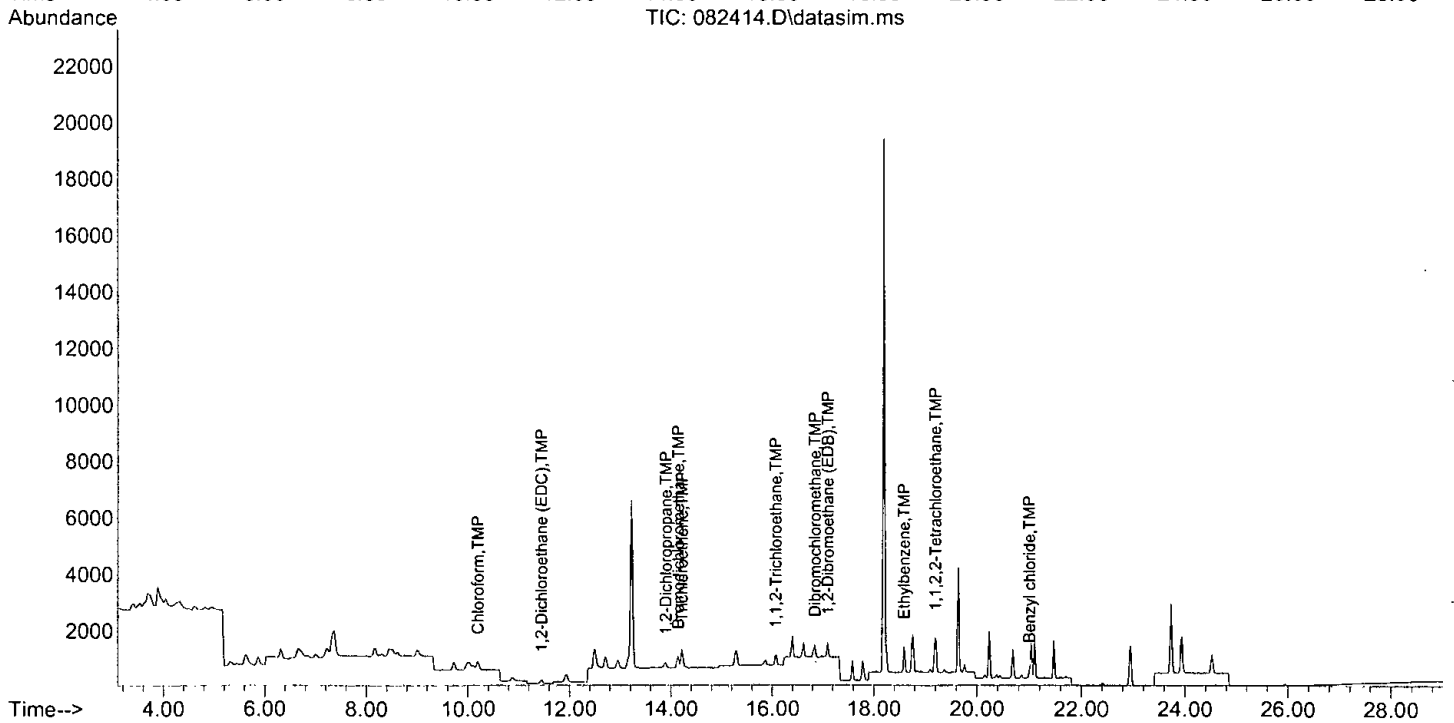
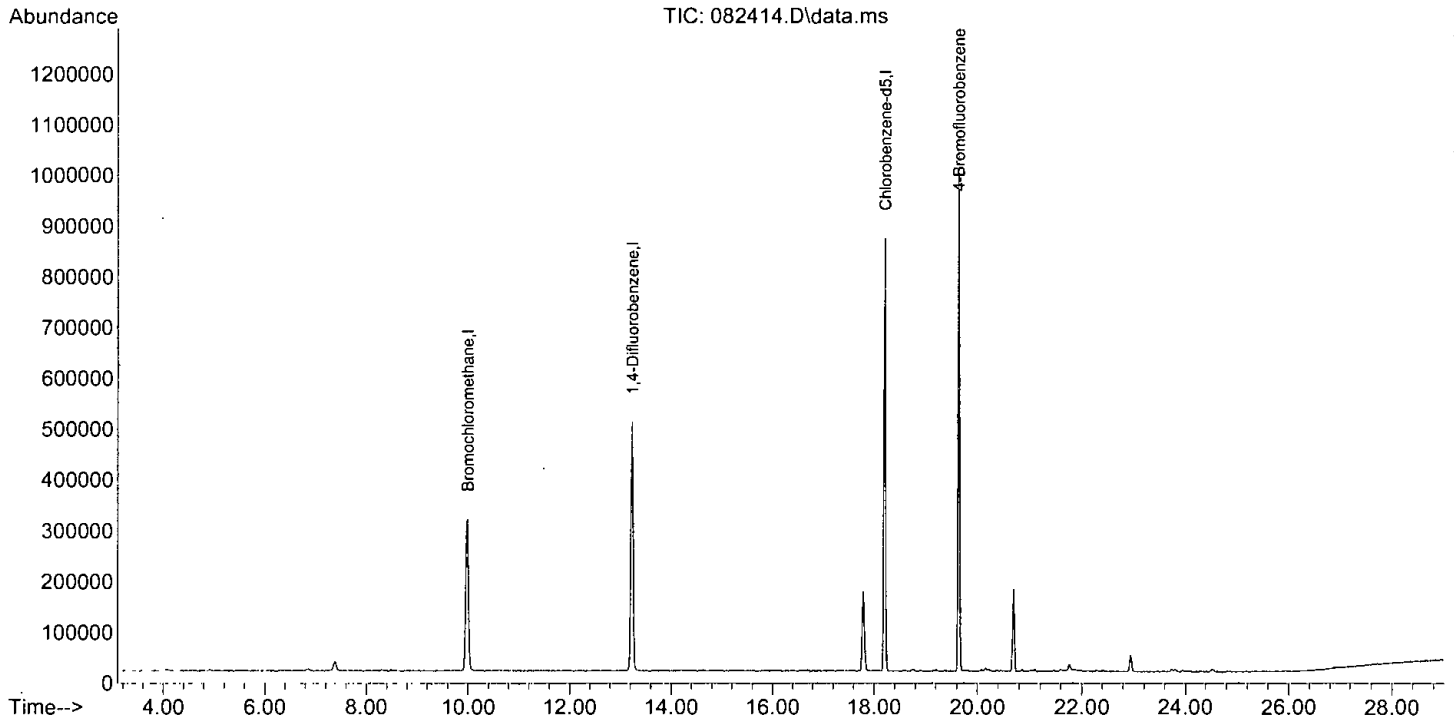
Quant Time: Aug 25 11:01:29 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	14.14	83	685	0.013	ppbv	90
46) Trichloroethene	14.22	95	508	0.015	ppbv	89
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50) Toluene	0.00		0	N.D.	d	
51) 1,1,2-Trichloroethane	16.06	83	414	0.013	ppbv	93
52) 2-Hexanone	0.00		0	N.D.	d	
53) Tetrachloroethene	0.00		0	N.D.	d	
54) Dibromochloromethane	16.85	129	546	0.013	ppbv	87
55) 1,2-Dibromoethane (EDB)	17.10	107	579	0.013	ppbv	88
57) Chlorobenzene	0.00		0	N.D.	d	
58) Ethylbenzene	18.59	91	1554	0.014	ppbv	98
59) 1,1,2,2-Tetrachloroethane	19.19	83	1044	0.014	ppbv	98
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65) m,p-Xylene	0.00		0	N.D.	d	
66) o-Xylene	0.00		0	N.D.	d	
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	21.01	91	419	0.011	ppbv	93
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77) Naphthalene	0.00		0	N.D.	d	
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082414.D  
 Acq On : 24 Aug 2021 3:48 pm  
 Operator : bat  
 Sample : 0.01 ppbv 64-87c  
 Misc : T2, 25cc of 0.1ppbv  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:01:29 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082414.D  
 Acq On : 24 Aug 2021 3:48 pm  
 Operator : bat  
 Sample : 0.01 ppbv 64-87c  
 Misc : T2, 25cc of 0.1ppbv  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:01:29 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I Bromochloromethane	10.000	10.000	0.0	100	0.00
2	TMP Propene	-1.000	0.000	0.0	0	-3.41#
3	TMP Dichlorodifluoromethane	-1.000	0.000	0.0	0	-3.52#
4	TMP Chloromethane	-1.000	0.000	0.0	0	-3.77#
5	TMP F-114	-1.000	0.000	0.0	0	-3.88#
6	TMP Vinyl chloride	-1.000	0.000	0.0	0	-4.05#
7	TMP 1,3-Butadiene	-1.000	0.000	0.0	0	-4.25#
8	TMP Butane	-1.000	0.000	0.0	0	-4.32#
9	TMP Bromomethane	-1.000	0.000	0.0	0	-4.64#
10	TMP Chloroethane	-1.000	0.000	0.0	0	-4.84#
11	TMP Vinyl bromide	-1.000	0.000	0.0	0	-5.32#
12	TMP Ethanol	-1.000	0.000	0.0	0	-4.96#
13	TMP Acrolein	-1.000	0.000	0.0	0	-5.43#
14	TMP Pentane	-1.000	0.000	0.0	0	-6.33#
15	TMP Trichlorofluoromethane	-1.000	0.000	0.0	0	-5.88#
16	TMP Acetone	-1.000	0.000	0.0	0	-5.59#
17	TMP 2-Propanol	-1.000	0.000	0.0	0	-5.86#
18	TMP 1,1-Dichloroethene	-1.000	0.000	0.0	0	-6.73#
19	TMP trans-1,2-Dichloroethene	-1.000	0.000	0.0	0	-8.18#
20	TMP Methylene chloride	-1.000	0.000	0.0	0	-6.86#
21	TMP t-Butyl alcohol (TBA)	-1.000	0.000	0.0	0	-6.65#
22	TMP 3-Chloropropene	-1.000	0.000	0.0	0	-7.01#
23	TMP CFC-113	-1.000	0.000	0.0	0	-7.22#
24	TMP Carbon disulfide	-1.000	0.000	0.0	0	-7.33#
25	TMP Methyl t-butyl ether (MTBE)	-1.000	0.000	0.0	0	-8.51#
26	TMP Vinyl acetate	-1.000	0.000	0.0	0	-8.62#
27	TMP 1,1-Dichloroethane	-1.000	0.000	0.0	0	-8.44#
28	TMP cis-1,2-Dichloroethene	-1.000	0.000	0.0	0	-9.73#
29	TMP Hexane	-1.000	0.000	0.0	0	-10.11#
30	TMP Chloroform	0.010	0.013	-30.0	100	0.00
31	TMP Ethyl acetate	-1.000	0.000	0.0	0	-10.01#
32	TMP Tetrahydrofuran	-1.000	0.000	0.0	0	-10.84#
33	TMP 2-Butanone (MEK)	-1.000	0.000	0.0	0	-8.99#
34	TMP 1,2-Dichloroethane (EDC)	0.010	0.013	-30.0	100	0.00
35	TMP 1,1,1-Trichloroethane	-1.000	0.000	0.0	0	-11.94#
36	TMP Carbon tetrachloride	-1.000	0.000	0.0	0	-12.95#
37	TMP Benzene	-1.000	0.000	0.0	0	-12.70#
38	TMP Cyclohexane	-1.000	0.000	0.0	0	-13.16#
39	I 1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40	TMP 1,2-Dichloropropane	0.010	0.013	-30.0	100	0.00
41	TMP 1,4-Dioxane	-1.000	0.000	0.0	0	-14.17#
42	TMP 2,2,4-Trimethylpentane	-1.000	0.000	0.0	0	-14.31#
43	TMP Methyl methacrylate	-1.000	0.000	0.0	0	-14.43#
44	TMP Heptane	-1.000	0.000	0.0	0	-14.63#
45	TMP Bromodichloromethane	0.010	0.013	-30.0	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082414.D  
 Acq On : 24 Aug 2021 3:48 pm  
 Operator : bat  
 Sample : 0.01 ppbv 64-87c  
 Misc : T2, 25cc of 0.1ppbv  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:01:29 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev (min)
46 TMP Trichloroethene	0.010	0.015	-50.0#	99	0.00
47 TMP cis-1,3-Dichloropropene	-1.000	0.000	0.0	0	-15.27#
48 TMP 4-Methyl-2-pentanone	-1.000	0.000	0.0	0	-15.29#
49 TMP trans-1,3-Dichloropropene	-1.000	0.000	0.0	0	-15.85#
50 TMP Toluene	-1.000	0.000	0.0	0	-16.40#
51 TMP 1,1,2-Trichloroethane	0.010	0.013	-30.0	103	0.00
52 TMP 2-Hexanone	-1.000	0.000	0.0	0	-16.62#
53 TMP Tetrachloroethene	-1.000	0.000	0.0	0	-17.58#
54 TMP Dibromochloromethane	0.010	0.013	-30.0	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.010	0.013	-30.0	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	-1.000	0.000	0.0	0	-18.25#
58 TMP Ethylbenzene	0.010	0.014	-40.0#	101	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.010	0.014	-40.0#	101	0.00
60 TMP Nonane	-1.000	0.000	0.0	0	-19.36#
61 TMP Isopropylbenzene	-1.000	0.000	0.0	0	-19.75#
62 TMP 2-Chlorotoluene	-1.000	0.000	0.0	0	-20.23#
63 TMP Propylbenzene	-1.000	0.000	0.0	0	-20.25#
64 TMP 4-Ethyltoluene	-1.000	0.000	0.0	0	-20.38#
65 TMP m,p-Xylene	-1.000	0.000	0.0	0	-18.76#
66 TMP o-Xylene	-1.000	0.000	0.0	0	-19.21#
67 TMP Styrene	-1.000	0.000	0.0	0	-19.11#
68 TMP Bromoform	-1.000	0.000	0.0	0	-18.85#
69 S 4-Bromofluorobenzene	10.000	9.813	1.9	100	0.00
70 TMP Benzyl chloride	0.010	0.011	-10.0	100	0.00
71 TMP 1,3,5-Trimethylbenzene	-1.000	0.000	0.0	0	-20.45#
72 TMP 1,2,4-Trimethylbenzene	-1.000	0.000	0.0	0	-20.86#
73 TMP 1,3-Dichlorobenzene	-1.000	0.000	0.0	0	-21.04#
74 TMP 1,4-Dichlorobenzene	-1.000	0.000	0.0	0	-21.11#
75 TMP 1,2-Dichlorobenzene	-1.000	0.000	0.0	0	-21.47#
76 TMP 1,2,4-Trichlorobenzene	-1.000	0.000	0.0	0	-23.73#
77 TMP Naphthalene	-1.000	0.000	0.0	0	-23.93#
78 TMP Hexachlorobutadiene	-1.000	0.000	0.0	0	-24.52#

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082414.D  
 Acq On : 24 Aug 2021 3:48 pm  
 Operator : bat  
 Sample : 0.01 ppbv 64-87c  
 Misc : T2, 25cc of 0.1ppbv  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:01:29 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	1.710	0.000	100.0#	0#	-3.41#
3 TMP	Dichlorodifluoromethane	4.425	0.000#	100.0#	0#	-3.52#
4 TMP	Chloromethane	2.075	0.000#	100.0#	0#	-3.77#
5 TMP	F-114	4.450	0.000	100.0#	0#	-3.88#
6 TMP	Vinyl chloride	2.209	0.000#	100.0#	0#	-4.05#
7 TMP	1,3-Butadiene	1.529	0.000	100.0#	0#	-4.25#
8 TMP	Butane	3.248	0.000	100.0#	0#	-4.32#
9 TMP	Bromomethane	1.540	0.000#	100.0#	0#	-4.64#
10 TMP	Chloroethane	0.759	0.000#	100.0#	0#	-4.84#
11 TMP	Vinyl bromide	1.785	0.000	100.0#	0#	-5.32#
12 TMP	Ethanol	0.559	0.000	100.0#	0#	-4.96#
13 TMP	Acrolein	0.726	0.000	100.0#	0#	-5.43#
14 TMP	Pentane	3.891	0.000#	100.0#	0#	-6.33#
15 TMP	Trichlorofluoromethane	4.934	0.000#	100.0#	0#	-5.88#
16 TMP	Acetone	0.880	0.000#	100.0#	0#	-5.59#
17 TMP	2-Propanol	3.556	0.000	100.0#	0#	-5.86#
18 TMP	1,1-Dichloroethene	1.648	0.000#	100.0#	0#	-6.73#
19 TMP	trans-1,2-Dichloroethene	1.626	0.000	100.0#	0#	-8.18#
20 TMP	Methylene chloride	1.750	0.000#	100.0#	0#	-6.86#
21 TMP	t-Butyl alcohol (TBA)	2.881	0.000	100.0#	0#	-6.65#
22 TMP	3-Chloropropene	2.910	0.000	100.0#	0#	-7.01#
23 TMP	CFC-113	3.396	0.000	100.0#	0#	-7.22#
24 TMP	Carbon disulfide	5.738	0.000	100.0#	0#	-7.33#
25 TMP	Methyl t-butyl ether (MTBE)	3.820	0.000#	100.0#	0#	-8.51#
26 TMP	Vinyl acetate	2.562	0.000#	100.0#	0#	-8.62#
27 TMP	1,1-Dichloroethane	3.850	0.000#	100.0#	0#	-8.44#
28 TMP	cis-1,2-Dichloroethene	1.780	0.000#	100.0#	0#	-9.73#
29 TMP	Hexane	2.959	0.000	100.0#	0#	-10.11#
30 TMP	Chloroform	4.366	5.762	-32.0#	100	0.00
31 TMP	Ethyl acetate	6.229	0.000	100.0#	0#	-10.01#
32 TMP	Tetrahydrofuran	2.703	0.000	100.0#	0#	-10.84#
33 TMP	2-Butanone (MEK)	0.712	0.000	100.0#	0#	-8.99#
34 TMP	1,2-Dichloroethane (EDC)	3.285	4.298	-30.8#	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	0.000#	100.0#	0#	-11.94#
36 TMP	Carbon tetrachloride	3.178	0.000#	100.0#	0#	-12.95#
37 TMP	Benzene	6.123	0.000#	100.0#	0#	-12.70#
38 TMP	Cyclohexane	1.669	0.000	100.0#	0#	-13.16#
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.618	0.807	-30.6#	100	0.00
41 TMP	1,4-Dioxane	0.270	0.000	100.0#	0#	-14.17#
42 TMP	2,2,4-Trimethylpentane	2.076	0.000	100.0#	0#	-14.31#
43 TMP	Methyl methacrylate	0.567	0.000	100.0#	0#	-14.43#
44 TMP	Heptane	0.959	0.000	100.0#	0#	-14.63#
45 TMP	Bromodichloromethane	0.953	1.237	-29.8	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082414.D  
 Acq On : 24 Aug 2021 3:48 pm  
 Operator : bat  
 Sample : 0.01 ppbv 64-87c  
 Misc : T2, 25cc of 0.1ppbv  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:01:29 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev (min)
46 TMP Trichloroethene	0.618	0.917	-48.4#	99	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.000	100.0#	0#	-15.27#
48 TMP 4-Methyl-2-pentanone	0.040	0.000	100.0#	0#	-15.29#
49 TMP trans-1,3-Dichloropropene	0.540	0.000	100.0#	0#	-15.85#
50 TMP Toluene	0.749	0.000	100.0#	0#	-16.40#
51 TMP 1,1,2-Trichloroethane	0.563	0.748	-32.9#	103	0.00
52 TMP 2-Hexanone	1.055	0.000#	100.0#	0#	-16.62#
53 TMP Tetrachloroethene	0.381	0.000#	100.0#	0#	-17.58#
54 TMP Dibromochloromethane	0.787	0.986	-25.3	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	1.046	-34.3#	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	0.000#	100.0#	0#	-18.25#
58 TMP Ethylbenzene	2.221	3.163	-42.4#	101	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	2.125	-37.2#	101	0.00
60 TMP Nonane	1.679	0.000	100.0#	0#	-19.36#
61 TMP Isopropylbenzene	1.948	0.000	100.0#	0#	-19.75#
62 TMP 2-Chlorotoluene	0.463	0.000	100.0#	0#	-20.23#
63 TMP Propylbenzene	4.322	0.000	100.0#	0#	-20.25#
64 TMP 4-Ethyltoluene	2.027	0.000	100.0#	0#	-20.38#
65 TMP m,p-Xylene	0.713	0.000#	100.0#	0#	-18.76#
66 TMP o-Xylene	0.701	0.000#	100.0#	0#	-19.21#
67 TMP Styrene	1.032	0.000#	100.0#	0#	-19.11#
68 TMP Bromoform	0.801	0.000#	100.0#	0#	-18.85#
69 S 4-Bromofluorobenzene	0.906	0.889	1.9	100	0.00
70 TMP Benzyl chloride	0.751	0.853	-13.6	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	0.000	100.0#	0#	-20.45#
72 TMP 1,2,4-Trimethylbenzene	1.679	0.000	100.0#	0#	-20.86#
73 TMP 1,3-Dichlorobenzene	1.154	0.000	100.0#	0#	-21.04#
74 TMP 1,4-Dichlorobenzene	1.152	0.000	100.0#	0#	-21.11#
75 TMP 1,2-Dichlorobenzene	1.091	0.000	100.0#	0#	-21.47#
76 TMP 1,2,4-Trichlorobenzene	0.950	0.000	100.0#	0#	-23.73#
77 TMP Naphthalene	2.538	0.000	100.0#	0#	-23.93#
78 TMP Hexachlorobutadiene	0.852	0.000	100.0#	0#	-24.52#

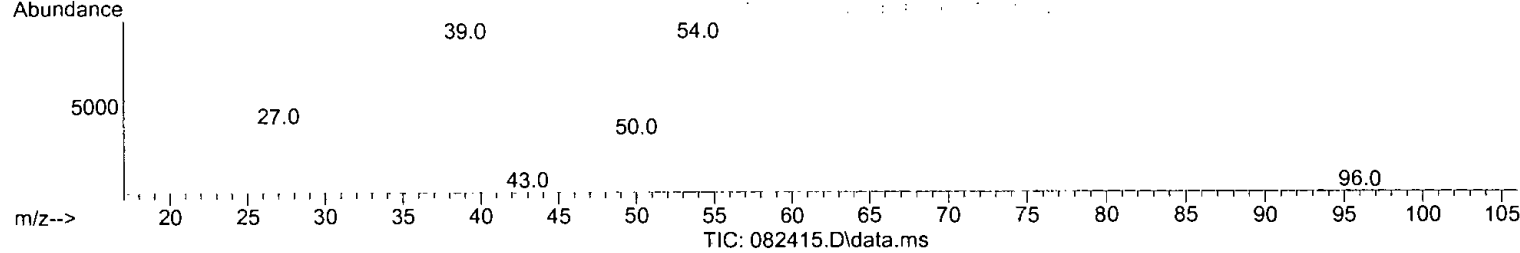
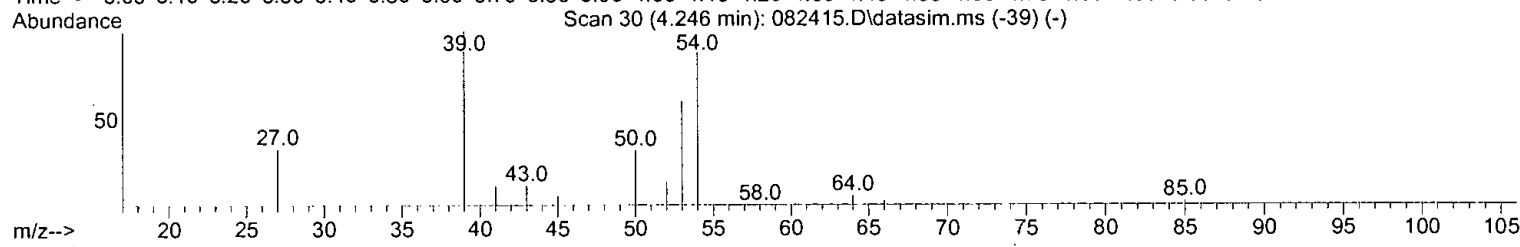
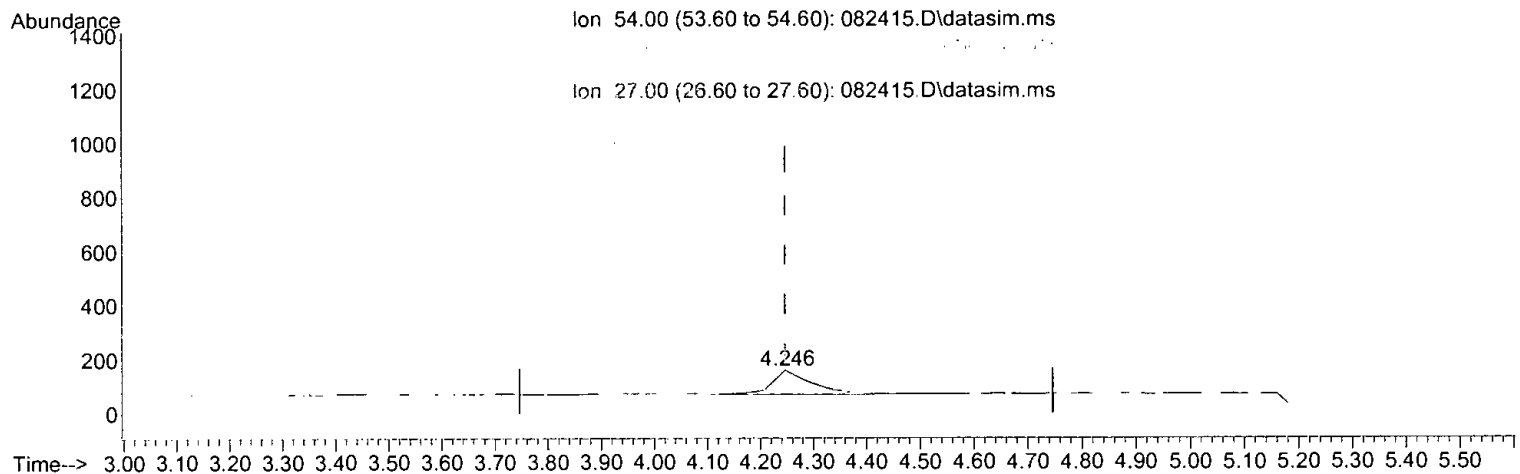
(#) = Out of Range

SPCC's out = 24 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(7) 1,3-Butadiene (TMP)

4.246min (+ 0.000) 0.027 ppbv

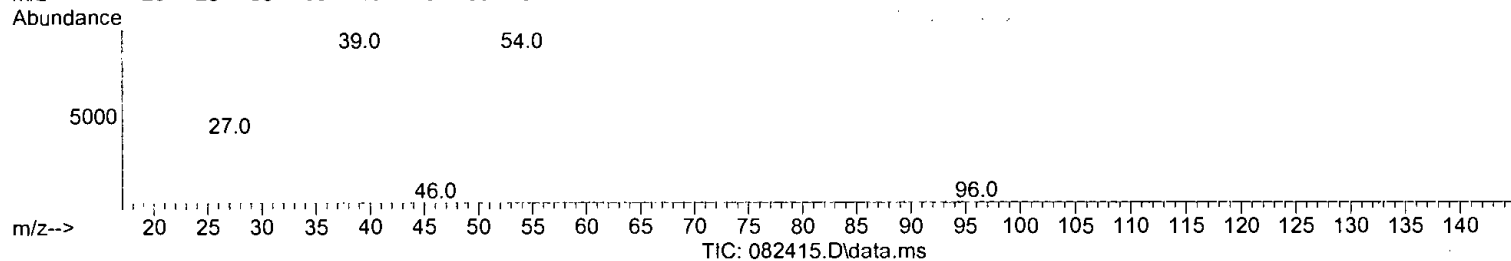
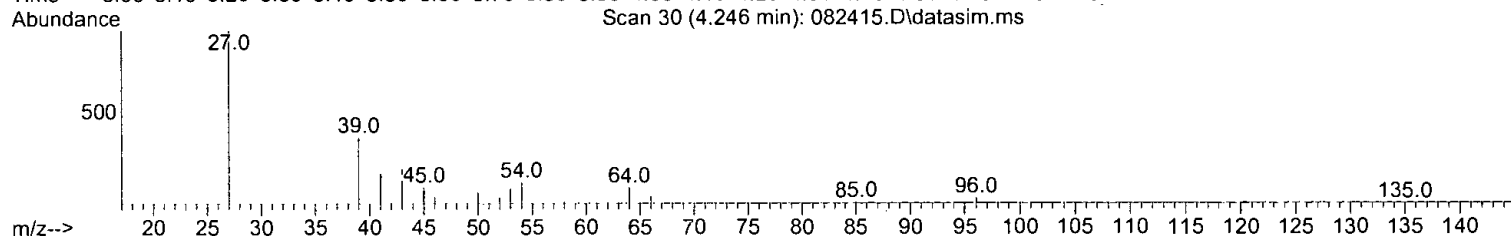
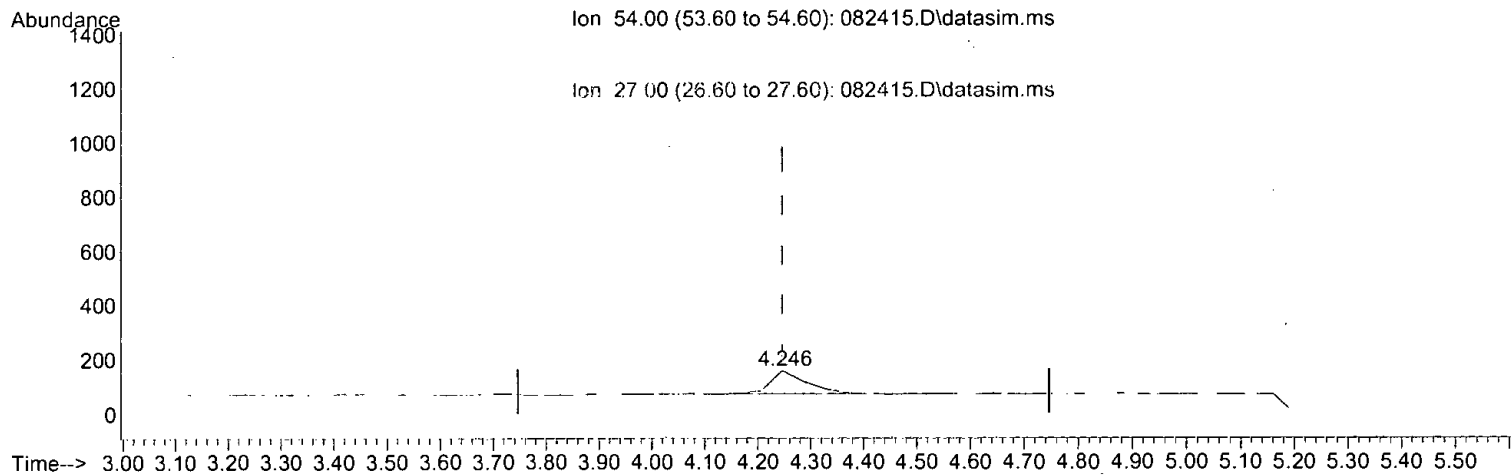
response	470
Ion	Exp% Act%
54.00	100.00 100.00
39.00	127.60 113.64
53.00	72.40 68.18
27.00	0.00 37.50#

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(7) 1,3-Butadiene (TMP)

4.246min (+ 0.000) 0.022 ppbv m

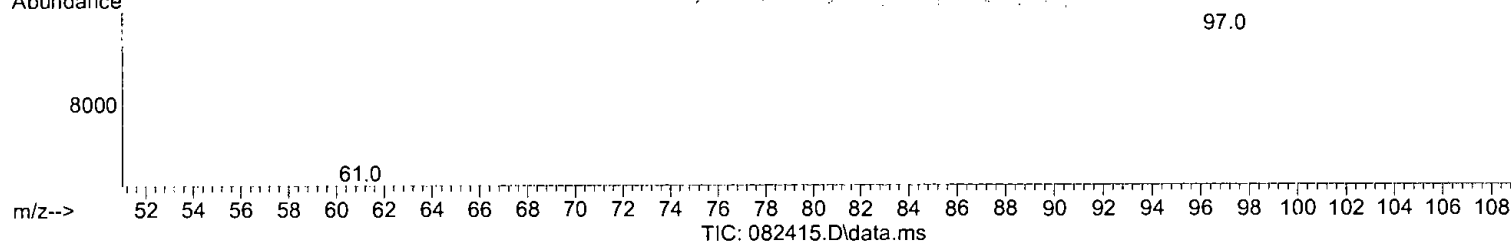
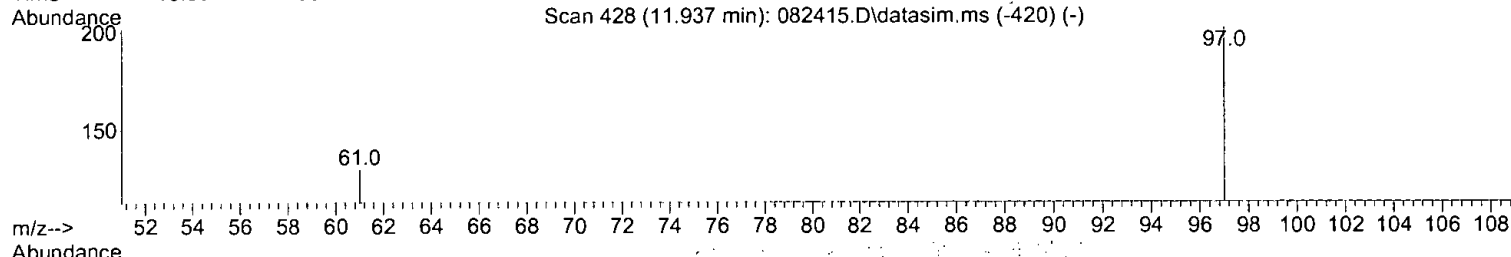
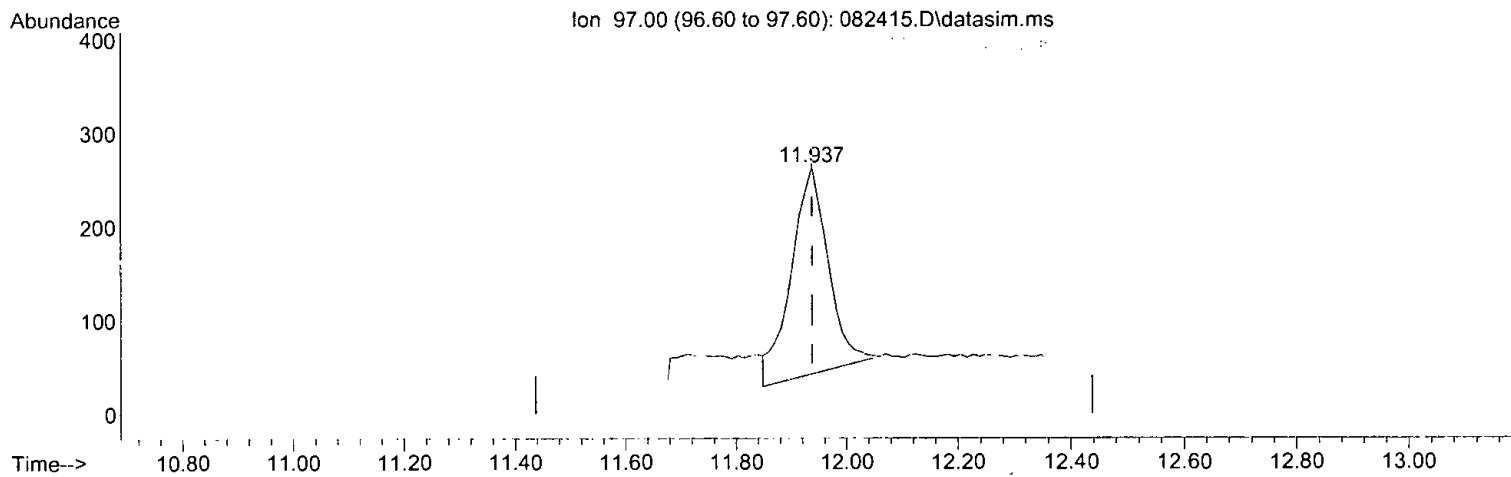
response	393
Ion	Exp% Act%
54.00	100.00 100.00
39.00	127.60 236.08#
53.00	72.40 82.28
27.00	0.00 562.66#

AS 8/25/21



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(35) 1,1,1-Trichloroethane (TMP)

11.937min (+ 0.000) 0.028 ppbv

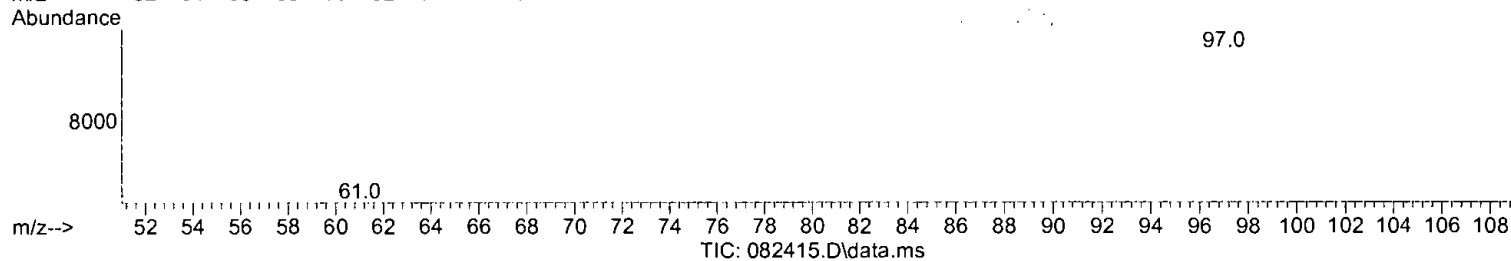
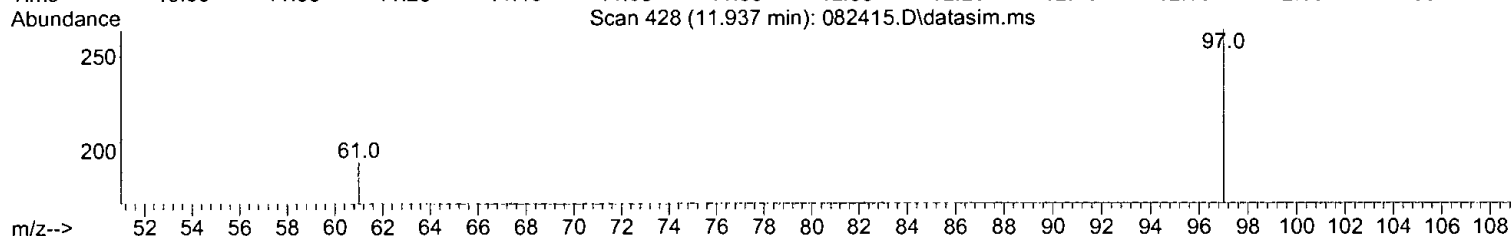
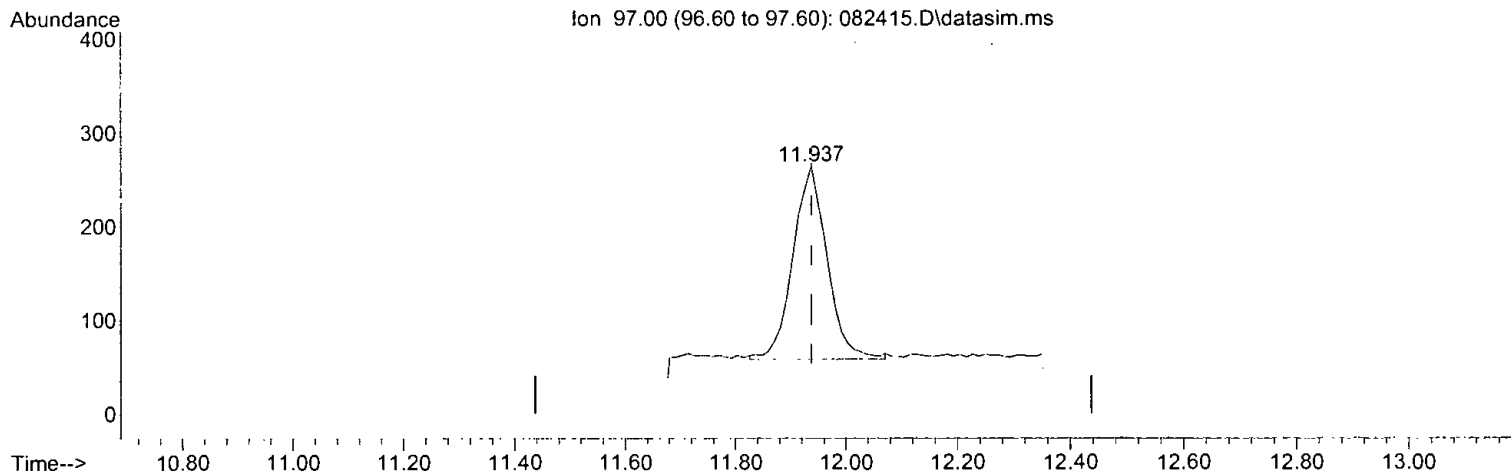
response 1034

Ion	Exp%	Act%
97.00	100.00	100.00
99.00	61.70	56.65
61.00	49.30	65.02
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(35) 1,1,1-Trichloroethane (TMP)

11.937min (+ 0.000) 0.024 ppbv m

response 879

Ion	Exp%	Act%
97.00	100.00	100.00
99.00	61.70	65.15
61.00	49.30	73.48
0.00	0.00	0.00

AS8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:06:30 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	114914	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	562536	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	491774	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	444754	9.983	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	99.80%
Target Compounds						
						Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.	d	
6] Vinyl chloride	4.05	62	618	0.024	ppbv	88
7] 1,3-Butadiene	4.25	54	393m	0.022	ppbv	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.	d	
10) Chloroethane	0.00		0	N.D.	d	
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13] Acrolein	5.45	56	501	0.060	ppbv	# 53
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18] 1,1-Dichloroethene	6.73	96	465	0.025	ppbv	90
19] trans-1,2-Dichloroethene	8.18	96	454	0.024	ppbv	90
20) Methylene chloride	0.00		0	N.D.	d	
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.44	63	1020	0.023	ppbv	97
28] cis-1,2-Dichloroethene	9.73	96	497	0.024	ppbv	# 80
29) Hexane	0.00		0	N.D.	d	
30] Chloroform	10.19	83	1106	0.022	ppbv	100
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34] 1,2-Dichloroethane (EDC)	11.44	62	824	0.022	ppbv	96
35] 1,1,1-Trichloroethane	11.94	97	879m	0.024	ppbv	
36] Carbon tetrachloride	12.95	117	832	0.023	ppbv	98
37] Benzene	12.72	78	1780	0.025	ppbv	97
38) Cyclohexane	0.00		0	N.D.	d	
40] 1,2-Dichloropropane	13.90	63	771	0.022	ppbv	100
41) 1,4-Dioxane	0.00		0	N.D.	d	
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

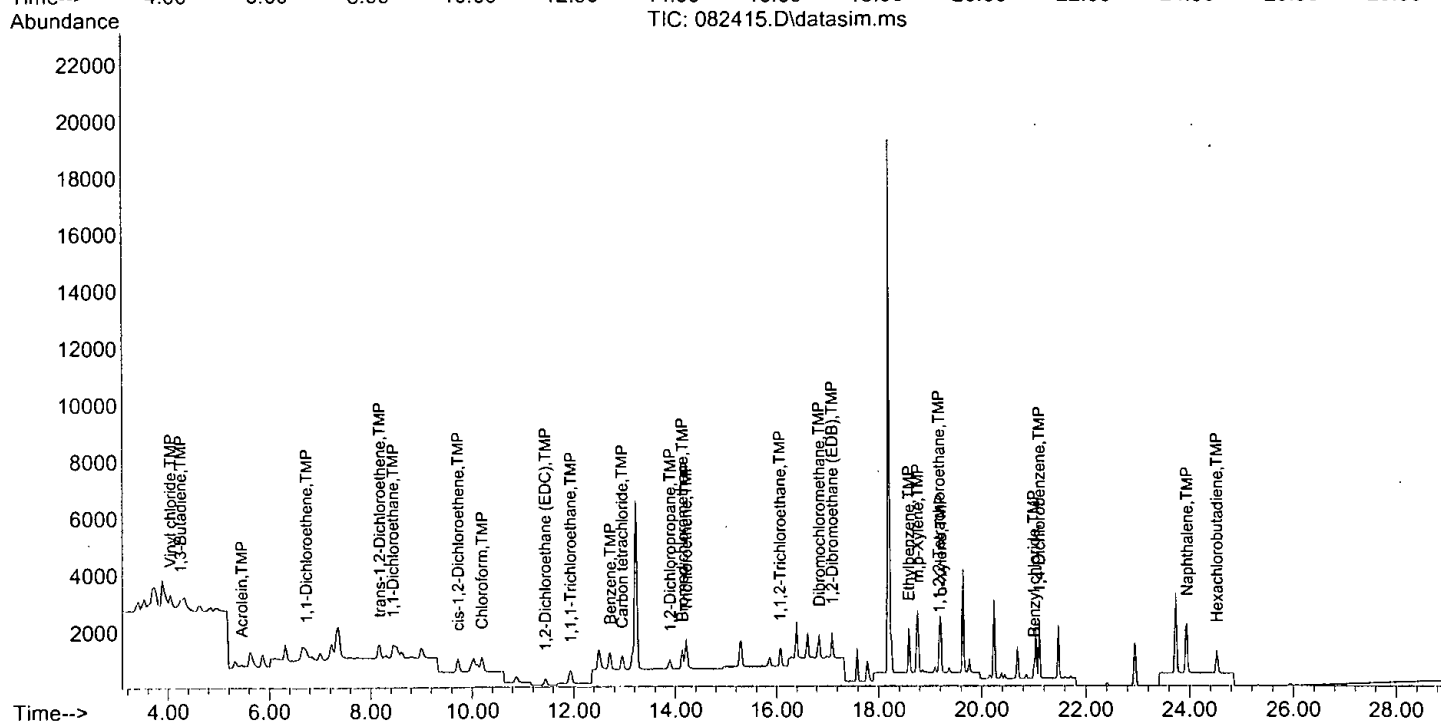
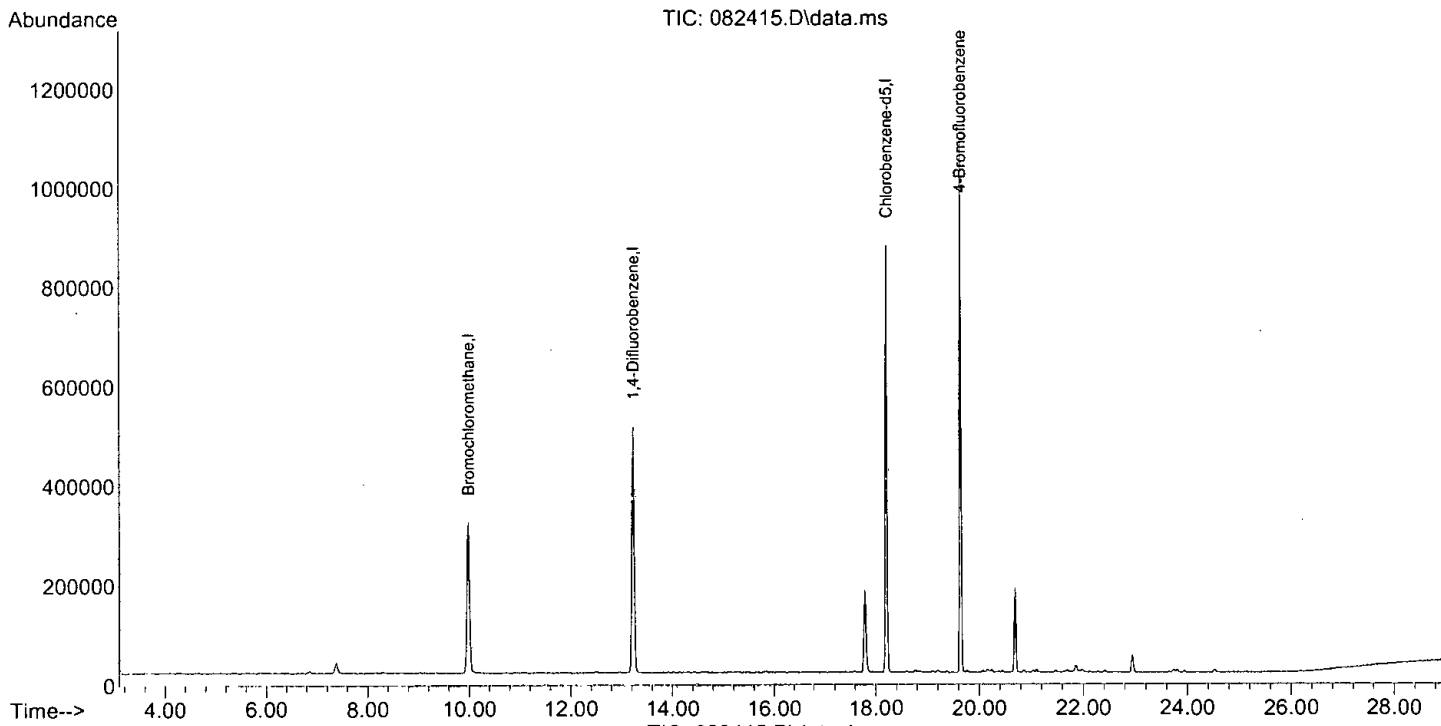
Quant Time: Aug 25 11:06:30 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	14.14	83	1141	0.021	ppbv	91
46) Trichloroethene	14.22	95	806	0.023	ppbv	86
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.		
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50) Toluene	0.00		0	N.D.	d	
51) 1,1,2-Trichloroethane	16.06	83	684	0.022	ppbv	95
52) 2-Hexanone	0.00		0	N.D.	d	
53) Tetrachloroethene	0.00		0	N.D.	d	
54) Dibromochloromethane	16.85	129	955	0.022	ppbv	89
55) 1,2-Dibromoethane (EDB)	17.10	107	959	0.022	ppbv	88
57) Chlorobenzene	0.00		0	N.D.	d	
58) Ethylbenzene	18.59	91	2527	0.023	ppbv	95
59) 1,1,2,2-Tetrachloroethane	19.17	83	1727	0.023	ppbv	90
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65) m,p-Xylene	18.76	106	1731	0.049	ppbv	94
66) o-Xylene	19.21	106	838	0.024	ppbv	91
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	21.01	91	700	0.019	ppbv	93
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	21.11	146	1673m	0.021	ppbv	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	23.73	180	2513	N.D.		
77) Naphthalene	23.95	128	4145	0.021	ppbv	98
78) Hexachlorobutadiene	24.52	225	1775	0.022	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:06:30 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:06:30 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev (min)
1 I Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP Propene	-1.000	0.000	0.0	0	-3.41#
3 TMP Dichlorodifluoromethane	-1.000	0.000	0.0	0	-3.52#
4 TMP Chloromethane	-1.000	0.000	0.0	0	-3.77#
5 TMP F-114	-1.000	0.000	0.0	0	-3.88#
6 TMP Vinyl chloride	0.020	0.024	-20.0	100	0.00
7 TMP 1,3-Butadiene	0.020	0.022	-10.0	99	0.00
8 TMP Butane	-1.000	0.000	0.0	0	-4.32#
9 TMP Bromomethane	-1.000	0.000	0.0	0	-4.64#
10 TMP Chloroethane	-1.000	0.000	0.0	0	-4.84#
11 TMP Vinyl bromide	-1.000	0.000	0.0	0	-5.32#
12 TMP Ethanol	-1.000	0.000	0.0	0	-4.96#
13 TMP Acrolein	0.020	0.060	-200.0#	264	0.02
14 TMP Pentane	-1.000	0.000	0.0	0	-6.33#
15 TMP Trichlorofluoromethane	-1.000	0.000	0.0	0	-5.88#
16 TMP Acetone	-1.000	0.000	0.0	0	-5.59#
17 TMP 2-Propanol	-1.000	0.000	0.0	0	-5.86#
18 TMP 1,1-Dichloroethene	0.020	0.025	-25.0	100	0.00
19 TMP trans-1,2-Dichloroethene	0.020	0.024	-20.0	100	0.00
20 TMP Methylene chloride	-1.000	0.000	0.0	0	-6.86#
21 TMP t-Butyl alcohol (TBA)	-1.000	0.000	0.0	0	-6.65#
22 TMP 3-Chloropropene	-1.000	0.000	0.0	0	-7.01#
23 TMP CFC-113	-1.000	0.000	0.0	0	-7.22#
24 TMP Carbon disulfide	-1.000	0.000	0.0	0	-7.33#
25 TMP Methyl t-butyl ether (MTBE)	-1.000	0.000	0.0	0	-8.51#
26 TMP Vinyl acetate	-1.000	0.000	0.0	0	-8.62#
27 TMP 1,1-Dichloroethane	0.020	0.023	-15.0	100	0.00
28 TMP cis-1,2-Dichloroethene	0.020	0.024	-20.0	100	0.00
29 TMP Hexane	-1.000	0.000	0.0	0	-10.11#
30 TMP Chloroform	0.020	0.022	-10.0	100	0.00
31 TMP Ethyl acetate	-1.000	0.000	0.0	0	-10.01#
32 TMP Tetrahydrofuran	-1.000	0.000	0.0	0	-10.84#
33 TMP 2-Butanone (MEK)	-1.000	0.000	0.0	0	-8.99#
34 TMP 1,2-Dichloroethane (EDC)	0.020	0.022	-10.0	100	0.00
35 TMP 1,1,1-Trichloroethane	0.020	0.024	-20.0	99	0.00
36 TMP Carbon tetrachloride	0.020	0.023	-15.0	100	0.00
37 TMP Benzene	0.020	0.025	-25.0	100	0.02
38 TMP Cyclohexane	-1.000	0.000	0.0	0	-13.16#
39 I 1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP 1,2-Dichloropropane	0.020	0.022	-10.0	100	0.00
41 TMP 1,4-Dioxane	-1.000	0.000	0.0	0	-14.17#
42 TMP 2,2,4-Trimethylpentane	-1.000	0.000	0.0	0	-14.31#
43 TMP Methyl methacrylate	-1.000	0.000	0.0	0	-14.43#
44 TMP Heptane	-1.000	0.000	0.0	0	-14.63#
45 TMP Bromodichloromethane	0.020	0.021	-5.0	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:06:30 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.020	0.023	-15.0	101	0.00
47 TMP cis-1,3-Dichloropropene	-1.000	0.000	0.0	0	-15.27#
48 TMP 4-Methyl-2-pentanone	-1.000	0.000	0.0	0	-15.29#
49 TMP trans-1,3-Dichloropropene	-1.000	0.000	0.0	0	-15.85#
50 TMP Toluene	-1.000	0.000	0.0	0	-16.40#
51 TMP 1,1,2-Trichloroethane	0.020	0.022	-10.0	100	0.00
52 TMP 2-Hexanone	-1.000	0.000	0.0	0	-16.62#
53 TMP Tetrachloroethene	-1.000	0.000	0.0	0	-17.58#
54 TMP Dibromochloromethane	0.020	0.022	-10.0	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.020	0.022	-10.0	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	-1.000	0.000	0.0	0	-18.25#
58 TMP Ethylbenzene	0.020	0.023	-15.0	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.020	0.023	-15.0	100	-0.02
60 TMP Nonane	-1.000	0.000	0.0	0	-19.36#
61 TMP Isopropylbenzene	-1.000	0.000	0.0	0	-19.75#
62 TMP 2-Chlorotoluene	-1.000	0.000	0.0	0	-20.23#
63 TMP Propylbenzene	-1.000	0.000	0.0	0	-20.25#
64 TMP 4-Ethyltoluene	-1.000	0.000	0.0	0	-20.38#
65 TMP m,p-Xylene	0.040	0.049	-22.5	100	0.00
66 TMP o-Xylene	0.020	0.024	-20.0	100	0.00
67 TMP Styrene	-1.000	0.000	0.0	0	-19.11#
68 TMP Bromoform	-1.000	0.000	0.0	0	-18.85#
69 S 4-Bromofluorobenzene	10.000	9.983	0.2	100	0.00
70 TMP Benzyl chloride	0.020	0.019	5.0	100	0.00
71 TMP 1,3,5-Trimethylbenzene	-1.000	0.000	0.0	0	-20.45#
72 TMP 1,2,4-Trimethylbenzene	-1.000	0.000	0.0	0	-20.86#
73 TMP 1,3-Dichlorobenzene	-1.000	0.000	0.0	0	-21.04#
74 TMP 1,4-Dichlorobenzene	0.020	0.021	-5.0	100	0.00
75 TMP 1,2-Dichlorobenzene	-1.000	0.000	0.0	0	-21.47#
76 TMP 1,2,4-Trichlorobenzene	-1.000	0.009	0.0	0	0.00
77 TMP Naphthalene	0.020	0.021	-5.0	101	0.02
78 TMP Hexachlorobutadiene	0.020	0.022	-10.0	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:06:30 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP Propene	1.710	0.000	100.0#	0#	-3.41#
3 TMP Dichlorodifluoromethane	4.425	0.000#	100.0#	0#	-3.52#
4 TMP Chloromethane	2.075	0.000#	100.0#	0#	-3.77#
5 TMP F-114	4.450	0.000	100.0#	0#	-3.88#
6 TMP Vinyl chloride	2.209	2.689	-21.7	100	0.00
7 TMP 1,3-Butadiene	1.529	1.710	-11.8	99	0.00
8 TMP Butane	3.248	0.000	100.0#	0#	-4.32#
9 TMP Bromomethane	1.540	0.000#	100.0#	0#	-4.64#
10 TMP Chloroethane	0.759	0.000#	100.0#	0#	-4.84#
11 TMP Vinyl bromide	1.785	0.000	100.0#	0#	-5.32#
12 TMP Ethanol	0.559	0.000	100.0#	0#	-4.96#
13 TMP Acrolein	0.726	2.180	-200.3#	264#	0.02
14 TMP Pentane	3.891	0.000#	100.0#	0#	-6.33#
15 TMP Trichlorofluoromethane	4.934	0.000#	100.0#	0#	-5.88#
16 TMP Acetone	0.880	0.000#	100.0#	0#	-5.59#
17 TMP 2-Propanol	3.556	0.000	100.0#	0#	-5.86#
18 TMP 1,1-Dichloroethene	1.648	2.023	-22.8	100	0.00
19 TMP trans-1,2-Dichloroethene	1.626	1.975	-21.5	100	0.00
20 TMP Methylene chloride	1.750	0.000#	100.0#	0#	-6.86#
21 TMP t-Butyl alcohol (TBA)	2.881	0.000	100.0#	0#	-6.65#
22 TMP 3-Chloropropene	2.910	0.000	100.0#	0#	-7.01#
23 TMP CFC-113	3.396	0.000	100.0#	0#	-7.22#
24 TMP Carbon disulfide	5.738	0.000	100.0#	0#	-7.33#
25 TMP Methyl t-butyl ether (MTBE)	3.820	0.000#	100.0#	0#	-8.51#
26 TMP Vinyl acetate	2.562	0.000#	100.0#	0#	-8.62#
27 TMP 1,1-Dichloroethane	3.850	4.438	-15.3	100	0.00
28 TMP cis-1,2-Dichloroethene	1.780	2.162	-21.5	100	0.00
29 TMP Hexane	2.959	0.000	100.0#	0#	-10.11#
30 TMP Chloroform	4.366	4.812	-10.2	100	0.00
31 TMP Ethyl acetate	6.229	0.000	100.0#	0#	-10.01#
32 TMP Tetrahydrofuran	2.703	0.000	100.0#	0#	-10.84#
33 TMP 2-Butanone (MEK)	0.712	0.000	100.0#	0#	-8.99#
34 TMP 1,2-Dichloroethane (EDC)	3.285	3.585	-9.1	100	0.00
35 TMP 1,1,1-Trichloroethane	3.232	3.825	-18.3	99	0.00
36 TMP Carbon tetrachloride	3.178	3.620	-13.9	100	0.00
37 TMP Benzene	6.123	7.745	-26.5	100	0.02
38 TMP Cyclohexane	1.669	0.000	100.0#	0#	-13.16#
39 I 1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP 1,2-Dichloropropane	0.618	0.685	-10.8	100	0.00
41 TMP 1,4-Dioxane	0.270	0.000	100.0#	0#	-14.17#
42 TMP 2,2,4-Trimethylpentane	2.076	0.000	100.0#	0#	-14.31#
43 TMP Methyl methacrylate	0.567	0.000	100.0#	0#	-14.43#
44 TMP Heptane	0.959	0.000	100.0#	0#	-14.63#
45 TMP Bromodichloromethane	0.953	1.014	-6.4	100	0.00



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:06:30 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.716	-15.9	101	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.000	100.0#	0#	-15.27#
48 TMP 4-Methyl-2-pentanone	0.040	0.000	100.0#	0#	-15.29#
49 TMP trans-1,3-Dichloropropene	0.540	0.000	100.0#	0#	-15.85#
50 TMP Toluene	0.749	0.000	100.0#	0#	-16.40#
51 TMP 1,1,2-Trichloroethane	0.563	0.608	-8.0	100	0.00
52 TMP 2-Hexanone	1.055	0.000#	100.0#	0#	-16.62#
53 TMP Tetrachloroethene	0.381	0.000#	100.0#	0#	-17.58#
54 TMP Dibromochloromethane	0.787	0.849	-7.9	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.852	-9.4	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	0.000#	100.0#	0#	-18.25#
58 TMP Ethylbenzene	2.221	2.569	-15.7	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.756	-13.4	100	-0.02
60 TMP Nonane	1.679	0.000	100.0#	0#	-19.36#
61 TMP Isopropylbenzene	1.948	0.000	100.0#	0#	-19.75#
62 TMP 2-Chlorotoluene	0.463	0.000	100.0#	0#	-20.23#
63 TMP Propylbenzene	4.322	0.000	100.0#	0#	-20.25#
64 TMP 4-Ethyltoluene	2.027	0.000	100.0#	0#	-20.38#
65 TMP m,p-Xylene	0.713	0.880	-23.4	100	0.00
66 TMP o-Xylene	0.701	0.852	-21.5	100	0.00
67 TMP Styrene	1.032	0.000#	100.0#	0#	-19.11#
68 TMP Bromoform	0.801	0.000#	100.0#	0#	-18.85#
69 S 4-Bromofluorobenzene	0.906	0.904	0.2	100	0.00
70 TMP Benzyl chloride	0.751	0.712	5.2	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	0.000	100.0#	0#	-20.45#
72 TMP 1,2,4-Trimethylbenzene	1.679	0.000	100.0#	0#	-20.86#
73 TMP 1,3-Dichlorobenzene	1.154	0.000	100.0#	0#	-21.04#
74 TMP 1,4-Dichlorobenzene	1.152	1.701	-47.7#	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	0.000	100.0#	0#	-21.47#
76 TMP 1,2,4-Trichlorobenzene	0.950	0.000	100.0#	0#	0.00
77 TMP Naphthalene	2.538	4.214	-66.0#	101	0.02
78 TMP Hexachlorobutadiene	0.852	1.805	-111.9#	100	0.00

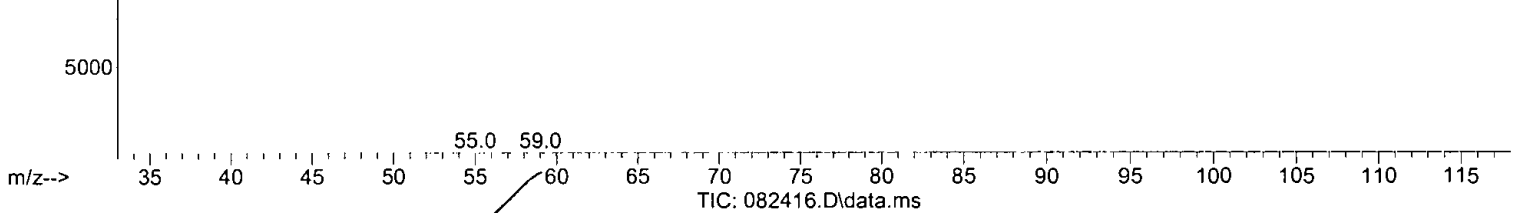
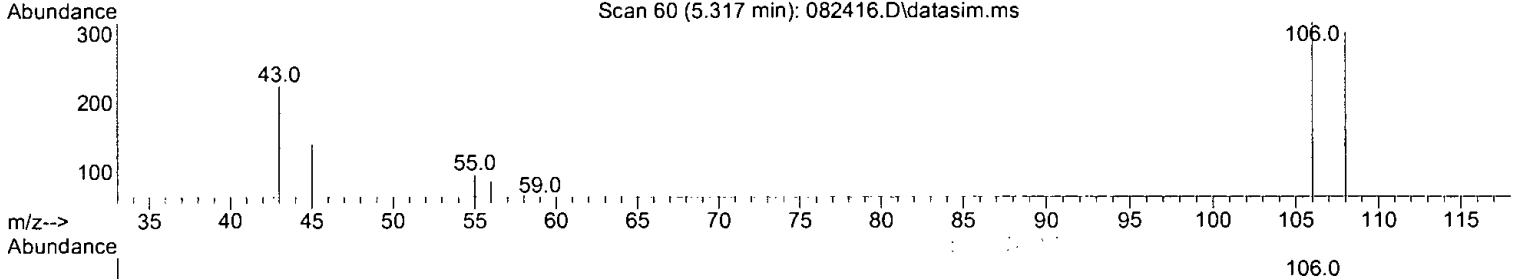
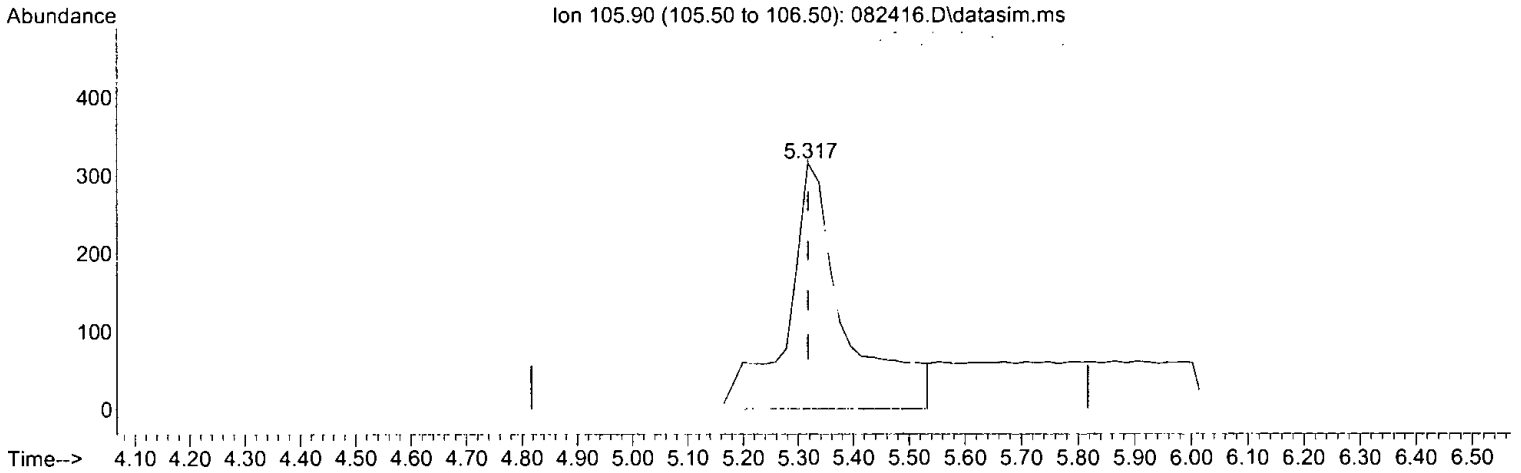
(#) = Out of Range

SPCC's out = 15 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
Data File : 082416.D  
Acq On : 24 Aug 2021 5:04 pm  
Operator : bat  
Sample : 0.05 ppbv 64-87c  
Misc : T2, 125cc of 0.1ppbv  
ALS Vial : 16 Sample Multiplier: 1  
InstName : GCMS7

Quant Time: Aug 25 10:53:48 2021  
Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
Quant Title : TO-15 SS method  
QLast Update : Wed Aug 25 09:28:09 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (+ 0.000) 0.117 ppbv

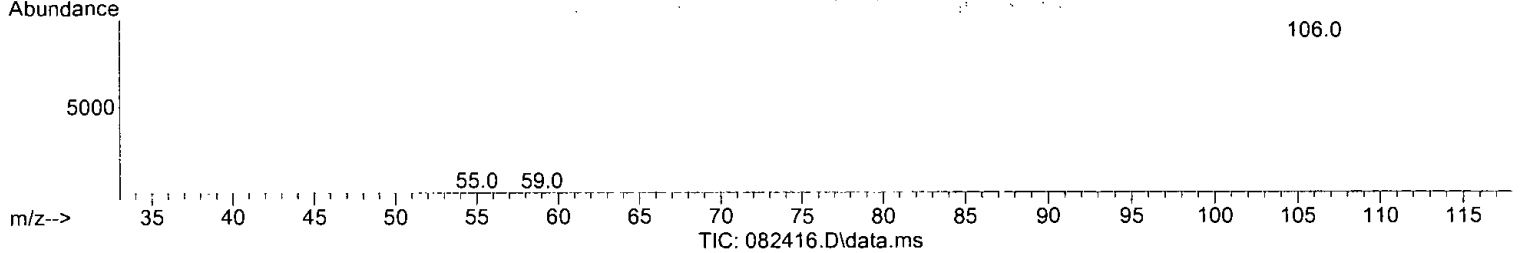
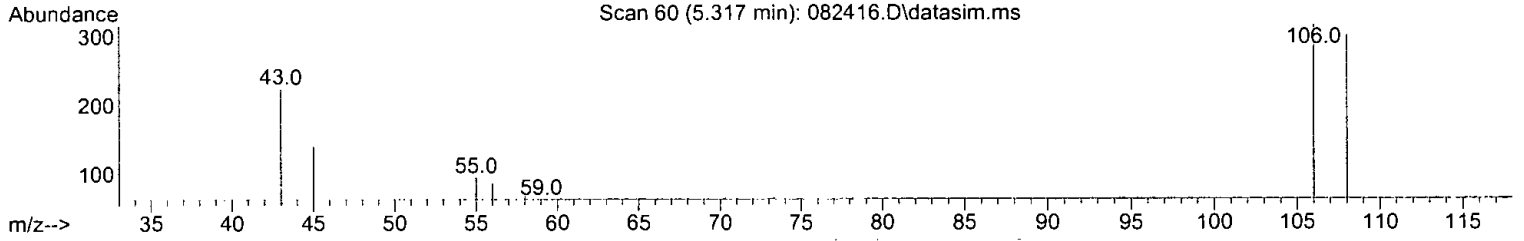
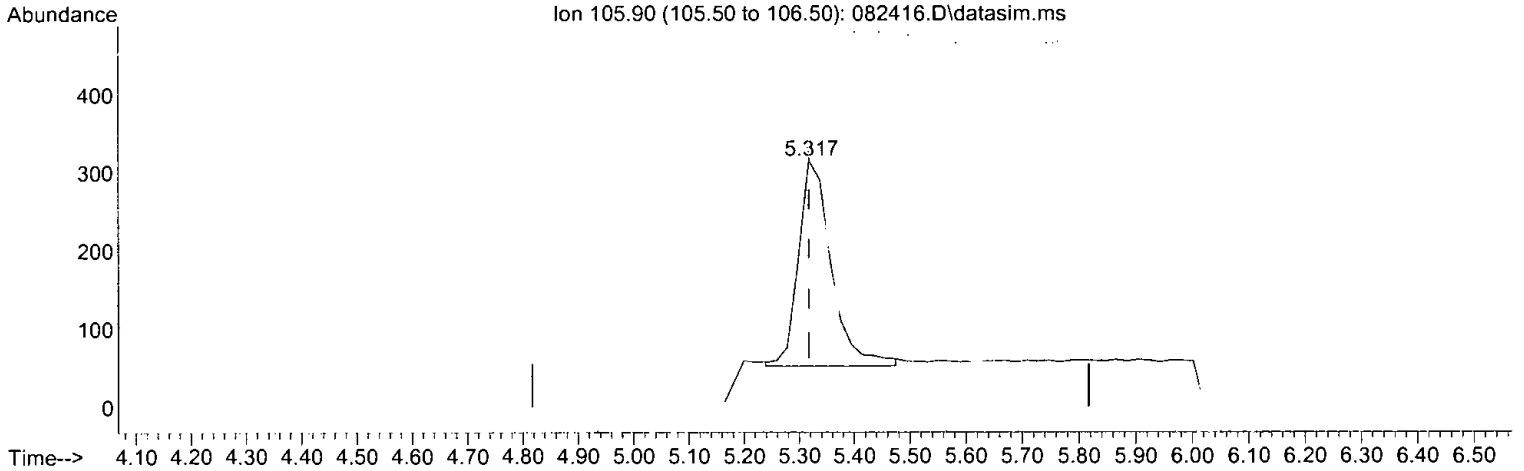
response	2490	
Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	103.73
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (+ 0.000) 0.051 ppbv m

response 1087

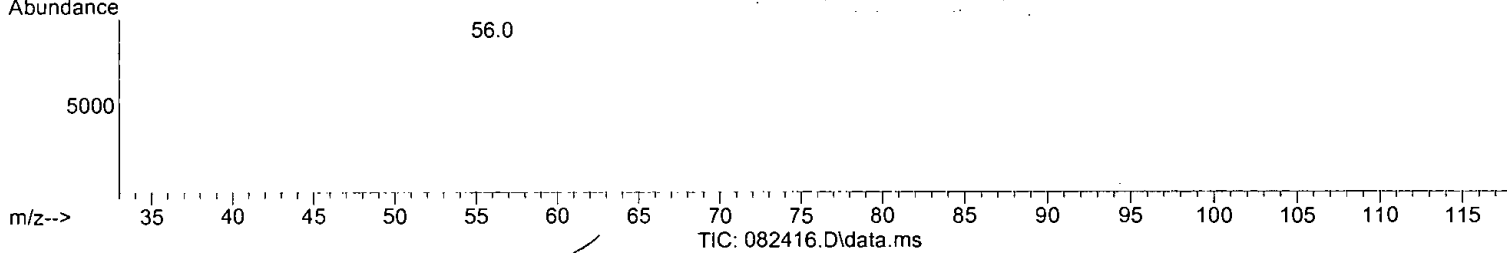
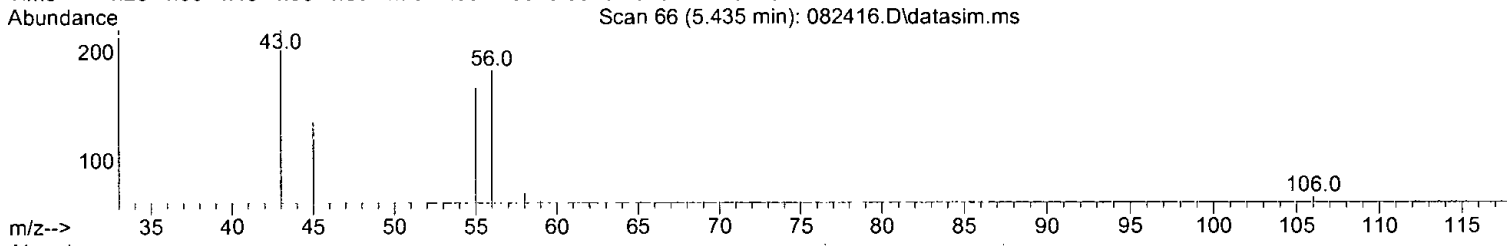
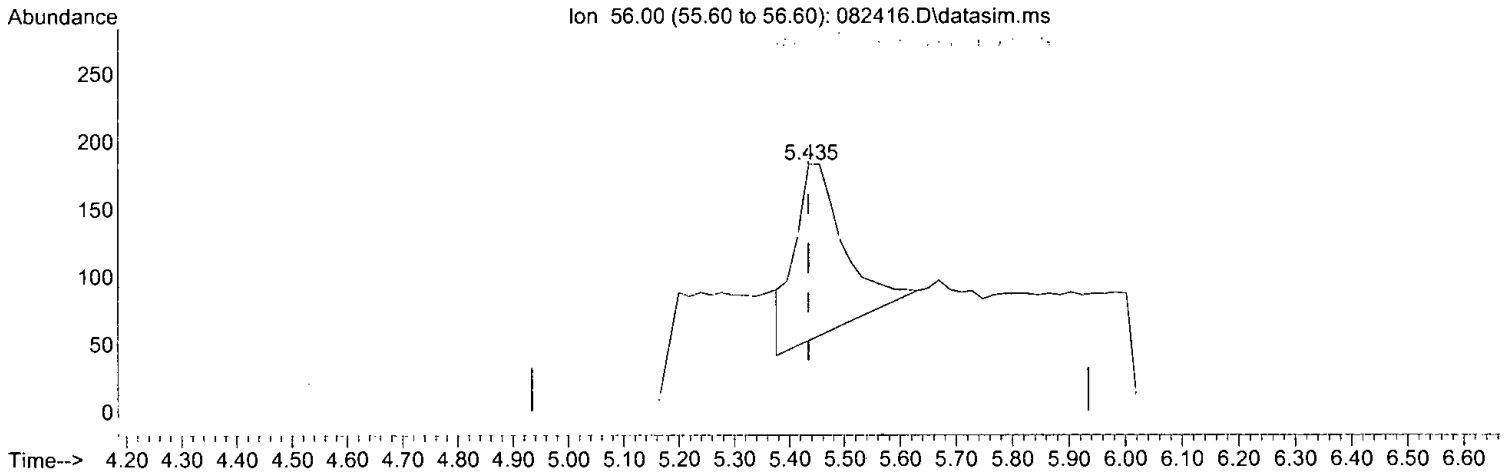
Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	237.63#
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.435min (+ 0.001) 0.094 ppbv

response 815

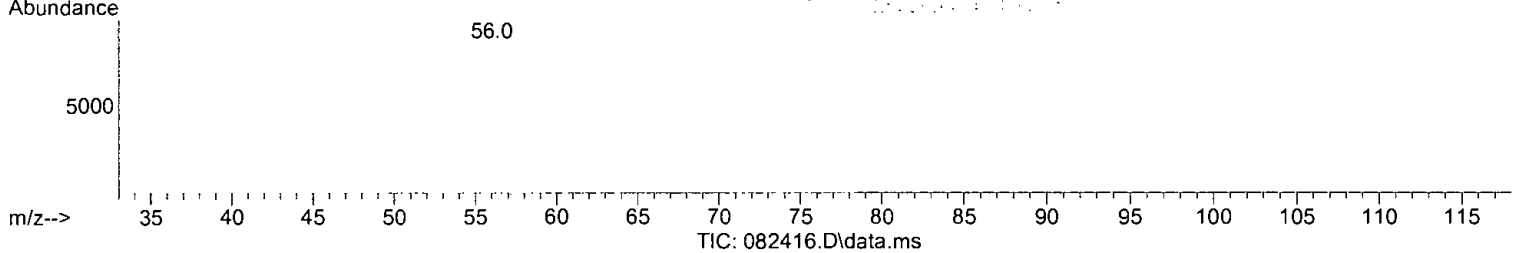
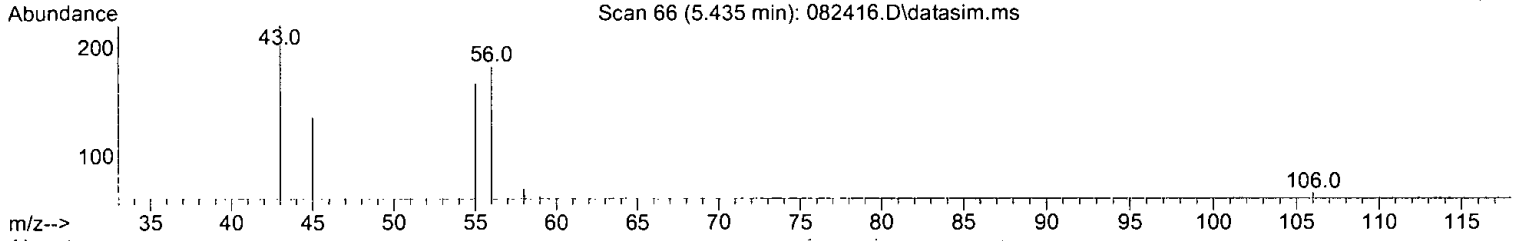
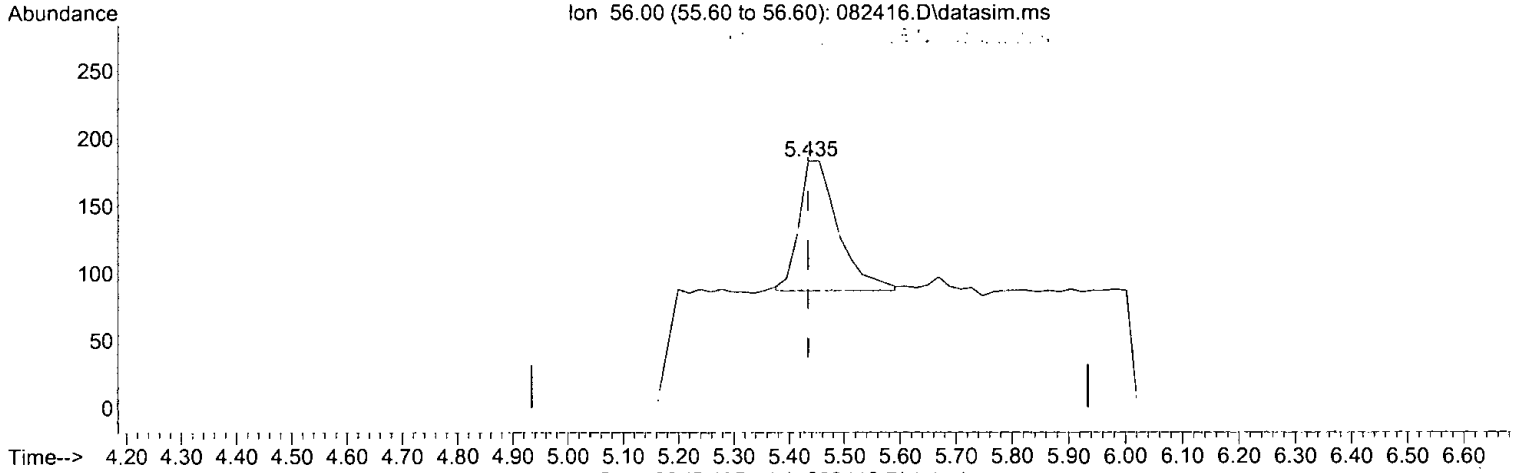
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	361.35#
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.435min (+ 0.001) 0.055 ppbv m

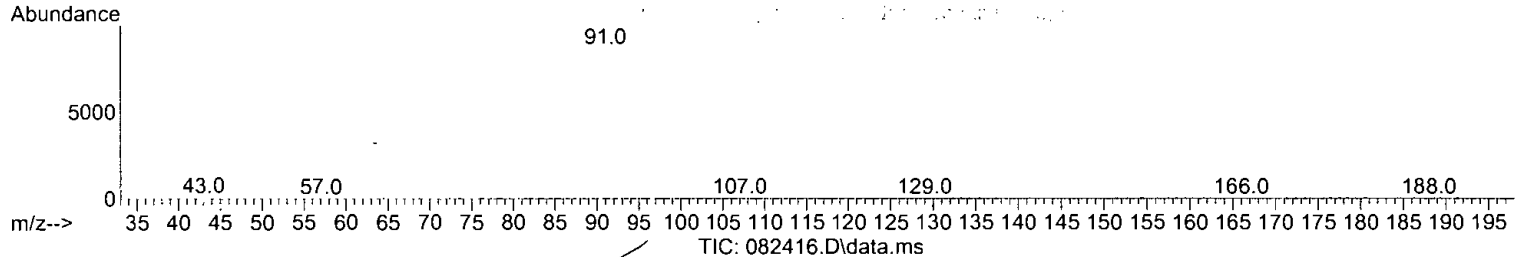
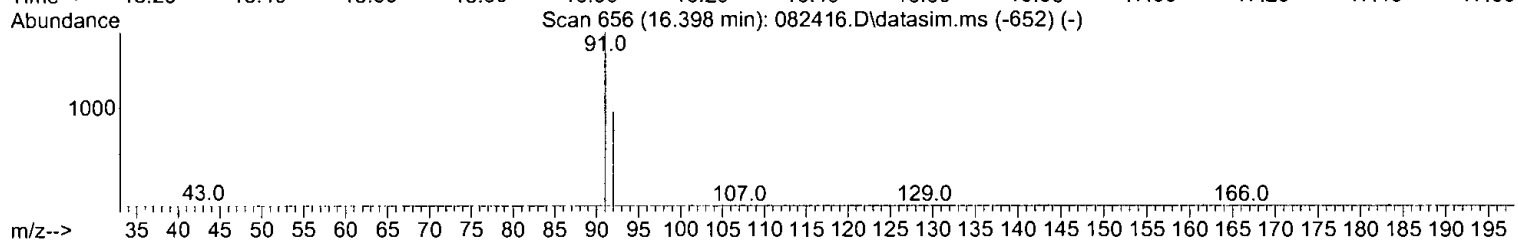
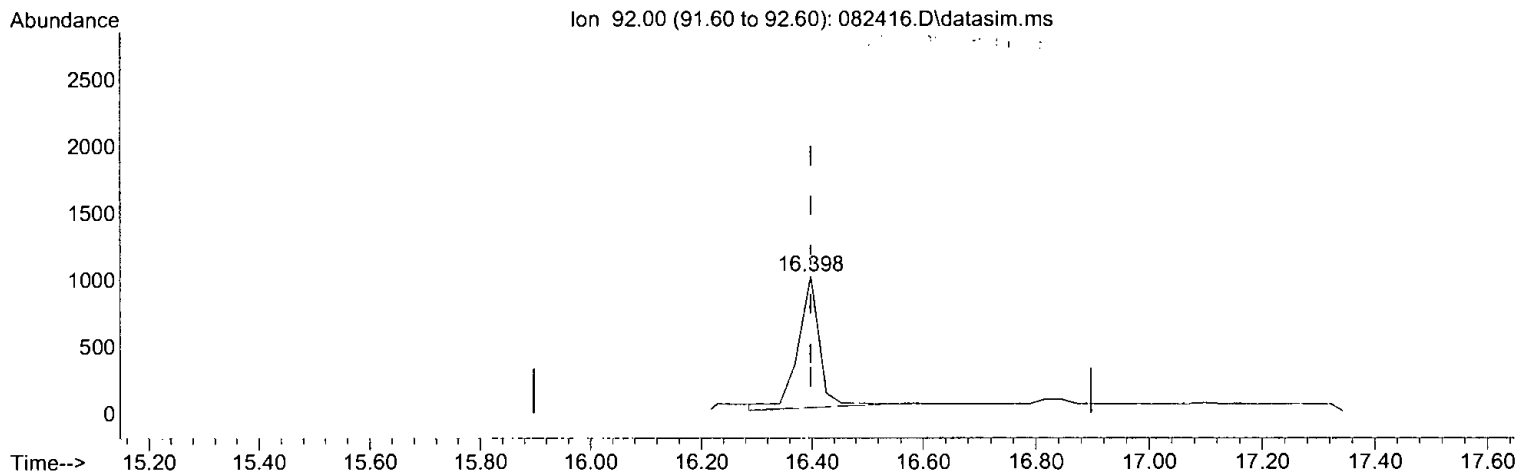
response	473
Ion	Exp% Act%
56.00	100.00 100.00
54.90	81.00 622.62#
0.00	0.00 0.00
0.00	0.00 0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(50) Toluene (TMP)

16.398min (+ 0.001) 0.063 ppbv

response 2631

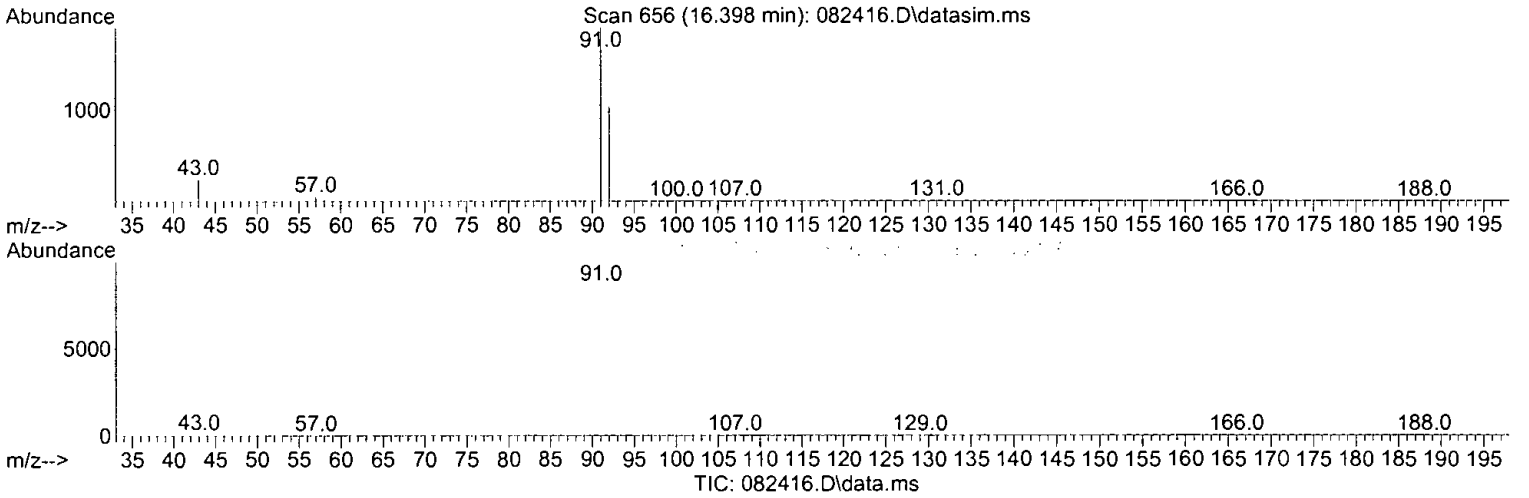
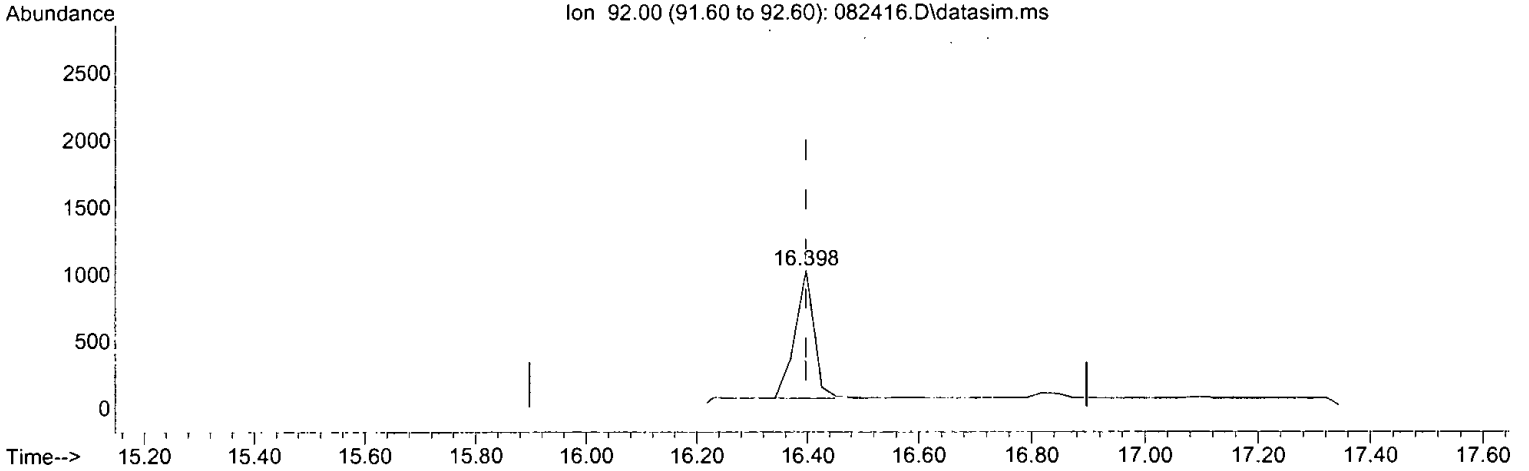
Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	184.66
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(50) Toluene (TMP)

16.398min (+ 0.001) 0.055 ppbv m

response 2307

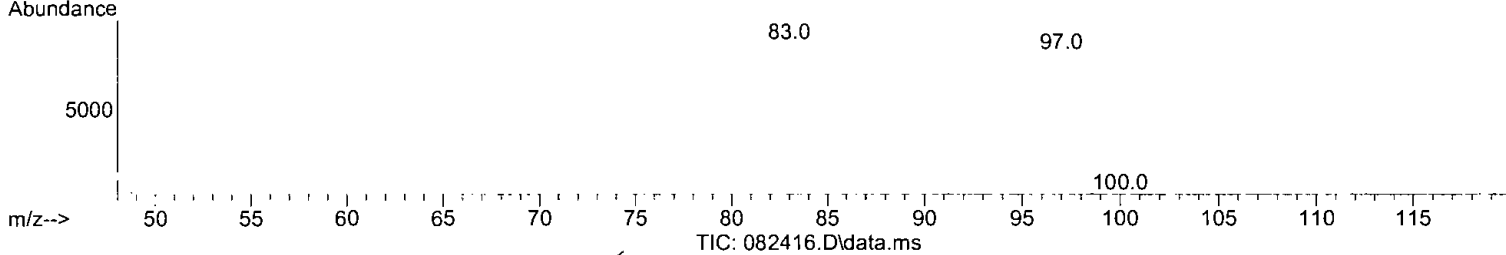
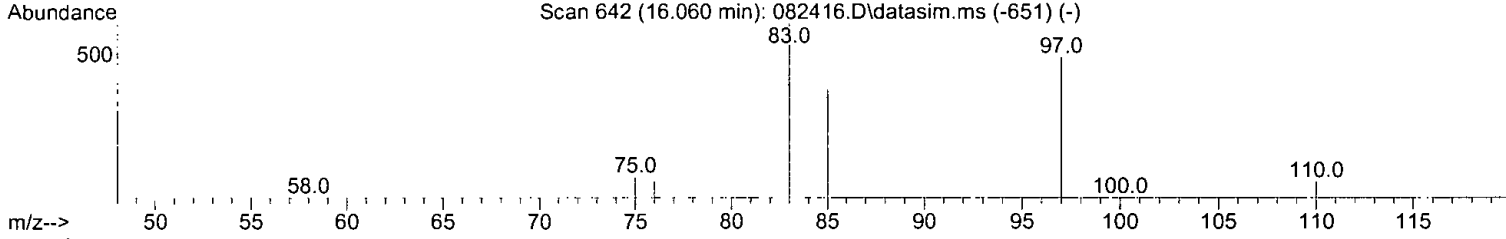
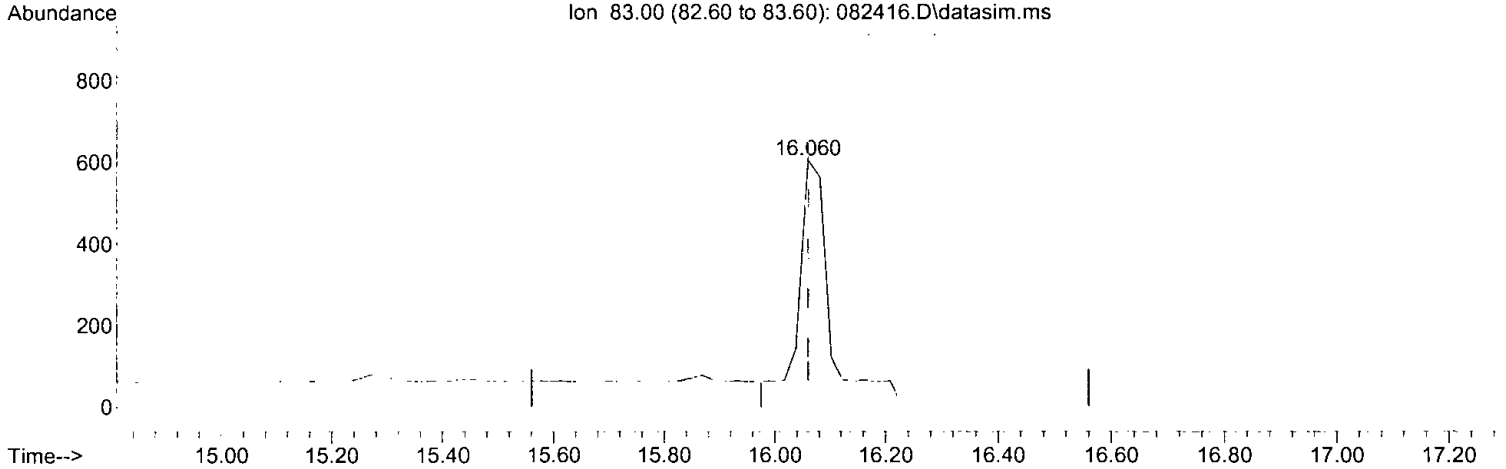
Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	179.92
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(51) 1,1,2-Trichloroethane (TME)

16.060min (-0.000) 0.078 ppbv

response 2457

Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	80.50
85.00	60.50	62.15
0.00	0.00	0.00

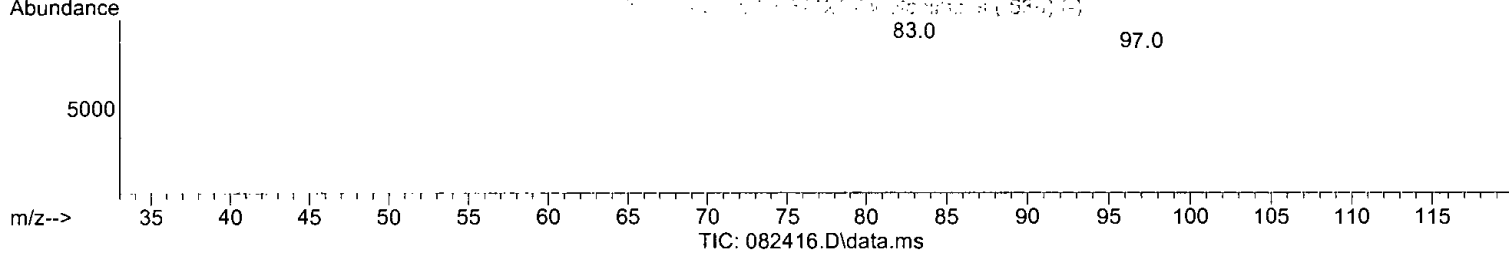
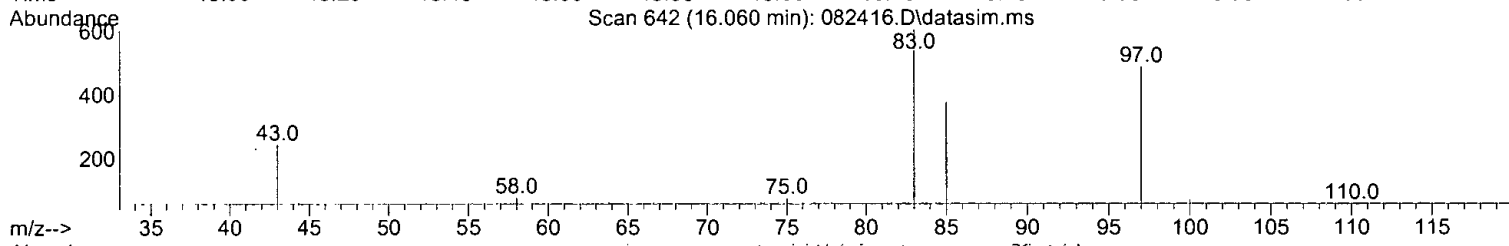
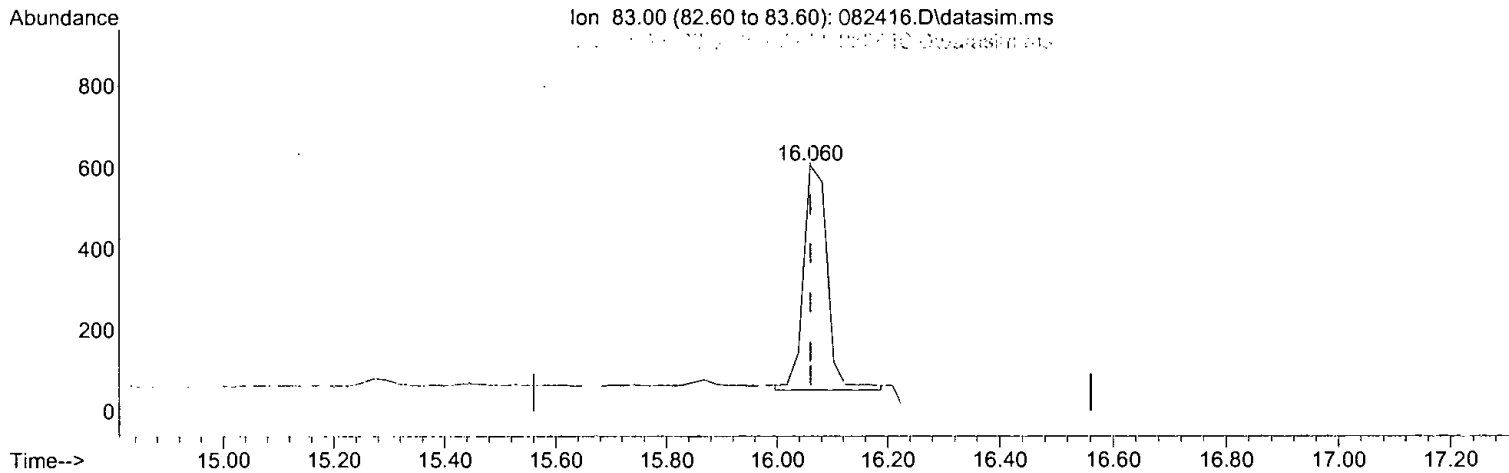
AS 8/25/21



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(51) 1,1,2-Trichloroethane (TMP)

16.060min (-0.000) 0.052 ppbv m

response 1640

Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	80.50
85.00	60.50	62.15
0.00	0.00	0.00

*AS 8/25/21*

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:11:27 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	118766	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	561168	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	488496	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	444067	10.034	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	100.30%
Target Compounds						
						Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	3.53	85	2737	0.052	ppbv	99
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	3.88	85	2775	0.053	ppbv	78
6) Vinyl chloride	4.05	62	1299	0.050	ppbv	99
7) 1,3-Butadiene	4.25	54	963	0.053	ppbv	# 89
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.	d	
10) Chloroethane	0.00		0	N.D.	d	
11) Vinyl bromide	5.32	106	1087m	0.051	ppbv	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	5.43	56	473m	0.055	ppbv	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	6.73	96	1016	0.052	ppbv	87
19) trans-1,2-Dichloroethene	8.18	96	979	0.051	ppbv	85
20) Methylene chloride	0.00		0	N.D.	d	
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	7.23	101	1972	0.049	ppbv	82
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	8.44	63	2255	0.049	ppbv	95
28) cis-1,2-Dichloroethene	9.73	96	1058	0.050	ppbv	# 80
29) Hexane	0.00		0	N.D.	d	
30] Chloroform	10.19	83	2513	0.048	ppbv	95
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34] 1,2-Dichloroethane (EDC)	11.45	62	1872	0.048	ppbv	94
35] 1,1,1-Trichloroethane	11.94	97	1863	0.049	ppbv	85
36] Carbon tetrachloride	12.95	117	1826	0.048	ppbv	98
37] Benzene	12.72	78	3814	0.052	ppbv	97
38) Cyclohexane	0.00		0	N.D.	d	
40] 1,2-Dichloropropane	13.90	63	1700	0.049	ppbv	99
41] 1,4-Dioxane	14.19	88	824	0.054	ppbv	96
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

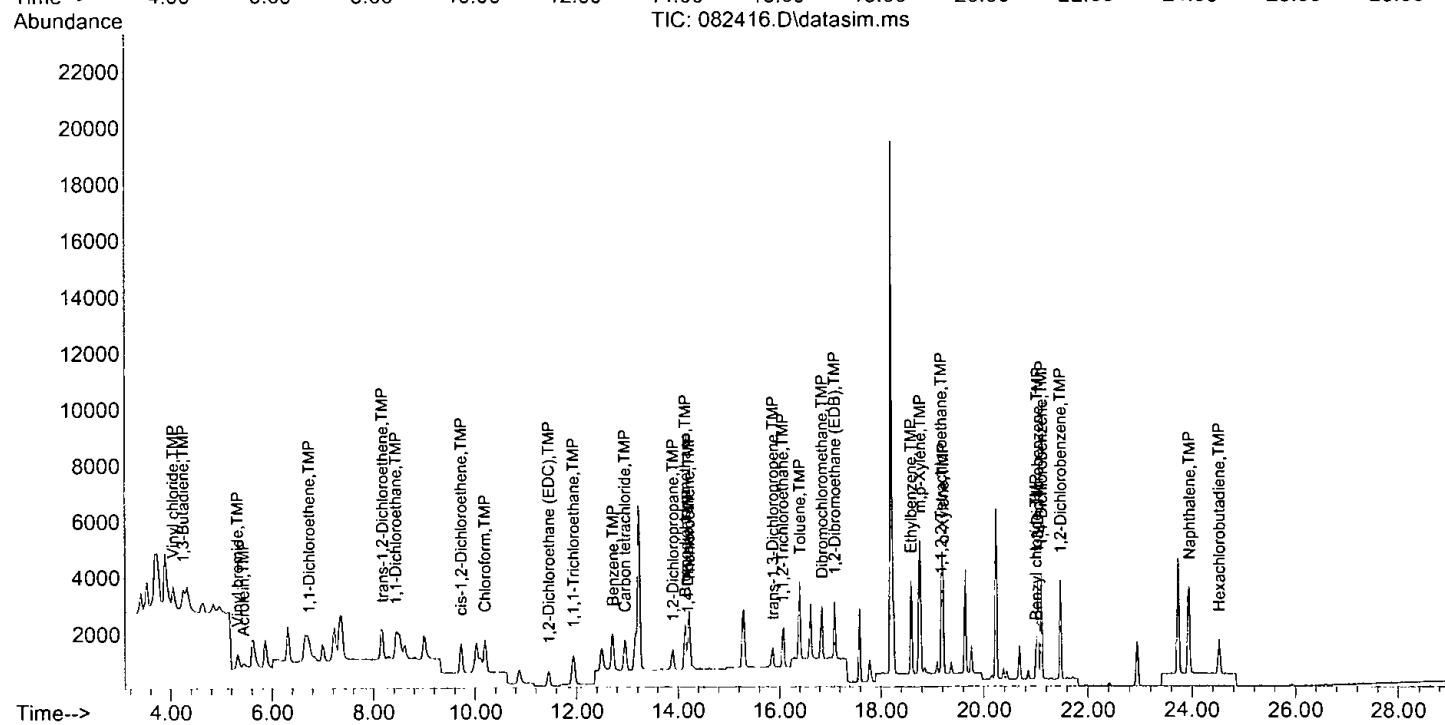
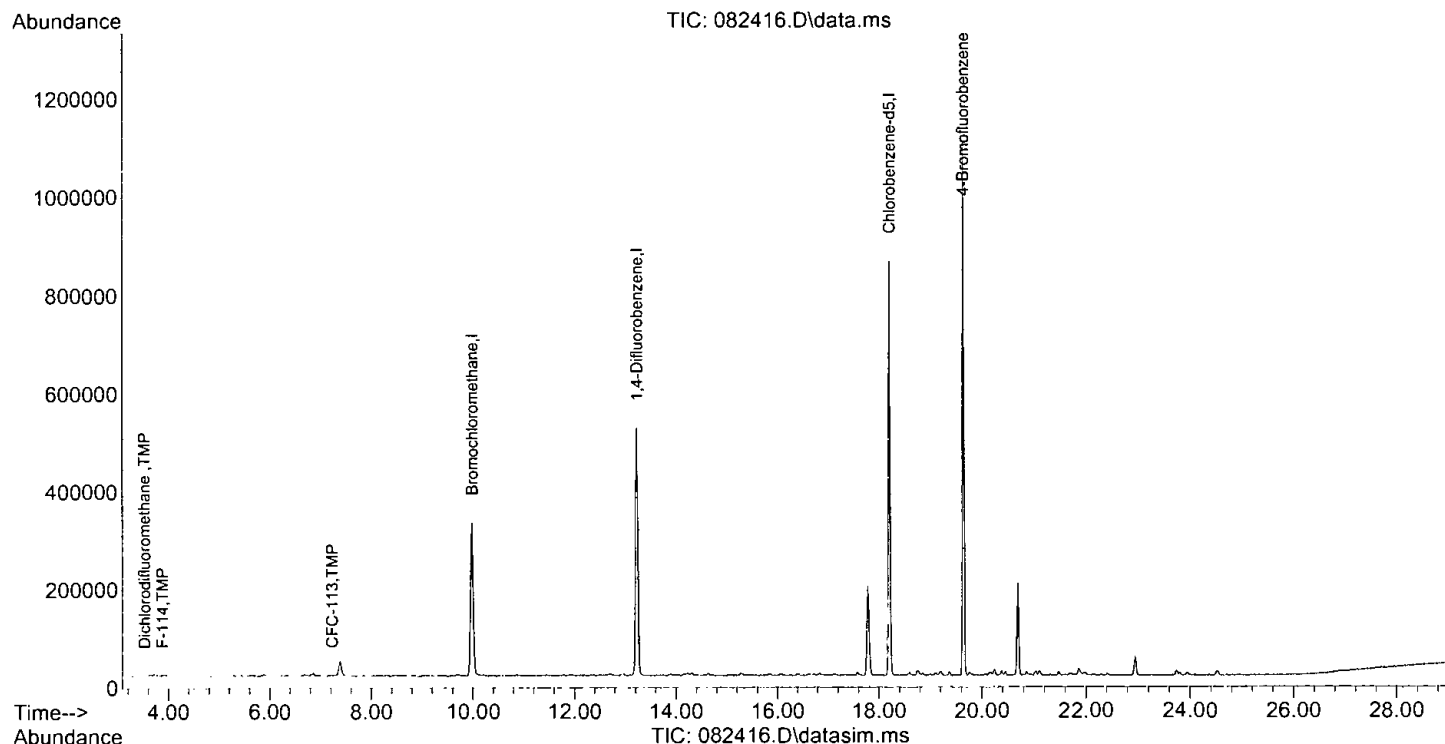
Quant Time: Aug 25 11:11:27 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	14.14	83	2599	0.049	ppbv	91
46) Trichloroethene	14.22	95	1759	0.051	ppbv	82
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	15.87	75	1608	0.053	ppbv	97
50) Toluene	16.40	92	2307m	0.055	ppbv	
51) 1,1,2-Trichloroethane	16.06	83	1640m	0.052	ppbv	
52) 2-Hexanone	0.00		0	N.D.	d	
53) Tetrachloroethene	0.00		0	N.D.	d	
54) Dibromochloromethane	16.85	129	2099	0.048	ppbv	91
55) 1,2-Dibromoethane (EDB)	17.10	107	2171	0.050	ppbv	86
57) Chlorobenzene	0.00		0	N.D.	d	
58) Ethylbenzene	18.59	91	5429	0.050	ppbv	96
59) 1,1,2,2-Tetrachloroethane	19.17	83	3745	0.049	ppbv	89
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65) m,p-Xylene	18.76	106	3645	0.105	ppbv	89
66) o-Xylene	19.21	106	1801	0.053	ppbv	92
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	21.01	91	1629	0.044	ppbv	95
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	21.04	146	3277	0.058	ppbv	92
74) 1,4-Dichlorobenzene	21.11	146	3160	0.050	ppbv	93
75) 1,2-Dichlorobenzene	21.47	146	3195	0.060	ppbv	94
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77) Naphthalene	23.95	128	7330	0.050	ppbv	98
78) Hexachlorobutadiene	24.52	225	2742	0.050	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:11:27 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:11:27 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I Bromochloromethane	10.000	10.000	0.0	100	0.00
2	TMP Propene	-1.000	0.000	0.0	0	-3.41#
3	TMP Dichlorodifluoromethane	0.050	0.052	-4.0	100	0.00
4	TMP Chloromethane	-1.000	0.000	0.0	0	-3.77#
5	TMP F-114	0.050	0.053	-6.0	100	0.00
6	TMP Vinyl chloride	0.050	0.050	0.0	100	0.00
7	TMP 1,3-Butadiene	0.050	0.053	-6.0	100	0.00
8	TMP Butane	-1.000	0.000	0.0	0	-4.32#
9	TMP Bromomethane	-1.000	0.000	0.0	0	-4.64#
10	TMP Chloroethane	-1.000	0.000	0.0	0	-4.84#
11	TMP Vinyl bromide	0.050	0.051	-2.0	103	0.00
12	TMP Ethanol	-1.000	0.000	0.0	0	-4.96#
13	TMP Acrolein	0.050	0.055	-10.0	98	0.00
14	TMP Pentane	-1.000	0.000	0.0	0	-6.33#
15	TMP Trichlorofluoromethane	-1.000	0.000	0.0	0	-5.88#
16	TMP Acetone	-1.000	0.000	0.0	0	-5.59#
17	TMP 2-Propanol	-1.000	0.000	0.0	0	-5.86#
18	TMP 1,1-Dichloroethene	0.050	0.052	-4.0	100	0.00
19	TMP trans-1,2-Dichloroethene	0.050	0.051	-2.0	100	0.00
20	TMP Methylene chloride	-1.000	0.000	0.0	0	-6.86#
21	TMP t-Butyl alcohol (TBA)	-1.000	0.000	0.0	0	-6.65#
22	TMP 3-Chloropropene	-1.000	0.000	0.0	0	-7.01#
23	TMP CFC-113	0.050	0.049	2.0	100	0.00
24	TMP Carbon disulfide	-1.000	0.000	0.0	0	-7.33#
25	TMP Methyl t-butyl ether (MTBE)	-1.000	0.000	0.0	0	-8.51#
26	TMP Vinyl acetate	-1.000	0.000	0.0	0	-8.62#
27	TMP 1,1-Dichloroethane	0.050	0.049	2.0	100	0.00
28	TMP cis-1,2-Dichloroethene	0.050	0.050	0.0	100	0.00
29	TMP Hexane	-1.000	0.000	0.0	0	-10.11#
30	TMP Chloroform	0.050	0.048	4.0	100	0.00
31	TMP Ethyl acetate	-1.000	0.000	0.0	0	-10.01#
32	TMP Tetrahydrofuran	-1.000	0.000	0.0	0	-10.84#
33	TMP 2-Butanone (MEK)	-1.000	0.000	0.0	0	-8.99#
34	TMP 1,2-Dichloroethane (EDC)	0.050	0.048	4.0	100	0.00
35	TMP 1,1,1-Trichloroethane	0.050	0.049	2.0	100	0.00
36	TMP Carbon tetrachloride	0.050	0.048	4.0	100	0.00
37	TMP Benzene	0.050	0.052	-4.0	100	0.02
38	TMP Cyclohexane	-1.000	0.000	0.0	0	-13.16#
39	I 1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40	TMP 1,2-Dichloropropane	0.050	0.049	2.0	100	0.00
41	TMP 1,4-Dioxane	0.050	0.054	-8.0	100	0.03
42	TMP 2,2,4-Trimethylpentane	-1.000	0.000	0.0	0	-14.31#
43	TMP Methyl methacrylate	-1.000	0.000	0.0	0	-14.43#
44	TMP Heptane	-1.000	0.000	0.0	0	-14.63#
45	TMP Bromodichloromethane	0.050	0.049	2.0	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:11:27 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	0.050	0.051	-2.0	100	0.00
47	TMP cis-1,3-Dichloropropene	-1.000	0.000	0.0	0	-15.27#
48	TMP 4-Methyl-2-pentanone	-1.000	0.000	0.0	0	-15.29#
49	TMP trans-1,3-Dichloropropene	0.050	0.053	-6.0	100	0.02
50	TMP Toluene	0.050	0.055	-10.0	100	0.00
51	TMP 1,1,2-Trichloroethane	0.050	0.052	-4.0	101	0.00
52	TMP 2-Hexanone	-1.000	0.000	0.0	0	-16.62#
53	TMP Tetrachloroethene	-1.000	0.000	0.0	0	-17.58#
54	TMP Dibromochloromethane	0.050	0.048	4.0	100	0.00
55	TMP 1,2-Dibromoethane (EDB)	0.050	0.050	0.0	100	0.00
56	I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57	TMP Chlorobenzene	-1.000	0.000	0.0	0	-18.25#
58	TMP Ethylbenzene	0.050	0.050	0.0	100	0.00
59	TMP 1,1,2,2-Tetrachloroethane	0.050	0.049	2.0	100	-0.02
60	TMP Nonane	-1.000	0.000	0.0	0	-19.36#
61	TMP Isopropylbenzene	-1.000	0.000	0.0	0	-19.75#
62	TMP 2-Chlorotoluene	-1.000	0.000	0.0	0	-20.23#
63	TMP Propylbenzene	-1.000	0.000	0.0	0	-20.25#
64	TMP 4-Ethyltoluene	-1.000	0.000	0.0	0	-20.38#
65	TMP m,p-Xylene	0.100	0.105	-5.0	100	0.00
66	TMP o-Xylene	0.050	0.053	-6.0	100	0.00
67	TMP Styrene	-1.000	0.000	0.0	0	-19.11#
68	TMP Bromoform	-1.000	0.000	0.0	0	-18.85#
69	S 4-Bromofluorobenzene	10.000	10.034	-0.3	100	0.00
70	TMP Benzyl chloride	0.050	0.044	12.0	100	0.00
71	TMP 1,3,5-Trimethylbenzene	-1.000	0.000	0.0	0	-20.45#
72	TMP 1,2,4-Trimethylbenzene	-1.000	0.000	0.0	0	-20.86#
73	TMP 1,3-Dichlorobenzene	0.050	0.058	-16.0	100	0.00
74	TMP 1,4-Dichlorobenzene	0.050	0.050	0.0	100	0.00
75	TMP 1,2-Dichlorobenzene	0.050	0.060	-20.0	100	0.00
76	TMP 1,2,4-Trichlorobenzene	-1.000	0.000	0.0	0	-23.73#
77	TMP Naphthalene	0.050	0.050	0.0	101	0.02
78	TMP Hexachlorobutadiene	0.050	0.050	0.0	100	0.00

(#) = Out of Range.

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:11:27 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	1.710	0.000	100.0#	0#	-3.41#
3 TMP	Dichlorodifluoromethane	4.425	4.609	-4.2	100	0.00
4 TMP	Chloromethane	2.075	0.000#	100.0#	0#	-3.77#
5 TMP	F-114	4.450	4.673	-5.0	100	0.00
6 TMP	Vinyl chloride	2.209	2.187	1.0	100	0.00
7 TMP	1,3-Butadiene	1.529	1.622	-6.1	100	0.00
8 TMP	Butane	3.248	0.000	100.0#	0#	-4.32#
9 TMP	Bromomethane	1.540	0.000#	100.0#	0#	-4.64#
10 TMP	Chloroethane	0.759	0.000#	100.0#	0#	-4.84#
11 TMP	Vinyl bromide	1.785	1.830	-2.5	103	0.00
12 TMP	Ethanol	0.559	0.000	100.0#	0#	-4.96#
13 TMP	Acrolein	0.726	0.797	-9.8	98	0.00
14 TMP	Pentane	3.891	0.000#	100.0#	0#	-6.33#
15 TMP	Trichlorofluoromethane	4.934	0.000#	100.0#	0#	-5.88#
16 TMP	Acetone	0.880	0.000#	100.0#	0#	-5.59#
17 TMP	2-Propanol	3.556	0.000	100.0#	0#	-5.86#
18 TMP	1,1-Dichloroethene	1.648	1.711	-3.8	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.626	1.649	-1.4	100	0.00
20 TMP	Methylene chloride	1.750	0.000#	100.0#	0#	-6.86#
21 TMP	t-Butyl alcohol (TBA)	2.881	0.000	100.0#	0#	-6.65#
22 TMP	3-Chloropropene	2.910	0.000	100.0#	0#	-7.01#
23 TMP	CFC-113	3.396	3.321	2.2	100	0.00
24 TMP	Carbon disulfide	5.738	0.000	100.0#	0#	-7.33#
25 TMP	Methyl t-butyl ether (MTBE)	3.820	0.000#	100.0#	0#	-8.51#
26 TMP	Vinyl acetate	2.562	0.000#	100.0#	0#	-8.62#
27 TMP	1,1-Dichloroethane	3.850	3.797	1.4	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.782	-0.1	100	0.00
29 TMP	Hexane	2.959	0.000	100.0#	0#	-10.11#
30 TMP	Chloroform	4.366	4.232	3.1	100	0.00
31 TMP	Ethyl acetate	6.229	0.000	100.0#	0#	-10.01#
32 TMP	Tetrahydrofuran	2.703	0.000	100.0#	0#	-10.84#
33 TMP	2-Butanone (MEK)	0.712	0.000	100.0#	0#	-8.99#
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.152	4.0	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.137	2.9	100	0.00
36 TMP	Carbon tetrachloride	3.178	3.075	3.2	100	0.00
37 TMP	Benzene	6.123	6.423	-4.9	100	0.02
38 TMP	Cyclohexane	1.669	0.000	100.0#	0#	-13.16#
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.618	0.606	1.9	100	0.00
41 TMP	1,4-Dioxane	0.270	0.294	-8.9	100	0.03
42 TMP	2,2,4-Trimethylpentane	2.076	0.000	100.0#	0#	-14.31#
43 TMP	Methyl methacrylate	0.567	0.000	100.0#	0#	-14.43#
44 TMP	Heptane	0.959	0.000	100.0#	0#	-14.63#
45 TMP	Bromodichloromethane	0.953	0.926	2.8	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:11:27 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.627	-1.5	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.000	100.0#	0#	-15.27#
48 TMP 4-Methyl-2-pentanone	0.040	0.000	100.0#	0#	-15.29#
49 TMP trans-1,3-Dichloropropene	0.540	0.573	-6.1	100	0.02
50 TMP Toluene	0.749	0.822	-9.7	100	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.584	-3.7	101	0.00
52 TMP 2-Hexanone	1.055	0.000#	100.0#	0#	-16.62#
53 TMP Tetrachloroethene	0.381	0.000#	100.0#	0#	-17.58#
54 TMP Dibromochloromethane	0.787	0.748	5.0	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.774	0.6	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	0.000#	100.0#	0#	-18.25#
58 TMP Ethylbenzene	2.221	2.223	-0.1	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.533	1.0	100	-0.02
60 TMP Nonane	1.679	0.000	100.0#	0#	-19.36#
61 TMP Isopropylbenzene	1.948	0.000	100.0#	0#	-19.75#
62 TMP 2-Chlorotoluene	0.463	0.000	100.0#	0#	-20.23#
63 TMP Propylbenzene	4.322	0.000	100.0#	0#	-20.25#
64 TMP 4-Ethyltoluene	2.027	0.000	100.0#	0#	-20.38#
65 TMP m,p-Xylene	0.713	0.746	-4.6	100	0.00
66 TMP o-Xylene	0.701	0.737	-5.1	100	0.00
67 TMP Styrene	1.032	0.000#	100.0#	0#	-19.11#
68 TMP Bromoform	0.801	0.000#	100.0#	0#	-18.85#
69 S 4-Bromofluorobenzene	0.906	0.909	-0.3	100	0.00
70 TMP Benzyl chloride	0.751	0.667	11.2	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	0.000	100.0#	0#	-20.45#
72 TMP 1,2,4-Trimethylbenzene	1.679	0.000	100.0#	0#	-20.86#
73 TMP 1,3-Dichlorobenzene	1.154	1.342	-16.3	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.294	-12.3	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.308	-19.9	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.000	100.0#	0#	-23.73#
77 TMP Naphthalene	2.538	3.001	-18.2	101	0.02
78 TMP Hexachlorobutadiene	0.852	1.123	-31.8#	100	0.00

(#) = Out of Range

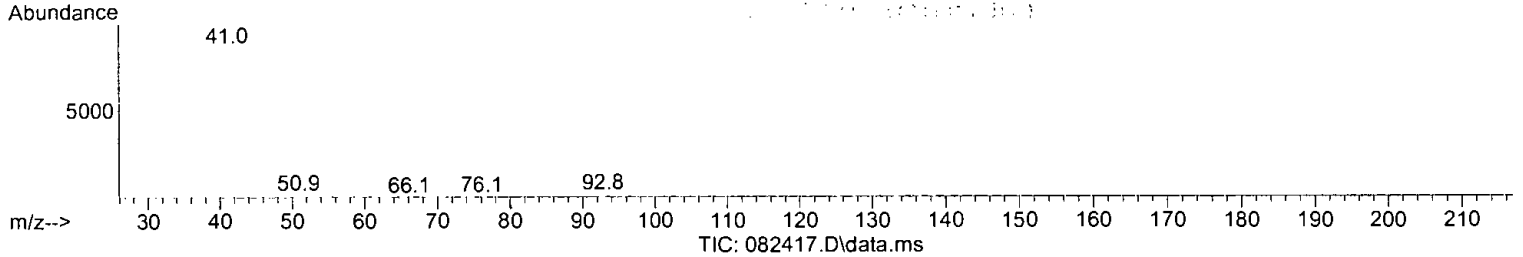
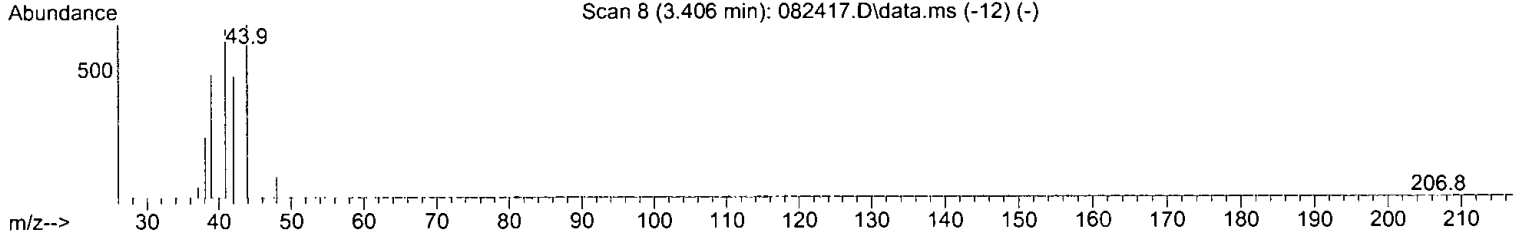
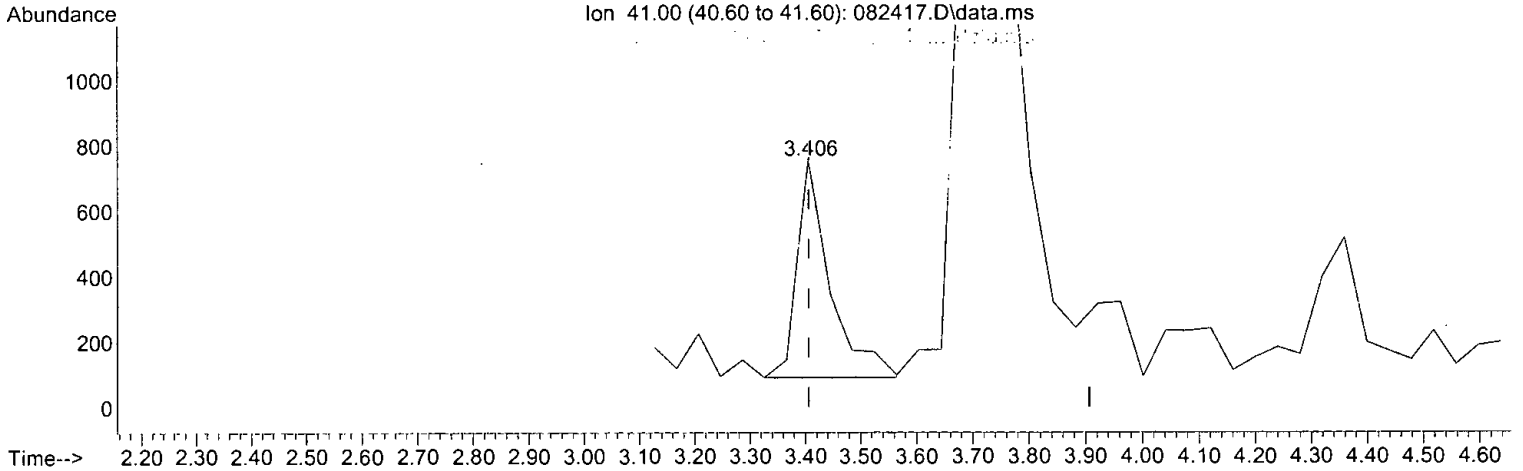
SPCC's out = 14 CCC's out = 0



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(2) Propene (TMP)

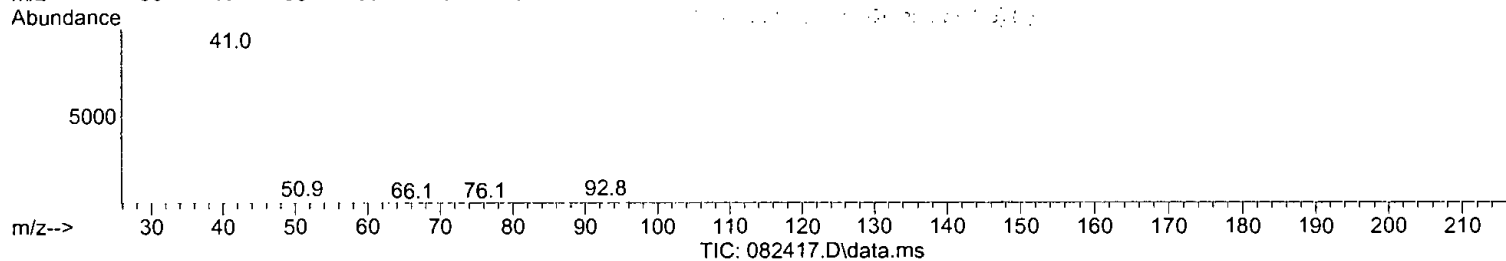
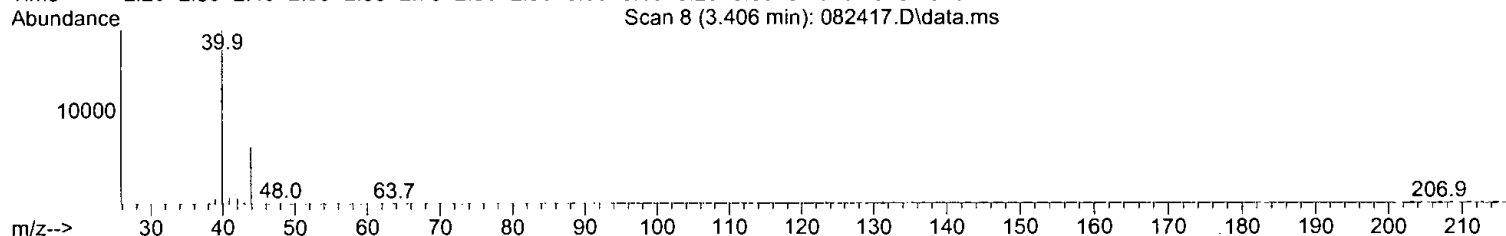
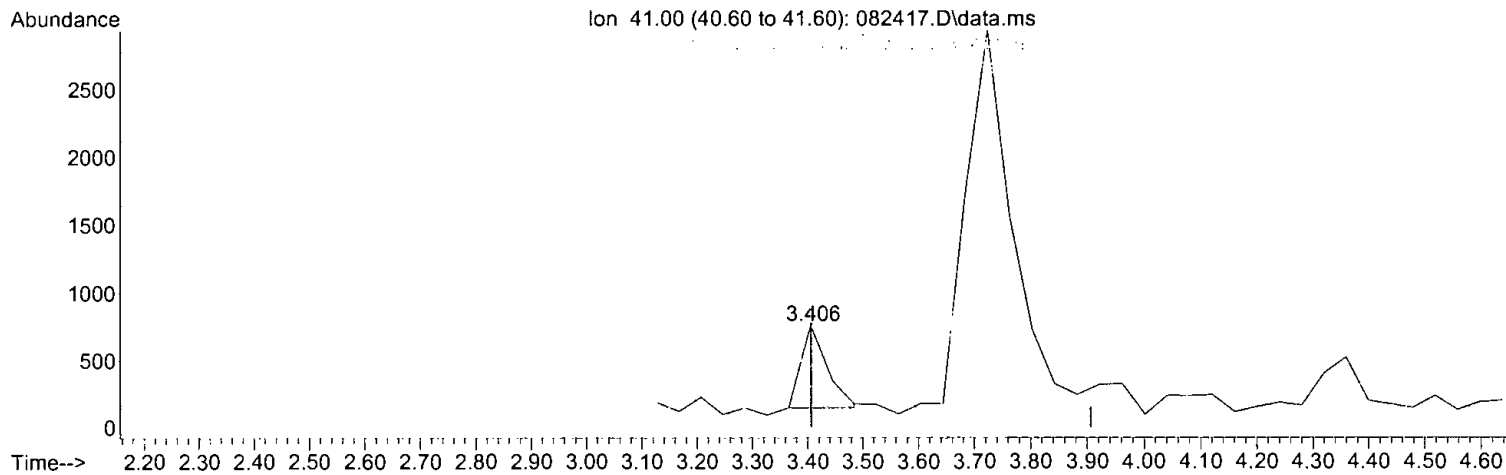
3.406min (-0.000) 0.133 ppbv

response	2725	
Ion	Exp%	Act%
41.00	100.00	100.00
39.00	75.60	72.89
27.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



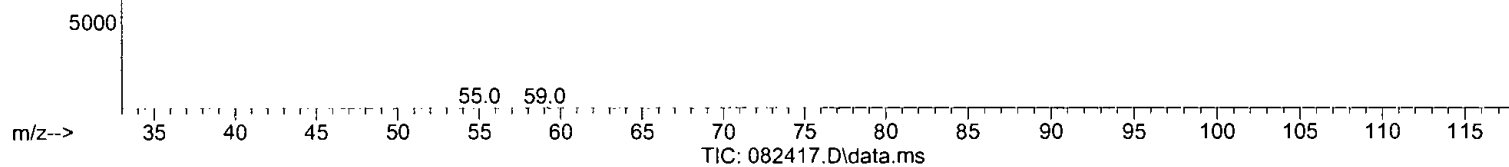
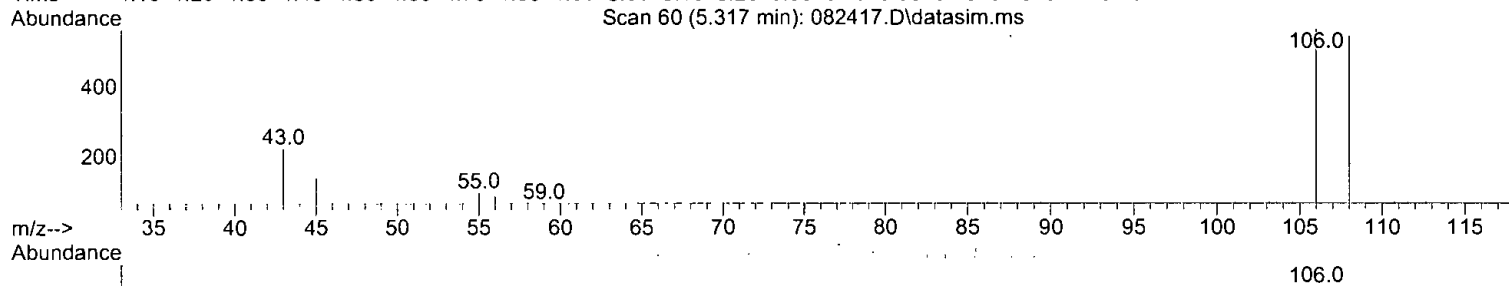
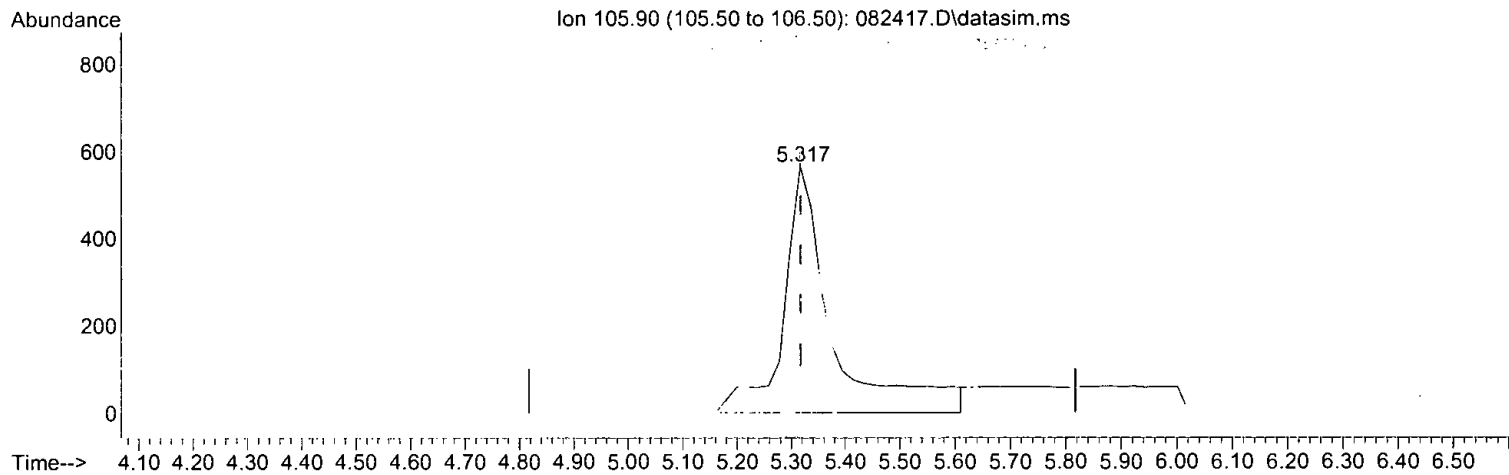
(2) Propene (TMP)

3.406min (-0.000) 0.098 ppbv m

response	1999
Ion	Exp% Act%
41.00	100.00 100.00
39.00	75.60 83.44
27.00	0.00 0.00
0.00	0.00 0.00

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)  
 5.317min (-0.000) 0.177 ppbv

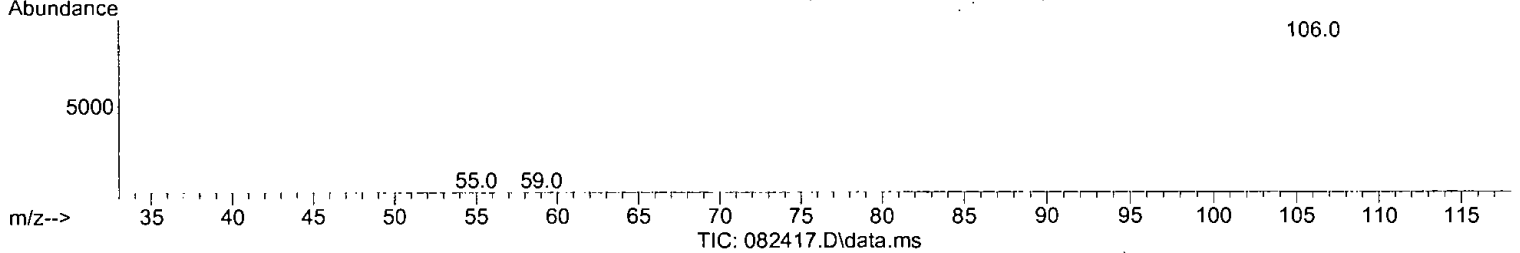
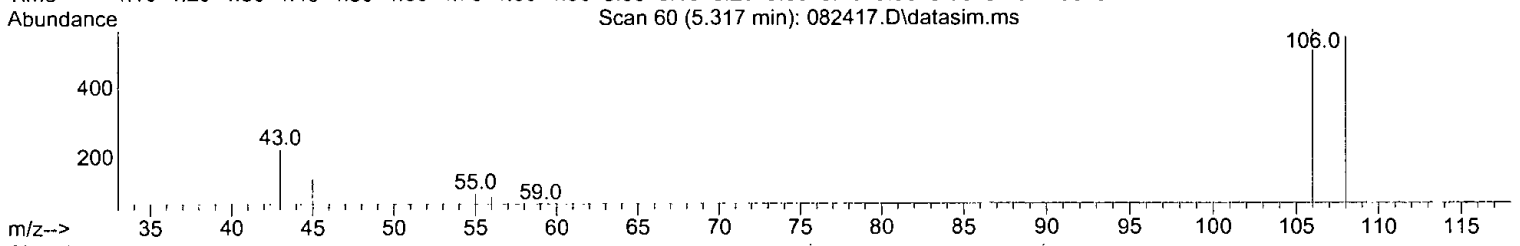
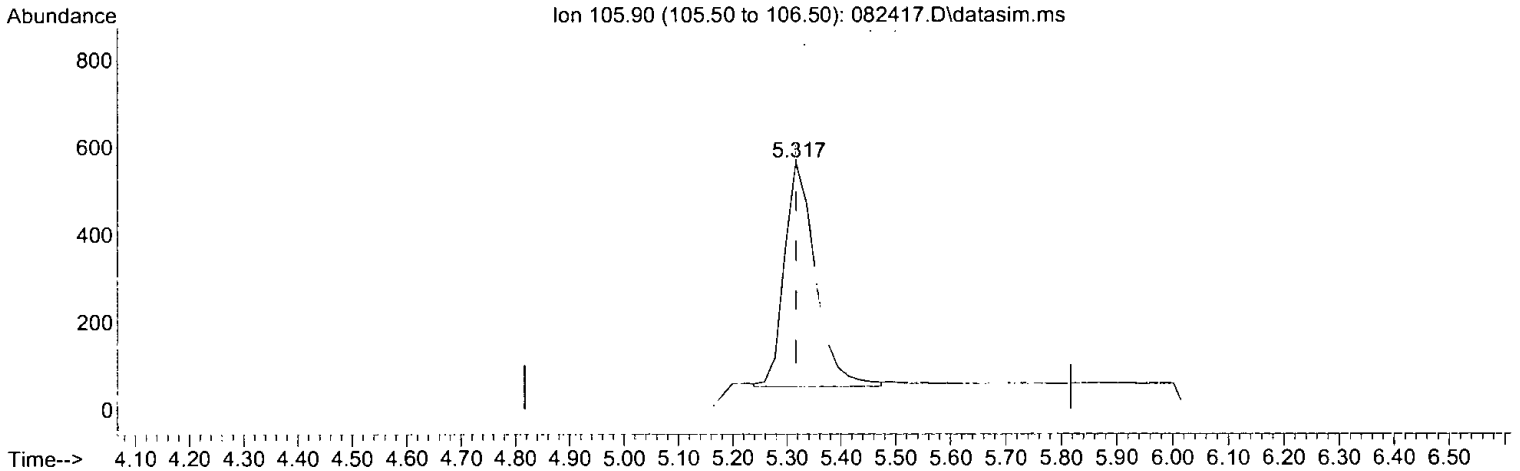
response	3782	
Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	90.69
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (-0.000) 0.096 ppbv m

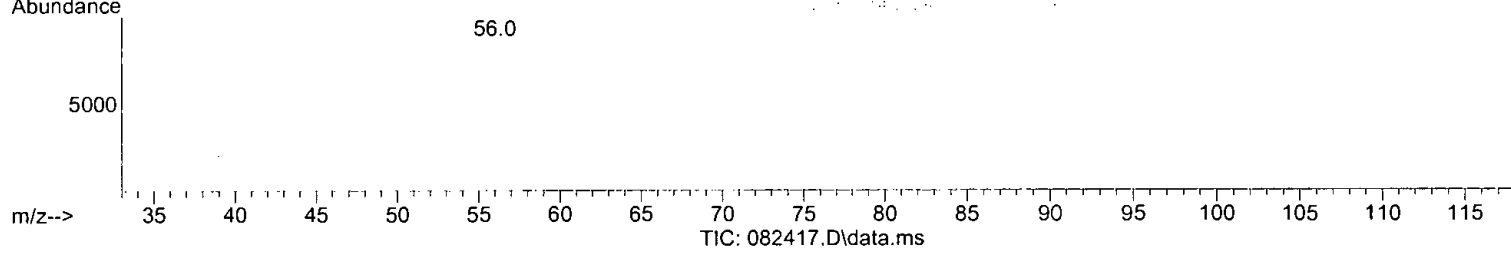
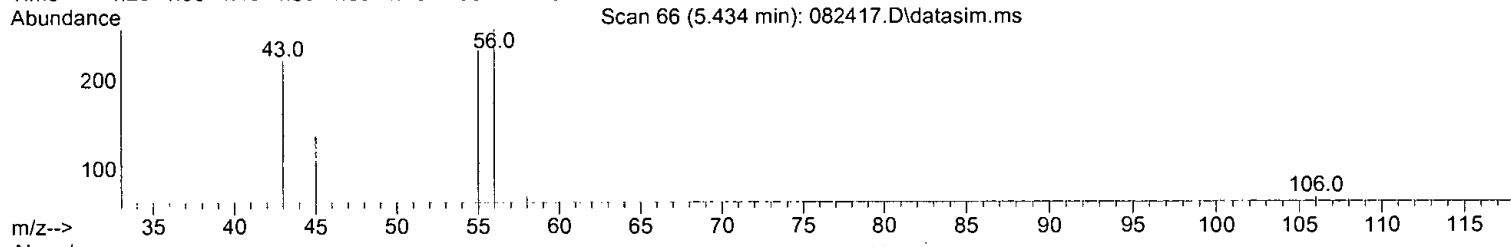
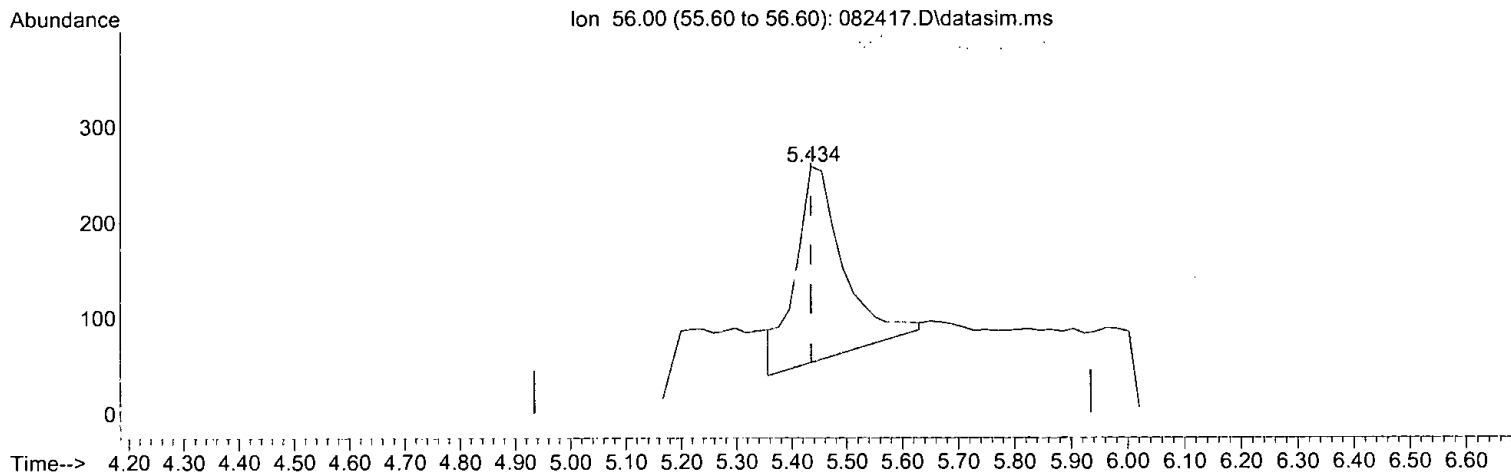
response	2043	
Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	167.89#
0.00	0.00	0.00
0.00	0.00	0.00

AS 812514

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.434min (+ 0.000) 0.144 ppbv

response 1250

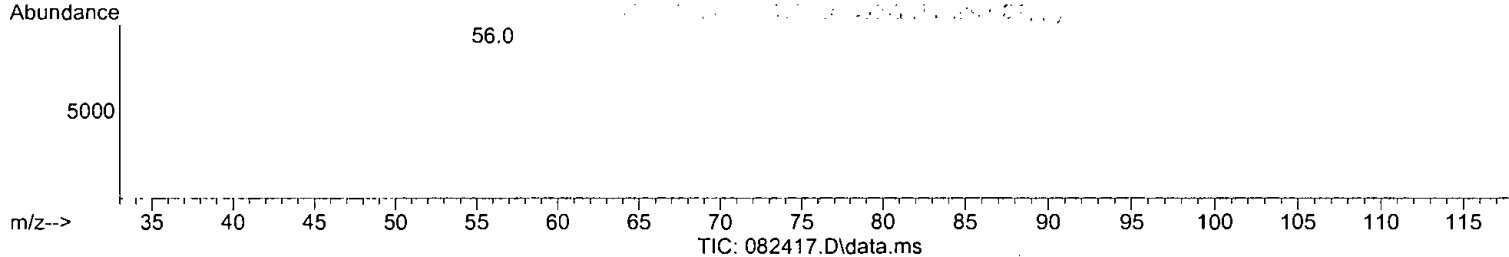
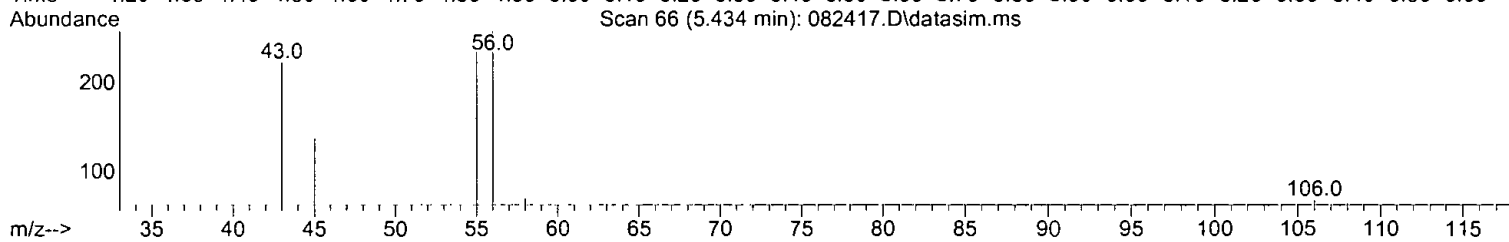
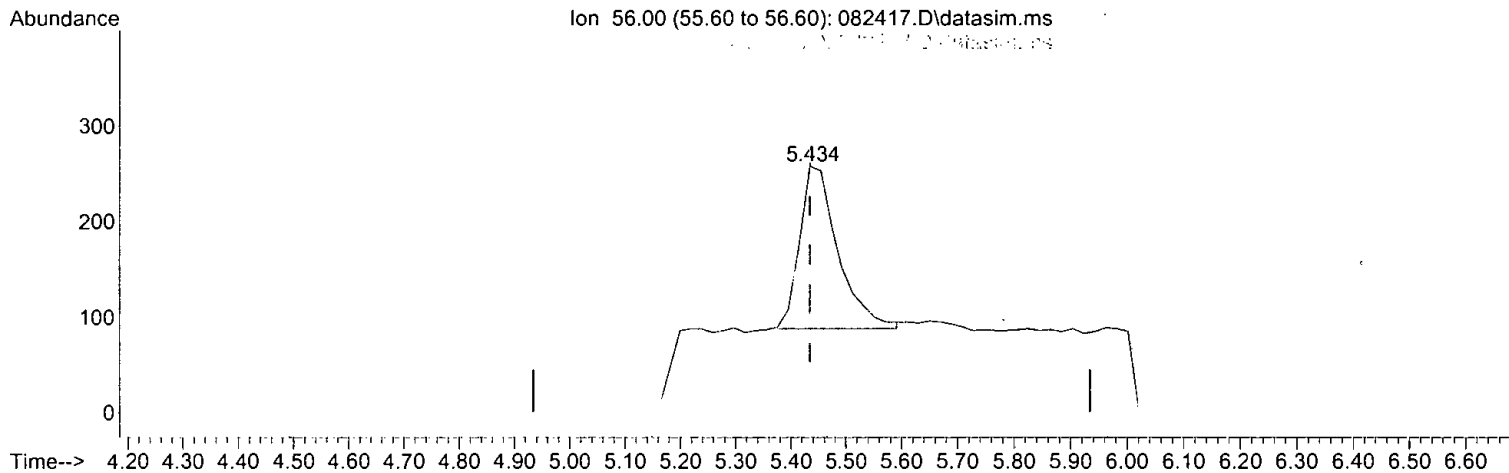
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	74.48
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.434min (+ 0.000) 0.095 ppbv m

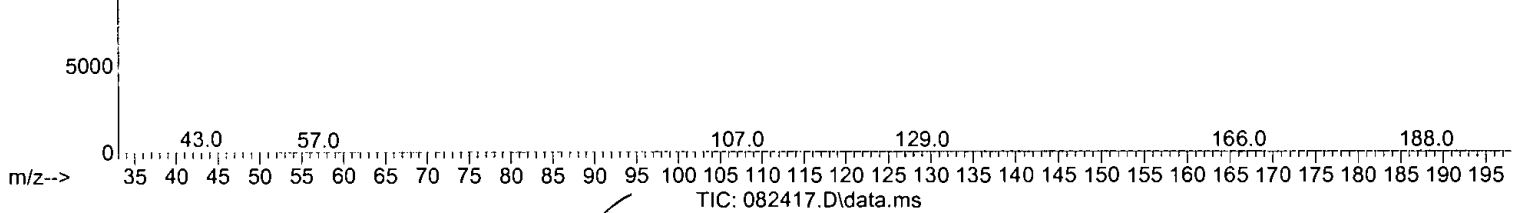
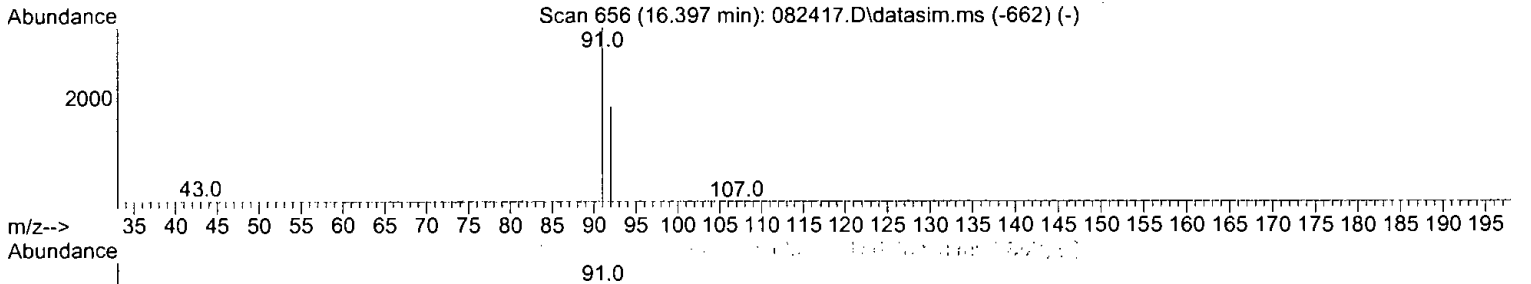
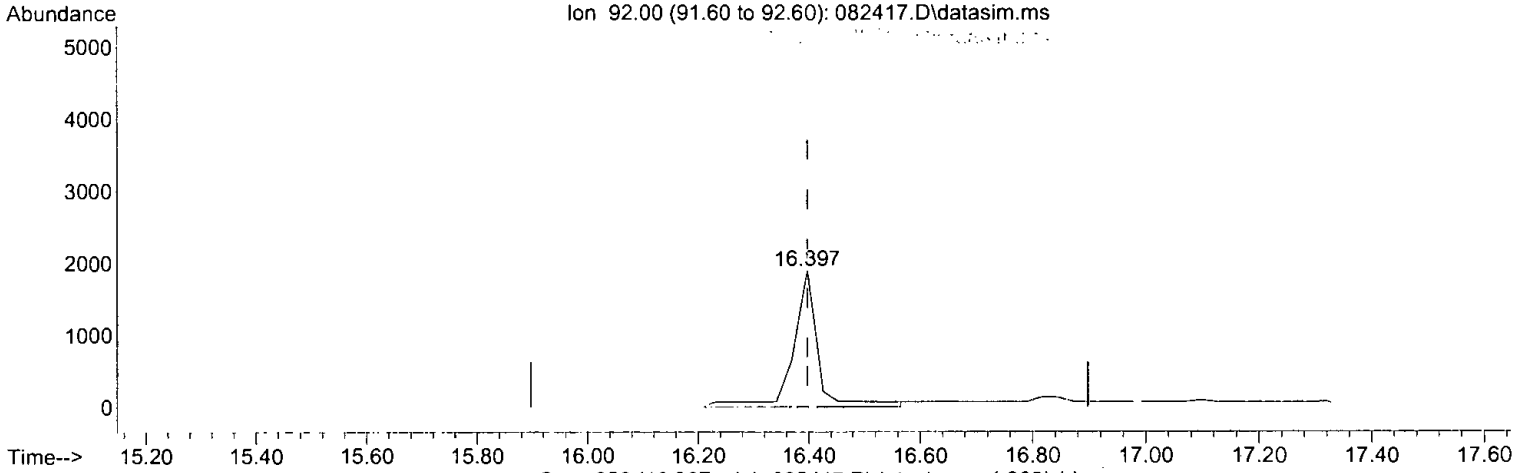
response 822

Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	113.26#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(50) Toluene (TMP)

16.397min (+ 0.000) 0.132 ppbv

response 5607

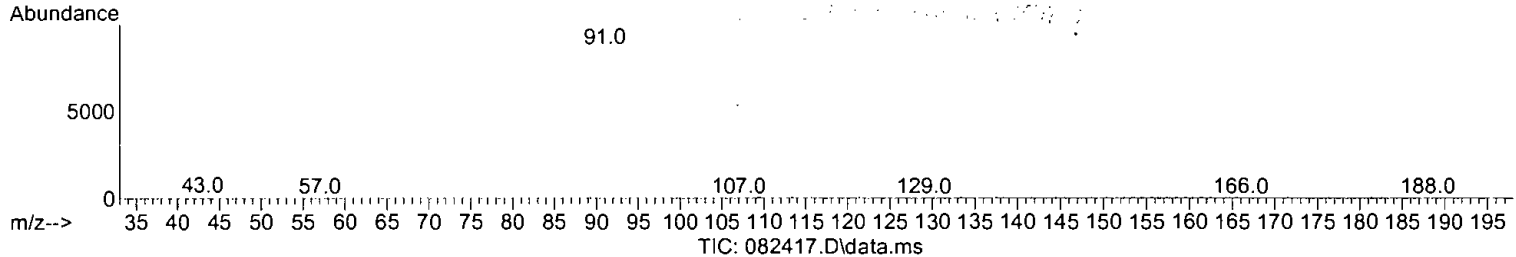
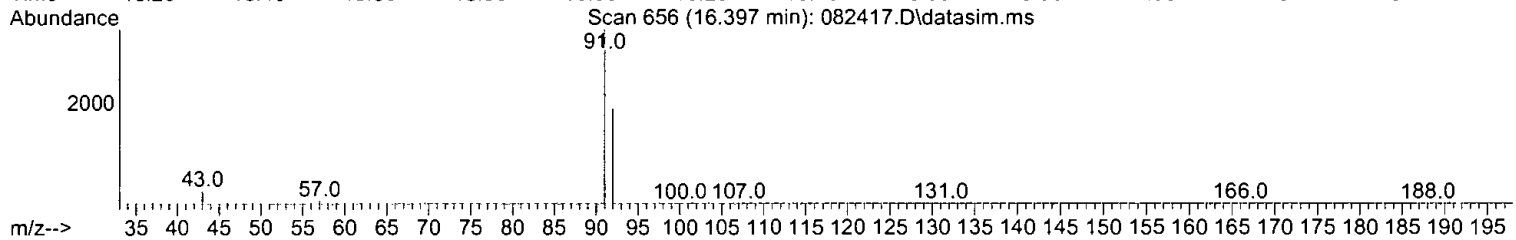
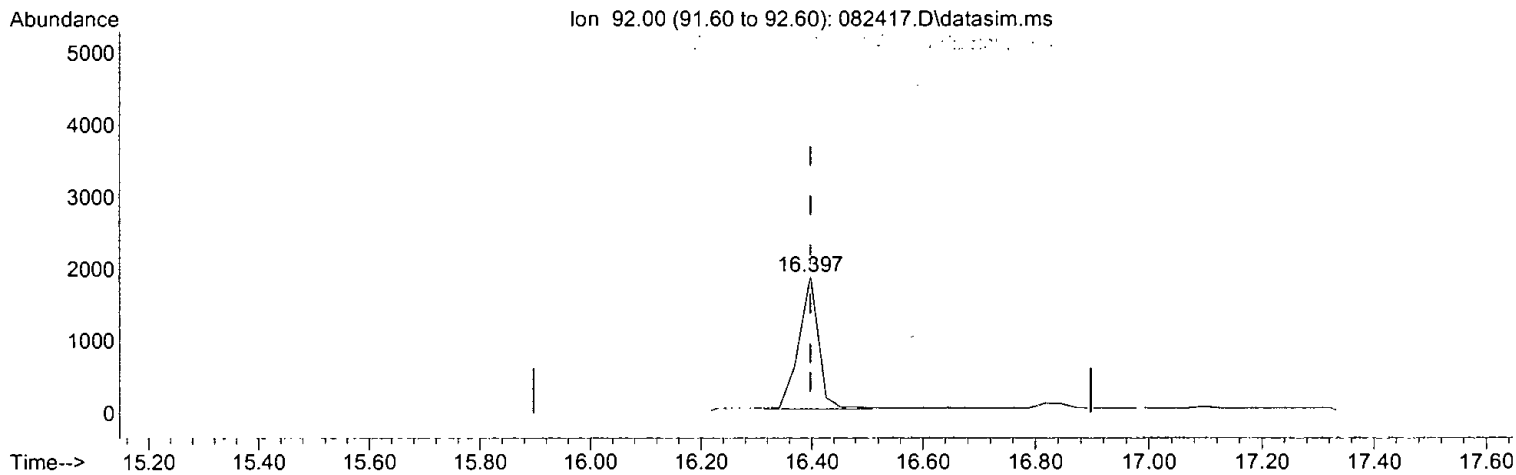
Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	181.06
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(50) Toluene (TMP)

16.397min (+ 0.000) 0.104 ppbv m

response 4437

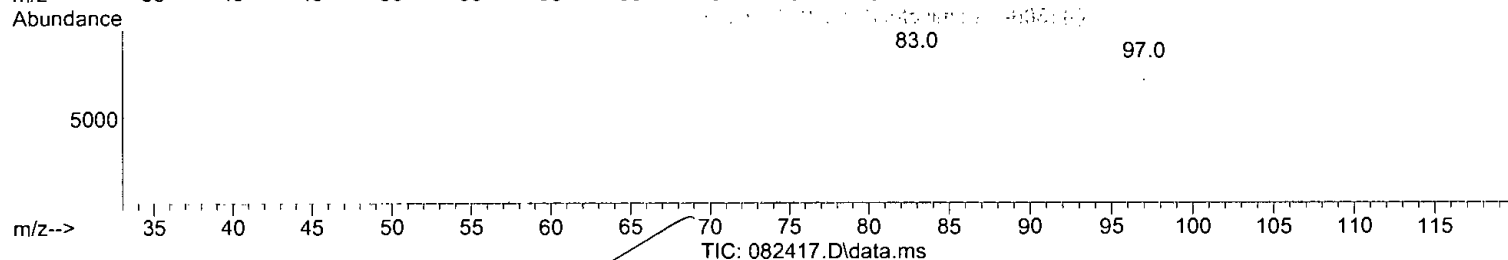
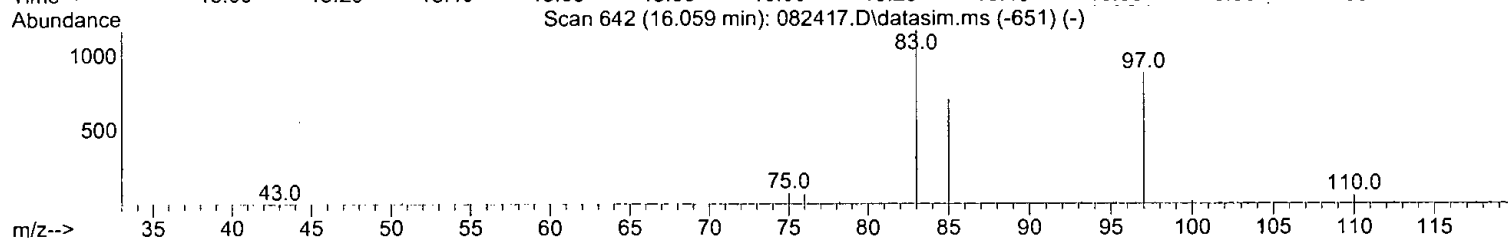
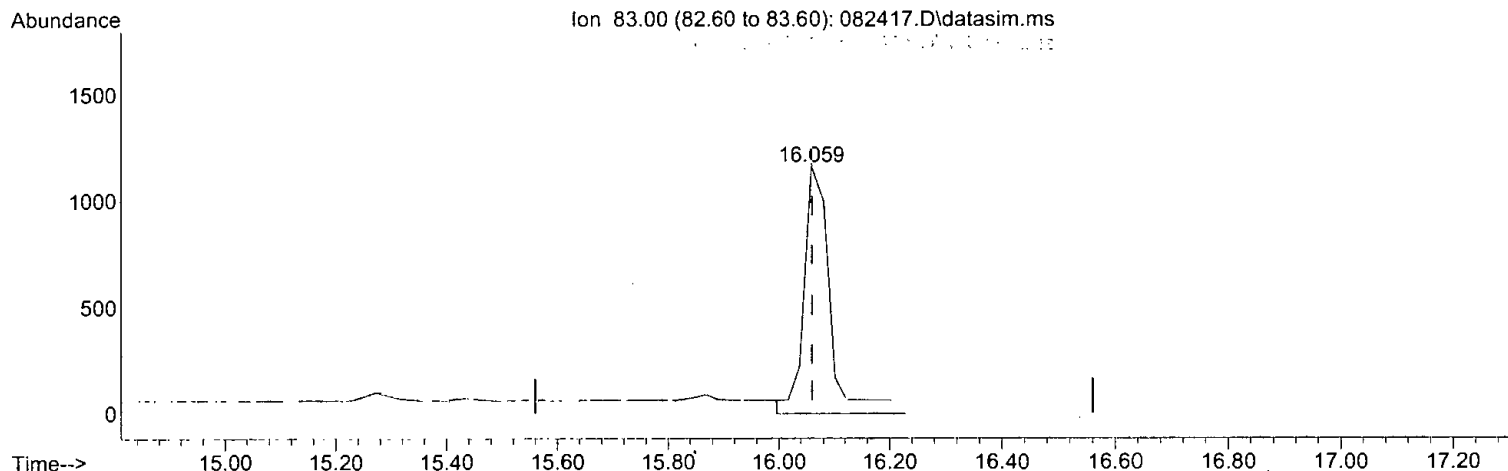
Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	181.06
0.00	0.00	0.00
0.00	0.00	0.00



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(51) 1,1,2-Trichloroethane (TMP)

16.059min (-0.001) 0.120 ppbv

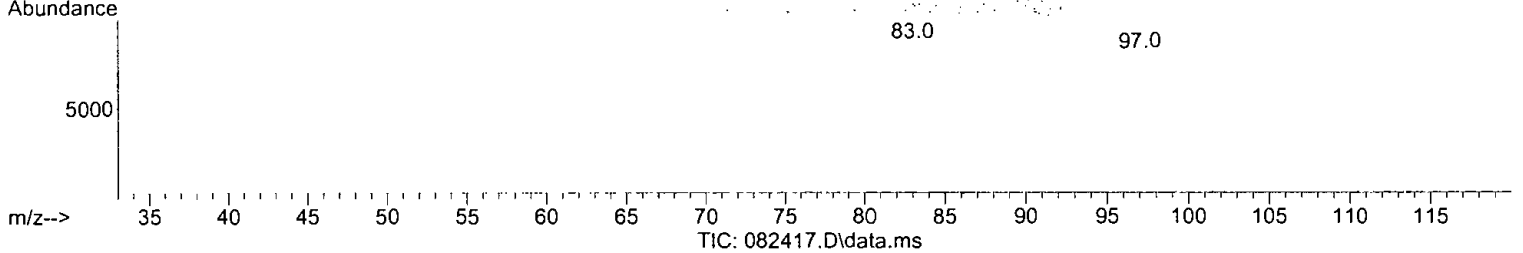
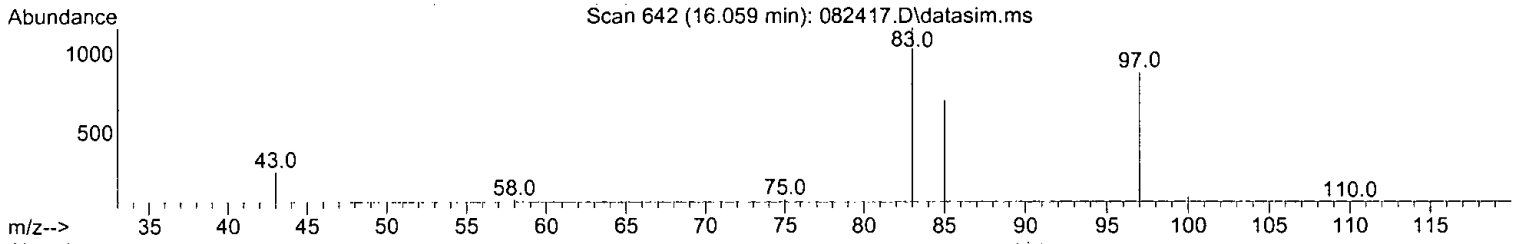
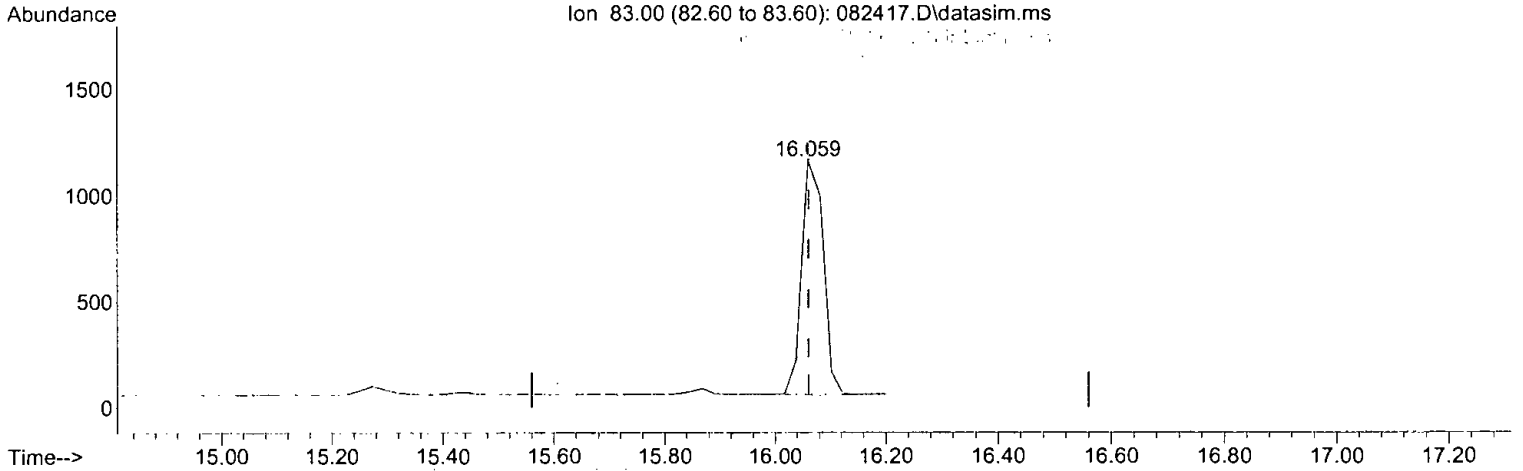
response	3840		
Ion	Exp%	Act%	
83.00	100.00	100.00	
97.00	81.80	75.45	
85.00	60.50	60.29	
0.00	0.00	0.00	

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(51) 1,1,2-Trichloroethane (TMP)

16.059min (-0.001) 0.093 ppbv m

response 2957

Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	75.45
85.00	60.50	60.29
0.00	0.00	0.00

*AS/25/24*

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:17:09 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	119517	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	567176	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	494412	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	446208	9.962	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	99.60%
Target Compounds						
						Qvalue
2) Propene	3.41	41	1999m	0.098	ppbv	
3) Dichlorodifluoromethane	3.52	85	4871	0.092	ppbv	88
4) Chloromethane	3.73	50	2935	0.118	ppbv	96
5) F-114	3.88	85	5105	0.096	ppbv	89
6) Vinyl chloride	4.05	62	2527	0.096	ppbv	95
7) 1,3-Butadiene	4.25	54	1800	0.099	ppbv	# 91
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.	d	
10) Chloroethane	4.84	64	939	0.104	ppbv	96
11) Vinyl bromide	5.32	106	2043m	0.096	ppbv	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	5.43	56	822m	0.095	ppbv	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	5.86	101	5876	0.100	ppbv	80
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	6.73	96	1928	0.098	ppbv	97
19) trans-1,2-Dichloroethene	8.18	96	1892	0.097	ppbv	# 80
20) Methylene chloride	0.00		0	N.D.	d	
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	7.22	101	3960	0.098	ppbv	98
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	8.44	63	4371	0.095	ppbv	97
28) cis-1,2-Dichloroethene	9.73	96	2041	0.096	ppbv	86
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	10.19	83	4844	0.093	ppbv	97
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	10.85	42	3529	0.109	ppbv	84
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	11.44	62	3621	0.092	ppbv	96
35) 1,1,1-Trichloroethane	11.94	97	3608	0.093	ppbv	85
36) Carbon tetrachloride	12.95	117	3574	0.094	ppbv	98
37) Benzene	12.70	78	7104	0.097	ppbv	95
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	13.90	63	3662	0.104	ppbv	99
41) 1,4-Dioxane	14.19	88	1522	0.100	ppbv	94
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

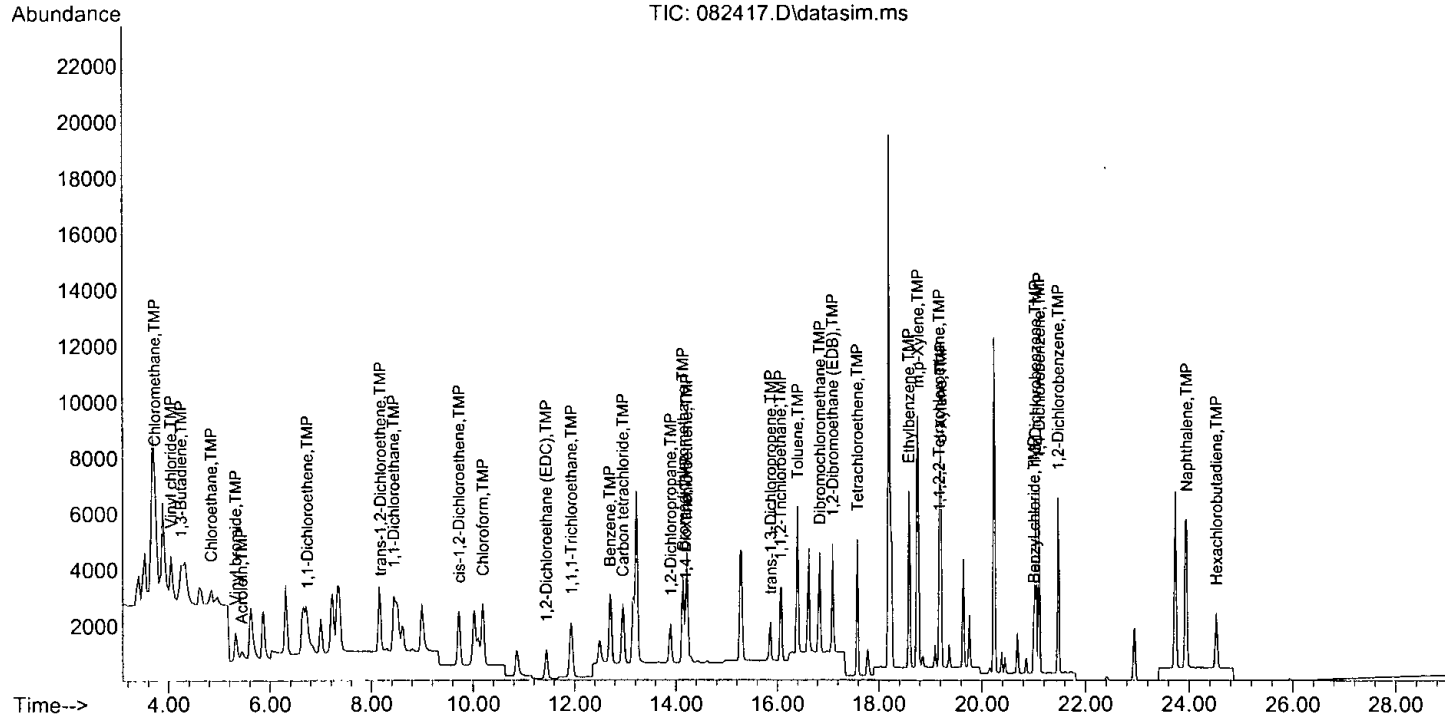
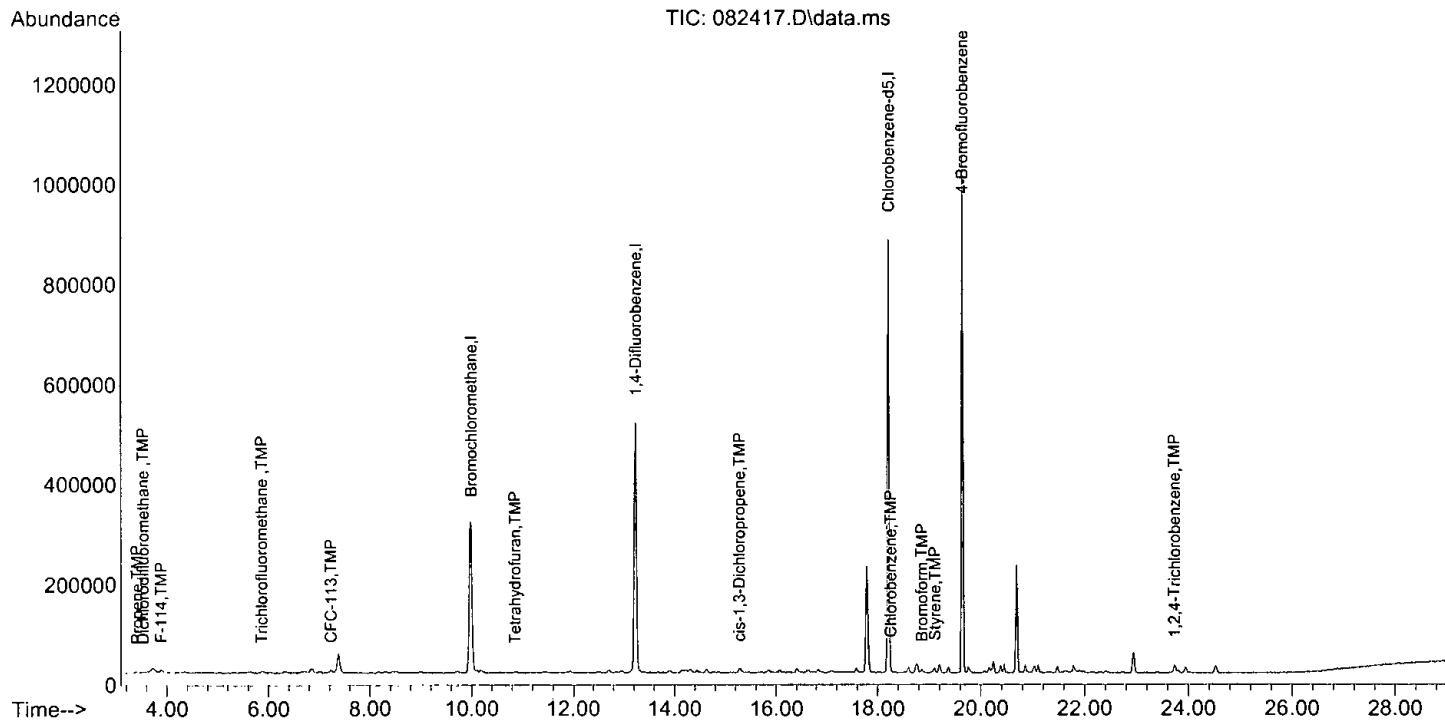
Quant Time: Aug 25 11:17:09 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	14.14	83	5070	0.094	ppbv	94
46) Trichloroethene	14.22	95	3310	0.094	ppbv	82
47) cis-1,3-Dichloropropene	15.27	75	4025	0.112	ppbv	91
48) 4-Methyl-2-pentanone	0.00		0	N.D.		
49) trans-1,3-Dichloropropene	15.87	75	3026	0.099	ppbv	98
50) Toluene	16.40	92	4437m	0.104	ppbv	
51] 1,1,2-Trichloroethane	16.06	83	2957m	0.093	ppbv	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	2232	0.103	ppbv #	79
54] Dibromochloromethane	16.85	129	4079	0.091	ppbv	91
55] 1,2-Dibromoethane (EDB)	17.10	107	4124	0.093	ppbv	89
57) Chlorobenzene	18.25	112	5373	0.101	ppbv	90
58] Ethylbenzene	18.59	91	10482	0.095	ppbv	96
59] 1,1,2,2-Tetrachloroethane	19.17	83	7172	0.094	ppbv	89
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.76	106	6935	0.197	ppbv	90
66] o-Xylene	19.21	106	3395	0.098	ppbv	92
67) Styrene	19.11	104	4884	0.096	ppbv #	53
68) Bromoform	18.85	173	3296	0.083	ppbv	93
70] Benzyl chloride	21.01	91	3183	0.086	ppbv	93
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73] 1,3-Dichlorobenzene	21.04	146	5918	0.104	ppbv	92
74] 1,4-Dichlorobenzene	21.11	146	5597	0.095	ppbv	93
75] 1,2-Dichlorobenzene	21.47	146	5637	0.105	ppbv	94
76) 1,2,4-Trichlorobenzene	23.73	180	6449	0.100	ppbv	92
77] Naphthalene	23.95	128	12787	0.098	ppbv	98
78] Hexachlorobutadiene	24.52	225	4329	0.094	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:17:09 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:17:09 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	0.100	0.098	2.0	98	0.00
3 TMP	Dichlorodifluoromethane	0.100	0.092	8.0	100	0.00
4 TMP	Chloromethane	0.100	0.118	-18.0	100	-0.04
5 TMP	F-114	0.100	0.096	4.0	100	0.00
6 TMP	Vinyl chloride	0.100	0.096	4.0	100	0.00
7 TMP	1,3-Butadiene	0.100	0.099	1.0	100	0.00
8 TMP	Butane	-1.000	0.000	0.0	0	-4.32#
9 TMP	Bromomethane	-1.000	0.000	0.0	0	-4.64#
10 TMP	Chloroethane	0.100	0.104	-4.0	100	0.00
11 TMP	Vinyl bromide	0.100	0.096	4.0	100	0.00
12 TMP	Ethanol	-1.000	0.000	0.0	0	-4.96#
13 TMP	Acrolein	0.100	0.095	5.0	97	0.00
14 TMP	Pentane	-1.000	0.000	0.0	0	-6.33#
15 TMP	Trichlorofluoromethane	0.100	0.100	0.0	100	-0.02
16 TMP	Acetone	-1.000	0.000	0.0	0	-5.59#
17 TMP	2-Propanol	-1.000	0.000	0.0	0	-5.86#
18 TMP	1,1-Dichloroethene	0.100	0.098	2.0	100	0.00
19 TMP	trans-1,2-Dichloroethene	0.100	0.097	3.0	100	0.00
20 TMP	Methylene chloride	-1.000	0.000	0.0	0	-6.86#
21 TMP	t-Butyl alcohol (TBA)	-1.000	0.000	0.0	0	-6.65#
22 TMP	3-Chloropropene	-1.000	0.000	0.0	0	-7.01#
23 TMP	CFC-113	0.100	0.098	2.0	100	0.00
24 TMP	Carbon disulfide	-1.000	0.000	0.0	0	-7.33#
25 TMP	Methyl t-butyl ether (MTBE)	-1.000	0.000	0.0	0	-8.51#
26 TMP	Vinyl acetate	-1.000	0.000	0.0	0	-8.62#
27 TMP	1,1-Dichloroethane	0.100	0.095	5.0	100	0.00
28 TMP	cis-1,2-Dichloroethene	0.100	0.096	4.0	100	0.00
29 TMP	Hexane	-1.000	0.000	0.0	0	-10.11#
30 TMP	Chloroform	0.100	0.093	7.0	100	0.00
31 TMP	Ethyl acetate	-1.000	0.000	0.0	0	-10.01#
32 TMP	Tetrahydrofuran	0.100	0.109	-9.0	100	0.00
33 TMP	2-Butanone (MEK)	-1.000	0.000	0.0	0	-8.99#
34 TMP	1,2-Dichloroethane (EDC)	0.100	0.092	8.0	100	0.00
35 TMP	1,1,1-Trichloroethane	0.100	0.093	7.0	100	0.00
36 TMP	Carbon tetrachloride	0.100	0.094	6.0	100	0.00
37 TMP	Benzene	0.100	0.097	3.0	100	0.00
38 TMP	Cyclohexane	-1.000	0.000	0.0	0	-13.16#
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.100	0.104	-4.0	106	0.00
41 TMP	1,4-Dioxane	0.100	0.100	0.0	100	0.03
42 TMP	2,2,4-Trimethylpentane	-1.000	0.000	0.0	0	-14.31#
43 TMP	Methyl methacrylate	-1.000	0.000	0.0	0	-14.43#
44 TMP	Heptane	-1.000	0.000	0.0	0	-14.63#
45 TMP	Bromodichloromethane	0.100	0.094	6.0	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:17:09 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.100	0.094	6.0	100	0.00
47 TMP cis-1,3-Dichloropropene	0.100	0.112	-12.0	100	0.00
48 TMP 4-Methyl-2-pentanone	-1.000	0.000	0.0	0	-15.29#
49 TMP trans-1,3-Dichloropropene	0.100	0.099	1.0	100	0.02
50 TMP Toluene	0.100	0.104	-4.0	101	0.00
51 TMP 1,1,2-Trichloroethane	0.100	0.093	7.0	94	0.00
52 TMP 2-Hexanone	-1.000	0.000	0.0	0	-16.62#
53 TMP Tetrachloroethene	0.100	0.103	-3.0	103	0.00
54 TMP Dibromochloromethane	0.100	0.091	9.0	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.100	0.093	7.0	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	0.100	0.101	-1.0	100	0.00
58 TMP Ethylbenzene	0.100	0.095	5.0	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.100	0.094	6.0	100	-0.02
60 TMP Nonane	-1.000	0.000	0.0	0	-19.36#
61 TMP Isopropylbenzene	-1.000	0.000	0.0	0	-19.75#
62 TMP 2-Chlorotoluene	-1.000	0.000	0.0	0	-20.23#
63 TMP Propylbenzene	-1.000	0.000	0.0	0	-20.25#
64 TMP 4-Ethyltoluene	-1.000	0.000	0.0	0	-20.38#
65 TMP m,p-Xylene	0.200	0.197	1.5	100	0.00
66 TMP o-Xylene	0.100	0.098	2.0	100	0.00
67 TMP Styrene	0.100	0.096	4.0	100	0.00
68 TMP Bromoform	0.100	0.083	17.0	100	0.00
69 S 4-Bromofluorobenzene	10.000	9.962	0.4	100	0.00
70 TMP Benzyl chloride	0.100	0.086	14.0	100	0.00
71 TMP 1,3,5-Trimethylbenzene	-1.000	0.000	0.0	0	-20.45#
72 TMP 1,2,4-Trimethylbenzene	-1.000	0.000	0.0	0	-20.86#
73 TMP 1,3-Dichlorobenzene	0.100	0.104	-4.0	100	0.00
74 TMP 1,4-Dichlorobenzene	0.100	0.095	5.0	100	0.00
75 TMP 1,2-Dichlorobenzene	0.100	0.105	-5.0	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.100	0.100	0.0	100	0.00
77 TMP Naphthalene	0.100	0.098	2.0	100	0.02
78 TMP Hexachlorobutadiene	0.100	0.094	6.0	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:17:09 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	1.710	1.673	2.2	98	0.00
3 TMP	Dichlorodifluoromethane	4.425	4.076	7.9	100	0.00
4 TMP	Chloromethane	2.075	2.456	-18.4	100	-0.04
5 TMP	F-114	4.450	4.271	4.0	100	0.00
6 TMP	Vinyl chloride	2.209	2.114	4.3	100	0.00
7 TMP	1,3-Butadiene	1.529	1.506	1.5	100	0.00
8 TMP	Butane	3.248	0.000	100.0#	0#	-4.32#
9 TMP	Bromomethane	1.540	0.000#	100.0#	0#	-4.64#
10 TMP	Chloroethane	0.759	0.786	-3.6	100	0.00
11 TMP	Vinyl bromide	1.785	1.709	4.3	100	0.00
12 TMP	Ethanol	0.559	0.000	100.0#	0#	-4.96#
13 TMP	Acrolein	0.726	0.688	5.2	97	0.00
14 TMP	Pentane	3.891	0.000#	100.0#	0#	-6.33#
15 TMP	Trichlorofluoromethane	4.934	4.916	0.4	100	-0.02
16 TMP	Acetone	0.880	0.000#	100.0#	0#	-5.59#
17 TMP	2-Propanol	3.556	0.000	100.0#	0#	-5.86#
18 TMP	1,1-Dichloroethene	1.648	1.613	2.1	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.626	1.583	2.6	100	0.00
20 TMP	Methylene chloride	1.750	0.000#	100.0#	0#	-6.86#
21 TMP	t-Butyl alcohol (TBA)	2.881	0.000	100.0#	0#	-6.65#
22 TMP	3-Chloropropene	2.910	0.000	100.0#	0#	-7.01#
23 TMP	CFC-113	3.396	3.313	2.4	100	0.00
24 TMP	Carbon disulfide	5.738	0.000	100.0#	0#	-7.33#
25 TMP	Methyl t-butyl ether (MTBE)	3.820	0.000#	100.0#	0#	-8.51#
26 TMP	Vinyl acetate	2.562	0.000#	100.0#	0#	-8.62#
27 TMP	1,1-Dichloroethane	3.850	3.657	5.0	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.708	4.0	100	0.00
29 TMP	Hexane	2.959	0.000	100.0#	0#	-10.11#
30 TMP	Chloroform	4.366	4.053	7.2	100	0.00
31 TMP	Ethyl acetate	6.229	0.000	100.0#	0#	-10.01#
32 TMP	Tetrahydrofuran	2.703	2.953	-9.2	100	0.00
33 TMP	2-Butanone (MEK)	0.712	0.000	100.0#	0#	-8.99#
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.030	7.8	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.019	6.6	100	0.00
36 TMP	Carbon tetrachloride	3.178	2.990	5.9	100	0.00
37 TMP	Benzene	6.123	5.944	2.9	100	0.00
38 TMP	Cyclohexane	1.669	0.000	100.0#	0#	-13.16#
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.618	0.646	-4.5	106	0.00
41 TMP	1,4-Dioxane	0.270	0.268	0.7	100	0.03
42 TMP	2,2,4-Trimethylpentane	2.076	0.000	100.0#	0#	-14.31#
43 TMP	Methyl methacrylate	0.567	0.000	100.0#	0#	-14.43#
44 TMP	Heptane	0.959	0.000	100.0#	0#	-14.63#
45 TMP	Bromodichloromethane	0.953	0.894	6.2	100	0.00



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:17:09 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.584	5.5	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.710	-11.6	100	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.000	100.0#	0#	-15.29#
49 TMP trans-1,3-Dichloropropene	0.540	0.534	1.1	100	0.02
50 TMP Toluene	0.749	0.782	-4.4	101	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.521	7.5	94	0.00
52 TMP 2-Hexanone	1.055	0.000#	100.0#	0#	-16.62#
53 TMP Tetrachloroethene	0.381	0.394	-3.4	103	0.00
54 TMP Dibromochloromethane	0.787	0.719	8.6	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.727	6.7	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	1.087	-1.5	100	0.00
58 TMP Ethylbenzene	2.221	2.120	4.5	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.451	6.3	100	-0.02
60 TMP Nonane	1.679	0.000	100.0#	0#	-19.36#
61 TMP Isopropylbenzene	1.948	0.000	100.0#	0#	-19.75#
62 TMP 2-Chlorotoluene	0.463	0.000	100.0#	0#	-20.23#
63 TMP Propylbenzene	4.322	0.000	100.0#	0#	-20.25#
64 TMP 4-Ethyltoluene	2.027	0.000	100.0#	0#	-20.38#
65 TMP m,p-Xylene	0.713	0.701	1.7	100	0.00
66 TMP o-Xylene	0.701	0.687	2.0	100	0.00
67 TMP Styrene	1.032	0.988	4.3	100	0.00
68 TMP Bromoform	0.801	0.667	16.7	100	0.00
69 S 4-Bromofluorobenzene	0.906	0.903	0.3	100	0.00
70 TMP Benzyl chloride	0.751	0.644	14.2	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	0.000	100.0#	0#	-20.45#
72 TMP 1,2,4-Trimethylbenzene	1.679	0.000	100.0#	0#	-20.86#
73 TMP 1,3-Dichlorobenzene	1.154	1.197	-3.7	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.132	1.7	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.140	-4.5	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	1.304	-37.3#	100	0.00
77 TMP Naphthalene	2.538	2.586	-1.9	100	0.02
78 TMP Hexachlorobutadiene	0.852	0.876	-2.8	100	0.00

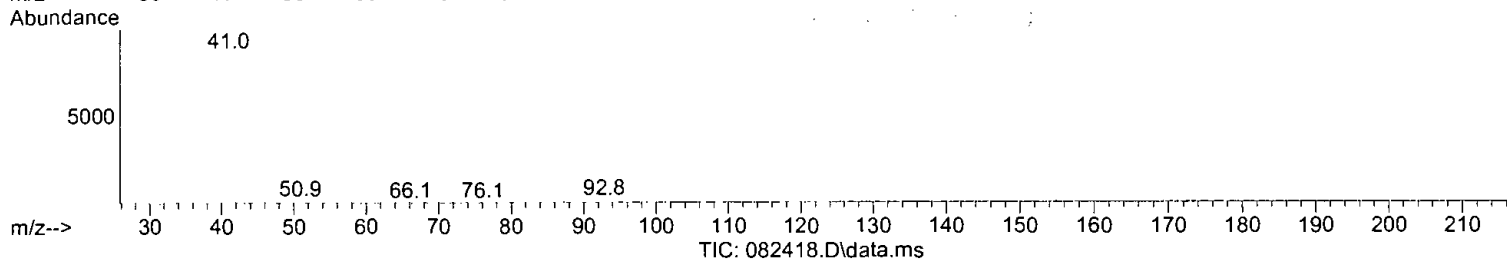
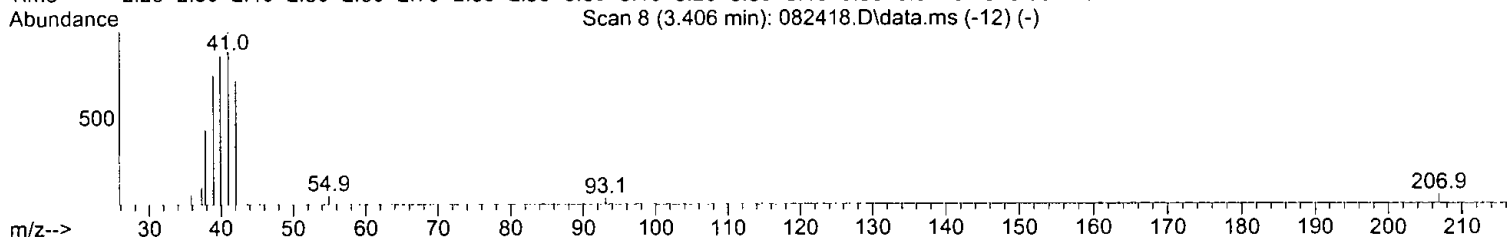
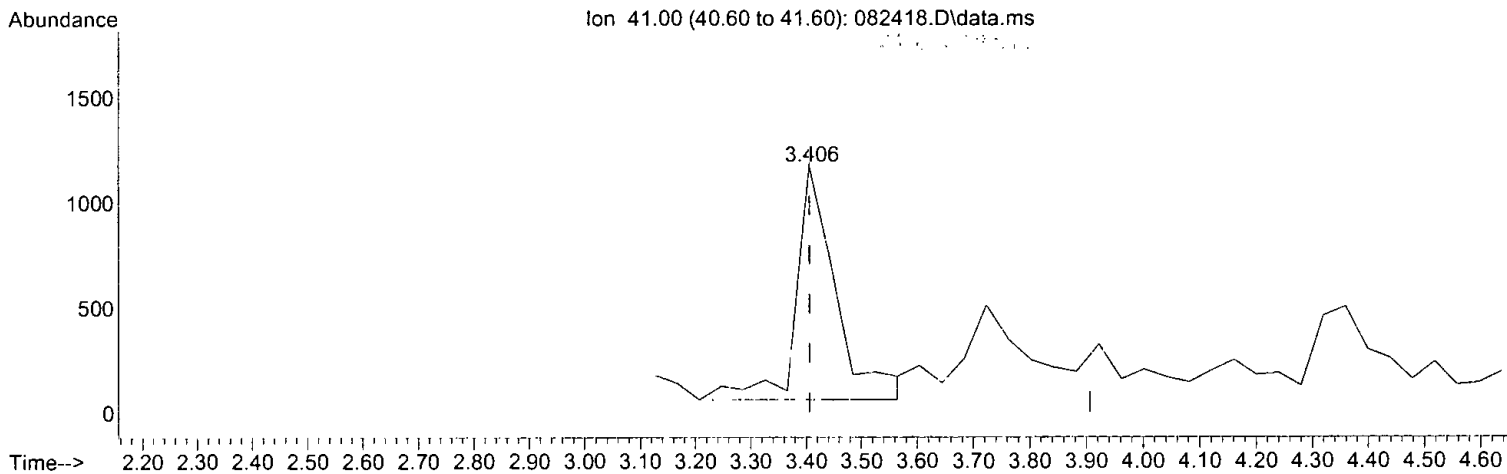
(#) = Out of Range

SPCC's out = 7 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(2) Propene (TMP)

3.406min (-0.000) 0.284 ppbv

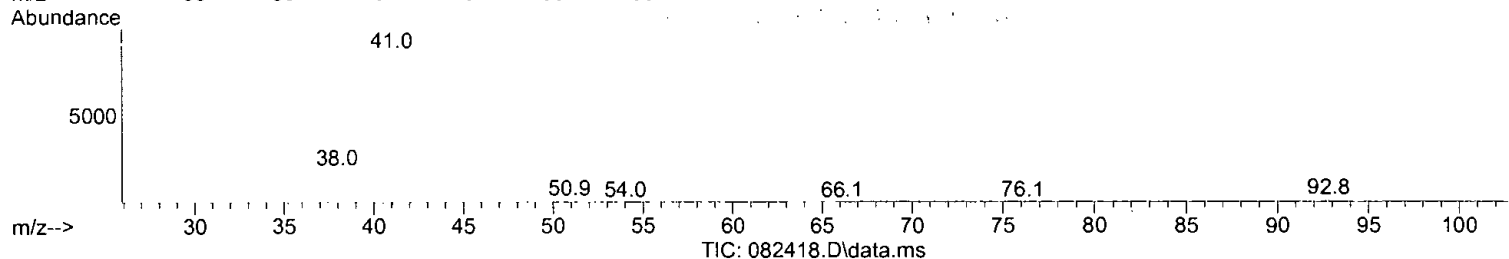
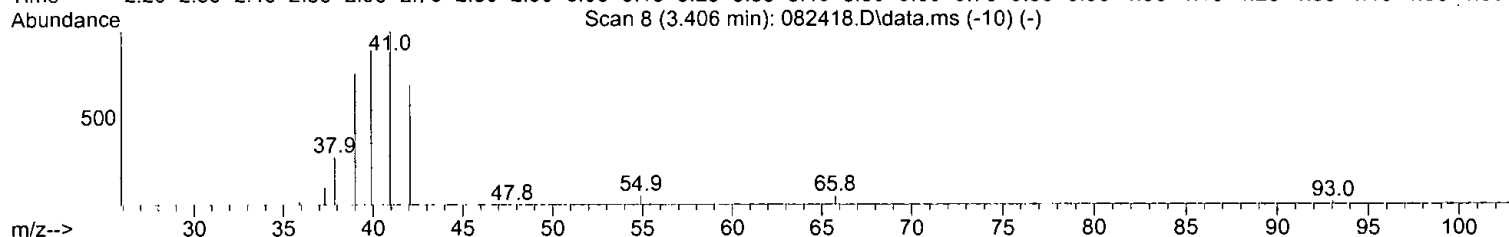
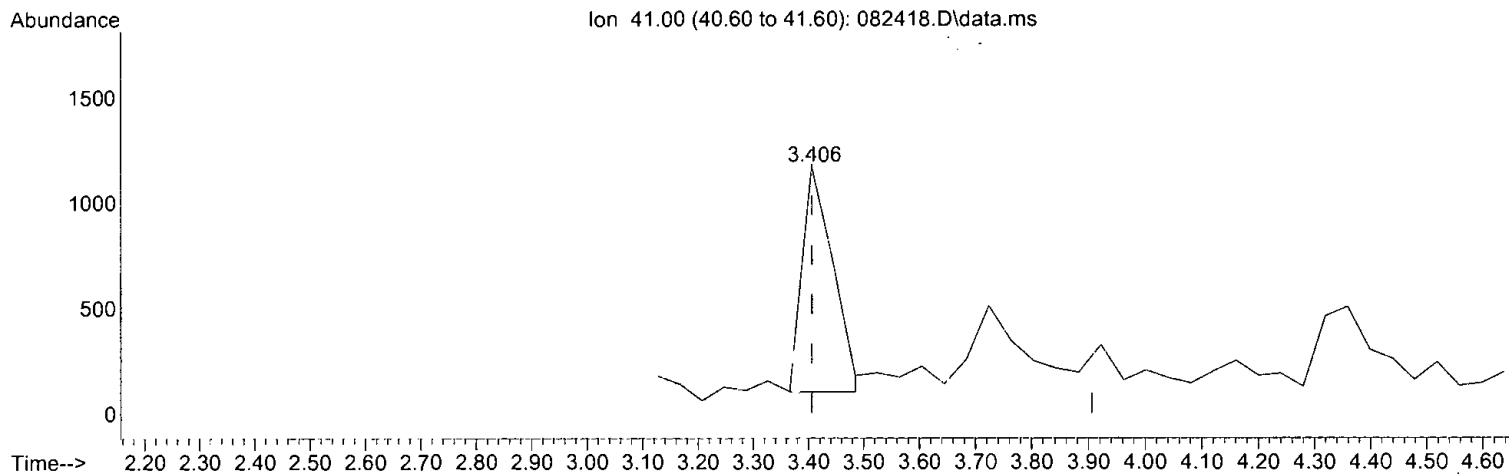
response	5634		
Ion	Exp%	Act%	
41.00	100.00	100.00	
39.00	75.60	68.05	
27.00	0.00	0.00	
0.00	0.00	0.00	

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Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(2) Propene (TMP)

3.406min (-0.000) 0.211 ppbv m

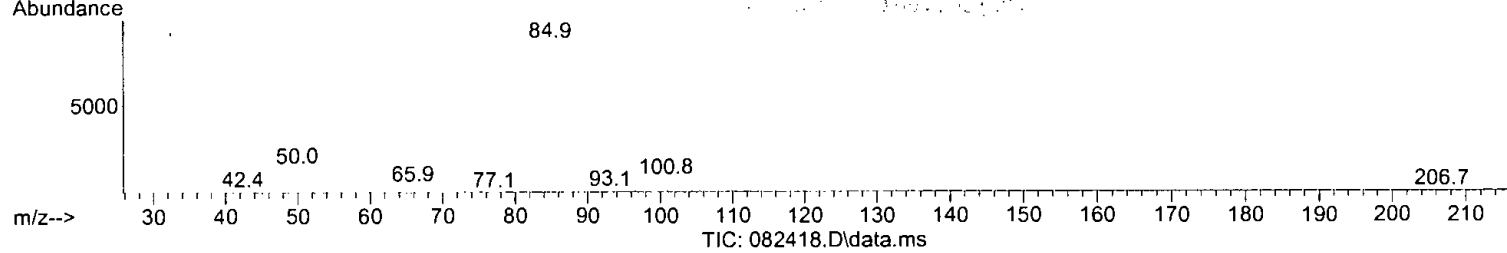
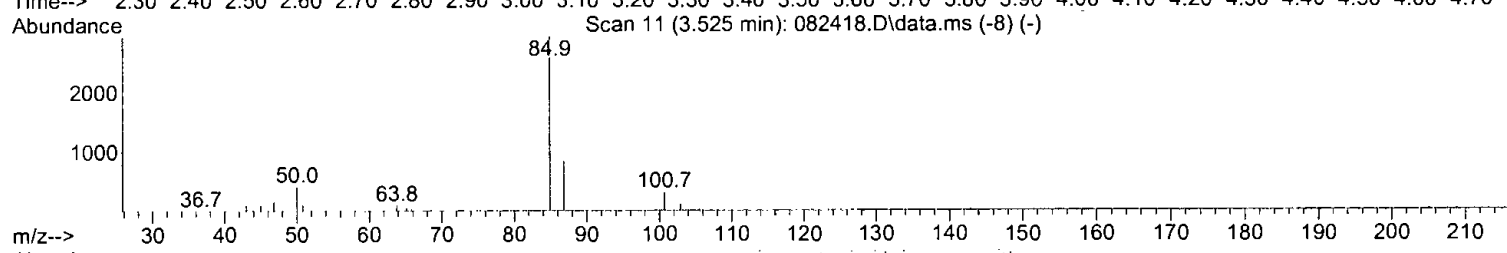
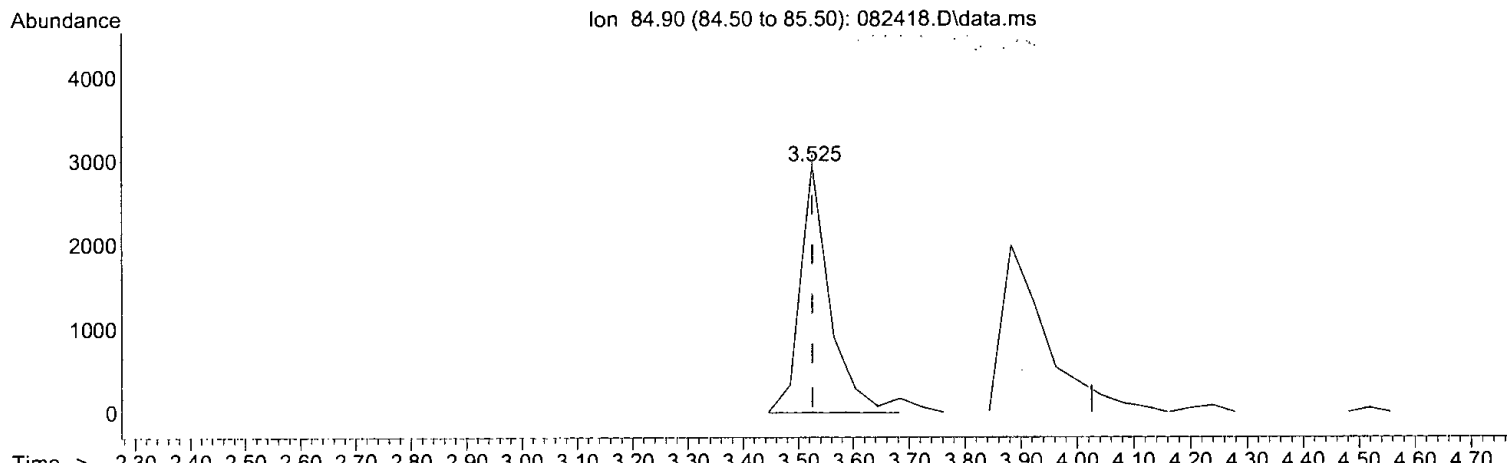
response	4173	
Ion	Exp%	Act%
41.00	100.00	100.00
39.00	75.60	84.98
27.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



~~(3) Dichlorodifluoromethane (TMP)~~

~~3.525min (-0.000) 0.221 ppbv~~

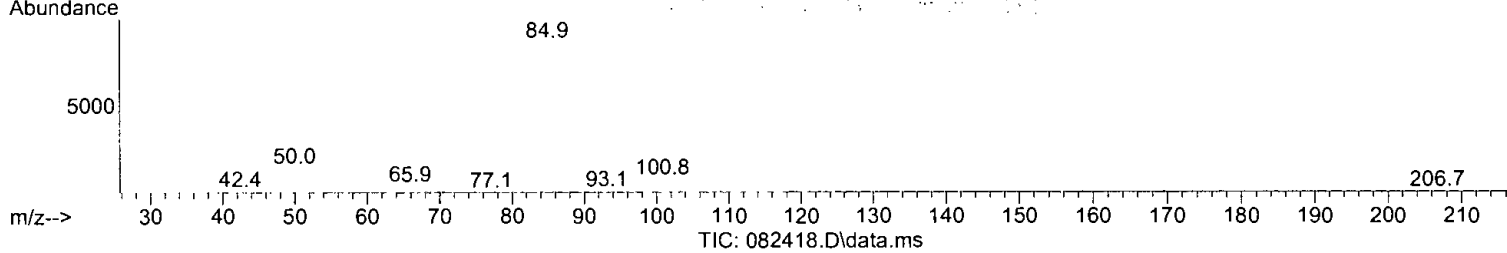
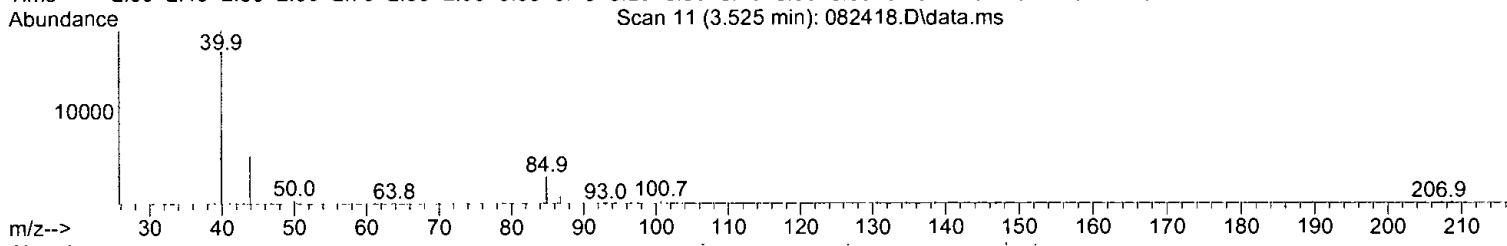
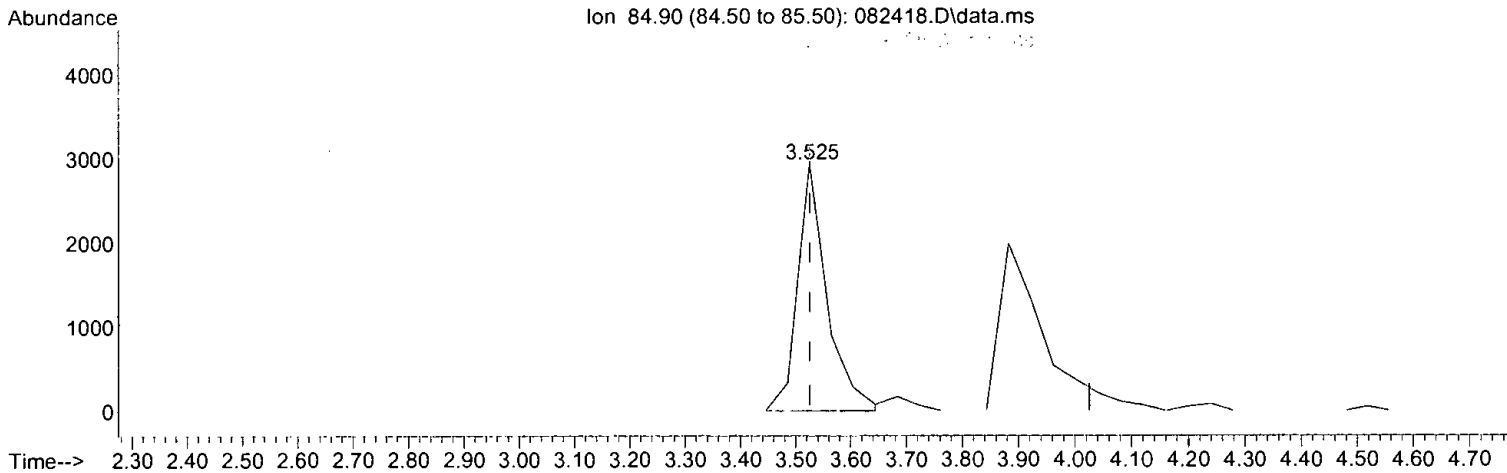
response	11357		
Ion	Exp%	Act%	
84.90	100.00	100.00	
86.90	32.20	28.58	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS8125ku

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) Dichlorodifluoromethane (TMP)

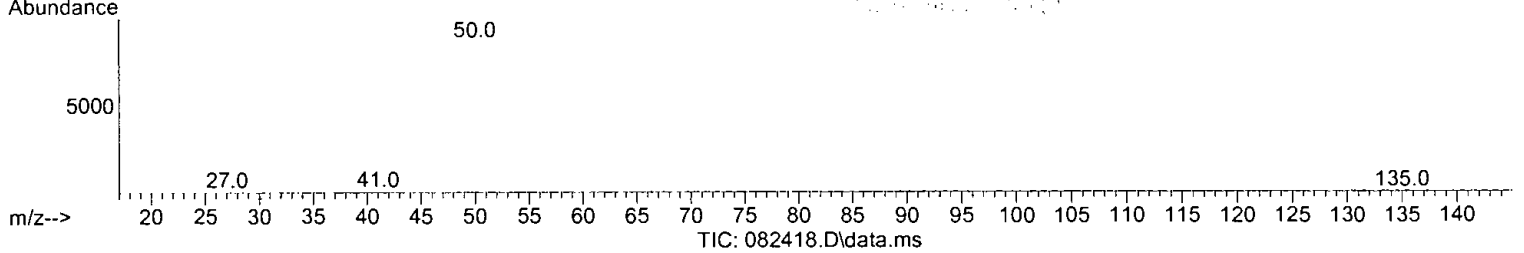
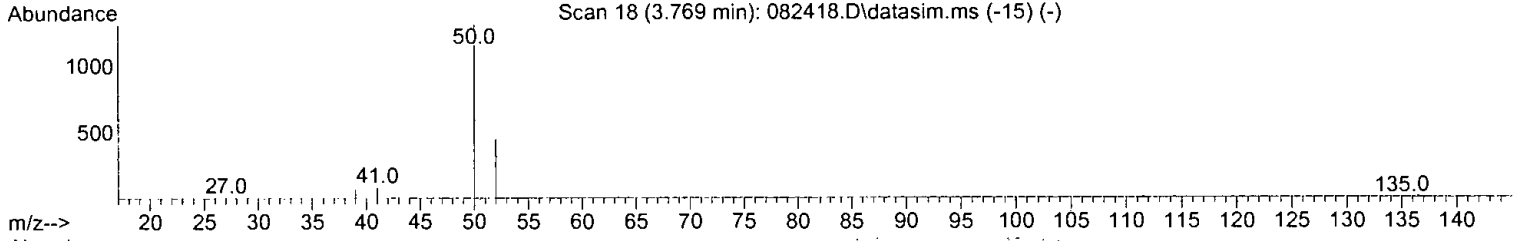
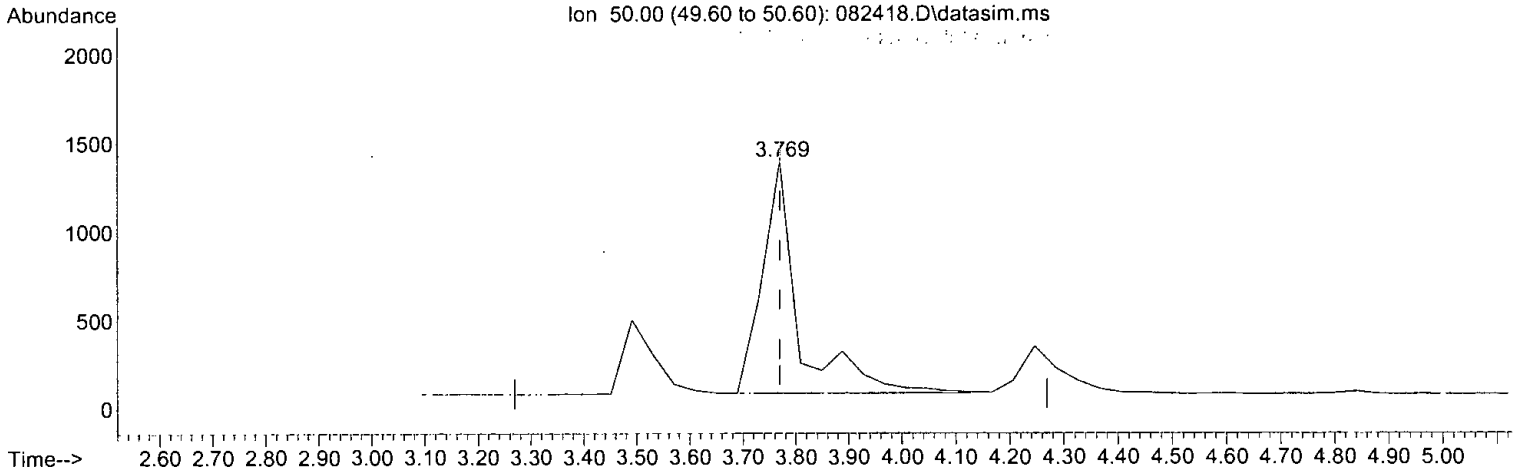
3.525min (-0.000) 0.211 ppbv m

response	10801	
Ion	Exp%	Act%
84.90	100.00	100.00
86.90	32.20	28.58
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (+ 0.000) 0.258 ppbv

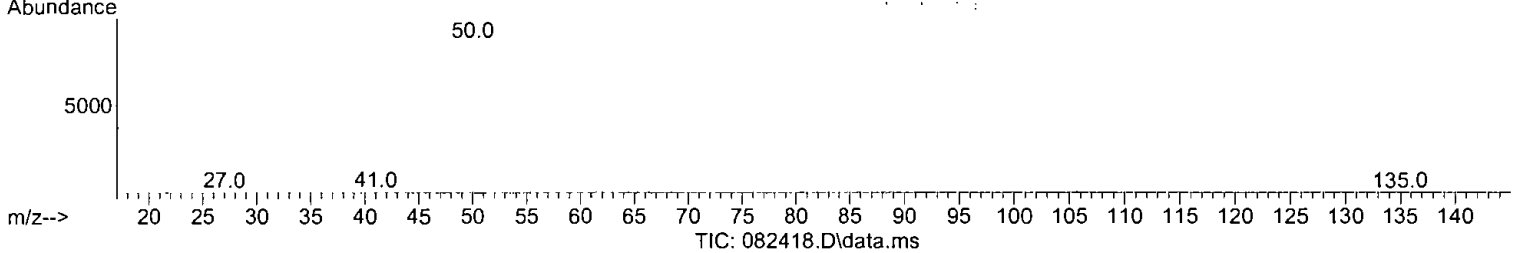
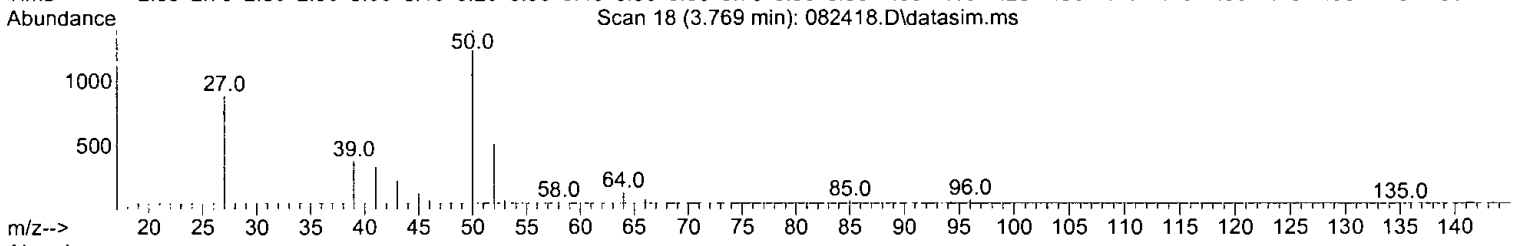
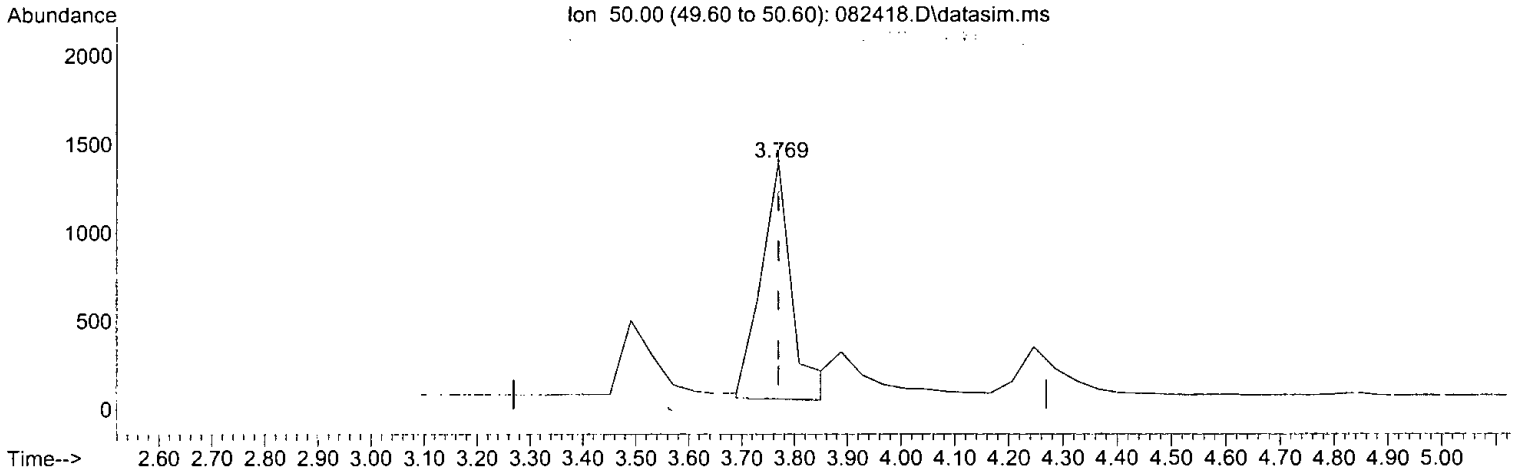
response	6218		
Ion	Exp%	Act%	
50.00	100.00	100.00	
51.90	25.30	33.92	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (+ 0.000) 0.223 ppbv m

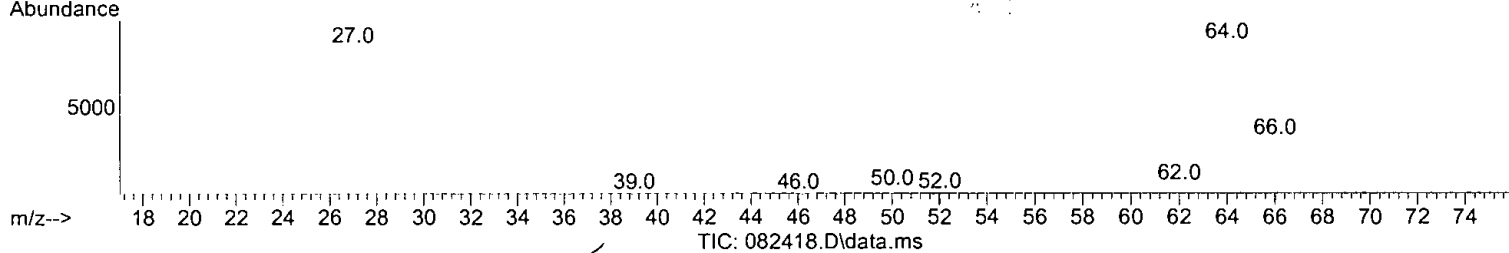
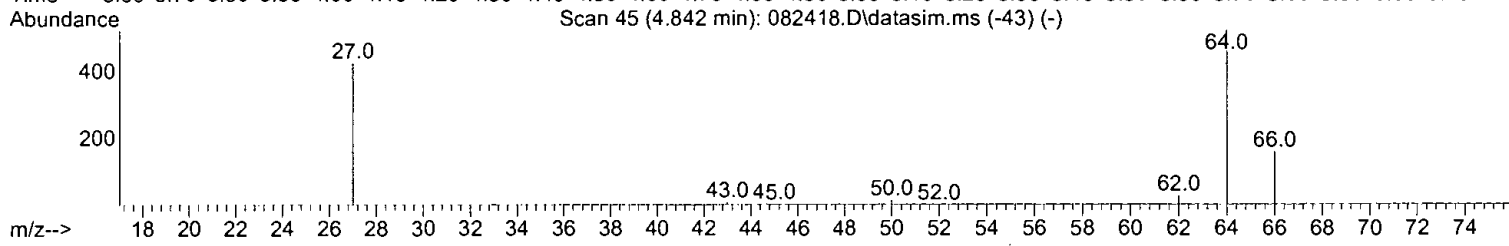
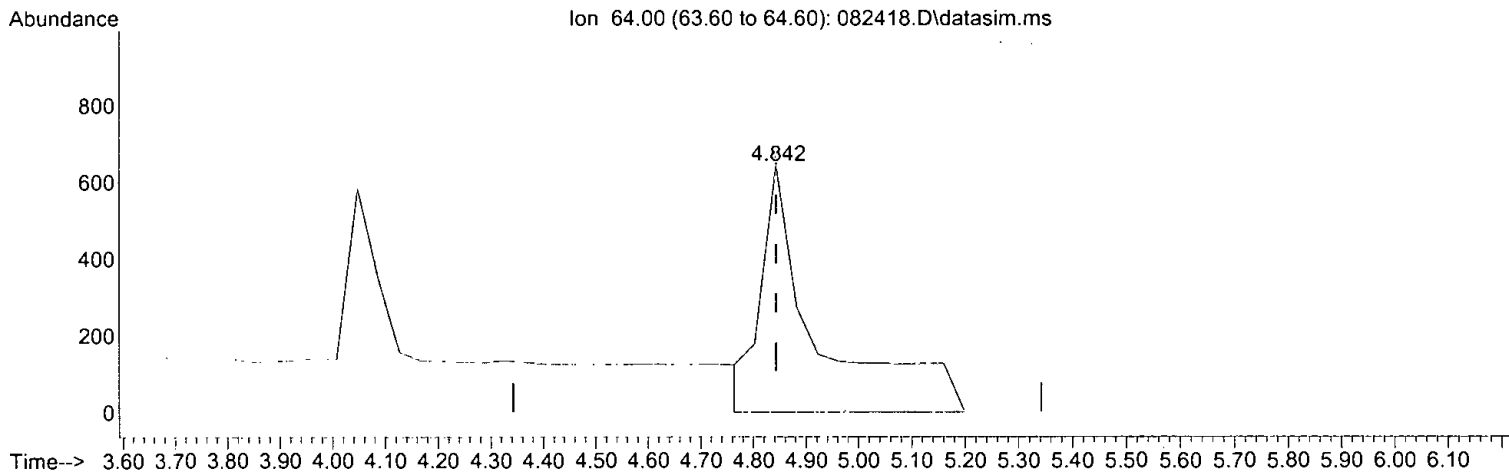
response	5374	
Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	37.15
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 0.523 ppbv

response	4603		
Ion	Exp%	Act%	
64.00	100.00	100.00	
66.00	31.80	37.89	
0.00	0.00	0.00	
0.00	0.00	0.00	

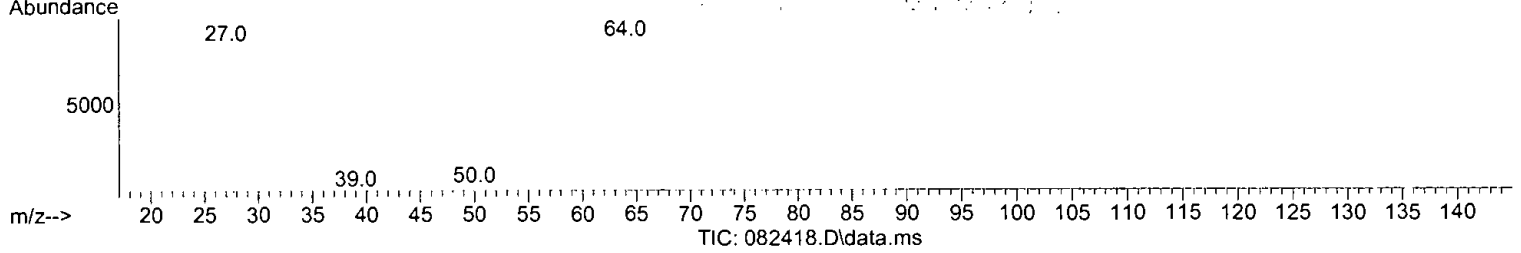
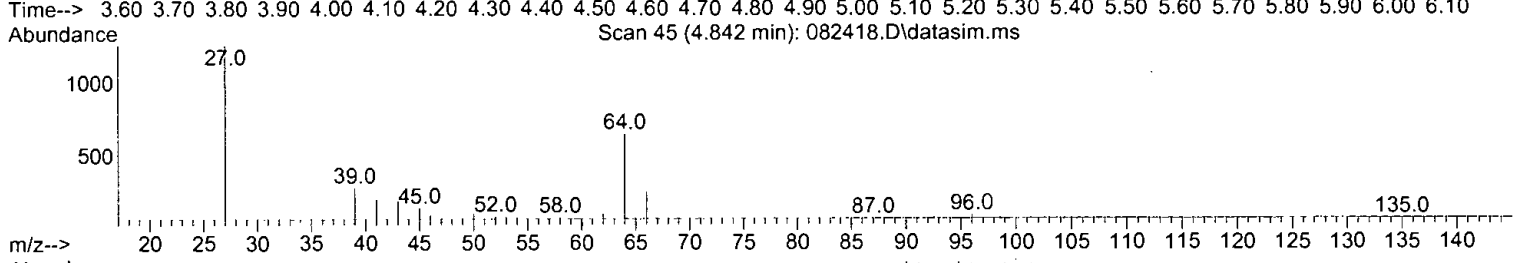
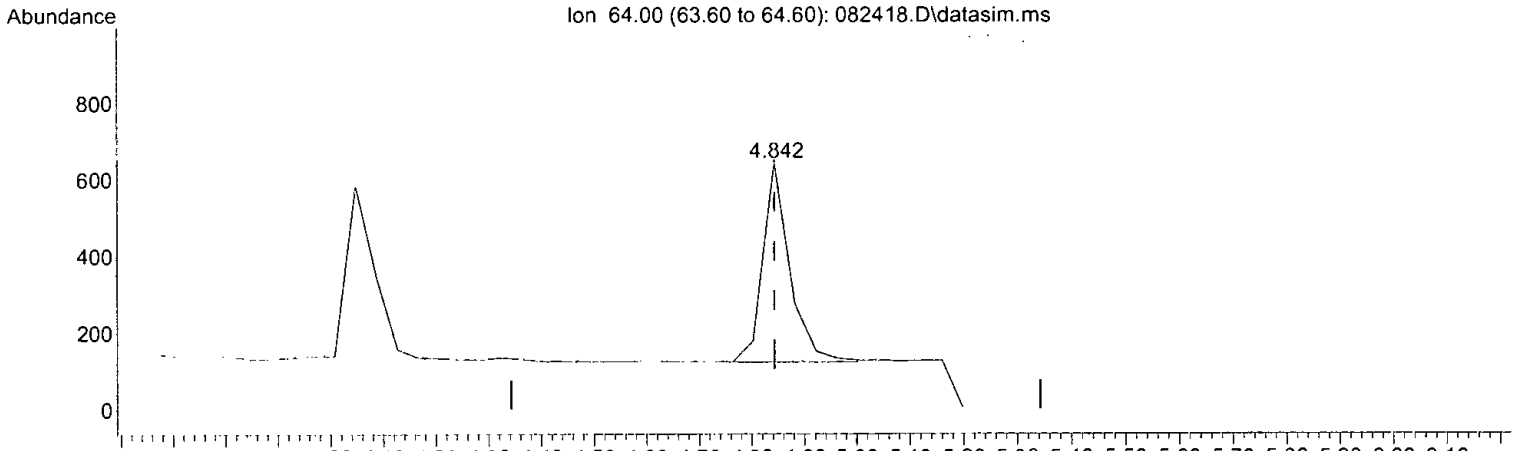
AS8/25/21



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 0.209 ppbv m

response 1838

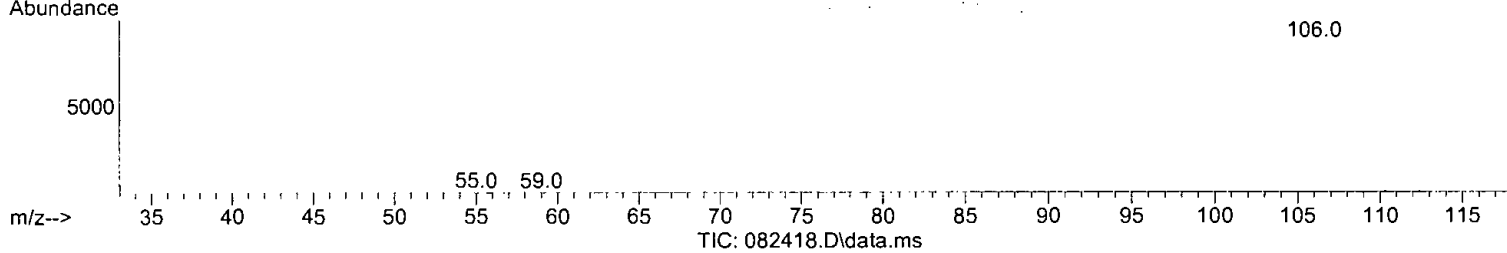
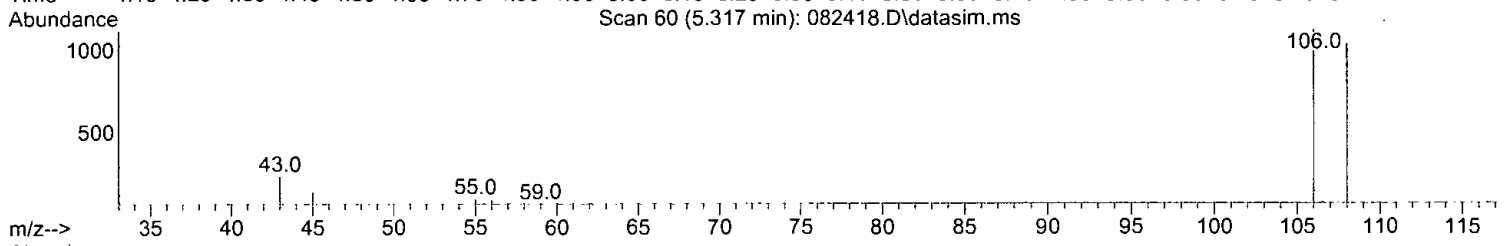
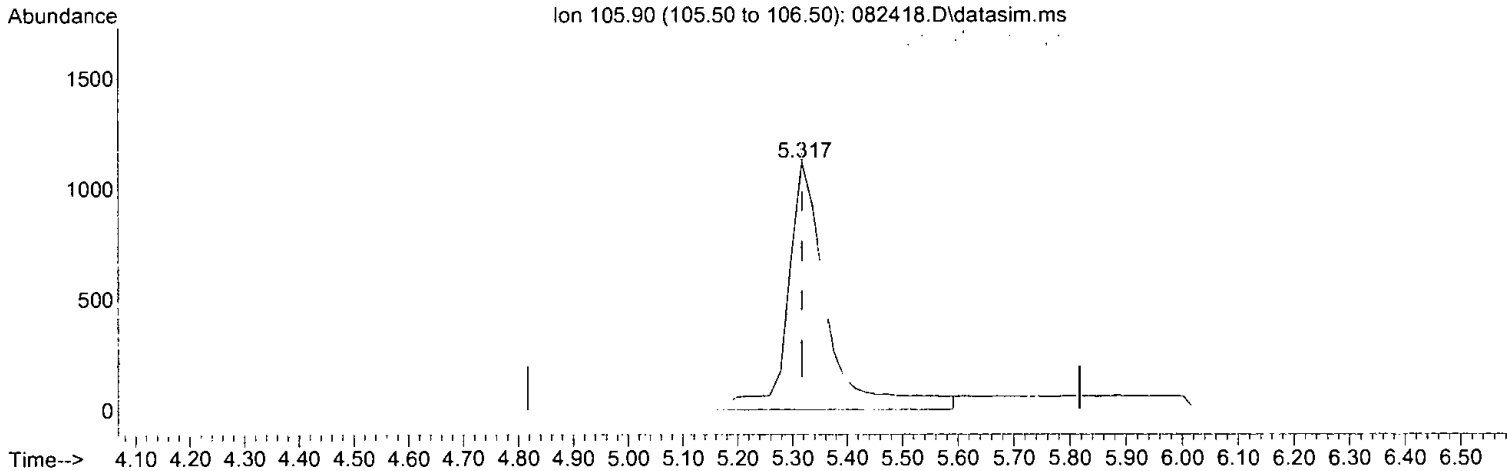
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	37.89
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (+ 0.000) 0.293 ppbv

response 6075

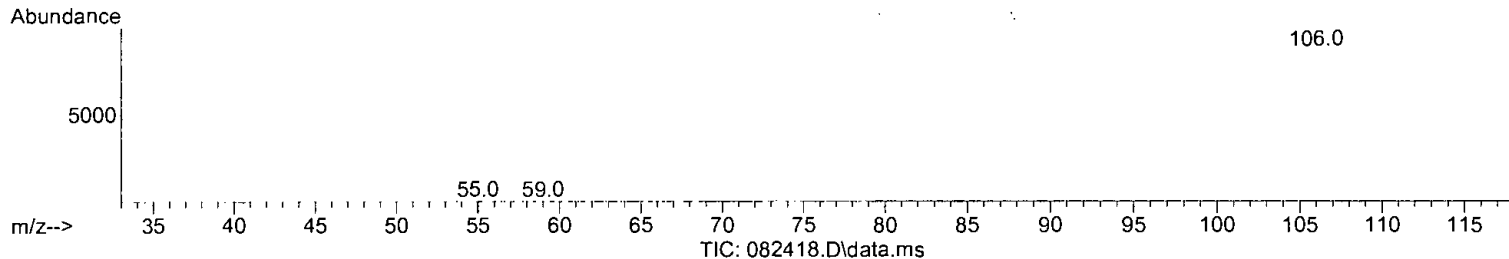
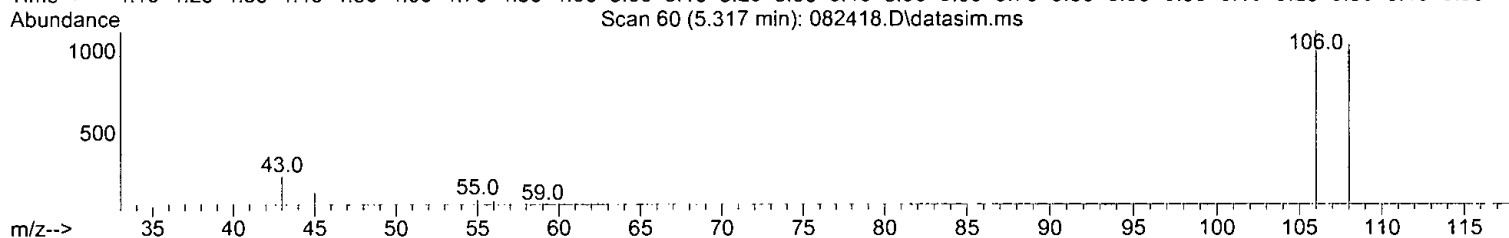
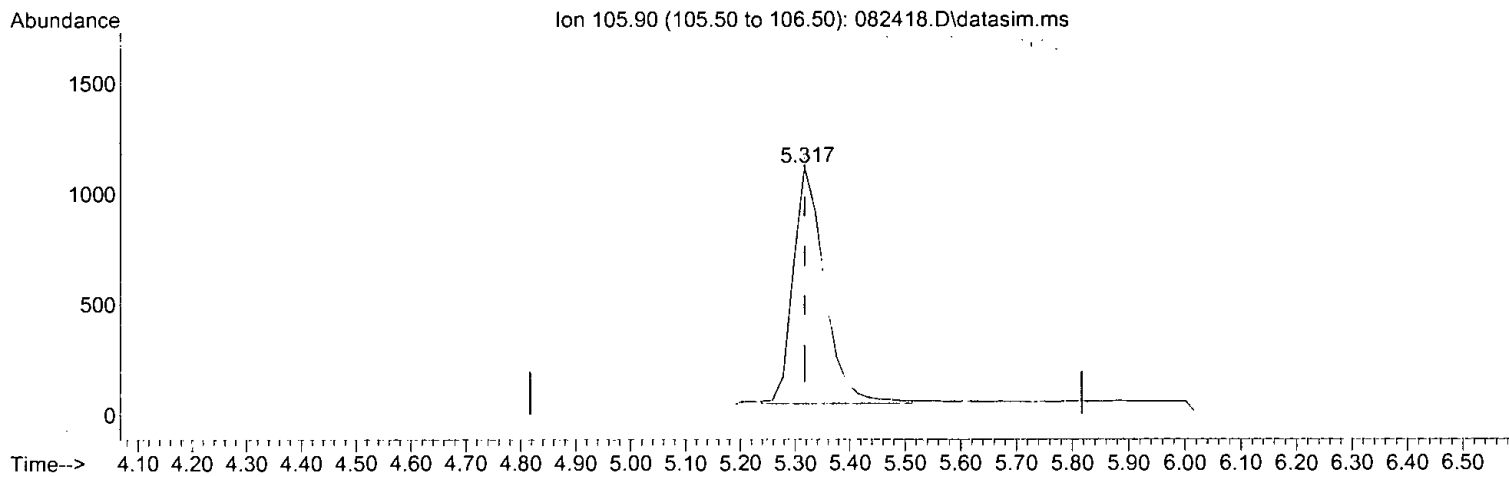
Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	97.38
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
Data File : 082418.D  
Acq On : 24 Aug 2021 6:25 pm  
Operator : bat  
Sample : 0.2 ppbv 64-87b  
Misc : T3, 50cc of 1ppbv  
ALS Vial : 18 Sample Multiplier: 1  
InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
Quant Title : TO-15 SS method  
QLast Update : Wed Aug 25 09:28:09 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (+ 0.000) 0.205 ppbv m

response 4242

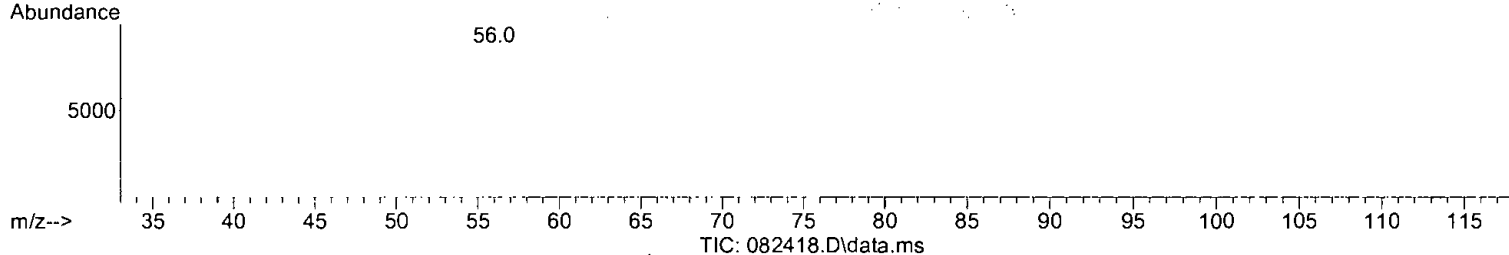
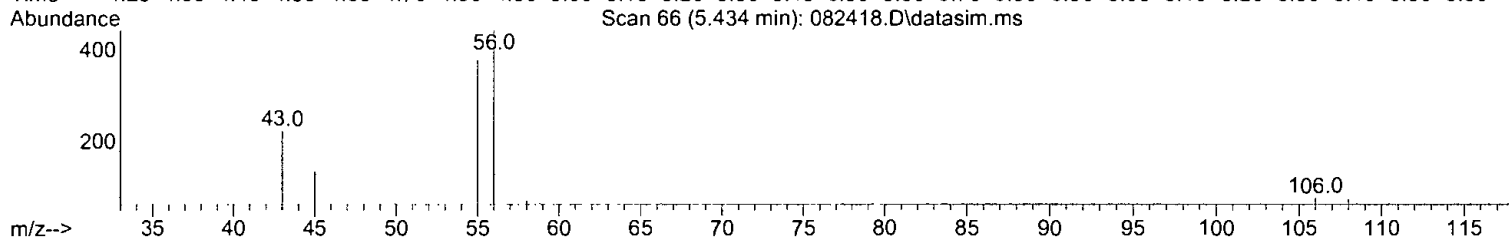
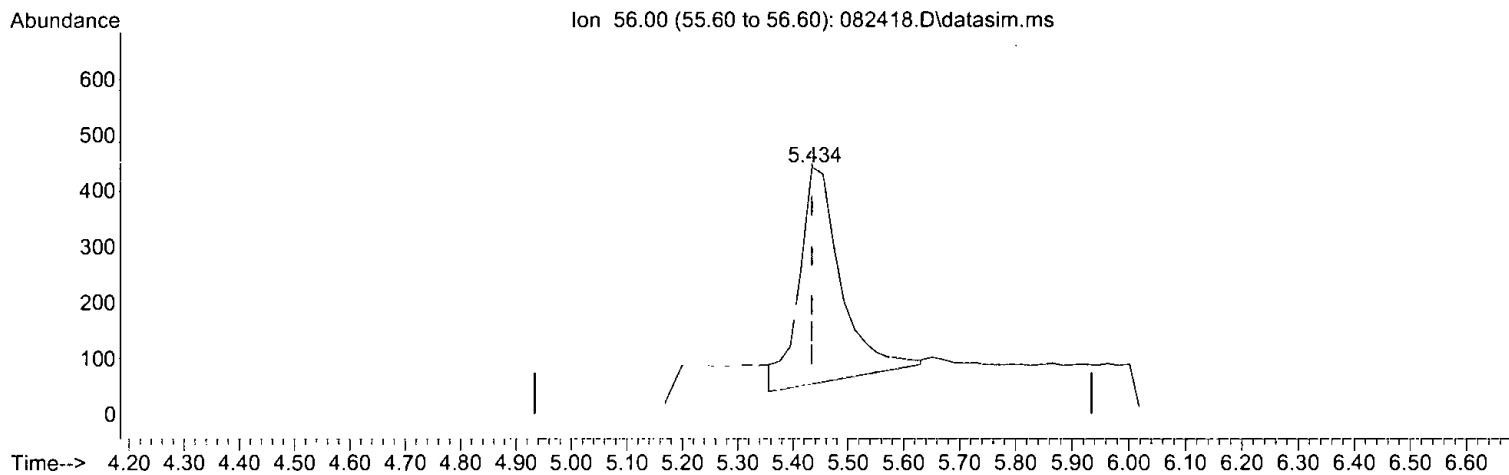
Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	139.46#
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of lppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.434min (+ 0.000) 0.242 ppbv

response 2041

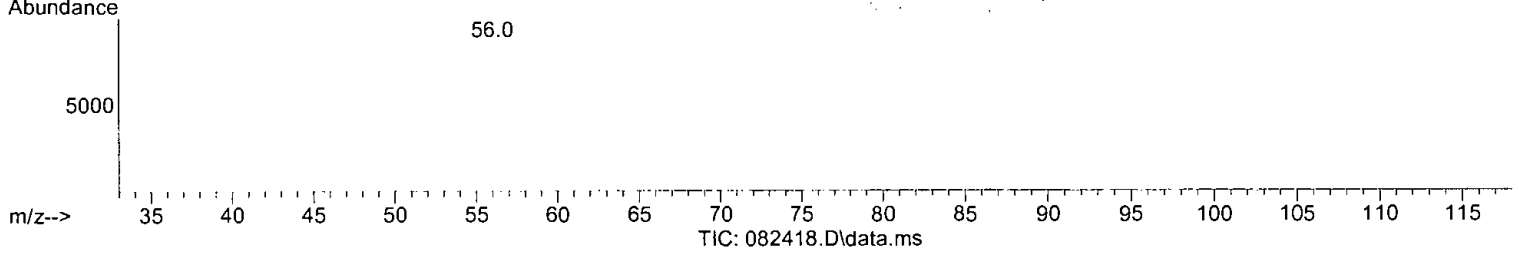
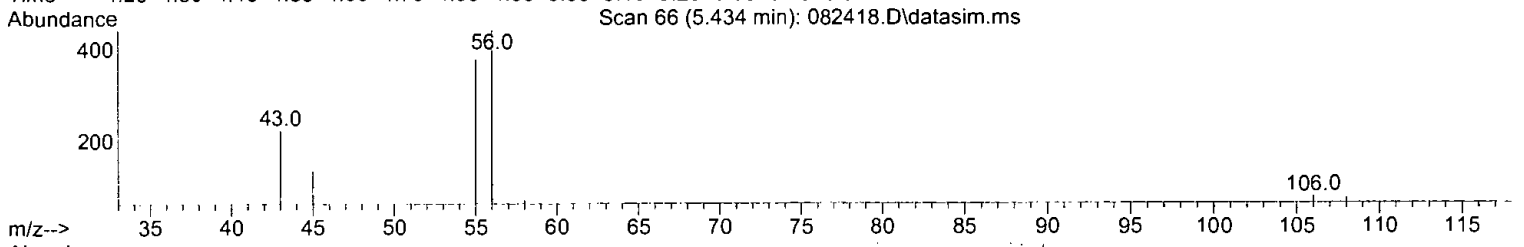
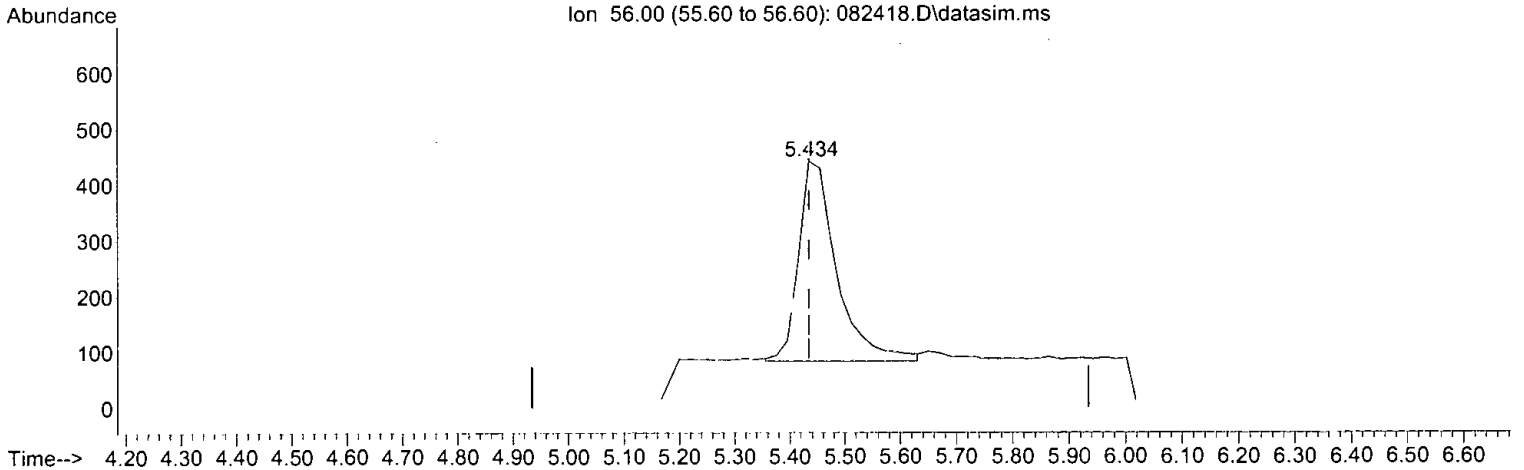
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	187.46#
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of lppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.434min (+ 0.000) 0.203 ppbv m

response 1712

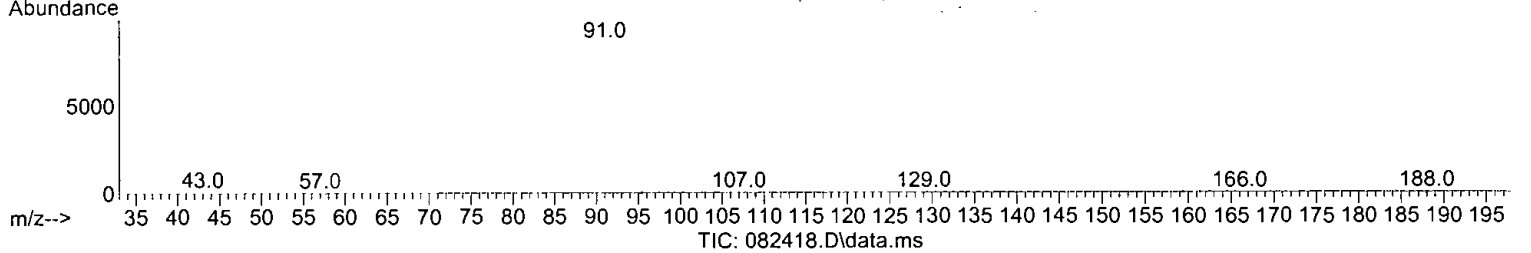
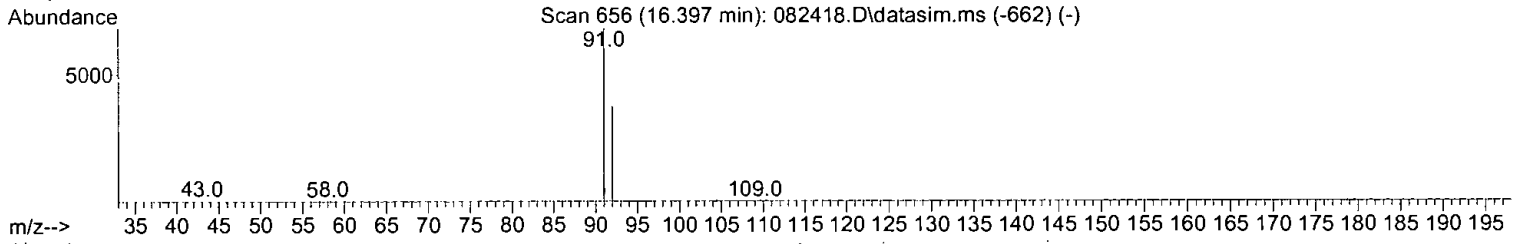
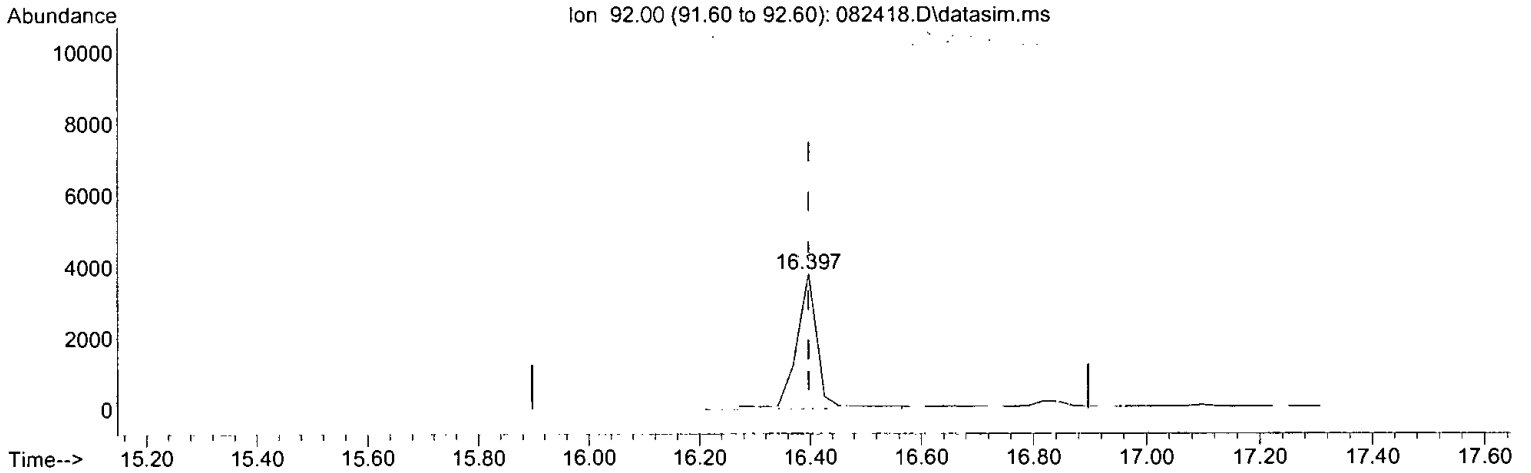
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	223.48#
0.00	0.00	0.00
0.00	0.00	0.00

*AS 8/25/21*

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(50) Toluene (TMP)

16.397min (+ 0.000) 0.234 ppbv

response 9883

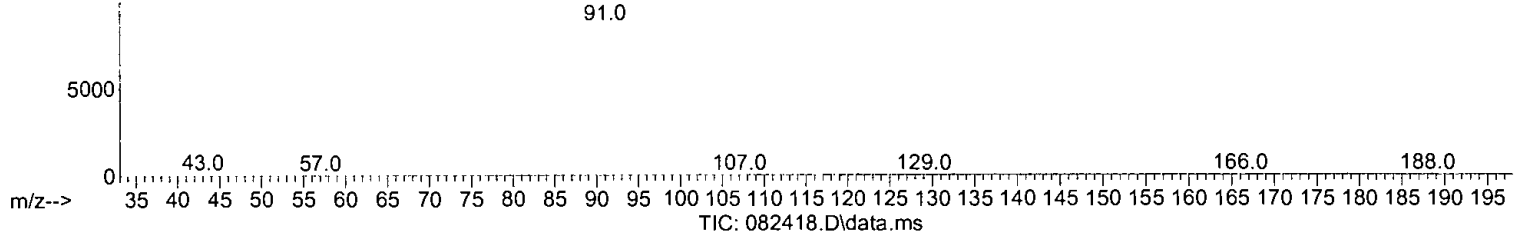
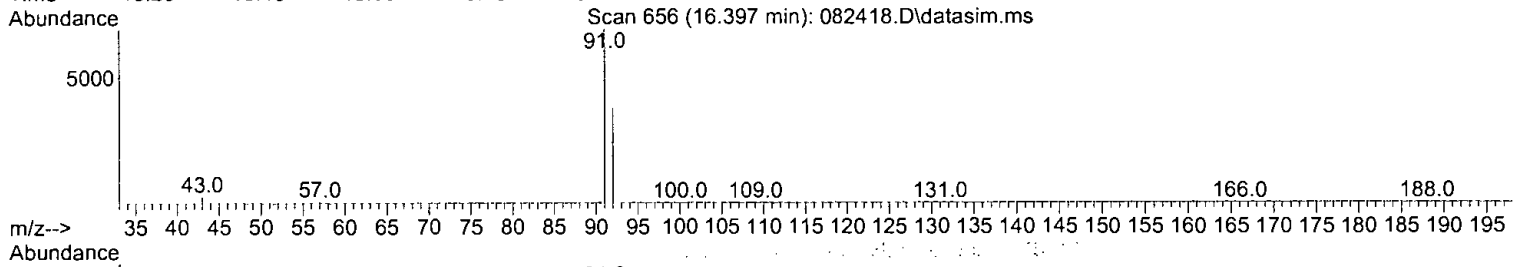
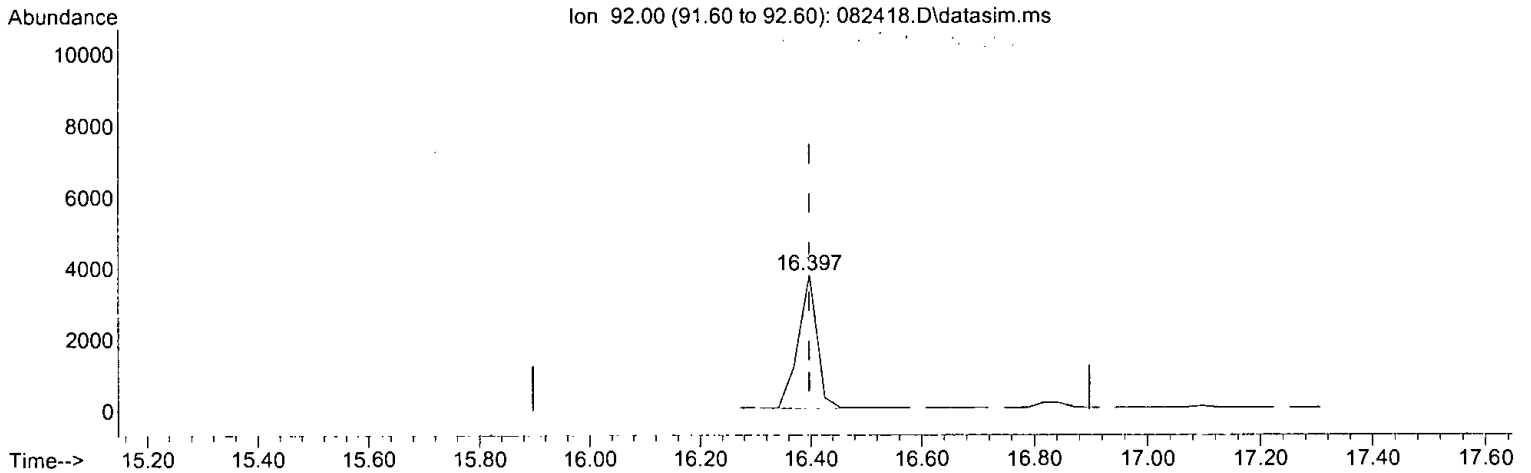
Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	182.01
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(50) Toluene (TMP)

16.397min (+ 0.000) 0.208 ppbv m

response 8773

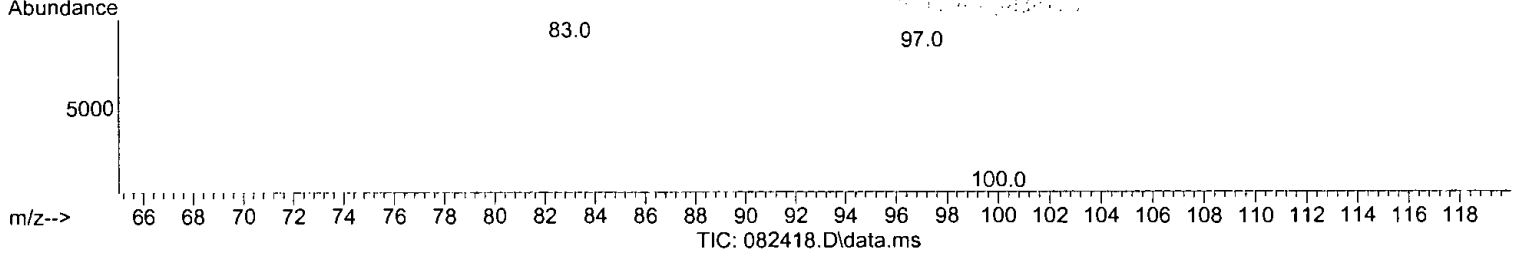
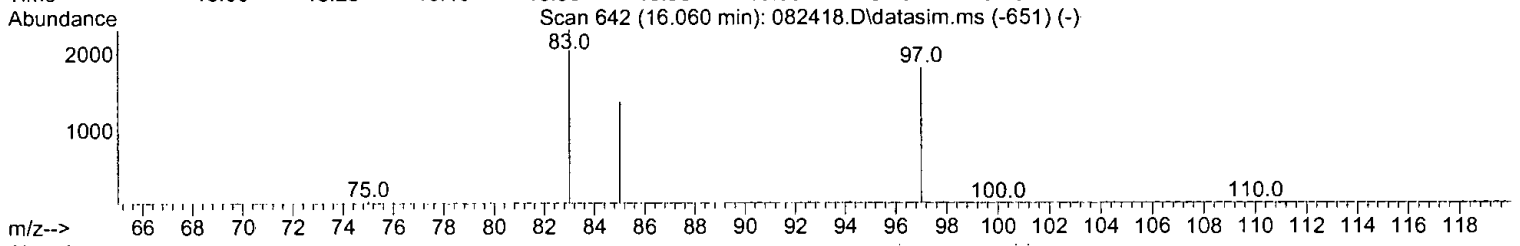
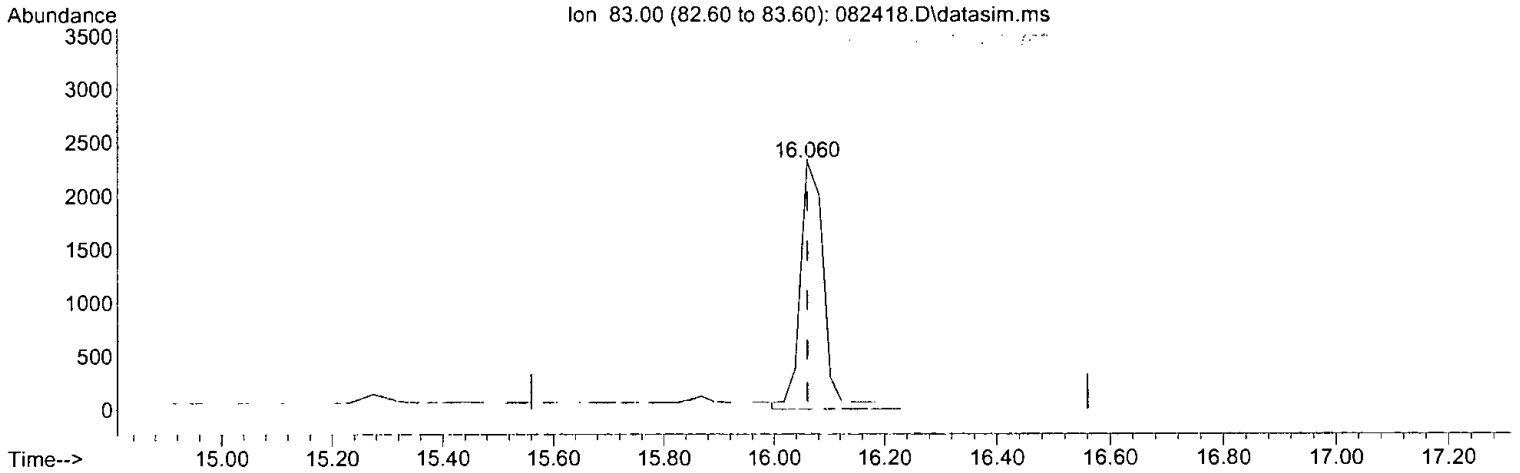
Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	182.01
0.00	0.00	0.00
0.00	0.00	0.00

*AS 8/25/21*

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(51) 1,1,2-Trichloroethane (TME)

16.060min (-0.000) 0.223 ppbv

response 7065

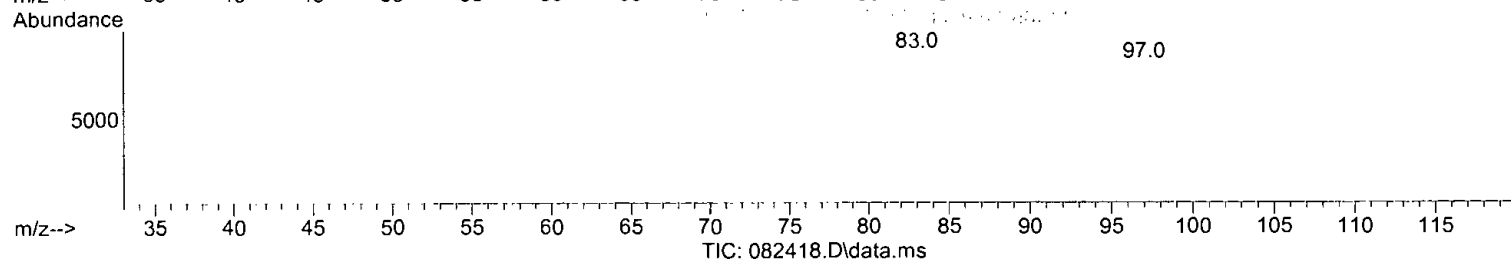
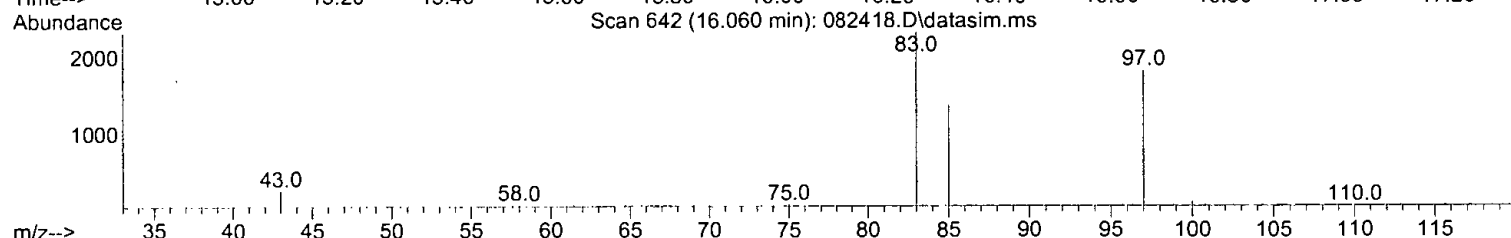
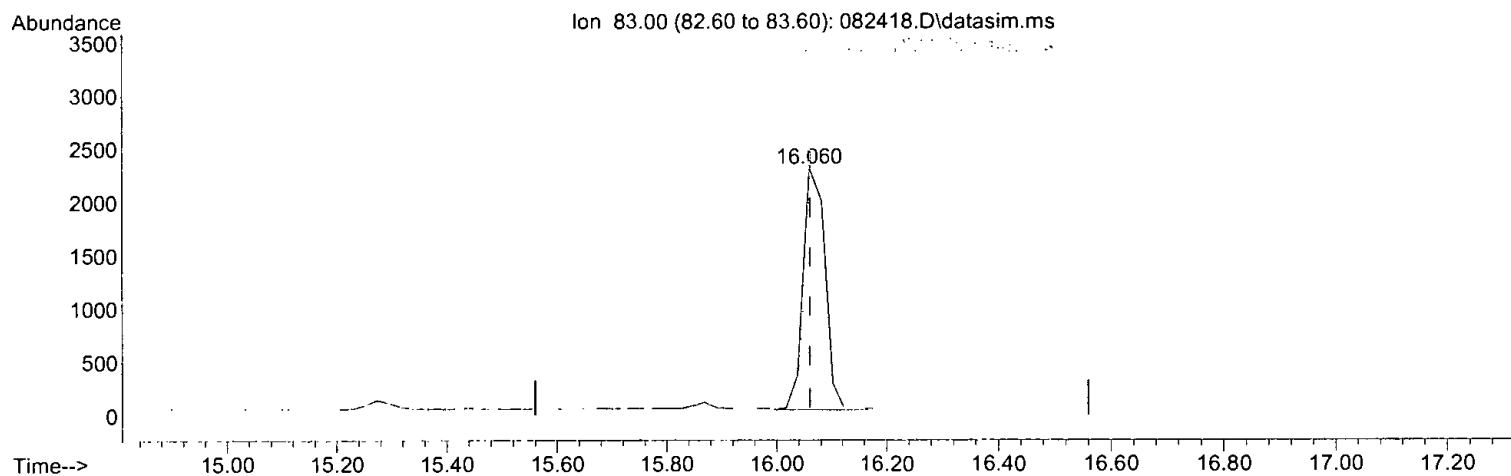
Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	78.45
85.00	60.50	59.46
0.00	0.00	0.00

AS 8/25/21



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(51) 1,1,2-Trichloroethane (TMP)

16.060min (-0.000) 0.195 ppbv m

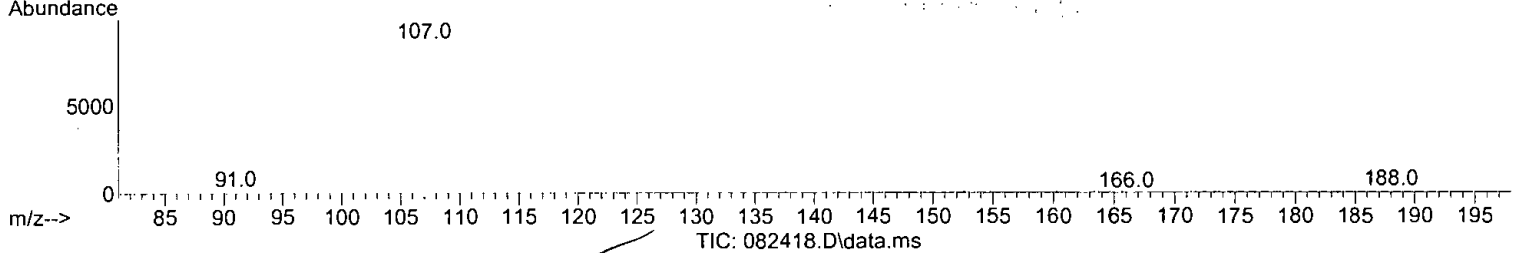
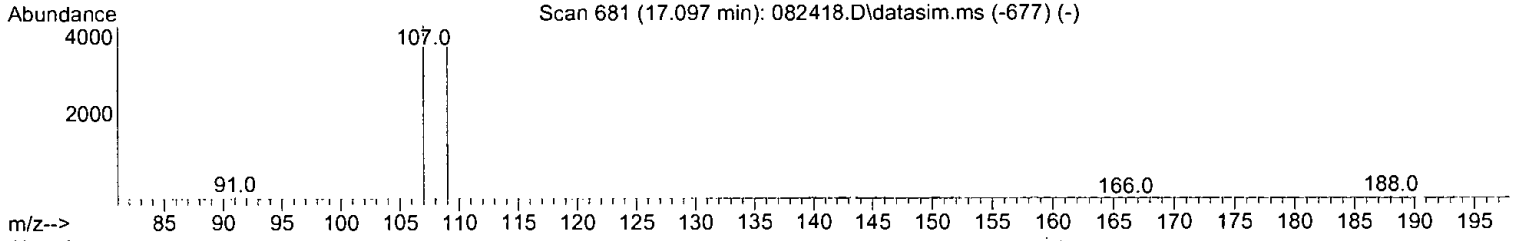
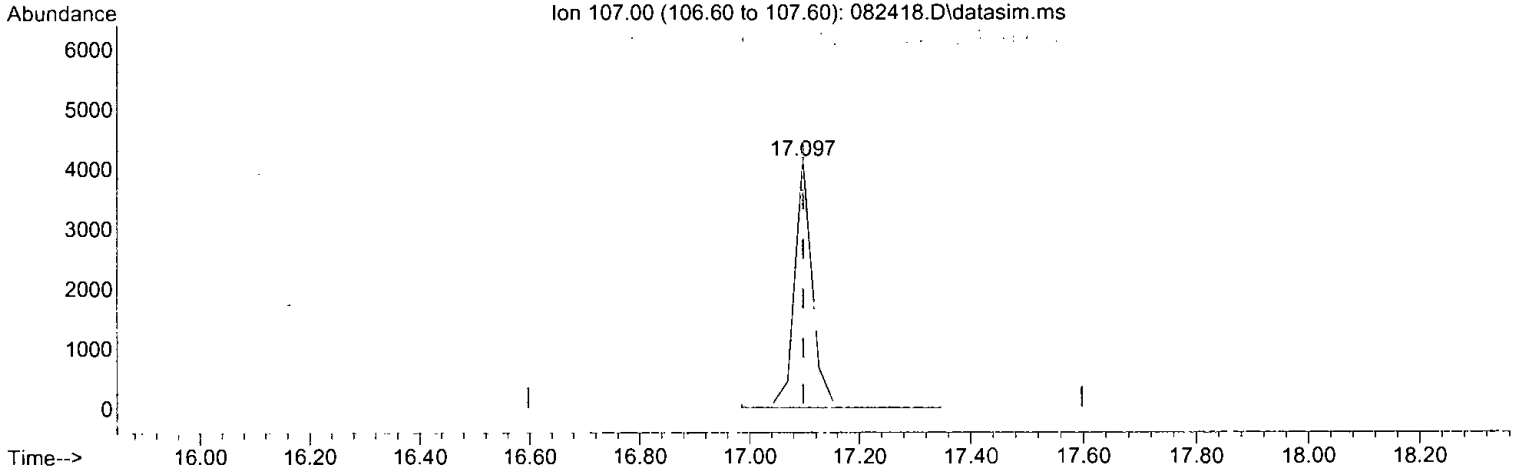
response	6195	
Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	78.45
85.00	60.50	59.46
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(55) 1,2-Dibromoethane (EDB) (TMP)

17.097min (+ 0.000) 0.212 ppbv

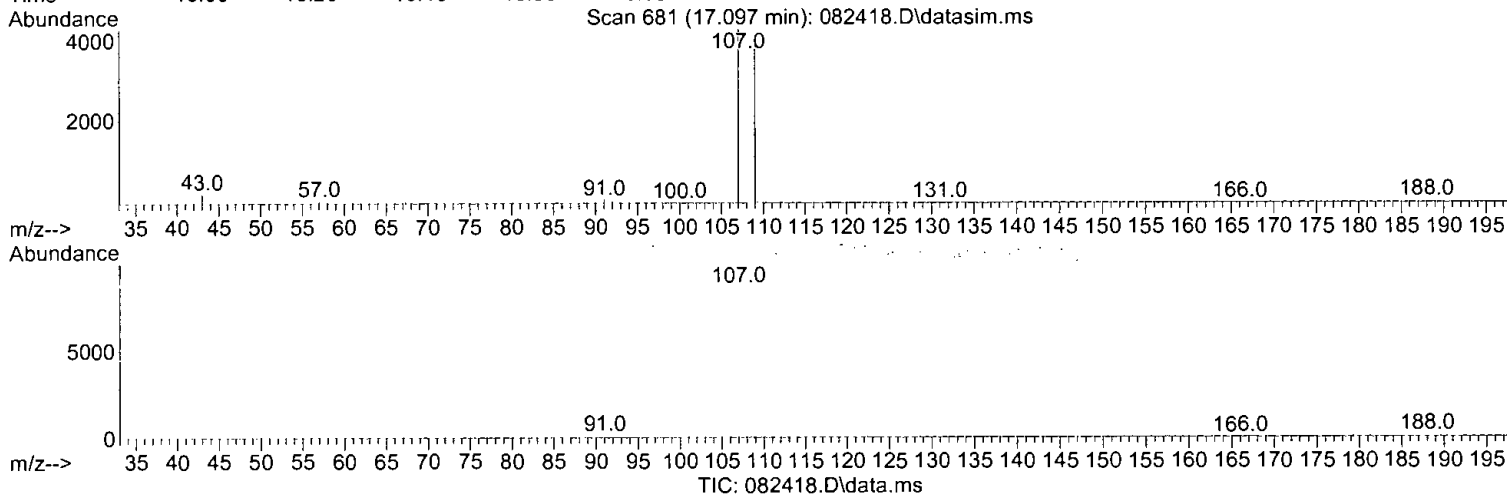
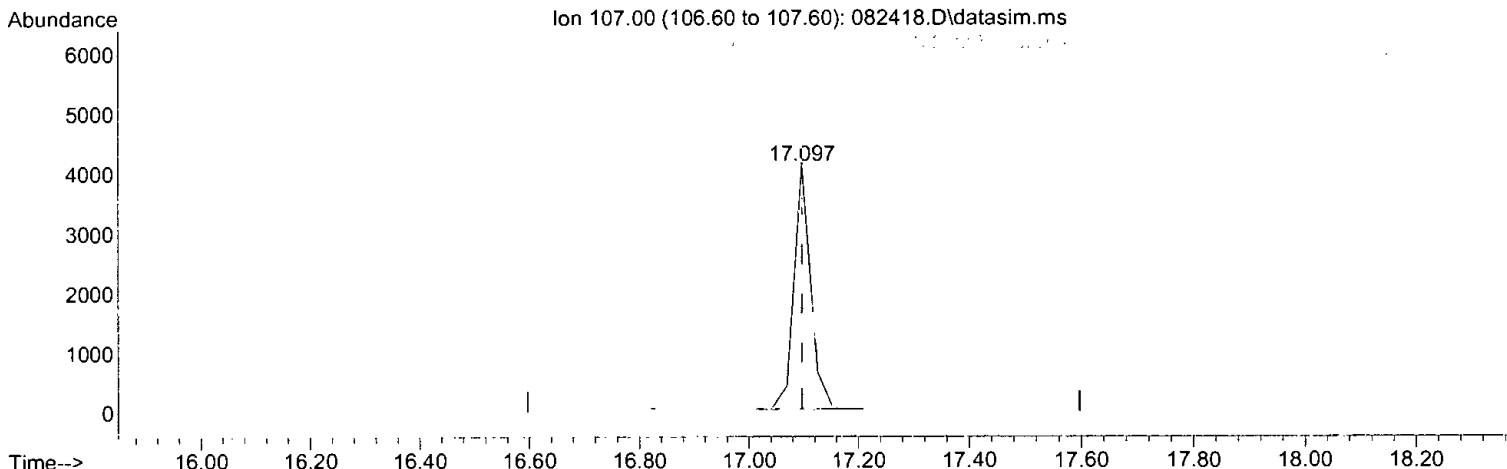
response	9320	
Ion	Exp%	Act%
107.00	100.00	100.00
109.00	104.60	91.21
188.00	2.70	2.20
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of lppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(55) 1,2-Dibromoethane (EDB) (TMP)

17.097min (+ 0.000) 0.197 ppbv m

response 8637

Ion	Exp%	Act%
107.00	100.00	100.00
109.00	104.60	91.21
188.00	2.70	2.20
0.00	0.00	0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:21:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	115938	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	563785	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	487035	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	442182	10.022	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	100.20%
Target Compounds						
						Qvalue
2) Propene	3.41	41	4173m	0.211	ppbv	
3) Dichlorodifluoromethane	3.52	85	10801m	0.211	ppbv	
4) Chloromethane	3.77	50	5374m	0.223	ppbv	
5) F-114	3.88	85	10999	0.213	ppbv	85
6) Vinyl chloride	4.05	62	5219	0.204	ppbv	98
7) 1,3-Butadiene	4.25	54	3669	0.207	ppbv	# 92
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.	d	
10) Chloroethane	4.84	64	1838m	0.209	ppbv	
11) Vinyl bromide	5.32	106	4242m	0.205	ppbv	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	5.43	56	1712m	0.203	ppbv	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	5.86	101	11609	0.203	ppbv	86
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	6.73	96	3938	0.206	ppbv	87
19) trans-1,2-Dichloroethene	8.18	96	3887	0.206	ppbv	89
20) Methylene chloride	0.00		0	N.D.	d	
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	7.01	41	7449	0.221	ppbv	98
23) CFC-113	7.23	101	8498	0.216	ppbv	83
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	8.51	73	9674	0.218	ppbv	88
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	8.44	63	9131	0.205	ppbv	95
28) cis-1,2-Dichloroethene	9.73	96	4256	0.206	ppbv	# 82
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	10.19	83	10108	0.200	ppbv	97
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	10.86	42	6447	0.206	ppbv	93
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	11.44	62	7561	0.199	ppbv	96
35) 1,1,1-Trichloroethane	11.94	97	7559	0.202	ppbv	85
36) Carbon tetrachloride	12.95	117	7465	0.203	ppbv	98
37) Benzene	12.72	78	14490	0.204	ppbv	100
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	13.90	63	7115	0.204	ppbv	98
41) 1,4-Dioxane	14.19	88	3201	0.211	ppbv	86
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

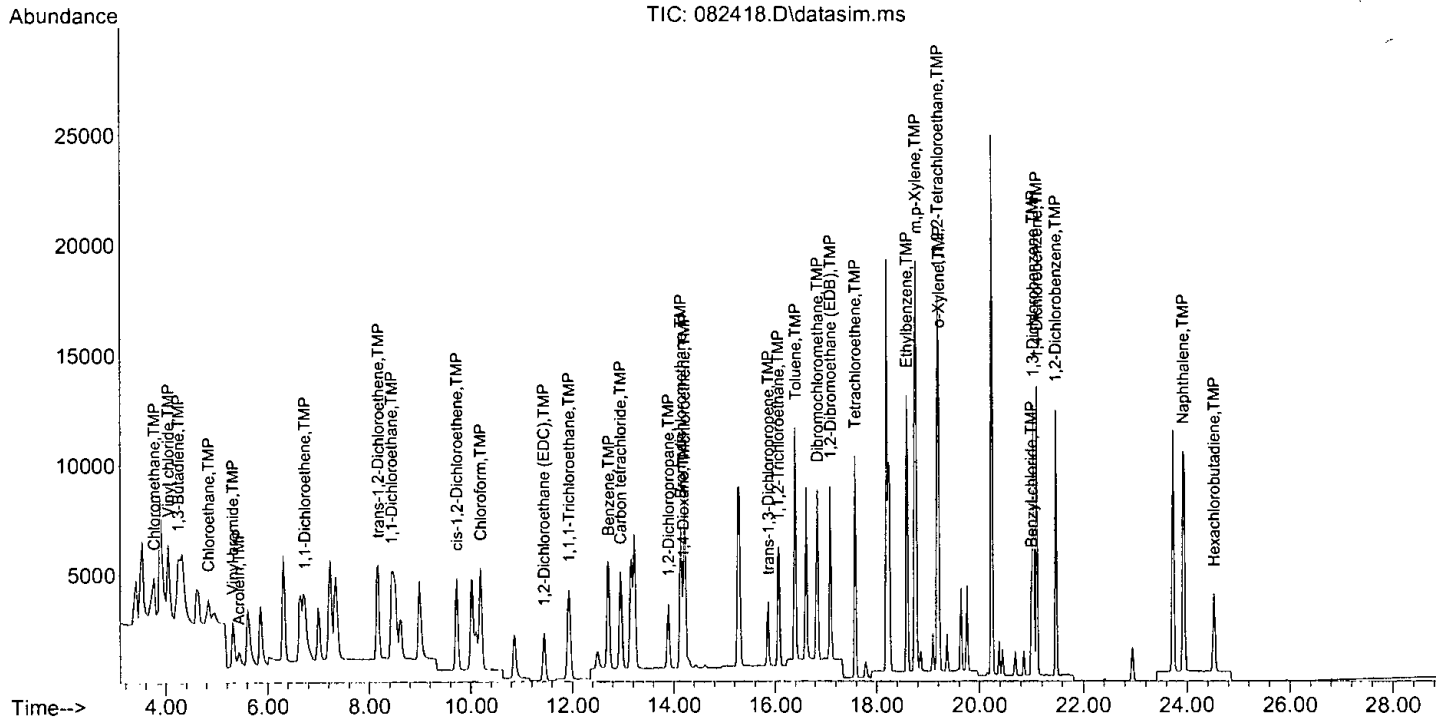
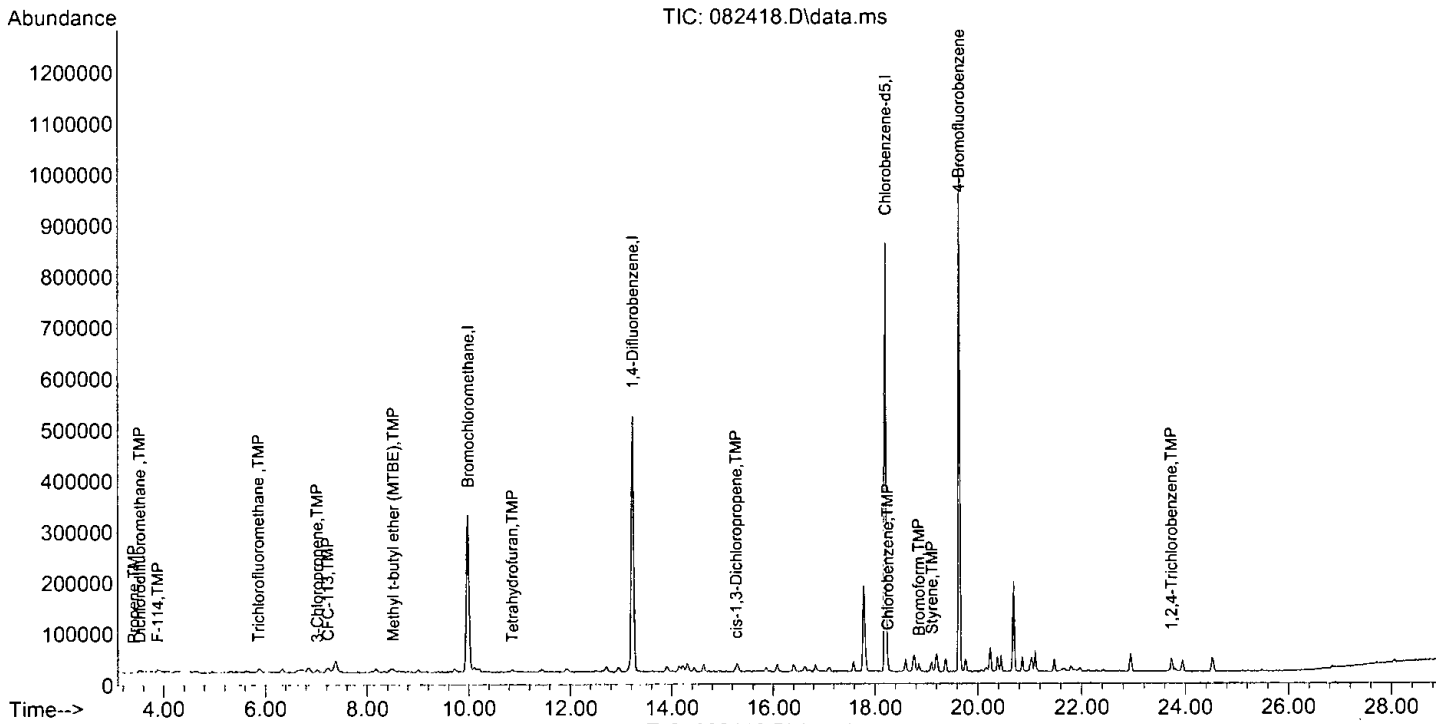
Quant Time: Aug 25 11:21:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45] Bromodichloromethane	14.14	83	10674	0.199	ppbv	94
46] Trichloroethene	14.22	95	6808	0.195	ppbv	83
47) cis-1,3-Dichloropropene	15.27	75	6644	0.185	ppbv	86
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49] trans-1,3-Dichloropropene	15.87	75	6023	0.198	ppbv	100
50] Toluene	16.40	92	8773m	0.208	ppbv	
51] 1,1,2-Trichloroethane	16.06	83	6195m	0.195	ppbv	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	4555	0.212	ppbv #	79
54] Dibromochloromethane	16.85	129	8758	0.197	ppbv	91
55] 1,2-Dibromoethane (EDB)	17.10	107	8637m	0.197	ppbv	
57) Chlorobenzene	18.25	112	11291	0.216	ppbv	89
58] Ethylbenzene	18.59	91	21440	0.198	ppbv	96
59] 1,1,2,2-Tetrachloroethane	19.19	83	14783	0.196	ppbv	93
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.76	106	14086	0.406	ppbv	90
66] o-Xylene	19.21	106	6896	0.202	ppbv	89
67) Styrene	19.11	104	10342	0.206	ppbv	90
68) Bromoform	18.85	173	8228	0.211	ppbv	96
70] Benzyl chloride	21.01	91	6745	0.184	ppbv	93
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73] 1,3-Dichlorobenzene	21.04	146	11539	0.205	ppbv	92
74] 1,4-Dichlorobenzene	21.11	146	10936	0.199	ppbv	93
75] 1,2-Dichlorobenzene	21.47	146	11026	0.208	ppbv	94
76) 1,2,4-Trichlorobenzene	23.73	180	10763	0.203	ppbv	93
77] Naphthalene	23.93	128	24075	0.201	ppbv	98
78] Hexachlorobutadiene	24.52	225	7926	0.199	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:21:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:21:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	0.200	0.211	-5.5	98	0.00
3 TMP	Dichlorodifluoromethane	0.200	0.211	-5.5	95	0.00
4 TMP	Chloromethane	0.200	0.223	-11.5	103	0.00
5 TMP	F-114	0.200	0.213	-6.5	100	0.00
6 TMP	Vinyl chloride	0.200	0.204	-2.0	100	0.00
7 TMP	1,3-Butadiene	0.200	0.207	-3.5	100	0.00
8 TMP	Butane	-1.000	0.000	0.0	0	-4.32#
9 TMP	Bromomethane	-1.000	0.000	0.0	0	-4.64#
10 TMP	Chloroethane	0.200	0.209	-4.5	99	0.00
11 TMP	Vinyl bromide	0.200	0.205	-2.5	100	0.00
12 TMP	Ethanol	-1.000	0.000	0.0	0	-4.96#
13 TMP	Acrolein	0.200	0.203	-1.5	102	0.00
14 TMP	Pentane	-1.000	0.000	0.0	0	-6.33#
15 TMP	Trichlorofluoromethane	0.200	0.203	-1.5	100	-0.02
16 TMP	Acetone	-1.000	0.000	0.0	0	-5.59#
17 TMP	2-Propanol	-1.000	0.000	0.0	0	-5.86#
18 TMP	1,1-Dichloroethene	0.200	0.206	-3.0	100	0.00
19 TMP	trans-1,2-Dichloroethene	0.200	0.206	-3.0	100	0.00
20 TMP	Methylene chloride	-1.000	0.000	0.0	0	-6.86#
21 TMP	t-Butyl alcohol (TBA)	-1.000	0.000	0.0	0	-6.65#
22 TMP	3-Chloropropene	0.200	0.221	-10.5	100	0.00
23 TMP	CFC-113	0.200	0.216	-8.0	100	0.00
24 TMP	Carbon disulfide	-1.000	0.000	0.0	0	-7.33#
25 TMP	Methyl t-butyl ether (MTBE)	0.200	0.218	-9.0	100	0.00
26 TMP	Vinyl acetate	-1.000	0.000	0.0	0	-8.62#
27 TMP	1,1-Dichloroethane	0.200	0.205	-2.5	100	0.00
28 TMP	cis-1,2-Dichloroethene	0.200	0.206	-3.0	100	0.00
29 TMP	Hexane	-1.000	0.000	0.0	0	-10.11#
30 TMP	Chloroform	0.200	0.200	0.0	100	0.00
31 TMP	Ethyl acetate	-1.000	0.000	0.0	0	-10.01#
32 TMP	Tetrahydrofuran	0.200	0.206	-3.0	100	0.02
33 TMP	2-Butanone (MEK)	-1.000	0.000	0.0	0	-8.99#
34 TMP	1,2-Dichloroethane (EDC)	0.200	0.199	0.5	100	0.00
35 TMP	1,1,1-Trichloroethane	0.200	0.202	-1.0	100	0.00
36 TMP	Carbon tetrachloride	0.200	0.203	-1.5	100	0.00
37 TMP	Benzene	0.200	0.204	-2.0	100	0.02
38 TMP	Cyclohexane	-1.000	0.000	0.0	0	-13.16#
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.200	0.204	-2.0	102	0.00
41 TMP	1,4-Dioxane	0.200	0.211	-5.5	100	0.03
42 TMP	2,2,4-Trimethylpentane	-1.000	0.000	0.0	0	-14.31#
43 TMP	Methyl methacrylate	-1.000	0.000	0.0	0	-14.43#
44 TMP	Heptane	-1.000	0.000	0.0	0	-14.63#
45 TMP	Bromodichloromethane	0.200	0.199	0.5	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:21:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.200	0.195	2.5	100	0.00
47 TMP cis-1,3-Dichloropropene	0.200	0.185	7.5	100	0.00
48 TMP 4-Methyl-2-pentanone	-1.000	0.000	0.0	0	-15.29#
49 TMP trans-1,3-Dichloropropene	0.200	0.198	1.0	100	0.02
50 TMP Toluene	0.200	0.208	-4.0	100	0.00
51 TMP 1,1,2-Trichloroethane	0.200	0.195	2.5	101	0.00
52 TMP 2-Hexanone	-1.000	0.000	0.0	0	-16.62#
53 TMP Tetrachloroethene	0.200	0.212	-6.0	100	0.00
54 TMP Dibromochloromethane	0.200	0.197	1.5	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.200	0.197	1.5	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	0.200	0.216	-8.0	100	0.00
58 TMP Ethylbenzene	0.200	0.198	1.0	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.200	0.196	2.0	100	0.00
60 TMP Nonane	-1.000	0.000	0.0	0	-19.36#
61 TMP Isopropylbenzene	-1.000	0.000	0.0	0	-19.75#
62 TMP 2-Chlorotoluene	-1.000	0.000	0.0	0	-20.23#
63 TMP Propylbenzene	-1.000	0.000	0.0	0	-20.25#
64 TMP 4-Ethyltoluene	-1.000	0.000	0.0	0	-20.38#
65 TMP m,p-Xylene	0.400	0.406	-1.5	100	0.00
66 TMP o-Xylene	0.200	0.202	-1.0	100	0.00
67 TMP Styrene	0.200	0.206	-3.0	100	0.00
68 TMP Bromoform	0.200	0.211	-5.5	100	0.00
69 S 4-Bromofluorobenzene	10.000	10.022	-0.2	100	0.00
70 TMP Benzyl chloride	0.200	0.184	8.0	100	0.00
71 TMP 1,3,5-Trimethylbenzene	-1.000	0.000	0.0	0	-20.45#
72 TMP 1,2,4-Trimethylbenzene	-1.000	0.000	0.0	0	-20.86#
73 TMP 1,3-Dichlorobenzene	0.200	0.205	-2.5	100	0.00
74 TMP 1,4-Dichlorobenzene	0.200	0.199	0.5	100	0.00
75 TMP 1,2-Dichlorobenzene	0.200	0.208	-4.0	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.200	0.203	-1.5	100	0.00
77 TMP Naphthalene	0.200	0.201	-0.5	100	0.00
78 TMP Hexachlorobutadiene	0.200	0.199	0.5	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:21:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP Propene	1.710	1.800	-5.3	98	0.00
3 TMP Dichlorodifluoromethane	4.425	4.658	-5.3	95	0.00
4 TMP Chloromethane	2.075	2.318	-11.7	103	0.00
5 TMP F-114	4.450	4.743	-6.6	100	0.00
6 TMP Vinyl chloride	2.209	2.251	-1.9	100	0.00
7 TMP 1,3-Butadiene	1.529	1.582	-3.5	100	0.00
8 TMP Butane	3.248	0.000	100.0#	0#	-4.32#
9 TMP Bromomethane	1.540	0.000#	100.0#	0#	-4.64#
10 TMP Chloroethane	0.759	0.793	-4.5	99	0.00
11 TMP Vinyl bromide	1.785	1.829	-2.5	100	0.00
12 TMP Ethanol	0.559	0.000	100.0#	0#	-4.96#
13 TMP Acrolein	0.726	0.738	-1.7	102	0.00
14 TMP Pentane	3.891	0.000#	100.0#	0#	-6.33#
15 TMP Trichlorofluoromethane	4.934	5.007	-1.5	100	-0.02
16 TMP Acetone	0.880	0.000#	100.0#	0#	-5.59#
17 TMP 2-Propanol	3.556	0.000	100.0#	0#	-5.86#
18 TMP 1,1-Dichloroethene	1.648	1.698	-3.0	100	0.00
19 TMP trans-1,2-Dichloroethene	1.626	1.676	-3.1	100	0.00
20 TMP Methylene chloride	1.750	0.000#	100.0#	0#	-6.86#
21 TMP t-Butyl alcohol (TBA)	2.881	0.000	100.0#	0#	-6.65#
22 TMP 3-Chloropropene	2.910	3.212	-10.4	100	0.00
23 TMP CFC-113	3.396	3.665	-7.9	100	0.00
24 TMP Carbon disulfide	5.738	0.000	100.0#	0#	-7.33#
25 TMP Methyl t-butyl ether (MTBE)	3.820	4.172	-9.2	100	0.00
26 TMP Vinyl acetate	2.562	0.000#	100.0#	0#	-8.62#
27 TMP 1,1-Dichloroethane	3.850	3.938	-2.3	100	0.00
28 TMP cis-1,2-Dichloroethene	1.780	1.835	-3.1	100	0.00
29 TMP Hexane	2.959	0.000	100.0#	0#	-10.11#
30 TMP Chloroform	4.366	4.359	0.2	100	0.00
31 TMP Ethyl acetate	6.229	0.000	100.0#	0#	-10.01#
32 TMP Tetrahydrofuran	2.703	2.780	-2.8	100	0.02
33 TMP 2-Butanone (MEK)	0.712	0.000	100.0#	0#	-8.99#
34 TMP 1,2-Dichloroethane (EDC)	3.285	3.261	0.7	100	0.00
35 TMP 1,1,1-Trichloroethane	3.232	3.260	-0.9	100	0.00
36 TMP Carbon tetrachloride	3.178	3.219	-1.3	100	0.00
37 TMP Benzene	6.123	6.249	-2.1	100	0.02
38 TMP Cyclohexane	1.669	0.000	100.0#	0#	-13.16#
39 I 1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP 1,2-Dichloropropane	0.618	0.631	-2.1	102	0.00
41 TMP 1,4-Dioxane	0.270	0.284	-5.2	100	0.03
42 TMP 2,2,4-Trimethylpentane	2.076	0.000	100.0#	0#	-14.31#
43 TMP Methyl methacrylate	0.567	0.000	100.0#	0#	-14.43#
44 TMP Heptane	0.959	0.000	100.0#	0#	-14.63#
45 TMP Bromodichloromethane	0.953	0.947	0.6	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:21:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.604	2.3	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.589	7.4	100	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.000	100.0#	0#	-15.29#
49 TMP trans-1,3-Dichloropropene	0.540	0.534	1.1	100	0.02
50 TMP Toluene	0.749	0.778	-3.9	100	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.549	2.5	101	0.00
52 TMP 2-Hexanone	1.055	0.000#	100.0#	0#	-16.62#
53 TMP Tetrachloroethene	0.381	0.404	-6.0	100	0.00
54 TMP Dibromochloromethane	0.787	0.777	1.3	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.766	1.7	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	1.159	-8.2	100	0.00
58 TMP Ethylbenzene	2.221	2.201	0.9	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.518	2.0	100	0.00
60 TMP Nonane	1.679	0.000	100.0#	0#	-19.36#
61 TMP Isopropylbenzene	1.948	0.000	100.0#	0#	-19.75#
62 TMP 2-Chlorotoluene	0.463	0.000	100.0#	0#	-20.23#
63 TMP Propylbenzene	4.322	0.000	100.0#	0#	-20.25#
64 TMP 4-Ethyltoluene	2.027	0.000	100.0#	0#	-20.38#
65 TMP m,p-Xylene	0.713	0.723	-1.4	100	0.00
66 TMP o-Xylene	0.701	0.708	-1.0	100	0.00
67 TMP Styrene	1.032	1.062	-2.9	100	0.00
68 TMP Bromoform	0.801	0.845	-5.5	100	0.00
69 S 4-Bromofluorobenzene	0.906	0.908	-0.2	100	0.00
70 TMP Benzyl chloride	0.751	0.692	7.9	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	0.000	100.0#	0#	-20.45#
72 TMP 1,2,4-Trimethylbenzene	1.679	0.000	100.0#	0#	-20.86#
73 TMP 1,3-Dichlorobenzene	1.154	1.185	-2.7	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.123	2.5	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.132	-3.8	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	1.105	-16.3	100	0.00
77 TMP Naphthalene	2.538	2.472	2.6	100	0.00
78 TMP Hexachlorobutadiene	0.852	0.814	4.5	100	0.00

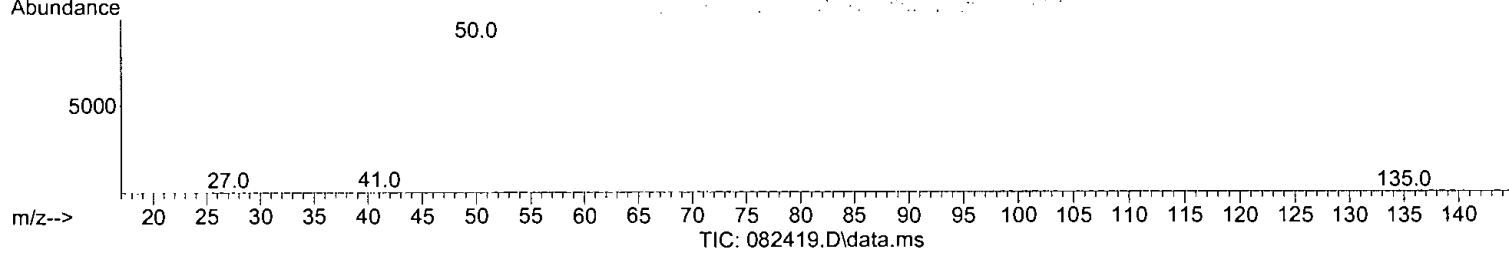
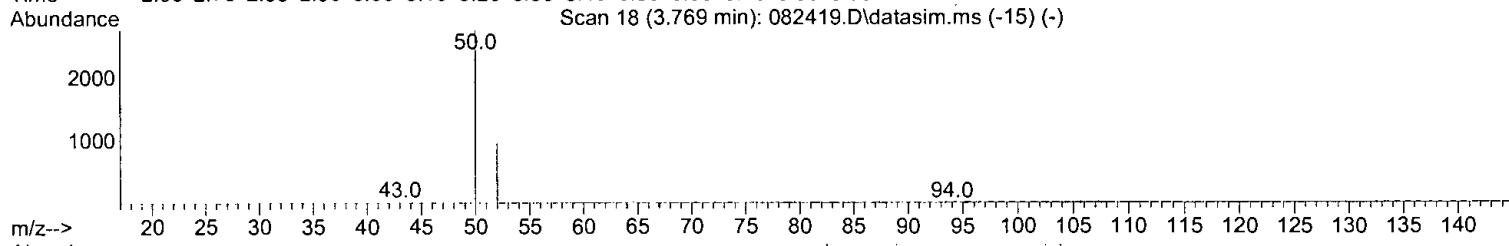
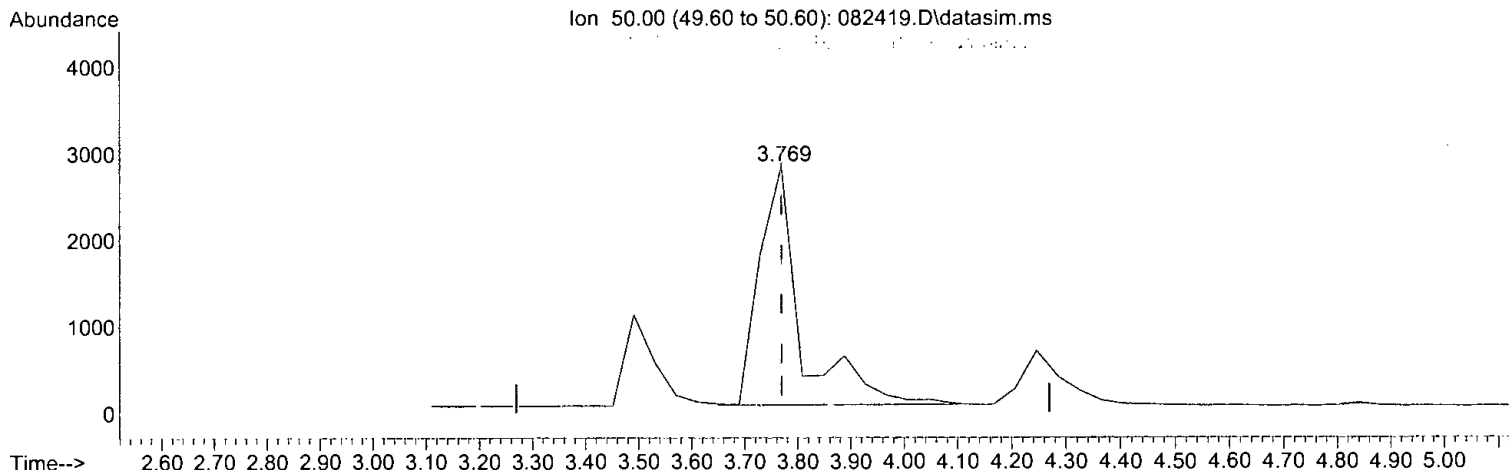
(#) = Out of Range

SPCC's out = 6 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (+ 0.000) 0.621 ppbv

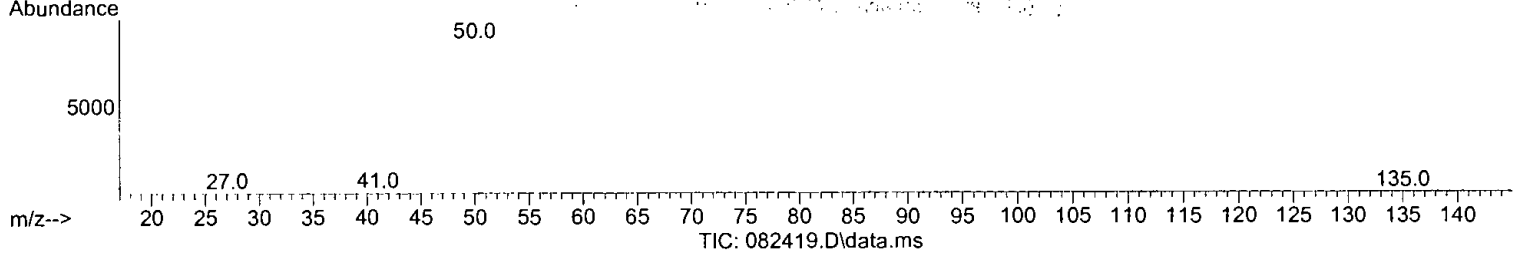
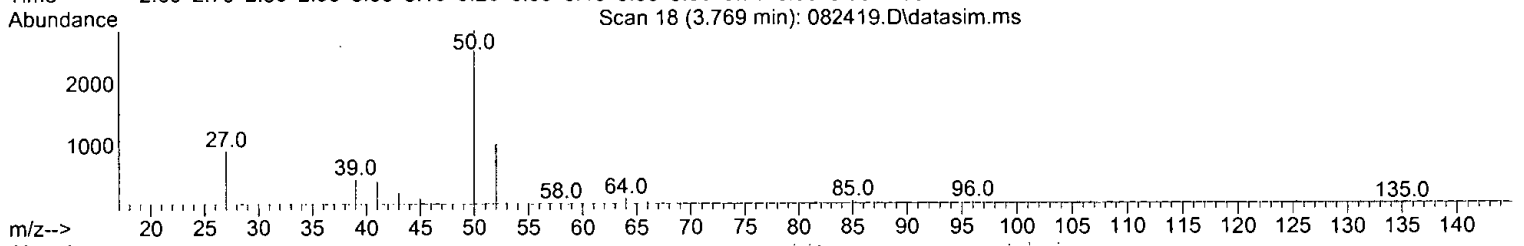
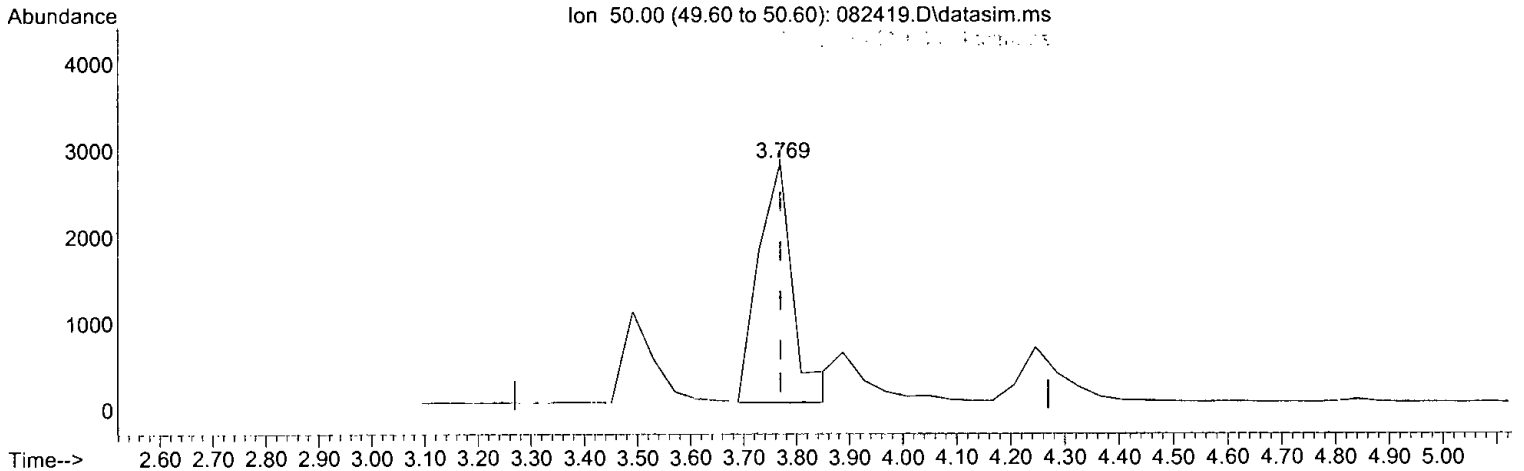
response	14883
Ion	Exp% Act%
50.00	100.00 100.00
51.90	25.30 34.65
0.00	0.00 0.00
0.00	0.00 0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (+ 0.000) 0.523 ppbv m

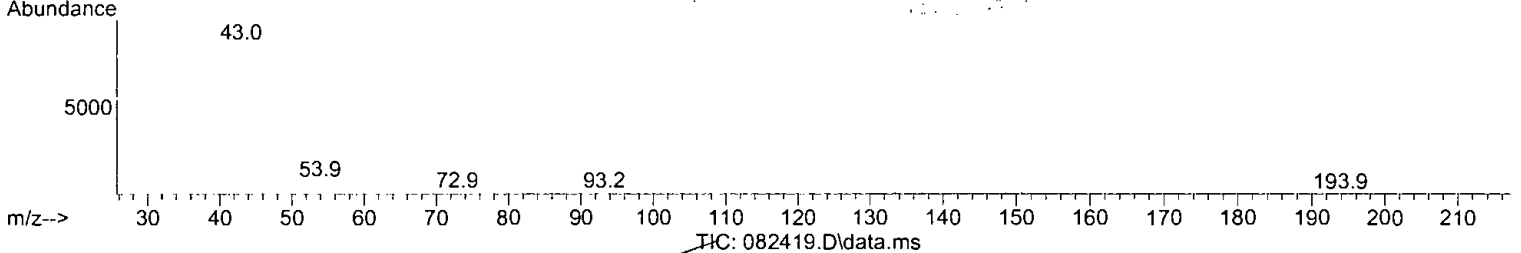
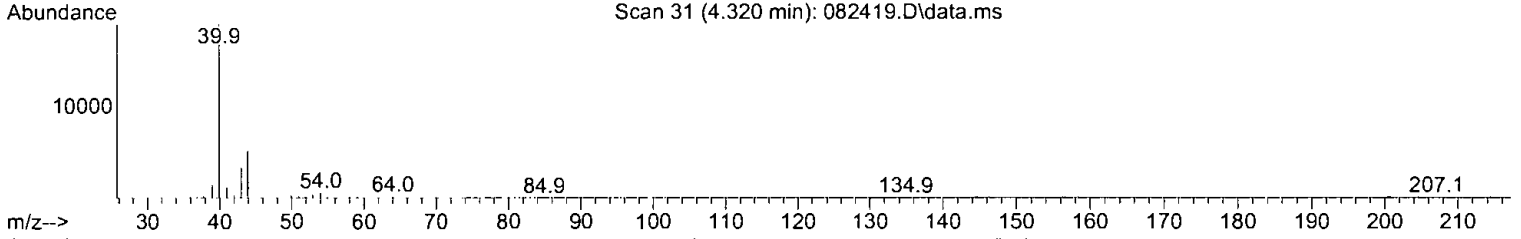
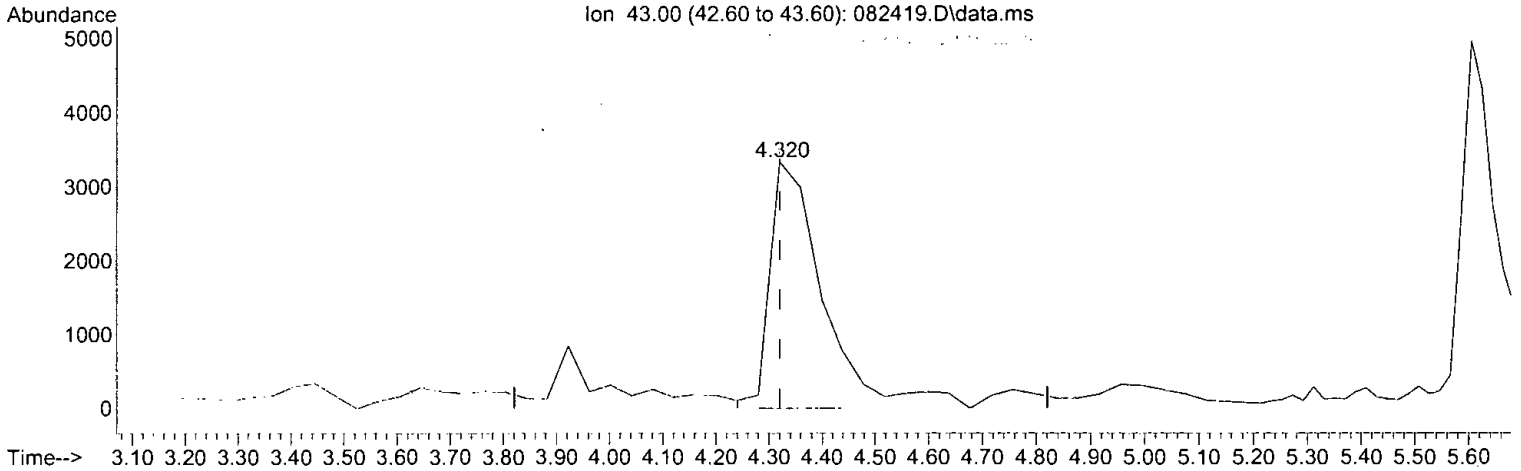
response	12529		
Ion	Exp%	Act%	
50.00	100.00	100.00	
51.90	25.30	36.09	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(8) Butane (TMP)

4.320min (-0.000) 0.626 ppbv

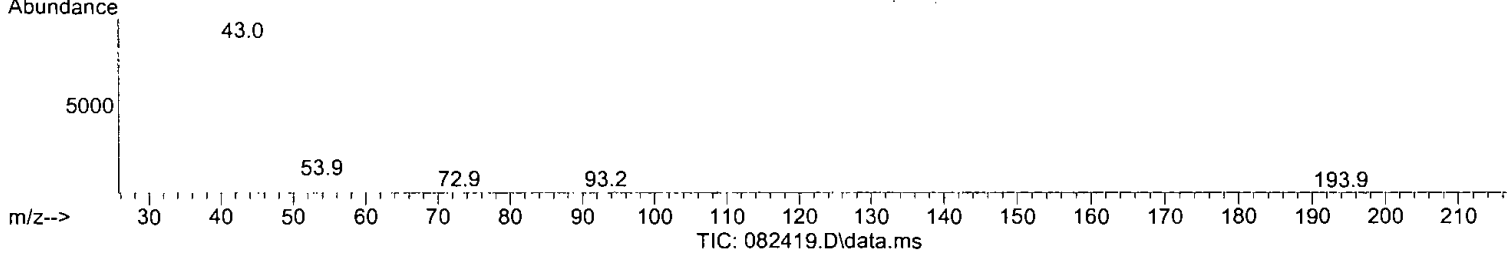
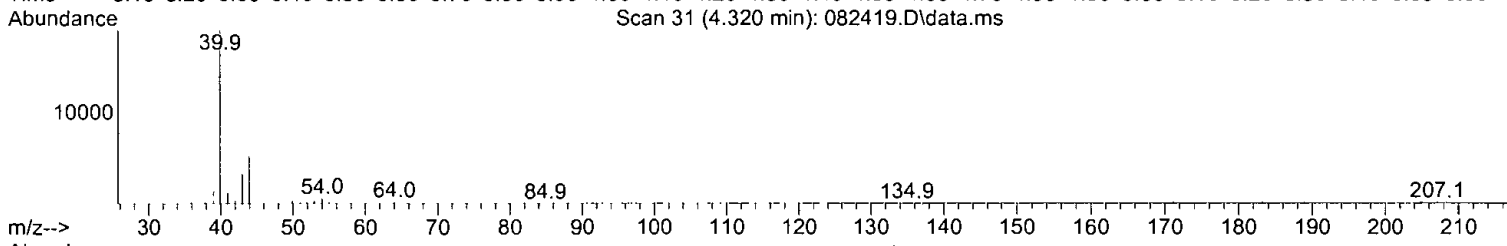
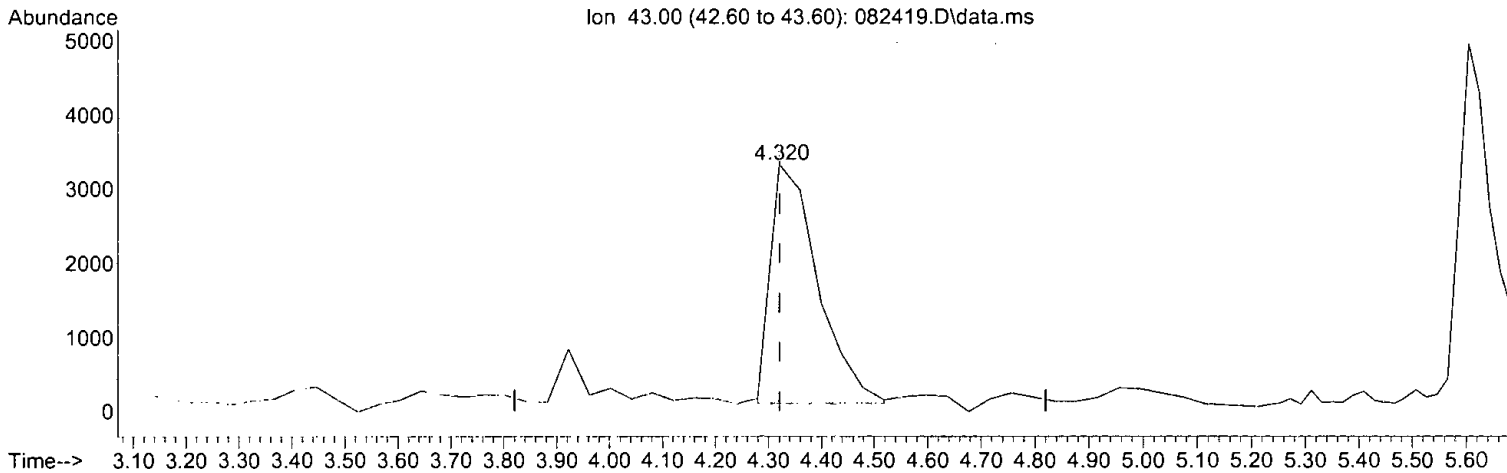
response	23455		
Ion	Exp%	Act%	
43.00	100.00	100.00	
58.00	6.90	4.85	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(8) Butane (TMP)

4.320min (-0.000) 0.532 ppbv m

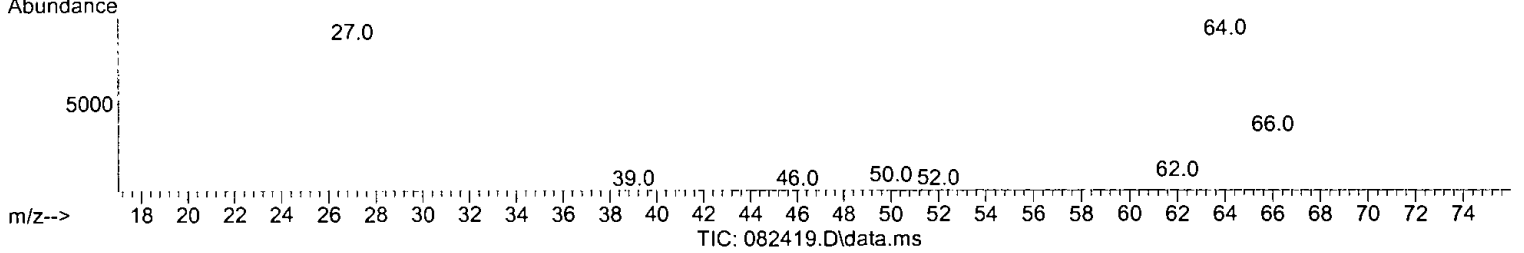
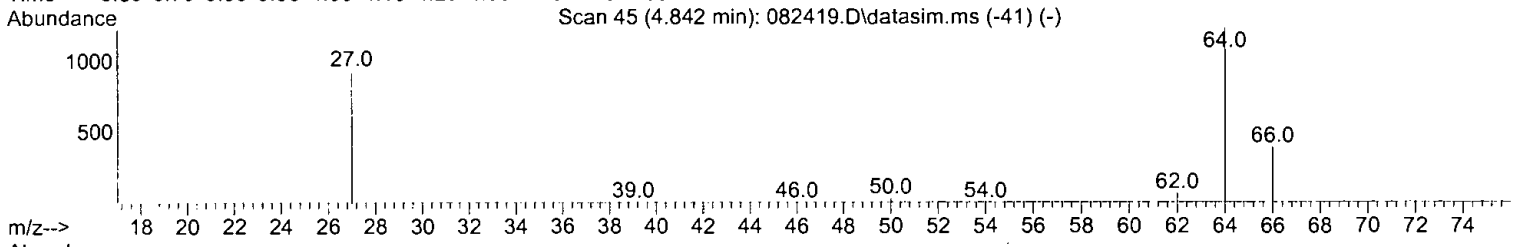
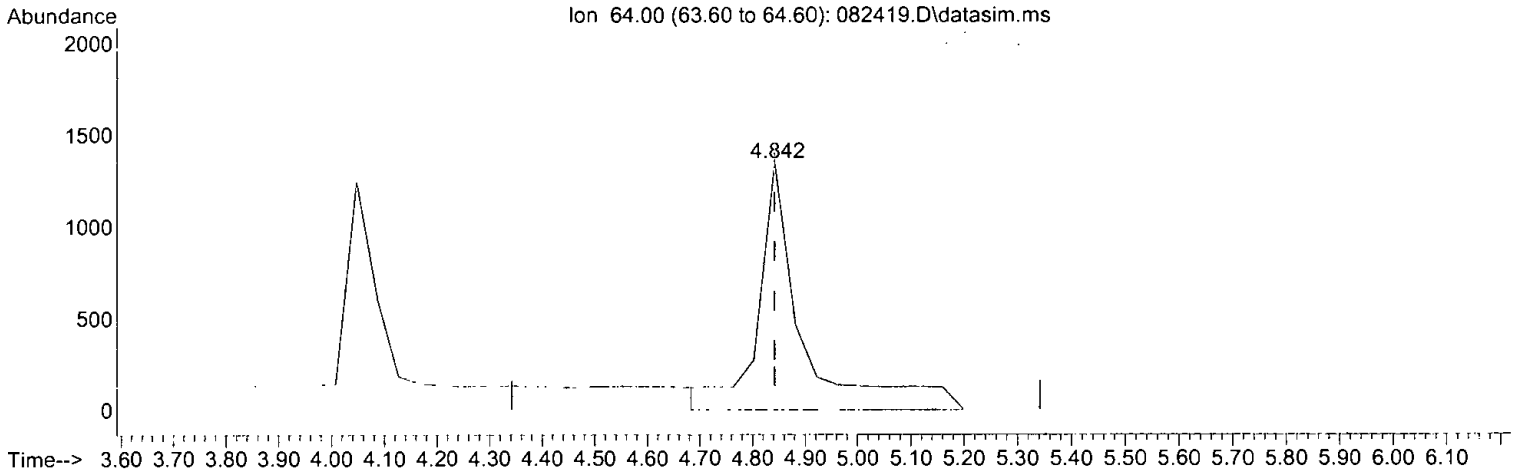
response	19927	
Ion	Exp%	Act%
43.00	100.00	100.00
58.00	6.90	5.71
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 0.858 ppbv

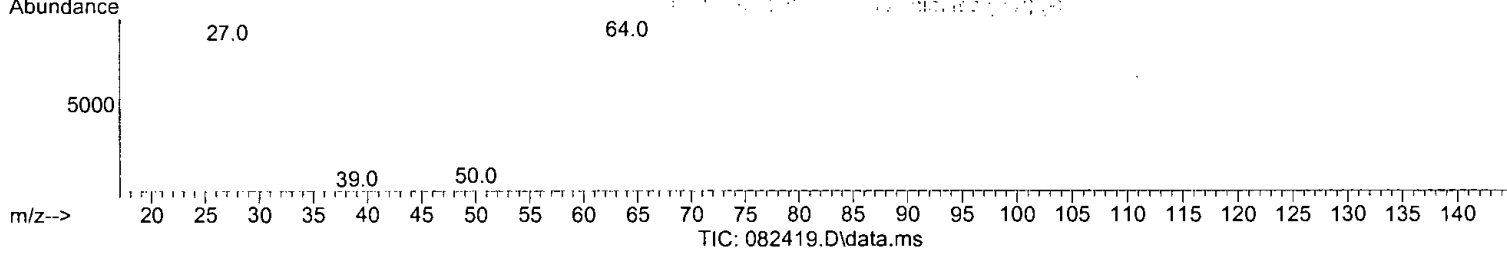
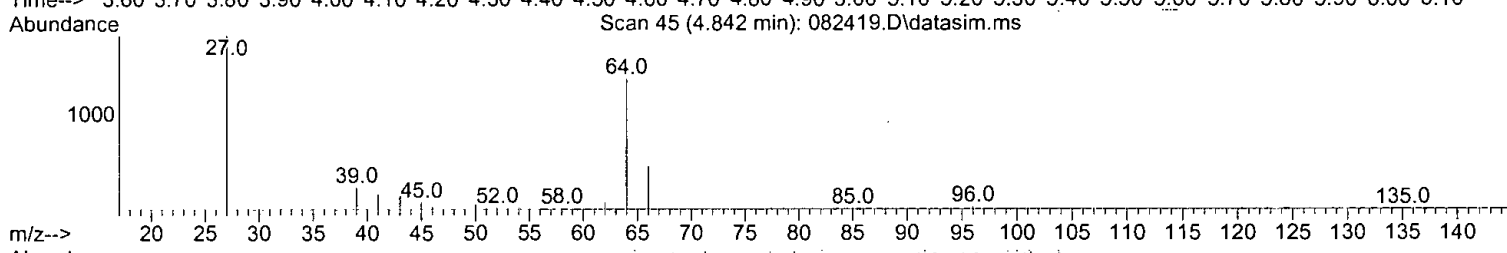
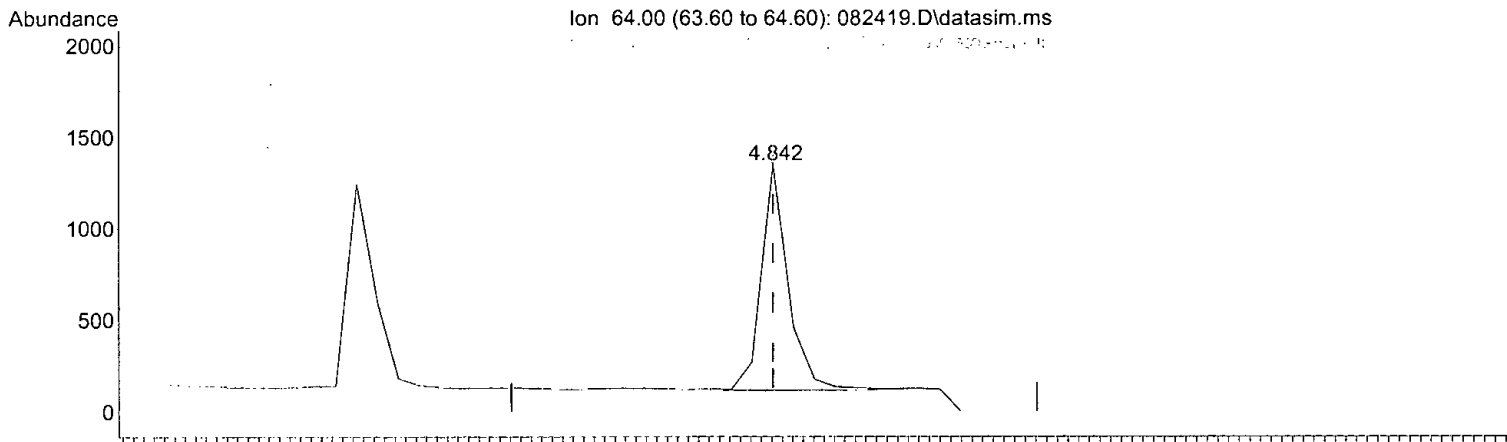
response	7514	
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	35.44
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 0.497 ppbv m

response	4356	
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	35.44
0.00	0.00	0.00
0.00	0.00	0.00

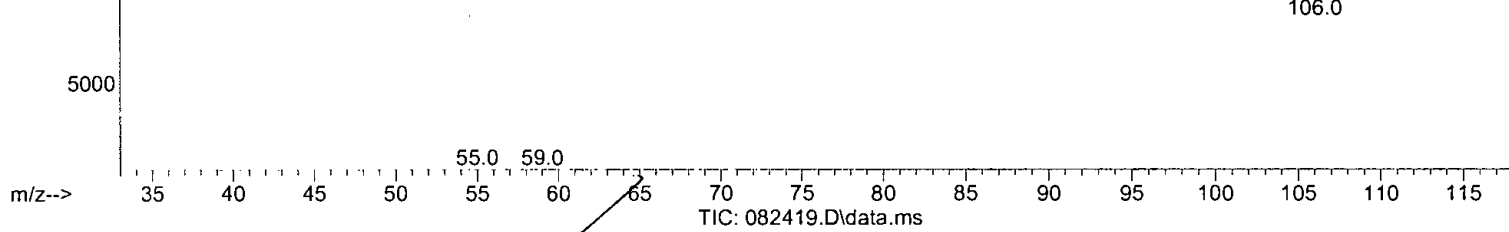
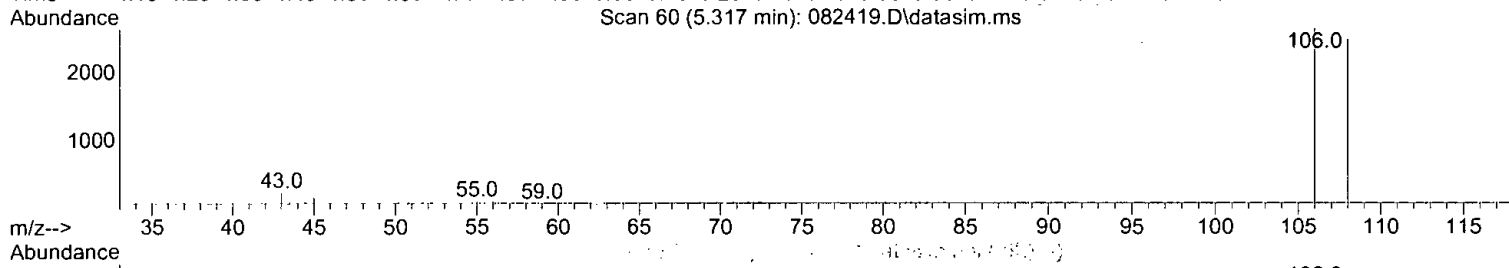
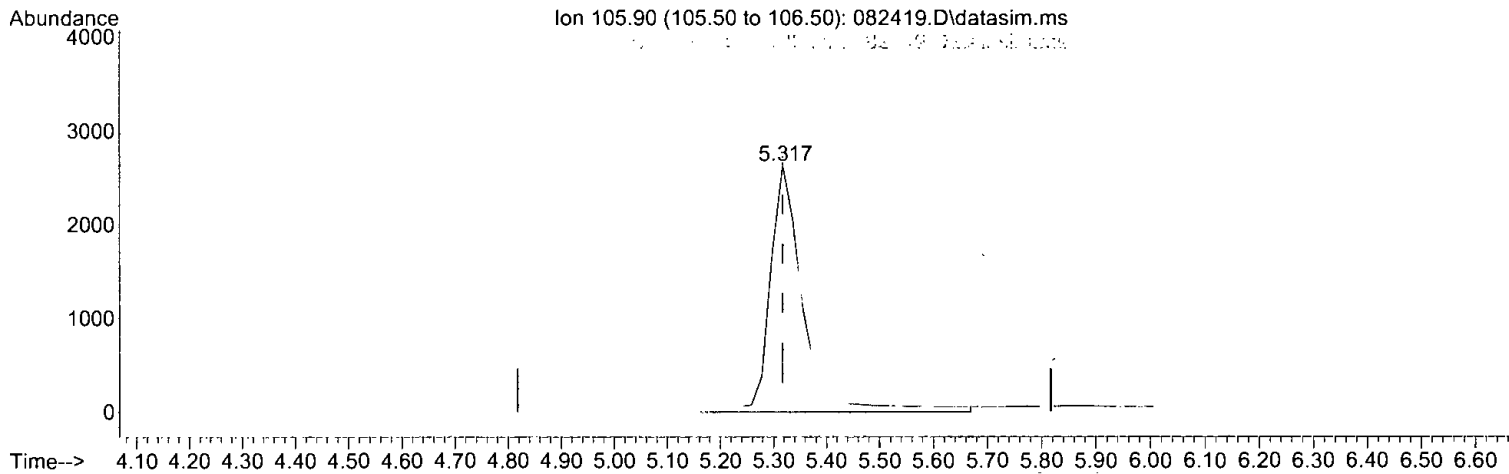
AS 8/25/21



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (+ 0.000) 0.602 ppbv

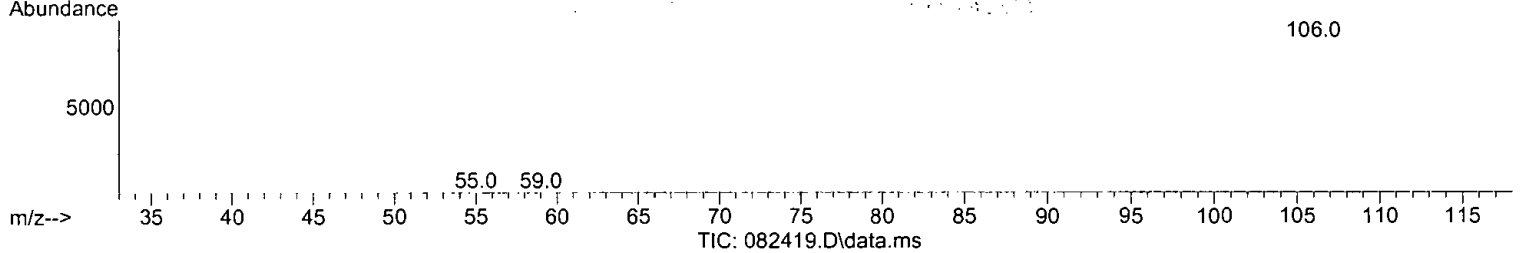
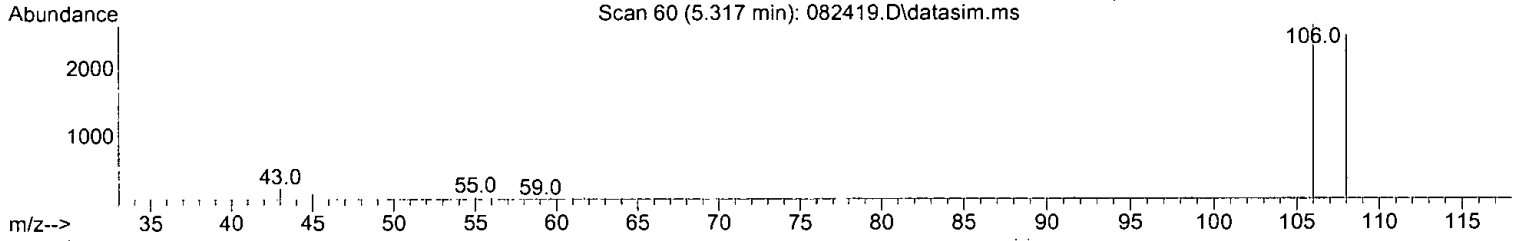
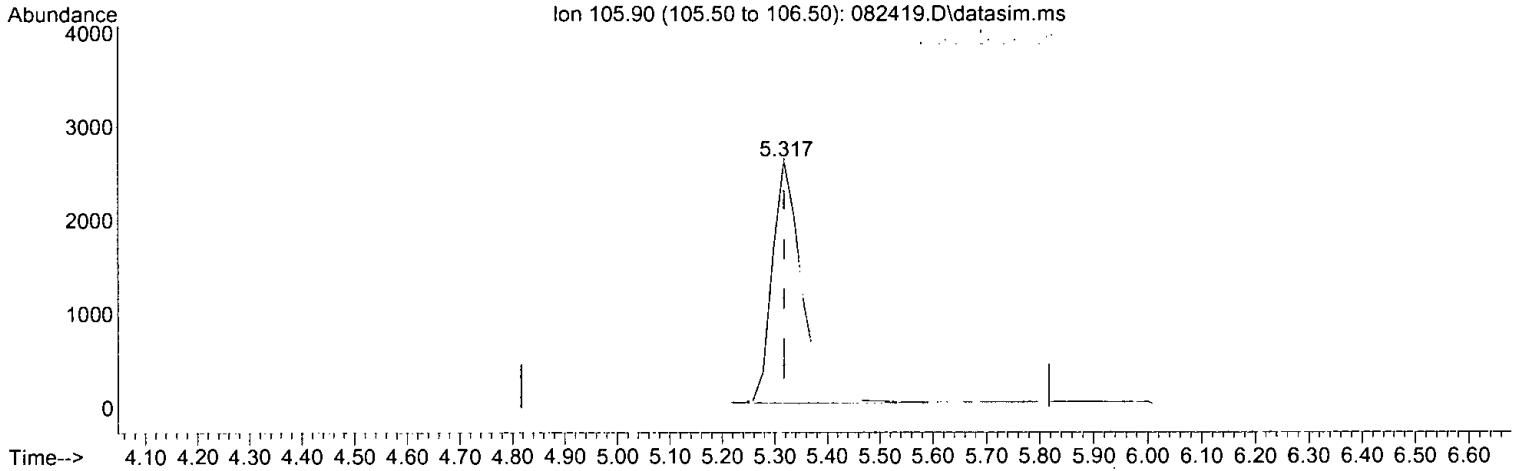
response	12411	
Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	94.10
0.00	0.00	0.00
0.00	0.00	0.00

AS8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (+ 0.000) 0.482 ppbv m

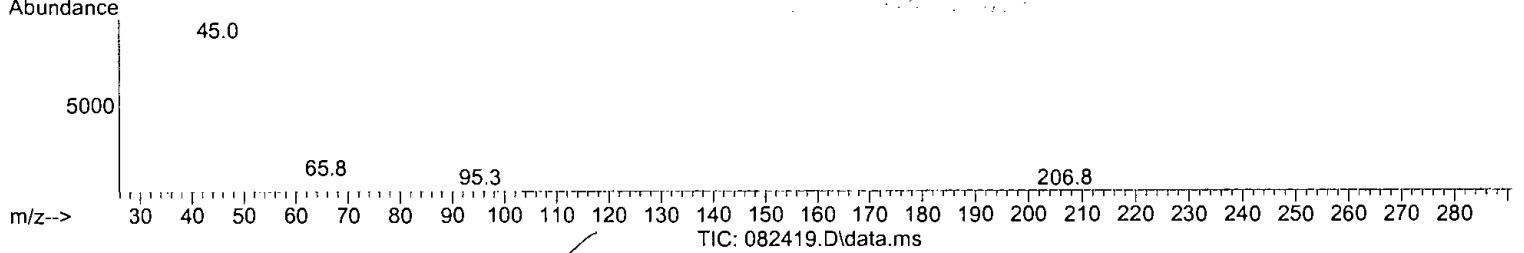
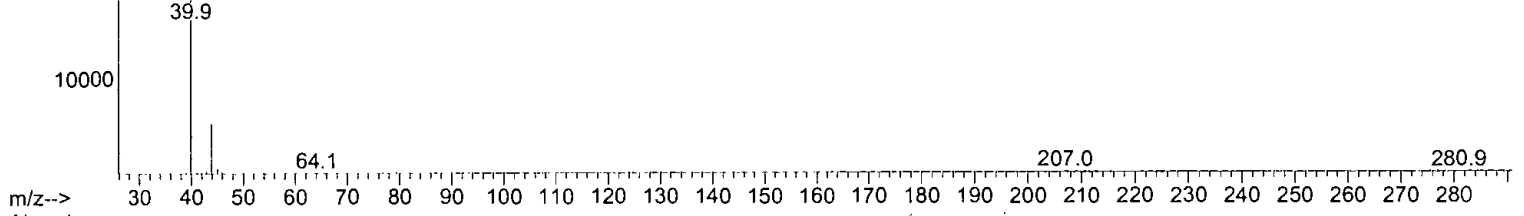
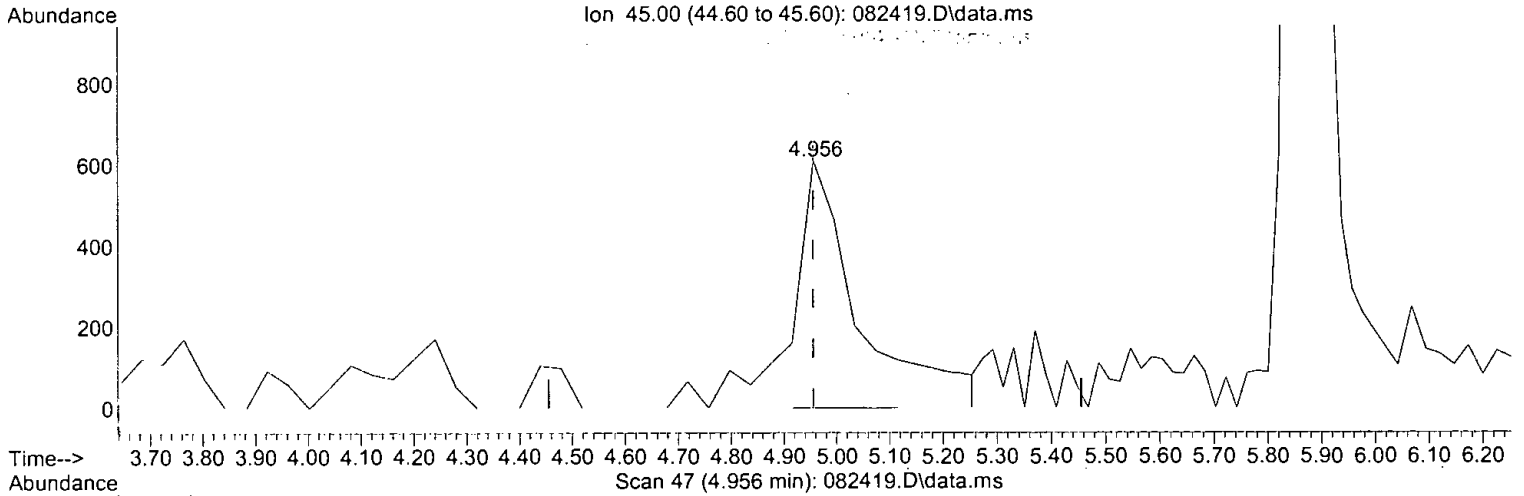
response 9924

Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	117.68#
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(12) Ethanol (TMP)

4.956min (+ 0.001) 0.865 ppbv

response 5582

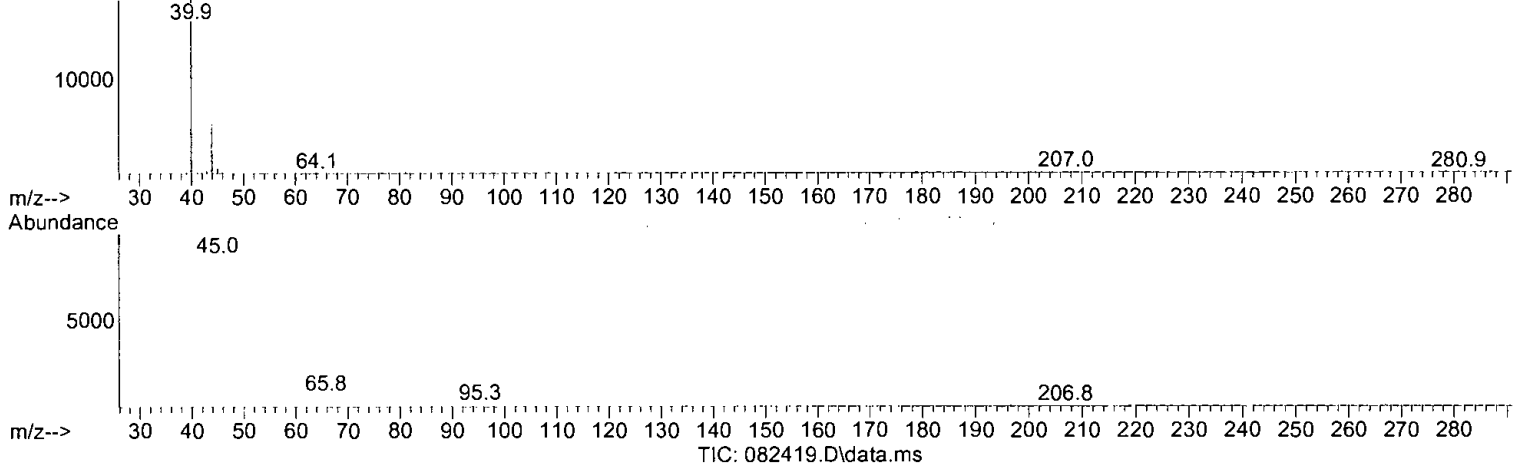
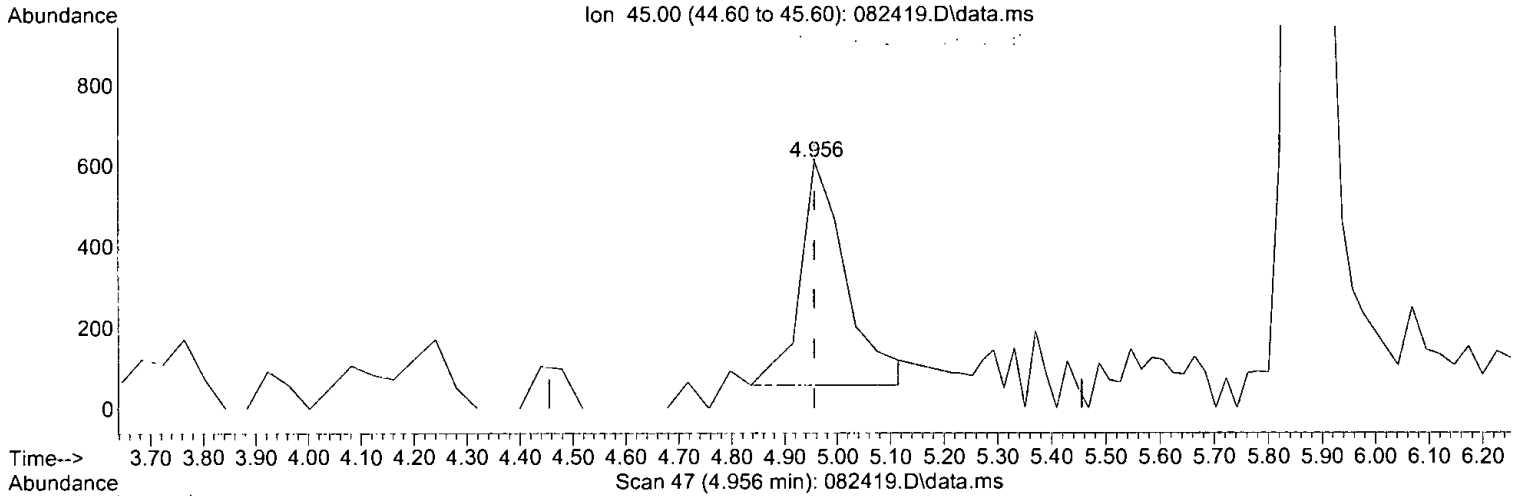
Ion	Exp%	Act%
45.00	100.00	100.00
45.90	25.50	29.95
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(12) Ethanol (TMP)

4.956min (+ 0.001) 0.519 ppbv m

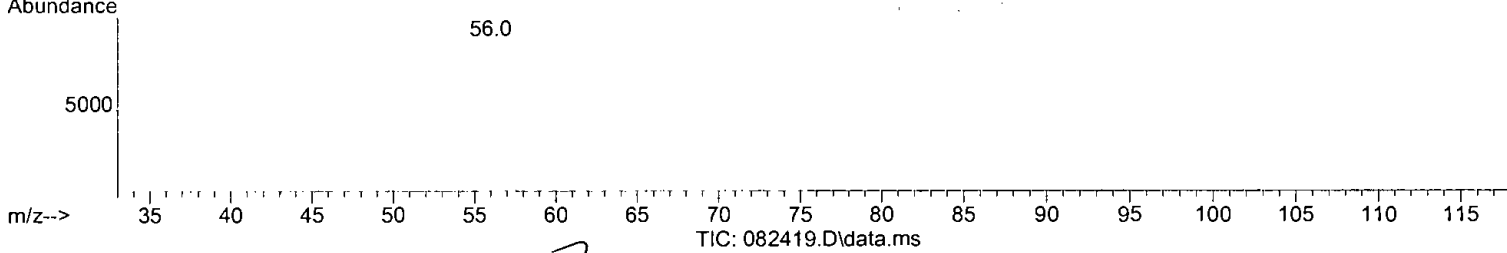
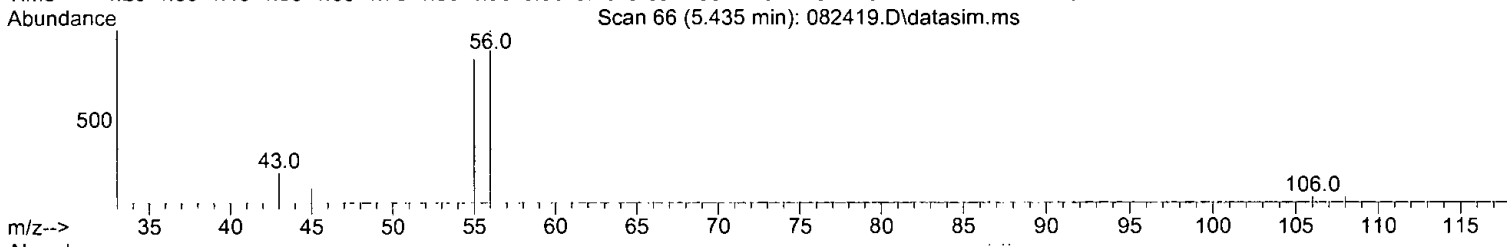
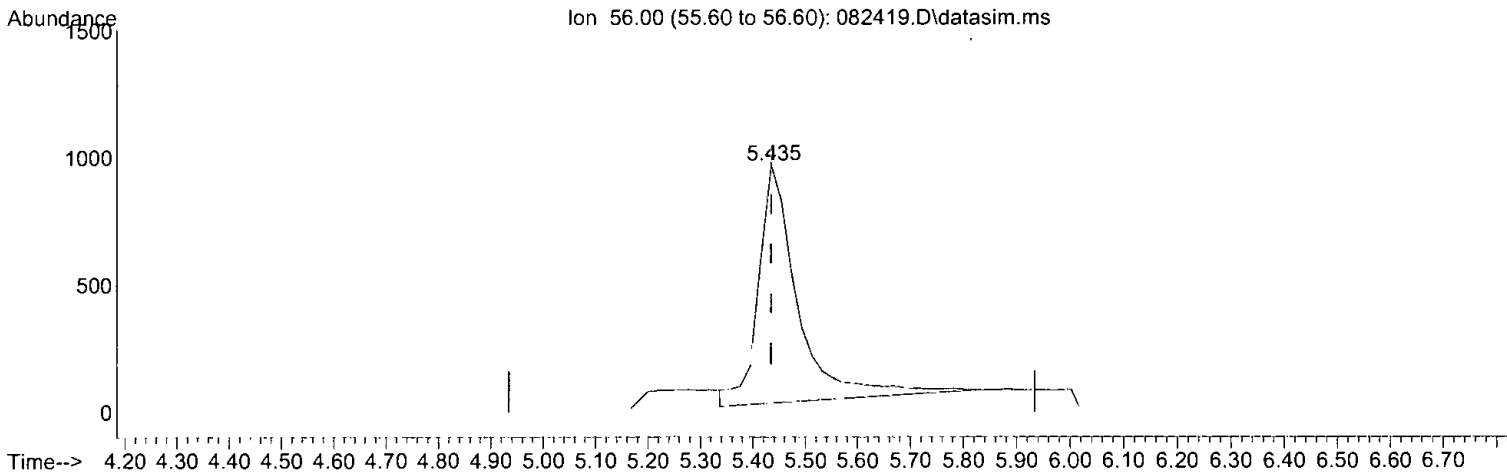
response	3348		
Ion	Exp%	Act%	
45.00	100.00	100.00	
45.90	25.50	49.94	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.435min (+ 0.001) 0.585 ppbv

response 4905

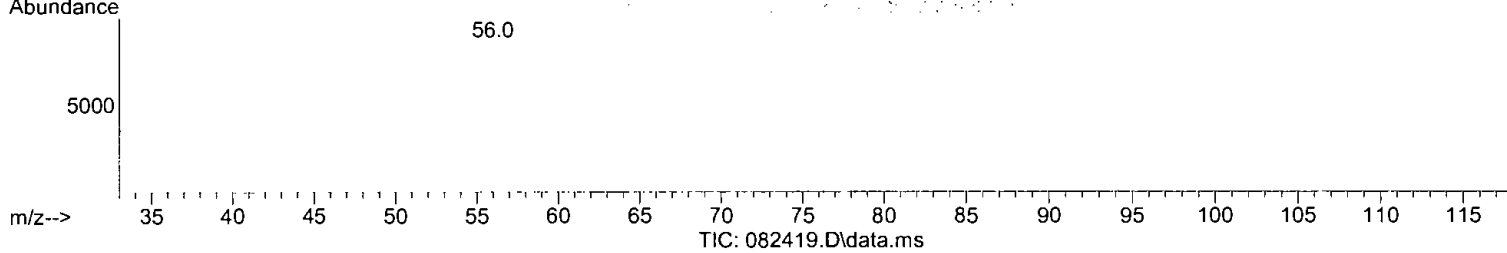
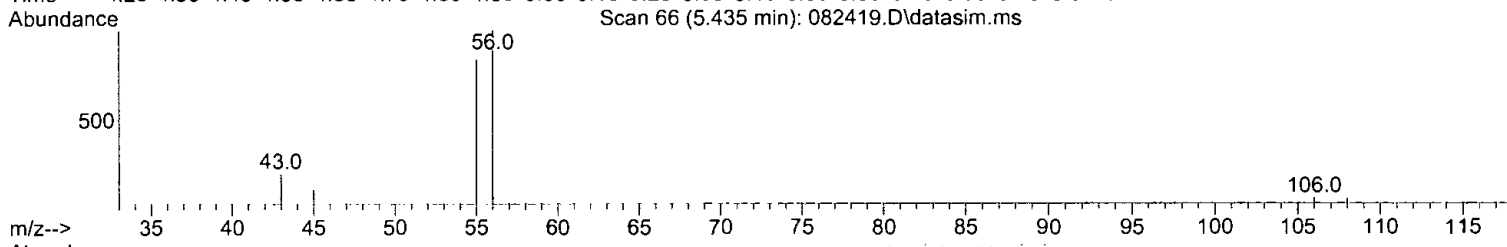
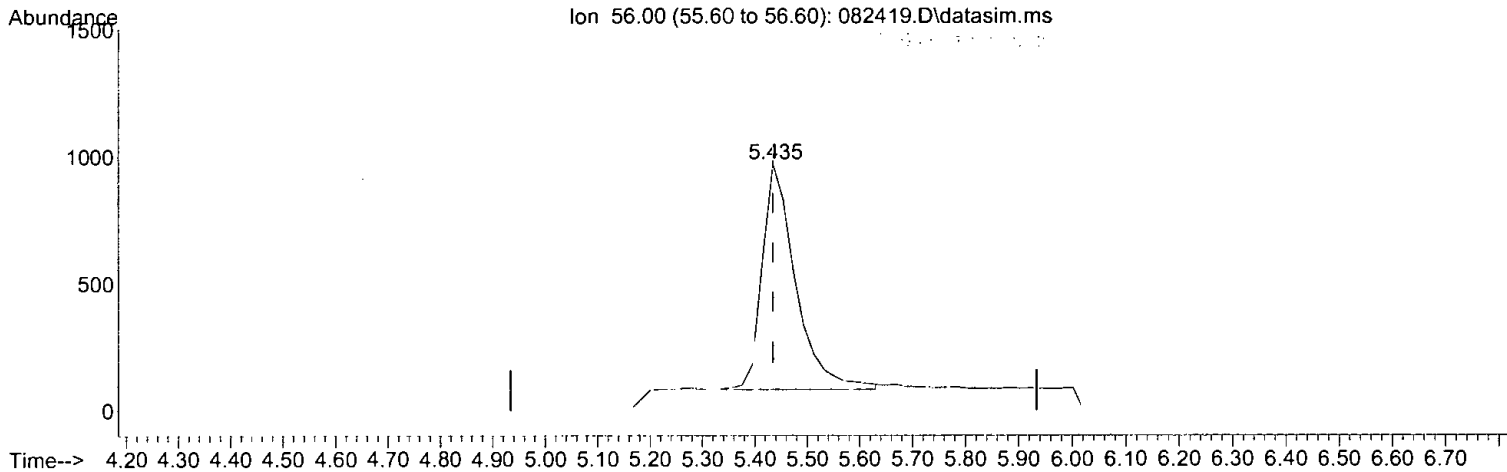
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	83.38
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of lppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.435min (+ 0.001) 0.470 ppbv m

response 3940

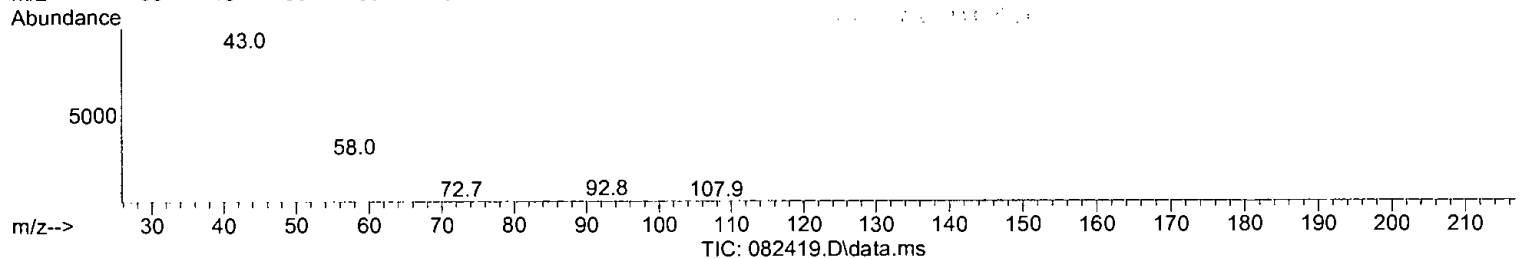
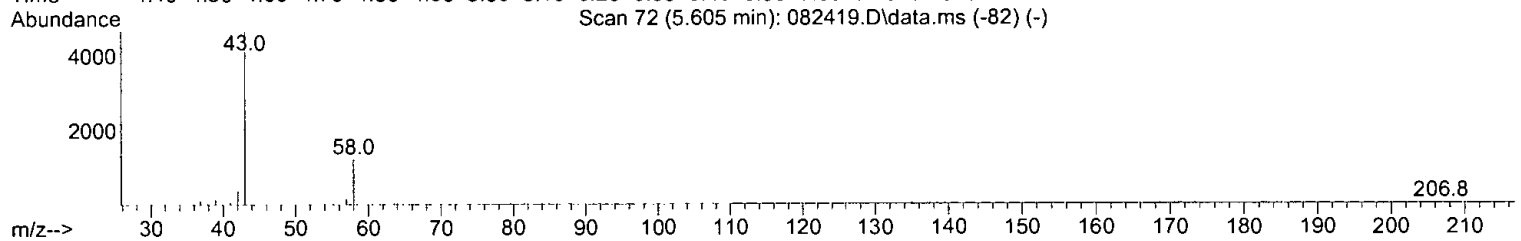
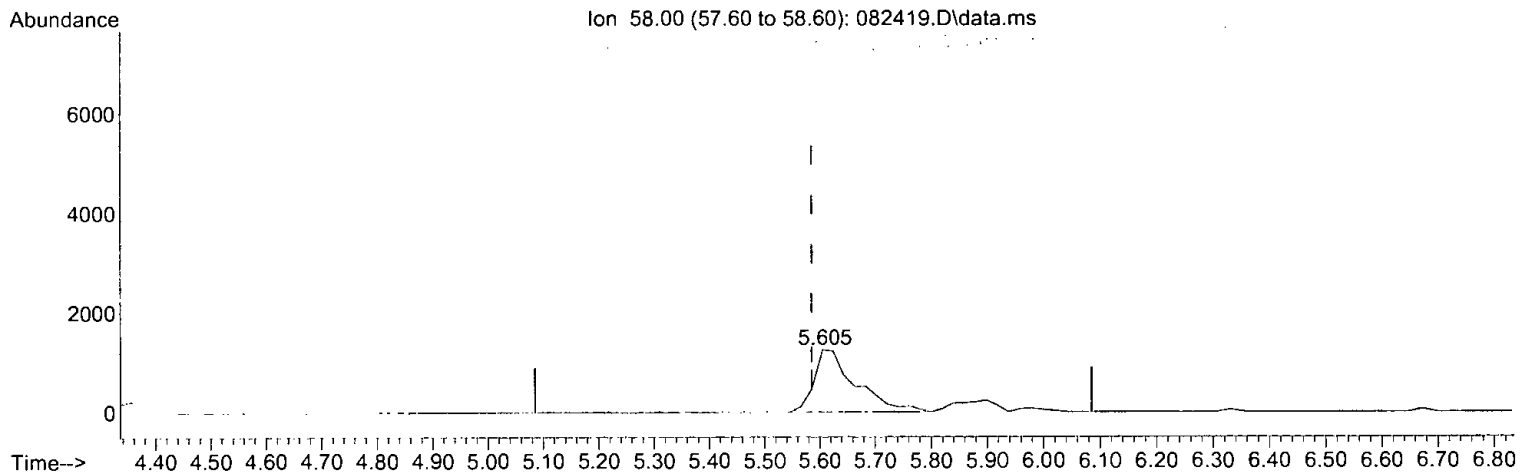
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	103.81
0.00	0.00	0.00
0.00	0.00	0.00

*AS 8/25/21*

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(16) Acetone (TMP)

5.605min (+ 0.020) 0.643 ppbv

response 6527

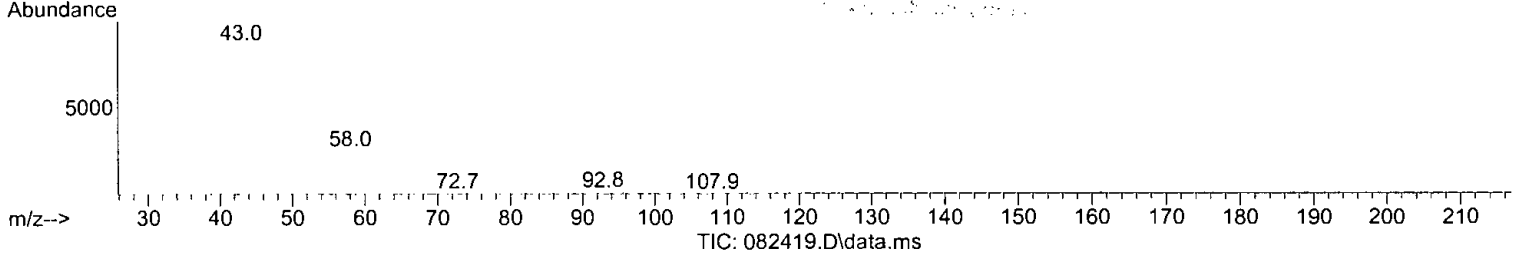
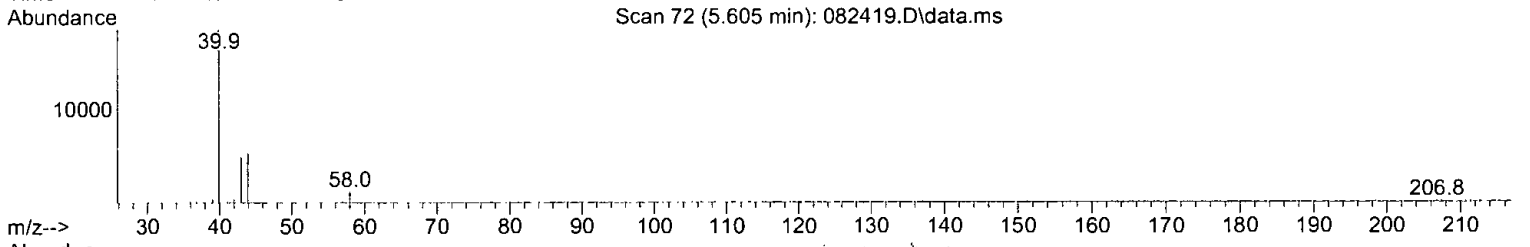
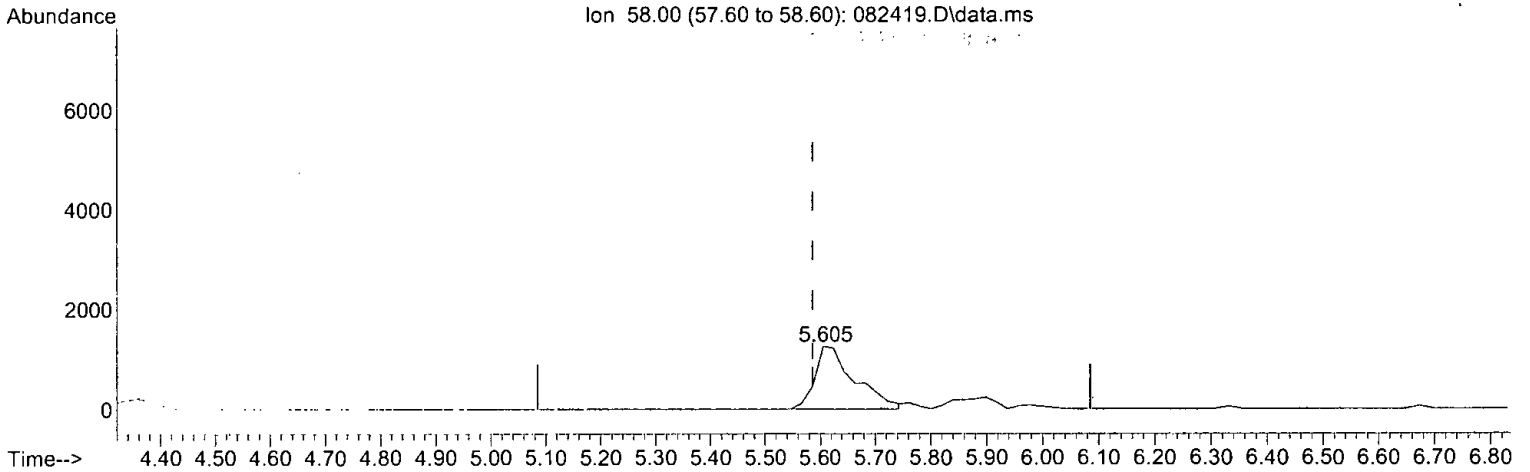
Ion	Exp%	Act%
58.00	100.00	100.00
43.00	359.30	380.18
0.00	0.00	0.00
0.00	0.00	0.00

AS8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(16) Acetone (TMP)

5.605min (+ 0.020) 0.623 ppbv m

response 6325

Ion	Exp%	Act%
58.00	100.00	100.00
43.00	359.30	395.60#
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:24:37 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	115414	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	554707	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	487886	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	435713	9.858	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	98.60%
Target Compounds						
						Qvalue
2) Propene	3.41	41	10415	0.528	ppbv	95
3) Dichlorodifluoromethane	3.52	85	26449	0.518	ppbv	97
4) Chloromethane	3.77	50	12529m	0.523	ppbv	
5) F-114	3.88	85	27219	0.530	ppbv	84
6) Vinyl chloride	4.05	62	12575	0.493	ppbv	97
7) 1,3-Butadiene	4.25	54	8552	0.485	ppbv	# 89
8) Butane	4.32	43	19927m	0.532	ppbv	
9) Bromomethane	4.64	94	8119	0.457	ppbv	73
10) Chloroethane	4.84	64	4356m	0.497	ppbv	
11) Vinyl bromide	5.32	106	9924m	0.482	ppbv	
12) Ethanol	4.96	45	3348m	0.519	ppbv	
13) Acrolein	5.43	56	3940m	0.470	ppbv	
14) Pentane	6.33	43	24250	0.540	ppbv	99
15) Trichlorofluoromethane	5.88	101	28954	0.508	ppbv	97
16) Acetone	5.60	58	6325m	0.623	ppbv	
17) 2-Propanol	5.86	45	21983	0.536	ppbv	# 100
18) 1,1-Dichloroethene	6.73	96	9184	0.483	ppbv	91
19) trans-1,2-Dichloroethene	8.18	96	9068	0.483	ppbv	# 81
20) Methylene chloride	6.83	84	12988	0.643	ppbv	92
21) t-Butyl alcohol (TBA)	6.65	59	17436	0.524	ppbv	# 48
22) 3-Chloropropene	7.01	41	16523	0.492	ppbv	95
23) CFC-113	7.23	101	19389	0.495	ppbv	85
24) Carbon disulfide	7.33	76	32802	0.495	ppbv	98
25) Methyl t-butyl ether (...)	8.51	73	22124	0.502	ppbv	86
26) Vinyl acetate	8.62	43	14176	0.479	ppbv	100
27) 1,1-Dichloroethane	8.44	63	21708	0.489	ppbv	96
28) cis-1,2-Dichloroethene	9.73	96	10001	0.487	ppbv	84
29) Hexane	10.11	57	17942	0.525	ppbv	97
30) Chloroform	10.19	83	24173	0.480	ppbv	98
31) Ethyl acetate	10.03	43	35561	0.495	ppbv	# 95
32) Tetrahydrofuran	10.85	42	15727	0.504	ppbv	94
33) 2-Butanone (MEK)	8.99	72	4363	0.531	ppbv	# 51
34] 1,2-Dichloroethane (EDC)	11.44	62	18067	0.477	ppbv	95
35] 1,1,1-Trichloroethane	11.94	97	18049	0.484	ppbv	86
36] Carbon tetrachloride	12.95	117	17794	0.485	ppbv	100
37] Benzene	12.70	78	34137	0.483	ppbv	95
38) Cyclohexane	13.16	84	10515	0.546	ppbv	# 70
40] 1,2-Dichloropropane	13.90	63	16121	0.470	ppbv	99
41] 1,4-Dioxane	14.17	88	7613	0.509	ppbv	87
42) 2,2,4-Trimethylpentane	14.31	57	58351	0.507	ppbv	# 93

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

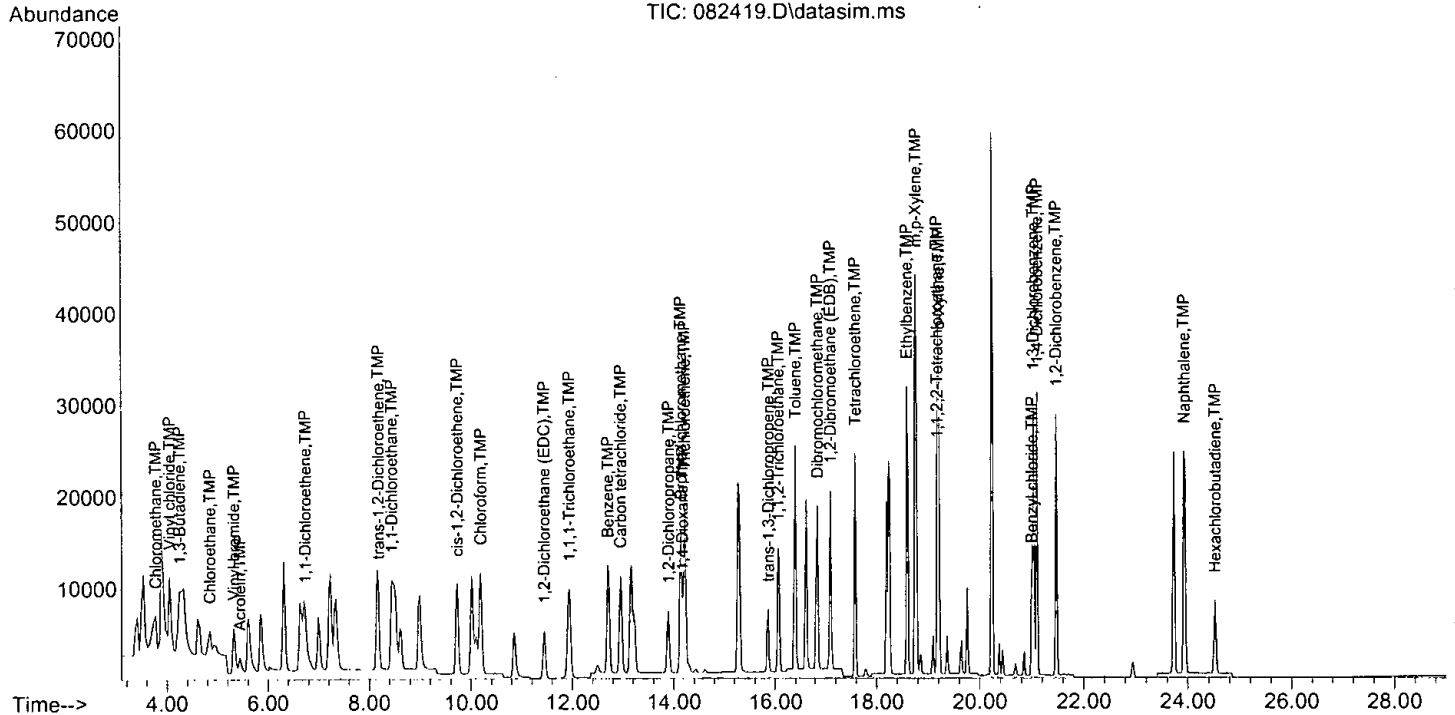
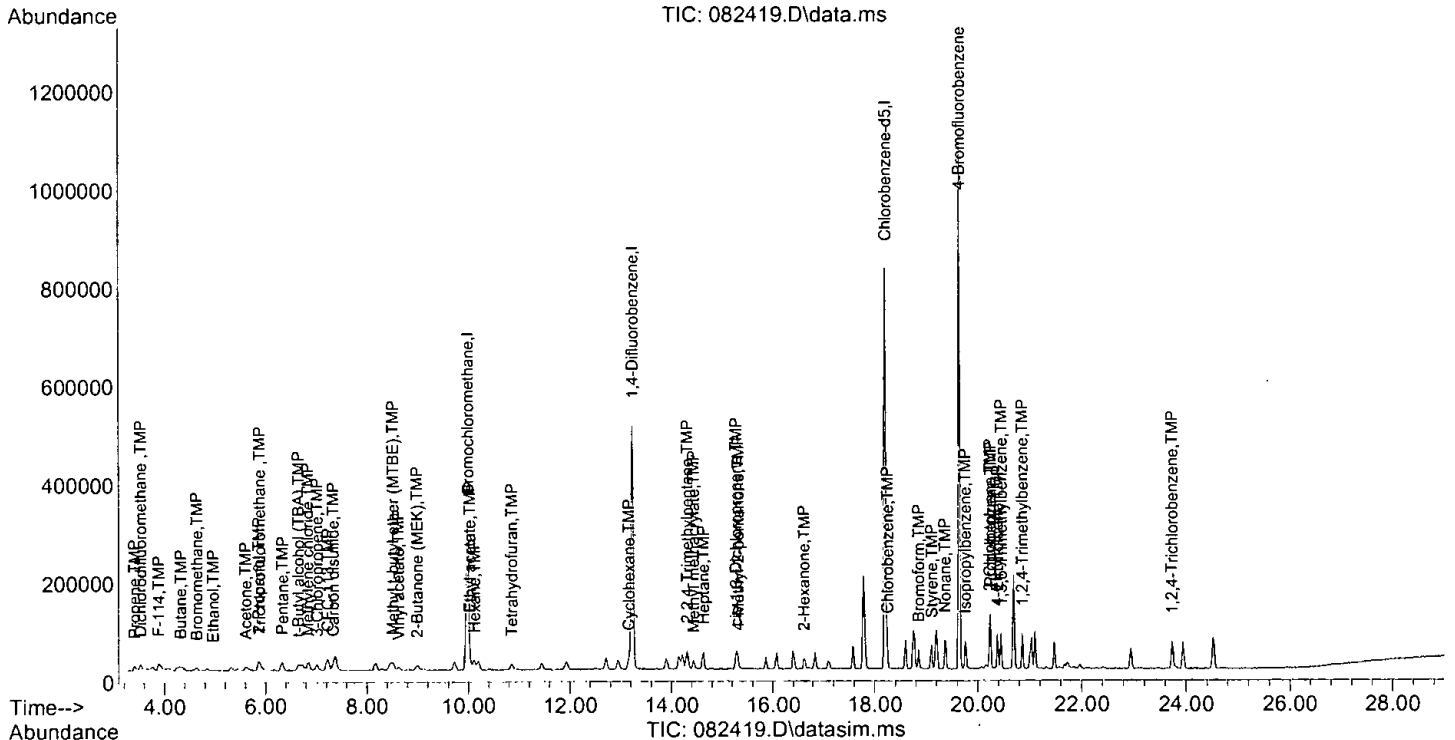
Quant Time: Aug 25 11:24:37 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
43) Methyl methacrylate	14.43	41	15450	0.491	ppbv	#	88
44) Heptane	14.63	43	26869	0.505	ppbv		94
45] Bromodichloromethane	14.14	83	25267	0.478	ppbv		94
46] Trichloroethene	14.22	95	16032	0.468	ppbv		85
47) cis-1,3-Dichloropropene	15.27	75	16651	0.472	ppbv		99
48) 4-Methyl-2-pentanone	15.31	100	948	0.422	ppbv	#	1
49] trans-1,3-Dichloropropene	15.87	75	14187	0.473	ppbv		96
50] Toluene	16.40	92	21277	0.512	ppbv		83
51] 1,1,2-Trichloroethane	16.06	83	15663	0.502	ppbv		97
52) 2-Hexanone	16.62	43	27761	0.474	ppbv		91
53] Tetrachloroethene	17.58	164	10635	0.503	ppbv	#	80
54] Dibromochloromethane	16.85	129	20905	0.479	ppbv		90
55] 1,2-Dibromoethane (EDB)	17.10	107	20974	0.485	ppbv		88
57) Chlorobenzene	18.25	112	27357	0.523	ppbv		94
58] Ethylbenzene	18.59	91	50846	0.469	ppbv		96
59] 1,1,2,2-Tetrachloroethane	19.17	83	35307	0.467	ppbv		89
60) Nonane	19.36	43	40287	0.492	ppbv		94
61) Isopropylbenzene	19.75	105	46301	0.487	ppbv		96
62) 2-Chlorotoluene	20.23	126	10975	0.486	ppbv		62
63] Propylbenzene	20.25	91	105381	0.500	ppbv		95
64) 4-Ethyltoluene	20.38	105	49571	0.501	ppbv		96
65] m,p-Xylene	18.76	106	33453	0.961	ppbv		91
66] o-Xylene	19.21	106	16416	0.480	ppbv		91
67) Styrene	19.11	104	26833	0.533	ppbv		91
68) Bromoform	18.85	173	18126	0.464	ppbv		95
70] Benzyl chloride	21.01	91	16675	0.455	ppbv		94
71) 1,3,5-Trimethylbenzene	20.45	105	37828	0.477	ppbv		99
72) 1,2,4-Trimethylbenzene	20.86	105	40076	0.489	ppbv		99
73] 1,3-Dichlorobenzene	21.04	146	27543	0.489	ppbv		93
74] 1,4-Dichlorobenzene	21.11	146	25769	0.482	ppbv		94
75] 1,2-Dichlorobenzene	21.47	146	25871	0.486	ppbv		94
76) 1,2,4-Trichlorobenzene	23.73	180	22589	0.481	ppbv		91
77] Naphthalene	23.93	128	56850	0.495	ppbv		98
78] Hexachlorobutadiene	24.52	225	17447	0.471	ppbv		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:24:37 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:24:37 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	0.500	0.528	-5.6	107	0.00
3 TMP	Dichlorodifluoromethane	0.500	0.518	-3.6	100	0.00
4 TMP	Chloromethane	0.500	0.523	-4.6	97	0.00
5 TMP	F-114	0.500	0.530	-6.0	100	0.00
6 TMP	Vinyl chloride	0.500	0.493	1.4	100	0.00
7 TMP	1,3-Butadiene	0.500	0.485	3.0	100	0.00
8 TMP	Butane	0.500	0.532	-6.4	85	0.00
9 TMP	Bromomethane	0.500	0.457	8.6	100	0.00
10 TMP	Chloroethane	0.500	0.497	0.6	99	0.00
11 TMP	Vinyl bromide	0.500	0.482	3.6	100	0.00
12 TMP	Ethanol	0.500	0.519	-3.8	102	0.00
13 TMP	Acrolein	0.500	0.470	6.0	92	0.00
14 TMP	Pentane	0.500	0.540	-8.0	100	0.00
15 TMP	Trichlorofluoromethane	0.500	0.508	-1.6	100	0.00
16 TMP	Acetone	0.500	0.623	-24.6	100	0.02
17 TMP	2-Propanol	0.500	0.536	-7.2	100	0.00
18 TMP	1,1-Dichloroethene	0.500	0.483	3.4	100	0.00
19 TMP	trans-1,2-Dichloroethene	0.500	0.483	3.4	100	0.00
20 TMP	Methylene chloride	0.500	0.643	-28.6	100	-0.03
21 TMP	t-Butyl alcohol (TBA)	0.500	0.524	-4.8	100	0.00
22 TMP	3-Chloropropene	0.500	0.492	1.6	100	0.00
23 TMP	CFC-113	0.500	0.495	1.0	100	0.00
24 TMP	Carbon disulfide	0.500	0.495	1.0	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	0.500	0.502	-0.4	100	0.00
26 TMP	Vinyl acetate	0.500	0.479	4.2	100	0.00
27 TMP	1,1-Dichloroethane	0.500	0.489	2.2	100	0.00
28 TMP	cis-1,2-Dichloroethene	0.500	0.487	2.6	100	0.00
29 TMP	Hexane	0.500	0.525	-5.0	100	0.00
30 TMP	Chloroform	0.500	0.480	4.0	100	0.00
31 TMP	Ethyl acetate	0.500	0.495	1.0	100	0.02
32 TMP	Tetrahydrofuran	0.500	0.504	-0.8	100	0.00
33 TMP	2-Butanone (MEK)	0.500	0.531	-6.2	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	0.500	0.477	4.6	100	0.00
35 TMP	1,1,1-Trichloroethane	0.500	0.484	3.2	100	0.00
36 TMP	Carbon tetrachloride	0.500	0.485	3.0	100	0.00
37 TMP	Benzene	0.500	0.483	3.4	100	0.00
38 TMP	Cyclohexane	0.500	0.546	-9.2	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.500	0.470	6.0	100	0.00
41 TMP	1,4-Dioxane	0.500	0.509	-1.8	100	0.00
42 TMP	2,2,4-Trimethylpentane	0.500	0.507	-1.4	100	0.00
43 TMP	Methyl methacrylate	0.500	0.491	1.8	100	0.00
44 TMP	Heptane	0.500	0.505	-1.0	100	0.00
45 TMP	Bromodichloromethane	0.500	0.478	4.4	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:24:37 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.500	0.468	6.4	100	0.00
47 TMP cis-1,3-Dichloropropene	0.500	0.472	5.6	100	0.00
48 TMP 4-Methyl-2-pentanone	0.500	0.422	15.6	100	0.02
49 TMP trans-1,3-Dichloropropene	0.500	0.473	5.4	100	0.02
50 TMP Toluene	0.500	0.512	-2.4	103	0.00
51 TMP 1,1,2-Trichloroethane	0.500	0.502	-0.4	108	0.00
52 TMP 2-Hexanone	0.500	0.474	5.2	100	0.00
53 TMP Tetrachloroethene	0.500	0.503	-0.6	100	0.00
54 TMP Dibromochloromethane	0.500	0.479	4.2	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.500	0.485	3.0	101	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	0.500	0.523	-4.6	100	0.00
58 TMP Ethylbenzene	0.500	0.469	6.2	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.500	0.467	6.6	100	-0.02
60 TMP Nonane	0.500	0.492	1.6	100	0.00
61 TMP Isopropylbenzene	0.500	0.487	2.6	100	0.00
62 TMP 2-Chlorotoluene	0.500	0.486	2.8	100	0.00
63 TMP Propylbenzene	0.500	0.500	0.0	100	0.00
64 TMP 4-Ethyltoluene	0.500	0.501	-0.2	100	0.00
65 TMP m,p-Xylene	1.000	0.961	3.9	100	0.00
66 TMP o-Xylene	0.500	0.480	4.0	100	0.00
67 TMP Styrene	0.500	0.533	-6.6	100	0.00
68 TMP Bromoform	0.500	0.464	7.2	100	0.00
69 S 4-Bromofluorobenzene	10.000	9.858	1.4	100	0.00
70 TMP Benzyl chloride	0.500	0.455	9.0	100	0.00
71 TMP 1,3,5-Trimethylbenzene	0.500	0.477	4.6	100	0.00
72 TMP 1,2,4-Trimethylbenzene	0.500	0.489	2.2	100	0.00
73 TMP 1,3-Dichlorobenzene	0.500	0.489	2.2	100	0.00
74 TMP 1,4-Dichlorobenzene	0.500	0.482	3.6	100	0.00
75 TMP 1,2-Dichlorobenzene	0.500	0.486	2.8	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.500	0.481	3.8	100	0.00
77 TMP Naphthalene	0.500	0.495	1.0	100	0.00
78 TMP Hexachlorobutadiene	0.500	0.471	5.8	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:24:37 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	1.710	1.805	-5.6	107	0.00
3 TMP	Dichlorodifluoromethane	4.425	4.583	-3.6	100	0.00
4 TMP	Chloromethane	2.075	2.171	-4.6	97	0.00
5 TMP	F-114	4.450	4.717	-6.0	100	0.00
6 TMP	Vinyl chloride	2.209	2.179	1.4	100	0.00
7 TMP	1,3-Butadiene	1.529	1.482	3.1	100	0.00
8 TMP	Butane	3.248	3.453	-6.3	85	0.00
9 TMP	Bromomethane	1.540	1.407	8.6	100	0.00
10 TMP	Chloroethane	0.759	0.755	0.5	99	0.00
11 TMP	Vinyl bromide	1.785	1.720	3.6	100	0.00
12 TMP	Ethanol	0.559	0.580	-3.8	102	0.00
13 TMP	Acrolein	0.726	0.683	5.9	92	0.00
14 TMP	Pentane	3.891	4.202	-8.0	100	0.00
15 TMP	Trichlorofluoromethane	4.934	5.017	-1.7	100	0.00
16 TMP	Acetone	0.880	1.096	-24.5	100	0.02
17 TMP	2-Propanol	3.556	3.809	-7.1	100	0.00
18 TMP	1,1-Dichloroethene	1.648	1.591	3.5	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.626	1.571	3.4	100	0.00
20 TMP	Methylene chloride	1.750	2.251	-28.6	100	-0.03
21 TMP	t-Butyl alcohol (TBA)	2.881	3.021	-4.9	100	0.00
22 TMP	3-Chloropropene	2.910	2.863	1.6	100	0.00
23 TMP	CFC-113	3.396	3.360	1.1	100	0.00
24 TMP	Carbon disulfide	5.738	5.684	0.9	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	3.834	-0.4	100	0.00
26 TMP	Vinyl acetate	2.562	2.457	4.1	100	0.00
27 TMP	1,1-Dichloroethane	3.850	3.762	2.3	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.733	2.6	100	0.00
29 TMP	Hexane	2.959	3.109	-5.1	100	0.00
30 TMP	Chloroform	4.366	4.189	4.1	100	0.00
31 TMP	Ethyl acetate	6.229	6.162	1.1	100	0.02
32 TMP	Tetrahydrofuran	2.703	2.725	-0.8	100	0.00
33 TMP	2-Butanone (MEK)	0.712	0.756	-6.2	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.131	4.7	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.128	3.2	100	0.00
36 TMP	Carbon tetrachloride	3.178	3.084	3.0	100	0.00
37 TMP	Benzene	6.123	5.916	3.4	100	0.00
38 TMP	Cyclohexane	1.669	1.822	-9.2	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.618	0.581	6.0	100	0.00
41 TMP	1,4-Dioxane	0.270	0.274	-1.5	100	0.00
42 TMP	2,2,4-Trimethylpentane	2.076	2.104	-1.3	100	0.00
43 TMP	Methyl methacrylate	0.567	0.557	1.8	100	0.00
44 TMP	Heptane	0.959	0.969	-1.0	100	0.00
45 TMP	Bromodichloromethane	0.953	0.911	4.4	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:24:37 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.578	6.5	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.600	5.7	100	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.034	15.0	100	0.02
49 TMP trans-1,3-Dichloropropene	0.540	0.512	5.2	100	0.02
50 TMP Toluene	0.749	0.767	-2.4	103	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.565	-0.4	108	0.00
52 TMP 2-Hexanone	1.055	1.001	5.1	100	0.00
53 TMP Tetrachloroethene	0.381	0.383	-0.5	100	0.00
54 TMP Dibromochloromethane	0.787	0.754	4.2	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.756	3.0	101	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	1.121	-4.7	100	0.00
58 TMP Ethylbenzene	2.221	2.084	6.2	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.447	6.6	100	-0.02
60 TMP Nonane	1.679	1.651	1.7	100	0.00
61 TMP Isopropylbenzene	1.948	1.898	2.6	100	0.00
62 TMP 2-Chlorotoluene	0.463	0.450	2.8	100	0.00
63 TMP Propylbenzene	4.322	4.320	0.0	100	0.00
64 TMP 4-Ethyltoluene	2.027	2.032	-0.2	100	0.00
65 TMP m,p-Xylene	0.713	0.686	3.8	100	0.00
66 TMP o-Xylene	0.701	0.673	4.0	100	0.00
67 TMP Styrene	1.032	1.100	-6.6	100	0.00
68 TMP Bromoform	0.801	0.743	7.2	100	0.00
69 S 4-Bromofluorobenzene	0.906	0.893	1.4	100	0.00
70 TMP Benzyl chloride	0.751	0.684	8.9	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	1.551	4.6	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.679	1.643	2.1	100	0.00
73 TMP 1,3-Dichlorobenzene	1.154	1.129	2.2	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.056	8.3	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.061	2.7	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.926	2.5	100	0.00
77 TMP Naphthalene	2.538	2.330	8.2	100	0.00
78 TMP Hexachlorobutadiene	0.852	0.715	16.1	100	0.00

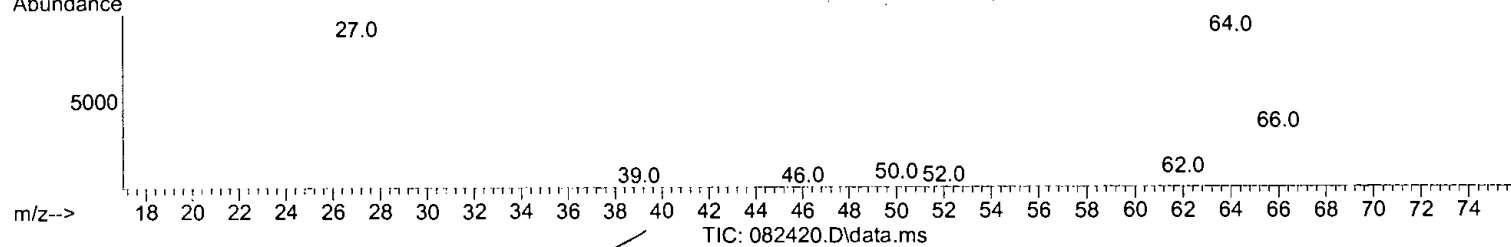
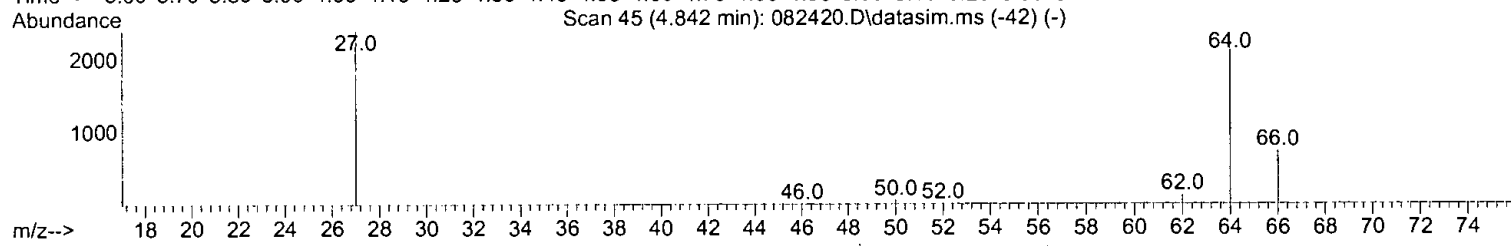
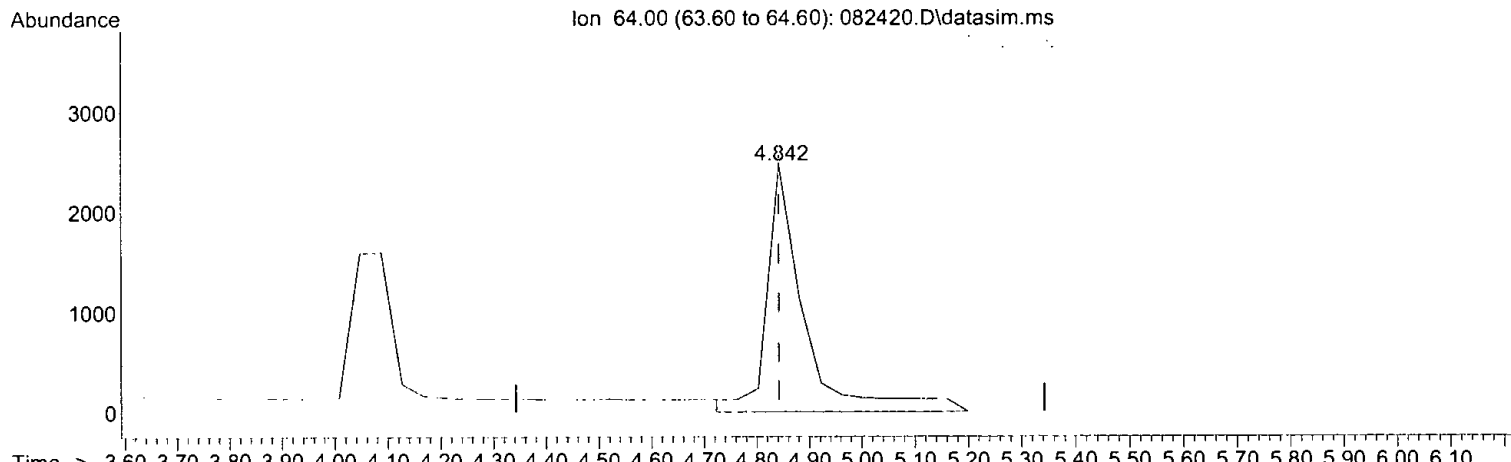
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:12 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 1.273 ppbv

response 11543

Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	32.77
0.00	0.00	0.00
0.00	0.00	0.00

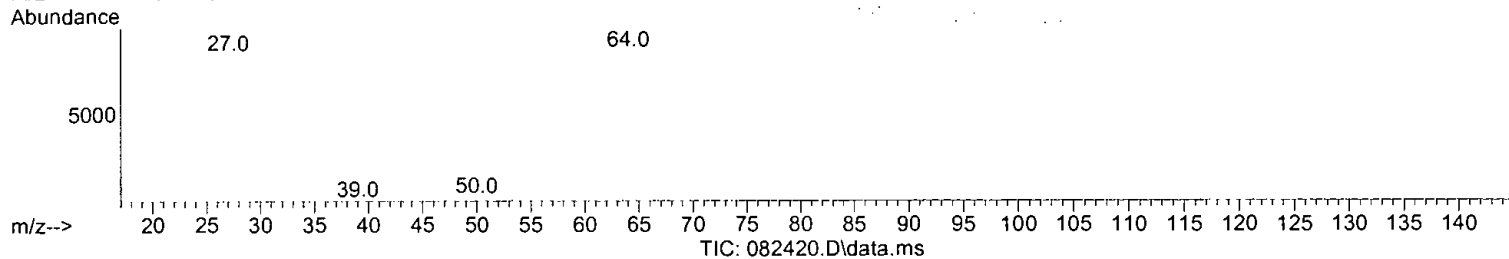
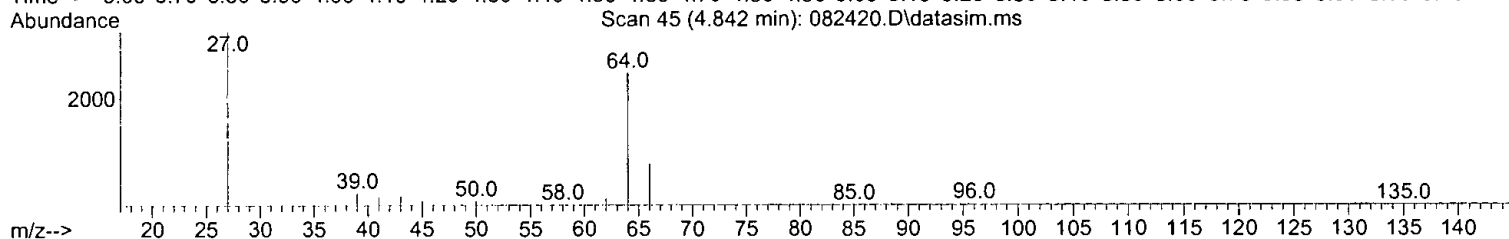
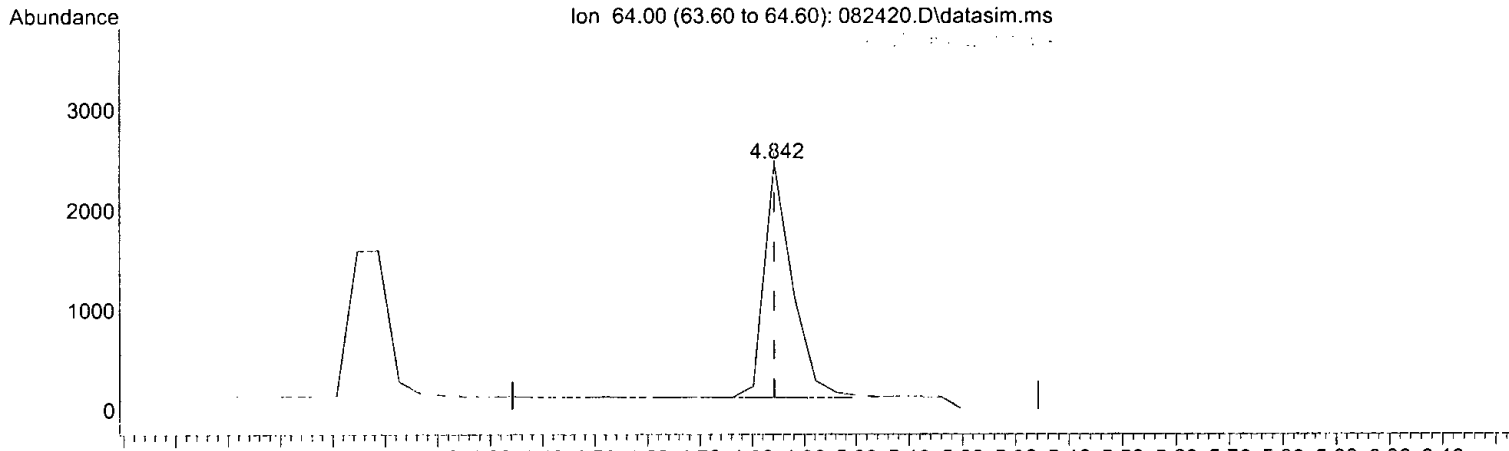
AS 8/25/21



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:12 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 0.972 ppbv m

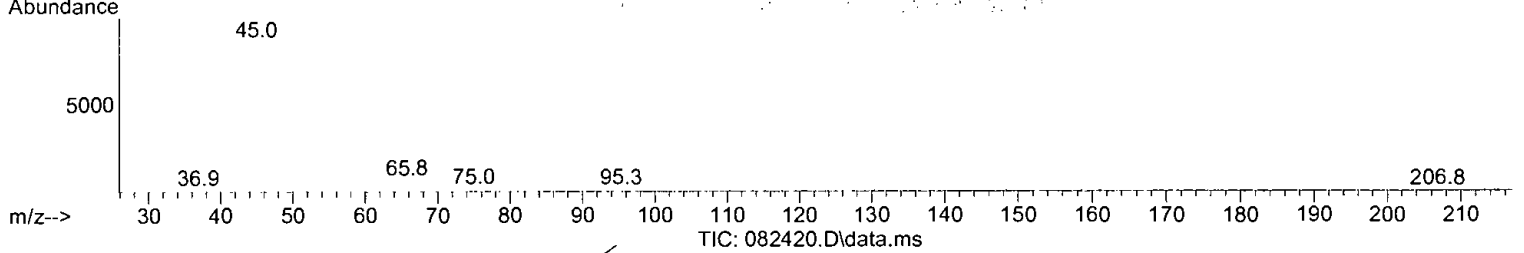
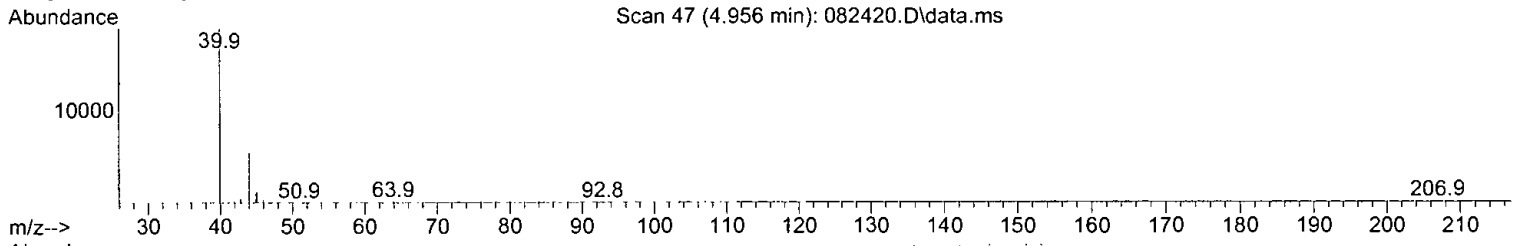
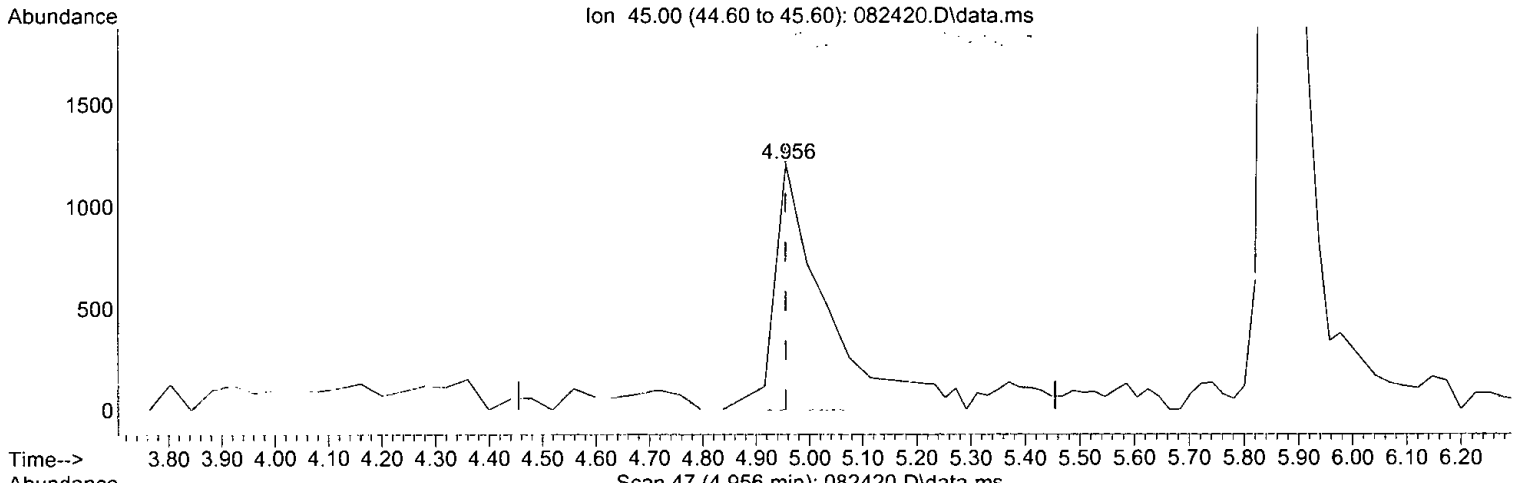
response 8817

Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	32.77
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:12 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(12) Ethanol (TMP)

4.956min (+ 0.001) 1.169 ppbv

response 7811

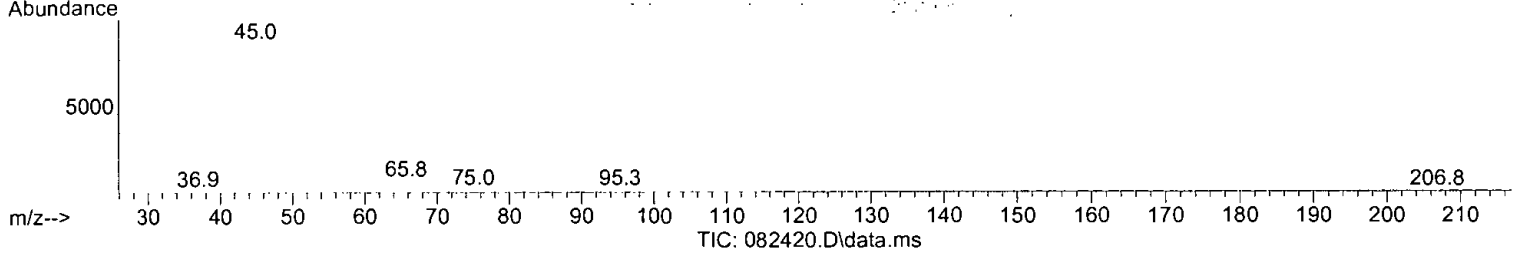
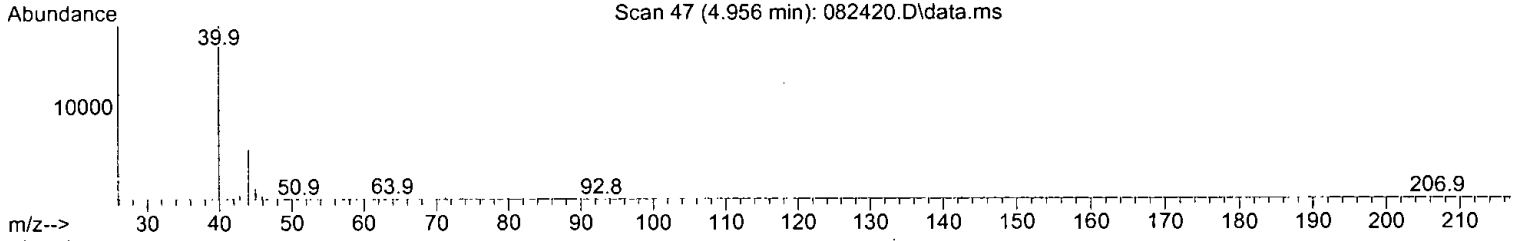
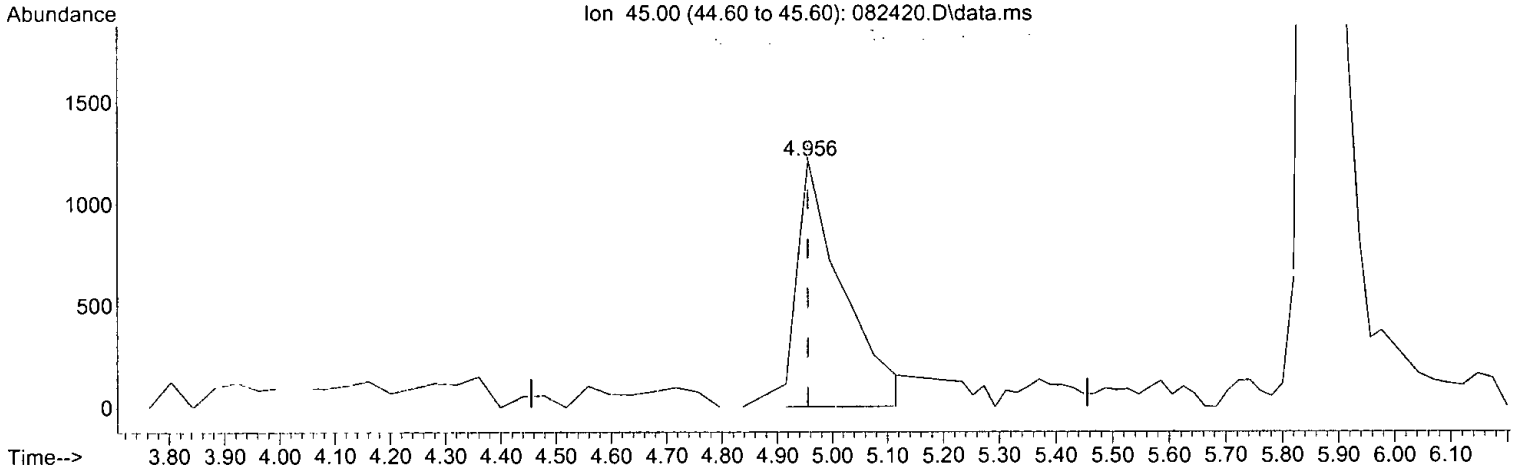
Ion	Exp%	Act%
45.00	100.00	100.00
45.90	25.50	35.48
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of lppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:12 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(12) Ethanol (TMP)

4.956min (+ 0.001) 1.070 ppbv m

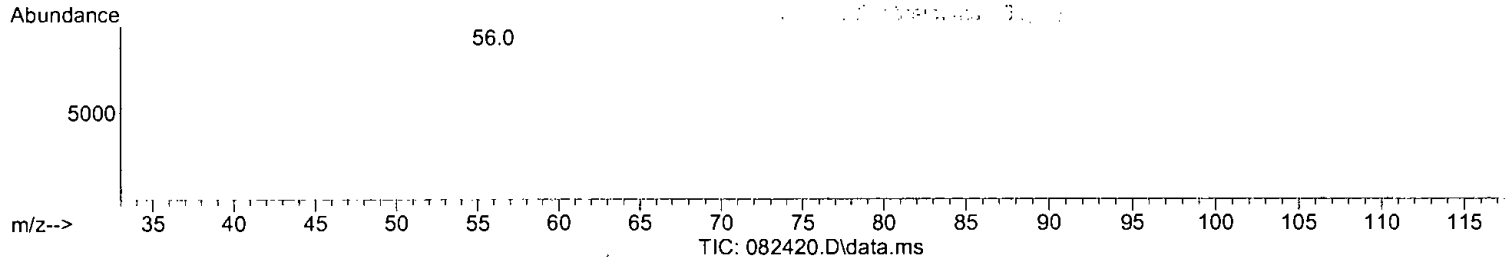
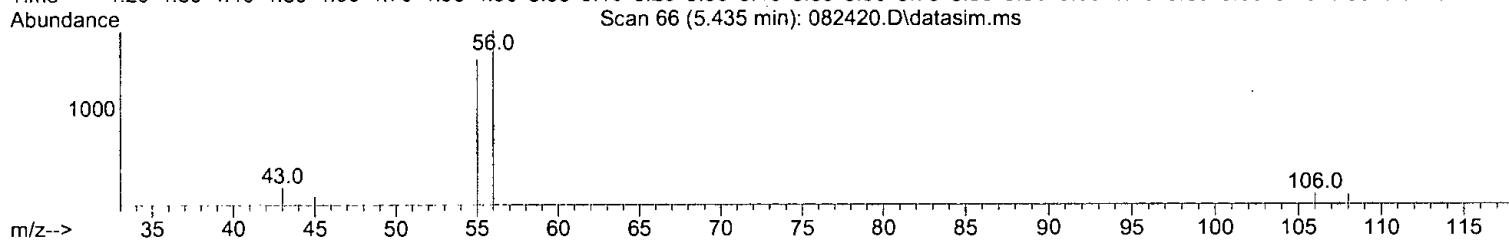
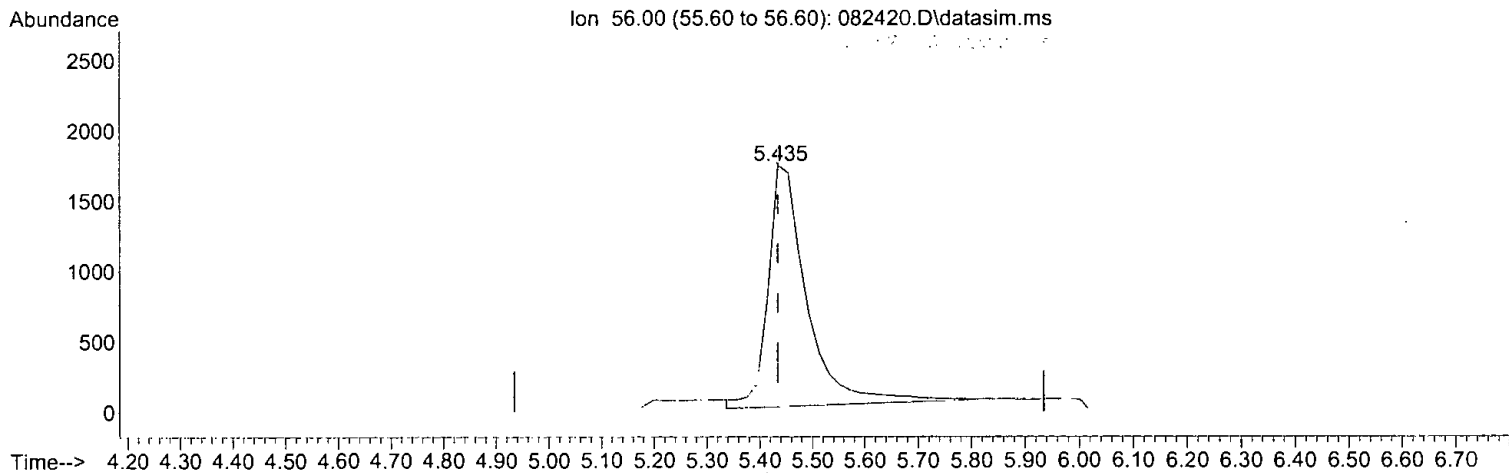
response	7153	
Ion	Exp%	Act%
45.00	100.00	100.00
45.90	25.50	38.74
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:12 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.435min (+ 0.001) 1.011 ppbv

response 8770

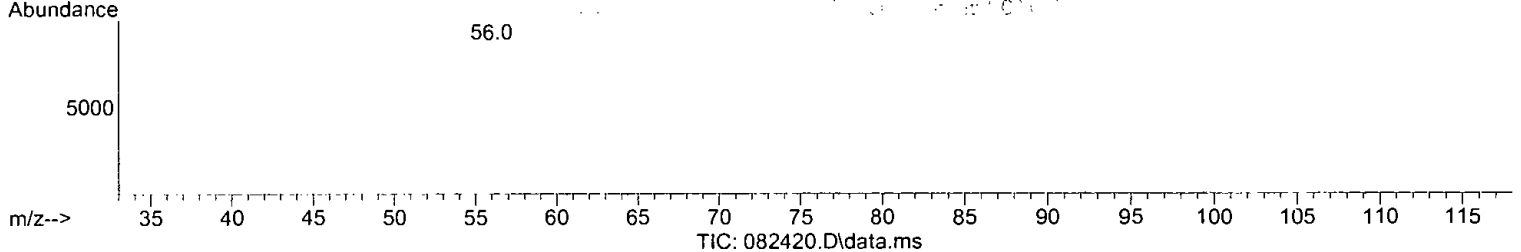
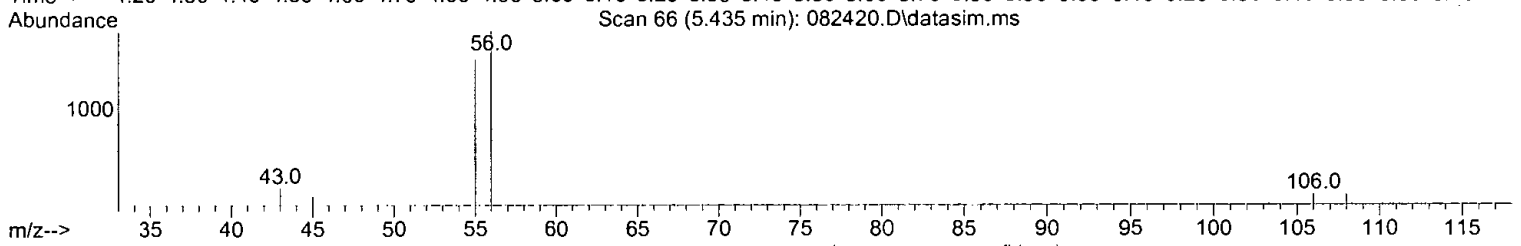
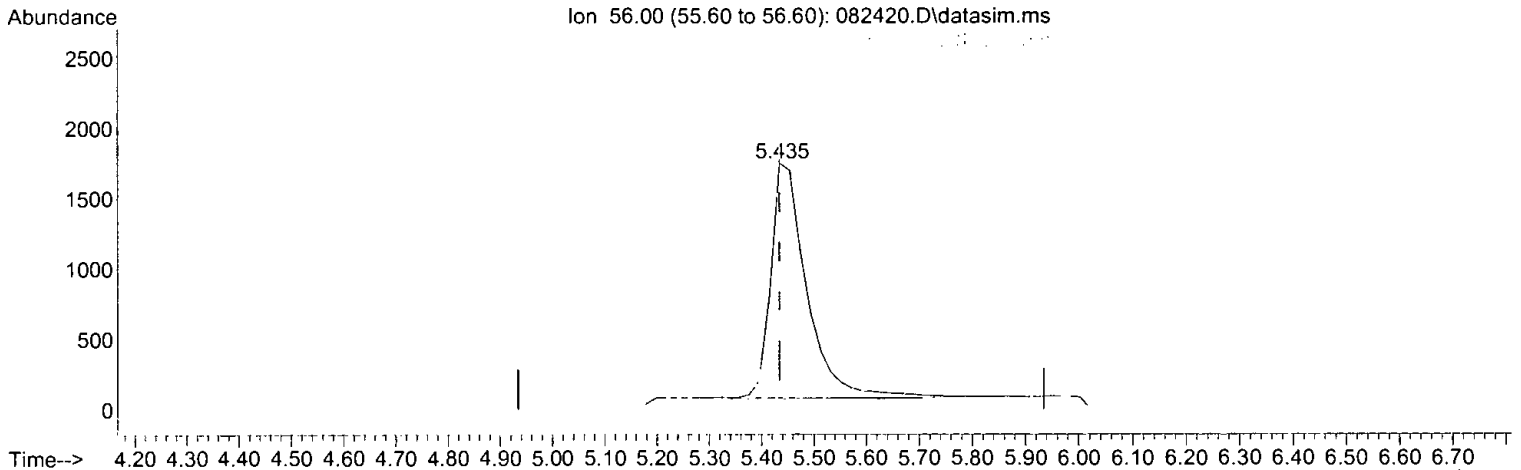
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	83.02
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:12 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.435min (+ 0.001) 0.923 ppbv m

response	8011	
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	90.89
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:27:13 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	119489	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	570054	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	495165	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	449065	10.011	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	100.10%
Target Compounds						
						Qvalue
2) Propene	3.45	41	17403	0.852	ppbv	97
3) Dichlorodifluoromethane	3.53	85	54500	1.031	ppbv	97
4) Chloromethane	3.77	50	24390	0.984	ppbv	81
5) F-114	3.92	85	53754	1.011	ppbv	87
6) Vinyl chloride	4.05	62	23681	0.897	ppbv	94
7) 1,3-Butadiene	4.25	54	17749	0.972	ppbv	# 96
8) Butane	4.36	43	37376	0.963	ppbv	98
9) Bromomethane	4.64	94	16847	0.915	ppbv	97
10) Chloroethane	4.84	64	8817m	0.972	ppbv	
11) Vinyl bromide	5.32	106	23033	1.080	ppbv	100
12) Ethanol	4.96	45	7153m	1.070	ppbv	
13) Acrolein	5.43	56	8011m	0.923	ppbv	
14) Pentane	6.33	43	46273	0.995	ppbv	98
15) Trichlorofluoromethane	5.88	101	57368	0.973	ppbv	96
16) Acetone	5.60	58	11589	1.102	ppbv	88
17) 2-Propanol	5.86	45	40987	0.965	ppbv	# 99
18) 1,1-Dichloroethene	6.73	96	18448	0.937	ppbv	91
19) trans-1,2-Dichloroethene	8.18	96	18217	0.938	ppbv	87
20) Methylene chloride	6.86	84	24389	1.166	ppbv	95
21) t-Butyl alcohol (TBA)	6.65	59	32020	0.930	ppbv	# 35
22) 3-Chloropropene	7.01	41	34105	0.981	ppbv	90
23) CFC-113	7.23	101	39779	0.980	ppbv	87
24) Carbon disulfide	7.33	76	61550	0.898	ppbv	89
25) Methyl t-butyl ether (...)	8.51	73	45052	0.987	ppbv	98
26) Vinyl acetate	8.62	43	31042	1.014	ppbv	95
27) 1,1-Dichloroethane	8.44	63	43437	0.944	ppbv	95
28) cis-1,2-Dichloroethene	9.73	96	20093	0.944	ppbv	# 81
29) Hexane	10.11	57	34406	0.973	ppbv	96
30) Chloroform	10.19	83	48299	0.926	ppbv	97
31) Ethyl acetate	10.03	43	68467	0.920	ppbv	# 98
32) Tetrahydrofuran	10.85	42	31039	0.961	ppbv	89
33) 2-Butanone (MEK)	8.99	72	8393	0.987	ppbv	# 74
34) 1,2-Dichloroethane (EDC)	11.44	62	37373	0.952	ppbv	97
35) 1,1,1-Trichloroethane	11.94	97	36236	0.938	ppbv	86
36) Carbon tetrachloride	12.95	117	35620	0.938	ppbv	98
37) Benzene	12.72	78	68021	0.930	ppbv	100
38) Cyclohexane	13.16	84	19754	0.990	ppbv	86
40) 1,2-Dichloropropane	13.90	63	32588	0.925	ppbv	99
41) 1,4-Dioxane	14.17	88	15339	0.998	ppbv	96
42) 2,2,4-Trimethylpentane	14.31	57	119029	1.006	ppbv	92

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

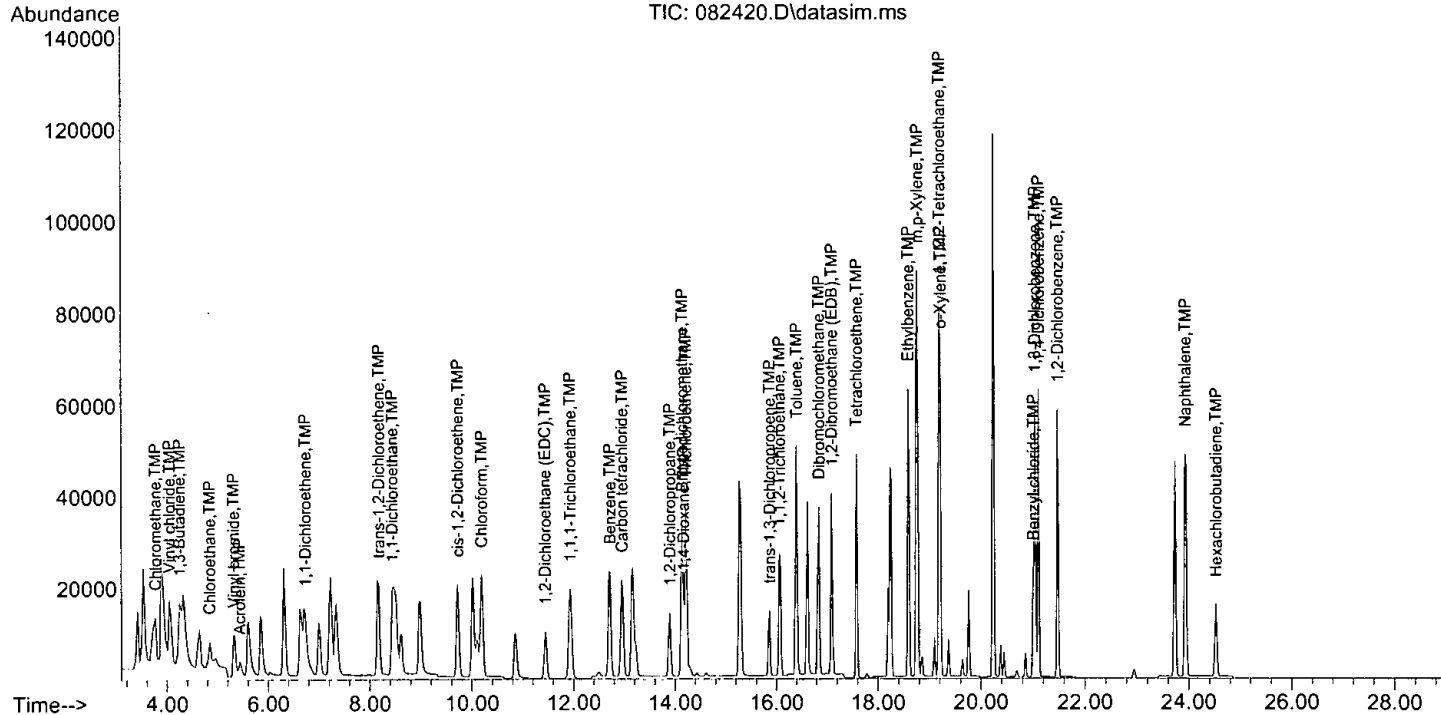
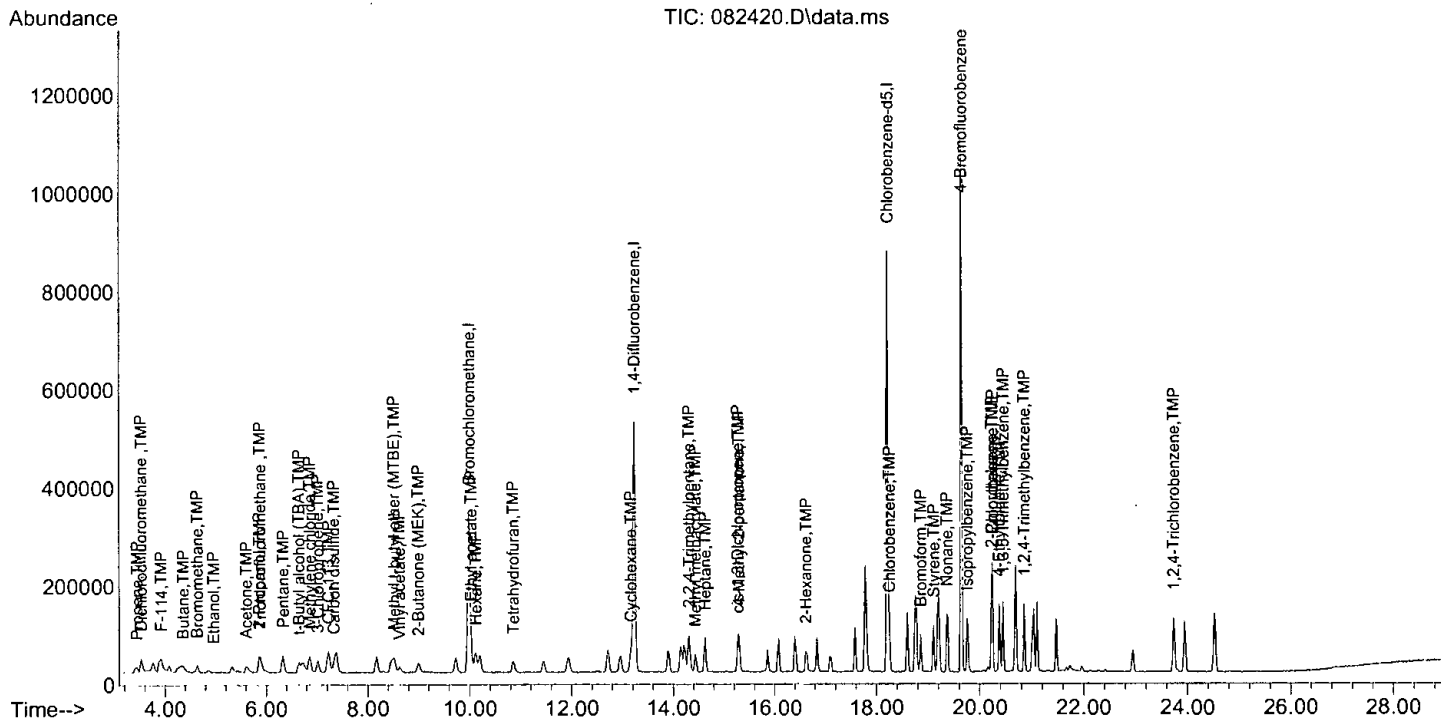
Quant Time: Aug 25 11:27:13 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
43) Methyl methacrylate	14.43	41	30190	0.934	ppbv	#	91
44) Heptane	14.63	43	55844	1.021	ppbv		86
45) Bromodichloromethane	14.14	83	50857	0.936	ppbv		94
46) Trichloroethene	14.22	95	32130	0.912	ppbv		83
47) cis-1,3-Dichloropropene	15.27	75	34830	0.961	ppbv		92
48) 4-Methyl-2-pentanone	15.29	100	2348	1.017	ppbv	#	1
49) trans-1,3-Dichloropropene	15.87	75	28804	0.935	ppbv		98
50) Toluene	16.40	92	43051	1.008	ppbv		84
51) 1,1,2-Trichloroethane	16.06	83	30819	0.961	ppbv		96
52) 2-Hexanone	16.62	43	58719	0.976	ppbv		92
53) Tetrachloroethene	17.58	164	21073	0.970	ppbv	#	80
54) Dibromochloromethane	16.85	129	41990	0.936	ppbv		90
55) 1,2-Dibromoethane (EDB)	17.10	107	41063	0.925	ppbv		89
57) Chlorobenzene	18.25	112	50738	0.957	ppbv		87
58) Ethylbenzene	18.59	91	101724	0.925	ppbv		96
59) 1,1,2,2-Tetrachloroethane	19.19	83	71252	0.929	ppbv		94
60) Nonane	19.36	43	80936	0.973	ppbv		94
61) Isopropylbenzene	19.75	105	92663	0.961	ppbv		99
62) 2-Chlorotoluene	20.23	126	22508	0.982	ppbv		66
63) Propylbenzene	20.25	91	212239	0.992	ppbv		94
64) 4-Ethyltoluene	20.38	105	96242	0.959	ppbv		98
65) m,p-Xylene	18.76	106	66904	1.895	ppbv		90
66) o-Xylene	19.21	106	32692	0.942	ppbv		90
67) Styrene	19.11	104	48723	0.953	ppbv		91
68) Bromoform	18.85	173	38445	0.969	ppbv		98
70) Benzyl chloride	21.01	91	34619	0.931	ppbv		93
71) 1,3,5-Trimethylbenzene	20.45	105	77061	0.958	ppbv		99
72) 1,2,4-Trimethylbenzene	20.86	105	81460	0.980	ppbv		95
73) 1,3-Dichlorobenzene	21.04	146	55138	0.965	ppbv		92
74) 1,4-Dichlorobenzene	21.11	146	51815	0.966	ppbv		94
75) 1,2-Dichlorobenzene	21.47	146	51785	0.959	ppbv		94
76) 1,2,4-Trichlorobenzene	23.73	180	44500	0.981	ppbv		97
77) Naphthalene	23.93	128	113943	0.993	ppbv		98
78) Hexachlorobutadiene	24.52	225	34253	0.940	ppbv		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of lppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:27:13 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:27:13 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	1.000	0.852	14.8	100	0.04
3 TMP	Dichlorodifluoromethane	1.000	1.031	-3.1	100	0.00
4 TMP	Chloromethane	1.000	0.984	1.6	100	0.00
5 TMP	F-114	1.000	1.011	-1.1	100	0.04
6 TMP	Vinyl chloride	1.000	0.897	10.3	100	0.00
7 TMP	1,3-Butadiene	1.000	0.972	2.8	100	0.00
8 TMP	Butane	1.000	0.963	3.7	100	0.04
9 TMP	Bromomethane	1.000	0.915	8.5	100	0.00
10 TMP	Chloroethane	1.000	0.972	2.8	100	0.00
11 TMP	Vinyl bromide	1.000	1.080	-8.0	117	0.00
12 TMP	Ethanol	1.000	1.070	-7.0	92	0.00
13 TMP	Acrolein	1.000	0.923	7.7	104	0.00
14 TMP	Pentane	1.000	0.995	0.5	100	0.00
15 TMP	Trichlorofluoromethane	1.000	0.973	2.7	100	0.00
16 TMP	Acetone	1.000	1.102	-10.2	100	0.02
17 TMP	2-Propanol	1.000	0.965	3.5	100	0.00
18 TMP	1,1-Dichloroethene	1.000	0.937	6.3	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.000	0.938	6.2	100	0.00
20 TMP	Methylene chloride	1.000	1.166	-16.6	100	0.00
21 TMP	t-Butyl alcohol (TBA)	1.000	0.930	7.0	100	0.00
22 TMP	3-Chloropropene	1.000	0.981	1.9	100	0.00
23 TMP	CFC-113	1.000	0.980	2.0	100	0.00
24 TMP	Carbon disulfide	1.000	0.898	10.2	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	1.000	0.987	1.3	100	0.00
26 TMP	Vinyl acetate	1.000	1.014	-1.4	100	0.00
27 TMP	1,1-Dichloroethane	1.000	0.944	5.6	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.000	0.944	5.6	100	0.00
29 TMP	Hexane	1.000	0.973	2.7	100	0.00
30 TMP	Chloroform	1.000	0.926	7.4	100	0.00
31 TMP	Ethyl acetate	1.000	0.920	8.0	100	0.02
32 TMP	Tetrahydrofuran	1.000	0.961	3.9	100	0.00
33 TMP	2-Butanone (MEK)	1.000	0.987	1.3	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	1.000	0.952	4.8	100	0.00
35 TMP	1,1,1-Trichloroethane	1.000	0.938	6.2	100	0.00
36 TMP	Carbon tetrachloride	1.000	0.938	6.2	100	0.00
37 TMP	Benzene	1.000	0.930	7.0	100	0.02
38 TMP	Cyclohexane	1.000	0.990	1.0	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	1.000	0.925	7.5	100	0.00
41 TMP	1,4-Dioxane	1.000	0.998	0.2	100	0.00
42 TMP	2,2,4-Trimethylpentane	1.000	1.006	-0.6	100	0.00
43 TMP	Methyl methacrylate	1.000	0.934	6.6	100	0.00
44 TMP	Heptane	1.000	1.021	-2.1	100	0.00
45 TMP	Bromodichloromethane	1.000	0.936	6.4	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:27:13 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	1.000	0.912	8.8	100	0.00
47	TMP cis-1,3-Dichloropropene	1.000	0.961	3.9	100	0.00
48	TMP 4-Methyl-2-pentanone	1.000	1.017	-1.7	100	0.00
49	TMP trans-1,3-Dichloropropene	1.000	0.935	6.5	100	0.02
50	TMP Toluene	1.000	1.008	-0.8	103	0.00
51	TMP 1,1,2-Trichloroethane	1.000	0.961	3.9	105	0.00
52	TMP 2-Hexanone	1.000	0.976	2.4	100	0.00
53	TMP Tetrachloroethene	1.000	0.970	3.0	100	0.00
54	TMP Dibromochloromethane	1.000	0.936	6.4	100	0.00
55	TMP 1,2-Dibromoethane (EDB)	1.000	0.925	7.5	98	0.00
56	I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57	TMP Chlorobenzene	1.000	0.957	4.3	100	0.00
58	TMP Ethylbenzene	1.000	0.925	7.5	100	0.00
59	TMP 1,1,2,2-Tetrachloroethane	1.000	0.929	7.1	100	0.00
60	TMP Nonane	1.000	0.973	2.7	100	0.00
61	TMP Isopropylbenzene	1.000	0.961	3.9	100	0.00
62	TMP 2-Chlorotoluene	1.000	0.982	1.8	100	0.00
63	TMP Propylbenzene	1.000	0.992	0.8	100	0.00
64	TMP 4-Ethyltoluene	1.000	0.959	4.1	100	0.00
65	TMP m,p-Xylene	2.000	1.895	5.2	100	0.00
66	TMP o-Xylene	1.000	0.942	5.8	100	0.00
67	TMP Styrene	1.000	0.953	4.7	100	0.00
68	TMP Bromoform	1.000	0.969	3.1	100	0.00
69	S 4-Bromofluorobenzene	10.000	10.011	-0.1	100	0.00
70	TMP Benzyl chloride	1.000	0.931	6.9	100	0.00
71	TMP 1,3,5-Trimethylbenzene	1.000	0.958	4.2	100	0.00
72	TMP 1,2,4-Trimethylbenzene	1.000	0.980	2.0	100	0.00
73	TMP 1,3-Dichlorobenzene	1.000	0.965	3.5	100	0.00
74	TMP 1,4-Dichlorobenzene	1.000	0.966	3.4	100	0.00
75	TMP 1,2-Dichlorobenzene	1.000	0.959	4.1	100	0.00
76	TMP 1,2,4-Trichlorobenzene	1.000	0.981	1.9	100	0.00
77	TMP Naphthalene	1.000	0.993	0.7	100	0.00
78	TMP Hexachlorobutadiene	1.000	0.940	6.0	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:27:13 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	1.710	1.456	14.9	100	0.04
3 TMP	Dichlorodifluoromethane	4.425	4.561	-3.1	100	0.00
4 TMP	Chloromethane	2.075	2.041	1.6	100	0.00
5 TMP	F-114	4.450	4.499	-1.1	100	0.04
6 TMP	Vinyl chloride	2.209	1.982	10.3	100	0.00
7 TMP	1,3-Butadiene	1.529	1.485	2.9	100	0.00
8 TMP	Butane	3.248	3.128	3.7	100	0.04
9 TMP	Bromomethane	1.540	1.410	8.4	100	0.00
10 TMP	Chloroethane	0.759	0.738	2.8	100	0.00
11 TMP	Vinyl bromide	1.785	1.928	-8.0	117	0.00
12 TMP	Ethanol	0.559	0.599	-7.2	92	0.00
13 TMP	Acrolein	0.726	0.670	7.7	104	0.00
14 TMP	Pentane	3.891	3.873	0.5	100	0.00
15 TMP	Trichlorofluoromethane	4.934	4.801	2.7	100	0.00
16 TMP	Acetone	0.880	0.970	-10.2	100	0.02
17 TMP	2-Propanol	3.556	3.430	3.5	100	0.00
18 TMP	1,1-Dichloroethene	1.648	1.544	6.3	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.626	1.525	6.2	100	0.00
20 TMP	Methylene chloride	1.750	2.041	-16.6	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.881	2.680	7.0	100	0.00
22 TMP	3-Chloropropene	2.910	2.854	1.9	100	0.00
23 TMP	CFC-113	3.396	3.329	2.0	100	0.00
24 TMP	Carbon disulfide	5.738	5.151	10.2	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	3.770	1.3	100	0.00
26 TMP	Vinyl acetate	2.562	2.598	-1.4	100	0.00
27 TMP	1,1-Dichloroethane	3.850	3.635	5.6	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.682	5.5	100	0.00
29 TMP	Hexane	2.959	2.879	2.7	100	0.00
30 TMP	Chloroform	4.366	4.042	7.4	100	0.00
31 TMP	Ethyl acetate	6.229	5.730	8.0	100	0.02
32 TMP	Tetrahydrofuran	2.703	2.598	3.9	100	0.00
33 TMP	2-Butanone (MEK)	0.712	0.702	1.4	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.128	4.8	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.033	6.2	100	0.00
36 TMP	Carbon tetrachloride	3.178	2.981	6.2	100	0.00
37 TMP	Benzene	6.123	5.693	7.0	100	0.02
38 TMP	Cyclohexane	1.669	1.653	1.0	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.618	0.572	7.4	100	0.00
41 TMP	1,4-Dioxane	0.270	0.269	0.4	100	0.00
42 TMP	2,2,4-Trimethylpentane	2.076	2.088	-0.6	100	0.00
43 TMP	Methyl methacrylate	0.567	0.530	6.5	100	0.00
44 TMP	Heptane	0.959	0.980	-2.2	100	0.00
45 TMP	Bromodichloromethane	0.953	0.892	6.4	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:27:13 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

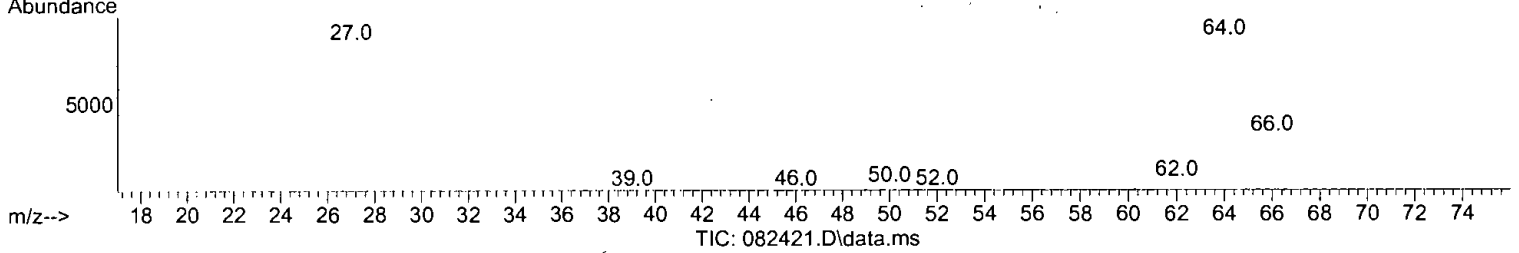
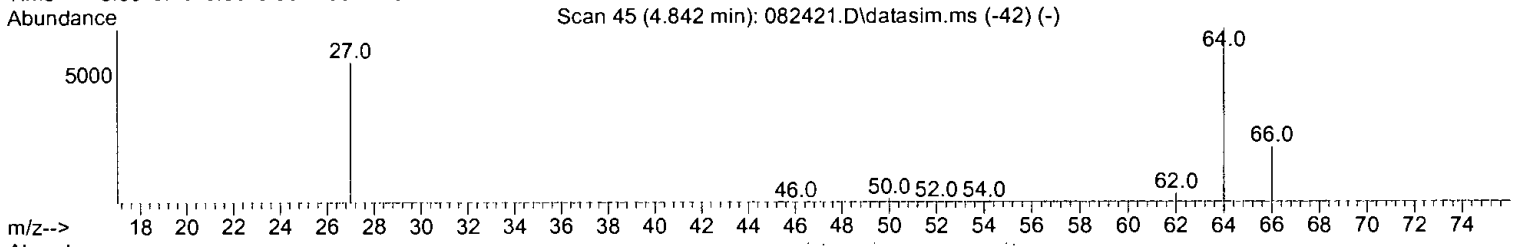
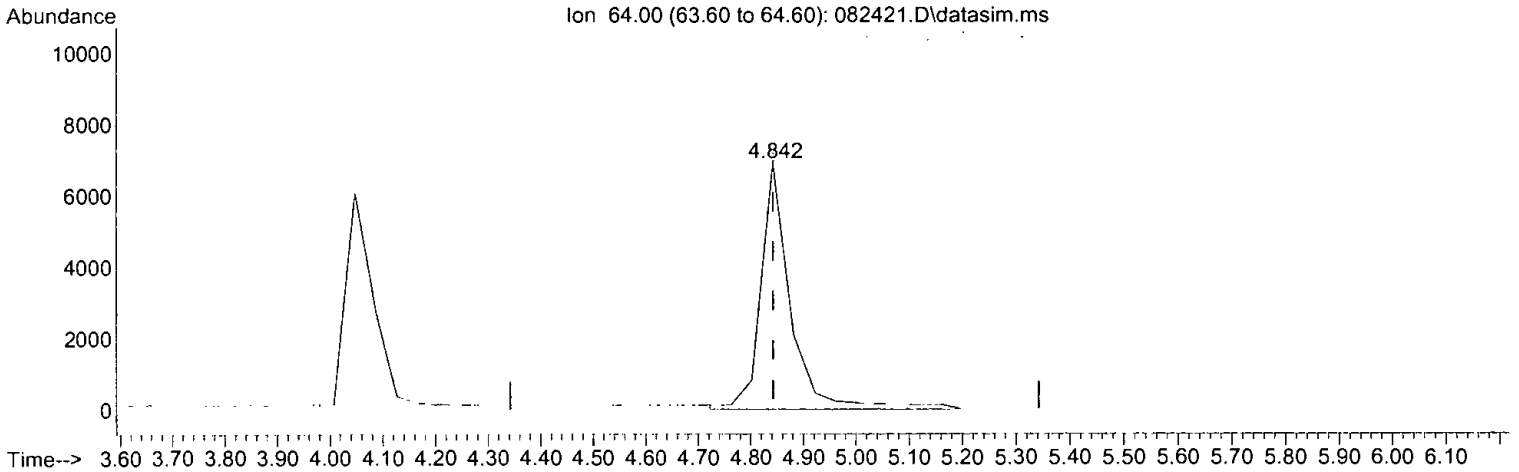
Compound	AvgRF	CCRF	%Dev	Area%	Dev (min)
46 TMP Trichloroethene	0.618	0.564	8.7	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.611	3.9	100	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.041	-2.5	100	0.00
49 TMP trans-1,3-Dichloropropene	0.540	0.505	6.5	100	0.02
50 TMP Toluene	0.749	0.755	-0.8	103	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.541	3.9	105	0.00
52 TMP 2-Hexanone	1.055	1.030	2.4	100	0.00
53 TMP Tetrachloroethene	0.381	0.370	2.9	100	0.00
54 TMP Dibromochloromethane	0.787	0.737	6.4	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.720	7.6	98	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	1.025	4.3	100	0.00
58 TMP Ethylbenzene	2.221	2.054	7.5	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.439	7.1	100	0.00
60 TMP Nonane	1.679	1.635	2.6	100	0.00
61 TMP Isopropylbenzene	1.948	1.871	4.0	100	0.00
62 TMP 2-Chlorotoluene	0.463	0.455	1.7	100	0.00
63 TMP Propylbenzene	4.322	4.286	0.8	100	0.00
64 TMP 4-Ethyltoluene	2.027	1.944	4.1	100	0.00
65 TMP m,p-Xylene	0.713	0.676	5.2	100	0.00
66 TMP o-Xylene	0.701	0.660	5.8	100	0.00
67 TMP Styrene	1.032	0.984	4.7	100	0.00
68 TMP Bromoform	0.801	0.776	3.1	100	0.00
69 S 4-Bromofluorobenzene	0.906	0.907	-0.1	100	0.00
70 TMP Benzyl chloride	0.751	0.699	6.9	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	1.556	4.2	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.679	1.645	2.0	100	0.00
73 TMP 1,3-Dichlorobenzene	1.154	1.114	3.5	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.046	9.2	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.046	4.1	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.899	5.4	100	0.00
77 TMP Naphthalene	2.538	2.301	9.3	100	0.00
78 TMP Hexachlorobutadiene	0.852	0.692	18.8	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)  
 4.842min (-0.000) 2.991 ppbv

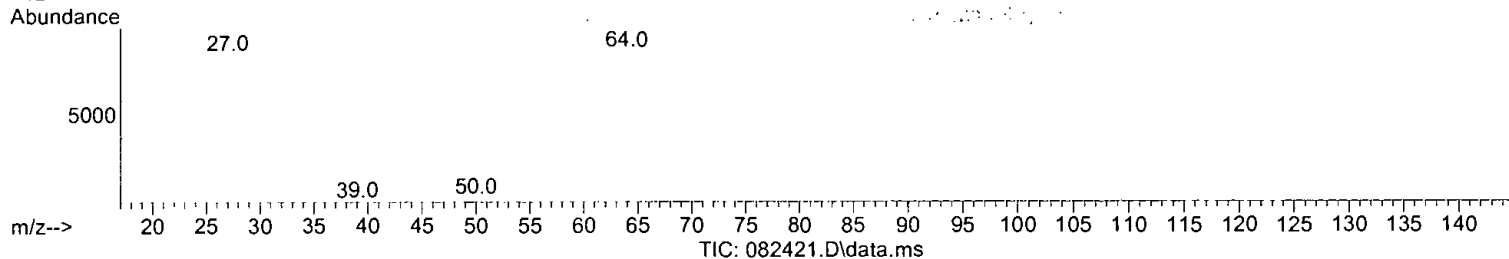
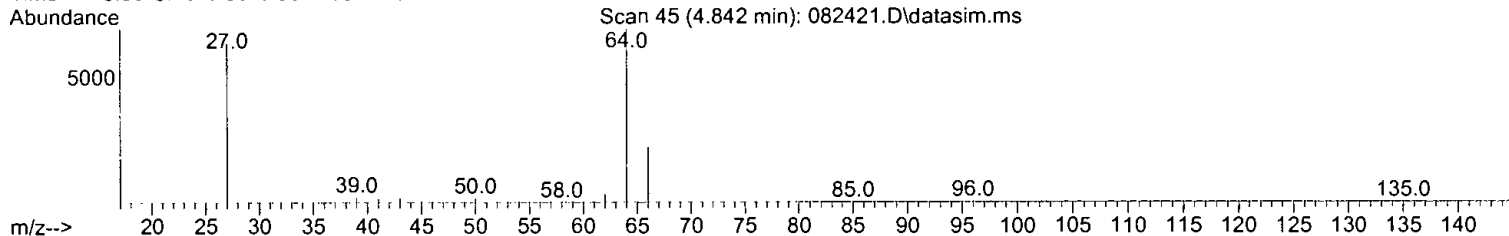
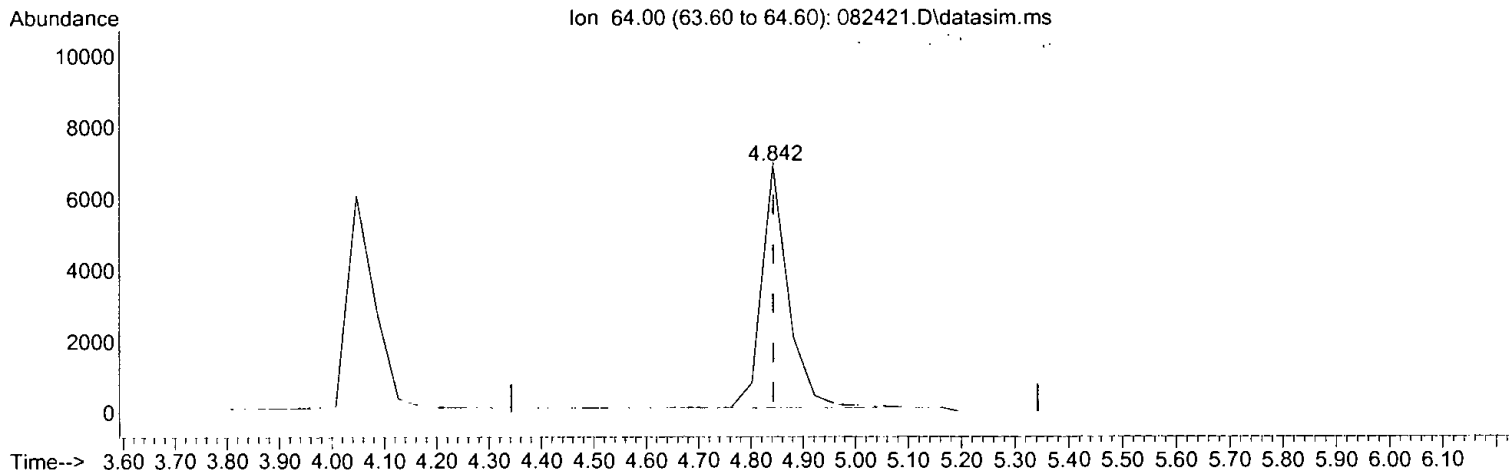
response	26128	
Ion	Expt	Act%
64.00	100.00	100.00
66.00	31.80	32.14
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

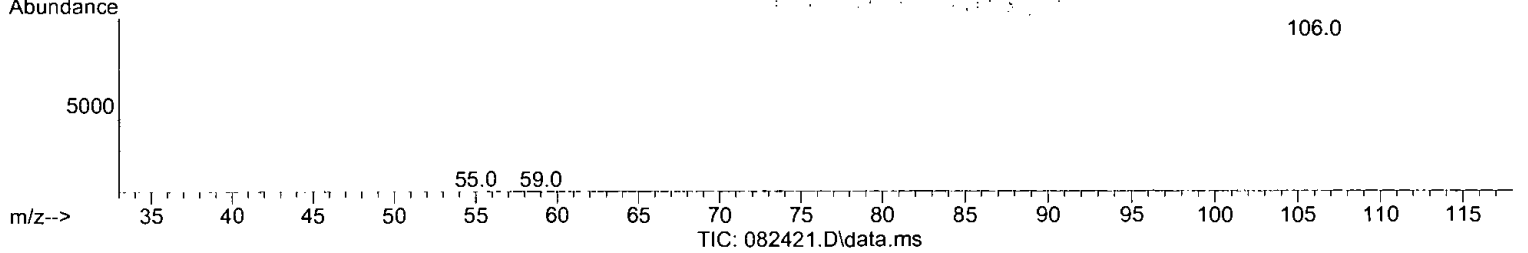
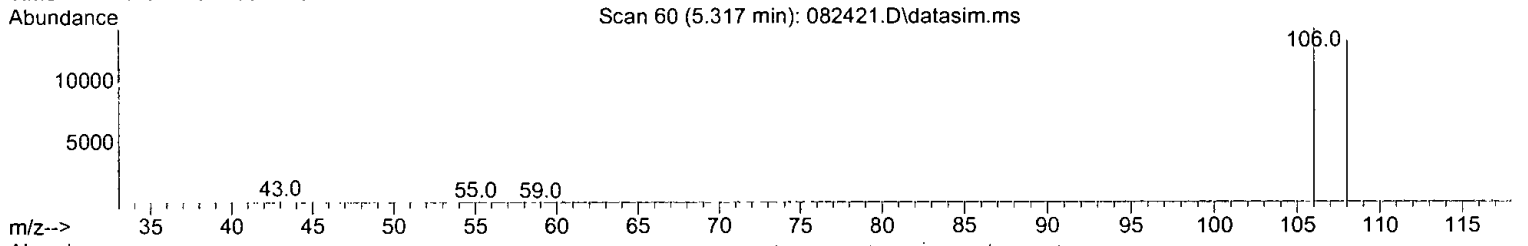
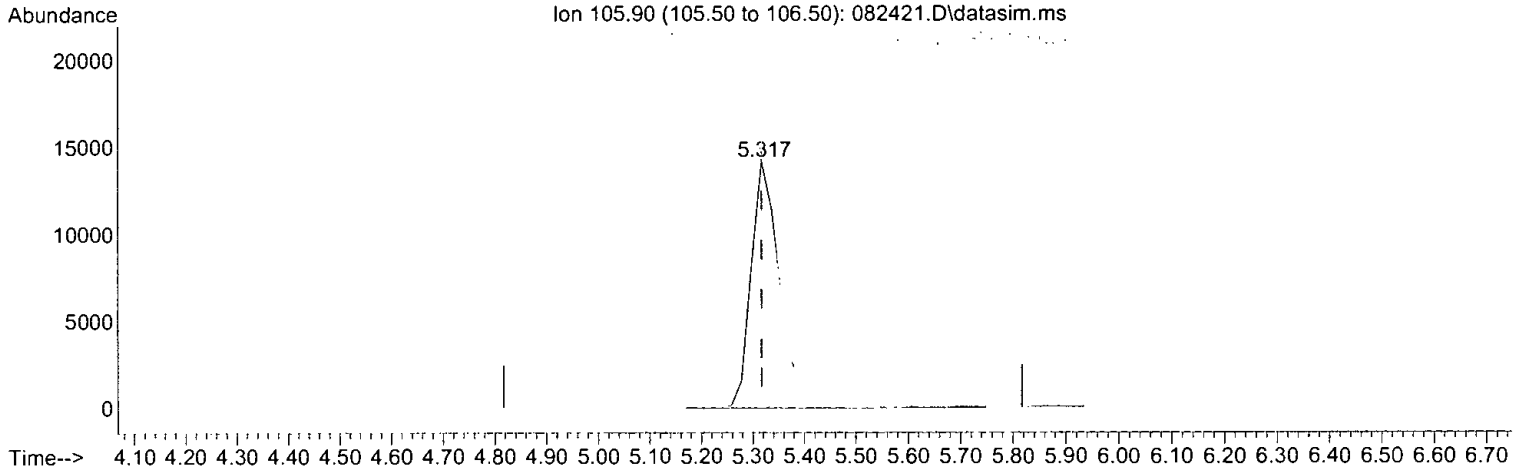
4.842min (-0.000) 2.740 ppbv m

response	23933		
Ion	Exp%	Act%	
64.00	100.00	100.00	
66.00	31.80	32.14	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (-0.000) 2.929 ppbv

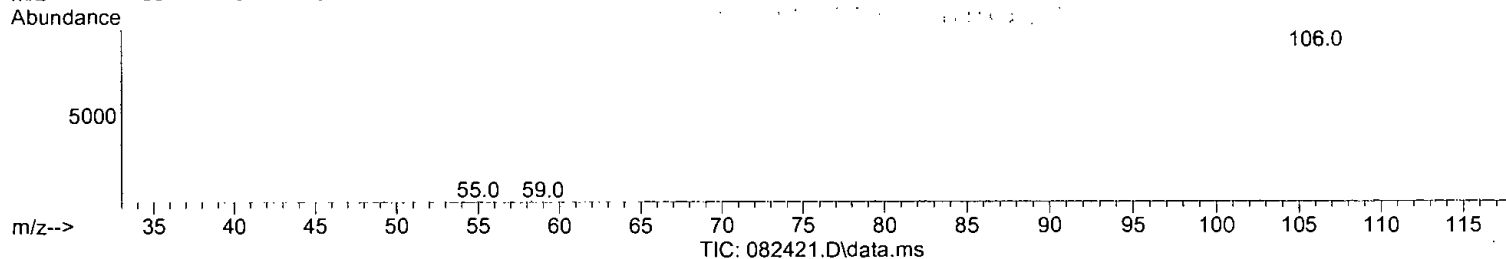
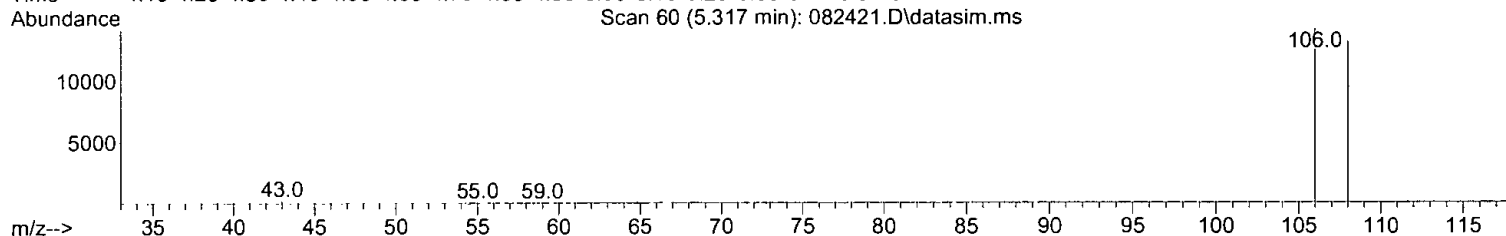
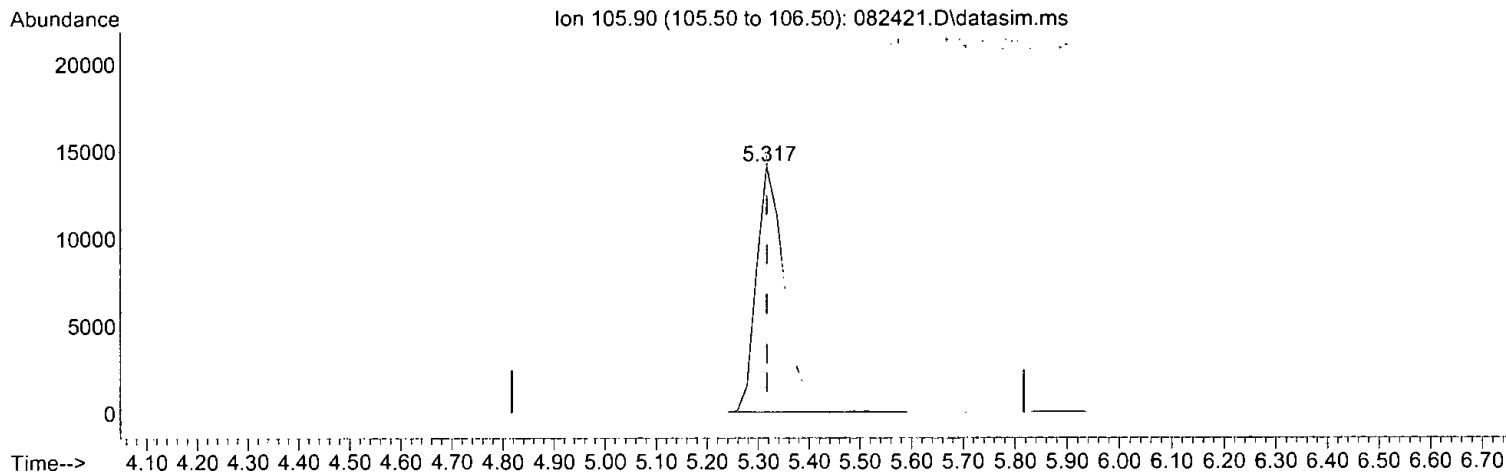
response	60167		
Ion	Exp%	Act%	
105.90	100.00	100.00	
107.90	94.10	94.09	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (-0.000) 2.640 ppbv m

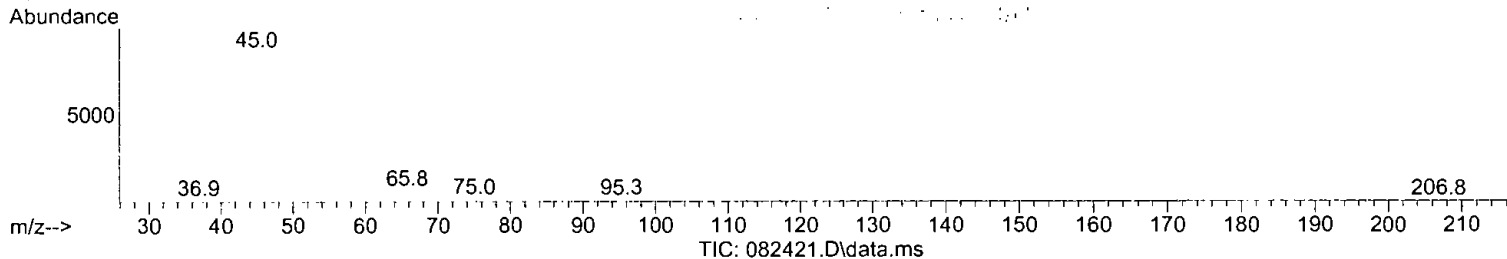
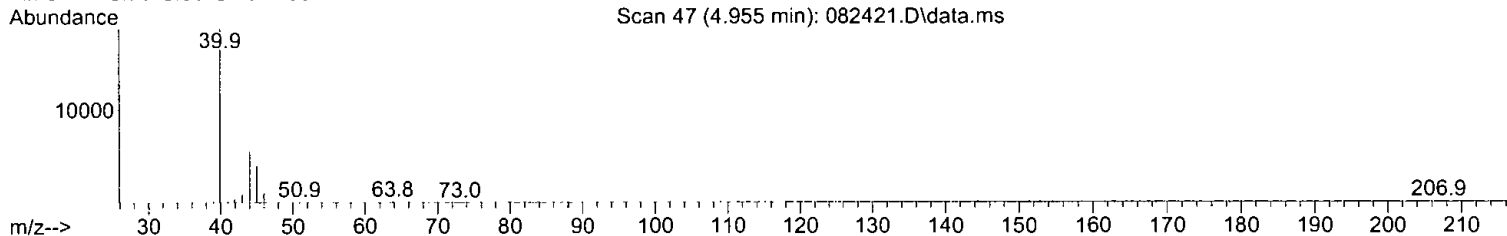
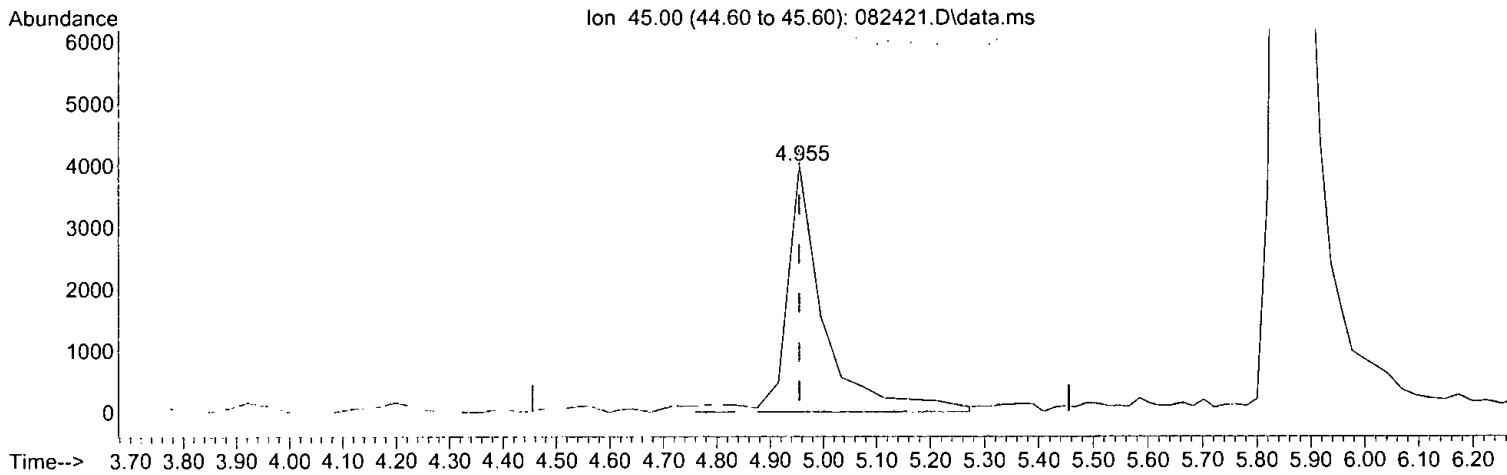
response	54225		
Ion	Exp%	Act%	
105.90	100.00	100.00	
107.90	94.10	104.40	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(12) Ethanol (TMP)

4.955min (+ 0.000) 3.034 ppbv

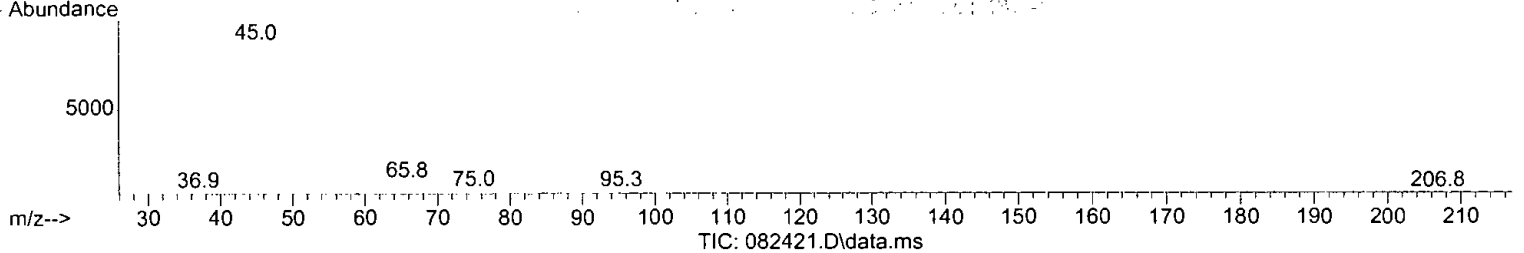
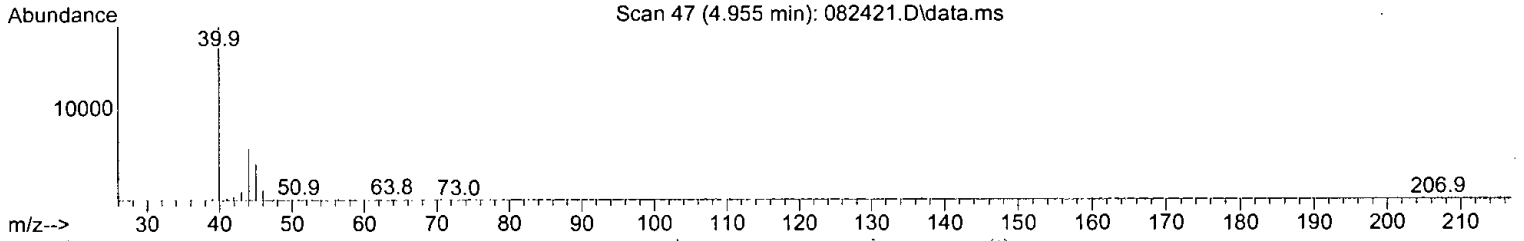
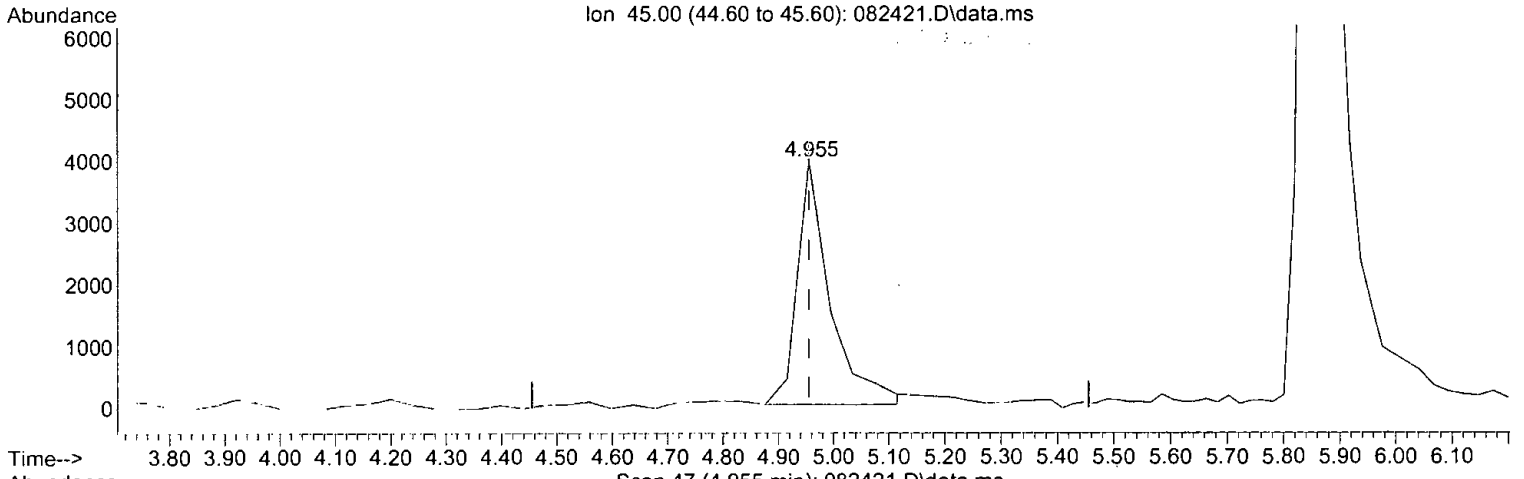
response	19530	
Ion	Exp%	Act%
45.00	100.00	100.00
45.90	25.50	28.89
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(12) Ethanol (TMP)

4.955min (+ 0.000) 2.528 ppbv m

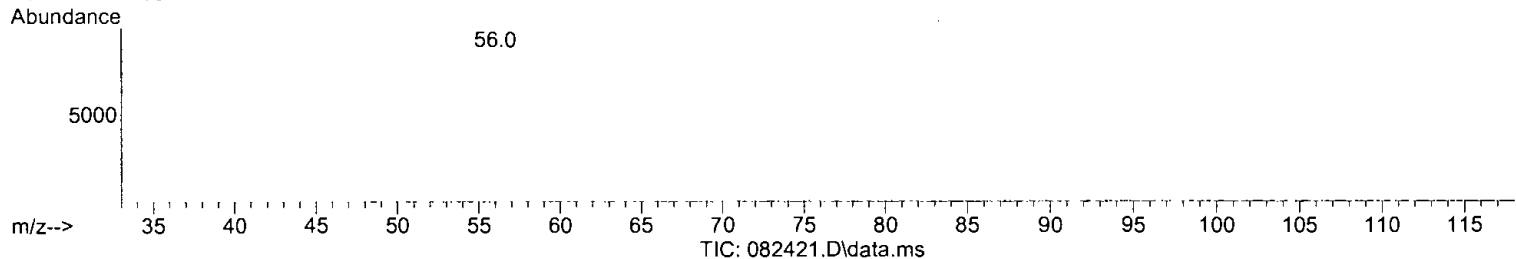
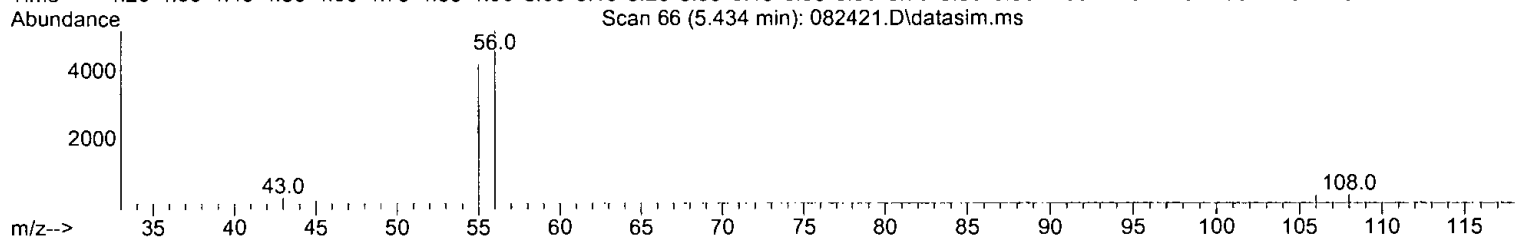
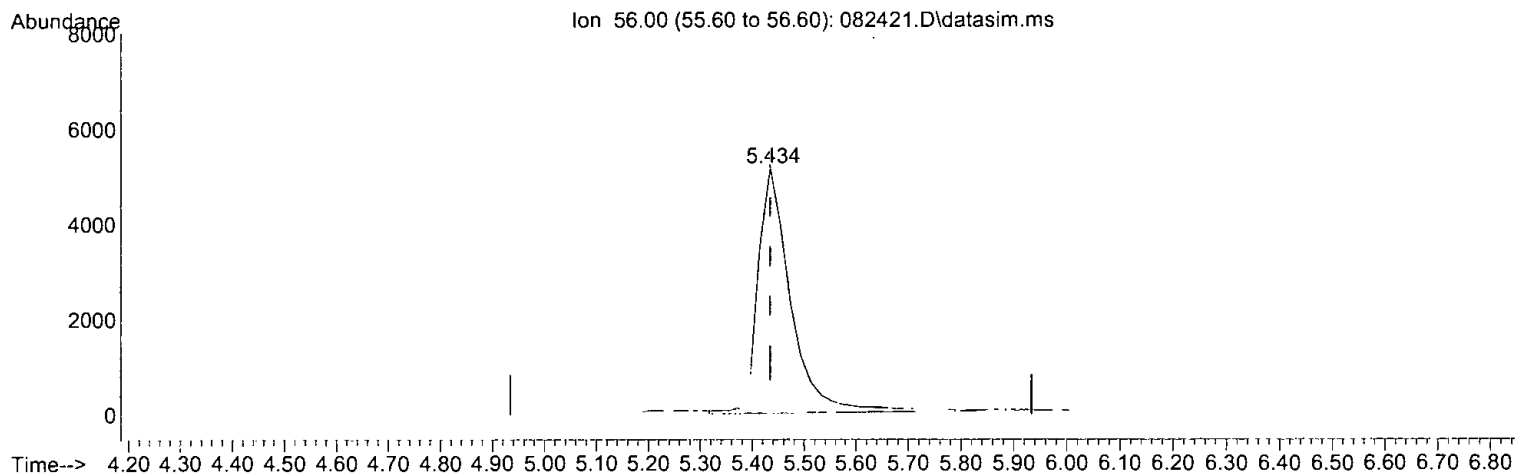
response	16272
Ion	Exp% Act%
45.00	100.00 100.00
45.90	25.50 34.67
0.00	0.00 0.00
0.00	0.00 0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.434min (+ 0.000) 2.704 ppbv

response 22596

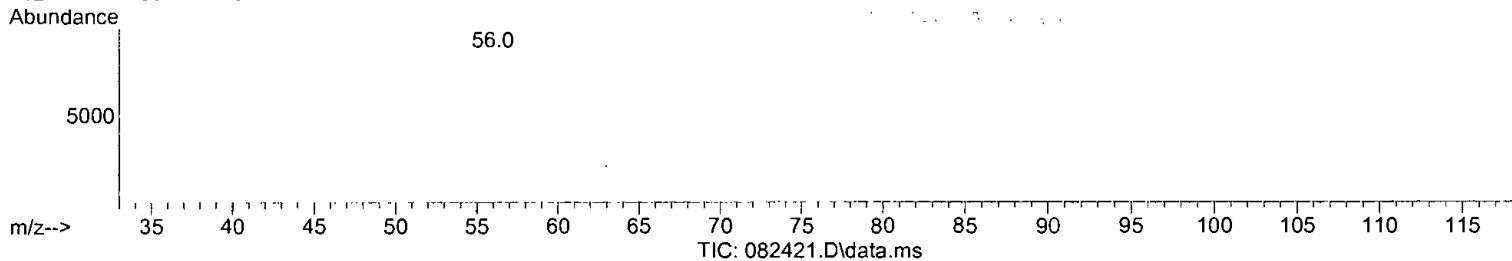
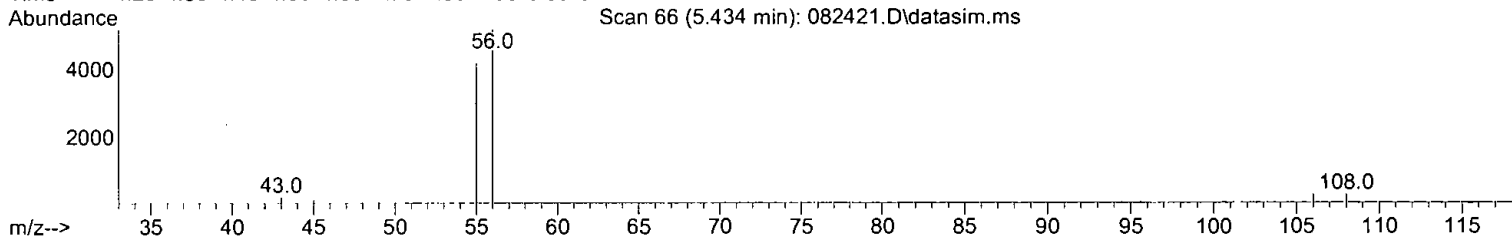
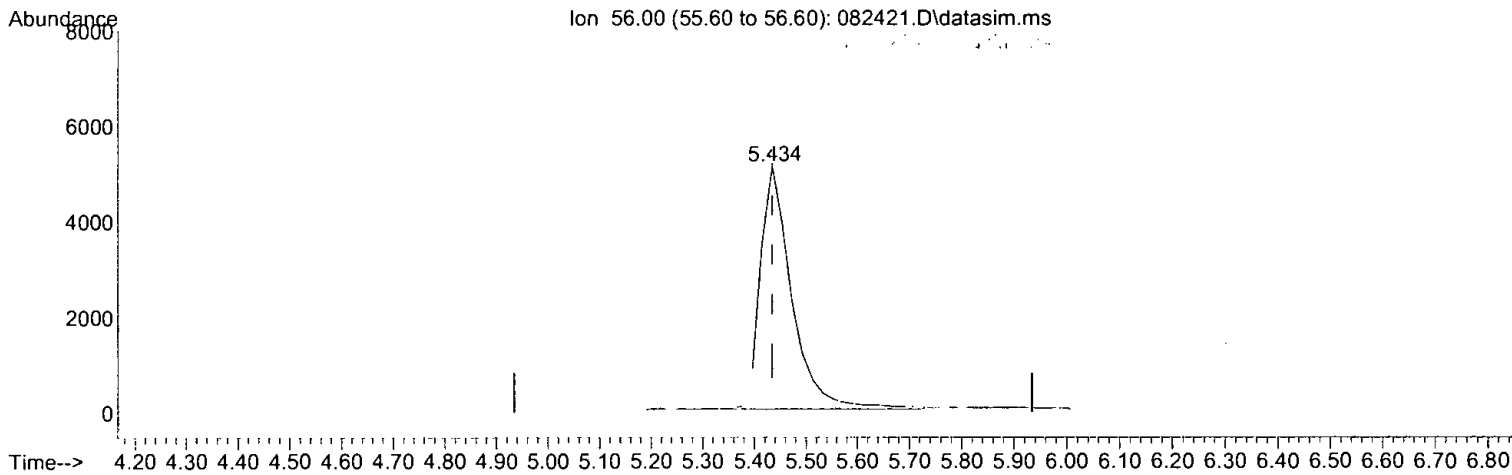
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	81.20
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.434min (+ 0.000) 2.581 ppbv m

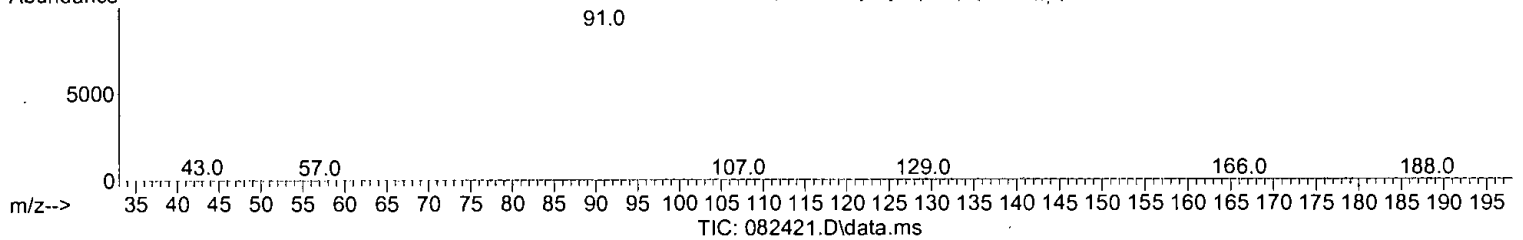
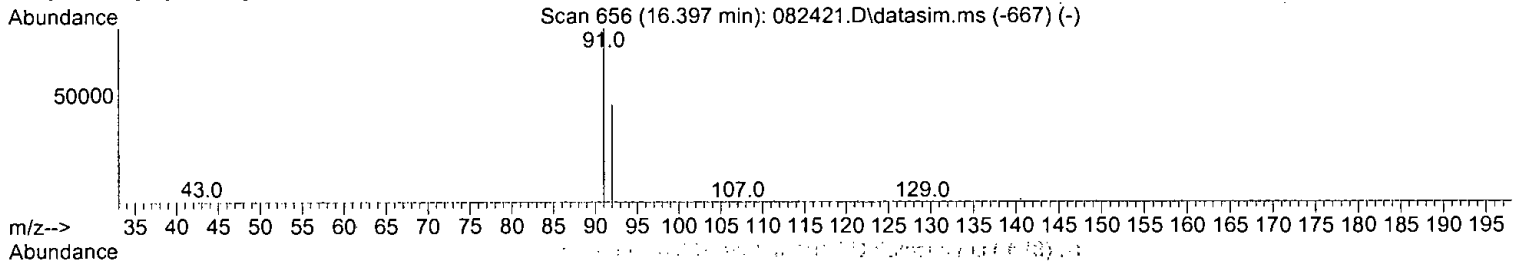
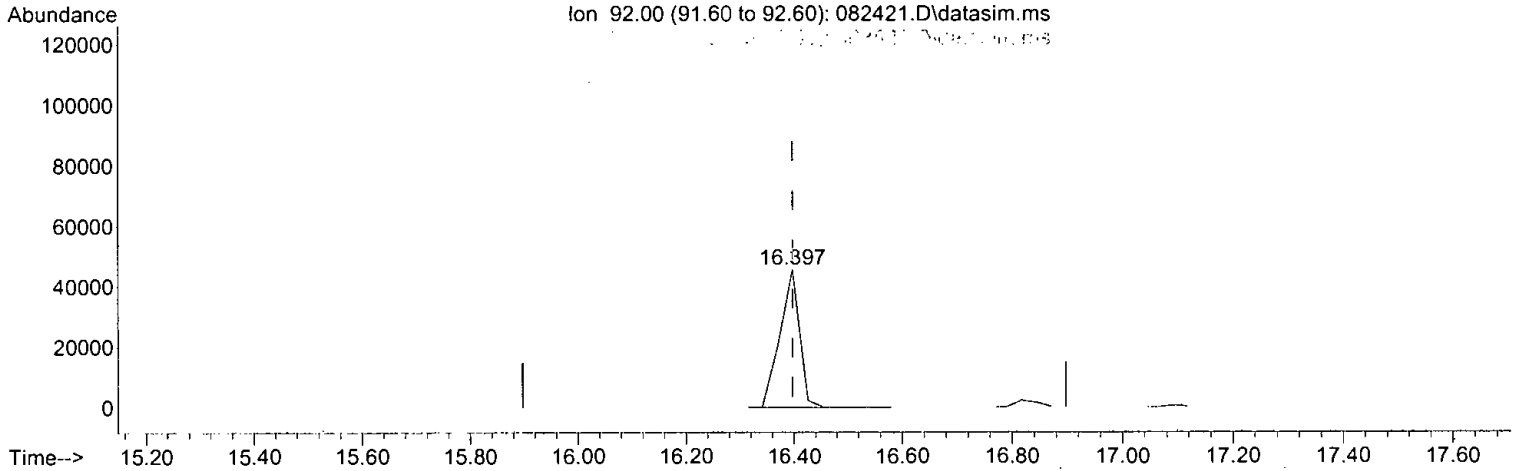
response	21568		
Ion	Exp%	Act%	
56.00	100.00	100.00	
54.90	81.00	85.07	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(50) Toluene (TMP)

16.397min (+ 0.000) 2.694 ppbv

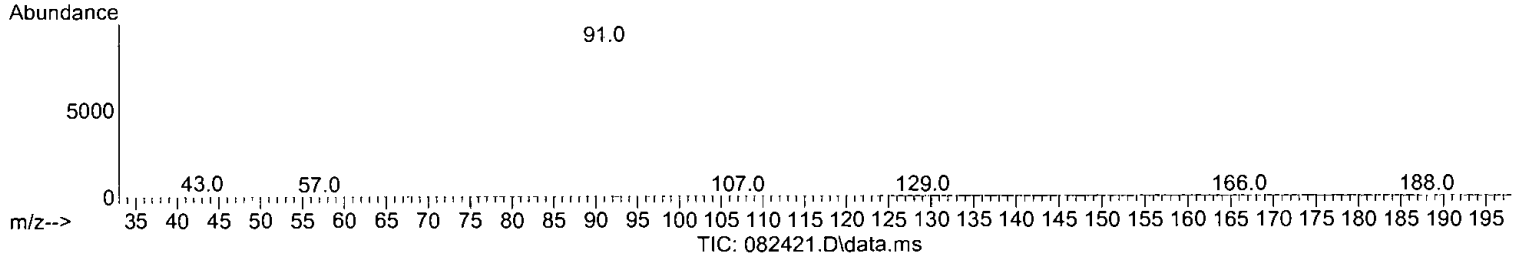
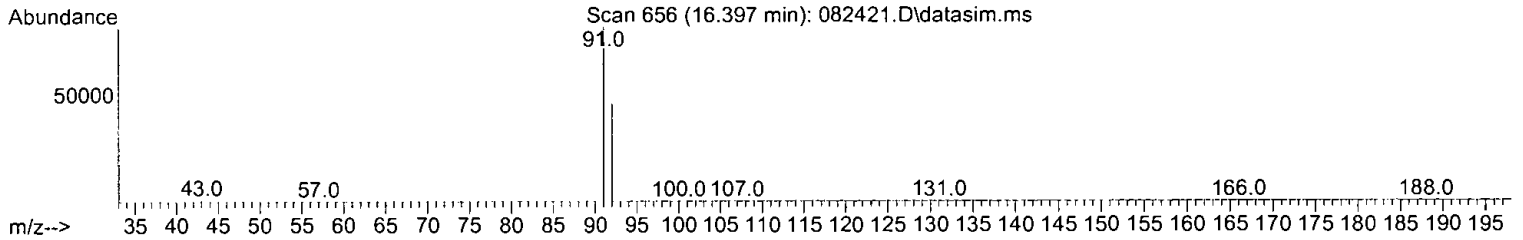
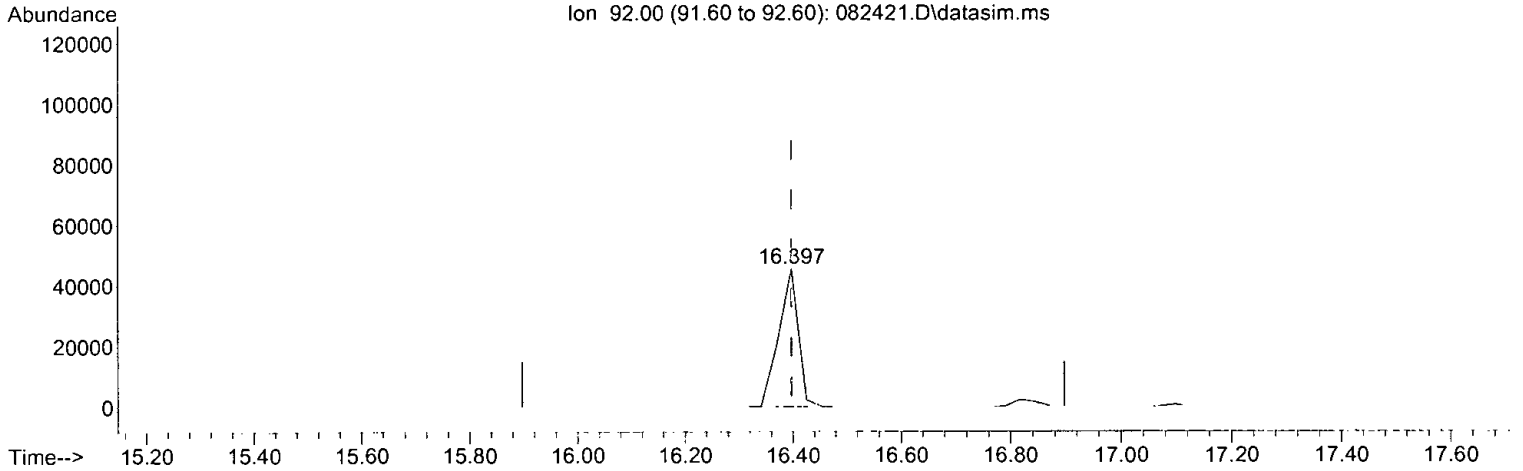
response 113472

Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	178.48
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(50) Toluene (TMP)

16.397min (+ 0.000) 2.715 ppbv m

response 114332

Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	178.48
0.00	0.00	0.00
0.00	0.00	0.00

*AS 8/25/21*

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:29:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	115065	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	562076	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	489363	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	446215	10.065	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	100.60%
Target Compounds						
						Qvalue
2) Propene	3.41	41	54489	2.770	ppbv	98
3) Dichlorodifluoromethane	3.52	85	140001	2.750	ppbv	100
4) Chloromethane	3.77	50	62271	2.608	ppbv	82
5) F-114	3.88	85	138699	2.709	ppbv	85
6) Vinyl chloride	4.05	62	68764	2.706	ppbv	97
7) 1,3-Butadiene	4.25	54	47542	2.702	ppbv	# 90
8) Butane	4.32	43	96976	2.595	ppbv	99
9) Bromomethane	4.64	94	52475	2.961	ppbv	97
10) Chloroethane	4.84	64	23933m	2.740	ppbv	
11) Vinyl bromide	5.32	106	54225m	2.640	ppbv	
12) Ethanol	4.96	45	16272m	2.528	ppbv	
13) Acrolein	5.43	56	21568m	2.581	ppbv	
14) Pentane	6.33	43	124571	2.782	ppbv	99
15) Trichlorofluoromethane	5.88	101	156872	2.763	ppbv	99
16) Acetone	5.59	58	26336	2.601	ppbv	# 85
17) 2-Propanol	5.86	45	108369	2.649	ppbv	# 100
18) 1,1-Dichloroethene	6.73	96	50991	2.689	ppbv	90
19) trans-1,2-Dichloroethene	8.18	96	50412	2.694	ppbv	90
20) Methylene chloride	6.86	84	52760	2.620	ppbv	85
21) t-Butyl alcohol (TBA)	6.65	59	88967	2.683	ppbv	# 37
22) 3-Chloropropene	7.01	41	91538	2.734	ppbv	90
23) CFC-113	7.23	101	106039	2.714	ppbv	86
24) Carbon disulfide	7.33	76	186375	2.823	ppbv	96
25) Methyl t-butyl ether (...)	8.51	73	116764	2.657	ppbv	95
26) Vinyl acetate	8.62	43	76892	2.608	ppbv	97
27) 1,1-Dichloroethane	8.44	63	120388	2.718	ppbv	96
28) cis-1,2-Dichloroethene	9.73	96	55150	2.692	ppbv	84
29) Hexane	10.11	57	93175	2.737	ppbv	90
30) Chloroform	10.19	83	132955	2.647	ppbv	98
31) Ethyl acetate	10.01	43	198481	2.769	ppbv	# 99
32) Tetrahydrofuran	10.84	42	83162	2.673	ppbv	89
33) 2-Butanone (MEK)	8.99	72	22555	2.754	ppbv	# 74
34) 1,2-Dichloroethane (EDC)	11.44	62	101195	2.677	ppbv	96
35) 1,1,1-Trichloroethane	11.94	97	100730	2.708	ppbv	87
36) Carbon tetrachloride	12.95	117	99567	2.723	ppbv	99
37) Benzene	12.70	78	188309	2.673	ppbv	95
38) Cyclohexane	13.16	84	51299	2.671	ppbv	# 76
40) 1,2-Dichloropropane	13.90	63	90422	2.603	ppbv	100
41) 1,4-Dioxane	14.17	88	40379	2.664	ppbv	89
42) 2,2,4-Trimethylpentane	14.31	57	319221	2.736	ppbv	# 93

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:29:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

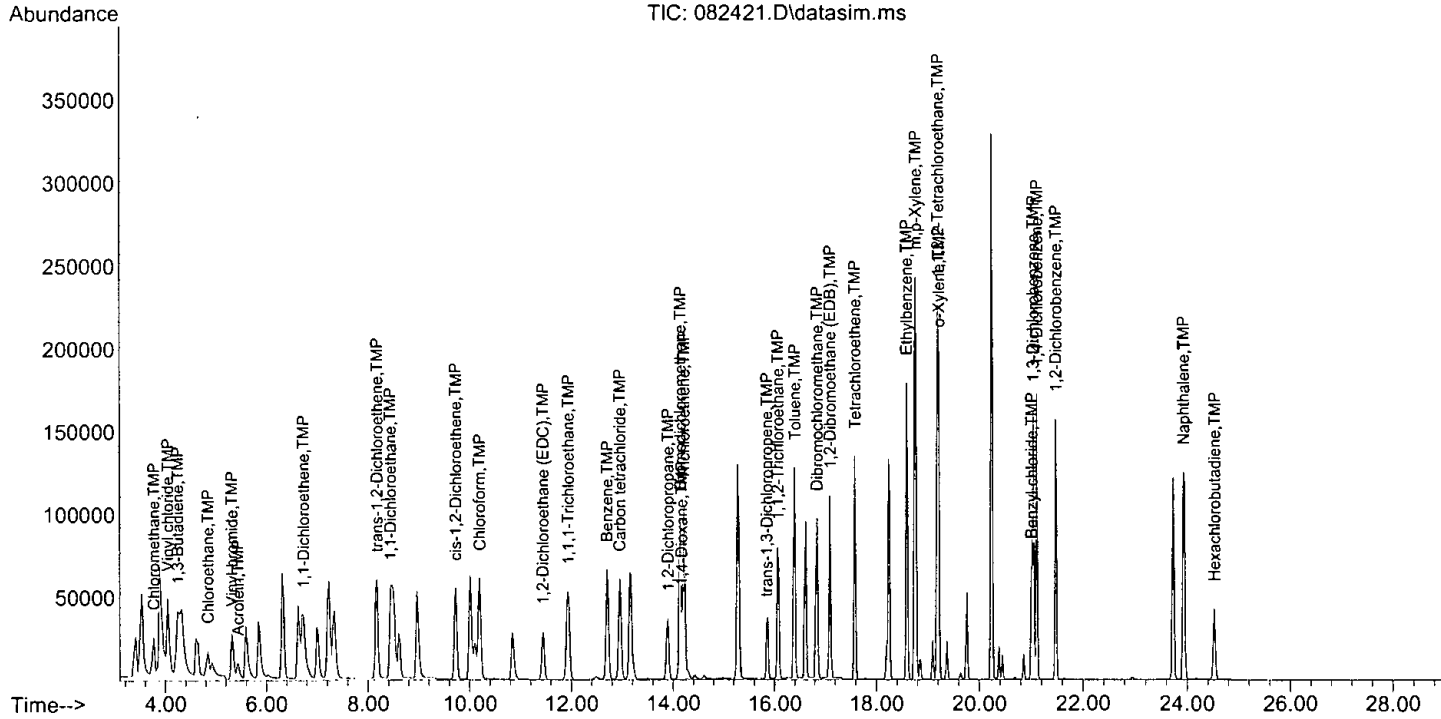
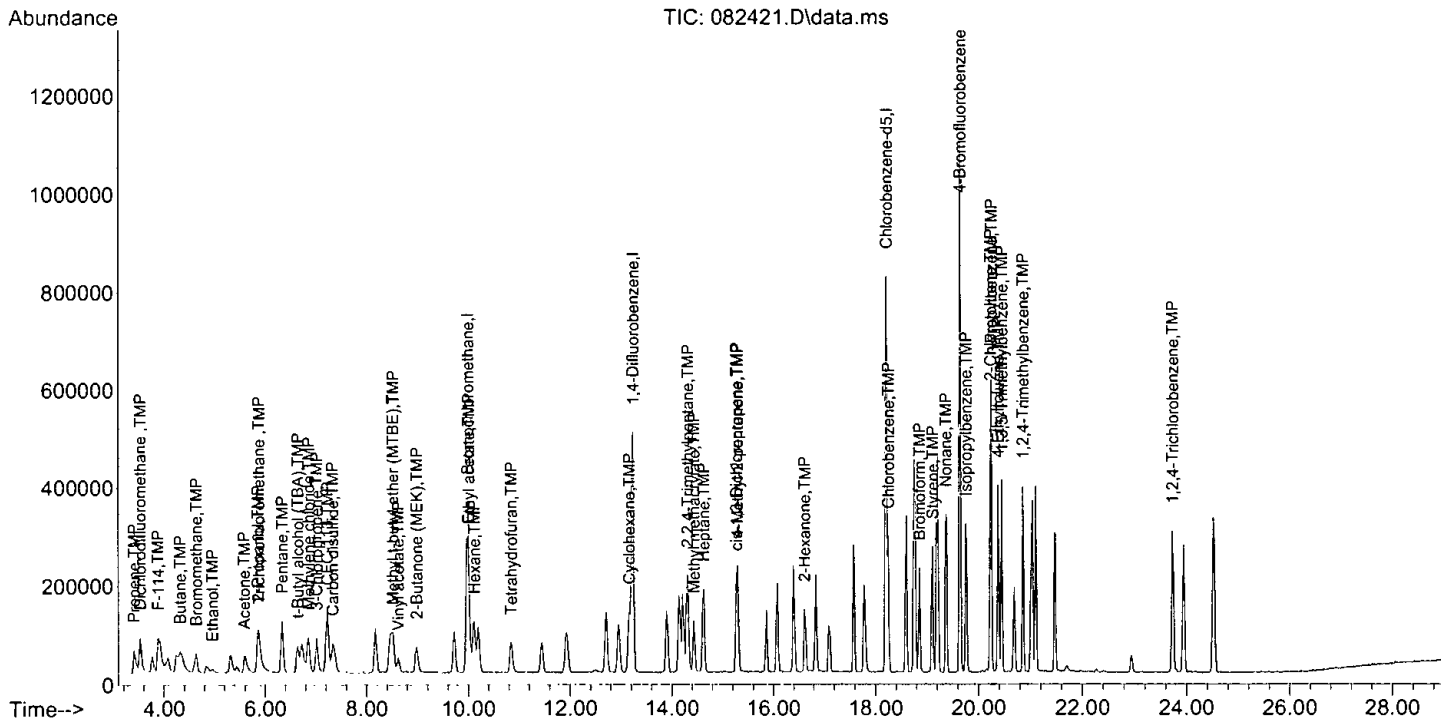
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
43) Methyl methacrylate	14.43	41	87102	2.734	ppbv	#	87
44) Heptane	14.63	43	144178	2.675	ppbv		95
45) Bromodichloromethane	14.14	83	141240	2.637	ppbv		92
46) Trichloroethene	14.22	95	88154	2.537	ppbv		87
47) cis-1,3-Dichloropropene	15.27	75	94828	2.653	ppbv		94
48) 4-Methyl-2-pentanone	15.29	100	6591	2.896	ppbv	#	1
49) trans-1,3-Dichloropropene	15.85	75	82151	2.705	ppbv		76
50) Toluene	16.40	92	114332m	2.715	ppbv		
51) 1,1,2-Trichloroethane	16.06	83	83656	2.645	ppbv		99
52) 2-Hexanone	16.62	43	156527	2.640	ppbv		93
53) Tetrachloroethene	17.58	164	58280	2.722	ppbv		83
54) Dibromochloromethane	16.85	129	117608	2.658	ppbv		89
55) 1,2-Dibromoethane (EDB)	17.10	107	112032	2.558	ppbv		89
57) Chlorobenzene	18.25	112	140832	2.687	ppbv		87
58) Ethylbenzene	18.59	91	281367	2.589	ppbv		97
59) 1,1,2,2-Tetrachloroethane	19.19	83	196929	2.597	ppbv		94
60) Nonane	19.36	43	227392	2.767	ppbv		91
61) Isopropylbenzene	19.75	105	258662	2.714	ppbv		96
62) 2-Chlorotoluene	20.23	126	62130	2.742	ppbv		70
63) Propylbenzene	20.25	91	575591	2.722	ppbv		95
64) 4-Ethyltoluene	20.38	105	272419	2.746	ppbv		97
65) m,p-Xylene	18.76	106	185443	5.314	ppbv		91
66) o-Xylene	19.21	106	91556	2.669	ppbv		90
67) Styrene	19.11	104	136766	2.708	ppbv		94
68) Bromoform	18.85	173	106531	2.718	ppbv		99
70) Benzyl chloride	21.01	91	97269	2.647	ppbv		92
71) 1,3,5-Trimethylbenzene	20.45	105	219915	2.765	ppbv		93
72) 1,2,4-Trimethylbenzene	20.86	105	225539	2.745	ppbv		95
73) 1,3-Dichlorobenzene	21.04	146	150164	2.660	ppbv		92
74) 1,4-Dichlorobenzene	21.11	146	141101	2.683	ppbv		93
75) 1,2-Dichlorobenzene	21.47	146	140282	2.628	ppbv		93
76) 1,2,4-Trichlorobenzene	23.73	180	115848	2.673	ppbv		96
77) Naphthalene	23.93	128	290349	2.591	ppbv		98
78) Hexachlorobutadiene	24.52	225	93072	2.658	ppbv		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:29:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:29:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	2.500	2.770	-10.8	100	0.00
3 TMP	Dichlorodifluoromethane	2.500	2.750	-10.0	100	0.00
4 TMP	Chloromethane	2.500	2.608	-4.3	100	0.00
5 TMP	F-114	2.500	2.709	-8.4	100	0.00
6 TMP	Vinyl chloride	2.500	2.706	-8.2	100	0.00
7 TMP	1,3-Butadiene	2.500	2.702	-8.1	100	0.00
8 TMP	Butane	2.500	2.595	-3.8	100	0.00
9 TMP	Bromomethane	2.500	2.961	-18.4	100	0.00
10 TMP	Chloroethane	2.500	2.740	-9.6	99	0.00
11 TMP	Vinyl bromide	2.500	2.640	-5.6	100	0.00
12 TMP	Ethanol	2.500	2.528	-1.1	83	0.00
13 TMP	Acrolein	2.500	2.581	-3.2	95	0.00
14 TMP	Pentane	2.500	2.782	-11.3	100	0.00
15 TMP	Trichlorofluoromethane	2.500	2.763	-10.5	100	0.00
16 TMP	Acetone	2.500	2.601	-4.0	100	0.00
17 TMP	2-Propanol	2.500	2.649	-6.0	100	0.00
18 TMP	1,1-Dichloroethene	2.500	2.689	-7.6	100	0.00
19 TMP	trans-1,2-Dichloroethene	2.500	2.694	-7.8	100	0.00
20 TMP	Methylene chloride	2.500	2.620	-4.8	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.500	2.683	-7.3	100	0.00
22 TMP	3-Chloropropene	2.500	2.734	-9.4	100	0.00
23 TMP	CFC-113	2.500	2.714	-8.6	100	0.00
24 TMP	Carbon disulfide	2.500	2.823	-12.9	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	2.500	2.657	-6.3	100	0.00
26 TMP	Vinyl acetate	2.500	2.608	-4.3	100	0.00
27 TMP	1,1-Dichloroethane	2.500	2.718	-8.7	100	0.00
28 TMP	cis-1,2-Dichloroethene	2.500	2.692	-7.7	100	0.00
29 TMP	Hexane	2.500	2.737	-9.5	100	0.00
30 TMP	Chloroform	2.500	2.647	-5.9	100	0.00
31 TMP	Ethyl acetate	2.500	2.769	-10.8	100	0.00
32 TMP	Tetrahydrofuran	2.500	2.673	-6.9	100	0.00
33 TMP	2-Butanone (MEK)	2.500	2.754	-10.2	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	2.500	2.677	-7.1	100	0.00
35 TMP	1,1,1-Trichloroethane	2.500	2.708	-8.3	100	0.00
36 TMP	Carbon tetrachloride	2.500	2.723	-8.9	100	0.00
37 TMP	Benzene	2.500	2.673	-6.9	100	0.00
38 TMP	Cyclohexane	2.500	2.671	-6.8	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	2.500	2.603	-4.1	100	0.00
41 TMP	1,4-Dioxane	2.500	2.664	-6.6	100	0.00
42 TMP	2,2,4-Trimethylpentane	2.500	2.736	-9.4	100	0.00
43 TMP	Methyl methacrylate	2.500	2.734	-9.4	100	0.00
44 TMP	Heptane	2.500	2.675	-7.0	100	0.00
45 TMP	Bromodichloromethane	2.500	2.637	-5.5	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:29:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	2.500	2.537	-1.5	100	0.00
47 TMP cis-1,3-Dichloropropene	2.500	2.653	-6.1	100	0.00
48 TMP 4-Methyl-2-pentanone	2.500	2.896	-15.8	100	0.00
49 TMP trans-1,3-Dichloropropene	2.500	2.705	-8.2	100	0.00
50 TMP Toluene	2.500	2.715	-8.6	101	0.00
51 TMP 1,1,2-Trichloroethane	2.500	2.645	-5.8	100	0.00
52 TMP 2-Hexanone	2.500	2.640	-5.6	100	0.00
53 TMP Tetrachloroethene	2.500	2.722	-8.9	100	0.00
54 TMP Dibromochloromethane	2.500	2.658	-6.3	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	2.500	2.558	-2.3	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	2.500	2.687	-7.5	100	0.00
58 TMP Ethylbenzene	2.500	2.589	-3.6	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	2.500	2.597	-3.9	100	0.00
60 TMP Nonane	2.500	2.767	-10.7	100	0.00
61 TMP Isopropylbenzene	2.500	2.714	-8.6	100	0.00
62 TMP 2-Chlorotoluene	2.500	2.742	-9.7	100	0.00
63 TMP Propylbenzene	2.500	2.722	-8.9	100	0.00
64 TMP 4-Ethyltoluene	2.500	2.746	-9.8	100	0.00
65 TMP m,p-Xylene	5.000	5.314	-6.3	100	0.00
66 TMP o-Xylene	2.500	2.669	-6.8	100	0.00
67 TMP Styrene	2.500	2.708	-8.3	100	0.00
68 TMP Bromoform	2.500	2.718	-8.7	100	0.00
69 S 4-Bromofluorobenzene	10.000	10.065	-0.6	100	0.00
70 TMP Benzyl chloride	2.500	2.647	-5.9	100	0.00
71 TMP 1,3,5-Trimethylbenzene	2.500	2.765	-10.6	100	0.00
72 TMP 1,2,4-Trimethylbenzene	2.500	2.745	-9.8	100	0.00
73 TMP 1,3-Dichlorobenzene	2.500	2.660	-6.4	100	0.00
74 TMP 1,4-Dichlorobenzene	2.500	2.683	-7.3	100	0.00
75 TMP 1,2-Dichlorobenzene	2.500	2.628	-5.1	100	0.00
76 TMP 1,2,4-Trichlorobenzene	2.500	2.673	-6.9	100	0.00
77 TMP Naphthalene	2.500	2.591	-3.6	100	0.00
78 TMP Hexachlorobutadiene	2.500	2.658	-6.3	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:29:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	1.710	1.894	-10.8	100	0.00
3 TMP	Dichlorodifluoromethane	4.425	4.867	-10.0	100	0.00
4 TMP	Chloromethane	2.075	2.165	-4.3	100	0.00
5 TMP	F-114	4.450	4.822	-8.4	100	0.00
6 TMP	Vinyl chloride	2.209	2.390	-8.2	100	0.00
7 TMP	1,3-Butadiene	1.529	1.653	-8.1	100	0.00
8 TMP	Butane	3.248	3.371	-3.8	100	0.00
9 TMP	Bromomethane	1.540	1.824	-18.4	100	0.00
10 TMP	Chloroethane	0.759	0.832	-9.6	99	0.00
11 TMP	Vinyl bromide	1.785	1.885	-5.6	100	0.00
12 TMP	Ethanol	0.559	0.566	-1.3	83	0.00
13 TMP	Acrolein	0.726	0.750	-3.3	95	0.00
14 TMP	Pentane	3.891	4.330	-11.3	100	0.00
15 TMP	Trichlorofluoromethane	4.934	5.453	-10.5	100	0.00
16 TMP	Acetone	0.880	0.916	-4.1	100	0.00
17 TMP	2-Propanol	3.556	3.767	-5.9	100	0.00
18 TMP	1,1-Dichloroethene	1.648	1.773	-7.6	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.626	1.752	-7.7	100	0.00
20 TMP	Methylene chloride	1.750	1.834	-4.8	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.881	3.093	-7.4	100	0.00
22 TMP	3-Chloropropene	2.910	3.182	-9.3	100	0.00
23 TMP	CFC-113	3.396	3.686	-8.5	100	0.00
24 TMP	Carbon disulfide	5.738	6.479	-12.9	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	4.059	-6.3	100	0.00
26 TMP	Vinyl acetate	2.562	2.673	-4.3	100	0.00
27 TMP	1,1-Dichloroethane	3.850	4.185	-8.7	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.917	-7.7	100	0.00
29 TMP	Hexane	2.959	3.239	-9.5	100	0.00
30 TMP	Chloroform	4.366	4.622	-5.9	100	0.00
31 TMP	Ethyl acetate	6.229	6.900	-10.8	100	0.00
32 TMP	Tetrahydrofuran	2.703	2.891	-7.0	100	0.00
33 TMP	2-Butanone (MEK)	0.712	0.784	-10.1	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.518	-7.1	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.502	-8.4	100	0.00
36 TMP	Carbon tetrachloride	3.178	3.461	-8.9	100	0.00
37 TMP	Benzene	6.123	6.546	-6.9	100	0.00
38 TMP	Cyclohexane	1.669	1.783	-6.8	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.618	0.643	-4.0	100	0.00
41 TMP	1,4-Dioxane	0.270	0.287	-6.3	100	0.00
42 TMP	2,2,4-Trimethylpentane	2.076	2.272	-9.4	100	0.00
43 TMP	Methyl methacrylate	0.567	0.620	-9.3	100	0.00
44 TMP	Heptane	0.959	1.026	-7.0	100	0.00
45 TMP	Bromodichloromethane	0.953	1.005	-5.5	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:29:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.627	-1.5	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.675	-6.1	100	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.047	-17.5	100	0.00
49 TMP trans-1,3-Dichloropropene	0.540	0.585	-8.3	100	0.00
50 TMP Toluene	0.749	0.814	-8.7	101	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.595	-5.7	100	0.00
52 TMP 2-Hexanone	1.055	1.114	-5.6	100	0.00
53 TMP Tetrachloroethene	0.381	0.415	-8.9	100	0.00
54 TMP Dibromochloromethane	0.787	0.837	-6.4	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.797	-2.3	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	1.151	-7.5	100	0.00
58 TMP Ethylbenzene	2.221	2.300	-3.6	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.610	-3.9	100	0.00
60 TMP Nonane	1.679	1.859	-10.7	100	0.00
61 TMP Isopropylbenzene	1.948	2.114	-8.5	100	0.00
62 TMP 2-Chlorotoluene	0.463	0.508	-9.7	100	0.00
63 TMP Propylbenzene	4.322	4.705	-8.9	100	0.00
64 TMP 4-Ethyltoluene	2.027	2.227	-9.9	100	0.00
65 TMP m,p-Xylene	0.713	0.758	-6.3	100	0.00
66 TMP o-Xylene	0.701	0.748	-6.7	100	0.00
67 TMP Styrene	1.032	1.118	-8.3	100	0.00
68 TMP Bromoform	0.801	0.871	-8.7	100	0.00
69 S 4-Bromofluorobenzene	0.906	0.912	-0.7	100	0.00
70 TMP Benzyl chloride	0.751	0.795	-5.9	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	1.798	-10.6	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.679	1.844	-9.8	100	0.00
73 TMP 1,3-Dichlorobenzene	1.154	1.227	-6.3	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.153	-0.1	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.147	-5.1	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.947	0.3	100	0.00
77 TMP Naphthalene	2.538	2.373	6.5	100	0.00
78 TMP Hexachlorobutadiene	0.852	0.761	10.7	100	0.00

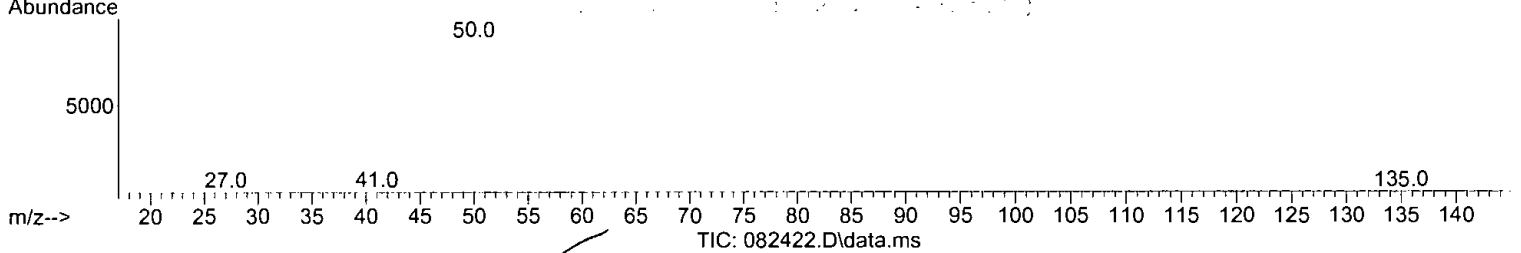
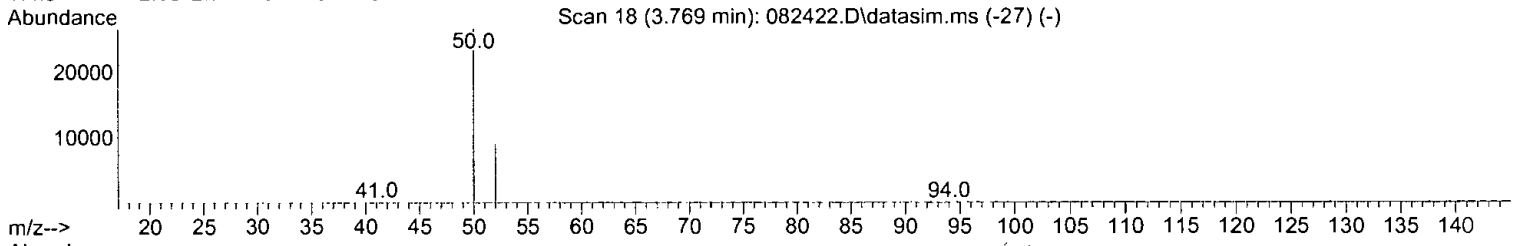
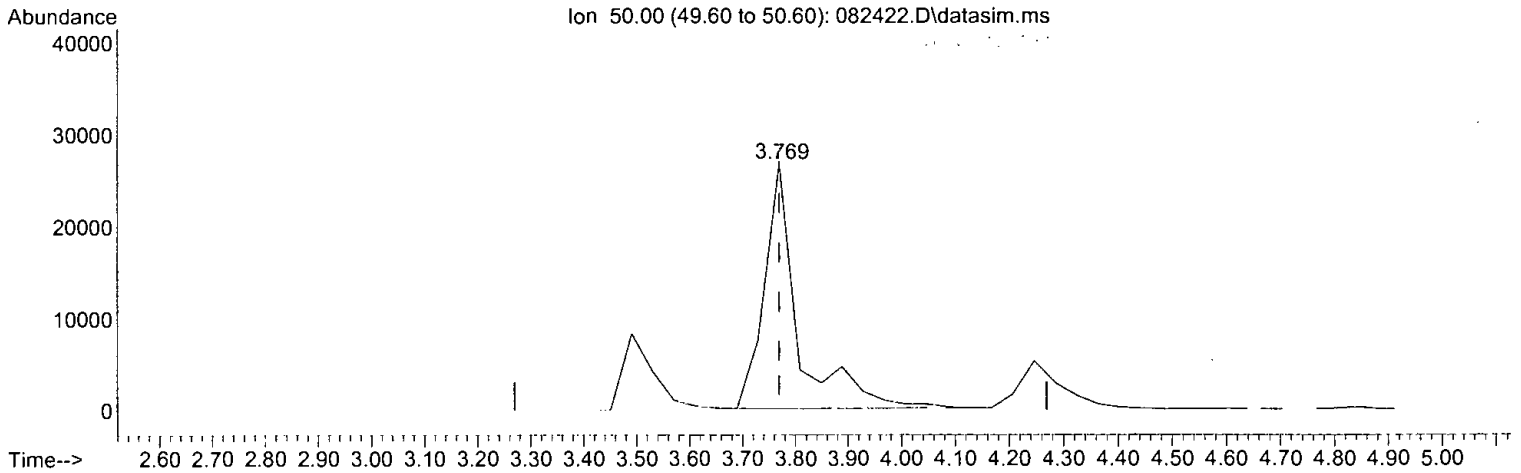
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:24 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (-0.000) 4.861 ppbv

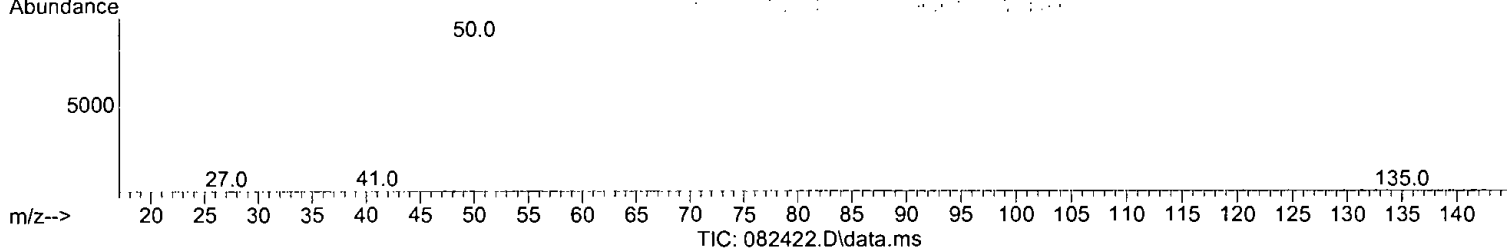
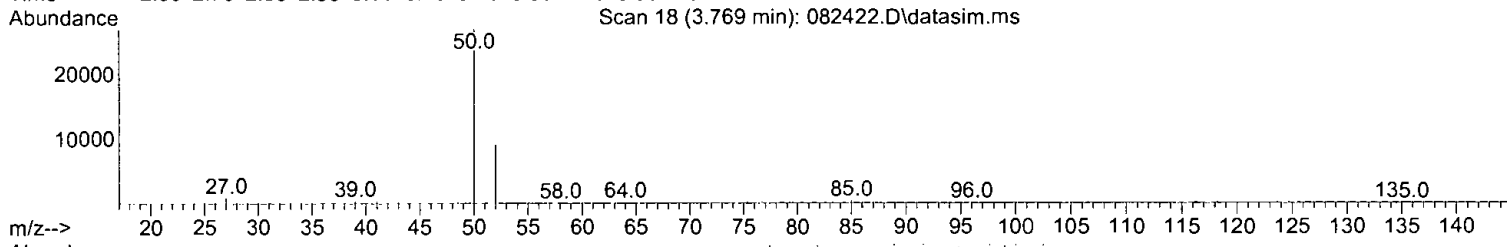
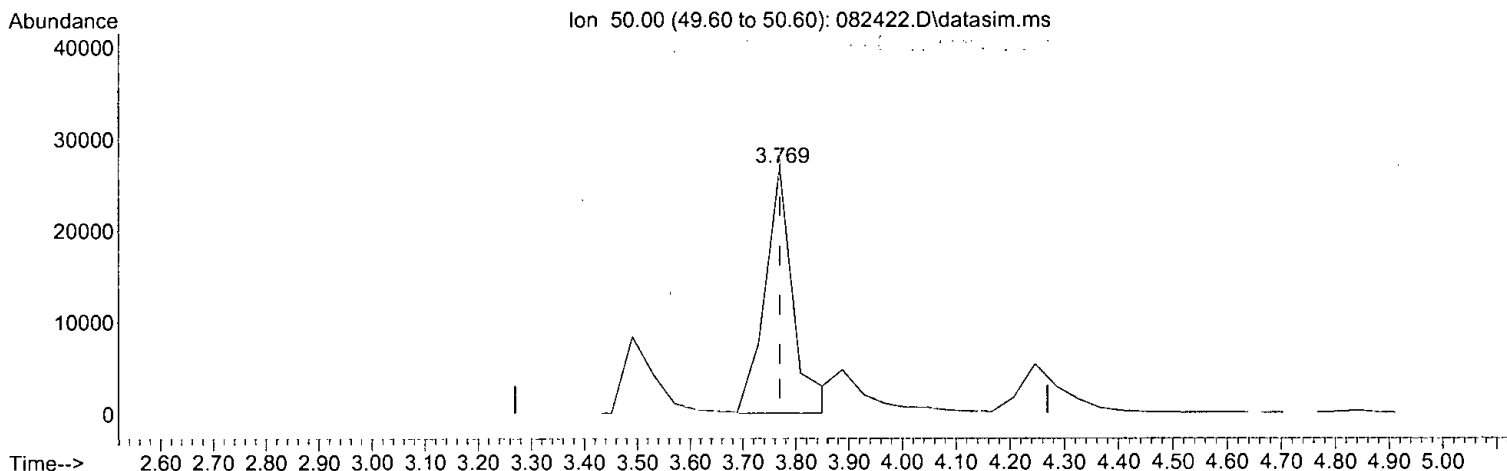
response	118056	
Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	33.80
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:24 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (-0.000) 4.080 ppbv m

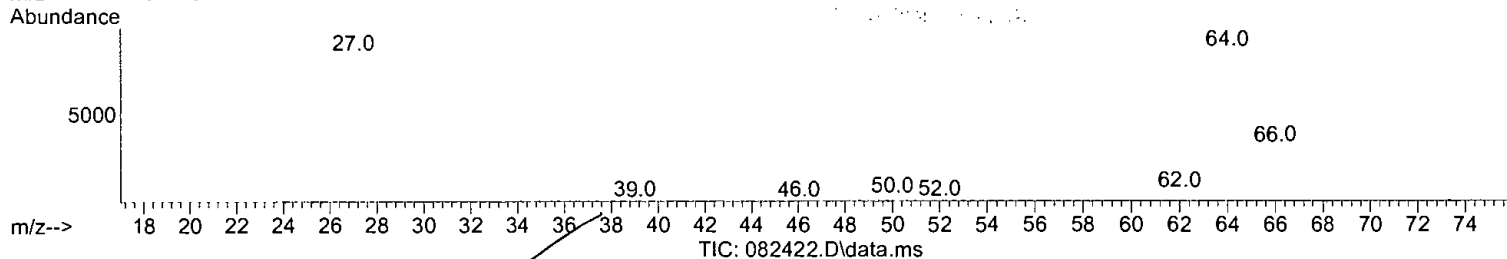
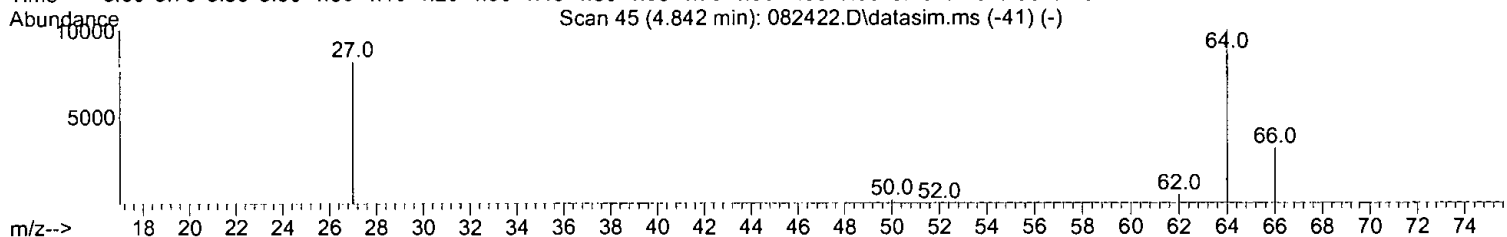
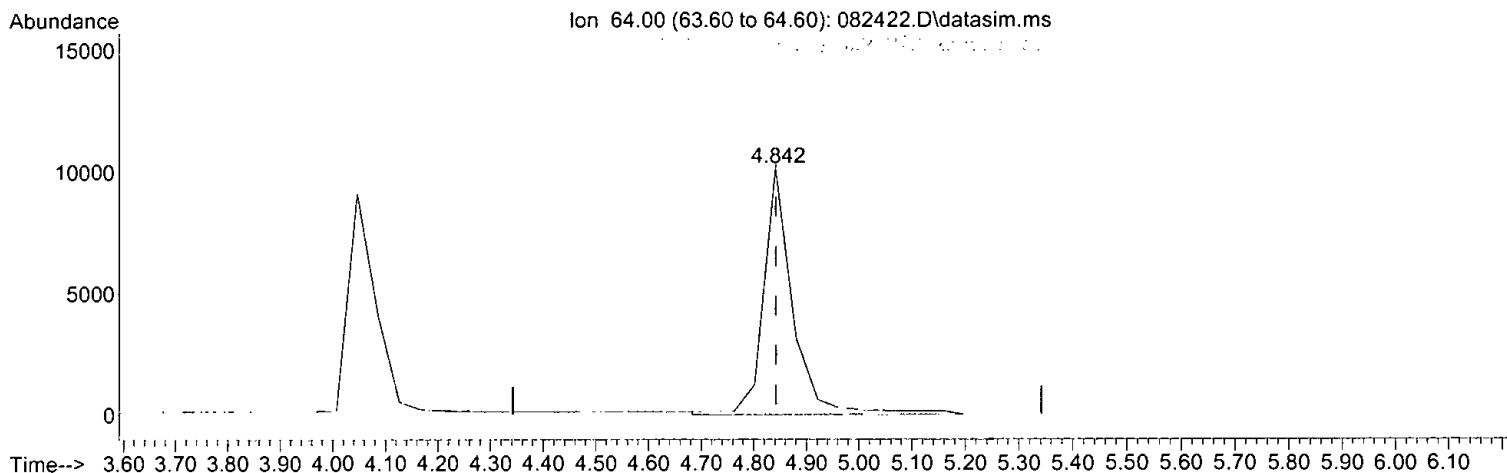
response	99097
Ion	Exp% Act%
50.00	100.00 100.00
51.90	25.30 33.75
0.00	0.00 0.00
0.00	0.00 0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:24 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (-0.000) 4.252 ppbv

response 37177

Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	32.16
0.00	0.00	0.00
0.00	0.00	0.00

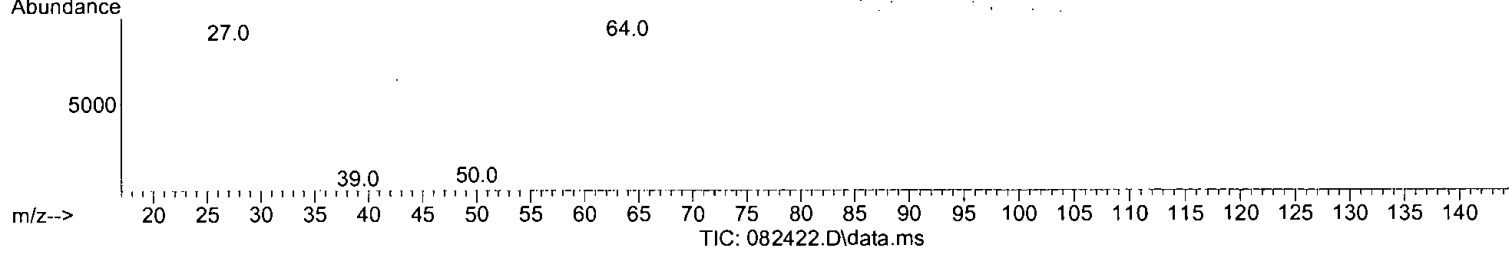
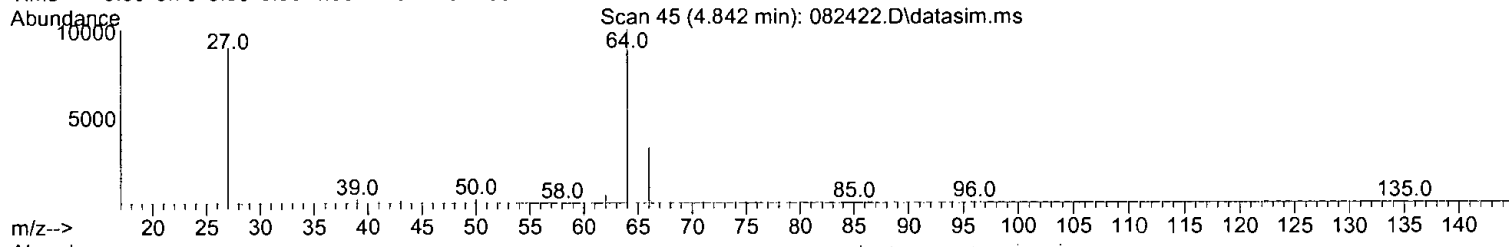
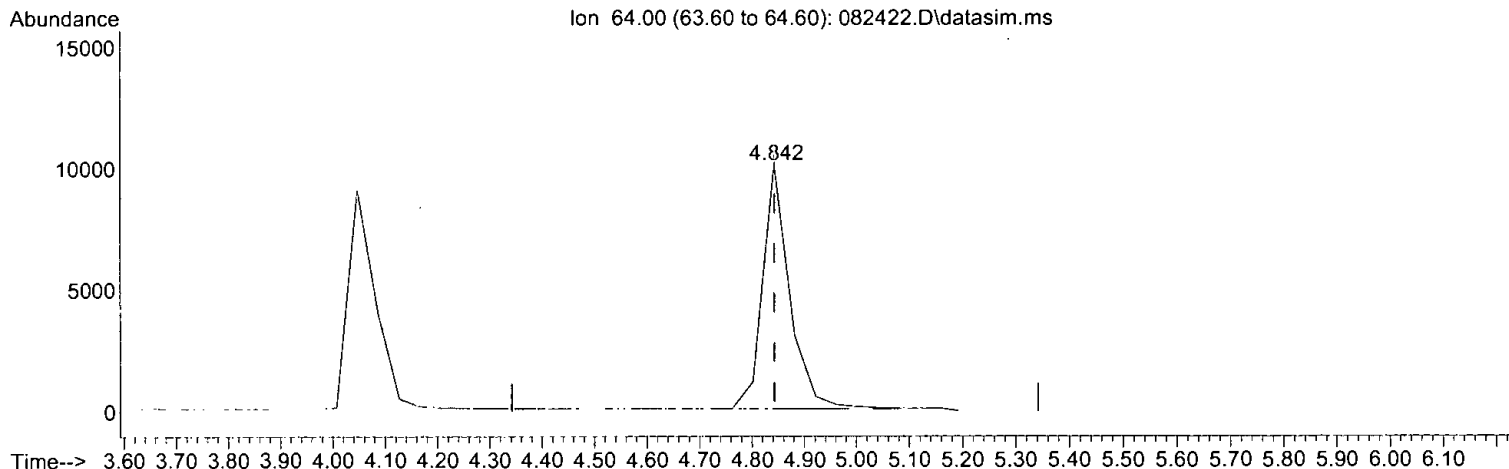
AS 8/25/24



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
Data File : 082422.D  
Acq On : 24 Aug 2021 9:01 pm  
Operator : bat  
Sample : 4.0 ppbv 64-87a  
Misc : cal line, 40cc of 25ppbv  
ALS Vial : 22 Sample Multiplier: 1  
InstName : GCMS7

Quant Time: Aug 25 10:54:24 2021  
Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
Quant Title : TO-15 SS method  
QLast Update : Wed Aug 25 09:28:09 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (-0.000) 4.043 ppbv m

response	35921	
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	32.16
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:33:02 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	117039	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	562321	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	490750	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	450722	10.138	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	101.40%
Target Compounds						
						Qvalue
2) Propene	3.41	41	84651	4.230	ppbv	99
3) Dichlorodifluoromethane	3.52	85	206107	3.980	ppbv	98
4) Chloromethane	3.77	50	99097m	4.080	ppbv	
5) F-114	3.88	85	206309	3.962	ppbv	86
6) Vinyl chloride	4.05	62	103648	4.010	ppbv	97
7) 1,3-Butadiene	4.25	54	71412	3.991	ppbv	# 89
8) Butane	4.32	43	151174	3.977	ppbv	97
9) Bromomethane	4.64	94	75628	4.195	ppbv	100
10) Chloroethane	4.84	64	35921m	4.043	ppbv	
11) Vinyl bromide	5.32	106	89446	4.281	ppbv	100
12) Ethanol	4.96	45	24869	3.799	ppbv	90
13) Acrolein	5.43	56	33807	3.978	ppbv	100
14) Pentane	6.33	43	182407	4.005	ppbv	98
15) Trichlorofluoromethane	5.88	101	240087	4.158	ppbv	100
16) Acetone	5.58	58	38511	3.739	ppbv	# 68
17) 2-Propanol	5.86	45	161364	3.877	ppbv	# 99
18) 1,1-Dichloroethene	6.73	96	76677	3.975	ppbv	90
19) trans-1,2-Dichloroethene	8.18	96	76022	3.995	ppbv	91
20) Methylene chloride	6.86	84	77355	3.776	ppbv	88
21) t-Butyl alcohol (TBA)	6.65	59	131895	3.911	ppbv	# 42
22) 3-Chloropropene	7.01	41	137977	4.051	ppbv	92
23) CFC-113	7.22	101	164303	4.134	ppbv	87
24) Carbon disulfide	7.33	76	280864	4.182	ppbv	96
25) Methyl t-butyl ether (...)	8.51	73	178866	4.001	ppbv	96
26) Vinyl acetate	8.62	43	123941	4.133	ppbv	98
27) 1,1-Dichloroethane	8.44	63	183269	4.067	ppbv	96
28) cis-1,2-Dichloroethene	9.73	96	83571	4.011	ppbv	84
29) Hexane	10.10	57	142273	4.108	ppbv	91
30) Chloroform	10.19	83	201893	3.951	ppbv	98
31) Ethyl acetate	10.01	43	305826	4.195	ppbv	# 98
32) Tetrahydrofuran	10.83	42	127098	4.017	ppbv	90
33) 2-Butanone (MEK)	8.99	72	33687	4.044	ppbv	# 64
34) 1,2-Dichloroethane (EDC)	11.44	62	153081	3.982	ppbv	96
35) 1,1,1-Trichloroethane	11.93	97	152303	4.026	ppbv	87
36) Carbon tetrachloride	12.95	117	151476	4.072	ppbv	99
37) Benzene	12.70	78	283360	3.954	ppbv	96
38) Cyclohexane	13.16	84	78389	4.012	ppbv	# 72
40) 1,2-Dichloropropane	13.90	63	136523	3.929	ppbv	100
41) 1,4-Dioxane	14.17	88	61073	4.028	ppbv	84
42) 2,2,4-Trimethylpentane	14.31	57	476887	4.085	ppbv	94

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

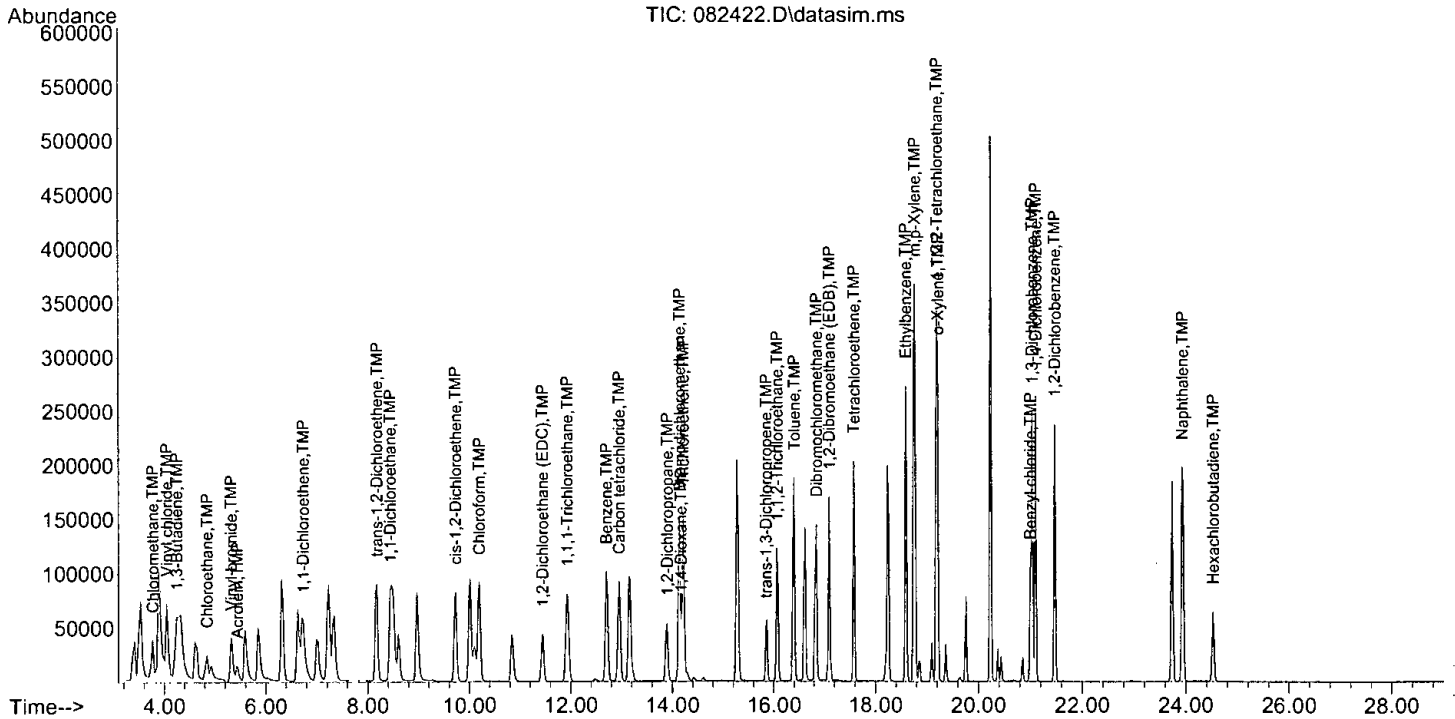
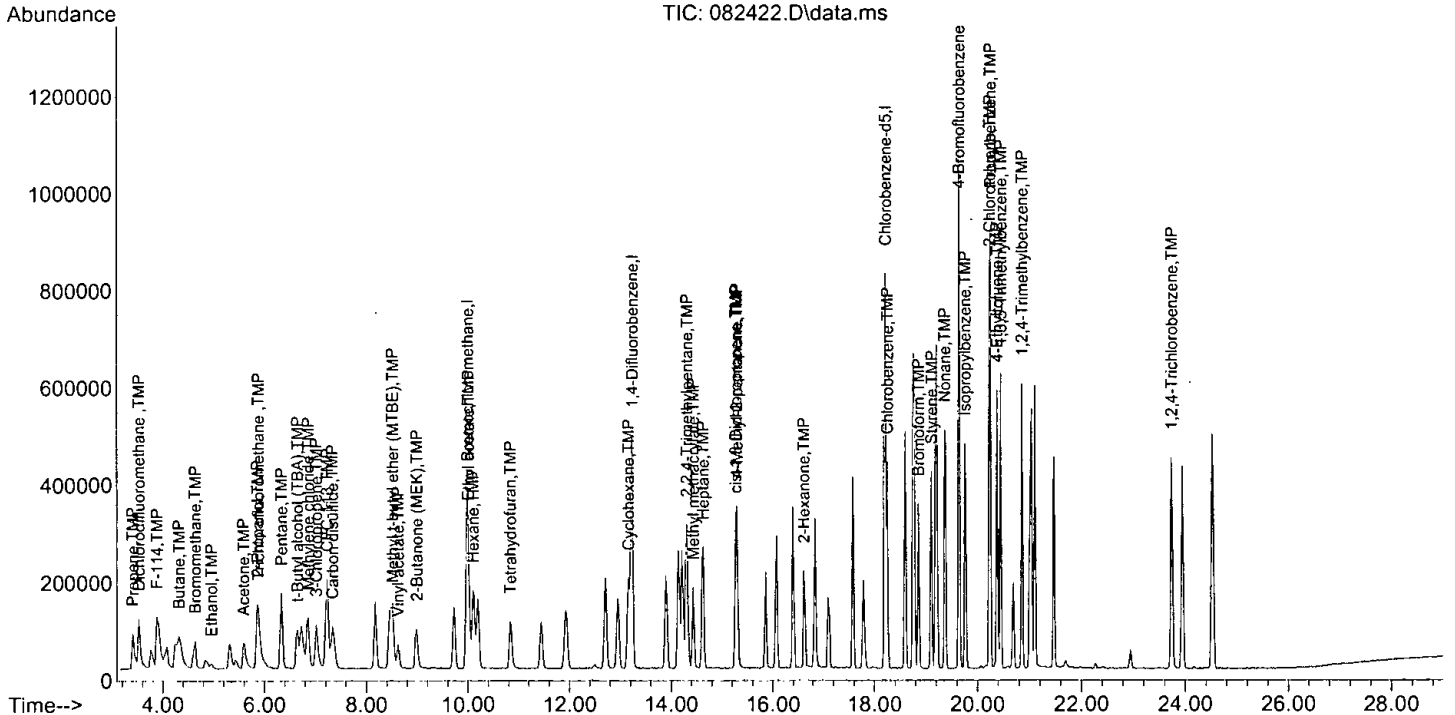
Quant Time: Aug 25 11:33:02 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
43) Methyl methacrylate	14.43	41	132947	4.171	ppbv	#	85
44) Heptane	14.63	43	221214	4.102	ppbv		92
45) Bromodichloromethane	14.14	83	214620	4.005	ppbv		92
46) Trichloroethene	14.22	95	132847	3.822	ppbv		87
47) cis-1,3-Dichloropropene	15.27	75	146463	4.095	ppbv		95
48) 4-Methyl-2-pentanone	15.29	100	8652	3.800	ppbv	#	1
49) trans-1,3-Dichloropropene	15.85	75	123105	4.051	ppbv		76
50) Toluene	16.40	92	169657	4.027	ppbv		82
51) 1,1,2-Trichloroethane	16.06	83	125949	3.981	ppbv		98
52) 2-Hexanone	16.62	43	235892	3.976	ppbv		91
53) Tetrachloroethene	17.58	164	87702	4.094	ppbv		83
54) Dibromochloromethane	16.85	129	177772	4.015	ppbv		89
55) 1,2-Dibromoethane (EDB)	17.10	107	171548	3.916	ppbv		89
57) Chlorobenzene	18.25	112	217481	4.137	ppbv		88
58) Ethylbenzene	18.59	91	425797	3.906	ppbv		97
59) 1,1,2,2-Tetrachloroethane	19.19	83	300487	3.952	ppbv		94
60) Nonane	19.36	43	343275	4.165	ppbv		93
61) Isopropylbenzene	19.75	105	392202	4.103	ppbv		98
62) 2-Chlorotoluene	20.23	126	93644	4.121	ppbv		68
63) Propylbenzene	20.25	91	875508	4.128	ppbv		96
64) 4-Ethyltoluene	20.38	105	409293	4.114	ppbv		97
65) m,p-Xylene	18.76	106	281760	8.051	ppbv		92
66) o-Xylene	19.21	106	138692	4.031	ppbv		91
67) Styrene	19.11	104	210336	4.153	ppbv		95
68) Bromoform	18.85	173	167407	4.258	ppbv		97
70) Benzyl chloride	21.01	91	154169	4.183	ppbv		92
71) 1,3,5-Trimethylbenzene	20.45	105	338393	4.243	ppbv		95
72) 1,2,4-Trimethylbenzene	20.86	105	340632	4.134	ppbv		96
73) 1,3-Dichlorobenzene	21.04	146	228226	4.031	ppbv		92
74) 1,4-Dichlorobenzene	21.11	146	214415	4.076	ppbv		94
75) 1,2-Dichlorobenzene	21.47	146	212558	3.971	ppbv		94
76) 1,2,4-Trichlorobenzene	23.73	180	173066	4.015	ppbv		97
77) Naphthalene	23.93	128	452287	4.042	ppbv		98
78) Hexachlorobutadiene	24.52	225	141529	4.077	ppbv		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:33:02 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
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Quant Time: Aug 25 11:33:02 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	4.000	4.230	-5.8	100	0.00
3 TMP	Dichlorodifluoromethane	4.000	3.980	0.5	100	0.00
4 TMP	Chloromethane	4.000	4.080	-2.0	101	0.00
5 TMP	F-114	4.000	3.962	0.9	100	0.00
6 TMP	Vinyl chloride	4.000	4.010	-0.2	100	0.00
7 TMP	1,3-Butadiene	4.000	3.991	0.2	100	0.00
8 TMP	Butane	4.000	3.977	0.6	100	0.00
9 TMP	Bromomethane	4.000	4.195	-4.9	100	0.00
10 TMP	Chloroethane	4.000	4.043	-1.1	101	0.00
11 TMP	Vinyl bromide	4.000	4.281	-7.0	100	0.00
12 TMP	Ethanol	4.000	3.799	5.0	100	0.00
13 TMP	Acrolein	4.000	3.978	0.5	100	0.00
14 TMP	Pentane	4.000	4.005	-0.1	100	0.00
15 TMP	Trichlorofluoromethane	4.000	4.158	-4.0	100	0.00
16 TMP	Acetone	4.000	3.739	6.5	100	0.00
17 TMP	2-Propanol	4.000	3.877	3.1	100	0.00
18 TMP	1,1-Dichloroethene	4.000	3.975	0.6	100	0.00
19 TMP	trans-1,2-Dichloroethene	4.000	3.995	0.1	100	0.00
20 TMP	Methylene chloride	4.000	3.776	5.6	100	0.00
21 TMP	t-Butyl alcohol (TBA)	4.000	3.911	2.2	100	0.00
22 TMP	3-Chloropropene	4.000	4.051	-1.3	100	0.00
23 TMP	CFC-113	4.000	4.134	-3.4	100	0.00
24 TMP	Carbon disulfide	4.000	4.182	-4.6	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	4.000	4.001	-0.0	100	0.00
26 TMP	Vinyl acetate	4.000	4.133	-3.3	100	0.00
27 TMP	1,1-Dichloroethane	4.000	4.067	-1.7	100	0.00
28 TMP	cis-1,2-Dichloroethene	4.000	4.011	-0.3	100	0.00
29 TMP	Hexane	4.000	4.108	-2.7	100	-0.02
30 TMP	Chloroform	4.000	3.951	1.2	100	0.00
31 TMP	Ethyl acetate	4.000	4.195	-4.9	100	0.00
32 TMP	Tetrahydrofuran	4.000	4.017	-0.4	100	0.00
33 TMP	2-Butanone (MEK)	4.000	4.044	-1.1	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	4.000	3.982	0.4	100	0.00
35 TMP	1,1,1-Trichloroethane	4.000	4.026	-0.6	100	-0.01
36 TMP	Carbon tetrachloride	4.000	4.072	-1.8	100	0.00
37 TMP	Benzene	4.000	3.954	1.1	100	0.00
38 TMP	Cyclohexane	4.000	4.012	-0.3	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	4.000	3.929	1.8	100	0.00
41 TMP	1,4-Dioxane	4.000	4.028	-0.7	100	0.00
42 TMP	2,2,4-Trimethylpentane	4.000	4.085	-2.1	100	0.00
43 TMP	Methyl methacrylate	4.000	4.171	-4.3	100	0.00
44 TMP	Heptane	4.000	4.102	-2.6	100	0.00
45 TMP	Bromodichloromethane	4.000	4.005	-0.1	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:33:02 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	4.000	3.822	4.4	100	0.00
47 TMP cis-1,3-Dichloropropene	4.000	4.095	-2.4	100	0.00
48 TMP 4-Methyl-2-pentanone	4.000	3.800	5.0	100	0.00
49 TMP trans-1,3-Dichloropropene	4.000	4.051	-1.3	100	0.00
50 TMP Toluene	4.000	4.027	-0.7	100	0.00
51 TMP 1,1,2-Trichloroethane	4.000	3.981	0.5	100	0.00
52 TMP 2-Hexanone	4.000	3.976	0.6	100	0.00
53 TMP Tetrachloroethene	4.000	4.094	-2.4	100	0.00
54 TMP Dibromochloromethane	4.000	4.015	-0.4	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	4.000	3.916	2.1	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	4.000	4.137	-3.4	100	0.00
58 TMP Ethylbenzene	4.000	3.906	2.3	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	4.000	3.952	1.2	100	0.00
60 TMP Nonane	4.000	4.165	-4.1	100	0.00
61 TMP Isopropylbenzene	4.000	4.103	-2.6	100	0.00
62 TMP 2-Chlorotoluene	4.000	4.121	-3.0	100	0.00
63 TMP Propylbenzene	4.000	4.128	-3.2	100	0.00
64 TMP 4-Ethyltoluene	4.000	4.114	-2.8	100	0.00
65 TMP m,p-Xylene	8.000	8.051	-0.6	100	0.00
66 TMP o-Xylene	4.000	4.031	-0.8	100	0.00
67 TMP Styrene	4.000	4.153	-3.8	100	0.00
68 TMP Bromoform	4.000	4.258	-6.5	100	0.00
69 S 4-Bromofluorobenzene	10.000	10.138	-1.4	100	0.00
70 TMP Benzyl chloride	4.000	4.183	-4.6	100	0.00
71 TMP 1,3,5-Trimethylbenzene	4.000	4.243	-6.1	100	0.00
72 TMP 1,2,4-Trimethylbenzene	4.000	4.134	-3.4	100	0.00
73 TMP 1,3-Dichlorobenzene	4.000	4.031	-0.8	100	0.00
74 TMP 1,4-Dichlorobenzene	4.000	4.076	-1.9	100	0.00
75 TMP 1,2-Dichlorobenzene	4.000	3.971	0.7	100	0.00
76 TMP 1,2,4-Trichlorobenzene	4.000	4.015	-0.4	100	0.00
77 TMP Naphthalene	4.000	4.042	-1.0	100	0.00
78 TMP Hexachlorobutadiene	4.000	4.077	-1.9	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:33:02 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	1.710	1.808	-5.7	100	0.00
3 TMP	Dichlorodifluoromethane	4.425	4.403	0.5	100	0.00
4 TMP	Chloromethane	2.075	2.117	-2.0	101	0.00
5 TMP	F-114	4.450	4.407	1.0	100	0.00
6 TMP	Vinyl chloride	2.209	2.214	-0.2	100	0.00
7 TMP	1,3-Butadiene	1.529	1.525	0.3	100	0.00
8 TMP	Butane	3.248	3.229	0.6	100	0.00
9 TMP	Bromomethane	1.540	1.615	-4.9	100	0.00
10 TMP	Chloroethane	0.759	0.767	-1.1	101	0.00
11 TMP	Vinyl bromide	1.785	1.911	-7.1	100	0.00
12 TMP	Ethanol	0.559	0.531	5.0	100	0.00
13 TMP	Acrolein	0.726	0.722	0.6	100	0.00
14 TMP	Pentane	3.891	3.896	-0.1	100	0.00
15 TMP	Trichlorofluoromethane	4.934	5.128	-3.9	100	0.00
16 TMP	Acetone	0.880	0.823	6.5	100	0.00
17 TMP	2-Propanol	3.556	3.447	3.1	100	0.00
18 TMP	1,1-Dichloroethene	1.648	1.638	0.6	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.626	1.624	0.1	100	0.00
20 TMP	Methylene chloride	1.750	1.652	5.6	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.881	2.817	2.2	100	0.00
22 TMP	3-Chloropropene	2.910	2.947	-1.3	100	0.00
23 TMP	CFC-113	3.396	3.510	-3.4	100	0.00
24 TMP	Carbon disulfide	5.738	5.999	-4.5	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	3.821	-0.0	100	0.00
26 TMP	Vinyl acetate	2.562	2.647	-3.3	100	0.00
27 TMP	1,1-Dichloroethane	3.850	3.915	-1.7	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.785	-0.3	100	0.00
29 TMP	Hexane	2.959	3.039	-2.7	100	-0.02
30 TMP	Chloroform	4.366	4.313	1.2	100	0.00
31 TMP	Ethyl acetate	6.229	6.533	-4.9	100	0.00
32 TMP	Tetrahydrofuran	2.703	2.715	-0.4	100	0.00
33 TMP	2-Butanone (MEK)	0.712	0.720	-1.1	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.270	0.5	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.253	-0.6	100	-0.01
36 TMP	Carbon tetrachloride	3.178	3.236	-1.8	100	0.00
37 TMP	Benzene	6.123	6.053	1.1	100	0.00
38 TMP	Cyclohexane	1.669	1.674	-0.3	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.618	0.607	1.8	100	0.00
41 TMP	1,4-Dioxane	0.270	0.272	-0.7	100	0.00
42 TMP	2,2,4-Trimethylpentane	2.076	2.120	-2.1	100	0.00
43 TMP	Methyl methacrylate	0.567	0.591	-4.2	100	0.00
44 TMP	Heptane	0.959	0.983	-2.5	100	0.00
45 TMP	Bromodichloromethane	0.953	0.954	-0.1	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:33:02 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.591	4.4	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.651	-2.4	100	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.038	5.0	100	0.00
49 TMP trans-1,3-Dichloropropene	0.540	0.547	-1.3	100	0.00
50 TMP Toluene	0.749	0.754	-0.7	100	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.560	0.5	100	0.00
52 TMP 2-Hexanone	1.055	1.049	0.6	100	0.00
53 TMP Tetrachloroethene	0.381	0.390	-2.4	100	0.00
54 TMP Dibromochloromethane	0.787	0.790	-0.4	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.763	2.1	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	1.108	-3.5	100	0.00
58 TMP Ethylbenzene	2.221	2.169	2.3	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.531	1.2	100	0.00
60 TMP Nonane	1.679	1.749	-4.2	100	0.00
61 TMP Isopropylbenzene	1.948	1.998	-2.6	100	0.00
62 TMP 2-Chlorotoluene	0.463	0.477	-3.0	100	0.00
63 TMP Propylbenzene	4.322	4.460	-3.2	100	0.00
64 TMP 4-Ethyltoluene	2.027	2.085	-2.9	100	0.00
65 TMP m,p-Xylene	0.713	0.718	-0.7	100	0.00
66 TMP o-Xylene	0.701	0.707	-0.9	100	0.00
67 TMP Styrene	1.032	1.072	-3.9	100	0.00
68 TMP Bromoform	0.801	0.853	-6.5	100	0.00
69 S 4-Bromofluorobenzene	0.906	0.918	-1.3	100	0.00
70 TMP Benzyl chloride	0.751	0.785	-4.5	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	1.724	-6.1	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.679	1.735	-3.3	100	0.00
73 TMP 1,3-Dichlorobenzene	1.154	1.163	-0.8	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.092	5.2	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.083	0.7	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.882	7.2	100	0.00
77 TMP Naphthalene	2.538	2.304	9.2	100	0.00
78 TMP Hexachlorobutadiene	0.852	0.721	15.4	100	0.00

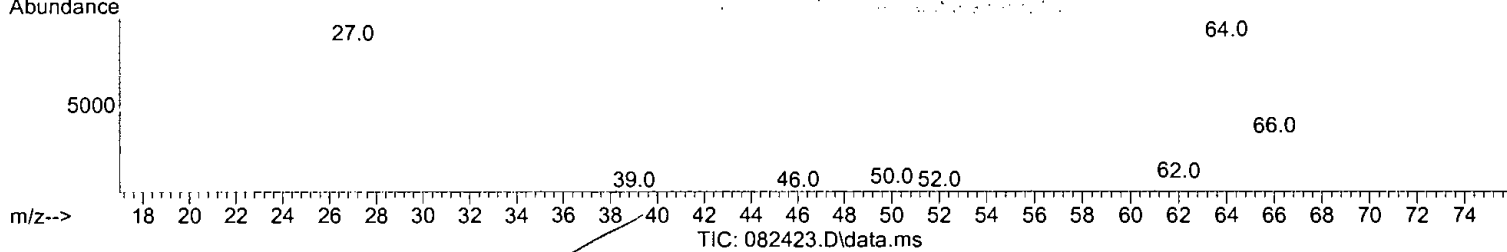
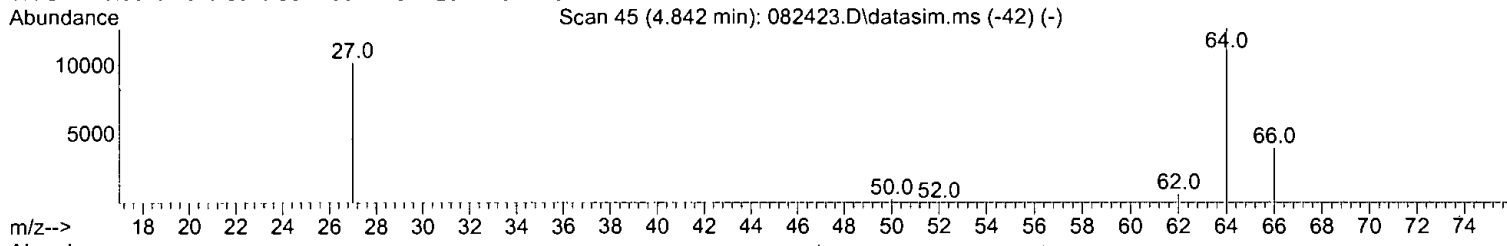
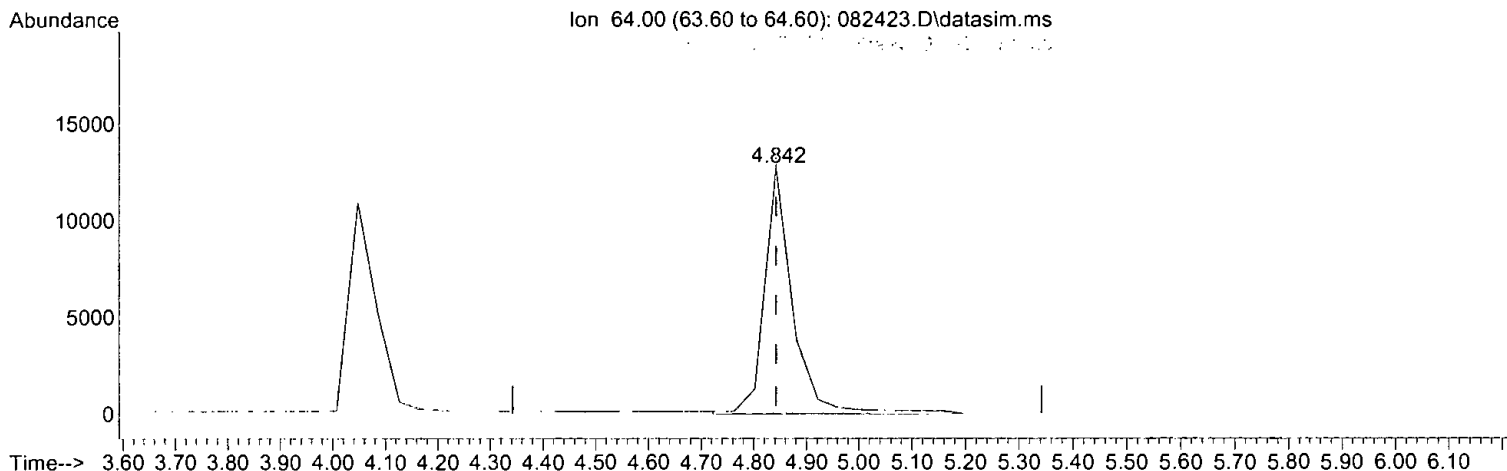
(#) = Out of Range

SPCC's out = 0 CCC's out = 0



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082423.D  
 Acq On : 24 Aug 2021 9:38 pm  
 Operator : bat  
 Sample : 5.0 ppbv 64-87a  
 Misc : cal line, 50cc of 25ppbv  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:30 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 5.158 ppbv

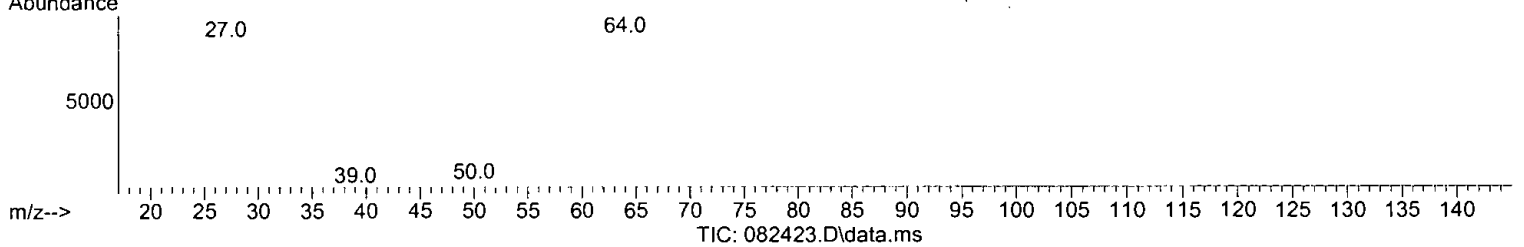
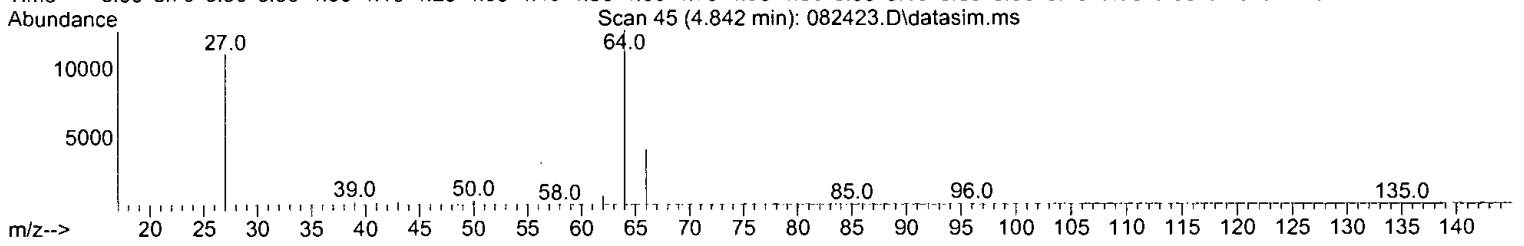
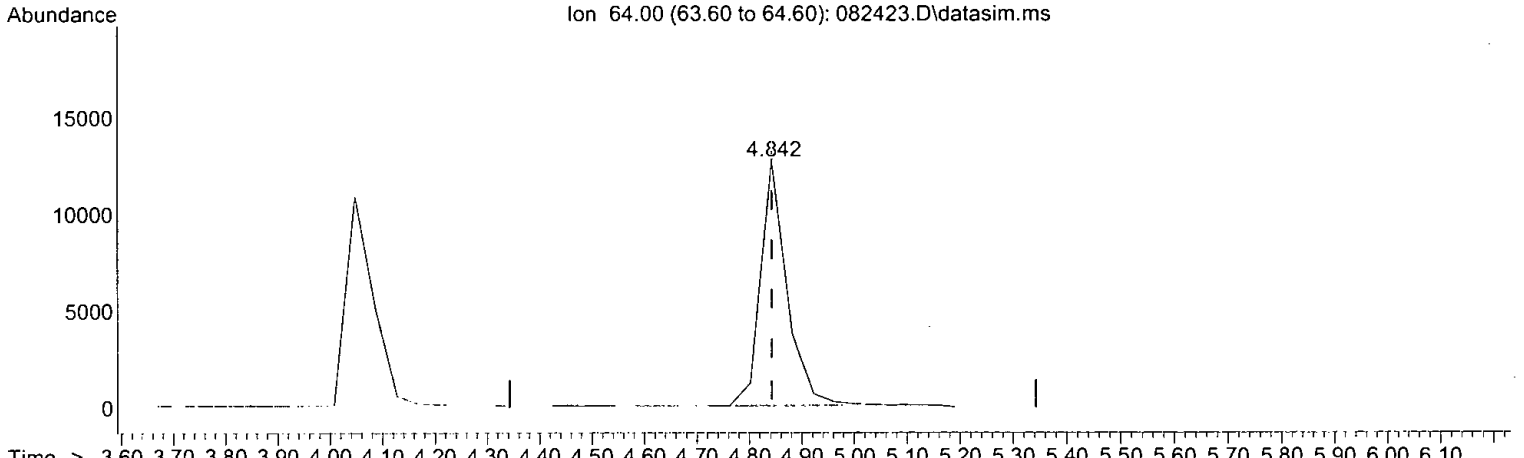
response	45376		
Ion	Exp%	Act%	
64.00	100.00	100.00	
66.00	31.80	31.94	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082423.D  
 Acq On : 24 Aug 2021 9:38 pm  
 Operator : bat  
 Sample : 5.0 ppbv 64-87a  
 Misc : cal line, 50cc of 25ppbv  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:30 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 5.016 ppbv m

response	44120		
Ion	Exp%	Act%	
64.00	100.00	100.00	
66.00	31.80	31.94	
0.00	0.00	0.00	
0.00	0.00	0.00	

*AS 8/25/21*

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082423.D  
 Acq On : 24 Aug 2021 9:38 pm  
 Operator : bat  
 Sample : 5.0 ppbv 64-87a  
 Misc : cal line, 50cc of 25ppbv  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:34:39 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	115886	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	567250	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	503966	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	454484	9.954	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	99.50%
Target Compounds						
						Qvalue
2) Propene	3.41	41	96107	4.851	ppbv	96
3) Dichlorodifluoromethane	3.52	85	251306	4.901	ppbv	99
4) Chloromethane	3.77	50	112026	4.659	ppbv	81
5) F-114	3.88	85	249991	4.848	ppbv	87
6) Vinyl chloride	4.05	62	125999	4.923	ppbv	96
7) 1,3-Butadiene	4.25	54	87201	4.922	ppbv	# 89
8) Butane	4.32	43	183971	4.888	ppbv	98
9) Bromomethane	4.64	94	91234	5.111	ppbv	99
10) Chloroethane	4.84	64	44120m	5.016	ppbv	
11) Vinyl bromide	5.32	106	108372	5.238	ppbv	100
12) Ethanol	4.96	45	32569	5.024	ppbv	94
13) Acrolein	5.43	56	40637	4.829	ppbv	100
14) Pentane	6.33	43	225637	5.004	ppbv	98
15) Trichlorofluoromethane	5.88	101	286463	5.010	ppbv	99
16) Acetone	5.59	58	50462	4.948	ppbv	94
17) 2-Propanol	5.86	45	208605	5.062	ppbv	# 100
18) 1,1-Dichloroethene	6.73	96	92847	4.861	ppbv	92
19) trans-1,2-Dichloroethene	8.18	96	92640	4.916	ppbv	87
20) Methylene chloride	6.86	84	93720	4.621	ppbv	# 80
21) t-Butyl alcohol (TBA)	6.65	59	167832	5.026	ppbv	# 38
22) 3-Chloropropene	7.01	41	164626	4.881	ppbv	93
23) CFC-113	7.23	101	198520	5.044	ppbv	89
24) Carbon disulfide	7.33	76	339420	5.104	ppbv	95
25) Methyl t-butyl ether (...)	8.51	73	218644	4.939	ppbv	100
26) Vinyl acetate	8.62	43	150220	5.059	ppbv	97
27) 1,1-Dichloroethane	8.44	63	222578	4.989	ppbv	96
28) cis-1,2-Dichloroethene	9.73	96	101475	4.918	ppbv	84
29) Hexane	10.11	57	169914	4.955	ppbv	90
30) Chloroform	10.19	83	244888	4.840	ppbv	98
31) Ethyl acetate	10.01	43	375698	5.205	ppbv	# 98
32) Tetrahydrofuran	10.83	42	156530	4.996	ppbv	90
33) 2-Butanone (MEK)	8.99	72	40384	4.896	ppbv	# 66
34) 1,2-Dichloroethane (EDC)	11.44	62	185314	4.868	ppbv	96
35) 1,1,1-Trichloroethane	11.93	97	186711	4.984	ppbv	87
36) Carbon tetrachloride	12.95	117	185092	5.025	ppbv	99
37) Benzene	12.70	78	343858	4.846	ppbv	96
38) Cyclohexane	13.16	84	98272	5.080	ppbv	85
40) 1,2-Dichloropropane	13.90	63	167020	4.765	ppbv	100
41] 1,4-Dioxane	14.17	88	74032	4.840	ppbv	82
42) 2,2,4-Trimethylpentane	14.31	57	579959	4.925	ppbv	92

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082423.D  
 Acq On : 24 Aug 2021 9:38 pm  
 Operator : bat  
 Sample : 5.0 ppbv 64-87a  
 Misc : cal line, 50cc of 25ppbv  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

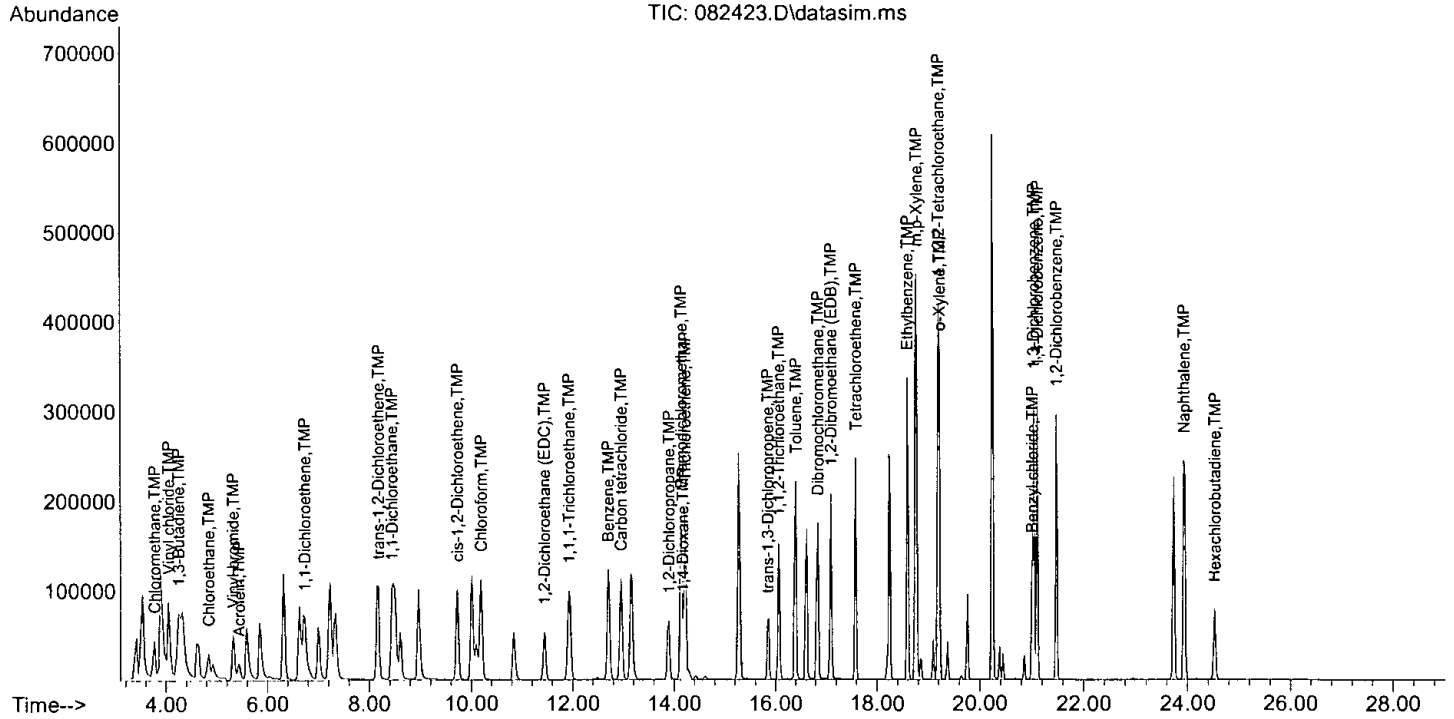
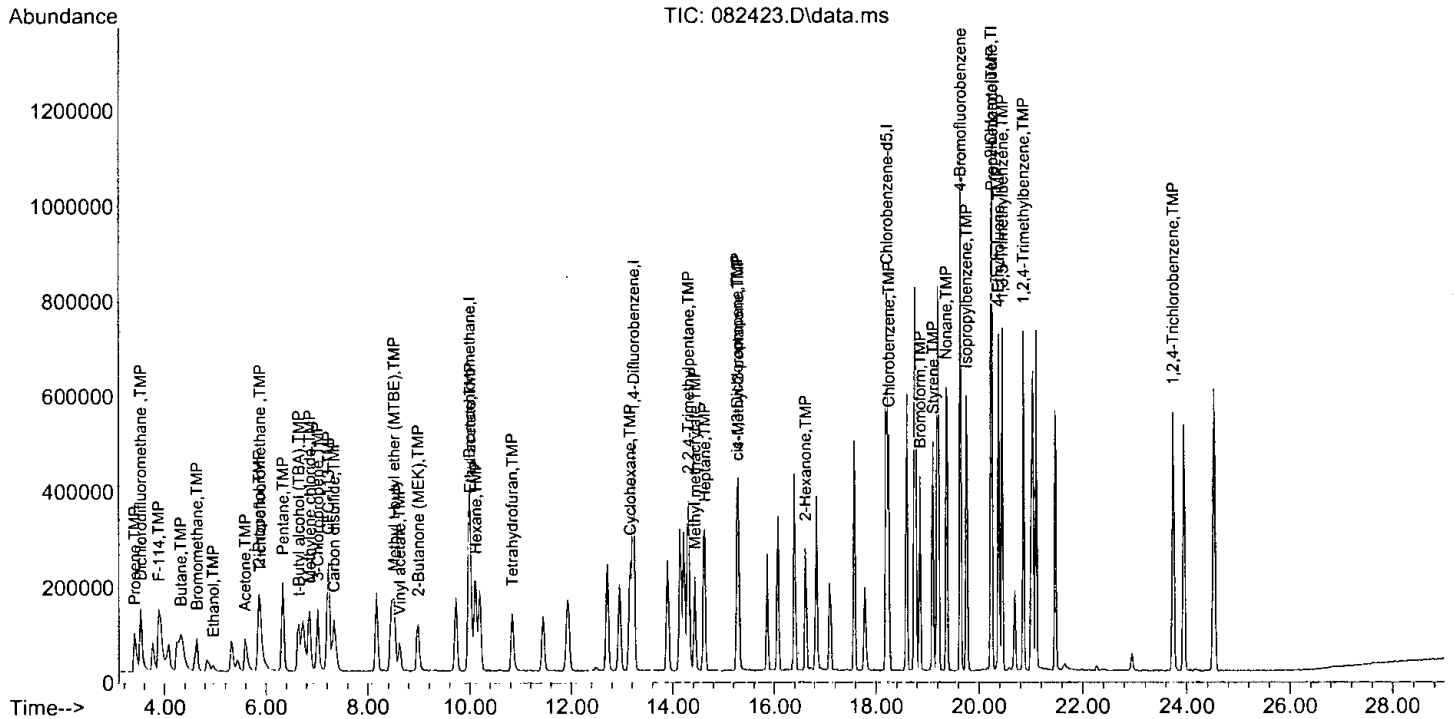
Quant Time: Aug 25 11:34:39 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
43) Methyl methacrylate	14.43	41	158489	4.929	ppbv	#	85
44) Heptane	14.63	43	271613	4.993	ppbv		92
45] Bromodichloromethane	14.14	83	260799	4.824	ppbv		92
46] Trichloroethene	14.22	95	162879	4.645	ppbv		87
47) cis-1,3-Dichloropropene	15.27	75	179828	4.985	ppbv		95
48) 4-Methyl-2-pentanone	15.29	100	12494	5.440	ppbv	#	7
49] trans-1,3-Dichloropropene	15.85	75	151410	4.939	ppbv		77
50] Toluene	16.40	92	205672	4.839	ppbv		82
51] 1,1,2-Trichloroethane	16.06	83	153428	4.808	ppbv		98
52) 2-Hexanone	16.62	43	295635	4.940	ppbv		90
53] Tetrachloroethene	17.58	164	106236	4.916	ppbv		83
54] Dibromochloromethane	16.85	129	218485	4.892	ppbv		89
55] 1,2-Dibromoethane (EDB)	17.10	107	209152	4.733	ppbv		90
57) Chlorobenzene	18.25	112	259539	4.808	ppbv		92
58] Ethylbenzene	18.59	91	517547	4.624	ppbv		97
59] 1,1,2,2-Tetrachloroethane	19.19	83	365745	4.684	ppbv		94
60) Nonane	19.36	43	417660	4.935	ppbv		93
61) Isopropylbenzene	19.75	105	472283	4.812	ppbv		98
62) 2-Chlorotoluene	20.23	126	113505	4.864	ppbv		66
63) Propylbenzene	20.25	91	1068218	4.905	ppbv		96
64) 4-Ethyltoluene	20.38	105	500528	4.900	ppbv		97
65] m,p-Xylene	18.76	106	341195	9.493	ppbv		91
66] o-Xylene	19.21	106	168524	4.770	ppbv		91
67) Styrene	19.11	104	249569	4.798	ppbv		91
68) Bromoform	18.85	173	204472	5.065	ppbv		99
70] Benzyl chloride	21.01	91	193374	5.109	ppbv		93
71) 1,3,5-Trimethylbenzene	20.45	105	410668	5.014	ppbv		95
72) 1,2,4-Trimethylbenzene	20.86	105	419516	4.958	ppbv		96
73] 1,3-Dichlorobenzene	21.04	146	279752	4.811	ppbv		93
74] 1,4-Dichlorobenzene	21.11	146	262220	4.859	ppbv		95
75] 1,2-Dichlorobenzene	21.47	146	259600	4.723	ppbv		95
76) 1,2,4-Trichlorobenzene	23.73	180	217948	4.941	ppbv		96
77] Naphthalene	23.93	128	560402	4.886	ppbv		98
78] Hexachlorobutadiene	24.52	225	172614	4.869	ppbv		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082423.D  
 Acq On : 24 Aug 2021 9:38 pm  
 Operator : bat  
 Sample : 5.0 ppbv 64-87a  
 Misc : cal line, 50cc of 25ppbv  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:34:39 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082423.D  
 Acq On : 24 Aug 2021 9:38 pm  
 Operator : bat  
 Sample : 5.0 ppbv 64-87a  
 Misc : cal line, 50cc of 25ppbv  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:34:39 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	5.000	4.851	3.0	100	0.00
3 TMP	Dichlorodifluoromethane	5.000	4.901	2.0	100	0.00
4 TMP	Chloromethane	5.000	4.659	6.8	100	0.00
5 TMP	F-114	5.000	4.848	3.0	100	0.00
6 TMP	Vinyl chloride	5.000	4.923	1.5	100	0.00
7 TMP	1,3-Butadiene	5.000	4.922	1.6	100	0.00
8 TMP	Butane	5.000	4.888	2.2	100	0.00
9 TMP	Bromomethane	5.000	5.111	-2.2	100	0.00
10 TMP	Chloroethane	5.000	5.016	-0.3	100	0.00
11 TMP	Vinyl bromide	5.000	5.238	-4.8	100	0.00
12 TMP	Ethanol	5.000	5.024	-0.5	113	0.00
13 TMP	Acrolein	5.000	4.829	3.4	100	0.00
14 TMP	Pentane	5.000	5.004	-0.1	100	0.00
15 TMP	Trichlorofluoromethane	5.000	5.010	-0.2	100	0.00
16 TMP	Acetone	5.000	4.948	1.0	100	0.00
17 TMP	2-Propanol	5.000	5.062	-1.2	100	0.00
18 TMP	1,1-Dichloroethene	5.000	4.861	2.8	100	0.00
19 TMP	trans-1,2-Dichloroethene	5.000	4.916	1.7	100	0.00
20 TMP	Methylene chloride	5.000	4.621	7.6	100	0.00
21 TMP	t-Butyl alcohol (TBA)	5.000	5.026	-0.5	100	0.00
22 TMP	3-Chloropropene	5.000	4.881	2.4	100	0.00
23 TMP	CFC-113	5.000	5.044	-0.9	100	0.00
24 TMP	Carbon disulfide	5.000	5.104	-2.1	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	5.000	4.939	1.2	100	0.00
26 TMP	Vinyl acetate	5.000	5.059	-1.2	100	0.00
27 TMP	1,1-Dichloroethane	5.000	4.989	0.2	100	0.00
28 TMP	cis-1,2-Dichloroethene	5.000	4.918	1.6	100	0.00
29 TMP	Hexane	5.000	4.955	0.9	100	0.00
30 TMP	Chloroform	5.000	4.840	3.2	100	0.00
31 TMP	Ethyl acetate	5.000	5.205	-4.1	100	0.00
32 TMP	Tetrahydrofuran	5.000	4.996	0.1	100	0.00
33 TMP	2-Butanone (MEK)	5.000	4.896	2.1	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	5.000	4.868	2.6	100	0.00
35 TMP	1,1,1-Trichloroethane	5.000	4.984	0.3	100	-0.01
36 TMP	Carbon tetrachloride	5.000	5.025	-0.5	100	0.00
37 TMP	Benzene	5.000	4.846	3.1	100	0.00
38 TMP	Cyclohexane	5.000	5.080	-1.6	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	5.000	4.765	4.7	100	0.00
41 TMP	1,4-Dioxane	5.000	4.840	3.2	100	0.00
42 TMP	2,2,4-Trimethylpentane	5.000	4.925	1.5	100	0.00
43 TMP	Methyl methacrylate	5.000	4.929	1.4	100	0.00
44 TMP	Heptane	5.000	4.993	0.1	100	0.00
45 TMP	Bromodichloromethane	5.000	4.824	3.5	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082423.D  
 Acq On : 24 Aug 2021 9:38 pm  
 Operator : bat  
 Sample : 5.0 ppbv 64-87a  
 Misc : cal line, 50cc of 25ppbv  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:34:39 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	5.000	4.645	7.1	100	0.00
47 TMP cis-1,3-Dichloropropene	5.000	4.985	0.3	100	0.00
48 TMP 4-Methyl-2-pentanone	5.000	5.440	-8.8	100	0.00
49 TMP trans-1,3-Dichloropropene	5.000	4.939	1.2	100	0.00
50 TMP Toluene	5.000	4.839	3.2	100	0.00
51 TMP 1,1,2-Trichloroethane	5.000	4.808	3.8	100	0.00
52 TMP 2-Hexanone	5.000	4.940	1.2	100	0.00
53 TMP Tetrachloroethene	5.000	4.916	1.7	100	0.00
54 TMP Dibromochloromethane	5.000	4.892	2.2	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	5.000	4.733	5.3	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	5.000	4.808	3.8	100	0.00
58 TMP Ethylbenzene	5.000	4.624	7.5	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	5.000	4.684	6.3	100	0.00
60 TMP Nonane	5.000	4.935	1.3	100	0.00
61 TMP Isopropylbenzene	5.000	4.812	3.8	100	0.00
62 TMP 2-Chlorotoluene	5.000	4.864	2.7	100	0.00
63 TMP Propylbenzene	5.000	4.905	1.9	100	0.00
64 TMP 4-Ethyltoluene	5.000	4.900	2.0	100	0.00
65 TMP m,p-Xylene	10.000	9.493	5.1	100	0.00
66 TMP o-Xylene	5.000	4.770	4.6	100	0.00
67 TMP Styrene	5.000	4.798	4.0	100	0.00
68 TMP Bromoform	5.000	5.065	-1.3	100	0.00
69 S 4-Bromofluorobenzene	10.000	9.954	0.5	100	0.00
70 TMP Benzyl chloride	5.000	5.109	-2.2	100	0.00
71 TMP 1,3,5-Trimethylbenzene	5.000	5.014	-0.3	100	0.00
72 TMP 1,2,4-Trimethylbenzene	5.000	4.958	0.8	100	0.00
73 TMP 1,3-Dichlorobenzene	5.000	4.811	3.8	100	0.00
74 TMP 1,4-Dichlorobenzene	5.000	4.859	2.8	100	0.00
75 TMP 1,2-Dichlorobenzene	5.000	4.723	5.5	100	0.00
76 TMP 1,2,4-Trichlorobenzene	5.000	4.941	1.2	100	0.00
77 TMP Naphthalene	5.000	4.886	2.3	100	0.00
78 TMP Hexachlorobutadiene	5.000	4.869	2.6	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082423.D  
 Acq On : 24 Aug 2021 9:38 pm  
 Operator : bat  
 Sample : 5.0 ppbv 64-87a  
 Misc : cal line, 50cc of 25ppbv  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:34:39 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	1.710	1.659	3.0	100	0.00
3 TMP	Dichlorodifluoromethane	4.425	4.337	2.0	100	0.00
4 TMP	Chloromethane	2.075	1.933	6.8	100	0.00
5 TMP	F-114	4.450	4.314	3.1	100	0.00
6 TMP	Vinyl chloride	2.209	2.175	1.5	100	0.00
7 TMP	1,3-Butadiene	1.529	1.505	1.6	100	0.00
8 TMP	Butane	3.248	3.175	2.2	100	0.00
9 TMP	Bromomethane	1.540	1.575	-2.3	100	0.00
10 TMP	Chloroethane	0.759	0.761	-0.3	100	0.00
11 TMP	Vinyl bromide	1.785	1.870	-4.8	100	0.00
12 TMP	Ethanol	0.559	0.562	-0.5	113	0.00
13 TMP	Acrolein	0.726	0.701	3.4	100	0.00
14 TMP	Pentane	3.891	3.894	-0.1	100	0.00
15 TMP	Trichlorofluoromethane	4.934	4.944	-0.2	100	0.00
16 TMP	Acetone	0.880	0.871	1.0	100	0.00
17 TMP	2-Propanol	3.556	3.600	-1.2	100	0.00
18 TMP	1,1-Dichloroethene	1.648	1.602	2.8	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.626	1.599	1.7	100	0.00
20 TMP	Methylene chloride	1.750	1.617	7.6	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.881	2.897	-0.6	100	0.00
22 TMP	3-Chloropropene	2.910	2.841	2.4	100	0.00
23 TMP	CFC-113	3.396	3.426	-0.9	100	0.00
24 TMP	Carbon disulfide	5.738	5.858	-2.1	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	3.773	1.2	100	0.00
26 TMP	Vinyl acetate	2.562	2.593	-1.2	100	0.00
27 TMP	1,1-Dichloroethane	3.850	3.841	0.2	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.751	1.6	100	0.00
29 TMP	Hexane	2.959	2.932	0.9	100	0.00
30 TMP	Chloroform	4.366	4.226	3.2	100	0.00
31 TMP	Ethyl acetate	6.229	6.484	-4.1	100	0.00
32 TMP	Tetrahydrofuran	2.703	2.701	0.1	100	0.00
33 TMP	2-Butanone (MEK)	0.712	0.697	2.1	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.198	2.6	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.222	0.3	100	-0.01
36 TMP	Carbon tetrachloride	3.178	3.194	-0.5	100	0.00
37 TMP	Benzene	6.123	5.934	3.1	100	0.00
38 TMP	Cyclohexane	1.669	1.696	-1.6	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.618	0.589	4.7	100	0.00
41 TMP	1,4-Dioxane	0.270	0.261	3.3	100	0.00
42 TMP	2,2,4-Trimethylpentane	2.076	2.045	1.5	100	0.00
43 TMP	Methyl methacrylate	0.567	0.559	1.4	100	0.00
44 TMP	Heptane	0.959	0.958	0.1	100	0.00
45 TMP	Bromodichloromethane	0.953	0.920	3.5	100	0.00



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082423.D  
 Acq On : 24 Aug 2021 9:38 pm  
 Operator : bat  
 Sample : 5.0 ppbv 64-87a  
 Misc : cal line, 50cc of 25ppbv  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:34:39 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.574	7.1	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.634	0.3	100	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.044	-10.0	100	0.00
49 TMP trans-1,3-Dichloropropene	0.540	0.534	1.1	100	0.00
50 TMP Toluene	0.749	0.725	3.2	100	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.541	3.9	100	0.00
52 TMP 2-Hexanone	1.055	1.042	1.2	100	0.00
53 TMP Tetrachloroethene	0.381	0.375	1.6	100	0.00
54 TMP Dibromochloromethane	0.787	0.770	2.2	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.737	5.4	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	1.030	3.8	100	0.00
58 TMP Ethylbenzene	2.221	2.054	7.5	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.451	6.3	100	0.00
60 TMP Nonane	1.679	1.657	1.3	100	0.00
61 TMP Isopropylbenzene	1.948	1.874	3.8	100	0.00
62 TMP 2-Chlorotoluene	0.463	0.450	2.8	100	0.00
63 TMP Propylbenzene	4.322	4.239	1.9	100	0.00
64 TMP 4-Ethyltoluene	2.027	1.986	2.0	100	0.00
65 TMP m,p-Xylene	0.713	0.677	5.0	100	0.00
66 TMP o-Xylene	0.701	0.669	4.6	100	0.00
67 TMP Styrene	1.032	0.990	4.1	100	0.00
68 TMP Bromoform	0.801	0.811	-1.2	100	0.00
69 S 4-Bromofluorobenzene	0.906	0.902	0.4	100	0.00
70 TMP Benzyl chloride	0.751	0.767	-2.1	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	1.630	-0.3	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.679	1.665	0.8	100	0.00
73 TMP 1,3-Dichlorobenzene	1.154	1.110	3.8	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.041	9.6	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.030	5.6	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.865	8.9	100	0.00
77 TMP Naphthalene	2.538	2.224	12.4	100	0.00
78 TMP Hexachlorobutadiene	0.852	0.685	19.6	100	0.00

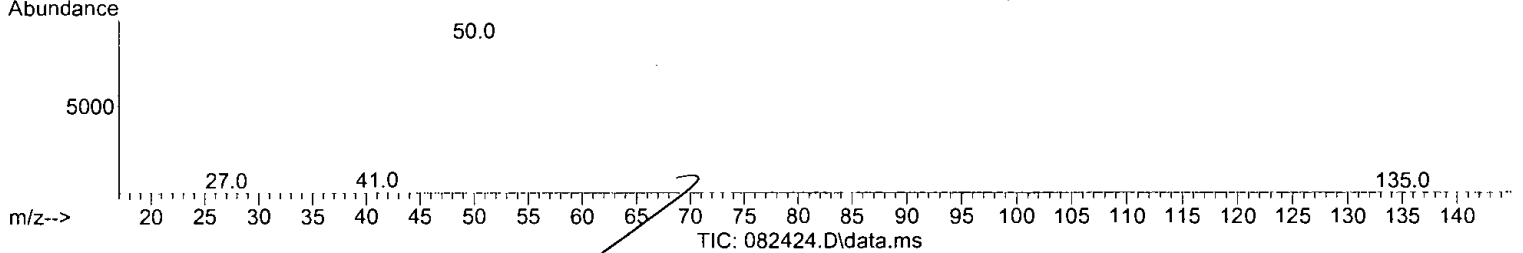
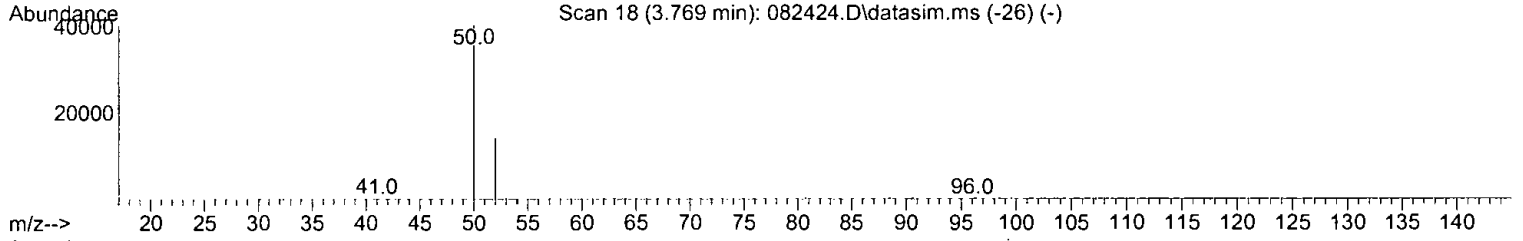
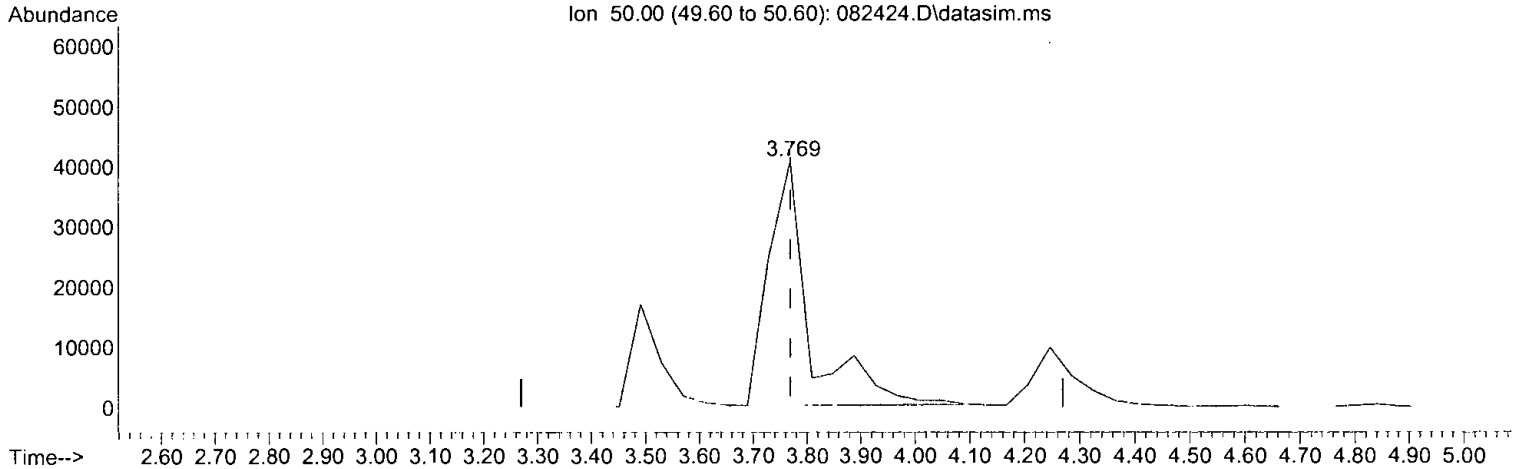
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082424.D  
 Acq On : 24 Aug 2021 10:14 pm  
 Operator : bat  
 Sample : 8.0 ppbv 64-87a  
 Misc : cal line, 80cc of 25ppbv  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:36 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (+ 0.000) 8.808 ppbv

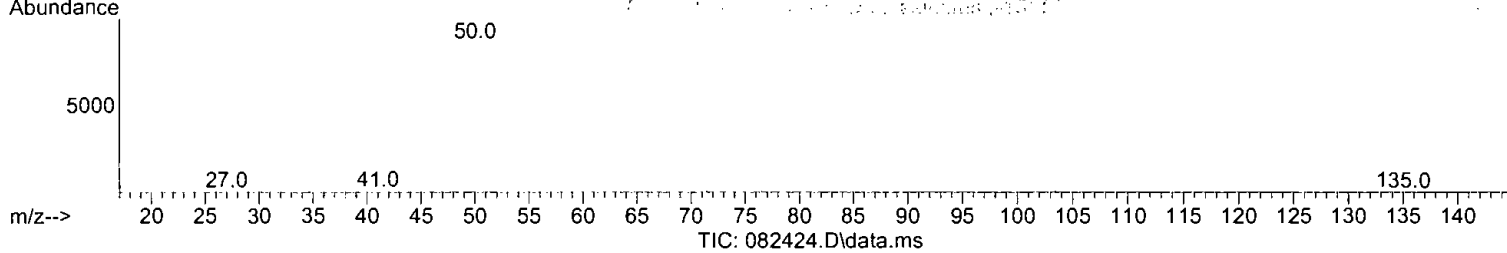
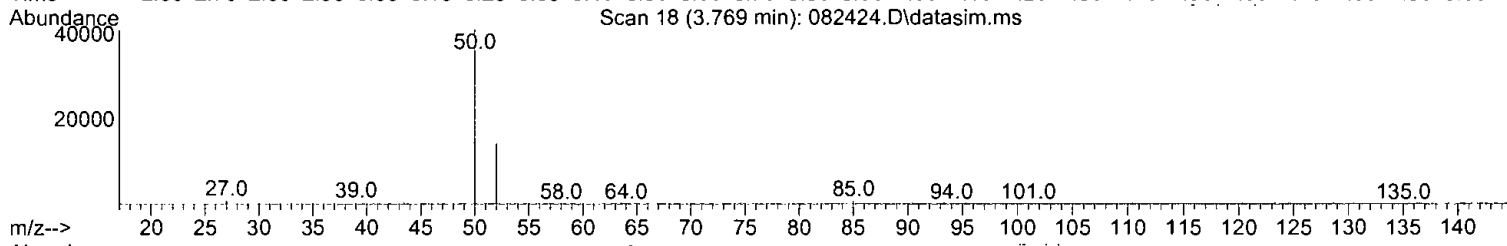
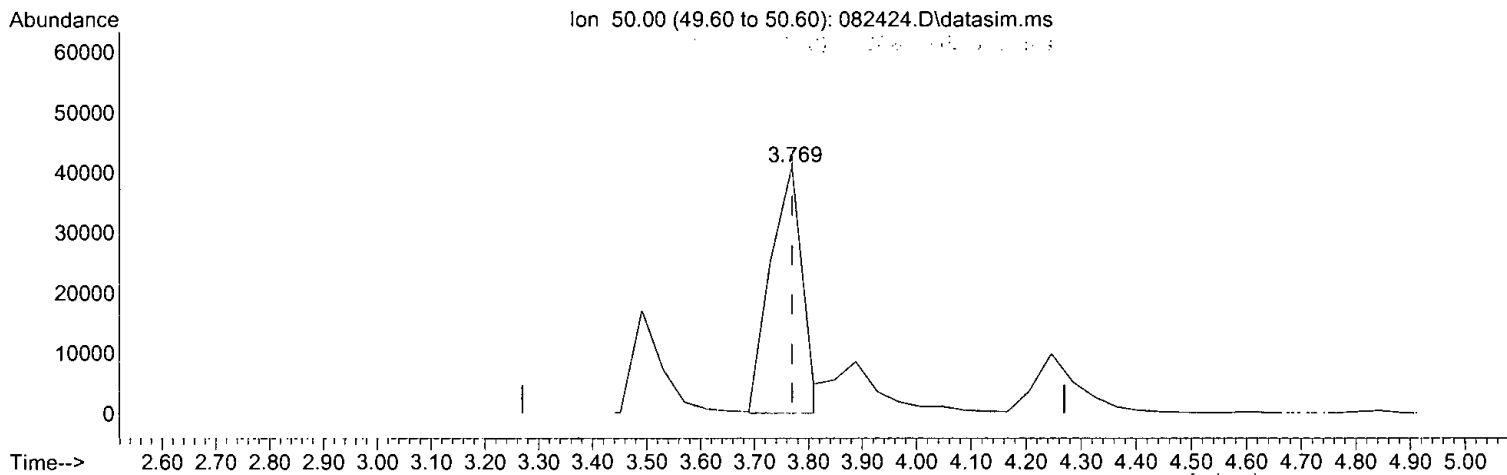
response	214468	
Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	34.89
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082424.D  
 Acq On : 24 Aug 2021 10:14 pm  
 Operator : bat  
 Sample : 8.0 ppbv 64-87a  
 Misc : cal line, 80cc of 25ppbv  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:36 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (+ 0.000) 6.937 ppbv m

response 168920

Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	34.69
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082424.D  
 Acq On : 24 Aug 2021 10:14 pm  
 Operator : bat  
 Sample : 8.0 ppbv 64-87a  
 Misc : cal line, 80cc of 25ppbv  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:36:03 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	117340	10.000	ppbv	#-0.02
39) 1,4-Difluorobenzene	13.23	114	560061	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	491505	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	449859	10.103	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	101.00%
Target Compounds						
						Qvalue
2) Propene	3.41	41	160186	7.984	ppbv	96
3) Dichlorodifluoromethane	3.52	85	383853	7.393	ppbv	98
4) Chloromethane	3.77	50	168920m	6.937	ppbv	
5) F-114	3.88	85	393791	7.542	ppbv	90
6) Vinyl chloride	4.05	62	199034	7.680	ppbv	98
7) 1,3-Butadiene	4.25	54	133723	7.454	ppbv	# 87
8) Butane	4.32	43	281912	7.398	ppbv	98
9) Bromomethane	4.64	94	141047	7.804	ppbv	98
10) Chloroethane	4.84	64	67958	7.630	ppbv	99
11) Vinyl bromide	5.32	106	166856	7.965	ppbv	100
12) Ethanol	4.96	45	45905	6.994	ppbv	100
13) Acrolein	5.43	56	62382	7.321	ppbv	99
14) Pentane	6.33	43	342208	7.495	ppbv	97
15) Trichlorofluoromethane	5.88	101	444616	7.680	ppbv	98
16) Acetone	5.59	58	74590	7.224	ppbv	# 77
17) 2-Propanol	5.84	45	325886	7.811	ppbv	# 100
18) 1,1-Dichloroethene	6.73	96	143843	7.437	ppbv	95
19) trans-1,2-Dichloroethene	8.18	96	142597	7.474	ppbv	# 81
20) Methylene chloride	6.86	84	139277	6.781	ppbv	84
21) t-Butyl alcohol (TBA)	6.62	59	260798	7.714	ppbv	# 41
22) 3-Chloropropene	7.01	41	259084	7.587	ppbv	92
23) CFC-113	7.23	101	305776	7.674	ppbv	85
24) Carbon disulfide	7.33	76	520283	7.727	ppbv	96
25) Methyl t-butyl ether (...)	8.51	73	341582	7.621	ppbv	99
26) Vinyl acetate	8.62	43	236967	7.882	ppbv	98
27) 1,1-Dichloroethane	8.44	63	344830	7.633	ppbv	97
28) cis-1,2-Dichloroethene	9.73	96	156888	7.510	ppbv	87
29) Hexane	10.10	57	262607	7.563	ppbv	90
30) Chloroform	10.19	83	380942	7.436	ppbv	99
31) Ethyl acetate	10.01	43	555862	7.606	ppbv	# 98
32) Tetrahydrofuran	10.83	42	238885	7.531	ppbv	92
33) 2-Butanone (MEK)	8.96	72	62469	7.480	ppbv	# 47
34) 1,2-Dichloroethane (EDC)	11.44	62	286181	7.425	ppbv	96
35) 1,1,1-Trichloroethane	11.93	97	290848	7.668	ppbv	87
36) Carbon tetrachloride	12.95	117	288254	7.729	ppbv	100
37) Benzene	12.70	78	531209	7.393	ppbv	96
38) Cyclohexane	13.16	84	147997	7.555	ppbv	# 77
40) 1,2-Dichloropropane	13.87	63	258315	7.464	ppbv	95
41) 1,4-Dioxane	14.14	88	114452	7.579	ppbv	71
42) 2,2,4-Trimethylpentane	14.31	57	899902	7.740	ppbv	93

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082424.D  
 Acq On : 24 Aug 2021 10:14 pm  
 Operator : bat  
 Sample : 8.0 ppbv 64-87a  
 Misc : cal line, 80cc of 25ppbv  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

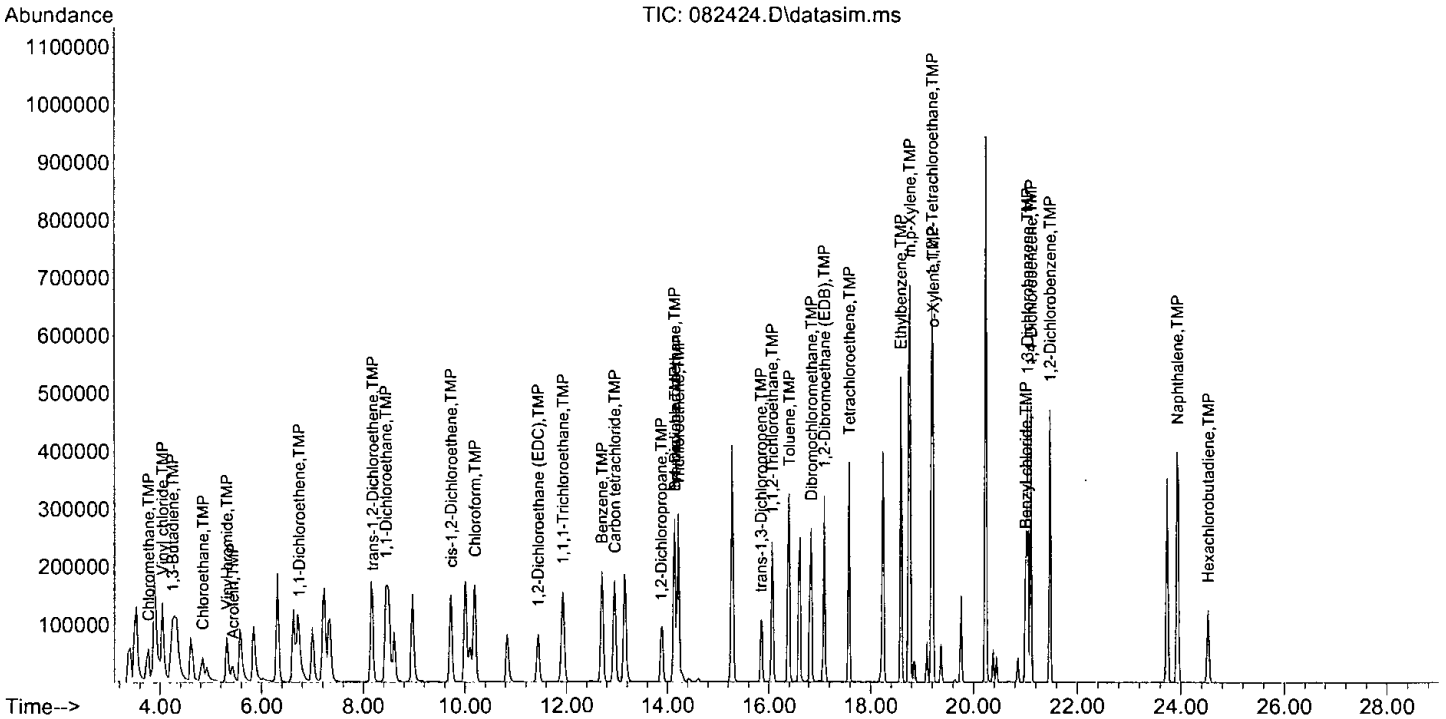
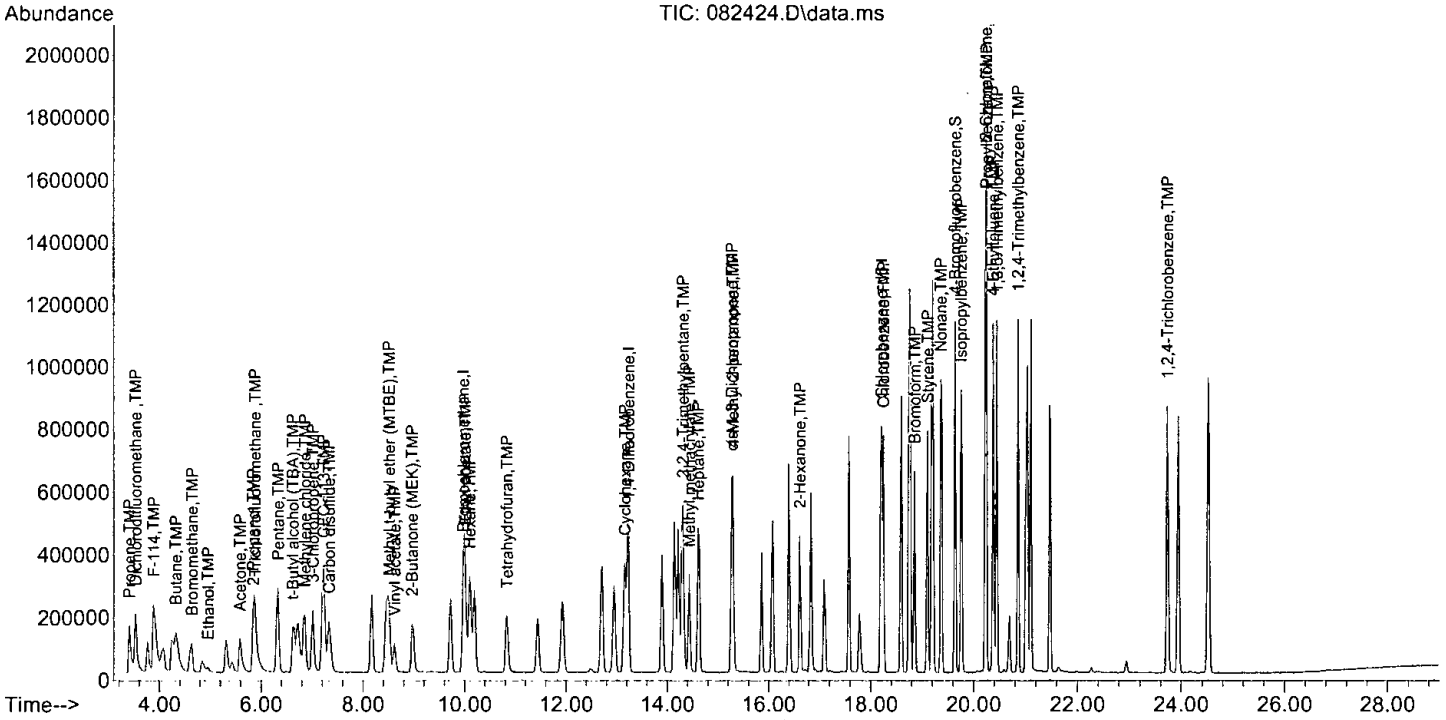
Quant Time: Aug 25 11:36:03 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.43	41	249750	7.867	ppbv #	87
44) Heptane	14.60	43	411672	7.664	ppbv	92
45) Bromodichloromethane	14.14	83	406106	7.609	ppbv	91
46) Trichloroethene	14.22	95	250776	7.244	ppbv	89
47) cis-1,3-Dichloropropene	15.27	75	282694	7.937	ppbv	96
48) 4-Methyl-2-pentanone	15.29	100	17891	7.890	ppbv #	1
49) trans-1,3-Dichloropropene	15.85	75	240849	7.958	ppbv	77
50) Toluene	16.40	92	315883	7.527	ppbv #	80
51) 1,1,2-Trichloroethane	16.06	83	238023	7.554	ppbv	100
52) 2-Hexanone	16.62	43	479888	8.122	ppbv	91
53) Tetrachloroethene	17.58	164	165878	7.774	ppbv	84
54) Dibromochloromethane	16.85	129	339582	7.701	ppbv	89
55) 1,2-Dibromoethane (EDB)	17.10	107	327195	7.499	ppbv	90
57) Chlorobenzene	18.25	112	406657	7.724	ppbv	91
58) Ethylbenzene	18.59	91	800033	7.329	ppbv	98
59) 1,1,2,2-Tetrachloroethane	19.19	83	572829	7.522	ppbv	94
60) Nonane	19.36	43	654404	7.929	ppbv	92
61) Isopropylbenzene	19.75	105	841110	8.787	ppbv	92
62) 2-Chlorotoluene	20.23	126	182607	8.024	ppbv	74
63) Propylbenzene	20.25	91	1663203	7.830	ppbv	96
64) 4-Ethyltoluene	20.38	105	788598	7.915	ppbv	98
65) m,p-Xylene	18.76	106	533037	15.207	ppbv	92
66) o-Xylene	19.21	106	263993	7.661	ppbv	91
67) Styrene	19.11	104	401322	7.912	ppbv	93
68) Bromoform	18.85	173	322770	8.198	ppbv	99
70) Benzyl chloride	21.01	91	316686	8.580	ppbv	93
71) 1,3,5-Trimethylbenzene	20.45	105	630983	7.899	ppbv	96
72) 1,2,4-Trimethylbenzene	20.86	105	645507	7.822	ppbv	99
73) 1,3-Dichlorobenzene	21.04	146	440319	7.765	ppbv	93
74) 1,4-Dichlorobenzene	21.11	146	410907	7.834	ppbv	95
75) 1,2-Dichlorobenzene	21.47	146	406486	7.582	ppbv	94
76) 1,2,4-Trichlorobenzene	23.73	180	336193	7.878	ppbv	97
77) Naphthalene	23.93	128	892536	8.025	ppbv	98
78) Hexachlorobutadiene	24.52	225	271052	7.999	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082424.D  
 Acq On : 24 Aug 2021 10:14 pm  
 Operator : bat  
 Sample : 8.0 ppbv 64-87a  
 Misc : cal line, 80cc of 25ppbv  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:36:03 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082425.D  
 Acq On : 24 Aug 2021 10:51 pm  
 Operator : bat  
 Sample : 10 ppbv 64-87a  
 Misc : cal line, 100cc of 25ppbv  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	119230	10.000	ppbv	#-0.02
39) 1,4-Difluorobenzene	13.23	114	575285	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	505882	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	460965	10.058	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	100.60%
Target Compounds						
						Qvalue
2) Propene	3.41	41	192033	9.420	ppbv	96
3) Dichlorodifluoromethane	3.52	85	495620	9.394	ppbv	99
4) Chloromethane	3.77	50	219358	8.866	ppbv	81
5) F-114	3.88	85	489592	9.228	ppbv	86
6) Vinyl chloride	4.05	62	246925	9.377	ppbv	97
7) 1,3-Butadiene	4.25	54	168053	9.219	ppbv	# 88
8) Butane	4.32	43	356892	9.217	ppbv	97
9) Bromomethane	4.64	94	176462	9.608	ppbv	96
10) Chloroethane	4.84	64	85786	9.479	ppbv	100
11) Vinyl bromide	5.32	106	208574	9.798	ppbv	100
12) Ethanol	4.96	45	61009	9.147	ppbv	96
13) Acrolein	5.43	56	78463	9.062	ppbv	90
14) Pentane	6.33	43	432871	9.330	ppbv	98
15) Trichlorofluoromethane	5.88	101	550291	9.355	ppbv	99
16) Acetone	5.59	58	91793	8.749	ppbv	# 70
17) 2-Propanol	5.84	45	407890	9.621	ppbv	# 98
18) 1,1-Dichloroethene	6.73	96	180529	9.186	ppbv	94
19) trans-1,2-Dichloroethene	8.18	96	179951	9.282	ppbv	84
20) Methylene chloride	6.86	84	183677	8.802	ppbv	86
21) t-Butyl alcohol (TBA)	6.62	59	341800	9.949	ppbv	# 44
22) 3-Chloropropene	7.01	41	326296	9.404	ppbv	92
23) CFC-113	7.23	101	384723	9.502	ppbv	86
24) Carbon disulfide	7.33	76	666389	9.741	ppbv	97
25) Methyl t-butyl ether (...)	8.51	73	428701	9.413	ppbv	98
26) Vinyl acetate	8.62	43	293836	9.619	ppbv	97
27) 1,1-Dichloroethane	8.44	63	435309	9.483	ppbv	97
28) cis-1,2-Dichloroethene	9.73	96	197756	9.316	ppbv	86
29) Hexane	10.10	57	338615	9.598	ppbv	92
30) Chloroform	10.19	83	478906	9.200	ppbv	99
31) Ethyl acetate	10.01	43	706103	9.508	ppbv	# 98
32) Tetrahydrofuran	10.83	42	303417	9.413	ppbv	92
33) 2-Butanone (MEK)	8.96	72	81715	9.630	ppbv	# 58
34) 1,2-Dichloroethane (EDC)	11.44	62	360186	9.197	ppbv	96
35) 1,1,1-Trichloroethane	11.93	97	370308	9.608	ppbv	88
36) Carbon tetrachloride	12.95	117	365813	9.653	ppbv	100
37) Benzene	12.70	78	669648	9.172	ppbv	96
38) Cyclohexane	13.16	84	187366	9.414	ppbv	78
40) 1,2-Dichloropropane	13.87	63	327710	9.218	ppbv	95
41) 1,4-Dioxane	14.14	88	144504	9.316	ppbv	73
42) 2,2,4-Trimethylpentane	14.31	57	1138810	9.535	ppbv	93

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082425.D  
 Acq On : 24 Aug 2021 10:51 pm  
 Operator : bat  
 Sample : 10 ppbv 64-87a  
 Misc : cal line, 100cc of 25ppbv  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

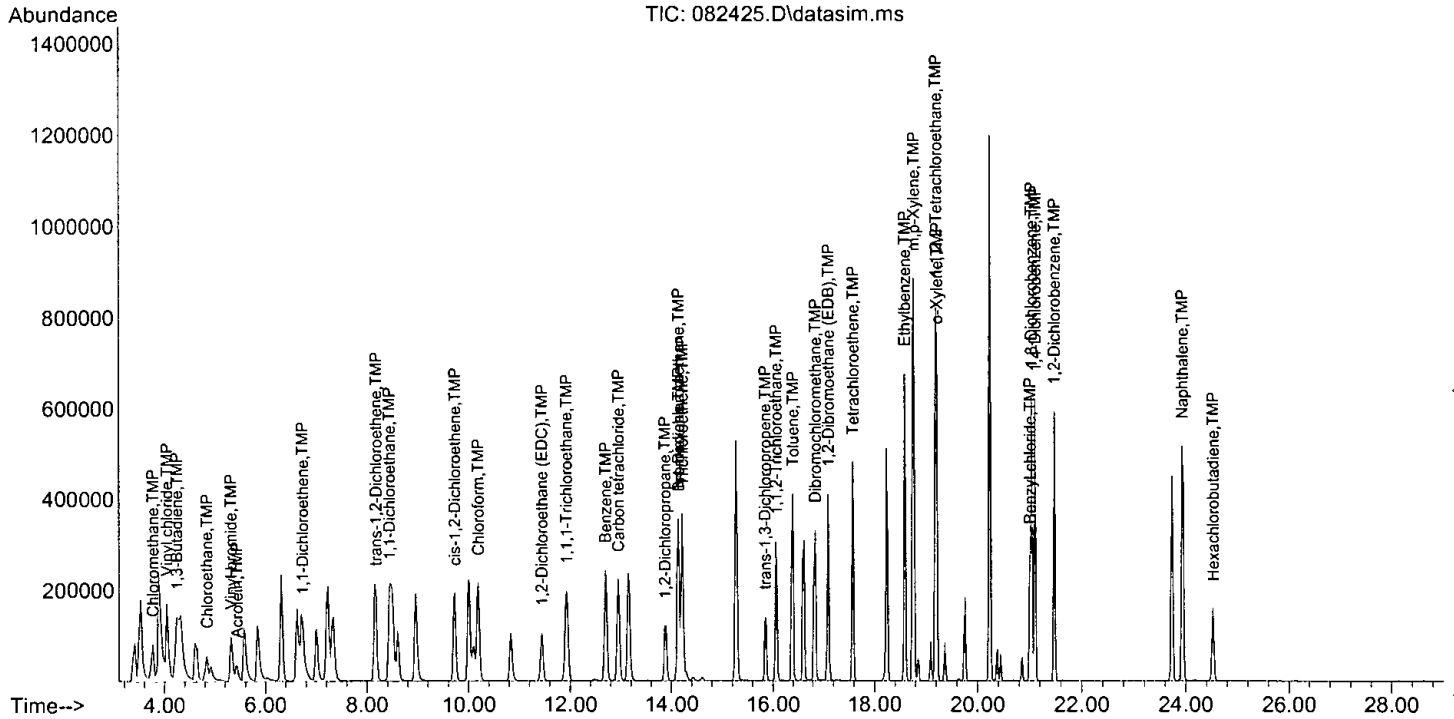
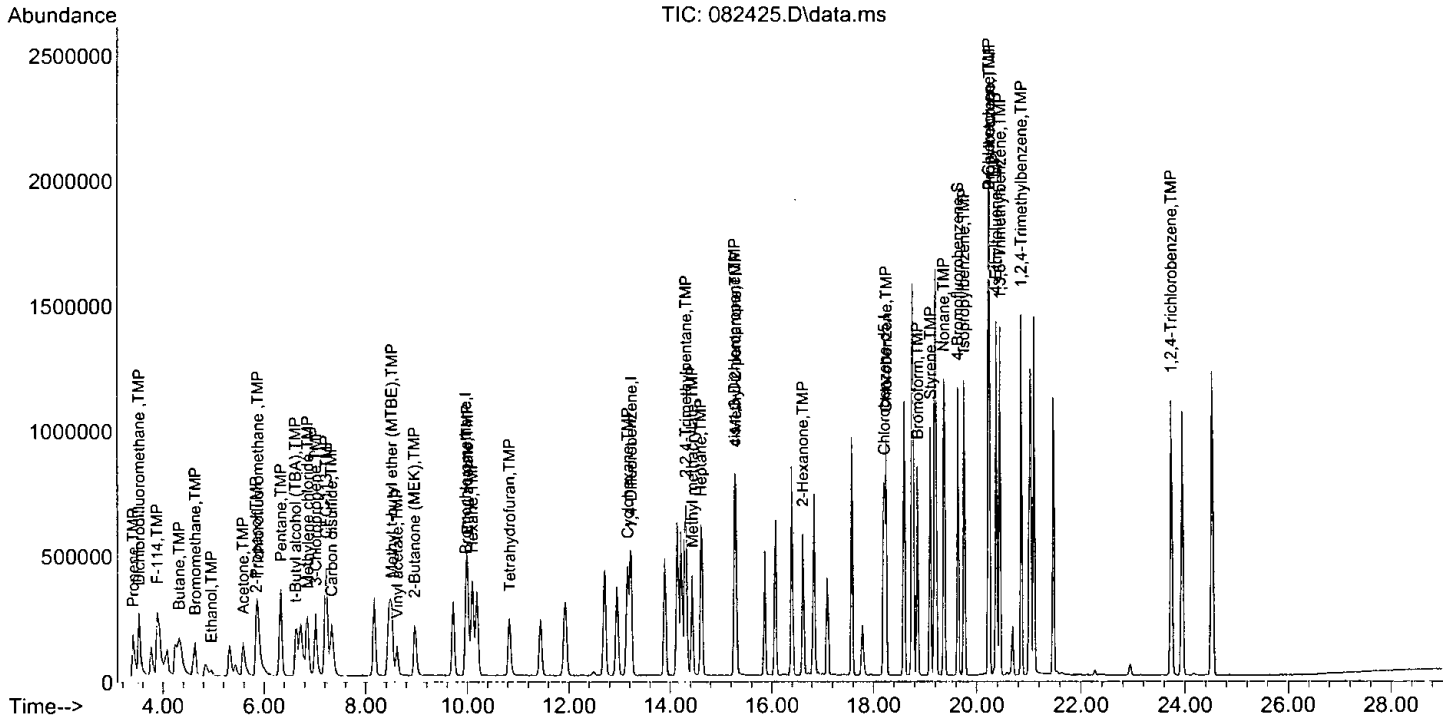
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.43	41	318264	9.760	ppbv #	87
44) Heptane	14.60	43	529580	9.599	ppbv	92
45) Bromodichloromethane	14.14	83	512016	9.339	ppbv	91
46) Trichloroethene	14.22	95	317526	8.929	ppbv	89
47) cis-1,3-Dichloropropene	15.27	75	363541	9.936	ppbv	95
48) 4-Methyl-2-pentanone	15.29	100	22357	9.598	ppbv #	1
49) trans-1,3-Dichloropropene	15.85	75	309608	9.959	ppbv	77
50) Toluene	16.40	92	398976	9.256	ppbv #	80
51) 1,1,2-Trichloroethane	16.06	83	298927	9.236	ppbv	100
52) 2-Hexanone	16.62	43	607875	10.016	ppbv	91
53) Tetrachloroethene	17.58	164	208035	9.492	ppbv	84
54) Dibromochloromethane	16.85	129	430784	9.511	ppbv	89
55) 1,2-Dibromoethane (EDB)	17.10	107	414764	9.254	ppbv	91
57) Chlorobenzene	18.25	112	506337	9.344	ppbv	90
58) Ethylbenzene	18.59	91	999249	8.893	ppbv	98
59) 1,1,2,2-Tetrachloroethane	19.19	83	719415	9.179	ppbv	94
60) Nonane	19.36	43	817219	9.620	ppbv	92
61) Isopropylbenzene	19.75	105	943927	9.580	ppbv	97
62) 2-Chlorotoluene	20.23	126	227396	9.708	ppbv	69
63) Propylbenzene	20.25	91	2120362	9.699	ppbv	96
64) 4-Ethyltoluene	20.38	105	997931	9.732	ppbv	97
65) m,p-Xylene	18.76	106	669712	18.563	ppbv	92
66) o-Xylene	19.21	106	331063	9.335	ppbv	91
67) Styrene	19.11	104	500510	9.587	ppbv	90
68) Bromoform	18.85	173	409375	10.102	ppbv	99
70) Benzyl chloride	21.01	91	411414	10.829	ppbv	93
71) 1,3,5-Trimethylbenzene	20.45	105	801493	9.748	ppbv	95
72) 1,2,4-Trimethylbenzene	20.86	105	827118	9.738	ppbv	96
73) 1,3-Dichlorobenzene	21.04	146	533458	9.140	ppbv	94
74) 1,4-Dichlorobenzene	21.11	146	541411	10.050	ppbv	96
75) 1,2-Dichlorobenzene	21.47	146	512053	9.280	ppbv	96
76) 1,2,4-Trichlorobenzene	23.73	180	433768	9.918	ppbv	97
77) Naphthalene	23.93	128	1131189	9.913	ppbv	98
78) Hexachlorobutadiene	24.52	225	343323	9.963	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed



Data Path : Z:\Proc\_GCMS7\08-24-21\  
Data File : 082425.D  
Acq On : 24 Aug 2021 10:51 pm  
Operator : bat  
Sample : 10 ppbv 64-87a  
Misc : cal line, 100cc of 25ppbv  
ALS Vial : 25 Sample Multiplier: 1  
InstName : GCMS7

Quant Time: Aug 25 10:54:42 2021  
Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
Quant Title : TO-15 SS method  
QLast Update : Wed Aug 25 09:28:09 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082425.D  
 Acq On : 24 Aug 2021 10:51 pm  
 Operator : bat  
 Sample : 10 ppbv 64-87a  
 Misc : cal line, 100cc of 25ppbv  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	-0.02
2 TMP	Propene	10.000	9.420	5.8	100	0.00
3 TMP	Dichlorodifluoromethane	10.000	9.394	6.1	100	0.00
4 TMP	Chloromethane	10.000	8.866	11.3	100	0.00
5 TMP	F-114	10.000	9.228	7.7	100	0.00
6 TMP	Vinyl chloride	10.000	9.377	6.2	100	0.00
7 TMP	1,3-Butadiene	10.000	9.219	7.8	100	0.00
8 TMP	Butane	10.000	9.217	7.8	100	0.00
9 TMP	Bromomethane	10.000	9.608	3.9	100	0.00
10 TMP	Chloroethane	10.000	9.479	5.2	100	0.00
11 TMP	Vinyl bromide	10.000	9.798	2.0	100	0.00
12 TMP	Ethanol	10.000	9.147	8.5	100	0.00
13 TMP	Acrolein	10.000	9.062	9.4	100	0.00
14 TMP	Pentane	10.000	9.330	6.7	100	0.00
15 TMP	Trichlorofluoromethane	10.000	9.355	6.4	100	0.00
16 TMP	Acetone	10.000	8.749	12.5	100	0.00
17 TMP	2-Propanol	10.000	9.621	3.8	100	-0.02
18 TMP	1,1-Dichloroethene	10.000	9.186	8.1	100	0.00
19 TMP	trans-1,2-Dichloroethene	10.000	9.282	7.2	100	0.00
20 TMP	Methylene chloride	10.000	8.802	12.0	100	0.00
21 TMP	t-Butyl alcohol (TBA)	10.000	9.949	0.5	100	-0.03
22 TMP	3-Chloropropene	10.000	9.404	6.0	100	0.00
23 TMP	CFC-113	10.000	9.502	5.0	100	0.00
24 TMP	Carbon disulfide	10.000	9.741	2.6	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	10.000	9.413	5.9	100	0.00
26 TMP	Vinyl acetate	10.000	9.619	3.8	100	0.00
27 TMP	1,1-Dichloroethane	10.000	9.483	5.2	100	0.00
28 TMP	cis-1,2-Dichloroethene	10.000	9.316	6.8	100	0.00
29 TMP	Hexane	10.000	9.598	4.0	100	-0.02
30 TMP	Chloroform	10.000	9.200	8.0	100	0.00
31 TMP	Ethyl acetate	10.000	9.508	4.9	100	0.00
32 TMP	Tetrahydrofuran	10.000	9.413	5.9	100	0.00
33 TMP	2-Butanone (MEK)	10.000	9.630	3.7	100	-0.03
34 TMP	1,2-Dichloroethane (EDC)	10.000	9.197	8.0	100	0.00
35 TMP	1,1,1-Trichloroethane	10.000	9.608	3.9	100	-0.01
36 TMP	Carbon tetrachloride	10.000	9.653	3.5	100	0.00
37 TMP	Benzene	10.000	9.172	8.3	100	0.00
38 TMP	Cyclohexane	10.000	9.414	5.9	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	10.000	9.218	7.8	100	-0.02
41 TMP	1,4-Dioxane	10.000	9.316	6.8	100	-0.02
42 TMP	2,2,4-Trimethylpentane	10.000	9.535	4.6	100	0.00
43 TMP	Methyl methacrylate	10.000	9.760	2.4	100	0.00
44 TMP	Heptane	10.000	9.599	4.0	100	-0.02
45 TMP	Bromodichloromethane	10.000	9.339	6.6	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082425.D  
 Acq On : 24 Aug 2021 10:51 pm  
 Operator : bat  
 Sample : 10 ppbv 64-87a  
 Misc : cal line, 100cc of 25ppbv  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	10.000	8.929	10.7	100	0.00
47 TMP cis-1,3-Dichloropropene	10.000	9.936	0.6	100	0.00
48 TMP 4-Methyl-2-pentanone	10.000	9.598	4.0	100	0.00
49 TMP trans-1,3-Dichloropropene	10.000	9.959	0.4	100	0.00
50 TMP Toluene	10.000	9.256	7.4	100	0.00
51 TMP 1,1,2-Trichloroethane	10.000	9.236	7.6	100	0.00
52 TMP 2-Hexanone	10.000	10.016	-0.2	100	0.00
53 TMP Tetrachloroethene	10.000	9.492	5.1	100	0.00
54 TMP Dibromochloromethane	10.000	9.511	4.9	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	10.000	9.254	7.5	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	10.000	9.344	6.6	100	0.00
58 TMP Ethylbenzene	10.000	8.893	11.1	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	10.000	9.179	8.2	100	0.00
60 TMP Nonane	10.000	9.620	3.8	100	0.00
61 TMP Isopropylbenzene	10.000	9.580	4.2	100	0.00
62 TMP 2-Chlorotoluene	10.000	9.708	2.9	100	0.00
63 TMP Propylbenzene	10.000	9.699	3.0	100	0.00
64 TMP 4-Ethyltoluene	10.000	9.732	2.7	100	0.00
65 TMP m,p-Xylene	20.000	18.563	7.2	100	0.00
66 TMP o-Xylene	10.000	9.335	6.6	100	0.00
67 TMP Styrene	10.000	9.587	4.1	100	0.00
68 TMP Bromoform	10.000	10.102	-1.0	100	0.00
69 S 4-Bromofluorobenzene	10.000	10.058	-0.6	100	0.00
70 TMP Benzyl chloride	10.000	10.829	-8.3	100	0.00
71 TMP 1,3,5-Trimethylbenzene	10.000	9.748	2.5	100	0.00
72 TMP 1,2,4-Trimethylbenzene	10.000	9.738	2.6	100	0.00
73 TMP 1,3-Dichlorobenzene	10.000	9.140	8.6	100	0.00
74 TMP 1,4-Dichlorobenzene	10.000	10.050	-0.5	100	0.00
75 TMP 1,2-Dichlorobenzene	10.000	9.280	7.2	100	0.00
76 TMP 1,2,4-Trichlorobenzene	10.000	9.918	0.8	100	0.00
77 TMP Naphthalene	10.000	9.913	0.9	100	0.00
78 TMP Hexachlorobutadiene	10.000	9.963	0.4	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082425.D  
 Acq On : 24 Aug 2021 10:51 pm  
 Operator : bat  
 Sample : 10 ppbv 64-87a  
 Misc : cal line, 100cc of 25ppbv  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	-0.02
2 TMP	Propene	1.710	1.611	5.8	100	0.00
3 TMP	Dichlorodifluoromethane	4.425	4.157	6.1	100	0.00
4 TMP	Chloromethane	2.075	1.840	11.3	100	0.00
5 TMP	F-114	4.450	4.106	7.7	100	0.00
6 TMP	Vinyl chloride	2.209	2.071	6.2	100	0.00
7 TMP	1,3-Butadiene	1.529	1.409	7.8	100	0.00
8 TMP	Butane	3.248	2.993	7.9	100	0.00
9 TMP	Bromomethane	1.540	1.480	3.9	100	0.00
10 TMP	Chloroethane	0.759	0.720	5.1	100	0.00
11 TMP	Vinyl bromide	1.785	1.749	2.0	100	0.00
12 TMP	Ethanol	0.559	0.512	8.4	100	0.00
13 TMP	Acrolein	0.726	0.658	9.4	100	0.00
14 TMP	Pentane	3.891	3.631	6.7	100	0.00
15 TMP	Trichlorofluoromethane	4.934	4.615	6.5	100	0.00
16 TMP	Acetone	0.880	0.770	12.5	100	0.00
17 TMP	2-Propanol	3.556	3.421	3.8	100	-0.02
18 TMP	1,1-Dichloroethene	1.648	1.514	8.1	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.626	1.509	7.2	100	0.00
20 TMP	Methylene chloride	1.750	1.541	11.9	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.881	2.867	0.5	100	-0.03
22 TMP	3-Chloropropene	2.910	2.737	5.9	100	0.00
23 TMP	CFC-113	3.396	3.227	5.0	100	0.00
24 TMP	Carbon disulfide	5.738	5.589	2.6	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	3.596	5.9	100	0.00
26 TMP	Vinyl acetate	2.562	2.464	3.8	100	0.00
27 TMP	1,1-Dichloroethane	3.850	3.651	5.2	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.659	6.8	100	0.00
29 TMP	Hexane	2.959	2.840	4.0	100	-0.02
30 TMP	Chloroform	4.366	4.017	8.0	100	0.00
31 TMP	Ethyl acetate	6.229	5.922	4.9	100	0.00
32 TMP	Tetrahydrofuran	2.703	2.545	5.8	100	0.00
33 TMP	2-Butanone (MEK)	0.712	0.685	3.8	100	-0.03
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.021	8.0	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.106	3.9	100	-0.01
36 TMP	Carbon tetrachloride	3.178	3.068	3.5	100	0.00
37 TMP	Benzene	6.123	5.616	8.3	100	0.00
38 TMP	Cyclohexane	1.669	1.571	5.9	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.618	0.570	7.8	100	-0.02
41 TMP	1,4-Dioxane	0.270	0.251	7.0	100	-0.02
42 TMP	2,2,4-Trimethylpentane	2.076	1.980	4.6	100	0.00
43 TMP	Methyl methacrylate	0.567	0.553	2.5	100	0.00
44 TMP	Heptane	0.959	0.921	4.0	100	-0.02
45 TMP	Bromodichloromethane	0.953	0.890	6.6	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082425.D  
 Acq On : 24 Aug 2021 10:51 pm  
 Operator : bat  
 Sample : 10 ppbv 64-87a  
 Misc : cal line, 100cc of 25ppbv  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.552	10.7	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.632	0.6	100	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.039	2.5	100	0.00
49 TMP trans-1,3-Dichloropropene	0.540	0.538	0.4	100	0.00
50 TMP Toluene	0.749	0.694	7.3	100	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.520	7.6	100	0.00
52 TMP 2-Hexanone	1.055	1.057	-0.2	100	0.00
53 TMP Tetrachloroethene	0.381	0.362	5.0	100	0.00
54 TMP Dibromochloromethane	0.787	0.749	4.8	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.721	7.4	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	1.001	6.5	100	0.00
58 TMP Ethylbenzene	2.221	1.975	11.1	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.422	8.2	100	0.00
60 TMP Nonane	1.679	1.615	3.8	100	0.00
61 TMP Isopropylbenzene	1.948	1.866	4.2	100	0.00
62 TMP 2-Chlorotoluene	0.463	0.450	2.8	100	0.00
63 TMP Propylbenzene	4.322	4.191	3.0	100	0.00
64 TMP 4-Ethyltoluene	2.027	1.973	2.7	100	0.00
65 TMP m,p-Xylene	0.713	0.662	7.2	100	0.00
66 TMP o-Xylene	0.701	0.654	6.7	100	0.00
67 TMP Styrene	1.032	0.989	4.2	100	0.00
68 TMP Bromoform	0.801	0.809	-1.0	100	0.00
69 S 4-Bromofluorobenzene	0.906	0.911	-0.6	100	0.00
70 TMP Benzyl chloride	0.751	0.813	-8.3	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	1.584	2.5	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.679	1.635	2.6	100	0.00
73 TMP 1,3-Dichlorobenzene	1.154	1.055	8.6	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.070	7.1	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.012	7.2	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.857	9.8	100	0.00
77 TMP Naphthalene	2.538	2.236	11.9	100	0.00
78 TMP Hexachlorobutadiene	0.852	0.679	20.3	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082426.D  
 Acq On : 24 Aug 2021 11:29 pm  
 Operator : bat  
 Sample : 15 ppbv 64-87a  
 Misc : cal line, 150cc of 25ppbv  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	116041	10.000	ppbv	#-0.02
39) 1,4-Difluorobenzene	13.21	114	572424	10.000	ppbv	-0.02
56) Chlorobenzene-d5	18.21	117	508460	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	460638	10.000	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	100.00%
Target Compounds						
						Qvalue
2) Propene	3.41	41	301674	15.205	ppbv	95
3) Dichlorodifluoromethane	3.52	85	712460	13.876	ppbv	98
4) Chloromethane	3.77	50	334236	13.880	ppbv	80
5) F-114	3.88	85	730821	14.154	ppbv	89
6) Vinyl chloride	4.05	62	370902	14.472	ppbv	98
7) 1,3-Butadiene	4.25	54	248742	14.021	ppbv	# 86
8) Butane	4.32	43	525093	13.933	ppbv	97
9) Bromomethane	4.64	94	263139	14.721	ppbv	99
10) Chloroethane	4.84	64	123938	14.071	ppbv	100
11) Vinyl bromide	5.32	106	307966	14.865	ppbv	100
12) Ethanol	4.96	45	94932	14.625	ppbv	100
13) Acrolein	5.41	56	125786	14.927	ppbv	93
14) Pentane	6.33	43	636904	14.105	ppbv	98
15) Trichlorofluoromethane	5.88	101	821137	14.343	ppbv	99
16) Acetone	5.59	58	139294	13.641	ppbv	# 81
17) 2-Propanol	5.84	45	609194	14.764	ppbv	# 100
18) 1,1-Dichloroethene	6.70	96	267811	14.002	ppbv	# 67
19) trans-1,2-Dichloroethene	8.18	96	266224	14.109	ppbv	# 76
20) Methylene chloride	6.86	84	275449	13.562	ppbv	85
21) t-Butyl alcohol (TBA)	6.62	59	504495	15.088	ppbv	# 46
22) 3-Chloropropene	7.01	41	486530	14.407	ppbv	92
23) CFC-113	7.23	101	567658	14.405	ppbv	89
24) Carbon disulfide	7.33	76	974856	14.641	ppbv	97
25) Methyl t-butyl ether (...)	8.51	73	646696	14.589	ppbv	96
26) Vinyl acetate	8.62	43	442289	14.876	ppbv	98
27) 1,1-Dichloroethane	8.44	63	644975	14.437	ppbv	97
28) cis-1,2-Dichloroethene	9.73	96	292336	14.150	ppbv	89
29) Hexane	10.10	57	493595	14.375	ppbv	92
30) Chloroform	10.19	83	708854	13.991	ppbv	100
31) Ethyl acetate	10.01	43	1075107	14.875	ppbv	# 98
32) Tetrahydrofuran	10.82	42	449313	14.323	ppbv	90
33) 2-Butanone (MEK)	8.96	72	119020	14.411	ppbv	# 56
34) 1,2-Dichloroethane (EDC)	11.44	62	532781	13.978	ppbv	96
35) 1,1,1-Trichloroethane	11.93	97	552806	14.738	ppbv	88
36) Carbon tetrachloride	12.95	117	546526	14.819	ppbv	100
37) Benzene	12.70	78	992177	13.964	ppbv	96
38) Cyclohexane	13.16	84	274617	14.176	ppbv	# 78
40) 1,2-Dichloropropane	13.87	63	487511	13.782	ppbv	95
41) 1,4-Dioxane	14.14	88	214668	13.908	ppbv	82
42) 2,2,4-Trimethylpentane	14.31	57	1710197	14.391	ppbv	93

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082426.D  
 Acq On : 24 Aug 2021 11:29 pm  
 Operator : bat  
 Sample : 15 ppbv 64-87a  
 Misc : cal line, 150cc of 25ppbv  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS7

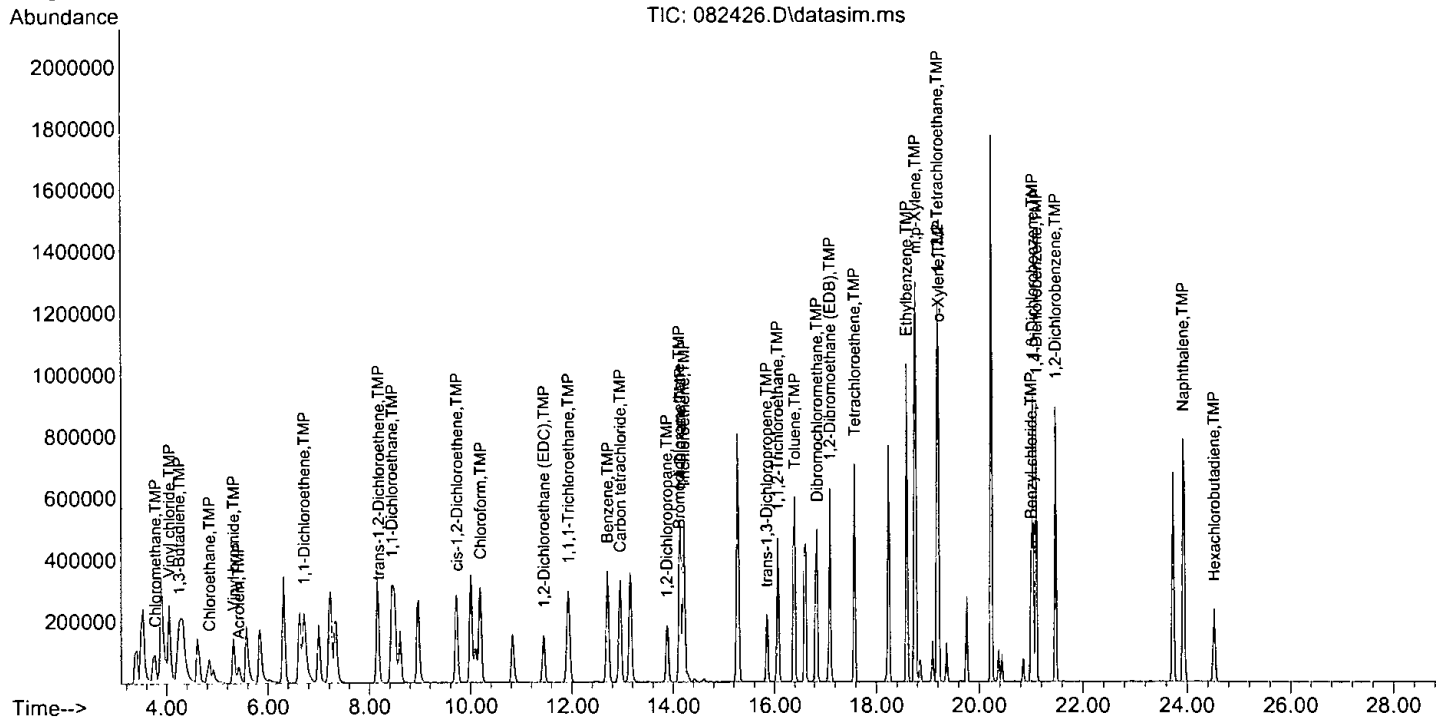
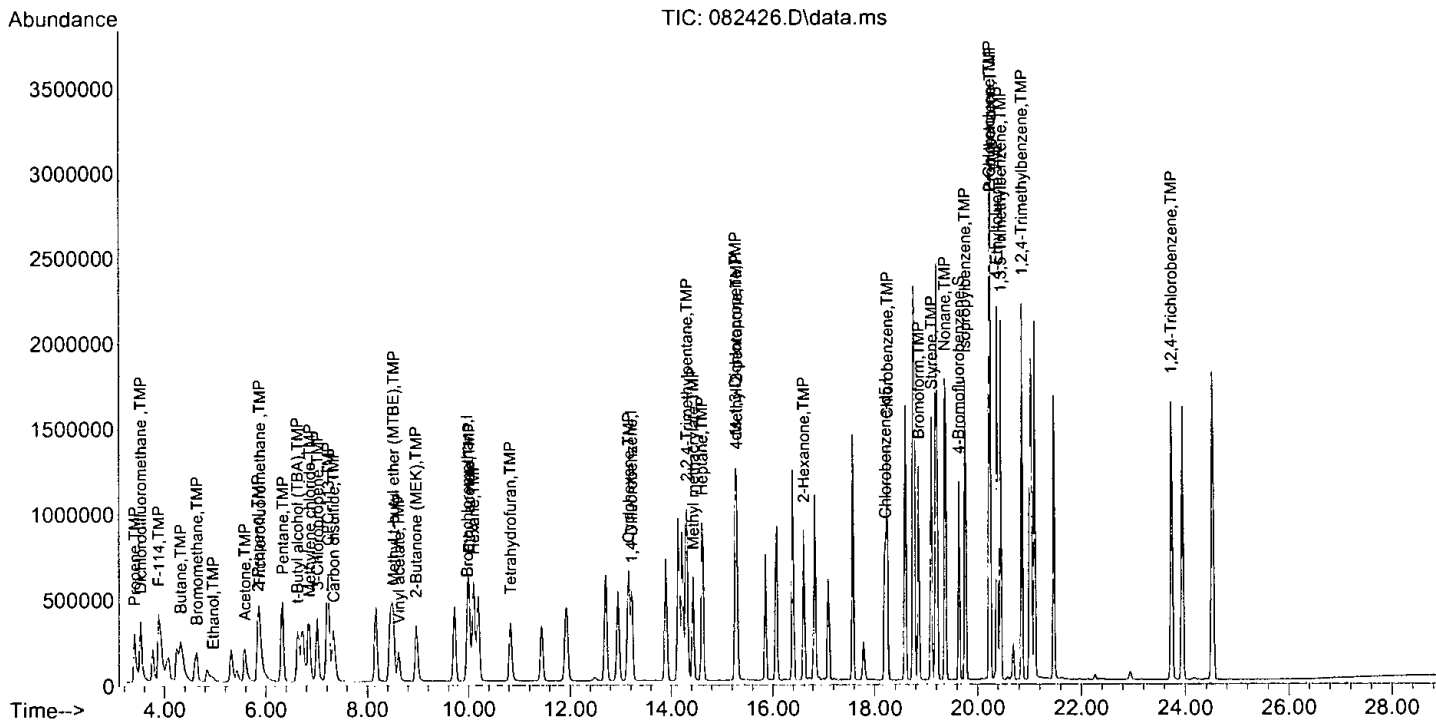
Quant Time: Aug 25 10:54:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.43	41	487264	15.018	ppbv #	87
44) Heptane	14.60	43	787830	14.351	ppbv	91
45) Bromodichloromethane	14.12	83	766180	14.045	ppbv	97
46) Trichloroethene	14.22	95	465384	13.152	ppbv	91
47) cis-1,3-Dichloropropene	15.27	75	538101	14.781	ppbv	96
48) 4-Methyl-2-pentanone	15.29	100	34621	14.938	ppbv #	1
49) trans-1,3-Dichloropropene	15.85	75	468368	15.141	ppbv	78
50) Toluene	16.40	92	599475	13.977	ppbv #	80
51) 1,1,2-Trichloroethane	16.06	83	446044	13.850	ppbv	99
52) 2-Hexanone	16.62	43	923833	15.298	ppbv	91
53) Tetrachloroethene	17.58	164	309932	14.212	ppbv	85
54) Dibromochloromethane	16.85	129	653847	14.508	ppbv	88
55) 1,2-Dibromoethane (EDB)	17.10	107	629394	14.113	ppbv	92
57) Chlorobenzene	18.25	112	759055	13.937	ppbv	92
58) Ethylbenzene	18.59	91	1498836	13.272	ppbv	98
59) 1,1,2,2-Tetrachloroethane	19.19	83	1081506	13.729	ppbv	94
60) Nonane	19.36	43	1223132	14.325	ppbv	92
61) Isopropylbenzene	19.75	105	1388238	14.018	ppbv	98
62) 2-Chlorotoluene	20.23	126	343589	14.594	ppbv	72
63) Propylbenzene	20.25	91	3158511	14.374	ppbv	96
64) 4-Ethyltoluene	20.38	105	1498365	14.538	ppbv	96
65) m,p-Xylene	18.76	106	997454	27.507	ppbv	93
66) o-Xylene	19.21	106	492883	13.827	ppbv	91
67) Styrene	19.11	104	760433	14.491	ppbv	90
68) Bromoform	18.85	173	621342	15.255	ppbv	99
70) Benzyl chloride	21.01	91	645056	16.893	ppbv	94
71) 1,3,5-Trimethylbenzene	20.45	105	1186099	14.353	ppbv	97
72) 1,2,4-Trimethylbenzene	20.86	105	1238787	14.510	ppbv	96
73) 1,3-Dichlorobenzene	21.04	146	801218	13.658	ppbv	94
74) 1,4-Dichlorobenzene	21.11	146	811321	15.055	ppbv	96
75) 1,2-Dichlorobenzene	21.47	146	767057	13.831	ppbv	96
76) 1,2,4-Trichlorobenzene	23.73	180	657956	15.110	ppbv	98
77) Naphthalene	23.93	128	1712935	15.058	ppbv	98
78) Hexachlorobutadiene	24.52	225	504685	15.028	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082426.D  
 Acq On : 24 Aug 2021 11:29 pm  
 Operator : bat  
 Sample : 15 ppbv 64-87a  
 Misc : cal line, 150cc of 25ppbv  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082426.D  
 Acq On : 24 Aug 2021 11:29 pm  
 Operator : bat  
 Sample : 15 ppbv 64-87a  
 Misc : cal line, 150cc of 25ppbv  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	-0.02
2 TMP	Propene	15.000	15.205	-1.4	100	0.00
3 TMP	Dichlorodifluoromethane	15.000	13.876	7.5	100	0.00
4 TMP	Chloromethane	15.000	13.880	7.5	100	0.00
5 TMP	F-114	15.000	14.154	5.6	100	0.00
6 TMP	Vinyl chloride	15.000	14.472	3.5	100	0.00
7 TMP	1,3-Butadiene	15.000	14.021	6.5	100	0.00
8 TMP	Butane	15.000	13.933	7.1	100	0.00
9 TMP	Bromomethane	15.000	14.721	1.9	100	0.00
10 TMP	Chloroethane	15.000	14.071	6.2	100	0.00
11 TMP	Vinyl bromide	15.000	14.865	0.9	100	0.00
12 TMP	Ethanol	15.000	14.625	2.5	100	0.00
13 TMP	Acrolein	15.000	14.927	0.5	100	-0.02
14 TMP	Pentane	15.000	14.105	6.0	100	0.00
15 TMP	Trichlorofluoromethane	15.000	14.343	4.4	100	0.00
16 TMP	Acetone	15.000	13.641	9.1	100	0.00
17 TMP	2-Propanol	15.000	14.764	1.6	100	-0.02
18 TMP	1,1-Dichloroethene	15.000	14.002	6.7	100	-0.03
19 TMP	trans-1,2-Dichloroethene	15.000	14.109	5.9	100	0.00
20 TMP	Methylene chloride	15.000	13.562	9.6	100	0.00
21 TMP	t-Butyl alcohol (TBA)	15.000	15.088	-0.6	100	-0.03
22 TMP	3-Chloropropene	15.000	14.407	4.0	100	0.00
23 TMP	CFC-113	15.000	14.405	4.0	100	0.00
24 TMP	Carbon disulfide	15.000	14.641	2.4	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	15.000	14.589	2.7	100	0.00
26 TMP	Vinyl acetate	15.000	14.876	0.8	100	0.00
27 TMP	1,1-Dichloroethane	15.000	14.437	3.8	100	0.00
28 TMP	cis-1,2-Dichloroethene	15.000	14.150	5.7	100	0.00
29 TMP	Hexane	15.000	14.375	4.2	100	-0.02
30 TMP	Chloroform	15.000	13.991	6.7	100	0.00
31 TMP	Ethyl acetate	15.000	14.875	0.8	100	0.00
32 TMP	Tetrahydrofuran	15.000	14.323	4.5	100	-0.02
33 TMP	2-Butanone (MEK)	15.000	14.411	3.9	100	-0.03
34 TMP	1,2-Dichloroethane (EDC)	15.000	13.978	6.8	100	0.00
35 TMP	1,1,1-Trichloroethane	15.000	14.738	1.7	100	-0.01
36 TMP	Carbon tetrachloride	15.000	14.819	1.2	100	0.00
37 TMP	Benzene	15.000	13.964	6.9	100	0.00
38 TMP	Cyclohexane	15.000	14.176	5.5	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	-0.02
40 TMP	1,2-Dichloropropane	15.000	13.782	8.1	100	-0.02
41 TMP	1,4-Dioxane	15.000	13.908	7.3	100	-0.02
42 TMP	2,2,4-Trimethylpentane	15.000	14.391	4.1	100	0.00
43 TMP	Methyl methacrylate	15.000	15.018	-0.1	100	0.00
44 TMP	Heptane	15.000	14.351	4.3	100	-0.02
45 TMP	Bromodichloromethane	15.000	14.045	6.4	100	-0.02

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082426.D  
 Acq On : 24 Aug 2021 11:29 pm  
 Operator : bat  
 Sample : 15 ppbv 64-87a  
 Misc : cal line, 150cc of 25ppbv  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	15.000	13.152	12.3	100	0.00
47 TMP cis-1,3-Dichloropropene	15.000	14.781	1.5	100	0.00
48 TMP 4-Methyl-2-pentanone	15.000	14.938	0.4	100	0.00
49 TMP trans-1,3-Dichloropropene	15.000	15.141	-0.9	100	0.00
50 TMP Toluene	15.000	13.977	6.8	100	0.00
51 TMP 1,1,2-Trichloroethane	15.000	13.850	7.7	100	0.00
52 TMP 2-Hexanone	15.000	15.298	-2.0	100	0.00
53 TMP Tetrachloroethene	15.000	14.212	5.3	100	0.00
54 TMP Dibromochloromethane	15.000	14.508	3.3	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	15.000	14.113	5.9	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	15.000	13.937	7.1	100	0.00
58 TMP Ethylbenzene	15.000	13.272	11.5	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	15.000	13.729	8.5	100	0.00
60 TMP Nonane	15.000	14.325	4.5	100	0.00
61 TMP Isopropylbenzene	15.000	14.018	6.5	100	0.00
62 TMP 2-Chlorotoluene	15.000	14.594	2.7	100	0.00
63 TMP Propylbenzene	15.000	14.374	4.2	100	0.00
64 TMP 4-Ethyltoluene	15.000	14.538	3.1	100	0.00
65 TMP m,p-Xylene	30.000	27.507	8.3	100	0.00
66 TMP o-Xylene	15.000	13.827	7.8	100	0.00
67 TMP Styrene	15.000	14.491	3.4	100	0.00
68 TMP Bromoform	15.000	15.255	-1.7	100	0.00
69 S 4-Bromofluorobenzene	10.000	10.000	0.0	100	0.00
70 TMP Benzyl chloride	15.000	16.893	-12.6	100	0.00
71 TMP 1,3,5-Trimethylbenzene	15.000	14.353	4.3	100	0.00
72 TMP 1,2,4-Trimethylbenzene	15.000	14.510	3.3	100	0.00
73 TMP 1,3-Dichlorobenzene	15.000	13.658	8.9	100	0.00
74 TMP 1,4-Dichlorobenzene	15.000	15.055	-0.4	100	0.00
75 TMP 1,2-Dichlorobenzene	15.000	13.831	7.8	100	0.00
76 TMP 1,2,4-Trichlorobenzene	15.000	15.110	-0.7	100	0.00
77 TMP Naphthalene	15.000	15.058	-0.4	100	0.00
78 TMP Hexachlorobutadiene	15.000	15.028	-0.2	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082426.D  
 Acq On : 24 Aug 2021 11:29 pm  
 Operator : bat  
 Sample : 15 ppbv 64-87a  
 Misc : cal line, 150cc of 25ppbv  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	-0.02
2 TMP	Propene	1.710	1.733	-1.3	100	0.00
3 TMP	Dichlorodifluoromethane	4.425	4.093	7.5	100	0.00
4 TMP	Chloromethane	2.075	1.920	7.5	100	0.00
5 TMP	F-114	4.450	4.199	5.6	100	0.00
6 TMP	Vinyl chloride	2.209	2.131	3.5	100	0.00
7 TMP	1,3-Butadiene	1.529	1.429	6.5	100	0.00
8 TMP	Butane	3.248	3.017	7.1	100	0.00
9 TMP	Bromomethane	1.540	1.512	1.8	100	0.00
10 TMP	Chloroethane	0.759	0.712	6.2	100	0.00
11 TMP	Vinyl bromide	1.785	1.769	0.9	100	0.00
12 TMP	Ethanol	0.559	0.545	2.5	100	0.00
13 TMP	Acrolein	0.726	0.723	0.4	100	-0.02
14 TMP	Pentane	3.891	3.659	6.0	100	0.00
15 TMP	Trichlorofluoromethane	4.934	4.718	4.4	100	0.00
16 TMP	Acetone	0.880	0.800	9.1	100	0.00
17 TMP	2-Propanol	3.556	3.500	1.6	100	-0.02
18 TMP	1,1-Dichloroethene	1.648	1.539	6.6	100	-0.03
19 TMP	trans-1,2-Dichloroethene	1.626	1.529	6.0	100	0.00
20 TMP	Methylene chloride	1.750	1.582	9.6	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.881	2.898	-0.6	100	-0.03
22 TMP	3-Chloropropene	2.910	2.795	4.0	100	0.00
23 TMP	CFC-113	3.396	3.261	4.0	100	0.00
24 TMP	Carbon disulfide	5.738	5.601	2.4	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	3.715	2.7	100	0.00
26 TMP	Vinyl acetate	2.562	2.541	0.8	100	0.00
27 TMP	1,1-Dichloroethane	3.850	3.705	3.8	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.679	5.7	100	0.00
29 TMP	Hexane	2.959	2.836	4.2	100	-0.02
30 TMP	Chloroform	4.366	4.072	6.7	100	0.00
31 TMP	Ethyl acetate	6.229	6.177	0.8	100	0.00
32 TMP	Tetrahydrofuran	2.703	2.581	4.5	100	-0.02
33 TMP	2-Butanone (MEK)	0.712	0.684	3.9	100	-0.03
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.061	6.8	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.176	1.7	100	-0.01
36 TMP	Carbon tetrachloride	3.178	3.140	1.2	100	0.00
37 TMP	Benzene	6.123	5.700	6.9	100	0.00
38 TMP	Cyclohexane	1.669	1.578	5.5	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	-0.02
40 TMP	1,2-Dichloropropane	0.618	0.568	8.1	100	-0.02
41 TMP	1,4-Dioxane	0.270	0.250	7.4	100	-0.02
42 TMP	2,2,4-Trimethylpentane	2.076	1.992	4.0	100	0.00
43 TMP	Methyl methacrylate	0.567	0.567	0.0	100	0.00
44 TMP	Heptane	0.959	0.918	4.3	100	-0.02
45 TMP	Bromodichloromethane	0.953	0.892	6.4	100	-0.02

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082426.D  
 Acq On : 24 Aug 2021 11:29 pm  
 Operator : bat  
 Sample : 15 ppbv 64-87a  
 Misc : cal line, 150cc of 25ppbv  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.542	12.3	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.627	1.4	100	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.040	0.0	100	0.00
49 TMP trans-1,3-Dichloropropene	0.540	0.545	-0.9	100	0.00
50 TMP Toluene	0.749	0.698	6.8	100	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.519	7.8	100	0.00
52 TMP 2-Hexanone	1.055	1.076	-2.0	100	0.00
53 TMP Tetrachloroethene	0.381	0.361	5.2	100	0.00
54 TMP Dibromochloromethane	0.787	0.761	3.3	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.733	5.9	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	0.995	7.1	100	0.00
58 TMP Ethylbenzene	2.221	1.965	11.5	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.418	8.5	100	0.00
60 TMP Nonane	1.679	1.604	4.5	100	0.00
61 TMP Isopropylbenzene	1.948	1.820	6.6	100	0.00
62 TMP 2-Chlorotoluene	0.463	0.450	2.8	100	0.00
63 TMP Propylbenzene	4.322	4.141	4.2	100	0.00
64 TMP 4-Ethyltoluene	2.027	1.965	3.1	100	0.00
65 TMP m,p-Xylene	0.713	0.654	8.3	100	0.00
66 TMP o-Xylene	0.701	0.646	7.8	100	0.00
67 TMP Styrene	1.032	0.997	3.4	100	0.00
68 TMP Bromoform	0.801	0.815	-1.7	100	0.00
69 S 4-Bromofluorobenzene	0.906	0.906	0.0	100	0.00
70 TMP Benzyl chloride	0.751	0.846	-12.6	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	1.555	4.3	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.679	1.624	3.3	100	0.00
73 TMP 1,3-Dichlorobenzene	1.154	1.051	8.9	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.064	7.6	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.006	7.8	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.863	9.2	100	0.00
77 TMP Naphthalene	2.538	2.246	11.5	100	0.00
78 TMP Hexachlorobutadiene	0.852	0.662	22.3	100	0.00

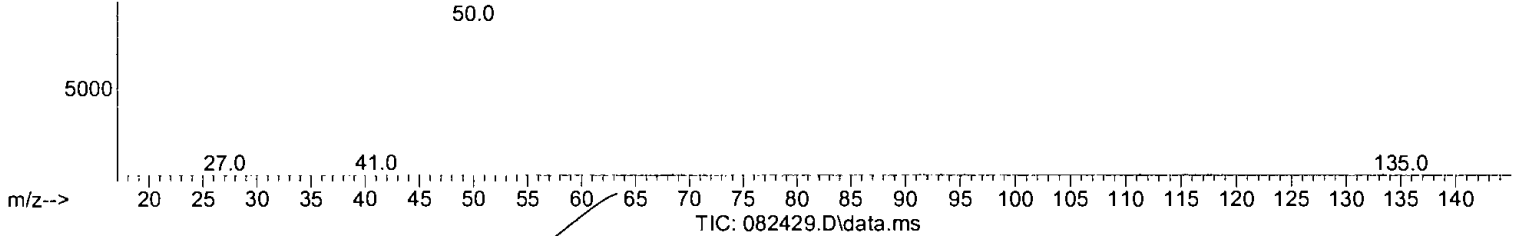
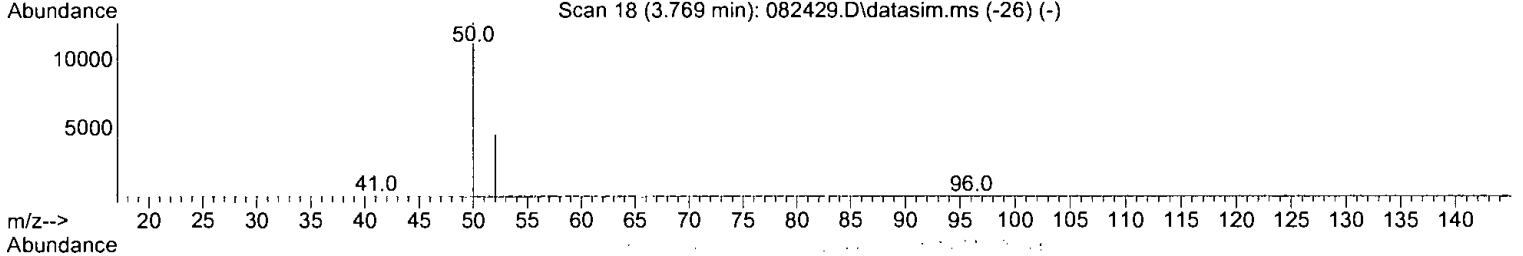
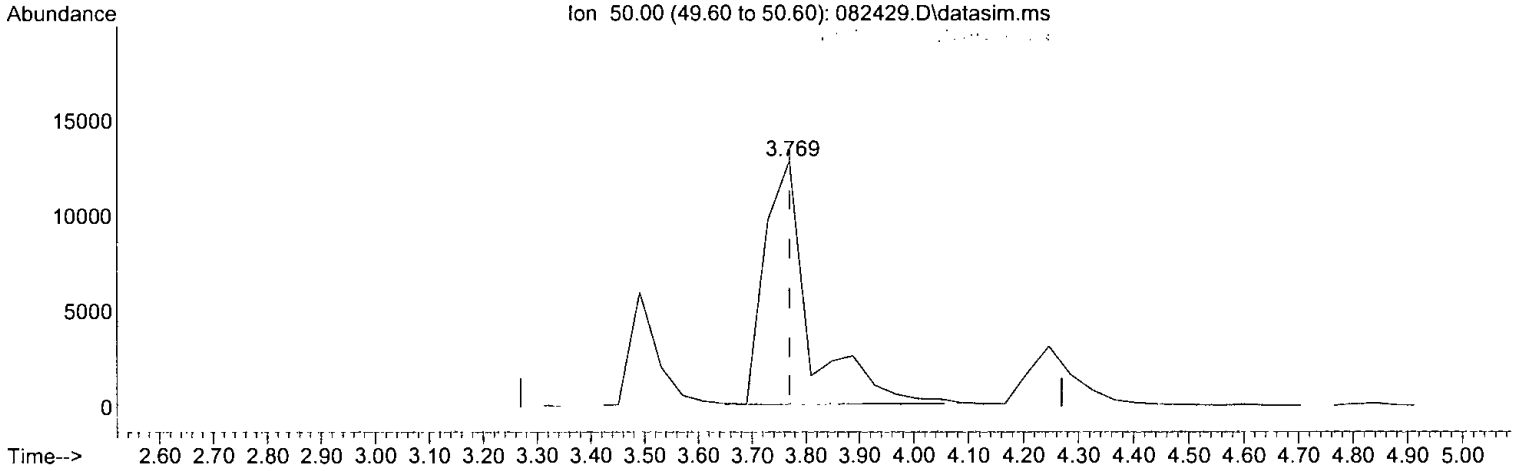
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
Data File : 082429.D  
Acq On : 25 Aug 2021 1:32 am  
Operator : bat  
Sample : scv 2.5ppbv 64-64a  
Misc : T4, 25cc of 25ppbv  
ALS Vial : 29 Sample Multiplier: 1  
InstName : GCMS7

Quant Time: Aug 25 10:55:00 2021  
Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
Quant Title : TO-15 SS method  
QLast Update : Wed Aug 25 09:28:09 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (+ 0.000) 3.188 ppbv

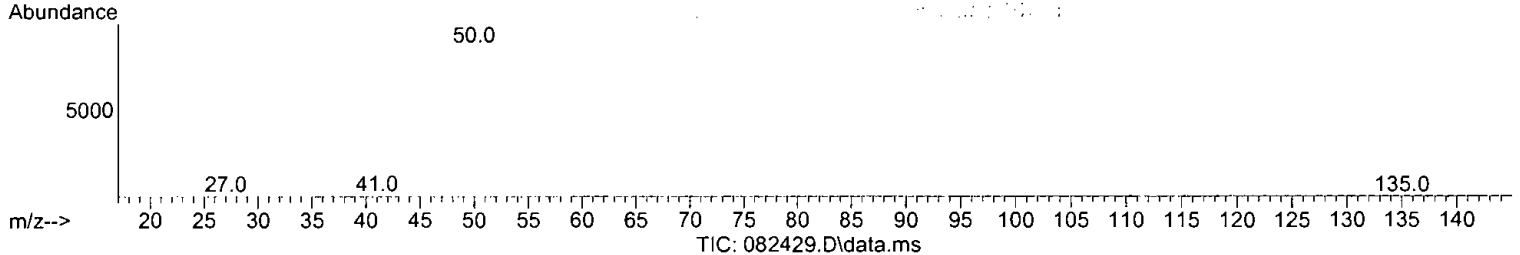
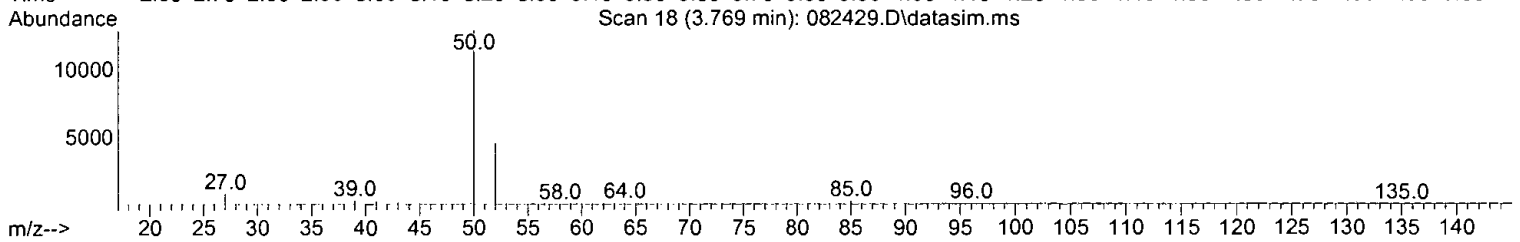
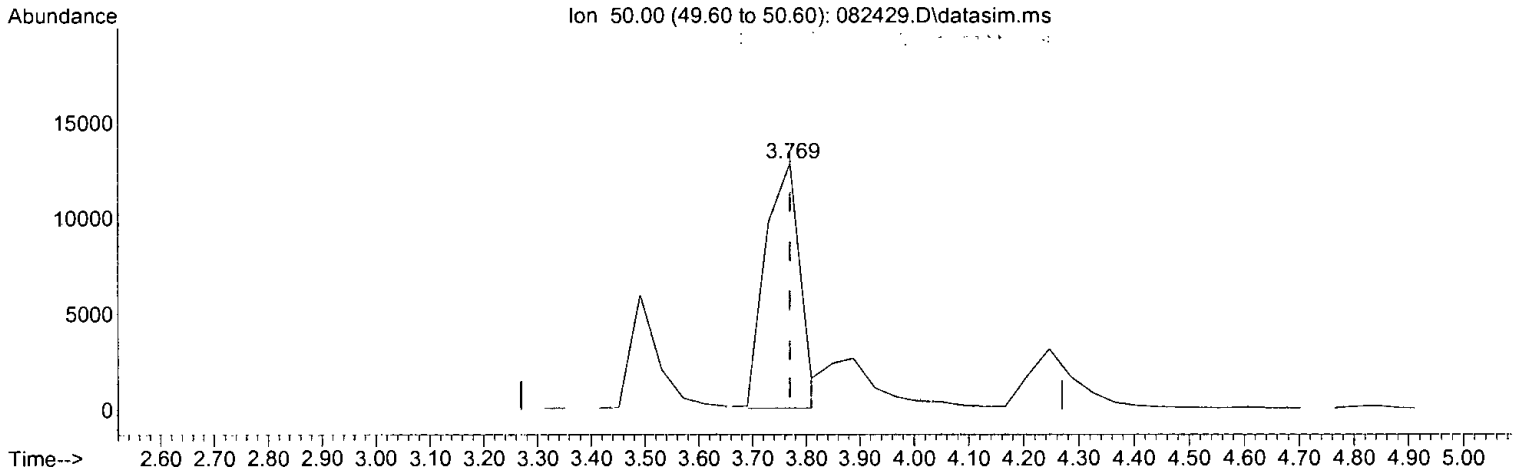
response	73081
Ion	Exp% Act%
50.00	100.00 100.00
51.90	25.30 35.31
0.00	0.00 0.00
0.00	0.00 0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:55:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

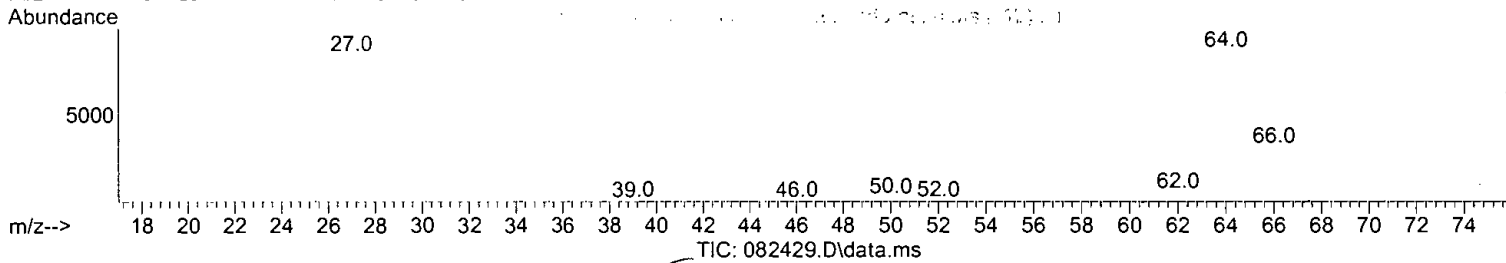
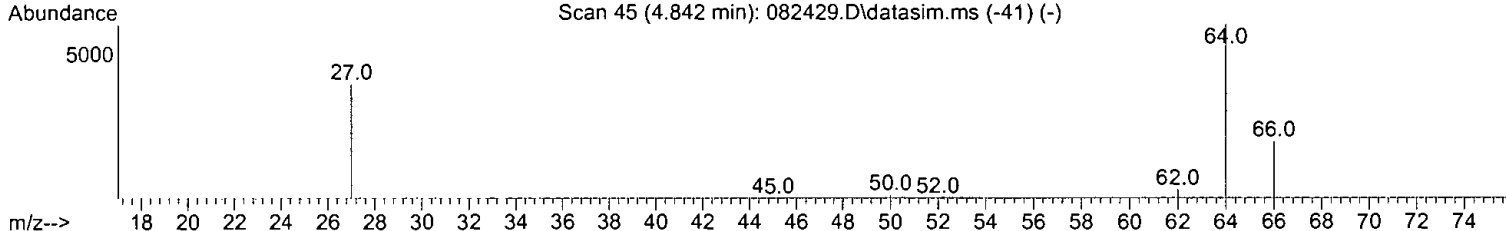
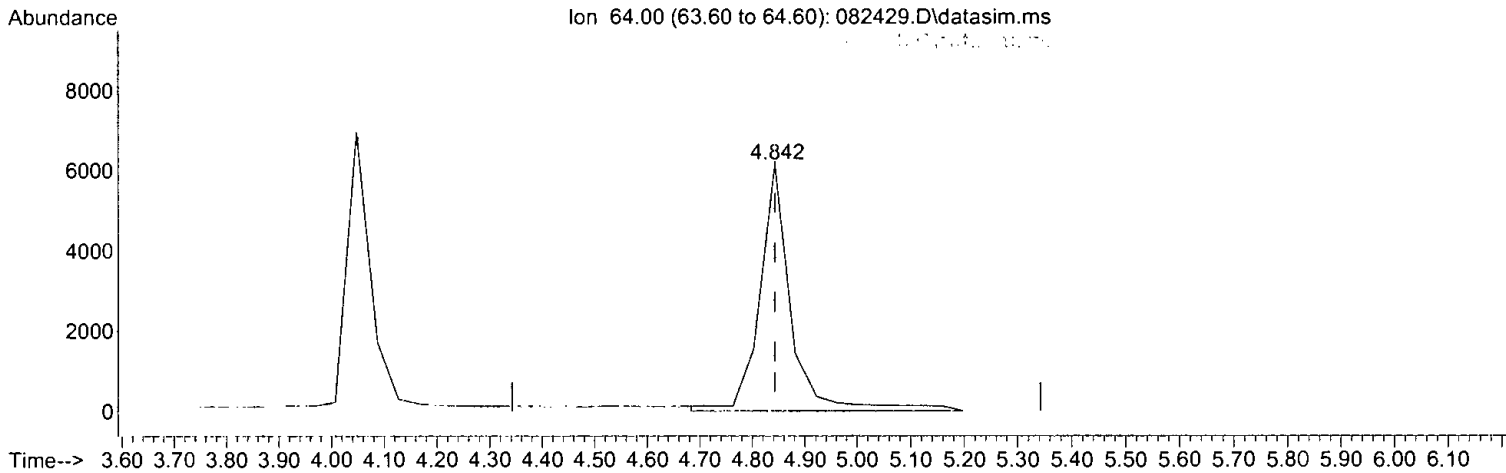
3.769min (+ 0.000) 2.522 ppbv m

response	57831
Ion	Exp% Act%
50.00	100.00 100.00
51.90	25.30 35.33
0.00	0.00 0.00
0.00	0.00 0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:55:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

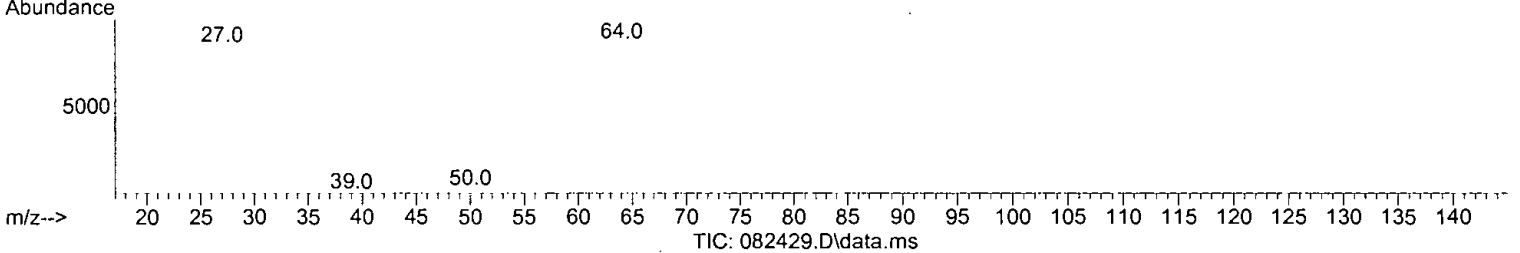
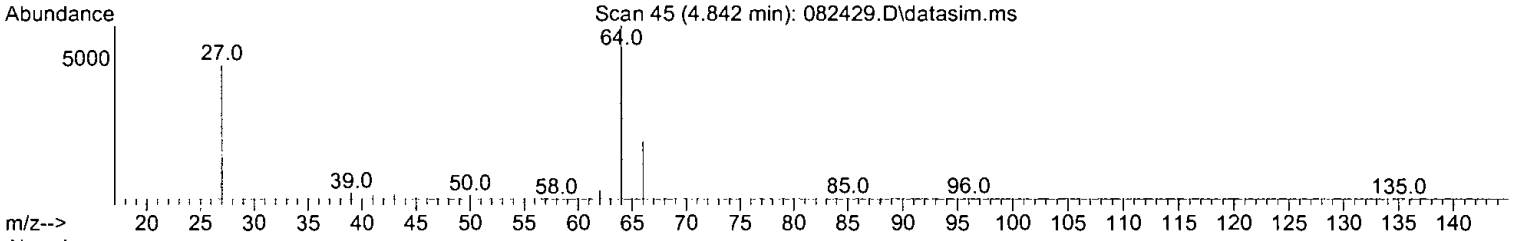
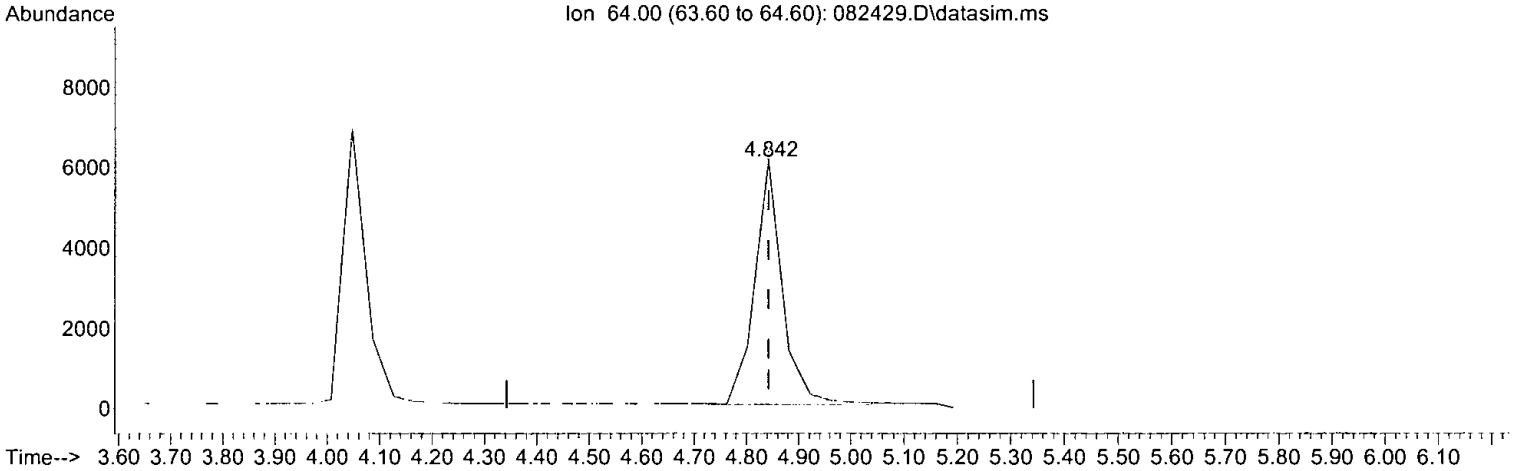
4.842min (+ 0.000) 2.913 ppbv

response	24432		
Ion	Exp%	Act%	
64.00	100.00	100.00	
66.00	31.80	33.54	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:55:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 2.630 ppbv m

response	22058		
Ion	Exp%	Act%	
64.00	100.00	100.00	
66.00	31.80	33.54	
0.00	0.00	0.00	
0.00	0.00	0.00	

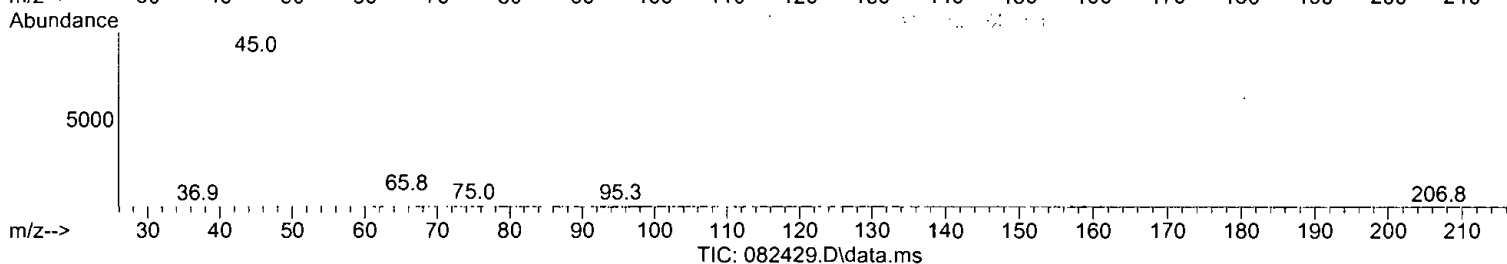
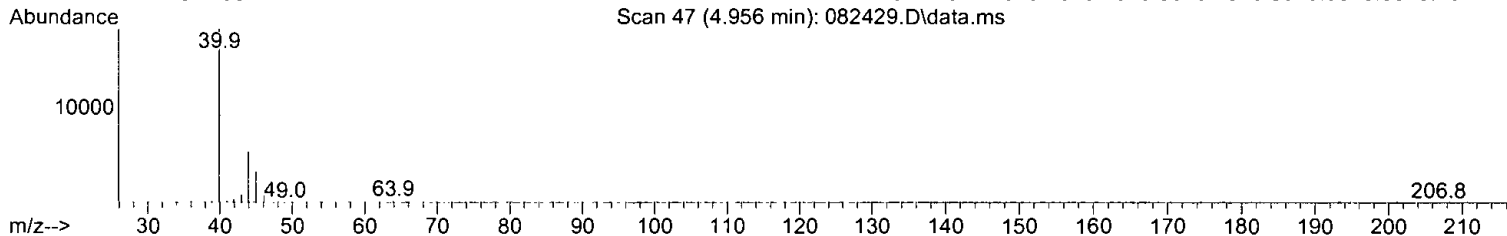
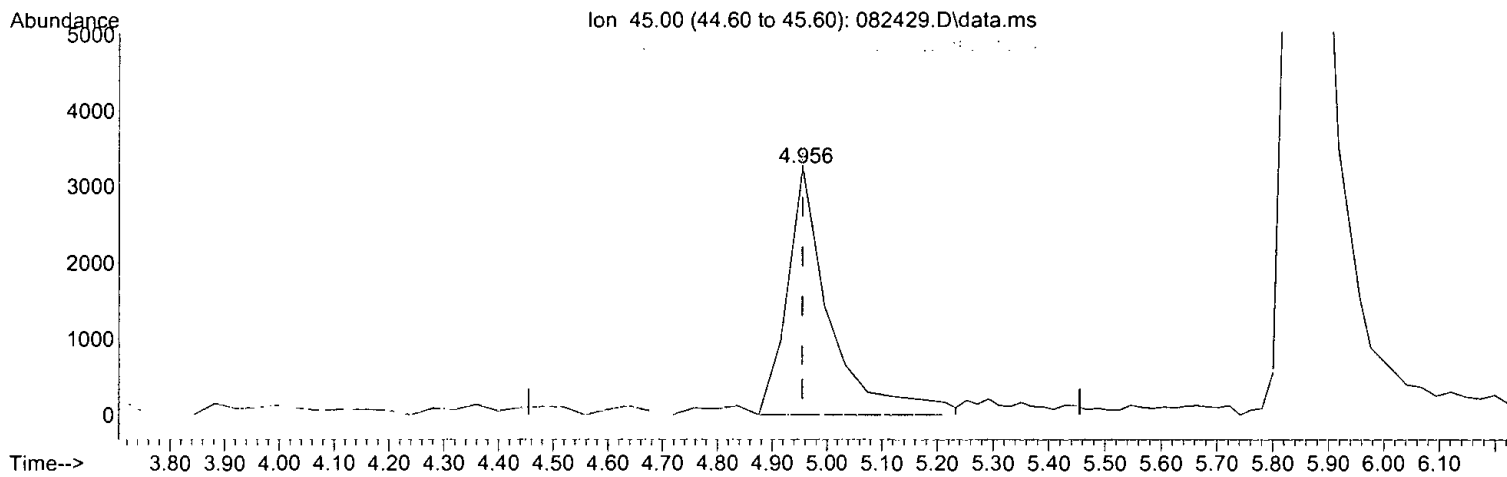
AS 8/25/21



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:55:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(12) Ethanol (TMP)

4.956min (+ 0.001) 3.094 ppbv

response 19122

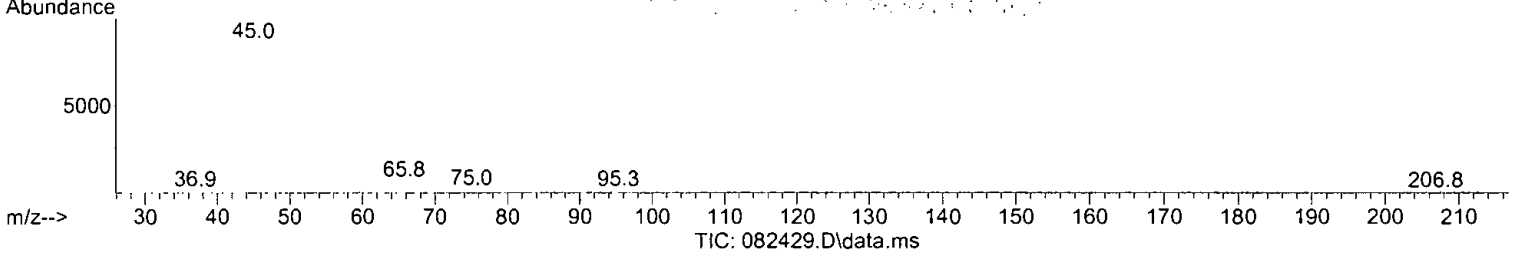
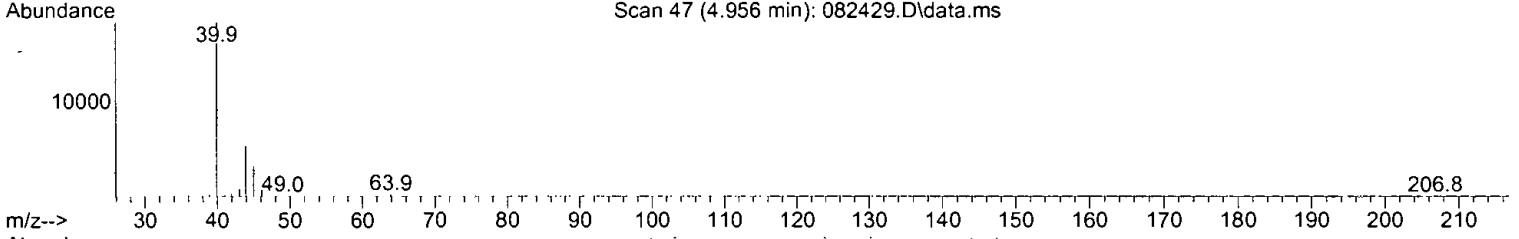
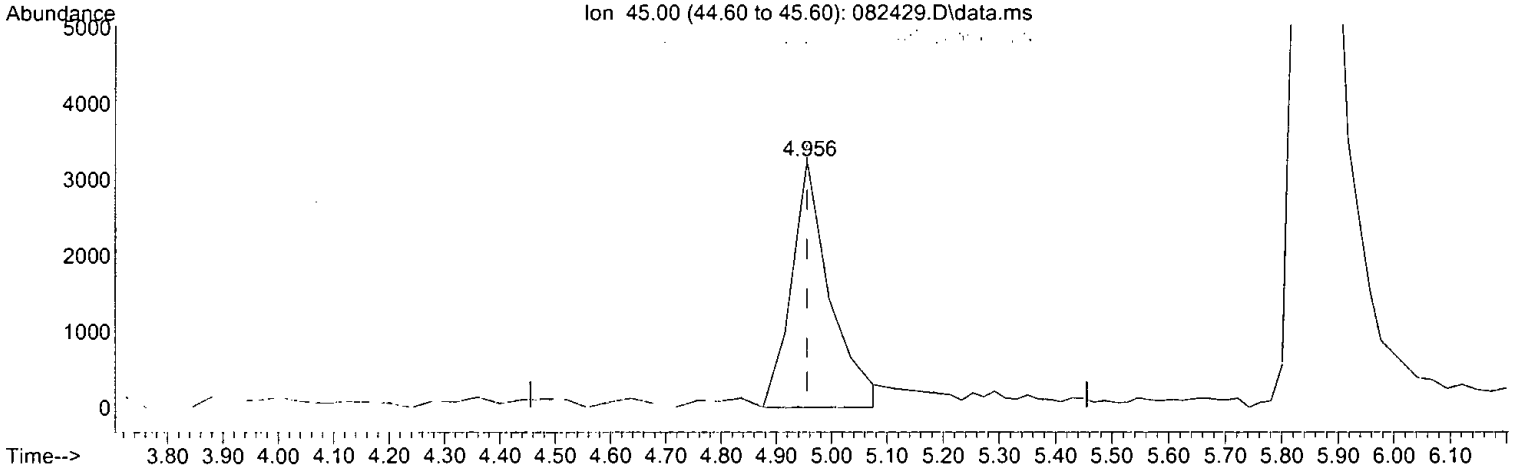
Ion	Exp%	Act%
45.00	100.00	100.00
45.90	25.50	25.22
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:55:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(12) Ethanol (TMP)

4.956min (+ 0.001) 2.552 ppbv m

response	15773
Ion	Exp% Act%
45.00	100.00 100.00
45.90	25.50 30.57
0.00	0.00 0.00
0.00	0.00 0.00

*AS 8/25/21*

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:39:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	110485	10.000	ppbv	#-0.02
39) 1,4-Difluorobenzene	13.21	114	541551	10.000	ppbv	-0.02
56) Chlorobenzene-d5	18.21	117	484092	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	425910	9.712	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.10%
Target Compounds						
						Qvalue
2) Propene	3.41	41	58605	3.102	ppbv	95
3) Dichlorodifluoromethane	3.52	85	125989	2.577	ppbv	100
4) Chloromethane	3.77	50	57831m	2.522	ppbv	
5) F-114	3.88	85	127419	2.592	ppbv	87
6) Vinyl chloride	4.05	62	67238	2.755	ppbv	99
7) 1,3-Butadiene	4.25	54	44297	2.622	ppbv	# 86
8) Butane	4.32	43	92628	2.582	ppbv	98
9) Bromomethane	4.60	94	49149	2.888	ppbv	97
10) Chloroethane	4.84	64	22058m	2.630	ppbv	
11) Vinyl bromide	5.32	106	56651	2.872	ppbv	99
12) Ethanol	4.96	45	15773m	2.552	ppbv	
13) Acrolein	5.43	56	21130	2.634	ppbv	99
14) Pentane	6.33	43	113459	2.639	ppbv	97
15) Trichlorofluoromethane	5.86	101	150609	2.763	ppbv	100
16) Acetone	5.59	58	25526	2.626	ppbv	# 76
17) 2-Propanol	5.86	45	109372	2.784	ppbv	# 97
18) 1,1-Dichloroethene	6.71	96	48076	2.640	ppbv	# 65
19) trans-1,2-Dichloroethene	8.18	96	47441	2.641	ppbv	# 78
20) Methylene chloride	6.83	84	47217	2.442	ppbv	# 73
21) t-Butyl alcohol (TBA)	6.62	59	86544	2.719	ppbv	# 47
22) 3-Chloropropene	7.01	41	84068	2.615	ppbv	93
23) CFC-113	7.23	101	103537	2.760	ppbv	87
24) Carbon disulfide	7.33	76	157111	2.478	ppbv	96
25) Methyl t-butyl ether (...)	8.51	73	114686	2.717	ppbv	100
26) Vinyl acetate	8.62	43	78175	2.762	ppbv	97
27) 1,1-Dichloroethane	8.44	63	114817	2.699	ppbv	97
28) cis-1,2-Dichloroethene	9.73	96	52128	2.650	ppbv	91
29) Hexane	10.10	57	88964	2.721	ppbv	91
30) Chloroform	10.17	83	125597	2.604	ppbv	95
31) Ethyl acetate	10.01	43	181847	2.642	ppbv	# 98
32) Tetrahydrofuran	10.83	42	79298	2.655	ppbv	91
33) 2-Butanone (MEK)	8.99	72	20470	2.603	ppbv	# 71
34) 1,2-Dichloroethane (EDC)	11.44	62	95504	2.632	ppbv	96
35) 1,1,1-Trichloroethane	11.93	97	96728	2.708	ppbv	88
36) Carbon tetrachloride	12.95	117	95298	2.714	ppbv	99
37) Benzene	12.70	78	176576	2.610	ppbv	97
38) Cyclohexane	13.16	84	49748	2.697	ppbv	# 76
40) 1,2-Dichloropropane	13.90	63	86277	2.578	ppbv	100
41) 1,4-Dioxane	14.17	88	38127	2.611	ppbv	86
42) 2,2,4-Trimethylpentane	14.31	57	298085	2.651	ppbv	94

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

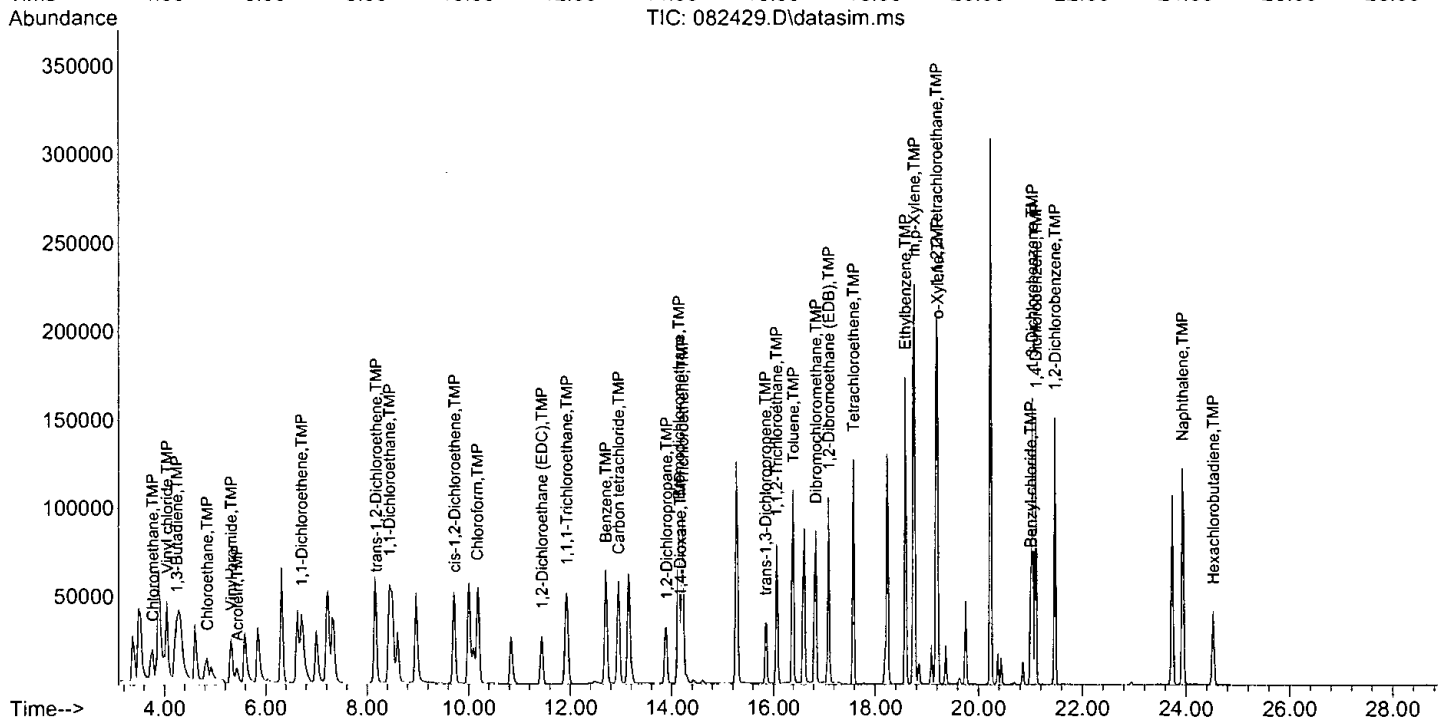
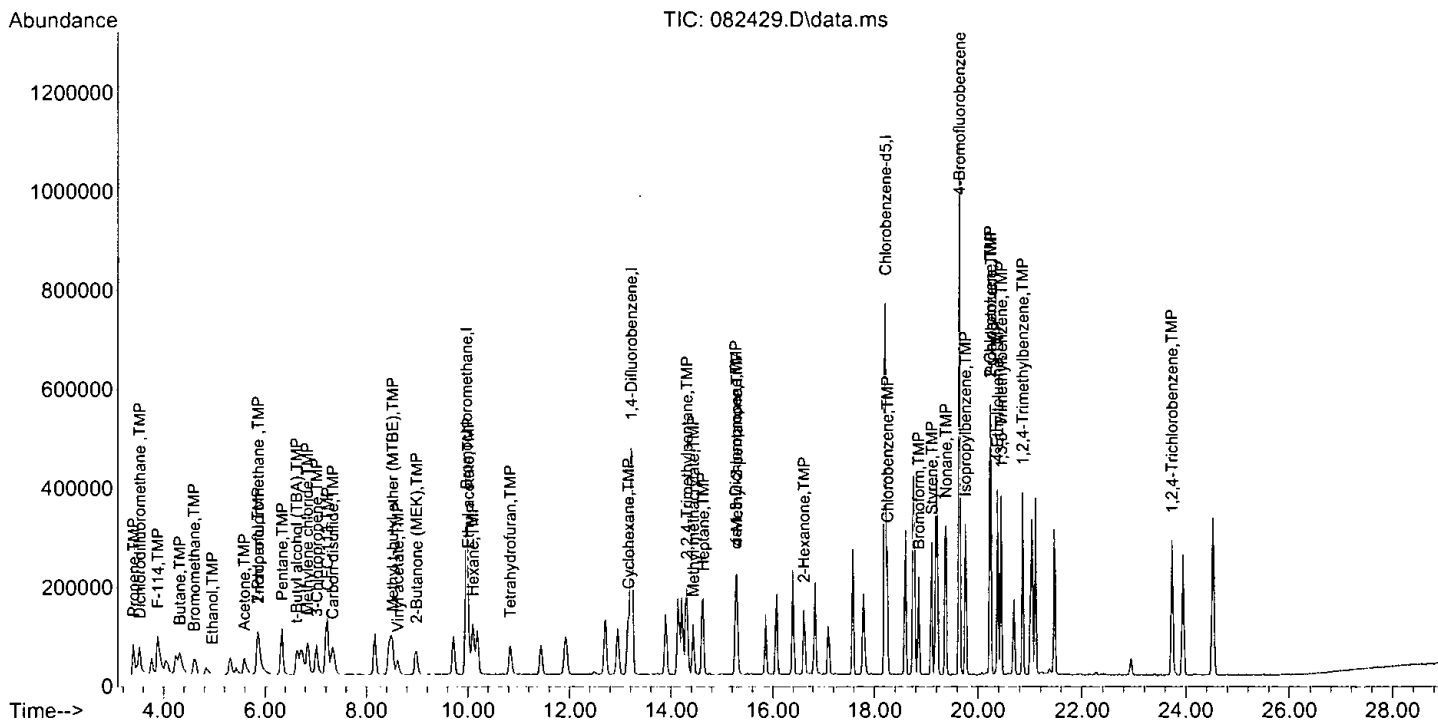
Quant Time: Aug 25 11:39:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824T015ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:T015DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.43	41	82725	2.695	ppbv #	85
44) Heptane	14.63	43	141311	2.721	ppbv	90
45) Bromodichloromethane	14.14	83	134422	2.605	ppbv	91
46) Trichloroethene	14.22	95	83227	2.486	ppbv	90
47) cis-1,3-Dichloropropene	15.27	75	91326	2.652	ppbv	96
48) 4-Methyl-2-pentanone	15.29	100	5979	2.727	ppbv #	1
49) trans-1,3-Dichloropropene	15.85	75	77708	2.655	ppbv	77
50) Toluene	16.40	92	104717	2.581	ppbv	82
51) 1,1,2-Trichloroethane	16.06	83	79026	2.594	ppbv	100
52) 2-Hexanone	16.62	43	152773	2.674	ppbv	91
53) Tetrachloroethene	17.58	164	54907	2.661	ppbv	84
54) Dibromochloromethane	16.85	129	110905	2.601	ppbv	89
55) 1,2-Dibromoethane (EDB)	17.10	107	107360	2.545	ppbv	91
57) Chlorobenzene	18.25	112	130769	2.522	ppbv	89
58) Ethylbenzene	18.59	91	263345	2.449	ppbv	98
59) 1,1,2,2-Tetrachloroethane	19.19	83	183432	2.446	ppbv	95
60) Nonane	19.38	43	214224	2.635	ppbv	92
61) Isopropylbenzene	19.75	105	242287	2.570	ppbv	95
62) 2-Chlorotoluene	20.23	126	59463	2.653	ppbv	74
63) Propylbenzene	20.25	91	542017	2.591	ppbv	96
64) 4-Ethyltoluene	20.38	105	255583	2.605	ppbv	95
65) m,p-Xylene	18.76	106	174509	5.055	ppbv	91
66) o-Xylene	19.21	106	85089	2.507	ppbv	88
67) Styrene	19.11	104	126292	2.528	ppbv	87
68) Bromoform	18.85	173	103332	2.665	ppbv	97
70) Benzyl chloride	21.01	91	91139	2.507	ppbv	94
71) 1,3,5-Trimethylbenzene	20.45	105	199230	2.532	ppbv	99
72) 1,2,4-Trimethylbenzene	20.86	105	207330	2.551	ppbv	98
73) 1,3-Dichlorobenzene	21.04	146	135679	2.429	ppbv	94
74) 1,4-Dichlorobenzene	21.11	146	135937	2.613	ppbv	97
75) 1,2-Dichlorobenzene	21.47	146	131213	2.485	ppbv	96
76) 1,2,4-Trichlorobenzene	23.73	180	101963	2.372	ppbv	92
77) Naphthalene	23.93	128	264840	2.387	ppbv	98
78) Hexachlorobutadiene	24.52	225	90383	2.608	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:39:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:39:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	96	-0.02
2 TMP	Propene	2.500	3.102	-24.1	108	0.00
3 TMP	Dichlorodifluoromethane	2.500	2.577	-3.1	90	0.00
4 TMP	Chloromethane	2.500	2.522	-0.9	93	0.00
5 TMP	F-114	2.500	2.592	-3.7	92	0.00
6 TMP	Vinyl chloride	2.500	2.755	-10.2	98	0.00
7 TMP	1,3-Butadiene	2.500	2.622	-4.9	93	0.00
8 TMP	Butane	2.500	2.582	-3.3	96	0.00
9 TMP	Bromomethane	2.500	2.888	-15.5	94	-0.04
10 TMP	Chloroethane	2.500	2.630	-5.2	91	0.00
11 TMP	Vinyl bromide	2.500	2.872	-14.9	104	0.00
12 TMP	Ethanol	2.500	2.552	-2.1	81	0.00
13 TMP	Acrolein	2.500	2.634	-5.4	94	0.00
14 TMP	Pentane	2.500	2.639	-5.6	91	0.00
15 TMP	Trichlorofluoromethane	2.500	2.763	-10.5	96	-0.02
16 TMP	Acetone	2.500	2.626	-5.0	97	0.00
17 TMP	2-Propanol	2.500	2.784	-11.4	101	0.00
18 TMP	1,1-Dichloroethene	2.500	2.640	-5.6	94	-0.03
19 TMP	trans-1,2-Dichloroethene	2.500	2.641	-5.6	94	0.00
20 TMP	Methylene chloride	2.500	2.442	2.3	89	-0.03
21 TMP	t-Butyl alcohol (TBA)	2.500	2.719	-8.8	97	-0.03
22 TMP	3-Chloropropene	2.500	2.615	-4.6	92	0.00
23 TMP	CFC-113	2.500	2.760	-10.4	98	0.00
24 TMP	Carbon disulfide	2.500	2.478	0.9	84	0.00
25 TMP	Methyl t-butyl ether (MTBE)	2.500	2.717	-8.7	98	0.00
26 TMP	Vinyl acetate	2.500	2.762	-10.5	102	0.00
27 TMP	1,1-Dichloroethane	2.500	2.699	-8.0	95	0.00
28 TMP	cis-1,2-Dichloroethene	2.500	2.650	-6.0	95	0.00
29 TMP	Hexane	2.500	2.721	-8.8	95	-0.02
30 TMP	Chloroform	2.500	2.604	-4.2	94	-0.02
31 TMP	Ethyl acetate	2.500	2.642	-5.7	92	0.00
32 TMP	Tetrahydrofuran	2.500	2.655	-6.2	95	0.00
33 TMP	2-Butanone (MEK)	2.500	2.603	-4.1	91	0.00
34 TMP	1,2-Dichloroethane (EDC)	2.500	2.632	-5.3	94	0.00
35 TMP	1,1,1-Trichloroethane	2.500	2.708	-8.3	96	-0.01
36 TMP	Carbon tetrachloride	2.500	2.714	-8.6	96	0.00
37 TMP	Benzene	2.500	2.610	-4.4	94	0.00
38 TMP	Cyclohexane	2.500	2.697	-7.9	97	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	96	-0.02
40 TMP	1,2-Dichloropropane	2.500	2.578	-3.1	95	0.00
41 TMP	1,4-Dioxane	2.500	2.611	-4.4	94	0.00
42 TMP	2,2,4-Trimethylpentane	2.500	2.651	-6.0	93	0.00
43 TMP	Methyl methacrylate	2.500	2.695	-7.8	95	0.00
44 TMP	Heptane	2.500	2.721	-8.8	98	0.00
45 TMP	Bromodichloromethane	2.500	2.605	-4.2	95	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:39:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	2.500	2.486	0.6	94	0.00
47 TMP cis-1,3-Dichloropropene	2.500	2.652	-6.1	96	0.00
48 TMP 4-Methyl-2-pentanone	2.500	2.727	-9.1	91	0.00
49 TMP trans-1,3-Dichloropropene	2.500	2.655	-6.2	95	0.00
50 TMP Toluene	2.500	2.581	-3.2	92	0.00
51 TMP 1,1,2-Trichloroethane	2.500	2.594	-3.8	94	0.00
52 TMP 2-Hexanone	2.500	2.674	-7.0	98	0.00
53 TMP Tetrachloroethene	2.500	2.661	-6.4	94	0.00
54 TMP Dibromochloromethane	2.500	2.601	-4.0	94	0.00
55 TMP 1,2-Dibromoethane (EDB)	2.500	2.545	-1.8	96	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	99	0.00
57 TMP Chlorobenzene	2.500	2.522	-0.9	93	0.00
58 TMP Ethylbenzene	2.500	2.449	2.0	94	0.00
59 TMP 1,1,2,2-Tetrachloroethane	2.500	2.446	2.2	93	0.00
60 TMP Nonane	2.500	2.635	-5.4	94	0.02
61 TMP Isopropylbenzene	2.500	2.570	-2.8	94	0.00
62 TMP 2-Chlorotoluene	2.500	2.653	-6.1	96	0.00
63 TMP Propylbenzene	2.500	2.591	-3.6	94	0.00
64 TMP 4-Ethyltoluene	2.500	2.605	-4.2	94	0.00
65 TMP m,p-Xylene	5.000	5.055	-1.1	94	0.00
66 TMP o-Xylene	2.500	2.507	-0.3	93	0.00
67 TMP Styrene	2.500	2.528	-1.1	92	0.00
68 TMP Bromoform	2.500	2.665	-6.6	97	0.00
69 S 4-Bromofluorobenzene	10.000	9.712	2.9	95	0.00
70 TMP Benzyl chloride	2.500	2.507	-0.3	94	0.00
71 TMP 1,3,5-Trimethylbenzene	2.500	2.532	-1.3	91	0.00
72 TMP 1,2,4-Trimethylbenzene	2.500	2.551	-2.0	92	0.00
73 TMP 1,3-Dichlorobenzene	2.500	2.429	2.8	90	0.00
74 TMP 1,4-Dichlorobenzene	2.500	2.613	-4.5	96	0.00
75 TMP 1,2-Dichlorobenzene	2.500	2.485	0.6	94	0.00
76 TMP 1,2,4-Trichlorobenzene	2.500	2.372	5.1	88	0.00
77 TMP Naphthalene	2.500	2.387	4.5	91	0.00
78 TMP Hexachlorobutadiene	2.500	2.608	-4.3	97	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:39:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	96	-0.02
2 TMP	Propene	1.710	2.122	-24.1	108	0.00
3 TMP	Dichlorodifluoromethane	4.425	4.561	-3.1	90	0.00
4 TMP	Chloromethane	2.075	2.094	-0.9	93	0.00
5 TMP	F-114	4.450	4.613	-3.7	92	0.00
6 TMP	Vinyl chloride	2.209	2.434	-10.2	98	0.00
7 TMP	1,3-Butadiene	1.529	1.604	-4.9	93	0.00
8 TMP	Butane	3.248	3.354	-3.3	96	0.00
9 TMP	Bromomethane	1.540	1.779	-15.5	94	-0.04
10 TMP	Chloroethane	0.759	0.799	-5.3	91	0.00
11 TMP	Vinyl bromide	1.785	2.051	-14.9	104	0.00
12 TMP	Ethanol	0.559	0.571	-2.1	81	0.00
13 TMP	Acrolein	0.726	0.765	-5.4	94	0.00
14 TMP	Pentane	3.891	4.108	-5.6	91	0.00
15 TMP	Trichlorofluoromethane	4.934	5.453	-10.5	96	-0.02
16 TMP	Acetone	0.880	0.924	-5.0	97	0.00
17 TMP	2-Propanol	3.556	3.960	-11.4	101	0.00
18 TMP	1,1-Dichloroethene	1.648	1.741	-5.6	94	-0.03
19 TMP	trans-1,2-Dichloroethene	1.626	1.718	-5.7	94	0.00
20 TMP	Methylene chloride	1.750	1.709	2.3	89	-0.03
21 TMP	t-Butyl alcohol (TBA)	2.881	3.133	-8.7	97	-0.03
22 TMP	3-Chloropropene	2.910	3.044	-4.6	92	0.00
23 TMP	CFC-113	3.396	3.748	-10.4	98	0.00
24 TMP	Carbon disulfide	5.738	5.688	0.9	84	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	4.152	-8.7	98	0.00
26 TMP	Vinyl acetate	2.562	2.830	-10.5	102	0.00
27 TMP	1,1-Dichloroethane	3.850	4.157	-8.0	95	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.887	-6.0	95	0.00
29 TMP	Hexane	2.959	3.221	-8.9	95	-0.02
30 TMP	Chloroform	4.366	4.547	-4.1	94	-0.02
31 TMP	Ethyl acetate	6.229	6.584	-5.7	92	0.00
32 TMP	Tetrahydrofuran	2.703	2.871	-6.2	95	0.00
33 TMP	2-Butanone (MEK)	0.712	0.741	-4.1	91	0.00
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.458	-5.3	94	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.502	-8.4	96	-0.01
36 TMP	Carbon tetrachloride	3.178	3.450	-8.6	96	0.00
37 TMP	Benzene	6.123	6.393	-4.4	94	0.00
38 TMP	Cyclohexane	1.669	1.801	-7.9	97	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	96	-0.02
40 TMP	1,2-Dichloropropane	0.618	0.637	-3.1	95	0.00
41 TMP	1,4-Dioxane	0.270	0.282	-4.4	94	0.00
42 TMP	2,2,4-Trimethylpentane	2.076	2.202	-6.1	93	0.00
43 TMP	Methyl methacrylate	0.567	0.611	-7.8	95	0.00
44 TMP	Heptane	0.959	1.044	-8.9	98	0.00
45 TMP	Bromodichloromethane	0.953	0.993	-4.2	95	0.00



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:39:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.615	0.5	94	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.675	-6.1	96	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.044	-10.0	91	0.00
49 TMP trans-1,3-Dichloropropene	0.540	0.574	-6.3	95	0.00
50 TMP Toluene	0.749	0.773	-3.2	92	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.584	-3.7	94	0.00
52 TMP 2-Hexanone	1.055	1.128	-6.9	98	0.00
53 TMP Tetrachloroethene	0.381	0.406	-6.6	94	0.00
54 TMP Dibromochloromethane	0.787	0.819	-4.1	94	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.793	-1.8	96	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	99	0.00
57 TMP Chlorobenzene	1.071	1.081	-0.9	93	0.00
58 TMP Ethylbenzene	2.221	2.176	2.0	94	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.516	2.1	93	0.00
60 TMP Nonane	1.679	1.770	-5.4	94	0.02
61 TMP Isopropylbenzene	1.948	2.002	-2.8	94	0.00
62 TMP 2-Chlorotoluene	0.463	0.491	-6.0	96	0.00
63 TMP Propylbenzene	4.322	4.479	-3.6	94	0.00
64 TMP 4-Ethyltoluene	2.027	2.112	-4.2	94	0.00
65 TMP m,p-Xylene	0.713	0.721	-1.1	94	0.00
66 TMP o-Xylene	0.701	0.703	-0.3	93	0.00
67 TMP Styrene	1.032	1.044	-1.2	92	0.00
68 TMP Bromoform	0.801	0.854	-6.6	97	0.00
69 S 4-Bromofluorobenzene	0.906	0.880	2.9	95	0.00
70 TMP Benzyl chloride	0.751	0.753	-0.3	94	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	1.646	-1.3	91	0.00
72 TMP 1,2,4-Trimethylbenzene	1.679	1.713	-2.0	92	0.00
73 TMP 1,3-Dichlorobenzene	1.154	1.121	2.9	90	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.123	2.5	96	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.084	0.6	94	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.843	11.3	88	0.00
77 TMP Naphthalene	2.538	2.188	13.8	91	0.00
78 TMP Hexachlorobutadiene	0.852	0.747	12.3	97	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

EPA TO-15  
CCV Summaries

F&B Project 108515

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090103.D  
 Acq On : 1 Sep 2021 9:13 am  
 Operator : bat  
 Sample : 01-2000 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:47:04 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	104710	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	496734	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	437903	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	385410	9.715	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.10%
Target Compounds						
						Qvalue
2) Propene	3.45	41	46476	2.596	ppbv	99
3) Dichlorodifluoromethane	3.52	85	140450	3.031	ppbv	99
4] Chloromethane	3.77	50	66341m	3.053	ppbv	
5) F-114	3.92	85	129589	2.781	ppbv	90
6] Vinyl chloride	4.05	62	62319	2.695	ppbv	94
7] 1,3-Butadiene	4.25	54	46204	2.886	ppbv	# 95
8) Butane	4.36	43	96887	2.849	ppbv	98
9) Bromomethane	4.64	94	51239	3.177	ppbv	99
10] Chloroethane	4.84	64	23264m	2.927	ppbv	
11] Vinyl bromide	5.34	106	57654	3.084	ppbv	100
12) Ethanol	4.96	45	18858m	3.220	ppbv	
13] Acrolein	5.43	56	20975	2.758	ppbv	98
14) Pentane	6.33	43	115589	2.837	ppbv	98
15) Trichlorofluoromethane	5.88	101	151463	2.932	ppbv	95
16) Acetone	5.60	58	26767	2.905	ppbv	89
17) 2-Propanol	5.86	45	114086	3.064	ppbv	98
18] 1,1-Dichloroethene	6.73	96	49033	2.841	ppbv	84
19] trans-1,2-Dichloroethene	8.18	96	48530	2.850	ppbv	88
20) Methylene chloride	6.86	84	59462	3.244	ppbv	86
21) t-Butyl alcohol (TBA)	6.65	59	89837	2.978	ppbv	# 51
22) 3-Chloropropene	7.04	41	86077	2.825	ppbv	93
23) CFC-113	7.23	101	101115	2.844	ppbv	89
24) Carbon disulfide	7.33	76	184811	3.076	ppbv	98
25) Methyl t-butyl ether (...)	8.51	73	118564	2.964	ppbv	97
26) Vinyl acetate	8.62	43	89203	3.325	ppbv	97
27] 1,1-Dichloroethane	8.47	63	118425	2.938	ppbv	100
28] cis-1,2-Dichloroethene	9.73	96	53225	2.855	ppbv	# 74
29) Hexane	10.11	57	88631	2.861	ppbv	89
30] Chloroform	10.19	83	129191	2.826	ppbv	96
31) Ethyl acetate	10.03	43	201112	3.084	ppbv	# 99
32) Tetrahydrofuran	10.85	42	79264	2.800	ppbv	90
33) 2-Butanone (MEK)	8.99	72	22018	2.955	ppbv	# 67
34] 1,2-Dichloroethane (EDC)	11.45	62	96765	2.813	ppbv	97
35] 1,1,1-Trichloroethane	11.94	97	102387	3.025	ppbv	88
36] Carbon tetrachloride	12.95	117	99126	2.979	ppbv	98
37] Benzene	12.72	78	180095	2.809	ppbv	100
38) Cyclohexane	13.16	84	48899	2.797	ppbv	# 73
40] 1,2-Dichloropropane	13.90	63	89126	2.903	ppbv	99
41] 1,4-Dioxane	14.17	88	38276	2.858	ppbv	92
42) 2,2,4-Trimethylpentane	14.31	57	302422	2.933	ppbv	# 93

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090103.D  
 Acq On : 1 Sep 2021 9:13 am  
 Operator : bat  
 Sample : 01-2000 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

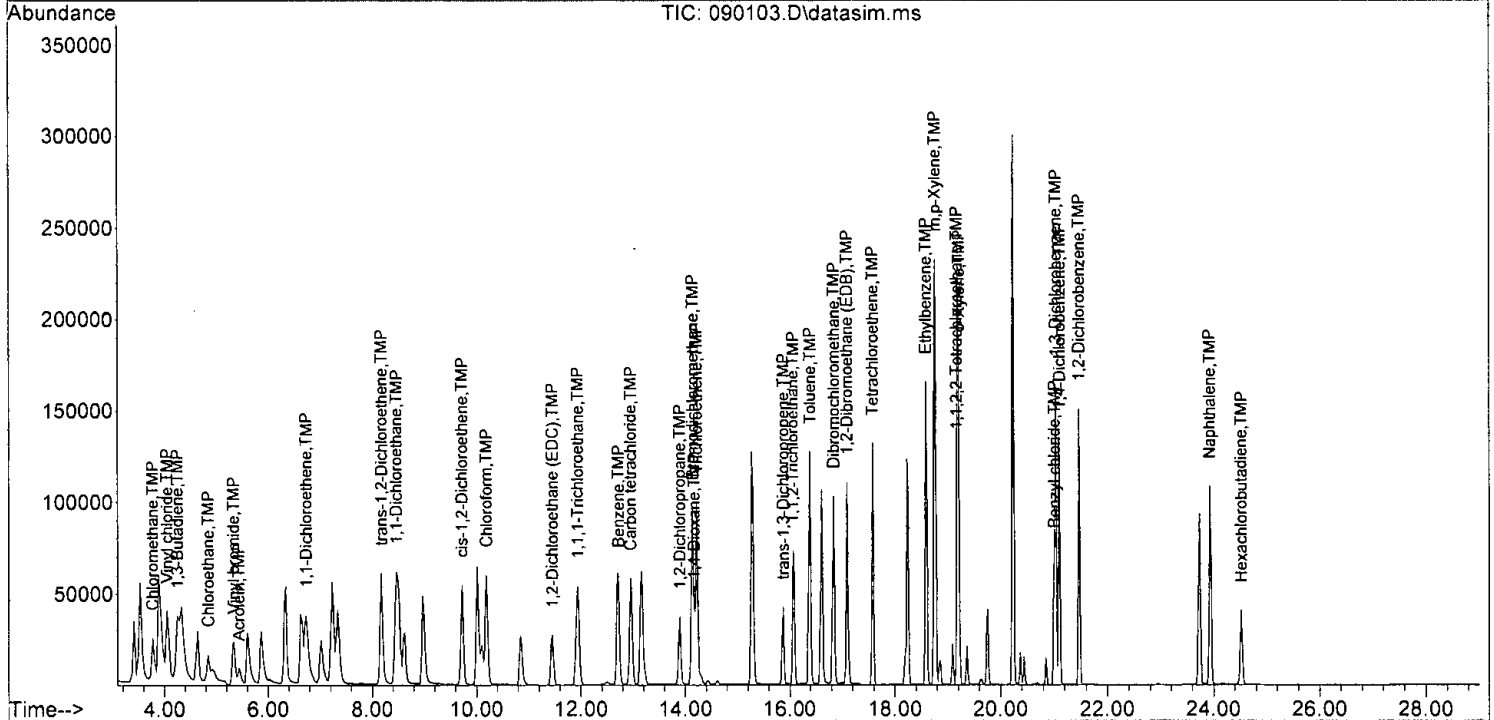
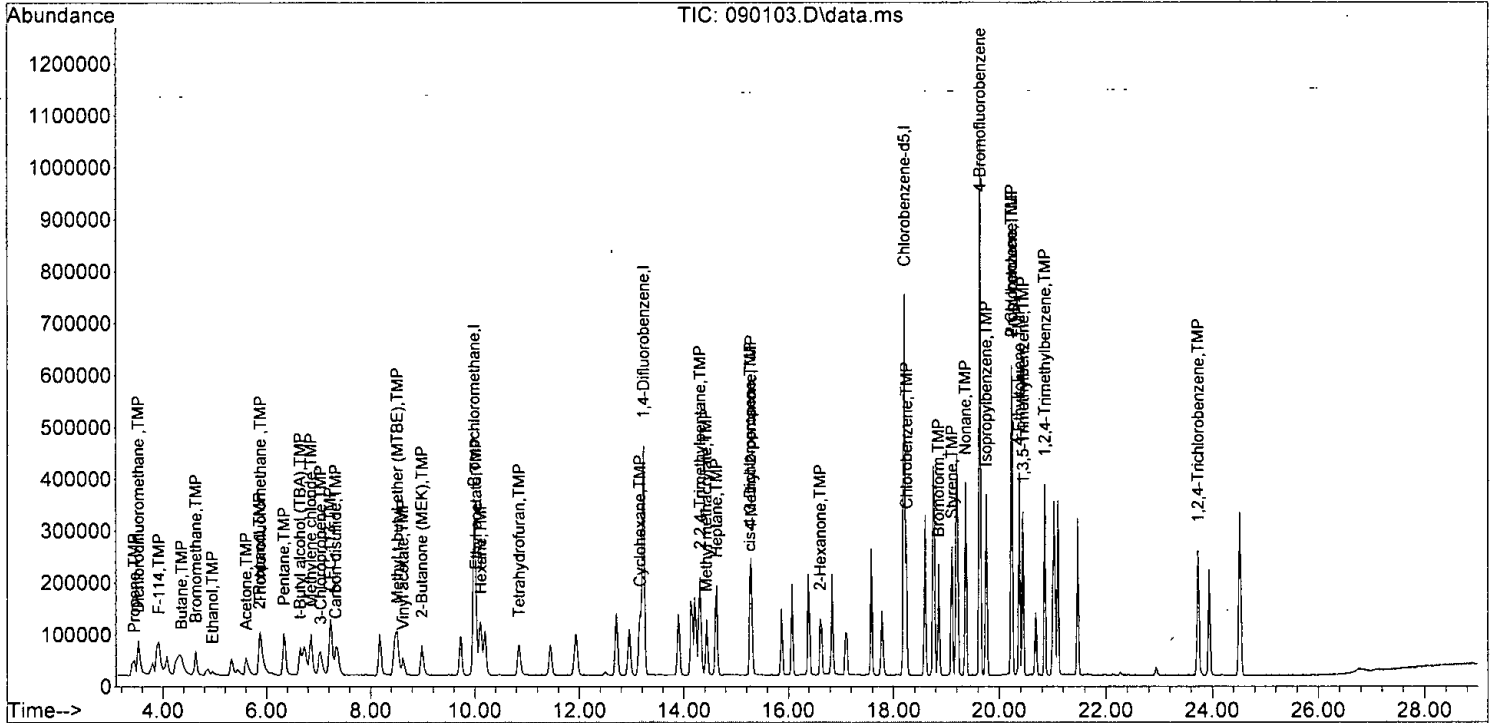
Quant Time: Sep 02 10:47:04 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.43	41	90898	3.228	ppbv #	86
44) Heptane	14.63	43	142677	2.995	ppbv	91
45) Bromodichloromethane	14.14	83	139317	2.943	ppbv	93
46) Trichloroethene	14.22	95	85336	2.779	ppbv	85
47) cis-1,3-Dichloropropene	15.27	75	102150	3.233	ppbv	94
48) 4-Methyl-2-pentanone	15.29	100	6475	3.219	ppbv #	1
49) trans-1,3-Dichloropropene	15.87	75	83847	3.123	ppbv	99
50) Toluene	16.40	92	108128	2.905	ppbv	84
51) 1,1,2-Trichloroethane	16.06	83	82231	2.942	ppbv	96
52) 2-Hexanone	16.62	43	160645	3.066	ppbv	88
53) Tetrachloroethene	17.58	164	56961	3.010	ppbv	82
54) Dibromochloromethane	16.85	129	118618	3.033	ppbv	91
55) 1,2-Dibromoethane (EDB)	17.10	107	113294	2.927	ppbv	89
57) Chlorobenzene	18.25	112	135310	2.885	ppbv	88
58) Ethylbenzene	18.59	91	266916	2.744	ppbv	96
59) 1,1,2,2-Tetrachloroethane	19.17	83	193243	2.848	ppbv	88
60) Nonane	19.36	43	220733	3.002	ppbv	90
61) Isopropylbenzene	19.75	105	244044	2.861	ppbv	99
62) 2-Chlorotoluene	20.23	126	60419	2.980	ppbv	76
63) Propylbenzene	20.23	91	545920	2.885	ppbv	96
64) 4-Ethyltoluene	20.38	105	250705	2.824	ppbv	96
65] m,p-Xylene	18.76	106	176547	5.653	ppbv	90
66] o-Xylene	19.21	106	85675	2.791	ppbv	92
67) Styrene	19.11	104	125204	2.770	ppbv	90
68) Bromoform	18.85	173	109855	3.132	ppbv	98
70] Benzyl chloride	21.01	91	107989	3.284	ppbv	96
71) 1,3,5-Trimethylbenzene	20.45	105	213693	3.002	ppbv	96
72) 1,2,4-Trimethylbenzene	20.86	105	208574	2.837	ppbv	98
73] 1,3-Dichlorobenzene	21.04	146	136794	2.708	ppbv	98
74] 1,4-Dichlorobenzene	21.11	146	135745	2.886	ppbv	98
75] 1,2-Dichlorobenzene	21.47	146	132100	2.766	ppbv	98
76) 1,2,4-Trichlorobenzene	23.73	180	93821	2.414	ppbv	98
77] Naphthalene	23.93	128	227395	2.264	ppbv	98
78] Hexachlorobutadiene	24.52	225	87423	2.793	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090103.D  
 Acq On : 1 Sep 2021 9:13 am  
 Operator : bat  
 Sample : 01-2000 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:47:04 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090103.D  
 Acq On : 1 Sep 2021 9:13 am  
 Operator : bat  
 Sample : 01-2000 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:47:04 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	91	0.00
2 TMP	Propene	2.500	2.596	-3.8	85	0.04
3 TMP	Dichlorodifluoromethane	2.500	3.031	-21.2	100	0.00
4 TMP	Chloromethane	2.500	3.053	-22.1	107	0.00
5 TMP	F-114	2.500	2.781	-11.2	93	0.04
6 TMP	Vinyl chloride	2.500	2.695	-7.8	91	0.00
7 TMP	1,3-Butadiene	2.500	2.886	-15.4	97	0.00
8 TMP	Butane	2.500	2.849	-14.0	100	0.04
9 TMP	Bromomethane	2.500	3.177	-27.1	98	0.00
10 TMP	Chloroethane	2.500	2.927	-17.1	96	0.00
11 TMP	Vinyl bromide	2.500	3.084	-23.4	106	0.02
12 TMP	Ethanol	2.500	3.220	-28.8	97	0.00
13 TMP	Acrolein	2.500	2.758	-10.3	93	0.00
14 TMP	Pentane	2.500	2.837	-13.5	93	0.00
15 TMP	Trichlorofluoromethane	2.500	2.932	-17.3	97	0.00
16 TMP	Acetone	2.500	2.905	-16.2	102	0.02
17 TMP	2-Propanol	2.500	3.064	-22.6	105	0.00
18 TMP	1,1-Dichloroethene	2.500	2.841	-13.6	96	0.00
19 TMP	trans-1,2-Dichloroethene	2.500	2.850	-14.0	96	0.00
20 TMP	Methylene chloride	2.500	3.244	-29.8	113	0.00
21 TMP	t-Butyl alcohol (TBA)	2.500	2.978	-19.1	101	0.00
22 TMP	3-Chloropropene	2.500	2.825	-13.0	94	0.03
23 TMP	CFC-113	2.500	2.844	-13.8	95	0.00
24 TMP	Carbon disulfide	2.500	3.076	-23.0	99	0.00
25 TMP	Methyl t-butyl ether (MTBE)	2.500	2.964	-18.6	102	0.00
26 TMP	Vinyl acetate	2.500	3.325	-33.0#	116	0.00
27 TMP	1,1-Dichloroethane	2.500	2.938	-17.5	98	0.03
28 TMP	cis-1,2-Dichloroethene	2.500	2.855	-14.2	97	0.00
29 TMP	Hexane	2.500	2.861	-14.4	95	0.00
30 TMP	Chloroform	2.500	2.826	-13.0	97	0.00
31 TMP	Ethyl acetate	2.500	3.084	-23.4	101	0.02
32 TMP	Tetrahydrofuran	2.500	2.800	-12.0	95	0.00
33 TMP	2-Butanone (MEK)	2.500	2.955	-18.2	98	0.00
34 TMP	1,2-Dichloroethane (EDC)	2.500	2.813	-12.5	96	0.00
35 TMP	1,1,1-Trichloroethane	2.500	3.025	-21.0	102	0.00
36 TMP	Carbon tetrachloride	2.500	2.979	-19.2	100	0.00
37 TMP	Benzene	2.500	2.809	-12.4	96	0.02
38 TMP	Cyclohexane	2.500	2.797	-11.9	95	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	88	0.00
40 TMP	1,2-Dichloropropane	2.500	2.903	-16.1	99	0.00
41 TMP	1,4-Dioxane	2.500	2.858	-14.3	95	0.00
42 TMP	2,2,4-Trimethylpentane	2.500	2.933	-17.3	95	0.00
43 TMP	Methyl methacrylate	2.500	3.228	-29.1	104	0.00
44 TMP	Heptane	2.500	2.995	-19.8	99	0.00
45 TMP	Bromodichloromethane	2.500	2.943	-17.7	99	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090103.D  
 Acq On : 1 Sep 2021 9:13 am  
 Operator : bat  
 Sample : 01-2000 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:47:04 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	2.500	2.779	-11.2	97	0.00
47	TMP cis-1,3-Dichloropropene	2.500	3.233	-29.3	108	0.00
48	TMP 4-Methyl-2-pentanone	2.500	3.219	-28.8	98	0.00
49	TMP trans-1,3-Dichloropropene	2.500	3.123	-24.9	102	0.02
50	TMP Toluene	2.500	2.905	-16.2	95	0.00
51	TMP 1,1,2-Trichloroethane	2.500	2.942	-17.7	98	0.00
52	TMP 2-Hexanone	2.500	3.066	-22.6	103	0.00
53	TMP Tetrachloroethene	2.500	3.010	-20.4	98	0.00
54	TMP Dibromochloromethane	2.500	3.033	-21.3	101	0.00
55	TMP 1,2-Dibromoethane (EDB)	2.500	2.927	-17.1	101	0.00
56	I Chlorobenzene-d5	10.000	10.000	0.0	89	0.00
57	TMP Chlorobenzene	2.500	2.885	-15.4	96	0.00
58	TMP Ethylbenzene	2.500	2.744	-9.8	95	0.00
59	TMP 1,1,2,2-Tetrachloroethane	2.500	2.848	-13.9	98	-0.02
60	TMP Nonane	2.500	3.002	-20.1	97	0.00
61	TMP Isopropylbenzene	2.500	2.861	-14.4	94	0.00
62	TMP 2-Chlorotoluene	2.500	2.980	-19.2	97	0.00
63	TMP Propylbenzene	2.500	2.885	-15.4	95	-0.01
64	TMP 4-Ethyltoluene	2.500	2.824	-13.0	92	0.00
65	TMP m,p-Xylene	5.000	5.653	-13.1	95	0.00
66	TMP o-Xylene	2.500	2.791	-11.6	94	0.00
67	TMP Styrene	2.500	2.770	-10.8	92	0.00
68	TMP Bromoform	2.500	3.132	-25.3	103	0.00
69	S 4-Bromofluorobenzene	10.000	9.715	2.9	86	0.00
70	TMP Benzyl chloride	2.500	3.284	-31.4#	111	0.00
71	TMP 1,3,5-Trimethylbenzene	2.500	3.002	-20.1	97	0.00
72	TMP 1,2,4-Trimethylbenzene	2.500	2.837	-13.5	92	0.00
73	TMP 1,3-Dichlorobenzene	2.500	2.708	-8.3	91	0.00
74	TMP 1,4-Dichlorobenzene	2.500	2.886	-15.4	96	0.00
75	TMP 1,2-Dichlorobenzene	2.500	2.766	-10.6	94	0.00
76	TMP 1,2,4-Trichlorobenzene	2.500	2.414	3.4	81	0.00
77	TMP Naphthalene	2.500	2.264	9.4	78	0.00
78	TMP Hexachlorobutadiene	2.500	2.793	-11.7	94	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090103.D  
 Acq On : 1 Sep 2021 9:13 am  
 Operator : bat  
 Sample : 01-2000 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:47:04 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	91	0.00
2 TMP	Propene	1.710	1.775	-3.8	85	0.04
3 TMP	Dichlorodifluoromethane	4.425	5.365	-21.2	100	0.00
4 TMP	Chloromethane	2.075	2.534	-22.1	107	0.00
5 TMP	F-114	4.450	4.950	-11.2	93	0.04
6 TMP	Vinyl chloride	2.209	2.381	-7.8	91	0.00
7 TMP	1,3-Butadiene	1.529	1.765	-15.4	97	0.00
8 TMP	Butane	3.248	3.701	-13.9	100	0.04
9 TMP	Bromomethane	1.540	1.957	-27.1	98	0.00
10 TMP	Chloroethane	0.759	0.889	-17.1	96	0.00
11 TMP	Vinyl bromide	1.785	2.202	-23.4	106	0.02
12 TMP	Ethanol	0.559	0.720	-28.8	97	0.00
13 TMP	Acrolein	0.726	0.801	-10.3	93	0.00
14 TMP	Pentane	3.891	4.416	-13.5	93	0.00
15 TMP	Trichlorofluoromethane	4.934	5.786	-17.3	97	0.00
16 TMP	Acetone	0.880	1.023	-16.2	102	0.02
17 TMP	2-Propanol	3.556	4.358	-22.6	105	0.00
18 TMP	1,1-Dichloroethene	1.648	1.873	-13.7	96	0.00
19 TMP	trans-1,2-Dichloroethene	1.626	1.854	-14.0	96	0.00
20 TMP	Methylene chloride	1.750	2.271	-29.8	113	0.00
21 TMP	t-Butyl alcohol (TBA)	2.881	3.432	-19.1	101	0.00
22 TMP	3-Chloropropene	2.910	3.288	-13.0	94	0.03
23 TMP	CFC-113	3.396	3.863	-13.8	95	0.00
24 TMP	Carbon disulfide	5.738	7.060	-23.0	99	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	4.529	-18.6	102	0.00
26 TMP	Vinyl acetate	2.562	3.408	-33.0#	116	0.00
27 TMP	1,1-Dichloroethane	3.850	4.524	-17.5	98	0.03
28 TMP	cis-1,2-Dichloroethene	1.780	2.033	-14.2	97	0.00
29 TMP	Hexane	2.959	3.386	-14.4	95	0.00
30 TMP	Chloroform	4.366	4.935	-13.0	97	0.00
31 TMP	Ethyl acetate	6.229	7.683	-23.3	101	0.02
32 TMP	Tetrahydrofuran	2.703	3.028	-12.0	95	0.00
33 TMP	2-Butanone (MEK)	0.712	0.841	-18.1	98	0.00
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.696	-12.5	96	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.911	-21.0	102	0.00
36 TMP	Carbon tetrachloride	3.178	3.787	-19.2	100	0.00
37 TMP	Benzene	6.123	6.880	-12.4	96	0.02
38 TMP	Cyclohexane	1.669	1.868	-11.9	95	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	88	0.00
40 TMP	1,2-Dichloropropane	0.618	0.718	-16.2	99	0.00
41 TMP	1,4-Dioxane	0.270	0.308	-14.1	95	0.00
42 TMP	2,2,4-Trimethylpentane	2.076	2.435	-17.3	95	0.00
43 TMP	Methyl methacrylate	0.567	0.732	-29.1	104	0.00
44 TMP	Heptane	0.959	1.149	-19.8	99	0.00
45 TMP	Bromodichloromethane	0.953	1.122	-17.7	99	0.00



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090103.D  
 Acq On : 1 Sep 2021 9:13 am  
 Operator : bat  
 Sample : 01-2000 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:47:04 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.687	-11.2	97	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.823	-29.4	108	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.052	-30.0	98	0.00
49 TMP trans-1,3-Dichloropropene	0.540	0.675	-25.0	102	0.02
50 TMP Toluene	0.749	0.871	-16.3	95	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.662	-17.6	98	0.00
52 TMP 2-Hexanone	1.055	1.294	-22.7	103	0.00
53 TMP Tetrachloroethene	0.381	0.459	-20.5	98	0.00
54 TMP Dibromochloromethane	0.787	0.955	-21.3	101	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.912	-17.1	101	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	89	0.00
57 TMP Chlorobenzene	1.071	1.236	-15.4	96	0.00
58 TMP Ethylbenzene	2.221	2.438	-9.8	95	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.765	-13.9	98	-0.02
60 TMP Nonane	1.679	2.016	-20.1	97	0.00
61 TMP Isopropylbenzene	1.948	2.229	-14.4	94	0.00
62 TMP 2-Chlorotoluene	0.463	0.552	-19.2	97	0.00
63 TMP Propylbenzene	4.322	4.987	-15.4	95	-0.01
64 TMP 4-Ethyltoluene	2.027	2.290	-13.0	92	0.00
65 TMP m,p-Xylene	0.713	0.806	-13.0	95	0.00
66 TMP o-Xylene	0.701	0.783	-11.7	94	0.00
67 TMP Styrene	1.032	1.144	-10.9	92	0.00
68 TMP Bromoform	0.801	1.003	-25.2	103	0.00
69 S 4-Bromofluorobenzene	0.906	0.880	2.9	86	0.00
70 TMP Benzyl chloride	0.751	0.986	-31.3#	111	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	1.952	-20.1	97	0.00
72 TMP 1,2,4-Trimethylbenzene	1.679	1.905	-13.5	92	0.00
73 TMP 1,3-Dichlorobenzene	1.154	1.250	-8.3	91	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.240	-7.6	96	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.207	-10.6	94	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.857	9.8	81	0.00
77 TMP Naphthalene	2.538	2.077	18.2	78	0.00
78 TMP Hexachlorobutadiene	0.852	0.799	6.2	94	0.00

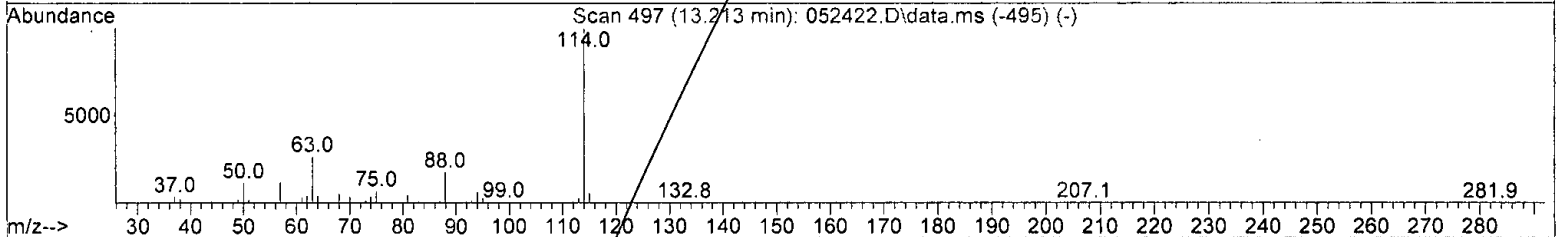
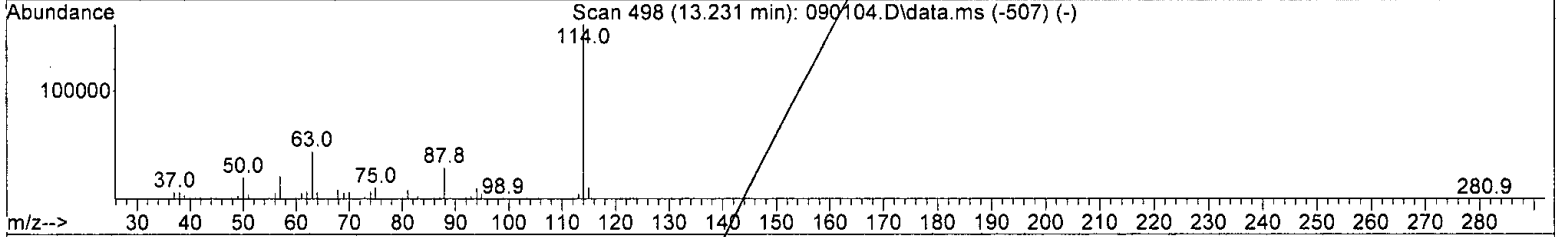
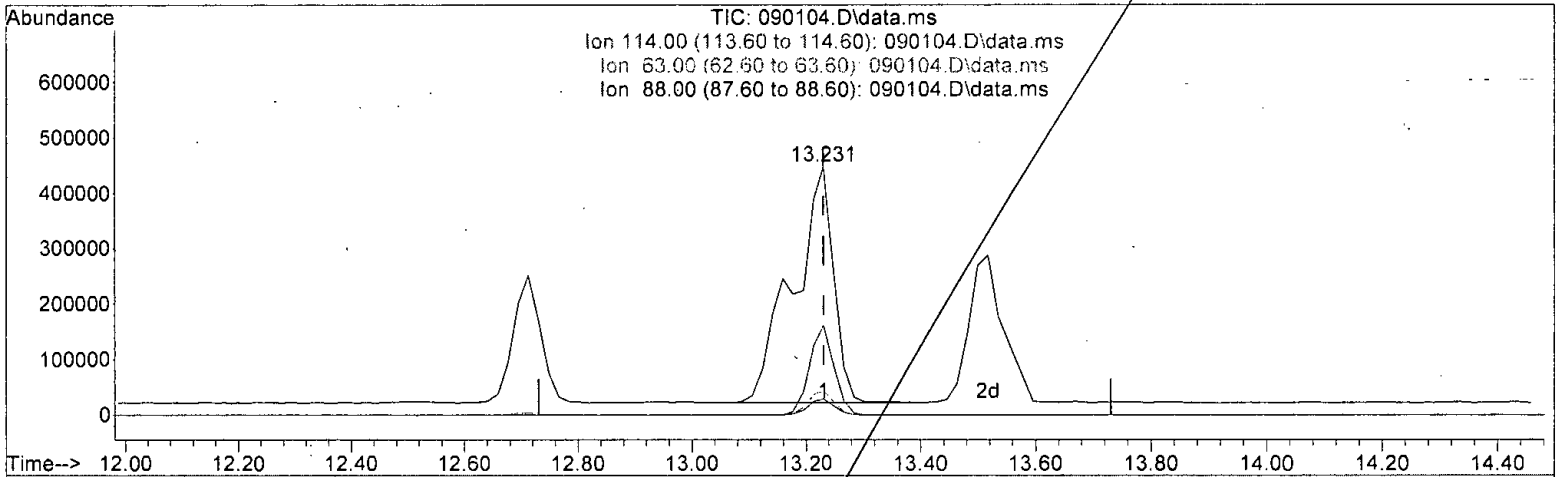
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : I:\09-01-21\  
 Data File : 090104.D  
 Acq On : 1 Sep 2021 9:57 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 11:45:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

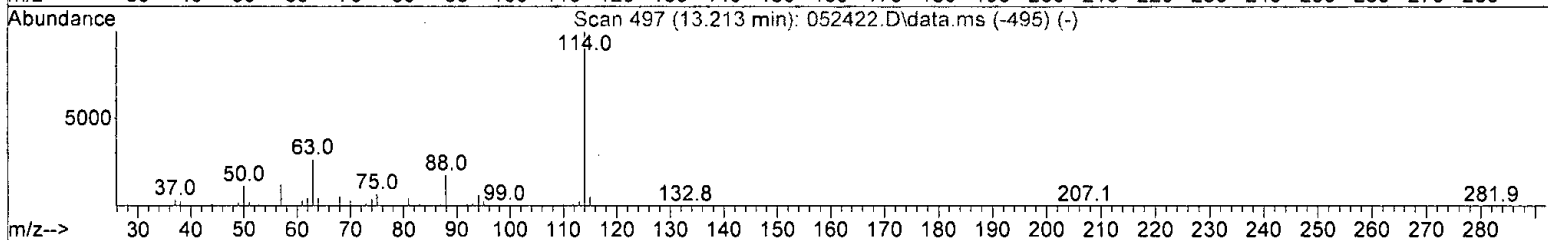
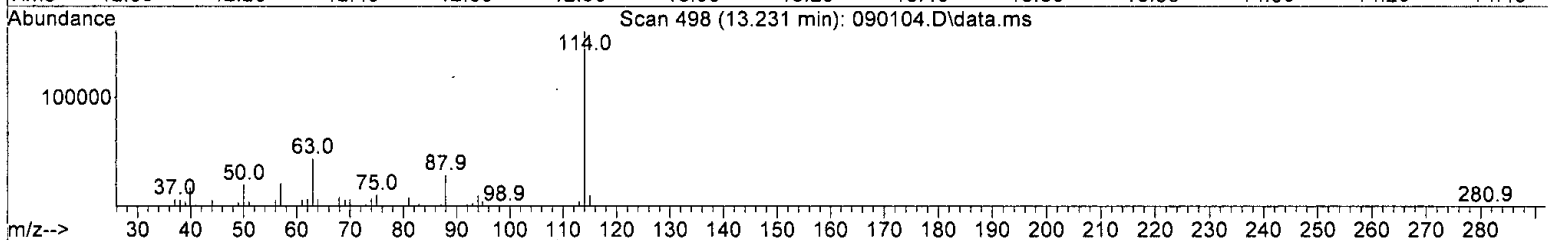
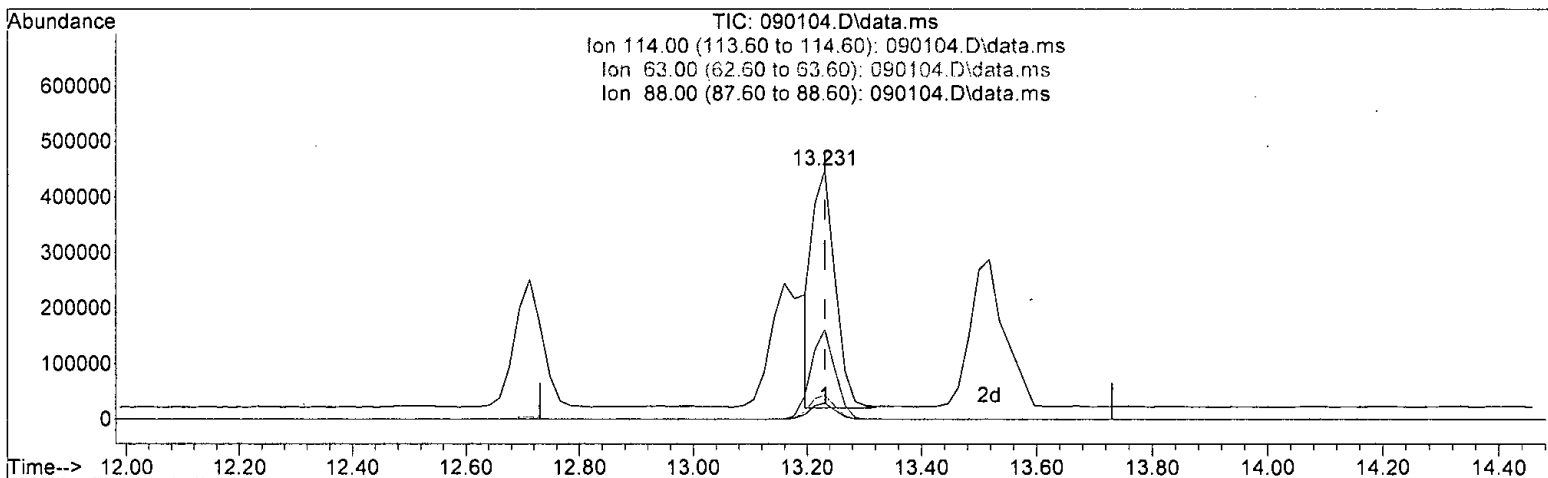
13.231min (+ 0.000)	81.321 ug/m3
response	2109344
Signal	Exp% Act%
TIC	100.00 100.00
114.00	43.50 38.01
63.00	8.40 10.34
88.00	7.60 6.79

*n or only*

Quantitation Report (Qedit)

Data Path : I:\09-01-21\  
 Data File : 090104.D  
 Acq On : 1 Sep 2021 9:57 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 11:45:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)  
 13.231min (+ 0.000) 46.129 ug/m3 m  
 response 1196516  

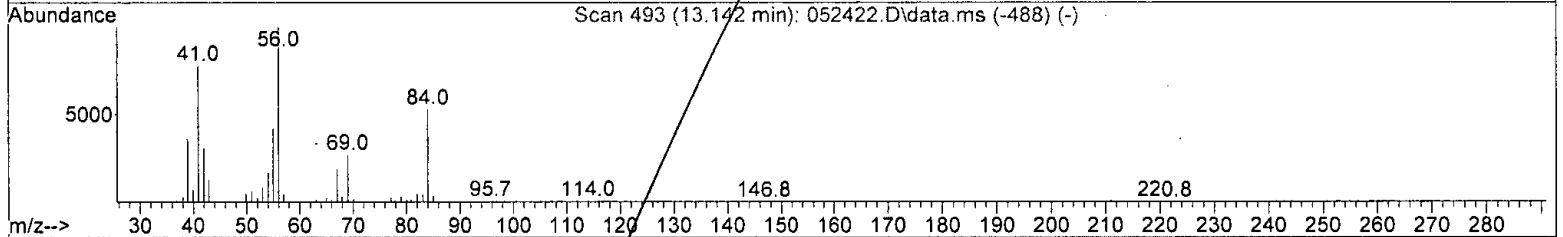
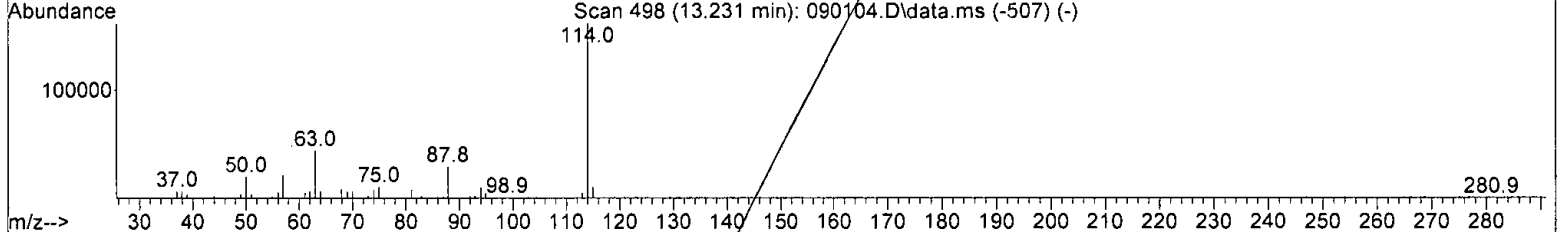
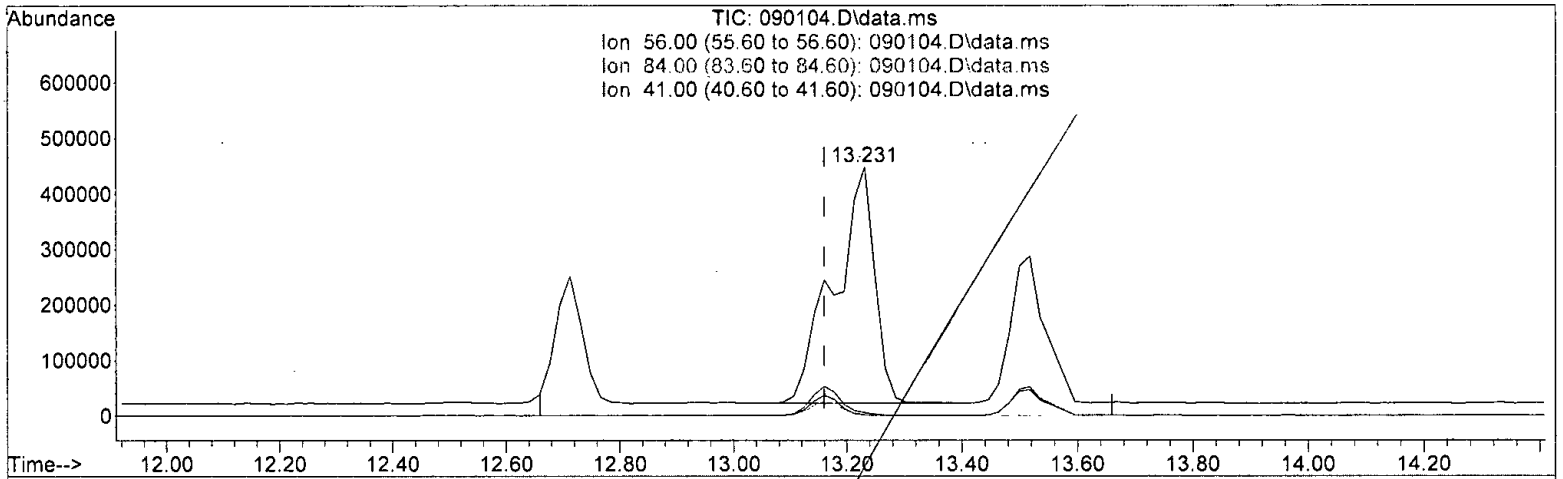
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	67.01
63.00	8.40	18.23
88.00	7.60	11.98

*h*  
*09/01/21*

Quantitation Report (Qedit)

Data Path : I:\09-01-21\  
 Data File : 090104.D  
 Acq On : 1 Sep 2021 9:57 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 11:45:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.231min (+ 0.071) 61.987 ug/m3

response 2109344

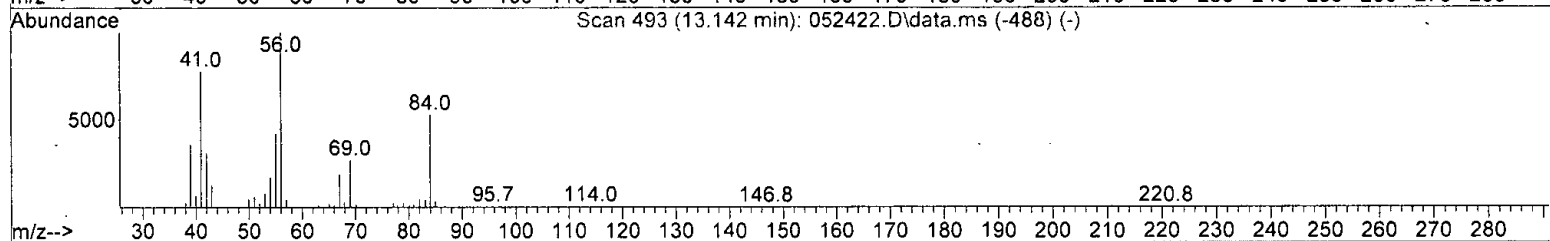
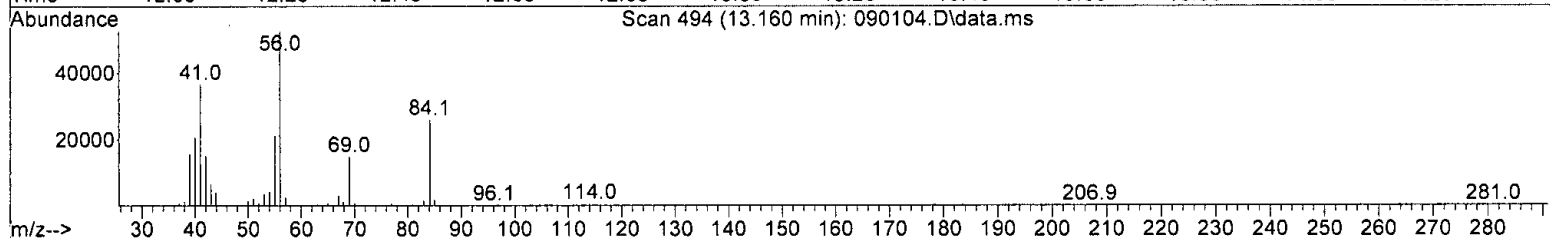
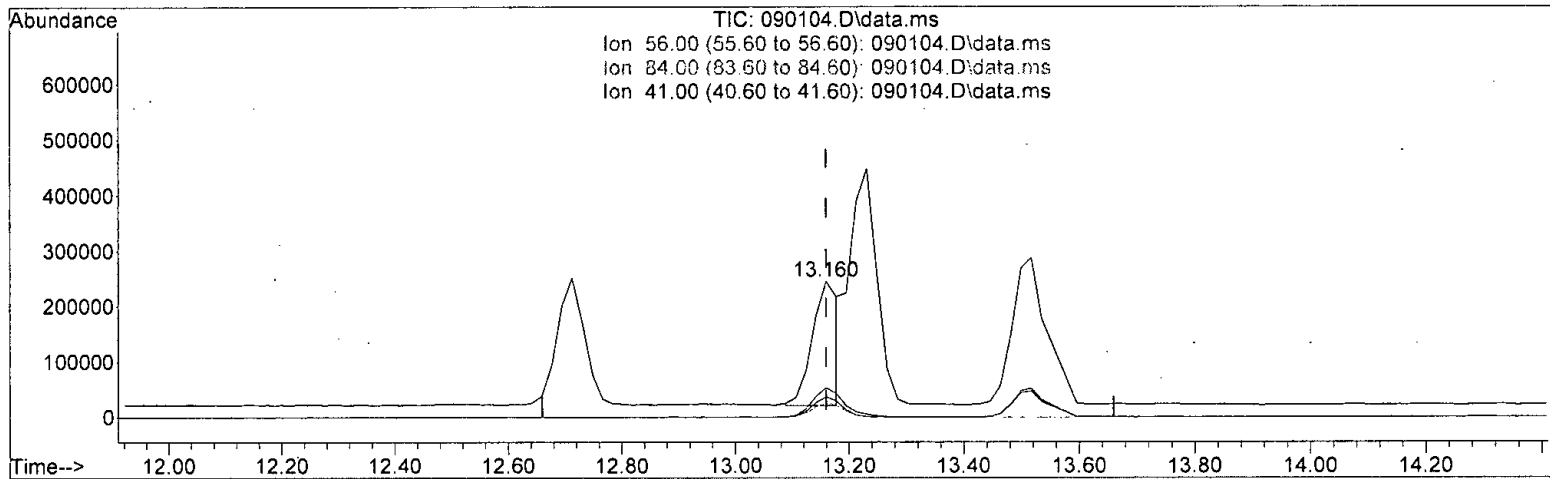
Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.80	1.26
84.00	1.00	0.16
41.00	0.50	0.19

*Handwritten note:* 11/09/2021

Quantitation Report (Qedit)

Data Path : I:\09-01-21\  
 Data File : 090104.D  
 Acq On : 1 Sep 2021 9:57 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 11:45:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.160min (-0.000) 20.875 ug/m3 m

response 710355

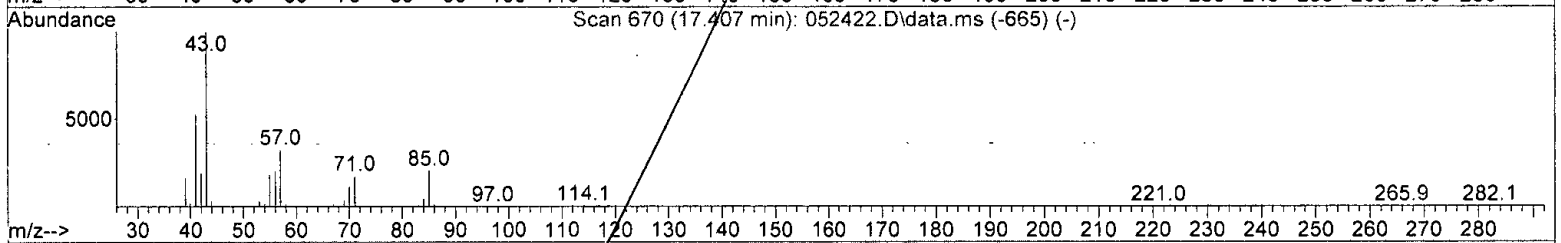
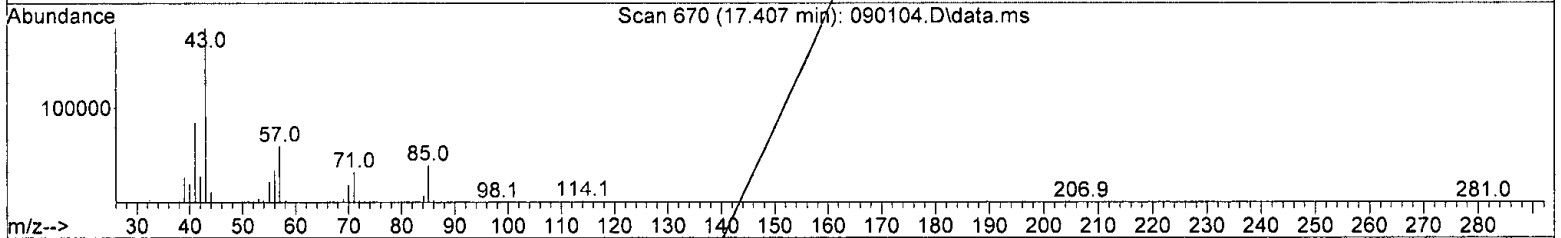
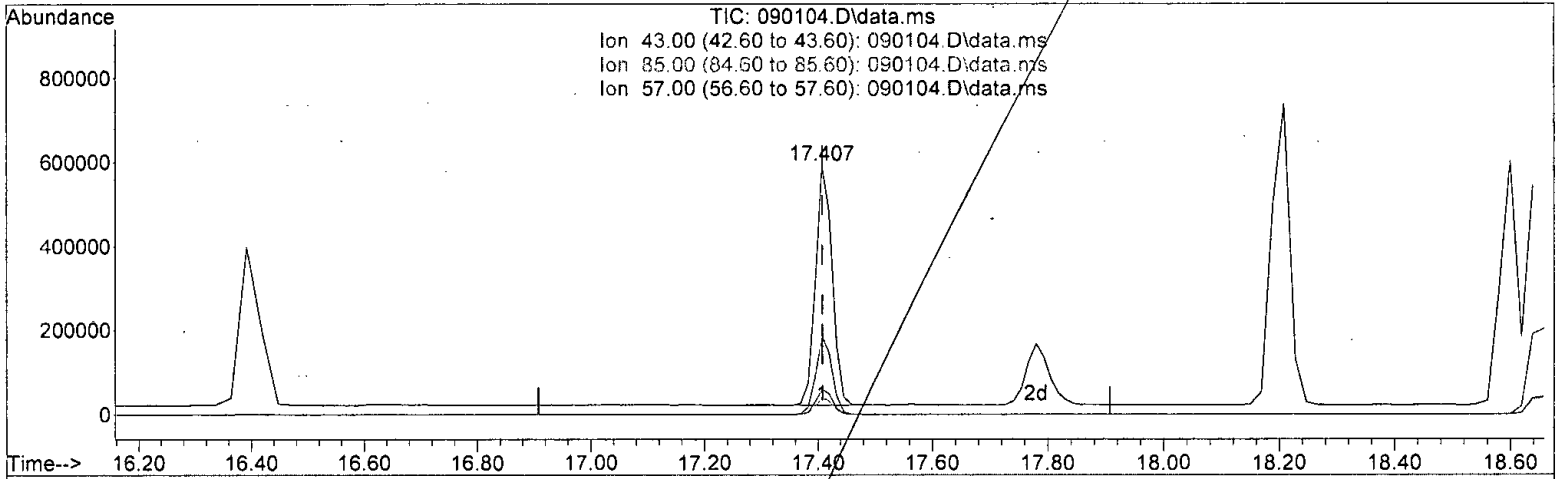
Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.80	3.73
84.00	1.00	0.47
41.00	0.50	0.55

*Handwritten signature:* M. [unclear]

Quantitation Report (Qedit)

Data Path : I:\09-01-21\  
 Data File : 090104.D  
 Acq On : 1 Sep 2021 9:57 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 11:45:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(17) Octane (L1)

17.407min (-0.001) 34.596 ug/m3

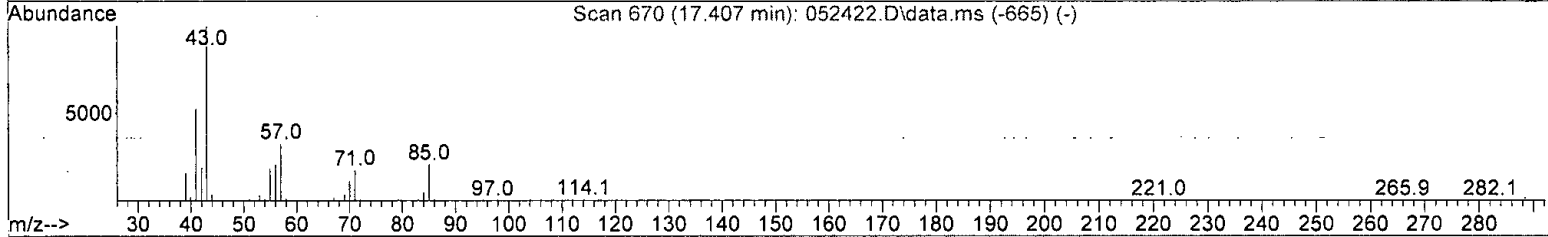
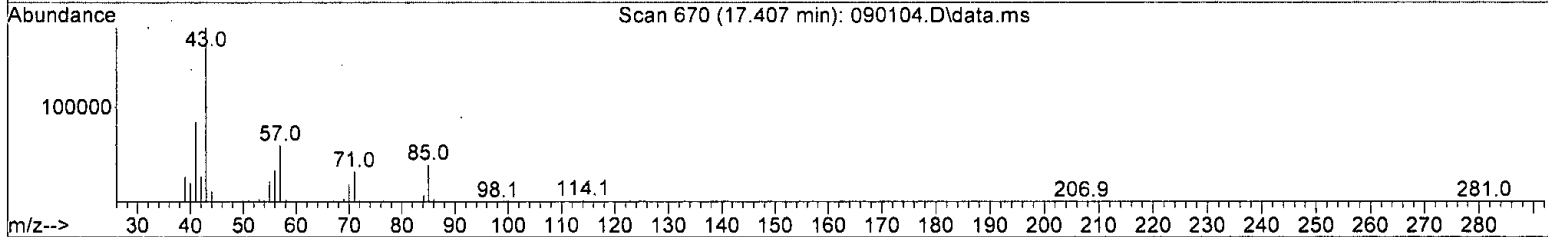
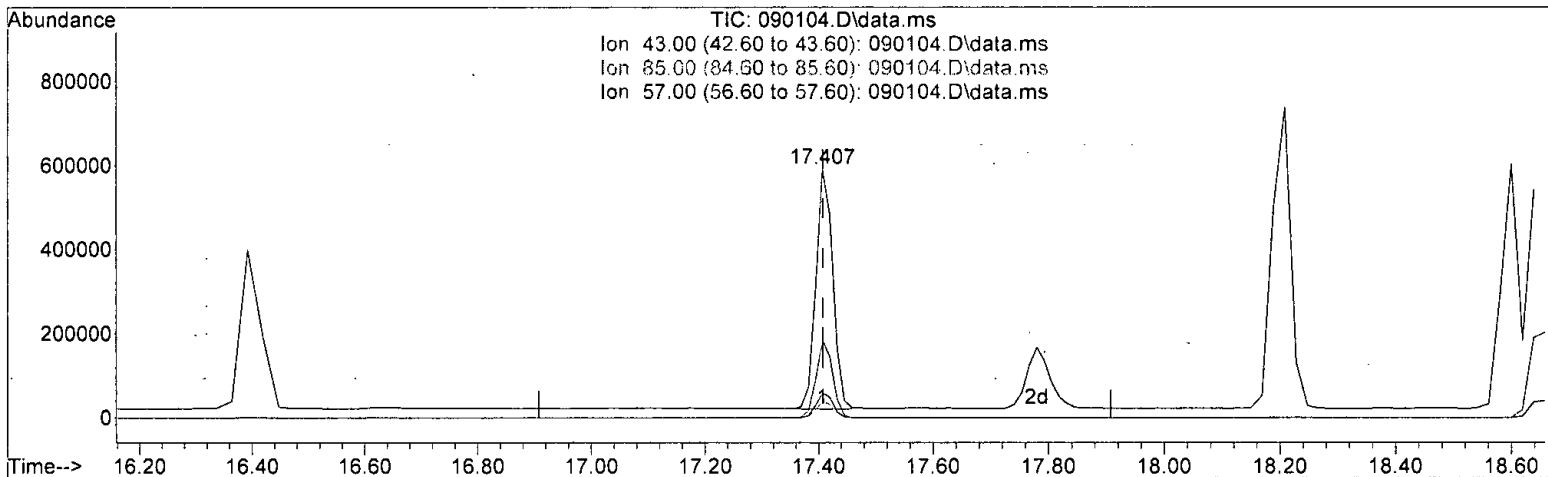
response 1683539

Signal	Exp%	Act%
TIC	100.00	100.00
43.00	24.10	33.52
85.00	9.40	6.78
57.00	10.10	10.50

*Handwritten note:* 4/20/21

Data Path : I:\09-01-21\  
 Data File : 090104.D  
 Acq On : 1 Sep 2021 9:57 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 11:45:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(17) Octane (L1)

17.407min (-0.001) 24.362 ug/m3 m

response 1185516

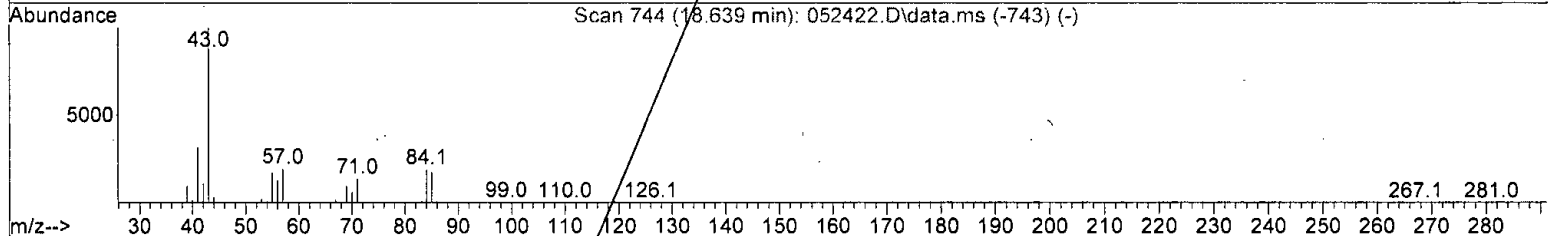
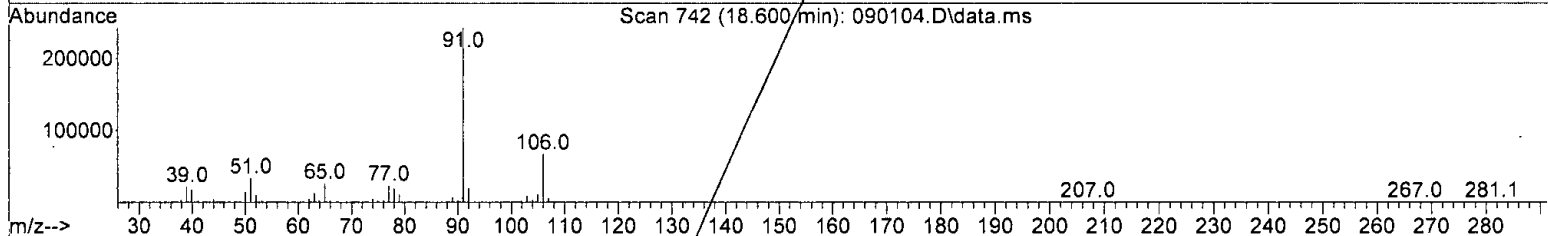
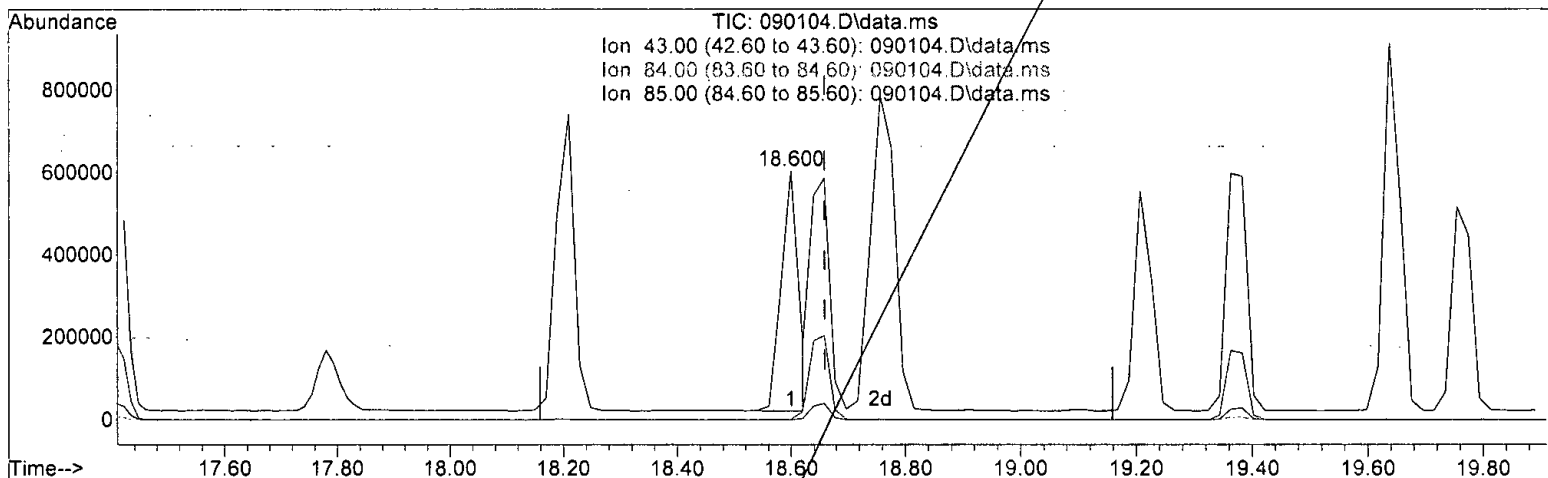
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	24.10	47.60
85.00	9.40	9.62
57.00	10.10	14.91

*B. 09/01/21*

Quantitation Report (Qedit)

Data Path : I:\09-01-21\  
 Data File : 090104.D  
 Acq On : 1 Sep 2021 9:57 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 11:45:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update.: Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.600min (-0.059) 27.867 ug/m³

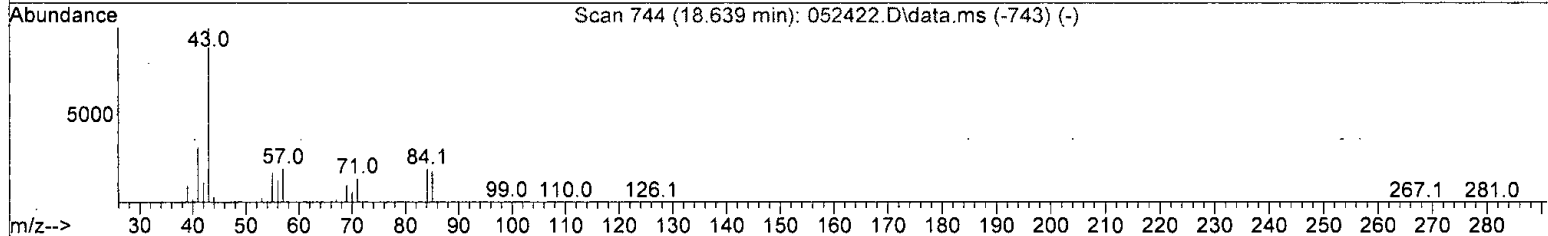
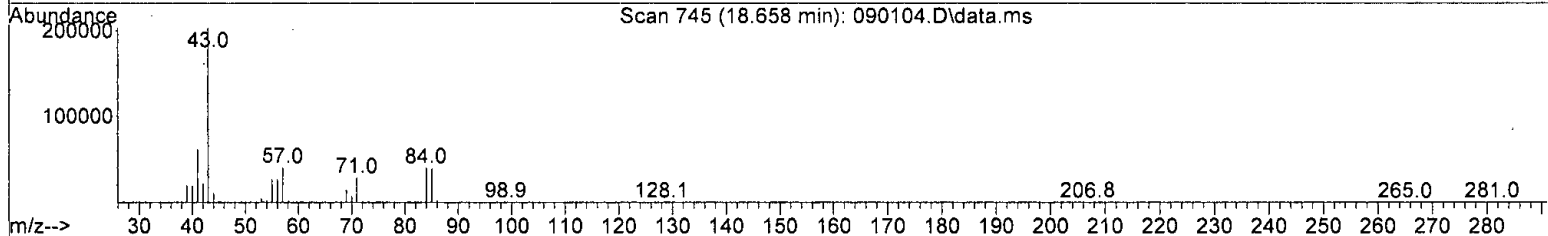
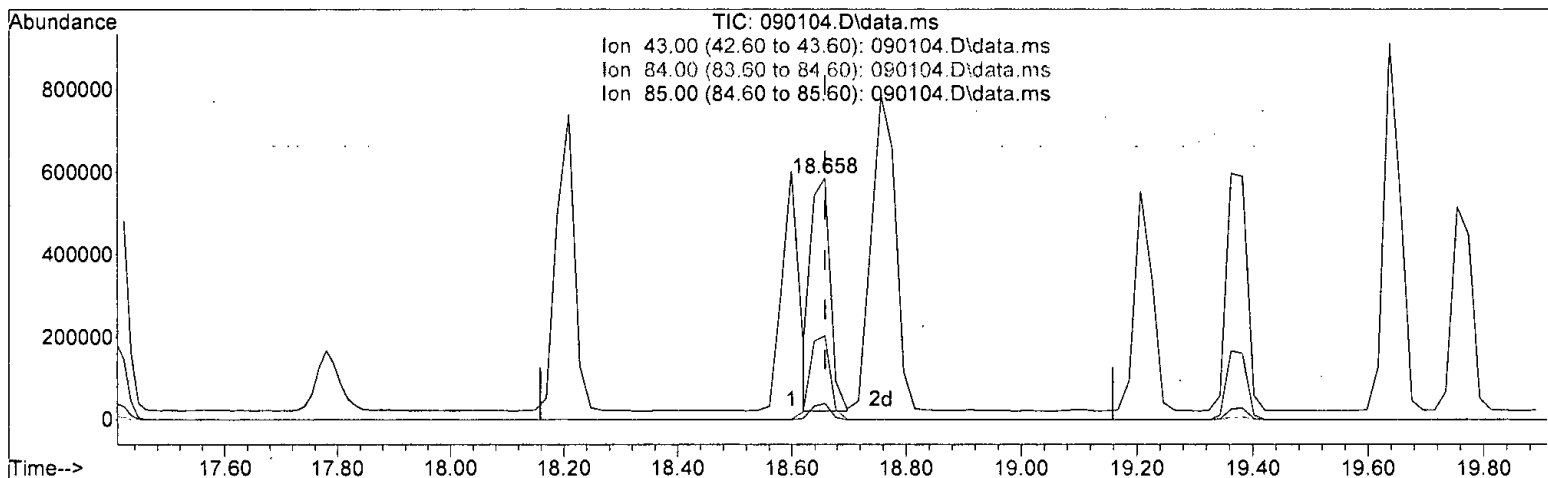
response	1208042
Signal	Exp% Act%
TIC	100.00 100.00
43.00	28.20 42.69#
84.00	9.90 7.92#
85.00	9.20 7.93

*B. orla*



Data Path : I:\09-01-21\  
 Data File : 090104.D  
 Acq On : 1 Sep 2021 9:57 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 11:45:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.658min (-0.001) 31.485 ug/m3 m

response 1364840

Signal Exp% Act%

TIC 100.00 100.00

43.00 28.20 37.79#

84.00 9.90 7.01#

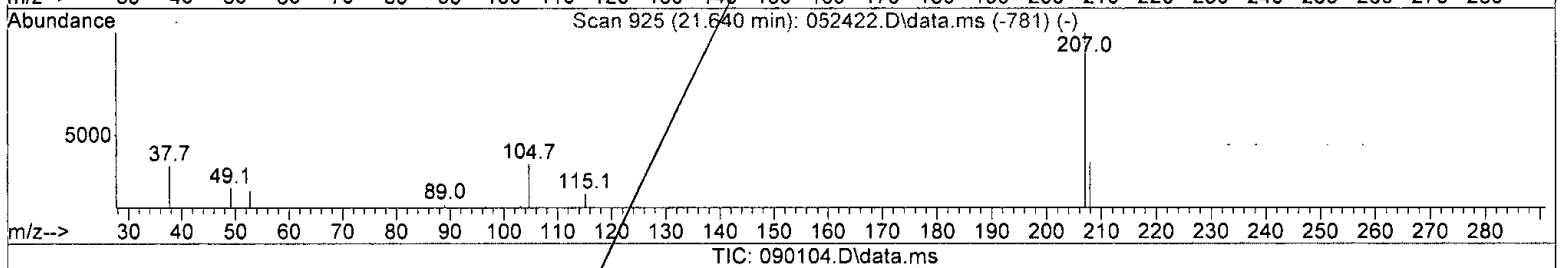
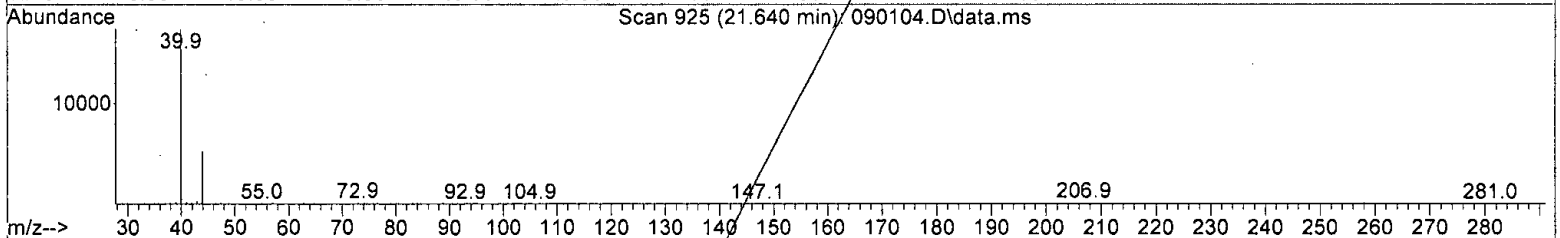
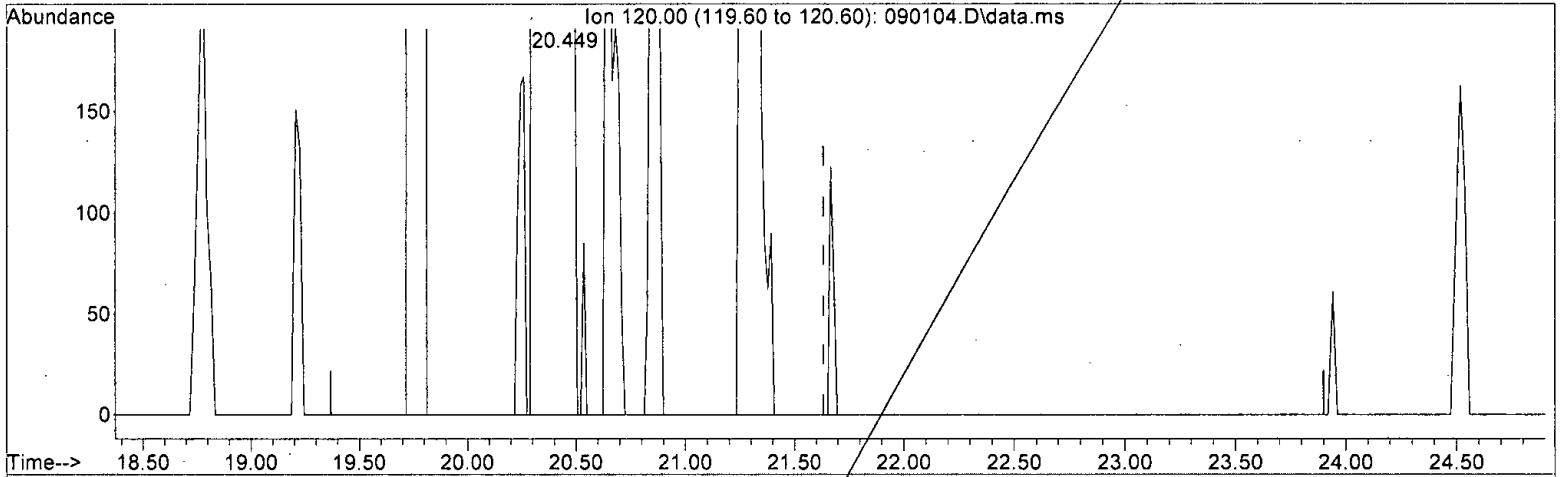
85.00 9.20 7.02#

*B  
09/01/21*

Quantitation Report (Qedit)

Data Path : I:\09-01-21\  
 Data File : 090104.D  
 Acq On : 1 Sep 2021 9:57 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 11:45:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 94.230 ug/m3 m

response 484170

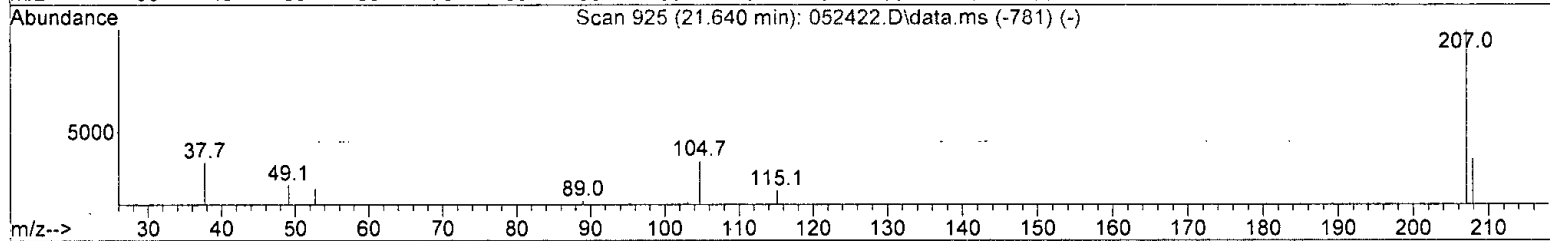
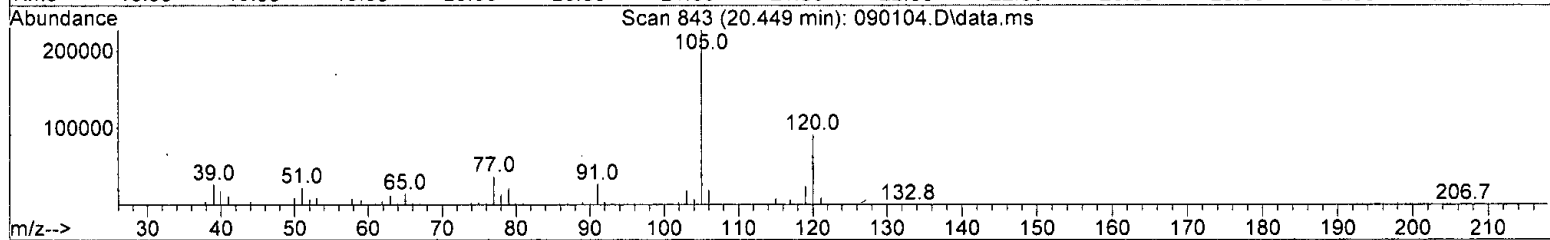
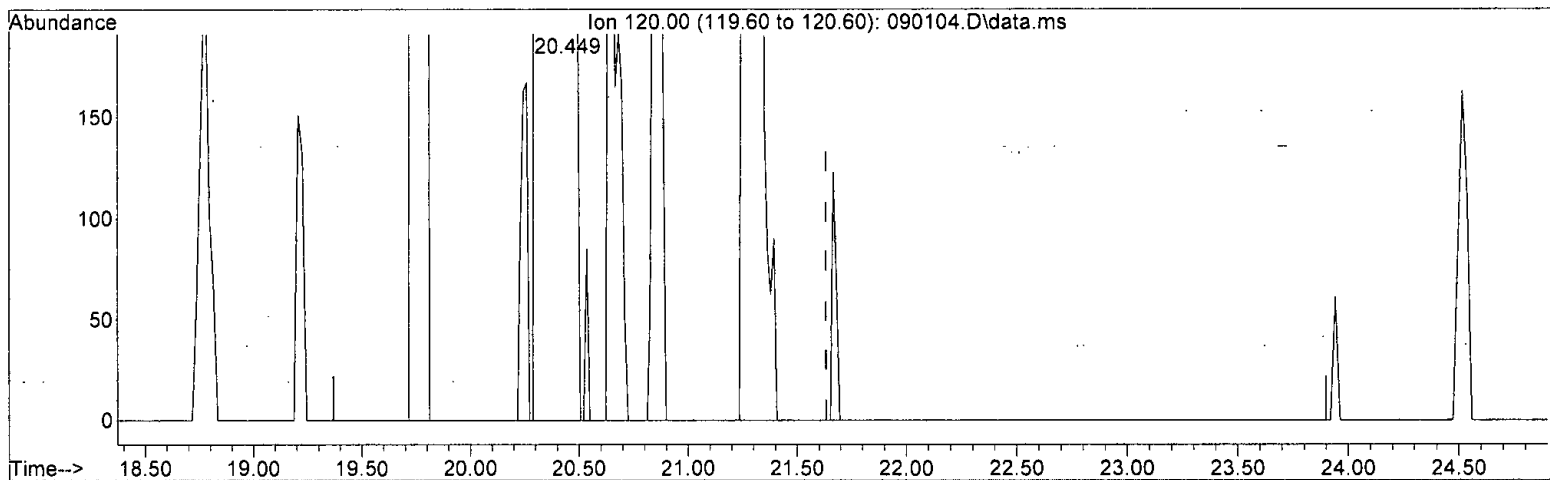
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h*  
*09/01/21*

Quantitation Report (Qedit)

Data Path : I:\09-01-21\  
 Data File : 090104.D  
 Acq On : 1 Sep 2021 9:57 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 11:45:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*h*  
*09/02/21*

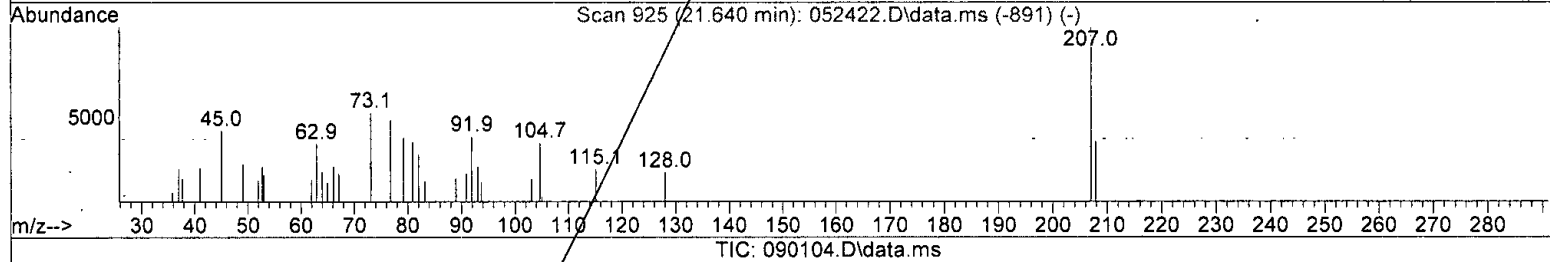
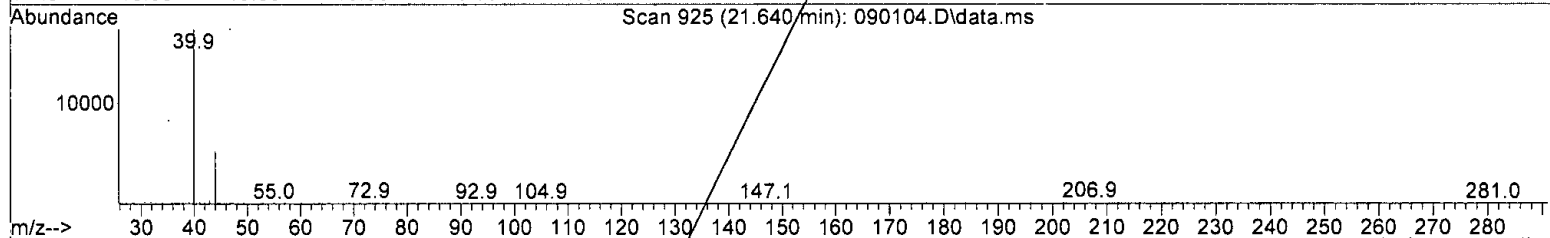
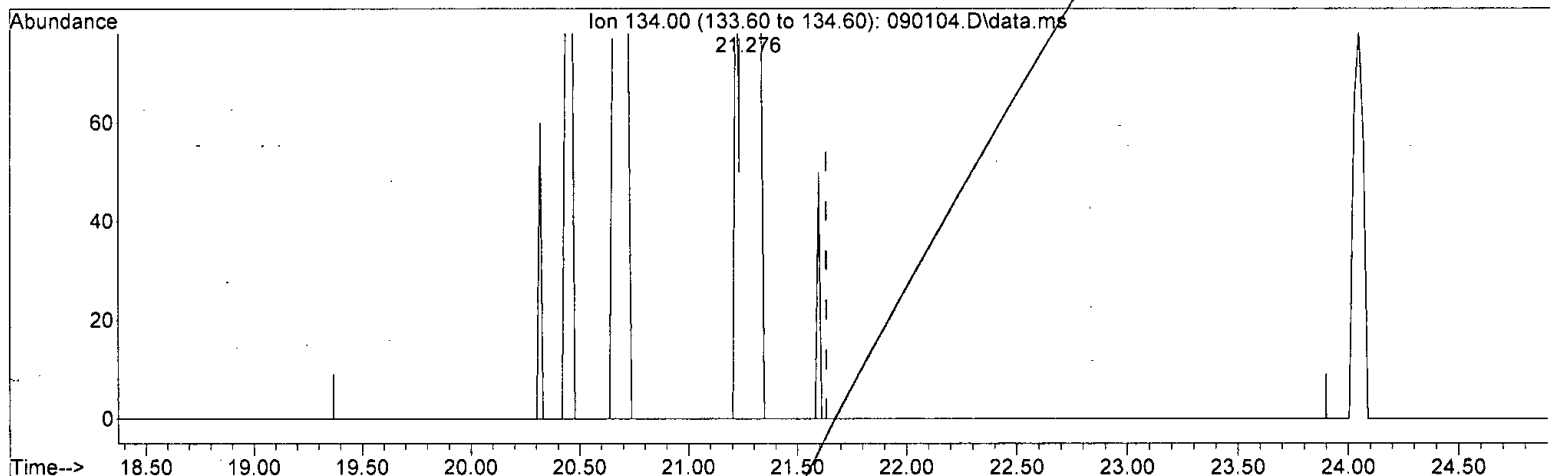
(44) APH EC9-10 aromatics (1) (H)  
 21.635min ( 0.000) 87.281 ug/m3 m  
 response 448467

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : I:\09-01-21\  
 Data File : 090104.D  
 Acq On : 1 Sep 2021 9:57 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 11:45:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 3.777 ug/m3 m

response 11055

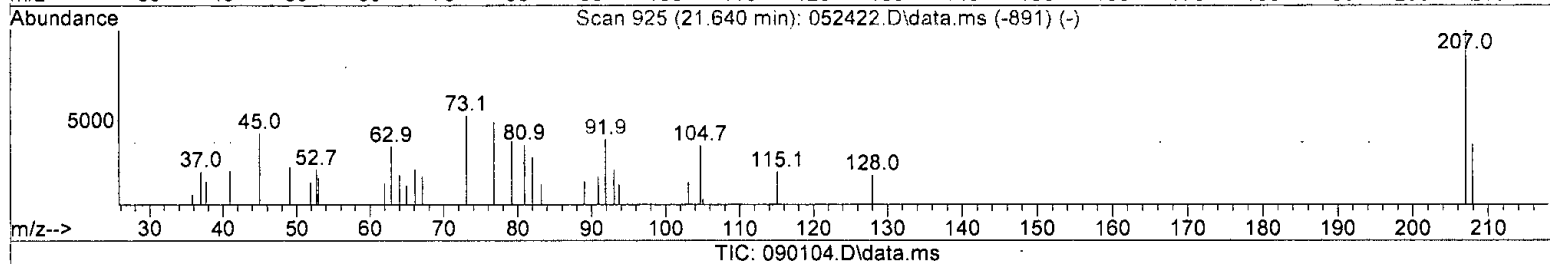
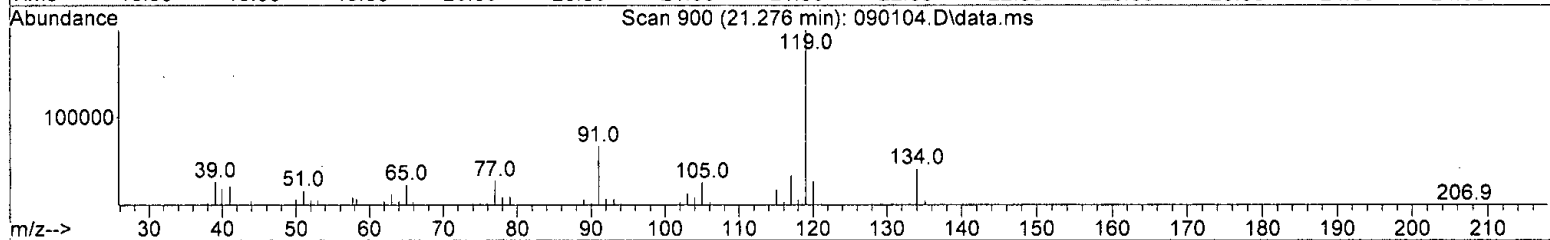
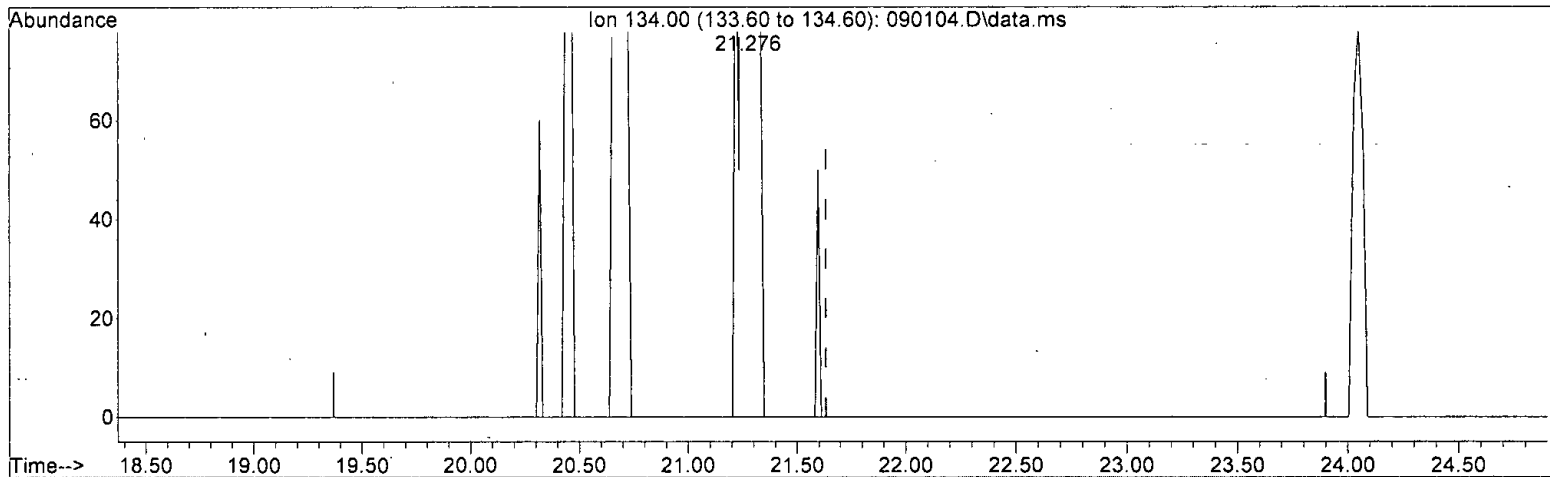
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B  
09/01/21*

Quantitation Report (Qedit)

Data Path : I:\09-01-21\  
 Data File : 090104.D  
 Acq On : 1 Sep 2021 9:57 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 11:45:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 25.547 ug/m3 m

response 74765

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*209/02/21*

Data Path : I:\09-01-21\  
 Data File : 090104.D  
 Acq On : 1 Sep 2021 9:57 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 11:47:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	103502	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	490230	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	431335	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	379342	70.196	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	98.87%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	954925	52.254	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1196516m	46.129	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1585436	50.393	ug/m3	91
5) Methylene chloride	6.86	TIC	57667	62.327	ug/m3	89
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.28	54	82154	13.479	ug/m3	74
9) Methyl t-butyl ether	8.51	73	225143	28.218	ug/m3	88
11) Benzene	12.71	78	325412	19.523	ug/m3	89
12) Isopentane	5.68	TIC	655654	19.806	ug/m3	96
13) Hexane	10.11	TIC	764316	23.474	ug/m3	93
14) Cyclohexane	13.16	TIC	710355m	20.875	ug/m3	
15) 2,3-Dimethylpentane	13.52	TIC	1157364	26.651	ug/m3	96
16) Heptane	14.63	TIC	961602	27.096	ug/m3	92
17) Octane	17.41	TIC	1185516m	24.362	ug/m3	
18) APH EC5-8 aliphatics T...	12.71	TIC	5434807m	139.722	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	19693845m	506.304	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1792699	49.232	ug/m3	90
22) Hexamethylcyclotrisilo...	17.78	TIC	506358	56.457	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	449636	40.168	ppbv	100
24) Toluene	16.39	92	193719	20.933	ug/m3	100
25) Ethylbenzene	18.60	91	476537	24.935	ug/m3	95
26) m,p-Xylene	18.76	106	313637	48.805	ug/m3	84
27) o-Xylene	19.21	106	153915	25.318	ug/m3	86
28) Naphthalene	23.94	128	265831	17.130	ug/m3	99
29) 2,3-Dimethylheptane	18.66	TIC	1364840m	31.485	ug/m3	
30) Nonane	19.36	TIC	1436151	31.727	ug/m3	91
31) Decane	20.90	TIC	1668127	37.096	ug/m3	93
32) Butylcyclohexane	21.57	TIC	1683398	32.955	ug/m3	96
33) Undecane	22.28	TIC	1778364	39.875	ug/m3	96
34) Dodecane	23.79	TIC	1607476	43.913	ug/m3	94
35) APH EC9-12 aliphatics ...	21.57	TIC	9538356m	216.135	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	14799106m	335.342	ug/m3	
38) Isopropylbenzene	19.75	120	91567	27.066	ug/m3#	79
39) 1-Methyl-3-ethylbenzene	20.33	120	125654	26.558	ug/m3#	83
40) 1,3,5-Trimethylbenzene	20.45	120	157407	26.293	ug/m3#	85
41) p-Isopropyltoluene	21.28	134	87269	29.671	ug/m3#	75
42) 1,2,3-Trimethylbenzene	21.31	120	188746	26.863	ug/m3	92
43) APH EC9-10 aromatics T...	21.57	TIC	650643m	139.823	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	448467m	87.281	ug/m3	

Data Path : I:\09-01-21\  
 Data File : 090104.D  
 Acq On : 1 Sep 2021 9:57 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

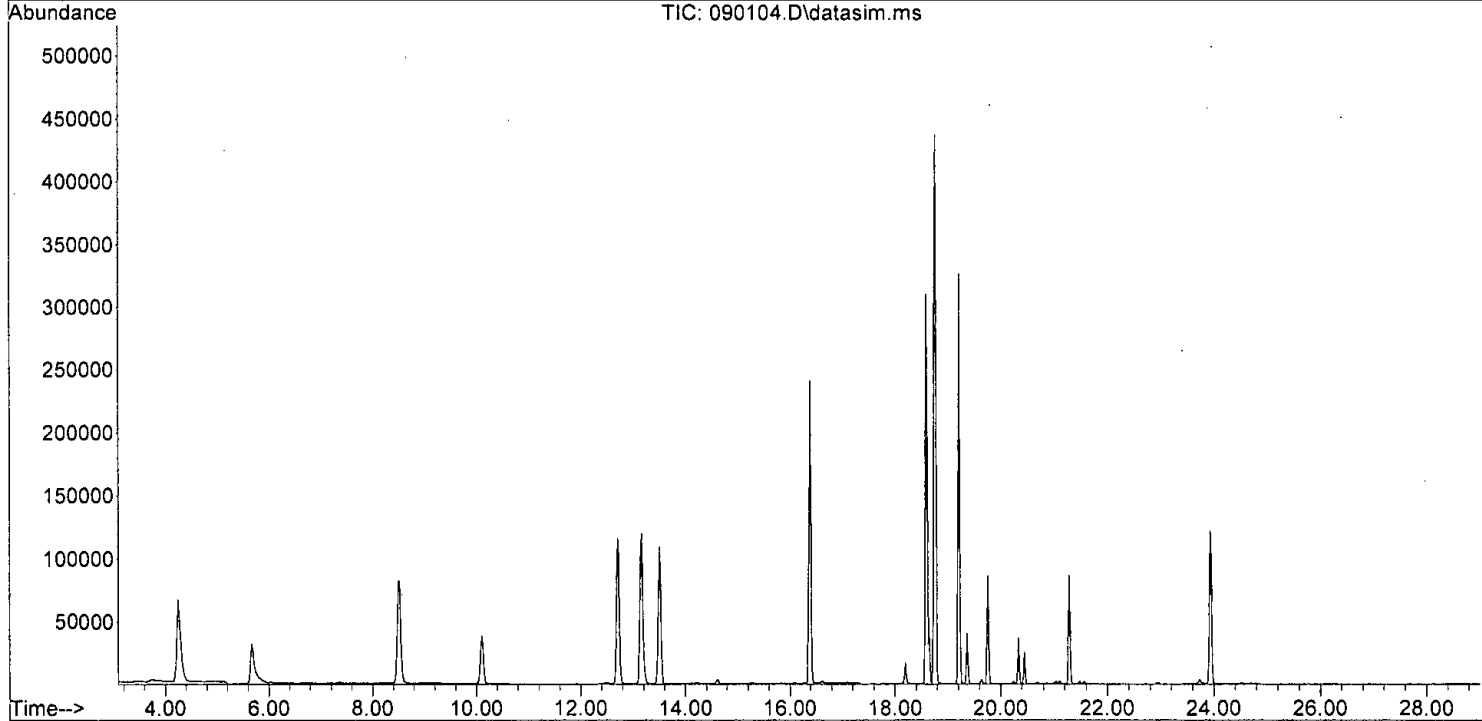
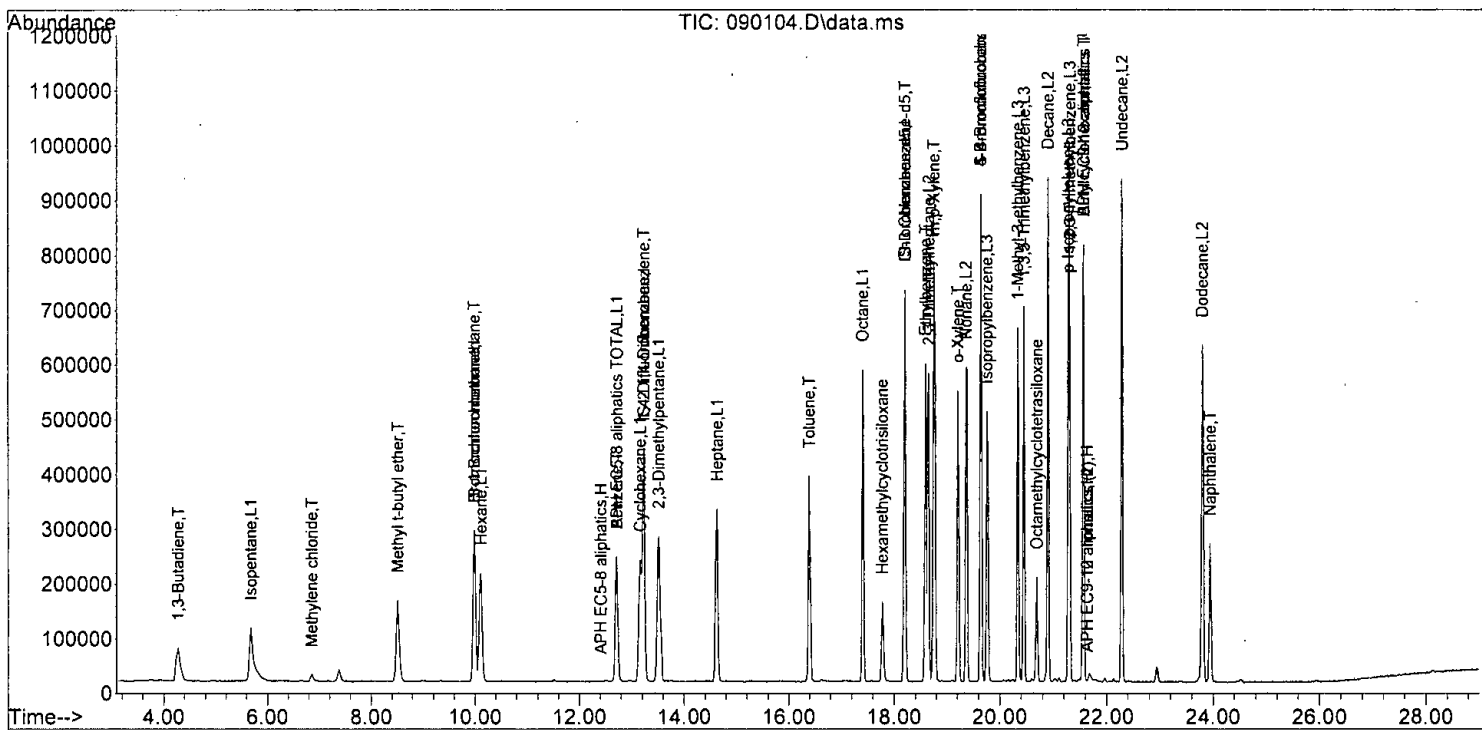
Quant Time: Sep 01 11:47:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	74765m	25.547	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\09-01-21\  
Data File : 090104.D  
Acq On : 1 Sep 2021 9:57 am  
Operator : bat  
Sample : 5 ppbv APH 64-91a  
Misc : line 2  
ALS Vial : 4 Sample Multiplier: 1  
InstName : GCMS7

Quant Time: Sep 01 11:47:49 2021  
Quant Method : F:\METHODS\Inst7\0819APH7.M  
Quant Title : APH TO-15 method  
QLast Update : Fri Aug 20 08:33:26 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M





Evaluate Continuing Calibration Report

Data Path : I:\09-01-21\  
 Data File : 090104.D  
 Acq On : 1 Sep 2021 9:57 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 11:47:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	82	0.00
2 T	IS-1 Bromochloromethane	50.000	52.254	-4.5	85	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	46.129	7.7	72	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	50.393	-0.8	83	0.00
5 T	Methylene chloride	50.000	62.327	-24.7	0	0.00
6	Acetone	50.000	0.000	100.0#	0	-5.68#
7	2-Propanol	50.000	0.000	100.0#	0	-5.84#
8 T	1,3-Butadiene	11.000	13.479	-22.5	107	0.00
9 T	Methyl t-butyl ether	18.000	28.218	-56.8#	132	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	81	0.00
11 T	Benzene	16.000	19.523	-22.0	98	0.00
12 L1	Isopentane	15.000	19.806	-32.0#	100	0.00
13 L1	Hexane	17.500	23.474	-34.1#	104	0.00
14 L1	Cyclohexane	17.500	20.875	-19.3	102	0.00
15 L1	2,3-Dimethylpentane	21.000	26.651	-26.9	100	0.00
16 L1	Heptane	21.000	27.096	-29.0	106	0.00
17 L1	Octane	23.500	24.362	-3.7	79	0.00
18 L1	APH EC5-8 aliphatics TOTAL	115.000	139.722	-21.5	96	0.00
19 H	APH EC5-8 aliphatics	115.000	506.304	-340.3#	349	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	82	0.00
21 T	S 4-Bromofluorobenzene	50.000	49.232	1.5	80	0.00
22	Hexamethylcyclotrisiloxane	50.000	56.457	-12.9	94	0.00
23	Octamethylcyclotetrasiloxan	50.000	40.168	19.7	61	0.00
24 T	Toluene	18.750	20.933	-11.6	95	0.00
25 T	Ethylbenzene	21.750	24.935	-14.6	95	0.00
26 T	m,p-Xylene	44.000	48.805	-10.9	93	0.00
27 T	o-Xylene	22.000	25.318	-15.1	94	0.00
28 T	Naphthalene	25.000	17.130	31.5#	60	0.00
29 L2	2,3-Dimethylheptane	25.000	31.485	-25.9	104	0.00
30 L2	Nonane	25.000	31.727	-26.9	104	0.00
31 L2	Decane	30.000	37.096	-23.7	103	0.00
32 L2	Butylcyclohexane	27.500	32.955	-19.8	99	0.00
33 L2	Undecane	32.500	39.875	-22.7	102	0.00
34 L2	Dodecane	35.000	43.913	-25.5	103	0.00
35 L2	APH EC9-12 aliphatics TOTAL	175.000	216.135	-23.5	102	0.00
36 H	APH EC9-12 aliphatics	175.000	335.342	-91.6#	159	0.00
37 S	4-Bromofluorobenzene	71.000	70.196	1.1	81	0.00
38 L3	Isopropylbenzene	24.500	27.066	-10.5	91	0.00
39 L3	1-Methyl-3-ethylbenzene	24.500	26.558	-8.4	90	0.00
40 L3	1,3,5-Trimethylbenzene	24.500	26.293	-7.3	88	0.00
41 L3	p-Isopropyltoluene	27.750	29.671	-6.9	88	0.00
42 L3	1,2,3-Trimethylbenzene	24.500	26.863	-9.6	90	0.00
43 L3	APH EC9-10 aromatics TOTAL	125.400	139.823	-11.5	90	0.00
44 H	APH EC9-10 aromatics (1)	98.000	87.281	10.9	71	0.00

Evaluate Continuing Calibration Report

Data Path : I:\09-01-21\  
 Data File : 090104.D  
 Acq On : 1 Sep 2021 9:57 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 11:47:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	27.400	25.547	6.8	76	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : I:\09-01-21\  
 Data File : 090104.D  
 Acq On : 1 Sep 2021 9:57 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 11:47:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	82	0.00
2 T	IS-1 Bromochloromethane	8.828	9.226	-4.5	85	0.00
3 T	IS-2 1,4-Difluorobenzene	12.530	11.560	7.7	72	0.00
4 T	IS-3 Chlorobenzene-d5	15.199	15.318	-0.8	83	0.00
5 T	Methylene chloride	0.447	0.557	-24.6	0#	0.00
6	Acetone	23.578	0.000	100.0#	0#	-5.68#
7	2-Propanol	0.137	0.000	100.0#	0#	-5.84#
8 T	1,3-Butadiene	2.944	3.608	-22.6	107	0.00
9 T	Methyl t-butyl ether	3.854	6.042	-56.8#	132	0.00
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	81	0.00
11 T	Benzene	1.700	2.074	-22.0	98	0.00
12 L1	Isopentane	3.376	4.458	-32.0#	100	0.00
13 L1	Hexane	3.421	4.455	-30.2#	104	0.00
14 L1	Cyclohexane	3.471	4.140	-19.3	102	0.00
15 L1	2,3-Dimethylpentane	4.429	5.621	-26.9	100	0.00
16 L1	Heptane	3.620	4.670	-29.0	106	0.00
17 L1	Octane	4.963	5.145	-3.7	79	0.00
18 L1	APH EC5-8 aliphatics TOTAL	3.967	4.820	-21.5	96	0.00
19 H	APH EC5-8 aliphatics	3.967	17.466	-340.3#	349#	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	82	0.00
21 T	S 4-Bromofluorobenzene	4.221	4.156	1.5	80	0.00
22	Hexamethylcyclotrisiloxane	1.040	1.174	-12.9	94	0.00
23	Octamethylcyclotetrasiloxan	1.298	1.042	19.7	61	0.00
24 T	Toluene	1.073	1.198	-11.6	95	0.00
25 T	Ethylbenzene	2.215	2.540	-14.7	95	0.00
26 T	m,p-Xylene	0.745	0.826	-10.9	93	0.00
27 T	o-Xylene	0.705	0.811	-15.0	94	0.00
28 T	Naphthalene	1.799	1.233	31.5#	60	0.00
29 L2	2,3-Dimethylheptane	5.025	6.328	-25.9	104	0.00
30 L2	Nonane	5.247	6.659	-26.9	104	0.00
31 L2	Decane	5.213	6.446	-23.7	103	0.00
32 L2	Butylcyclohexane	5.921	7.096	-19.8	99	0.00
33 L2	Undecane	5.170	6.343	-22.7	102	0.00
34 L2	Dodecane	4.243	5.324	-25.5	103	0.00
35 L2	APH EC9-12 aliphatics TOTAL	5.116	6.318	-23.5	102	0.00
36 H	APH EC9-12 aliphatics	5.116	9.803	-91.6#	159	0.00
37 S	4-Bromofluorobenzene	0.626	0.619	1.1	81	0.00
38 L3	Isopropylbenzene	0.392	0.433	-10.5	91	0.00
39 L3	1-Methyl-3-ethylbenzene	0.548	0.595	-8.6	90	0.00
40 L3	1,3,5-Trimethylbenzene	0.694	0.745	-7.3	88	0.00
41 L3	p-Isopropyltoluene	0.341	0.365	-7.0	88	0.00
42 L3	1,2,3-Trimethylbenzene	0.814	0.893	-9.7	90	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.539	0.601	-11.5	90	0.00
44 H	APH EC9-10 aromatics (1)	0.596	0.530	11.1	71	0.00

Evaluate Continuing Calibration Report

Data Path : I:\09-01-21\  
 Data File : 090104.D  
 Acq On : 1 Sep 2021 9:57 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 11:47:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.339	0.316	6.8	76	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

EPA TO-15  
Quality Assurance Data

F&B Project 108515

Spike Recovery and RPD Summary Report - WATER

Method : F:\METHODS\Inst7\0824TO15ss7.M (RTE Integrator)  
 Title : TO-15 SS method  
 Last Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration

Non-Spiked Sample: 090110.D

Spike Sample	Spike Duplicate Sample
File ID : 090103.D	090103.D
Sample : 01-2000 lcs/ 2.5ppbv 64-87a	01-2000 lcs/ 2.5ppbv 64-87a
Acq Time: 1 Sep 2021 9:13 am	1 Sep 2021 9:13 am

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
Propene	0.0	3	3	3	104	104	0	20	70-130
Dichlorodifluorometh	0.0	3	3	3	121	121	0	20	70-130
Chloromethane	0.0	3	3	3	122	122	0	20	70-130
F-114	0.0	3	3	3	111	111	0	20	70-130
Vinyl chloride	0.0	3	3	3	108	108	0	20	70-130
1,3-Butadiene	0.0	3	3	3	115	115	0	20	70-130
Butane	0.0	3	3	3	114	114	0	20	70-130
Bromomethane	0.0	3	3	3	127	127	0	20	70-130
Chloroethane	0.0	3	3	3	117	117	0	20	70-130
Vinyl bromide	0.0	3	3	3	123	123	0	20	70-130
Ethanol	0.3	3	3	3	116	116	0	20	70-130
Acrolein	0.0	3	3	3	110	110	0	20	70-130
Pentane	0.0	3	3	3	113	113	0	20	70-130
Trichlorofluorometha	0.0	3	3	3	117	117	0	20	70-130
Acetone	0.1	3	3	3	113	113	0	20	70-130
2-Propanol	0.0	3	3	3	123	123	0	20	70-130
1,1-Dichloroethene	0.0	3	3	3	114	114	0	20	70-130
trans-1,2-Dichloroet	0.0	3	3	3	114	114	0	20	70-130
Methylene chloride	0.5	3	3	3	111	111	0	20	70-130
t-Butyl alcohol (TBA	0.0	3	3	3	119	119	0	20	70-130
3-Chloropropene	0.0	3	3	3	113	113	0	20	70-130
CFC-113	0.0	3	3	3	114	114	0	20	70-130
Carbon disulfide	0.0	3	3	3	122	122	0	20	70-130
Methyl t-butyl ether	0.0	3	3	3	118	118	0	20	70-130
Vinyl acetate	0.0	3	3	3	133#	133#	0	20	70-130
1,1-Dichloroethane	0.0	3	3	3	118	118	0	20	70-130
cis-1,2-Dichloroethe	0.0	3	3	3	114	114	0	20	70-130
Hexane	0.0	3	3	3	114	114	0	20	70-130
Chloroform	0.0	3	3	3	113	113	0	20	70-130
Ethyl acetate	0.0	3	3	3	123	123	0	20	70-130
Tetrahydrofuran	0.0	3	3	3	112	112	0	20	70-130
2-Butanone (MEK)	0.0	3	3	3	118	118	0	20	70-130
1,2-Dichloroethane (	0.0	3	3	3	112	112	0	20	70-130
1,1,1-Trichloroethan	0.0	3	3	3	121	121	0	20	70-130
Carbon tetrachloride	0.0	3	3	3	119	119	0	20	70-130
Benzene	0.0	3	3	3	112	112	0	20	70-130

Cyclohexane	0.0	3	3	3	112	112	0	20	70-130
1,2-Dichloropropane	0.0	3	3	3	116	116	0	20	70-130
1,4-Dioxane	0.0	3	3	3	114	114	0	20	70-130
2,2,4-Trimethylpenta	0.0	3	3	3	117	117	0	20	70-130
Methyl methacrylate	0.0	3	3	3	129	129	0	20	70-130
Heptane	0.0	3	3	3	120	120	0	20	70-130
Bromodichloromethane	0.0	3	3	3	118	118	0	20	70-130
Trichloroethene	0.0	3	3	3	111	111	0	20	70-130
cis-1,3-Dichloroprop	0.0	3	3	3	129	129	0	20	70-130
4-Methyl-2-pentanone	0.0	3	3	3	129	129	0	20	70-130
trans-1,3-Dichloropr	0.0	3	3	3	125	125	0	20	70-130
Toluene	0.0	3	3	3	116	116	0	20	70-130
1,1,2-Trichloroethan	0.0	3	3	3	118	118	0	20	70-130
2-Hexanone	0.0	3	3	3	123	123	0	20	70-130
Tetrachloroethene	0.0	3	3	3	120	120	0	20	70-130
Dibromochloromethane	0.0	3	3	3	121	121	0	20	70-130
1,2-Dibromoethane (E	0.0	3	3	3	117	117	0	20	70-130
Chlorobenzene	0.0	3	3	3	115	115	0	20	70-130
Ethylbenzene	0.0	3	3	3	110	110	0	20	70-130
1,1,2,2-Tetrachloroe	0.0	3	3	3	114	114	0	20	70-130
Nonane	0.0	3	3	3	120	120	0	20	70-130
Isopropylbenzene	0.0	3	3	3	114	114	0	20	70-130
2-Chlorotoluene	0.0	3	3	3	119	119	0	20	70-130
Propylbenzene	0.0	3	3	3	115	115	0	20	70-130
4-Ethyltoluene	0.0	3	3	3	113	113	0	20	70-130
m,p-Xylene	0.0	5	6	6	113	113	0	20	70-130
o-Xylene	0.0	3	3	3	111	111	0	20	70-130
Styrene	0.0	3	3	3	111	111	0	20	70-130
Bromoform	0.0	3	3	3	125	125	0	20	70-130
Benzyl chloride	0.0	3	3	3	131#	131#	0	20	70-130
1,3,5-Trimethylbenze	0.0	3	3	3	120	120	0	20	70-130
1,2,4-Trimethylbenze	0.0	3	3	3	113	113	0	20	70-130
1,3-Dichlorobenzene	0.0	3	3	3	108	108	0	20	70-130
1,4-Dichlorobenzene	0.0	3	3	3	115	115	0	20	70-130
1,2-Dichlorobenzene	0.0	3	3	3	110	110	0	20	70-130
1,2,4-Trichlorobenze	0.0	3	2	2	97	97	0	20	70-130
Naphthalene	0.0	3	2	2	91	91	0	20	70-130
Hexachlorobutadiene	0.0	3	3	3	112	112	0	20	70-130

# - Fails Limit Check

0824TO15ss7.M

Fri Sep 03 14:34:59 2021

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090103.D  
 Acq On : 1 Sep 2021 9:13 am  
 Operator : bat  
 Sample : 01-2000 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:47:04 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	104710	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	496734	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	437903	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	385410	9.715	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.10%
Target Compounds						
						Qvalue
2) Propene	3.45	41	46476	2.596	ppbv	99
3) Dichlorodifluoromethane	3.52	85	140450	3.031	ppbv	99
4] Chloromethane	3.77	50	66341m	3.053	ppbv	
5) F-114	3.92	85	129589	2.781	ppbv	90
6] Vinyl chloride	4.05	62	62319	2.695	ppbv	94
7] 1,3-Butadiene	4.25	54	46204	2.886	ppbv	# 95
8) Butane	4.36	43	96887	2.849	ppbv	98
9) Bromomethane	4.64	94	51239	3.177	ppbv	99
10] Chloroethane	4.84	64	23264m	2.927	ppbv	
11] Vinyl bromide	5.34	106	57654	3.084	ppbv	100
12) Ethanol	4.96	45	18858m	3.220	ppbv	
13] Acrolein	5.43	56	20975	2.758	ppbv	98
14) Pentane	6.33	43	115589	2.837	ppbv	98
15) Trichlorofluoromethane	5.88	101	151463	2.932	ppbv	95
16) Acetone	5.60	58	26767	2.905	ppbv	89
17) 2-Propanol	5.86	45	114086	3.064	ppbv	98
18] 1,1-Dichloroethene	6.73	96	49033	2.841	ppbv	84
19] trans-1,2-Dichloroethene	8.18	96	48530	2.850	ppbv	88
20) Methylene chloride	6.86	84	59462	3.244	ppbv	86
21) t-Butyl alcohol (TBA)	6.65	59	89837	2.978	ppbv	# 51
22) 3-Chloropropene	7.04	41	86077	2.825	ppbv	93
23) CFC-113	7.23	101	101115	2.844	ppbv	89
24) Carbon disulfide	7.33	76	184811	3.076	ppbv	98
25) Methyl t-butyl ether (...)	8.51	73	118564	2.964	ppbv	97
26) Vinyl acetate	8.62	43	89203	3.325	ppbv	97
27] 1,1-Dichloroethane	8.47	63	118425	2.938	ppbv	100
28] cis-1,2-Dichloroethene	9.73	96	53225	2.855	ppbv	# 74
29) Hexane	10.11	57	88631	2.861	ppbv	89
30] Chloroform	10.19	83	129191	2.826	ppbv	96
31) Ethyl acetate	10.03	43	201112	3.084	ppbv	# 99
32) Tetrahydrofuran	10.85	42	79264	2.800	ppbv	90
33) 2-Butanone (MEK)	8.99	72	22018	2.955	ppbv	# 67
34] 1,2-Dichloroethane (EDC)	11.45	62	96765	2.813	ppbv	97
35] 1,1,1-Trichloroethane	11.94	97	102387	3.025	ppbv	88
36] Carbon tetrachloride	12.95	117	99126	2.979	ppbv	98
37] Benzene	12.72	78	180095	2.809	ppbv	100
38) Cyclohexane	13.16	84	48899	2.797	ppbv	# 73
40] 1,2-Dichloropropane	13.90	63	89126	2.903	ppbv	99
41] 1,4-Dioxane	14.17	88	38276	2.858	ppbv	92
42) 2,2,4-Trimethylpentane	14.31	57	302422	2.933	ppbv	# 93



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090103.D  
 Acq On : 1 Sep 2021 9:13 am  
 Operator : bat  
 Sample : 01-2000 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

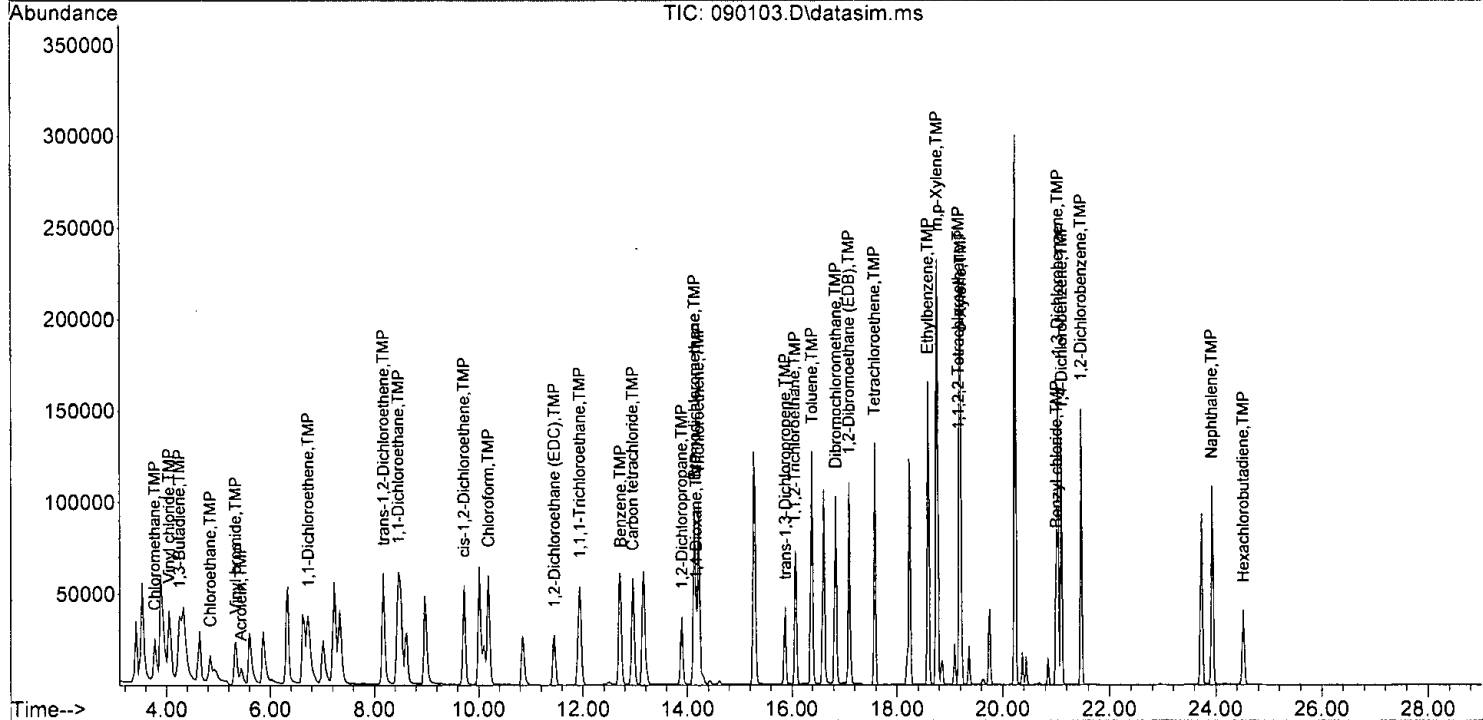
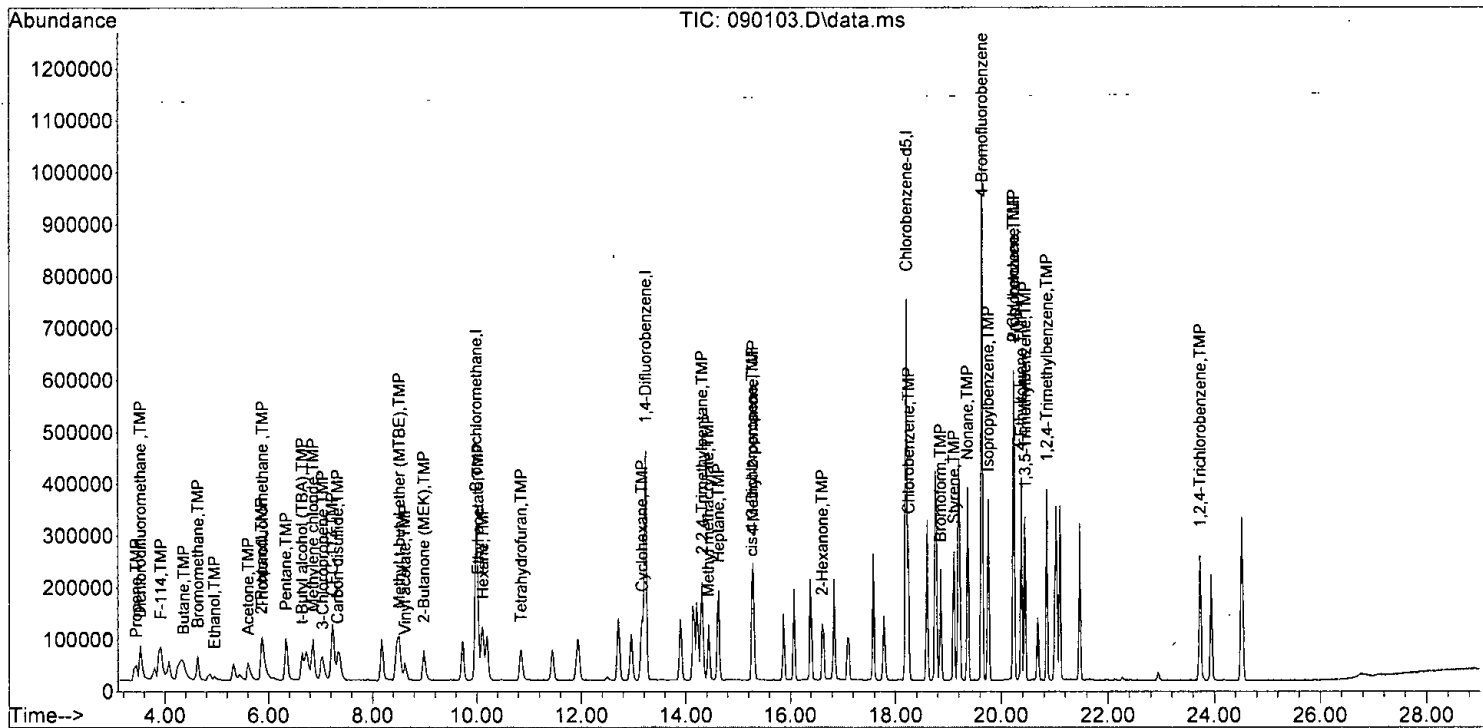
Quant Time: Sep 02 10:47:04 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.43	41	90898	3.228	ppbv #	86
44) Heptane	14.63	43	142677	2.995	ppbv	91
45) Bromodichloromethane	14.14	83	139317	2.943	ppbv	93
46) Trichloroethene	14.22	95	85336	2.779	ppbv	85
47) cis-1,3-Dichloropropene	15.27	75	102150	3.233	ppbv	94
48) 4-Methyl-2-pentanone	15.29	100	6475	3.219	ppbv #	1
49) trans-1,3-Dichloropropene	15.87	75	83847	3.123	ppbv	99
50) Toluene	16.40	92	108128	2.905	ppbv	84
51) 1,1,2-Trichloroethane	16.06	83	82231	2.942	ppbv	96
52) 2-Hexanone	16.62	43	160645	3.066	ppbv	88
53) Tetrachloroethene	17.58	164	56961	3.010	ppbv	82
54) Dibromochloromethane	16.85	129	118618	3.033	ppbv	91
55) 1,2-Dibromoethane (EDB)	17.10	107	113294	2.927	ppbv	89
57) Chlorobenzene	18.25	112	135310	2.885	ppbv	88
58) Ethylbenzene	18.59	91	266916	2.744	ppbv	96
59) 1,1,2,2-Tetrachloroethane	19.17	83	193243	2.848	ppbv	88
60) Nonane	19.36	43	220733	3.002	ppbv	90
61) Isopropylbenzene	19.75	105	244044	2.861	ppbv	99
62) 2-Chlorotoluene	20.23	126	60419	2.980	ppbv	76
63) Propylbenzene	20.23	91	545920	2.885	ppbv	96
64) 4-Ethyltoluene	20.38	105	250705	2.824	ppbv	96
65] m,p-Xylene	18.76	106	176547	5.653	ppbv	90
66] o-Xylene	19.21	106	85675	2.791	ppbv	92
67) Styrene	19.11	104	125204	2.770	ppbv	90
68) Bromoform	18.85	173	109855	3.132	ppbv	98
70] Benzyl chloride	21.01	91	107989	3.284	ppbv	96
71) 1,3,5-Trimethylbenzene	20.45	105	213693	3.002	ppbv	96
72) 1,2,4-Trimethylbenzene	20.86	105	208574	2.837	ppbv	98
73] 1,3-Dichlorobenzene	21.04	146	136794	2.708	ppbv	98
74] 1,4-Dichlorobenzene	21.11	146	135745	2.886	ppbv	98
75] 1,2-Dichlorobenzene	21.47	146	132100	2.766	ppbv	98
76) 1,2,4-Trichlorobenzene	23.73	180	93821	2.414	ppbv	98
77] Naphthalene	23.93	128	227395	2.264	ppbv	98
78] Hexachlorobutadiene	24.52	225	87423	2.793	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090103.D  
 Acq On : 1 Sep 2021 9:13 am  
 Operator : bat  
 Sample : 01-2000 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:47:04 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

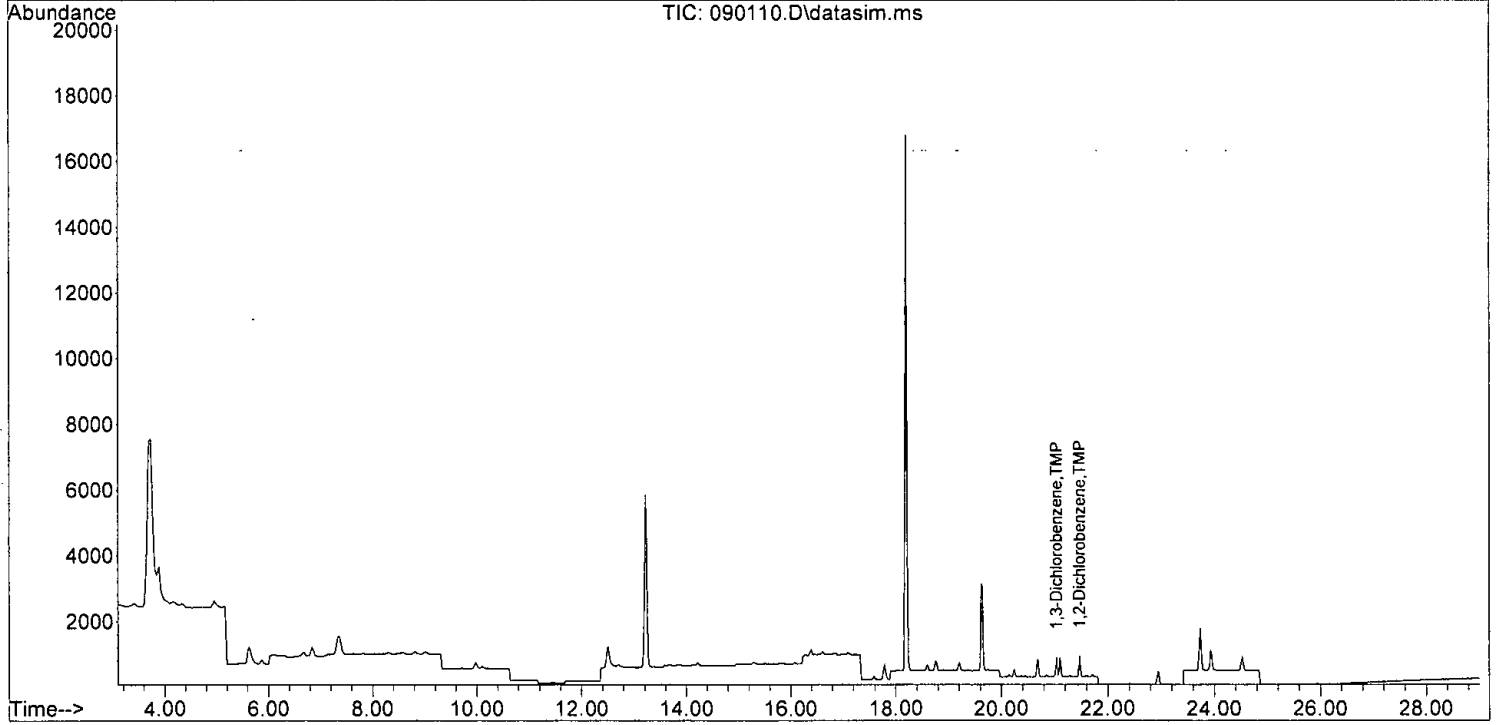
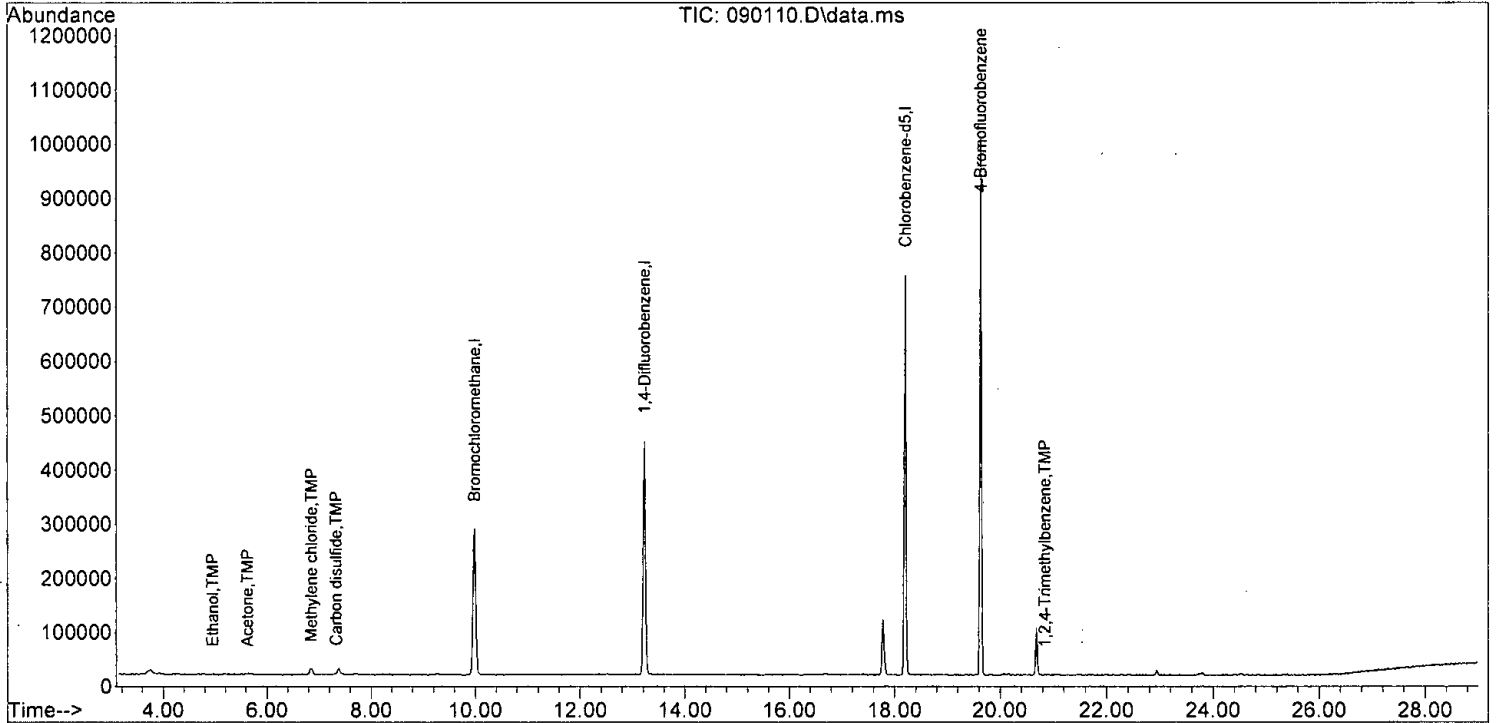
Quant Time: Sep 02 11:13:31 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

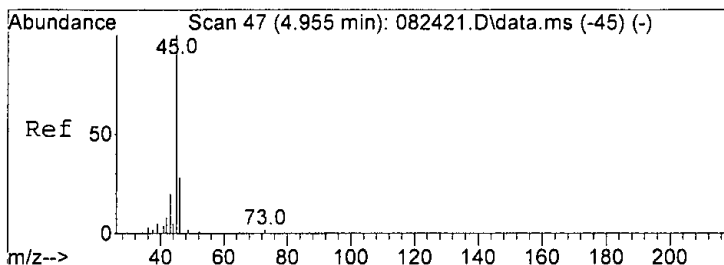
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	105072	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	487528	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	437452	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	383227	9.670	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	96.70%
Target Compounds						
						Qvalue
12) Ethanol	4.96	45	1944	0.331	ppbv	# 50
16) Acetone	5.62	58	809	0.087	ppbv	# 20
20) Methylene chloride	6.86	84	8547	0.465	ppbv	82
24) Carbon disulfide	7.33	76	2087	0.035	ppbv	63
72) 1,2,4-Trimethylbenzene	20.84	105	825	0.011	ppbv	60
73] 1,3-Dichlorobenzene	21.04	146	510	0.010	ppbv	98
75] 1,2-Dichlorobenzene	21.47	146	577	0.012	ppbv	99
76) 1,2,4-Trichlorobenzene	23.73	180	1136	Below Cal	#	63
77] Naphthalene	23.93	128	1540	Below Cal		99
-----						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

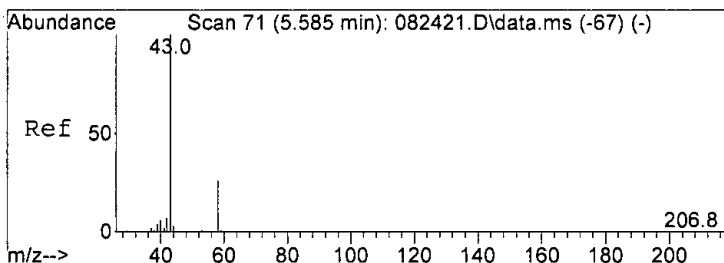
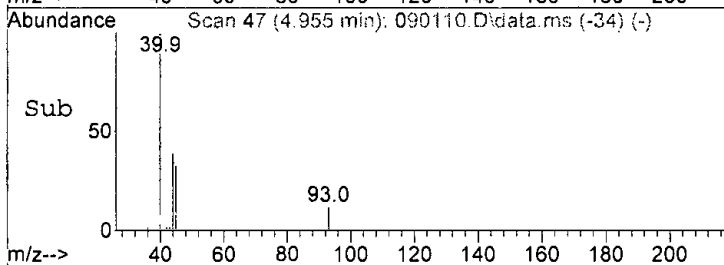
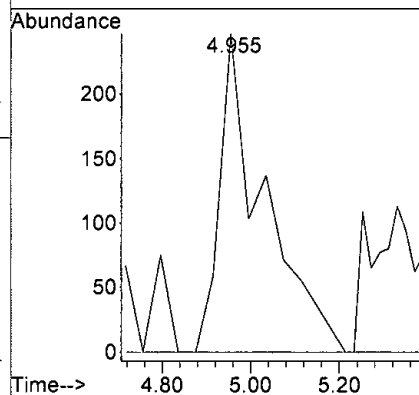
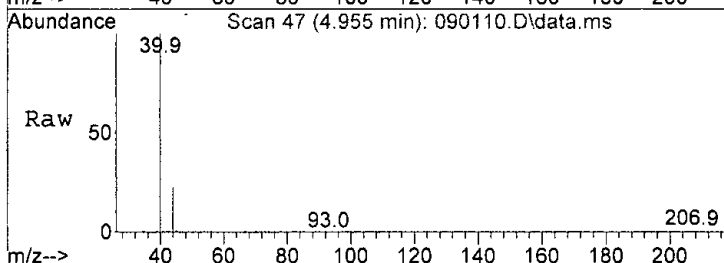
Quant Time: Sep 02 11:13:31 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





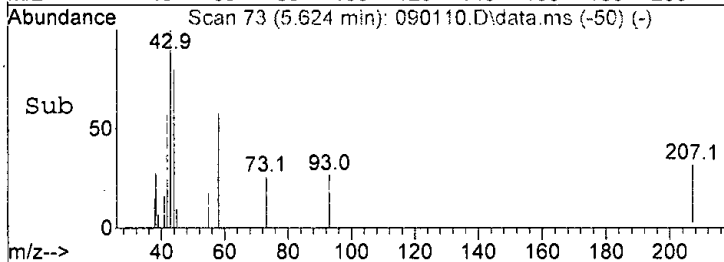
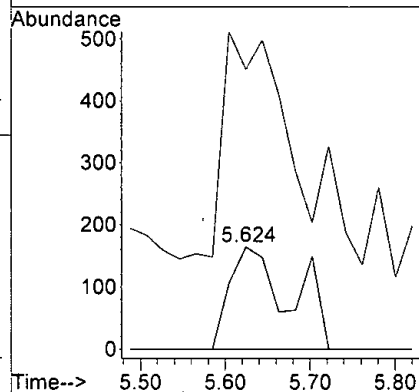
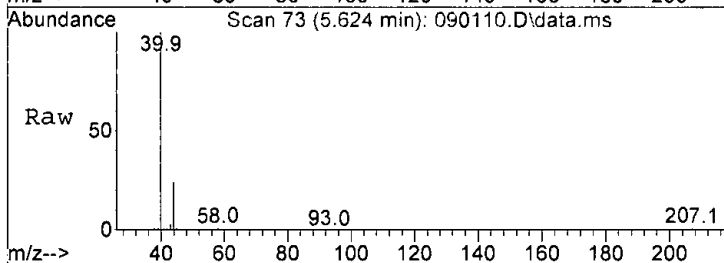
#12  
 Ethanol  
 Concen: 0.331 ppbv  
 RT: 4.96 min Scan# 47  
 Delta R.T. 0.000 min  
 Lab File: 090110.D  
 Acq: 1 Sep 2021 2:10 pm

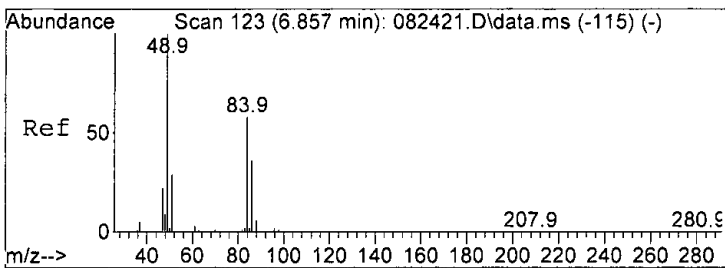
Tgt Ion	Resp	Lower	Upper
45	1944		
46	0.0	0.0	55.5



#16  
 Acetone  
 Concen: 0.087 ppbv  
 RT: 5.62 min Scan# 73  
 Delta R.T. 0.039 min  
 Lab File: 090110.D  
 Acq: 1 Sep 2021 2:10 pm

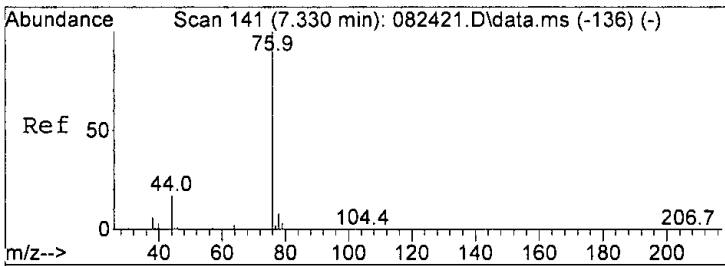
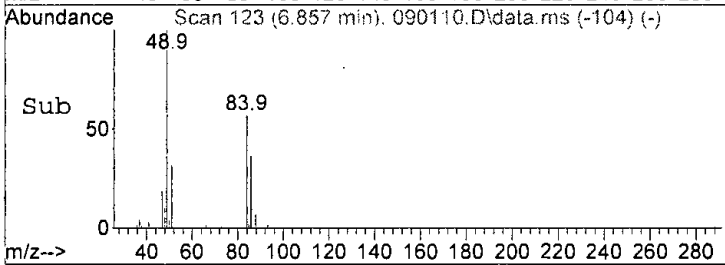
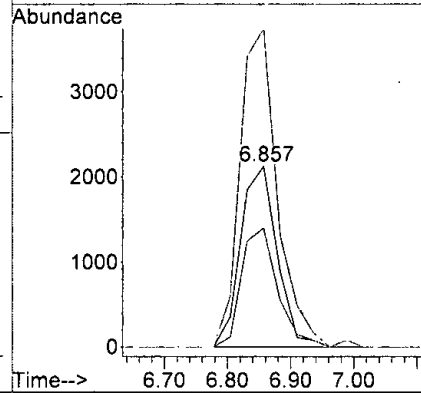
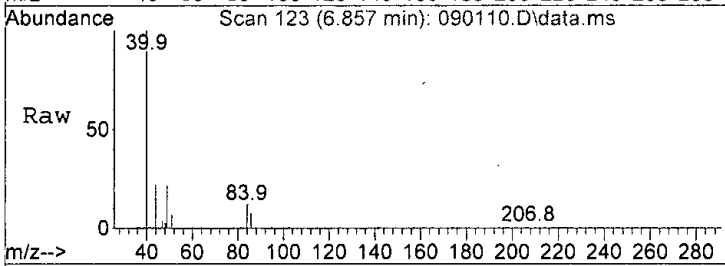
Tgt Ion	Resp	Lower	Upper
58	809		
43	181.7	329.3	389.3#





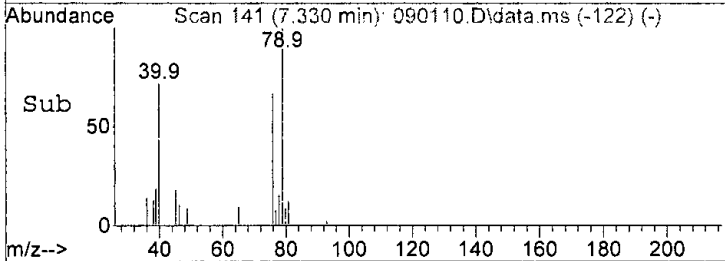
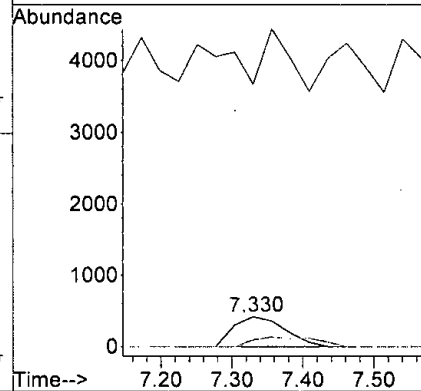
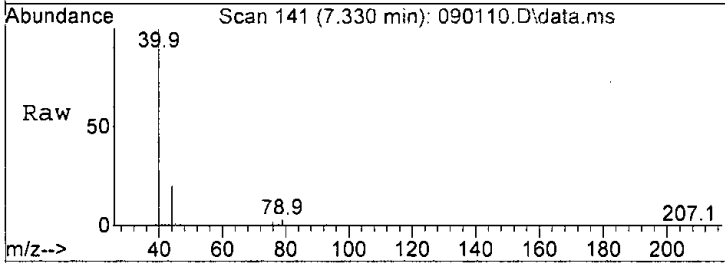
#20  
 Methylene chloride  
 Concen: 0.465 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. -0.000 min  
 Lab File: 090110.D  
 Acq: 1 Sep 2021 2:10 pm

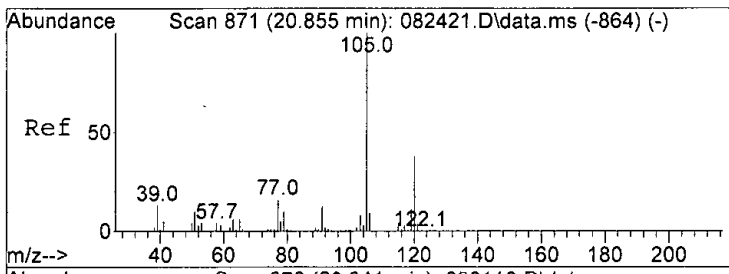
Tgt Ion	84	Resp	8547
Ion Ratio	Lower	Upper	
84	100		
86	66.1	33.9	93.9
49	176.5	116.6	176.6



#24  
 Carbon disulfide  
 Concen: 0.035 ppbv  
 RT: 7.33 min Scan# 141  
 Delta R.T. 0.000 min  
 Lab File: 090110.D  
 Acq: 1 Sep 2021 2:10 pm

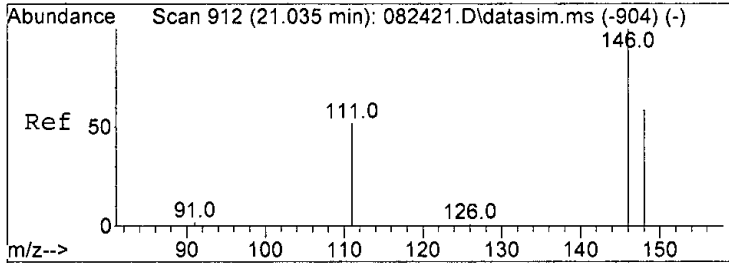
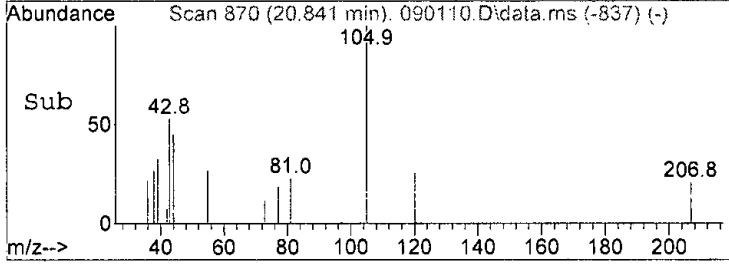
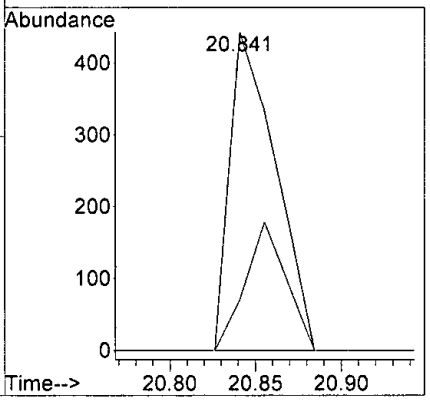
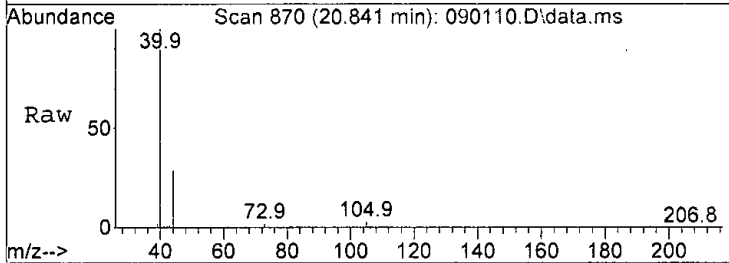
Tgt Ion	76	Resp	2087
Ion Ratio	Lower	Upper	
76	100		
44	0.0	0.0	44.3
78	23.9	0.0	39.2





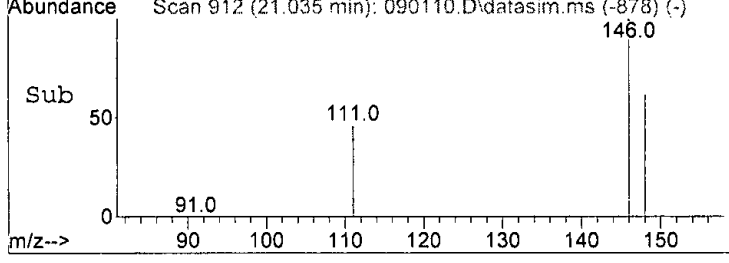
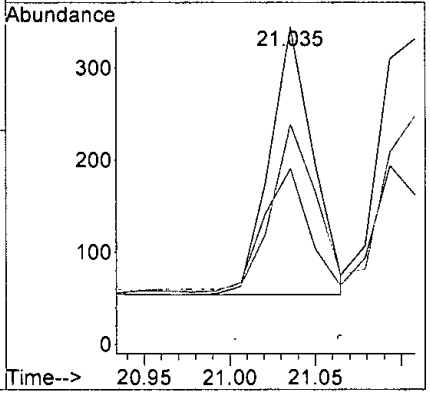
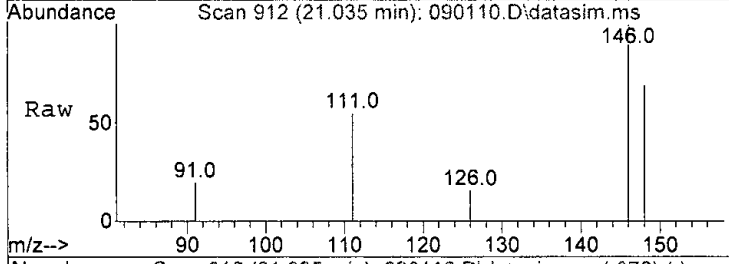
#72  
 1,2,4-Trimethylbenzene  
 Concen: 0.011 ppbv  
 RT: 20.84 min Scan# 870  
 Delta R.T. -0.014 min  
 Lab File: 090110.D  
 Acq: 1 Sep 2021 2:10 pm

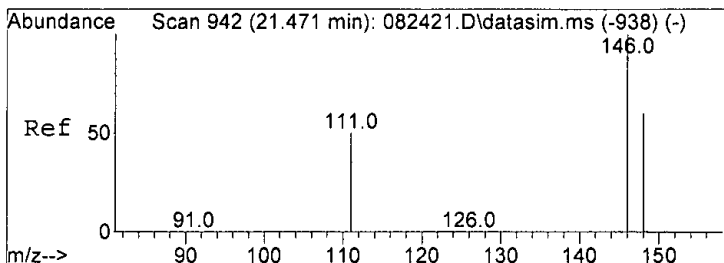
Tgt Ion	Resp	Lower	Upper
105	100		
120	16.0	11.0	71.0



#73  
 1,3-Dichlorobenzene  
 Concen: 0.010 ppbv  
 RT: 21.04 min Scan# 912  
 Delta R.T. 0.000 min  
 Lab File: 090110.D  
 Acq: 1 Sep 2021 2:10 pm

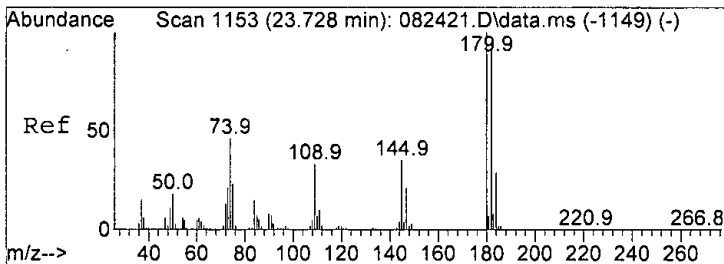
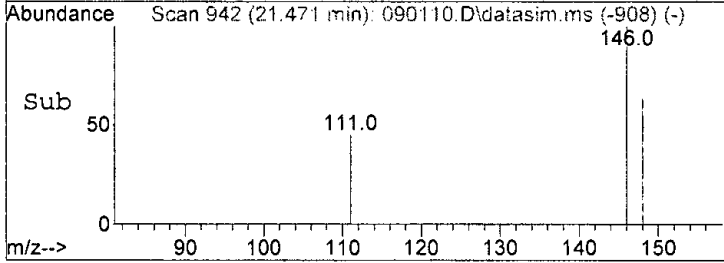
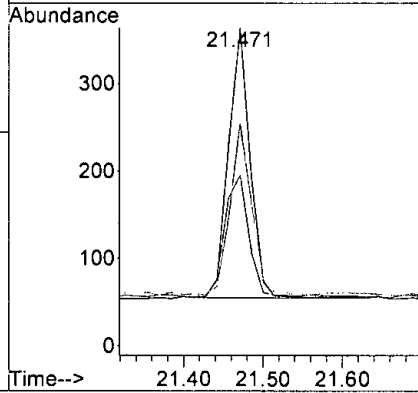
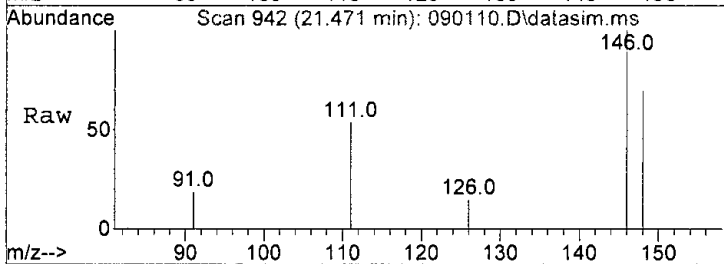
Tgt Ion	Resp	Lower	Upper
146	100		
111	46.0	13.6	73.6
148	61.5	32.6	92.6





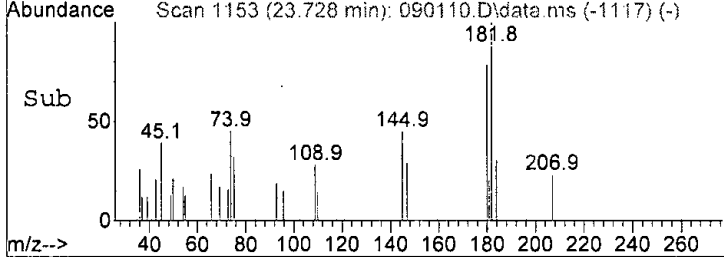
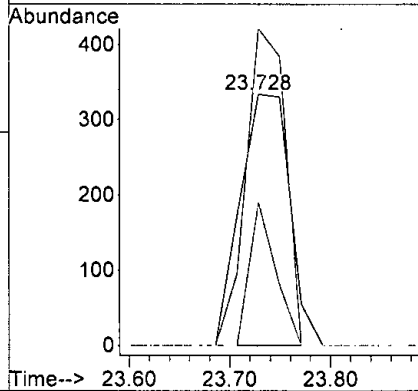
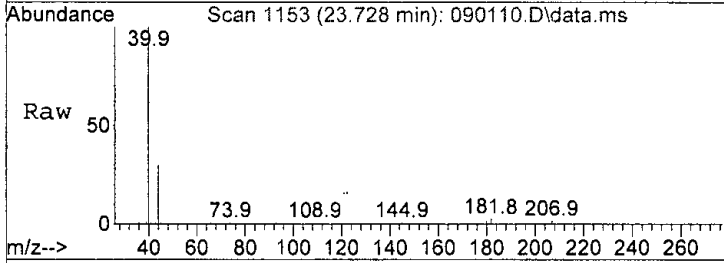
#75  
 1,2-Dichlorobenzene  
 Concen: 0.012 ppbv  
 RT: 21.47 min Scan# 942  
 Delta R.T. 0.000 min  
 Lab File: 090110.D  
 Acq: 1 Sep 2021 2:10 pm

Tgt Ion	Ratio	Resp	Lower	Upper
146	100	577		
111	45.0	12.9	72.9	
148	63.4	33.2	93.2	

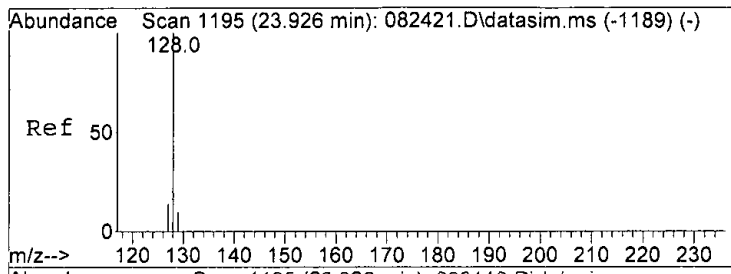


#76  
 1,2,4-Trichlorobenzene  
 Concen: Below Cal  
 RT: 23.73 min Scan# 1153  
 Delta R.T. 0.000 min  
 Lab File: 090110.D  
 Acq: 1 Sep 2021 2:10 pm

Tgt Ion	Ratio	Resp	Lower	Upper
180	100	1136		
182	126.4	64.5	124.5#	
145	57.1	0.8	60.8	

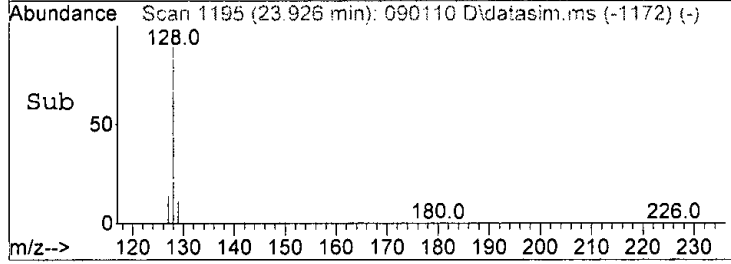
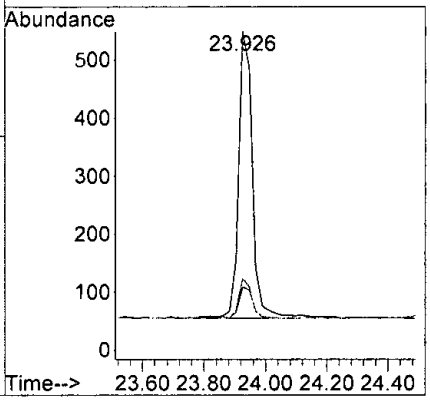
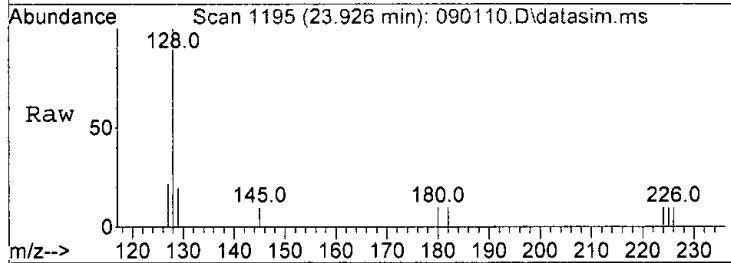






#77  
 Naphthalene  
 Concen: Below Cal  
 RT: 23.93 min Scan# 1195  
 Delta R.T. -0.000 min  
 Lab File: 090110.D  
 Acq: 1 Sep 2021 2:10 pm

Tgt Ion	Ratio	Lower	Upper
128	100		
129	10.7	0.0	41.0
127	14.0	0.0	43.2



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:13:31 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<b>Internal Standards</b>						
1) Bromochloromethane	9.99	128	105072	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	487528	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	437452	10.000	ppbv	0.00
<b>System Monitoring Compounds</b>						
69) 4-Bromofluorobenzene	19.64	95	383227	9.670	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	96.70%
<b>Target Compounds</b>						
						Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.		
4) Chloromethane	0.00		0	N.D.		
5) F-114	0.00		0	N.D.		
6) Vinyl chloride	0.00		0	N.D.		
7) 1,3-Butadiene	0.00		0	N.D.		
8) Butane	0.00		0	N.D.		
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	4.96	45	1944	0.331	ppbv	# 50
13) Acrolein	0.00		0	N.D.		
14) Pentane	6.36	43	207	N.D.		
15) Trichlorofluoromethane	0.00		0	N.D.		
16) Acetone	5.62	58	809	0.087	ppbv	# 20
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	0.00		0	N.D.		
19) trans-1,2-Dichloroethene	0.00		0	N.D.		
20) Methylene chloride	6.86	84	8547	0.465	ppbv	82
21) t-Butyl alcohol (TBA)	0.00		0	N.D.		
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.		
24) Carbon disulfide	7.33	76	2087	0.035	ppbv	63
25) Methyl t-butyl ether (...)	8.49	73	189	N.D.		
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	0.00		0	N.D.		
28) cis-1,2-Dichloroethene	0.00		0	N.D.		
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	9.98	83	113	N.D.		
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	10.87	42	152	N.D.		
33) 2-Butanone (MEK)	0.00		0	N.D.		
34) 1,2-Dichloroethane (EDC)	11.17	62	206	N.D.		
35) 1,1,1-Trichloroethane	11.68	97	145	N.D.		
36) Carbon tetrachloride	0.00		0	N.D.		
37) Benzene	12.70	78	231	N.D.		
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.		
42) 2,2,4-Trimethylpentane	14.63	57	283	N.D.		

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

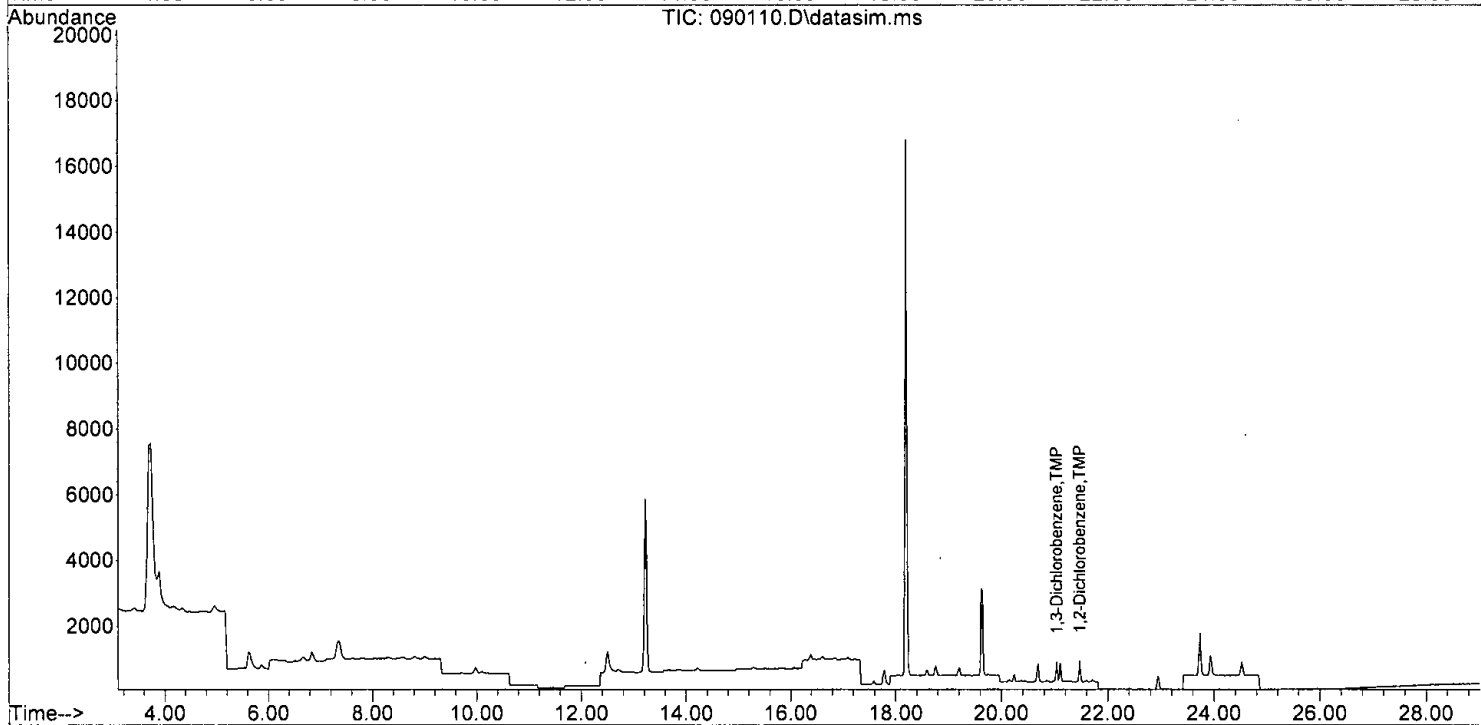
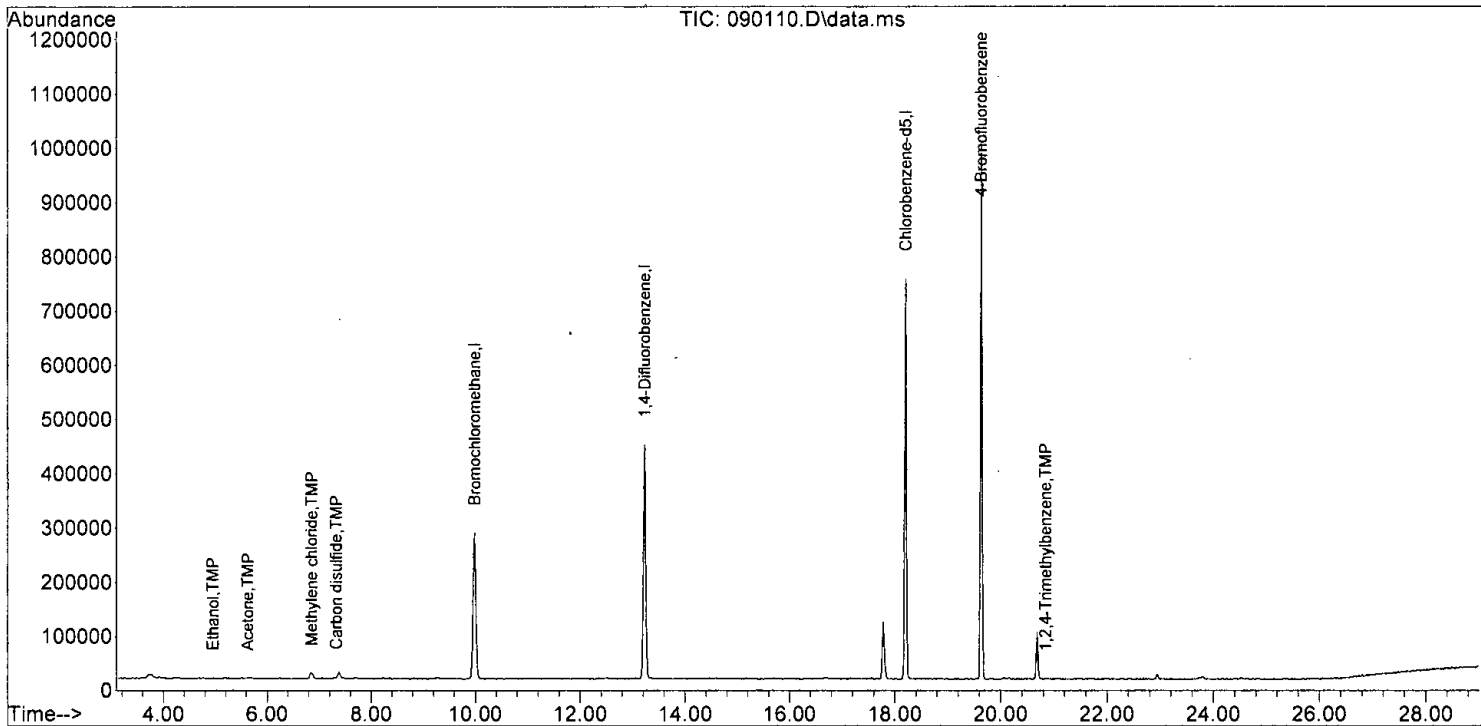
Quant Time: Sep 02 11:13:31 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.		
46) Trichloroethene	0.00		0	N.D.		
47) cis-1,3-Dichloropropene	0.00		0	N.D.		
48) 4-Methyl-2-pentanone	0.00		0	N.D.		
49) trans-1,3-Dichloropropene	0.00		0	N.D.		
50) Toluene	0.00		0	N.D.	d	
51) 1,1,2-Trichloroethane	0.00		0	N.D.		
52) 2-Hexanone	0.00		0	N.D.	d	
53) Tetrachloroethene	0.00		0	N.D.	d	
54) Dibromochloromethane	0.00		0	N.D.		
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.		
57) Chlorobenzene	0.00		0	N.D.		
58) Ethylbenzene	18.59	91	360	N.D.		
59) 1,1,2,2-Tetrachloroethane	19.19	83	169	N.D.		
60) Nonane	19.36	43	683	N.D.		
61) Isopropylbenzene	19.64	105	627	N.D.		
62) 2-Chlorotoluene	0.00		0	N.D.		
63) Propylbenzene	20.25	91	594	N.D.		
64) 4-Ethyltoluene	20.38	105	798	N.D.		
65) m,p-Xylene	18.76	106	242	N.D.		
66) o-Xylene	19.21	106	123	N.D.		
67) Styrene	19.11	104	264	N.D.		
68) Bromoform	0.00		0	N.D.		
70) Benzyl chloride	0.00		0	N.D.		
71) 1,3,5-Trimethylbenzene	20.45	105	637	N.D.		
72) 1,2,4-Trimethylbenzene	20.84	105	825	0.011	ppbv	60
73] 1,3-Dichlorobenzene	21.04	146	510	0.010	ppbv	98
74) 1,4-Dichlorobenzene	21.11	146	597	N.D.		
75] 1,2-Dichlorobenzene	21.47	146	577	0.012	ppbv	99
76) 1,2,4-Trichlorobenzene	23.73	180	1136	Below Cal	#	63
77] Naphthalene	23.93	128	1540	Below Cal		99
78) Hexachlorobutadiene	24.52	225	917	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

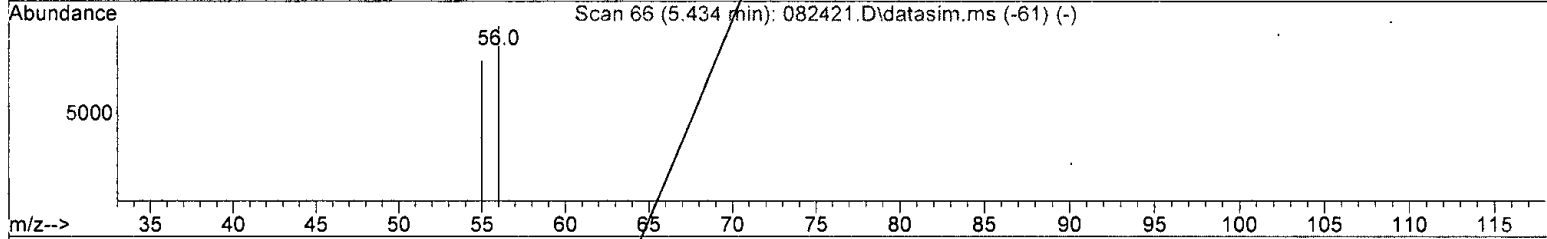
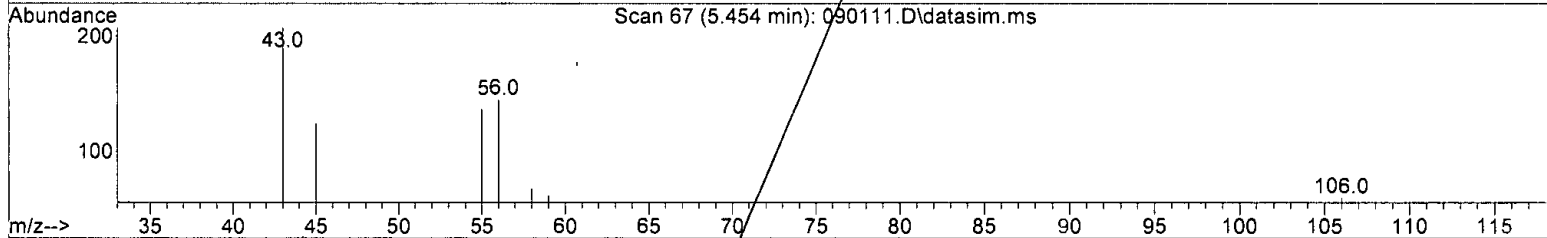
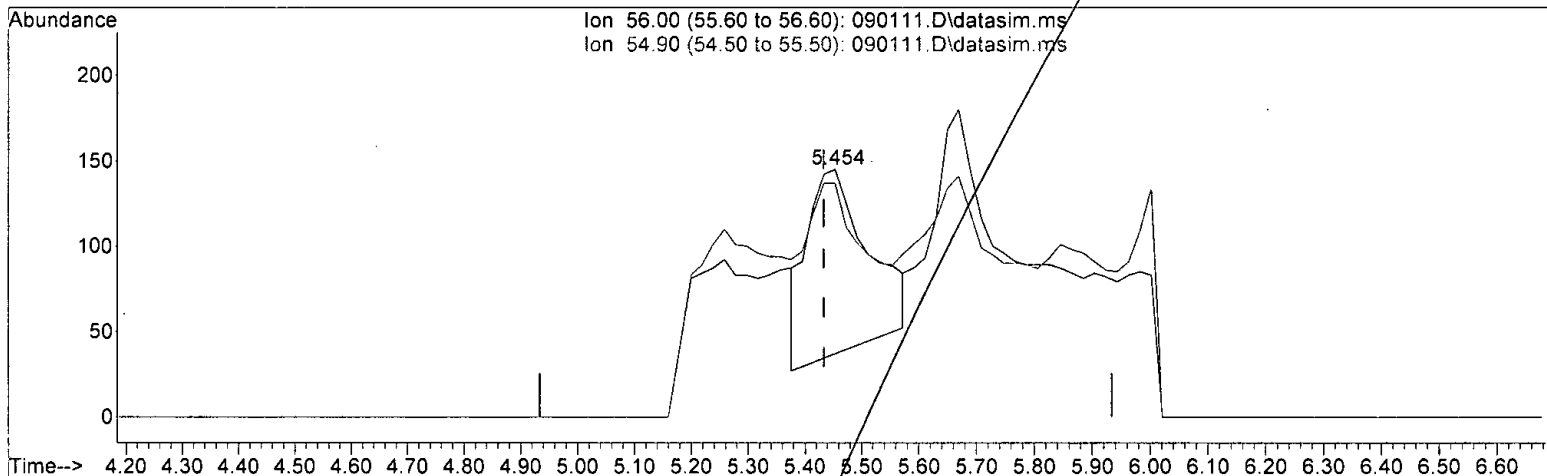
Quant Time: Sep 02 11:13:31 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:10 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.454min (+ 0.020) 0.117 ppbv

response 815

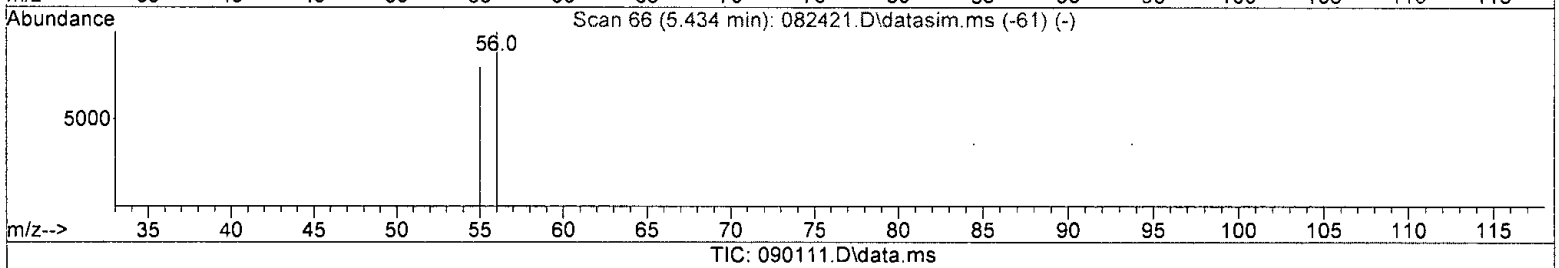
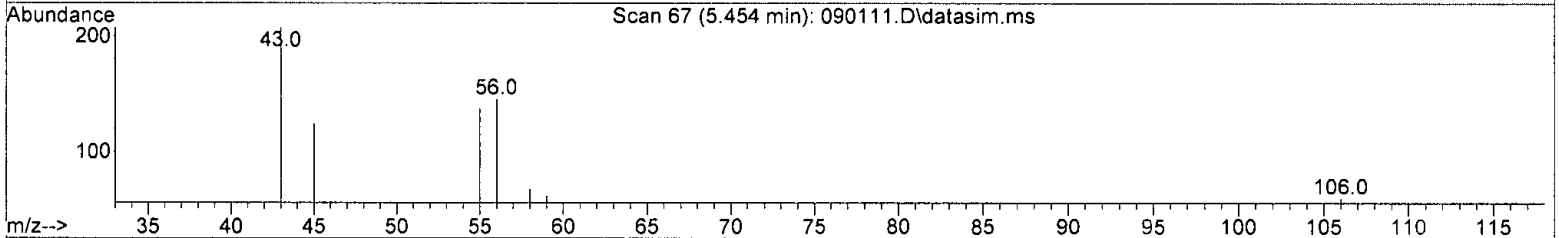
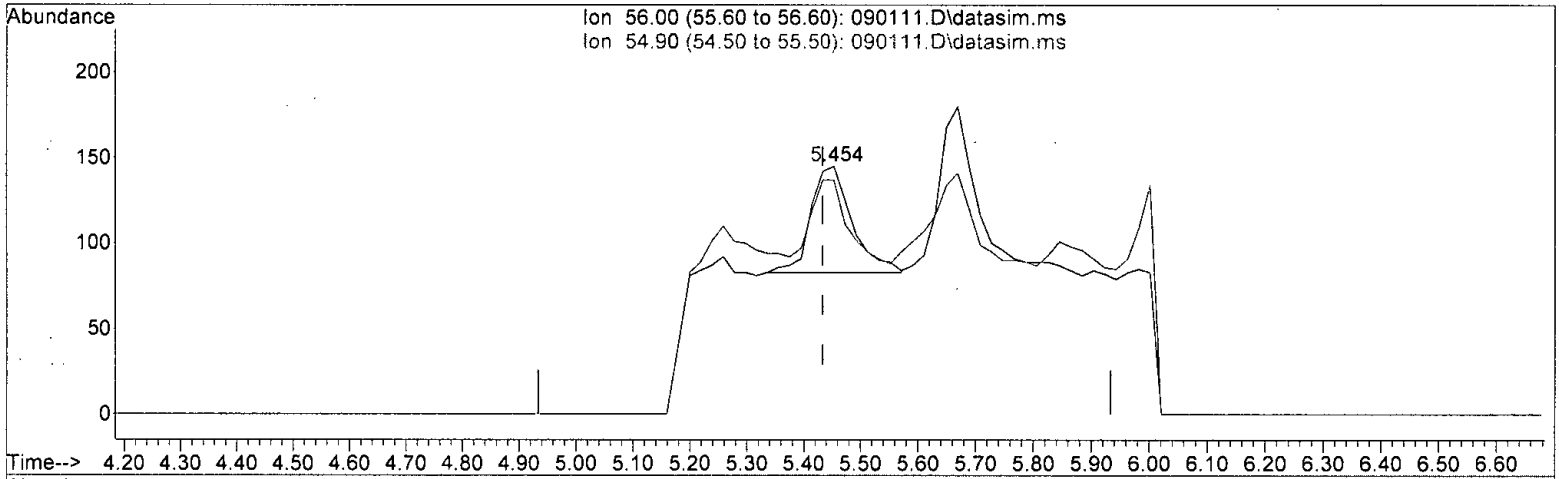
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	87.61
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: K / 09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:10 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.454min (+ 0.020) 0.045 ppbv m

response 312

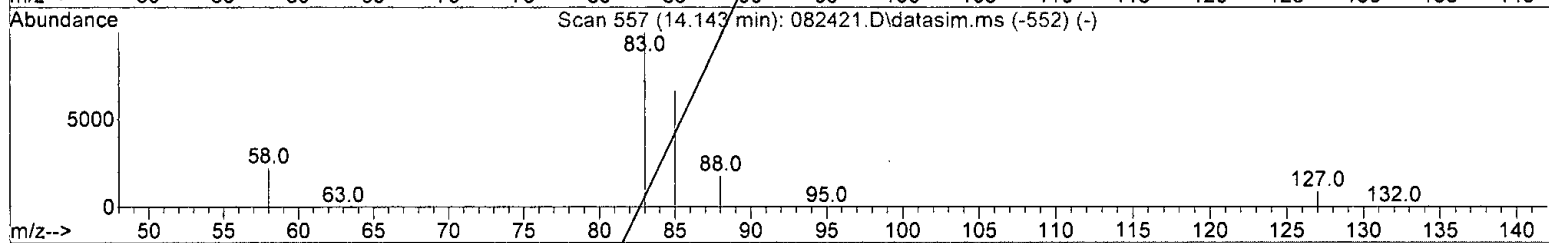
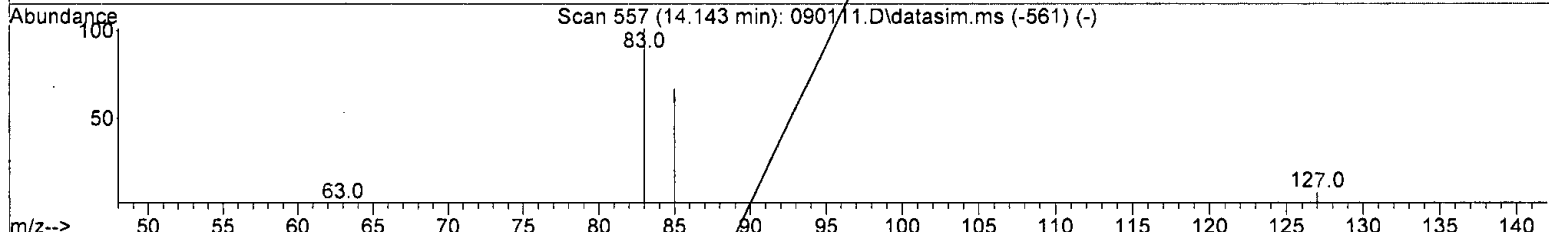
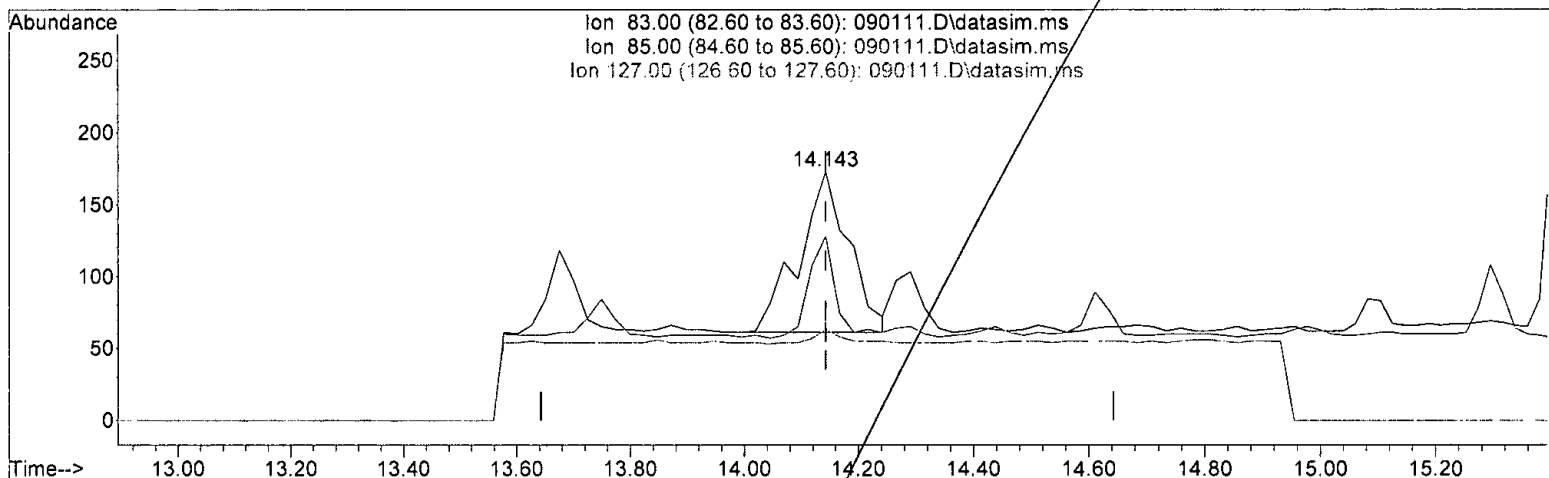
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	59.29
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:10 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) Bromodichloromethane (TMP)

14.143min (-0.000) 0.016 ppbv

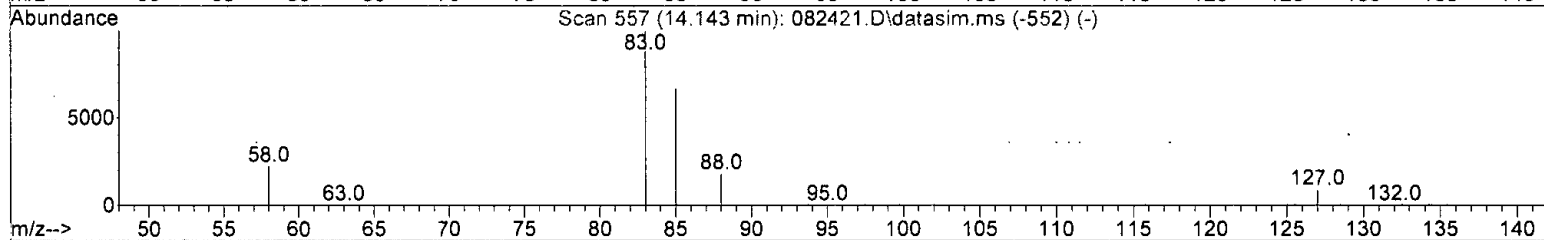
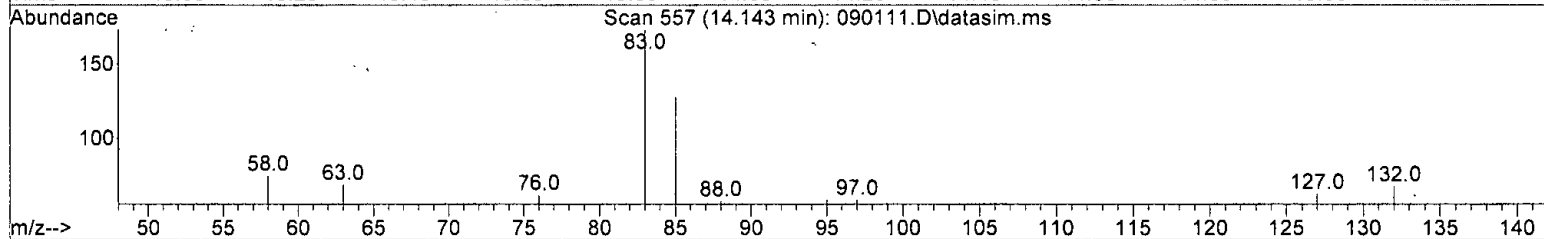
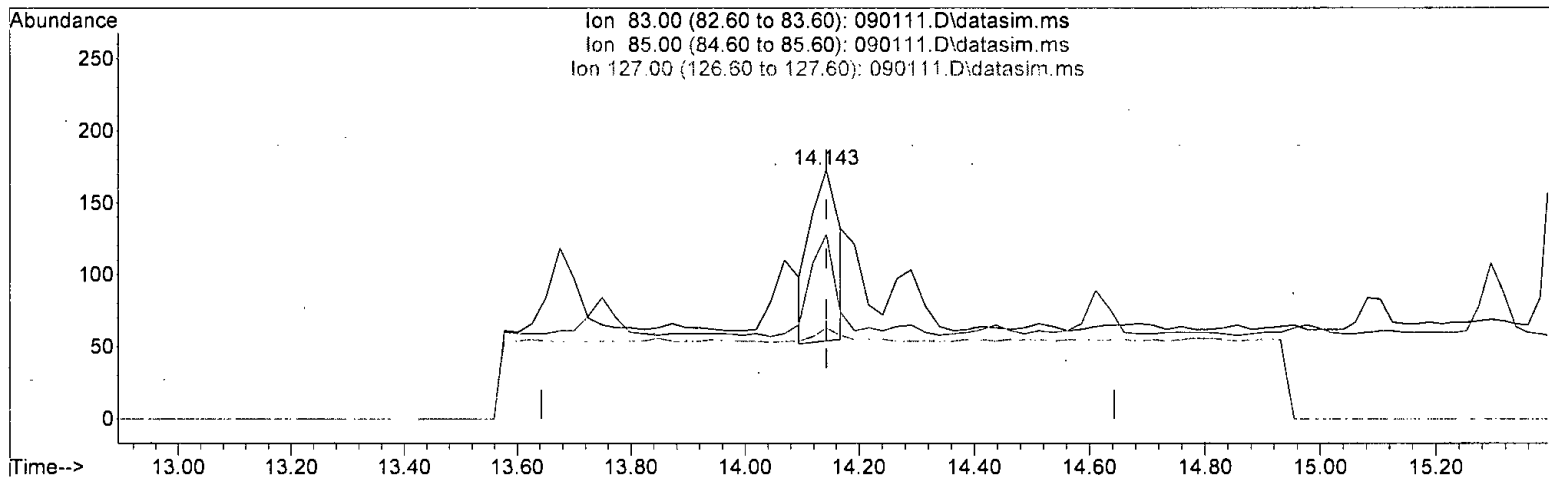
response 681

Ion	Exp%	Act%
83.00	100.00	100.00
85.00	61.00	62.50
127.00	0.00	8.04
0.00	0.00	0.00

*M/6/24*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:10 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090111.D\data.ms

(45) Bromodichloromethane (TMP)

14.143min (-0.000) 0.010 ppbv m

response 424

Ion	Exp%	Act%
83.00	100.00	100.00
85.00	61.00	73.99
127.00	0.00	36.42#
0.00	0.00	0.00

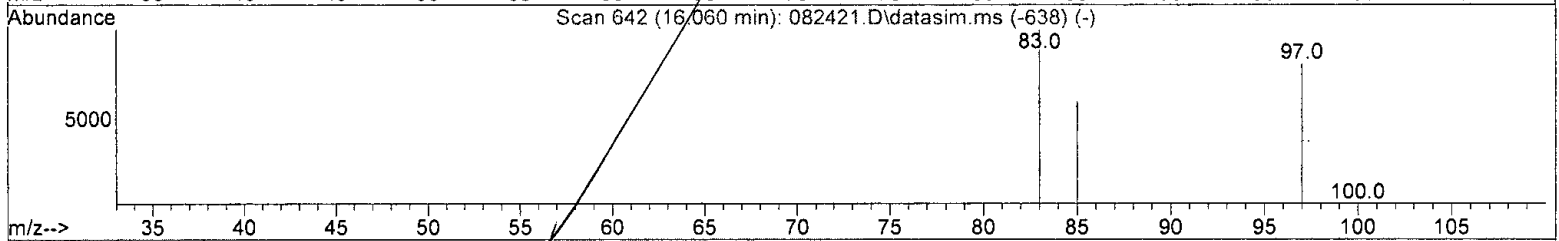
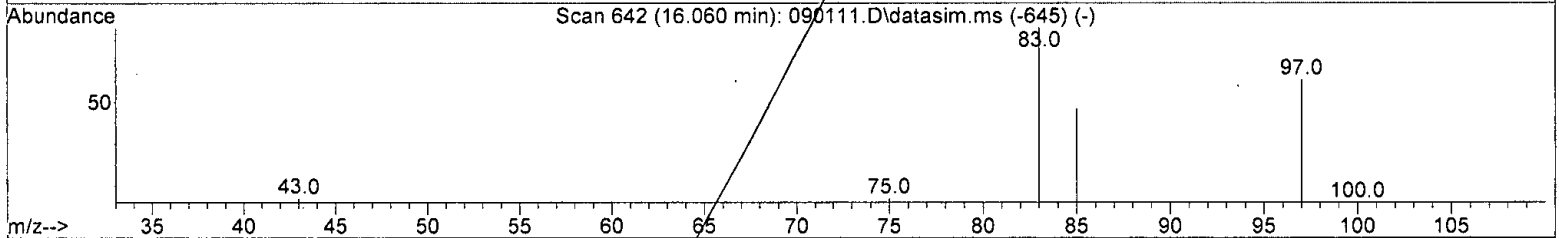
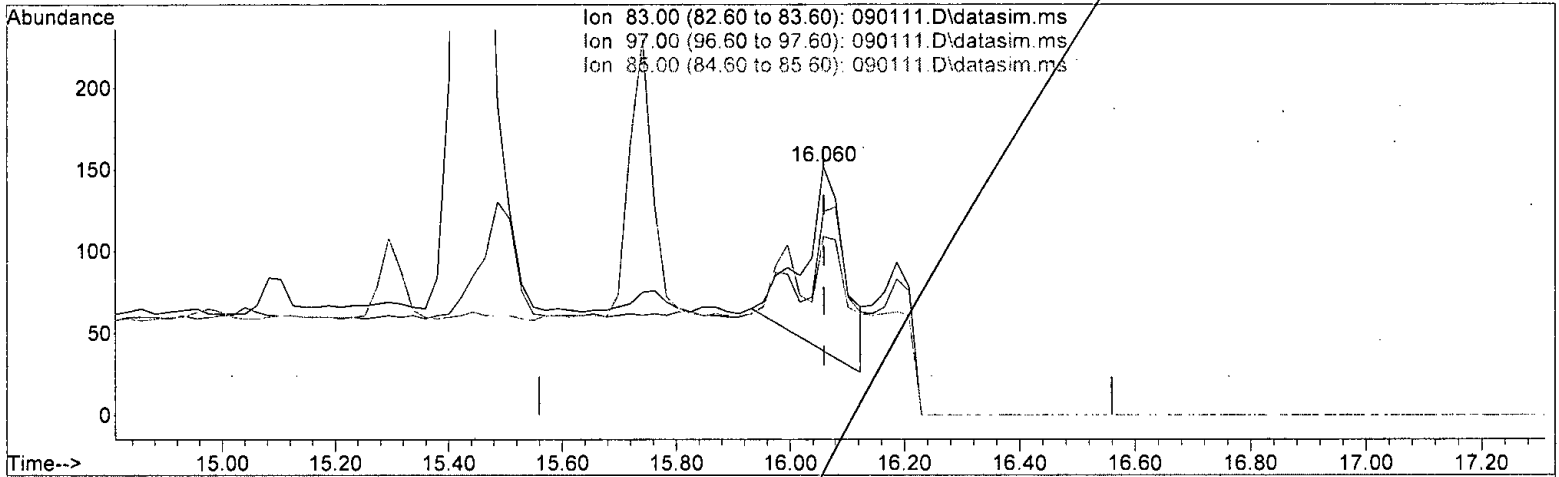
*W. Orta/4*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:10 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090111.D\data.ms

(51) 1,1,2-Trichloroethane (TMP)

16.060min (-0.000) 0.022 ppbv

response 559

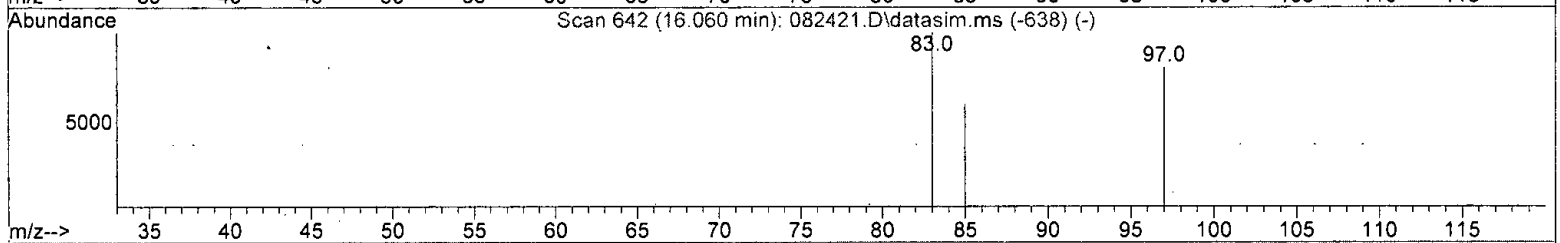
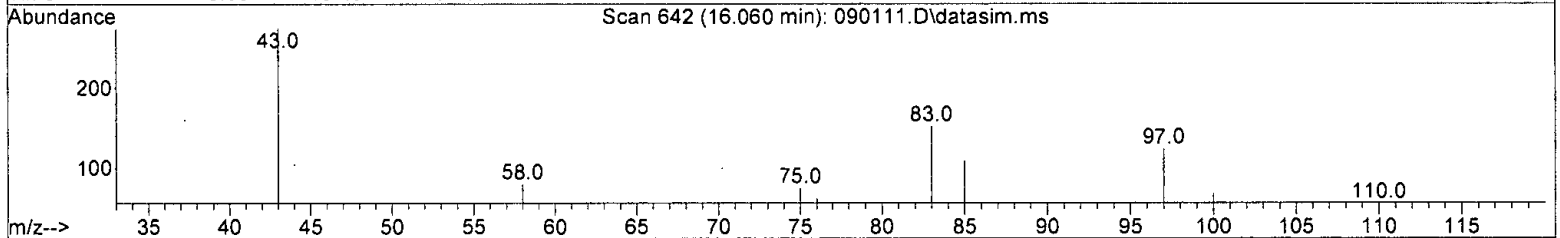
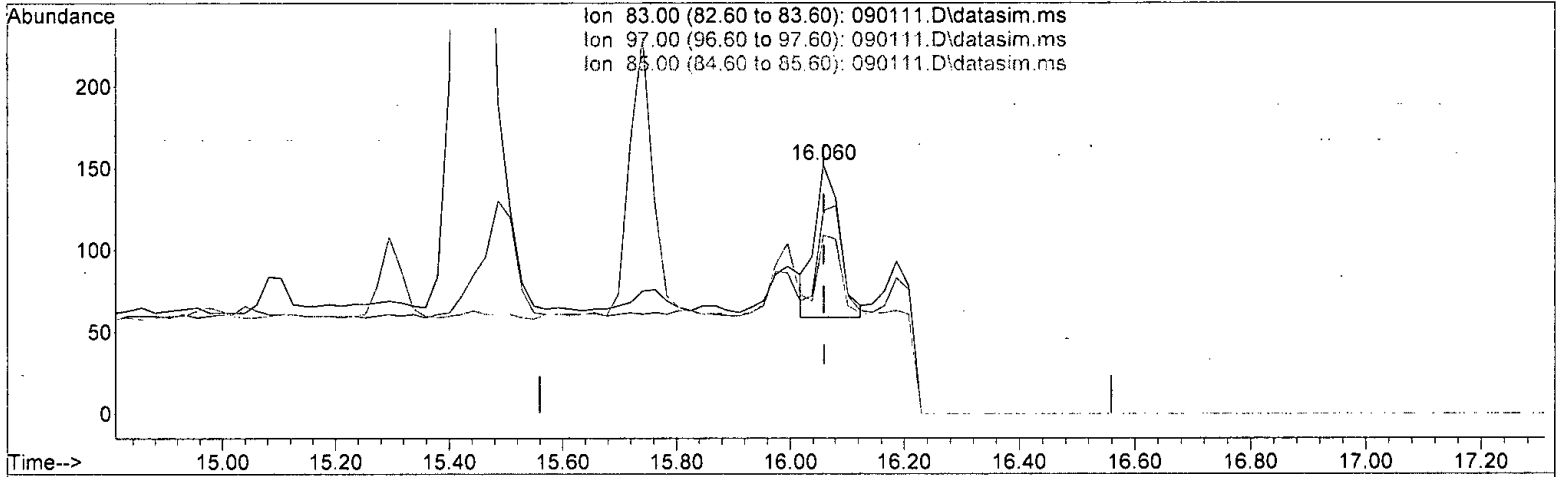
Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	71.26
85.00	60.50	54.02
0.00	0.00	0.00

*M/aly*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:10 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(51) 1,1,2-Trichloroethane (TMP)

16.060min (-0.000) 0.011 ppbv m

response 286

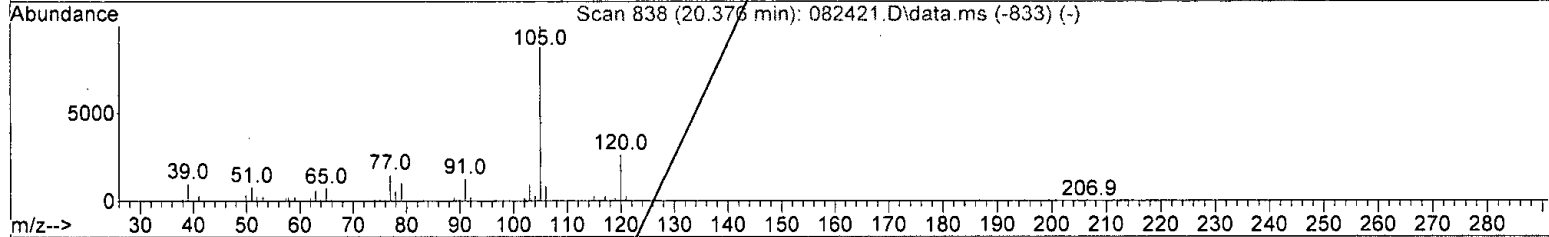
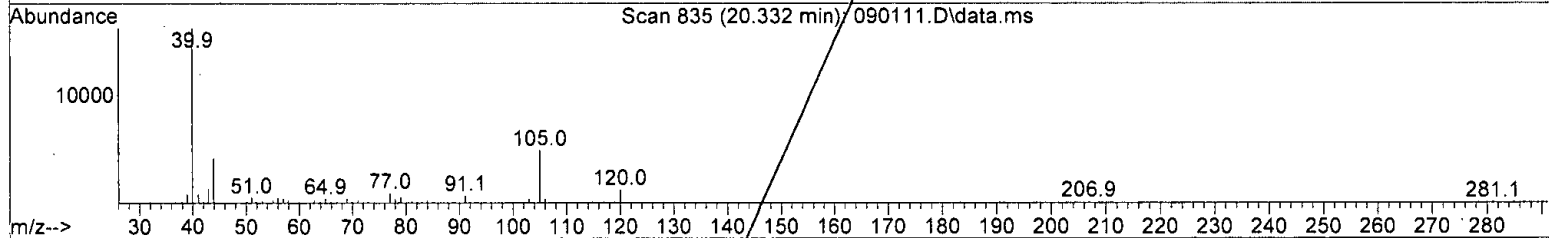
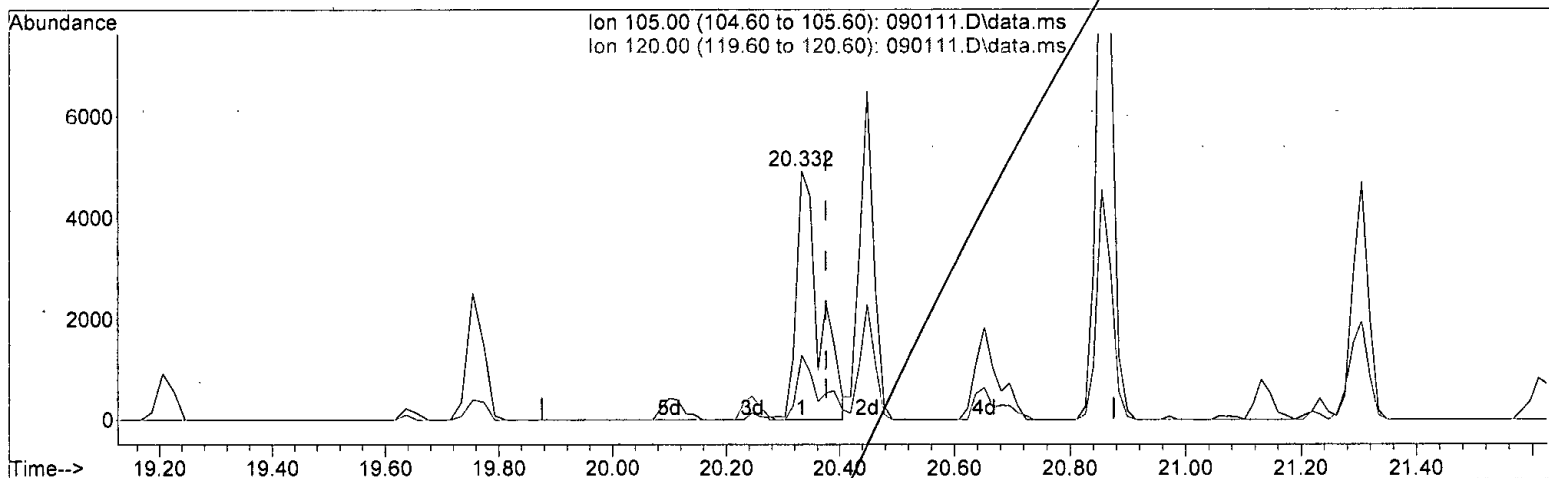
Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	81.58
85.00	60.50	71.71
0.00	0.00	0.00

*Koraly*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:10 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(64) 4-Ethyltoluene (TMP)

20.332min (-0.044) 0.169 ppbv

response 13916

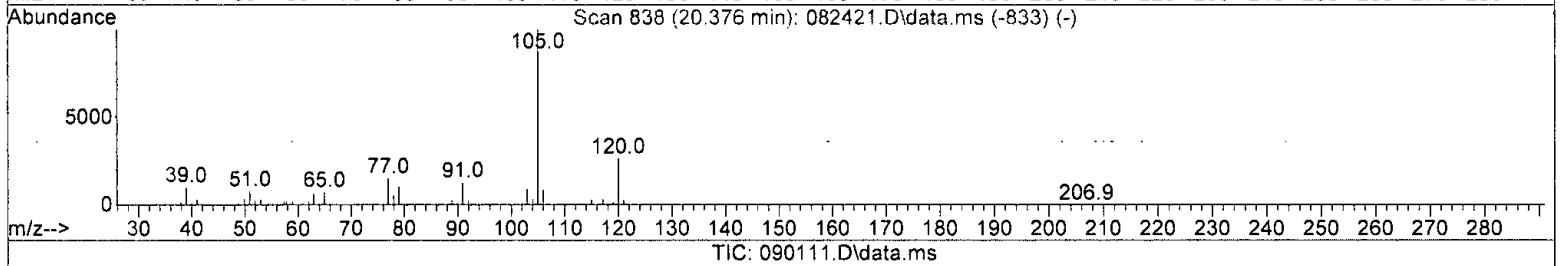
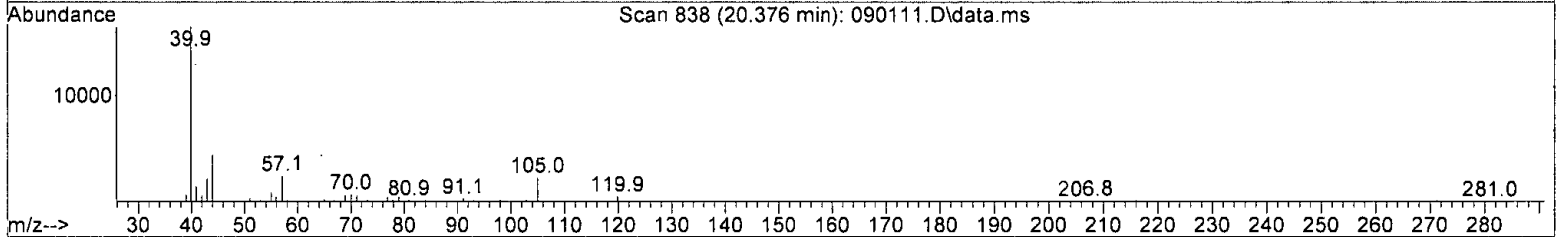
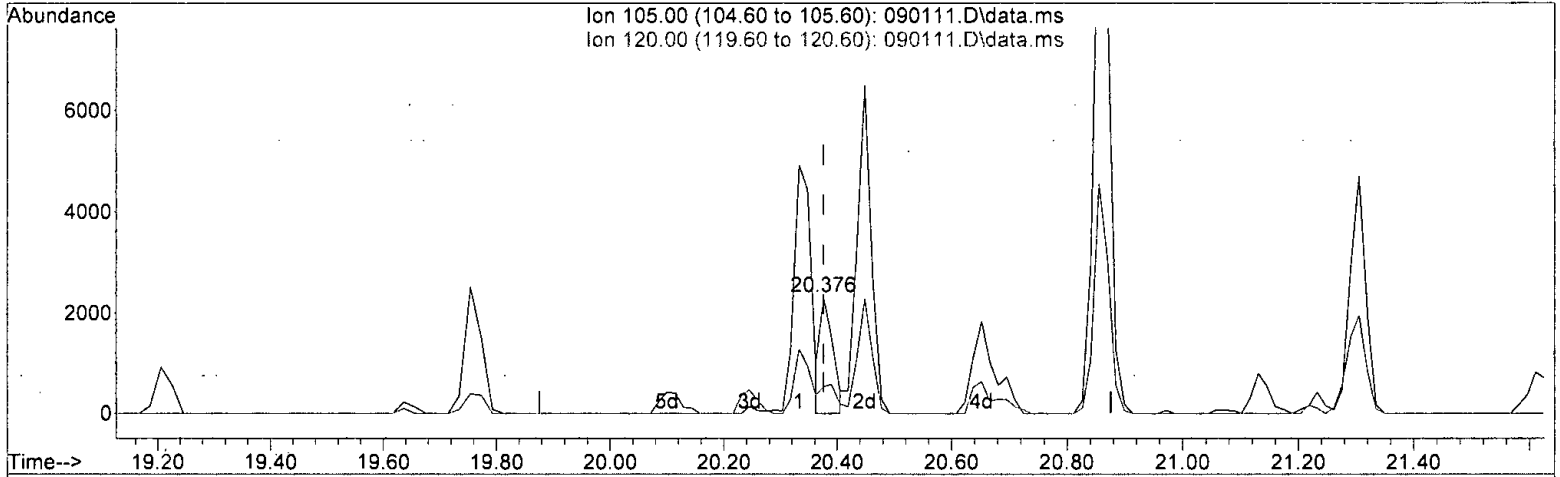
Ion	Exp%	Act%
105.00	100.00	100.00
120.00	28.70	27.03
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:10 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(64) 4-Ethyltoluene (TMP)

20.376min (-0.000) 0.045 ppbv m

response 3738

Ion	Exp%	Act%
105.00	100.00	100.00
120.00	28.70	100.62#
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:28:01 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	95676	10.000	ppbv	#-0.02
39) 1,4-Difluorobenzene	13.23	114	457951	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	406061	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	356920	9.702	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.45	41	6311	0.386	ppbv	83
3) Dichlorodifluoromethane	3.52	85	5024	0.119	ppbv	90
4) Chloromethane	3.73	50	973	0.049	ppbv	99
5) F-114	3.88	85	1488	0.035	ppbv	74
6] Vinyl chloride	4.05	62	355	0.017	ppbv	98
7] 1,3-Butadiene	4.25	54	820	0.056	ppbv #	44
8) Butane	4.36	43	6066	0.195	ppbv #	80
12) Ethanol	4.96	45	5724	1.070	ppbv	93
13] Acrolein	5.45	56	312m	0.045	ppbv	
14) Pentane	6.33	43	5557	0.149	ppbv	97
15) Trichlorofluoromethane	5.88	101	2497	0.053	ppbv	98
16) Acetone	5.62	58	9149	1.087	ppbv #	85
17) 2-Propanol	5.86	45	47541	1.397	ppbv	95
19] trans-1,2-Dichloroethene	8.18	96	183	0.012	ppbv #	73
20) Methylene chloride	6.86	84	67929	4.056	ppbv	89
24) Carbon disulfide	7.33	76	13853	0.252	ppbv	73
25) Methyl t-butyl ether (...)	8.51	73	2309	0.063	ppbv	82
27] 1,1-Dichloroethane	8.44	63	585	0.016	ppbv	94
28] cis-1,2-Dichloroethene	9.73	96	314	0.018	ppbv	90
29) Hexane	10.10	57	9205	0.325	ppbv	86
30] Chloroform	10.19	83	1540	0.037	ppbv	99
31) Ethyl acetate	10.03	43	7964	0.134	ppbv #	95
33) 2-Butanone (MEK)	8.99	72	722	0.106	ppbv #	2
37] Benzene	12.70	78	5981	0.102	ppbv	95
38) Cyclohexane	13.16	84	2373	0.149	ppbv #	76
44) Heptane	14.63	43	7908	0.180	ppbv #	73
46] Trichloroethene	14.22	95	1519	0.054	ppbv	88
47) cis-1,3-Dichloropropene	15.27	75	301	0.010	ppbv	63
49] trans-1,3-Dichloropropene	15.85	75	421	0.017	ppbv	74
50] Toluene	16.40	92	13945	0.406	ppbv	83
51] 1,1,2-Trichloroethane	16.06	83	286m	0.011	ppbv	
53] Tetrachloroethene	17.58	164	3414	0.196	ppbv	81
55] 1,2-Dibromoethane (EDB)	17.10	107	364	0.010	ppbv	86
57) Chlorobenzene	18.25	112	1805	0.041	ppbv	74
58] Ethylbenzene	18.59	91	7455	0.083	ppbv	96
60) Nonane	19.36	43	9305	0.136	ppbv #	90
61] Isopropylbenzene	19.75	105	5195	0.066	ppbv	92
63) Propylbenzene	20.25	91	6376	0.036	ppbv	92
64) 4-Ethyltoluene	20.38	105	3738m	0.045	ppbv	
65] m,p-Xylene	18.74	106	8684	0.300	ppbv #	79

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

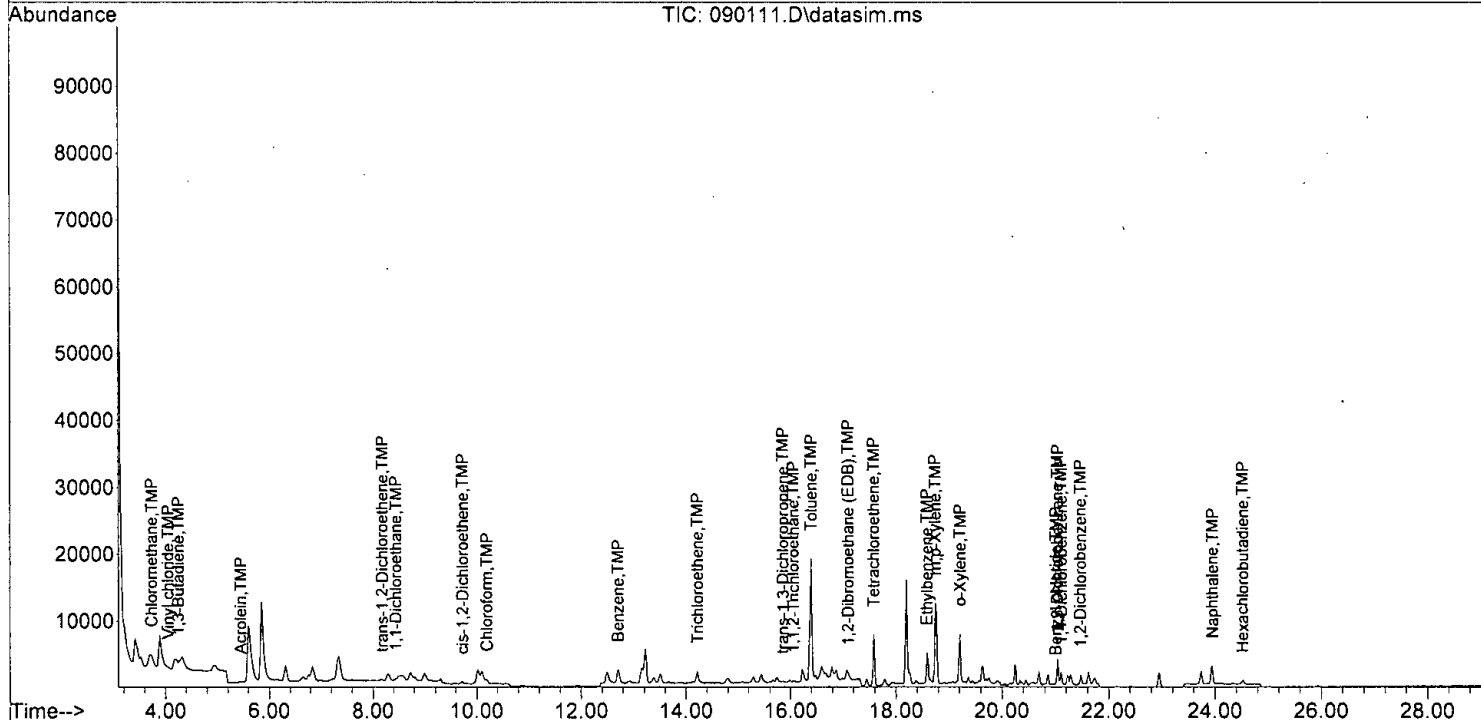
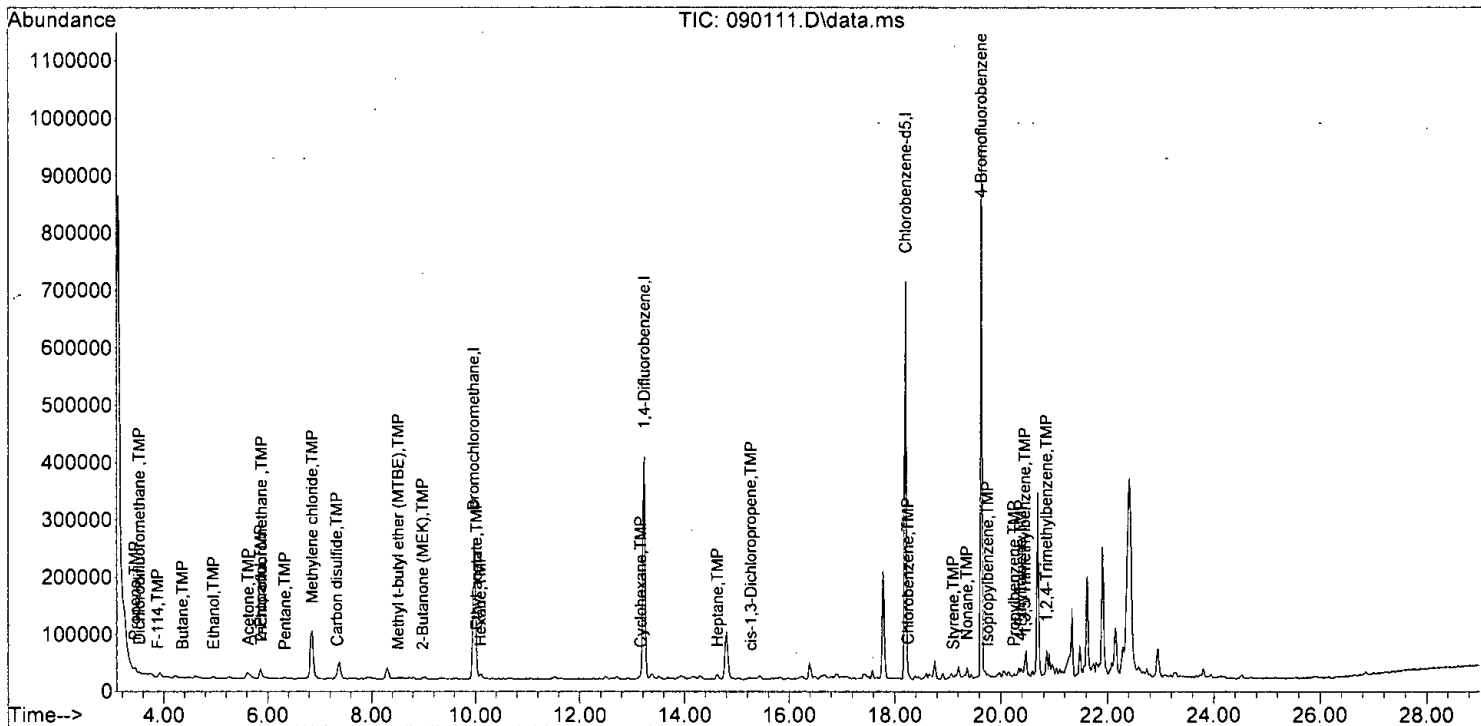
Quant Time: Sep 02 11:28:01 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

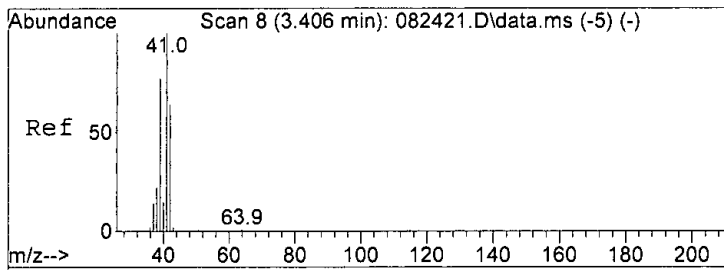
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
66] o-Xylene	19.21	106	3786	0.133	ppbv	91
67] Styrene	19.11	104	1015	0.024	ppbv	69
70] Benzyl chloride	21.01	91	358	0.012	ppbv	90
71] 1,3,5-Trimethylbenzene	20.45	105	11359	0.172	ppbv	87
72] 1,2,4-Trimethylbenzene	20.86	105	20948	0.307	ppbv	99
73] 1,3-Dichlorobenzene	21.04	146	3458	0.074	ppbv	86
74] 1,4-Dichlorobenzene	21.11	146	1436	0.023	ppbv	90
75] 1,2-Dichlorobenzene	21.47	146	1294	0.029	ppbv	92
77] Naphthalene	23.95	128	6329	0.053	ppbv	98
78] Hexachlorobutadiene	24.52	225	1284	0.016	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

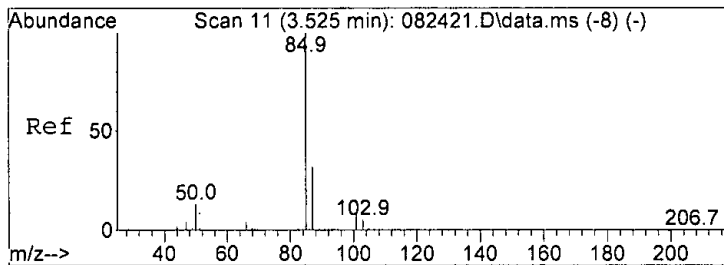
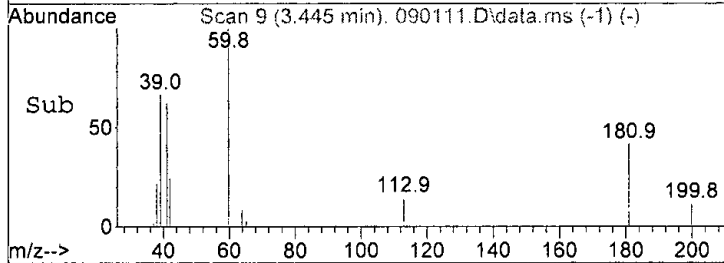
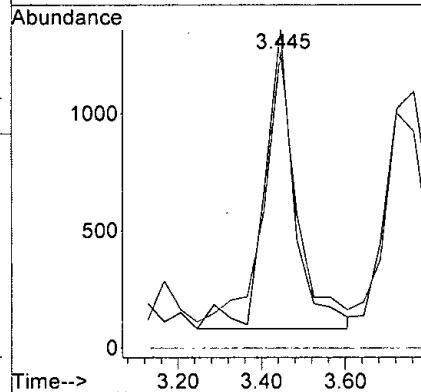
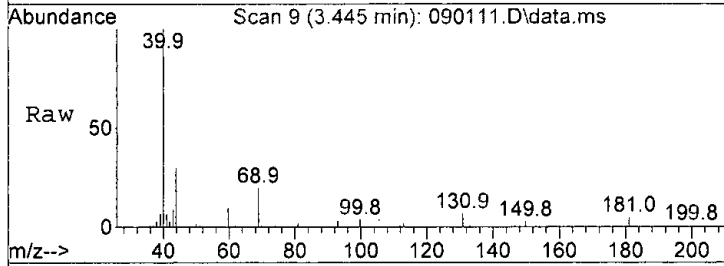
Quant Time: Sep 02 11:28:01 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





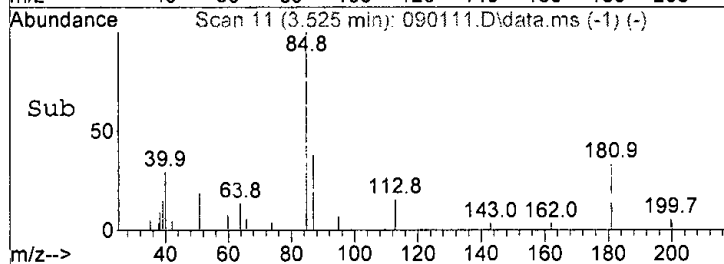
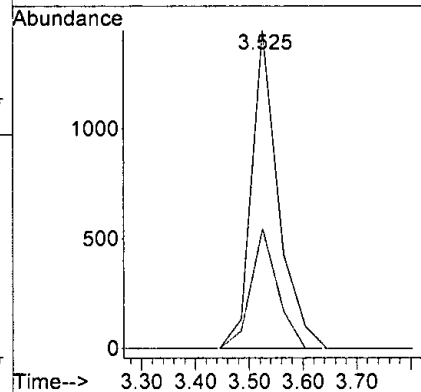
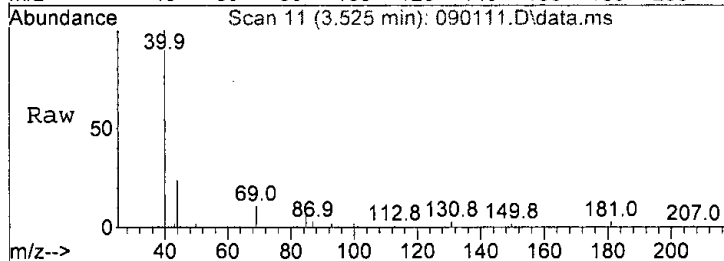
#2  
 Propene  
 Concen: 0.386 ppbv  
 RT: 3.45 min Scan# 9  
 Delta R.T. 0.039 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

Tgt Ion: 41 Resp: 6311  
 Ion Ratio Lower Upper  
 41 100  
 39 90.1 45.6 105.6  
 27 0.0 0.0 30.0

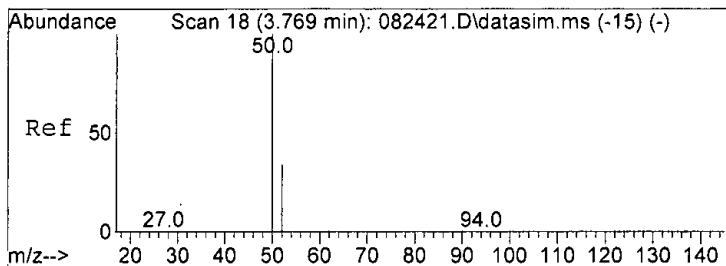


#3  
 Dichlorodifluoromethane  
 Concen: 0.119 ppbv  
 RT: 3.52 min Scan# 11  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

Tgt Ion: 85 Resp: 5024  
 Ion Ratio Lower Upper  
 85 100  
 87 37.8 2.2 62.2

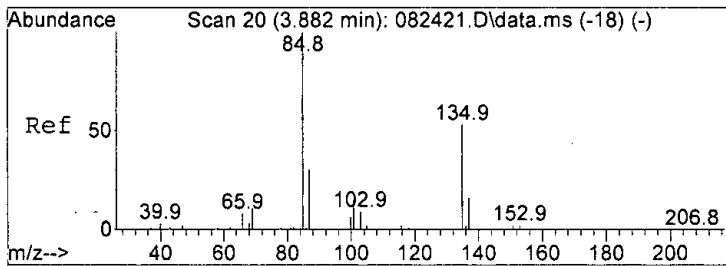
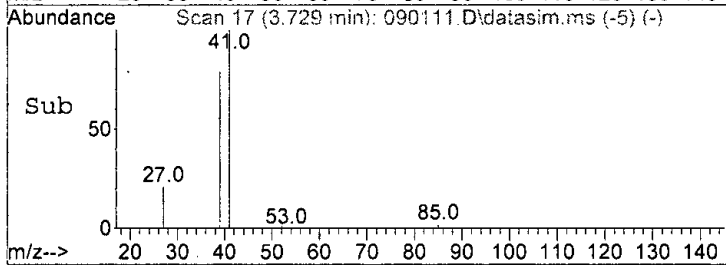
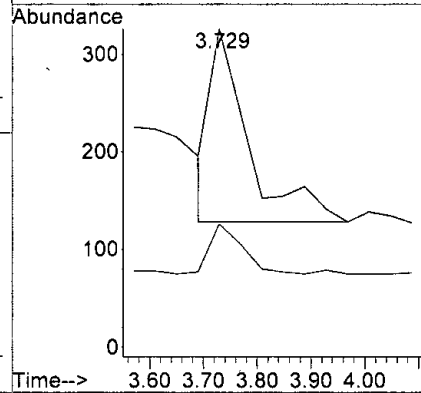
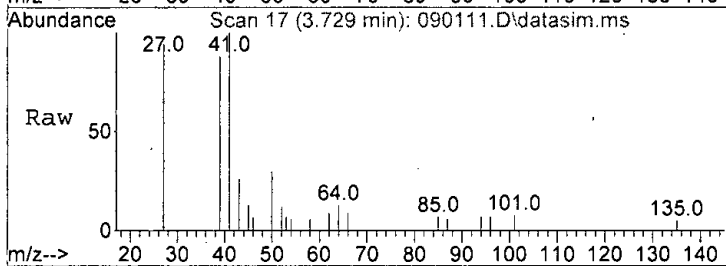






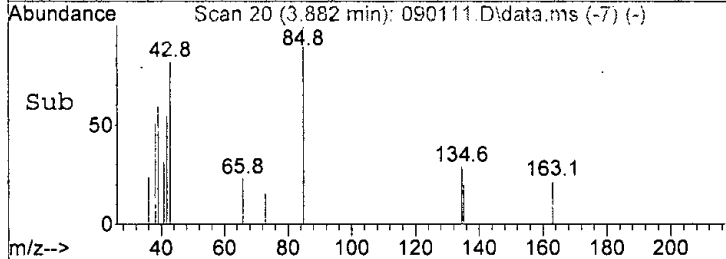
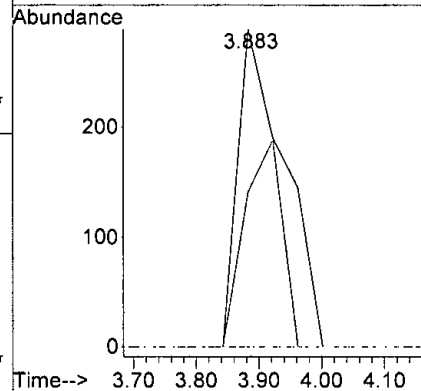
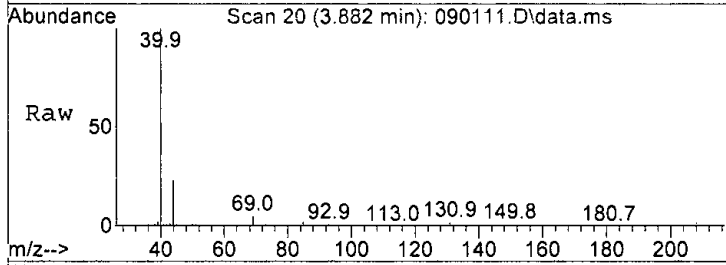
#4  
 Chloromethane  
 Concen: 0.049 ppbv  
 RT: 3.73 min Scan# 17  
 Delta R.T. -0.040 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

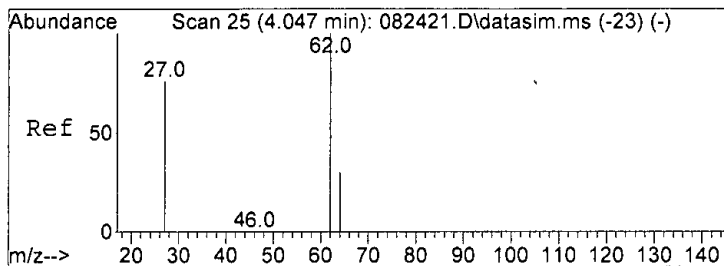
Tgt Ion: 50 Resp: 973  
 Ion Ratio Lower Upper  
 50 100  
 52 25.8 0.0 55.3



#5  
 F-114  
 Concen: 0.035 ppbv  
 RT: 3.88 min Scan# 20  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

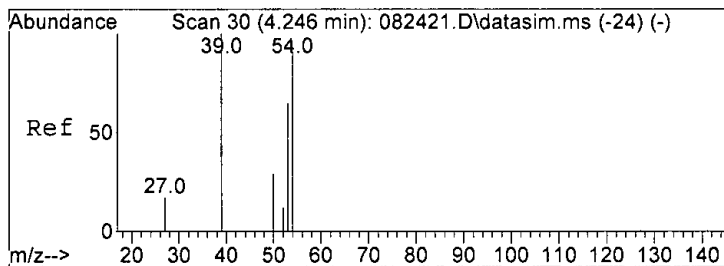
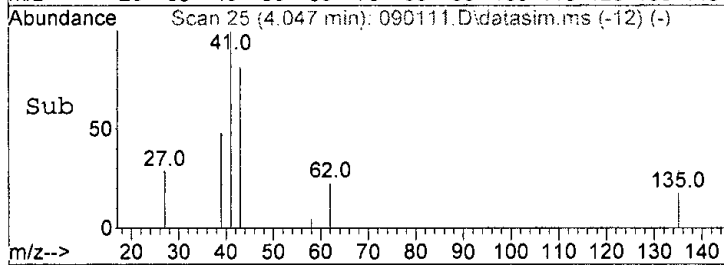
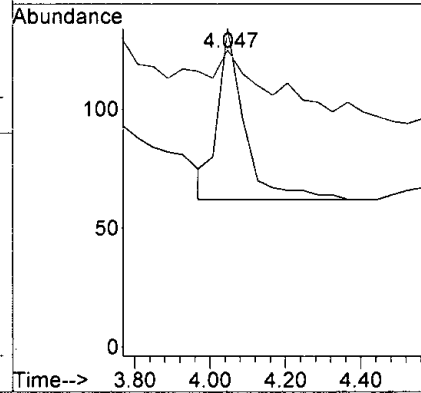
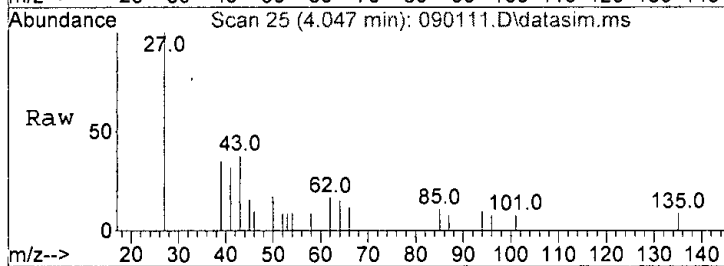
Tgt Ion: 85 Resp: 1488  
 Ion Ratio Lower Upper  
 85 100  
 135 48.8 36.8 96.8  
 101 0.0 0.0 46.3





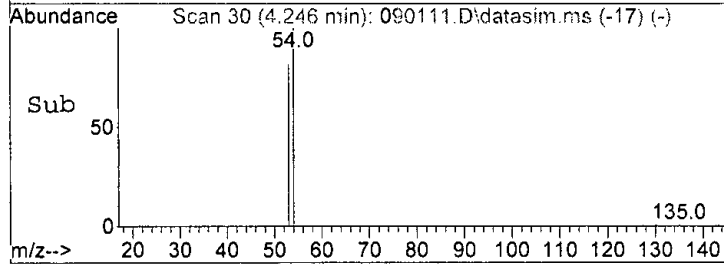
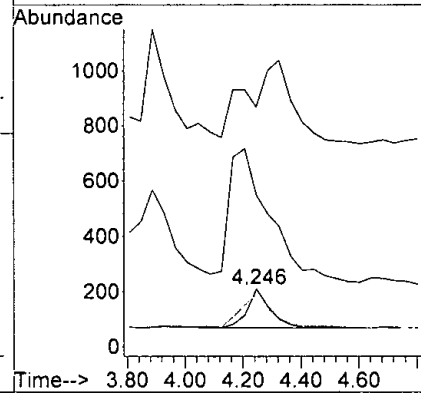
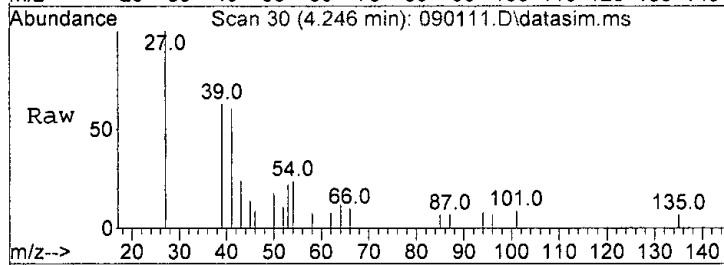
#6  
 Vinyl chloride  
 Concen: 0.017 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

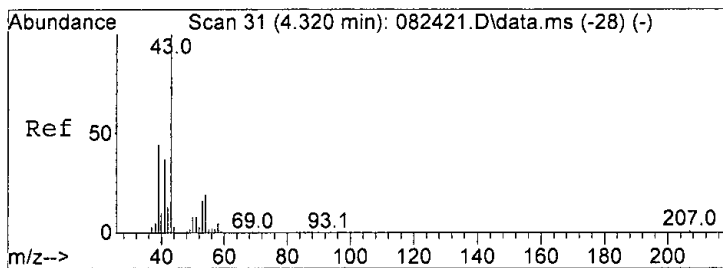
Tgt Ion: 62 Resp: 355  
 Ion Ratio Lower Upper  
 62 100  
 64 30.6 1.5 61.5



#7  
 1,3-Butadiene  
 Concen: 0.056 ppbv  
 RT: 4.25 min Scan# 30  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

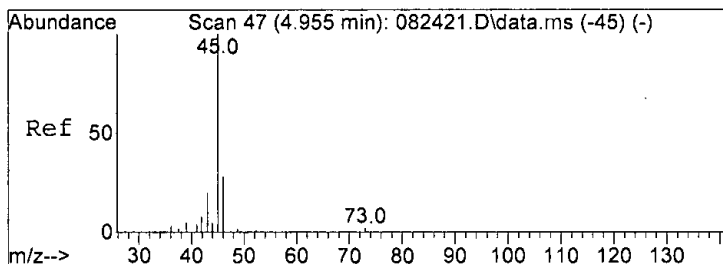
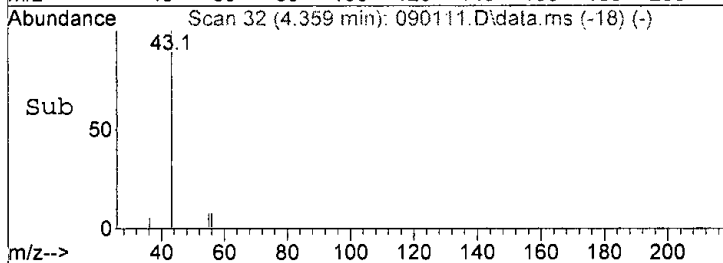
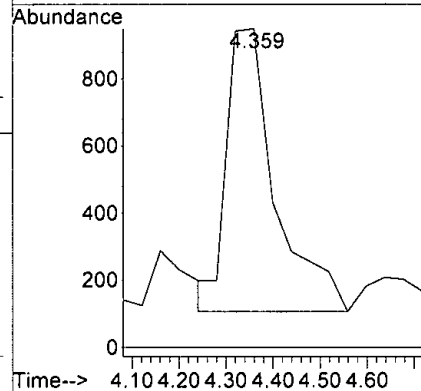
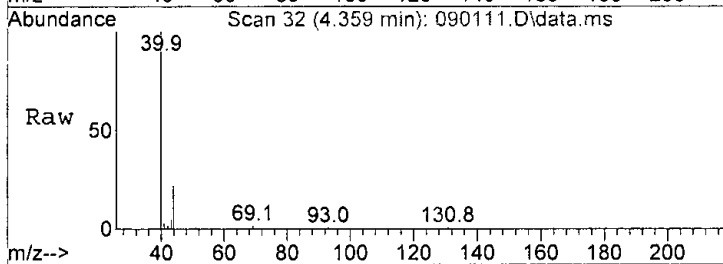
Tgt Ion: 54 Resp: 820  
 Ion Ratio Lower Upper  
 54 100  
 39 220.6 97.6 157.6#  
 53 83.7 42.4 102.4  
 27 89.4 0.0 20.0#





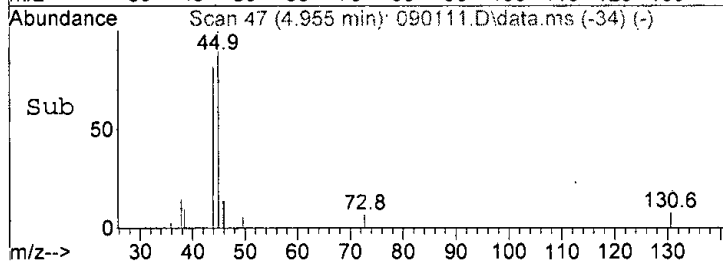
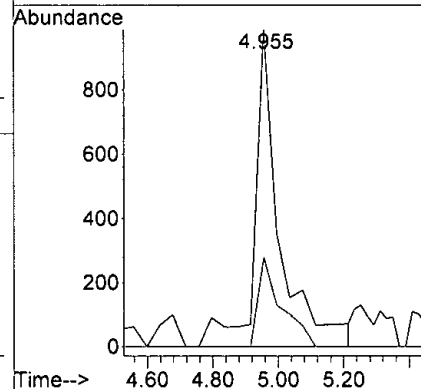
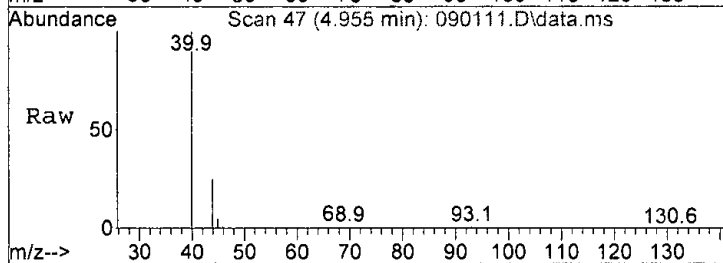
#8  
 Butane  
 Concen: 0.195 ppbv  
 RT: 4.36 min Scan# 32  
 Delta R.T. 0.039 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

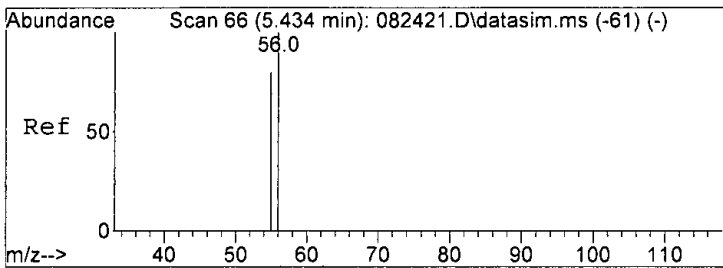
Tgt Ion	Resp	Lower	Upper
43	100		
58	0.0	0.0	36.9



#12  
 Ethanol  
 Concen: 1.070 ppbv  
 RT: 4.96 min Scan# 47  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

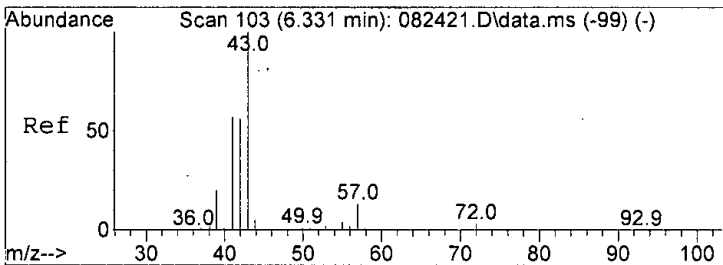
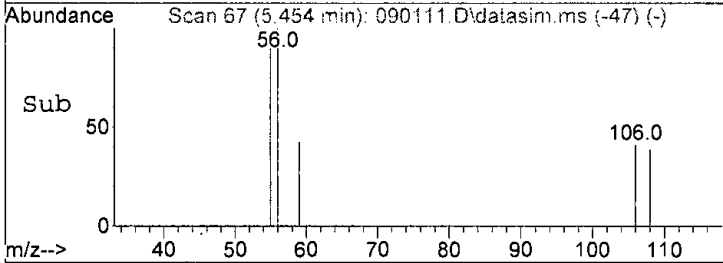
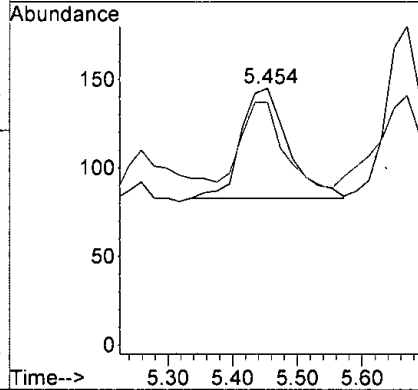
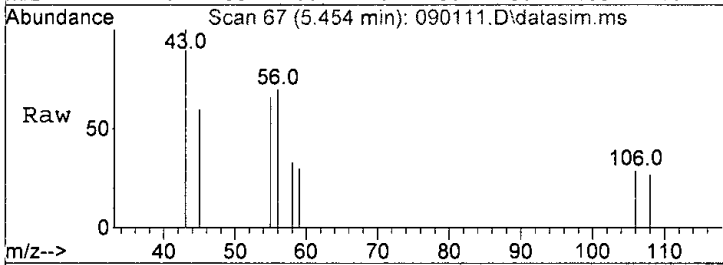
Tgt Ion	Resp	Lower	Upper
45	100		
46	29.1	0.0	55.5





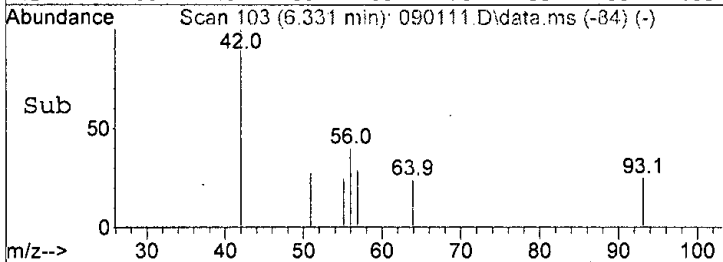
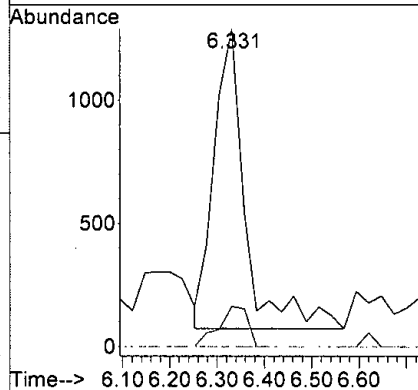
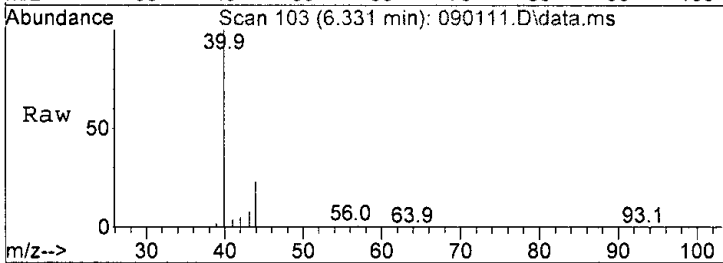
#13  
 Acrolein  
 Concen: 0.045 ppbv m  
 RT: 5.45 min Scan# 67  
 Delta R.T. 0.020 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

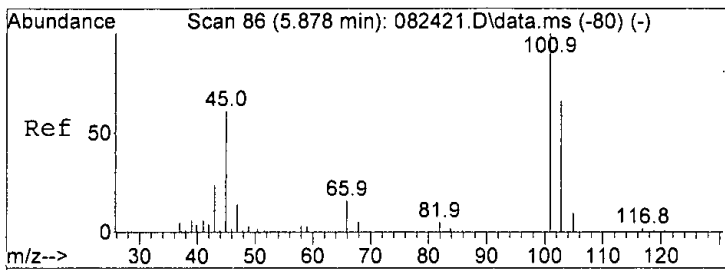
Tgt Ion: 56 Resp: 312  
 Ion Ratio Lower Upper  
 56 100  
 55 59.3 51.0 111.0



#14  
 Pentane  
 Concen: 0.149 ppbv  
 RT: 6.33 min Scan# 103  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

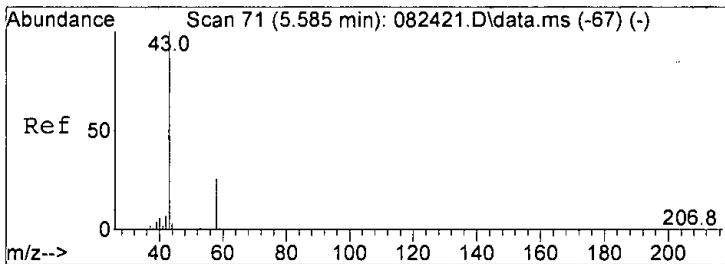
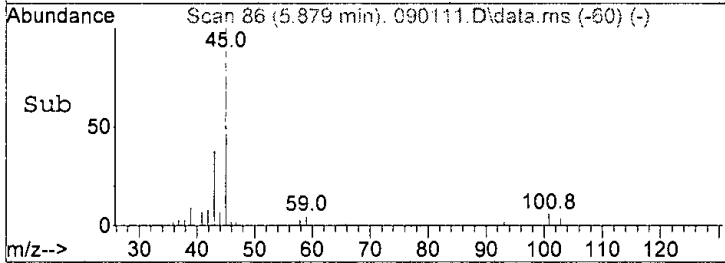
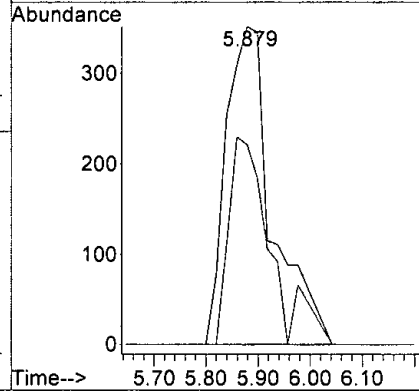
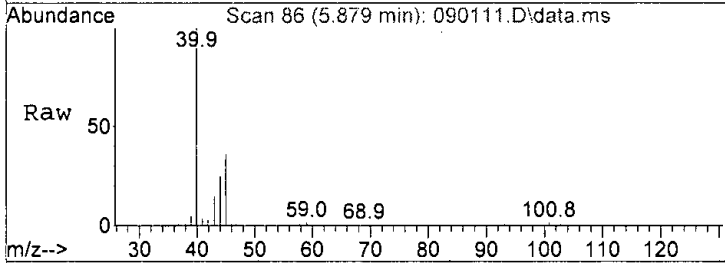
Tgt Ion: 43 Resp: 5557  
 Ion Ratio Lower Upper  
 43 100  
 57 13.5 0.0 43.5  
 72 0.0 0.0 34.2





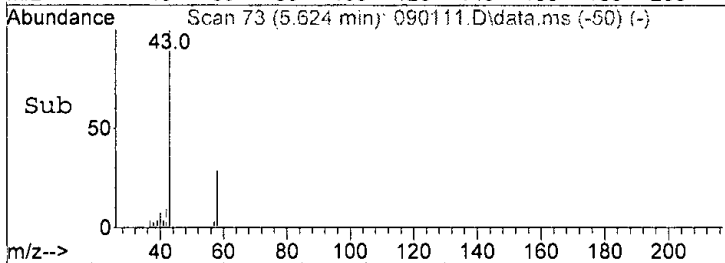
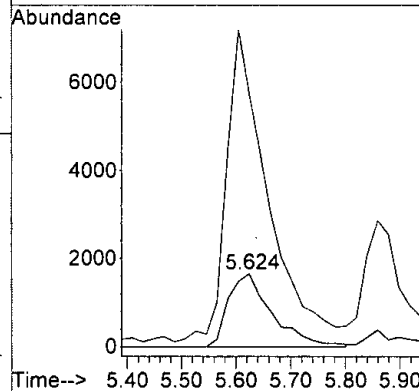
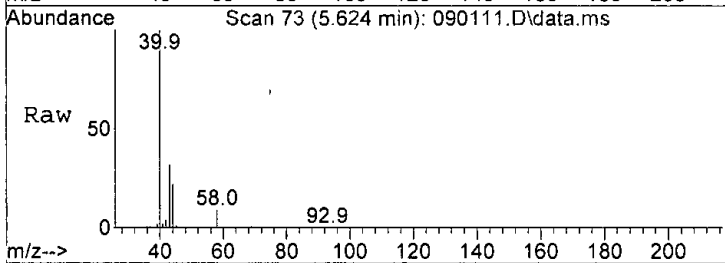
#15  
 Trichlorofluoromethane  
 Concen: 0.053 ppbv  
 RT: 5.88 min Scan# 86  
 Delta R.T. 0.001 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

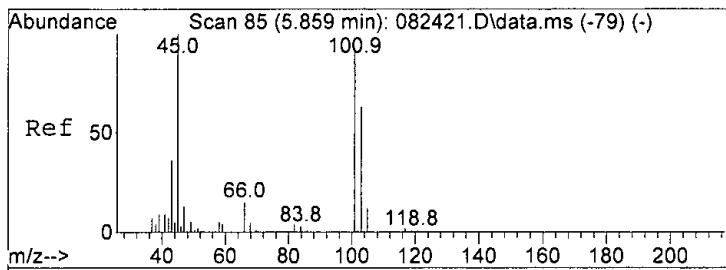
Tgt Ion	Resp	Lower	Upper
101	2497		
103	63.0	34.5	94.5



#16  
 Acetone  
 Concen: 1.087 ppbv  
 RT: 5.62 min Scan# 73  
 Delta R.T. 0.039 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

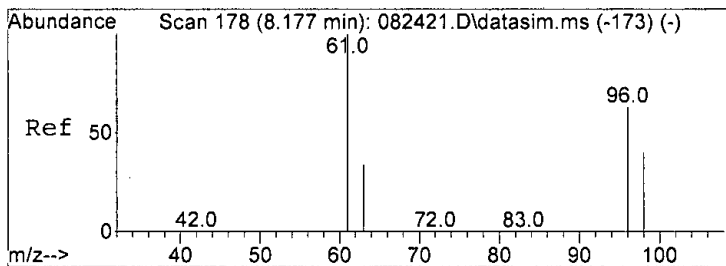
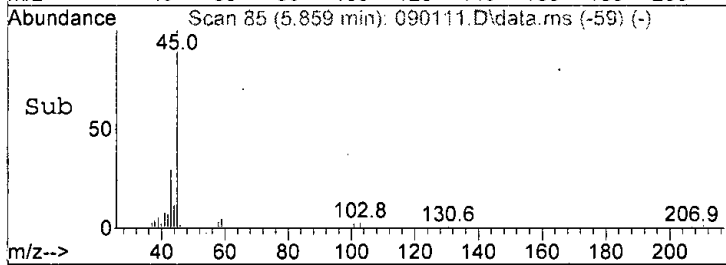
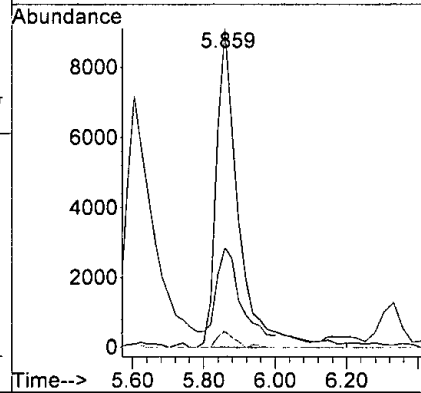
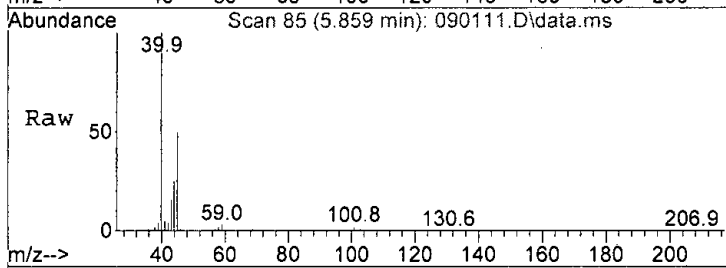
Tgt Ion	Resp	Lower	Upper
58	9149		
43	326.2	329.3	389.3#





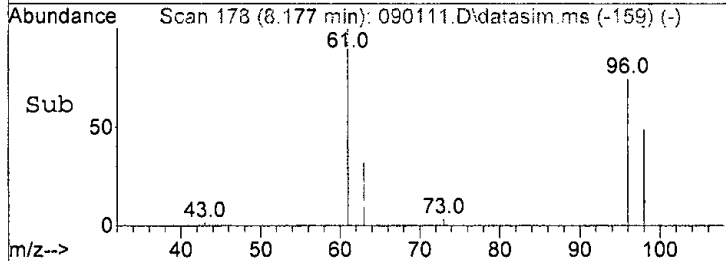
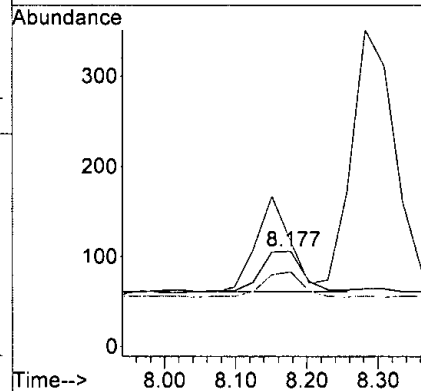
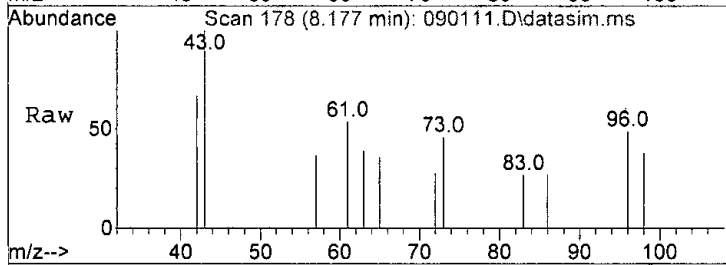
#17  
 2-Propanol  
 Concen: 1.397 ppbv  
 RT: 5.86 min Scan# 85  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

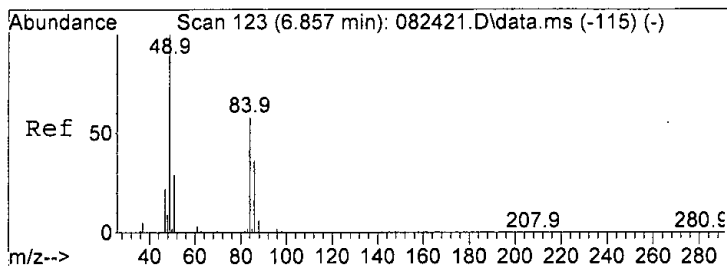
Tgt Ion:	45	Resp:	47541
Ion Ratio	Lower	Upper	
45	100		
43	28.0	0.0	30.0
59	5.1	0.0	33.6



#19  
 trans-1,2-Dichloroethene  
 Concen: 0.012 ppbv  
 RT: 8.18 min Scan# 178  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

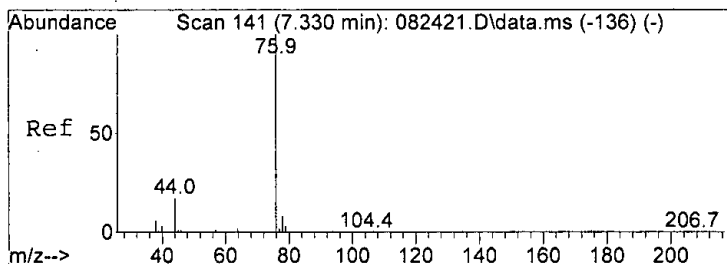
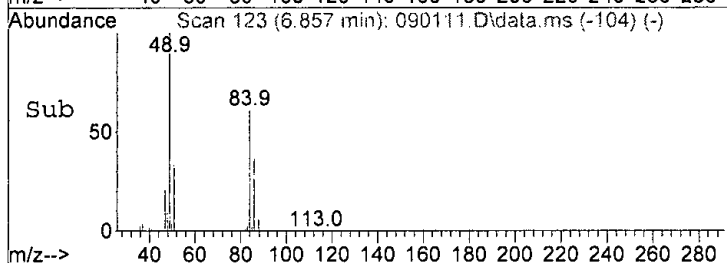
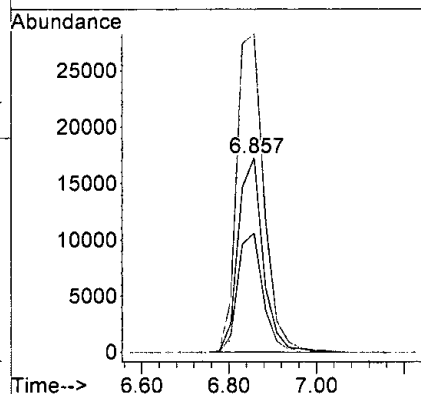
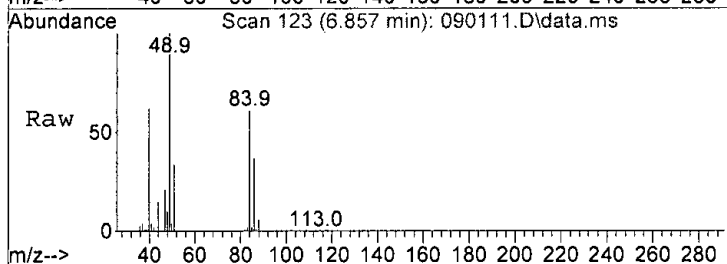
Tgt Ion:	96	Resp:	183
Ion Ratio	Lower	Upper	
96	100		
61	126.7	147.9	207.9#
98	62.2	34.2	94.2





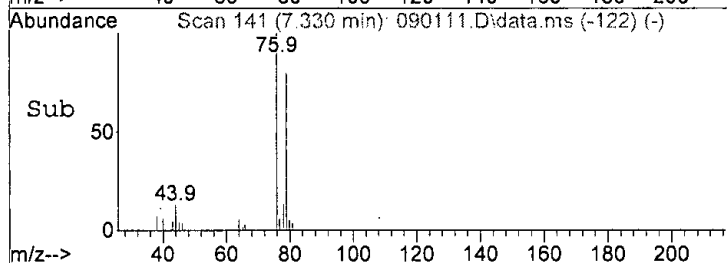
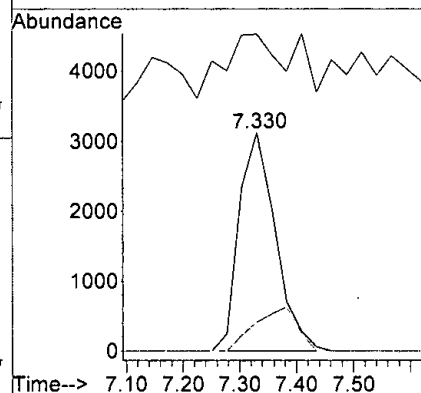
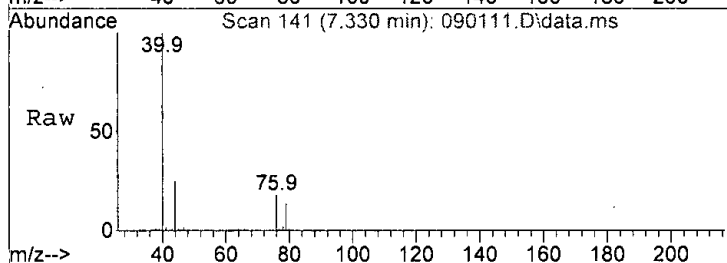
#20  
 Methylene chloride  
 Concen: 4.056 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

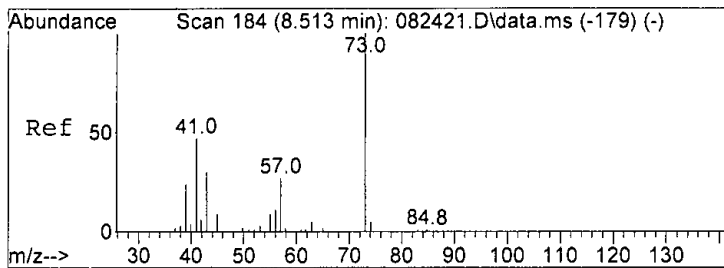
Tgt Ion: 84 Resp: 67929  
 Ion Ratio Lower Upper  
 84 100  
 86 61.4 33.9 93.9  
 49 164.0 116.6 176.6



#24  
 Carbon disulfide  
 Concen: 0.252 ppbv  
 RT: 7.33 min Scan# 141  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

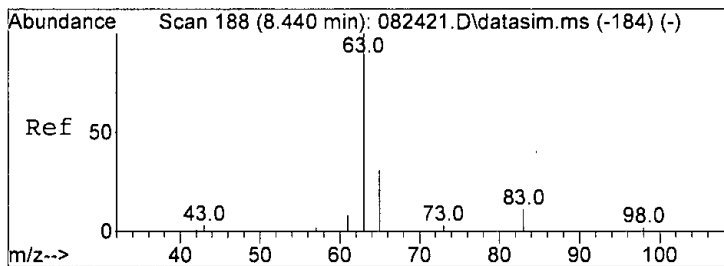
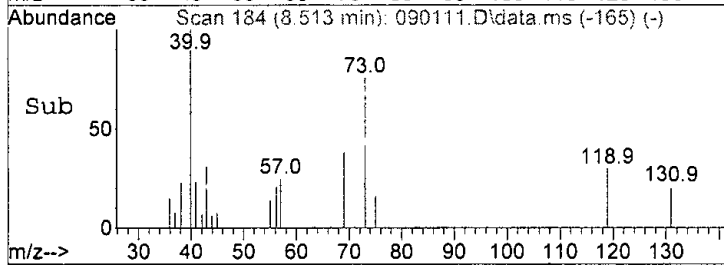
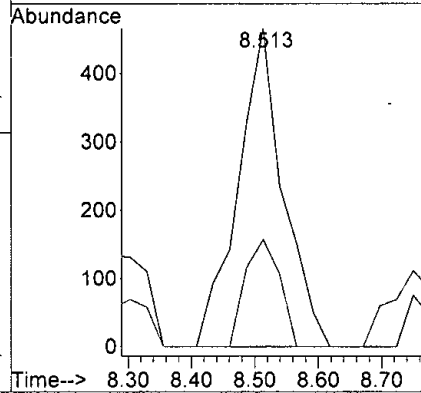
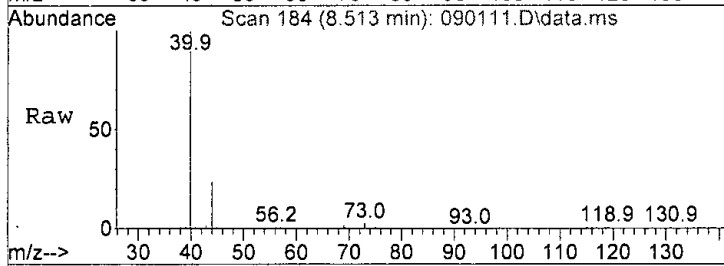
Tgt Ion: 76 Resp: 13853  
 Ion Ratio Lower Upper  
 76 100  
 44 29.3 0.0 44.3  
 78 13.3 0.0 39.2





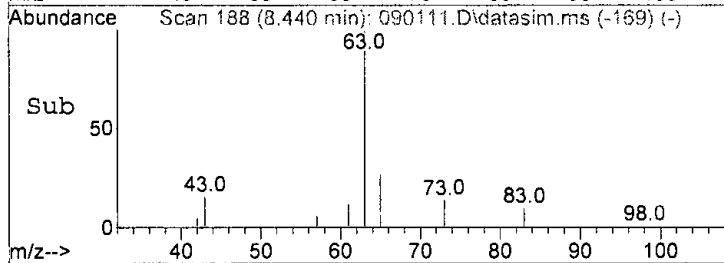
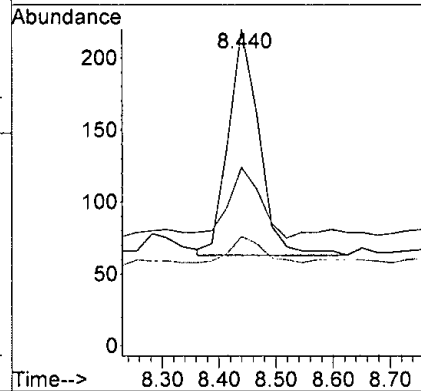
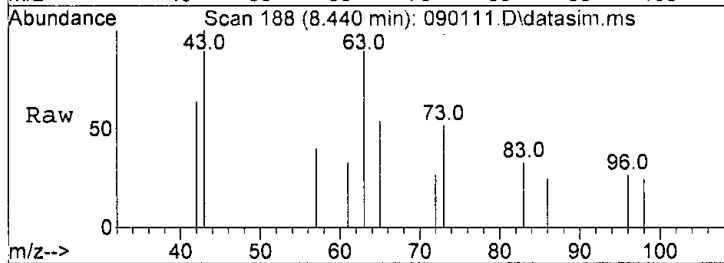
#25  
 Methyl t-butyl ether (MTBE)  
 Concen: 0.063 ppbv  
 RT: 8.51 min Scan# 184  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

Tgt Ion: 73 Resp: 2309  
 Ion Ratio Lower Upper  
 73 100  
 57 33.7 0.0 54.5

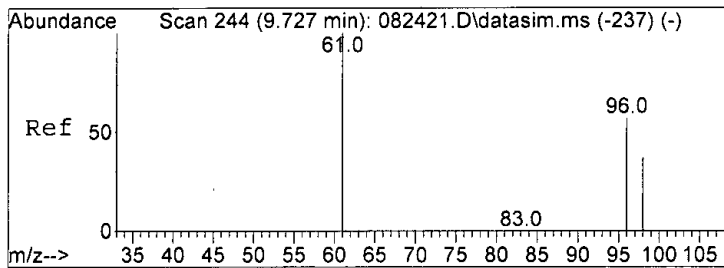


#27  
 1,1-Dichloroethane  
 Concen: 0.016 ppbv  
 RT: 8.44 min Scan# 188  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

Tgt Ion: 63 Resp: 585  
 Ion Ratio Lower Upper  
 63 100  
 65 28.7 2.5 62.5  
 83 11.5 0.0 43.2

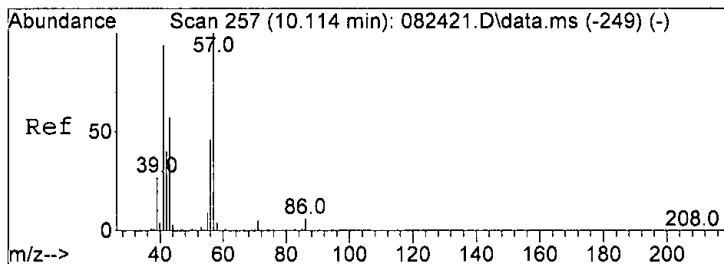
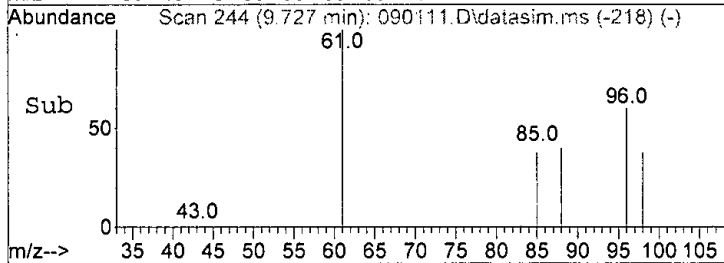
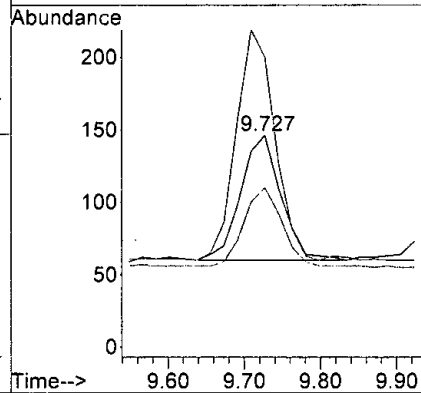
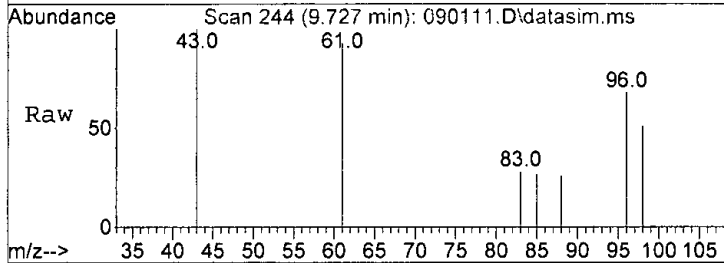






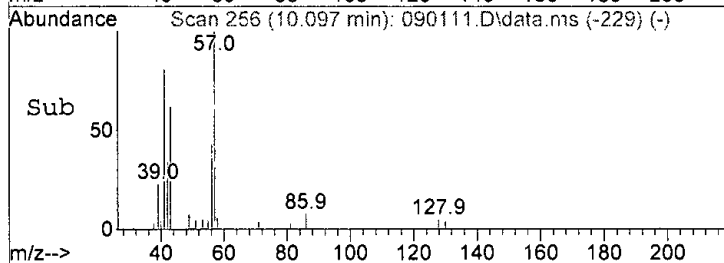
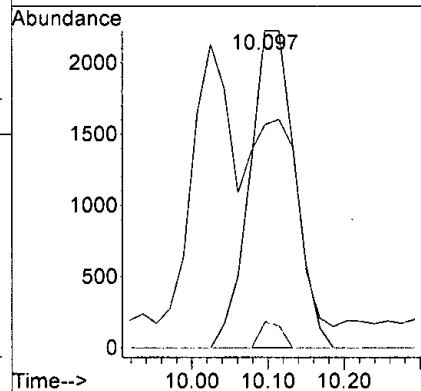
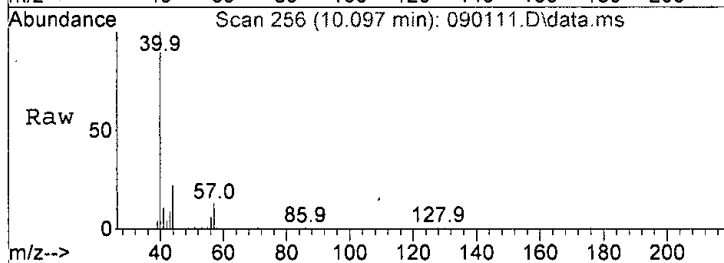
#28  
 cis-1,2-Dichloroethene  
 Concen: 0.018 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

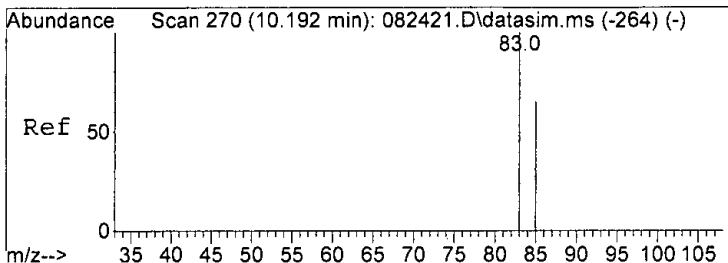
Tgt Ion: 96 Resp: 314  
 Ion Ratio Lower Upper  
 96 100  
 61 162.8 116.0 176.0  
 98 62.8 35.2 95.2



#29  
 Hexane  
 Concen: 0.325 ppbv  
 RT: 10.10 min Scan# 256  
 Delta R.T. -0.017 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

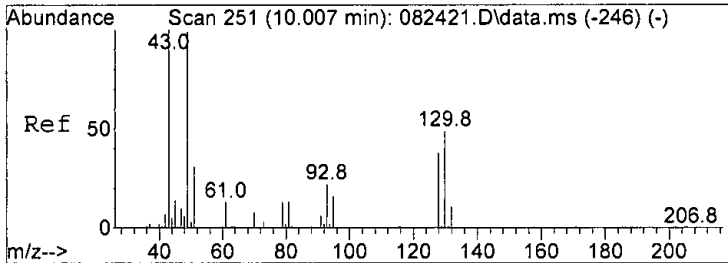
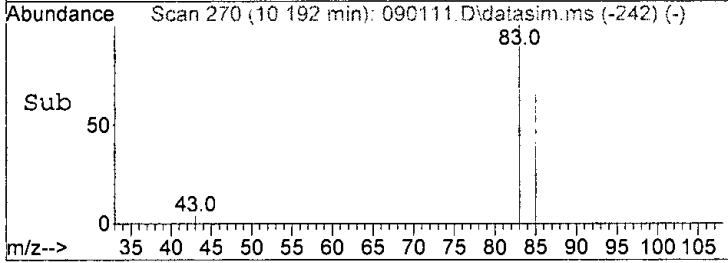
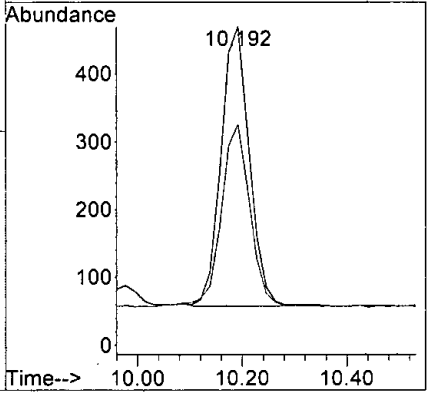
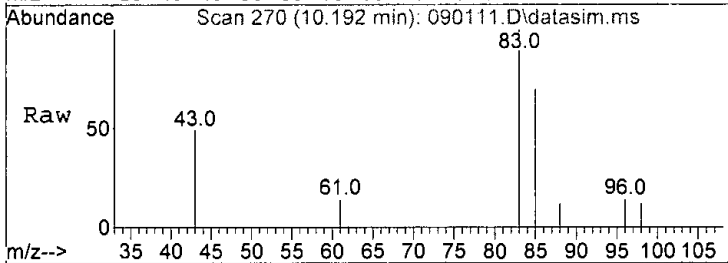
Tgt Ion: 57 Resp: 9205  
 Ion Ratio Lower Upper  
 57 100  
 43 61.7 43.6 103.6  
 86 8.3 0.0 35.9





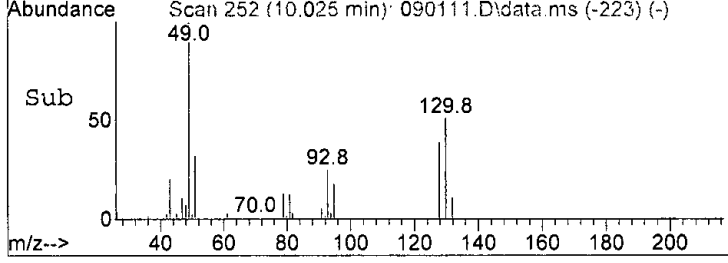
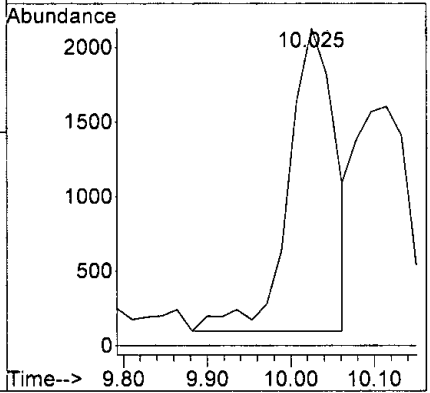
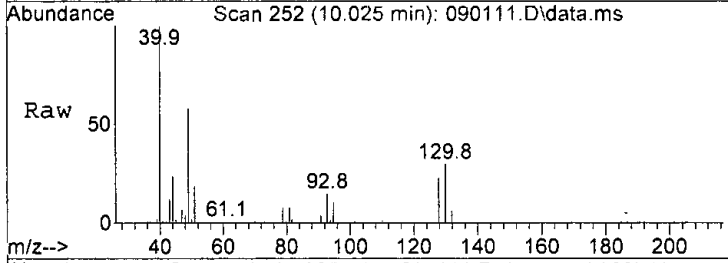
#30  
 Chloroform  
 Concen: 0.037 ppbv  
 RT: 10.19 min Scan# 270  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

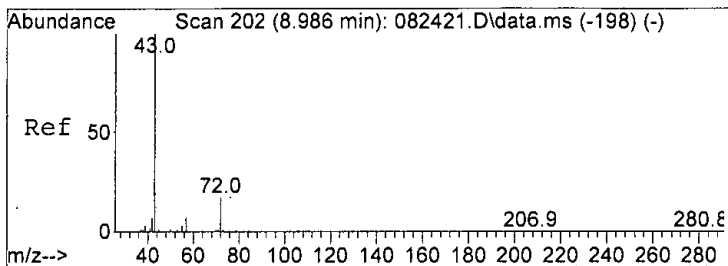
Tgt Ion: 83 Resp: 1540  
 Ion Ratio Lower Upper  
 83 100  
 85 65.2 36.3 96.3



#31  
 Ethyl acetate  
 Concen: 0.134 ppbv  
 RT: 10.03 min Scan# 252  
 Delta R.T. 0.018 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

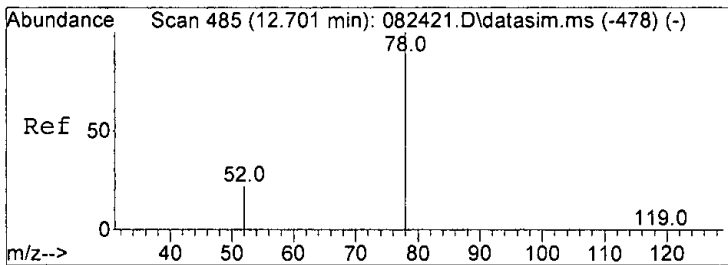
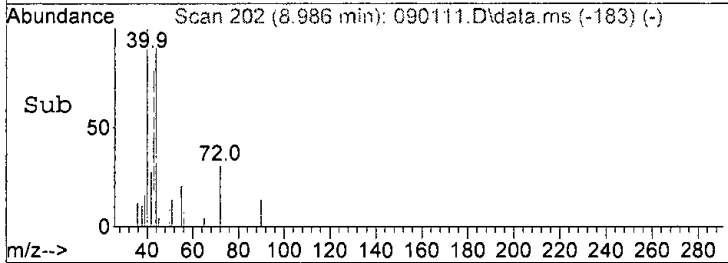
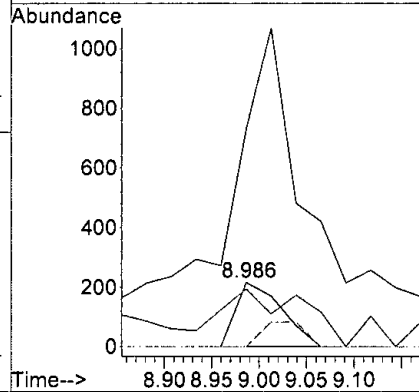
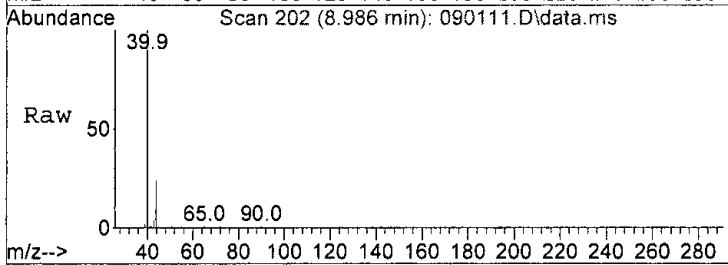
Tgt Ion: 43 Resp: 7964  
 Ion Ratio Lower Upper  
 43 100  
 88 0.0 1.4 2.0#





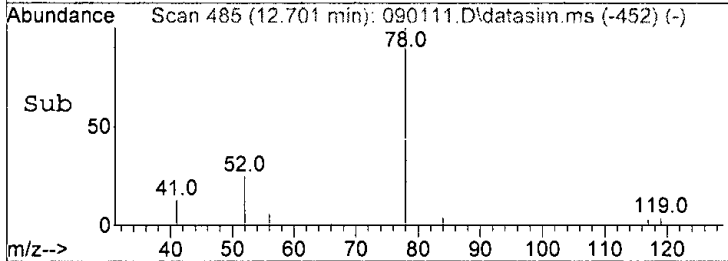
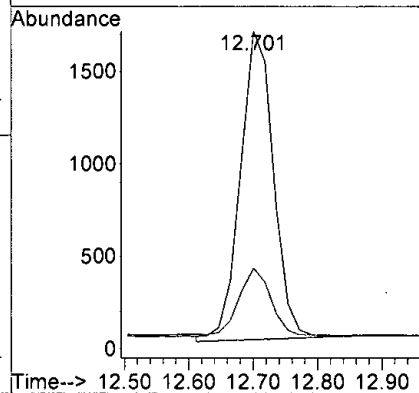
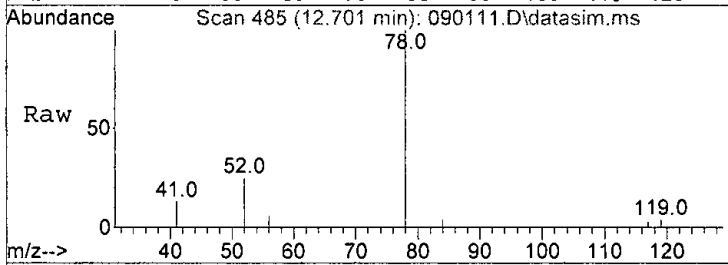
#33  
 2-Butanone (MEK)  
 Concen: 0.106 ppbv  
 RT: 8.99 min Scan# 202  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

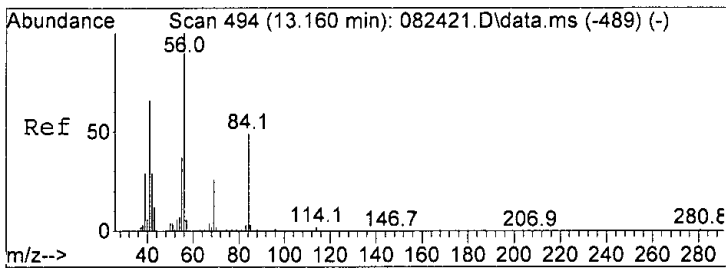
Tgt Ion	Ratio	Lower	Upper
72	100		
42	89.8	0.0	59.9#
57	0.0	14.2	74.2#
43	238.9	501.6	541.6#



#37  
 Benzene  
 Concen: 0.102 ppbv  
 RT: 12.70 min Scan# 485  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

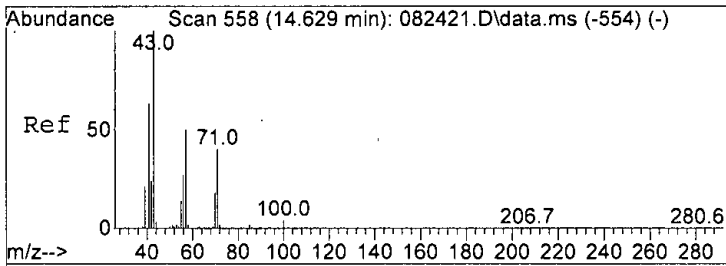
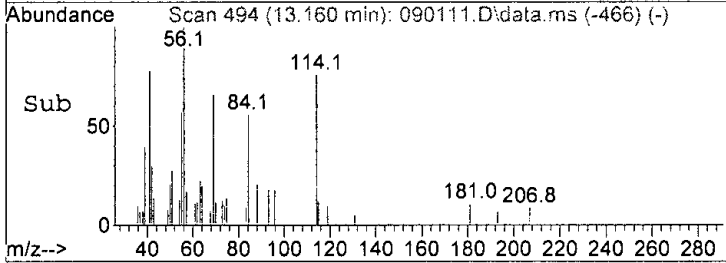
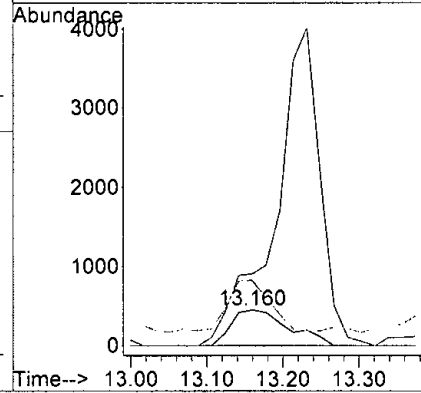
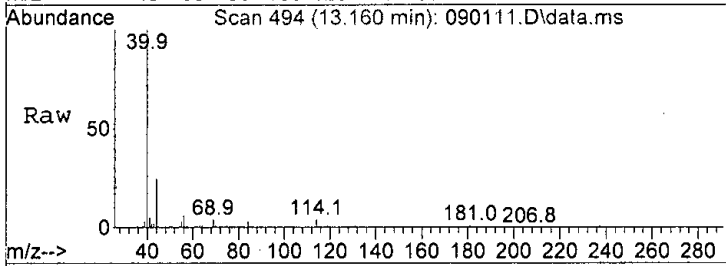
Tgt Ion	Ratio	Lower	Upper
78	100		
52	22.1	0.0	49.7





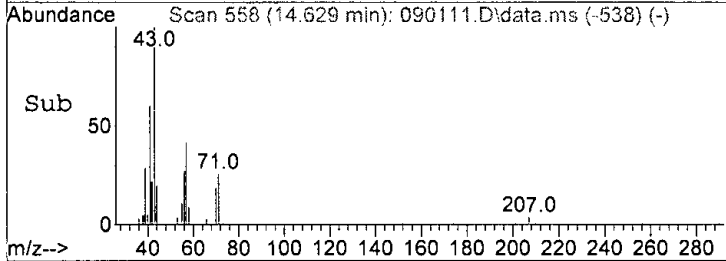
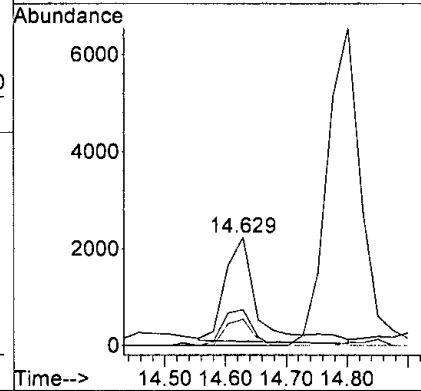
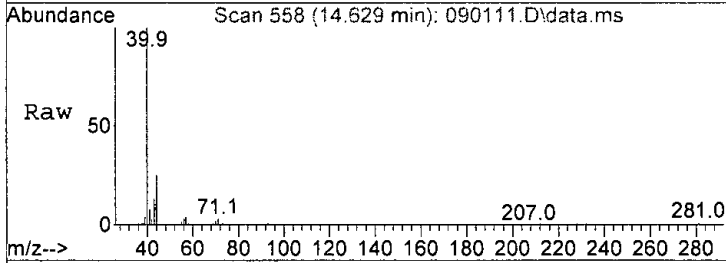
#38  
 Cyclohexane  
 Concen: 0.149 ppbv  
 RT: 13.16 min Scan# 494  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

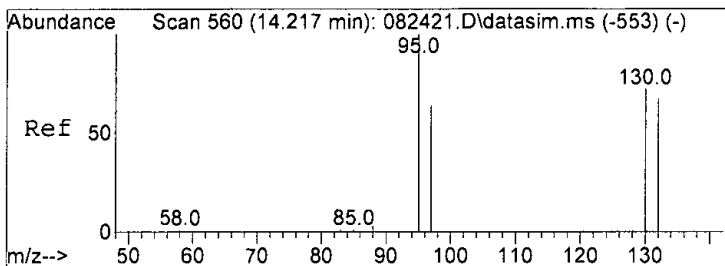
Tgt Ion	Resp	Lower	Upper
84	100		
56	201.1	144.4	204.4
41	140.4	77.2	137.2#



#44  
 Heptane  
 Concen: 0.180 ppbv  
 RT: 14.63 min Scan# 558  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

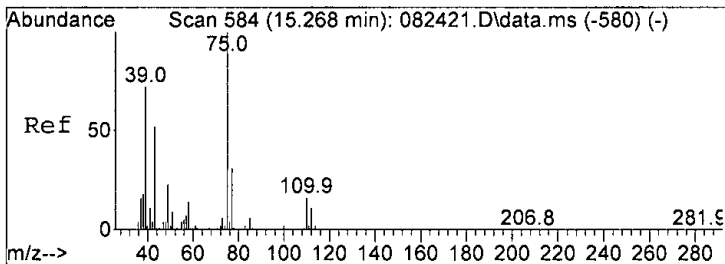
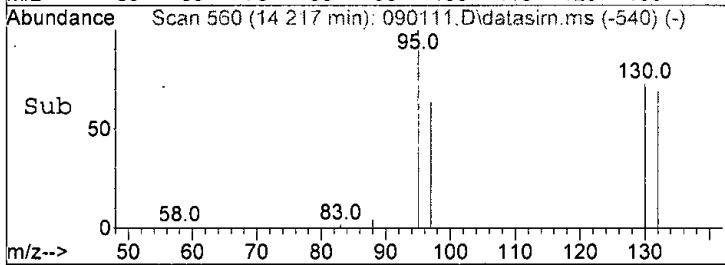
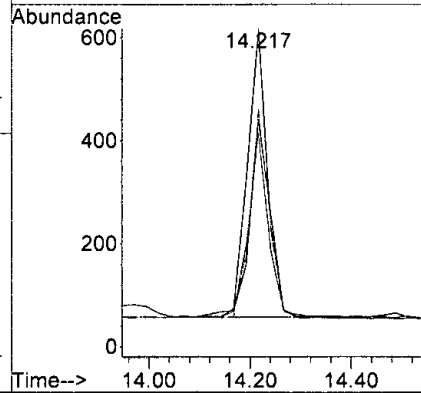
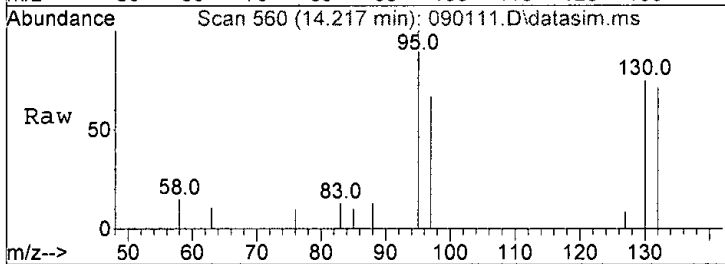
Tgt Ion	Resp	Lower	Upper
43	100		
57	32.1	16.9	76.9
71	20.8	12.9	72.9
100	0.0	0.0	24.8





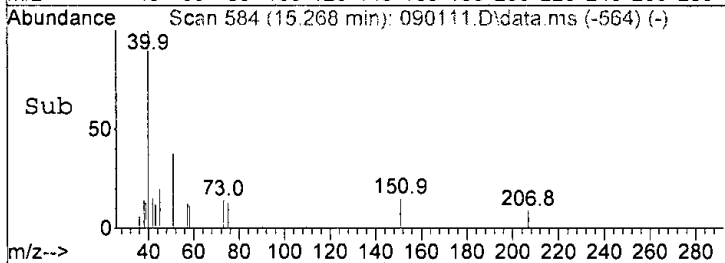
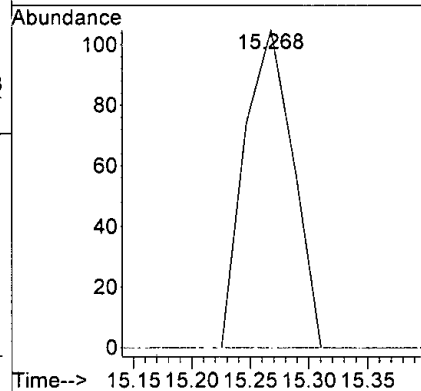
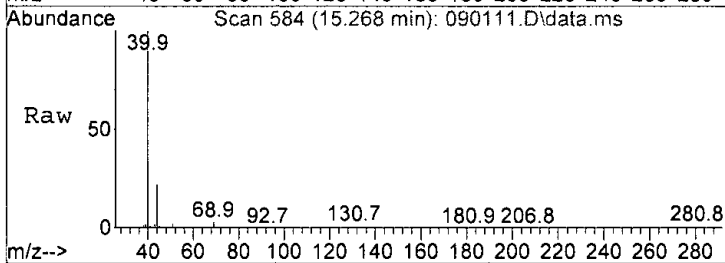
#46  
 Trichloroethene  
 Concen: 0.054 ppbv  
 RT: 14.22 min Scan# 560  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

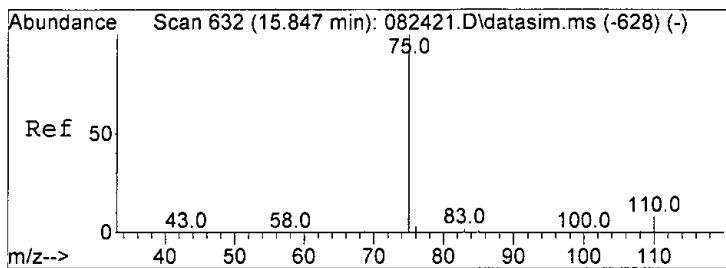
Tgt Ion	Resp	Lower	Upper
95	1519		
97	63.7	37.1	97.1
130	73.0	56.1	116.1
132	68.9	54.3	114.3



#47  
 cis-1,3-Dichloropropene  
 Concen: 0.010 ppbv  
 RT: 15.27 min Scan# 584  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

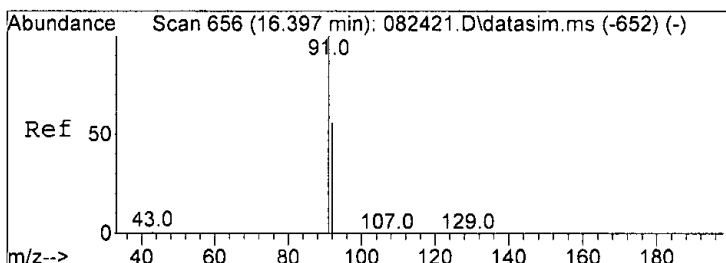
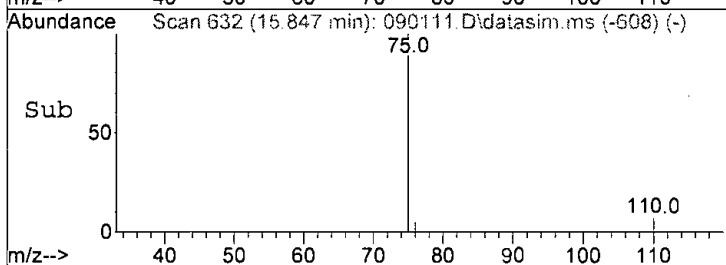
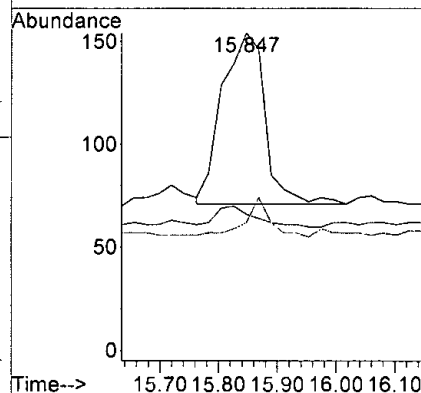
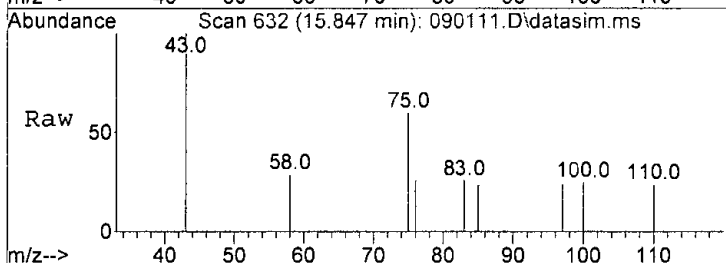
Tgt Ion	Resp	Lower	Upper
75	301		
76	0.0	0.0	33.7
110	0.0	0.0	48.9





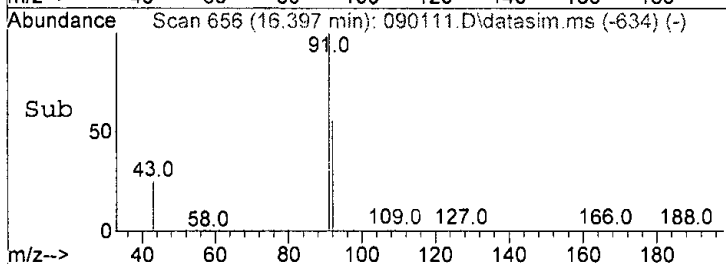
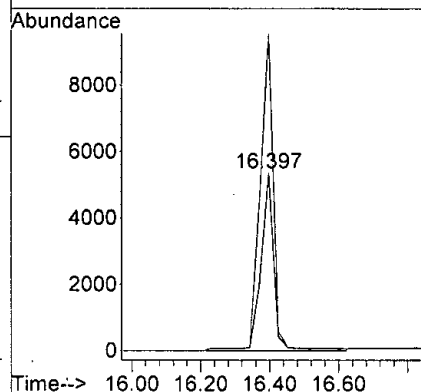
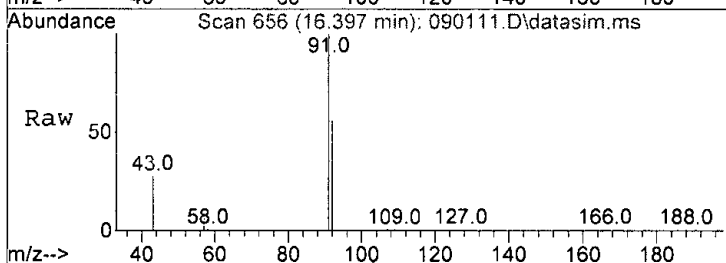
#49  
 trans-1,3-Dichloropropene  
 Concen: 0.017 ppbv  
 RT: 15.85 min Scan# 632  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

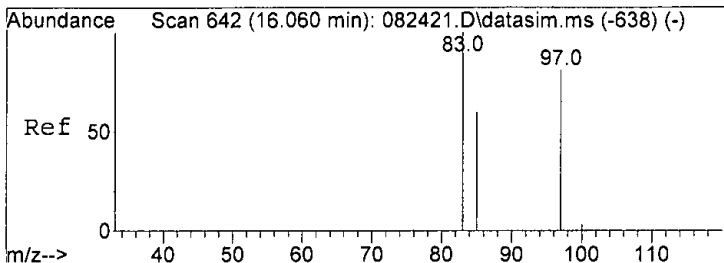
Tgt Ion: 75 Resp: 421  
 Ion Ratio Lower Upper  
 75 100  
 76 6.0 0.0 33.5  
 110 7.2 0.0 51.1



#50  
 Toluene  
 Concen: 0.406 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

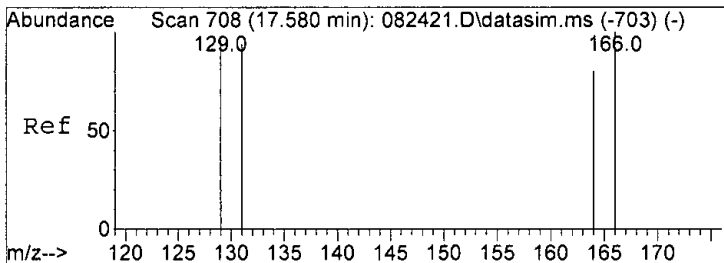
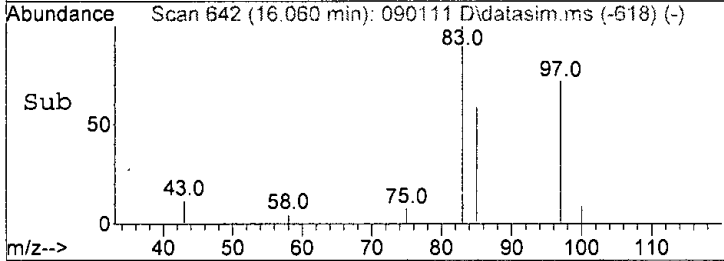
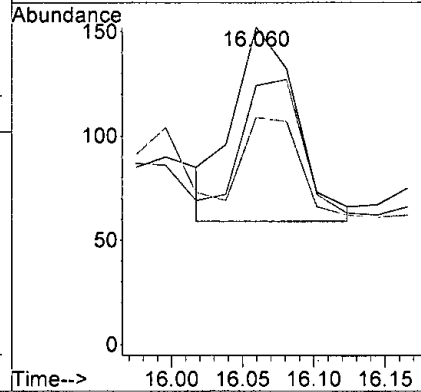
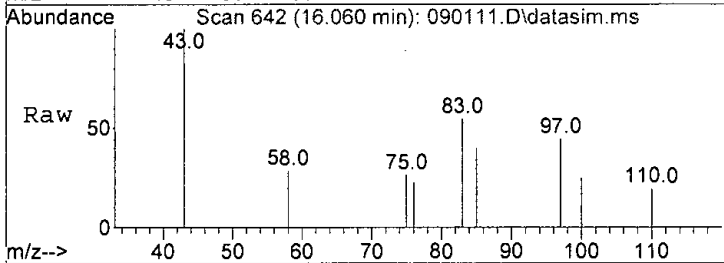
Tgt Ion: 92 Resp: 13945  
 Ion Ratio Lower Upper  
 92 100  
 91 179.1 174.6 234.6





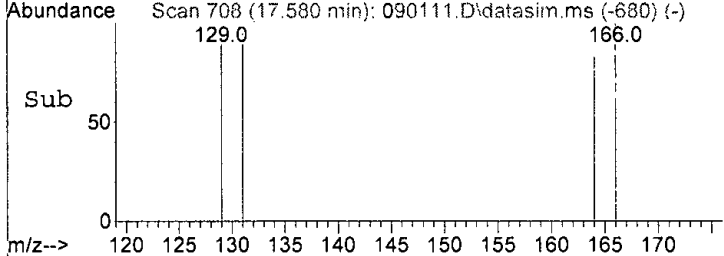
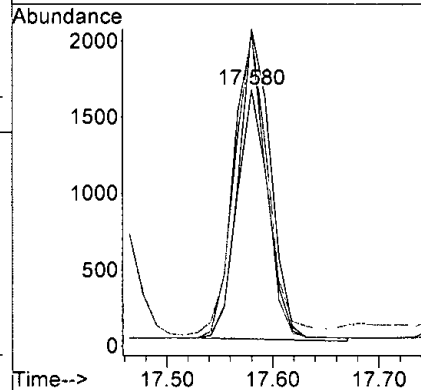
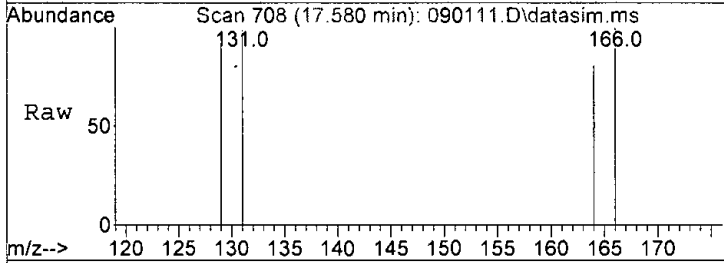
#51  
 1,1,2-Trichloroethane  
 Concen: 0.011 ppbv m  
 RT: 16.06 min Scan# 642  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

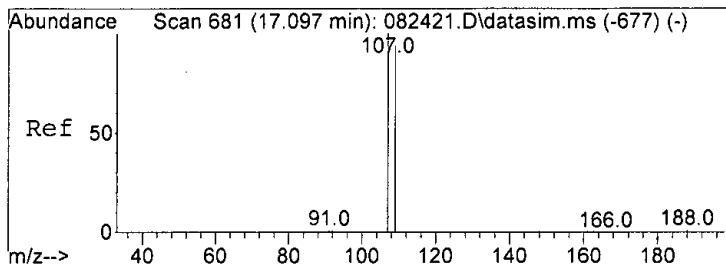
Tgt Ion:	83	Resp:	286
Ion Ratio	Lower	Upper	
83	100		
97	81.6	51.8	111.8
85	71.7	30.5	90.5



#53  
 Tetrachloroethene  
 Concen: 0.196 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

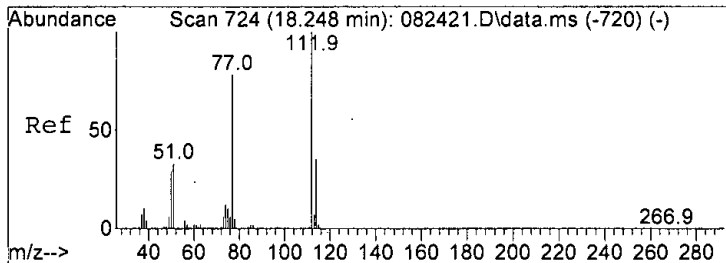
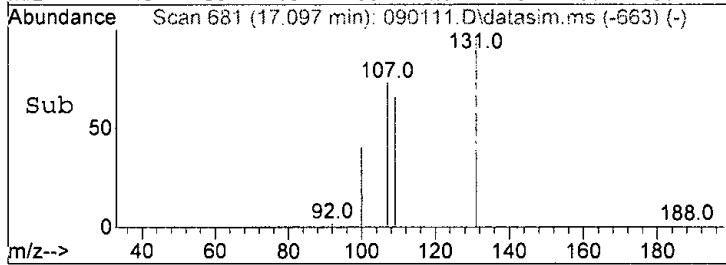
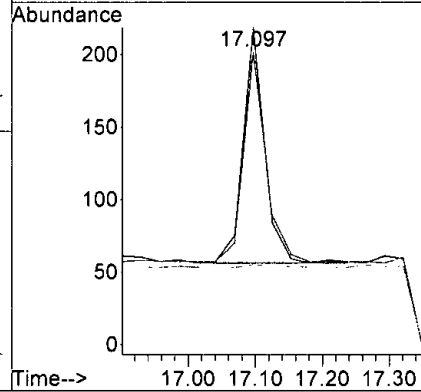
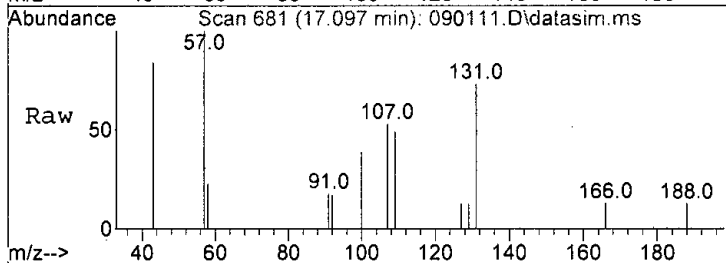
Tgt Ion:	164	Resp:	3414
Ion Ratio	Lower	Upper	
164	100		
129	122.1	63.2	123.2
131	121.7	70.7	130.7
166	124.6	107.5	167.5





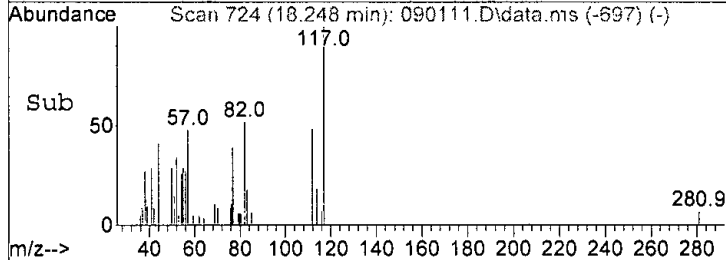
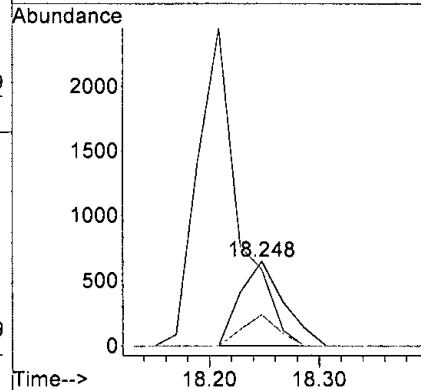
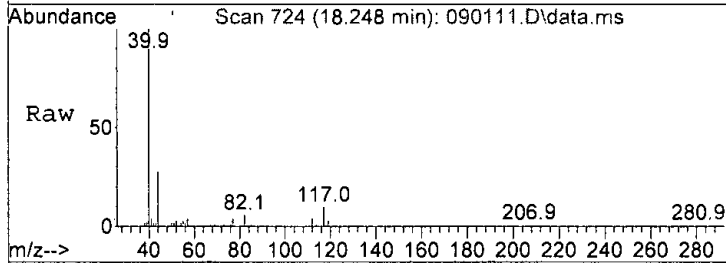
#55  
 1,2-Dibromoethane (EDB)  
 Concen: 0.010 ppbv  
 RT: 17.10 min Scan# 681  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

Tgt Ion	Resp	Lower	Upper
107	100		
109	89.6	74.6	134.6
188	1.2	0.0	32.7

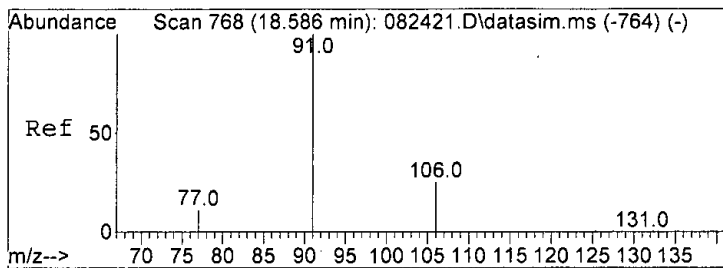


#57  
 Chlorobenzene  
 Concen: 0.041 ppbv  
 RT: 18.25 min Scan# 724  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

Tgt Ion	Resp	Lower	Upper
112	100		
77	90.8	33.9	93.9
114	36.9	2.4	62.4

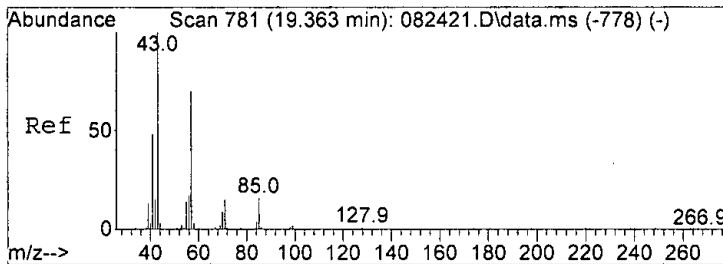
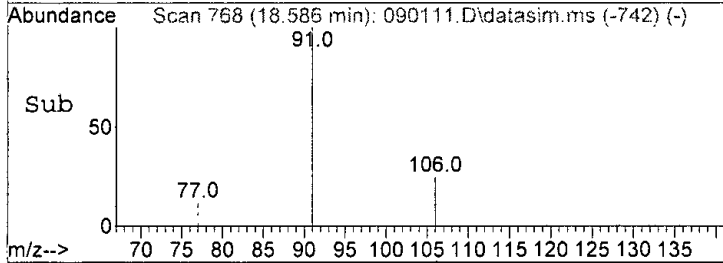
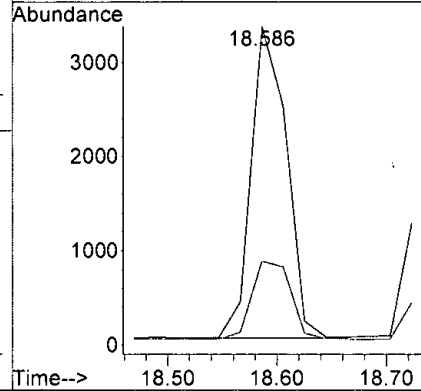
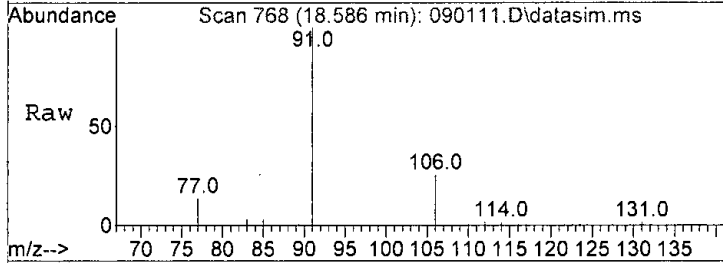






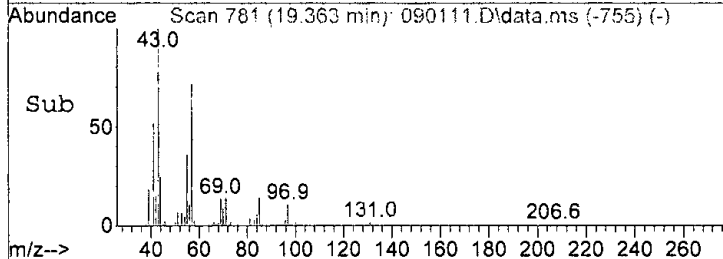
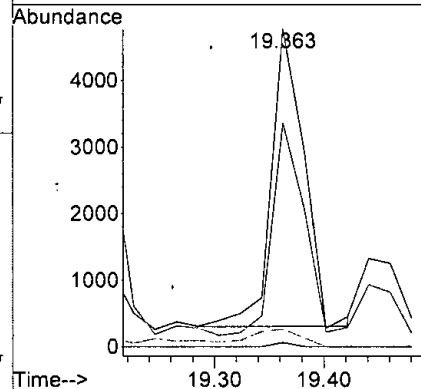
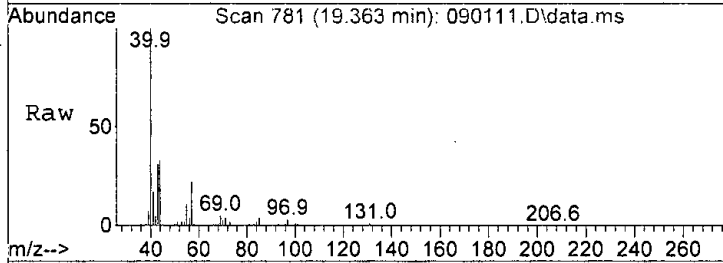
#58  
Ethylbenzene  
Concen: 0.083 ppbv  
RT: 18.59 min Scan# 768  
Delta R.T. 0.000 min  
Lab File: 090111.D  
Acq: 1 Sep 2021 4:37 pm

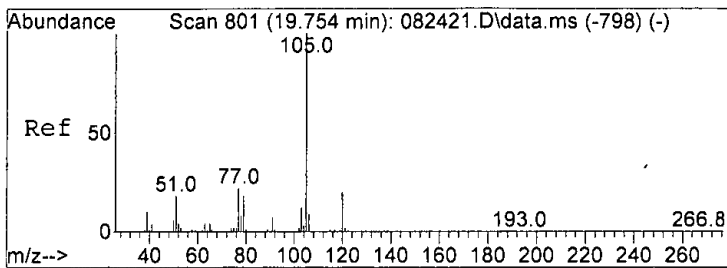
Tgt Ion: 91 Resp: 7455  
Ion Ratio Lower Upper  
91 100  
106 25.1 0.0 57.0



#60  
Nonane  
Concen: 0.136 ppbv  
RT: 19.36 min Scan# 781  
Delta R.T. -0.000 min  
Lab File: 090111.D  
Acq: 1 Sep 2021 4:37 pm

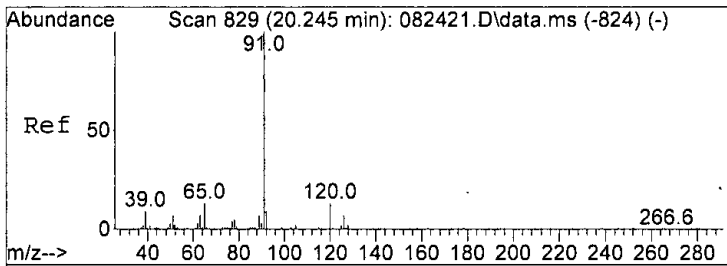
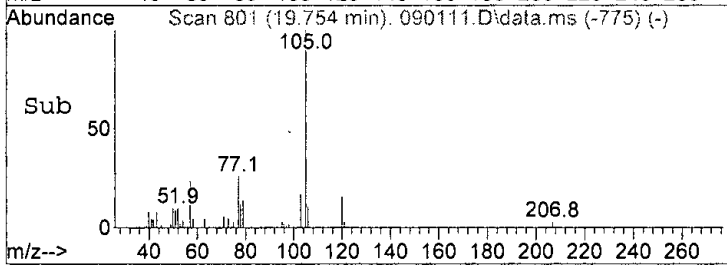
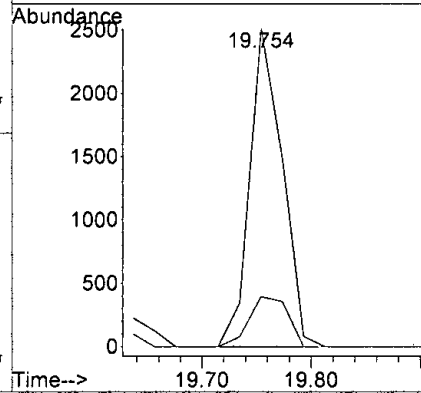
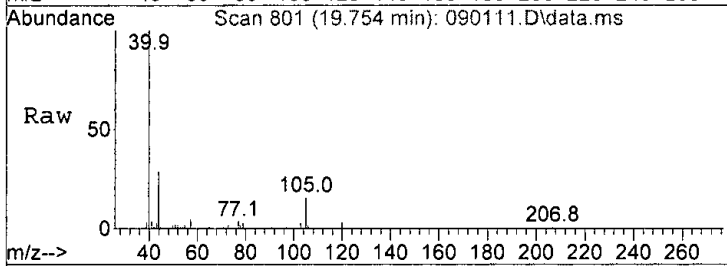
Tgt Ion: 43 Resp: 9305  
Ion Ratio Lower Upper  
43 100  
57 70.4 48.8 108.8  
84 9.1 0.0 34.7  
99 0.0 0.0 32.7





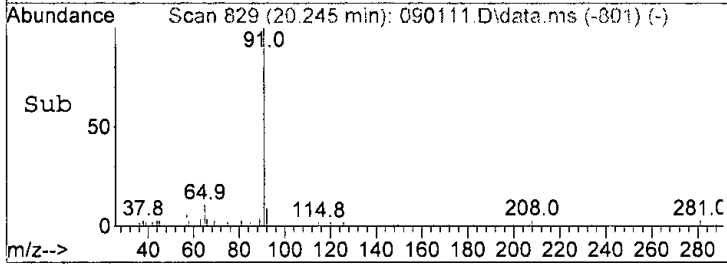
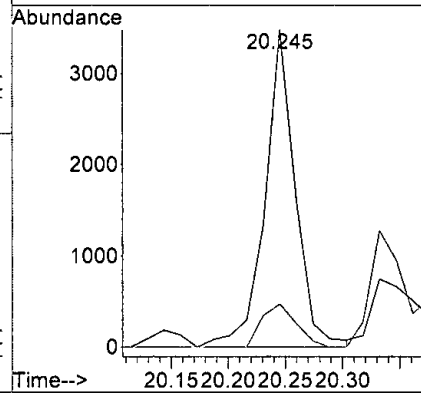
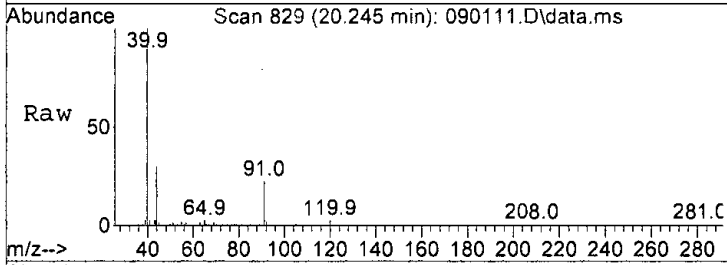
#61  
 Isopropylbenzene  
 Concen: 0.066 ppbv  
 RT: 19.75 min Scan# 801  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

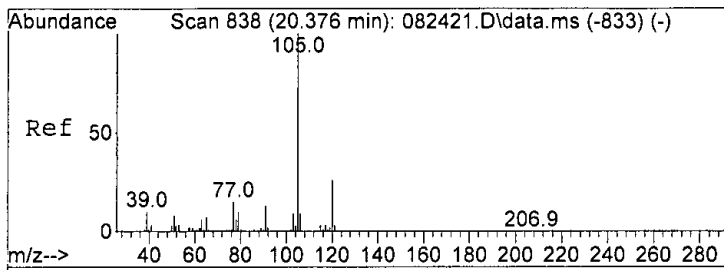
Tgt Ion: 105 Resp: 5195  
 Ion Ratio Lower Upper  
 105 100  
 120 18.7 18.0 27.0



#63  
 Propylbenzene  
 Concen: 0.036 ppbv  
 RT: 20.25 min Scan# 829  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

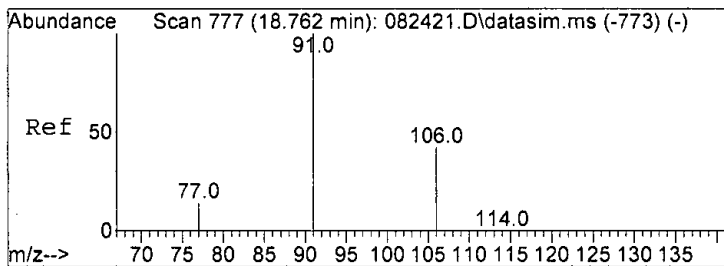
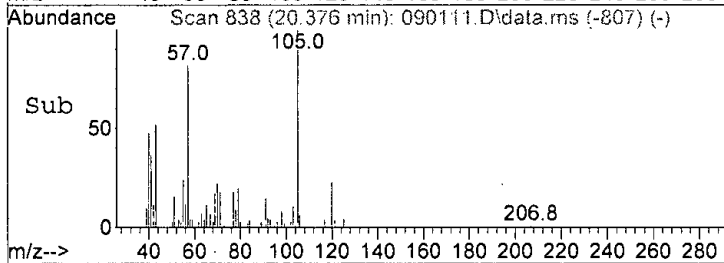
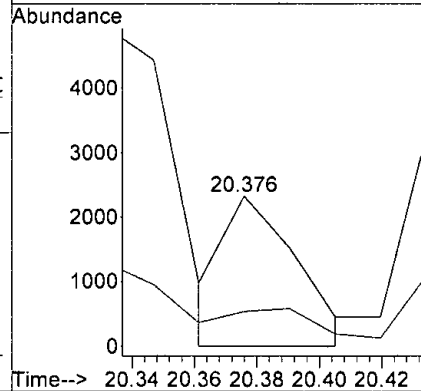
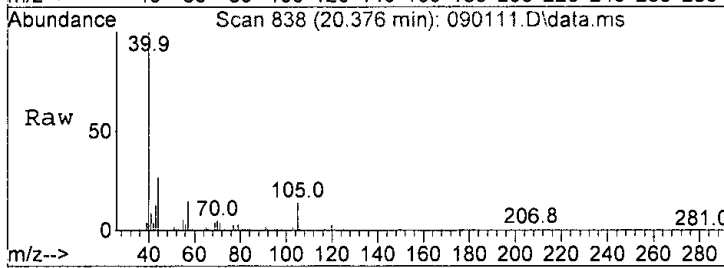
Tgt Ion: 91 Resp: 6376  
 Ion Ratio Lower Upper  
 91 100  
 120 15.6 0.0 42.5





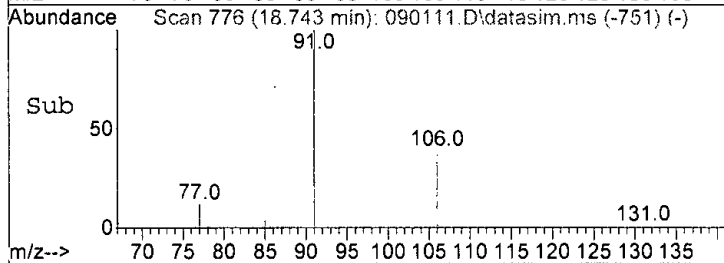
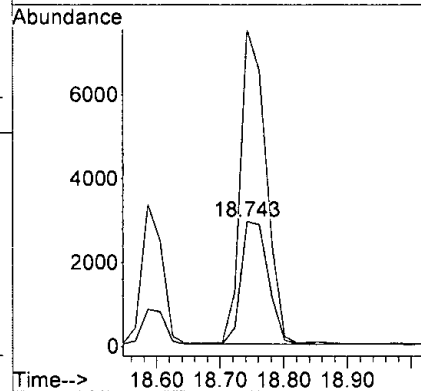
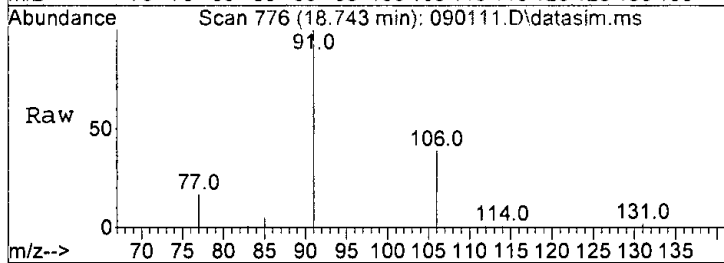
#64  
 4-Ethyltoluene  
 Concen: 0.045 ppbv m  
 RT: 20.38 min Scan# 838  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

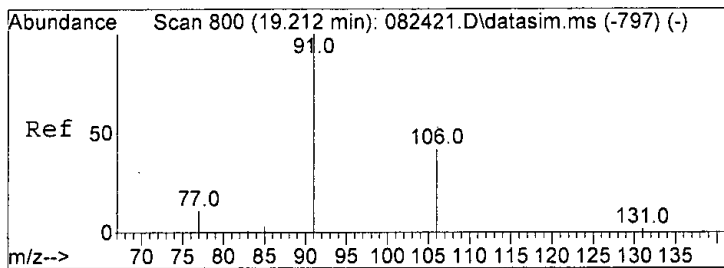
Tgt Ion:105 Resp: 3738  
 Ion Ratio Lower Upper  
 105 100  
 120 100.6 23.0 34.4#



#65  
 m,p-Xylene  
 Concen: 0.300 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.019 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

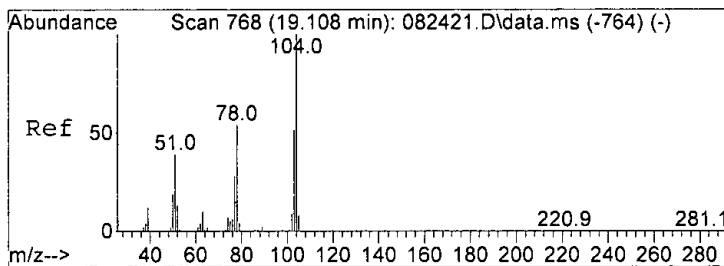
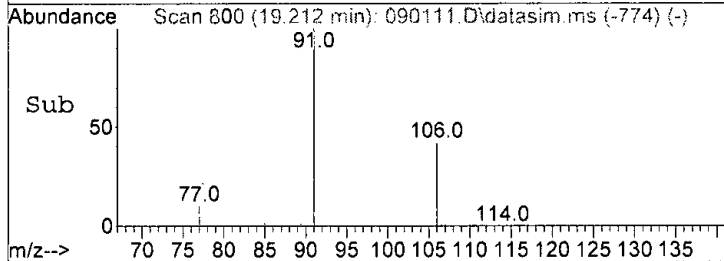
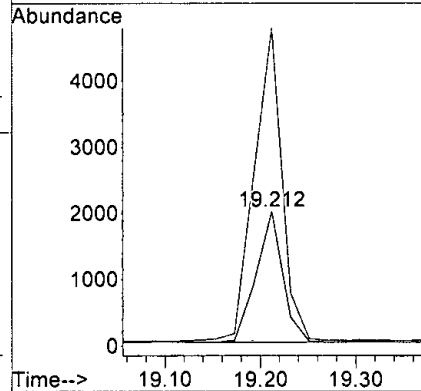
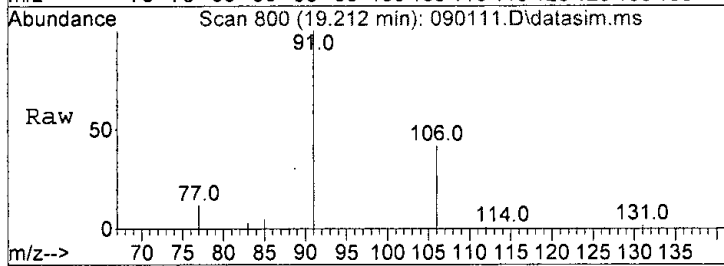
Tgt Ion:106 Resp: 8684  
 Ion Ratio Lower Upper  
 106 100  
 91 256.7 193.0 253.0#





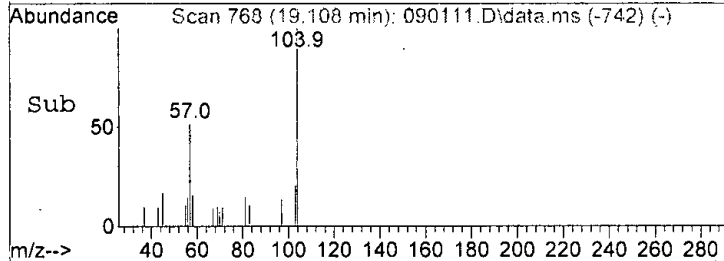
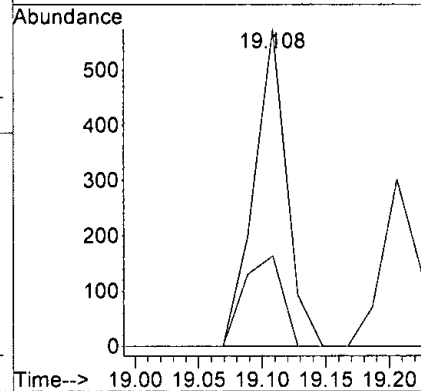
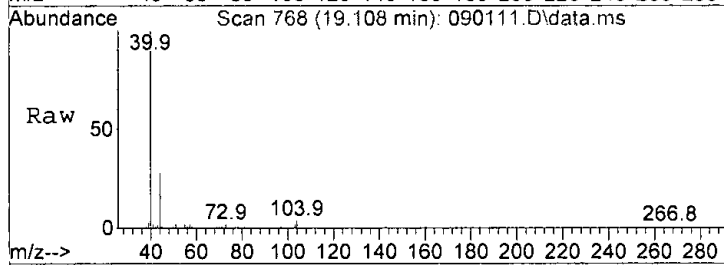
#66  
 o-Xylene  
 Concen: 0.133 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

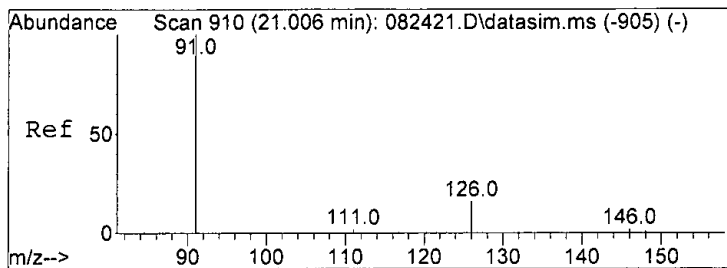
Tgt Ion:106 Resp: 3786  
 Ion Ratio Lower Upper  
 106 100  
 91 238.7 194.4 254.4



#67  
 Styrene  
 Concen: 0.024 ppbv  
 RT: 19.11 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

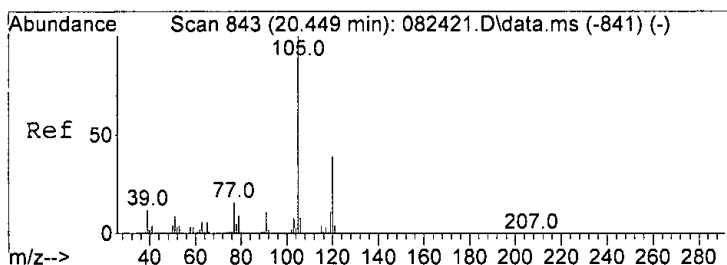
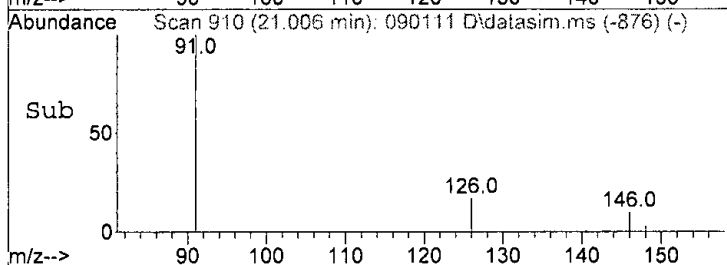
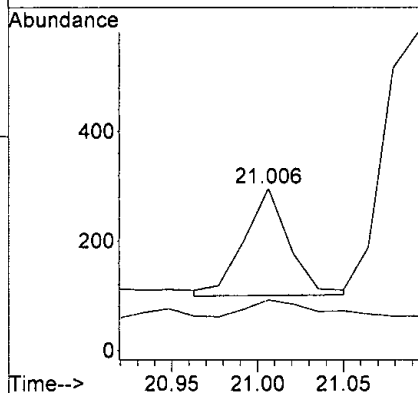
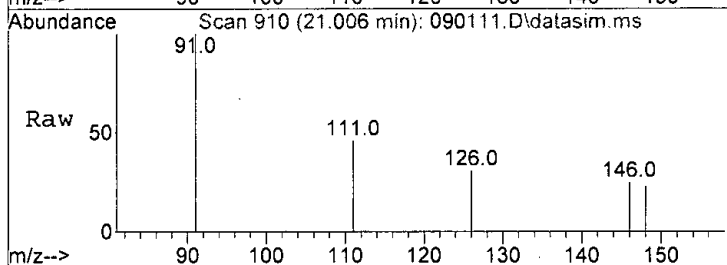
Tgt Ion:104 Resp: 1015  
 Ion Ratio Lower Upper  
 104 100  
 78 28.4 19.6 79.6





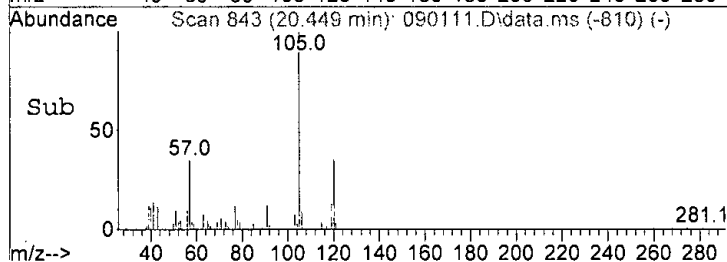
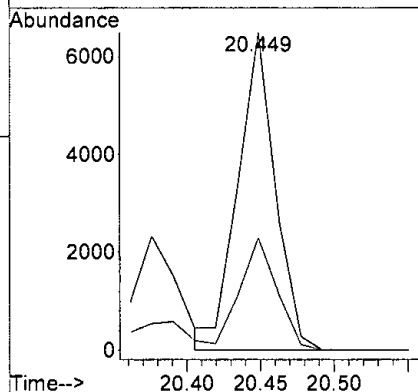
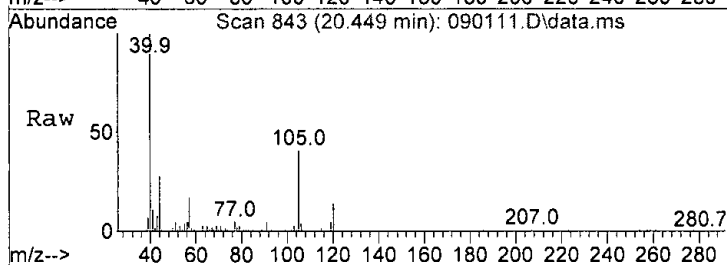
#70  
 Benzyl chloride  
 Concen: 0.012 ppbv  
 RT: 21.01 min Scan# 910  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

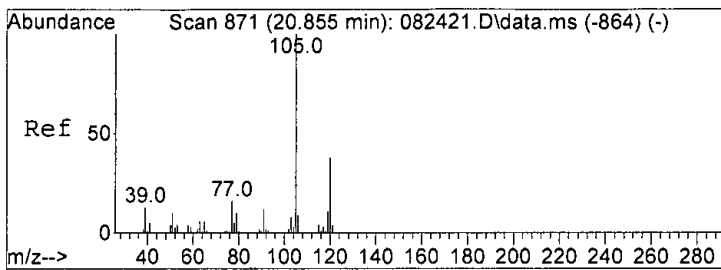
Tgt Ion: 91 Resp: 358  
 Ion Ratio Lower Upper  
 91 100  
 126 15.5 0.0 50.0



#71  
 1,3,5-Trimethylbenzene  
 Concen: 0.172 ppbv  
 RT: 20.45 min Scan# 843  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

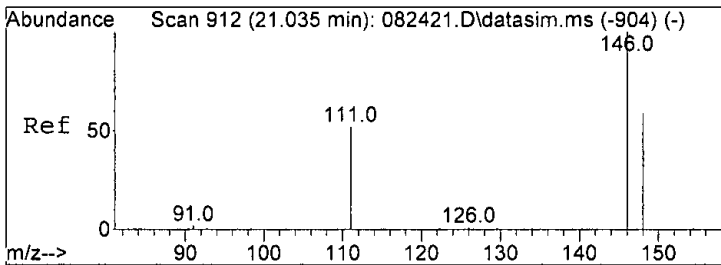
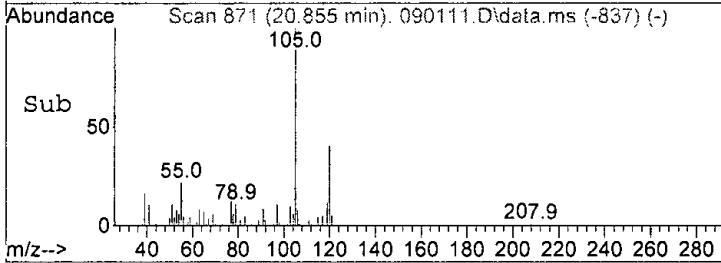
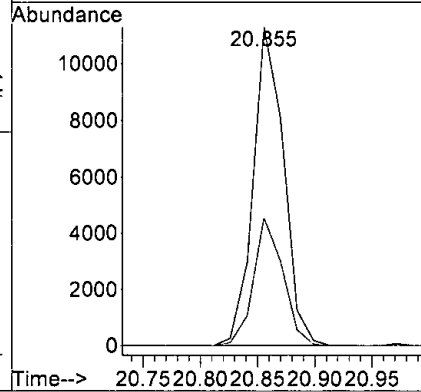
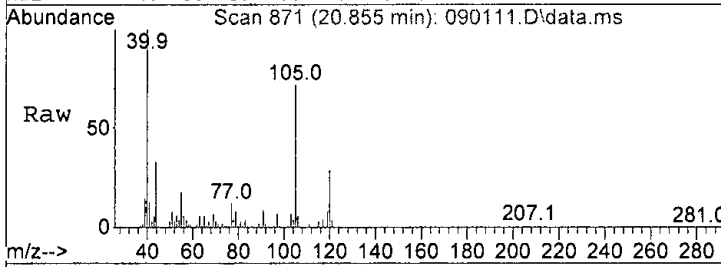
Tgt Ion: 105 Resp: 11359  
 Ion Ratio Lower Upper  
 105 100  
 120 35.2 13.4 73.4





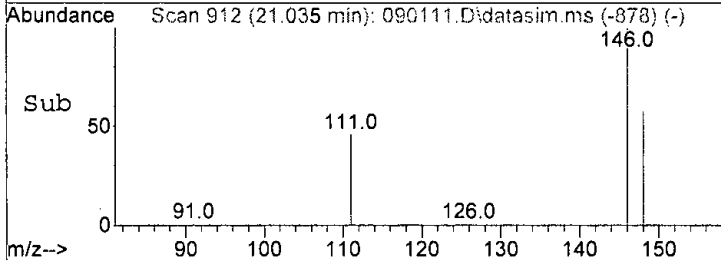
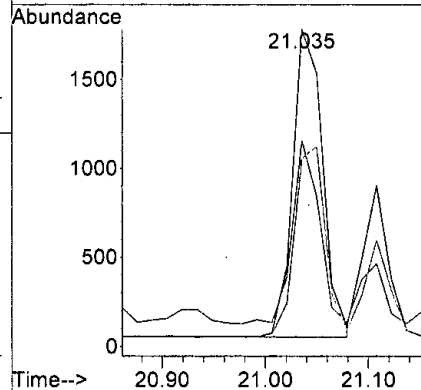
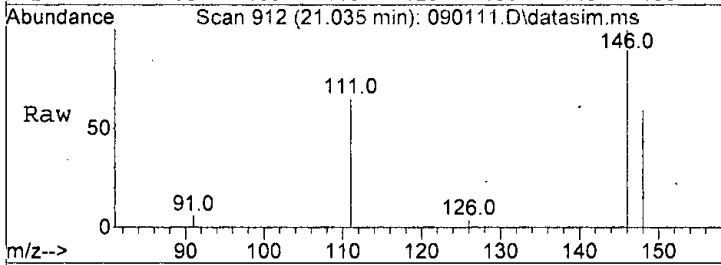
#72  
 1,2,4-Trimethylbenzene  
 Concen: 0.307 ppbv  
 RT: 20.86 min Scan# 871  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

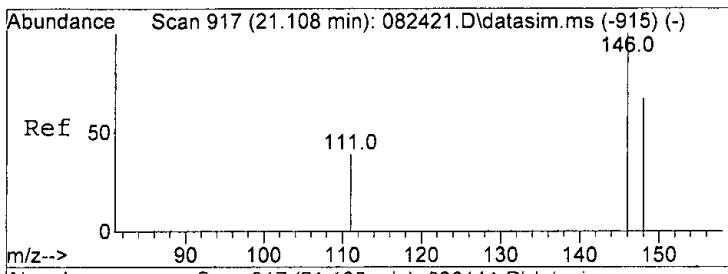
Tgt Ion	Resp	Lower	Upper
105	100		
120	40.4	11.0	71.0



#73  
 1,3-Dichlorobenzene  
 Concen: 0.074 ppbv  
 RT: 21.04 min Scan# 912  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

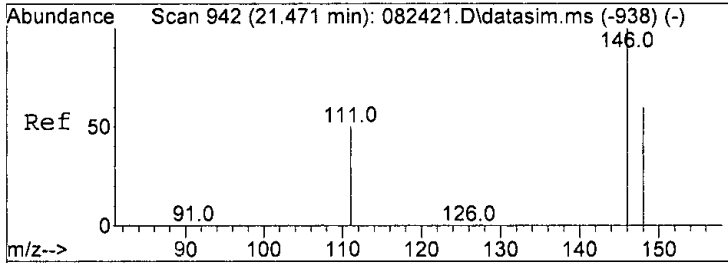
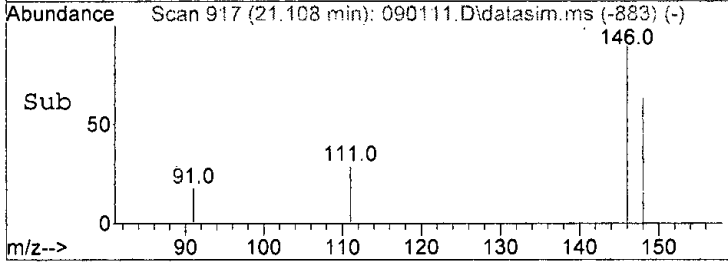
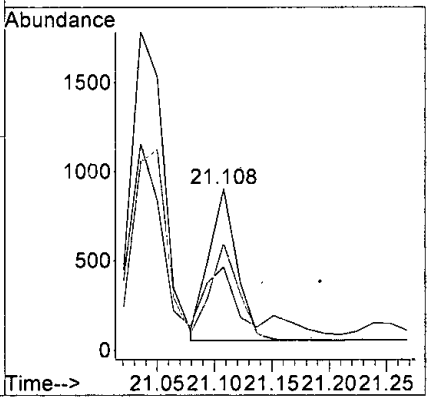
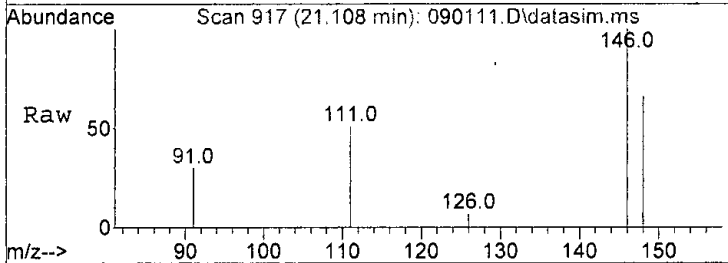
Tgt Ion	Resp	Lower	Upper
146	100		
111	59.2	13.6	73.6
148	57.8	32.6	92.6





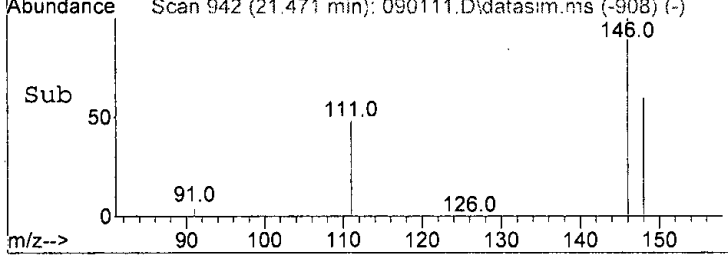
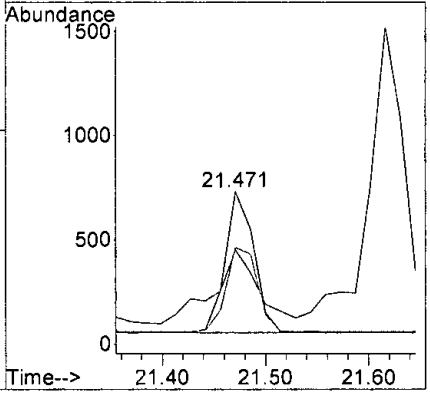
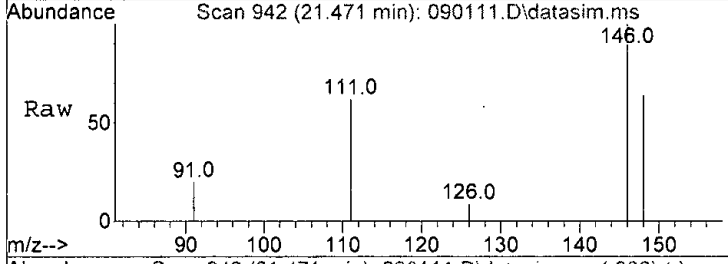
#74  
 1,4-Dichlorobenzene  
 Concen: 0.023 ppbv  
 RT: 21.11 min Scan# 917  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

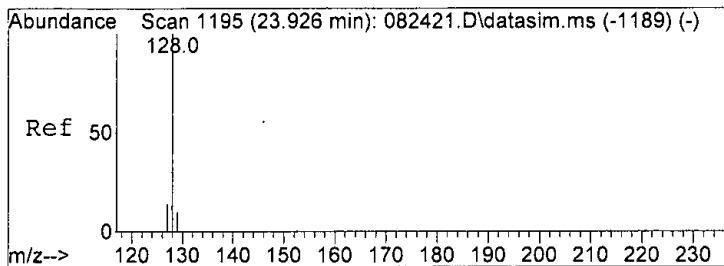
Tgt Ion	Ratio	Lower	Upper
146	100		
111	44.5	5.5	65.5
148	63.2	38.8	98.8



#75  
 1,2-Dichlorobenzene  
 Concen: 0.029 ppbv  
 RT: 21.47 min Scan# 942  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

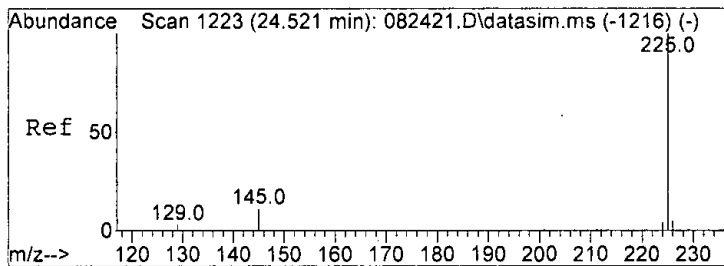
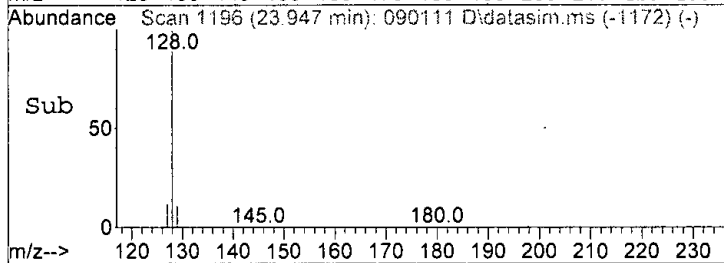
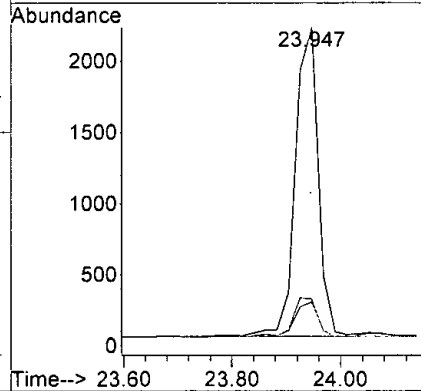
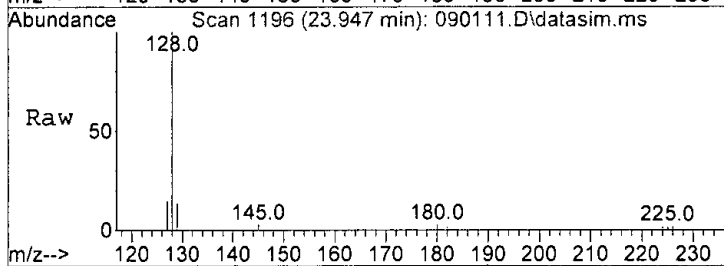
Tgt Ion	Ratio	Lower	Upper
146	100		
111	34.9	12.9	72.9
148	59.9	33.2	93.2





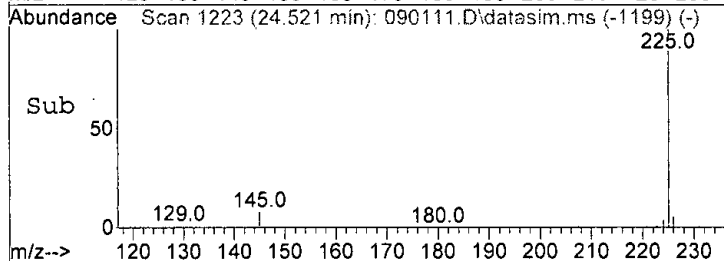
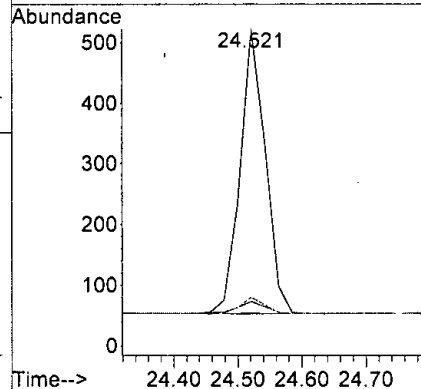
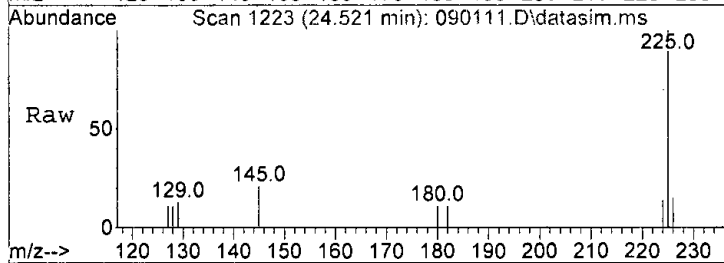
#77  
 Naphthalene  
 Concen: 0.053 ppbv  
 RT: 23.95 min Scan# 1196  
 Delta R.T. 0.021 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

Tgt Ion	Resp	Lower	Upper
128	100		
129	11.3	0.0	41.0
127	12.4	0.0	43.2



#78  
 Hexachlorobutadiene  
 Concen: 0.016 ppbv  
 RT: 24.52 min Scan# 1223  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

Tgt Ion	Resp	Lower	Upper
225	100		
224	4.0	0.0	33.7
226	5.7	0.0	35.2





Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:28:01 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	95676	10.000	ppbv	#-0.02
39) 1,4-Difluorobenzene	13.23	114	457951	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	406061	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	356920	9.702	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.45	41	6311	0.386	ppbv	83
3) Dichlorodifluoromethane	3.52	85	5024	0.119	ppbv	90
4] Chloromethane	3.73	50	973	0.049	ppbv	99
5) F-114	3.88	85	1488	0.035	ppbv	74
6] Vinyl chloride	4.05	62	355	0.017	ppbv	98
7] 1,3-Butadiene	4.25	54	820	0.056	ppbv #	44
8) Butane	4.36	43	6066	0.195	ppbv #	80
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	4.96	45	5724	1.070	ppbv	93
13] Acrolein	5.45	56	312m	0.045	ppbv	
14) Pentane	6.33	43	5557	0.149	ppbv	97
15) Trichlorofluoromethane	5.88	101	2497	0.053	ppbv	98
16) Acetone	5.62	58	9149	1.087	ppbv #	85
17) 2-Propanol	5.86	45	47541	1.397	ppbv	95
18) 1,1-Dichloroethene	6.70	96	148	N.D.		
19] trans-1,2-Dichloroethene	8.18	96	183	0.012	ppbv #	73
20) Methylene chloride	6.86	84	67929	4.056	ppbv	89
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	7.33	76	13853	0.252	ppbv	73
25) Methyl t-butyl ether (...)	8.51	73	2309	0.063	ppbv	82
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.44	63	585	0.016	ppbv	94
28] cis-1,2-Dichloroethene	9.73	96	314	0.018	ppbv	90
29) Hexane	10.10	57	9205	0.325	ppbv	86
30] Chloroform	10.19	83	1540	0.037	ppbv	99
31) Ethyl acetate	10.03	43	7964	0.134	ppbv #	95
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	8.99	72	722	0.106	ppbv #	2
34) 1,2-Dichloroethane (EDC)	11.45	62	300	N.D.		
35) 1,1,1-Trichloroethane	11.93	97	250	N.D.		
36) Carbon tetrachloride	12.95	117	256	N.D.		
37] Benzene	12.70	78	5981	0.102	ppbv	95
38) Cyclohexane	13.16	84	2373	0.149	ppbv #	76
40) 1,2-Dichloropropane	13.90	63	219	N.D.		
41) 1,4-Dioxane	14.19	88	123	N.D.		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

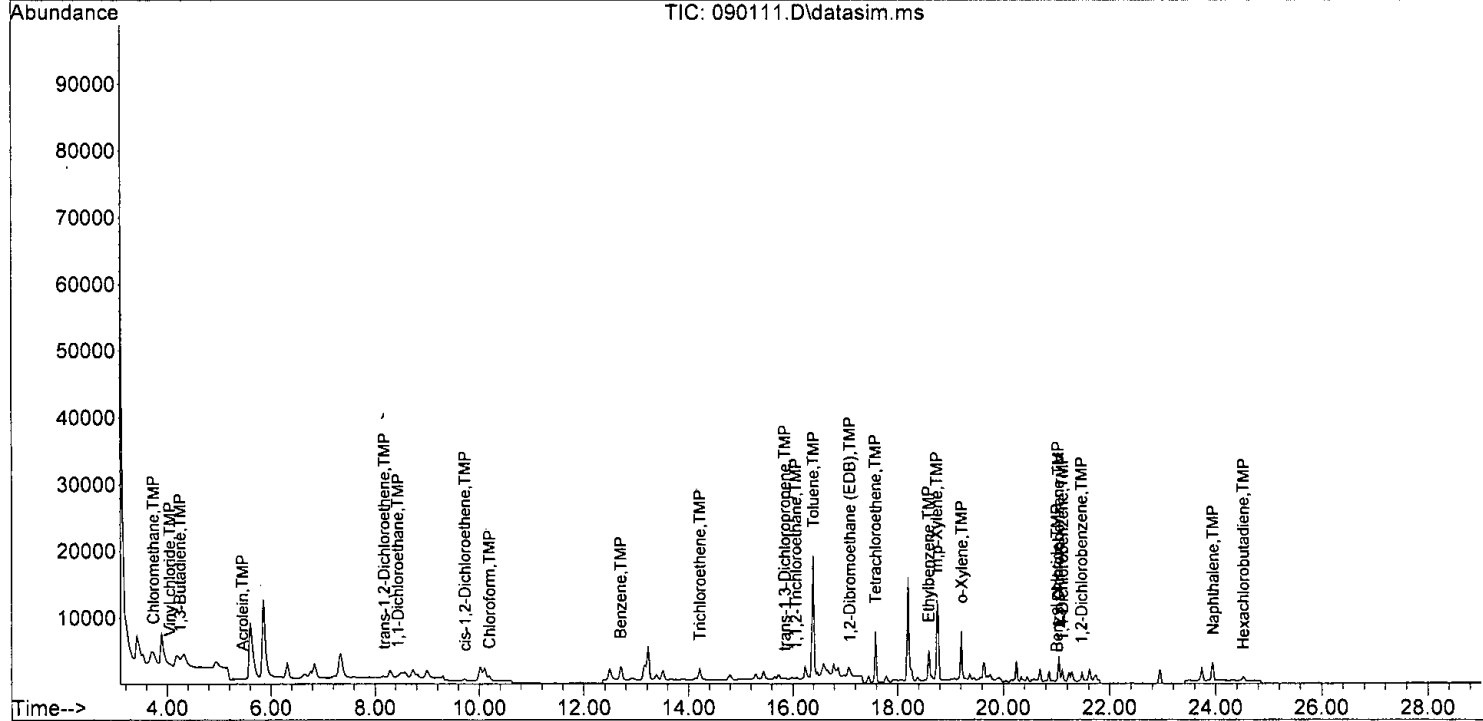
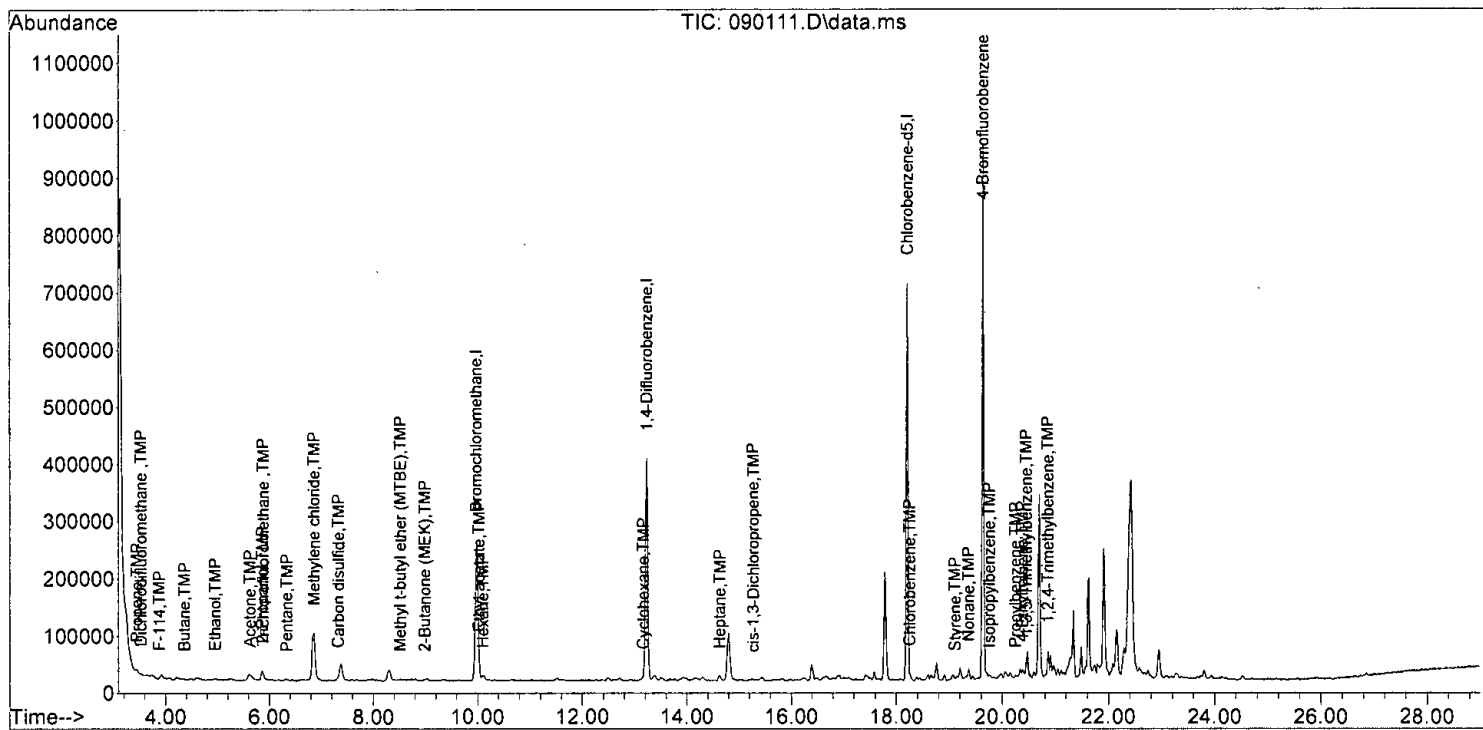
Quant Time: Sep 02 11:28:01 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	14.63	43	7908	0.180	ppbv #	73
45) Bromodichloromethane	14.14	83	424	N.D.		
46) Trichloroethene	14.22	95	1519	0.054	ppbv	88
47) cis-1,3-Dichloropropene	15.27	75	301	0.010	ppbv	63
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	15.85	75	421	0.017	ppbv	74
50] Toluene	16.40	92	13945	0.406	ppbv	83
51] 1,1,2-Trichloroethane	16.06	83	286m	0.011	ppbv	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	3414	0.196	ppbv	81
54) Dibromochloromethane	16.85	129	309	N.D.		
55] 1,2-Dibromoethane (EDB)	17.10	107	364	0.010	ppbv	86
57) Chlorobenzene	18.25	112	1805	0.041	ppbv	74
58] Ethylbenzene	18.59	91	7455	0.083	ppbv	96
59) 1,1,2,2-Tetrachloroethane	19.02	83	498	N.D.		
60) Nonane	19.36	43	9305	0.136	ppbv #	90
61) Isopropylbenzene	19.75	105	5195	0.066	ppbv	92
62) 2-Chlorotoluene	20.23	126	157	N.D.		
63] Propylbenzene	20.25	91	6376	0.036	ppbv	92
64) 4-Ethyltoluene	20.38	105	3738m	0.045	ppbv	
65] m,p-Xylene	18.74	106	8684	0.300	ppbv #	79
66] o-Xylene	19.21	106	3786	0.133	ppbv	91
67) Styrene	19.11	104	1015	0.024	ppbv	69
68) Bromoform	18.85	173	164	N.D.		
70] Benzyl chloride	21.01	91	358	0.012	ppbv	90
71) 1,3,5-Trimethylbenzene	20.45	105	11359	0.172	ppbv	87
72) 1,2,4-Trimethylbenzene	20.86	105	20948	0.307	ppbv	99
73] 1,3-Dichlorobenzene	21.04	146	3458	0.074	ppbv	86
74] 1,4-Dichlorobenzene	21.11	146	1436	0.023	ppbv	90
75] 1,2-Dichlorobenzene	21.47	146	1294	0.029	ppbv	92
76) 1,2,4-Trichlorobenzene	23.73	180	1942	N.D.		
77] Naphthalene	23.95	128	6329	0.053	ppbv	98
78] Hexachlorobutadiene	24.52	225	1284	0.016	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

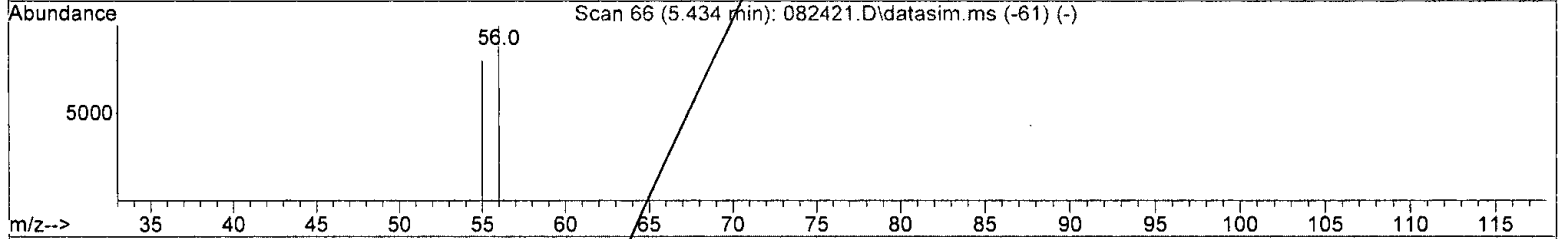
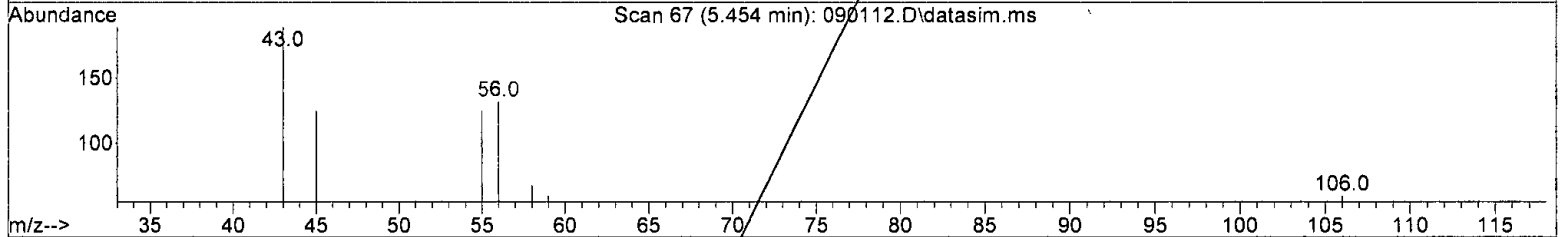
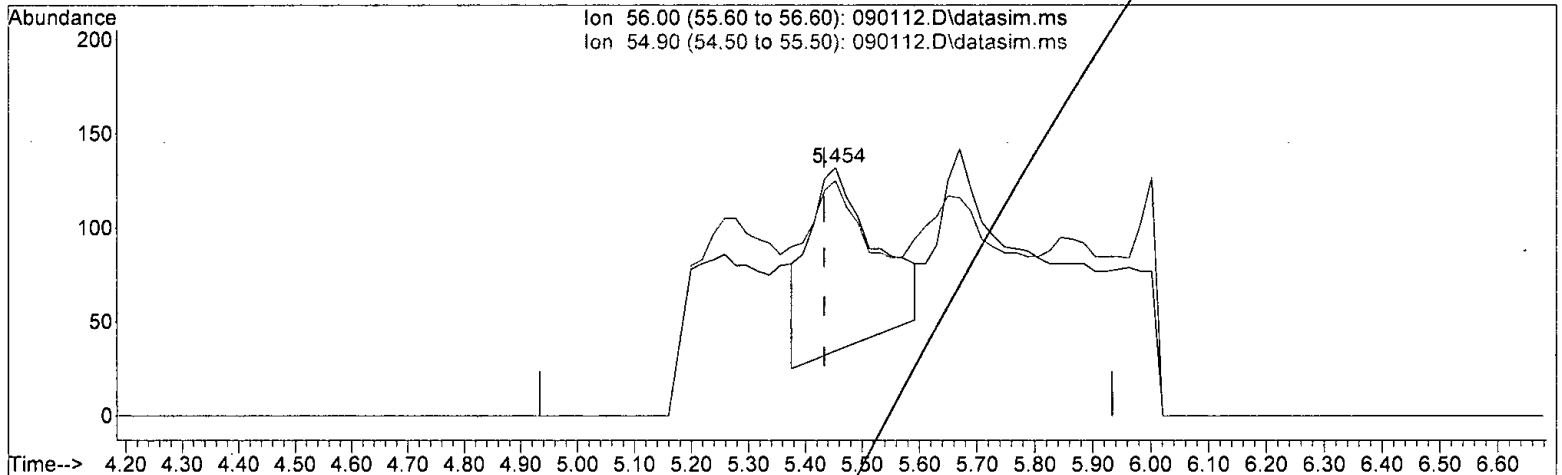
Quant Time: Sep 02 11:28:01 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:18 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.454min (+ 0.020) 0.108 ppbv

response 796

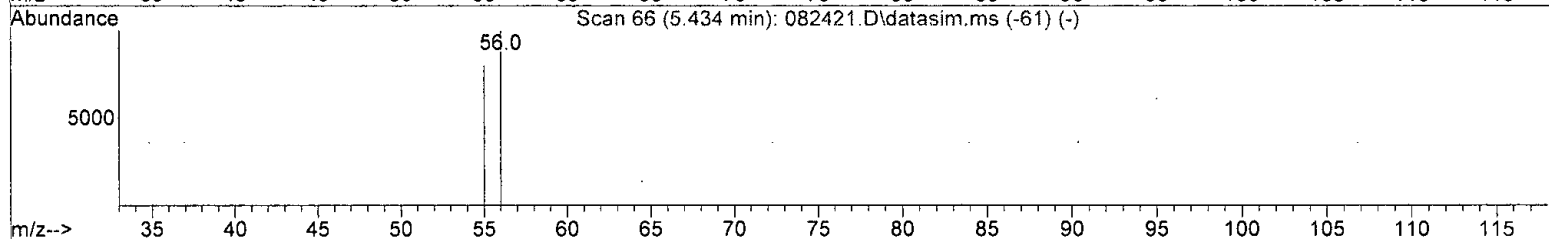
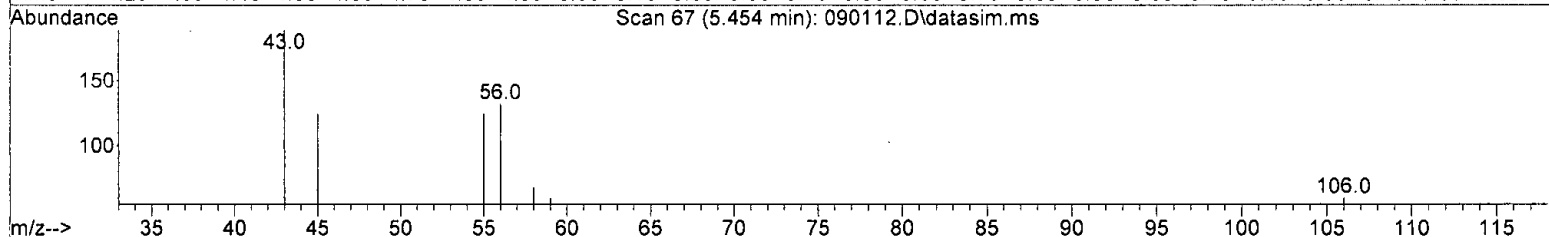
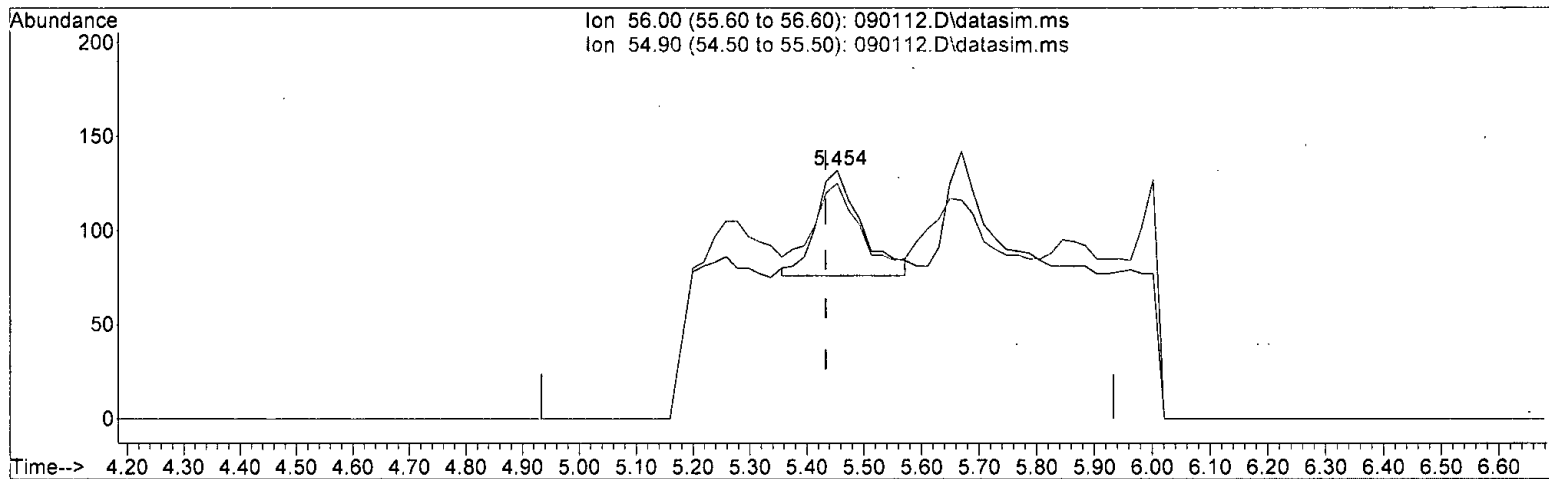
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	41.83#
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten note:* Acrolein

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:18 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.454min (+ 0.020) 0.042 ppbv m

response 305

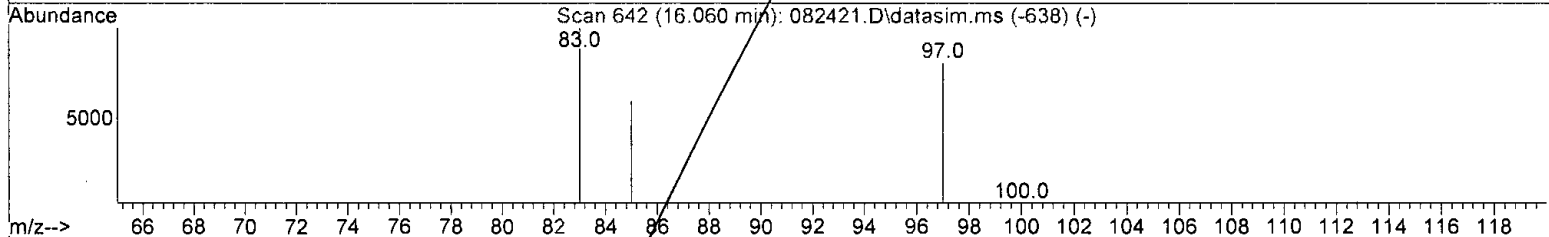
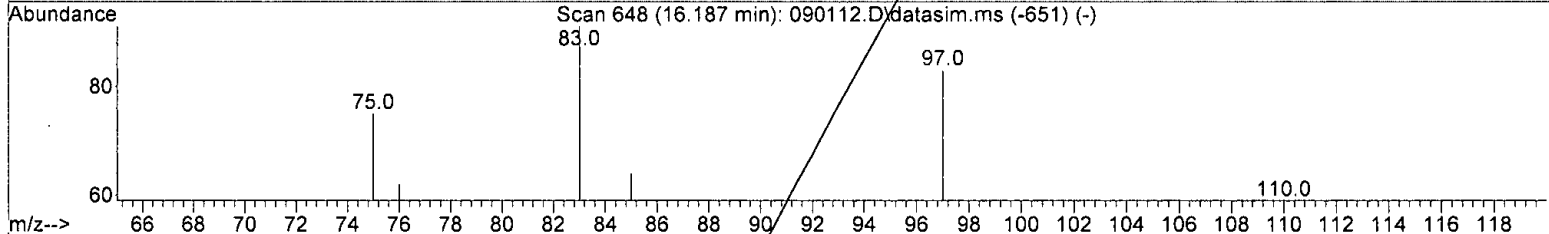
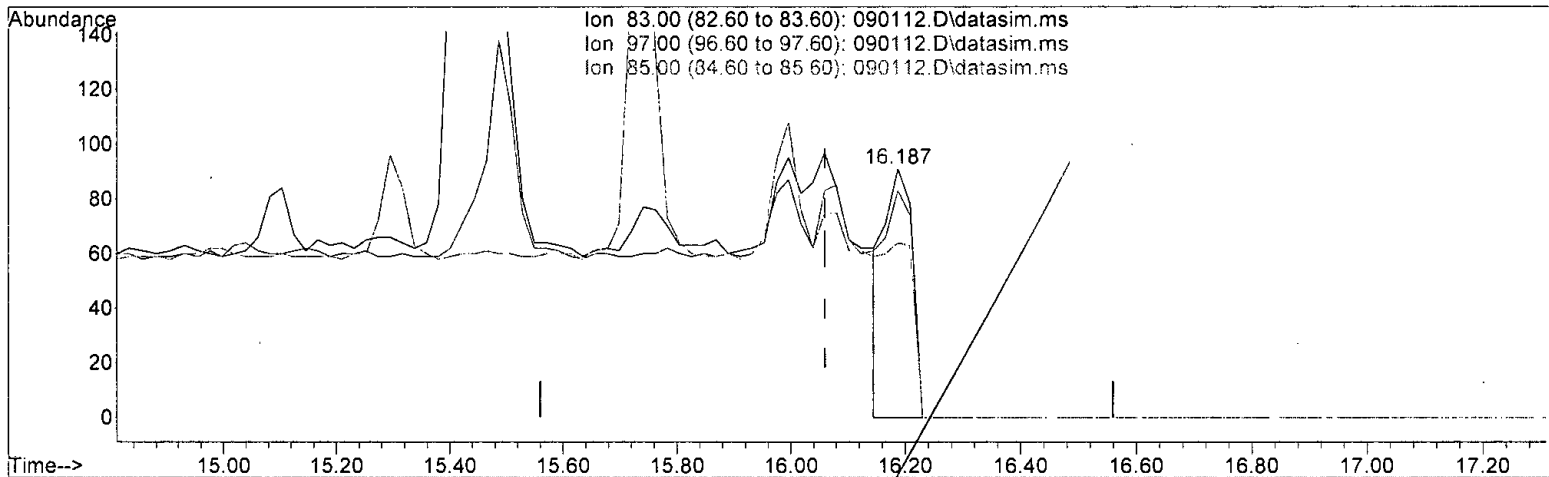
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	109.18
0.00	0.00	0.00
0.00	0.00	0.00

*2 or 2/4*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:18 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(51) 1,1,2-Trichloroethane (TMP)

16.187min (+ 0.127) 0.012 ppbv

response 325

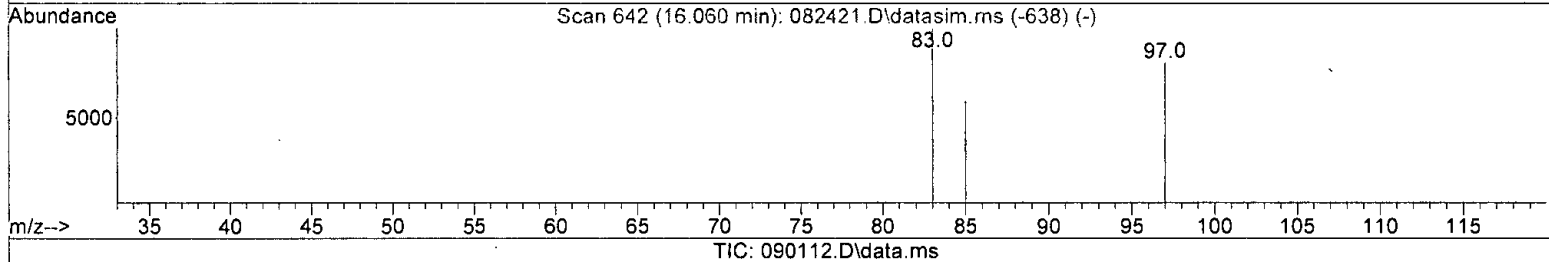
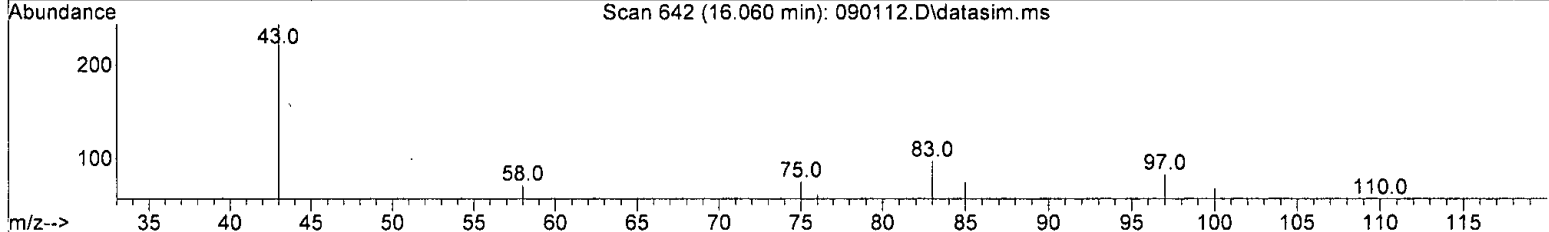
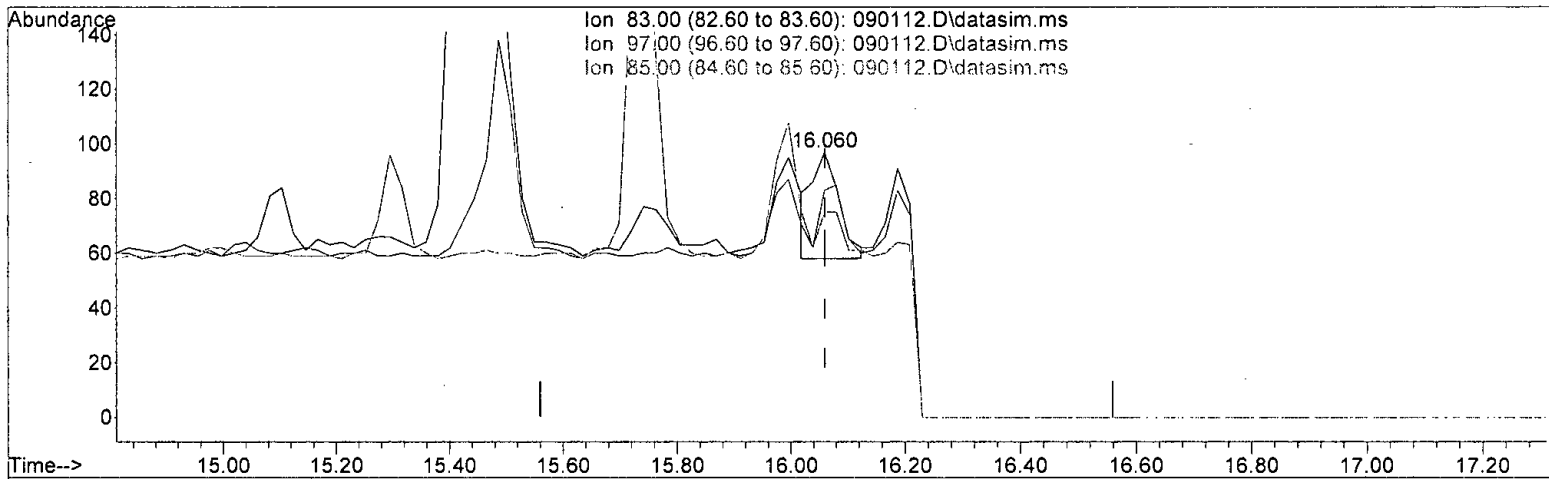
Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	91.21
85.00	60.50	70.33
0.00	0.00	0.00

*B. 08/24/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:18 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(51) 1,1,2-Trichloroethane (TMP)

16.060min (-0.000) 0.005 ppbv m

response 133

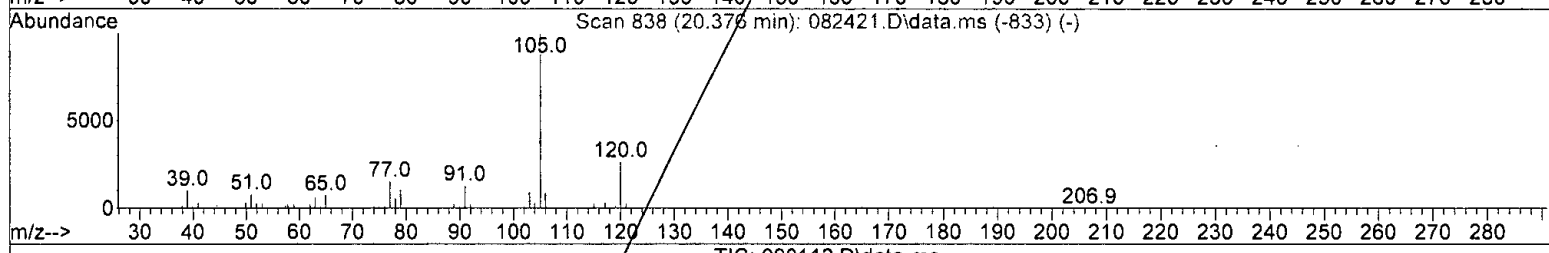
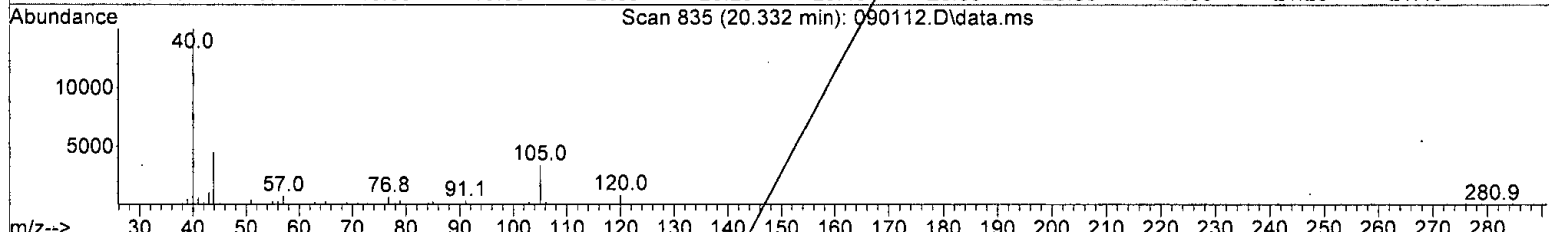
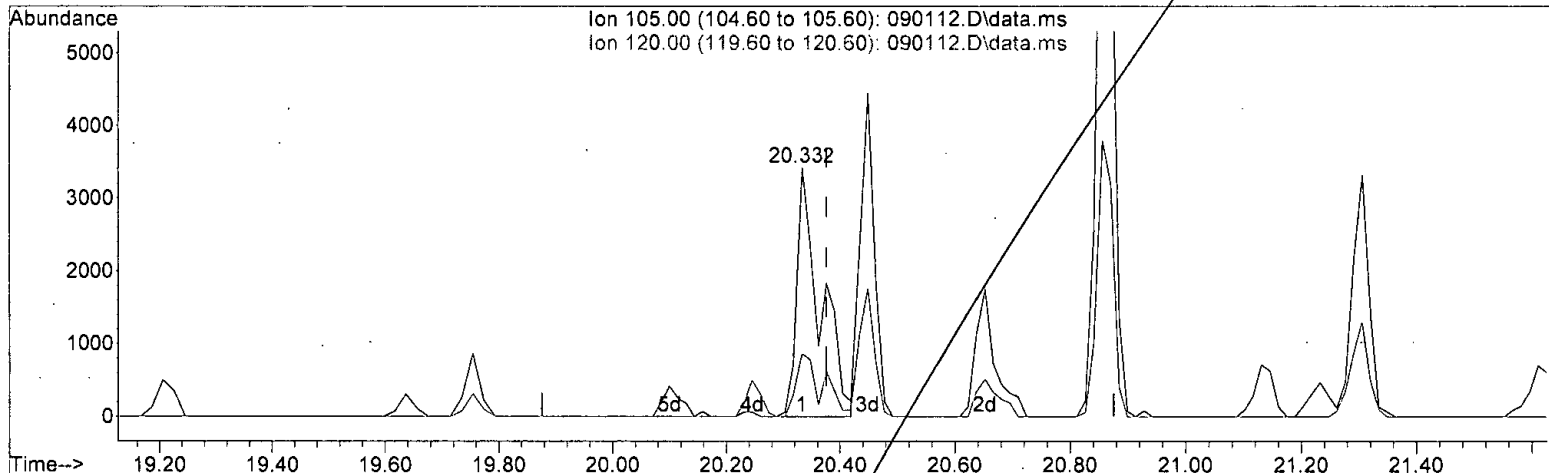
Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	85.57
85.00	60.50	77.32
0.00	0.00	0.00

*W/only*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:18 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(64) 4-Ethyltoluene (TMP)

20.332min (-0.044) 0.116 ppbv

response 9863

Ion	Exp%	Act%
105.00	100.00	100.00
120.00	28.70	28.02
0.00	0.00	0.00
0.00	0.00	0.00

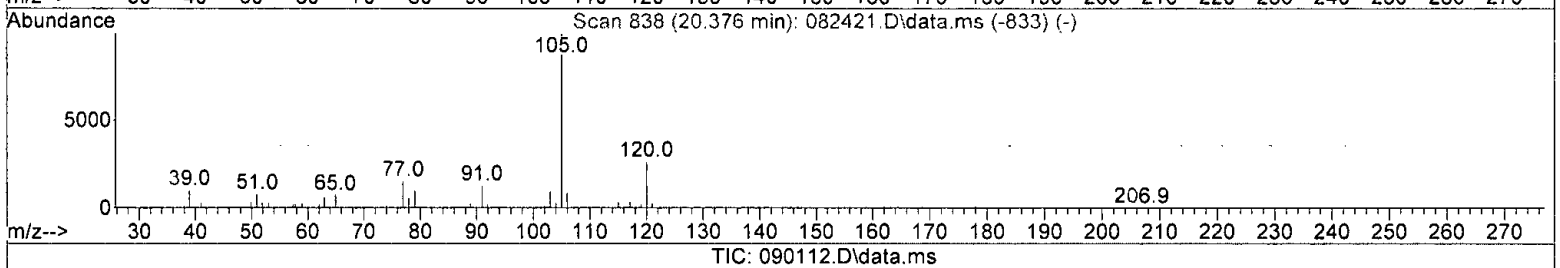
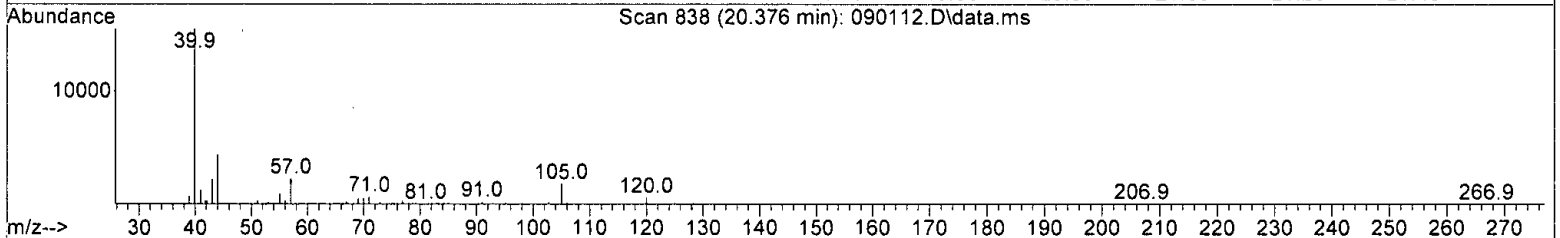
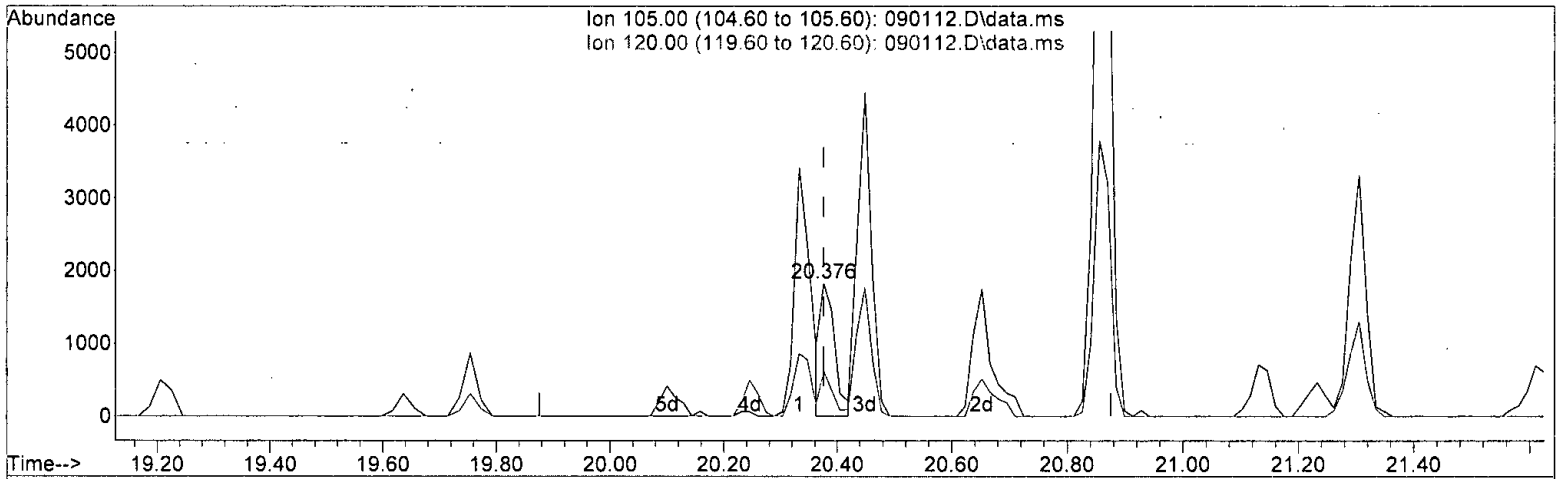
*Handwritten signature*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:18 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(64) 4-Ethyltoluene (TMP)

20.376min (+ 0.000) 0.039 ppbv m

response 3323

Ion	Exp%	Act%
105.00	100.00	100.00
120.00	28.70	83.18#
0.00	0.00	0.00
0.00	0.00	0.00

*Bat*  
 09/02/21

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:43:48 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.99	128	101031	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	476642	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	419940	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	371505	9.765	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.70%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.45	41	6929	0.401	ppbv	# 50
3) Dichlorodifluoromethane	3.52	85	5167	0.116	ppbv	85
5) F-114	3.88	85	1903	0.042	ppbv	# 55
6] Vinyl chloride	4.05	62	265	0.012	ppbv	98
7] 1,3-Butadiene	4.21	54	191	0.012	ppbv	# 1
8) Butane	4.32	43	9327	0.284	ppbv	92
12) Ethanol	4.96	45	3708	0.656	ppbv	92
13] Acrolein	5.45	56	305m	0.042	ppbv	
14) Pentane	6.33	43	5486	0.140	ppbv	94
15) Trichlorofluoromethane	5.88	101	2347	0.047	ppbv	63
16) Acetone	5.60	58	8479	0.954	ppbv	# 83
17) 2-Propanol	5.86	45	43898	1.222	ppbv	# 99
20) Methylene chloride	6.86	84	63993	3.619	ppbv	84
24) Carbon disulfide	7.33	76	13378	0.231	ppbv	94
27] 1,1-Dichloroethane	8.44	63	396	0.010	ppbv	95
28] cis-1,2-Dichloroethene	9.73	96	240	0.013	ppbv	# 75
29) Hexane	10.11	57	7551	0.253	ppbv	94
30] Chloroform	10.19	83	1396	0.032	ppbv	96
31) Ethyl acetate	10.03	43	6538	0.104	ppbv	# 95
33) 2-Butanone (MEK)	9.04	72	230	0.032	ppbv	# 51
37] Benzene	12.70	78	3283	0.053	ppbv	95
38) Cyclohexane	13.16	84	1974	0.117	ppbv	86
44) Heptane	14.63	43	5538	0.121	ppbv	# 84
46] Trichloroethene	14.22	95	1419	0.048	ppbv	84
50] Toluene	16.40	92	12852	0.360	ppbv	85
53] Tetrachloroethene	17.58	164	3375	0.186	ppbv	# 80
57) Chlorobenzene	18.25	112	1538	0.034	ppbv	85
58] Ethylbenzene	18.59	91	3671	0.039	ppbv	97
60) Nonane	19.36	43	5962	0.085	ppbv	# 80
61) Isopropylbenzene	19.75	105	1576	0.019	ppbv	# 72
63) Propylbenzene	20.25	91	4916	0.027	ppbv	85
64) 4-Ethyltoluene	20.38	105	3323m	0.039	ppbv	
65] m,p-Xylene	18.74	106	5586	0.187	ppbv	82
66] o-Xylene	19.21	106	2399	0.081	ppbv	92
71) 1,3,5-Trimethylbenzene	20.45	105	7673	0.112	ppbv	94
72) 1,2,4-Trimethylbenzene	20.86	105	19528	0.277	ppbv	94
73] 1,3-Dichlorobenzene	21.04	146	3306	0.068	ppbv	86
74] 1,4-Dichlorobenzene	21.11	146	1177	0.016	ppbv	95
75] 1,2-Dichlorobenzene	21.47	146	1108	0.024	ppbv	94
76) 1,2,4-Trichlorobenzene	23.73	180	2238	0.011	ppbv	# 73

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

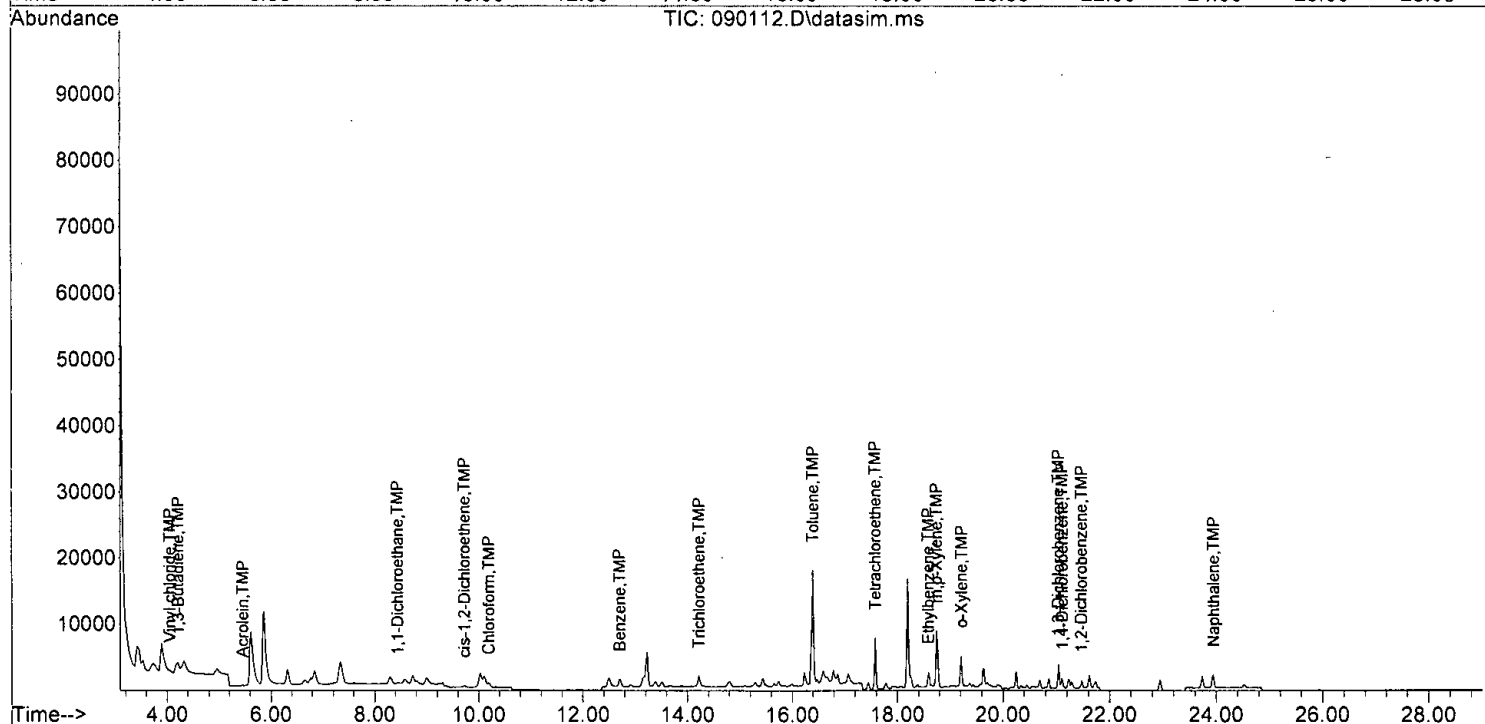
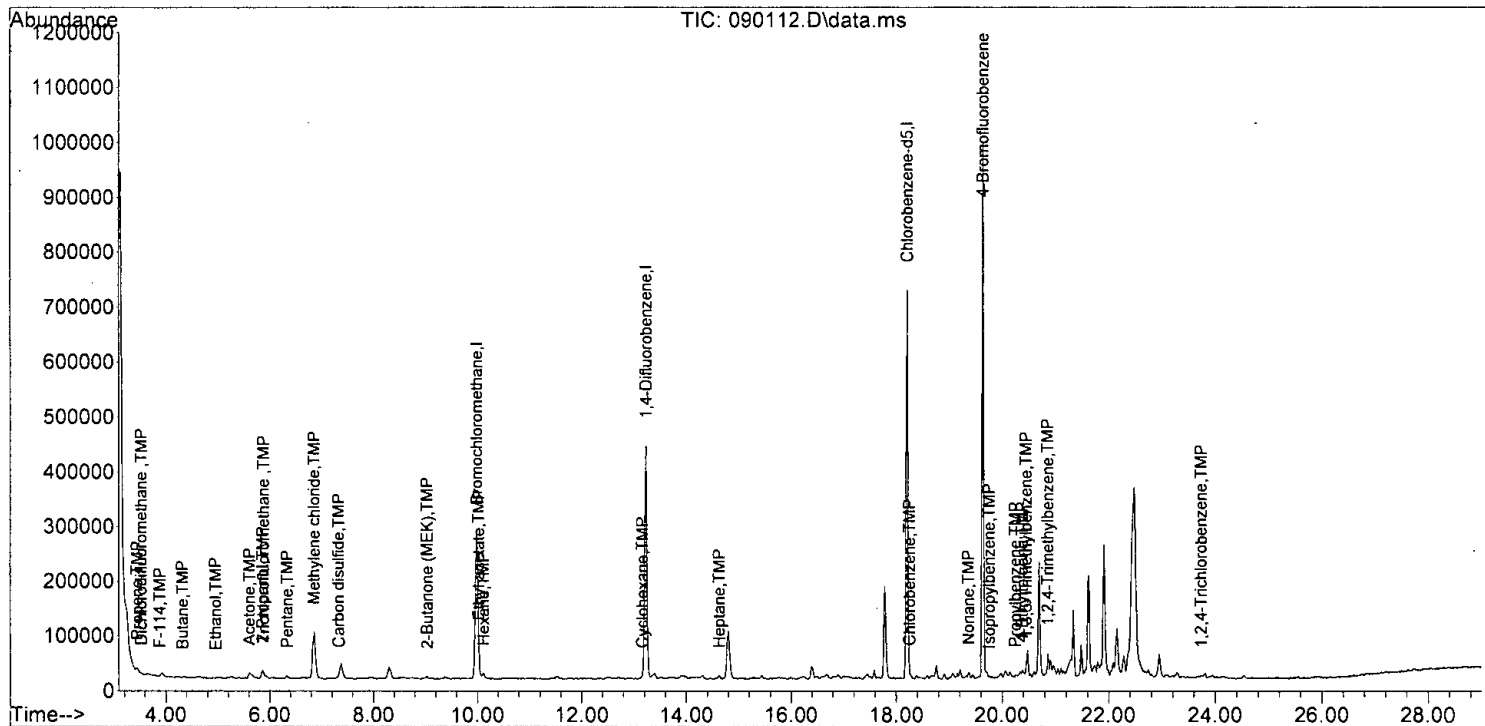
Quant Time: Sep 02 11:43:48 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

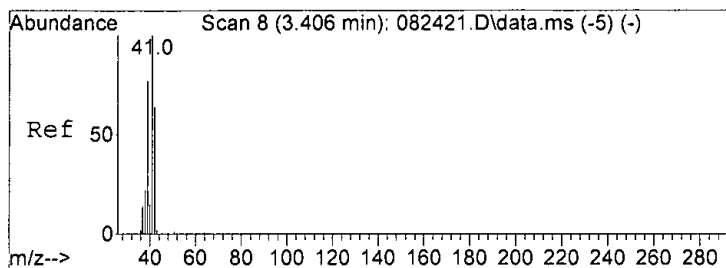
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
77] Naphthalene	23.95	128	4635	0.033	ppbv	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

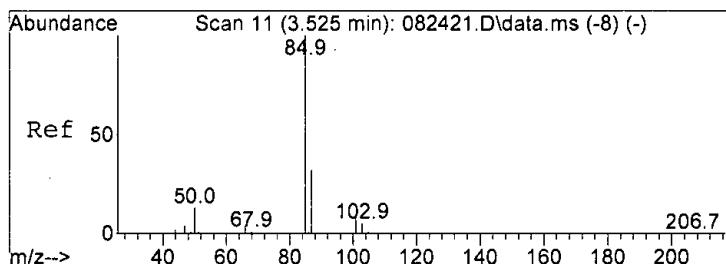
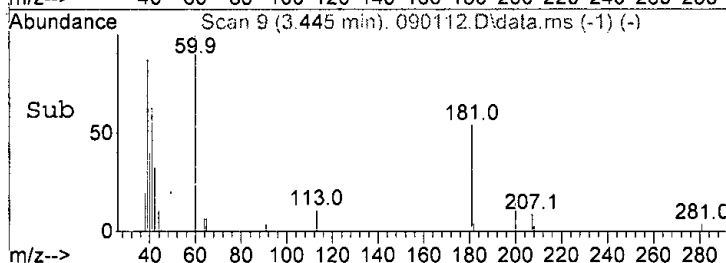
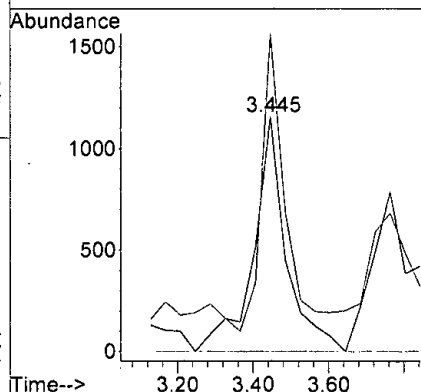
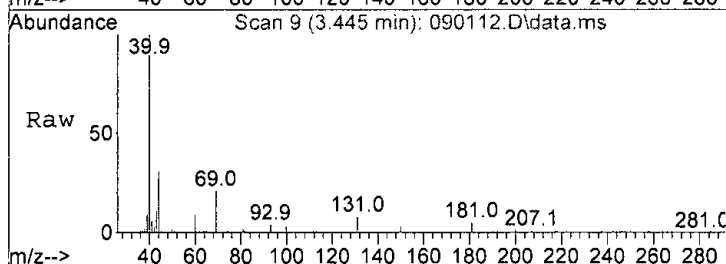
Quant Time: Sep 02 11:43:48 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





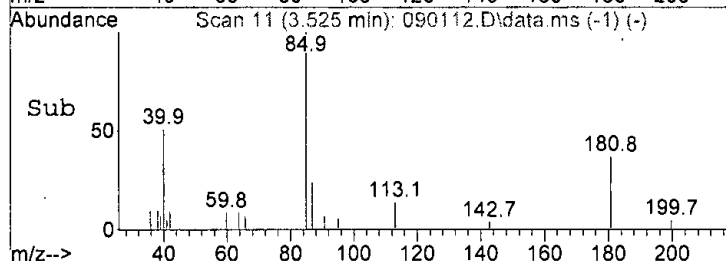
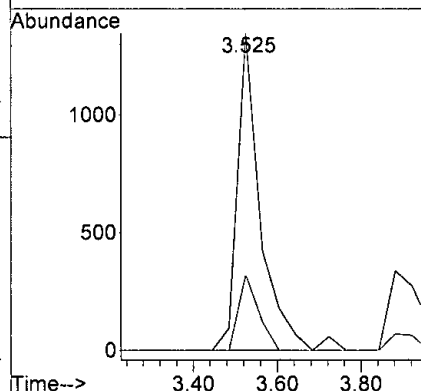
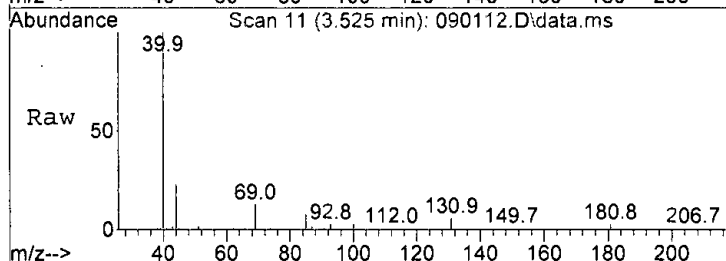
#2  
 Propene  
 Concen: 0.401 ppbv  
 RT: 3.45 min Scan# 9  
 Delta R.T. 0.039 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

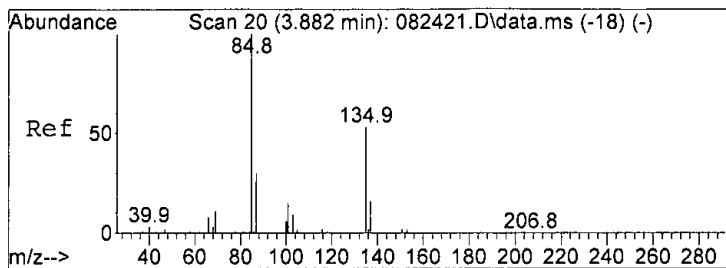
Tgt Ion	Resp	Lower	Upper
41	100		
39	118.8	45.6	105.6#
27	0.0	0.0	30.0



#3  
 Dichlorodifluoromethane  
 Concen: 0.116 ppbv  
 RT: 3.52 min Scan# 11  
 Delta R.T. -0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

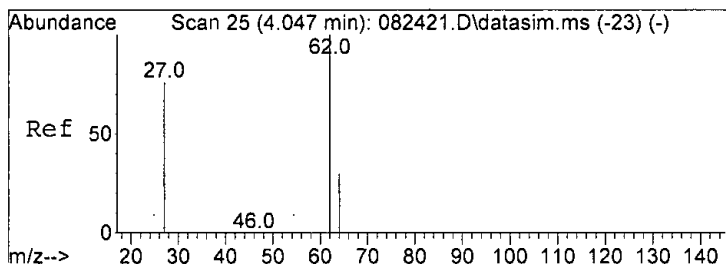
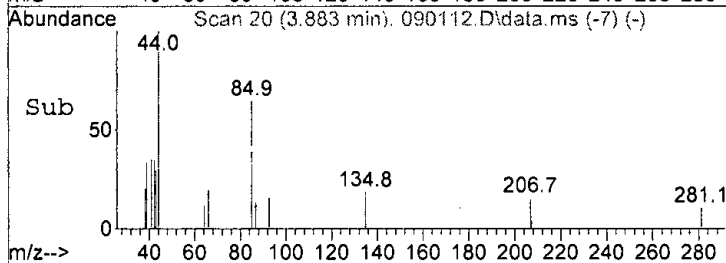
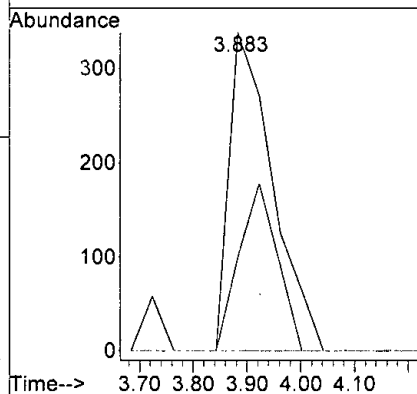
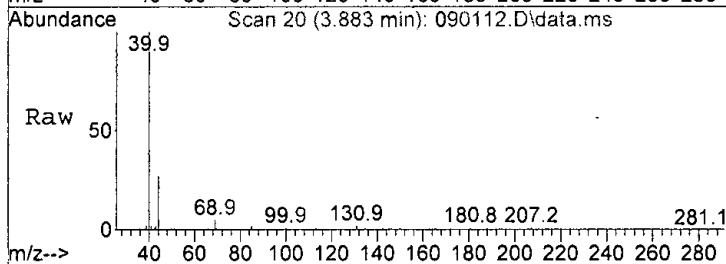
Tgt Ion	Resp	Lower	Upper
85	100		
87	23.9	2.2	62.2





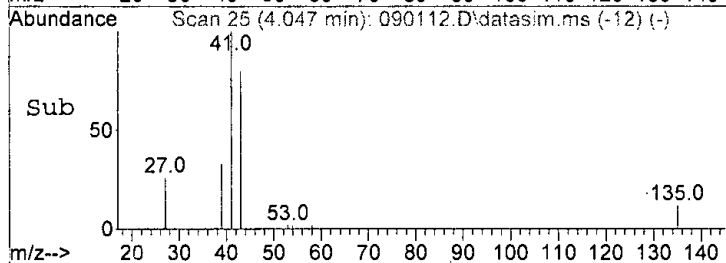
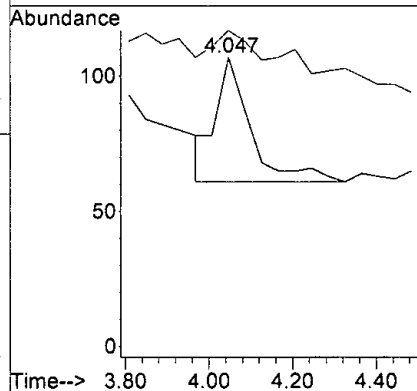
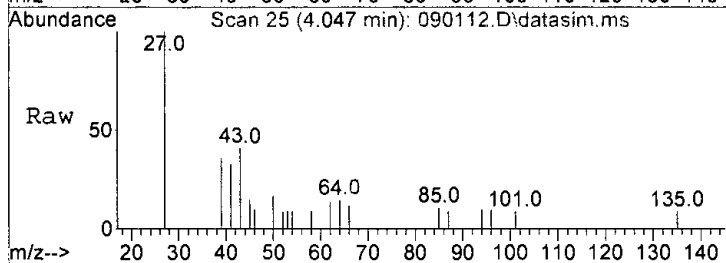
#5  
 F-114  
 Concen: 0.042 ppbv  
 RT: 3.88 min Scan# 20  
 Delta R.T. 0.001 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

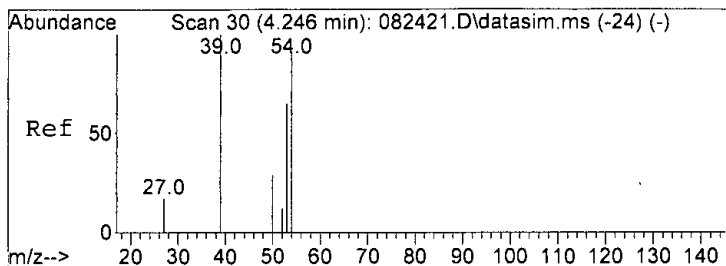
Tgt Ion	85	100	135	101	Resp	1903	Lower	Upper
Ion Ratio	100	29.6	0.0	0.0				
		36.8	96.8#	46.3				



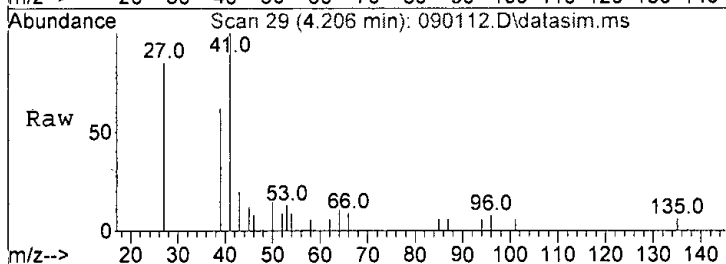
#6  
 Vinyl chloride  
 Concen: 0.012 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

Tgt Ion	62	64	Resp	265	Lower	Upper
Ion Ratio	100	30.4			1.5	61.5

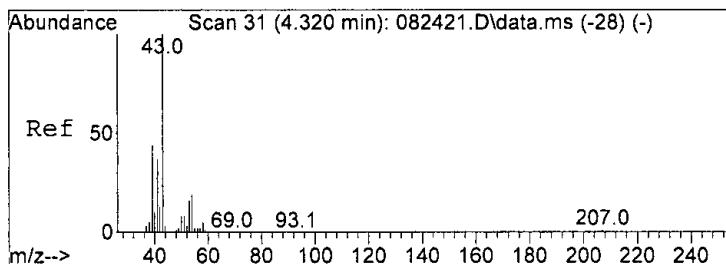
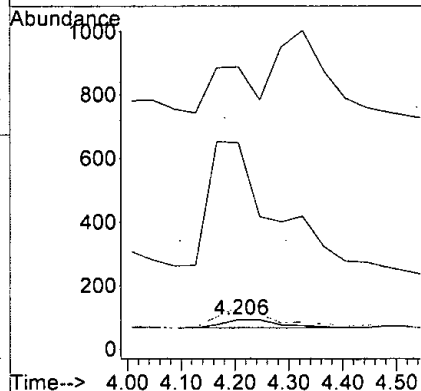
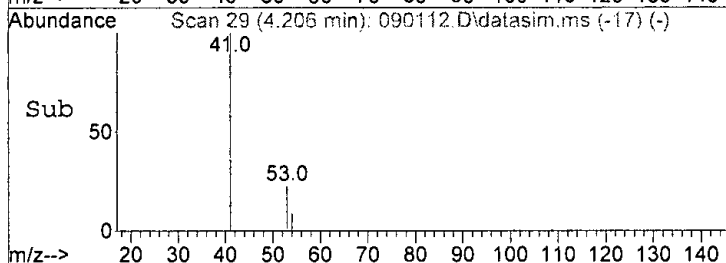




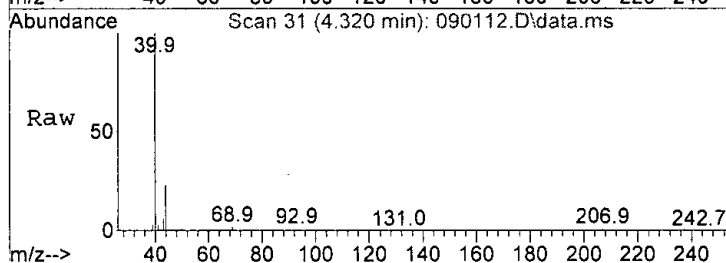
#7  
 1,3-Butadiene  
 Concen: 0.012 ppbv  
 RT: 4.21 min Scan# 29  
 Delta R.T. -0.040 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm



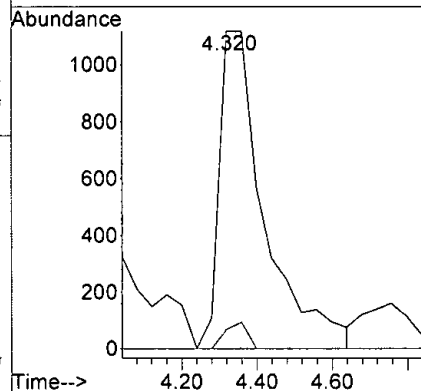
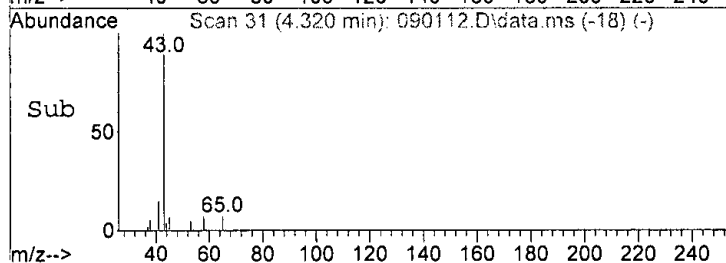
Tgt Ion: 54 Resp: 191  
 Ion Ratio Lower Upper  
 54 100  
 39 1540.0 97.6 157.6#  
 53 248.0 42.4 102.4#  
 27 576.0 0.0 20.0#

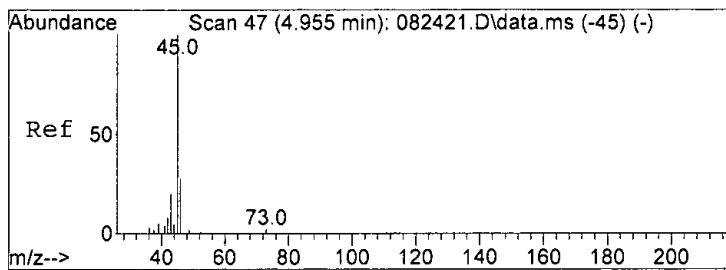


#8  
 Butane  
 Concen: 0.284 ppbv  
 RT: 4.32 min Scan# 31  
 Delta R.T. -0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm



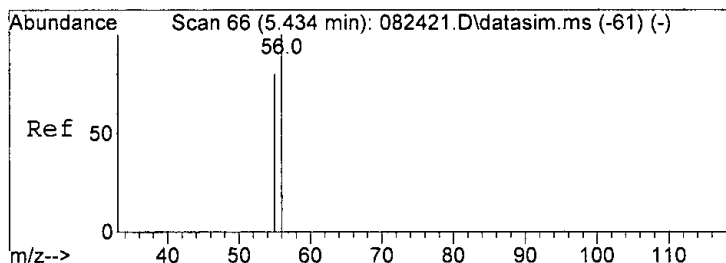
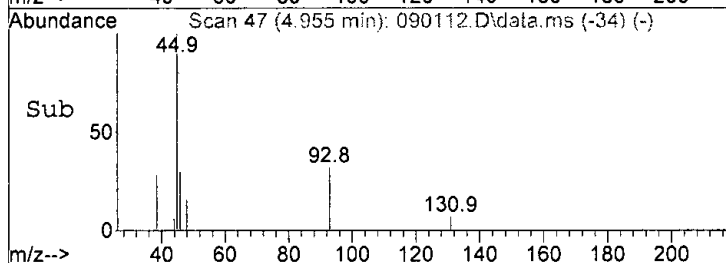
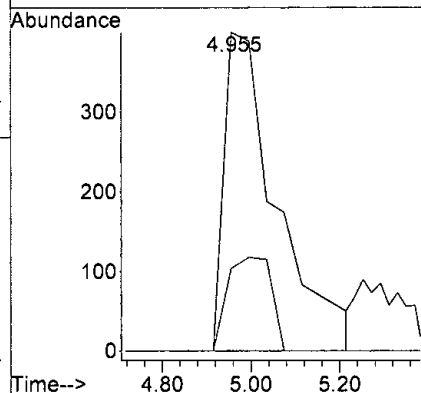
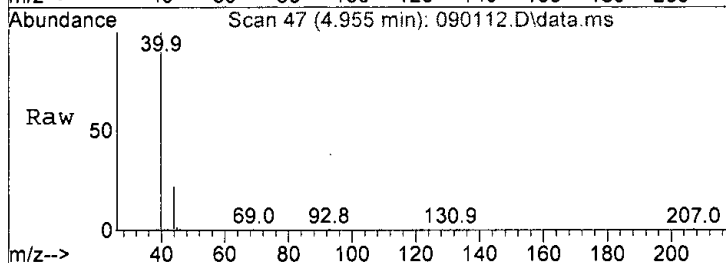
Tgt Ion: 43 Resp: 9327  
 Ion Ratio Lower Upper  
 43 100  
 58 4.1 0.0 36.9





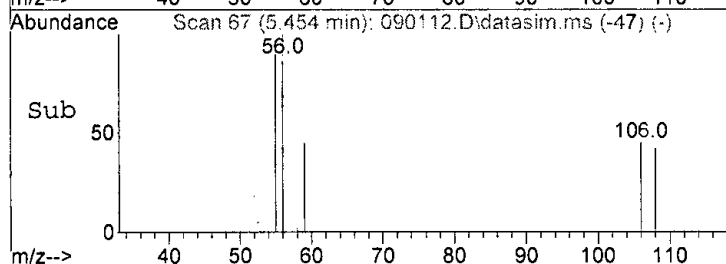
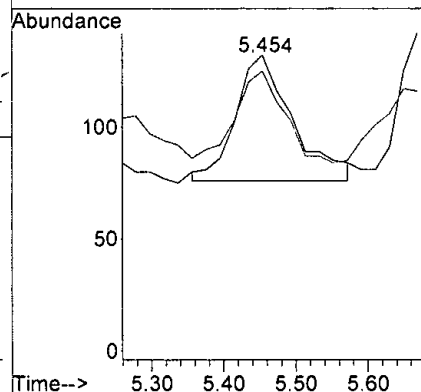
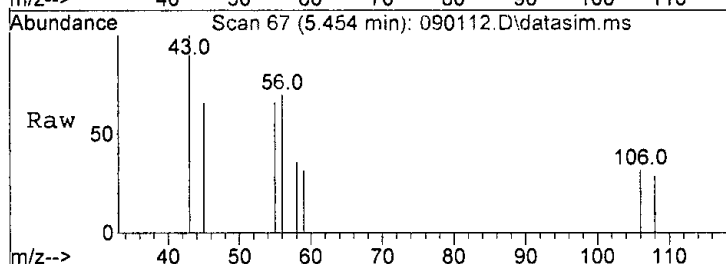
#12  
 Ethanol  
 Concen: 0.656 ppbv  
 RT: 4.96 min Scan# 47  
 Delta R.T. 0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

Tgt Ion: 45 Resp: 3708  
 Ion Ratio Lower Upper  
 45 100  
 46 21.7 0.0 55.5

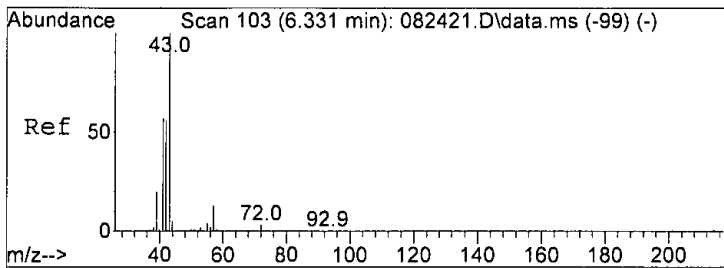


#13  
 Acrolein  
 Concen: 0.042 ppbv m  
 RT: 5.45 min Scan# 67  
 Delta R.T. 0.020 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

Tgt Ion: 56 Resp: 305  
 Ion Ratio Lower Upper  
 56 100  
 55 109.2 51.0 111.0

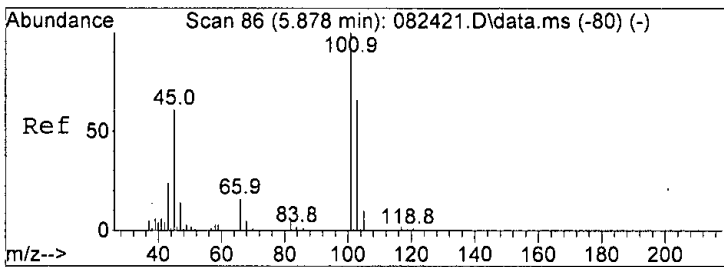
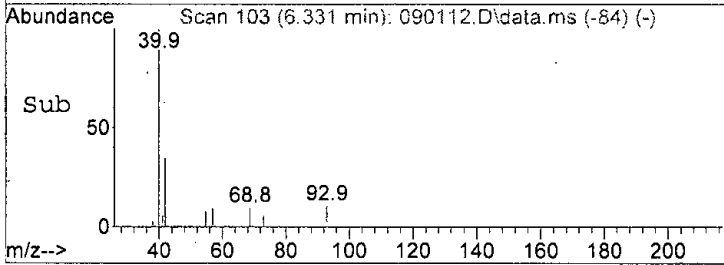
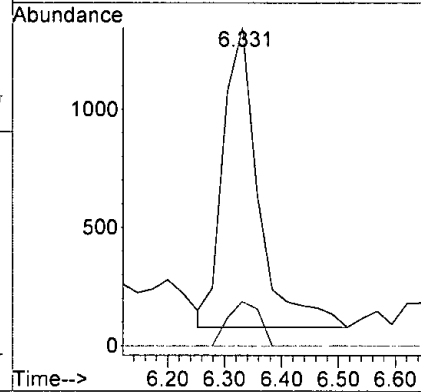
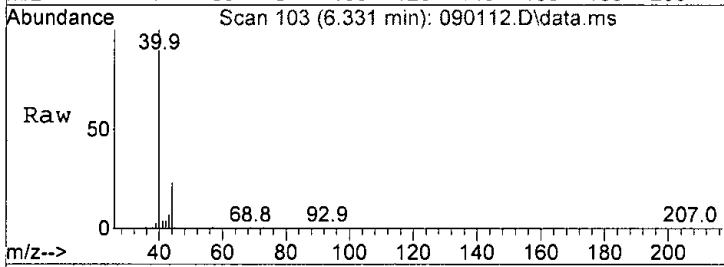






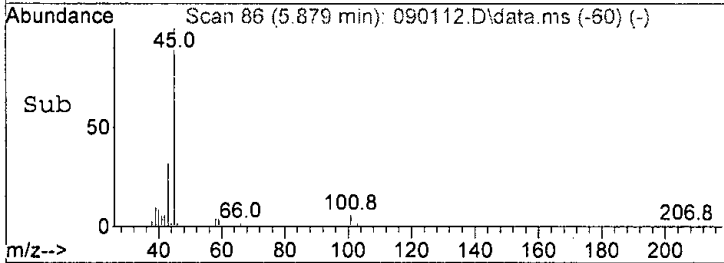
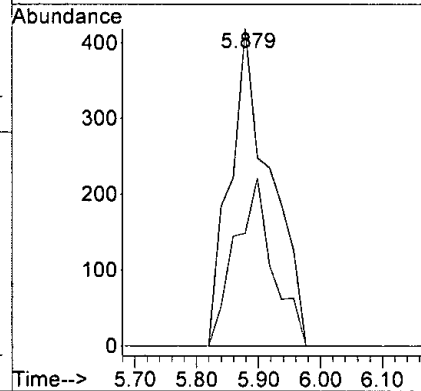
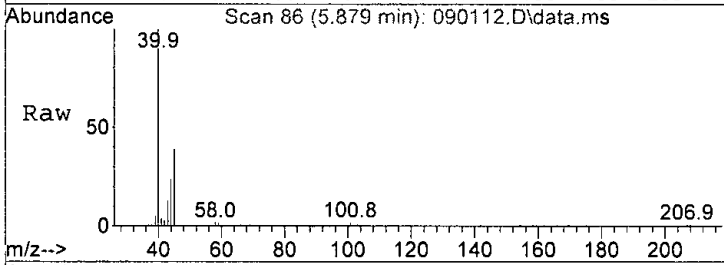
#14  
 Pentane  
 Concen: 0.140 ppbv  
 RT: 6.33 min Scan# 103  
 Delta R.T. 0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

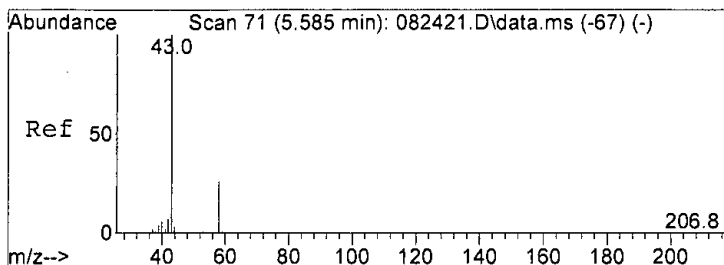
Tgt Ion: 43 Resp: 5486  
 Ion Ratio Lower Upper  
 43 100  
 57 14.8 0.0 43.5  
 72 0.0 0.0 34.2



#15  
 Trichlorofluoromethane  
 Concen: 0.047 ppbv  
 RT: 5.88 min Scan# 86  
 Delta R.T. 0.001 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

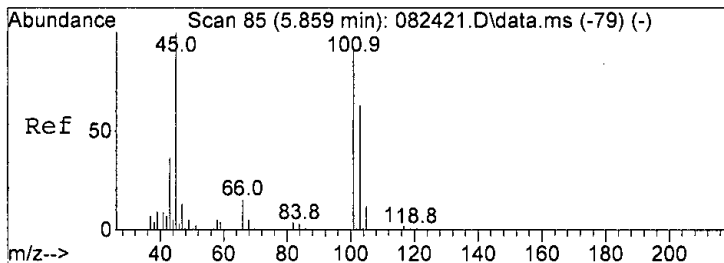
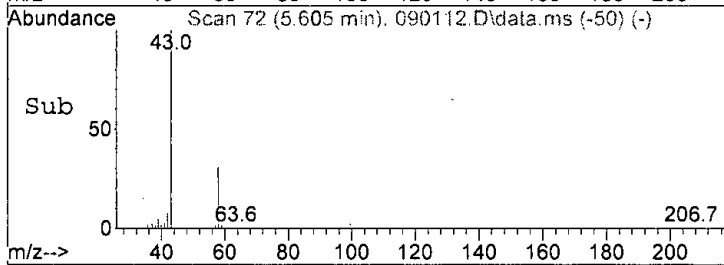
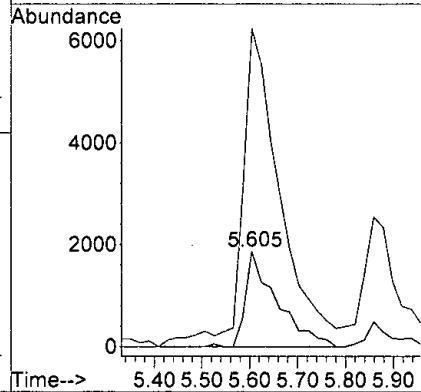
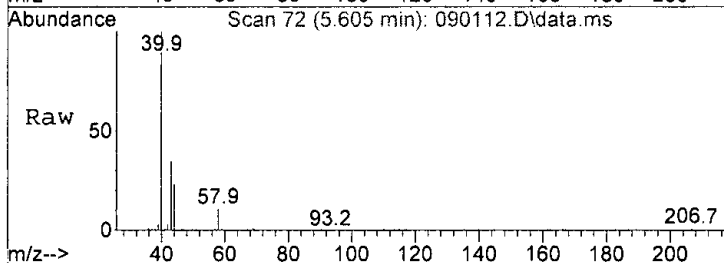
Tgt Ion: 101 Resp: 2347  
 Ion Ratio Lower Upper  
 101 100  
 103 35.6 34.5 94.5





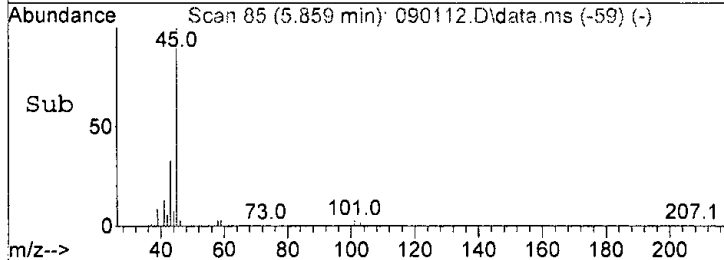
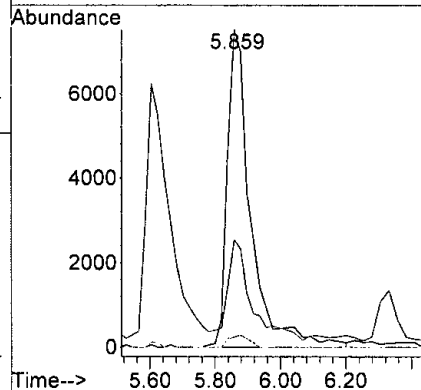
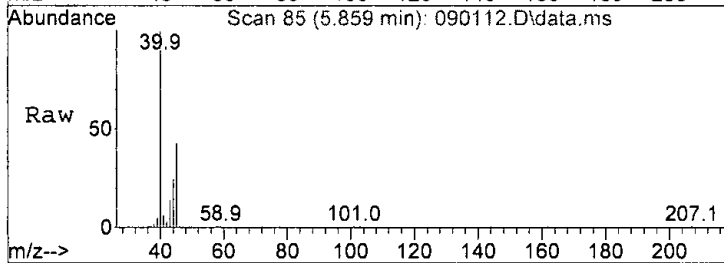
#16  
 Acetone  
 Concen: 0.954 ppbv  
 RT: 5.60 min Scan# 72  
 Delta R.T. 0.020 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

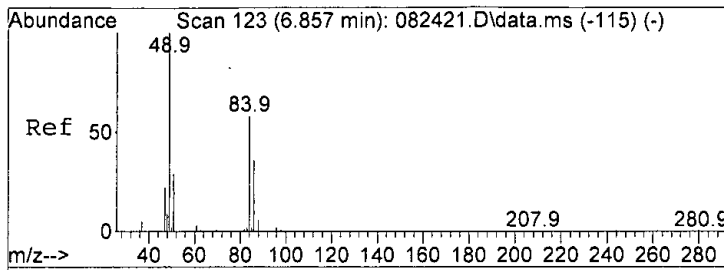
Tgt Ion: 58 Resp: 8479  
 Ion Ratio Lower Upper  
 58 100  
 43 322.6 329.3 389.3#



#17  
 2-Propanol  
 Concen: 1.222 ppbv  
 RT: 5.86 min Scan# 85  
 Delta R.T. 0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

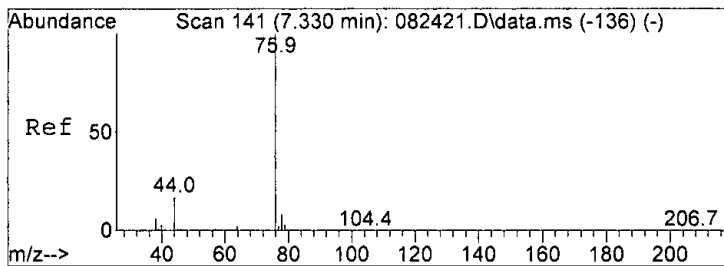
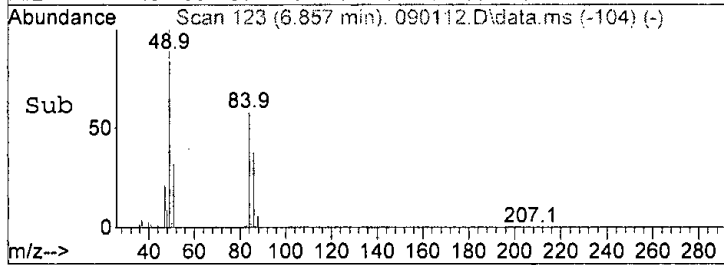
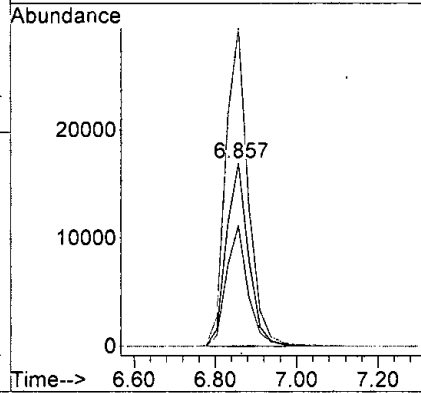
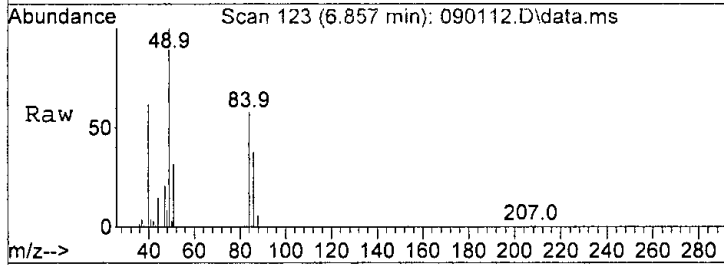
Tgt Ion: 45 Resp: 43898  
 Ion Ratio Lower Upper  
 45 100  
 43 30.1 0.0 30.0#  
 59 3.1 0.0 33.6





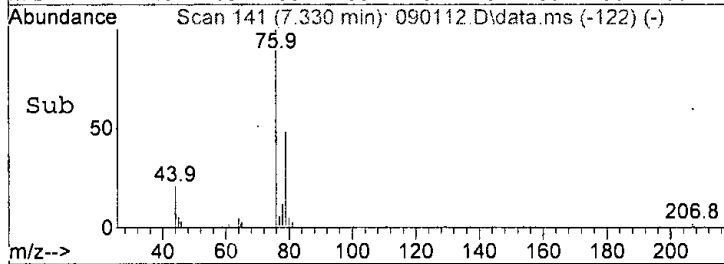
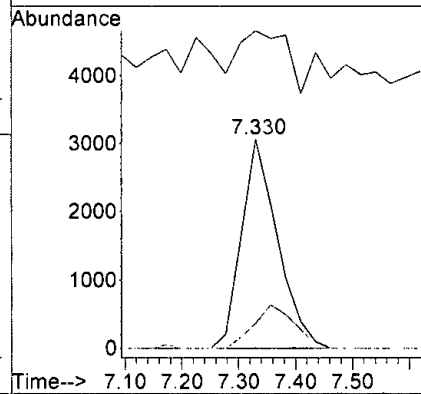
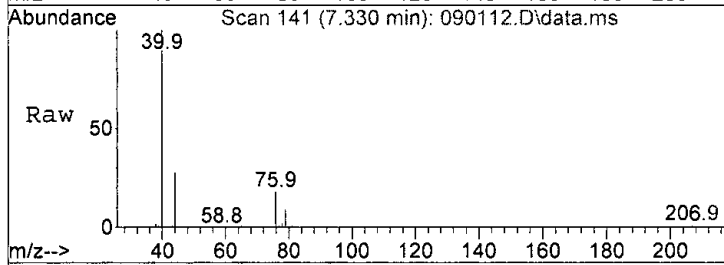
#20  
 Methylene chloride  
 Concen: 3.619 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

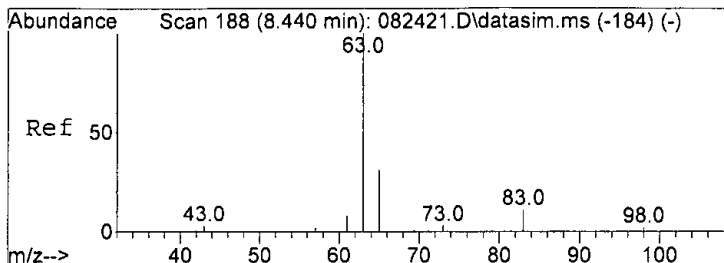
Tgt Ion: 84 Resp: 63993  
 Ion Ratio Lower Upper  
 84 100  
 86 65.5 33.9 93.9  
 49 173.4 116.6 176.6



#24  
 Carbon disulfide  
 Concen: 0.231 ppbv  
 RT: 7.33 min Scan# 141  
 Delta R.T. 0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

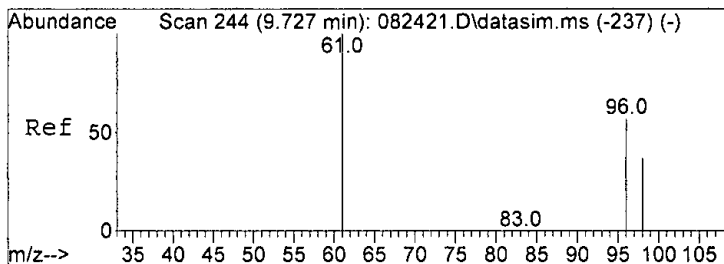
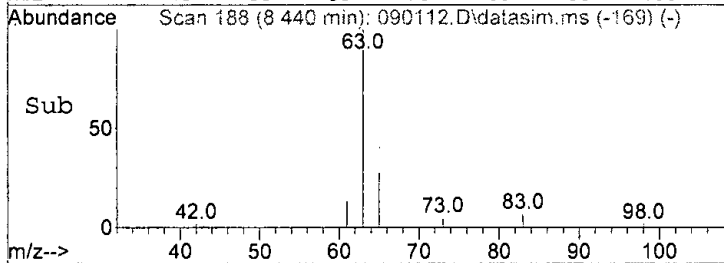
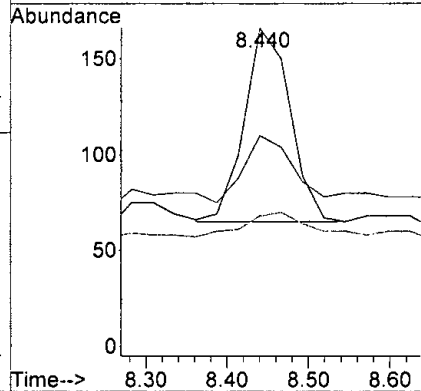
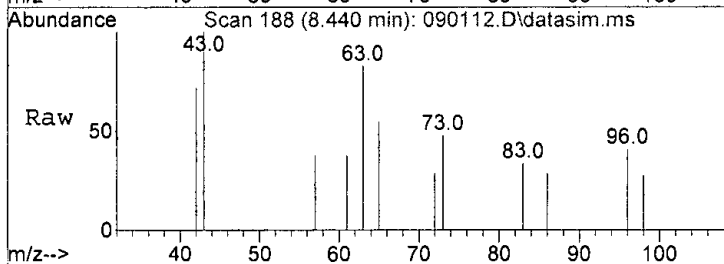
Tgt Ion: 76 Resp: 13378  
 Ion Ratio Lower Upper  
 76 100  
 44 16.2 0.0 44.3  
 78 12.1 0.0 39.2





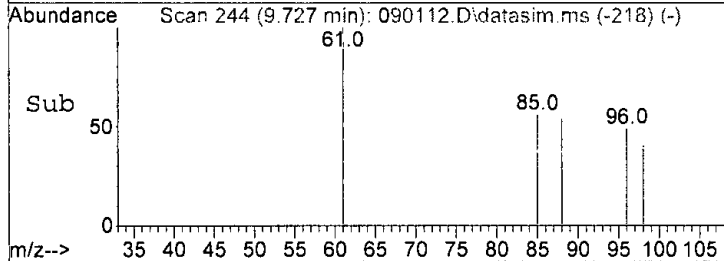
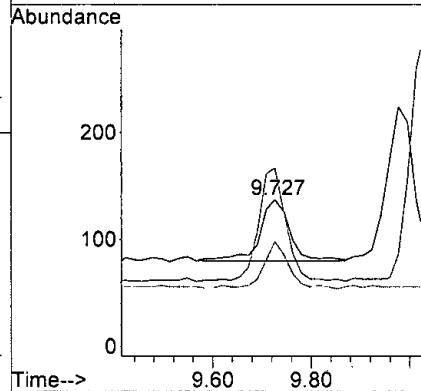
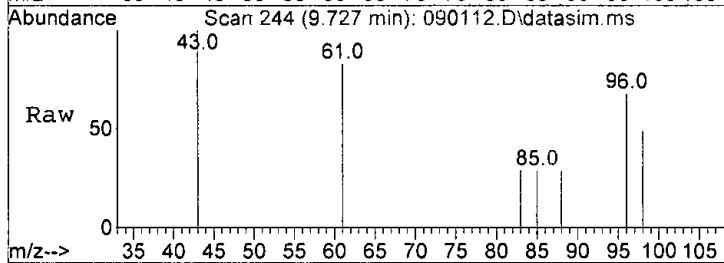
#27  
 1,1-Dichloroethane  
 Concen: 0.010 ppbv  
 RT: 8.44 min Scan# 188  
 Delta R.T. 0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

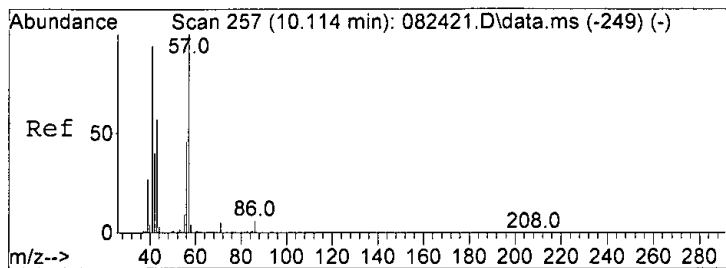
Tgt Ion	Resp	Lower	Upper
63	100		
65	29.7	2.5	62.5
83	10.9	0.0	43.2



#28  
 cis-1,2-Dichloroethene  
 Concen: 0.013 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. -0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

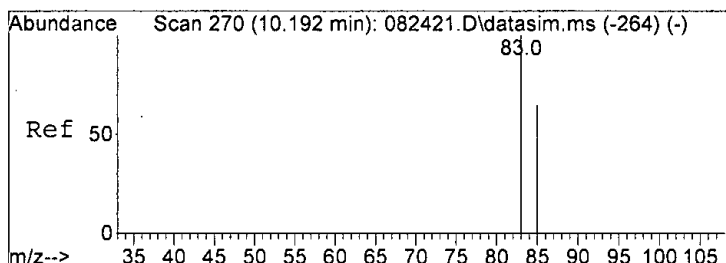
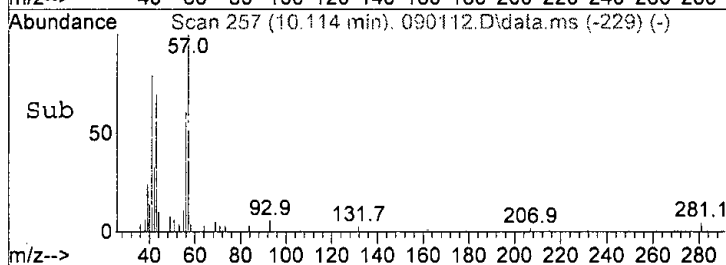
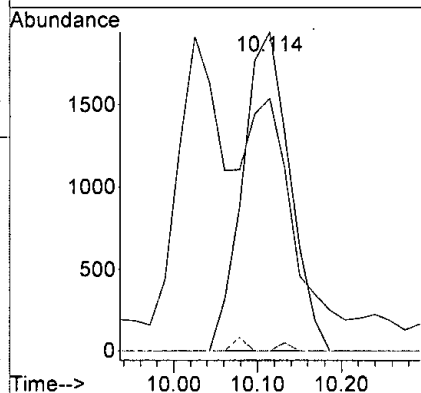
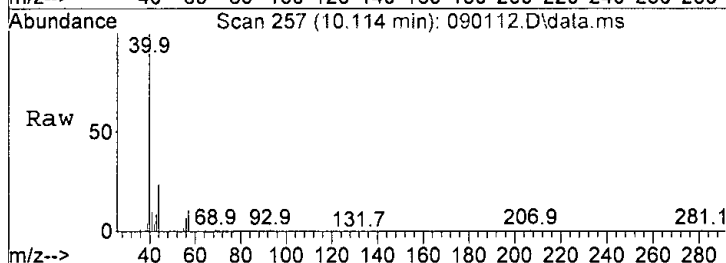
Tgt Ion	Resp	Lower	Upper
96	100		
61	186.0	116.0	176.0#
98	73.7	35.2	95.2





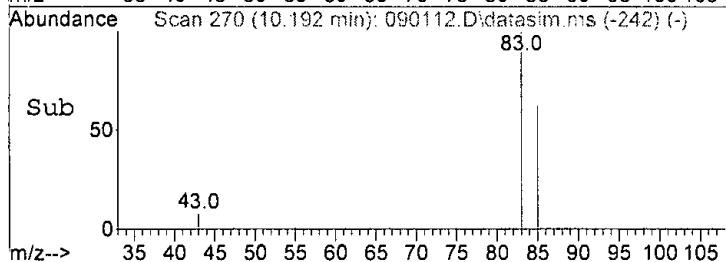
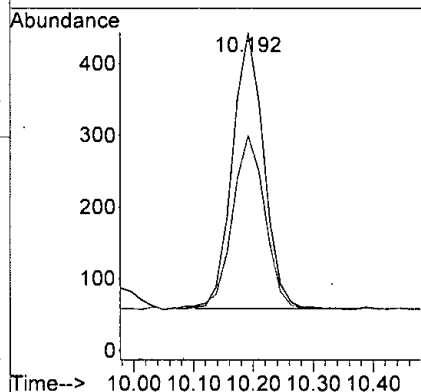
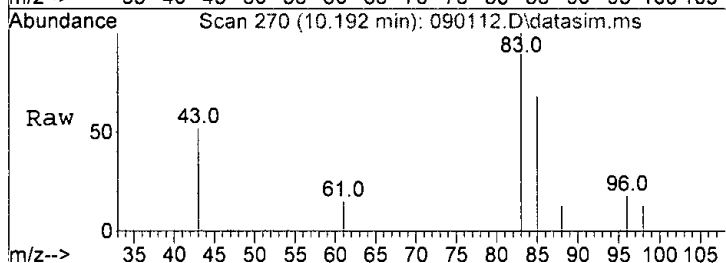
#29  
Hexane  
Concen: 0.253 ppbv  
RT: 10.11 min Scan# 257  
Delta R.T. 0.000 min  
Lab File: 090112.D  
Acq: 1 Sep 2021 5:14 pm

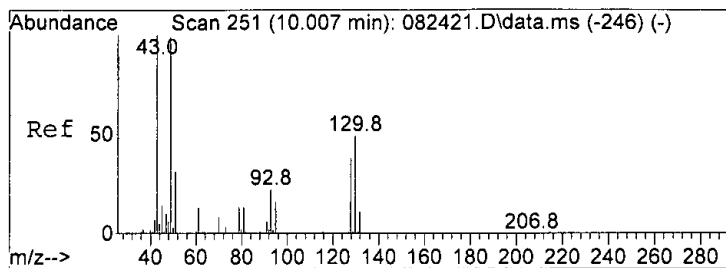
Tgt Ion: 57 Resp: 7551  
Ion Ratio Lower Upper  
57 100  
43 69.4 43.6 103.6  
86 0.0 0.0 35.9



#30  
Chloroform  
Concen: 0.032 ppbv  
RT: 10.19 min Scan# 270  
Delta R.T. -0.000 min  
Lab File: 090112.D  
Acq: 1 Sep 2021 5:14 pm

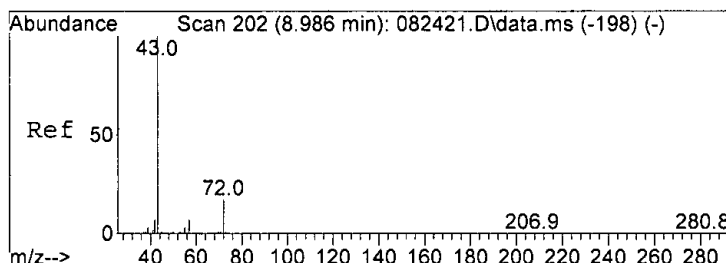
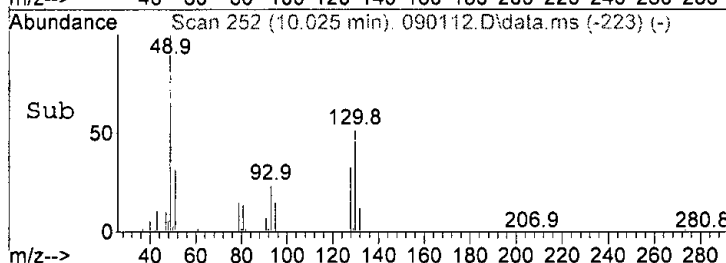
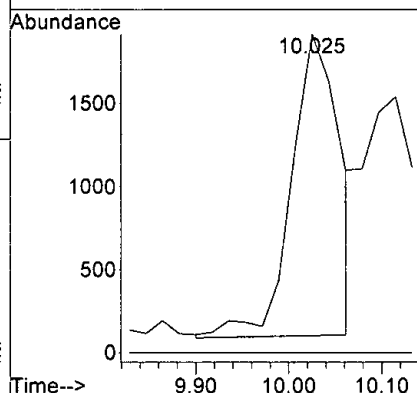
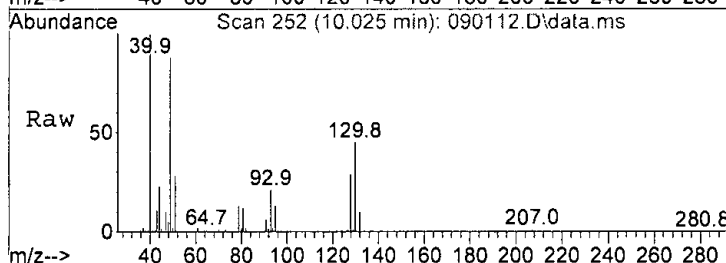
Tgt Ion: 83 Resp: 1396  
Ion Ratio Lower Upper  
83 100  
85 63.1 36.3 96.3





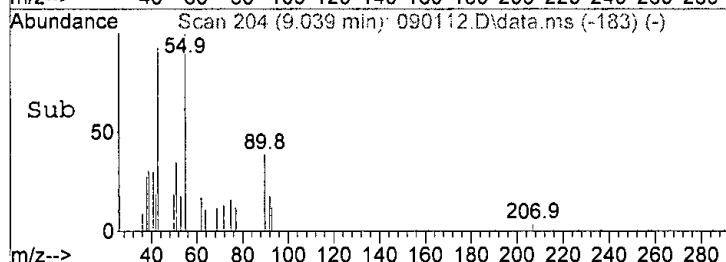
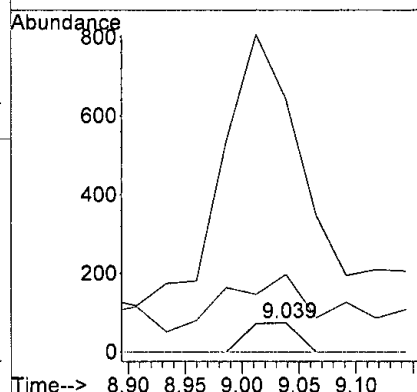
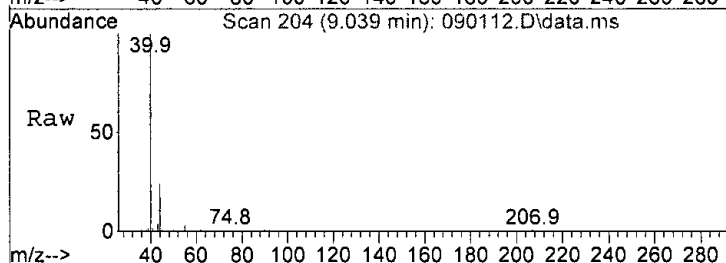
#31  
 Ethyl acetate  
 Concen: 0.104 ppbv  
 RT: 10.03 min Scan# 252  
 Delta R.T. 0.018 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

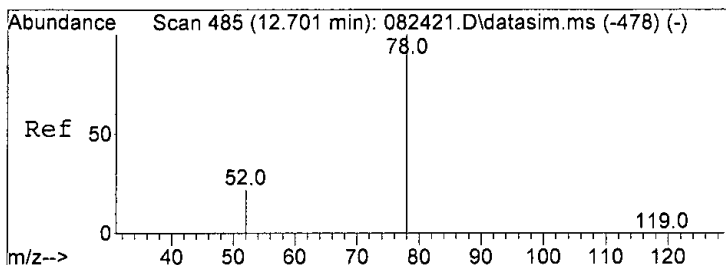
Tgt Ion: 43 Resp: 6538  
 Ion Ratio Lower Upper  
 43 100  
 88 0.0 1.4 2.0#



#33  
 2-Butanone (MEK)  
 Concen: 0.032 ppbv  
 RT: 9.04 min Scan# 204  
 Delta R.T. 0.053 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

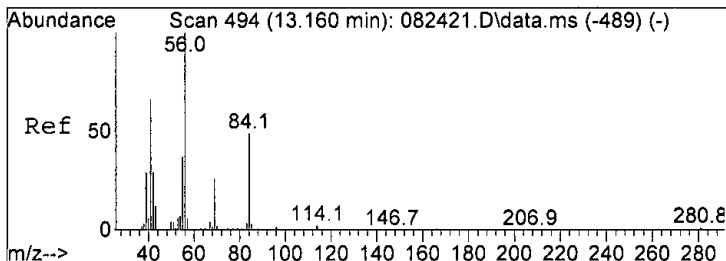
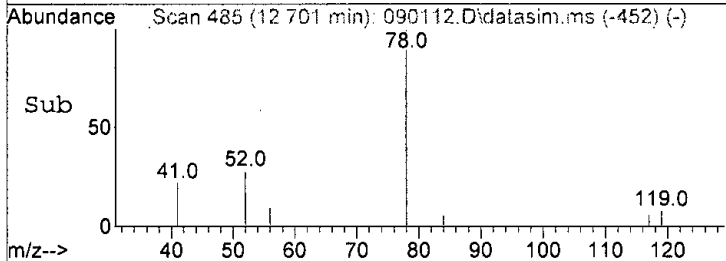
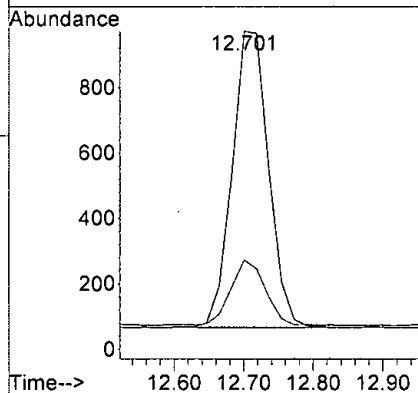
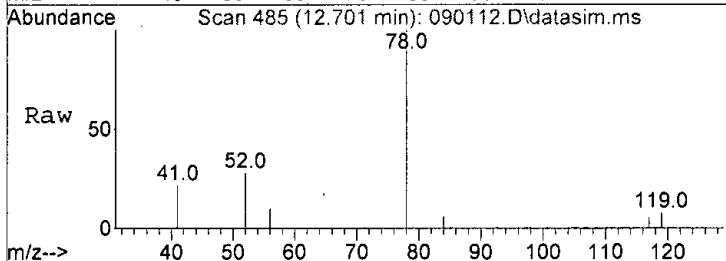
Tgt Ion: 72 Resp: 230  
 Ion Ratio Lower Upper  
 72 100  
 42 158.1 0.0 59.9#  
 57 0.0 14.2 74.2#  
 43 625.7 501.6 541.6#





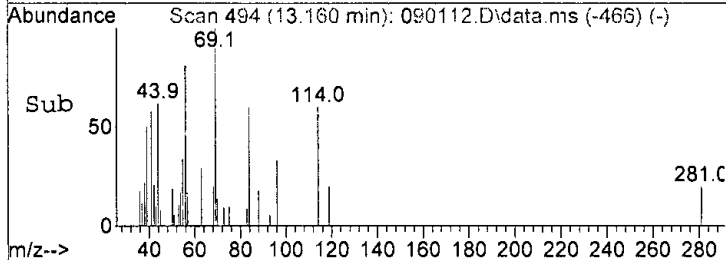
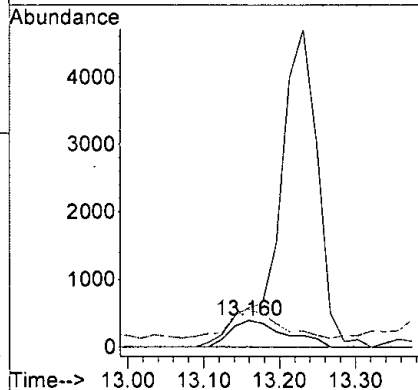
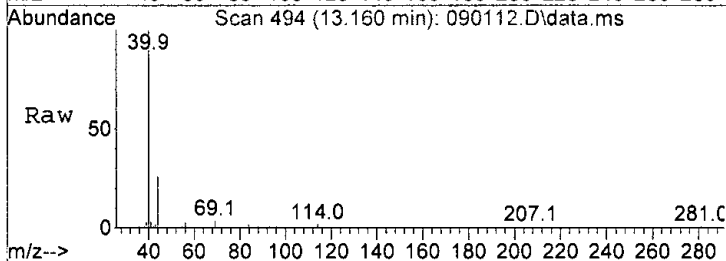
#37  
Benzene  
Concen: 0.053 ppbv  
RT: 12.70 min Scan# 485  
Delta R.T. -0.000 min  
Lab File: 090112.D  
Acq: 1 Sep 2021 5:14 pm

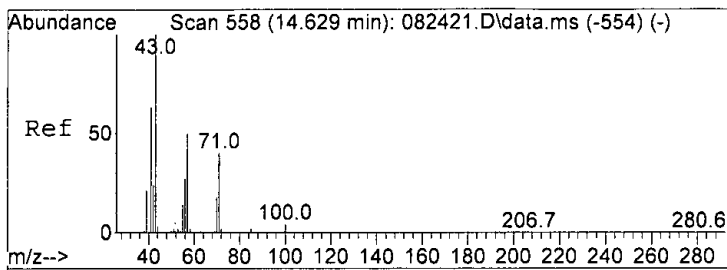
Tgt Ion: 78 Resp: 3283  
Ion Ratio Lower Upper  
78 100  
52 22.1 0.0 49.7



#38  
Cyclohexane  
Concen: 0.117 ppbv  
RT: 13.16 min Scan# 494  
Delta R.T. -0.000 min  
Lab File: 090112.D  
Acq: 1 Sep 2021 5:14 pm

Tgt Ion: 84 Resp: 1974  
Ion Ratio Lower Upper  
84 100  
56 148.1 144.4 204.4  
41 102.3 77.2 137.2

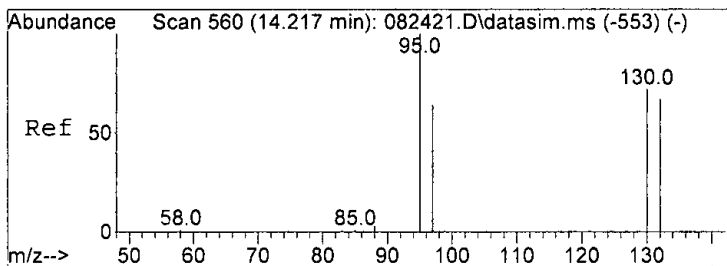
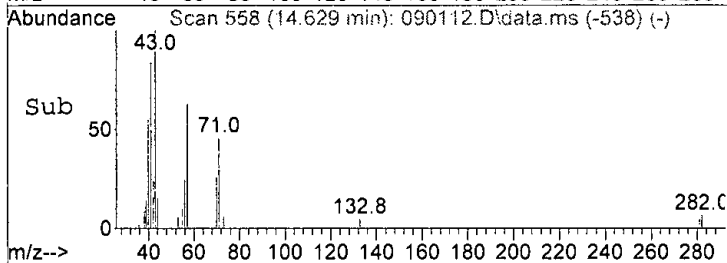
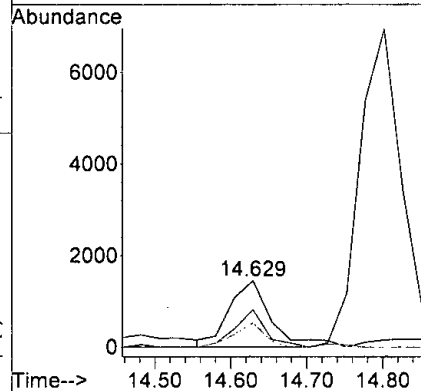
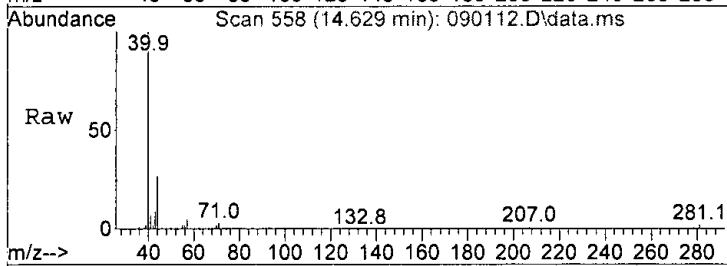




#44  
 Heptane  
 Concen: 0.121 ppbv  
 RT: 14.63 min Scan# 558  
 Delta R.T. 0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

Tgt Ion: 43 Resp: 5538

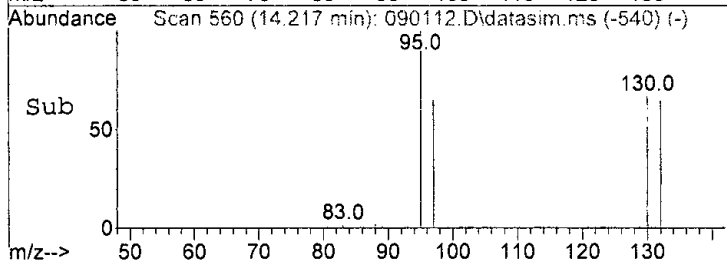
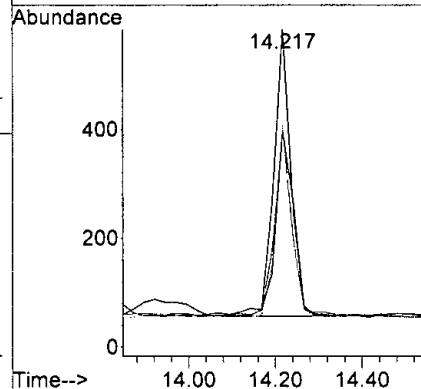
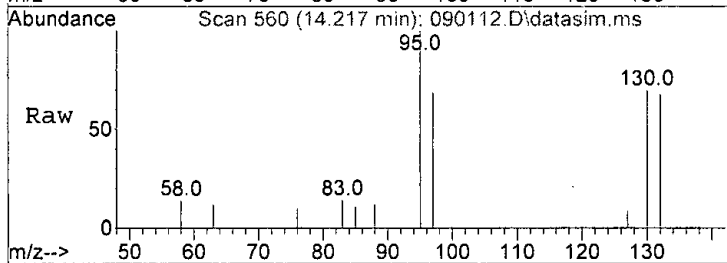
Ion	Ratio	Lower	Upper
43	100		
57	41.4	16.9	76.9
71	27.3	12.9	72.9
100	0.0	0.0	24.8



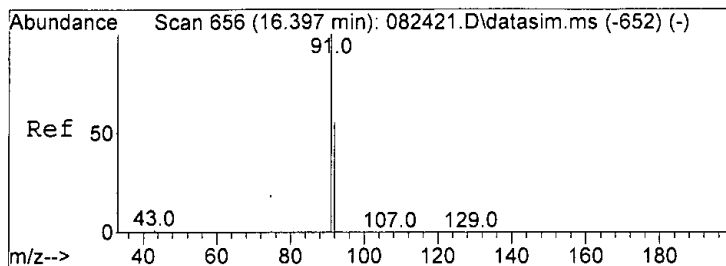
#46  
 Trichloroethene  
 Concen: 0.048 ppbv  
 RT: 14.22 min Scan# 560  
 Delta R.T. -0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

Tgt Ion: 95 Resp: 1419

Ion	Ratio	Lower	Upper
95	100		
97	65.4	37.1	97.1
130	66.9	56.1	116.1
132	64.3	54.3	114.3

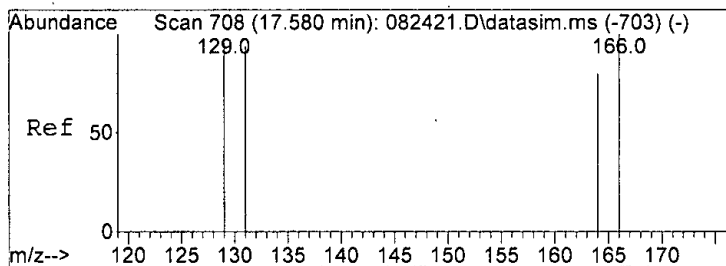
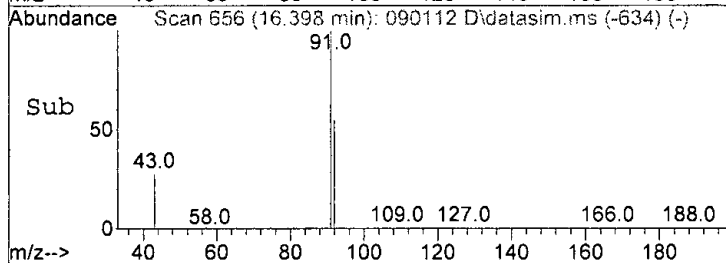
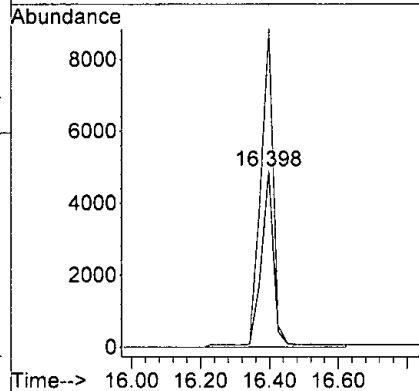
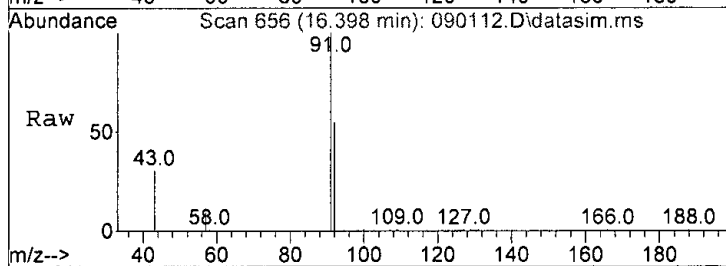






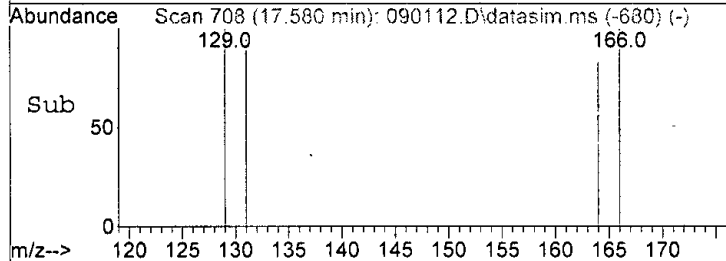
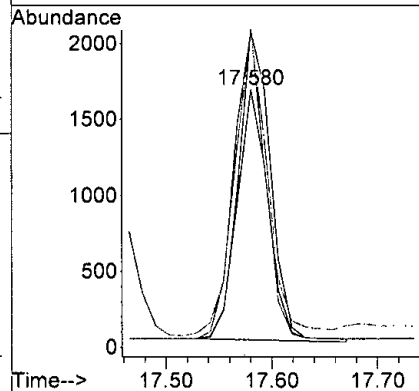
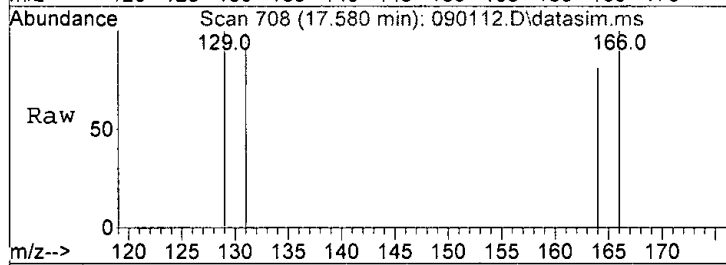
#50  
 Toluene  
 Concen: 0.360 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.001 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

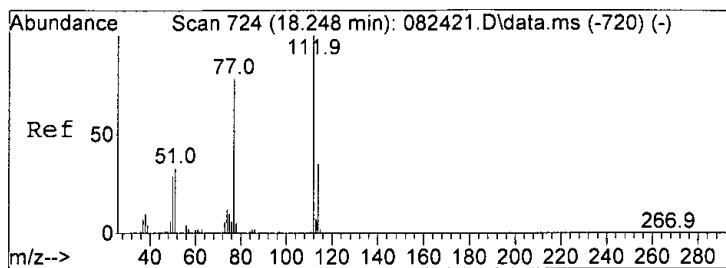
Tgt Ion: 92 Resp: 12852  
 Ion Ratio Lower Upper  
 92 100  
 91 180.9 174.6 234.6



#53  
 Tetrachloroethene  
 Concen: 0.186 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

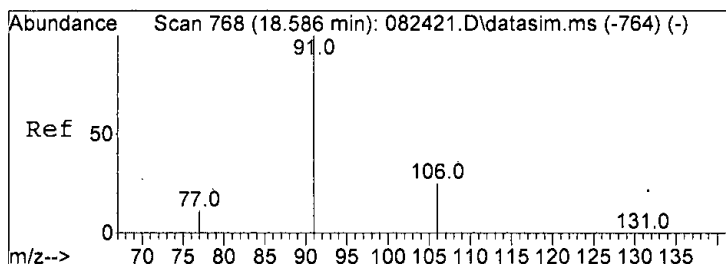
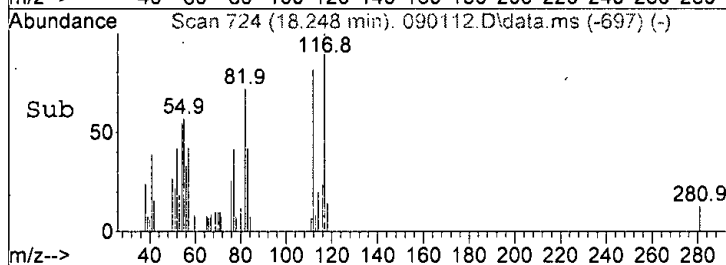
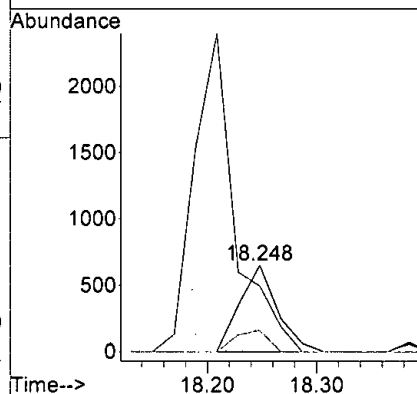
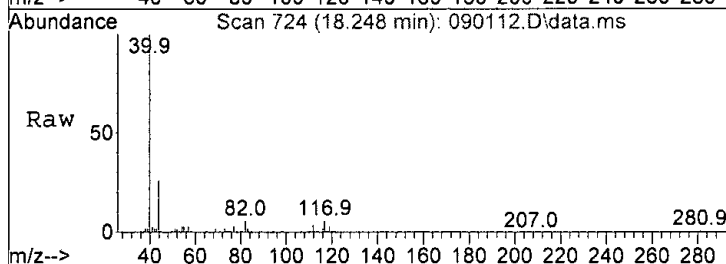
Tgt Ion: 164 Resp: 3375  
 Ion Ratio Lower Upper  
 164 100  
 129 124.2 63.2 123.2#  
 131 121.2 70.7 130.7  
 166 123.7 107.5 167.5





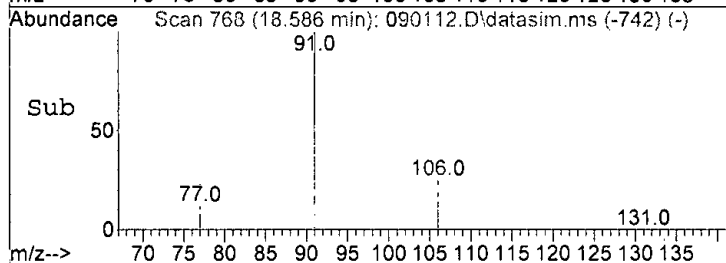
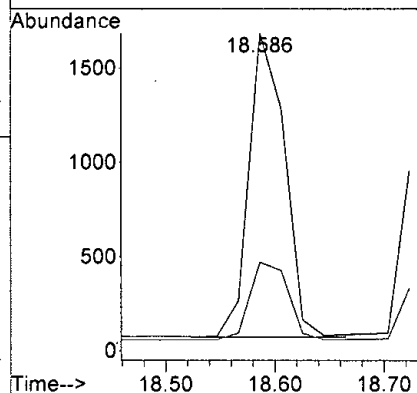
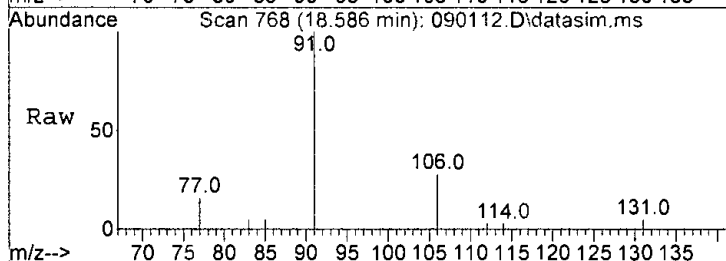
#57  
 Chlorobenzene  
 Concen: 0.034 ppbv  
 RT: 18.25 min Scan# 724  
 Delta R.T. -0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

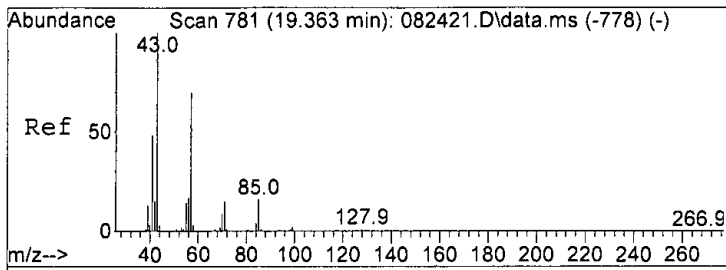
Tgt Ion	Resp	Lower	Upper
112	1538		
112	100		
77	76.4	33.9	93.9
114	24.7	2.4	62.4



#58  
 Ethylbenzene  
 Concen: 0.039 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

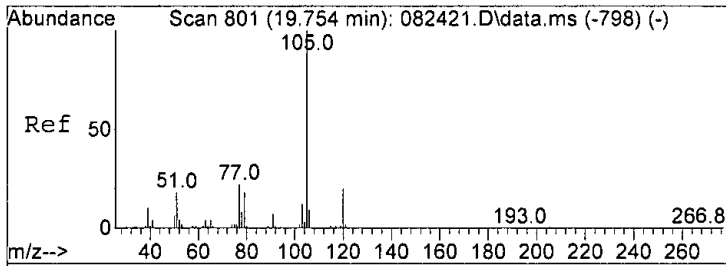
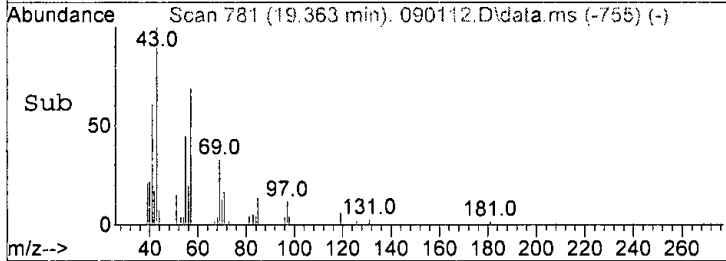
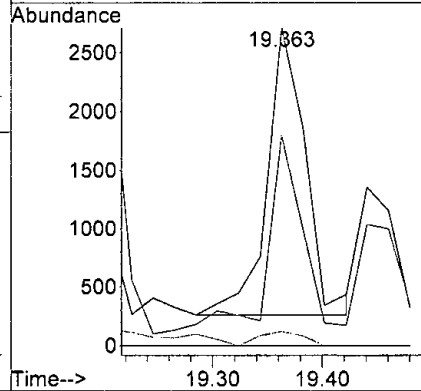
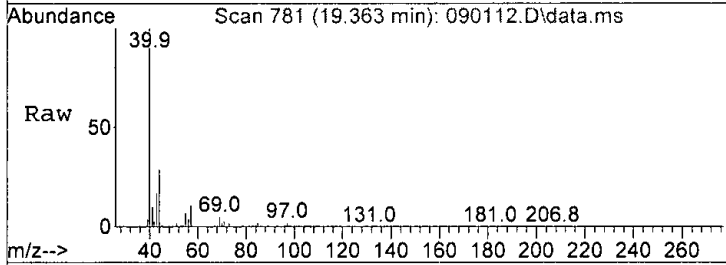
Tgt Ion	Resp	Lower	Upper
91	3671		
91	100		
106	25.4	0.0	57.0





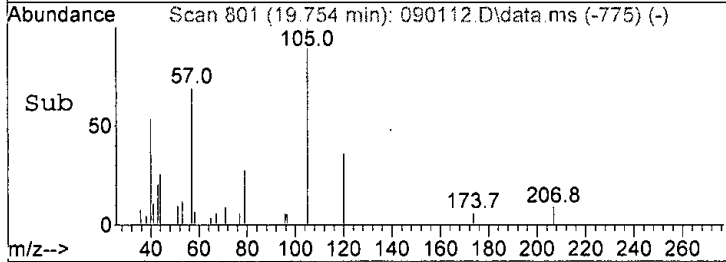
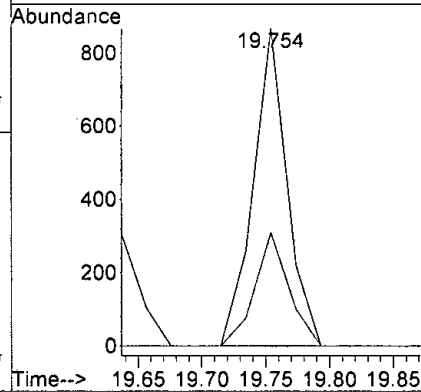
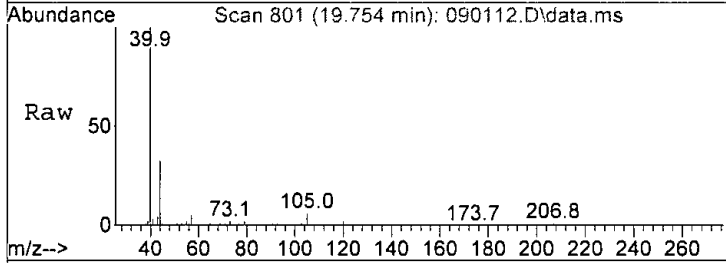
#60  
 Nonane  
 Concen: 0.085 ppbv  
 RT: 19.36 min Scan# 781  
 Delta R.T. -0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

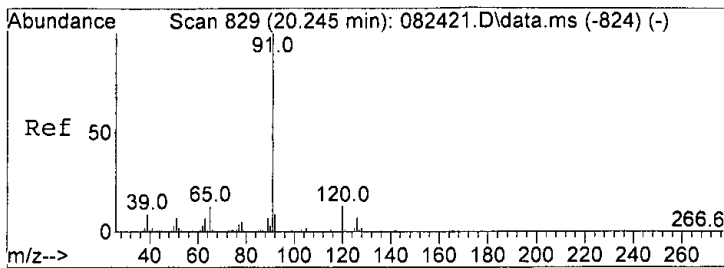
Tgt Ion:	43	Resp:	5962
Ion Ratio	Lower	Upper	
43	100		
57	59.9	48.8	108.8
84	5.8	0.0	34.7
99	0.0	0.0	32.7



#61  
 Isopropylbenzene  
 Concen: 0.019 ppbv  
 RT: 19.75 min Scan# 801  
 Delta R.T. 0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

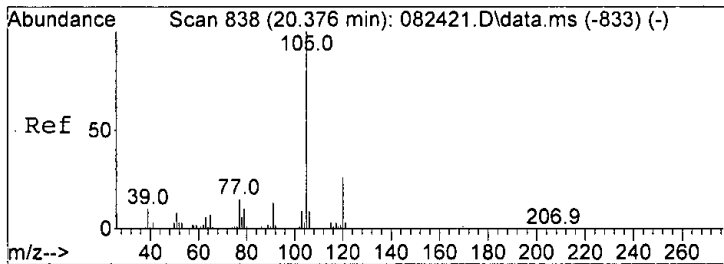
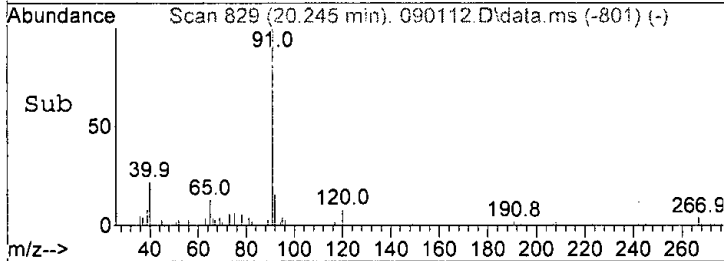
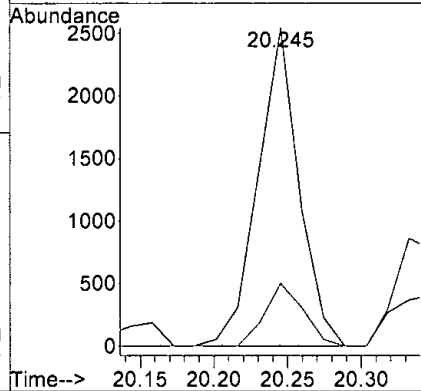
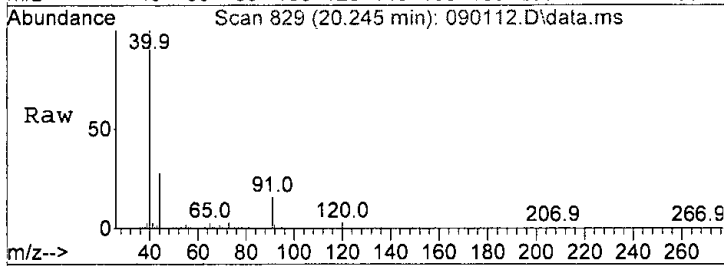
Tgt Ion:	105	Resp:	1576
Ion Ratio	Lower	Upper	
105	100		
120	36.2	18.0	27.0#





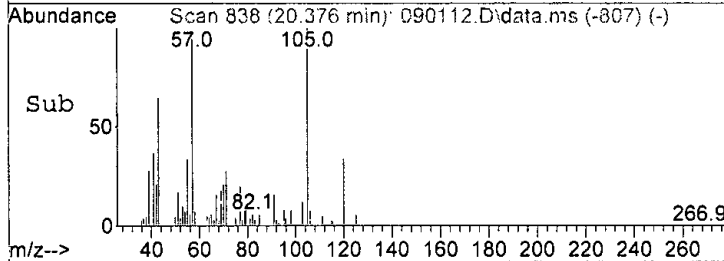
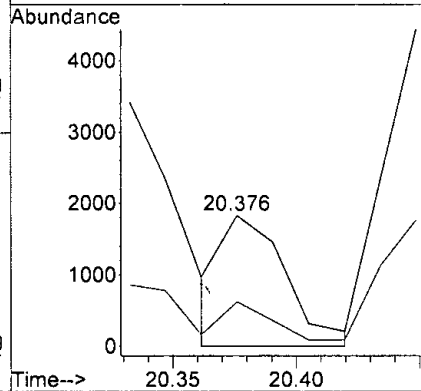
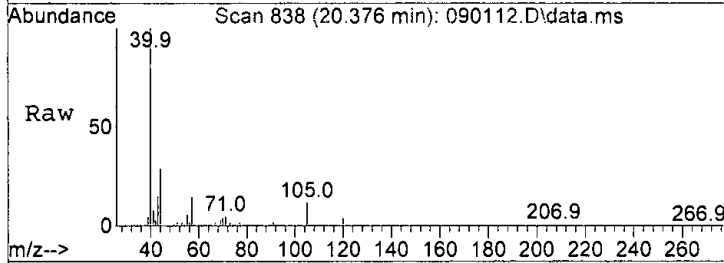
#63  
 Propylbenzene  
 Concen: 0.027 ppbv  
 RT: 20.25 min Scan# 829  
 Delta R.T. 0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

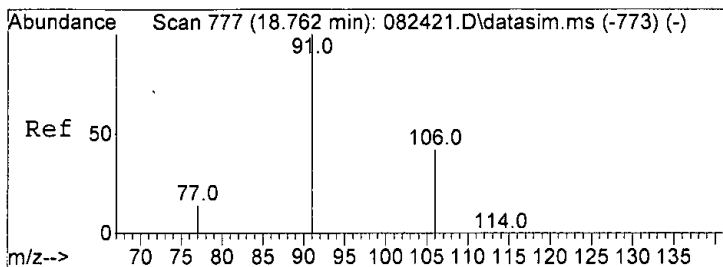
Tgt Ion: 91 Resp: 4916  
 Ion Ratio Lower Upper  
 91 100  
 120 18.5 0.0 42.5



#64  
 4-Ethyltoluene  
 Concen: 0.039 ppbv m  
 RT: 20.38 min Scan# 838  
 Delta R.T. 0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

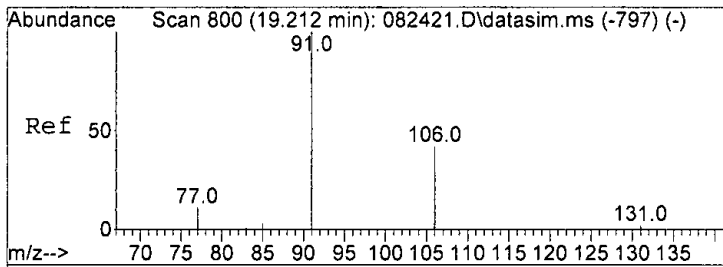
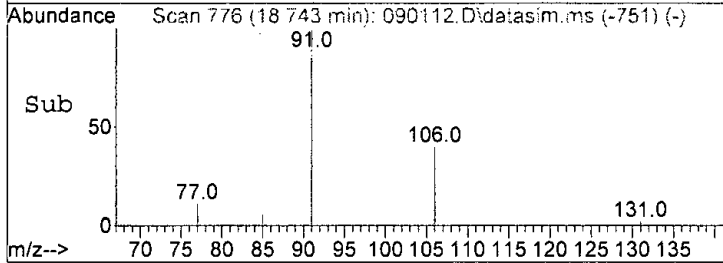
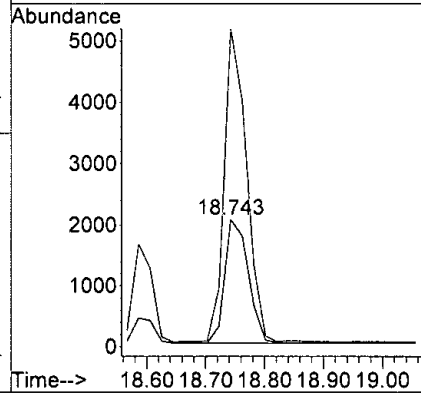
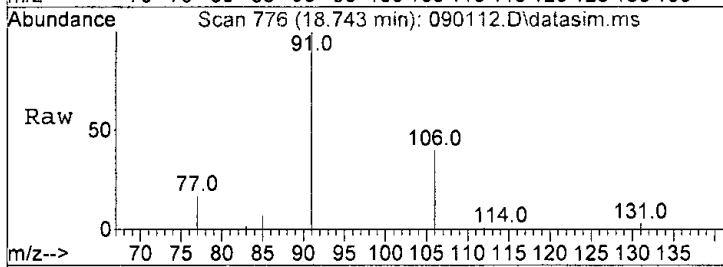
Tgt Ion: 105 Resp: 3323  
 Ion Ratio Lower Upper  
 105 100  
 120 83.2 23.0 34.4#





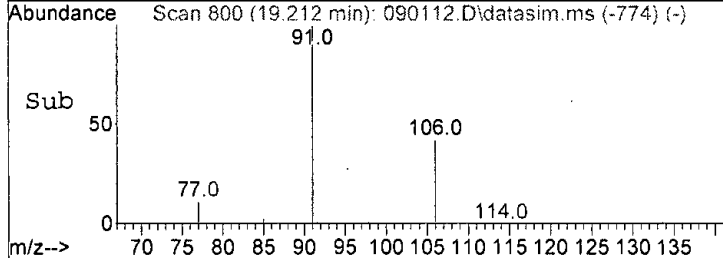
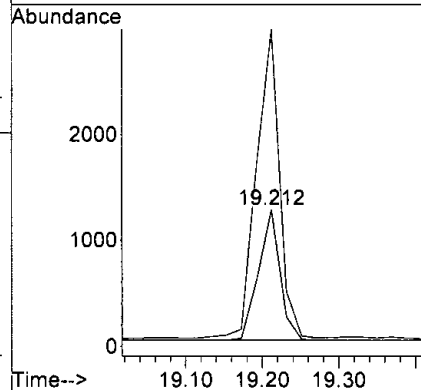
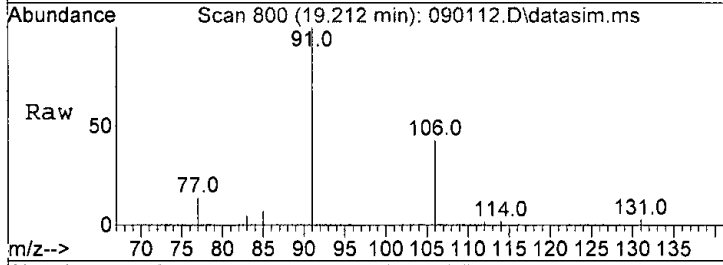
#65  
 m,p-Xylene  
 Concen: 0.187 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.019 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

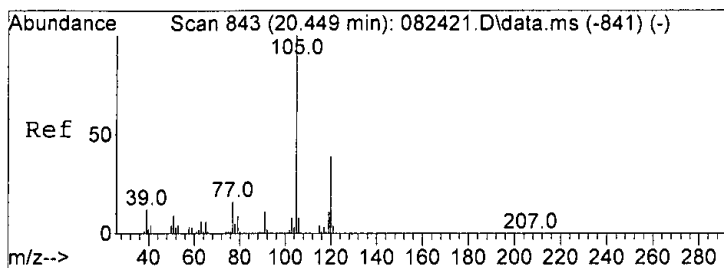
Tgt Ion:106 Resp: 5586  
 Ion Ratio Lower Upper  
 106 100  
 91 252.9 193.0 253.0



#66  
 o-Xylene  
 Concen: 0.081 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

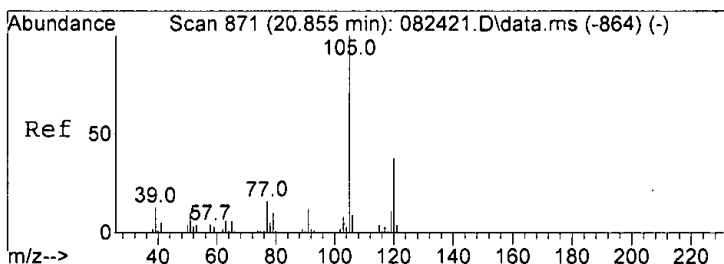
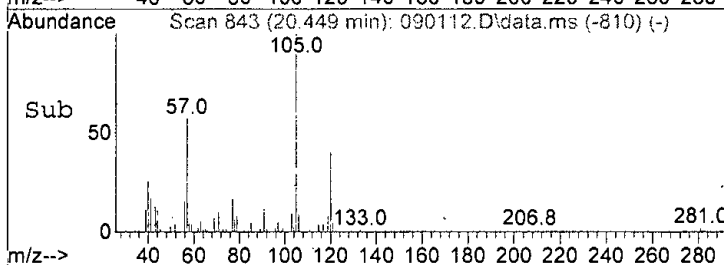
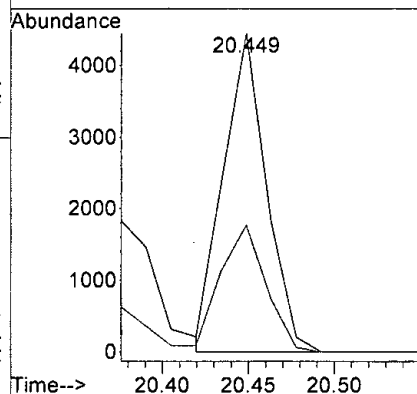
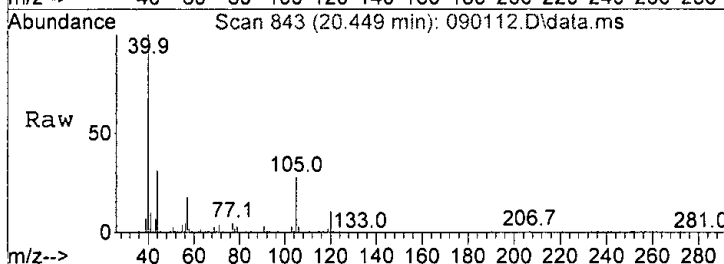
Tgt Ion:106 Resp: 2399  
 Ion Ratio Lower Upper  
 106 100  
 91 237.2 194.4 254.4





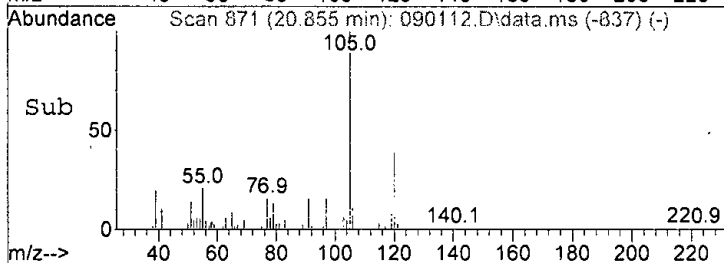
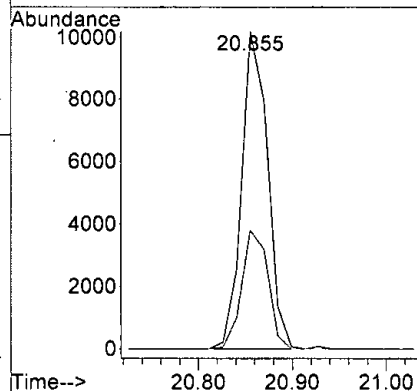
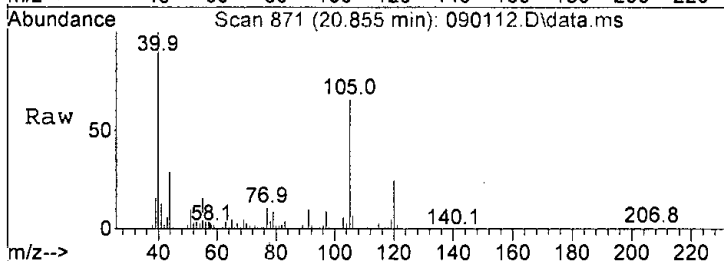
#71  
 1,3,5-Trimethylbenzene  
 Concen: 0.112 ppbv  
 RT: 20.45 min Scan# 843  
 Delta R.T. -0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

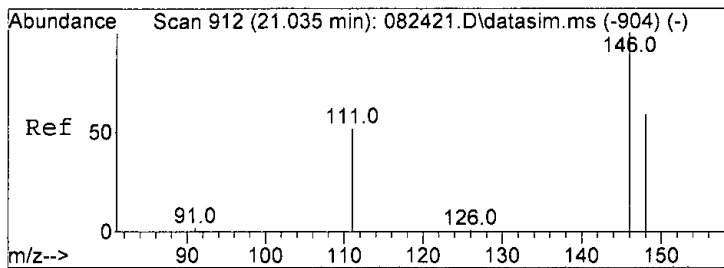
Tgt Ion:105 Resp: 7673  
 Ion Ratio Lower Upper  
 105 100  
 120 39.7 13.4 73.4



#72  
 1,2,4-Trimethylbenzene  
 Concen: 0.277 ppbv  
 RT: 20.86 min Scan# 871  
 Delta R.T. 0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

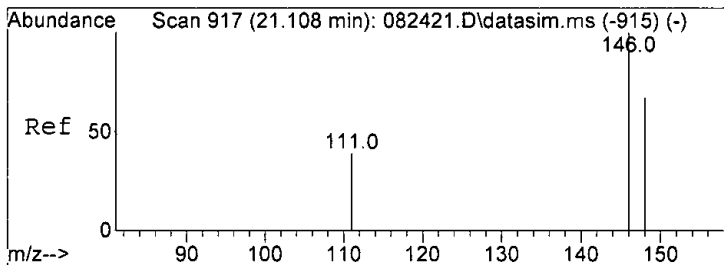
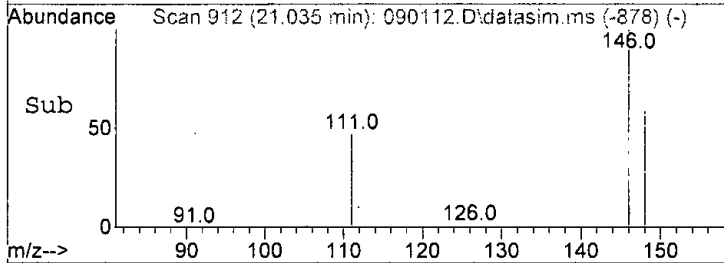
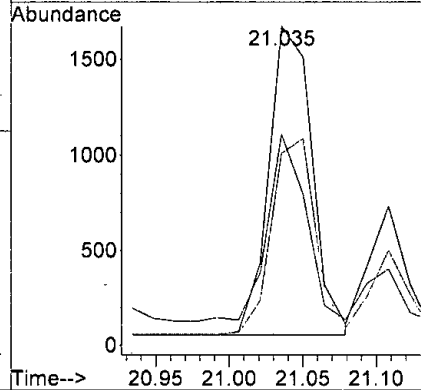
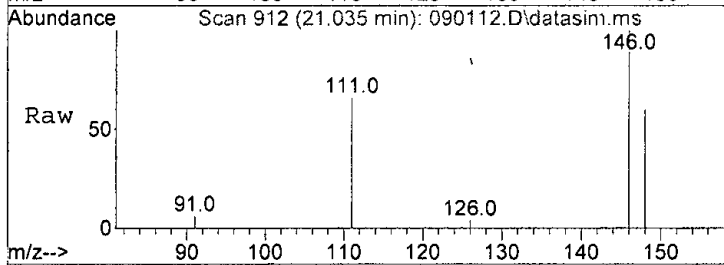
Tgt Ion:105 Resp: 19528  
 Ion Ratio Lower Upper  
 105 100  
 120 37.3 11.0 71.0





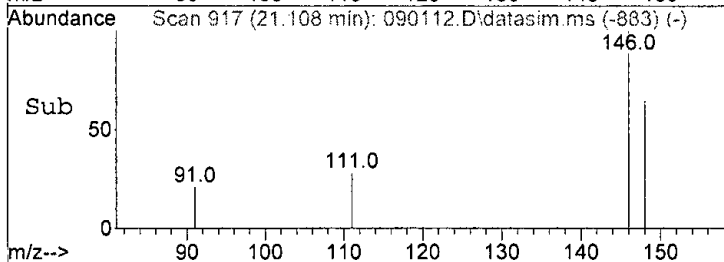
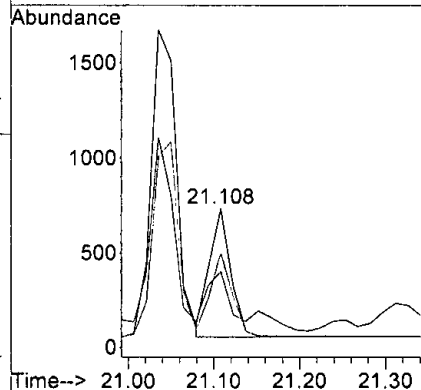
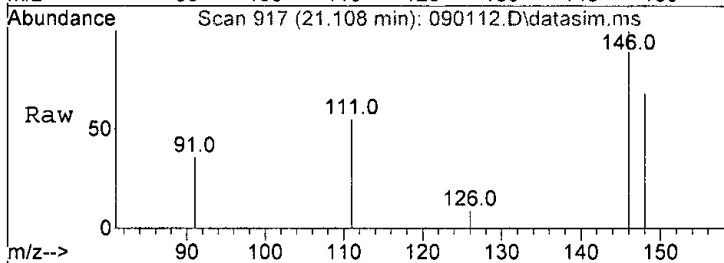
#73  
 1,3-Dichlorobenzene  
 Concen: 0.068 ppbv  
 RT: 21.04 min Scan# 912  
 Delta R.T. 0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

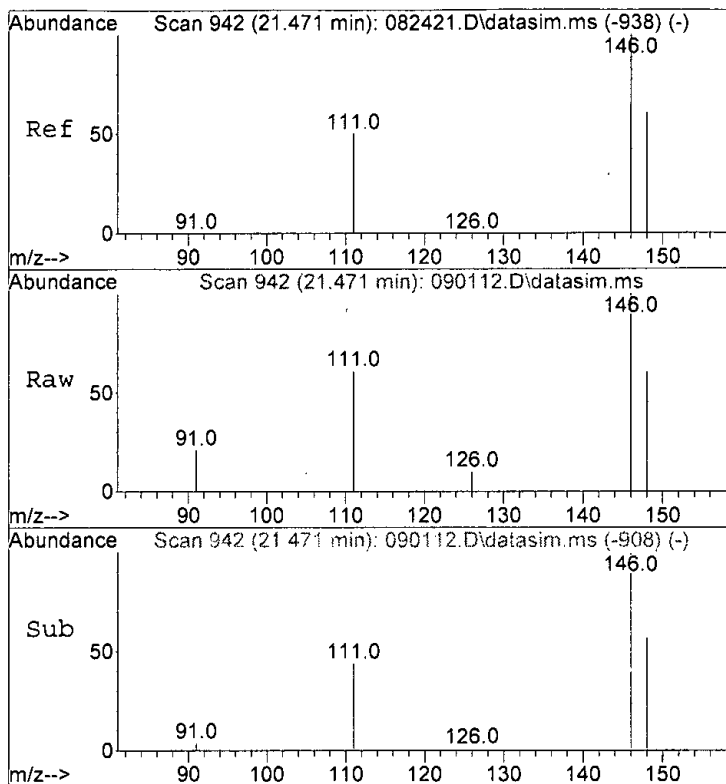
Tgt Ion:146 Resp: 3306  
 Ion Ratio Lower Upper  
 146 100  
 111 60.8 13.6 73.6  
 148 58.7 32.6 92.6



#74  
 1,4-Dichlorobenzene  
 Concen: 0.016 ppbv  
 RT: 21.11 min Scan# 917  
 Delta R.T. 0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

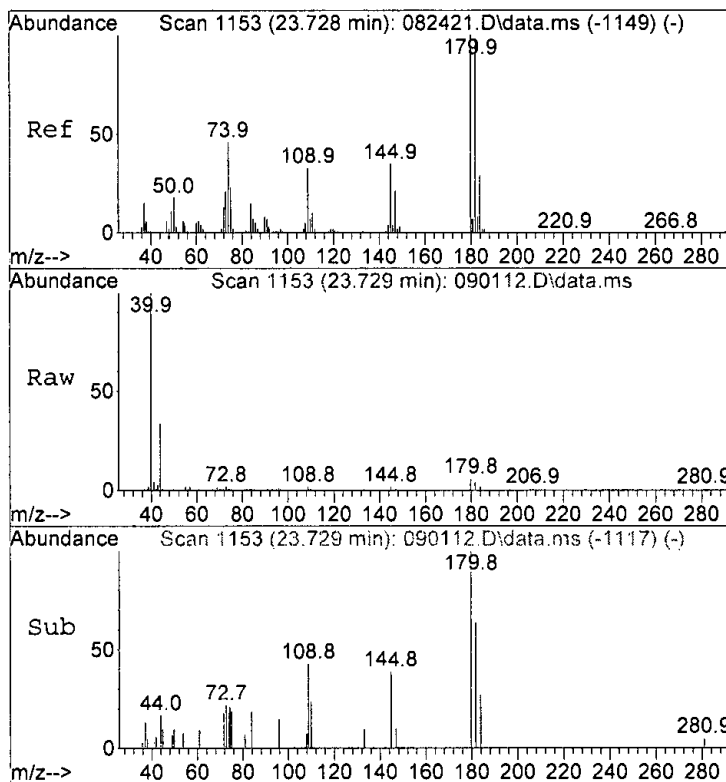
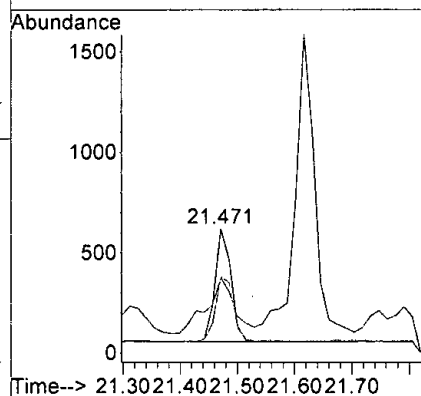
Tgt Ion:146 Resp: 1177  
 Ion Ratio Lower Upper  
 146 100  
 111 39.3 5.5 65.5  
 148 65.4 38.8 98.8





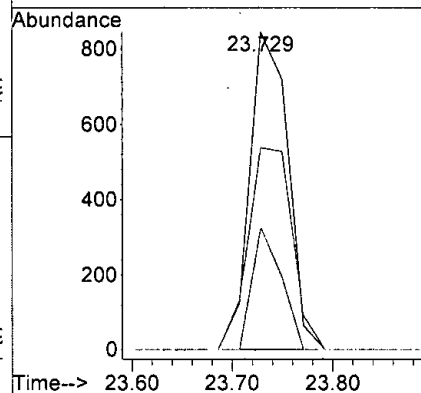
#75  
 1,2-Dichlorobenzene  
 Concen: 0.024 ppbv  
 RT: 21.47 min Scan# 942  
 Delta R.T. 0.000 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

Tgt Ion	Resp	Lower	Upper
146	100		
111	44.3	12.9	72.9
148	56.7	33.2	93.2

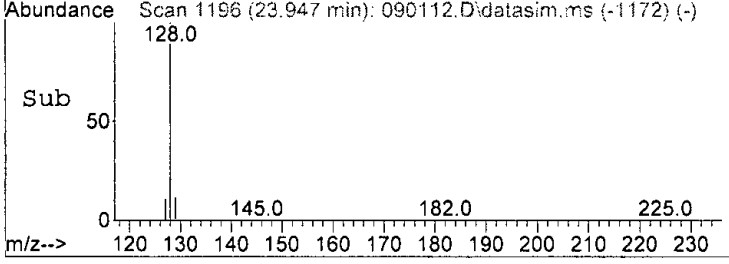
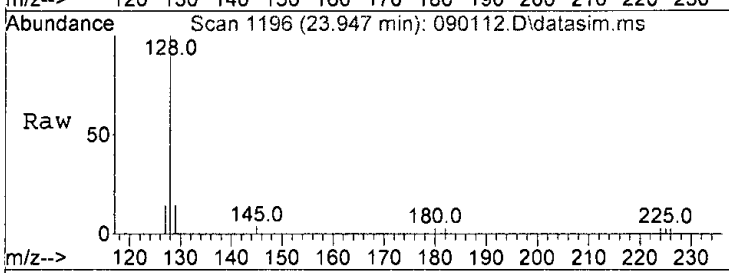
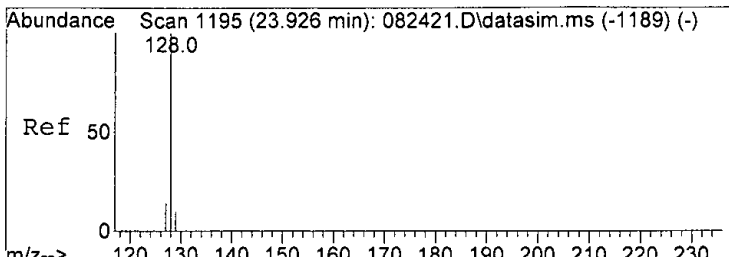


#76  
 1,2,4-Trichlorobenzene  
 Concen: 0.011 ppbv  
 RT: 23.73 min Scan# 1153  
 Delta R.T. 0.001 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

Tgt Ion	Resp	Lower	Upper
180	100		
182	63.7	64.5	124.5#
145	38.6	0.8	60.8

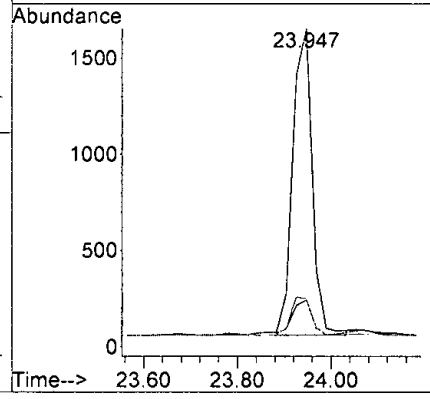






#77  
 Naphthalene  
 Concen: 0.033 ppbv  
 RT: 23.95 min Scan# 1196  
 Delta R.T. 0.021 min  
 Lab File: 090112.D  
 Acq: 1 Sep 2021 5:14 pm

Tgt Ion	Resp	Lower	Upper
128	100		
129	11.5	0.0	41.0
127	11.9	0.0	43.2



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:43:48 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	101031	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	476642	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	419940	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	371505	9.765	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.70%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.45	41	6929	0.401	ppbv	# 50
3) Dichlorodifluoromethane	3.52	85	5167	0.116	ppbv	85
4) Chloromethane	0.00		0	N.D.		
5) F-114	3.88	85	1903	0.042	ppbv	# 55
6] Vinyl chloride	4.05	62	265	0.012	ppbv	98
7] 1,3-Butadiene	4.21	54	191	0.012	ppbv	# 1
8) Butane	4.32	43	9327	0.284	ppbv	92
9) Bromomethane	0.00		0	N.D.	d	
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	4.96	45	3708	0.656	ppbv	92
13] Acrolein	5.45	56	305m	0.042	ppbv	
14) Pentane	6.33	43	5486	0.140	ppbv	94
15) Trichlorofluoromethane	5.88	101	2347	0.047	ppbv	63
16) Acetone	5.60	58	8479	0.954	ppbv	# 83
17) 2-Propanol	5.86	45	43898	1.222	ppbv	# 99
18) 1,1-Dichloroethene	0.00		0	N.D.		
19) trans-1,2-Dichloroethene	8.18	96	102	N.D.		
20) Methylene chloride	6.86	84	63993	3.619	ppbv	84
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	7.01	41	275	N.D.		
23) CFC-113	7.20	101	298	N.D.		
24) Carbon disulfide	7.33	76	13378	0.231	ppbv	94
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.44	63	396	0.010	ppbv	95
28] cis-1,2-Dichloroethene	9.73	96	240	0.013	ppbv	# 75
29) Hexane	10.11	57	7551	0.253	ppbv	94
30] Chloroform	10.19	83	1396	0.032	ppbv	96
31) Ethyl acetate	10.03	43	6538	0.104	ppbv	# 95
32) Tetrahydrofuran	10.85	42	170	N.D.		
33) 2-Butanone (MEK)	9.04	72	230	0.032	ppbv	# 51
34) 1,2-Dichloroethane (EDC)	11.45	62	127	N.D.		
35) 1,1,1-Trichloroethane	11.93	97	143	N.D.		
36) Carbon tetrachloride	12.95	117	134	N.D.		
37] Benzene	12.70	78	3283	0.053	ppbv	95
38) Cyclohexane	13.16	84	1974	0.117	ppbv	86
40) 1,2-Dichloropropane	13.90	63	238	N.D.		
41) 1,4-Dioxane	0.00		0	N.D.		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

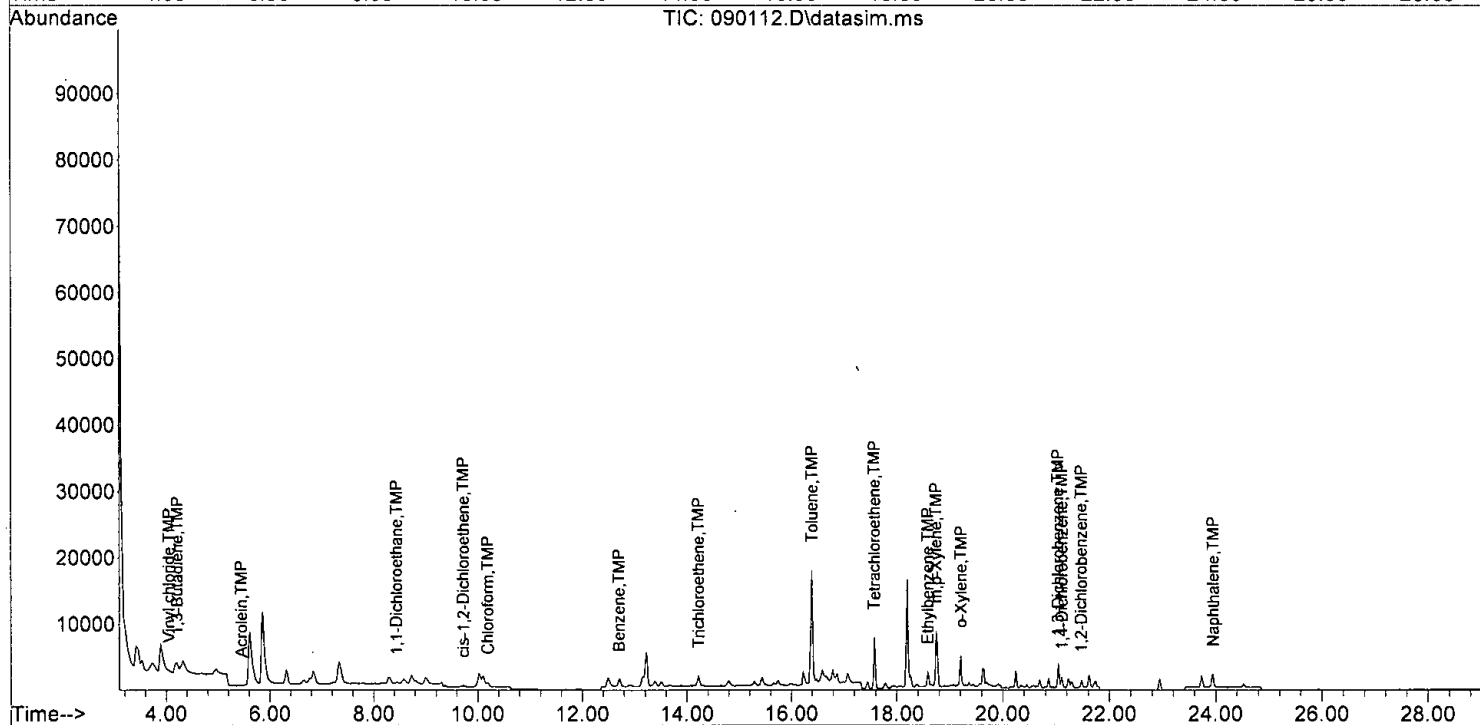
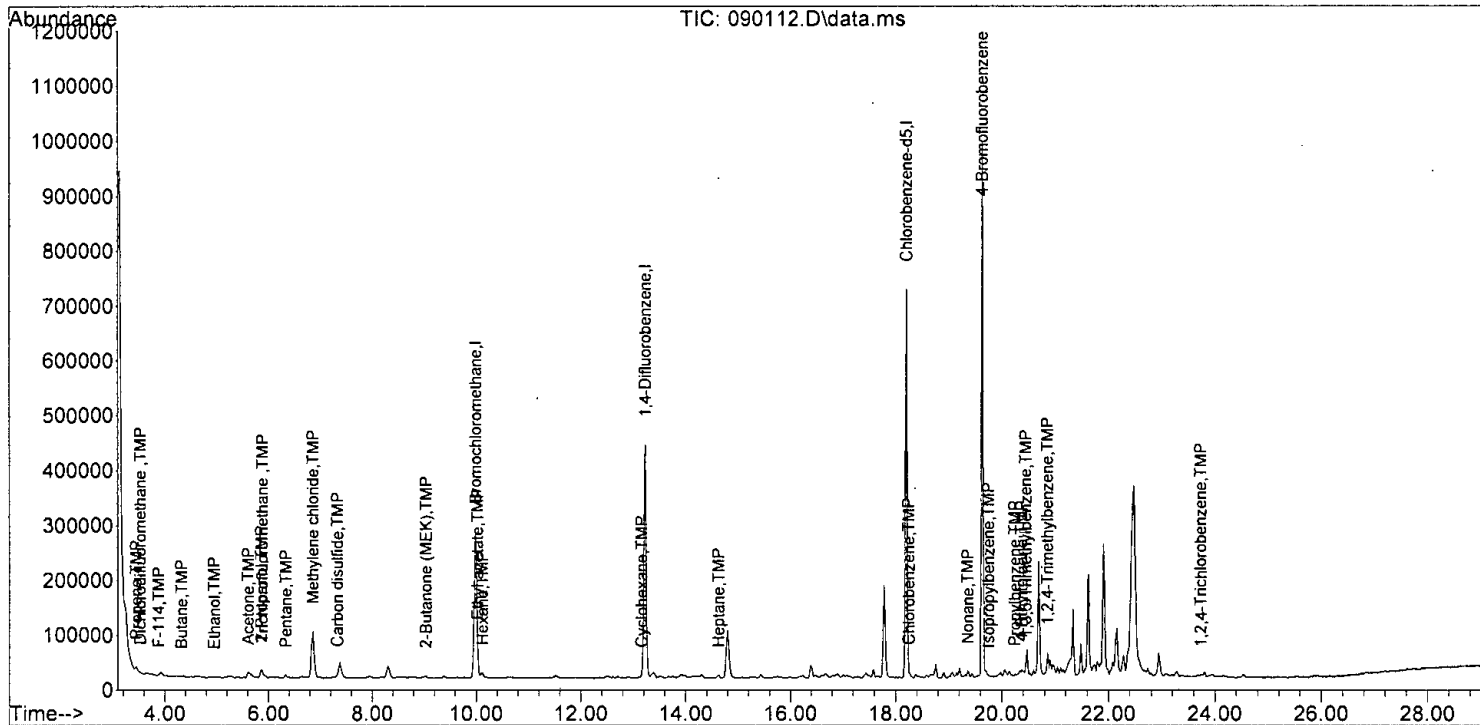
Quant Time: Sep 02 11:43:48 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	14.63	43	5538	0.121	ppbv #	84
45) Bromodichloromethane	14.19	83	280	N.D.		
46] Trichloroethene	14.22	95	1419	0.048	ppbv	84
47) cis-1,3-Dichloropropene	0.00		0	N.D.		
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	15.83	75	231	N.D.		
50] Toluene	16.40	92	12852	0.360	ppbv	85
51) 1,1,2-Trichloroethane	16.06	83	133	N.D.		
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	3375	0.186	ppbv #	80
54) Dibromochloromethane	0.00		0	N.D.		
55) 1,2-Dibromoethane (EDB)	17.10	107	149	N.D.		
57) Chlorobenzene	18.25	112	1538	0.034	ppbv	85
58] Ethylbenzene	18.59	91	3671	0.039	ppbv	97
59) 1,1,2,2-Tetrachloroethane	19.17	83	556	N.D.		
60) Nonane	19.36	43	5962	0.085	ppbv #	80
61) Isopropylbenzene	19.75	105	1576	0.019	ppbv #	72
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63] Propylbenzene	20.25	91	4916	0.027	ppbv	85
64) 4-Ethyltoluene	20.38	105	3323m	0.039	ppbv	
65] m,p-Xylene	18.74	106	5586	0.187	ppbv	82
66] o-Xylene	19.21	106	2399	0.081	ppbv	92
67) Styrene	19.09	104	377	N.D.		
68) Bromoform	0.00		0	N.D.		
70) Benzyl chloride	21.01	91	194	N.D.		
71) 1,3,5-Trimethylbenzene	20.45	105	7673	0.112	ppbv	94
72) 1,2,4-Trimethylbenzene	20.86	105	19528	0.277	ppbv	94
73] 1,3-Dichlorobenzene	21.04	146	3306	0.068	ppbv	86
74] 1,4-Dichlorobenzene	21.11	146	1177	0.016	ppbv	95
75] 1,2-Dichlorobenzene	21.47	146	1108	0.024	ppbv	94
76) 1,2,4-Trichlorobenzene	23.73	180	2238	0.011	ppbv #	73
77] Naphthalene	23.95	128	4635	0.033	ppbv	98
78) Hexachlorobutadiene	24.52	225	1078	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:43:48 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : I:\09-01-21\  
 Data File : 090105.D  
 Acq On : 1 Sep 2021 10:37 am  
 Operator : bat  
 Sample : 01-2000 lcs/ 67 ug/m3 64-81b  
 Misc : line 3  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 12:06:28 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.99	128	105662	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	505279	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	450204	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	397077	70.398	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	99.15%

Target Compounds						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1012835	54.289	ug/m3	86
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1381639	52.177	ug/m3	92
4) IS-3 Chlorobenzene-d5	18.21	TIC	1666911	51.899	ug/m3	91
5) Methylene chloride	6.86	TIC	100907	106.831	ug/m3	92
6) Acetone	5.62	TIC	27750	0.557	ppbv	100
7) 2-Propanol	5.86	TIC	14997	51.802	ppbv	100
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	8.51	73	973	0.119	ug/m3	56
11) Benzene	12.71	78	856	0.050	ug/m3	61
12) Isopentane	5.62	TIC	27750	0.813	ug/m3#	70
13) Hexane	10.11	TIC	2120862	63.579	ug/m3	93
14) Cyclohexane	13.23	TIC	1381639	39.393	ug/m3	93
15) 2,3-Dimethylpentane	13.23	TIC	1381639	30.868	ug/m3	64
16) Heptane	14.56	TIC	2901	0.079	ug/m3	73
17) Octane	17.78	TIC	410191	8.178	ug/m3	62
18) APH EC5-8 aliphatics T...	12.93	TIC	5324982m	132.821	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	2896568m	72.249	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1880083	49.468	ug/m3	90
22) Hexamethylcyclotrisilo...	17.78	TIC	496075	52.992	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	325136	27.829	ppbv	100
24) Toluene	16.39	92	663	0.069	ug/m3	97
25) Ethylbenzene	18.60	91	1557	0.078	ug/m3	87
26) m,p-Xylene	18.78	106	1056	0.157	ug/m3	83
27) o-Xylene	19.21	106	624	0.098	ug/m3	86
28) Naphthalene	23.94	128	7455	0.460	ug/m3	91
29) 2,3-Dimethylheptane	0.00		0	N.D.		
30) Nonane	19.64	TIC	1880083	39.794	ug/m3#	60
31) Decane	20.90	TIC	3943272	84.016	ug/m3	92
32) Butylcyclohexane	21.57	TIC	11391	0.214	ug/m3	84
33) Undecane	22.29	TIC	39115	0.840	ug/m3	95
34) Dodecane	23.79	TIC	4113676	107.666	ug/m3	93
35) APH EC9-12 aliphatics ...	0.00	TIC	9987537m	216.828	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	11791452m	255.991	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	20.45	120	457413	92.626	ug/m3#	64
40) 1,3,5-Trimethylbenzene	20.45	120	457413	73.202	ug/m3	89
41) p-Isopropyltoluene	0.00		0	N.D.		
42) 1,2,3-Trimethylbenzene	21.31	120	1049	0.143	ug/m3#	84
43) APH EC9-10 aromatics T...	0.00	TIC	915875m	188.572	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	373730m	69.687	ug/m3	

Data Path : I:\09-01-21\  
 Data File : 090105.D  
 Acq On : 1 Sep 2021 10:37 am  
 Operator : bat  
 Sample : 01-2000 lcs/ 67 ug/m<sup>3</sup> 64-81b  
 Misc : line 3  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS7

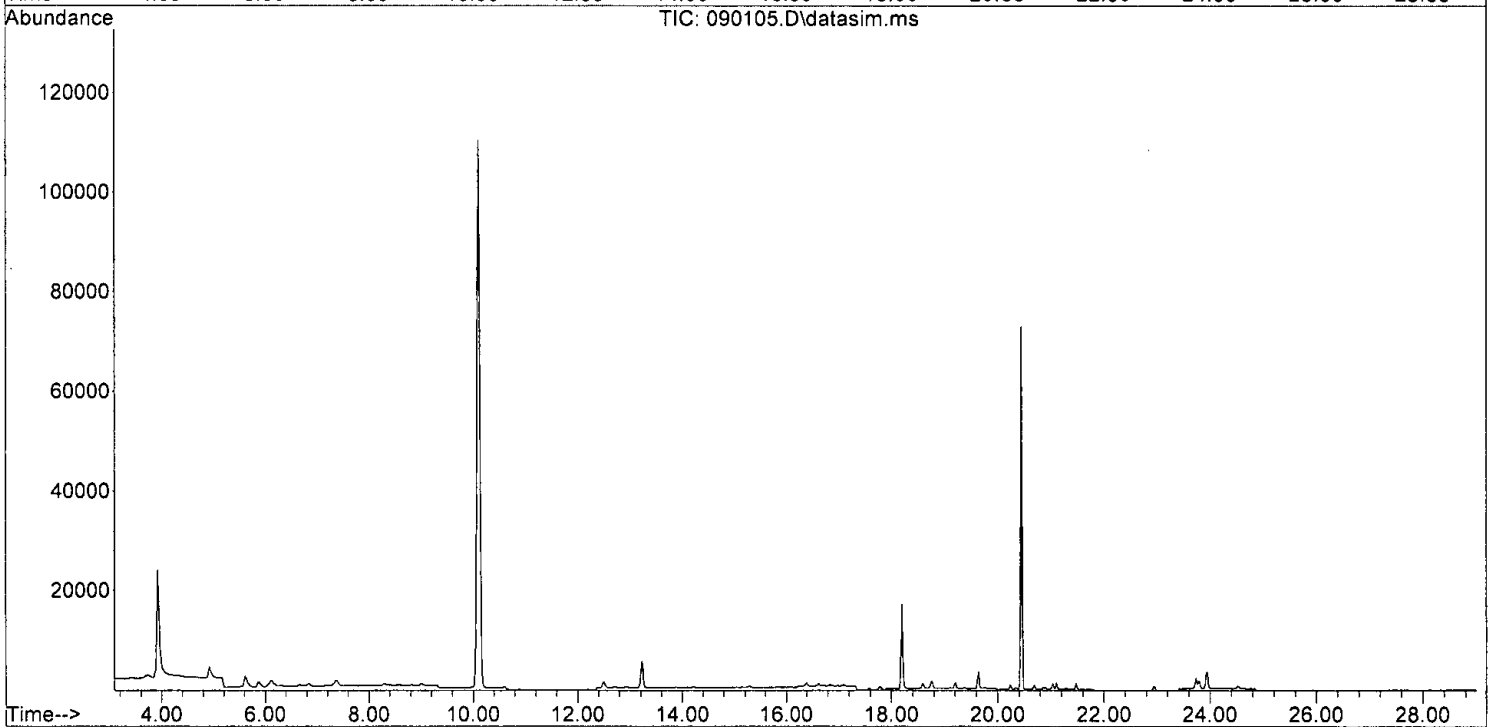
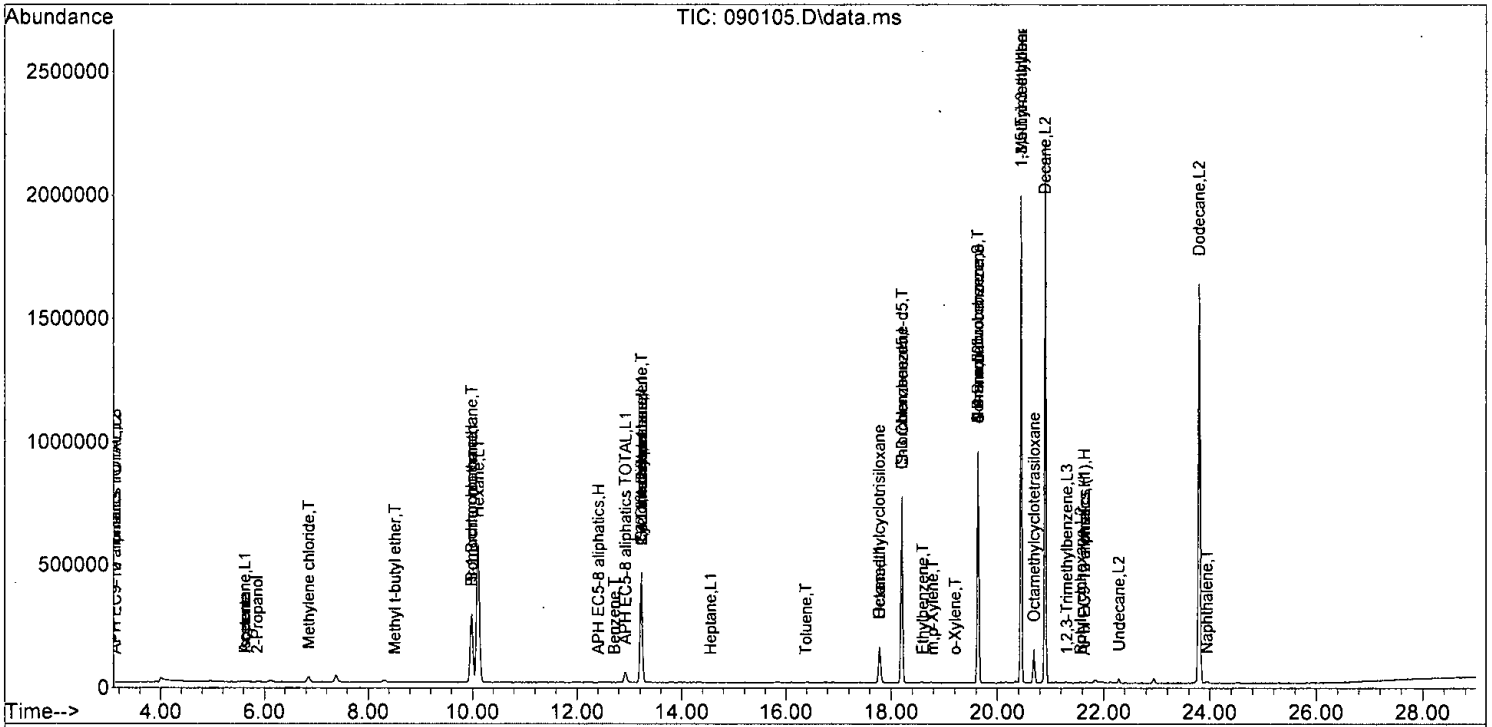
Quant Time: Sep 01 12:06:28 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	-81919m	Below	Cal	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\09-01-21\  
 Data File : 090105.D  
 Acq On : 1 Sep 2021 10:37 am  
 Operator : bat  
 Sample : 01-2000 lcs/ 67 ug/m3 64-81b  
 Misc : line 3  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 12:06:28 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Evaluate Continuing Calibration Report

Data Path : I:\09-01-21\  
 Data File : 090105.D  
 Acq On : 1 Sep 2021 10:37 am  
 Operator : bat  
 Sample : 01-2000 lcs/ 67 ug/m3 64-81b  
 Misc : line 3  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 12:06:28 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	83	0.00
2 T	IS-1 Bromochloromethane	50.000	54.289	-8.6	91	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	52.177	-4.4	83	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	51.899	-3.8	87	0.00
5 T	Methylene chloride	50.000	106.831	-113.7#	0	0.00
6	Acetone	50.000	0.557	98.9#	0	-0.06
7	2-Propanol	50.000	51.802	-3.6	0	0.02
8 T	1,3-Butadiene	11.000	0.000	100.0#	0	-4.28#
9 T	Methyl t-butyl ether	18.000	0.119	99.3#	1	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	84	0.00
11 T	Benzene	16.000	0.050	99.7#	0	0.00
12 L1	Isopentane	15.000	0.813	94.6#	4	-0.06
13 L1	Hexane	67 17.500	63.579	-263.3#	289	0.00
14 L1	Cyclohexane	17.500	39.393	-125.1#	198	0.07
15 L1	2,3-Dimethylpentane	21.000	30.868	-47.0#	120	-0.29
16 L1	Heptane	21.000	0.079	99.6#	0	-0.07
17 L1	Octane	23.500	8.178	65.2#	27	0.37
18 L1	APH EC5-8 aliphatics TOTAL	115.000	132.821	-15.5	94	0.21
19 H	APH EC5-8 aliphatics	115.000	72.249	37.2#	51	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	85	0.00
21 T	S 4-Bromofluorobenzene	50.000	49.468	1.1	84	0.00
22	Hexamethylcyclotrisiloxane	50.000	52.992	-6.0	93	0.00
23	Octamethylcyclotetrasiloxan	50.000	27.829	44.3#	44	0.00
24 T	Toluene	18.750	0.069	99.6#	0	0.00
25 T	Ethylbenzene	21.750	0.078	99.6#	0	0.00
26 T	m,p-Xylene	44.000	0.157	99.6#	0	0.02
27 T	o-Xylene	22.000	0.098	99.6#	0	0.00
28 T	Naphthalene	25.000	0.460	98.2#	2	0.00
29 L2	2,3-Dimethylheptane	25.000	0.000	100.0#	0	-18.66#
30 L2	Nonane	25.000	39.794	-59.2#	136	0.27
31 L2	Decane	67 30.000	84.016	-180.1#	243	0.00
32 L2	Butylcyclohexane	27.500	0.214	99.2#	1	0.00
33 L2	Undecane	32.500	0.840	97.4#	2	0.00
34 L2	Dodecane	35.000	107.666	-207.6#	264	0.00
35 L2	APH EC9-12 aliphatics TOTAL	175.000	216.828	-23.9	107	-21.57#
36 H	APH EC9-12 aliphatics	175.000	255.991	-46.3#	127	0.00
37 S	4-Bromofluorobenzene	71.000	70.398	0.8	84	0.00
38 L3	Isopropylbenzene	24.500	0.000	100.0#	0	-19.75#
39 L3	1-Methyl-3-ethylbenzene	24.500	92.626	-278.1#	328	0.12
40 L3	1,3,5-Trimethylbenzene	67 24.500	73.202	-198.8#	256	0.00
41 L3	p-Isopropyltoluene	27.750	0.000	100.0#	0	-21.28#
42 L3	1,2,3-Trimethylbenzene	24.500	0.143	99.4#	1	0.00
43 L3	APH EC9-10 aromatics TOTAL	125.400	188.572	-50.4#	126	-21.57#
44 H	APH EC9-10 aromatics (1)	98.000	69.687	28.9	60	0.00

94.9%

125.4%

109.3%



Evaluate Continuing Calibration Report

Data Path : I:\09-01-21\  
 Data File : 090105.D  
 Acq On : 1 Sep 2021 10:37 am  
 Operator : bat  
 Sample : 01-2000 lcs/ 67 ug/m3 64-81b  
 Misc : line 3  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 01 12:06:28 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	27.400	-26.818	197.9#	-83	0.00

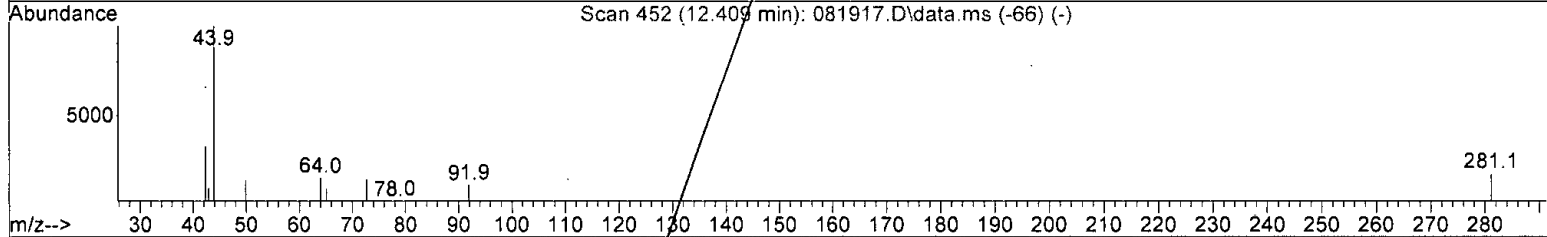
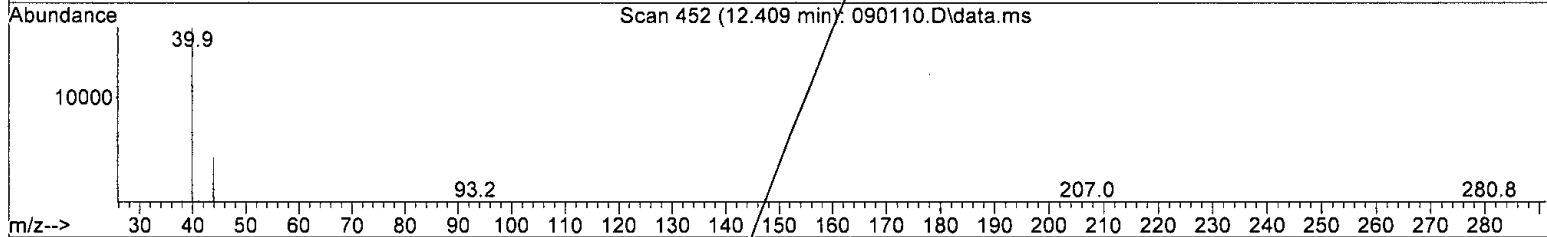
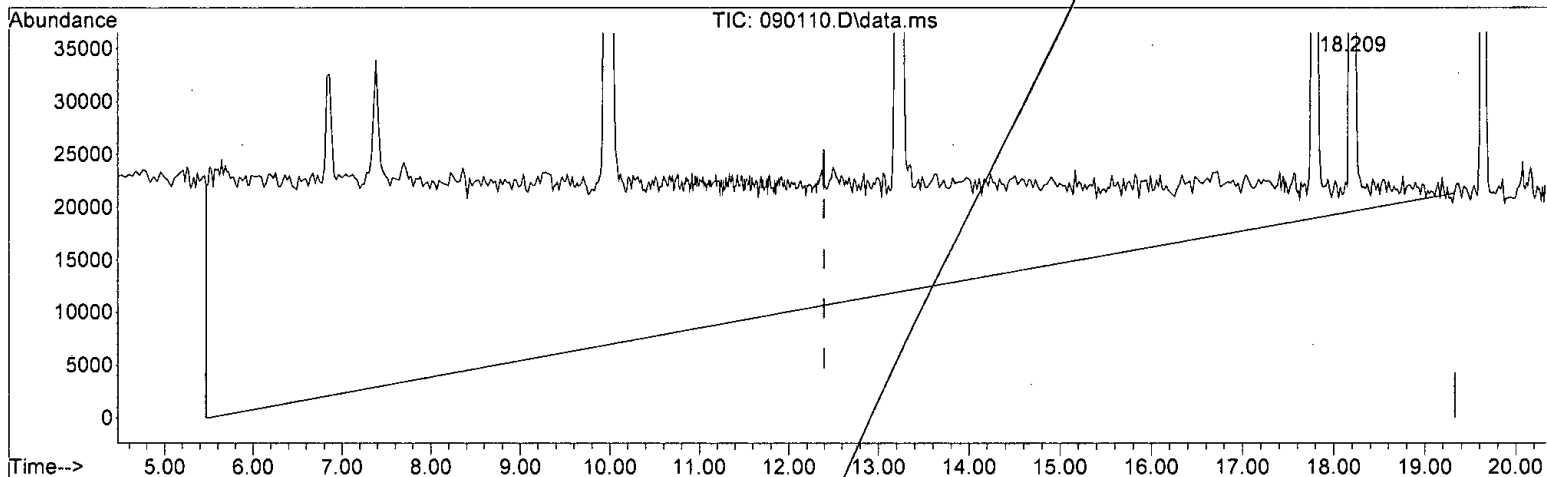
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:08:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 10.001 ug/m3 m

response 386879

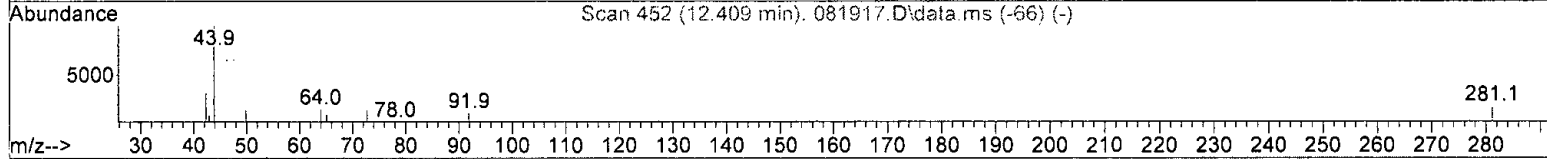
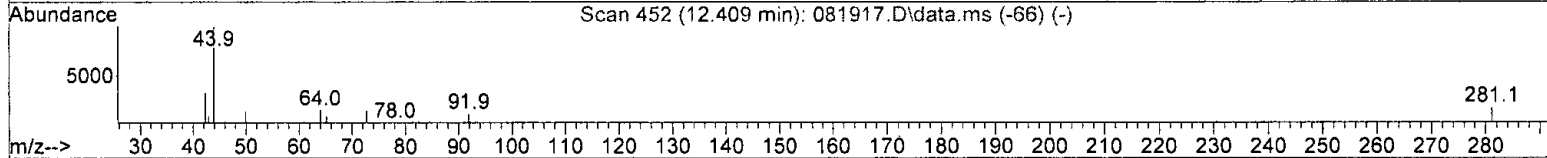
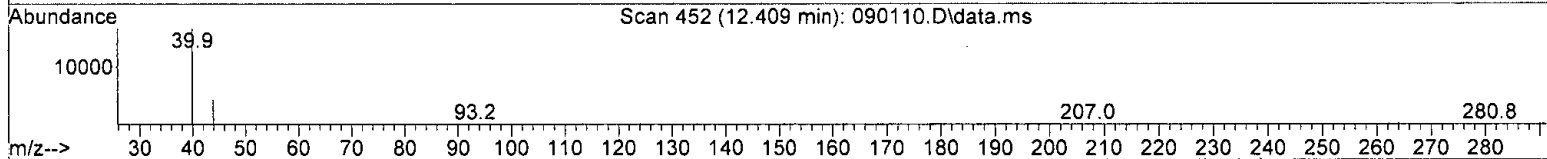
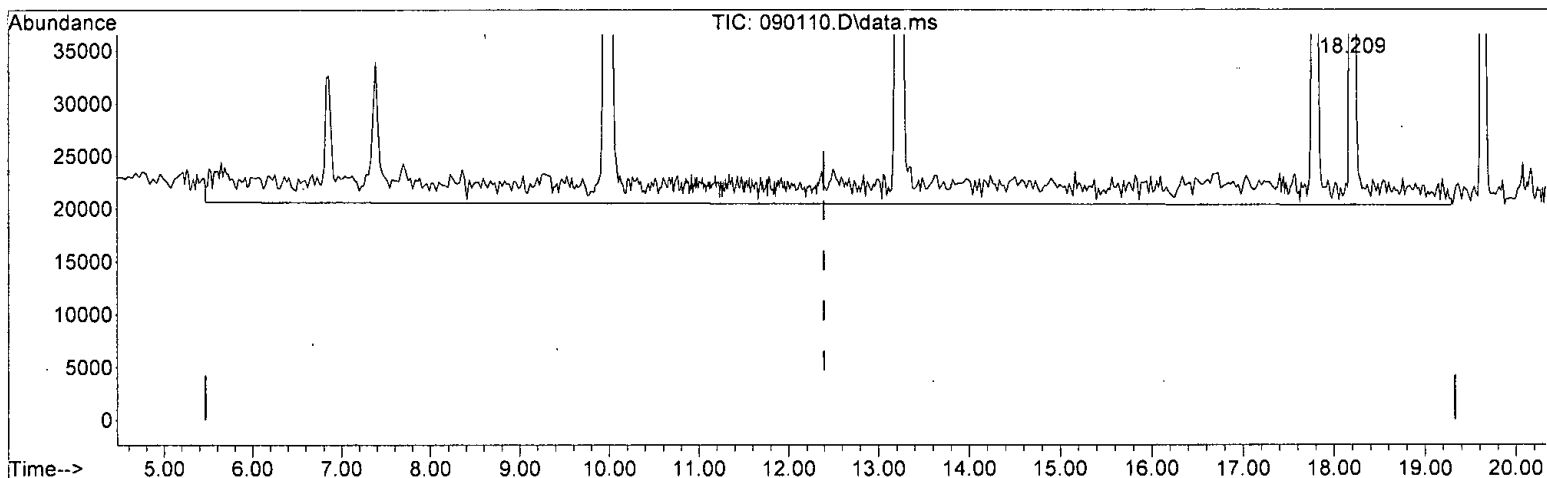
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*M 09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:08:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*Handwritten signature:* k orlak

(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 157.567 ug/m3 m

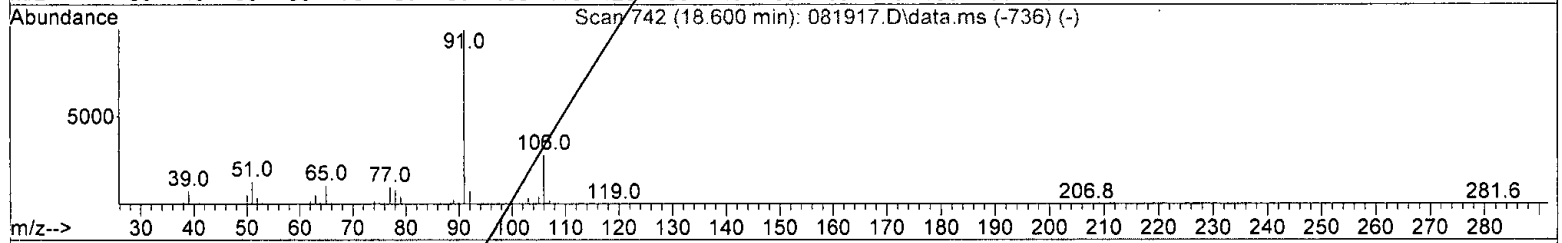
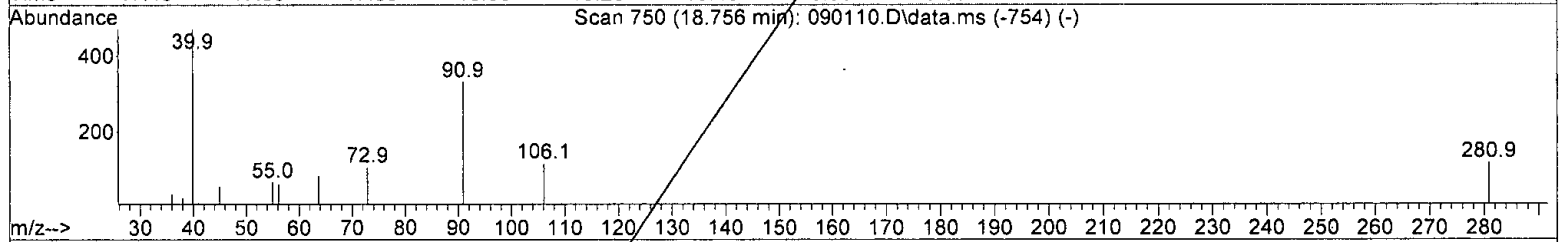
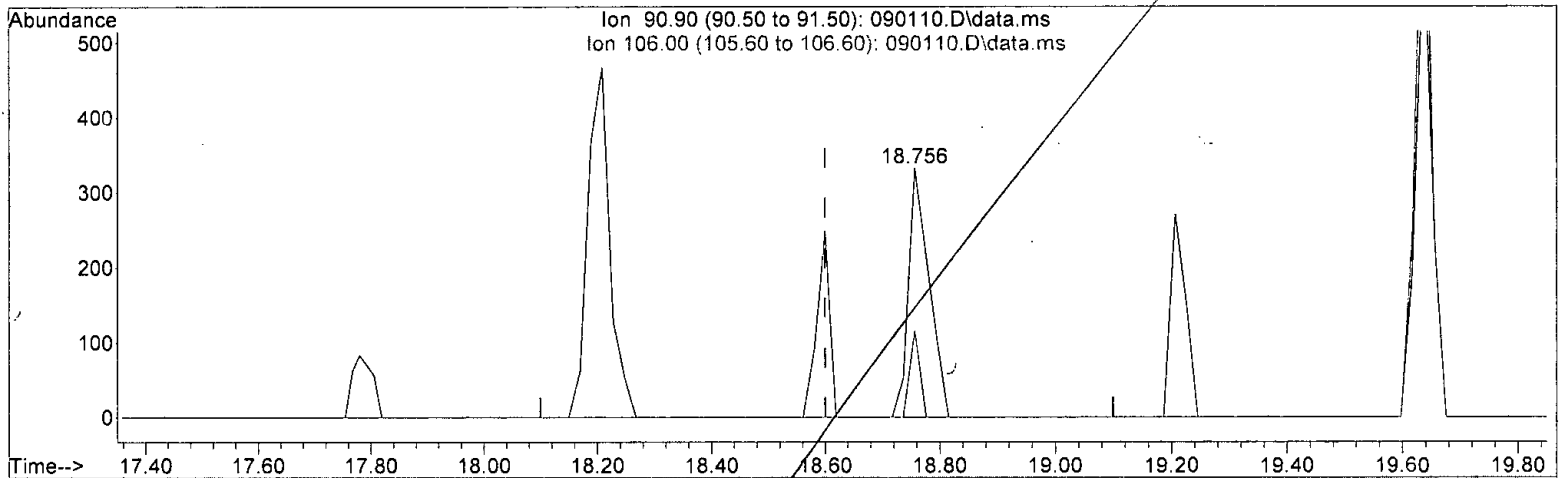
response 6095128

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:08:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(25) Ethylbenzene (T)

18.756min (+ 0.156) 0.042 ug/m3

response 821

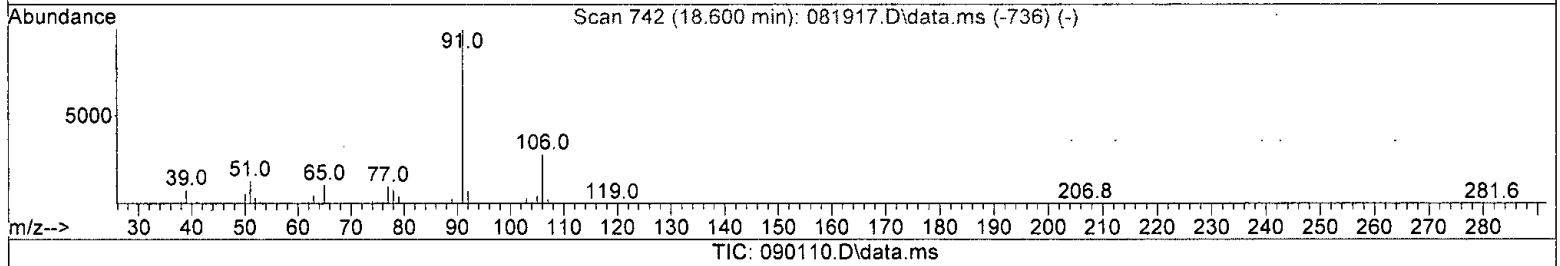
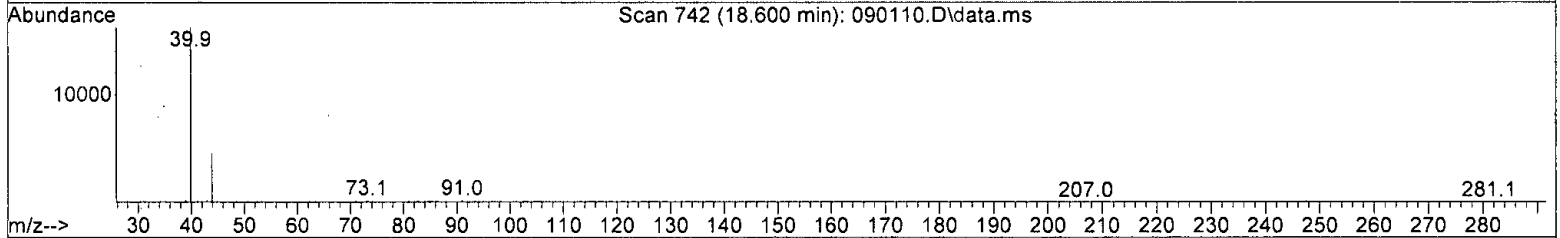
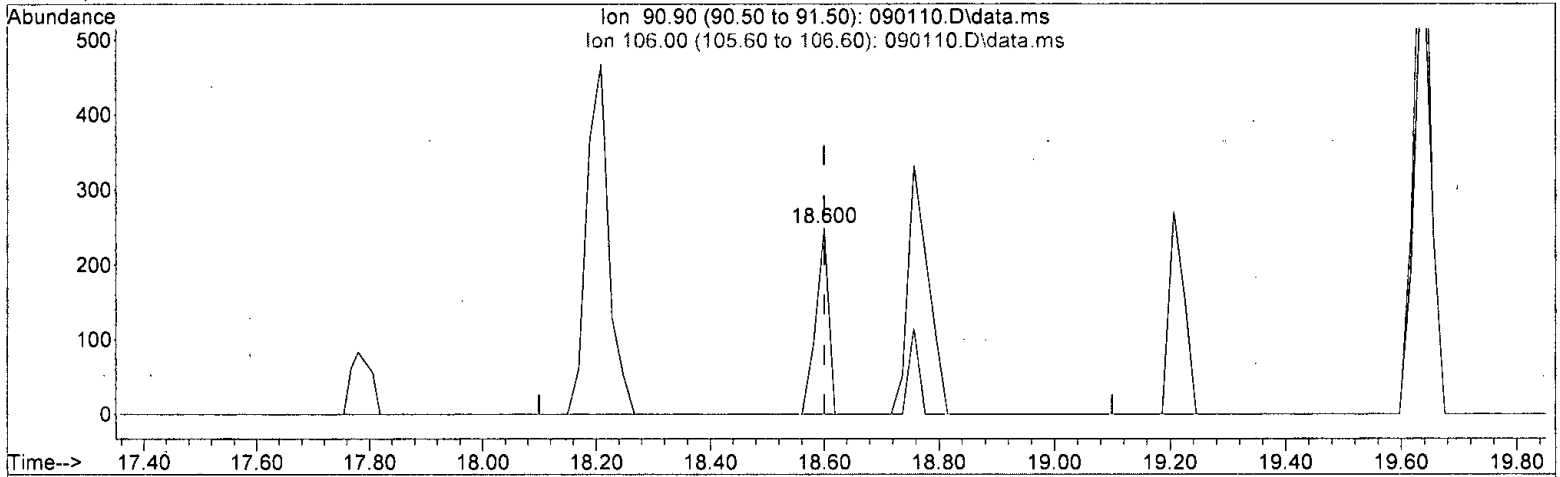
Ion	Exp%	Act%
90.90	100.00	100.00
106.00	30.50	34.94
0.00	0.00	0.00
0.00	0.00	0.00

*M. S. S. S.*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:08:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(25) Ethylbenzene (T)

18.600min (-0.000) 0.021 ug/m3 m

response 401

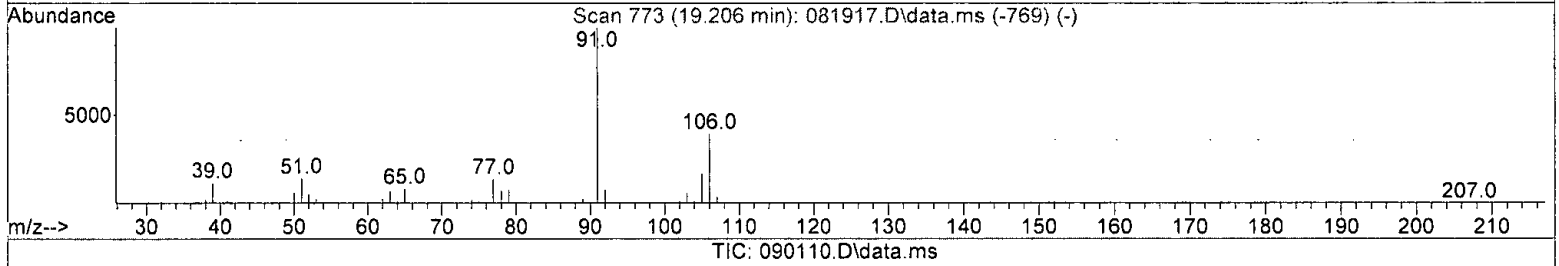
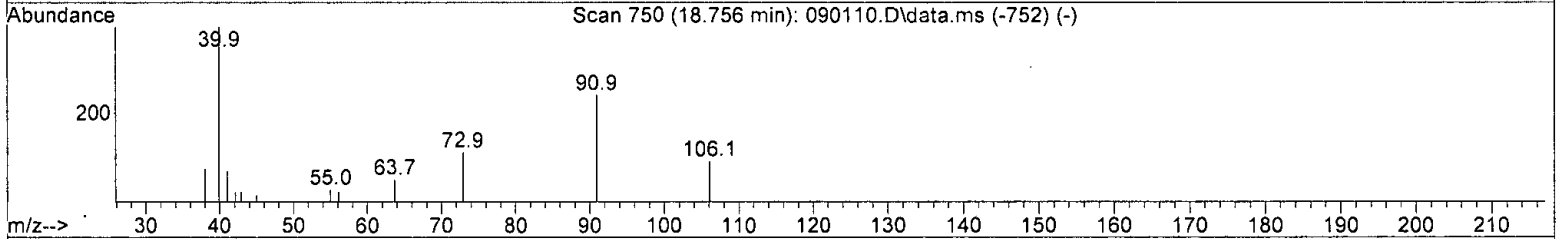
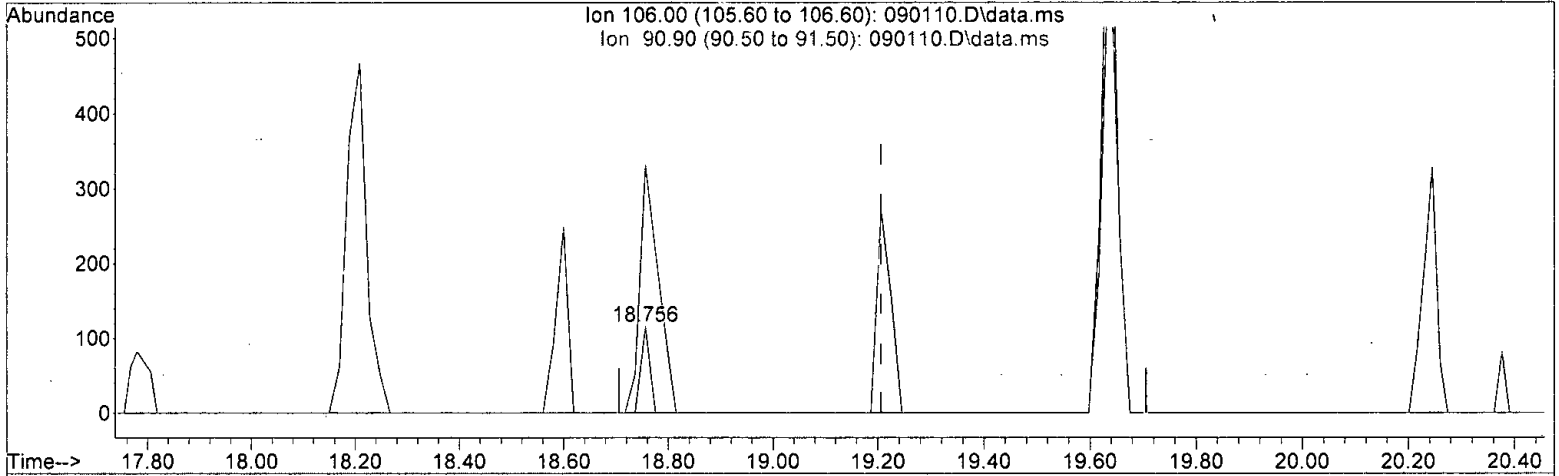
Ion	Exp%	Act%
90.90	100.00	100.00
106.00	30.50	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:08:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

18.756min (-0.450) 0.022 ug/m3

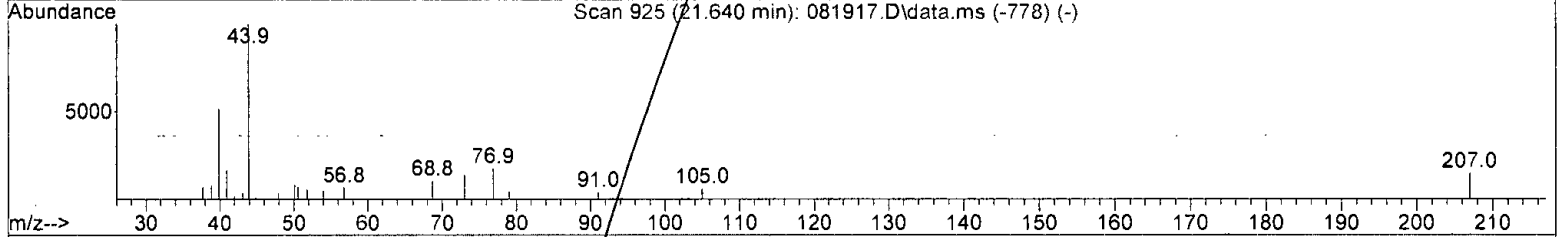
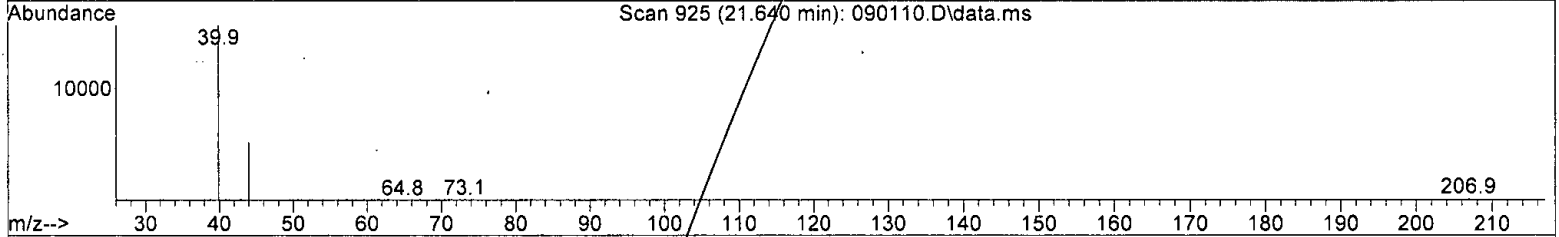
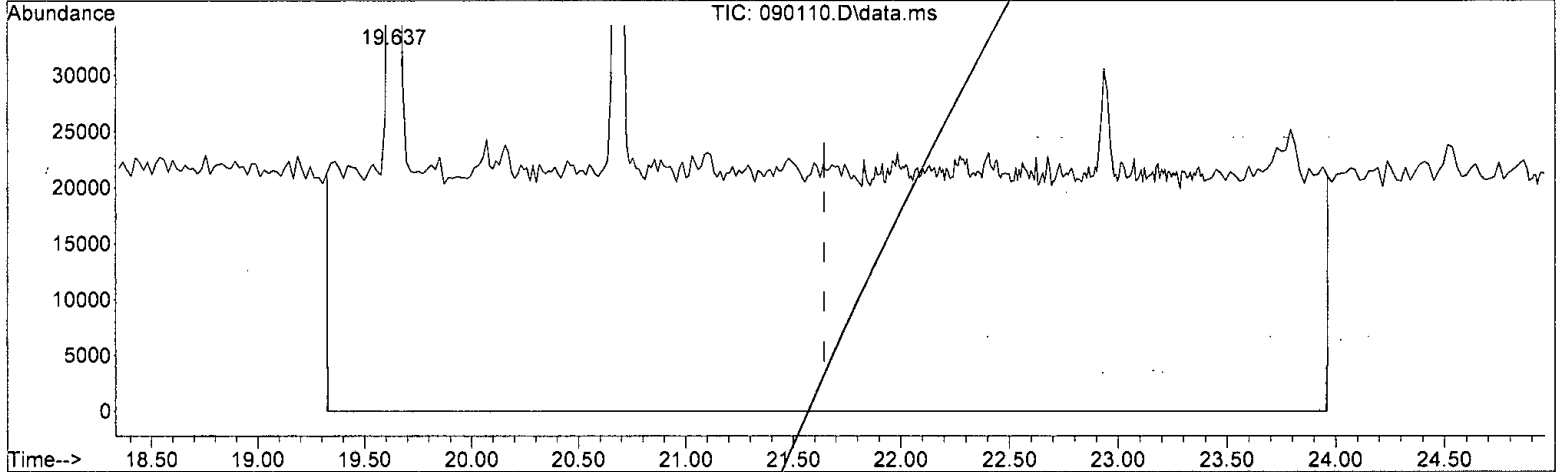
response 136

Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	241.38
0.00	0.00	0.00
0.00	0.00	0.00

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Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:08:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090110.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 4.196 ug/m3 m

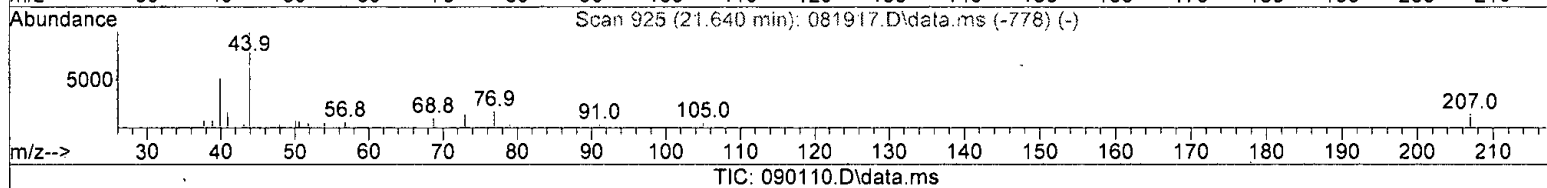
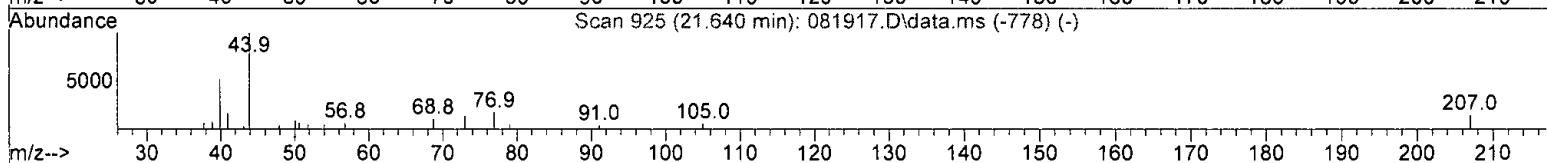
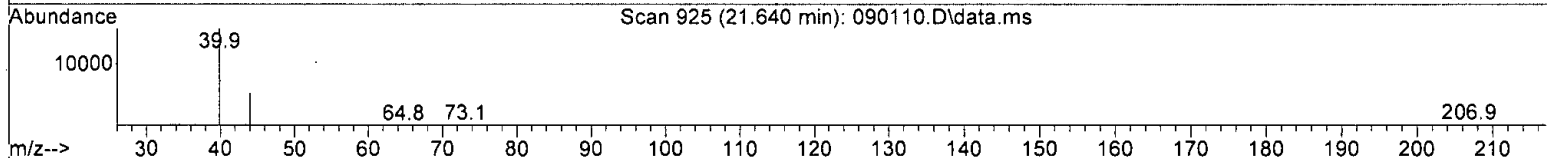
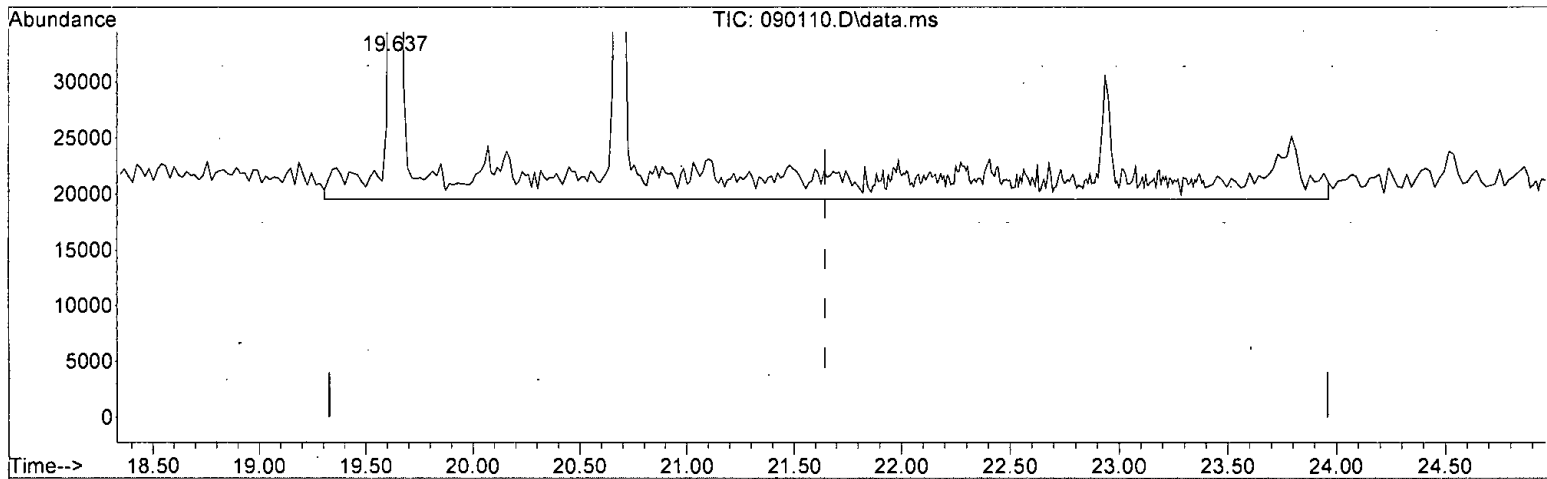
response	Signal	Exp%	Act%
187813	TIC	100.00	100.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00

*h*  
*09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:08:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 41.354 ug/m3 m

response 1850900

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

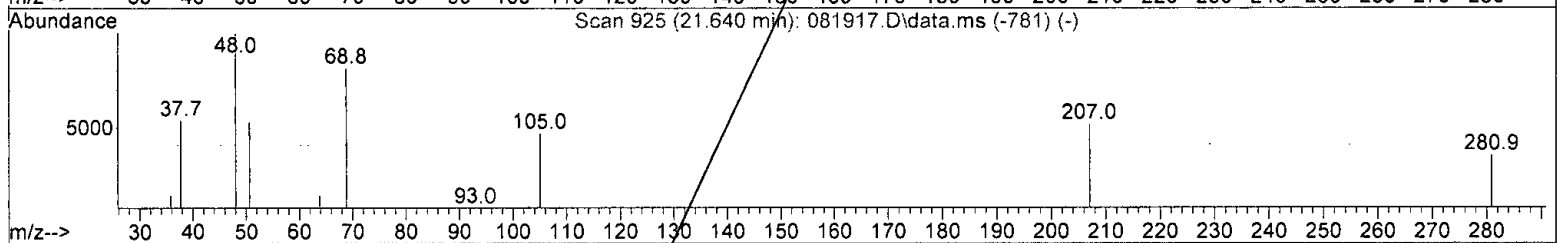
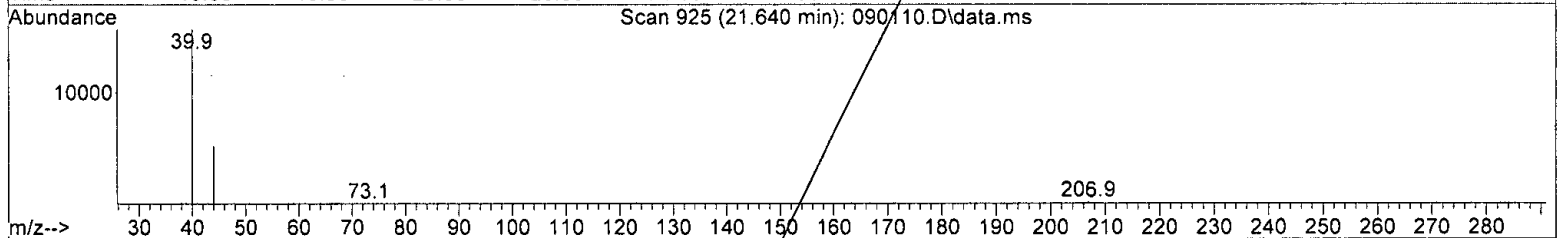
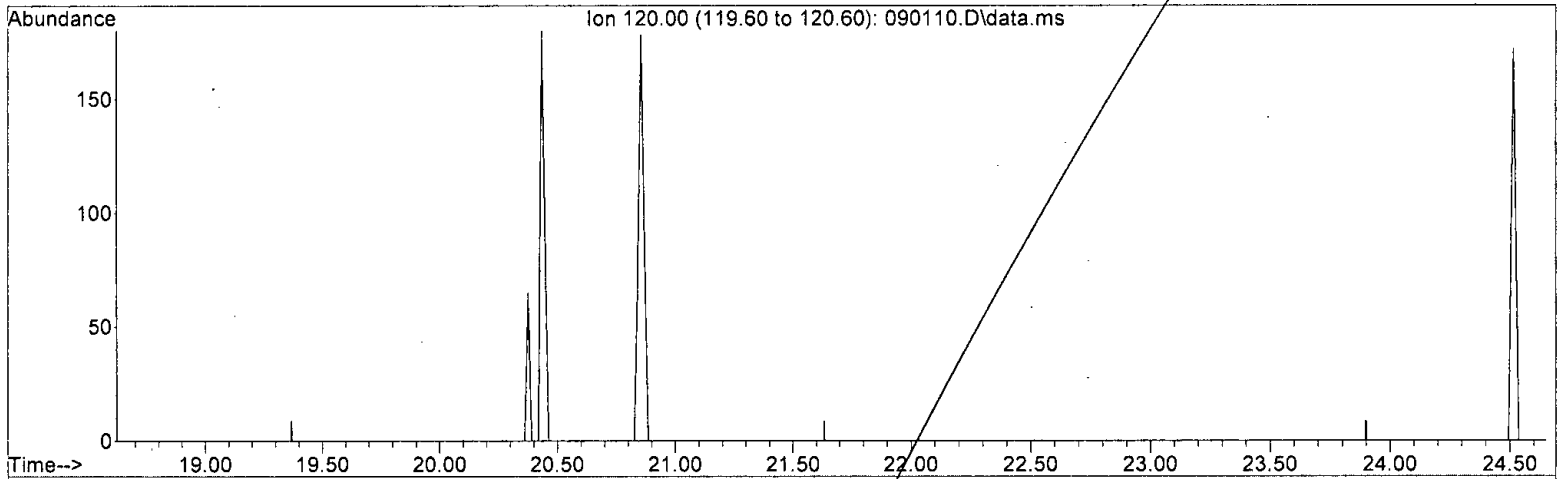
*bat*  
 08/02/21



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:08:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)  
 21.635min ( 0.000) -15.219 ug/m3 m  
 response -79307

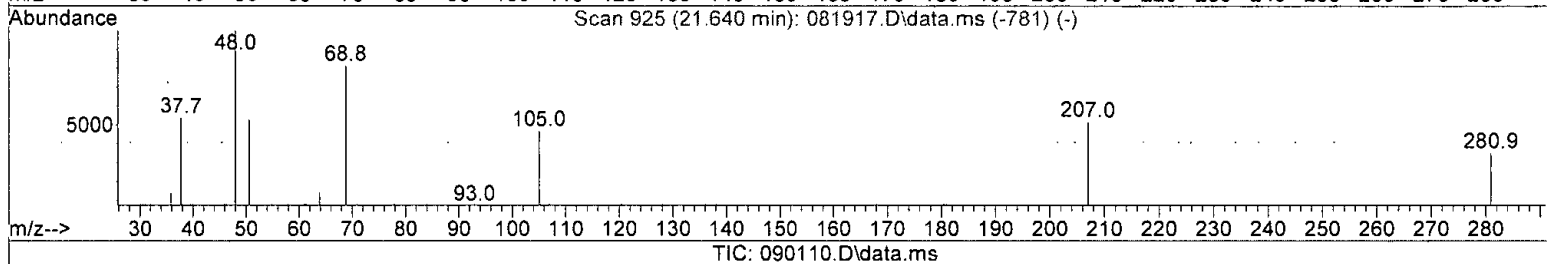
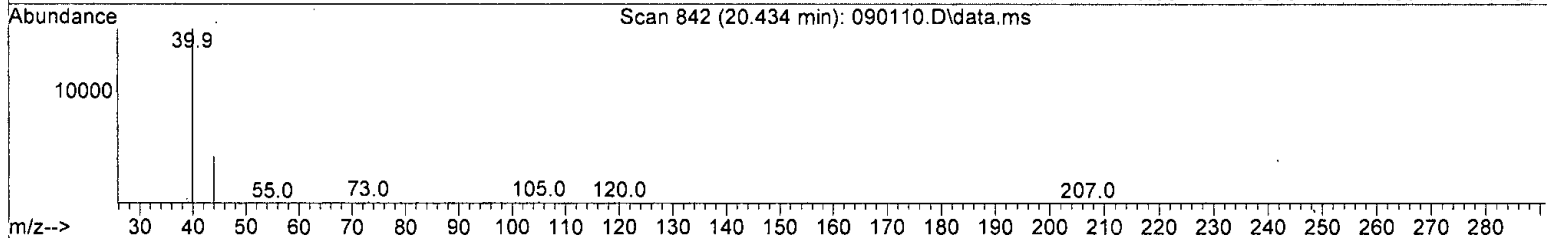
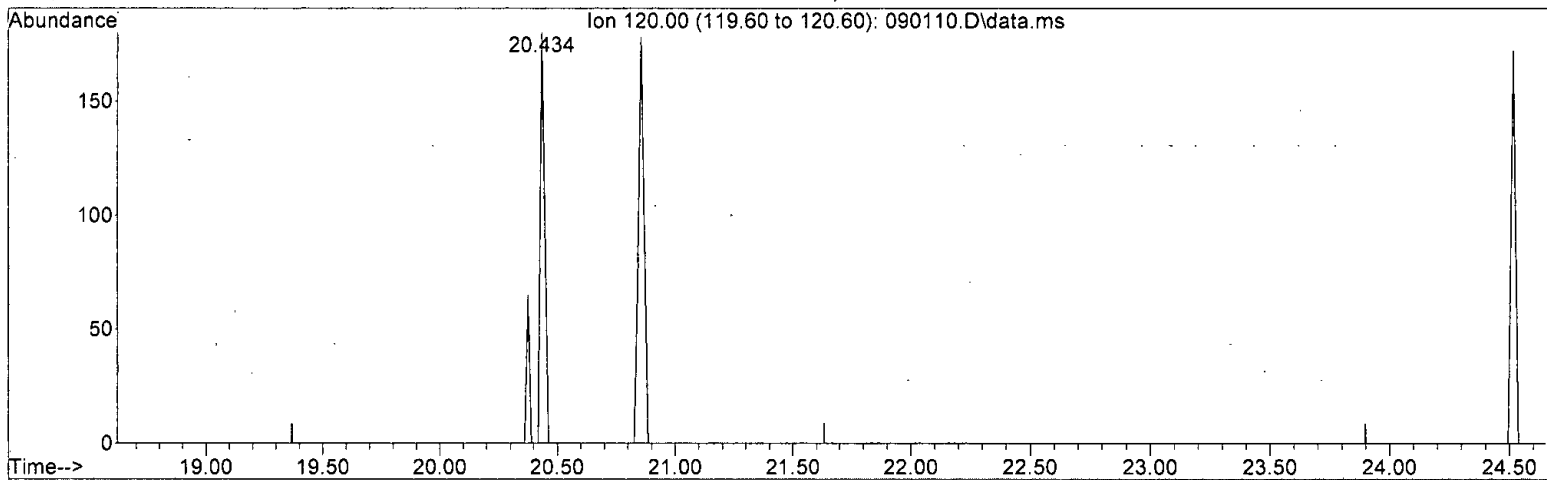
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Batolki*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:08:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 0.093 ug/m3 m

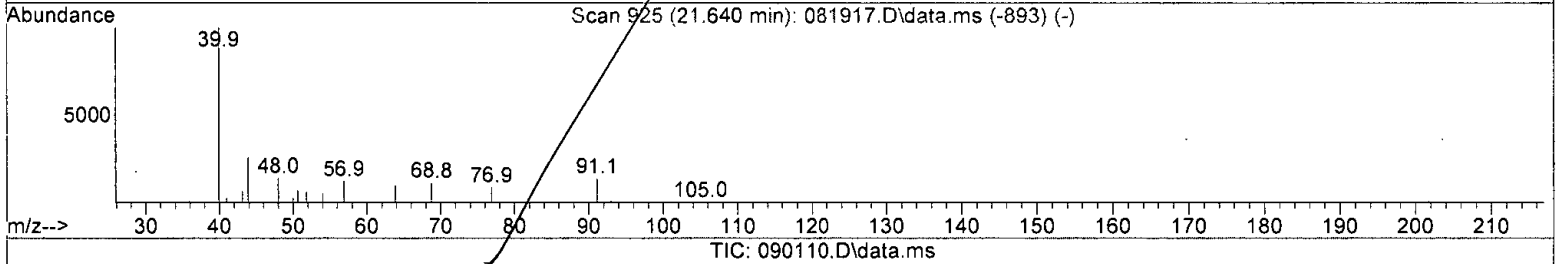
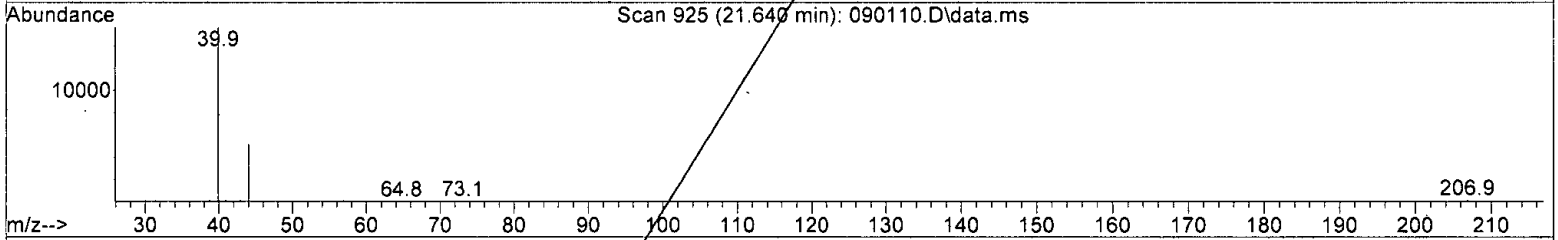
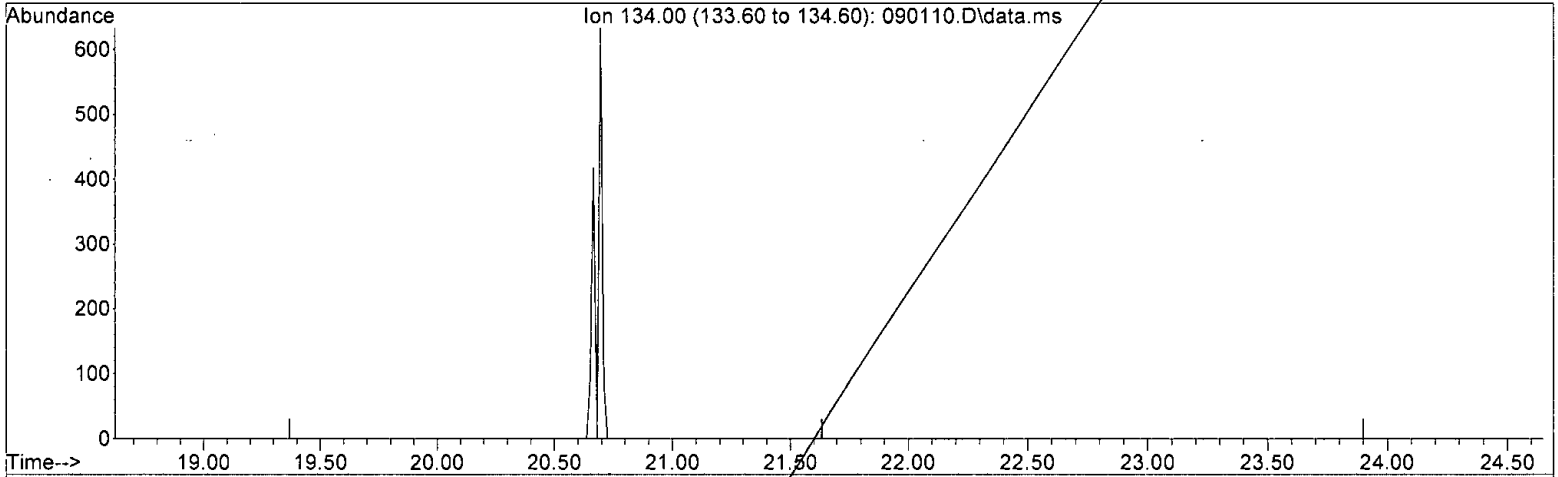
response	484	
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:08:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) -26.769 ug/m3 m

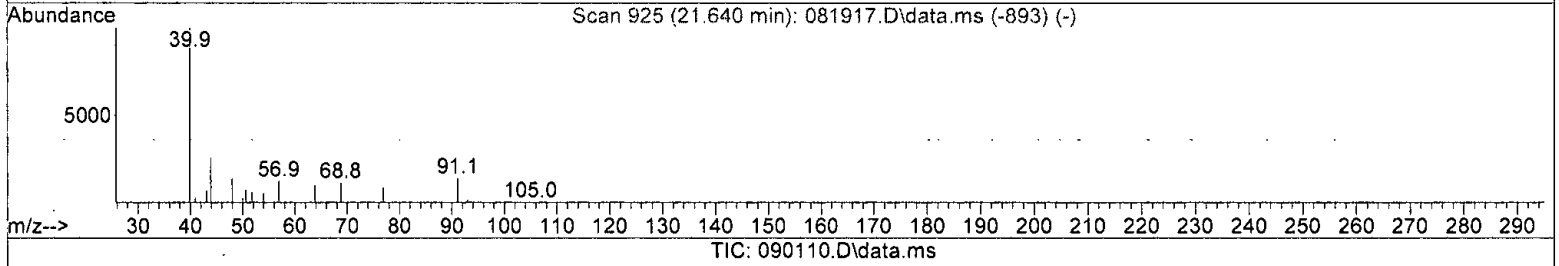
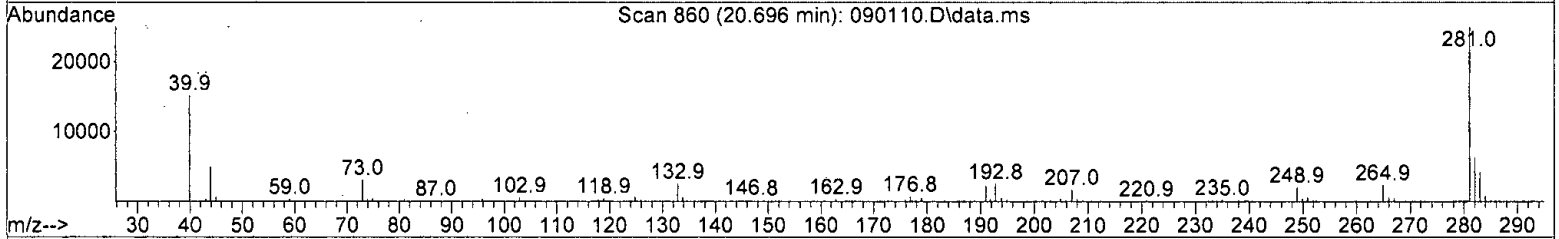
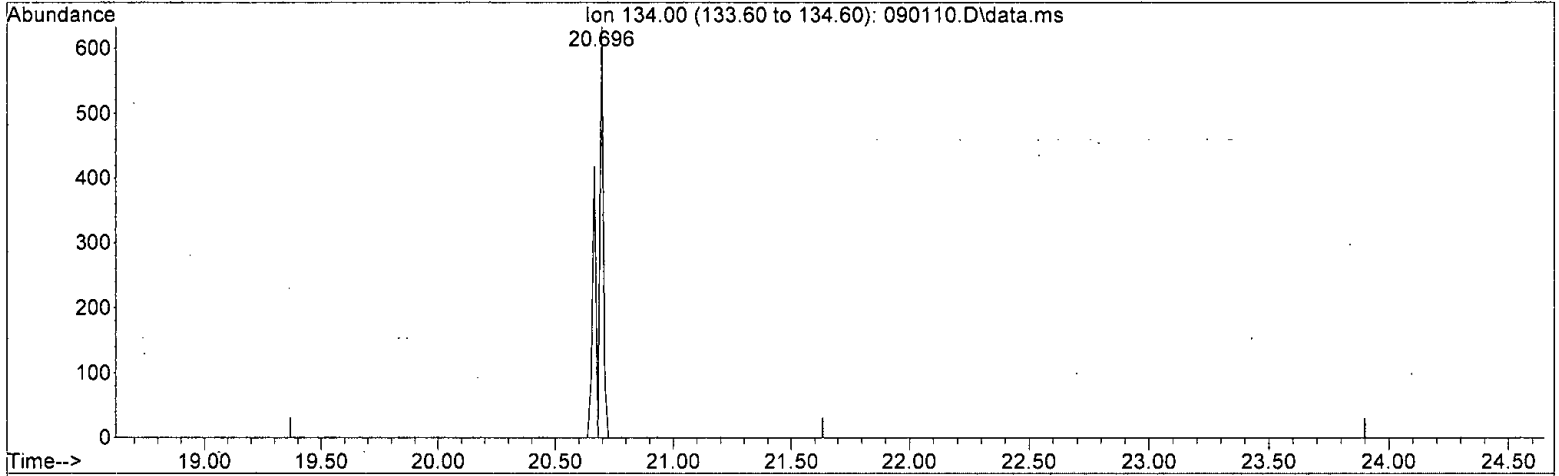
response -79453

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

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Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:08:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 0.297 ug/m3 m

response 881

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:11:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	105072	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	487528	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	437452	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	383227	69.923	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	98.48%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	995655	53.668	ug/m3	86
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1346353	51.130	ug/m3	91
4) IS-3 Chlorobenzene-d5	18.21	TIC	1617813	50.653	ug/m3	91
5) Methylene chloride	6.86	TIC	45145	48.064	ug/m3	91
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.	d	
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	8.49	73	189	0.023	ug/m3	56
11) Benzene	12.69	78	283	0.017	ug/m3	61
12) Isopentane	5.64	TIC	14424	0.438	ug/m3#	62
13) Hexane	9.99	TIC	995655	30.819	ug/m3	61
14) Cyclohexane	13.23	TIC	1346353	39.784	ug/m3	94
15) 2,3-Dimethylpentane	13.23	TIC	1346353	31.175	ug/m3	64
16) Heptane	14.51	TIC	8315	0.236	ug/m3	80
17) Octane	17.78	TIC	293704	6.069	ug/m3	62
18) APH EC5-8 aliphatics T...	0.00	TIC	4004804m	103.529	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	6095128m	157.567	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1813483	49.106	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	388993	42.765	ppbv	100
23) Octamethylcyclotetrasil...	20.68	TIC	212489	18.717	ppbv	100
24) Toluene	0.00		0	N.D.		
25) Ethylbenzene	18.60	91	401m	0.021	ug/m3	
26) m,p-Xylene	18.76	106	136	0.021	ug/m3#	57
27) o-Xylene	0.00		0	N.D.	d	
28) Naphthalene	23.94	128	1411	0.090	ug/m3	68
29) 2,3-Dimethylheptane	0.00		0	N.D.		
30) Nonane	19.64	TIC	1813483	39.503	ug/m3#	60
31) Decane	21.10	TIC	10154	0.223	ug/m3#	65
32) Butylcyclohexane	21.60	TIC	4327	0.084	ug/m3#	67
33) Undecane	22.27	TIC	6312	0.140	ug/m3	89
34) Dodecane	23.79	TIC	27677	0.746	ug/m3	78
35) APH EC9-12 aliphatics ...	0.00	TIC	1861953m	41.601	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	1850900m	41.354	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	0.00		0	N.D.		
40) 1,3,5-Trimethylbenzene	20.43	120	239	0.039	ug/m3#	75
41) p-Isopropyltoluene	0.00		0	N.D.		
42) 1,2,3-Trimethylbenzene	20.86	120	232	0.033	ug/m3#	1
43) APH EC9-10 aromatics T...	0.00	TIC	471m	0.100	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	484m	0.093	ug/m3	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

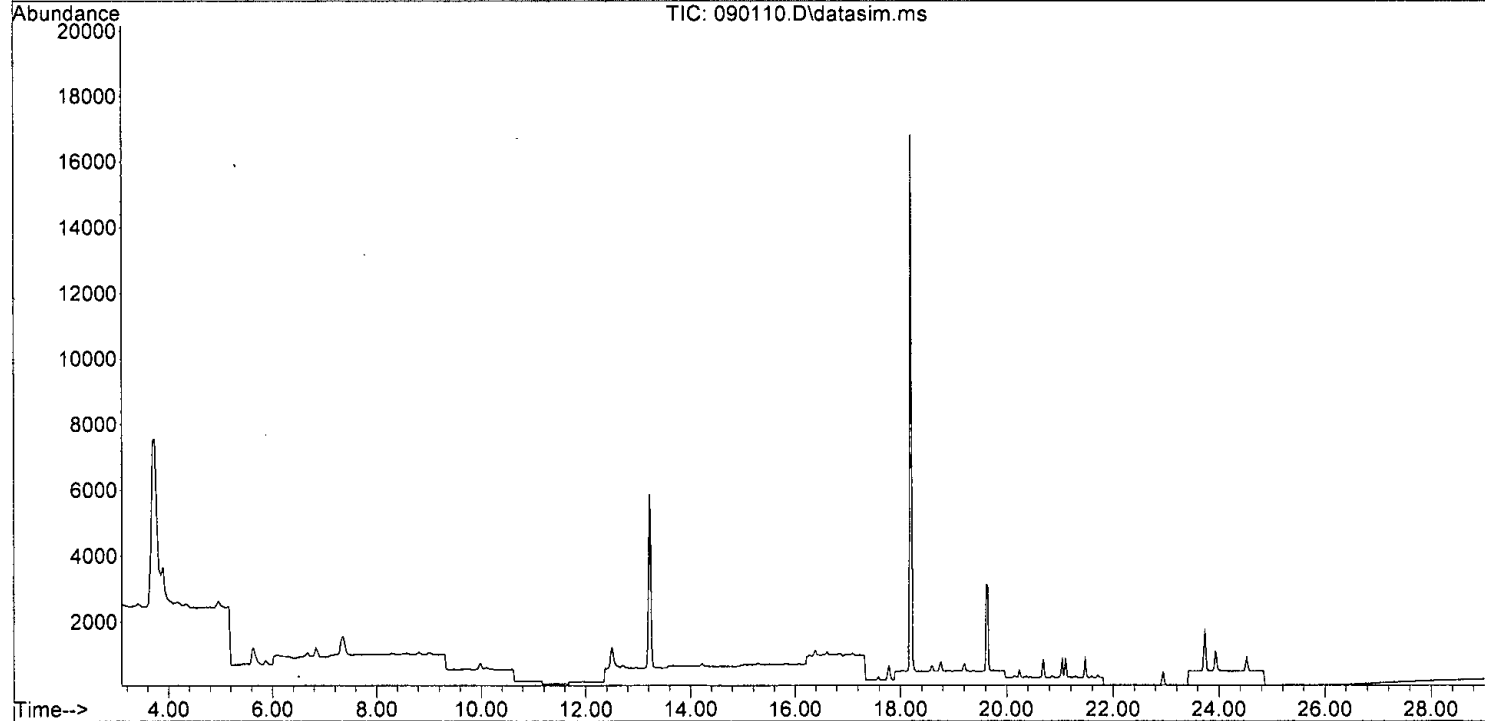
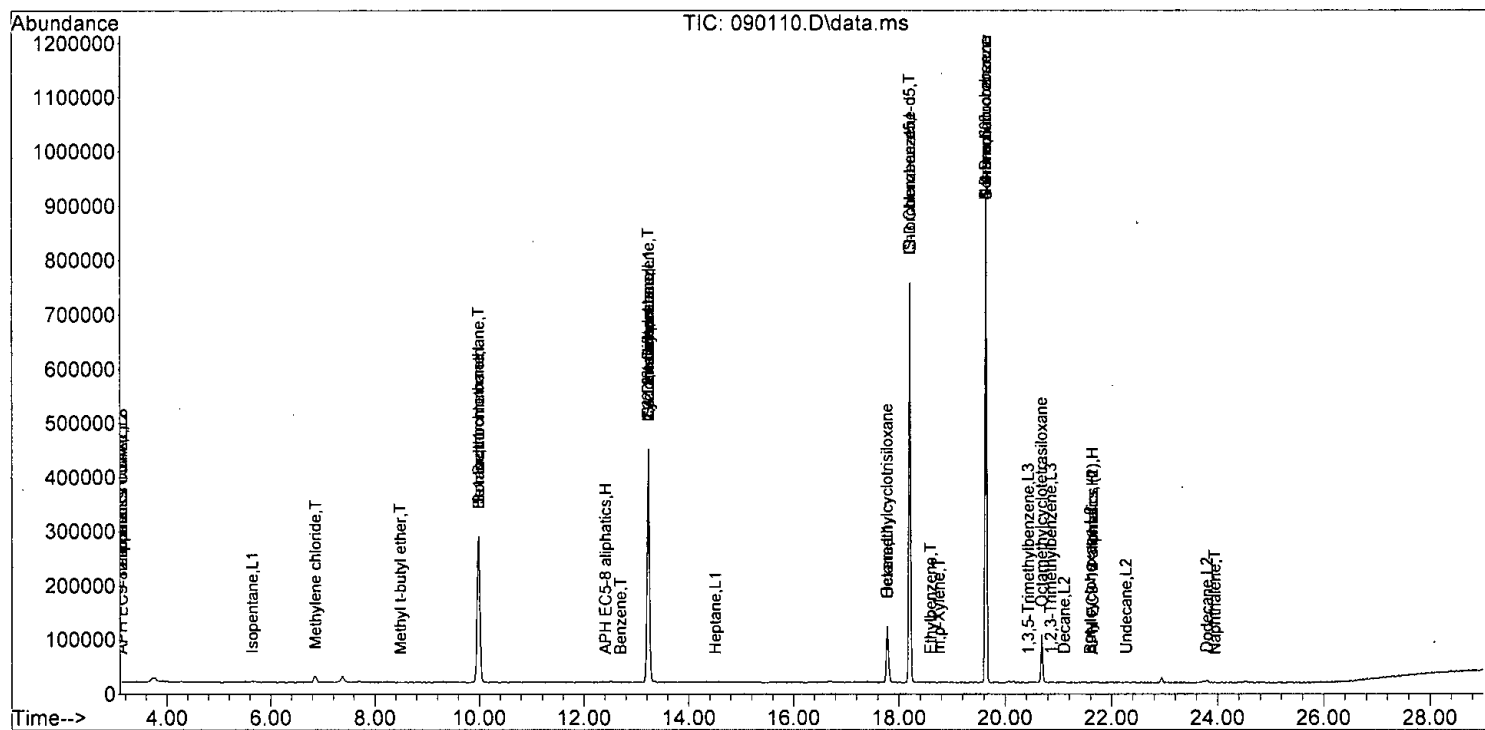
Quant Time: Sep 02 11:11:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	881m	0.297	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

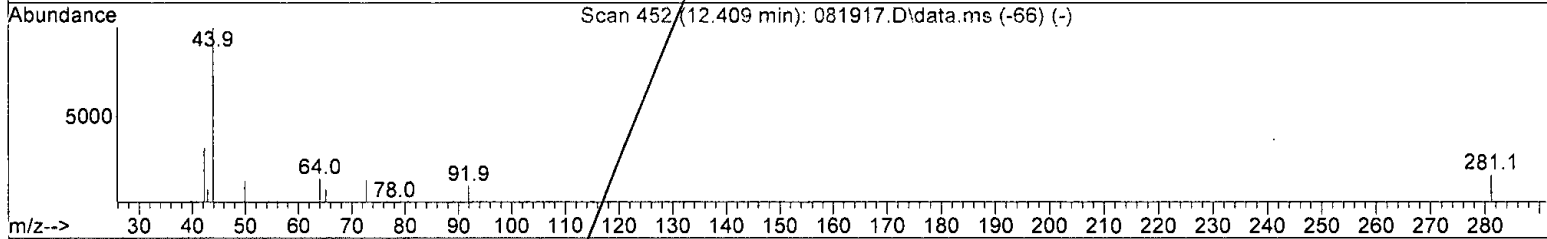
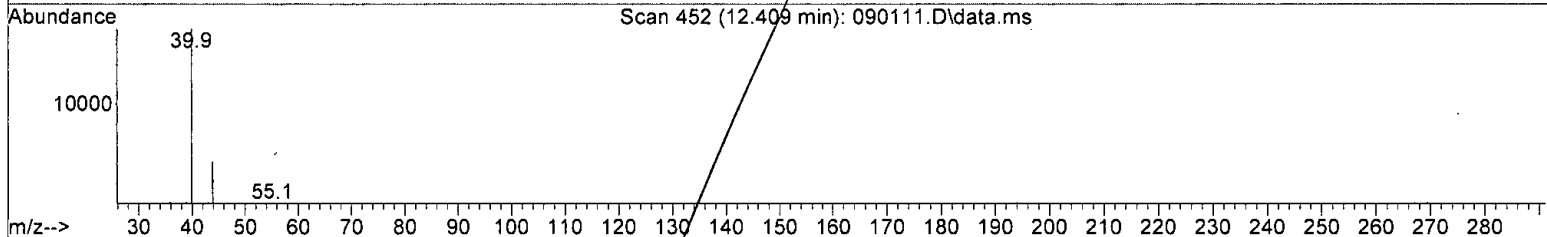
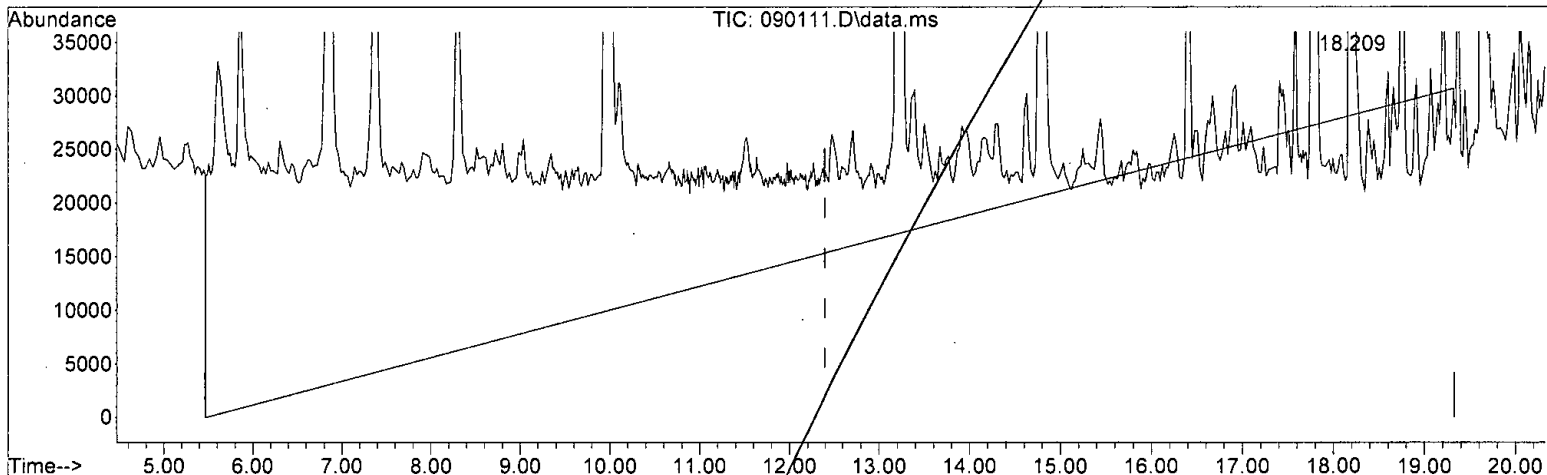
Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090110.D  
 Acq On : 1 Sep 2021 2:10 pm  
 Operator : bat  
 Sample : 01-2000 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:11:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 57.288 ug/m3 m

response 2081616

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

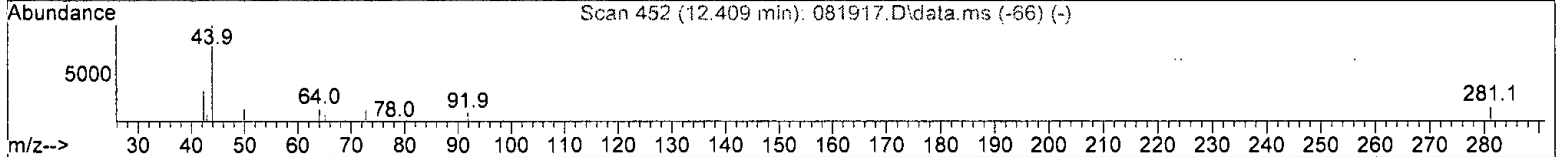
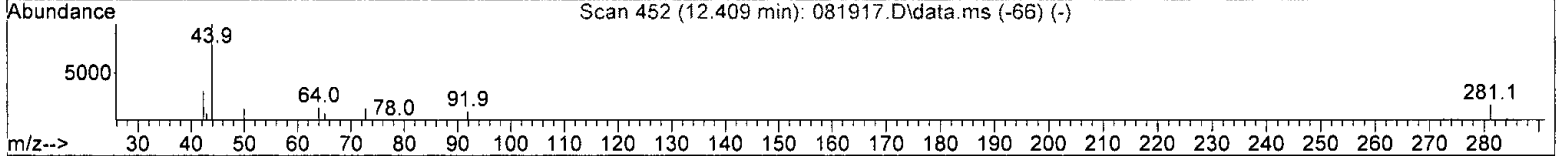
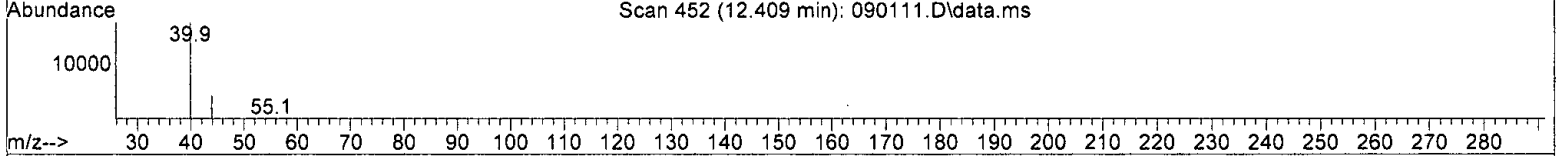
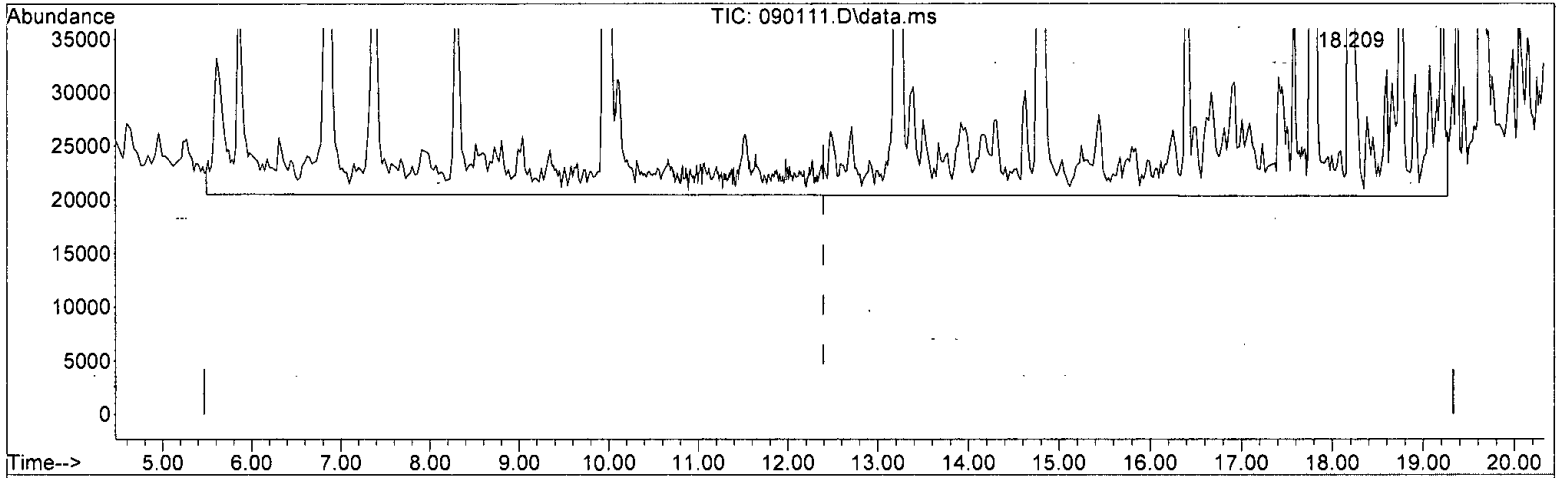
*Handwritten signature/initials*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090111.D\data.ms

(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 224.337 ug/m3 m

response 8151528

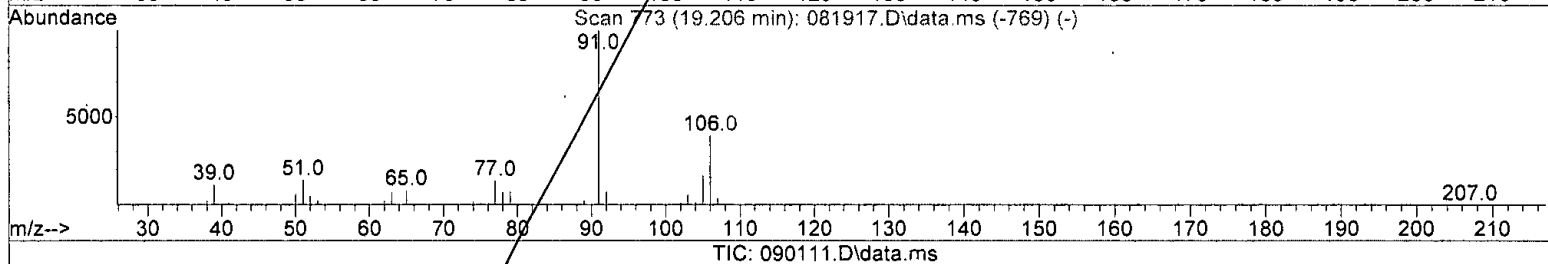
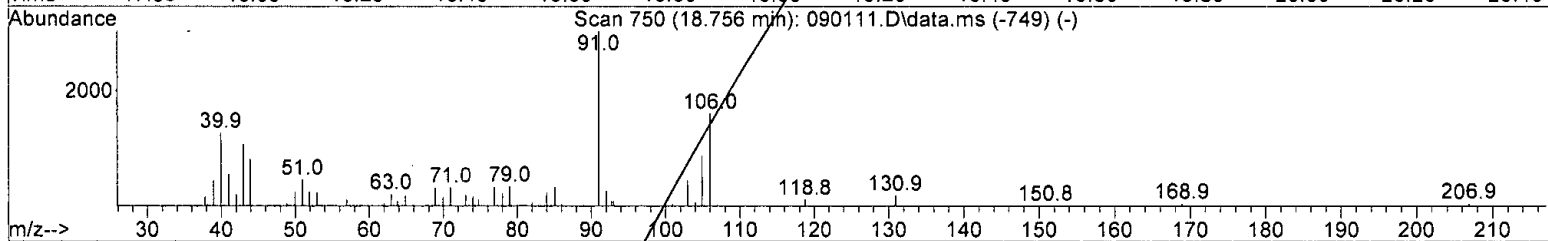
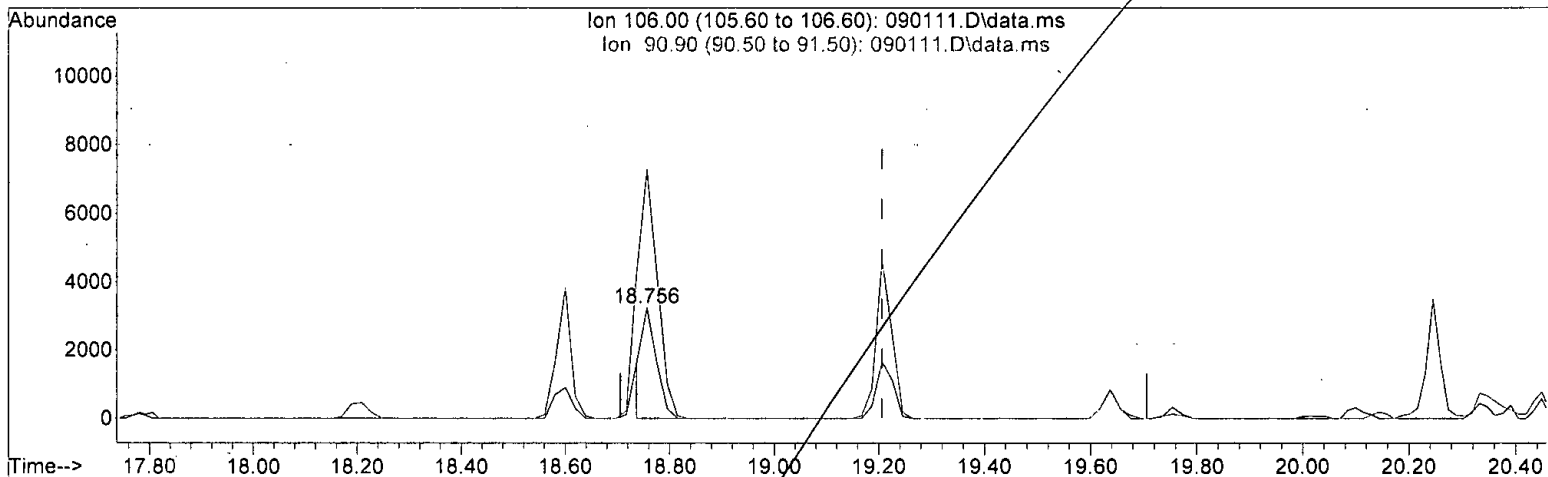
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

18.756min (-0.450) 1.048 ug/m3

response 5997

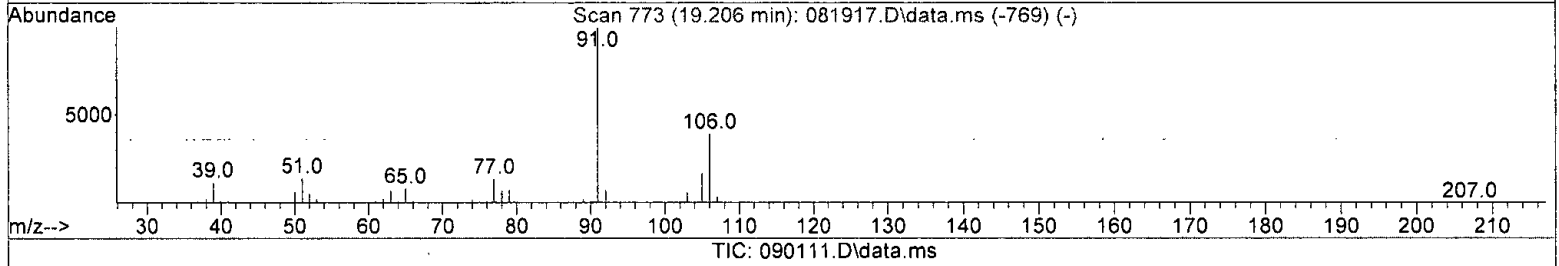
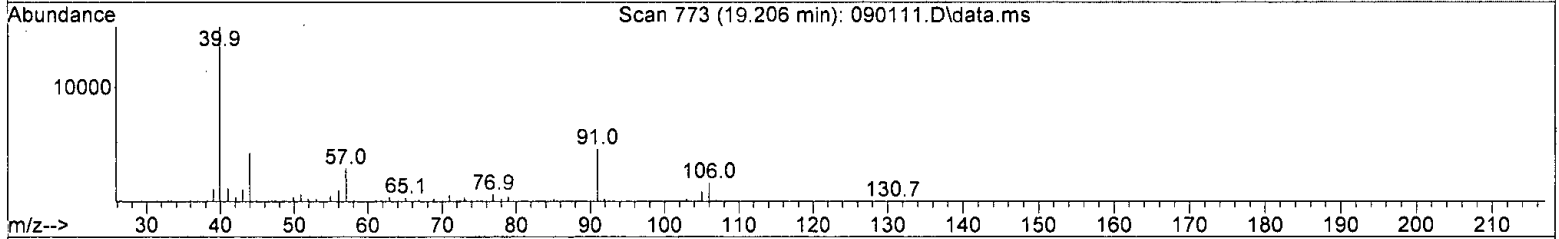
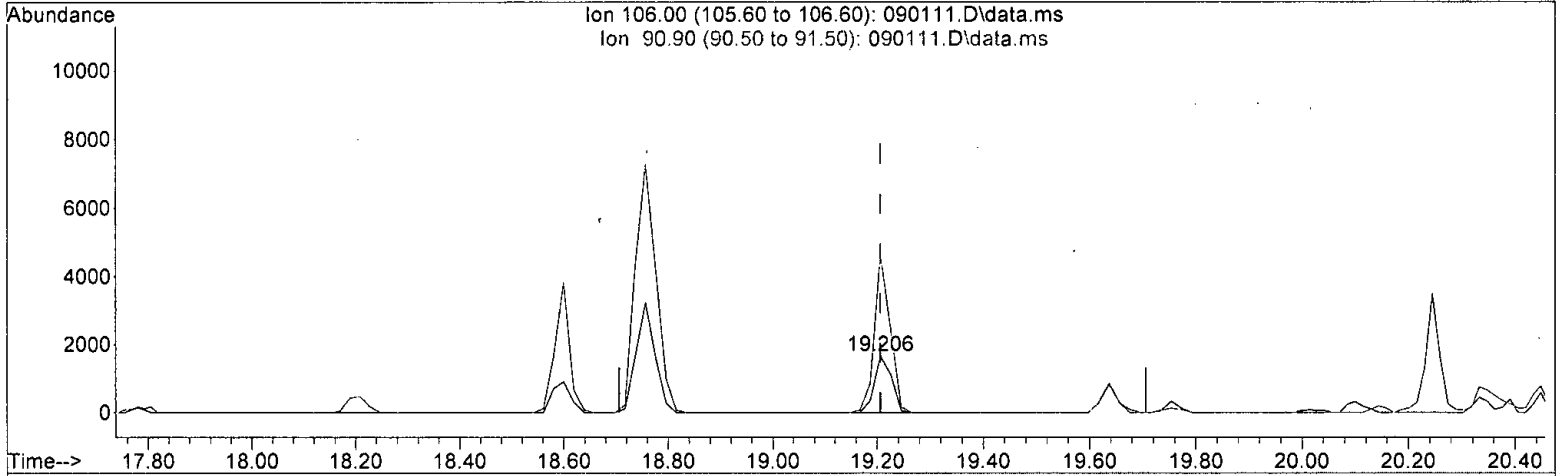
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	225.46
0.00	0.00	0.00
0.00	0.00	0.00

*h  
o-xylene*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

19.206min (-0.000) 0.650 ug/m3 m

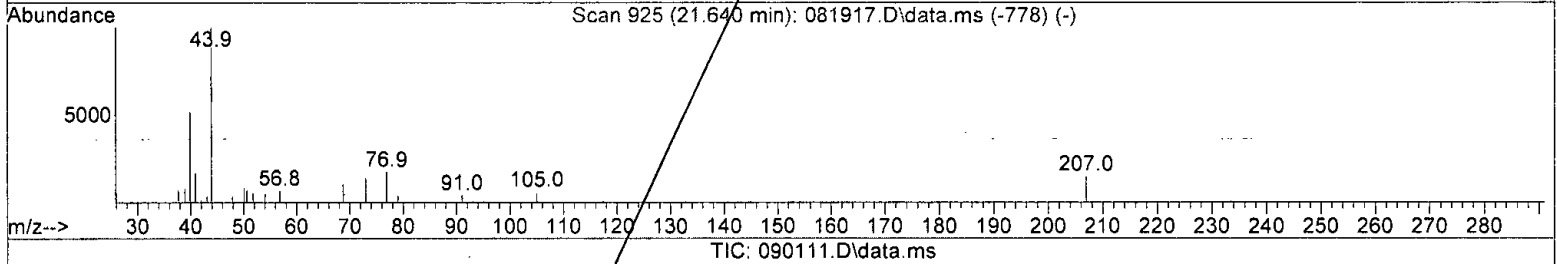
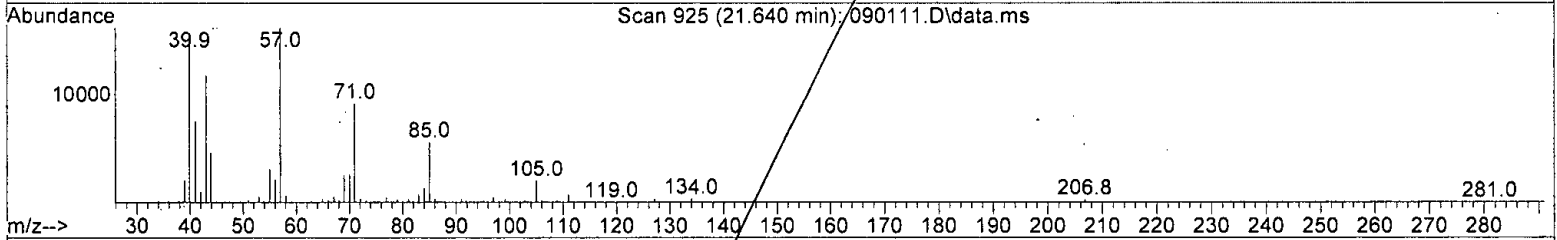
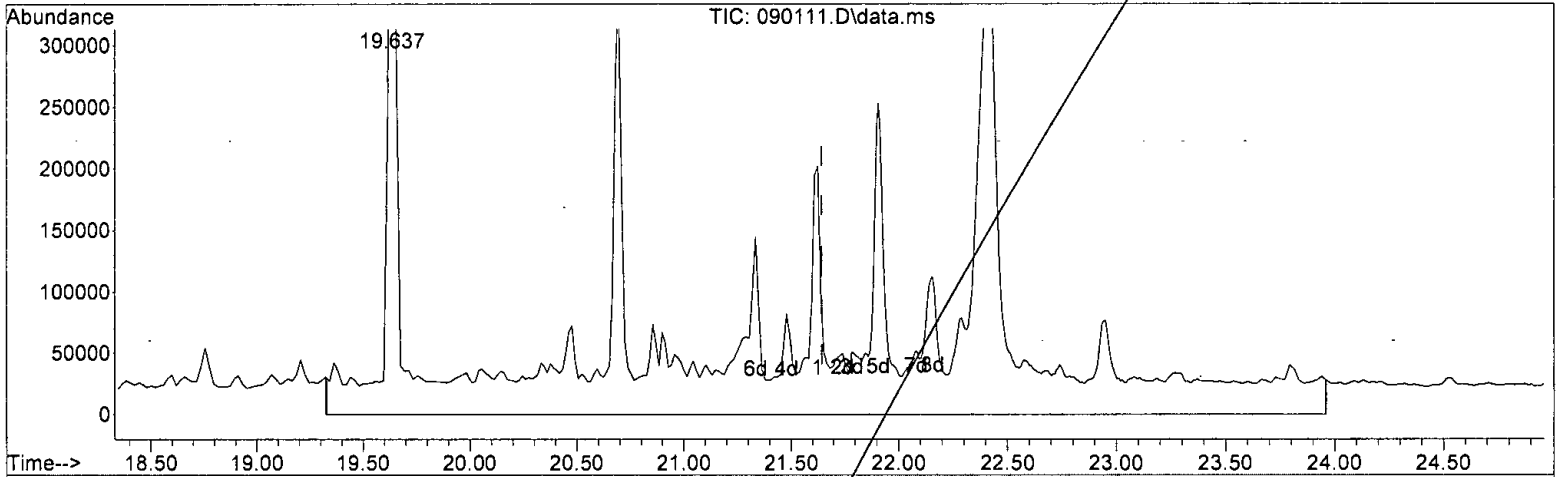
response 3721

Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	278.99#
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: W. Orlowski*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 132.737 ug/m3 m

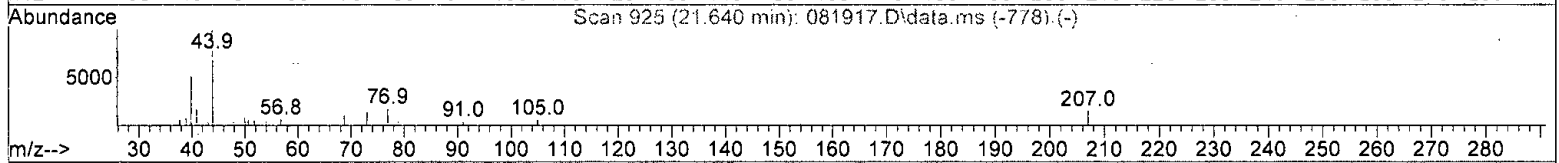
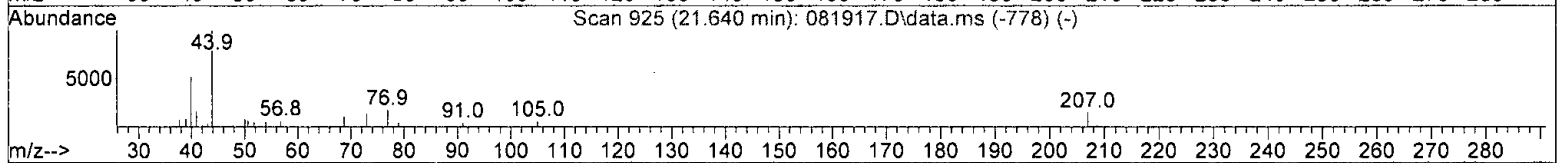
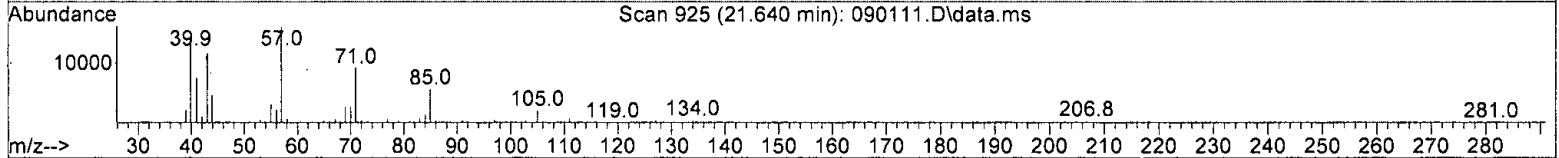
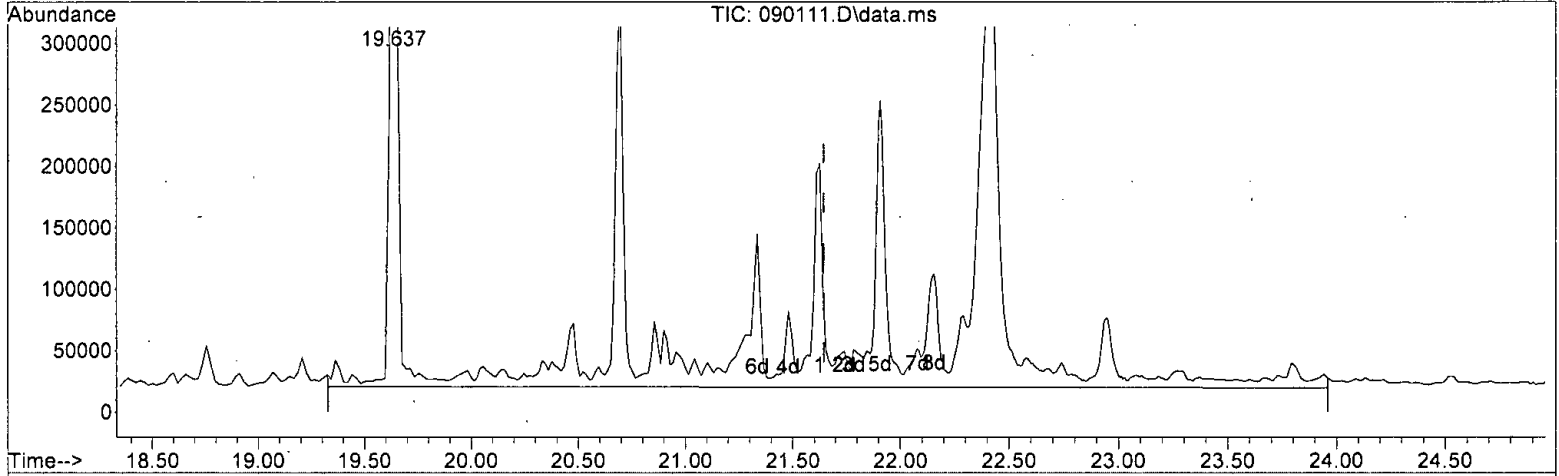
response 5514634

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten note:* 4/10/21

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090111.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 253.797 ug/m3 m

response 10544142

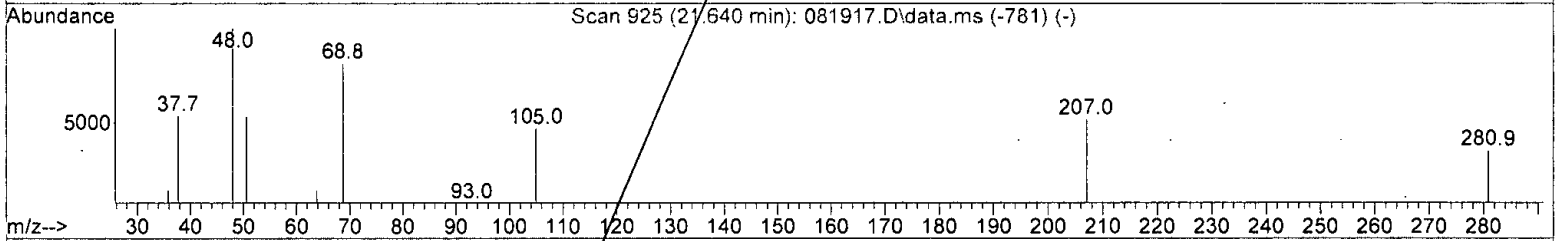
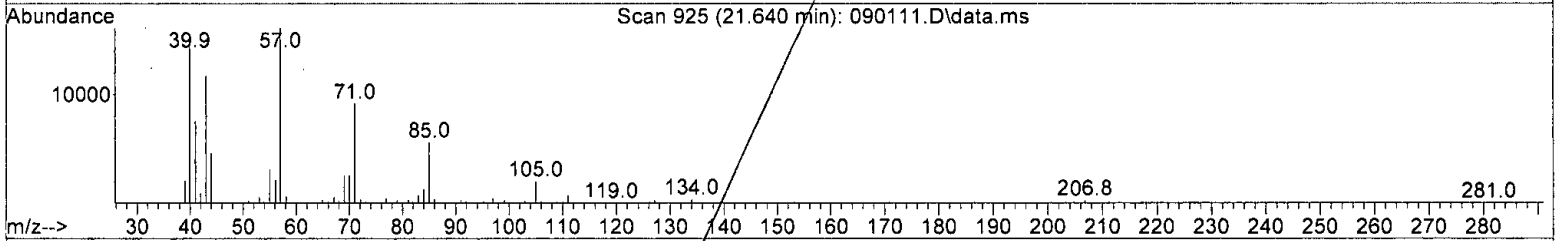
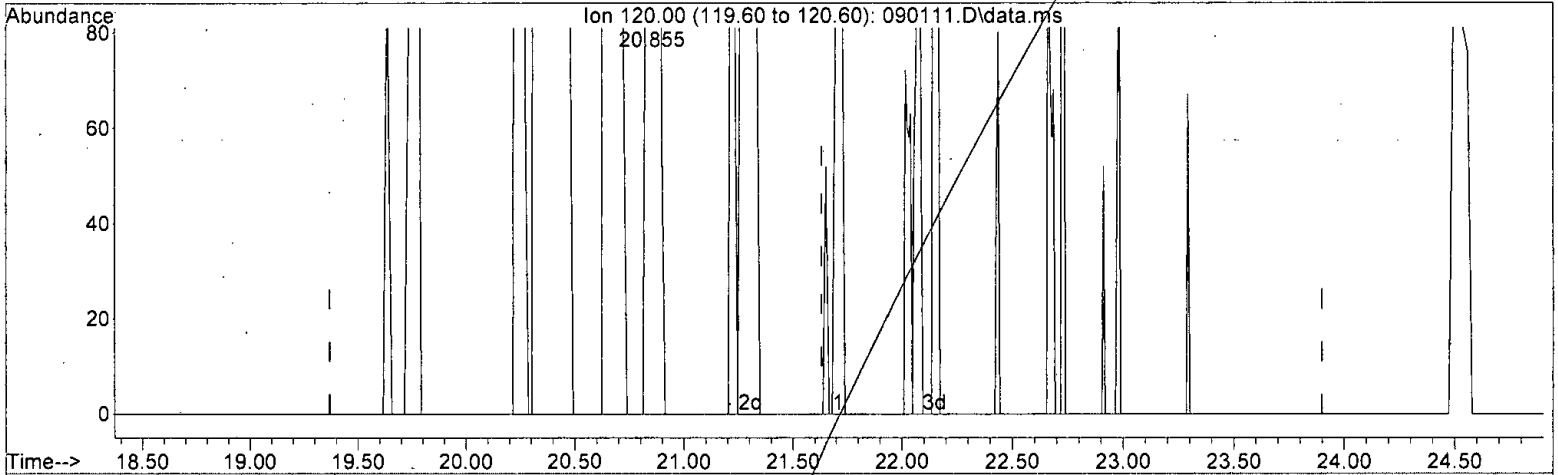
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h/only*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) -10.017 ug/m3/m

response -48453

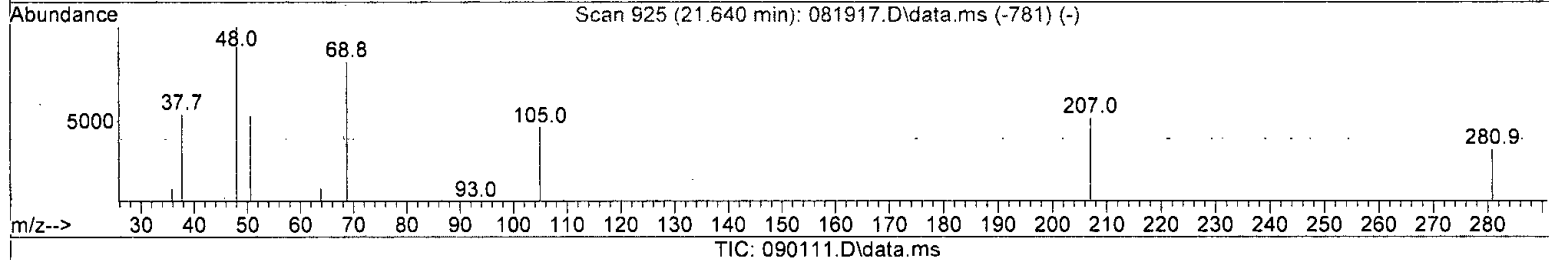
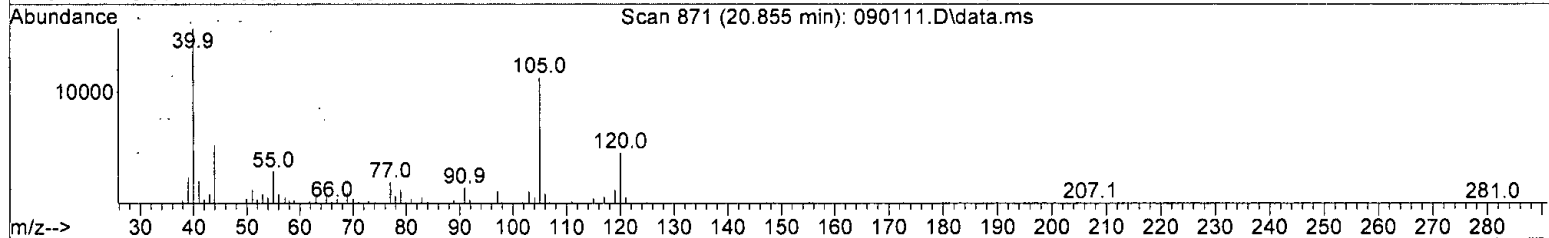
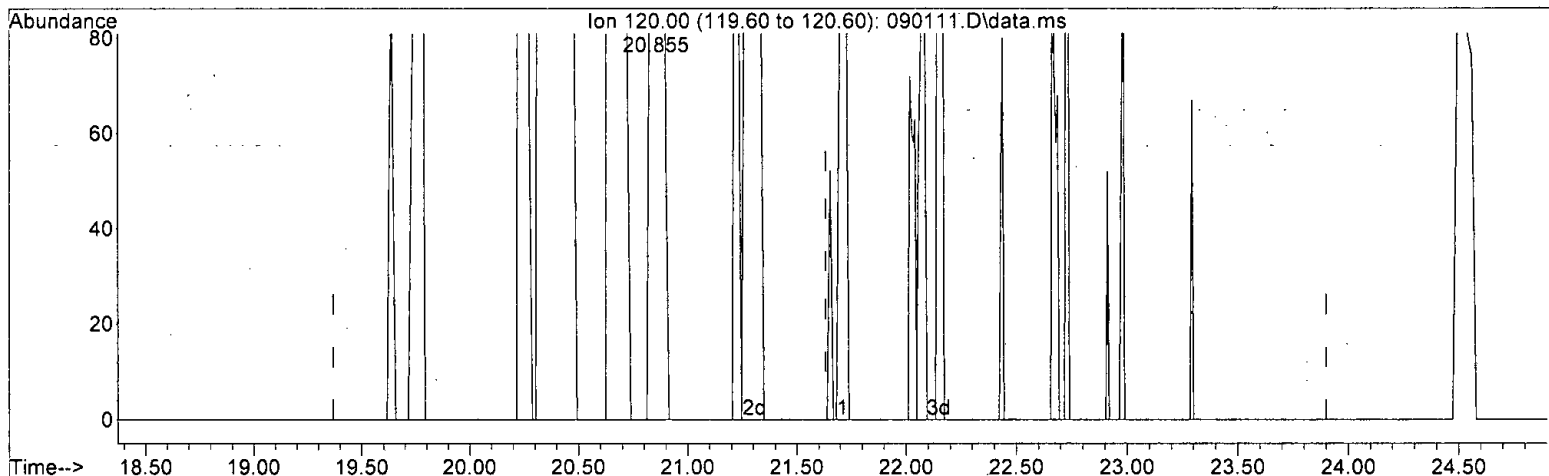
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 4.566 ug/m3 m

response 22084

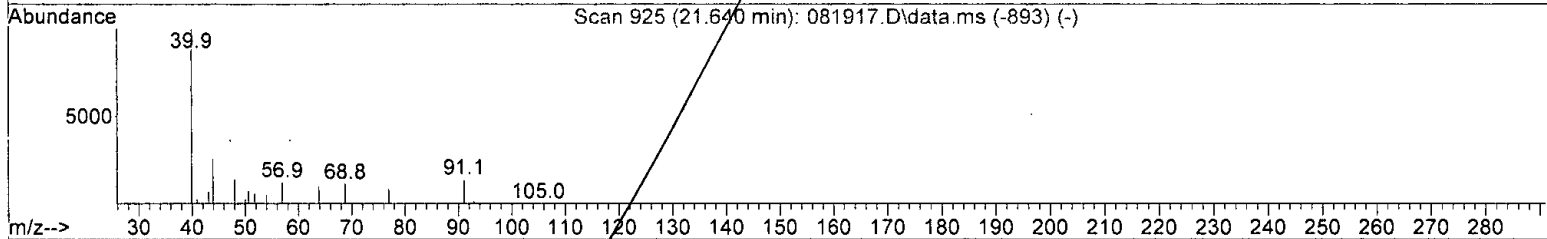
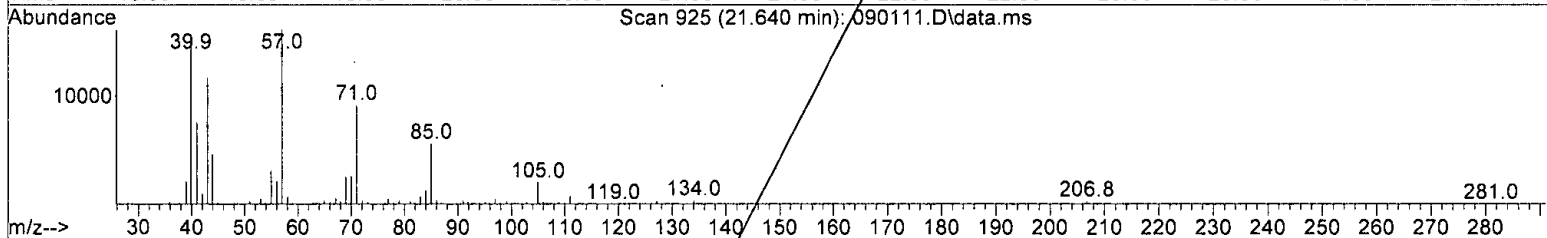
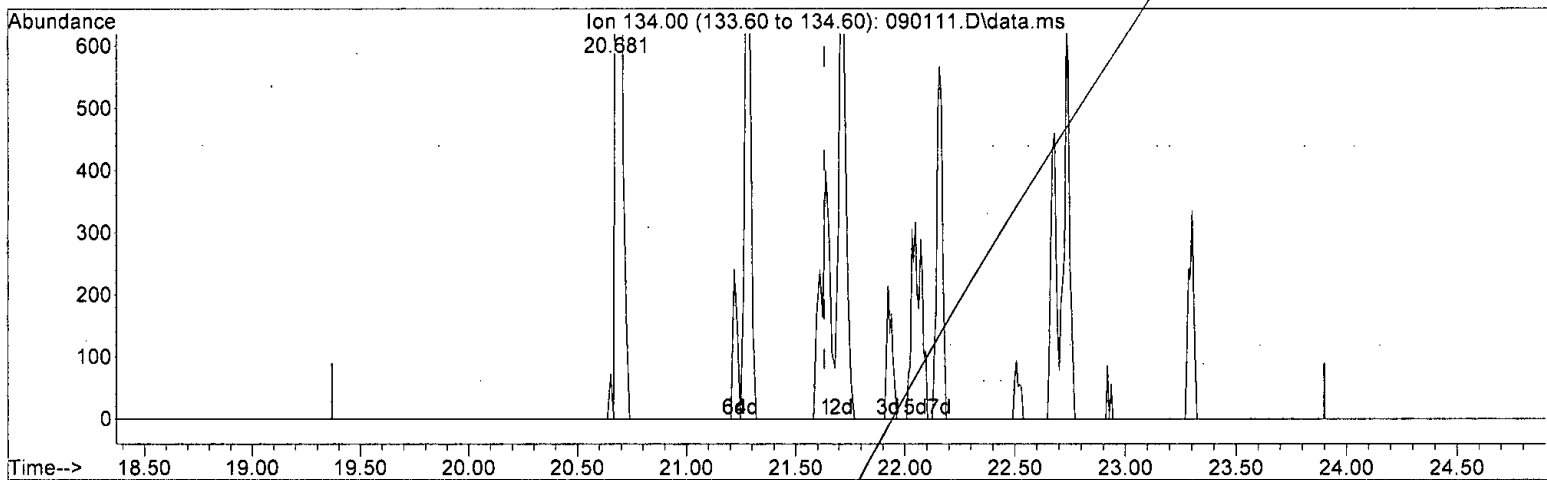
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090111.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) -21.789 ug/m3 m

response -60032

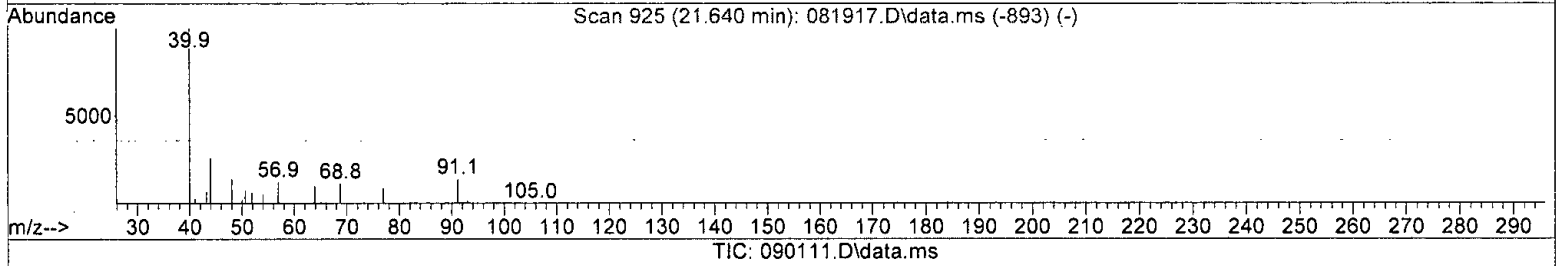
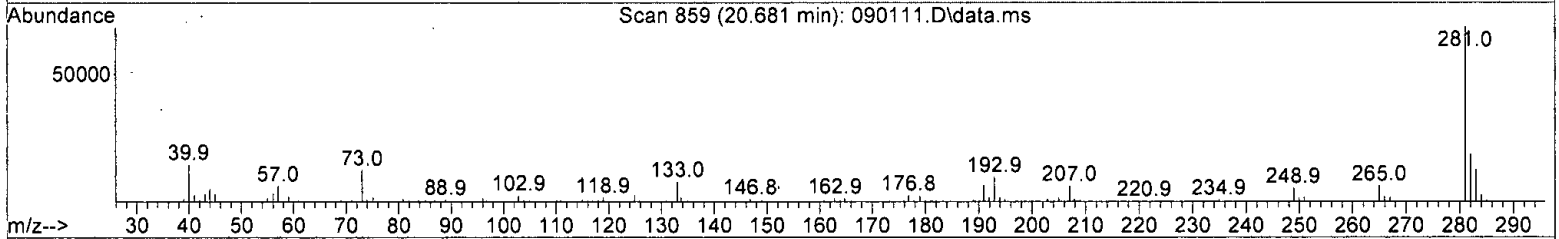
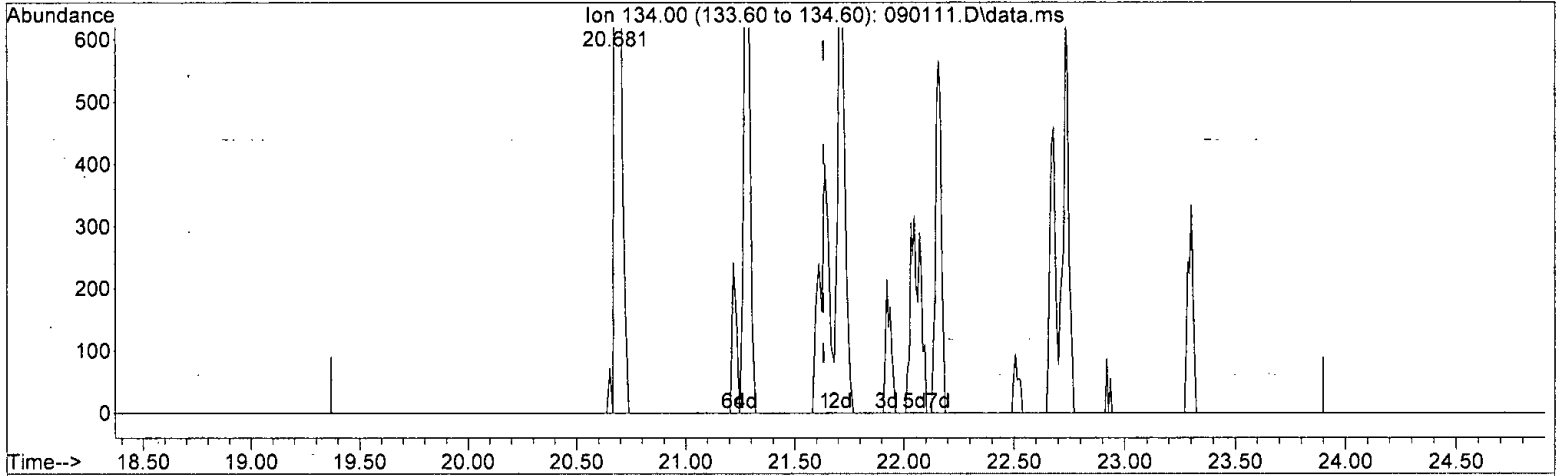
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten:* 09/02/21



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 5.422 ug/m3 m

response 14938

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:24:46 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.97	128	95676	50.000	ug/m3	#-0.02
10) 1,4-Difluorobenzene	13.23	114	457951	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	406061	50.000	ug/m3	0.00

System Monitoring Compounds  
 37) 4-Bromofluorobenzene 19.64 95 356920 70.158 ug/m3 0.00  
 Spiked Amount 71.000 Range 70 - 130 Recovery = 98.82%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.97	TIC	906334	53.651	ug/m3	84
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1273479	53.112	ug/m3	92
4) IS-3 Chlorobenzene-d5	18.21	TIC	1547511	53.211	ug/m3	91
5) Methylene chloride	6.86	TIC	379442	443.648	ug/m3	93
6) Acetone	5.60	TIC	71983	1.595	ppbv	100
7) 2-Propanol	5.86	TIC	89533	341.540	ppbv	100
8) 1,3-Butadiene	4.28	54	701	0.124	ug/m3	84
9) Methyl t-butyl ether	8.51	73	2309	0.313	ug/m3	72
11) Benzene	12.71	78	5206	0.334	ug/m3	79
12) Isopentane	5.60	TIC	71983	2.328	ug/m3	60
13) Hexane	10.10	TIC	43989	1.234	ug/m3	97
14) Cyclohexane	13.23	TIC	1271548	40.000	ug/m3	93
15) 2,3-Dimethylpentane	13.23	TIC	1261891	31.106	ug/m3	64
16) Heptane	14.63	TIC	26862	0.810	ug/m3	92
17) Octane	17.41	TIC	61689	1.357	ug/m3	74
18) APH EC5-8 aliphatics T...	0.00	TIC	2737962m	75.351	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	8151528m	224.337	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1758051	51.285	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	641558	75.983	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	747390	70.924	ppbv	100
24) Toluene	16.39	92	12544	1.440	ug/m3	96
25) Ethylbenzene	18.60	91	7413	0.412	ug/m3	88
26) m,p-Xylene	18.76	106	8024	1.326	ug/m3	95
27) o-Xylene	19.21	106	3721m	0.650	ug/m3	
28) Naphthalene	23.94	128	5512	0.377	ug/m3	95
29) 2,3-Dimethylheptane	18.66	TIC	34019	0.834	ug/m3#	86
30) Nonane	19.21	TIC	63676	1.494	ug/m3	74
31) Decane	20.90	TIC	71820	1.697	ug/m3	88
32) Butylcyclohexane	21.78	TIC	59561	1.239	ug/m3	65
33) Undecane	22.29	TIC	144806	3.449	ug/m3	86
34) Dodecane	23.79	TIC	60544	1.757	ug/m3	94
35) APH EC9-12 aliphatics ...	21.63	TIC	434426m	10.457	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	10544142m	253.797	ug/m3	
38) Isopropylbenzene	19.75	120	973	0.306	ug/m3#	52
39) 1-Methyl-3-ethylbenzene	20.33	120	3761	0.844	ug/m3#	78
40) 1,3,5-Trimethylbenzene	20.45	120	3982	0.707	ug/m3#	64
41) p-Isopropyltoluene	21.28	134	1643	0.593	ug/m3#	67
42) 1,2,3-Trimethylbenzene	21.31	120	4460	0.674	ug/m3	99
43) APH EC9-10 aromatics T...	21.63	TIC	14819m	3.383	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	22084m	4.566	ug/m3	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

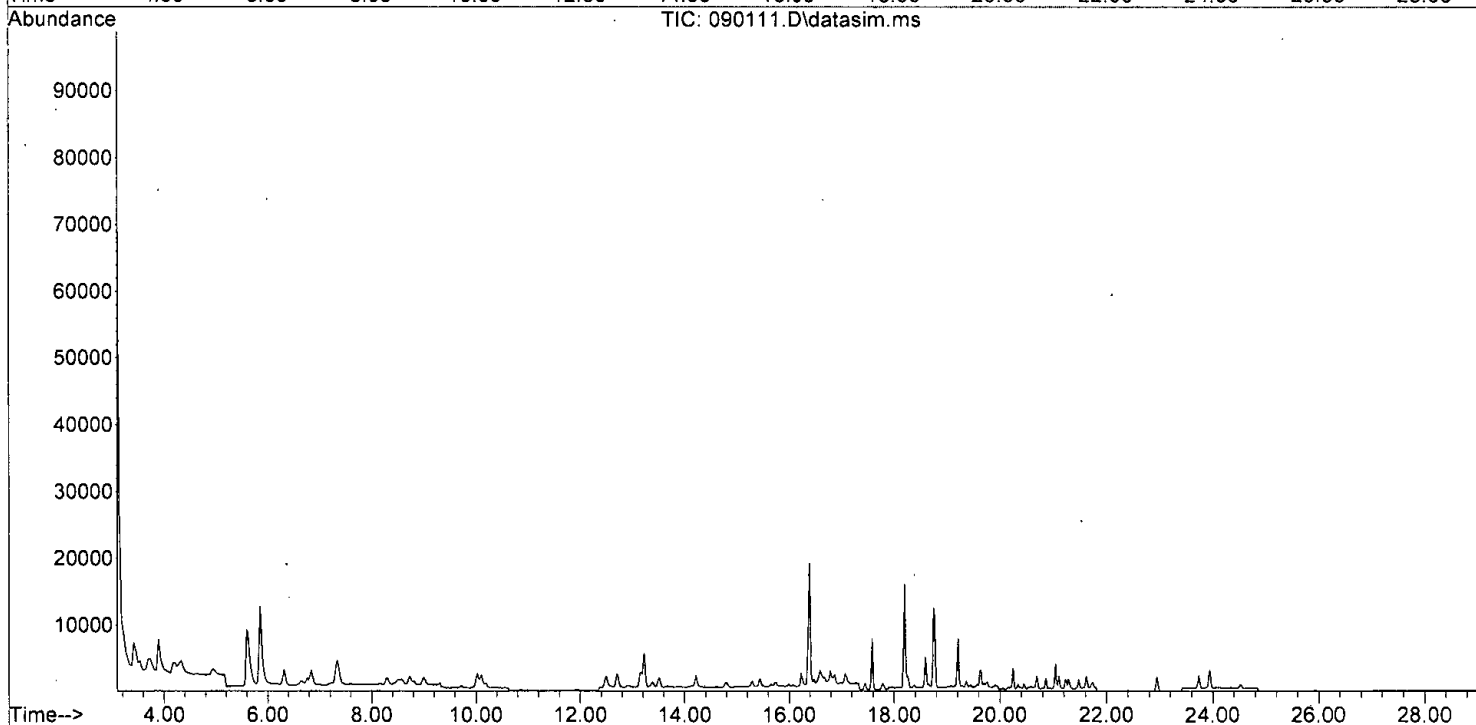
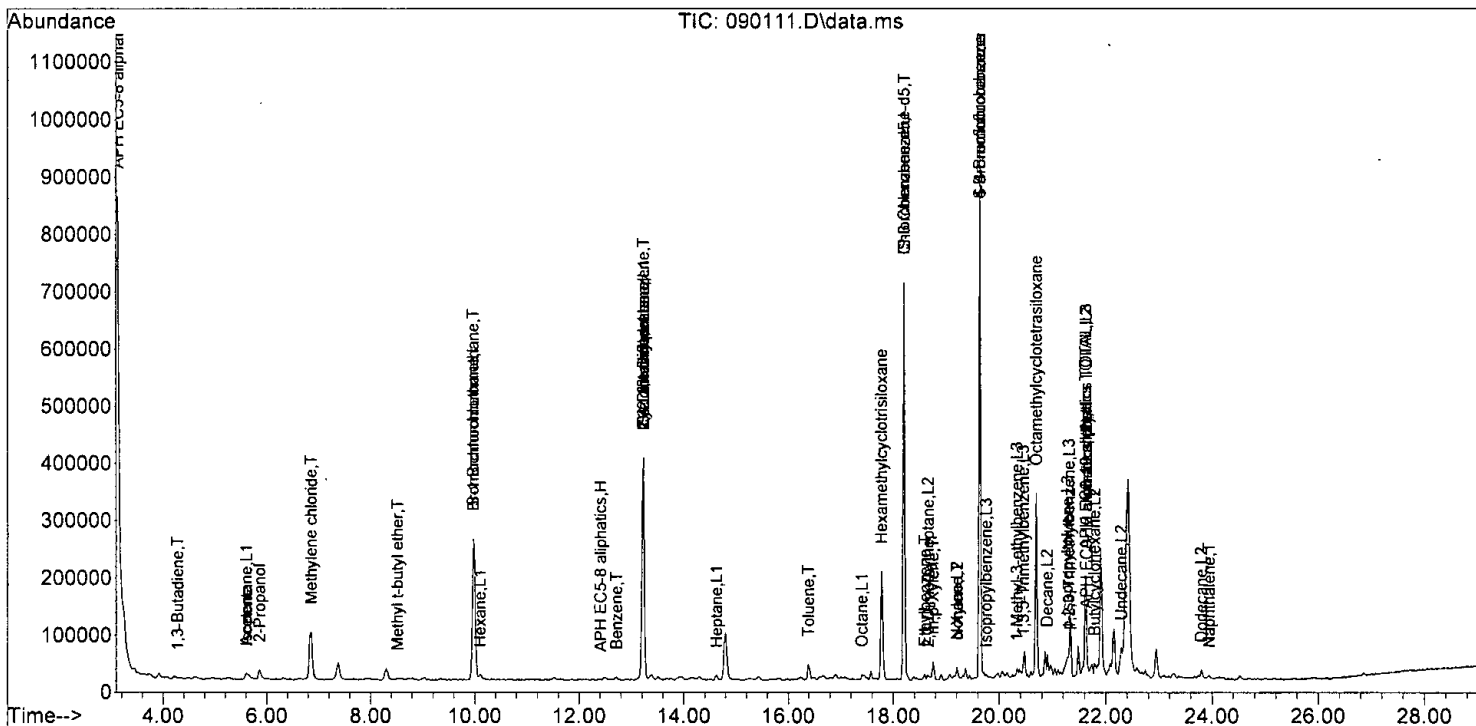
Quant Time: Sep 02 11:24:46 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	14938m	5.422	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

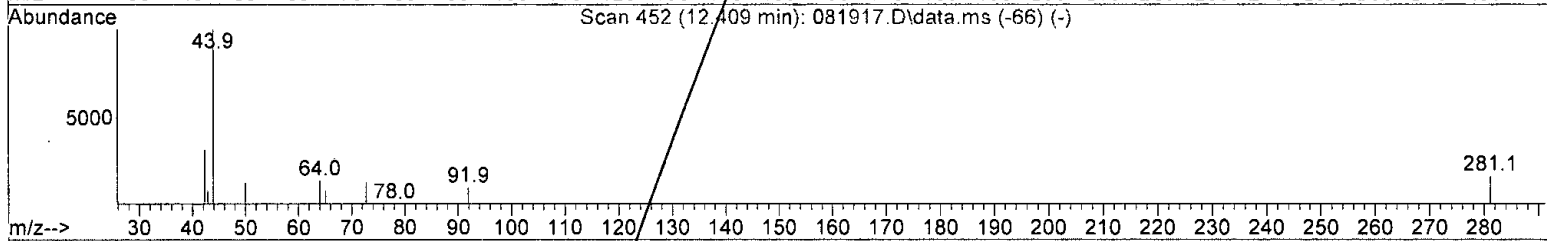
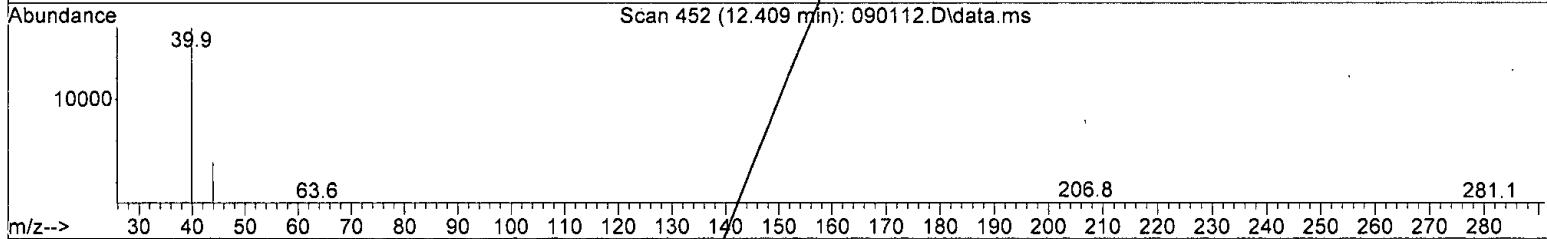
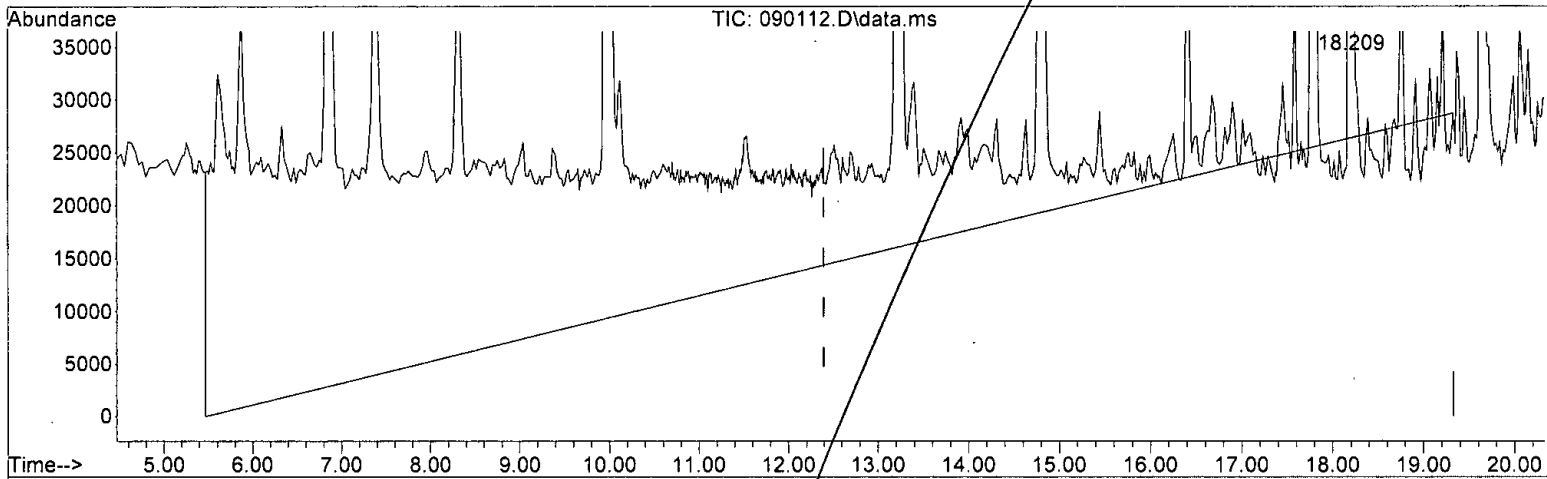
Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:24:46 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:31:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 51.845 ug/m3 m  
 response 1960733

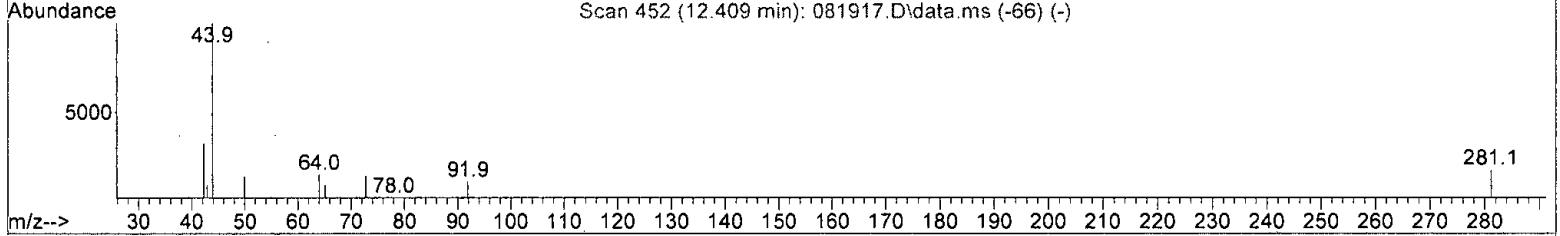
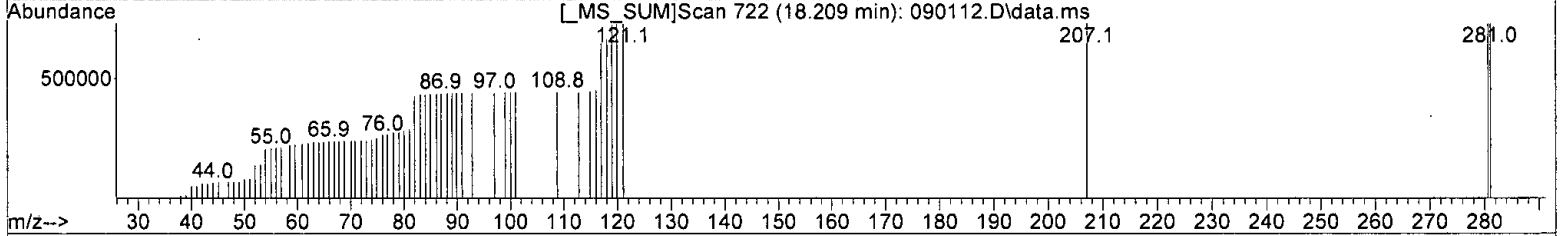
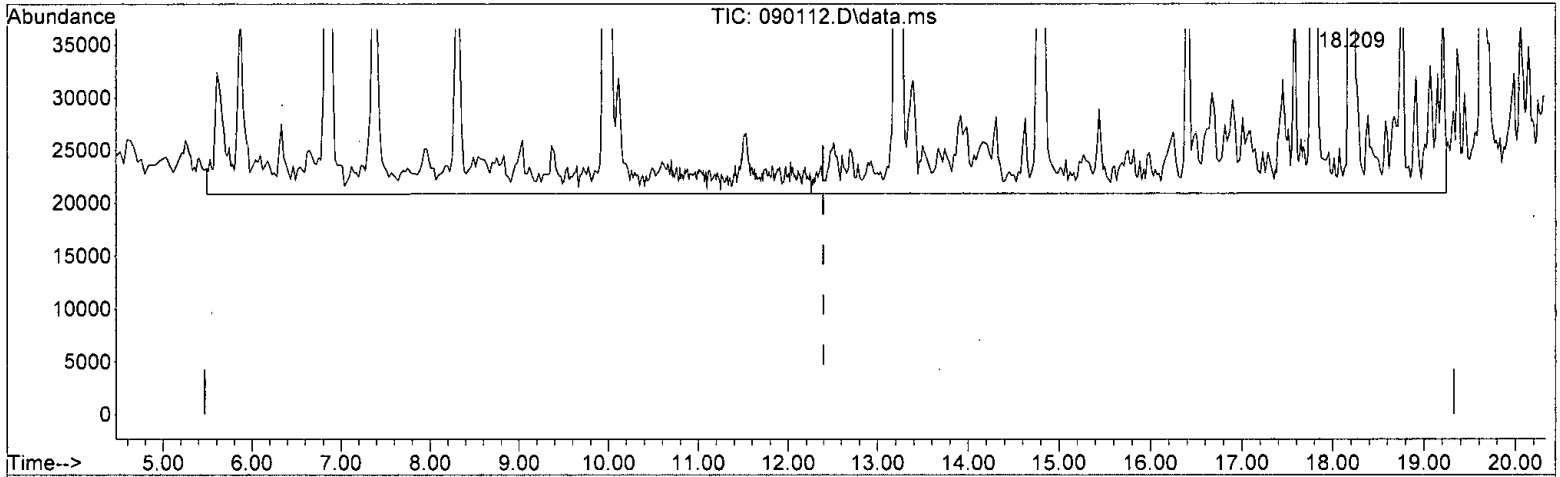
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* 4/09/2021

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:31:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 210.399 ug/m3 m

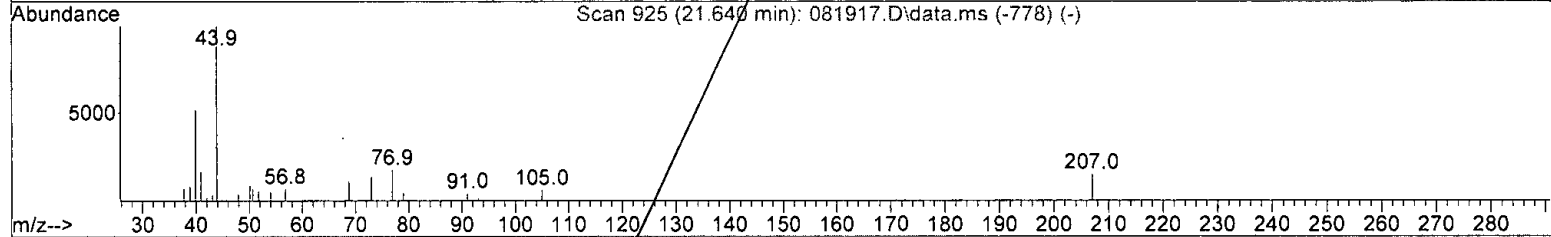
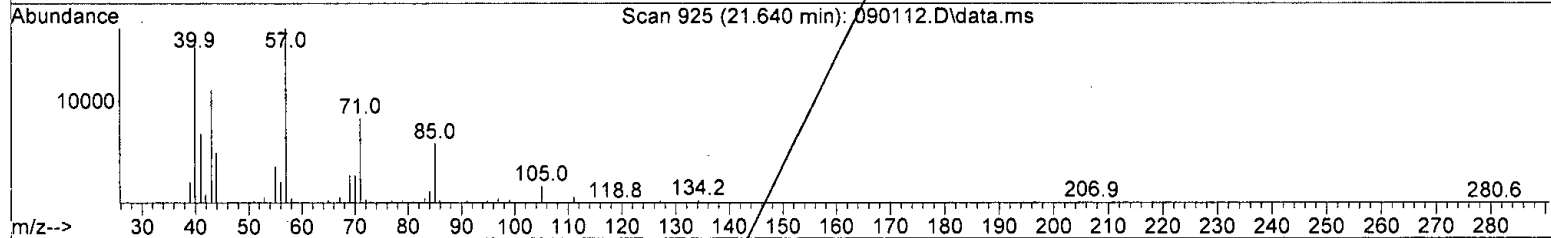
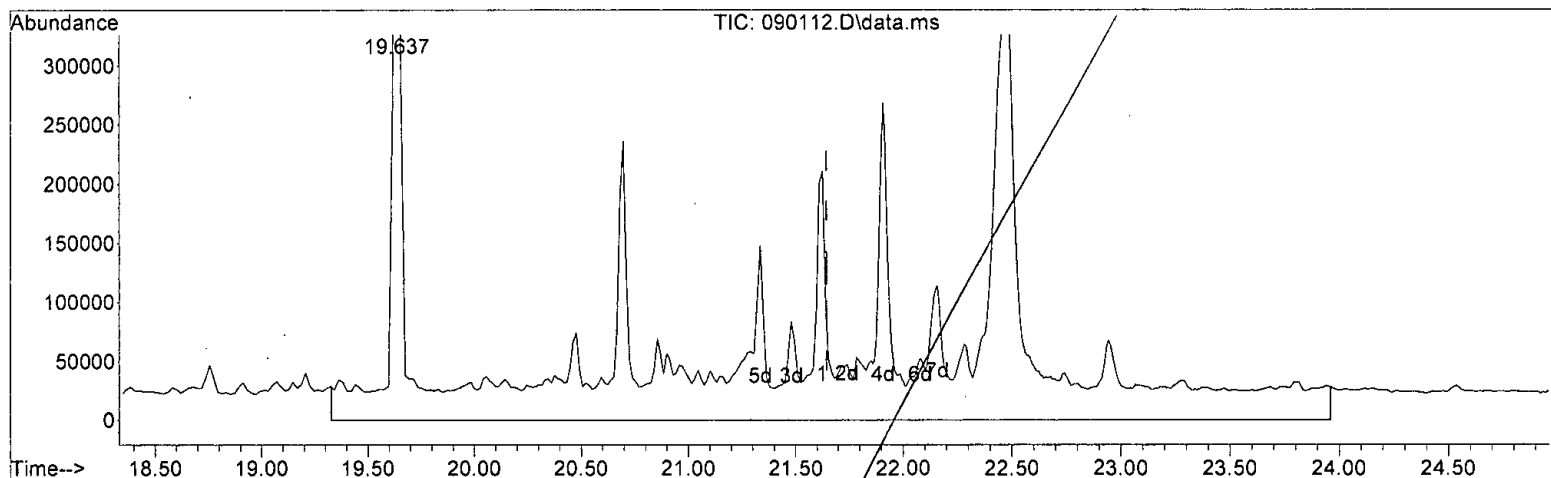
response 7957100

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h orloky*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:31:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 118.054 ug/m3 m

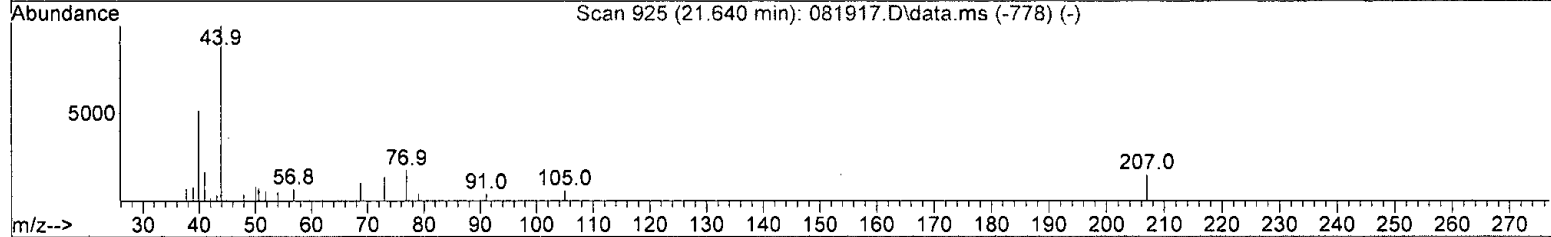
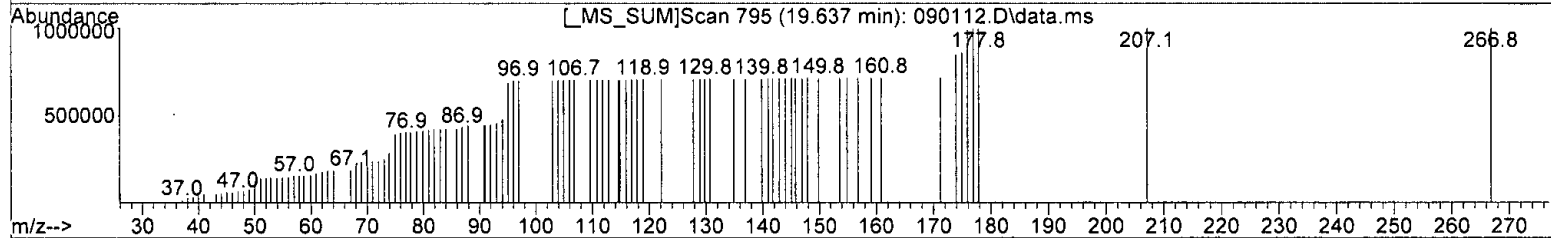
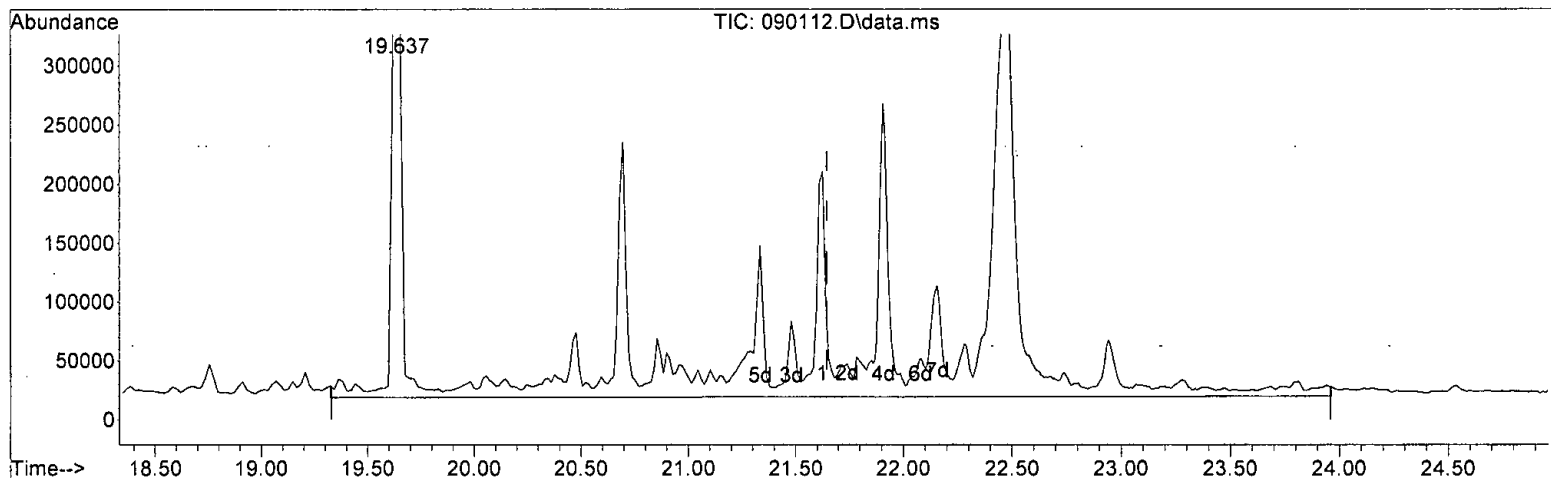
response 5072261

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h orla/h*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:31:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 247.627 ug/m3 m

response 10639416

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

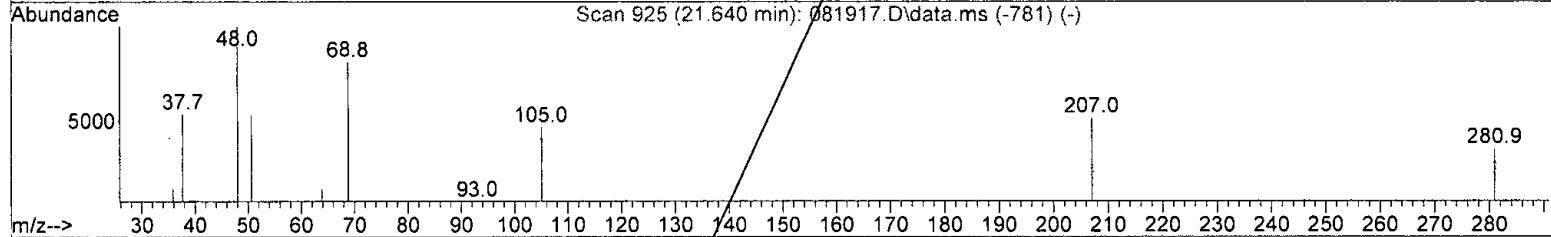
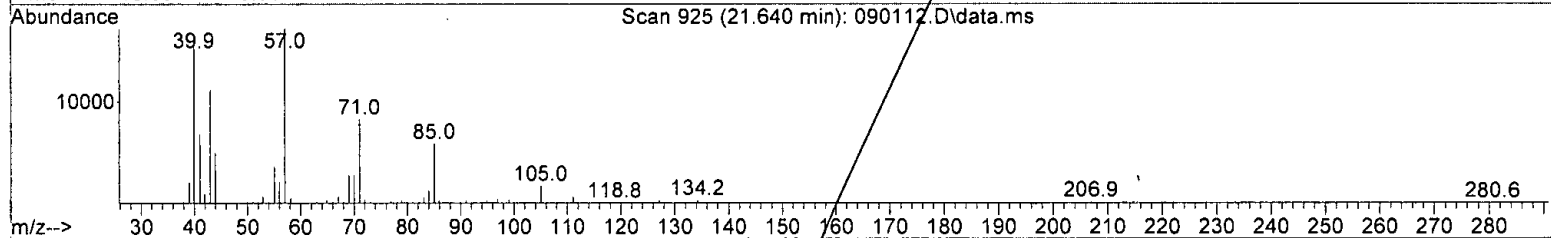
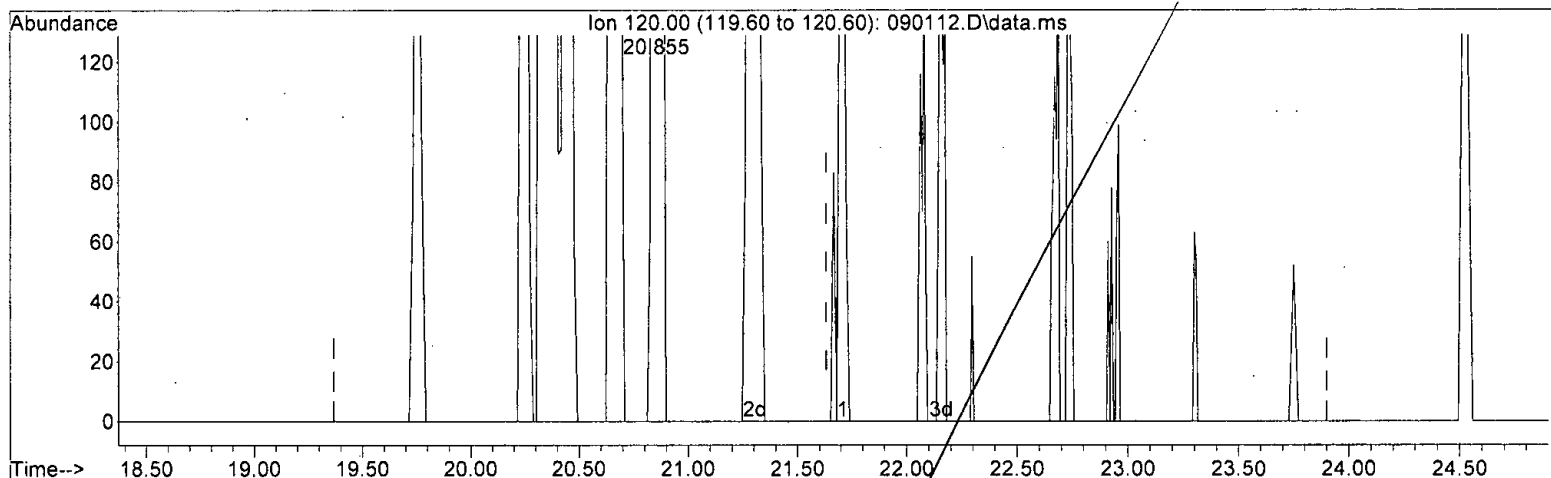
*4 or 6*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:31:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) -11.193 ug/m3 m

response -55991

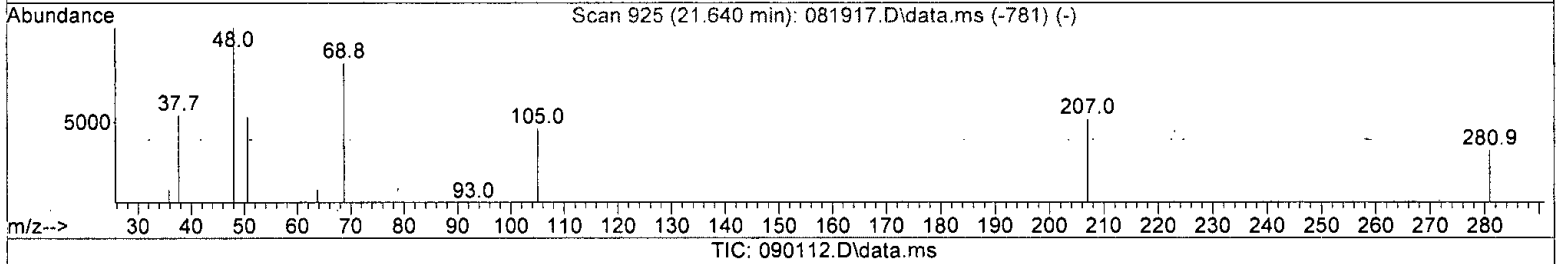
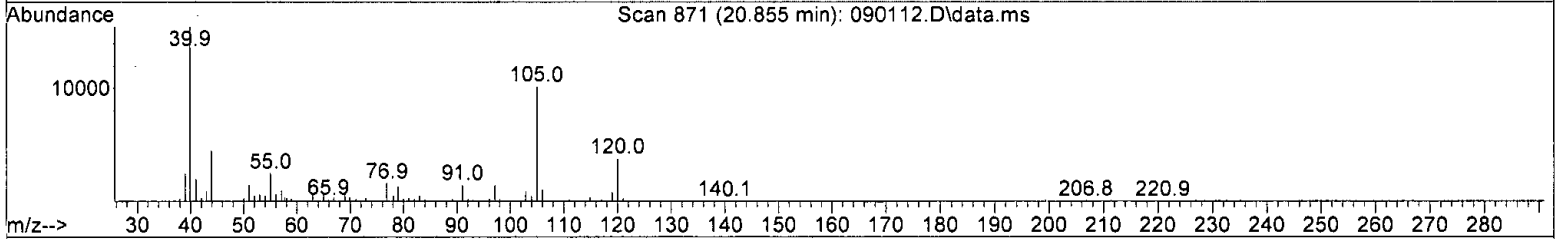
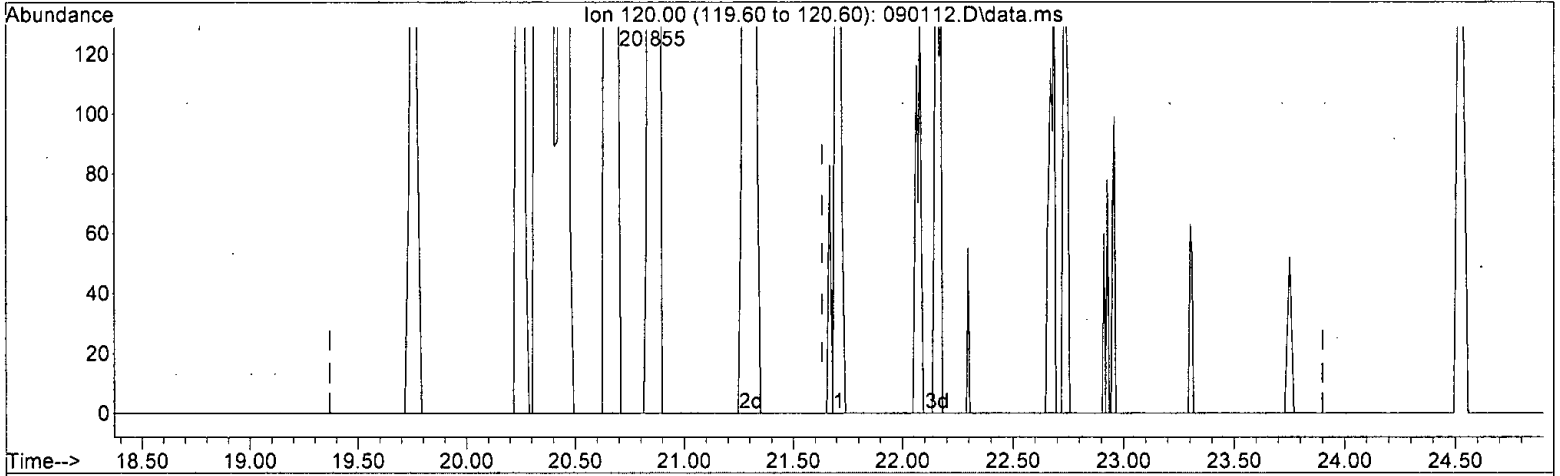
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*h  
62/2/4*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:31:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 3.601 ug/m3 m

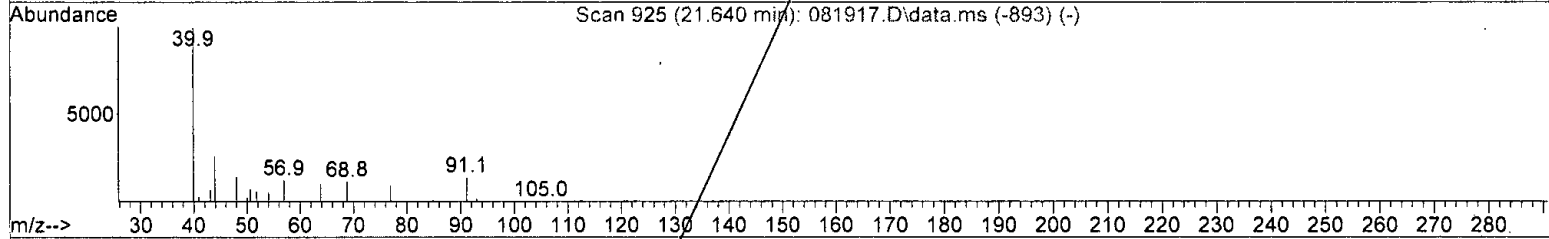
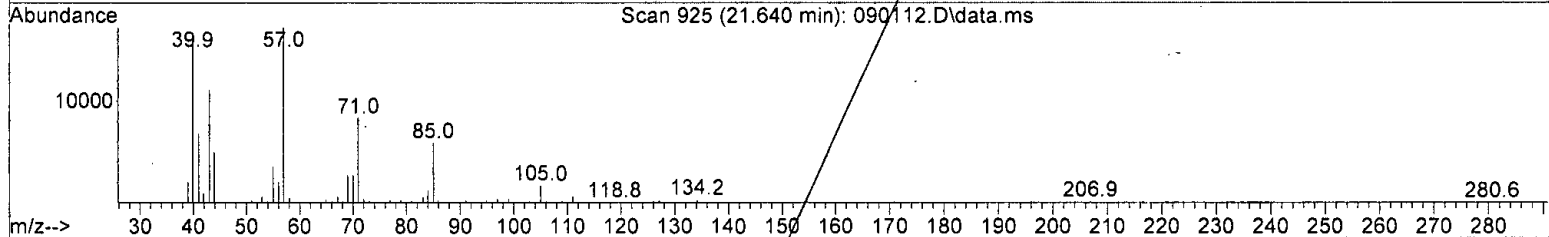
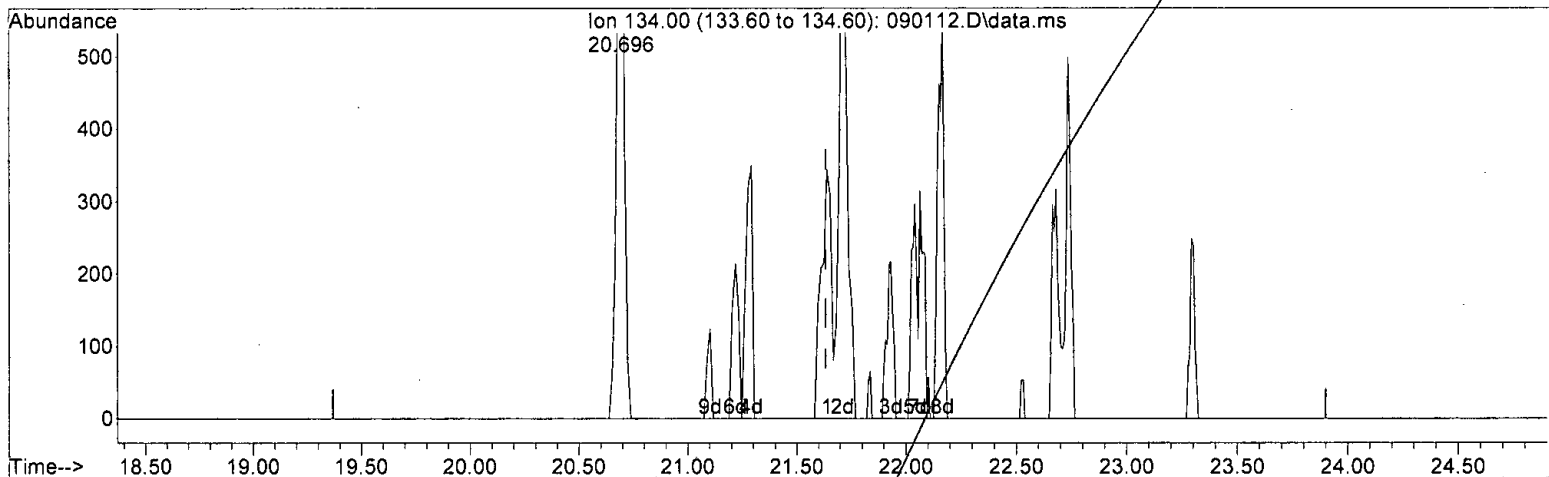
response 18016

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h orlady*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:31:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090112.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) -22.961 ug/m3 m

response -65422

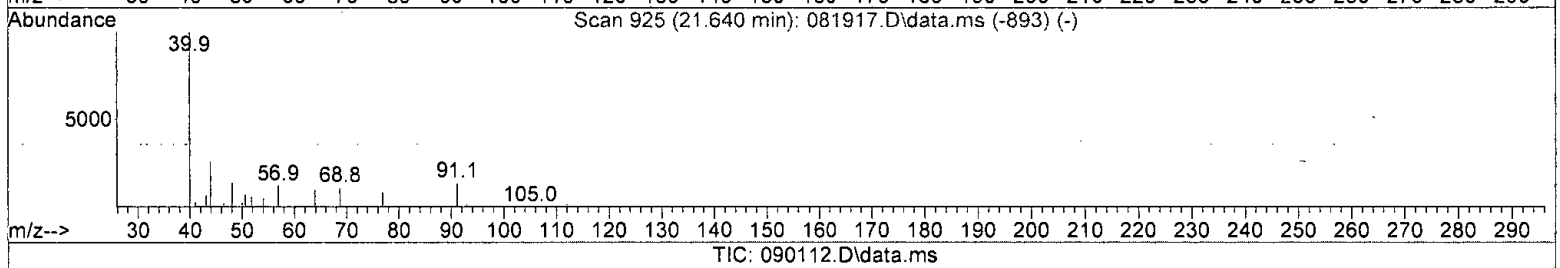
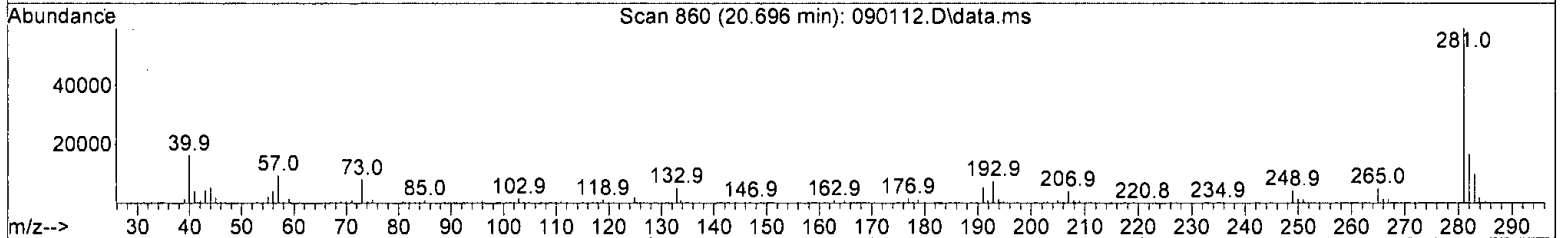
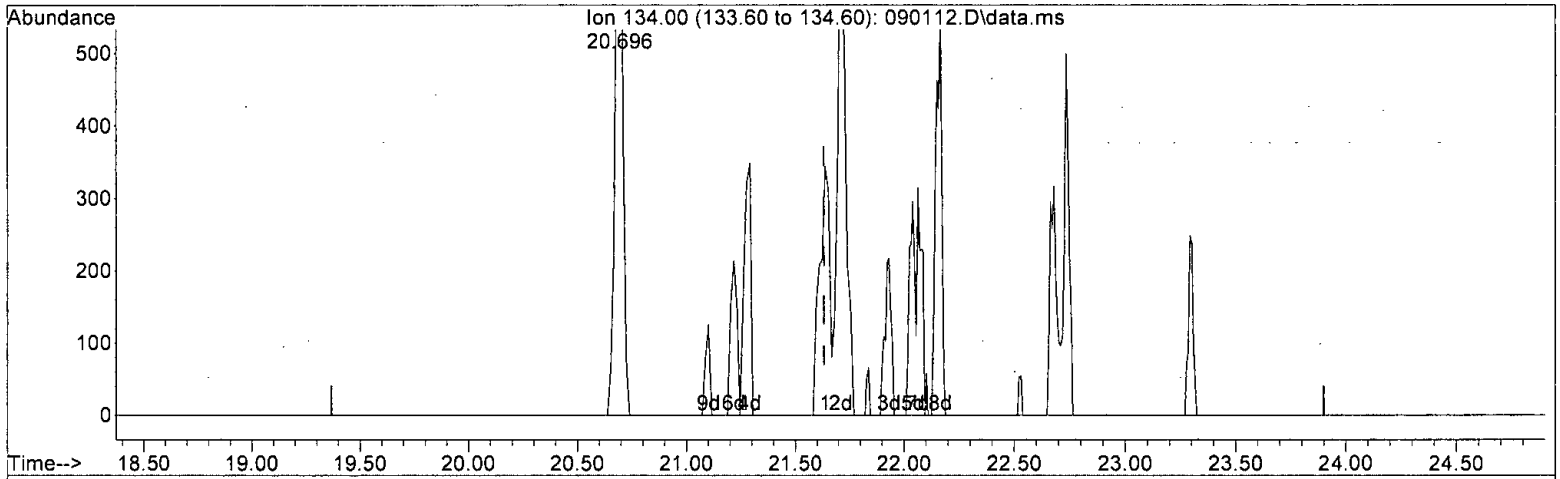
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*U  
6/2/24*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:31:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 4.333 ug/m3 m

response	12346
Ion	Exp% Act%
134.00	100.00 100.00
0.00	0.00 0.00
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten signature: 4/2/21*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:34:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	101031	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	476642	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	419940	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	371505	70.611	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	99.45%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	968100	54.270	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1326747	52.401	ug/m3	92
4) IS-3 Chlorobenzene-d5	18.21	TIC	1591976	51.838	ug/m3	91
5) Methylene chloride	6.86	TIC	345082	382.088	ug/m3	92
6) Acetone	5.60	TIC	57133	1.199	ppbv	100
7) 2-Propanol	5.86	TIC	64478	232.926	ppbv	100
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	8.49	73	424	0.054	ug/m3	56
11) Benzene	12.71	78	3664	0.226	ug/m3	89
12) Isopentane	5.60	TIC	57133	1.775	ug/m3#	52
13) Hexane	10.11	TIC	36595	0.941	ug/m3	98
14) Cyclohexane	13.23	TIC	1326747	40.100	ug/m3	94
15) 2,3-Dimethylpentane	13.23	TIC	1326206	31.409	ug/m3	64
16) Heptane	14.63	TIC	19979	0.579	ug/m3	98
17) Octane	17.45	TIC	48417	1.023	ug/m3	70
18) APH EC5-8 aliphatics T...	0.00	TIC	2815077m	74.435	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	7957100m	210.399	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1819534	51.325	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	615806	70.523	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	489380	44.905	ppbv	100
24) Toluene	16.39	92	9508	1.055	ug/m3#	80
25) Ethylbenzene	18.60	91	3916	0.210	ug/m3	94
26) m,p-Xylene	18.76	106	5592	0.894	ug/m3	83
27) o-Xylene	19.21	106	2877	0.486	ug/m3	87
28) Naphthalene	23.94	128	4339	0.287	ug/m3	94
29) 2,3-Dimethylheptane	18.76	TIC	92218	2.185	ug/m3#	66
30) Nonane	19.21	TIC	62179	1.411	ug/m3	72
31) Decane	20.96	TIC	39393	0.900	ug/m3	85
32) Butylcyclohexane	21.74	TIC	61213	1.231	ug/m3	61
33) Undecane	22.28	TIC	90058	2.074	ug/m3	96
34) Dodecane	23.81	TIC	30512	0.856	ug/m3	95
35) APH EC9-12 aliphatics ...	21.63	TIC	375573m	8.741	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	10639416m	247.627	ug/m3	
38) Isopropylbenzene	19.75	120	570	0.173	ug/m3#	42
39) 1-Methyl-3-ethylbenzene	20.33	120	2764	0.600	ug/m3#	80
40) 1,3,5-Trimethylbenzene	20.45	120	3298	0.566	ug/m3	96
41) p-Isopropyltoluene	21.29	134	731	0.255	ug/m3#	1
42) 1,2,3-Trimethylbenzene	21.31	120	2785	0.407	ug/m3#	77
43) APH EC9-10 aromatics T...	21.63	TIC	10148m	2.240	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	18016m	3.601	ug/m3	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

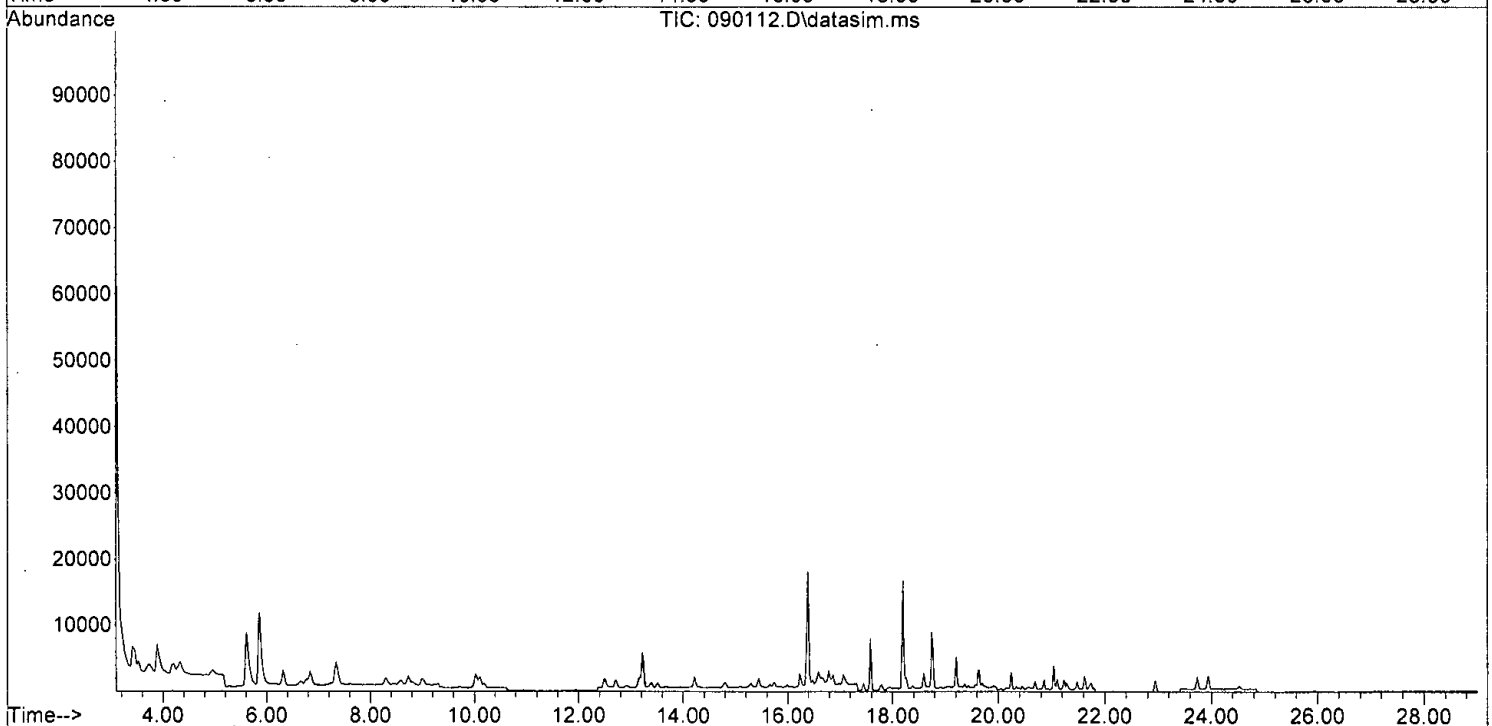
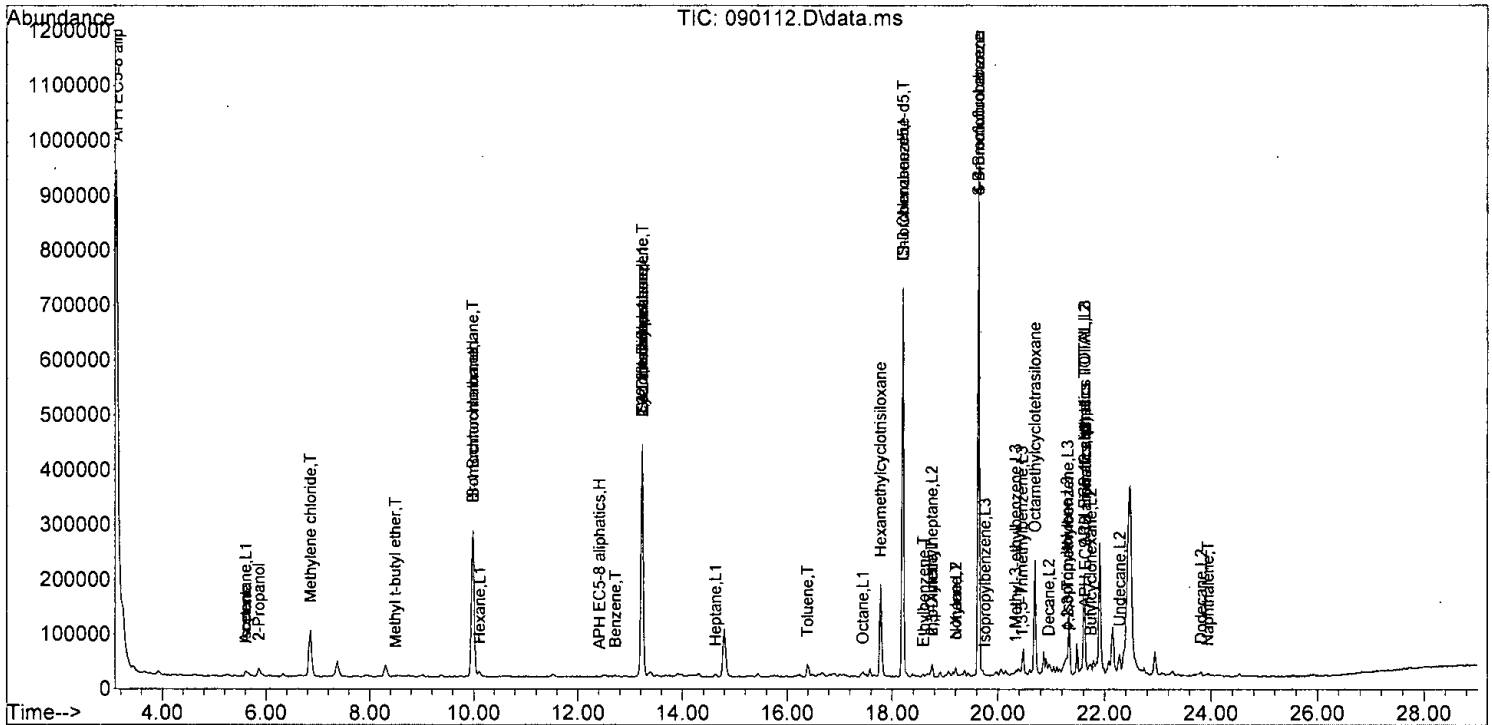
Quant Time: Sep 02 11:34:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	12346m	4.333	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090112.D  
 Acq On : 1 Sep 2021 5:14 pm  
 Operator : bat  
 Sample : 108515-11 dup 1/6.0  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:34:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



**EPA TO-15  
Sample Data**

**F&B Project 108515**



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

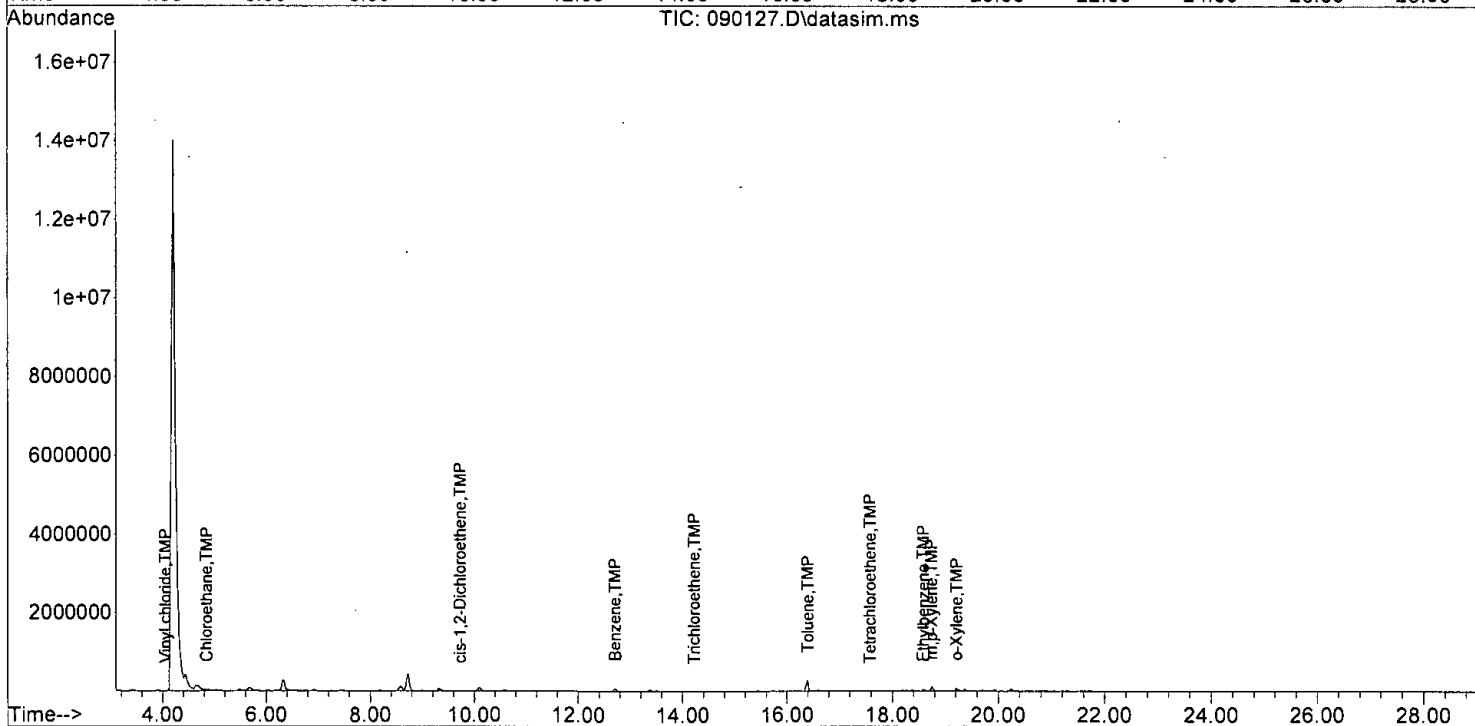
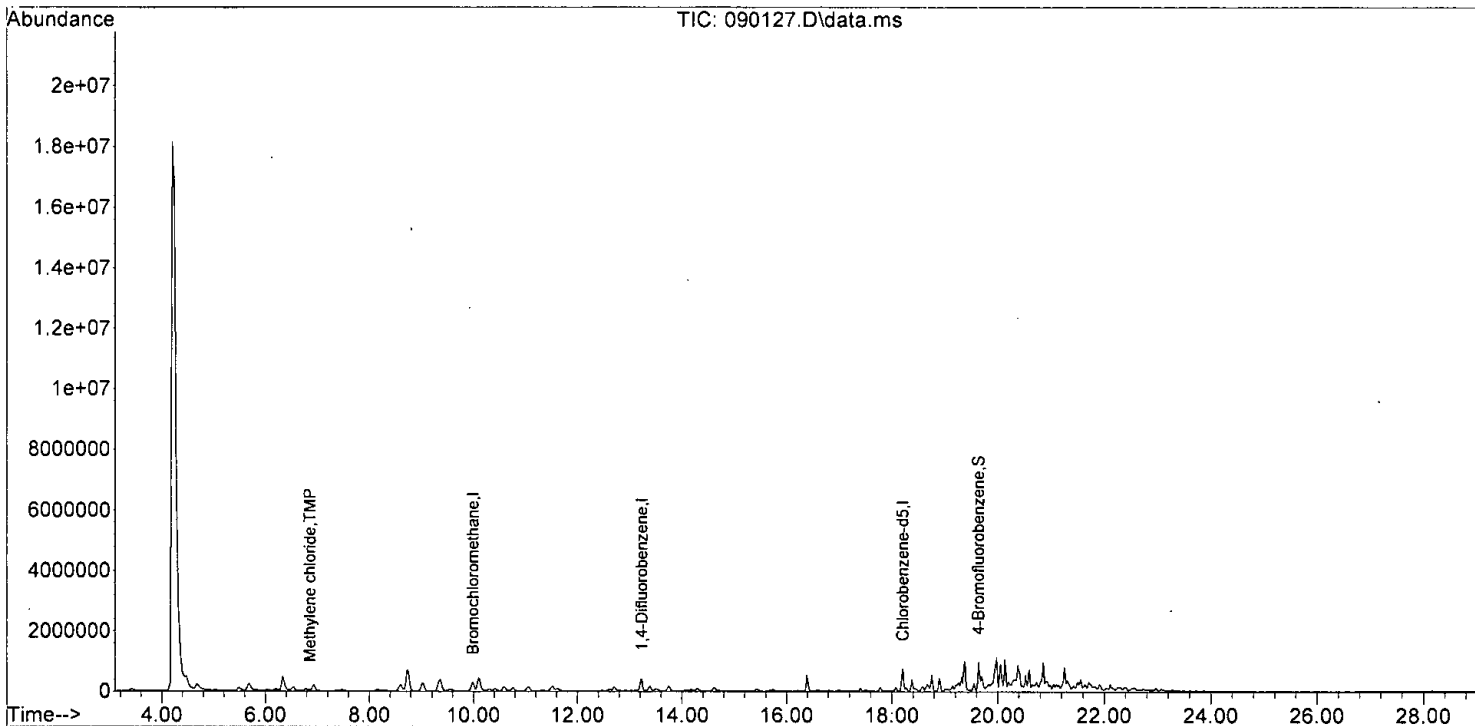
Quant Time: Sep 03 12:20:38 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

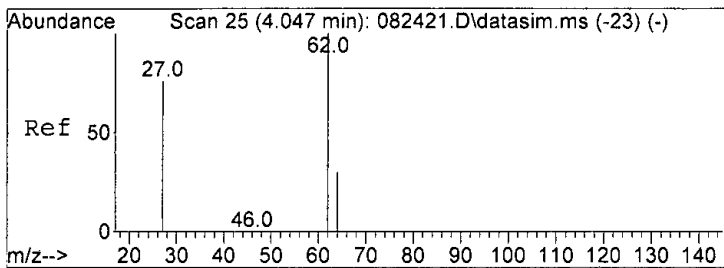
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	103538	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	482493	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	420082	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	389097	10.224	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	102.20%
Target Compounds						
						Qvalue
6] Vinyl chloride	4.05	62	2399	0.105	ppbv	100
10] Chloroethane	4.84	64	482	0.061	ppbv	96
20] Methylene chloride	6.86	84	16636	0.918	ppbv #	81
28] cis-1,2-Dichloroethene	9.73	96	185	0.010	ppbv	82
37] Benzene	12.70	78	200055	3.156	ppbv	96
46] Trichloroethene	14.22	95	360	0.012	ppbv	81
50] Toluene	16.40	92	263059	7.276	ppbv	81
53] Tetrachloroethene	17.58	164	279	0.015	ppbv	85
58] Ethylbenzene	18.59	91	60411	0.647	ppbv	97
65] m,p-Xylene	18.74	106	58656	1.958	ppbv	82
66] o-Xylene	19.21	106	36520	1.240	ppbv	91
77] Naphthalene	23.93	128	1449	Below Cal		96
-----						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

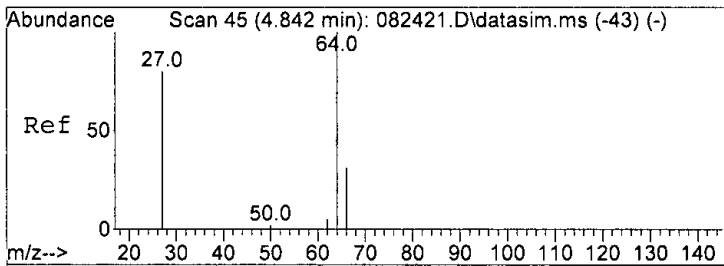
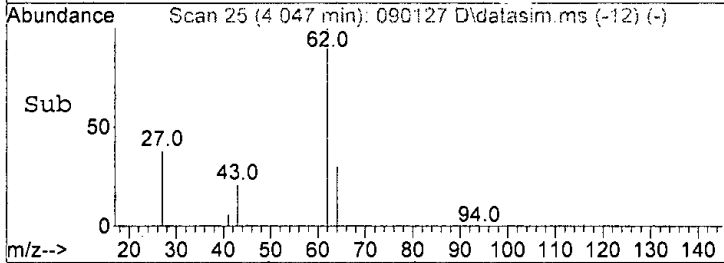
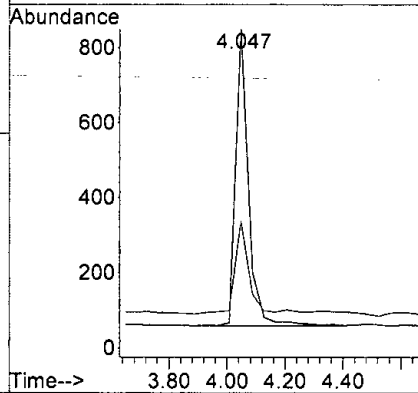
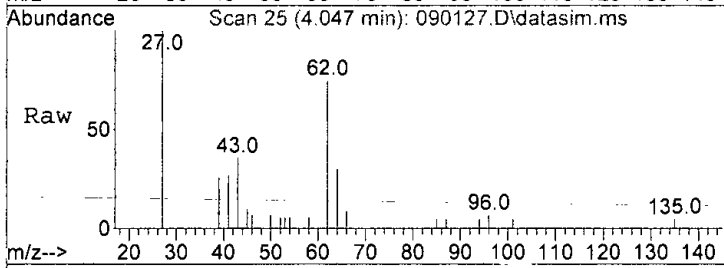
Quant Time: Sep 03 12:20:38 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





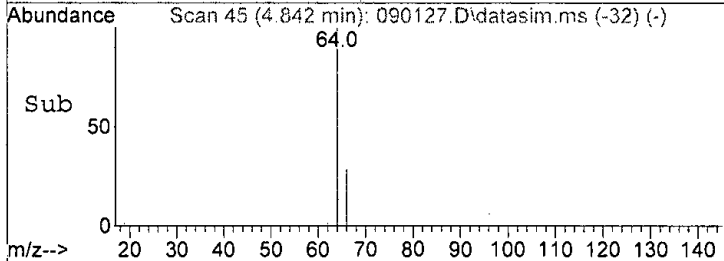
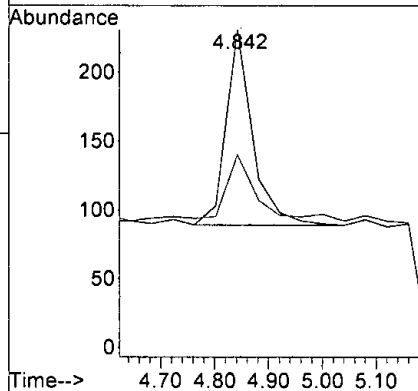
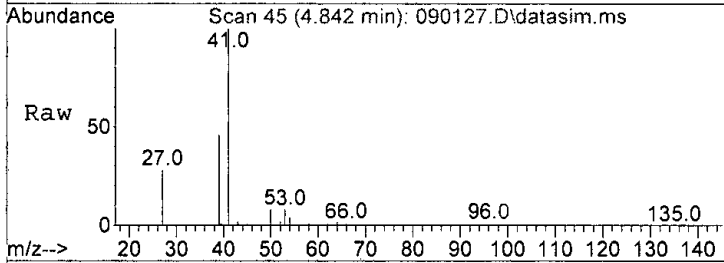
#6  
 Vinyl chloride  
 Concen: 0.105 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090127.D  
 Acq: 2 Sep 2021 2:48 am

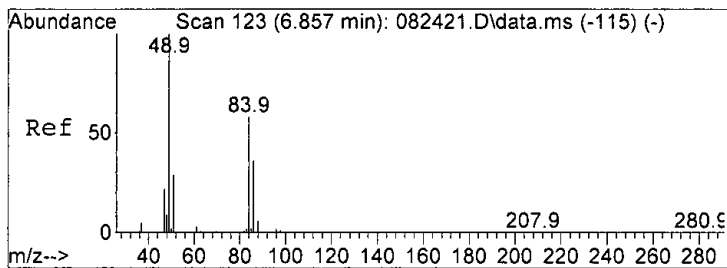
Tgt Ion: 62 Resp: 2399  
 Ion Ratio Lower Upper  
 62 100  
 64 31.3 1.5 61.5



#10  
 Chloroethane  
 Concen: 0.061 ppbv  
 RT: 4.84 min Scan# 45  
 Delta R.T. 0.000 min  
 Lab File: 090127.D  
 Acq: 2 Sep 2021 2:48 am

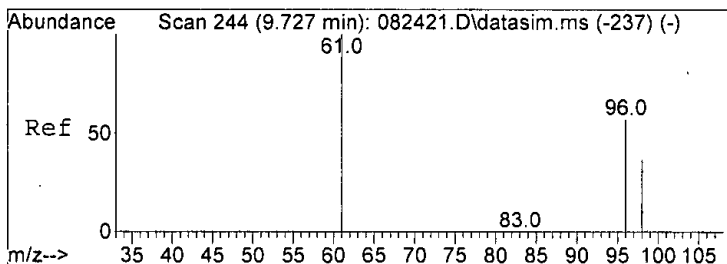
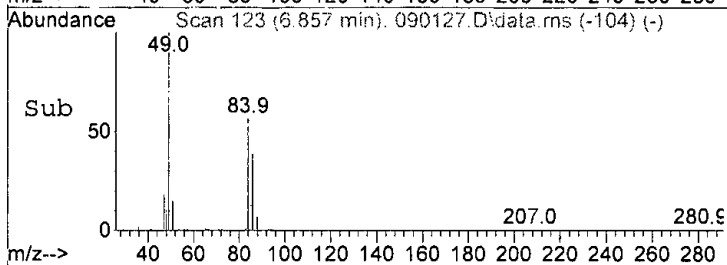
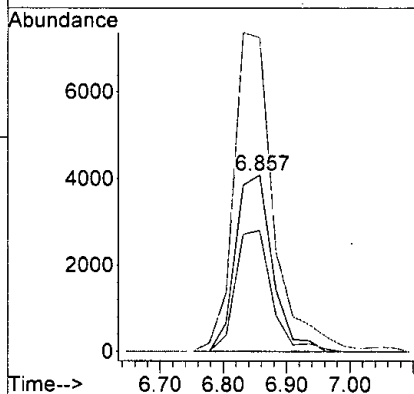
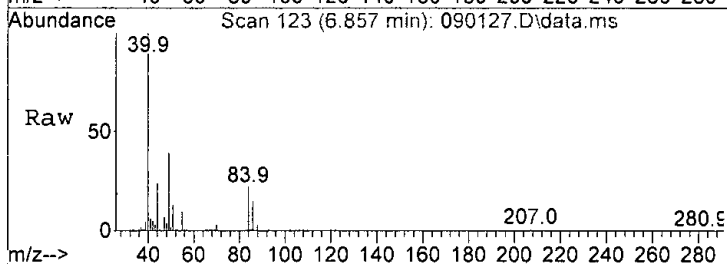
Tgt Ion: 64 Resp: 482  
 Ion Ratio Lower Upper  
 64 100  
 66 33.8 1.8 61.8





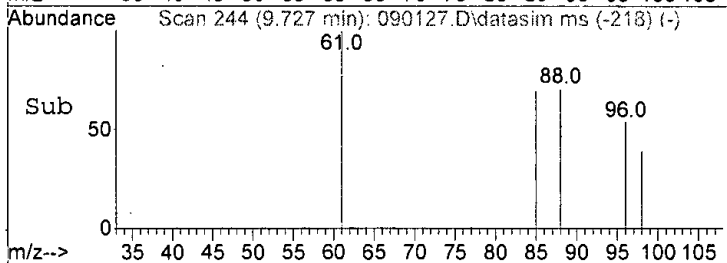
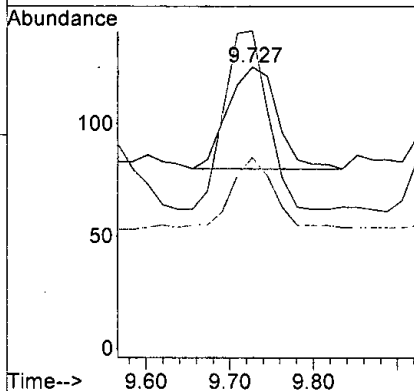
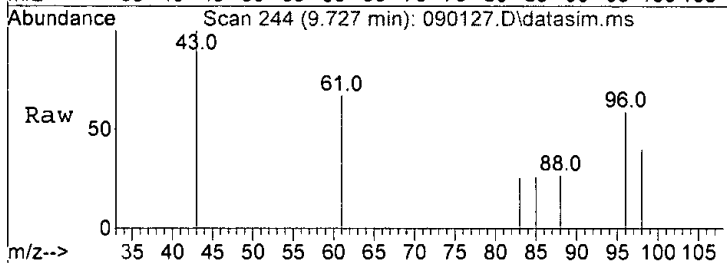
#20  
 Methylene chloride  
 Concen: 0.918 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090127.D  
 Acq: 2 Sep 2021 2:48 am

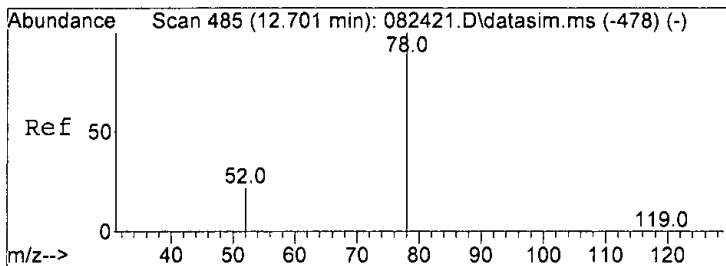
Tgt Ion	Resp	Lower	Upper
84	16636		
84	100		
86	68.7	33.9	93.9
49	177.7	116.6	176.6#



#28  
 cis-1,2-Dichloroethene  
 Concen: 0.010 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. -0.000 min  
 Lab File: 090127.D  
 Acq: 2 Sep 2021 2:48 am

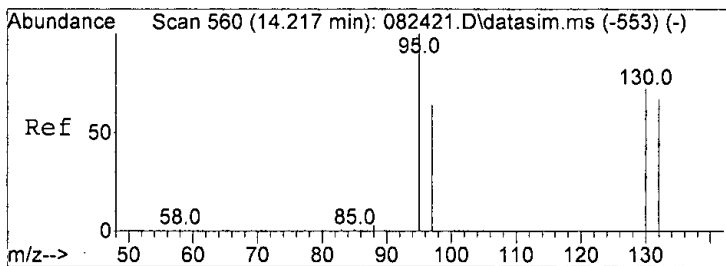
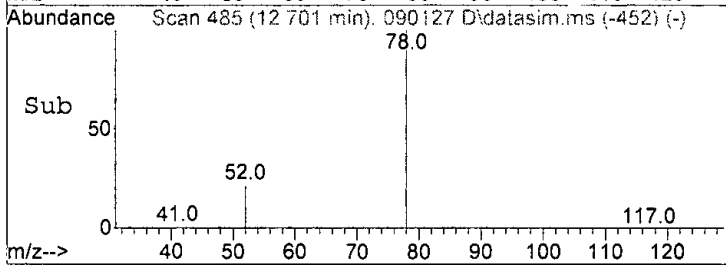
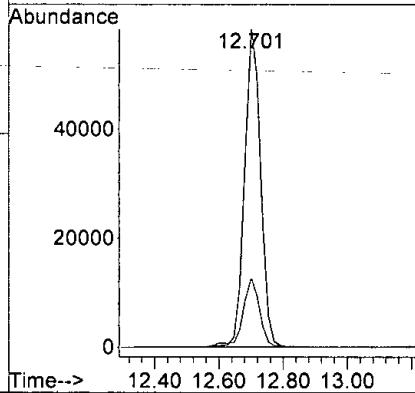
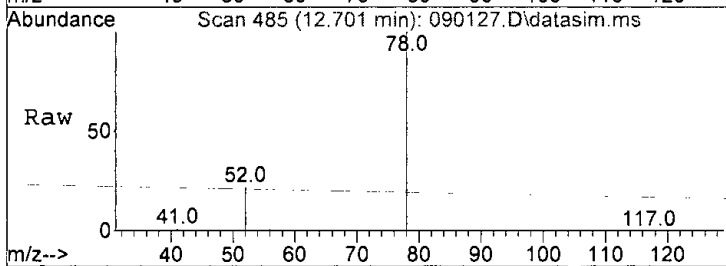
Tgt Ion	Resp	Lower	Upper
96	185		
96	100		
61	175.6	116.0	176.0
98	68.9	35.2	95.2





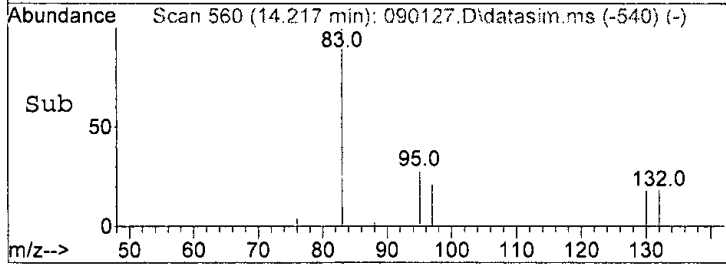
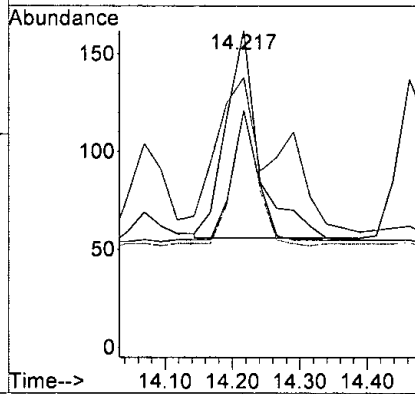
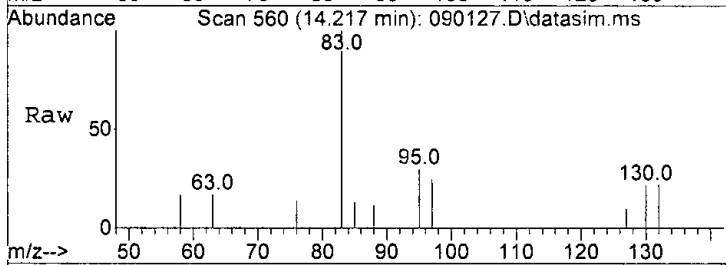
#37  
Benzene  
Concen: 3.156 ppbv  
RT: 12.70 min Scan# 485  
Delta R.T. -0.000 min  
Lab File: 090127.D  
Acq: 2 Sep 2021 2:48 am

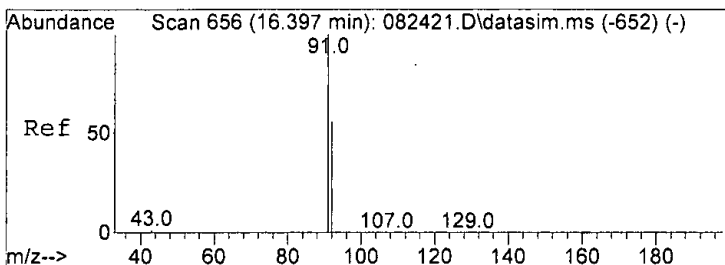
Tgt Ion: 78 Resp: 200055  
Ion Ratio Lower Upper  
78 100  
52 21.7 0.0 49.7



#46  
Trichloroethene  
Concen: 0.012 ppbv  
RT: 14.22 min Scan# 560  
Delta R.T. -0.000 min  
Lab File: 090127.D  
Acq: 2 Sep 2021 2:48 am

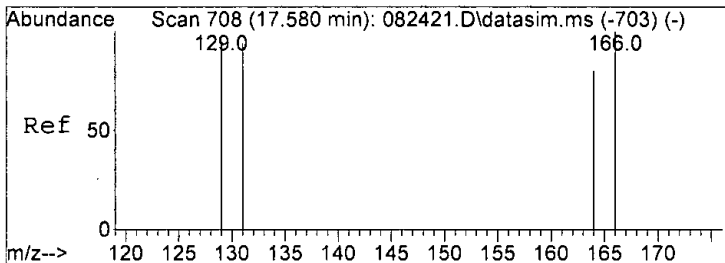
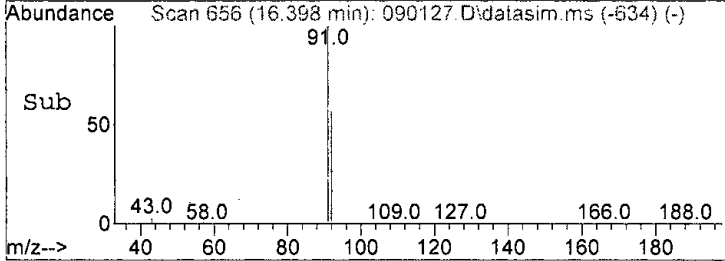
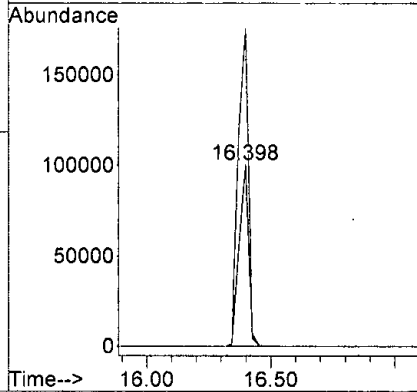
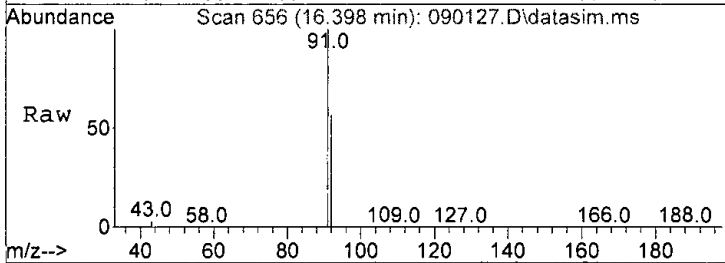
Tgt Ion: 95 Resp: 360  
Ion Ratio Lower Upper  
95 100  
97 72.6 37.1 97.1  
130 64.2 56.1 116.1  
132 62.3 54.3 114.3





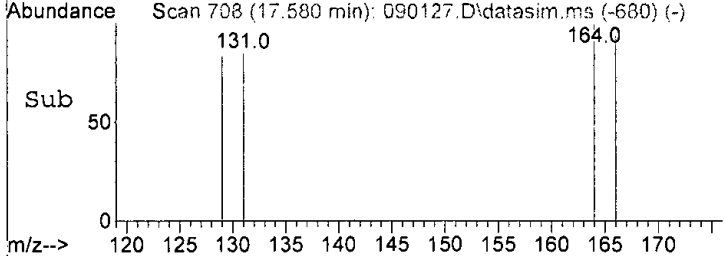
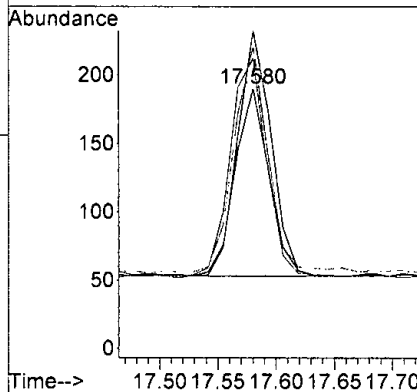
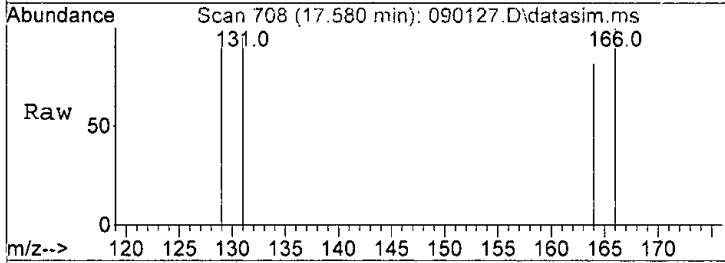
#50  
 Toluene  
 Concen: 7.276 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.001 min  
 Lab File: 090127.D  
 Acq: 2 Sep 2021 2:48 am

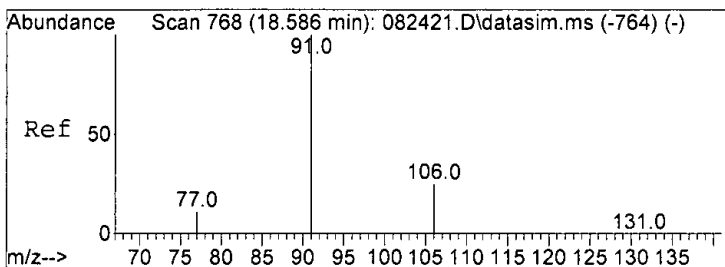
Tgt Ion: 92 Resp: 263059  
 Ion Ratio Lower Upper  
 92 100  
 91 175.4 174.6 234.6



#53  
 Tetrachloroethene  
 Concen: 0.015 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090127.D  
 Acq: 2 Sep 2021 2:48 am

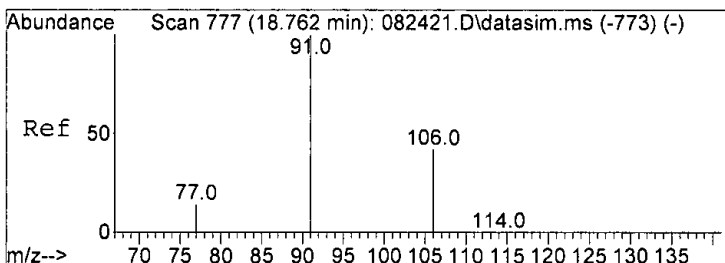
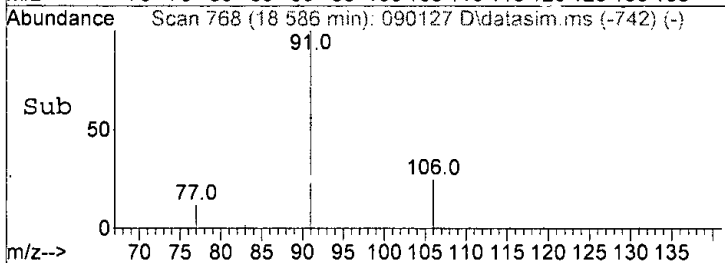
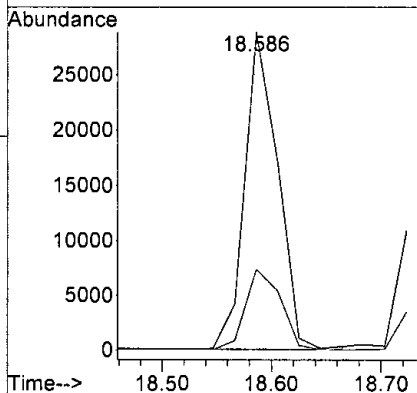
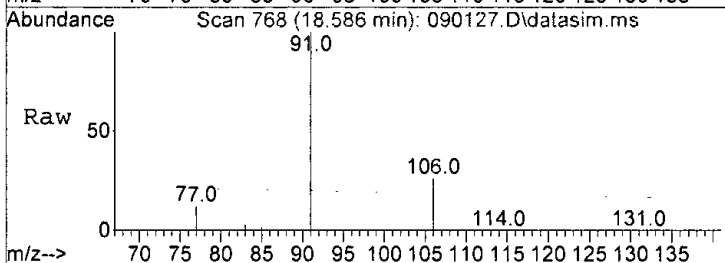
Tgt Ion: 164 Resp: 279  
 Ion Ratio Lower Upper  
 164 100  
 129 116.1 63.2 123.2  
 131 120.4 70.7 130.7  
 166 130.7 107.5 167.5





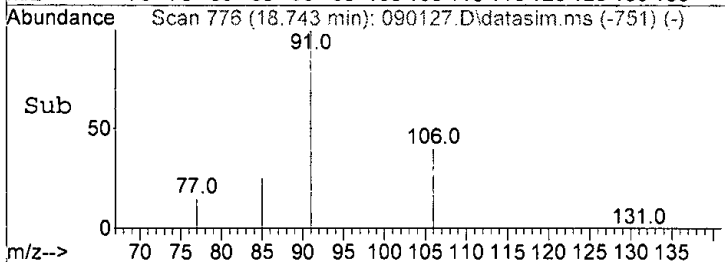
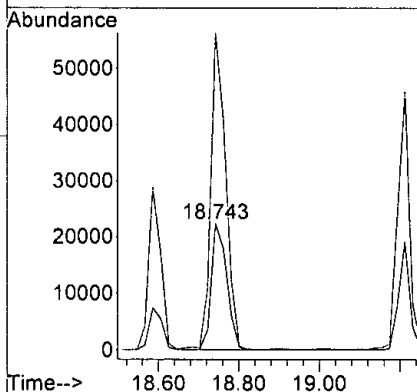
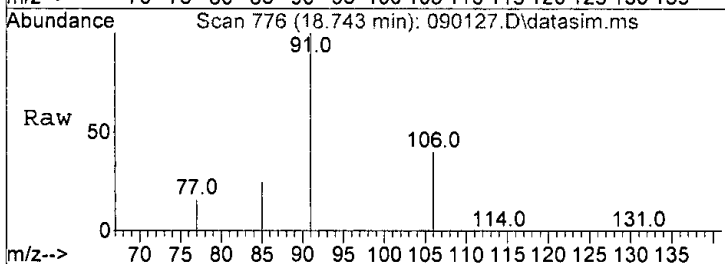
#58  
Ethylbenzene  
Concen: 0.647 ppbv  
RT: 18.59 min Scan# 768  
Delta R.T. 0.000 min  
Lab File: 090127.D  
Acq: 2 Sep 2021 2:48 am

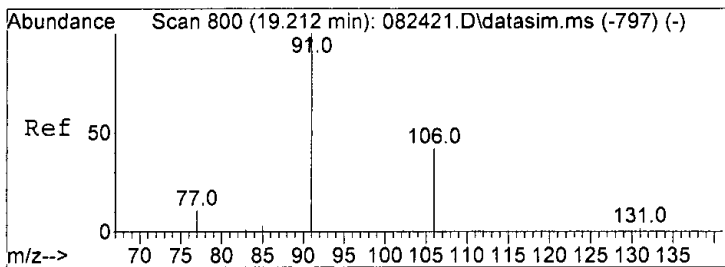
Tgt Ion: 91 Resp: 60411  
Ion Ratio Lower Upper  
91 100  
106 25.4 0.0 57.0



#65  
m,p-Xylene  
Concen: 1.958 ppbv  
RT: 18.74 min Scan# 776  
Delta R.T. -0.019 min  
Lab File: 090127.D  
Acq: 2 Sep 2021 2:48 am

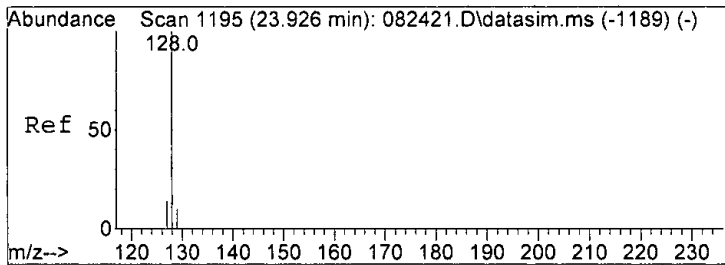
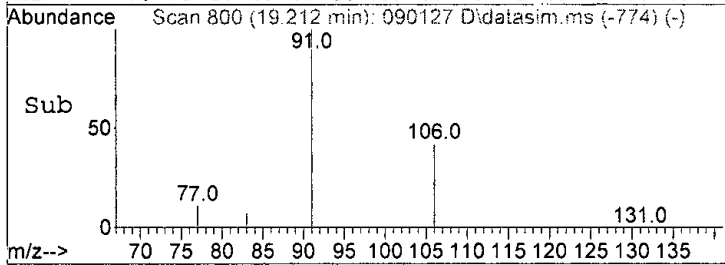
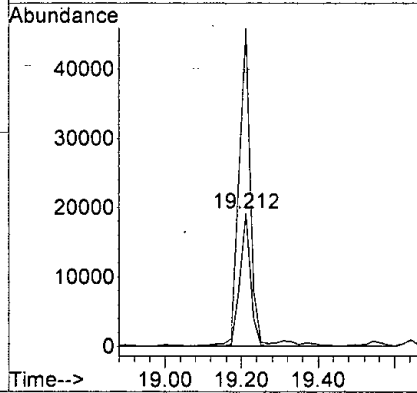
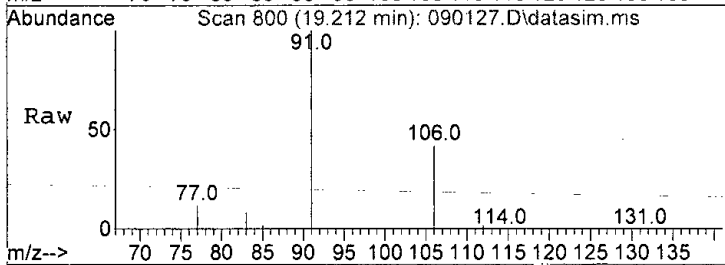
Tgt Ion: 106 Resp: 58656  
Ion Ratio Lower Upper  
106 100  
91 252.0 193.0 253.0





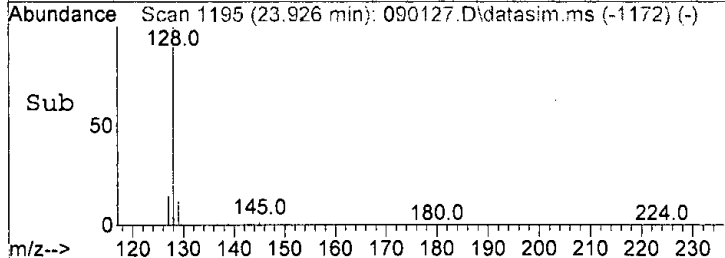
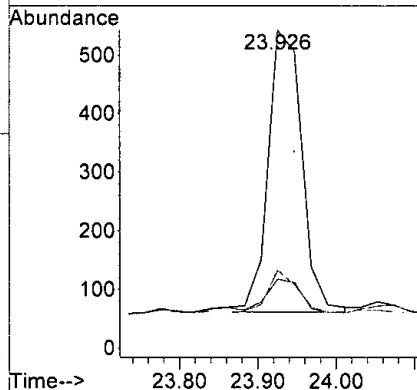
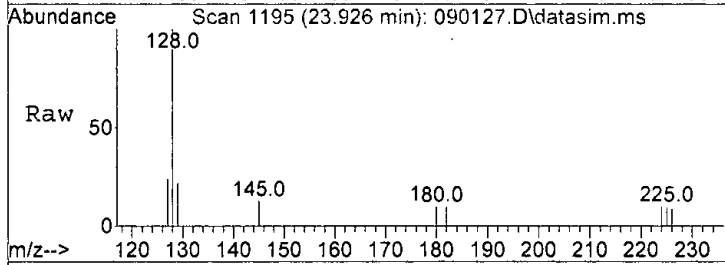
#66  
 o-Xylene  
 Concen: 1.240 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090127.D  
 Acq: 2 Sep 2021 2:48 am

Tgt Ion:106 Resp: 36520  
 Ion Ratio Lower Upper  
 106 100  
 91 239.9 194.4 254.4



#77  
 Naphthalene  
 Concen: Below Cal  
 RT: 23.93 min Scan# 1195  
 Delta R.T. -0.000 min  
 Lab File: 090127.D  
 Acq: 2 Sep 2021 2:48 am

Tgt Ion:128 Resp: 1449  
 Ion Ratio Lower Upper  
 128 100  
 129 12.3 0.0 41.0  
 127 15.2 0.0 43.2





Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:20:38 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	103538	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	482493	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	420082	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	389097	10.224	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	102.20%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.	d	
6] Vinyl chloride	4.05	62	2399	0.105	ppbv	100
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.	d	
10] Chloroethane	4.84	64	482	0.061	ppbv	96
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.	d	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	6.71	96	167	N.D.	d	
19) trans-1,2-Dichloroethene	0.00		0	N.D.	d	
20) Methylene chloride	6.86	84	16636	0.918	ppbv	# 81
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	8.44	63	337	N.D.	d	
28] cis-1,2-Dichloroethene	9.73	96	185	0.010	ppbv	82
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	0.00		0	N.D.	d	
35) 1,1,1-Trichloroethane	11.68	97	184	N.D.	d	
36) Carbon tetrachloride	0.00		0	N.D.	d	
37] Benzene	12.70	78	200055	3.156	ppbv	96
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.	d	
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

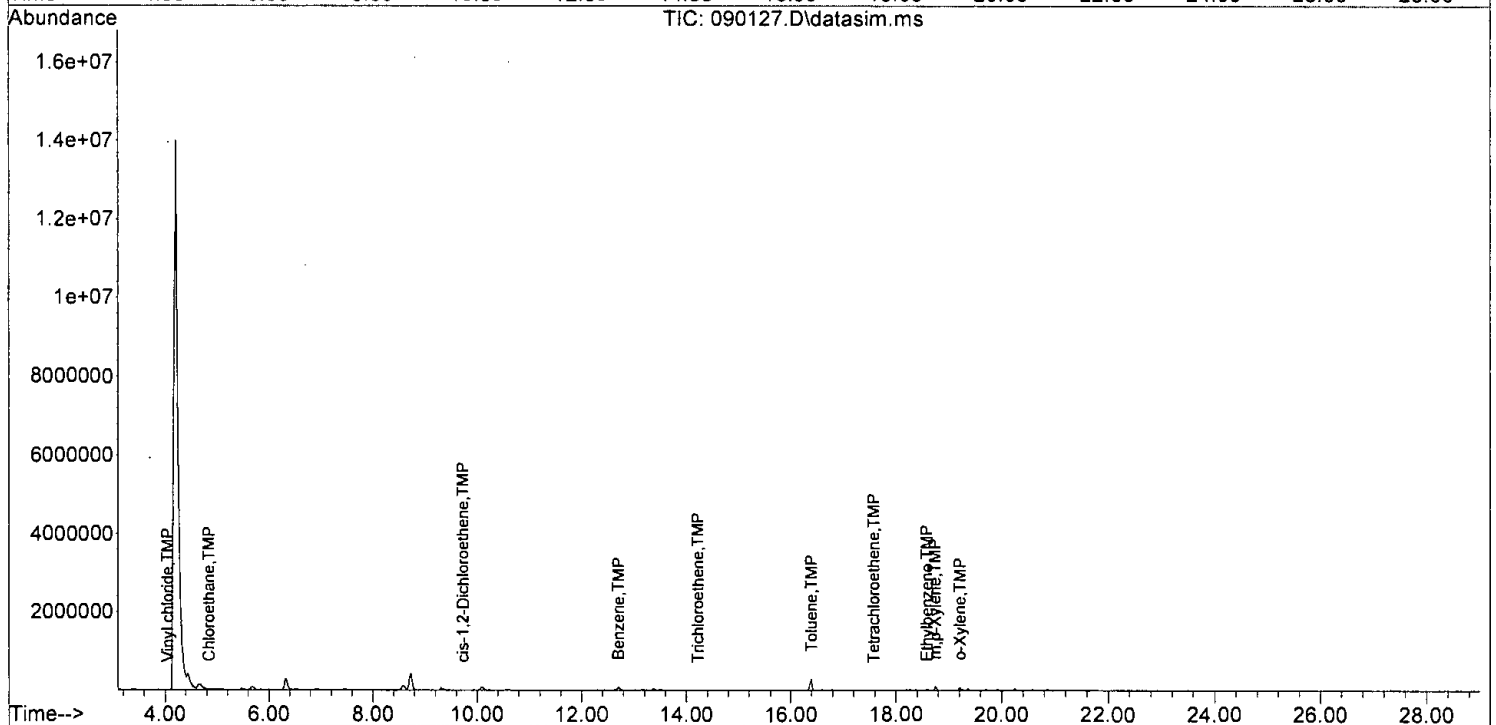
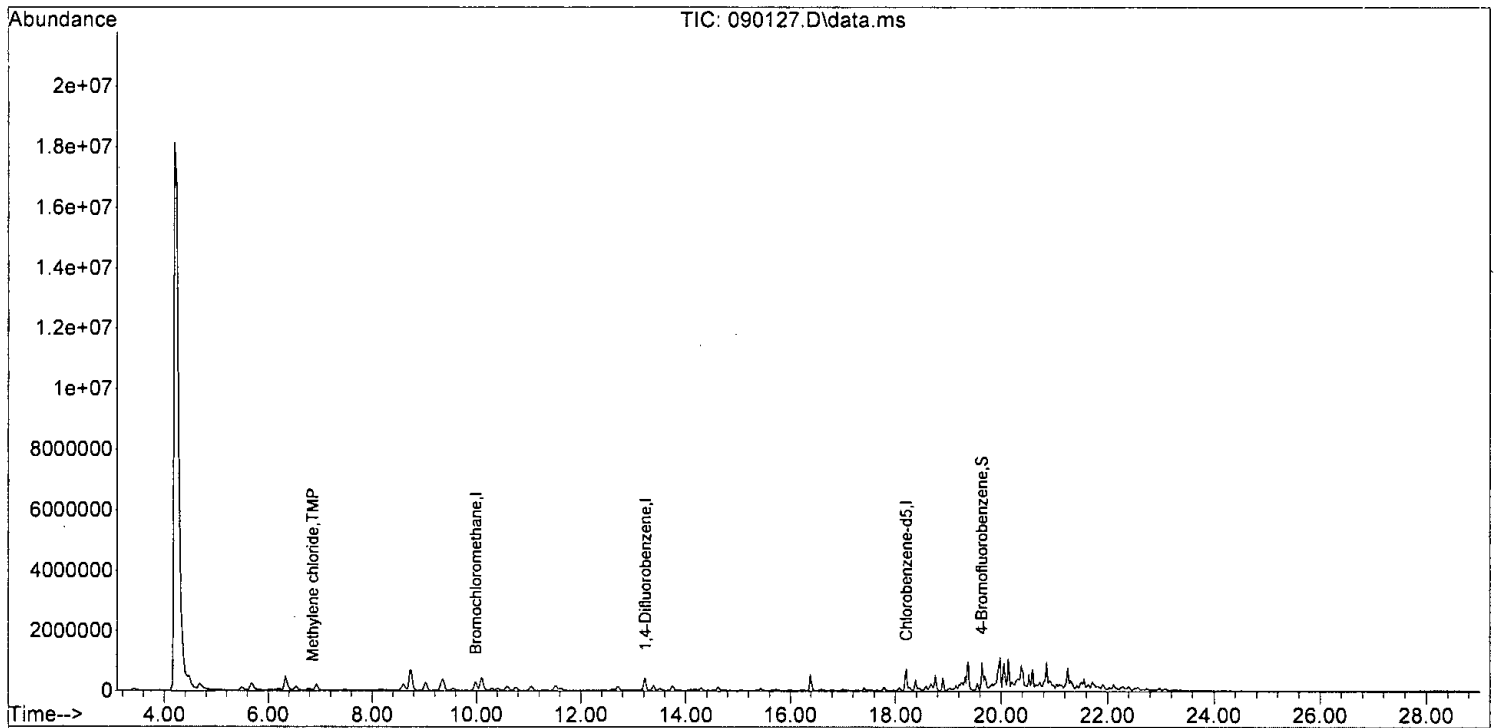
Quant Time: Sep 03 12:20:38 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	360	0.012	ppbv	81
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	263059	7.276	ppbv	81
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	279	0.015	ppbv	85
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	60411	0.647	ppbv	97
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.74	106	58656	1.958	ppbv	82
66] o-Xylene	19.21	106	36520	1.240	ppbv	91
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77] Naphthalene	23.93	128	1449	Below Cal		96
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

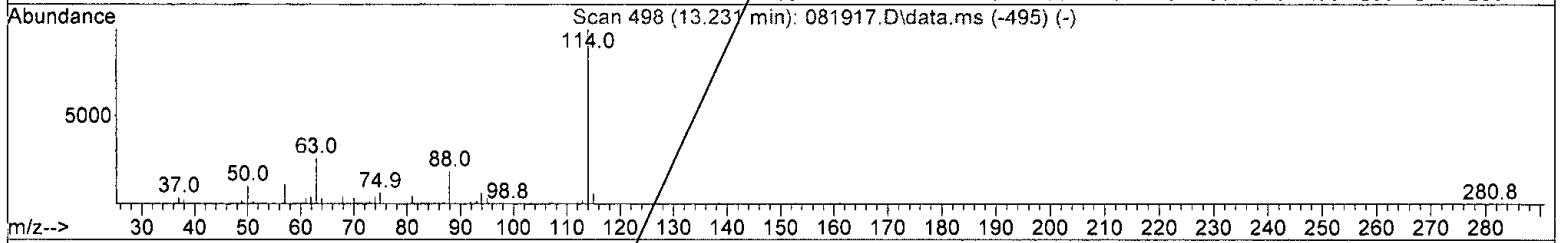
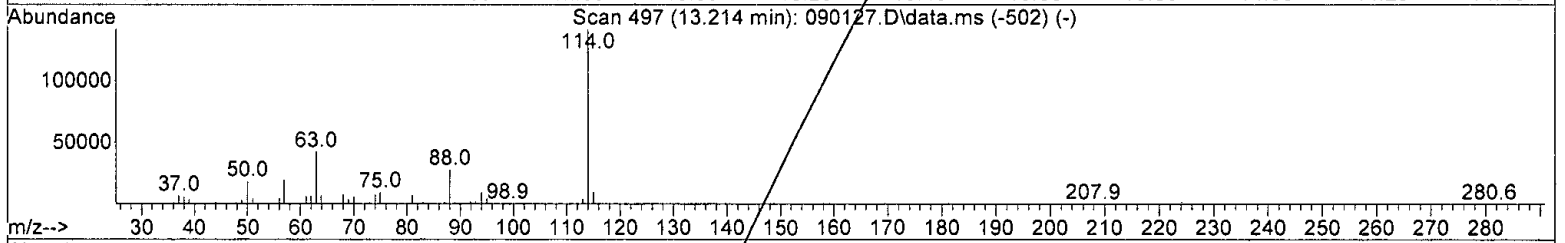
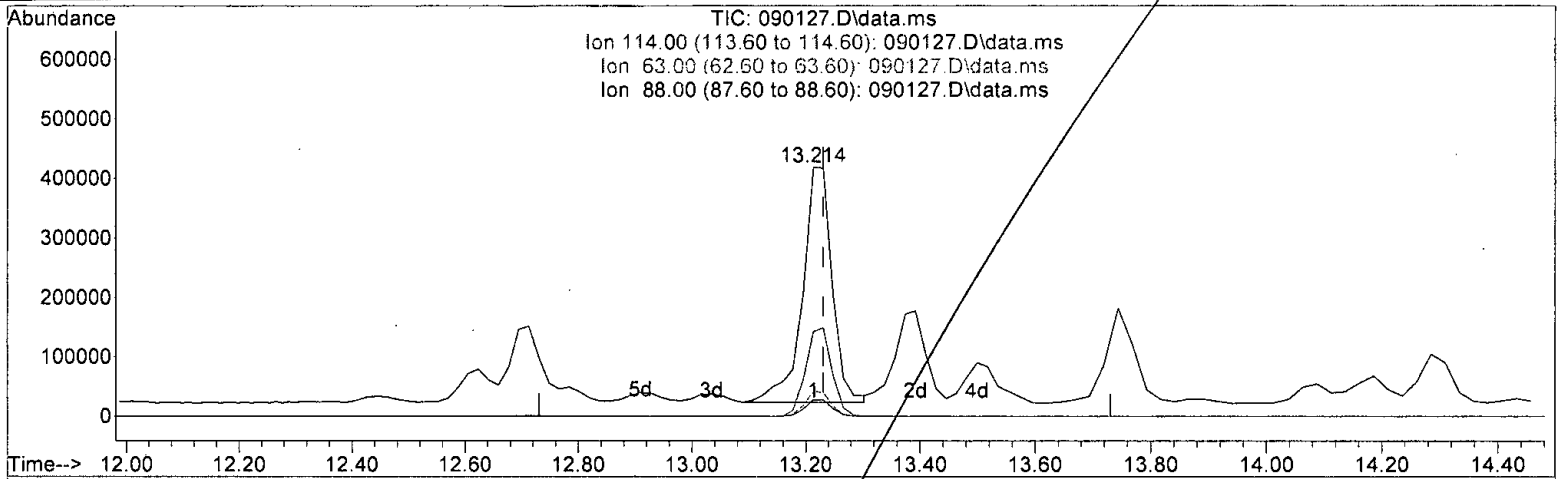
Quant Time: Sep 03 12:20:38 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.214min (-0.018) 55.529 ug/m3

response 1440843

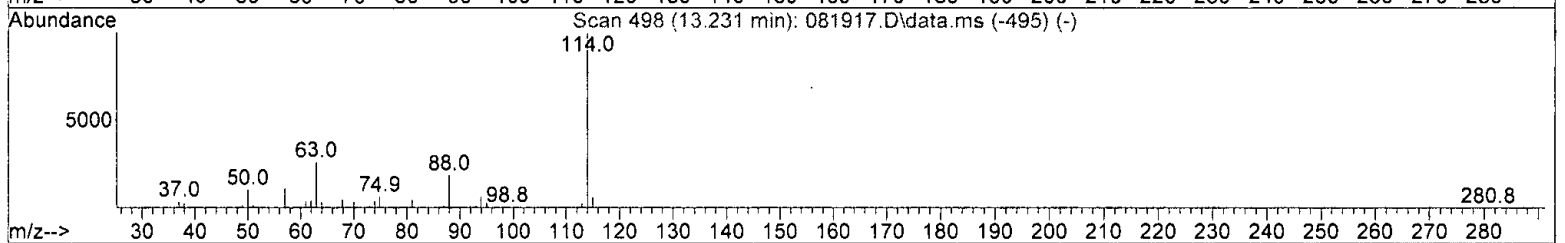
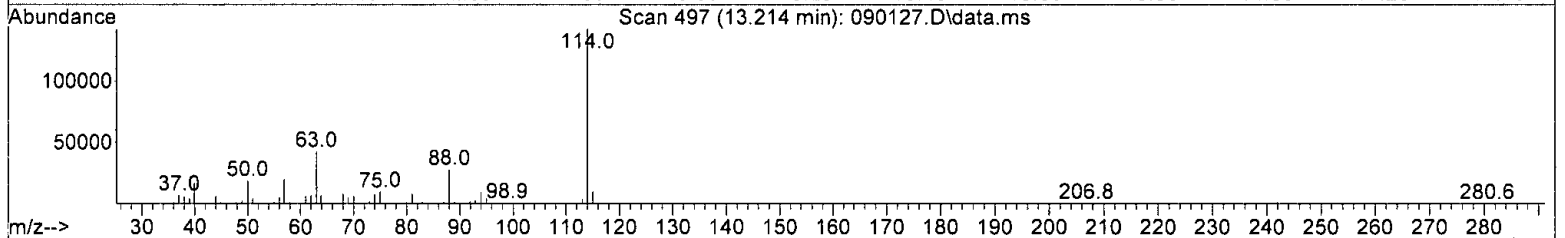
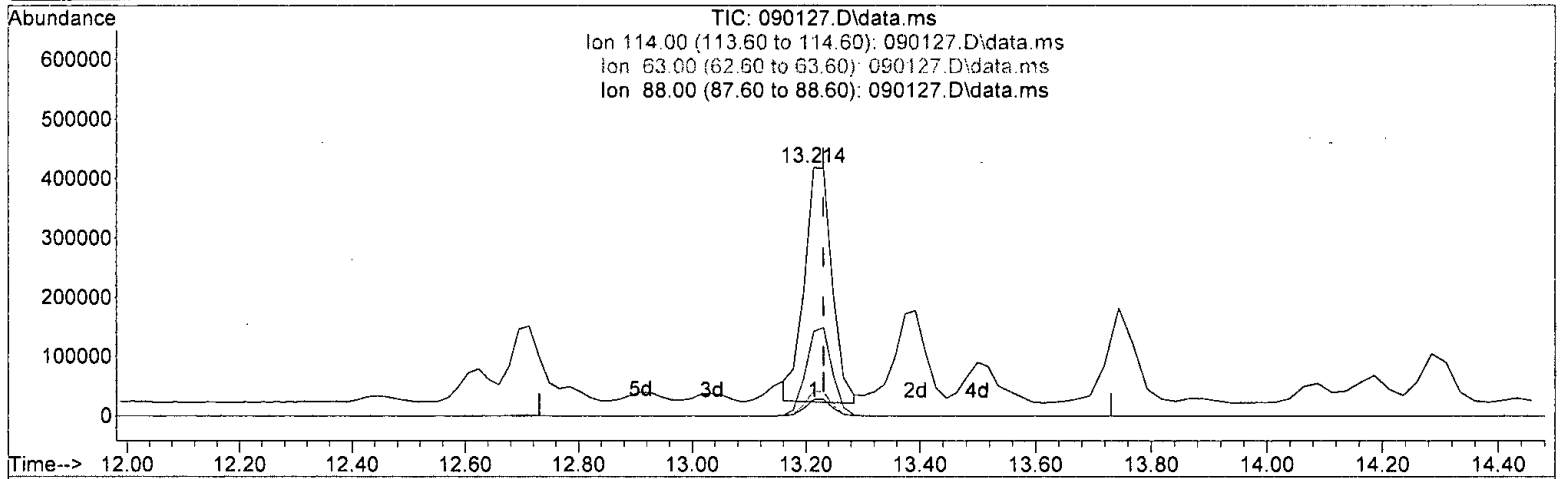
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	36.06
63.00	8.40	10.75
88.00	7.60	7.03

*h*  
*6/15/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)  
 13.214min (-0.018) 52.017 ug/m3 m  
 response 1349715

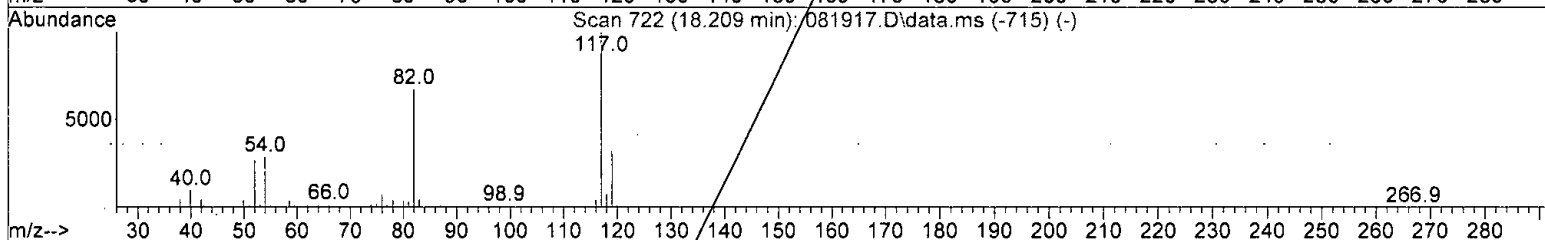
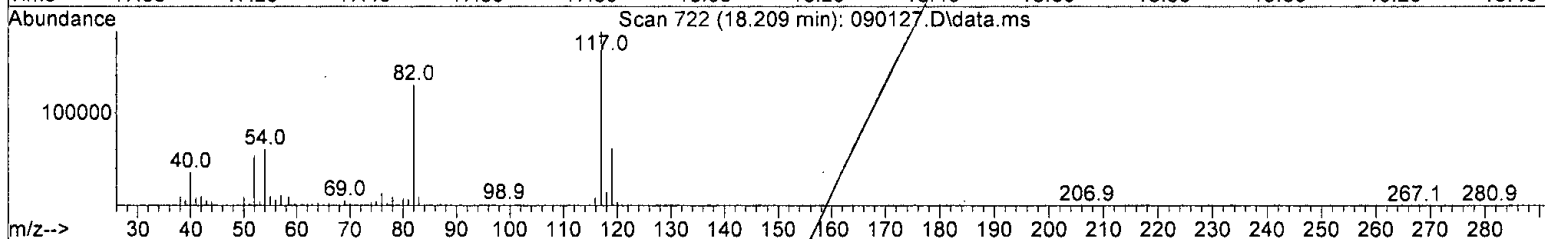
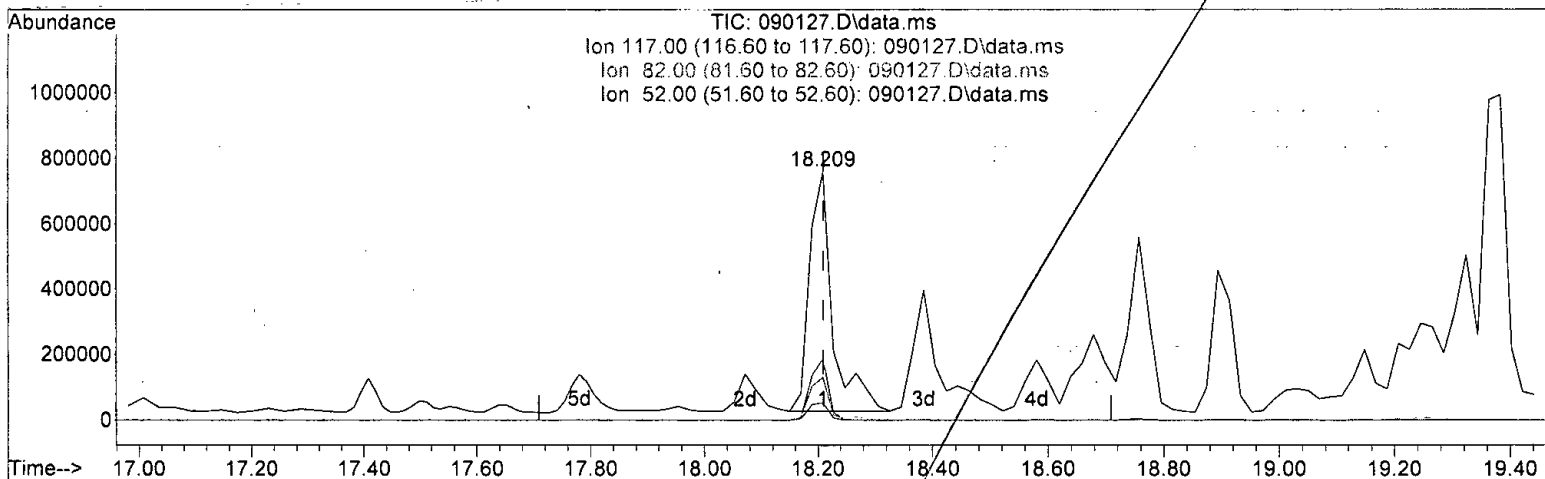
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	38.49
63.00	8.40	11.48
88.00	7.60	7.51

*W. Olatunji*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 67.115 ug/m3

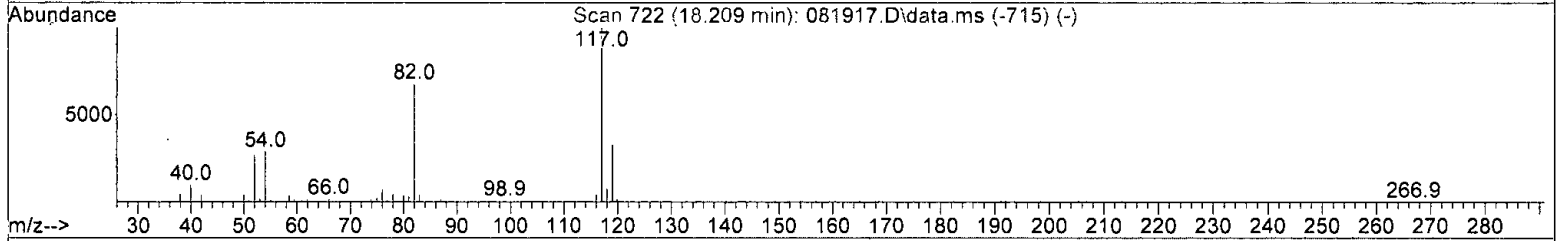
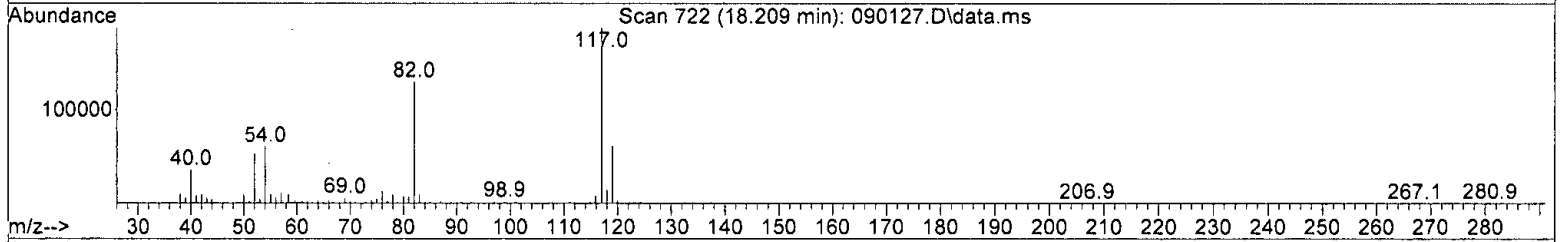
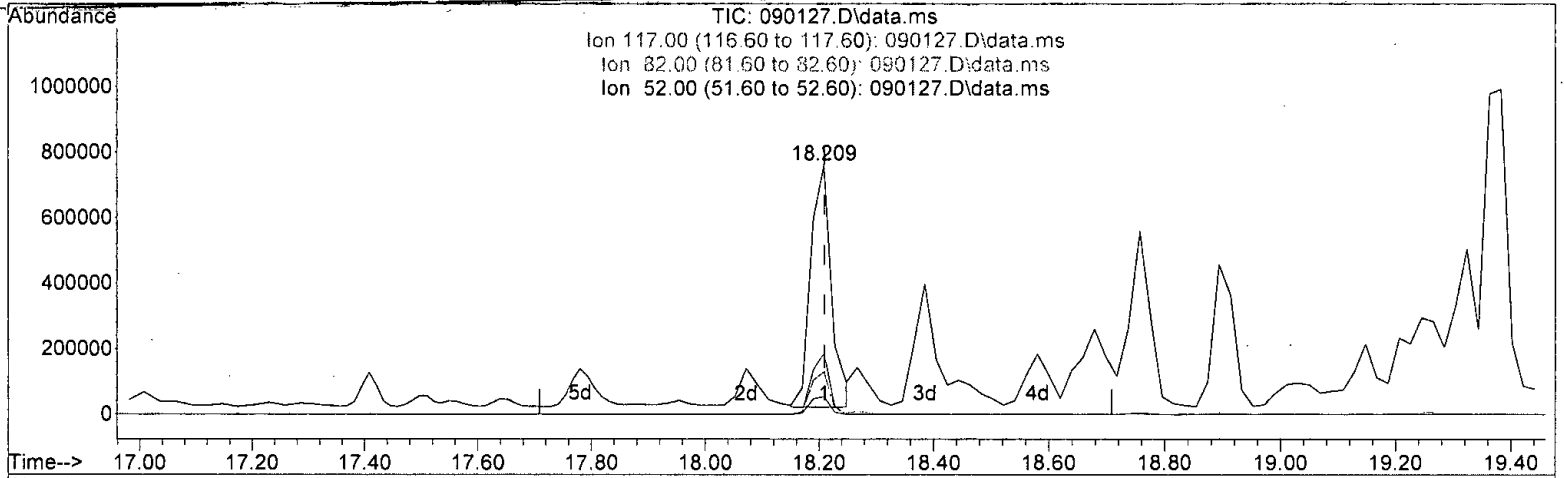
response	2112296
Signal	Exp% Act%
TIC	100.00 100.00
117.00	34.80 19.89
82.00	18.10 15.37
52.00	6.90 6.23

*h color 4*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 60.742 ug/m3 m

response 1911702

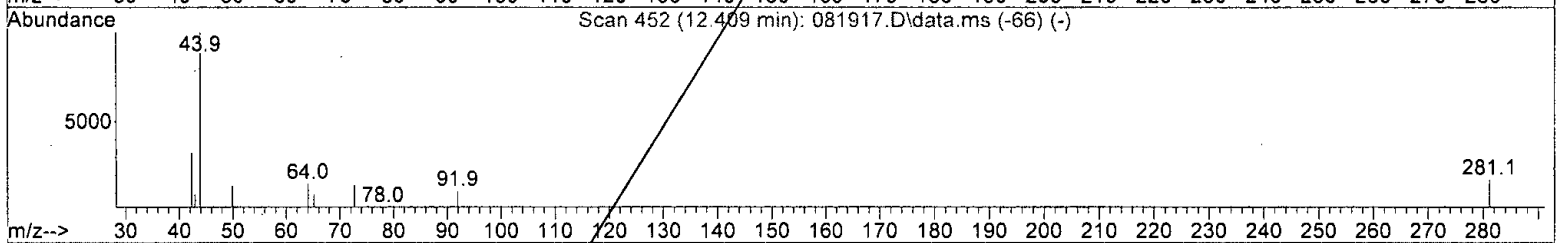
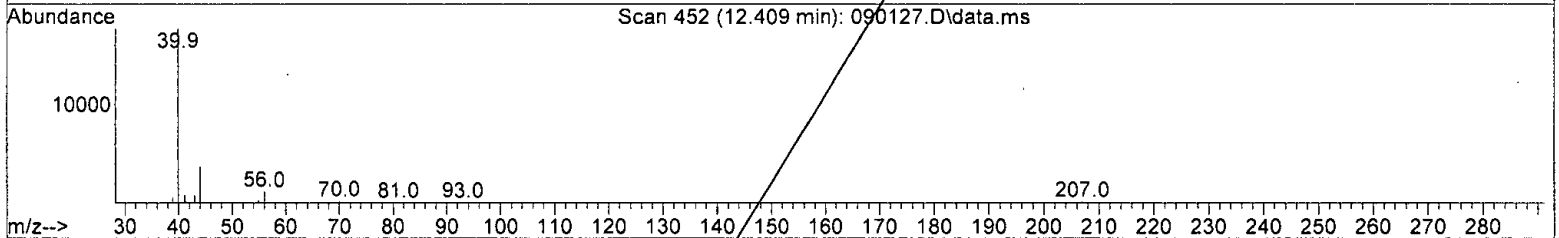
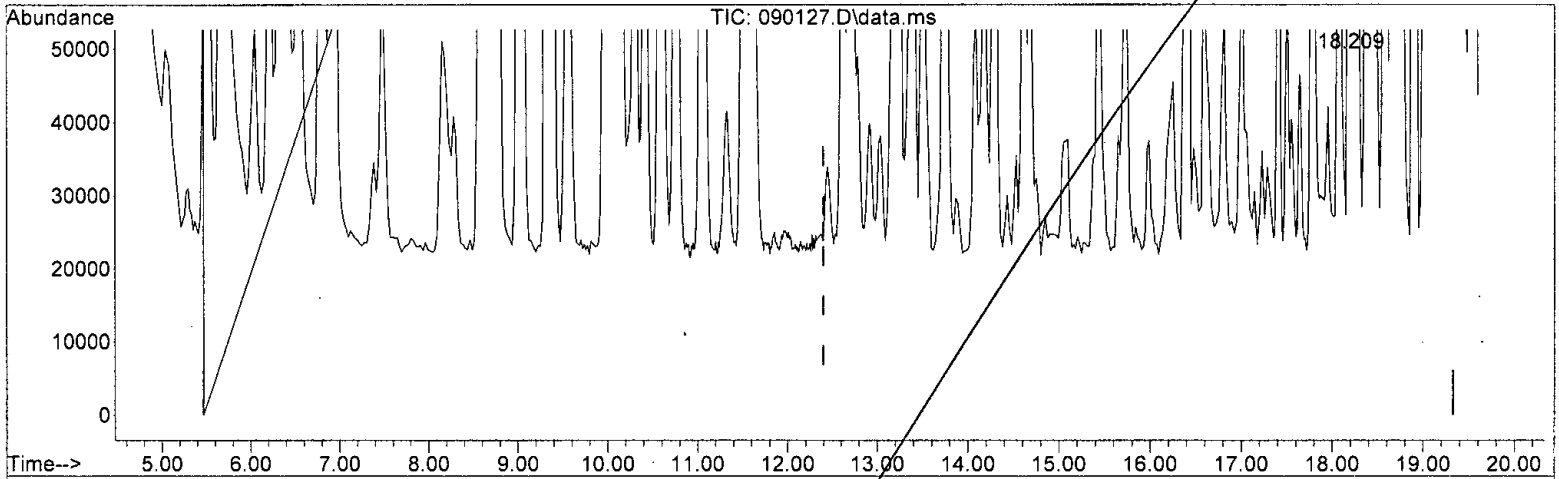
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	21.97
82.00	18.10	16.98
52.00	6.90	6.89

*bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 767.224 ug/m3 m  
 response 29375980

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

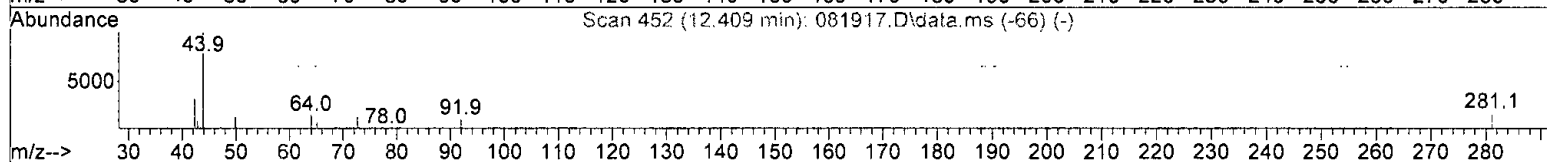
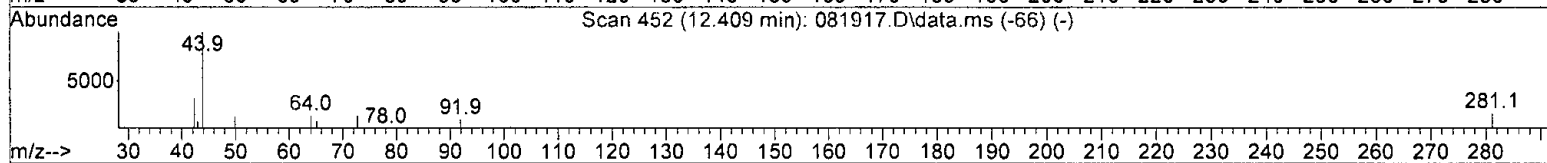
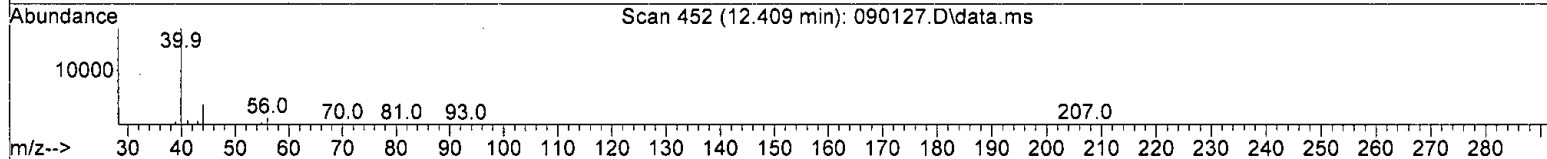
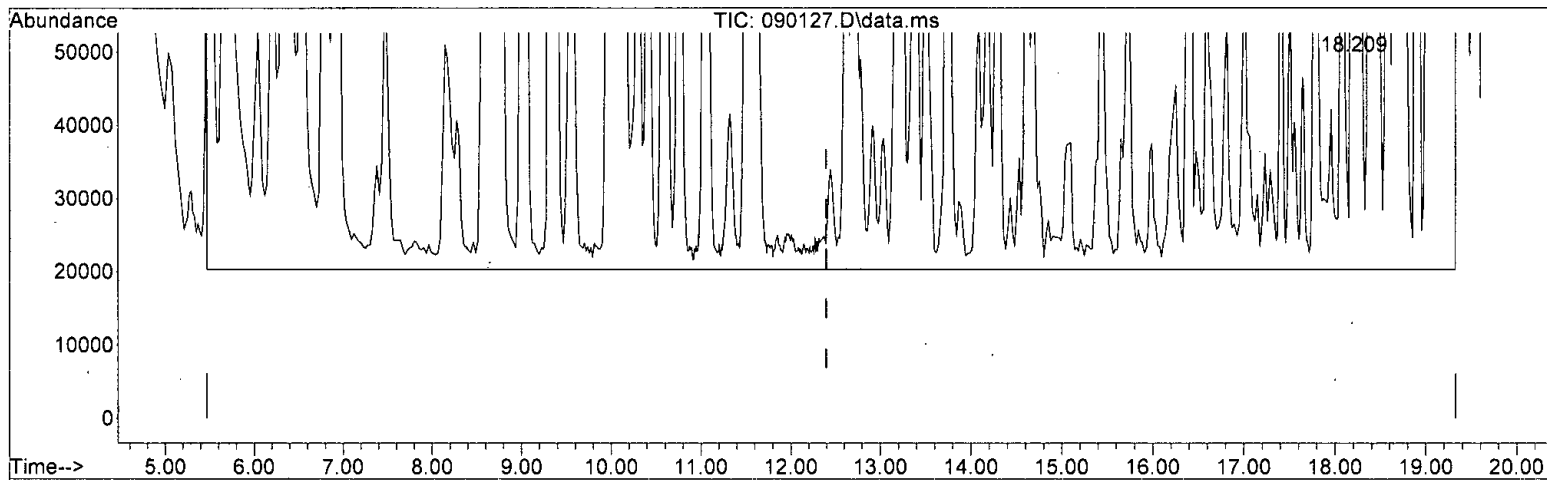
*Handwritten note:* 12/09/21/4



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 1016.848 ug/m3 m

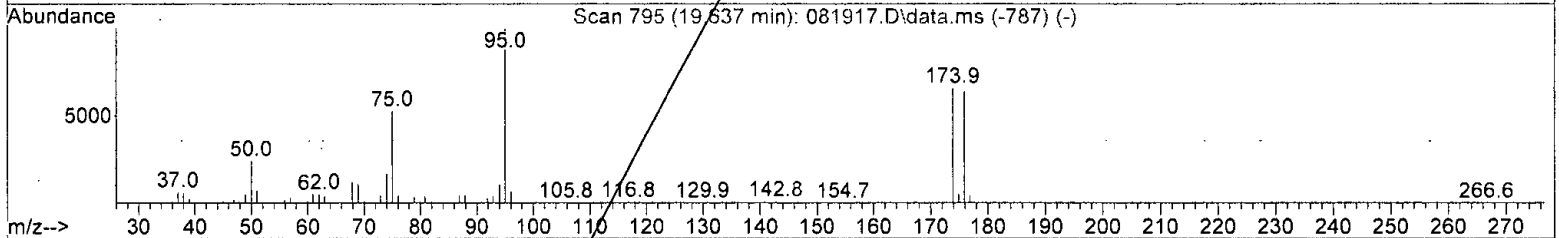
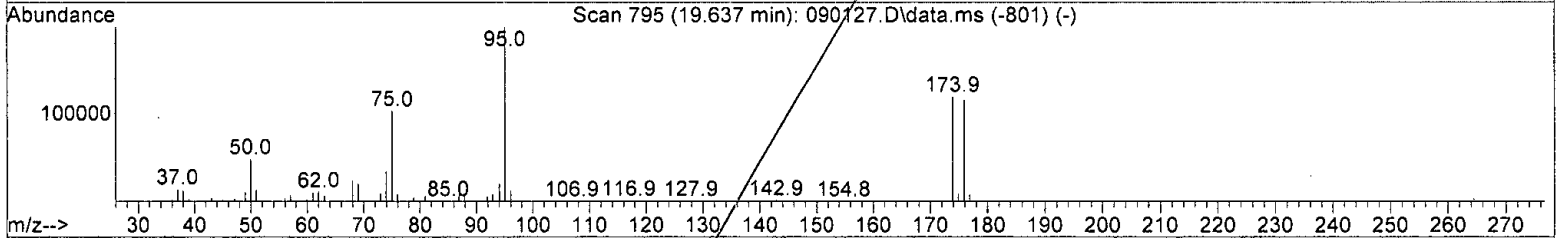
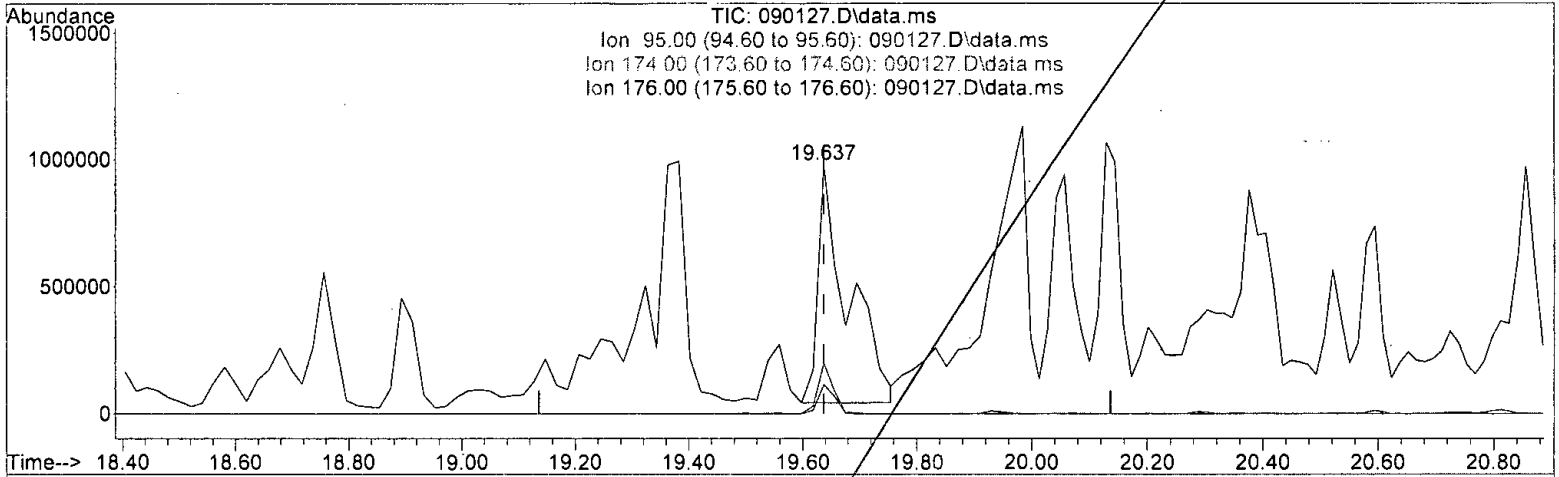
response 38933740

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B. Bolton*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090127.D\data.ms

(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 97.626 ug/m3

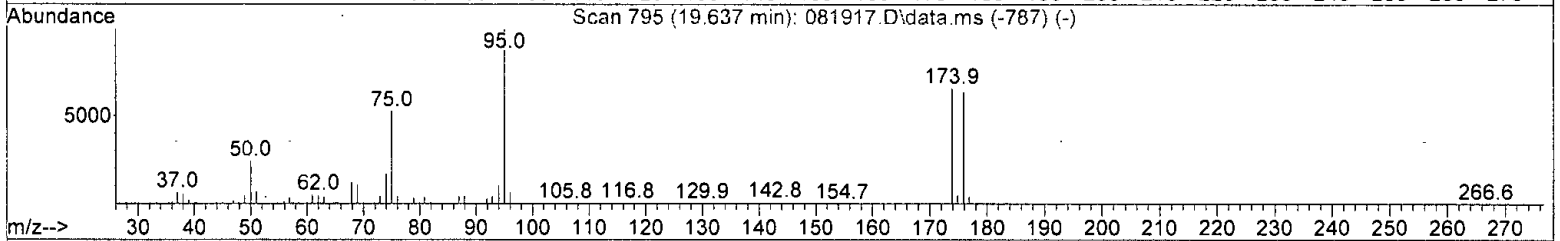
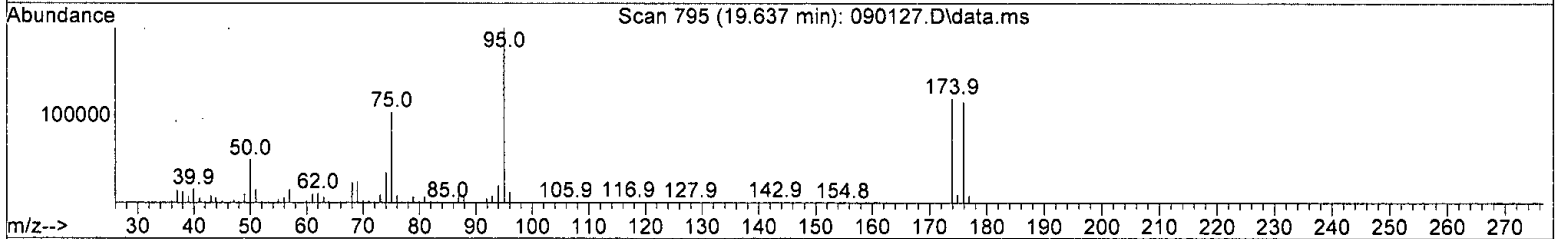
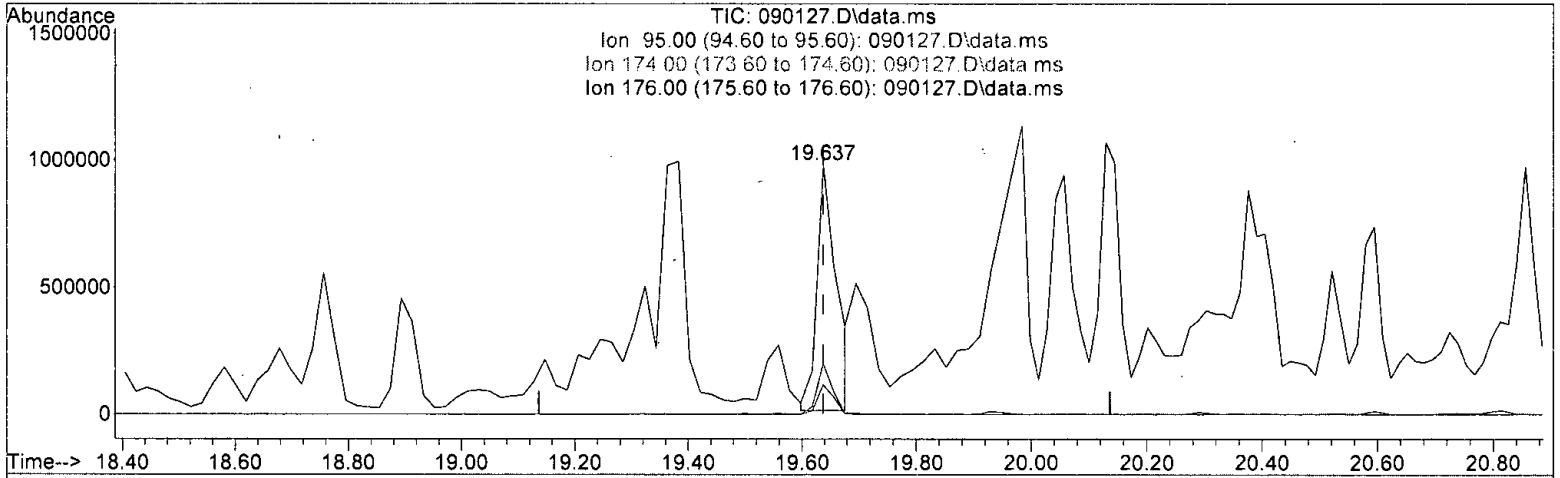
response 3462167

Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	21.24
174.00	19.20	12.72
176.00	18.70	12.31

*Bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 66.898 ug/m3 m

response 2372448

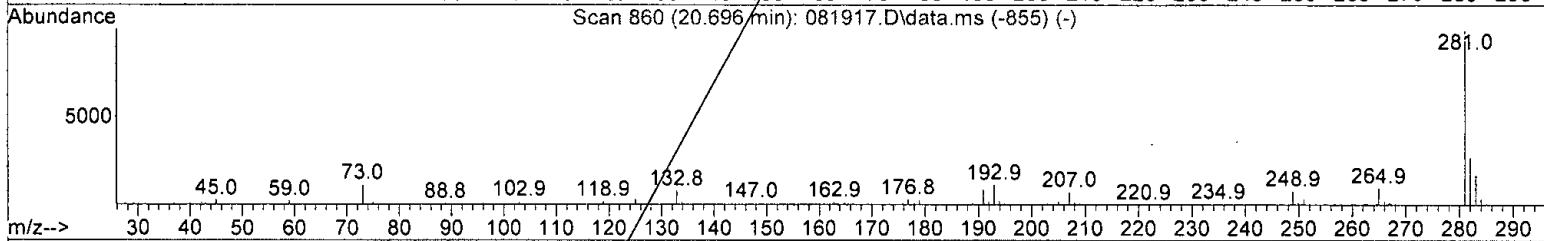
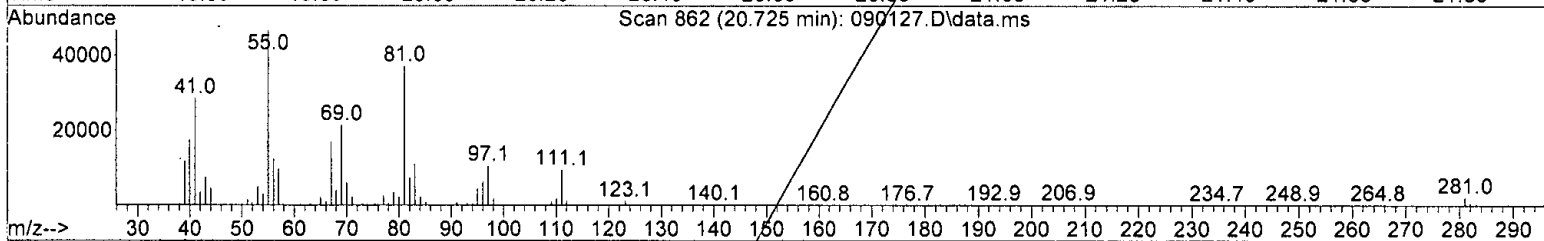
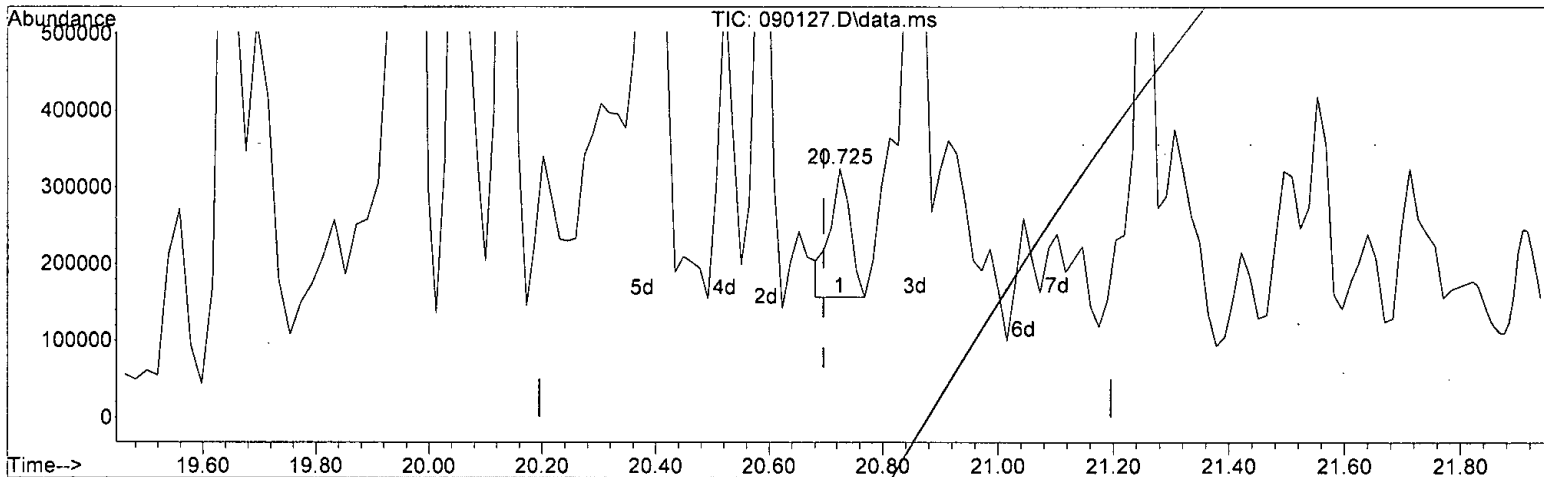
Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	30.99
174.00	19.20	18.56
176.00	18.70	17.97

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.725min (+ 0.029) 38.166 ppbv

response 416081

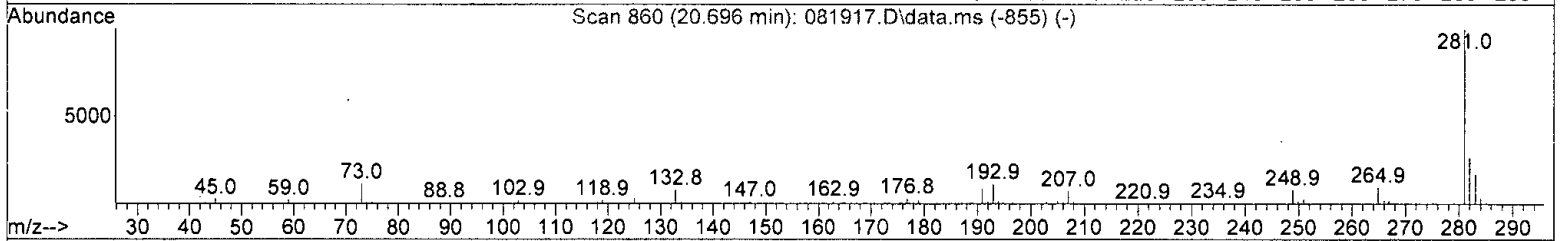
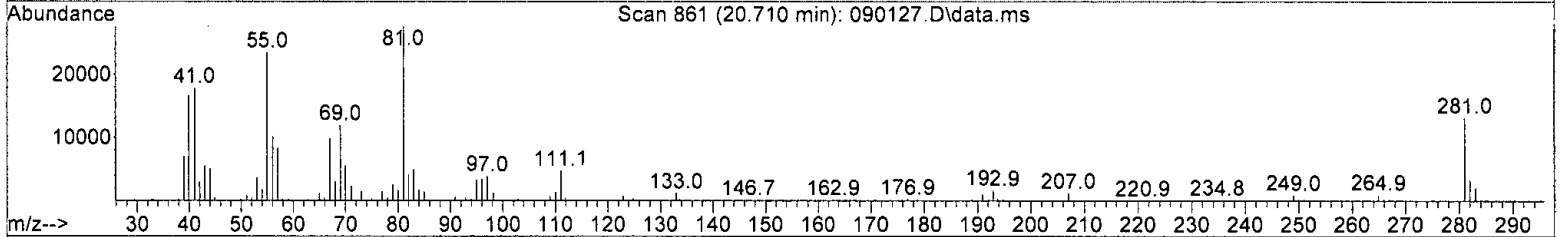
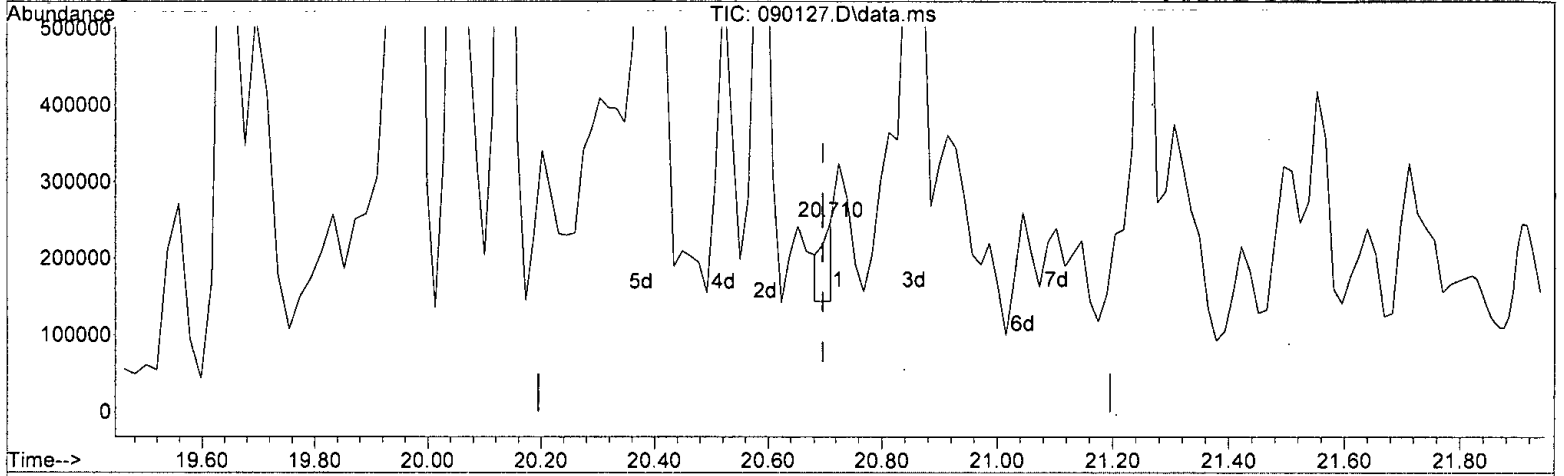
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.710min (+ 0.014) 14.206 ppbv m

response 154876

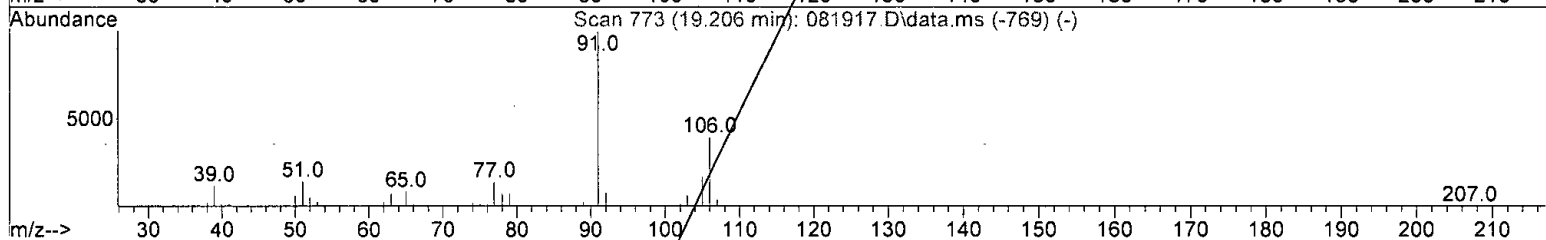
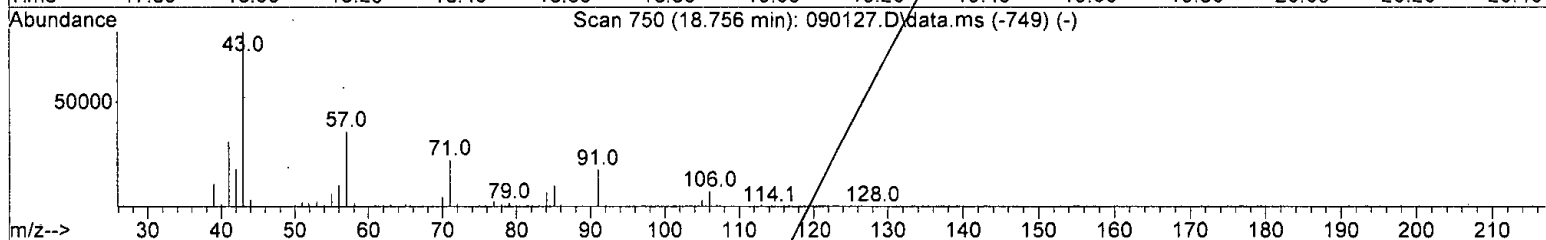
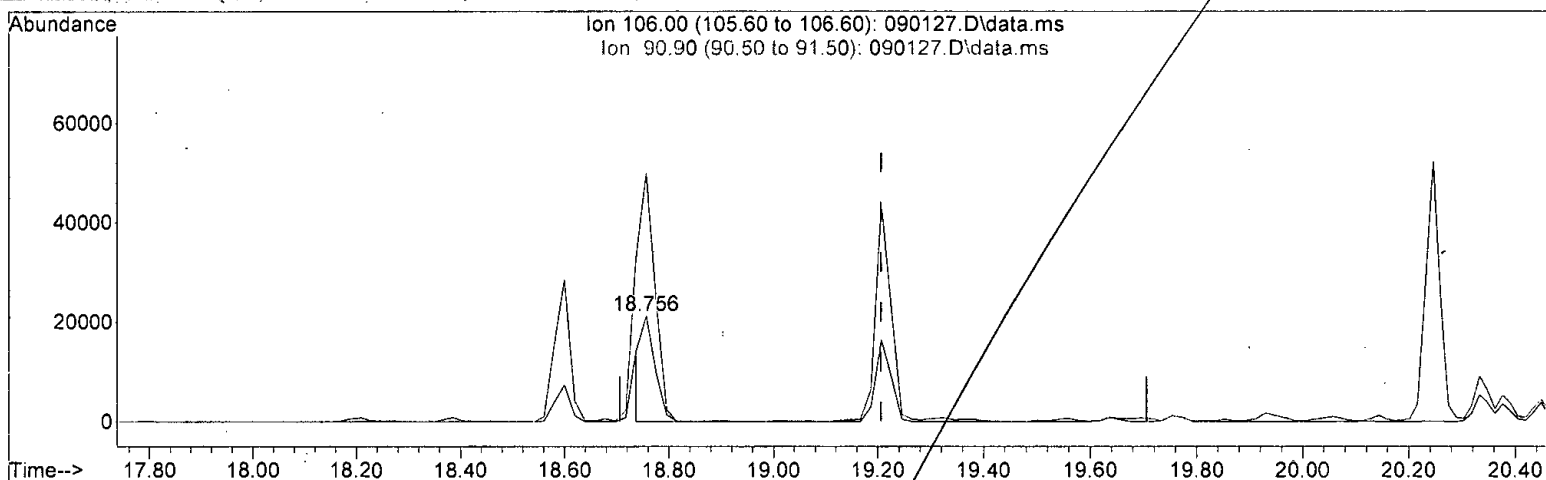
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*M. 09/03/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

18.756min (-0.450) 6.409 ug/m3

response 37947

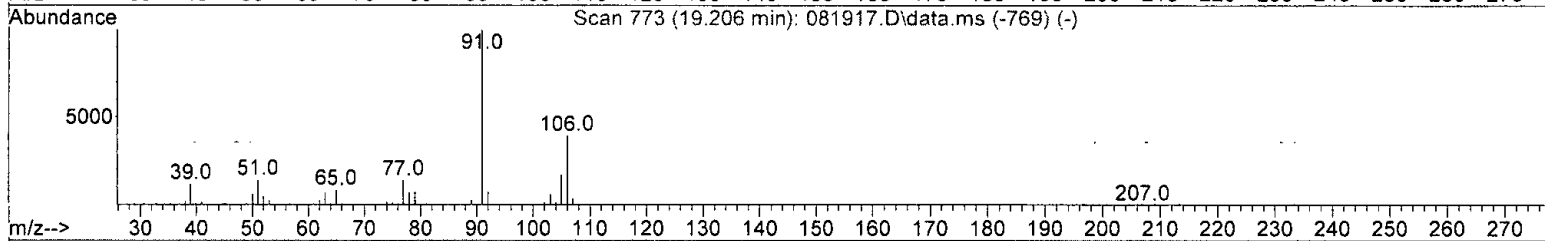
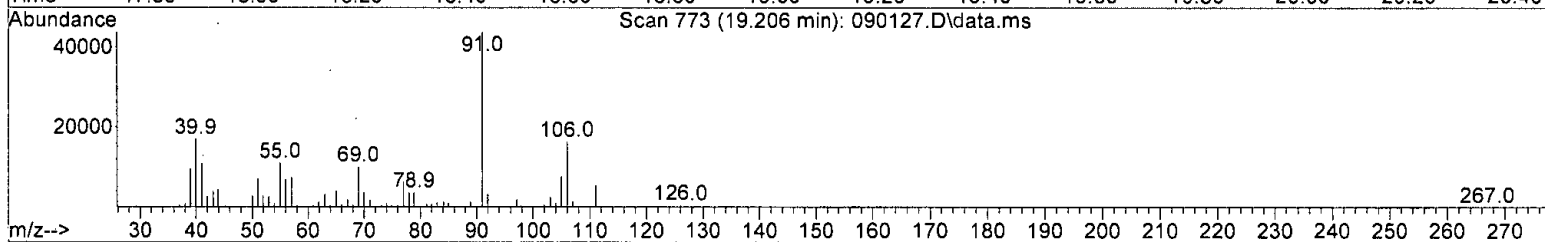
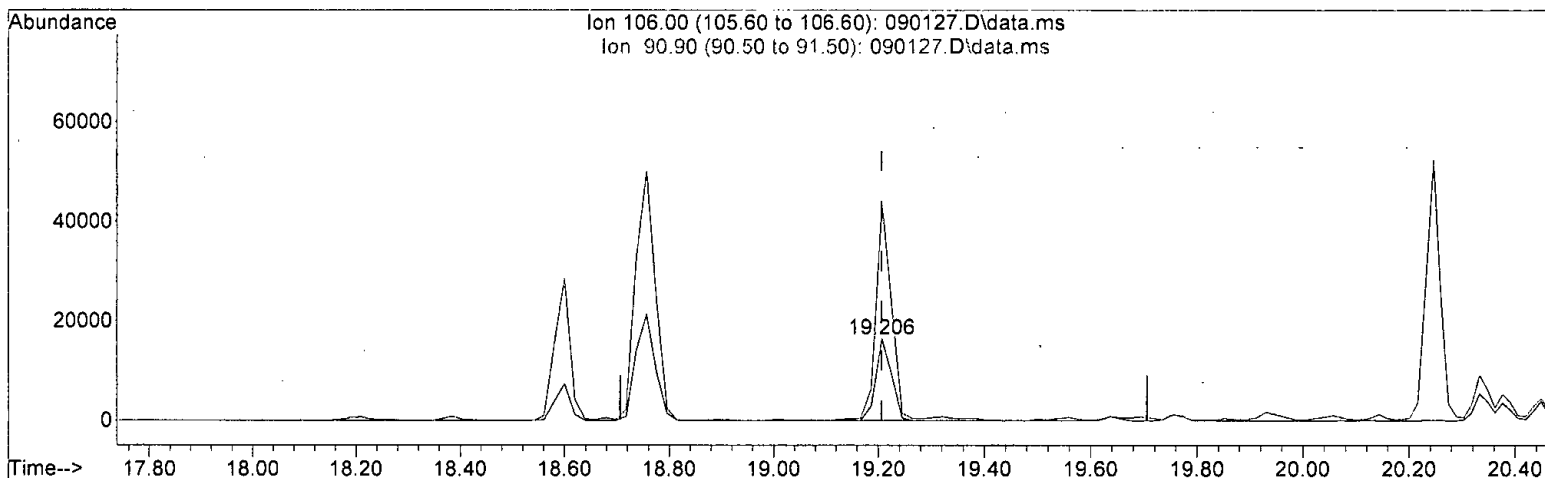
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	235.00
0.00	0.00	0.00
0.00	0.00	0.00

*U or only*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

19.206min (-0.000) 5.667 ug/m3 m

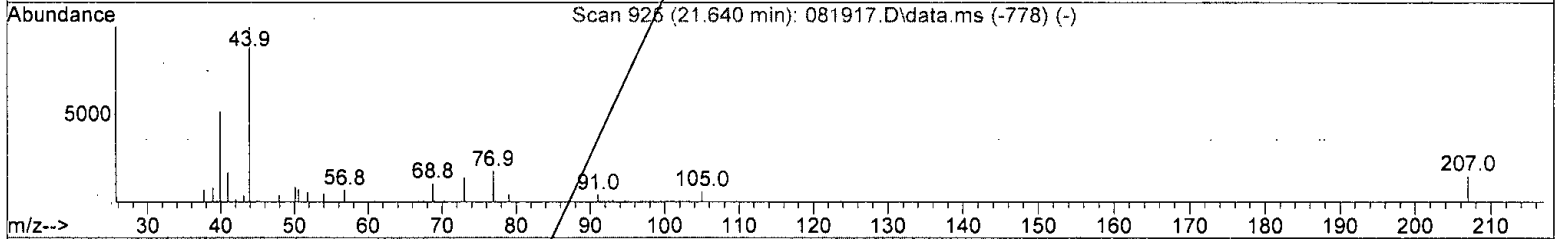
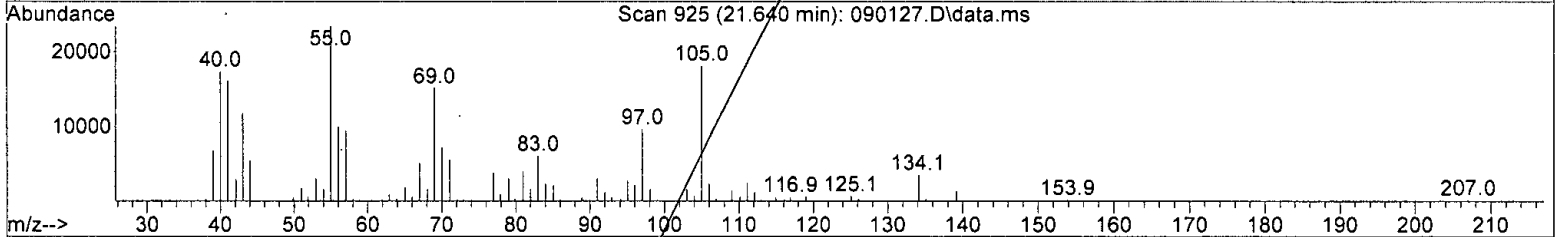
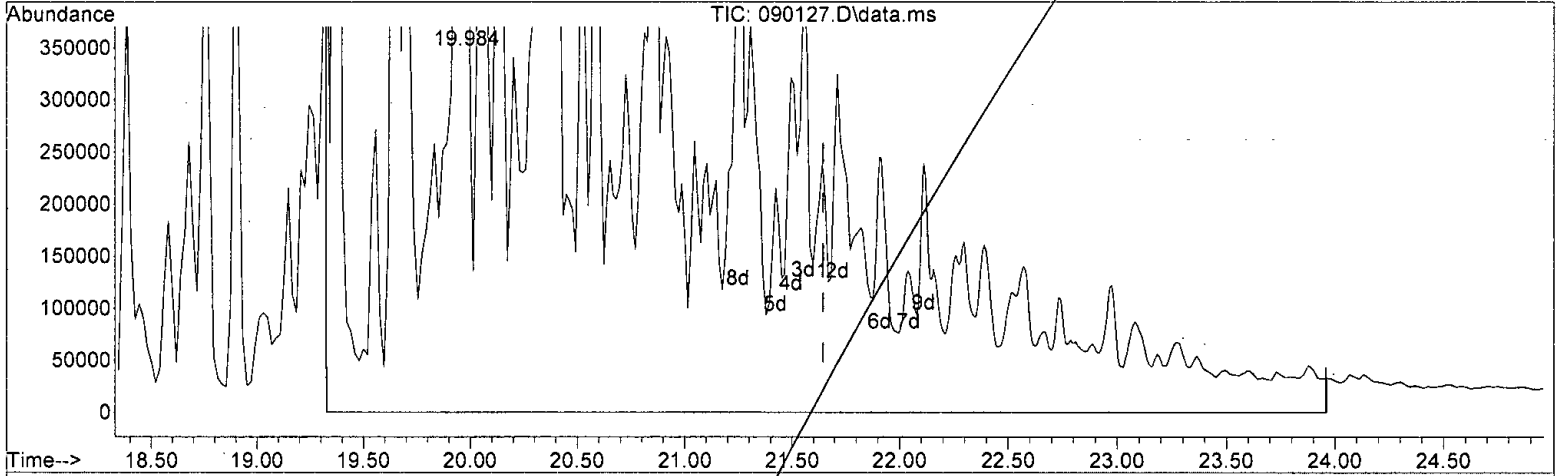
response 33555

Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	267.30#
0.00	0.00	0.00
0.00	0.00	0.00

*N only*

Data Path : F:\Proc GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 596.872 ug/m3 m  
 response 25653598

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

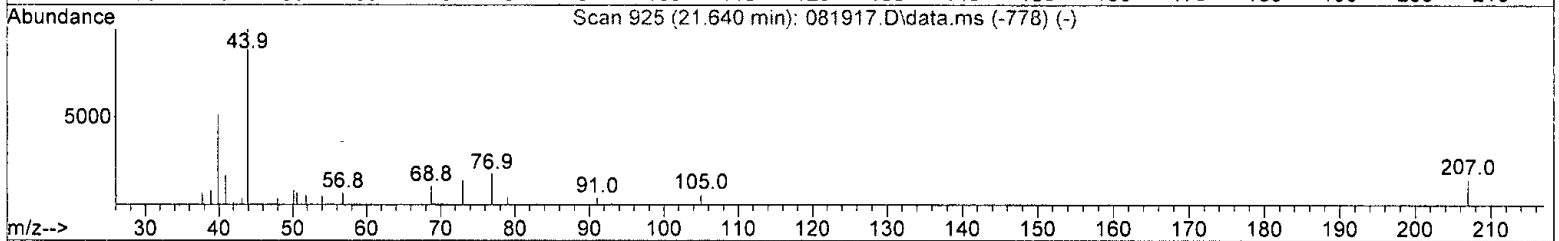
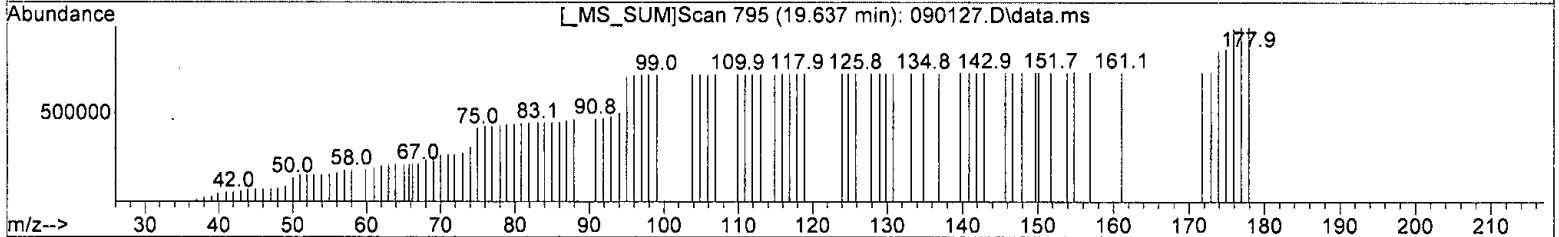
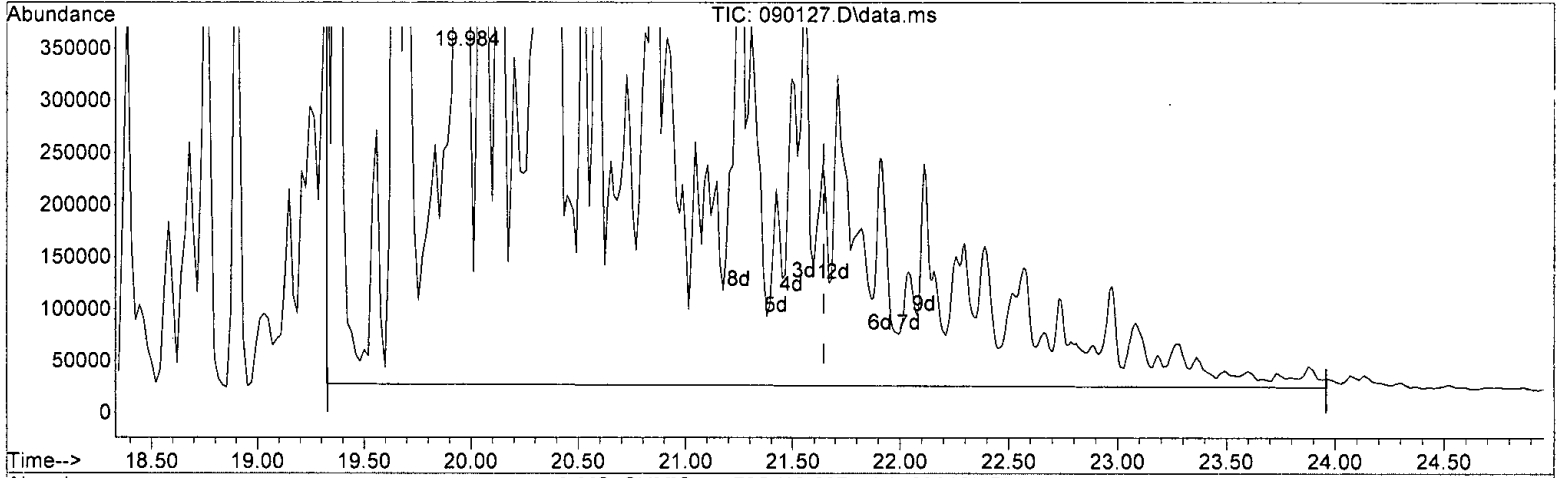
*B. Orlan*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



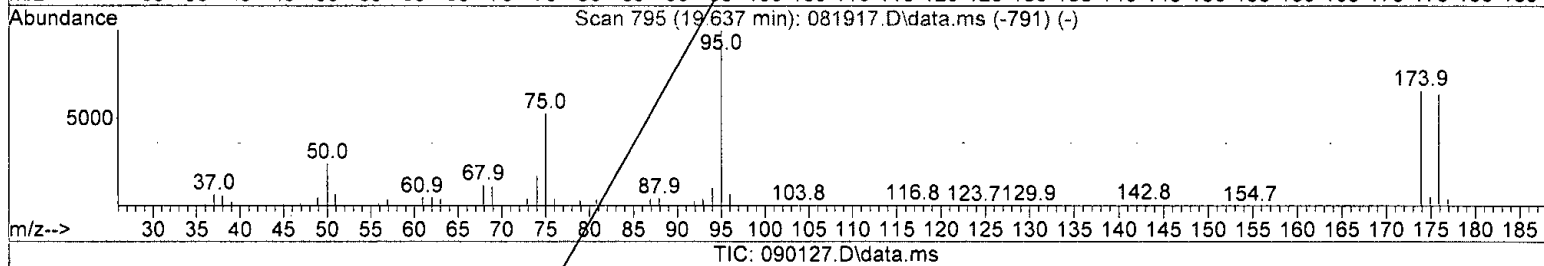
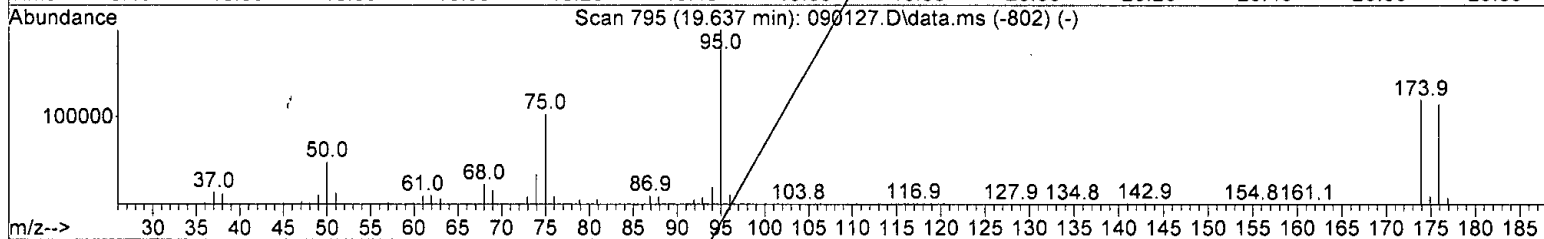
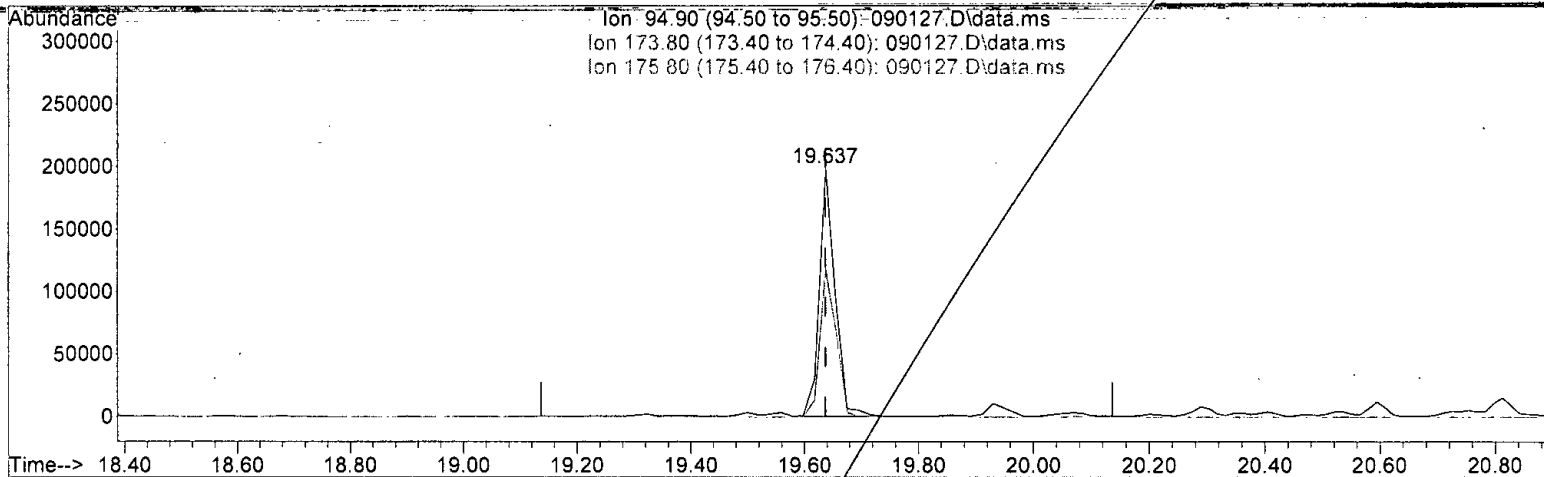
(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 994.982 ug/m3 m  
 response 42764408

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B. Orlosky*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 73.930 ug/m3

response 389097

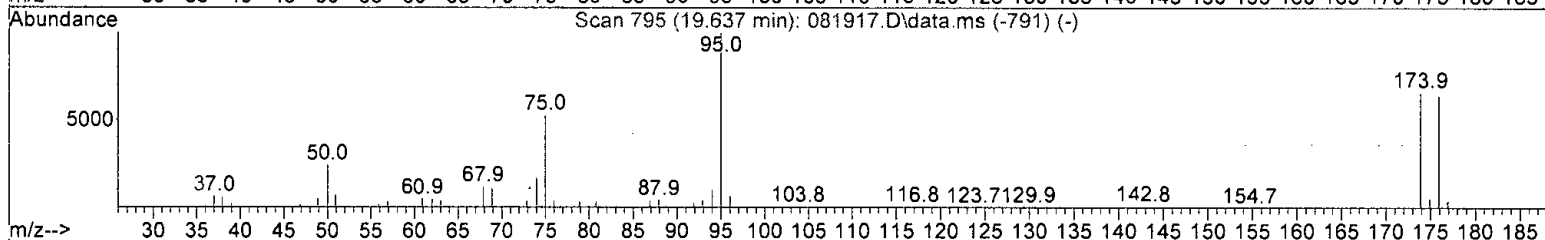
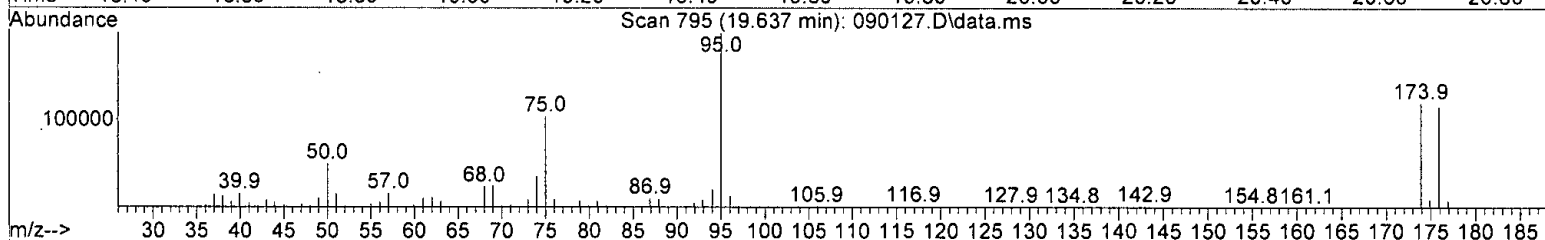
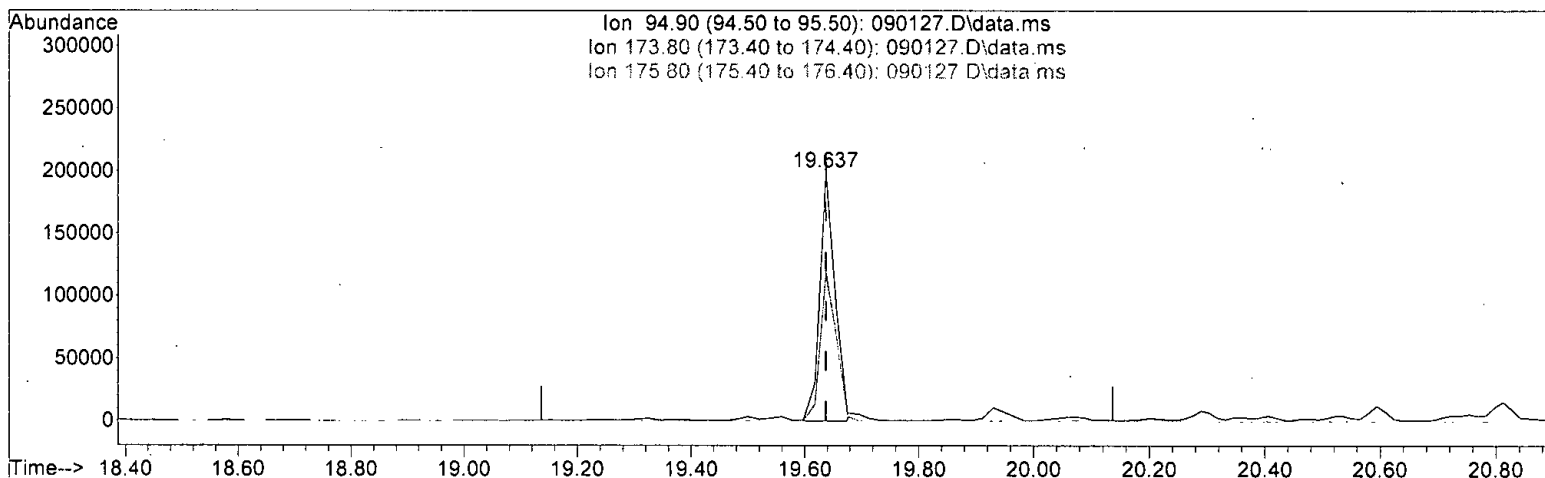
Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	59.89#
175.80	93.50	57.97#
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*W. M. L. K.*

(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 72.636 ug/m3 m

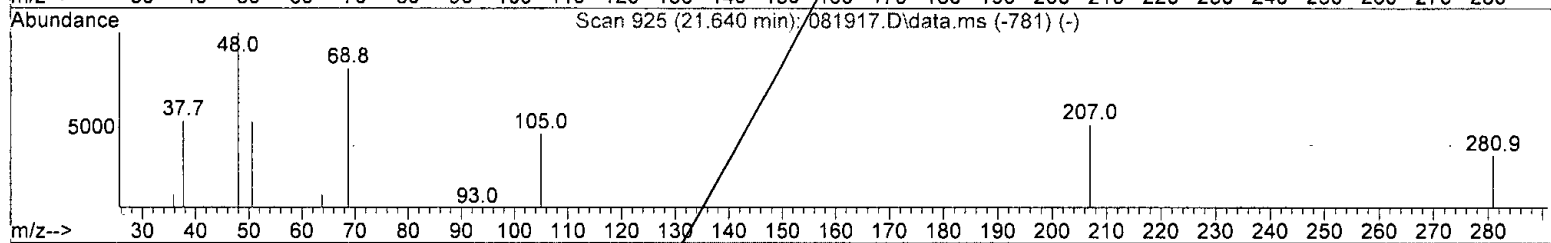
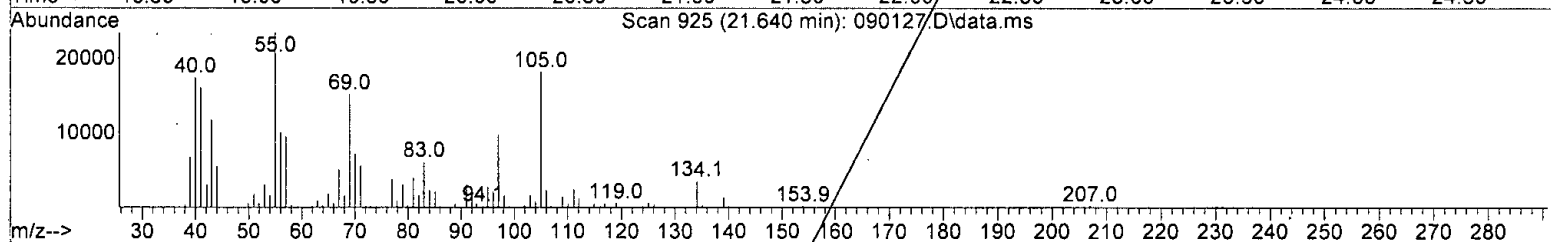
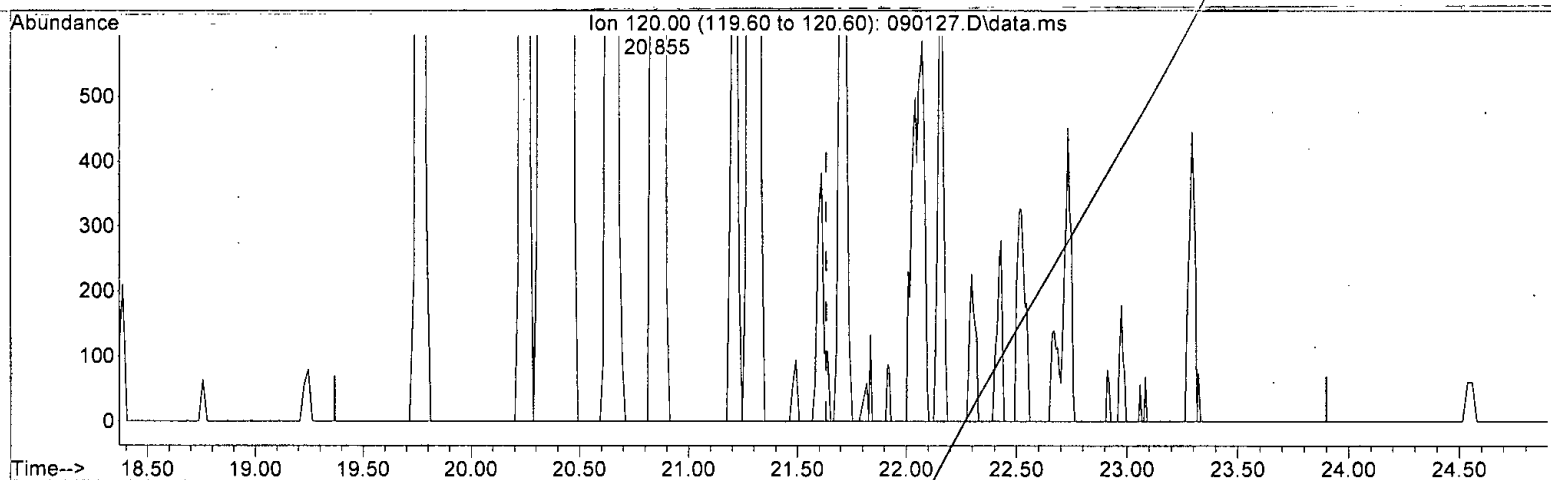
response 382288

Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	59.82#
175.80	93.50	57.91#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 32.021 ug/m3 m

response 160240

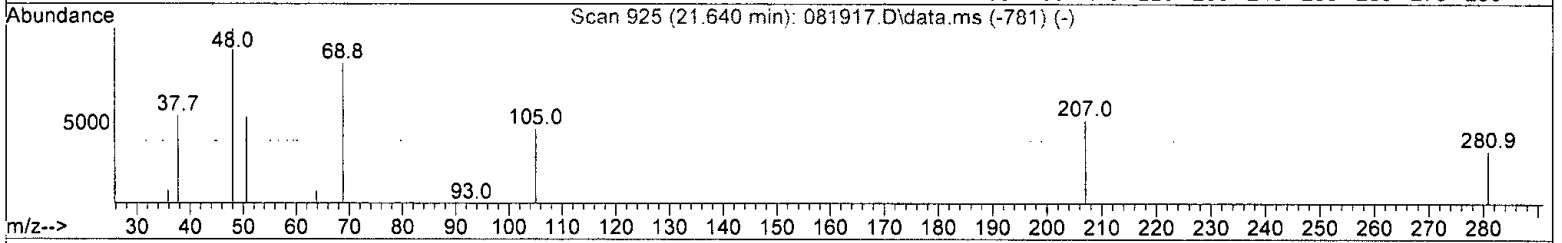
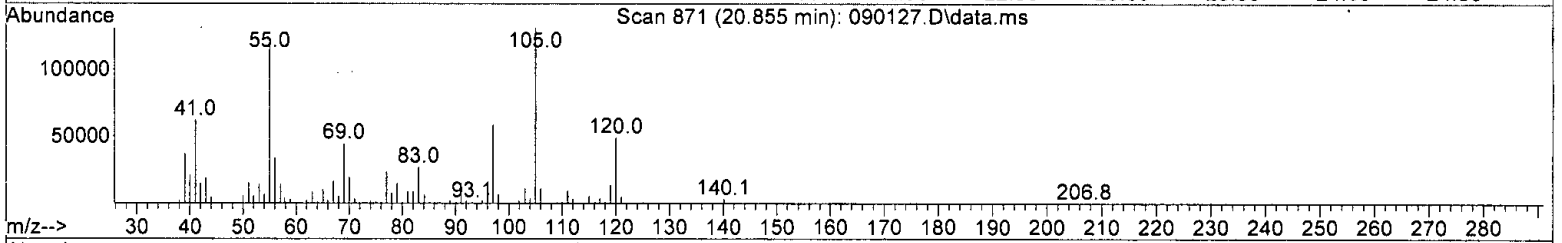
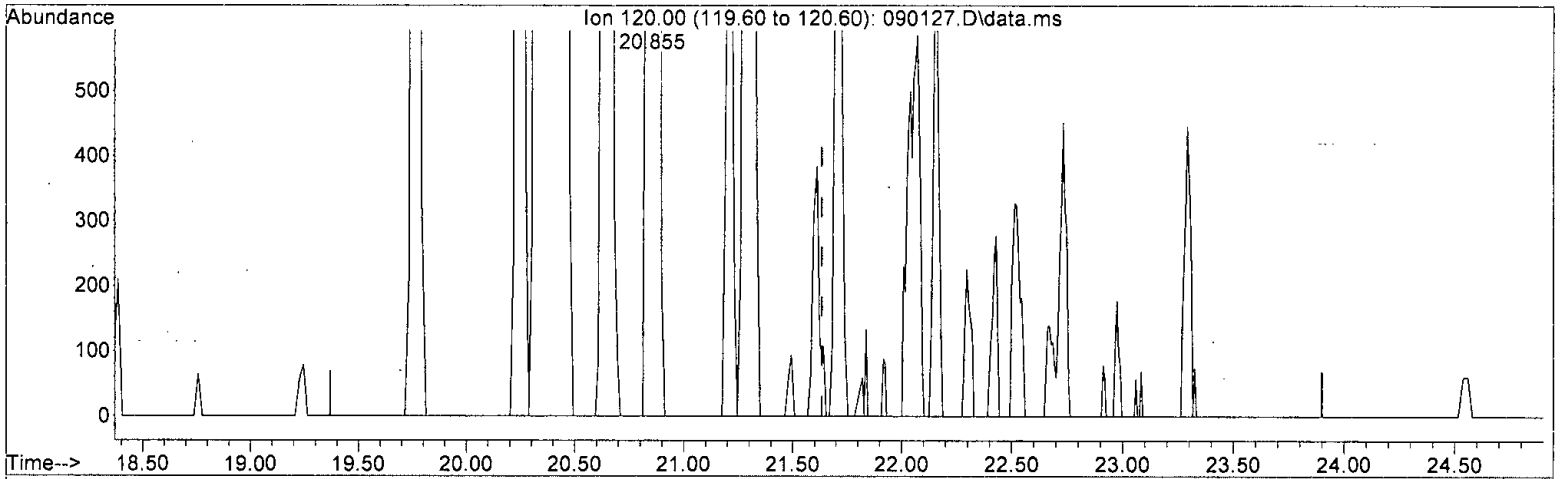
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090127.D\data.ms

(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 42.286 ug/m3 m

response 211605

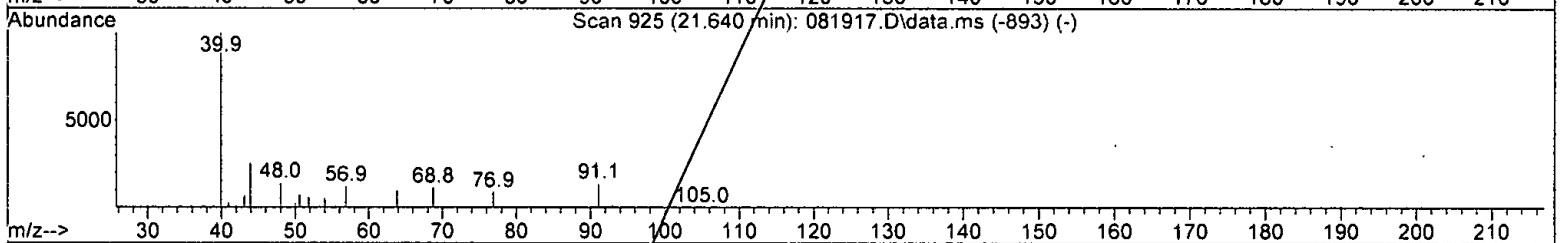
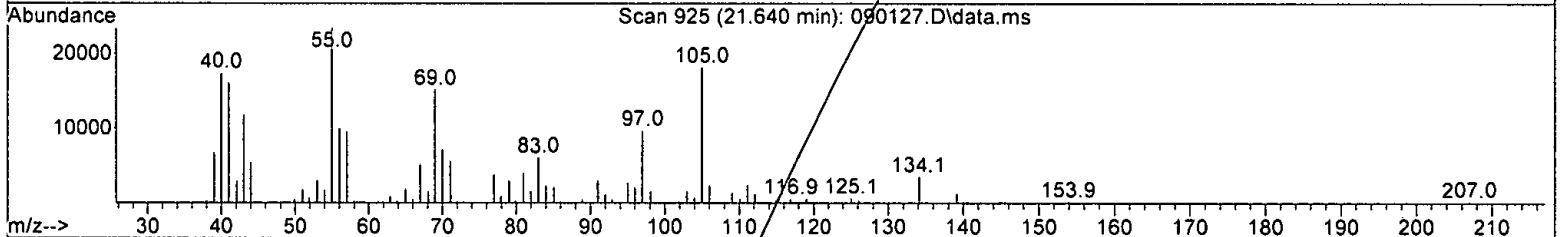
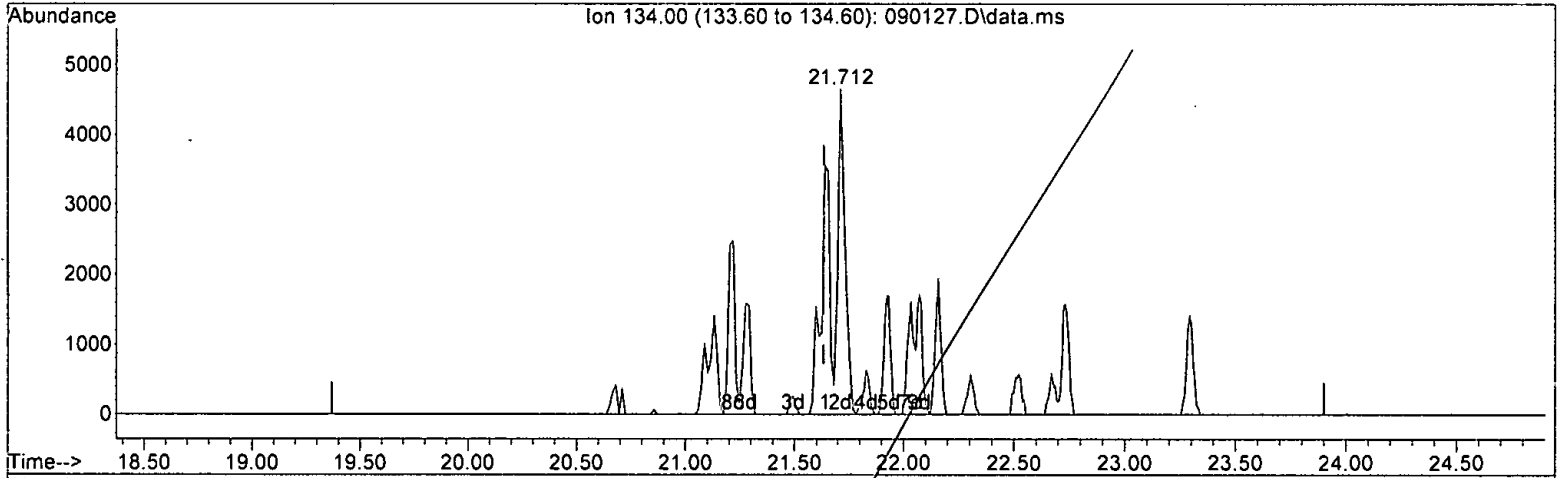
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h  
09/03/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090127.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) -6.402 ug/m3 m

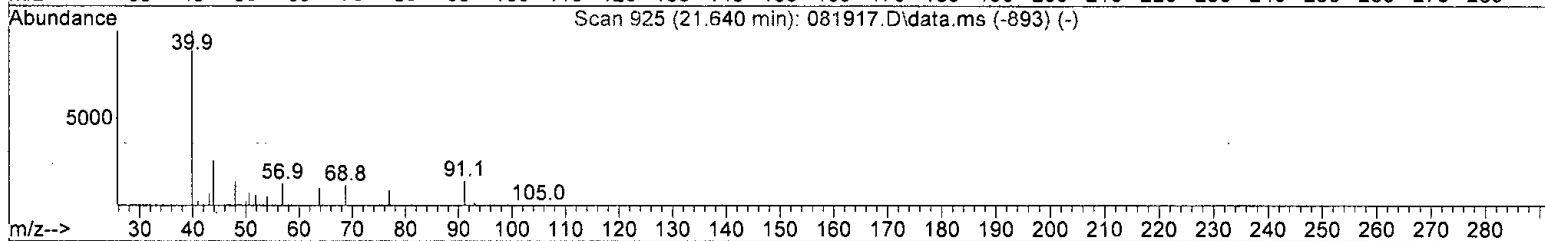
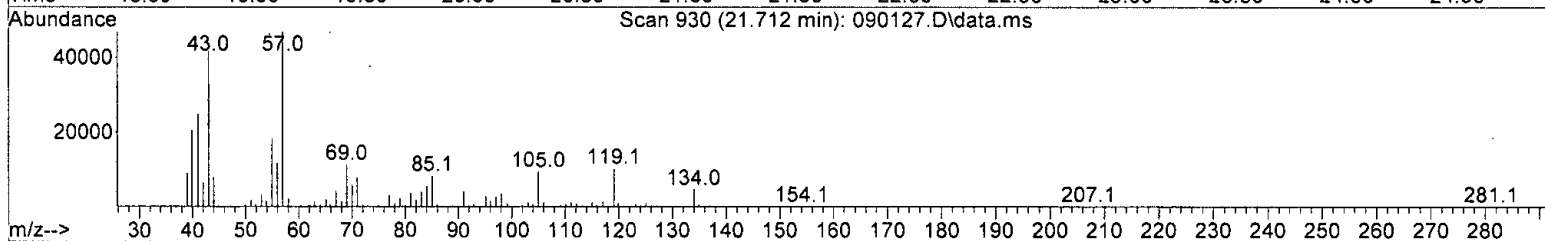
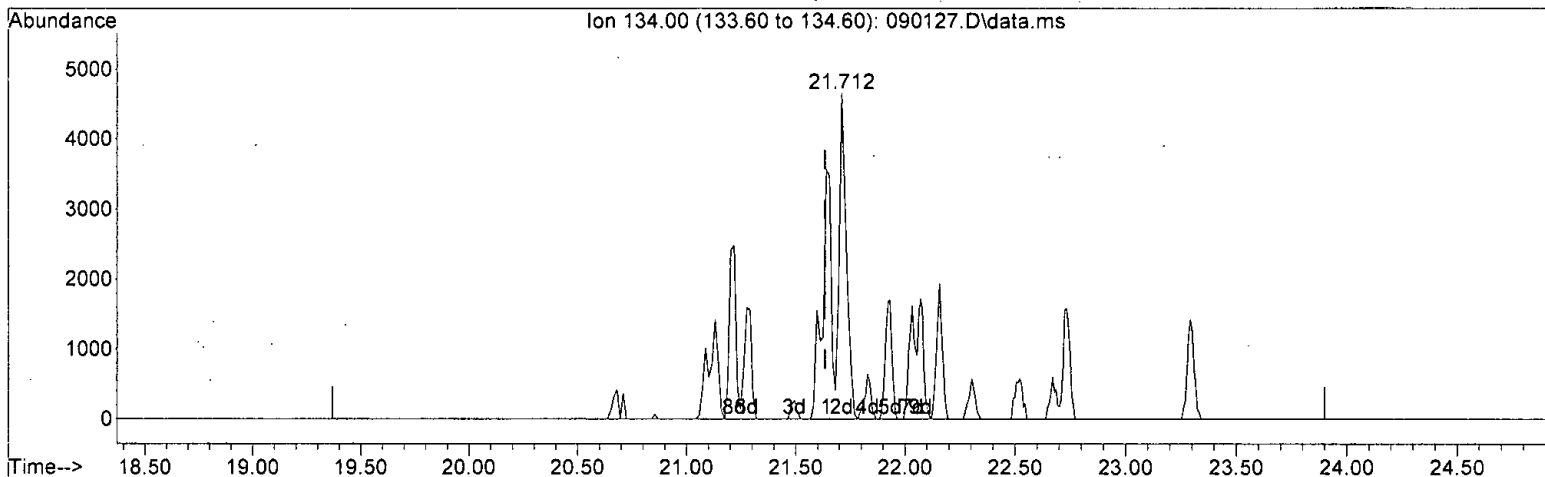
response -18246

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Bat*  
 09/03/21

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:12:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090127.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 23.467 ug/m3 m

response	66887	
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* N 09/03/21

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:15:39 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.99	128	103538	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	482560	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	420082	50.000	ug/m3	# 0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	382288m	72.636	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	102.31%

Target Compounds						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1064073	58.206	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.21	TIC	1349715m	52.017	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1911702m	60.742	ug/m3	
5) Methylene chloride	6.94	TIC	745895	805.887	ug/m3	51
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.20	54	1029389	168.837	ug/m3#	1
9) Methyl t-butyl ether	8.41	73	430	0.054	ug/m3	56
11) Benzene	12.71	78	189034	11.522	ug/m3	87
12) Isopentane	5.68	TIC	1207808	37.066	ug/m3	93
13) Hexane	10.10	TIC	1775621	55.708	ug/m3	92
14) Cyclohexane	13.21	TIC	1440270	42.998	ug/m3	94
15) 2,3-Dimethylpentane	13.50	TIC	323799	7.575	ug/m3	95
16) Heptane	14.60	TIC	550563	15.760	ug/m3	92
17) Octane	17.41	TIC	203527	4.249	ug/m3	92
18) APH EC5-8 aliphatics T...	12.71	TIC	5501588m	143.687	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	38933740m	1016.848	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2372448m	66.898	ug/m3	
22) Hexamethylcyclotrisilo...	17.78	TIC	352288	40.331	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	154876m	14.206	ppbv	
24) Toluene	16.39	92	256209	28.428	ug/m3	94
25) Ethylbenzene	18.60	91	58527	3.145	ug/m3	91
26) m,p-Xylene	18.76	106	55375	8.848	ug/m3	89
27) o-Xylene	19.21	106	33555m	5.667	ug/m3	
28) Naphthalene	23.94	128	1361	0.090	ug/m3	80
29) 2,3-Dimethylheptane	18.68	TIC	742308	17.582	ug/m3#	79
30) Nonane	19.38	TIC	4743139	107.592	ug/m3	80
31) Decane	20.86	TIC	2268506	51.799	ug/m3	71
32) Butylcyclohexane	21.55	TIC	627560	12.614	ug/m3	88
33) Undecane	22.26	TIC	185199	4.264	ug/m3	72
34) Dodecane	23.73	TIC	24840	0.697	ug/m3	89
35) APH EC9-12 aliphatics ...	21.55	TIC	8591552m	199.896	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	42764408m	994.982	ug/m3	
38) Isopropylbenzene	19.75	120	7049	2.139	ug/m3	94
39) 1-Methyl-3-ethylbenzene	20.65	120	20743	4.502	ug/m3	91
40) 1,3,5-Trimethylbenzene	20.45	120	26325	4.515	ug/m3#	83
41) p-Isopropyltoluene	21.28	134	3656	1.276	ug/m3#	1
42) 1,2,3-Trimethylbenzene	21.31	120	29603	4.326	ug/m3#	52
43) APH EC9-10 aromatics T...	21.55	TIC	87376m	19.280	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	211605m	42.286	ug/m3	



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

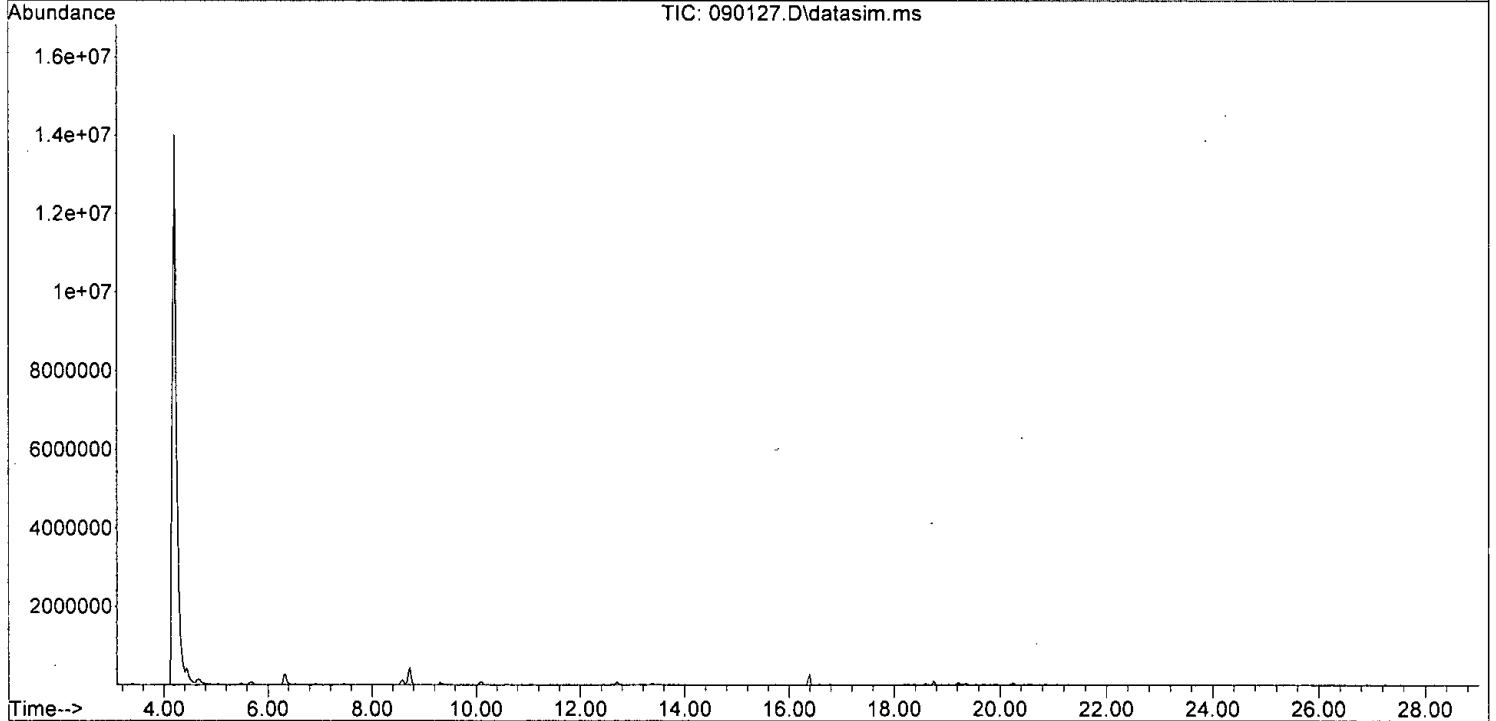
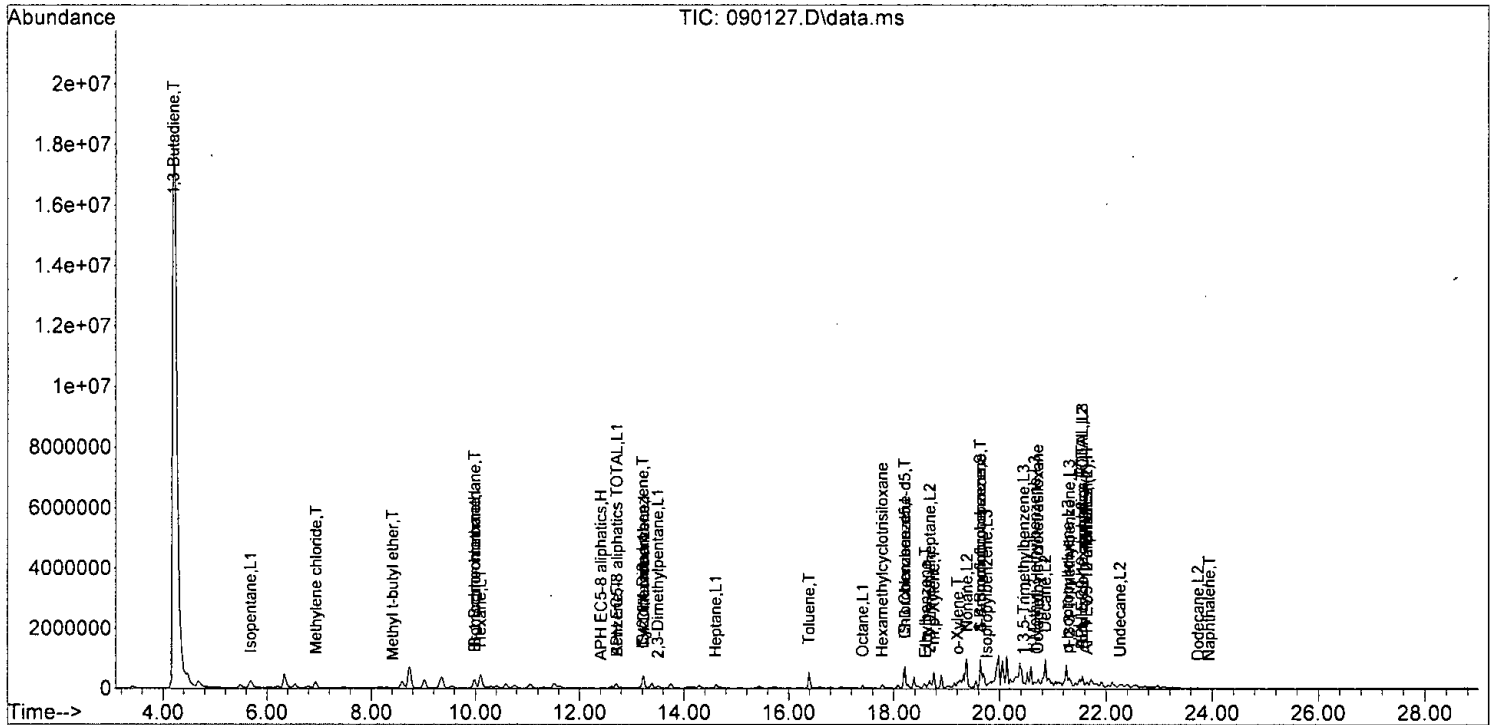
Quant Time: Sep 03 12:15:39 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	66887m	23.467	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090127.D  
 Acq On : 2 Sep 2021 2:48 am  
 Operator : bat  
 Sample : 108515-01 1/2500  
 Misc : T14  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:15:39 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

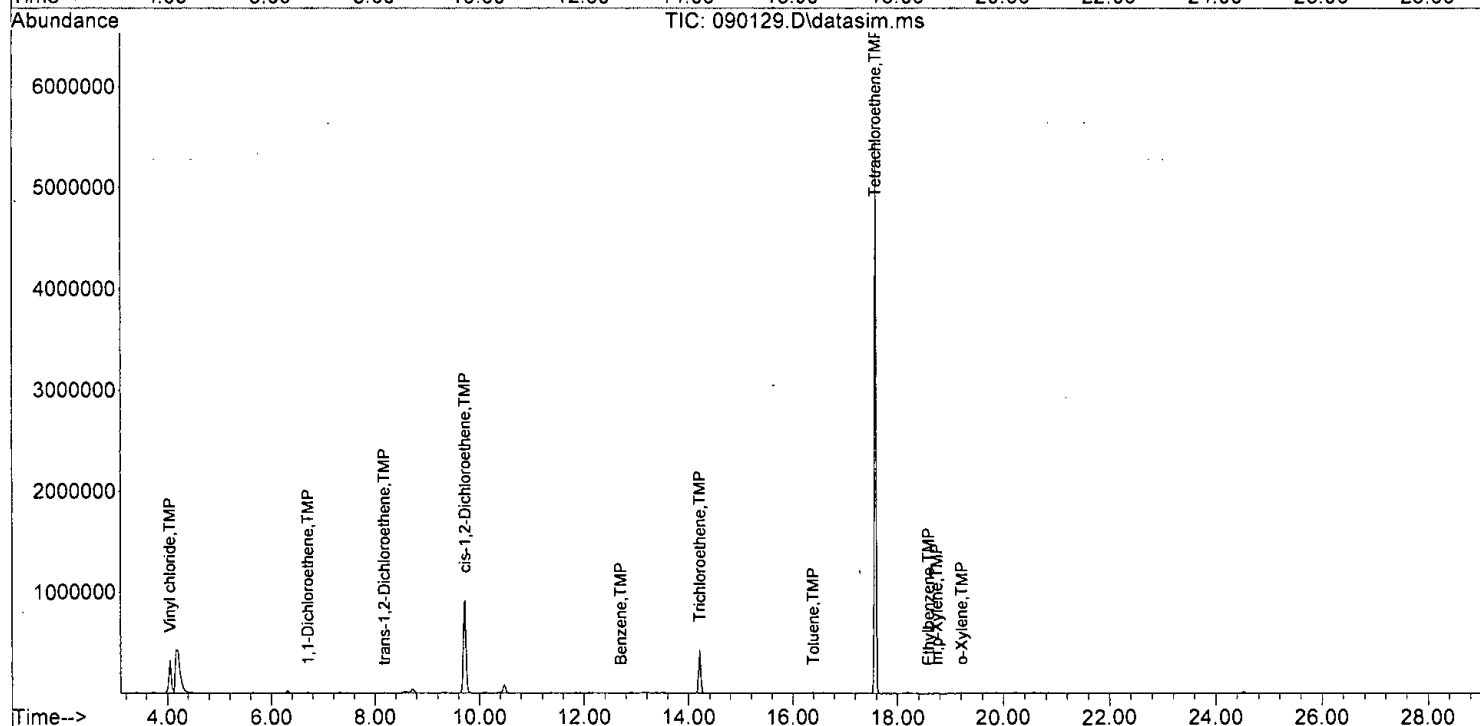
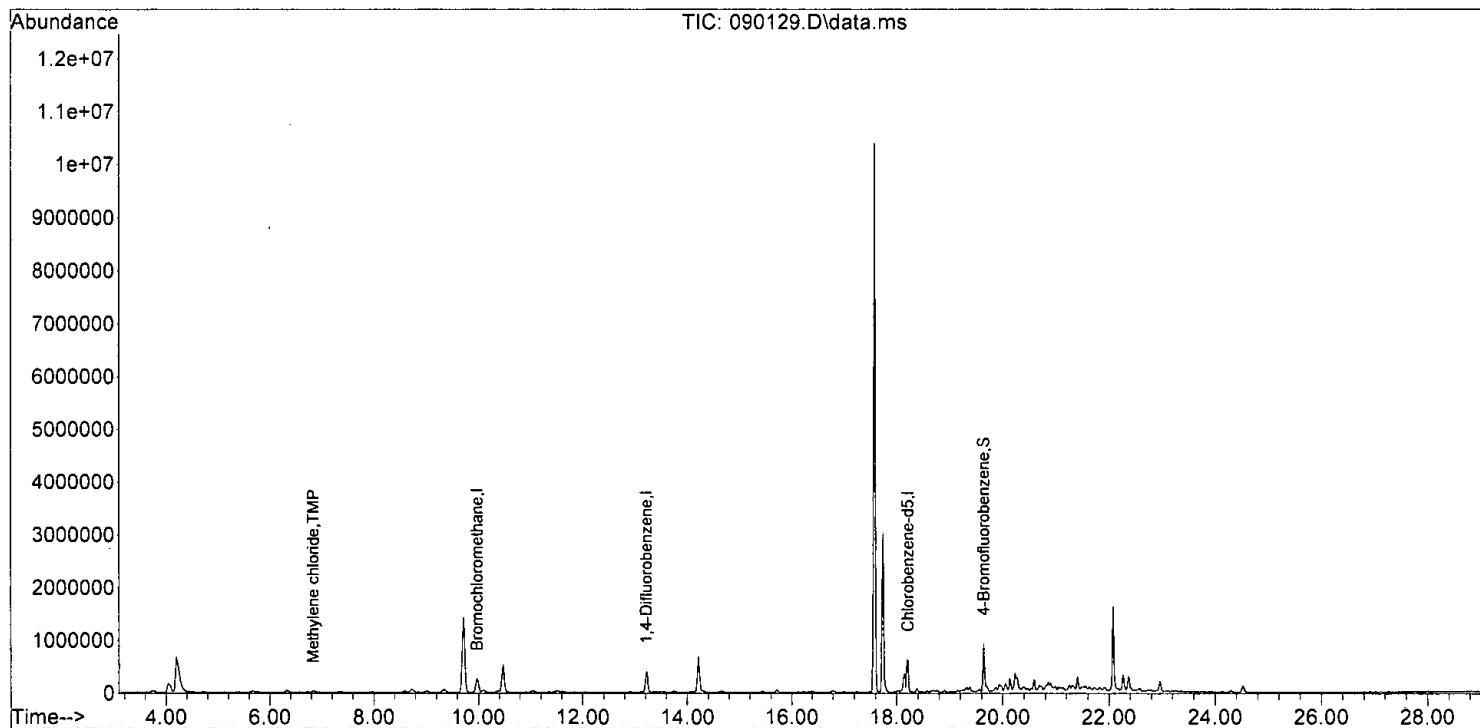
Quant Time: Sep 03 12:38:00 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

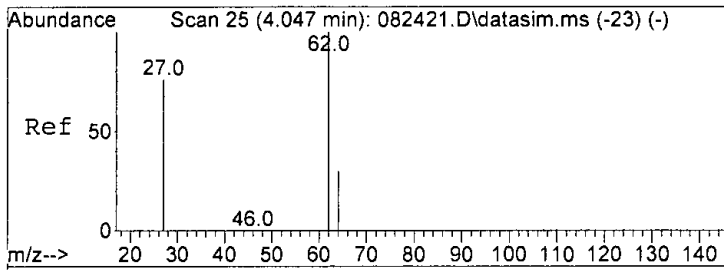
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	98220	10.000	ppbv	#-0.02
39) 1,4-Difluorobenzene	13.21	114	463068	10.000	ppbv	-0.02
56) Chlorobenzene-d5	18.21	117	410143	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	368859	9.927	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	99.30%
Target Compounds						
						Qvalue
6] Vinyl chloride	4.05	62	537562	24.780	ppbv	100
18] 1,1-Dichloroethene	6.71	96	6237	0.385	ppbv	# 72
19] trans-1,2-Dichloroethene	8.18	96	2304	0.144	ppbv	# 81
20] Methylene chloride	6.83	84	19554	1.137	ppbv	86
28] cis-1,2-Dichloroethene	9.73	96	957069	54.730	ppbv	87
37] Benzene	12.70	78	2780	0.046	ppbv	95
46] Trichloroethene	14.22	95	374334	13.078	ppbv	92
50] Toluene	16.40	92	8331	0.240	ppbv	# 80
53] Tetrachloroethene	17.58	164	2332399	132.209	ppbv	83
58] Ethylbenzene	18.59	91	5421	0.060	ppbv	98
65] m,p-Xylene	18.74	106	5841	0.200	ppbv	85
66] o-Xylene	19.21	106	3835	0.133	ppbv	90
77] Naphthalene	23.93	128	1286	Below Cal		87
-----						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

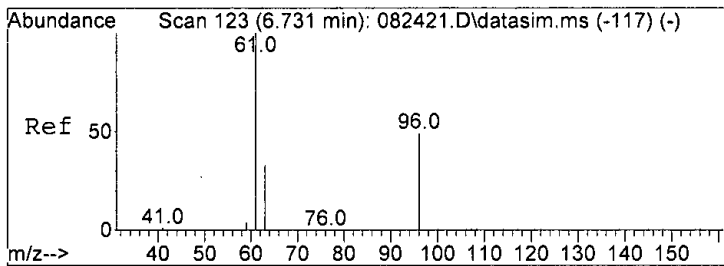
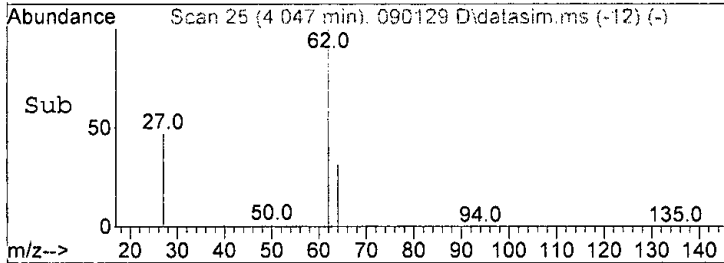
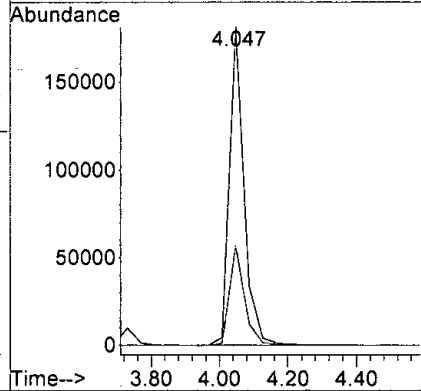
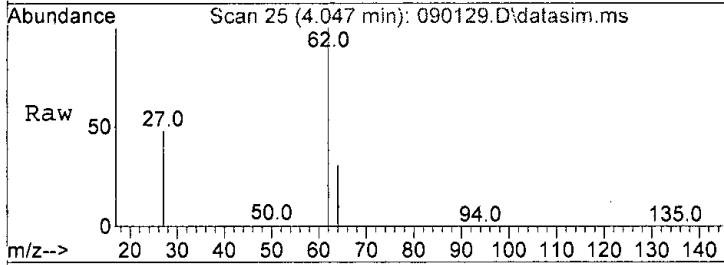
Quant Time: Sep 03 12:38:00 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





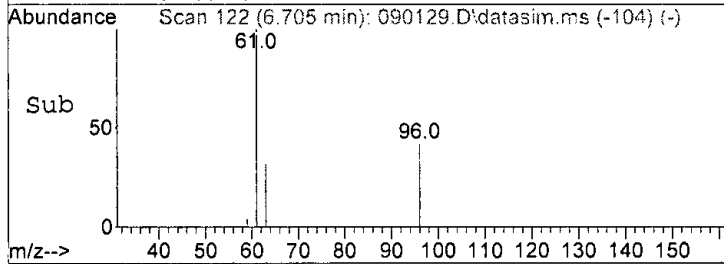
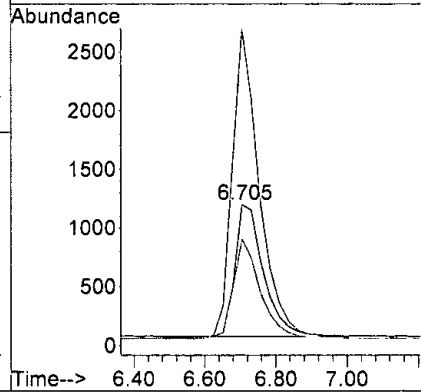
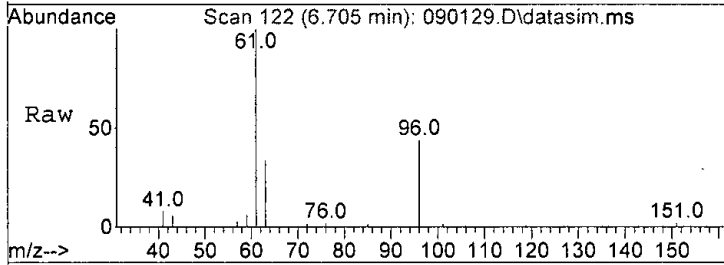
#6  
 Vinyl chloride  
 Concen: 24.780 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090129.D  
 Acq: 2 Sep 2021 4:10 am

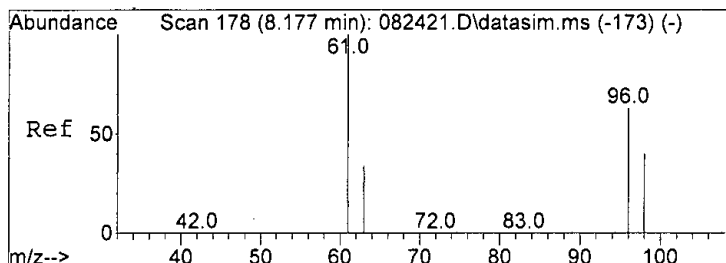
Tgt Ion: 62 Resp: 537562  
 Ion Ratio Lower Upper  
 62 100  
 64 31.4 1.5 61.5



#18  
 1,1-Dichloroethene  
 Concen: 0.385 ppbv  
 RT: 6.71 min Scan# 122  
 Delta R.T. -0.026 min  
 Lab File: 090129.D  
 Acq: 2 Sep 2021 4:10 am

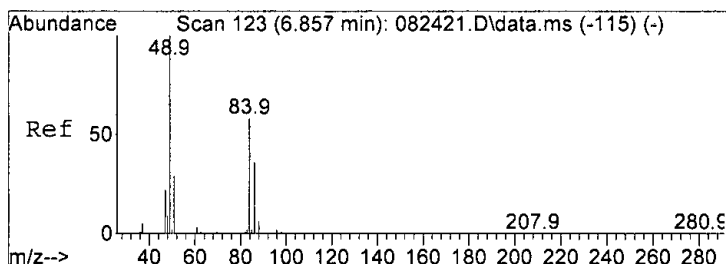
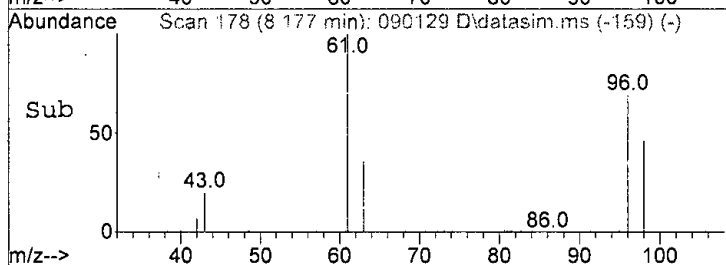
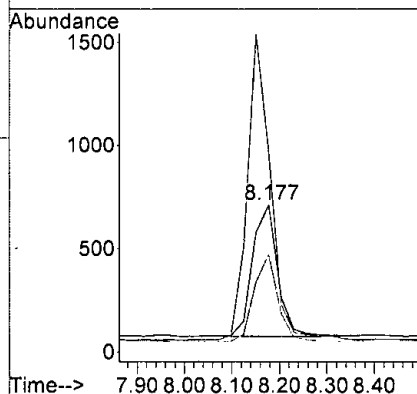
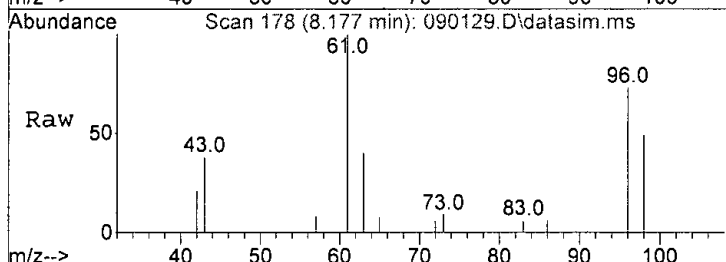
Tgt Ion: 96 Resp: 6237  
 Ion Ratio Lower Upper  
 96 100  
 61 235.5 159.0 219.0#  
 63 75.3 32.0 92.0





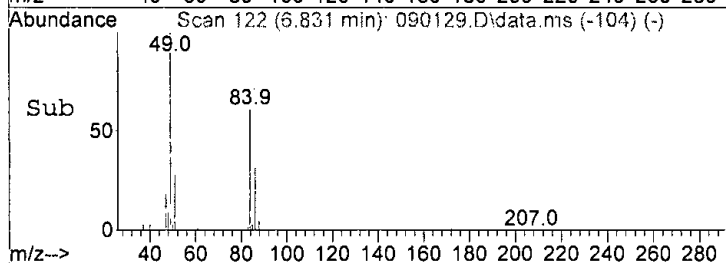
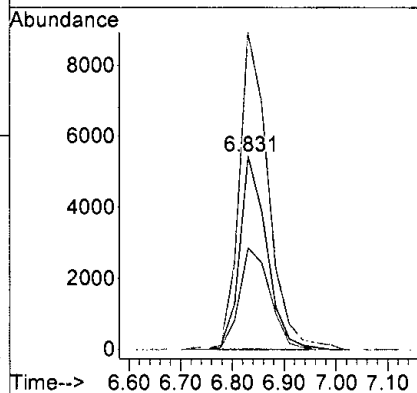
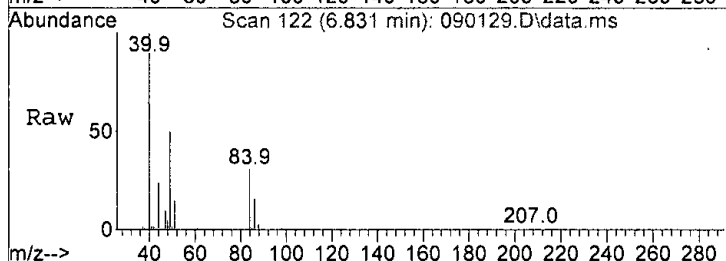
#19  
 trans-1,2-Dichloroethene  
 Concen: 0.144 ppbv  
 RT: 8.18 min Scan# 178  
 Delta R.T. 0.000 min  
 Lab File: 090129.D  
 Acq: 2 Sep 2021 4:10 am

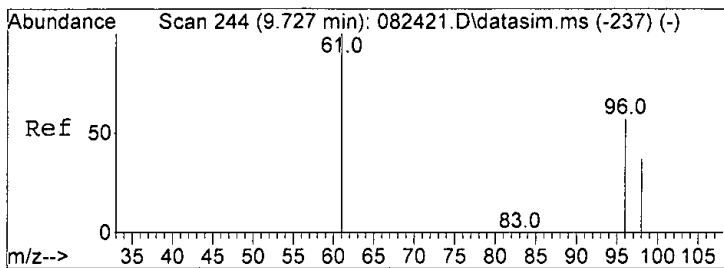
Tgt Ion: 96 Resp: 2304  
 Ion Ratio Lower Upper  
 96 100  
 61 143.4 147.9 207.9#  
 98 66.2 34.2 94.2



#20  
 Methylene chloride  
 Concen: 1.137 ppbv  
 RT: 6.83 min Scan# 122  
 Delta R.T. -0.026 min  
 Lab File: 090129.D  
 Acq: 2 Sep 2021 4:10 am

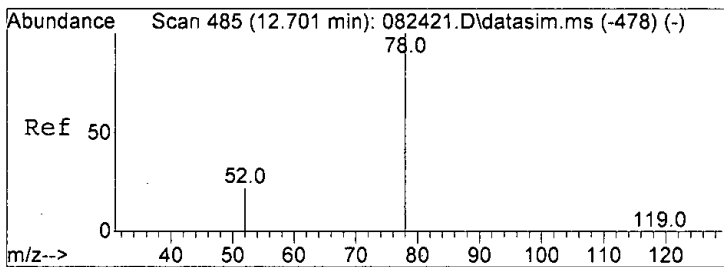
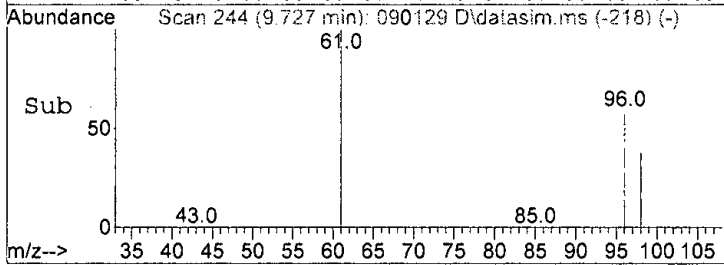
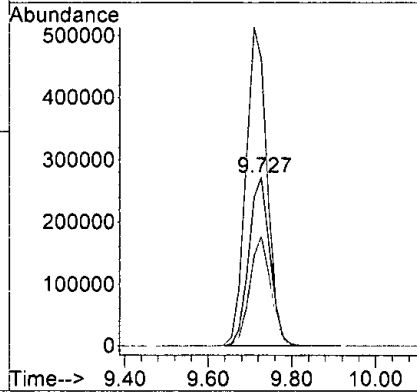
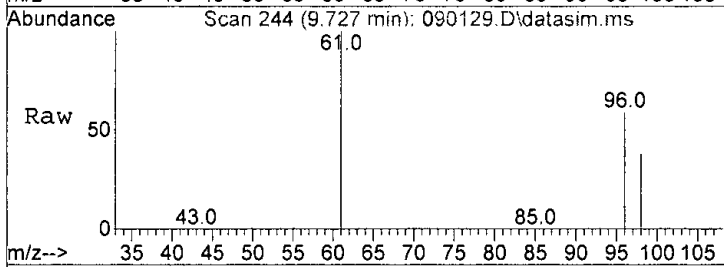
Tgt Ion: 84 Resp: 19554  
 Ion Ratio Lower Upper  
 84 100  
 86 52.6 33.9 93.9  
 49 164.5 116.6 176.6





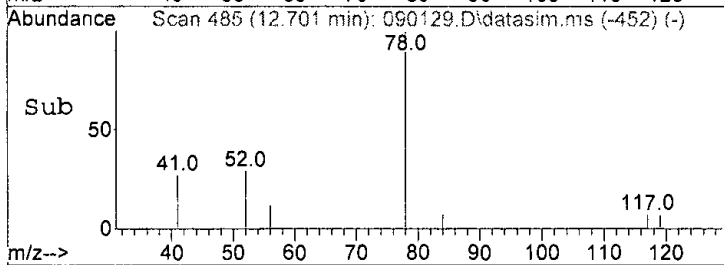
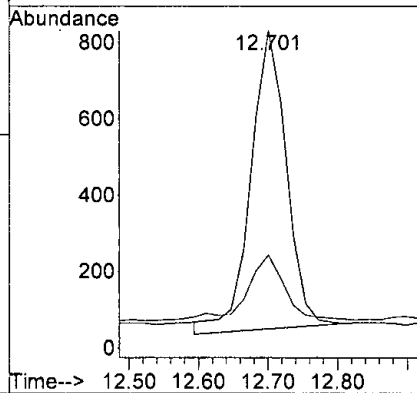
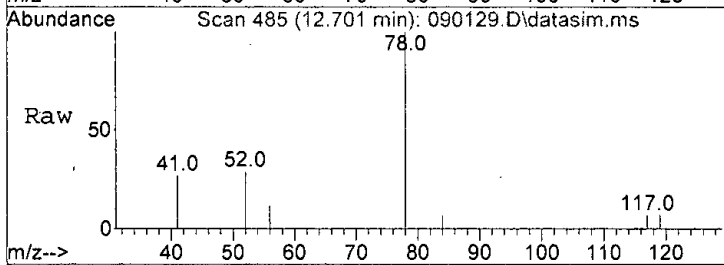
#28  
 cis-1,2-Dichloroethene  
 Concen: 54.730 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. 0.000 min  
 Lab File: 090129.D  
 Acq: 2 Sep 2021 4:10 am

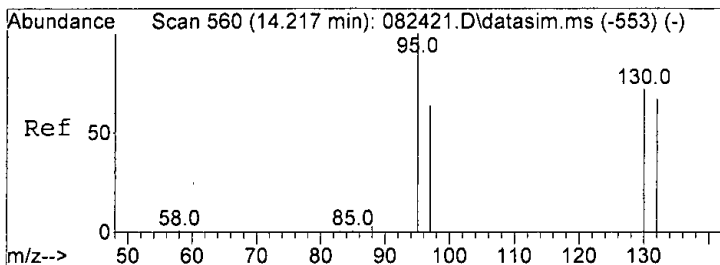
Tgt Ion: 96 Resp: 957069  
 Ion Ratio Lower Upper  
 96 100  
 61 169.7 116.0 176.0  
 98 65.3 35.2 95.2



#37  
 Benzene  
 Concen: 0.046 ppbv  
 RT: 12.70 min Scan# 485  
 Delta R.T. -0.000 min  
 Lab File: 090129.D  
 Acq: 2 Sep 2021 4:10 am

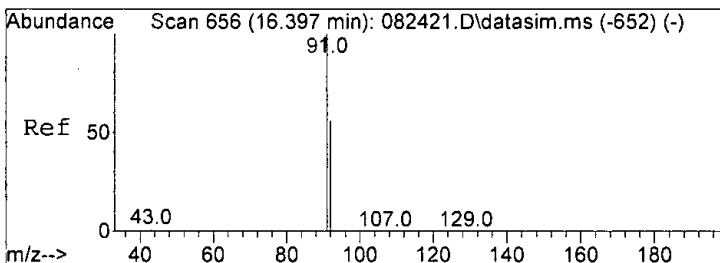
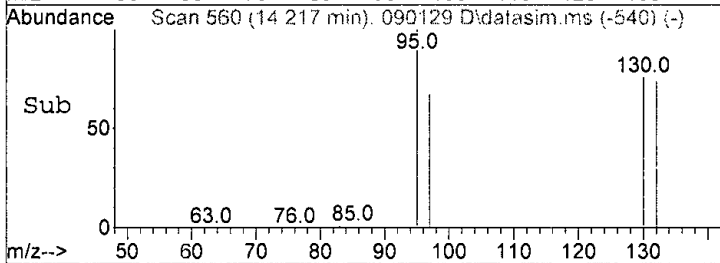
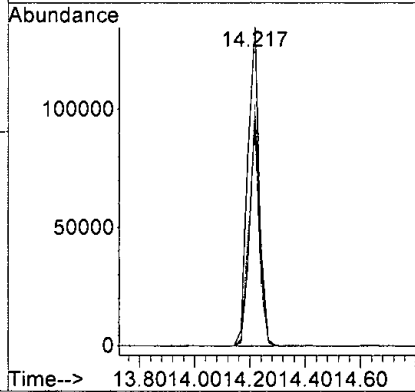
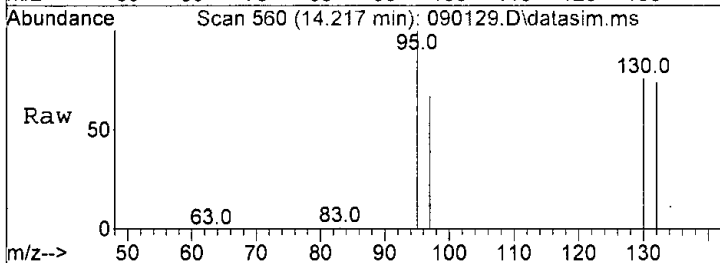
Tgt Ion: 78 Resp: 2780  
 Ion Ratio Lower Upper  
 78 100  
 52 21.8 0.0 49.7





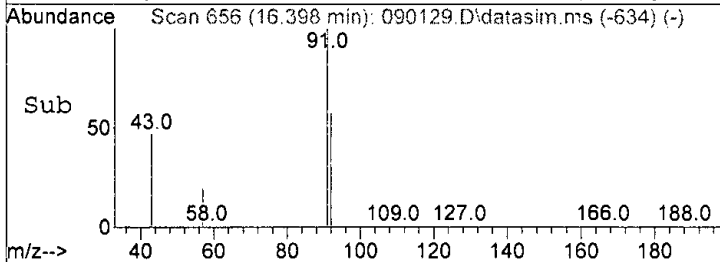
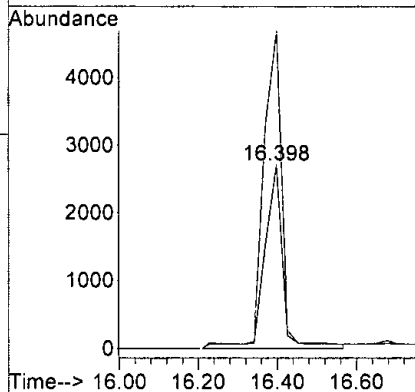
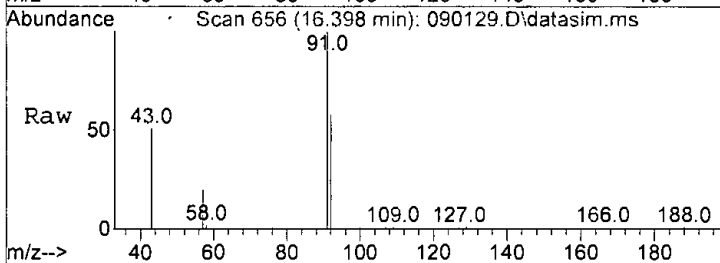
#46  
 Trichloroethene  
 Concen: 13.078 ppbv  
 RT: 14.22 min Scan# 560  
 Delta R.T. -0.000 min  
 Lab File: 090129.D  
 Acq: 2 Sep 2021 4:10 am

Tgt Ion	Resp	Lower	Upper
95	100		
97	66.9	37.1	97.1
130	76.1	56.1	116.1
132	73.6	54.3	114.3

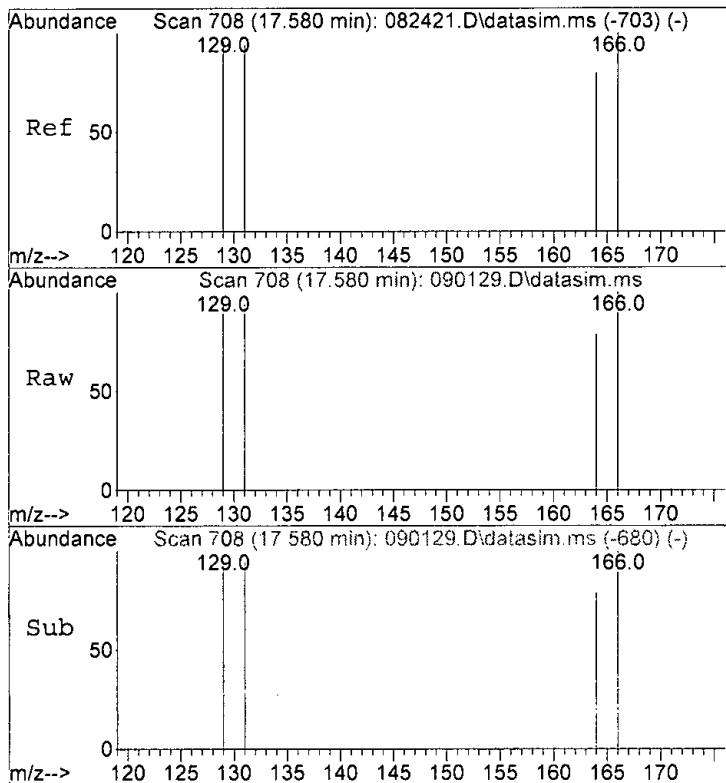


#50  
 Toluene  
 Concen: 0.240 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.001 min  
 Lab File: 090129.D  
 Acq: 2 Sep 2021 4:10 am

Tgt Ion	Resp	Lower	Upper
92	100		
91	173.6	174.6	234.6#

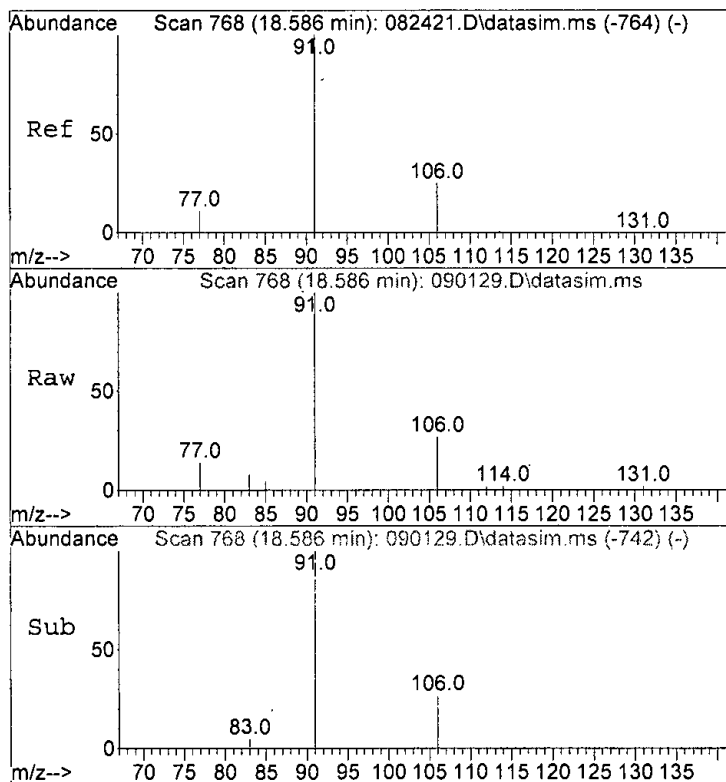
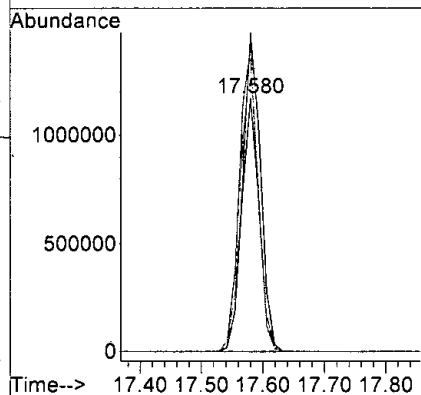






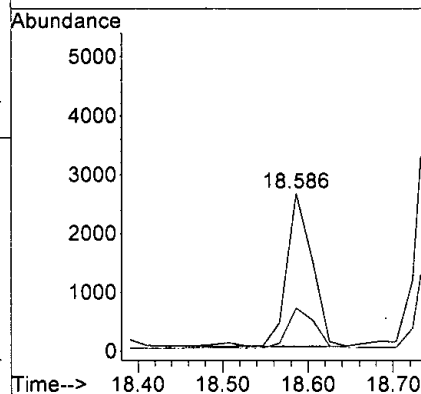
#53  
 Tetrachloroethene  
 Concen: 132.209 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090129.D  
 Acq: 2 Sep 2021 4:10 am

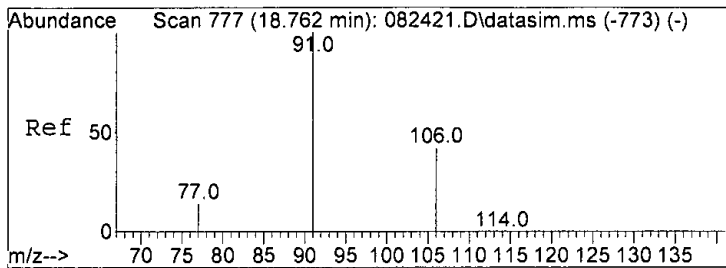
Tgt Ion	Resp	Lower	Upper
164	100		
129	120.4	63.2	123.2
131	118.7	70.7	130.7
166	125.9	107.5	167.5



#58  
 Ethylbenzene  
 Concen: 0.060 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090129.D  
 Acq: 2 Sep 2021 4:10 am

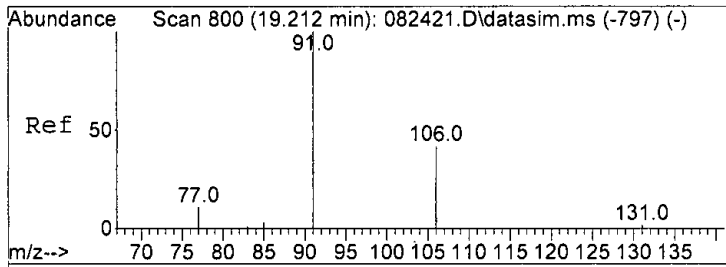
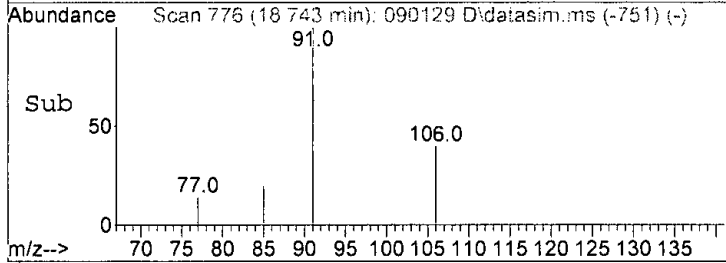
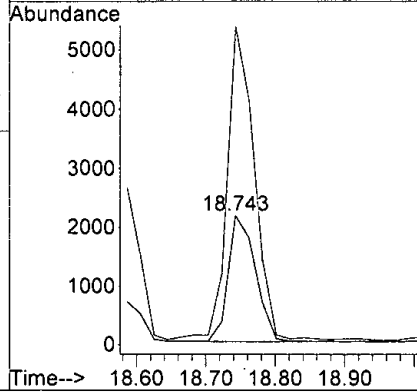
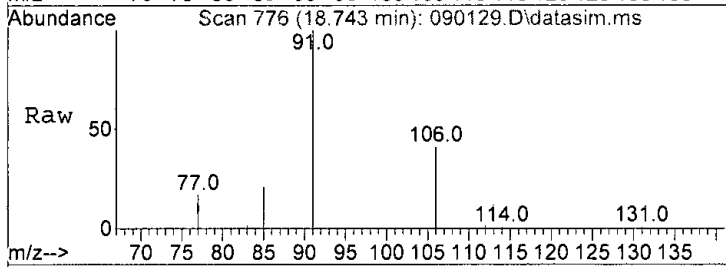
Tgt Ion	Resp	Lower	Upper
91	100		
106	26.1	0.0	57.0





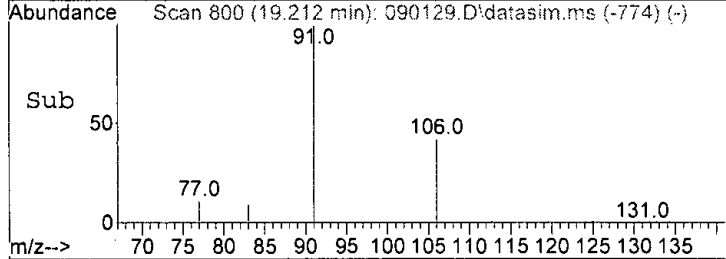
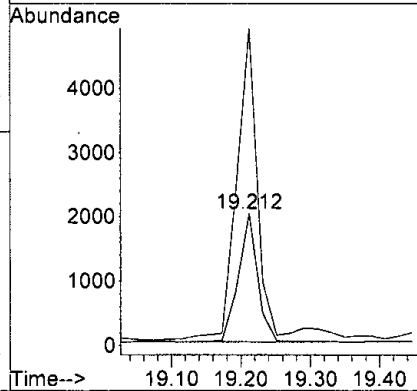
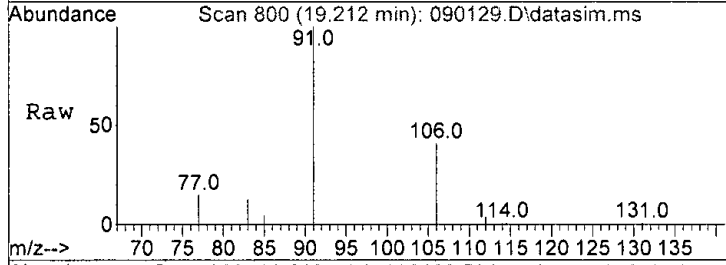
#65  
 m,p-Xylene  
 Concen: 0.200 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.019 min  
 Lab File: 090129.D  
 Acq: 2 Sep 2021 4:10 am

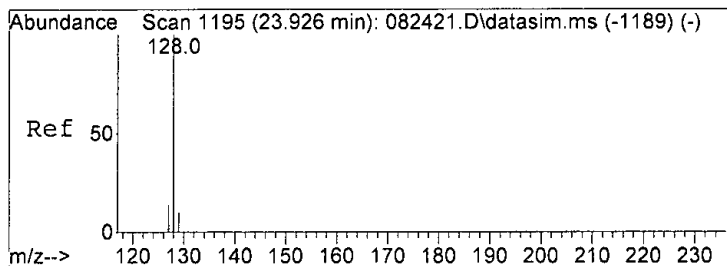
Tgt Ion:106 Resp: 5841  
 Ion Ratio Lower Upper  
 106 100  
 91 247.5 193.0 253.0



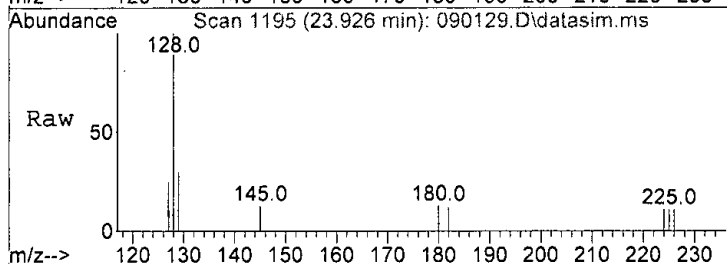
#66  
 o-Xylene  
 Concen: 0.133 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090129.D  
 Acq: 2 Sep 2021 4:10 am

Tgt Ion:106 Resp: 3835  
 Ion Ratio Lower Upper  
 106 100  
 91 241.4 194.4 254.4

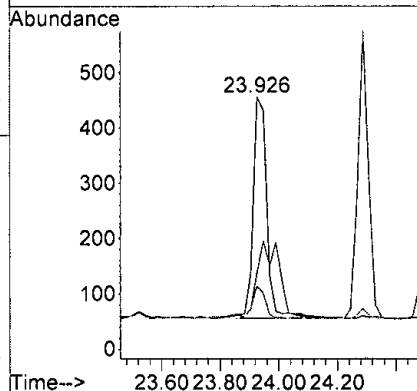
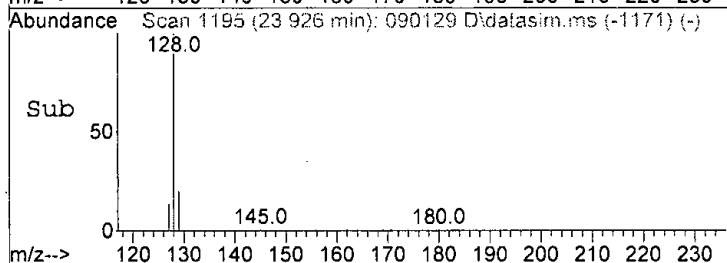




#77  
 Naphthalene  
 Concen: Below Cal  
 RT: 23.93 min Scan# 1195  
 Delta R.T. -0.000 min  
 Lab File: 090129.D  
 Acq: 2 Sep 2021 4:10 am



Tgt Ion	Ratio	Resp	Lower	Upper
128	100			
129	20.1	0.0	41.0	
127	14.8	0.0	43.2	



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:38:00 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	98220	10.000	ppbv	#-0.02
39) 1,4-Difluorobenzene	13.21	114	463068	10.000	ppbv	-0.02
56) Chlorobenzene-d5	18.21	117	410143	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	368859	9.927	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	99.30%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.		
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.		
6] Vinyl chloride	4.05	62	537562	24.780	ppbv	100
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.		
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18] 1,1-Dichloroethene	6.71	96	6237	0.385	ppbv	# 72
19] trans-1,2-Dichloroethene	8.18	96	2304	0.144	ppbv	# 81
20) Methylene chloride	6.83	84	19554	1.137	ppbv	86
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.		
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.		
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.57	63	122	N.D.		
28] cis-1,2-Dichloroethene	9.73	96	957069	54.730	ppbv	87
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	0.00		0	N.D.	d	
35) 1,1,1-Trichloroethane	11.70	97	225	N.D.		
36) Carbon tetrachloride	0.00		0	N.D.		
37] Benzene	12.70	78	2780	0.046	ppbv	95
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

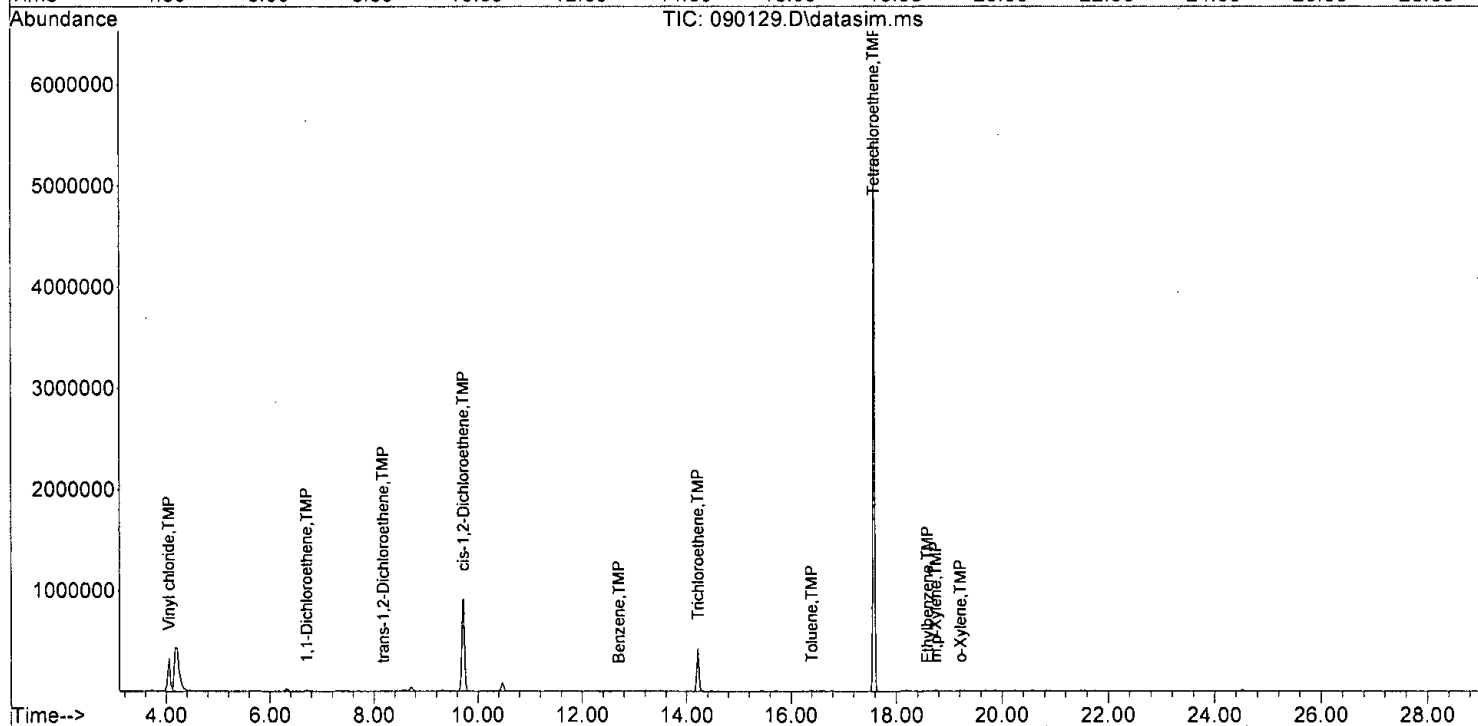
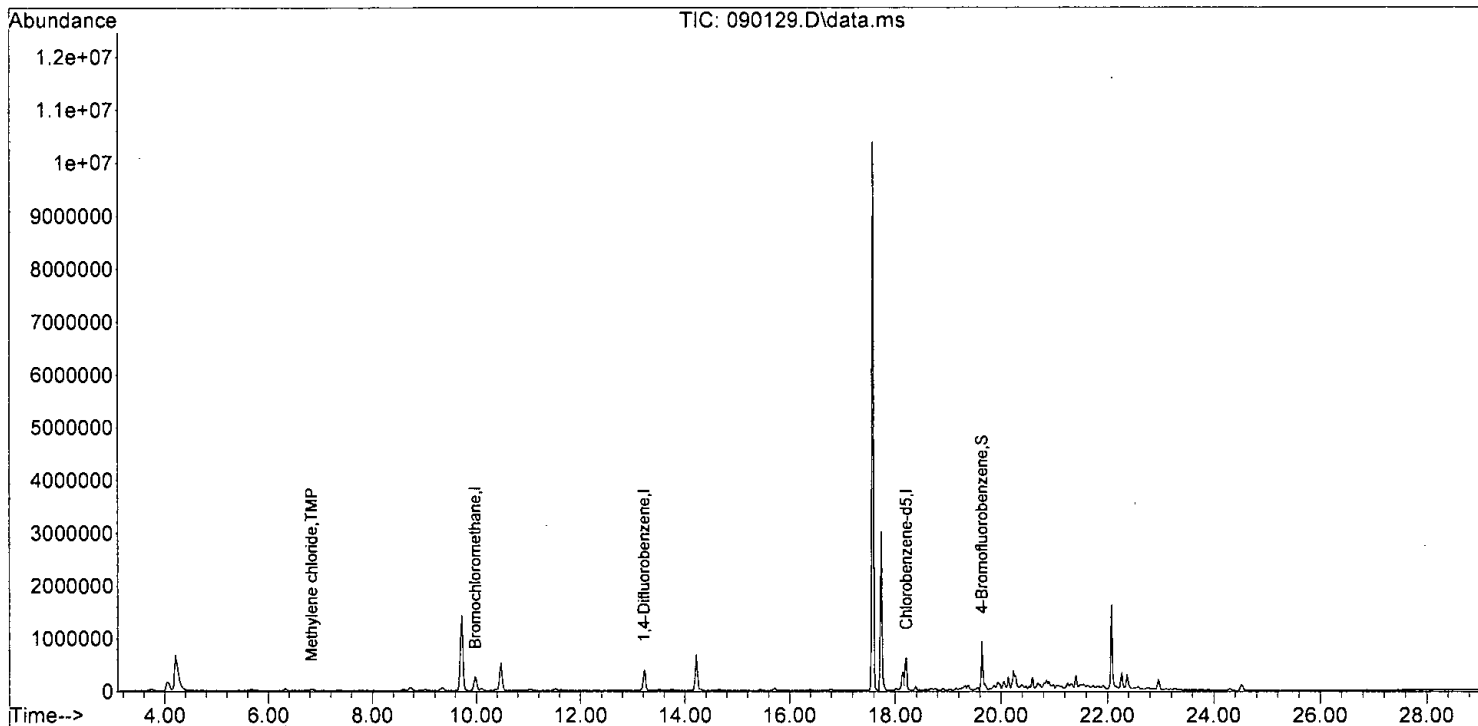
Quant Time: Sep 03 12:38:00 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	374334	13.078	ppbv	92
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	8331	0.240	ppbv #	80
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	2332399	132.209	ppbv	83
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	5421	0.060	ppbv	98
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.74	106	5841	0.200	ppbv	85
66] o-Xylene	19.21	106	3835	0.133	ppbv	90
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77] Naphthalene	23.93	128	1286	Below Cal		87
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

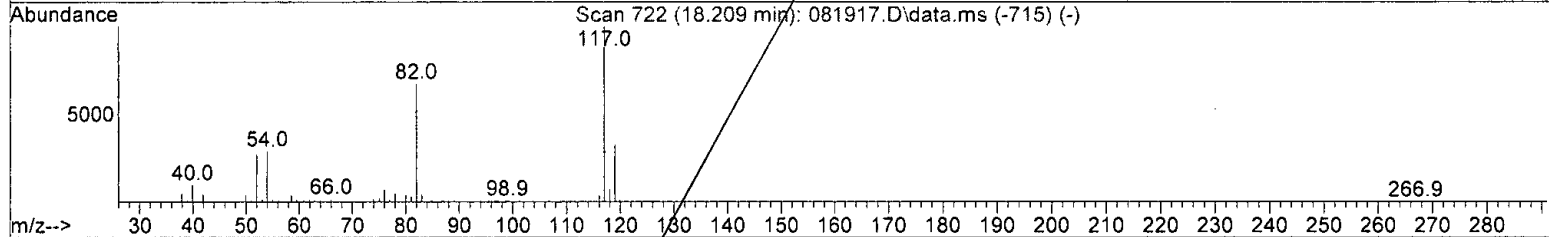
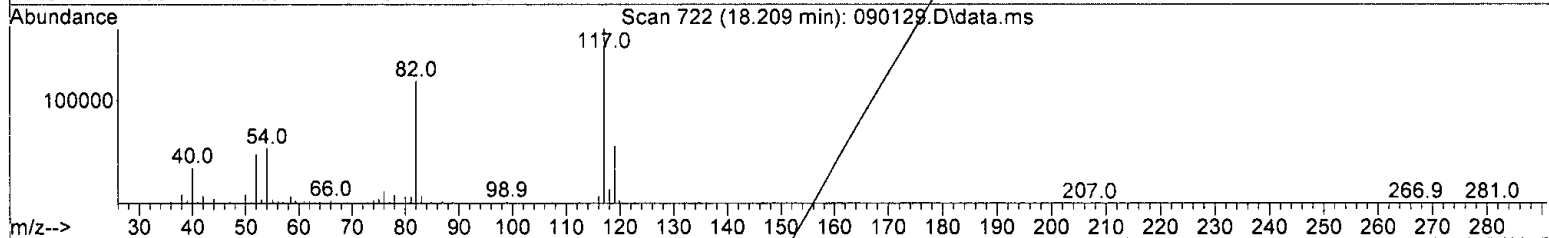
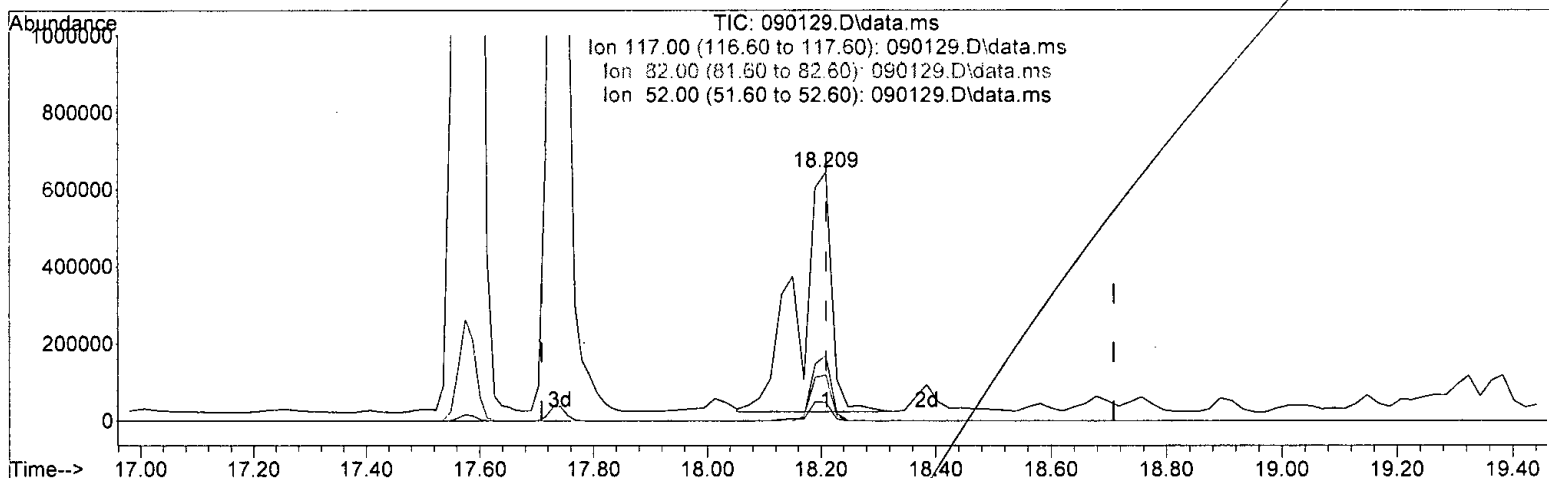
Quant Time: Sep 03 12:38:00 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:24:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 86.626 ug/m3

response 2586305

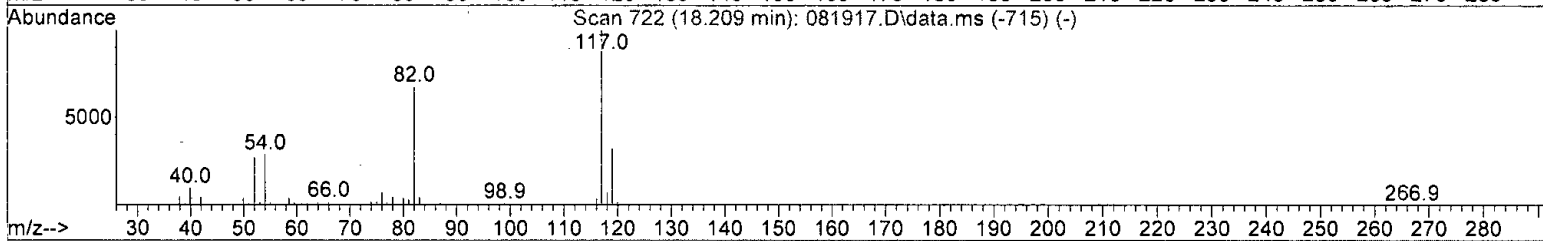
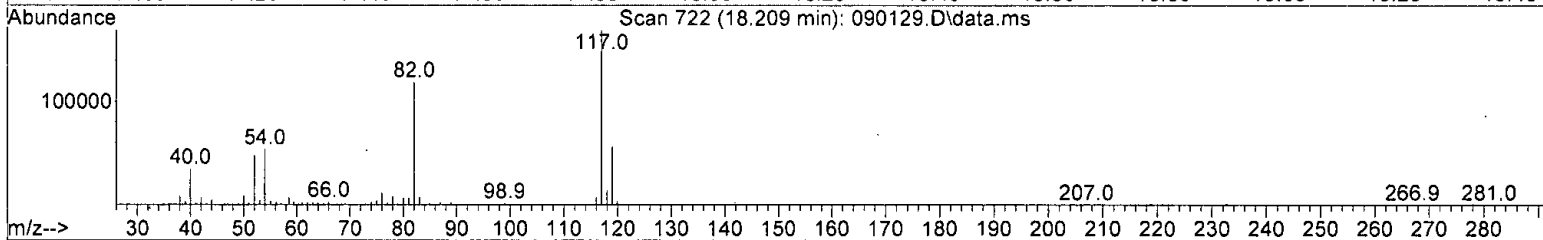
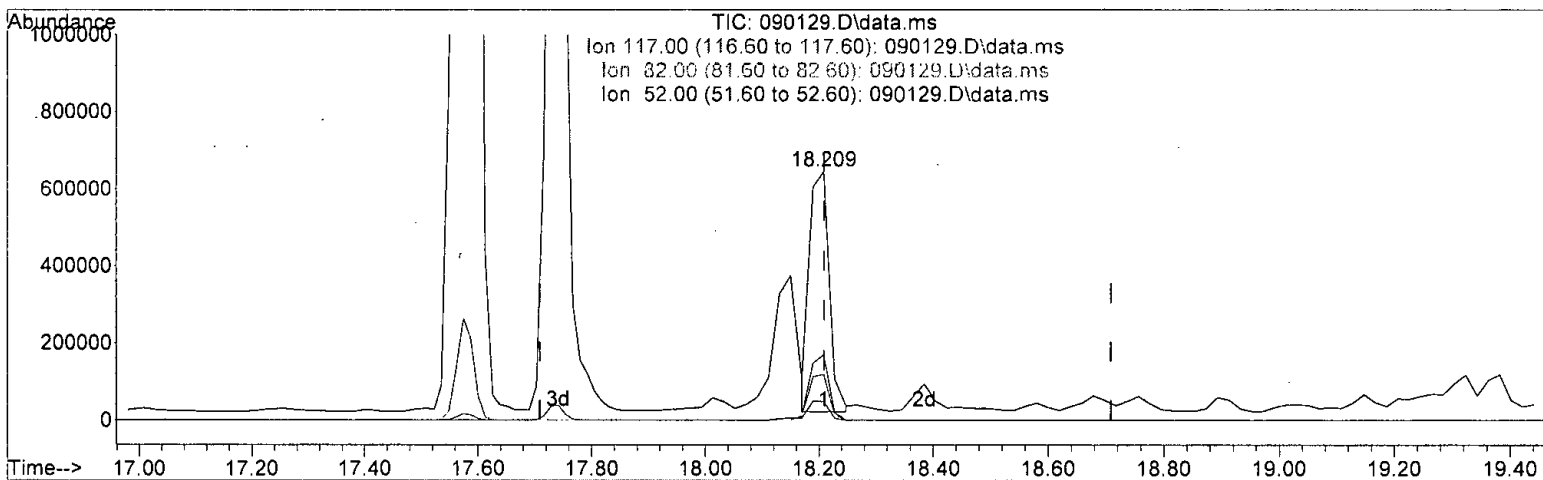
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	15.86
82.00	18.10	11.67
52.00	6.90	5.30

*h only*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:24:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 51.327 ug/m3 m

response 1532415

Signal Exp% Act%

TIC 100.00 100.00

117.00 34.80 26.76

82.00 18.10 19.70

52.00 6.90 8.94

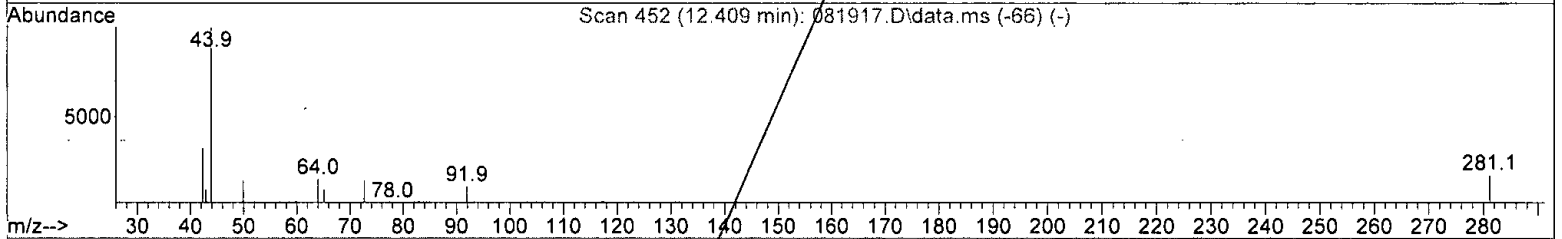
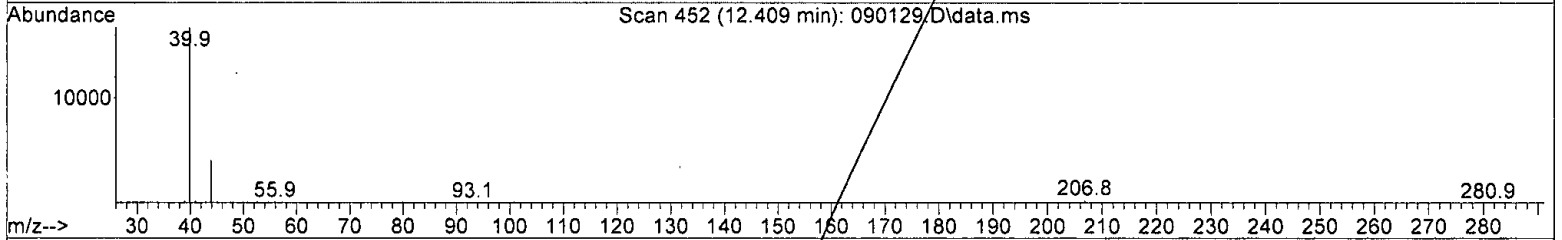
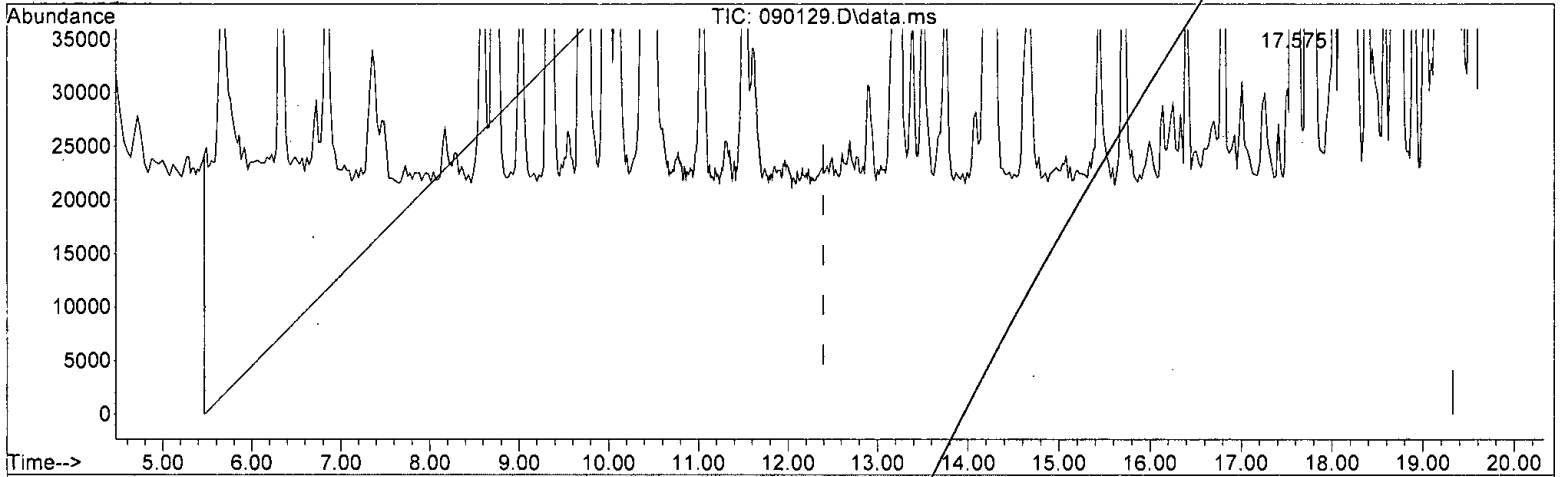
*Handwritten signature/initials*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:24:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 1056.313 ug/m3 m

response 38811145

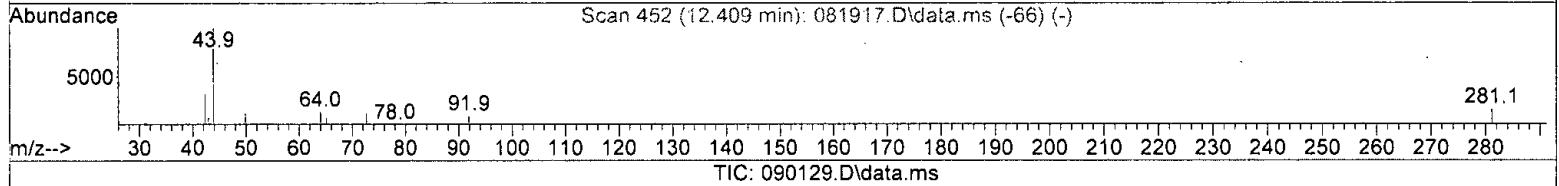
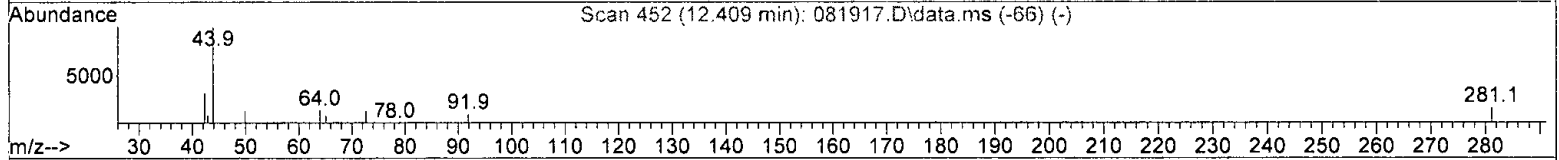
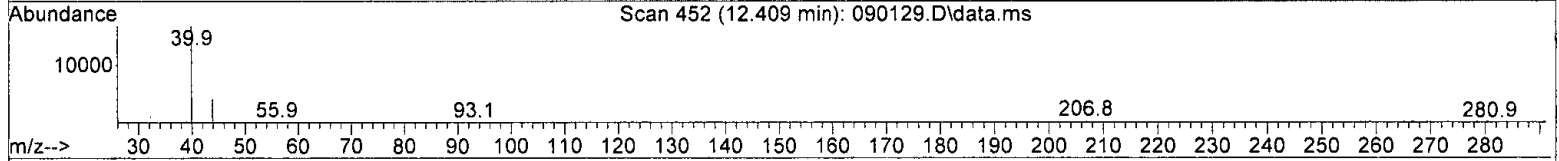
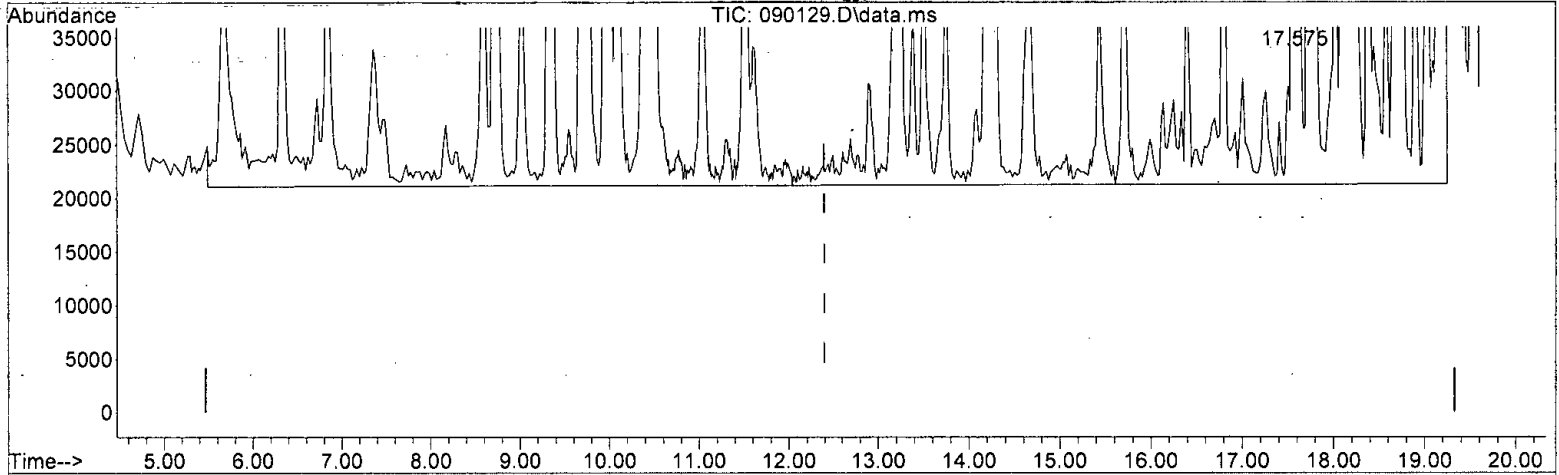
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*W/L only*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:24:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 1661.908 ug/m3 m

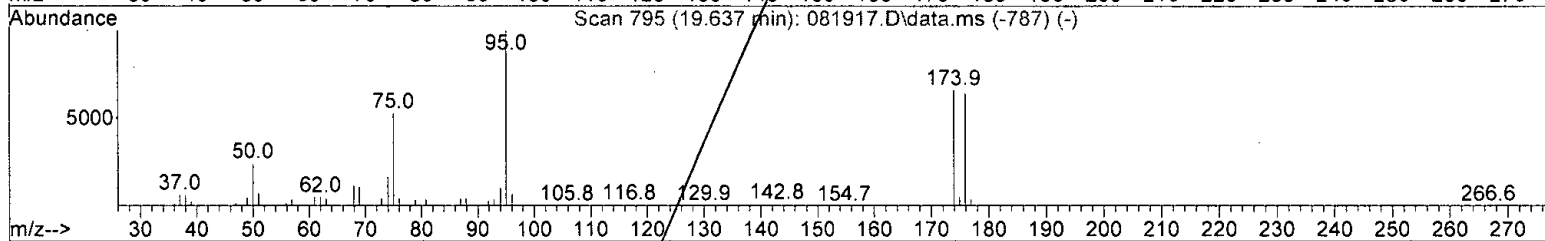
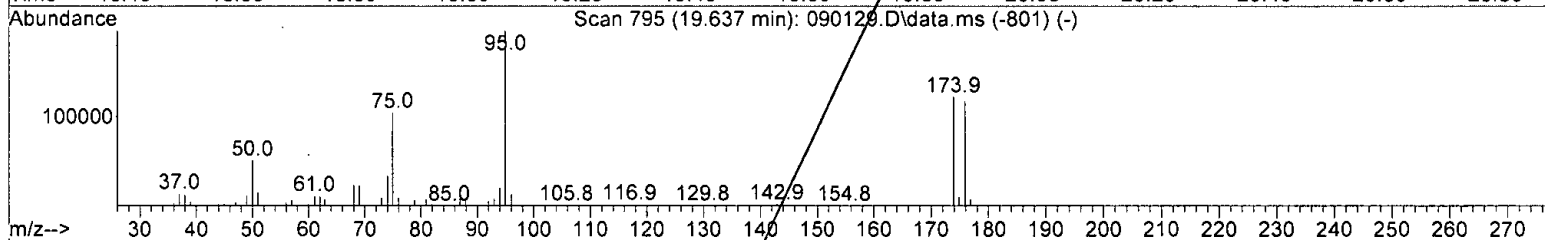
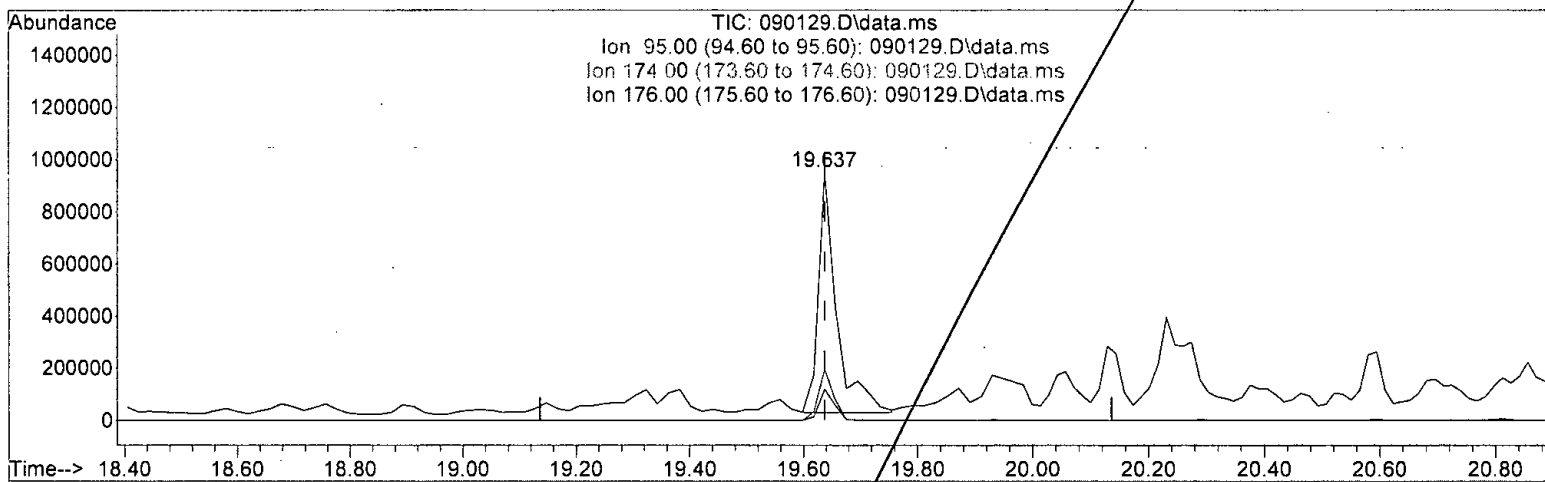
response 61061961

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature and date:*  
 09/03/21

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:24:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 60.527 ug/m3

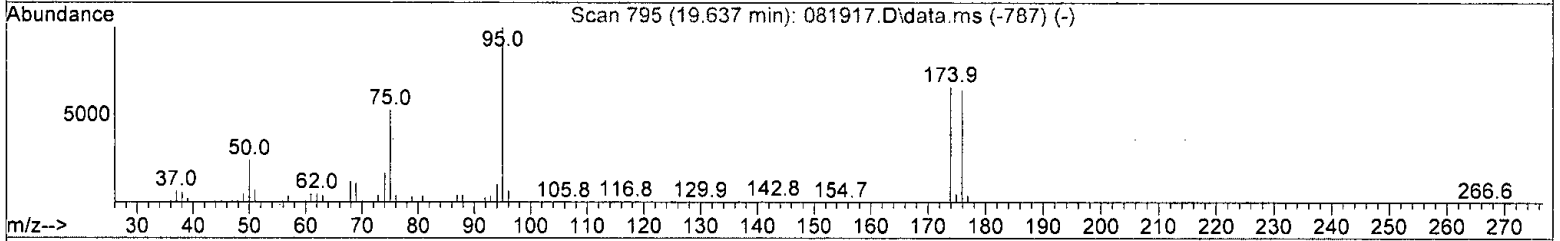
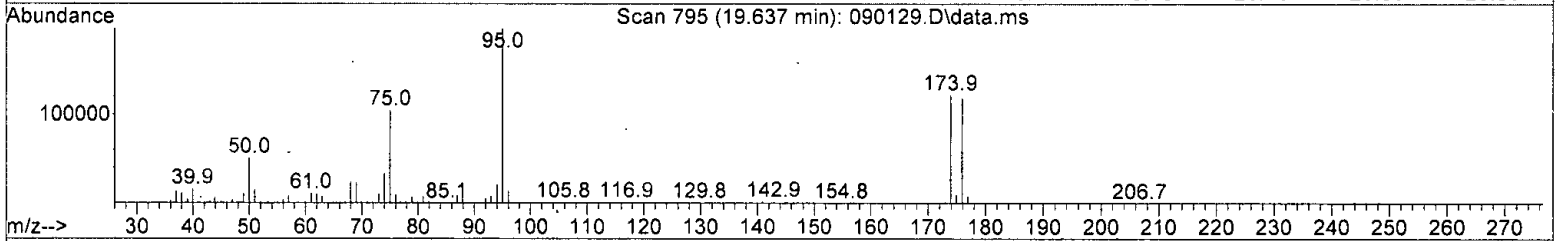
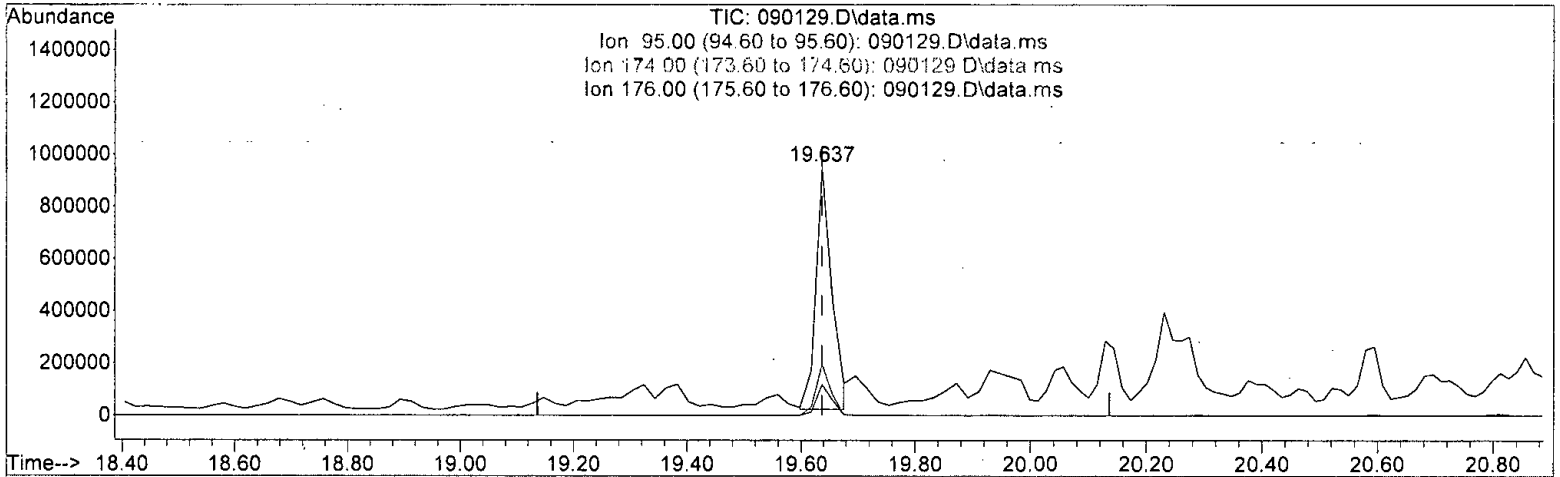
response 2095715

Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	21.28
174.00	19.20	13.22
176.00	18.70	12.83

*Handwritten signature*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:24:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 53.908 ug/m3 m

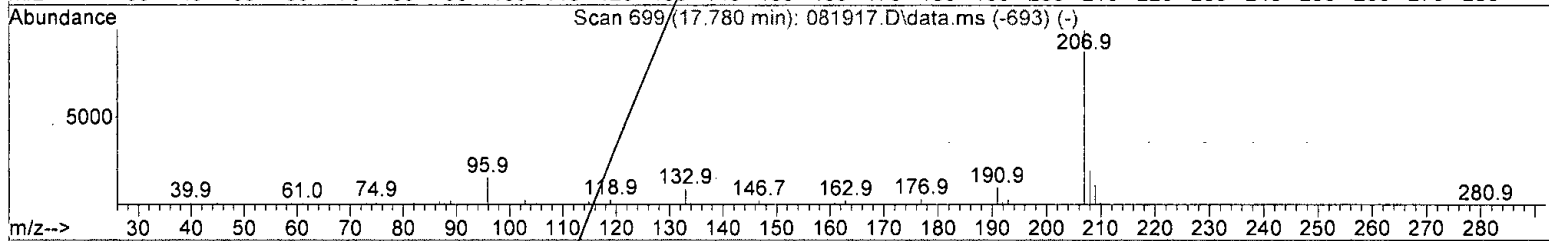
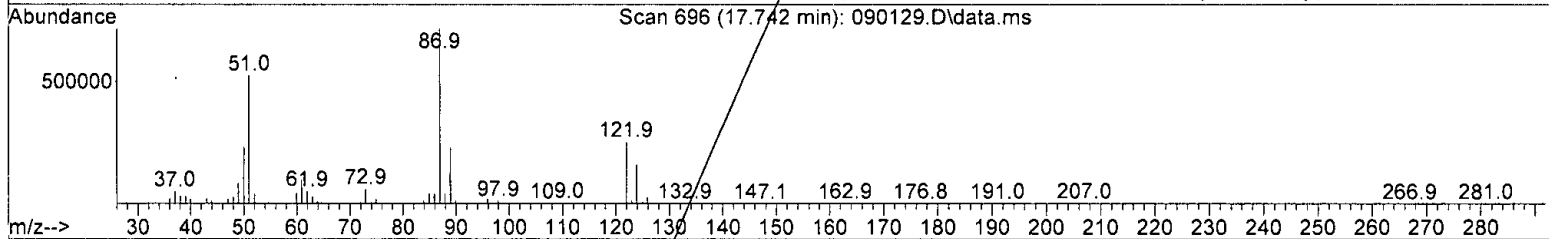
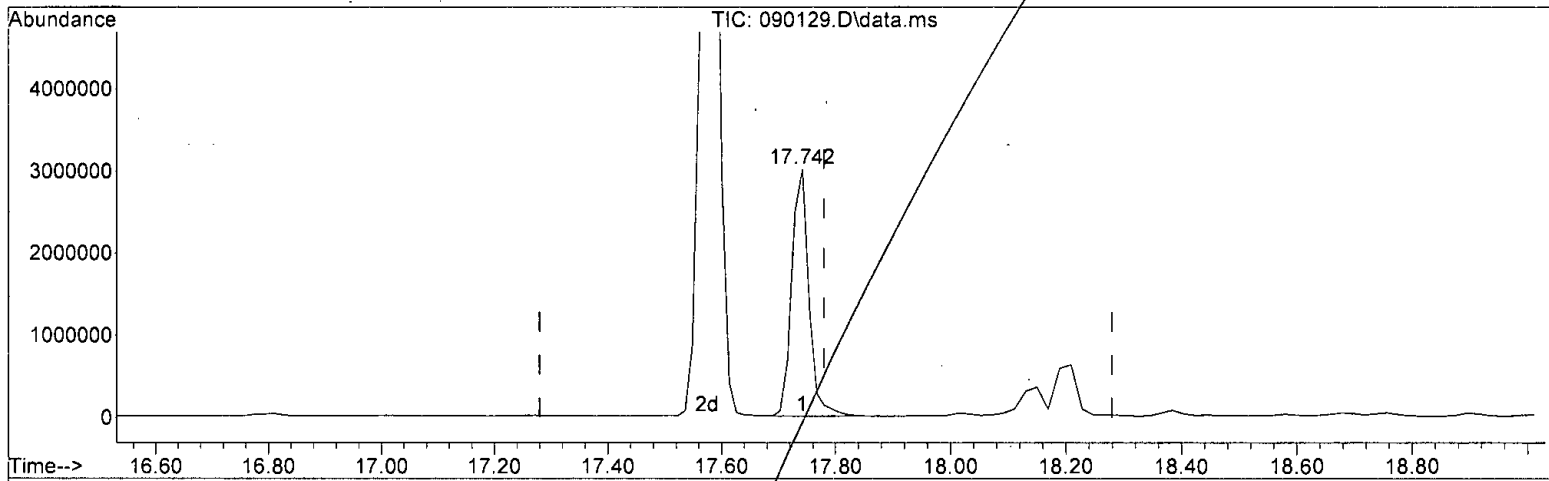
response 1866535

Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	23.90
174.00	19.20	14.84
176.00	18.70	14.41

*Handwritten signature*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:24:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(22) Hexamethylcyclotrisiloxane

17.742min (-0.039) 841.781 ppbv

response 7178953

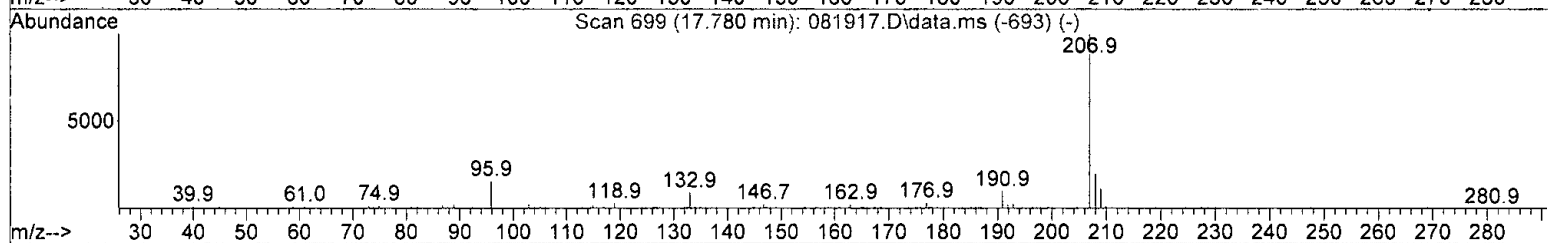
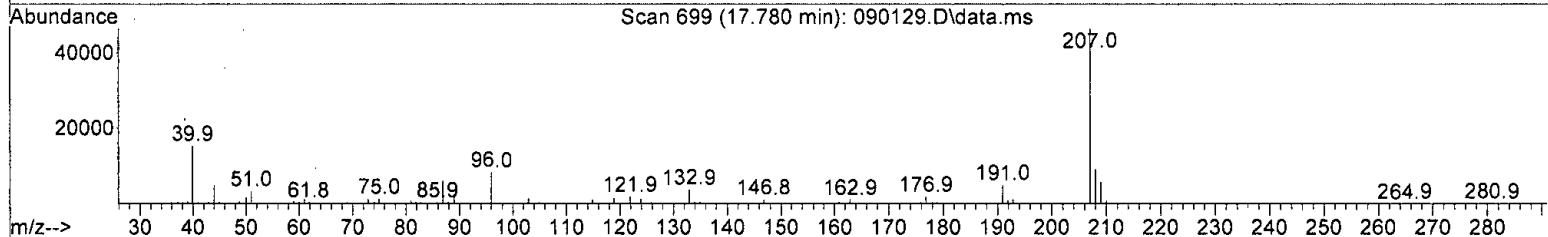
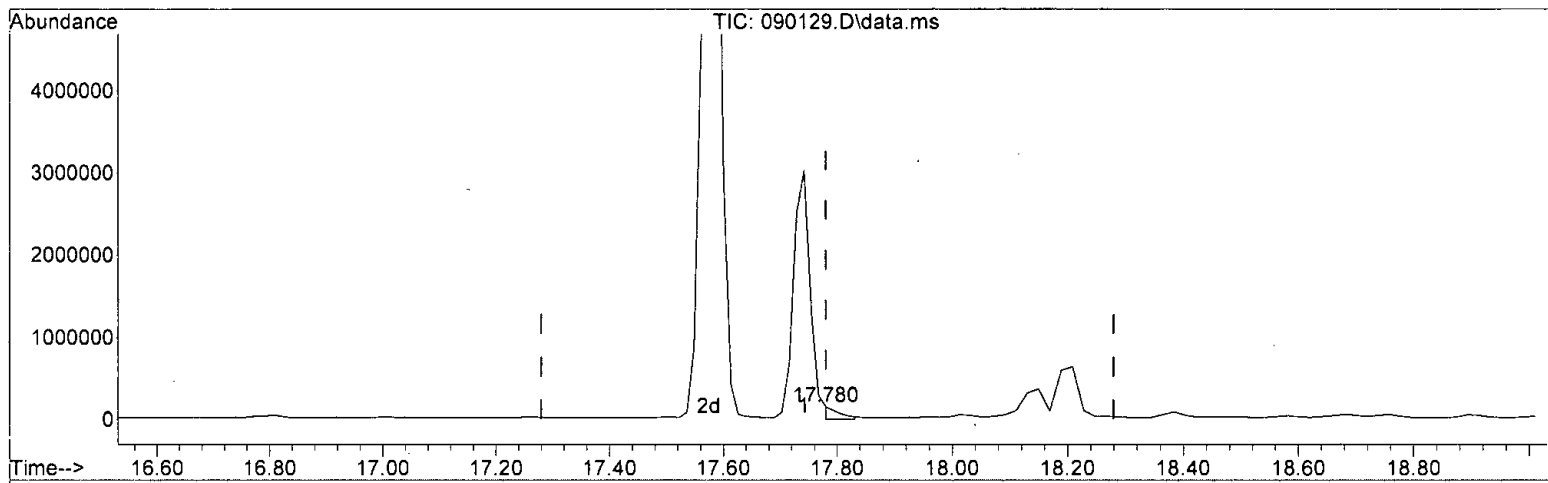
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h  
01/03/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:24:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

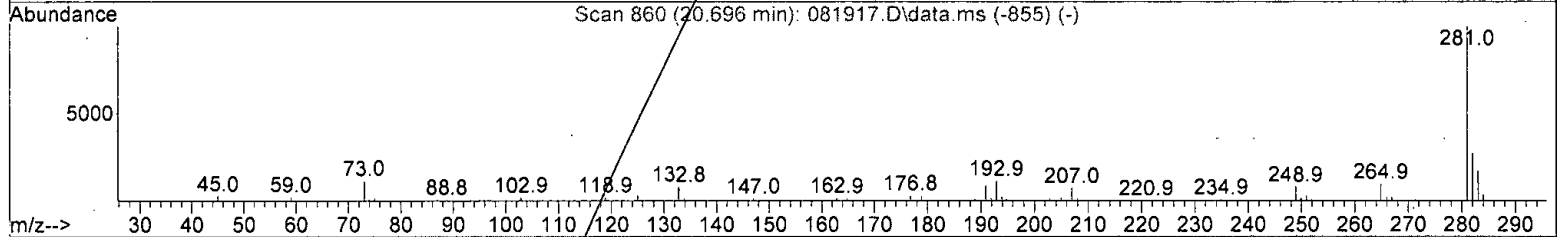
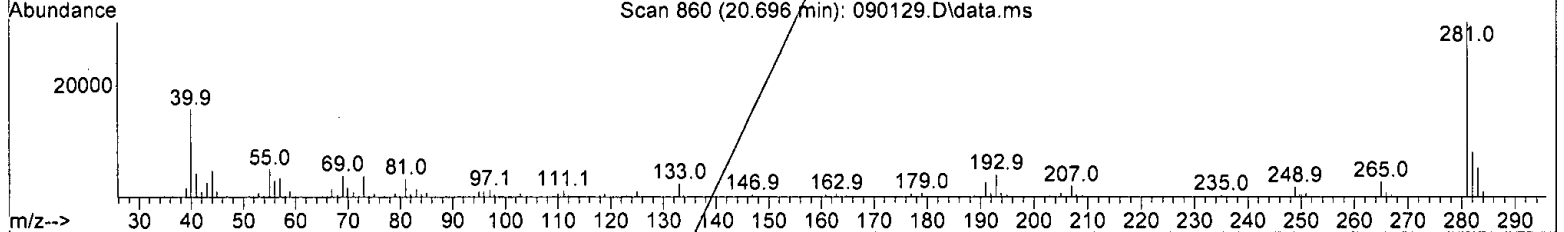
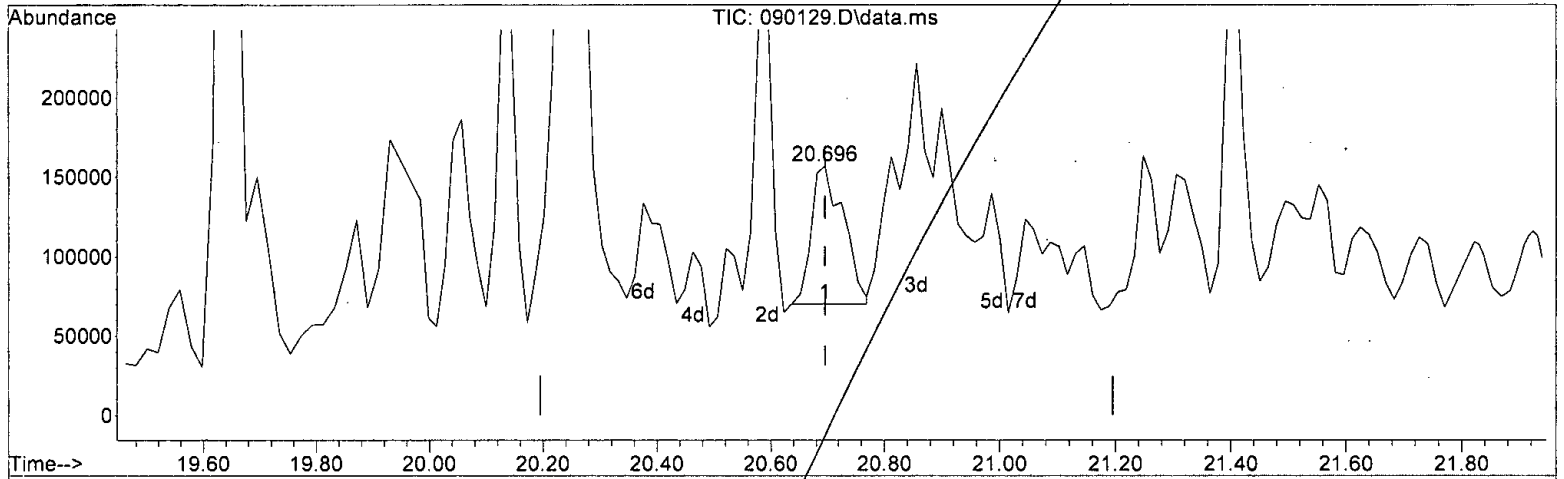


(22) Hexamethylcyclotrisiloxane  
 17.780min (-0.000) 23.056 ppbv m  
 response 196628  
 Signal Exp% Act%  
 TIC 100.00 100.00  
 0.00 0.00 0.00  
 0.00 0.00 0.00  
 0.00 0.00 0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:24:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.696min (-0.000) 32.347 ppbv

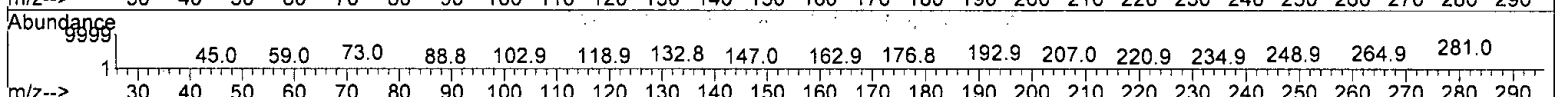
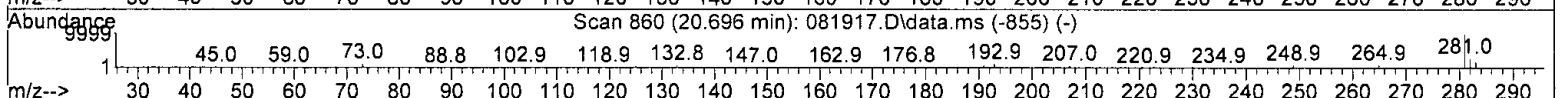
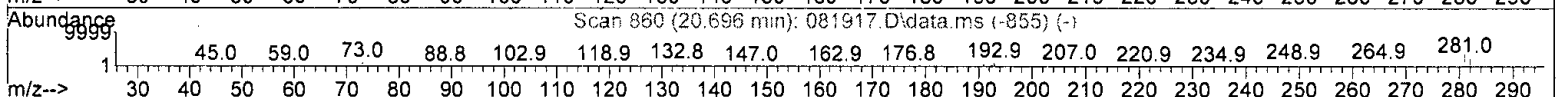
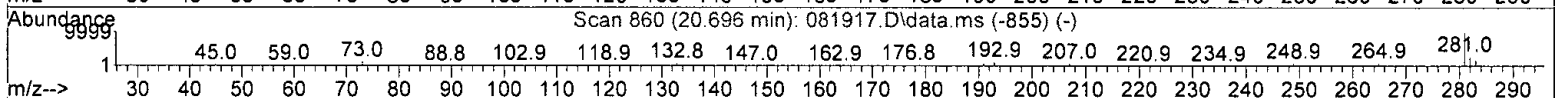
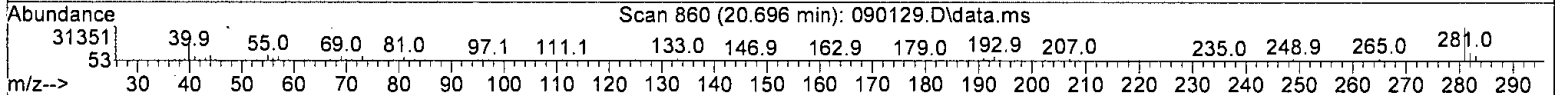
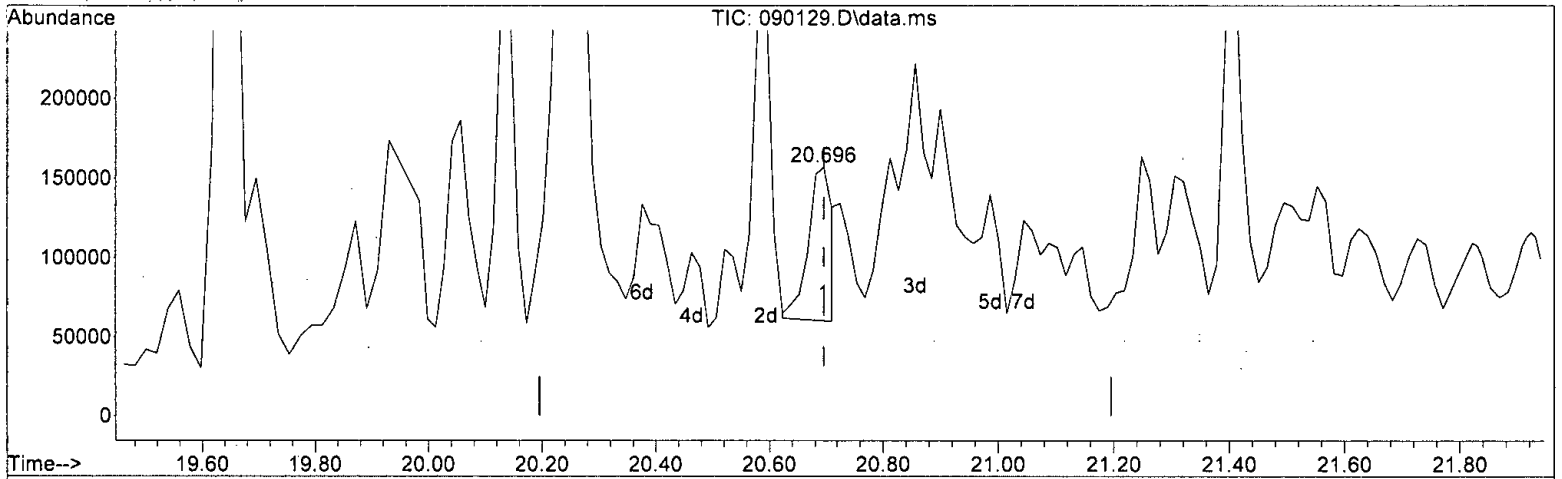
response	344301	
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Bat/2/24*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:24:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090129.D\data.ms

(23) Octamethylcyclotetrasiloxane

20.696min (-0.000) 26.693 ppbv m

response 284121

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

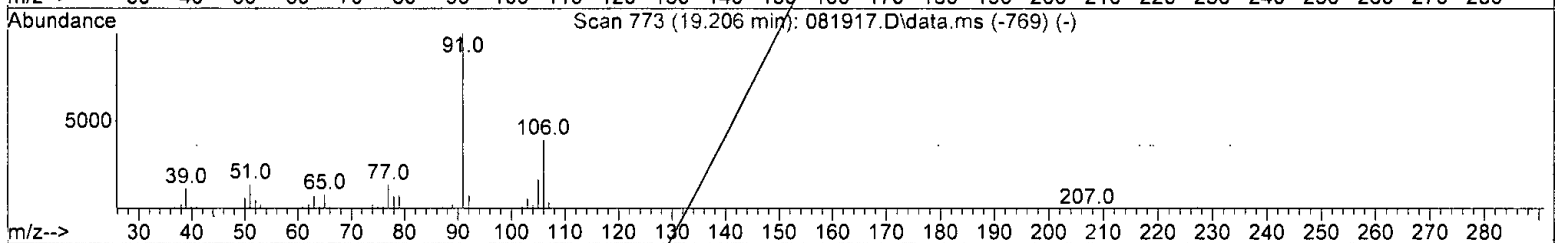
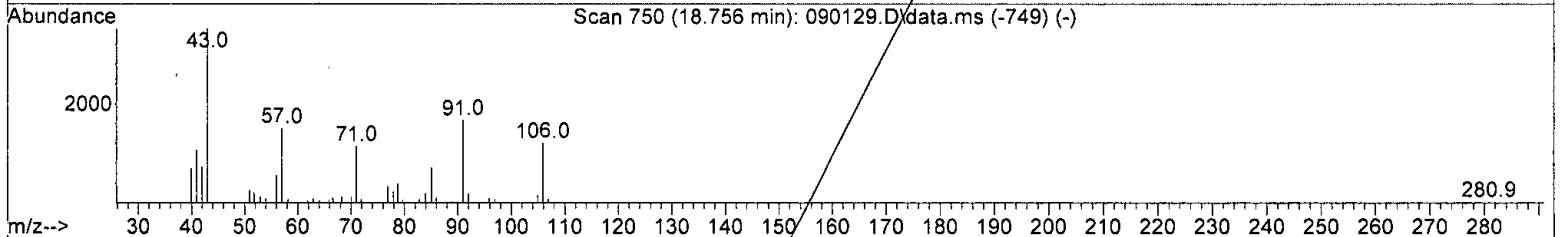
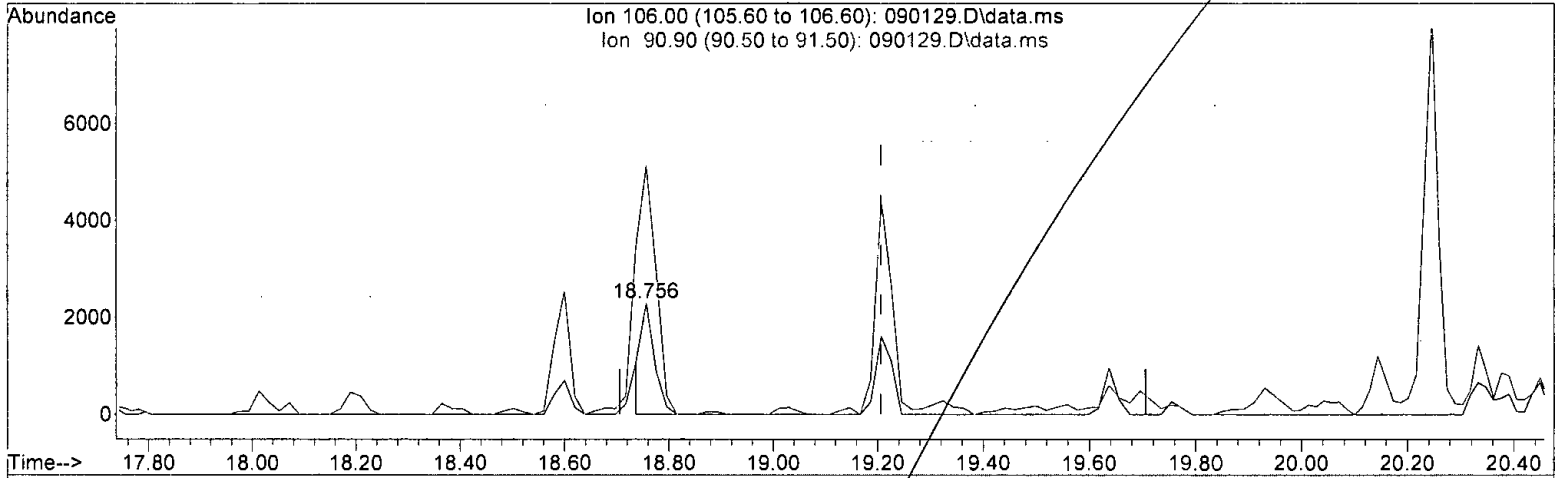
*M or 10/12*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:24:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

18.756min (-0.450) 0.674 ug/m3

response 3899

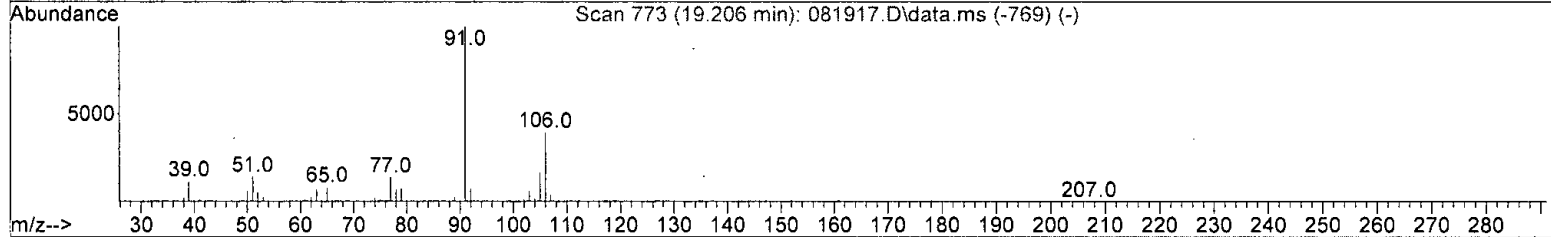
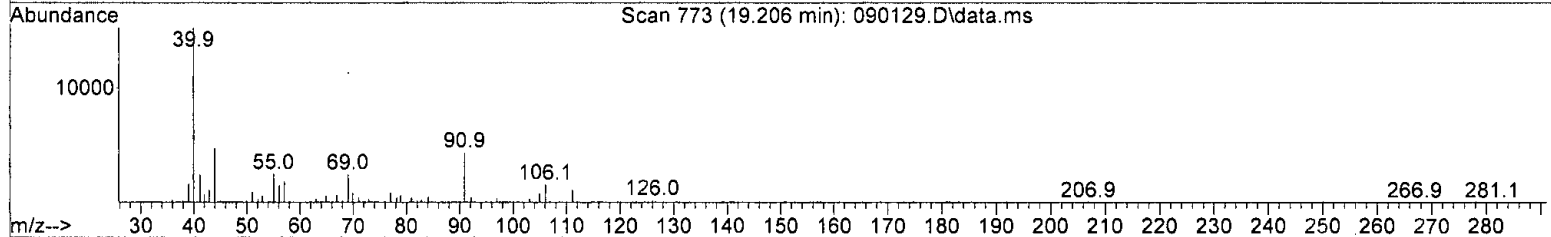
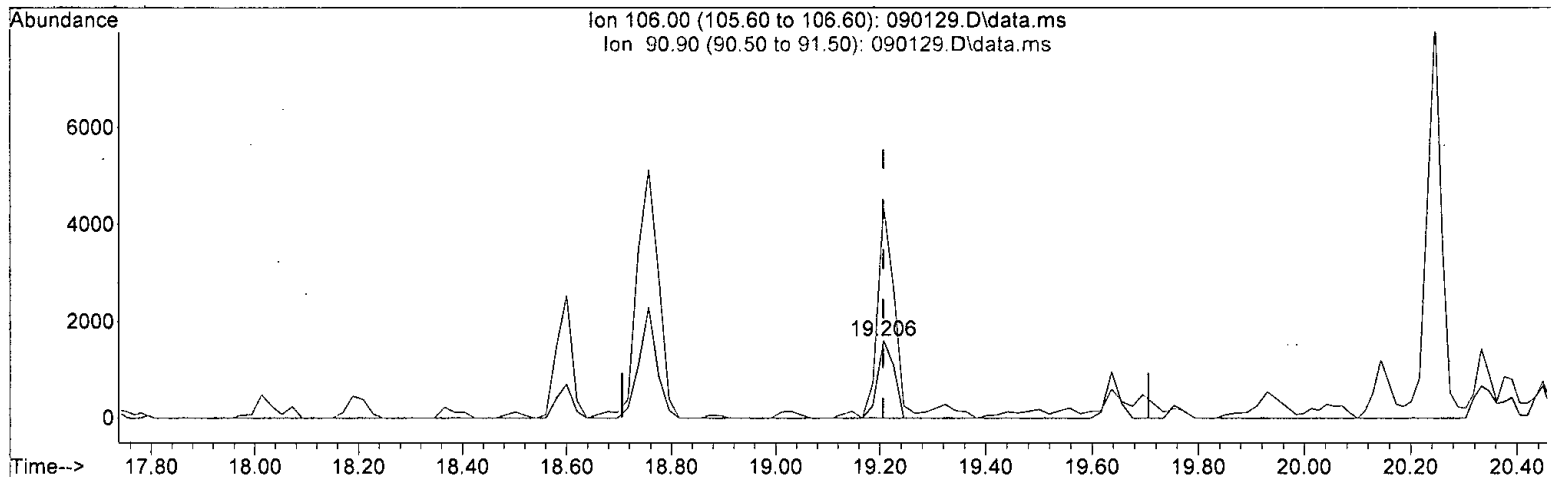
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	223.84
0.00	0.00	0.00
0.00	0.00	0.00

*Bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:24:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

19.206min (-0.000) 0.597 ug/m3 m

response 3450

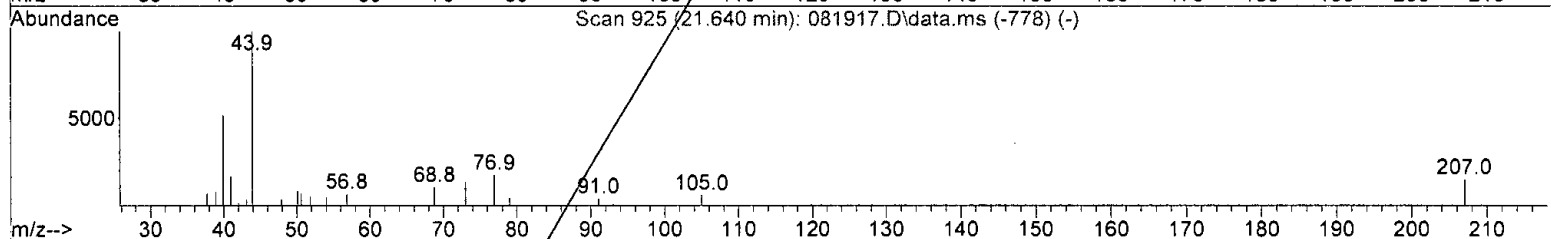
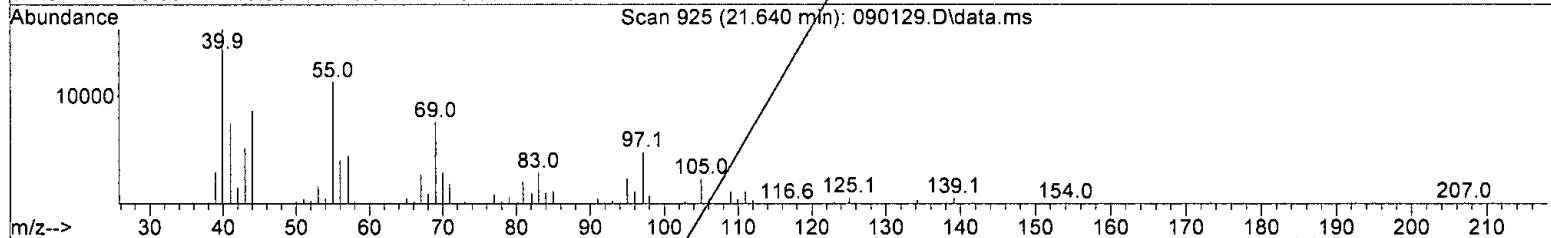
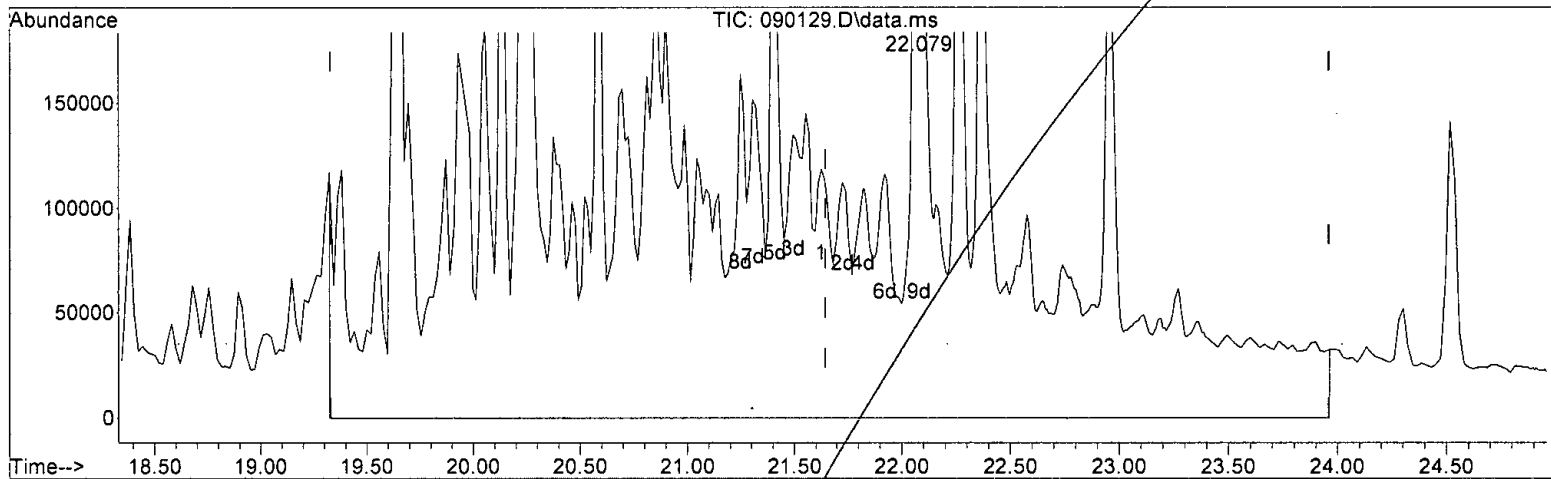
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	274.88#
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: N. B. B. B.*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:24:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 298.475 ug/m3 m

response 12524945

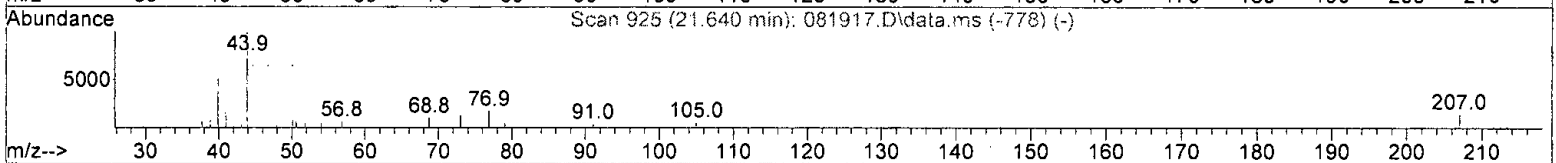
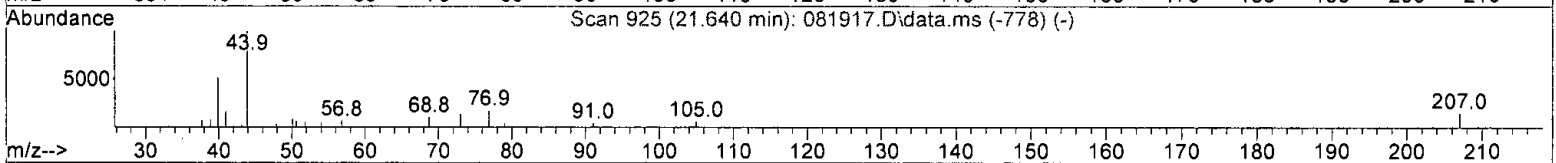
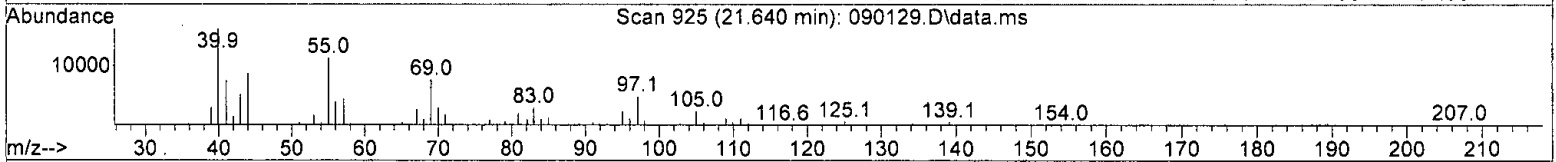
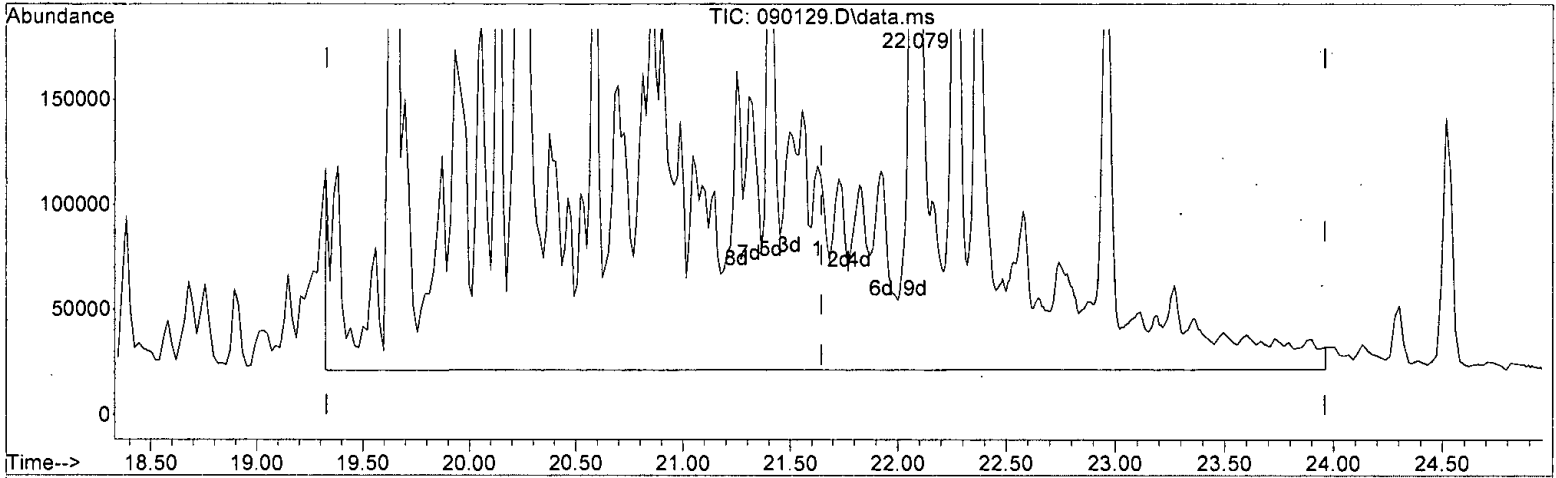
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*N 09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:24:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast.Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090129.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 605.919 ug/m3 m

response 25426279

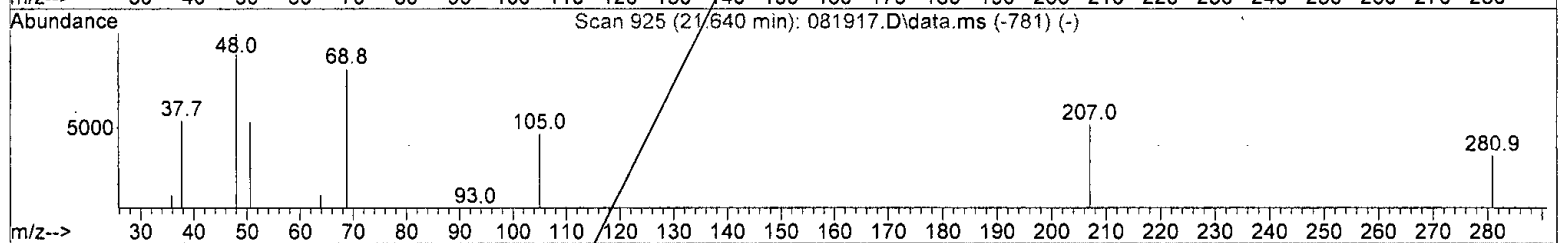
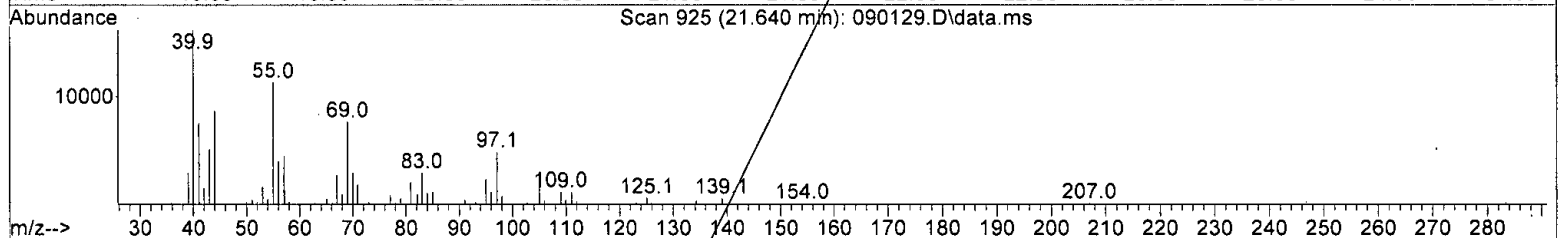
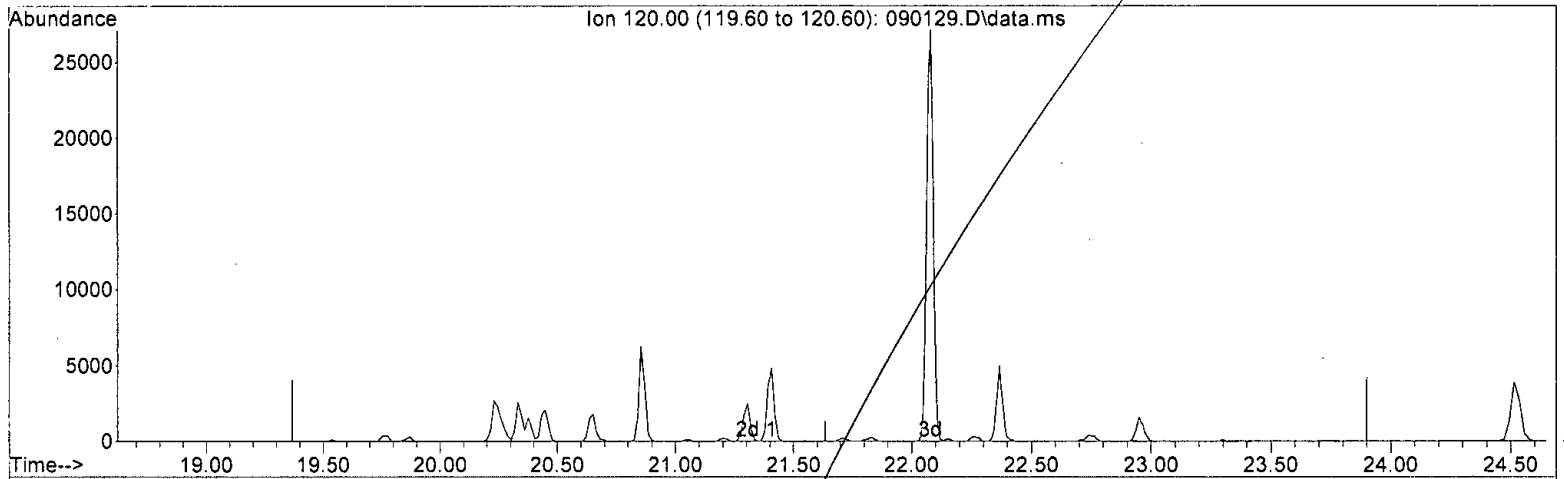
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*U. Gorkun*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:24:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)  
 21.635min ( 0.000) 7.392 ug/m3/m  
 response 36114

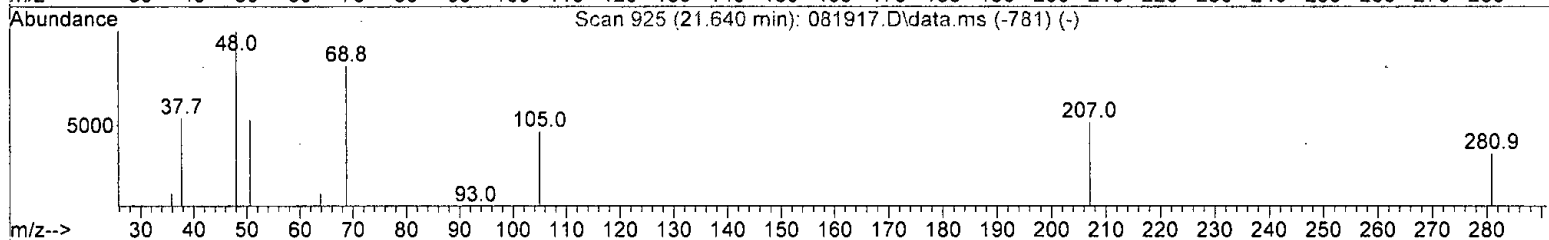
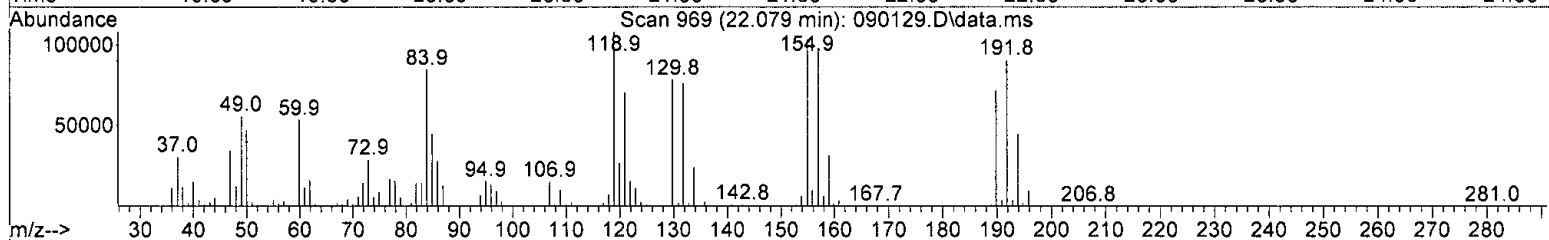
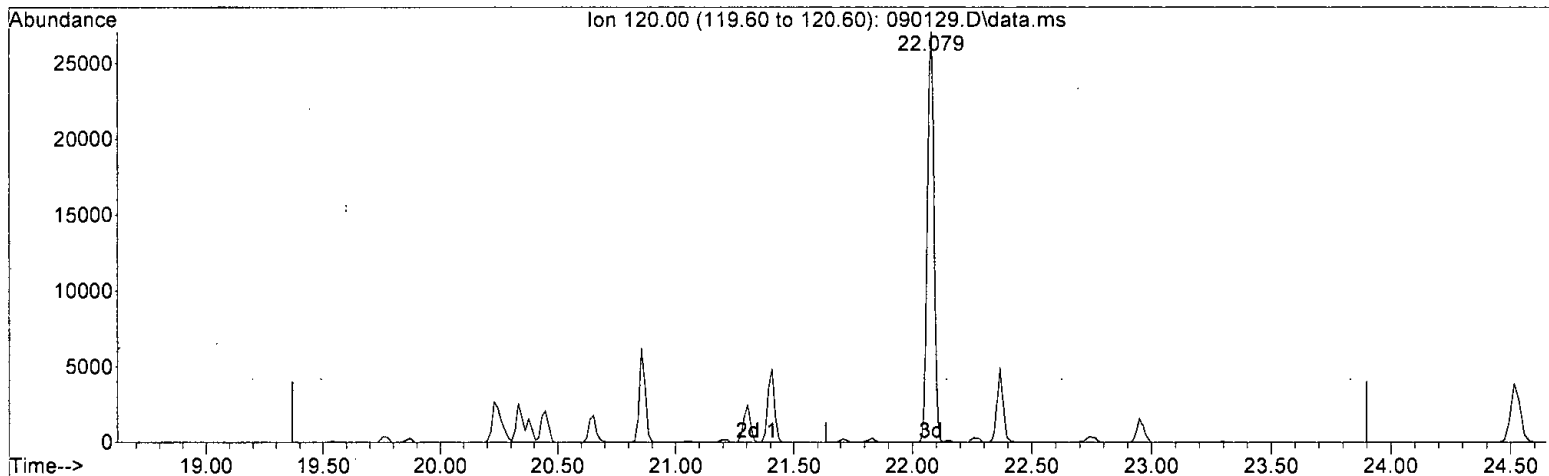
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature and date: M / 09/03/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:24:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090129.D\data.ms

(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 29.340 ug/m3 m

response 143346

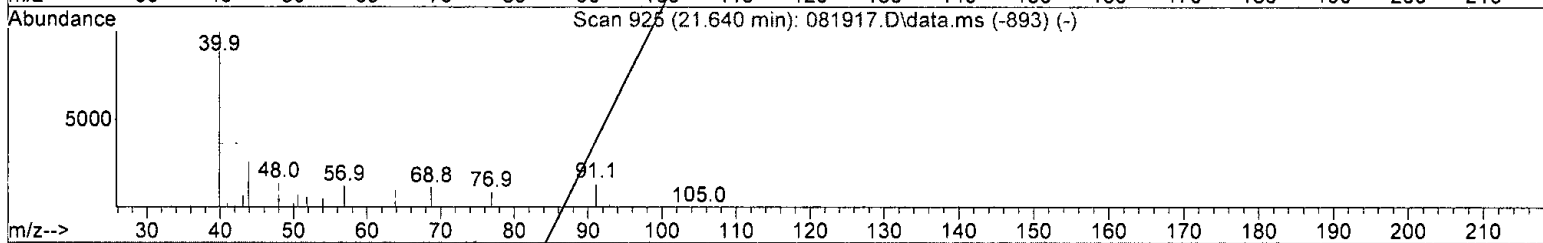
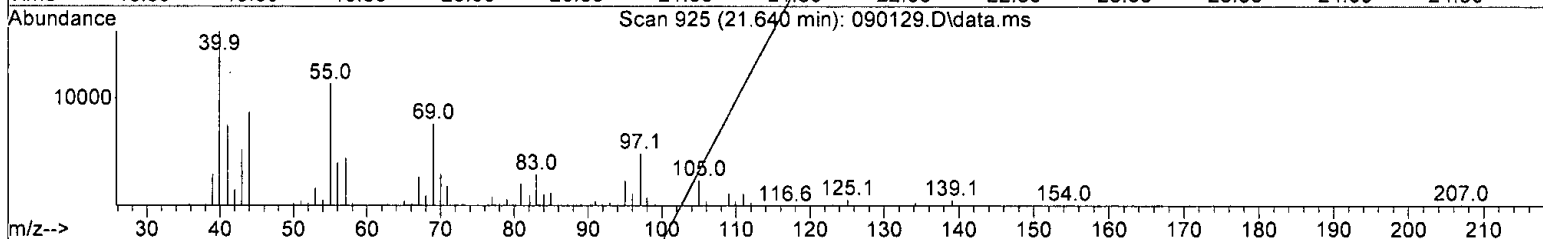
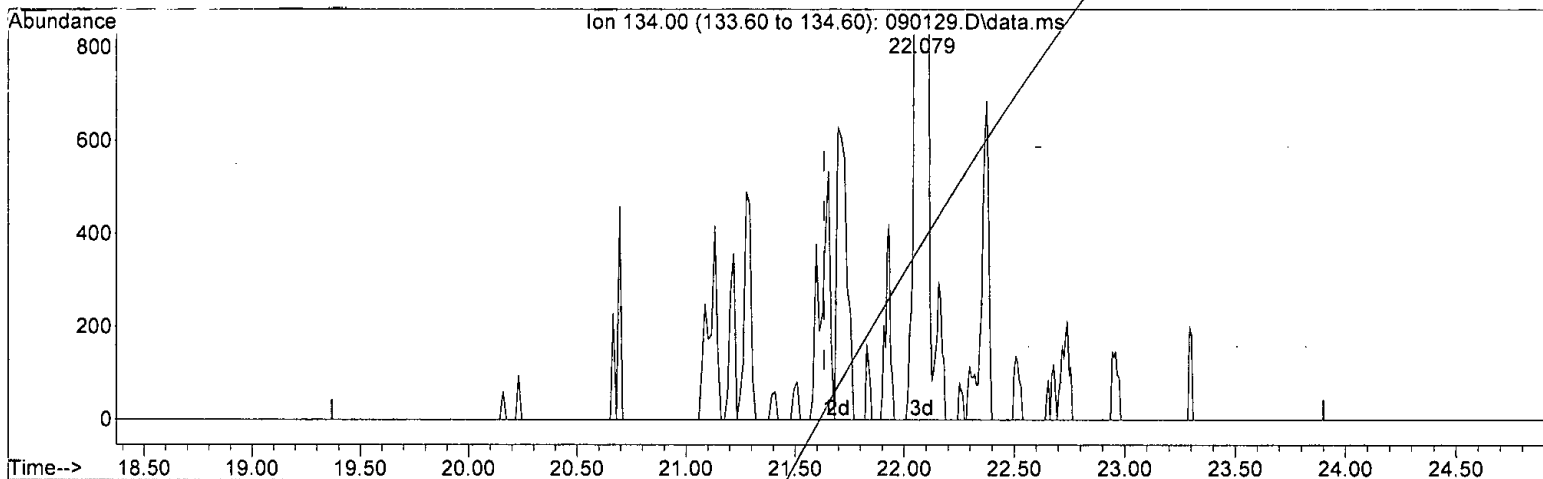
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* W. 09/03/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:24:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) -9.400 ug/m3 m

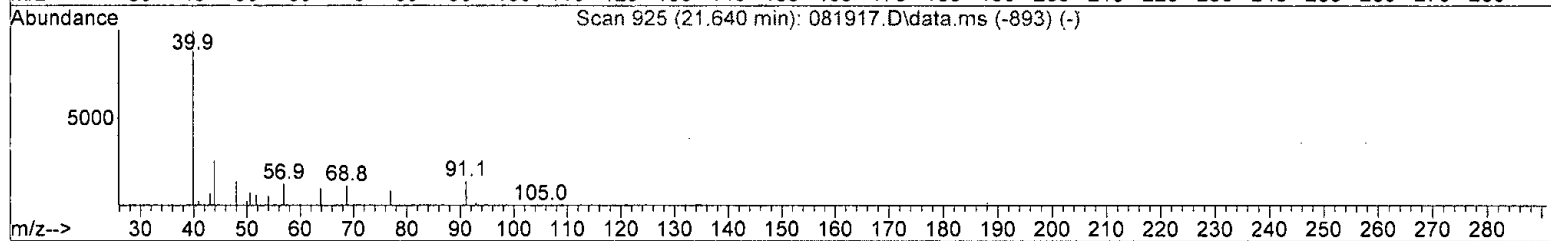
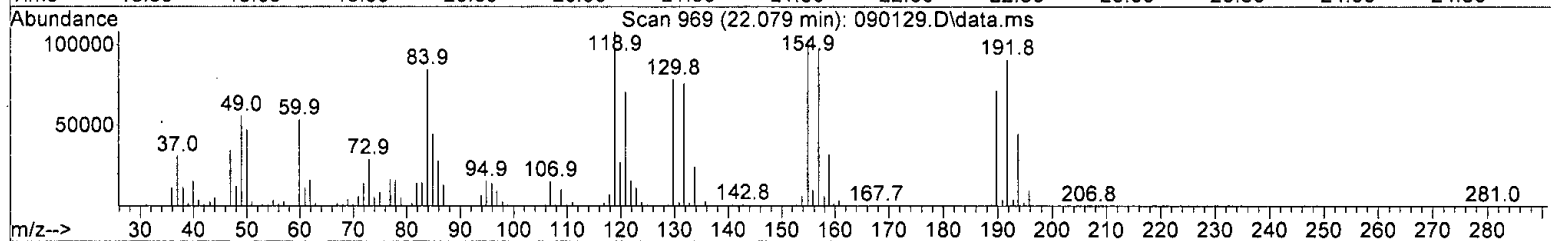
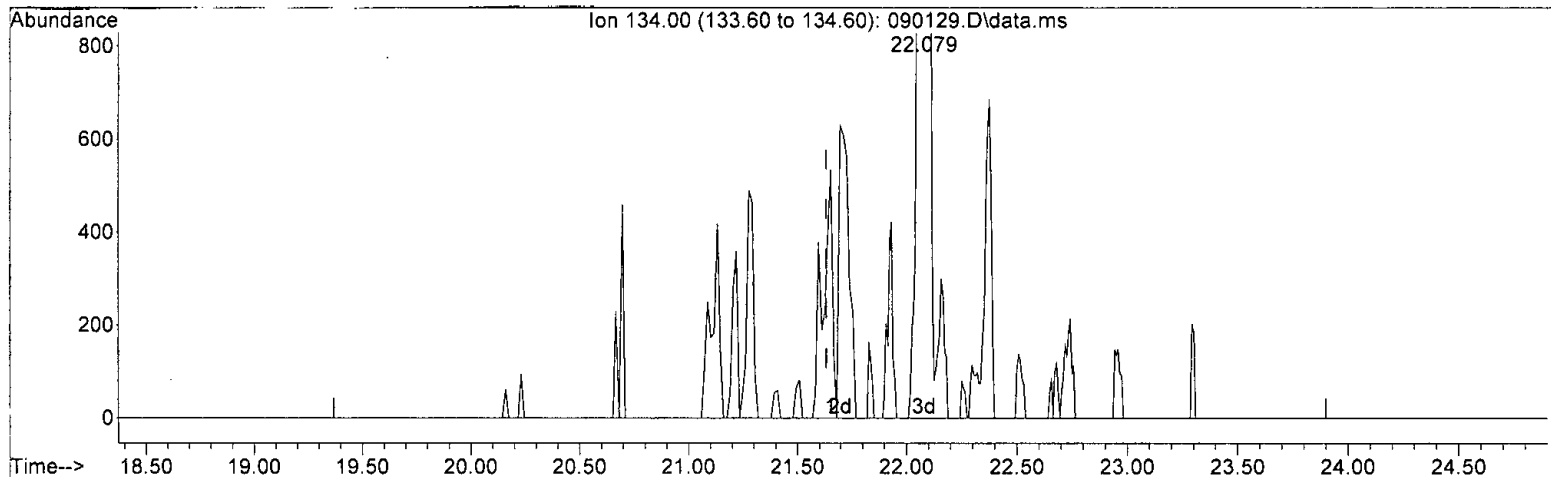
response -26158

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*M. B. B. B.*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:24:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090129.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 30.156 ug/m3 m

response 83918

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h  
09/03/21*



LSC Area Percent Report

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1

Integration Parameters: rteint.p  
 Integrator: RTE  
 Smoothing : OFF  
 Sampling : 1  
 Start Thrs: 0.2  
 Stop Thrs : 0

Filtering: 5  
 Min Area: 1 % of largest Peak  
 Max Peaks: 100  
 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >  
 Peak separation: 5

Method : F:\METHODS\Inst7\0819APH7.M  
 Title : APH TO-15 method

Signal : TIC: 090129.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	8.723	189	192	197	rVB	65345	264078	1.21%	0.472%
2	9.721	230	235	244	rVV	1422919	4857092	22.19%	8.681%
3	9.972	244	249	253	rVV	259514	917003	4.19%	1.639%
4	10.472	273	277	283	rVB	521611	1804277	8.24%	3.225%
5	13.214	490	497	503	rBV	396076	1293426	5.91%	2.312%
6	14.211	538	541	544	rBV	679196	1875117	8.57%	3.351%
7	17.575	679	683	688	rBV	10364096	21888613	100.00%	39.121%
8	17.742	692	696	707	rVB	3004215	7233965	33.05%	12.929%
9	18.150	714	719	720	rBV	344105	981097	4.48%	1.753%
10	18.209	720	722	724	rVV	614387	1491003	6.81%	2.665%
11	19.324	772	779	780	rBV2	80956	344597	1.57%	0.616%
12	19.382	780	782	787	rVB	86655	229010	1.05%	0.409%
13	19.637	793	795	797	rBV	922947	1832074	8.37%	3.274%
14	19.695	797	798	801	rVB	111164	223448	1.02%	0.399%
15	19.872	801	807	808	rBV3	84265	286414	1.31%	0.512%
16	19.930	808	810	813	rVB4	117728	349322	1.60%	0.624%
17	20.057	813	816	819	rBV3	130578	353935	1.62%	0.633%
18	20.129	819	821	824	rVB	225434	463063	2.12%	0.828%
19	20.231	824	828	830	rBV3	336421	912735	4.17%	1.631%
20	20.274	830	831	836	rVV4	228392	334205	1.53%	0.597%
21	20.594	850	853	855	rVB	198929	424421	1.94%	0.759%
22	20.696	855	860	865	rBV2	92103	391663	1.79%	0.700%
23	20.855	869	871	873	rVV2	128102	291066	1.33%	0.520%
24	21.248	893	898	900	rBV	97220	240283	1.10%	0.429%
25	21.306	900	902	906	rVV4	82569	267494	1.22%	0.478%
26	21.407	906	909	912	rVV3	241797	515674	2.36%	0.922%
27	21.495	912	915	918	rVV2	61389	249964	1.14%	0.447%
28	22.079	959	969	978	rBV	1597361	3388560	15.48%	6.056%
29	22.265	986	993	1000	rBV	285644	697137	3.18%	1.246%
30	22.367	1000	1006	1017	rVB5	265551	678572	3.10%	1.213%
31	22.958	1075	1082	1090	rVB8	185950	521378	2.38%	0.932%
32	24.515	1187	1190	1195	rVB	118181	351052	1.60%	0.627%

Sum of corrected areas: 55951738

Signal : TIC: 090129.D\datasim.ms

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1

Integration Parameters: rteint.p  
 Integrator: RTE  
 Smoothing : OFF Filtering: 5  
 Sampling : 1 Min Area: 1 % of largest Peak  
 Start Thrs: 0.2 Max Peaks: 100  
 Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >  
 Peak separation: 5

Method : F:\METHODS\Inst7\0819APH7.M  
 Title : APH TO-15 method

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
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No peaks were detected using the above RTE integration parameters!

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1

Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
 Peak Number 1 Pentane, 2-methyl- Concentration Rank 11

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.72	14.40 ug/m3	264078	Bromochloromethane	9.97

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		Pentane, 2-methyl-	86	C6H14	000107-83-5	78
2		Pentane, 2-bromo-	150	C5H11Br	000107-81-3	72
3		1-Propanol, 2-methyl-	74	C4H10O	000078-83-1	53
4		Butane, 2,3-dimethyl-	86	C6H14	000079-29-8	53
5		Pentane	72	C5H12	000109-66-0	36

\*\*\*\*\*  
 Peak Number 2 Ethene, 1,2-dichloro-, (E)- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.72	264.83 ug/m3	4857090	Bromochloromethane	9.97

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		Ethene, 1,2-dichloro-, (E)-	96	C2H2Cl2	000156-60-5	94
2		Ethene, 1,2-dichloro-, (Z)-	96	C2H2Cl2	000156-59-2	91
3		Ethene, 1,1-dichloro-	96	C2H2Cl2	000075-35-4	90
4		Propanoic acid, 2,2,3-trichloro-	176	C3H3Cl3O2	003278-46-4	72
5		Cyanogen chloride	61	CClN	000506-77-4	9

\*\*\*\*\*  
 Peak Number 3 1,3-Butadiene, 2-chloro- Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.47	98.38 ug/m3	1804280	Bromochloromethane	9.97

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		1,3-Butadiene, 2-chloro-	88	C4H5Cl	000126-99-8	94
2		1-CHLORO-2-METHYLENECYCLOPROPANE	88	C4H5Cl	000000-00-0	91
3		1-Butyne, 3-methyl-	68	C5H8	000598-23-2	45
4		2-Propenenitrile	53	C3H3N	000107-13-1	9
5		2(1H)-Pyridinethione, 3-ethoxy-6...	169	C8H11NOS	040585-12-4	4

\*\*\*\*\*  
 Peak Number 4 Ethene, trichloro- Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.21	72.49 ug/m3	1875120	1,4-Difluorobenzene	13.21

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1

Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P

Hit#	of	Tentative ID	MW	MolForm	CAS#	Qual
1	5	Ethene, trichloro-	130	C2HCl3	000079-01-6	97
2		Benzene, 1-chloro-4-fluoro-	130	C6H4ClF	000352-33-0	27
3		2-Fluoro-5-chloropyrimidine	132	C4H2ClFN2	062802-37-3	25
4		Benzene, 1-chloro-3-fluoro-	130	C6H4ClF	000625-98-9	16
5		Ethyne, chloro-	60	C2HCl	000593-63-5	10

\*\*\*\*\*  
 Peak Number 5 Ethene, tetrachloro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
17.57	734.02 ug/m3	21888600	Chlorobenzene-d5	18.21

Hit#	of	Tentative ID	MW	MolForm	CAS#	Qual
1	5	Ethene, tetrachloro-	164	C2Cl4	000127-18-4	97
2		2,5-Furandione, 3,4-dichloro-	166	C4Cl2O3	001122-17-4	27
3		Pyrimidine, 5-fluoro-2,4-dichloro-	166	C4HCl2FN2	002927-71-1	25
4		Quinazoline, 4-chloro-	164	C8H5ClN2	005190-68-1	9
5		2-Chloroquinoxaline	164	C8H5ClN2	001448-87-9	9

\*\*\*\*\*  
 Peak Number 6 Cyclobutene, 3,4-dichloro- Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
18.15	32.90 ug/m3	981097	Chlorobenzene-d5	18.21

Hit#	of	Tentative ID	MW	MolForm	CAS#	Qual
1	5	Cyclobutene, 3,4-dichloro-	122	C4H4Cl2	041326-64-1	97
2		1,3-Butadiene, 1,4-dichloro-	122	C4H4Cl2	002984-42-1	95
3		2-Butyne, 1,4-dichloro-	122	C4H4Cl2	000821-10-3	91
4		2-Propenenitrile, 2-chloro-	87	C3H2ClN	000920-37-6	32
5		4-Chlorobuten-3-yne	86	C4H3Cl	040589-38-6	10

\*\*\*\*\*  
 Peak Number 7 Decane, 1-fluoro- Concentration Rank 18

R.T.	EstConc	Area	Relative to ISTD	R.T.
19.38	7.68 ug/m3	229010	Chlorobenzene-d5	18.21

Hit#	of	Tentative ID	MW	MolForm	CAS#	Qual
1	5	Decane, 1-fluoro-	160	C10H21F	000334-56-5	50
2		1-Octanol, 2-butyl-	186	C12H26O	003913-02-8	50
3		Octane, 4-methyl-	128	C9H20	002216-34-4	49

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1

Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P

4 Silane, trichloroeicosyl-	414	C20H41Cl3Si	018733-57-8	45
5 3-Octadecenal	266	C18H34O	056554-99-5	43

\*\*\*\*\*  
 Peak Number 8 2-Pentene, 3-ethyl-4,4-dime... Concentration Rank 19

R.T.	EstConc	Area	Relative to ISTD	R.T.
19.70	7.49 ug/m3	223448	Chlorobenzene-d5	18.21

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Pentene, 3-ethyl-4,4-dimethyl-	126	C9H18	053907-59-8	50
2	4-Hepten-3-one, 4-methyl-	126	C8H14O	022319-31-9	47
3	4-Hexen-3-one, 4,5-dimethyl-	126	C8H14O	017325-90-5	47
4	Cyclohexane, 1,1-dimethyl-	112	C8H16	000590-66-9	38
5	Cyclohexane, 1-ethyl-2-methyl-, ...	126	C9H18	004923-77-7	38

\*\*\*\*\*  
 Peak Number 9 Acetic acid, chloro- Concentration Rank 16

R.T.	EstConc	Area	Relative to ISTD	R.T.
19.87	9.60 ug/m3	286414	Chlorobenzene-d5	18.21

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Acetic acid, chloro-	94	C2H3ClO2	000079-11-8	27
2	Acetaldehyde, chloro-	78	C2H3ClO	000107-20-0	27
3	1,3-Butadiyne	50	C4H2	000460-12-8	16
4	Acetic acid, chlorodifluoro-, et...	158	C4H5ClF2O2	000383-62-0	9
5	Propane, 2,2-dibromo-	200	C3H6Br2	000594-16-1	9

\*\*\*\*\*  
 Peak Number 10 3,4-Nonadiene Concentration Rank 15

R.T.	EstConc	Area	Relative to ISTD	R.T.
19.93	11.71 ug/m3	349322	Chlorobenzene-d5	18.21

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	3,4-Nonadiene	124	C9H16	037050-03-6	64
2	4-Octyne	110	C8H14	001942-45-6	53
3	4,5-Nonadiene	124	C9H16	000821-74-9	53
4	1,4-Pentadiene, 3-propyl-	110	C8H14	000996-83-8	50
5	Cyclopentene, 1-ethyl-	96	C7H12	002146-38-5	50

\*\*\*\*\*  
 Peak Number 11 Cyclohexane, (2-methylpropyl)- Concentration Rank 13

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1

Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.06	11.87 ug/m3	353935	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		Cyclohexane, (2-methylpropyl)-	140	C10H20	001678-98-4	50
2		Cycloheptanone, 4-methyl-, (R)-	126	C8H14O	013609-59-1	43
3		Cyclohexane, 2-propenyl-	124	C9H16	002114-42-3	43
4		Cyclohexane, 1-propenyl-	124	C9H16	005364-83-0	43
5		Cyclopentane, 1-methyl-3-(1-meth...	126	C9H18	053771-88-3	42

\*\*\*\*\*  
 Peak Number 12 2-Decene, 5-methyl-, (Z)- Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.13	15.53 ug/m3	463063	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		2-Decene, 5-methyl-, (Z)-	154	C11H22	074645-86-6	56
2		Ether, tert-butyl isopropylidene...	154	C10H18O	024524-56-9	47
3		Octane, 3-methyl-	128	C9H20	002216-33-3	45
4		Butane, 1-isocyanato-	99	C5H9NO	000111-36-4	43
5		1-Hexene, 3,5,5-trimethyl-	126	C9H18	004316-65-8	43

\*\*\*\*\*  
 Peak Number 13 Cyclohexane, 1,1,2,3-tetram... Concentration Rank 12

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.59	14.23 ug/m3	424421	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		Cyclohexane, 1,1,2,3-tetramethyl-	140	C10H20	006783-92-2	72
2		1-Octene, 3,3-dimethyl-	140	C10H20	074511-51-6	53
3		Cyclohexane, 1,2,3-trimethyl-	126	C9H18	001678-97-3	50
4		1-Hexene, 3,3,5-trimethyl-	126	C9H18	013427-43-5	45
5		2-Octene, 2,6-dimethyl-	140	C10H20	004057-42-5	45

\*\*\*\*\*  
 Peak Number 14 Cyclooctane, 1,4-dimethyl-,... Concentration Rank 17

R.T.	EstConc	Area	Relative to ISTD	R.T.
21.49	8.38 ug/m3	249964	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
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Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1

Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P

1	Cyclooctane, 1,4-dimethyl-, trans-	140	C10H20	013151-98-9	43
2	3-Dodecene, (E)-	168	C12H24	007206-14-6	38
3	3-Tetradecene, (E)-	196	C14H28	041446-68-8	38
4	Cyclopropane, 1-butyl-2-pentyl-, ...	168	C12H24	074663-88-0	38
5	2-Dodecene, (E)-	168	C12H24	007206-13-5	38

\*\*\*\*\*  
 Peak Number 15 1,3-Butadiene, 1,1,3,4-tetr... Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.08	113.63 ug/m3	3388560	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		1,3-Butadiene, 1,1,3,4-tetrachloro-	190	C4H2Cl4	042769-38-0	30
2		1,3-Benzenediol, 4,6-dichloro-2-...	192	C7H6Cl2O2	052956-21-5	30
3		Benzaldehyde, 4-chloro-, oxime	155	C7H6ClNO	003848-36-0	9
4		Phenol, 2,4-dichloro-3,5-dimethyl-	190	C8H8Cl2O	000133-53-9	9
5		Anthracene, 2-methyl-	192	C15H12	000613-12-7	7

\*\*\*\*\*  
 Peak Number 16 Ethane, hexachloro- Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.27	23.38 ug/m3	697137	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		Ethane, hexachloro-	234	C2Cl6	000067-72-1	59
2		Methanesulfonyl chloride, trichl...	216	CCl4O2S	002547-61-7	25
3		Methane, tetrachloro-	152	CCl4	000056-23-5	22
4		Methane, trichloronitro-	163	CCl3NO2	000076-06-2	16
5		Acetic acid, trichloro-, anhydride	306	C4Cl6O3	004124-31-6	16

\*\*\*\*\*  
 Peak Number 17 1,3-Butadiene, 1,1,3,4-tetr... Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.37	22.76 ug/m3	678572	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		1,3-Butadiene, 1,1,3,4-tetrachloro-	190	C4H2Cl4	042769-38-0	89
2		1,3-Benzenediol, 4,6-dichloro-2-...	192	C7H6Cl2O2	052956-21-5	12
3		Benzaldehyde, 3-chloro-, oxime	155	C7H6ClNO	034158-71-9	9
4		1-Propene, bromochlorodifluoro-	190	C3H2BrClF2	072403-20-4	9
5		3-Penten-2-one, 4-chloro-1,1,1,5...	226	C5HClF6O	056666-71-8	9

Data Path : F:\Proc\_GCMS7\09-01-21\  
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 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1

Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
 Peak Number 18 1,3-Butadiene, pentachloro- Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.96	17.48 ug/m3	521378	Chlorobenzene-d5	18.21

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1,3-Butadiene, pentachloro-	224	C4HCl5	055880-77-8	94
2	Methane, tribromofluoro-	268	CB <sub>3</sub> F	000353-54-8	25
3	1,4-Benzoxazepin-5(2H)-one, 3,4-...	189	C <sub>11</sub> H <sub>11</sub> NO <sub>2</sub>	066362-41-2	10
4	Carboxamide, seleno-2-thienyl-	191	C <sub>5</sub> H <sub>5</sub> NSSe	054679-69-5	9
5	Ethanol, 2,2,2-trichloro-	148	C <sub>2</sub> H <sub>3</sub> Cl <sub>3</sub> O	000115-20-8	9

\*\*\*\*\*  
 Peak Number 19 1,3-Butadiene, 1,1,2,3,4,4-... Concentration Rank 14

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.52	11.77 ug/m3	351052	Chlorobenzene-d5	18.21

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1,3-Butadiene, 1,1,2,3,4,4-hexac...	258	C <sub>4</sub> Cl <sub>6</sub>	000087-68-3	99
2	Phenanthrene, 9,10-dihydro-3-nitro-	225	C <sub>14</sub> H <sub>11</sub> NO <sub>2</sub>	018264-83-0	9
3	Selenocyanic acid, p-(sec-butyla...	254	C <sub>11</sub> H <sub>14</sub> N <sub>2</sub> Se	022037-11-2	9
4	6(5H)-Phenanthridinone, 2-methoxy-	225	C <sub>14</sub> H <sub>11</sub> NO <sub>2</sub>	038088-96-9	7
5	4-Isothiazolecarbonitrile, 5-chl...	190	C <sub>5</sub> H <sub>3</sub> ClN <sub>2</sub> S <sub>2</sub>	054798-93-5	5



## Tentatively Identified Compound (LSC) summary

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1

Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P

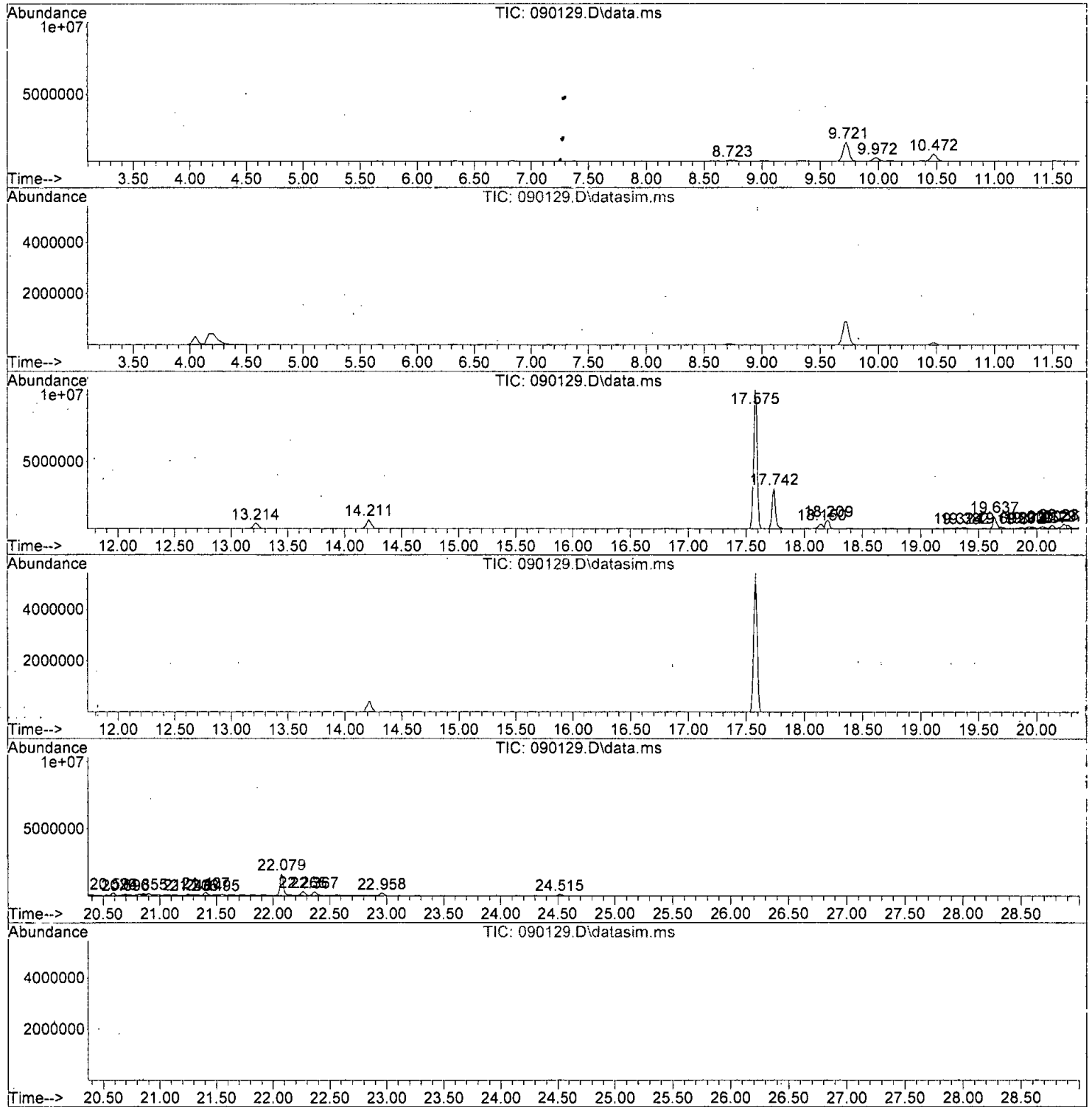
TIC Top Hit name	RT	EstConc	Units	Response	--Internal Standard--			
					#	RT	Resp	Conc
Pentane, 2-methyl-	8.72	14.4	ug/m3	264078	1	9.97	917003	50.0
Ethene, 1,2-dic...	9.72	264.8	ug/m3	4857090	1	9.97	917003	50.0
1,3-Butadiene, ...	10.47	98.4	ug/m3	1804280	1	9.97	917003	50.0
Ethene, trichloro-	14.21	72.5	ug/m3	1875120	2	13.21	1293430	50.0
Ethene, tetrach...	17.57	734.0	ug/m3	21888600	3	18.21	1491000	50.0
Cyclobutene, 3,...	18.15	32.9	ug/m3	981097	3	18.21	1491000	50.0
Decane, 1-fluoro-	19.38	7.7	ug/m3	229010	3	18.21	1491000	50.0
2-Pentene, 3-et...	19.70	7.5	ug/m3	223448	3	18.21	1491000	50.0
Acetic acid, ch...	19.87	9.6	ug/m3	286414	3	18.21	1491000	50.0
3,4-Nonadiene	19.93	11.7	ug/m3	349322	3	18.21	1491000	50.0
Cyclohexane, (2...	20.06	11.9	ug/m3	353935	3	18.21	1491000	50.0
2-Decene, 5-met...	20.13	15.5	ug/m3	463063	3	18.21	1491000	50.0
Cyclohexane, 1,...	20.59	14.2	ug/m3	424421	3	18.21	1491000	50.0
Cyclooctane, 1,...	21.49	8.4	ug/m3	249964	3	18.21	1491000	50.0
1,3-Butadiene, ...	22.08	113.6	ug/m3	3388560	3	18.21	1491000	50.0
Ethane, hexachl...	22.27	23.4	ug/m3	697137	3	18.21	1491000	50.0
1,3-Butadiene, ...	22.37	22.8	ug/m3	678572	3	18.21	1491000	50.0
1,3-Butadiene, ...	22.96	17.5	ug/m3	521378	3	18.21	1491000	50.0
1,3-Butadiene, ...	24.52	11.8	ug/m3	351052	3	18.21	1491000	50.0

LSC Report - Integrated Chromatogram

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1

Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P



Document1 - Microsoft Word

File Edit View Insert Format Tools

GCMSDataTr GCMSDataSort CleanUpQA | CompleteQA QAQCList Paste EmptyNorm

1\_StartQAQC 2\_CompleteQA 3\_TransferData 4\_Select1017TO15 5\_SelectQAAnalytes

Microsoft Excel - TO-15 APH

File Edit View Insert Format Tools Data Window Help

Process Details Anal

B7 =Calculations!C6

	A	B	C	D	E	F	G	H
1	Analysis For Volatile Compounds By Method MA-APH							
2								
3	Client Sample ID:	Client:						
4	Date Received:	Project:						
5	Date Collected:	Lab ID:		108515-02 1/1100				
6	Date Analyzed:	09/02/21 04:10	Data File:	090129.D				
7	Matrix:	Instrument:		GCMS7				
8	Units:	Operator:		bat				
9								
10								
11	Surrogates:	Recovery:						
12	4-Bromofluorobenzene	101						
13								
14			Concentration					
15	Compounds:	ug/m3						
16								
17	APH EC5-8 aliphatics	#DIV/0!						
18	APH EC9-12 aliphatics	#DIV/0!						
19	APH EC9-10 aromatics	#DIV/0!						
20								

Userform7

Sample Info  
1085150211100  
090129.D

### NON-APH PEAKS TO SUBTRACT

	Non-APH Peak #1 Response	Non-APH Peak #2 Response	Non-APH Peak #3 Response
APH EC5-8 Aliphatics	4857090	1875120	21888600
APH EC9-12 Aliphatics			

\*\*After entering all values, hit 'PrtScn' on keyboard, paste into Word, then Print page\*\*

Continue

Userform1

Sample Info  
1085150211100  
090129.D

Flint Hills Report Format

TQP Dilution Factor 1100

Soil (dry wt) Reporting Limit

Water Calculation Factor

Product Surrogate DF 1100

Air Dry Weight 0

TO-15 Sol Gas RL Initial Calib Limit

Reporting Units  Place in RUSH directory

Report to MDL

Report to zcMDL

OK/Continue Cancel



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:26:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	98220	50.000	ug/m3	#-0.02
10) 1,4-Difluorobenzene	13.21	114	463068	50.000	ug/m3	-0.02
20) Chlorobenzene-d5	18.21	117	410143	50.000	ug/m3	# 0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	368859	71.783	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	101.10%

Target Compounds						Qvalue
2) IS-1 Bromochloromethane	9.97	TIC	918325	52.953	ug/m3	84
3) IS-2 1,4-Difluorobenzene	13.21	TIC	1293426	52.547	ug/m3	92
4) IS-3 Chlorobenzene-d5	18.21	TIC	1532415m	51.327	ug/m3	
5) Methylene chloride	6.83	TIC	111404	126.881	ug/m3	92
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.24	54	85401	14.766	ug/m3#	1
9) Methyl t-butyl ether	8.36	73	87	0.011	ug/m3	56
11) Benzene	12.69	78	2814	0.179	ug/m3	81
12) Isopentane	5.66	TIC	153266	4.901	ug/m3	93
13) Hexane	9.97	TIC	913455	29.760	ug/m3	61
14) Cyclohexane	13.21	TIC	1293426	40.239	ug/m3	94
15) 2,3-Dimethylpentane	13.50	TIC	96502	2.353	ug/m3	94
16) Heptane	14.65	TIC	106427	3.175	ug/m3	66
17) Octane	17.74	TIC	6166229	134.147	ug/m3	63
18) APH EC5-8 aliphatics T...	0.00	TIC	8729305m	237.583	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	61061961m	1661.908	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1866535m	53.908	ug/m3	
22) Hexamethylcyclotrisilo...	17.78	TIC	196628m	23.056	ppbv	
23) Octamethylcyclotetrasil...	20.70	TIC	284121m	26.693	ppbv	
24) Toluene	16.39	92	7181	0.816	ug/m3	99
25) Ethylbenzene	18.60	91	5298	0.292	ug/m3	94
26) m,p-Xylene	18.76	106	5401	0.884	ug/m3	96
27) o-Xylene	19.21	106	3450m	0.597	ug/m3	
28) Naphthalene	23.96	128	1193	0.081	ug/m3	49
29) 2,3-Dimethylheptane	18.68	TIC	123892	3.006	ug/m3#	76
30) Nonane	19.32	TIC	344597	8.006	ug/m3	82
31) Decane	20.86	TIC	554129	12.960	ug/m3	82
32) Butylcyclohexane	21.41	TIC	558740	11.503	ug/m3	62
33) Undecane	21.92	TIC	207172	4.885	ug/m3	76
34) Dodecane	23.73	TIC	15540	0.446	ug/m3	85
35) APH EC9-12 aliphatics ...	21.63	TIC	1804070m	42.992	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	25426279m	605.919	ug/m3	
38) Isopropylbenzene	20.23	120	7439	2.312	ug/m3#	1
39) 1-Methyl-3-ethylbenzene	20.65	120	3866	0.859	ug/m3	90
40) 1,3,5-Trimethylbenzene	20.45	120	4533	0.796	ug/m3	90
41) p-Isopropyltoluene	21.28	134	1061	0.379	ug/m3#	1
42) 1,2,3-Trimethylbenzene	21.31	120	4888	0.732	ug/m3#	62
43) APH EC9-10 aromatics T...	21.63	TIC	21787m	4.924	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	143346m	29.340	ug/m3	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

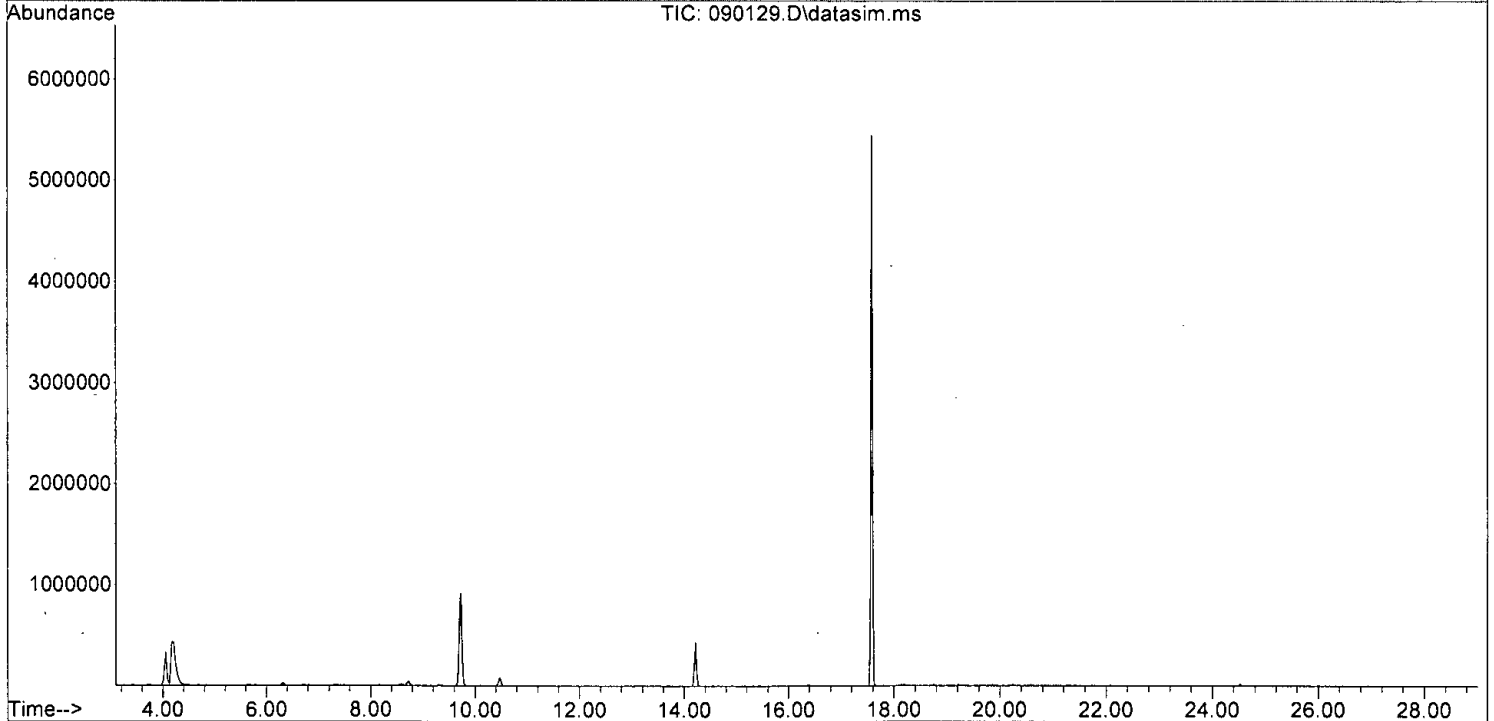
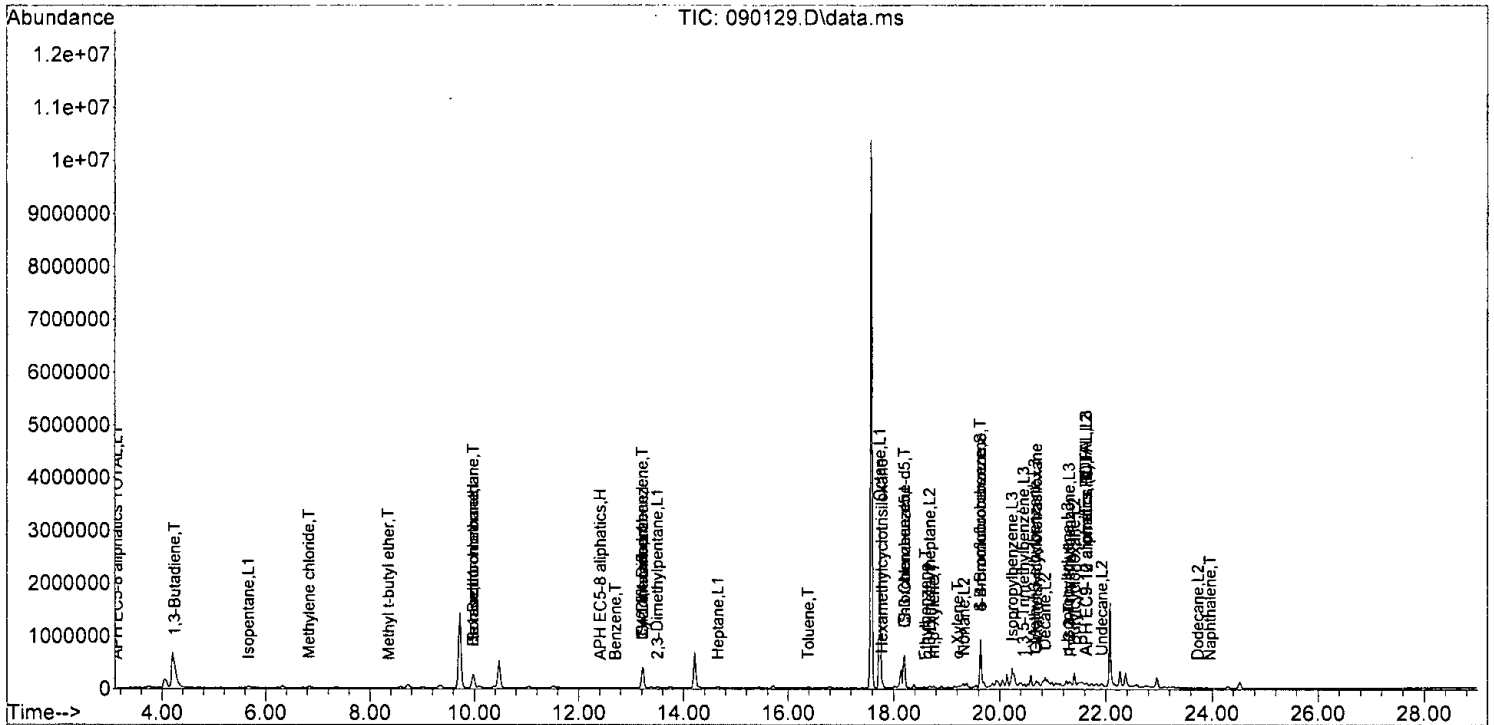
Quant Time: Sep 03 12:26:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	83918m	30.156	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090129.D  
 Acq On : 2 Sep 2021 4:10 am  
 Operator : bat  
 Sample : 108515-02 1/1100  
 Misc : T15  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

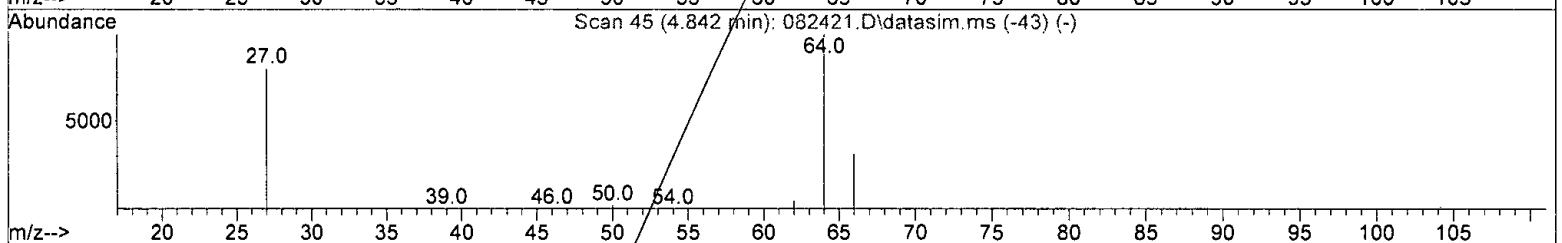
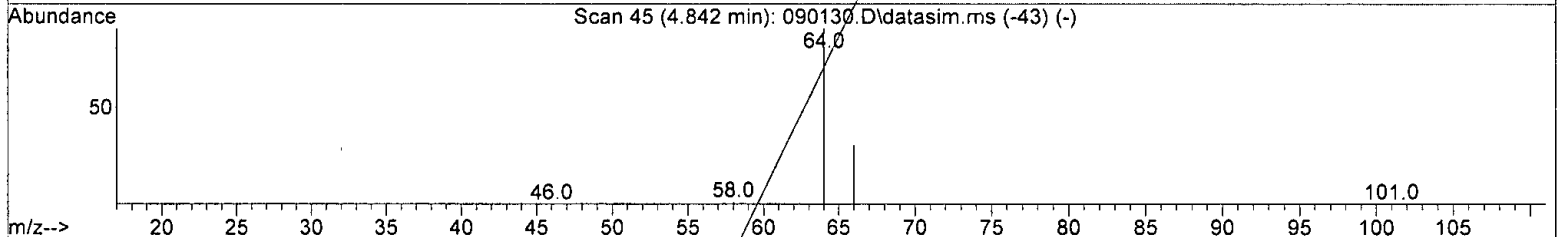
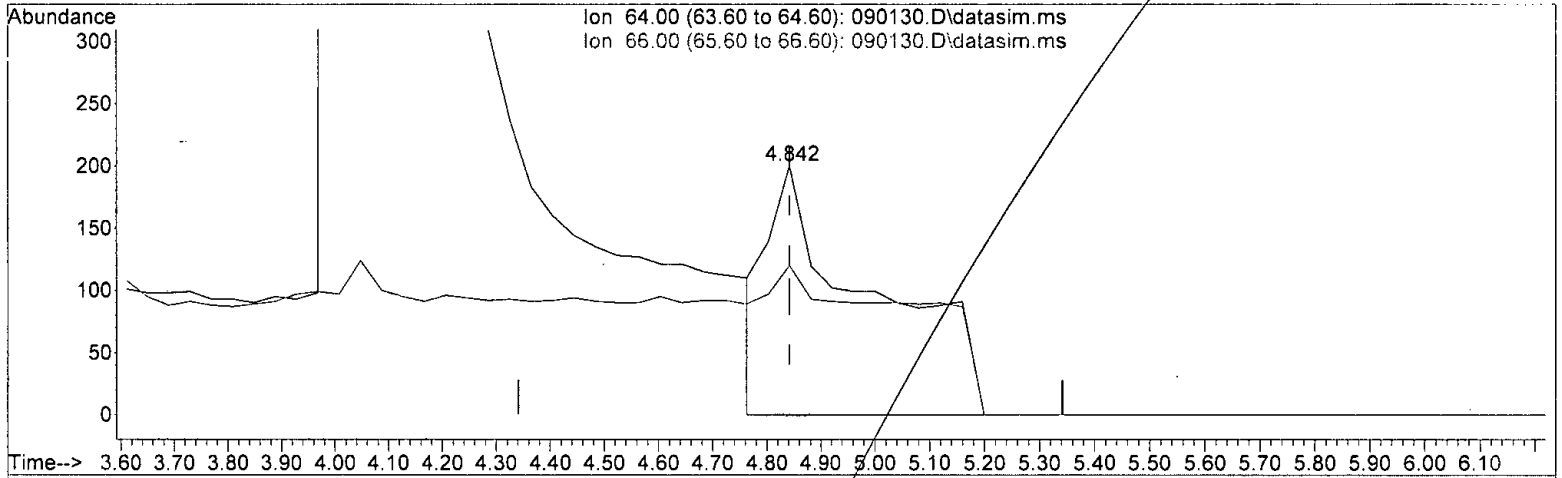
Quant Time: Sep 03 12:26:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:39:42 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090130.D\data.ms

(10) Chloroethane (TMP)

4.842min (-0.000) 0.339 ppbv

response 2541

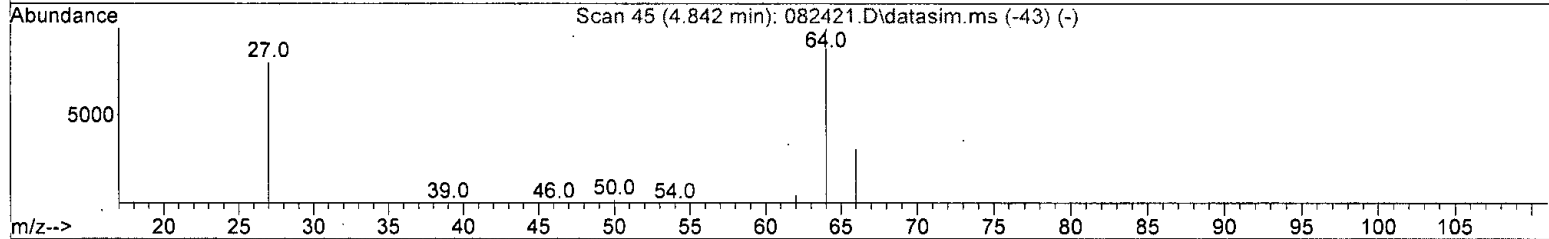
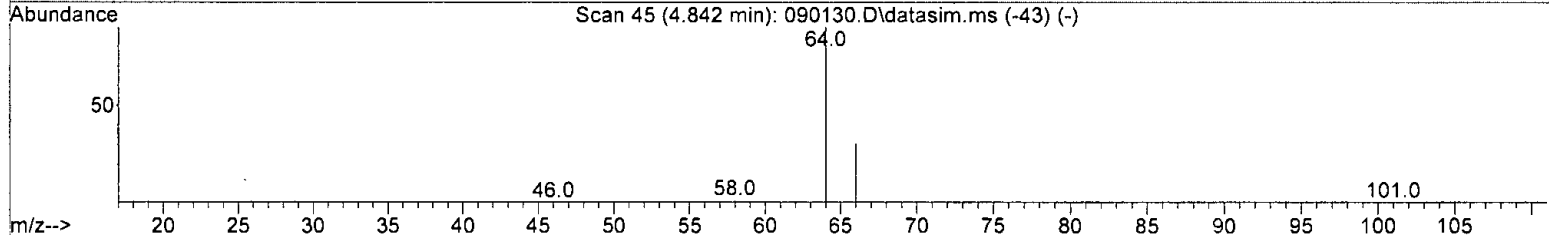
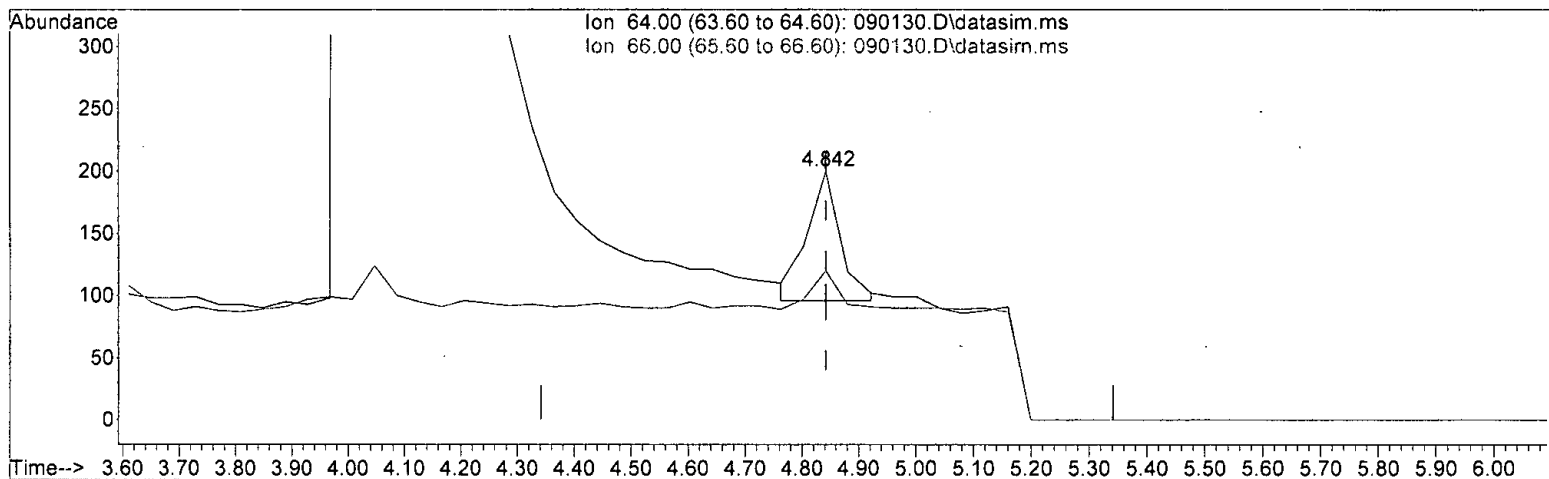
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	60.00
0.00	0.00	0.00
0.00	0.00	0.00

*h*  
*6/2/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:39:42 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (-0.000) 0.056 ppbv m

response 420

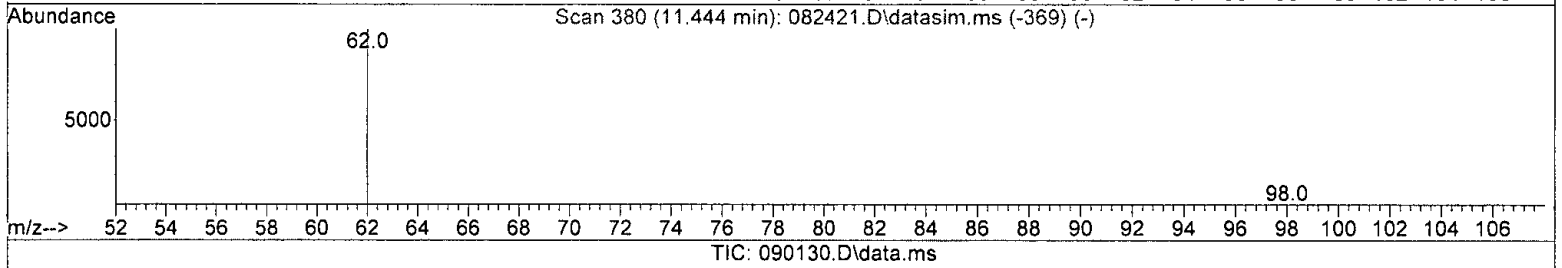
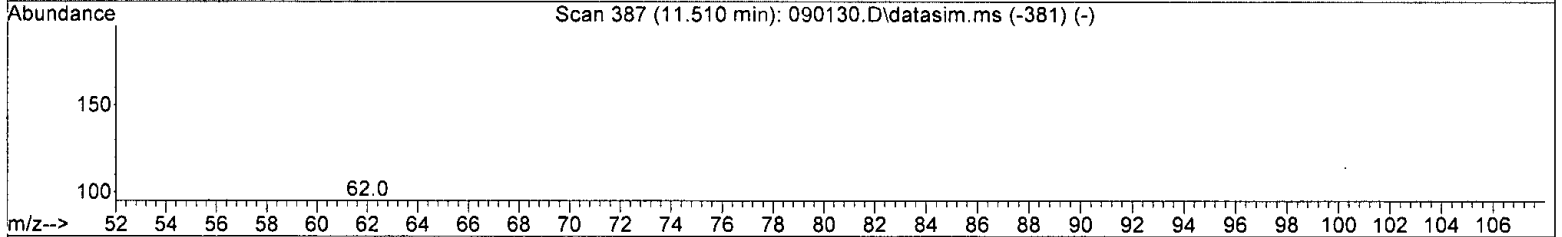
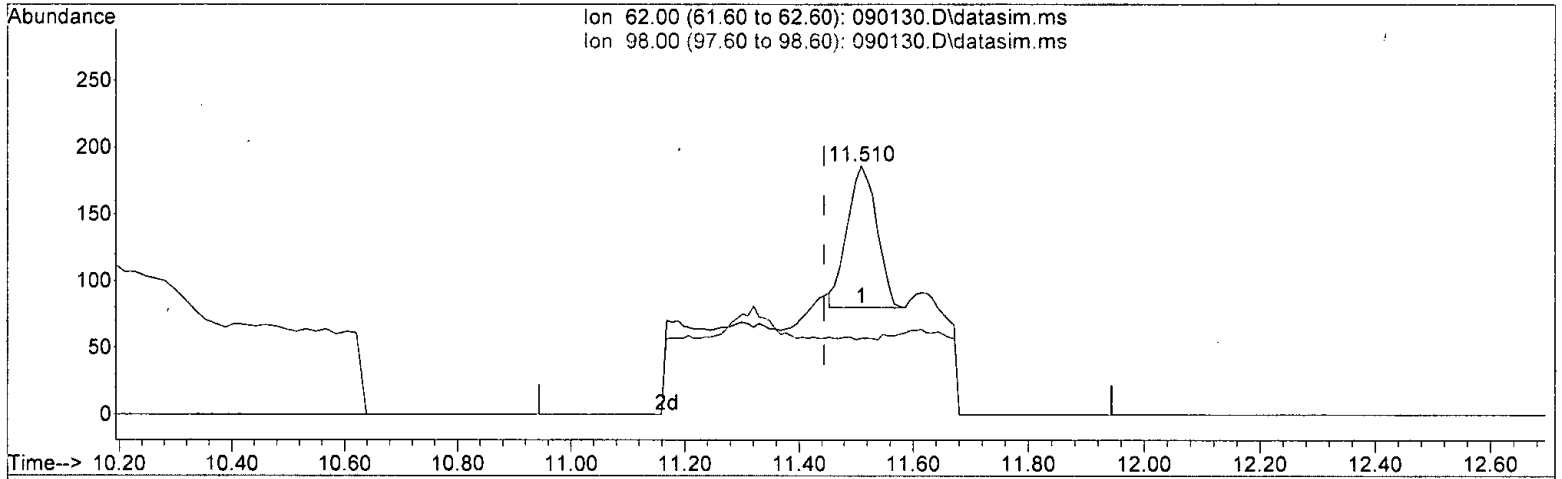
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	60.00
0.00	0.00	0.00
0.00	0.00	0.00

*h  
orlor*



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:39:42 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(34) 1,2-Dichloroethane (EDC) (TMP)

11.510min (+ 0.066) 0.012 ppbv

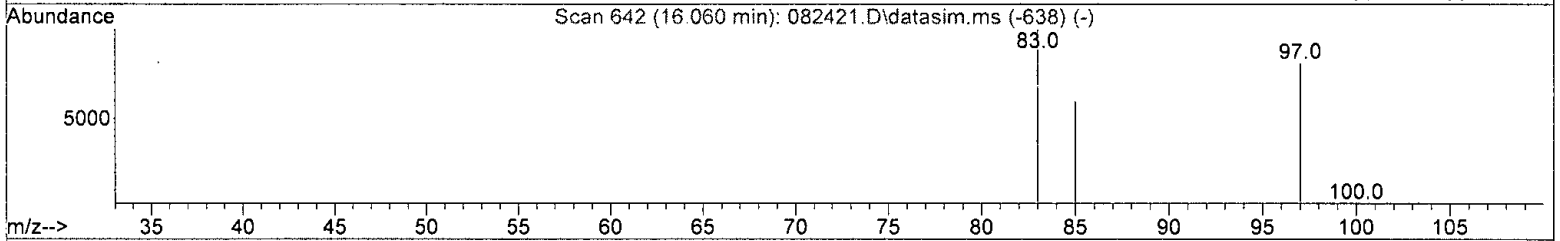
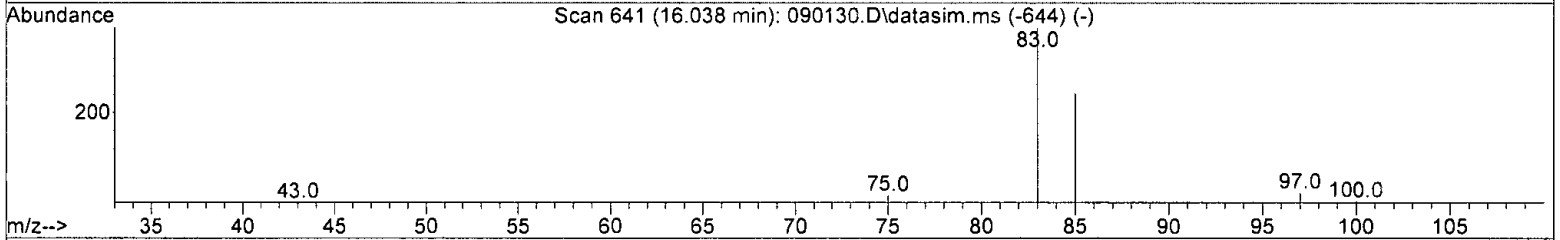
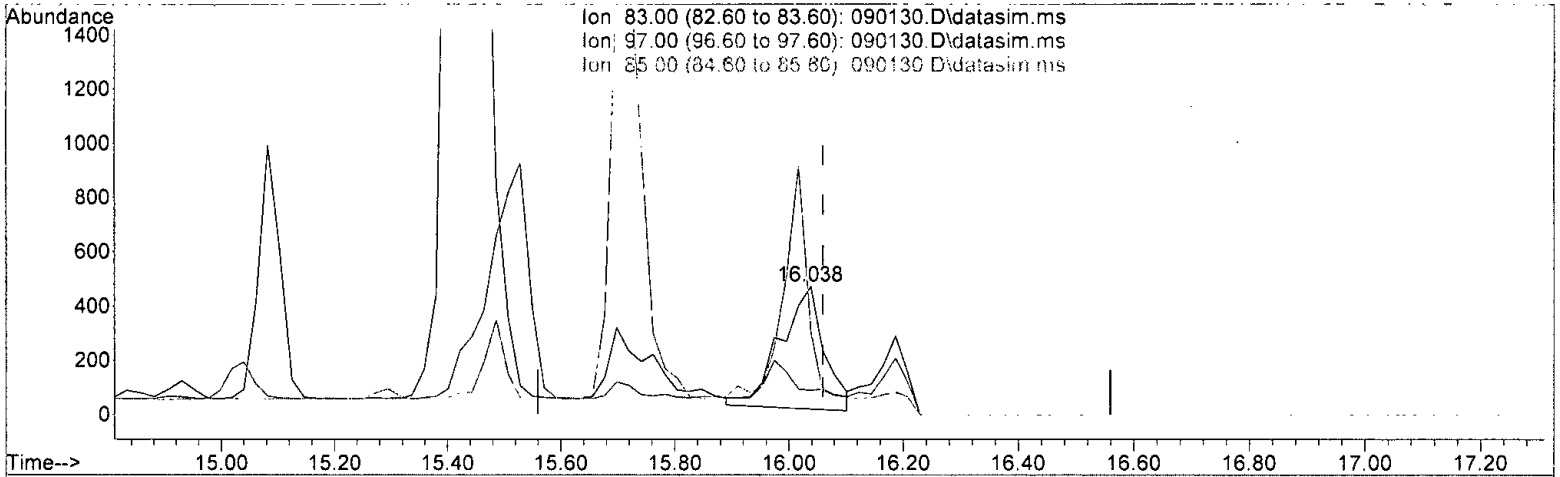
response 380

Ion	Exp%	Act%
62.00	100.00	100.00
98.00	5.30	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:39:42 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090130.D\data.ms

(51) 1,1,2-Trichloroethane (TMP)

16.038min (-0.022) 0.092 ppbv

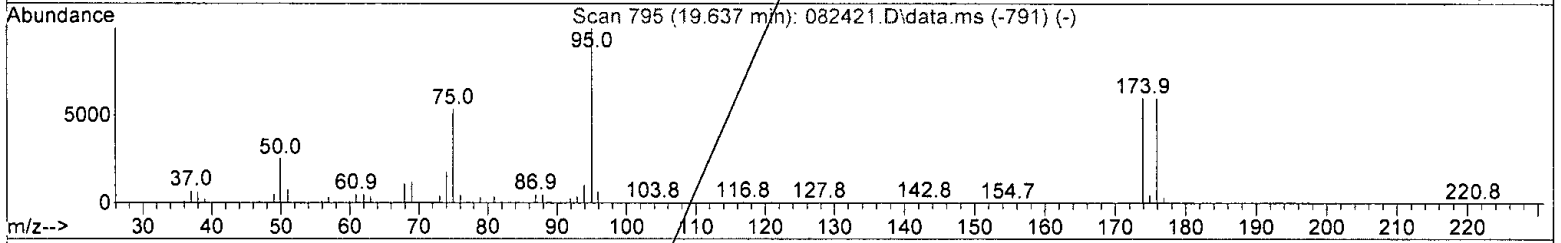
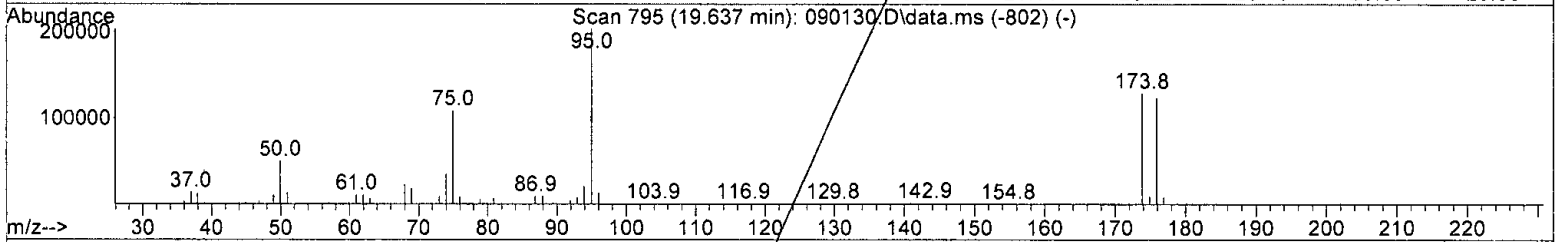
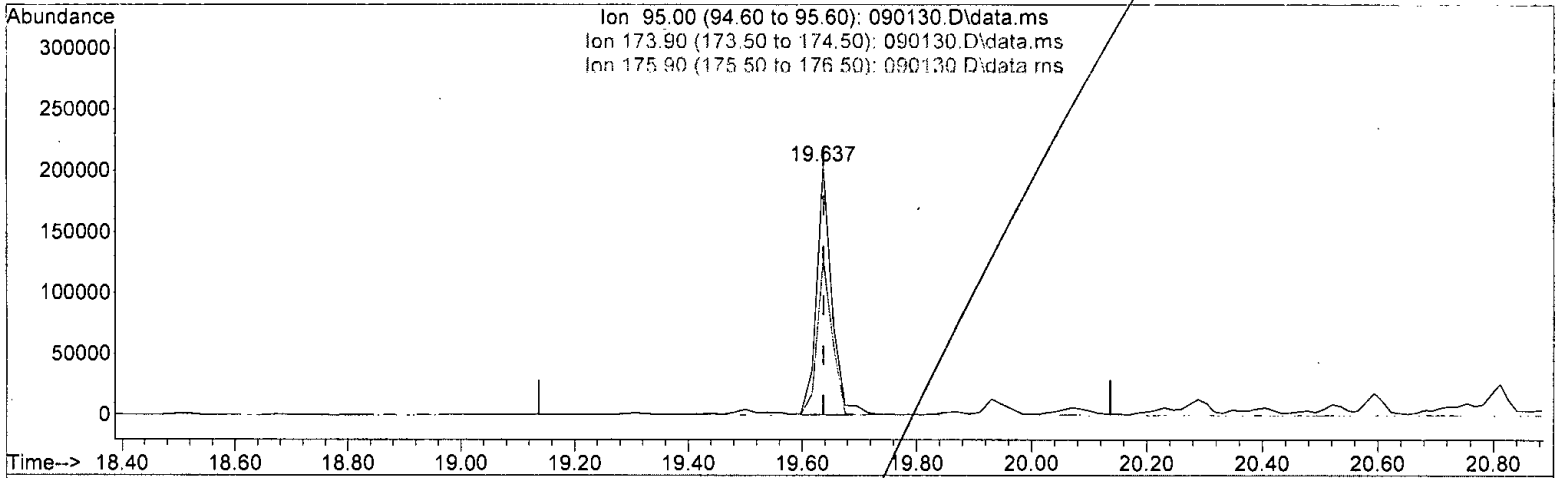
response 2410

Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	7.32#
85.00	60.50	59.02
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:39:42 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(69) 4-Bromofluorobenzene (S)

19.637min (-0.000) 9.957 ppbv

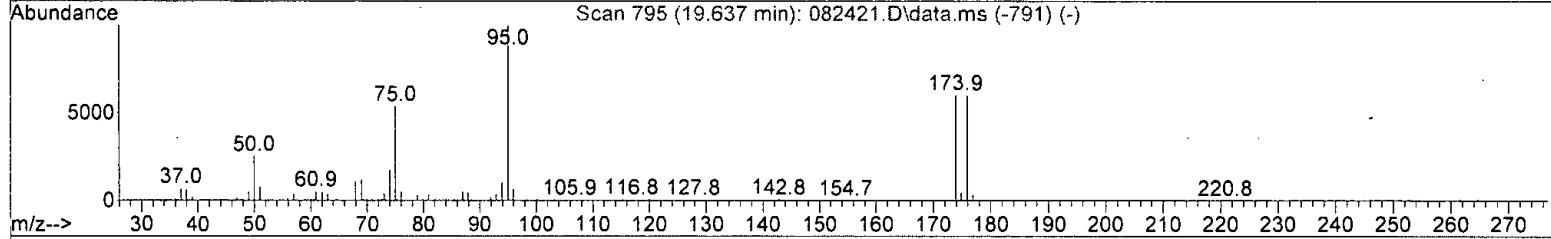
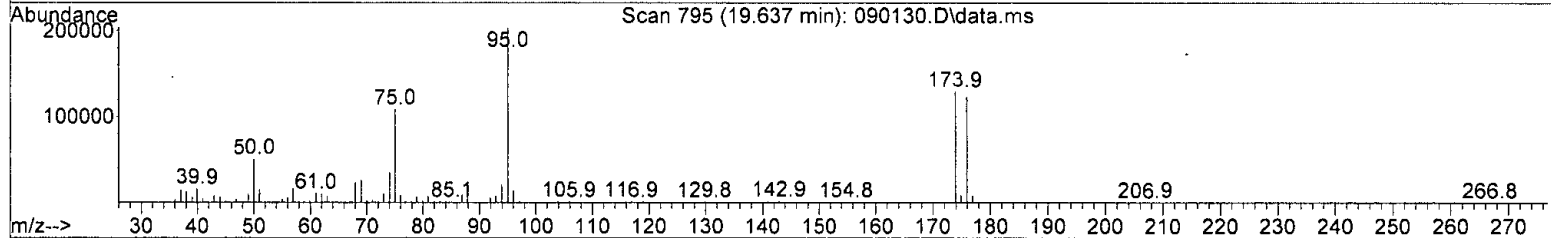
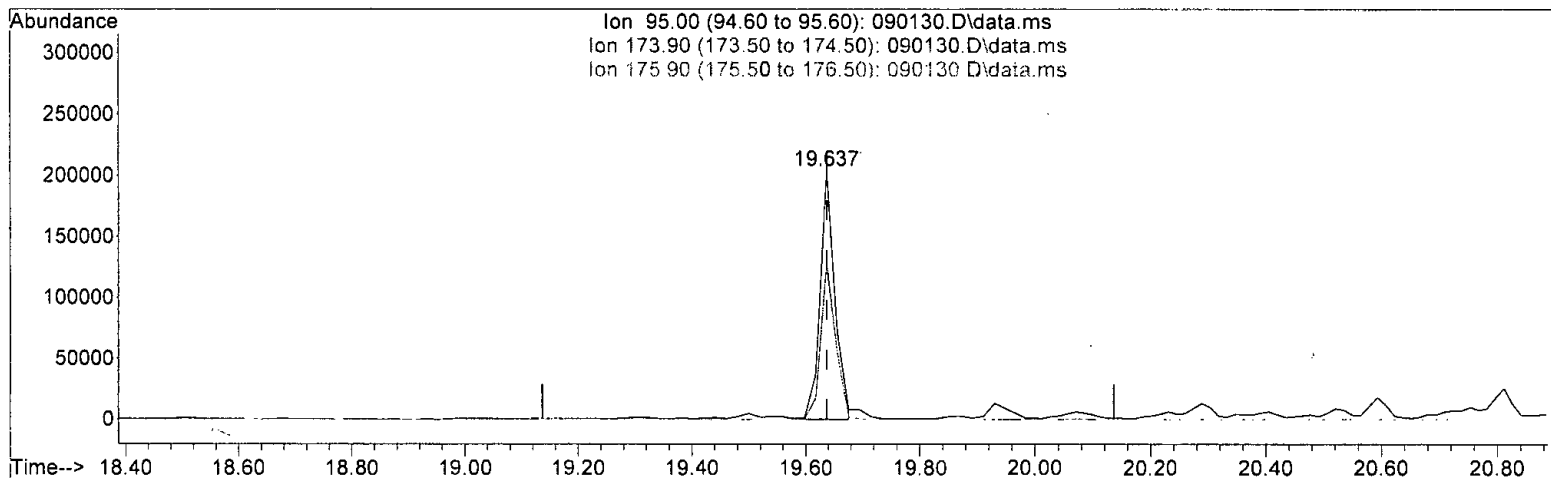
response 387639

Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	63.58
175.90	70.90	60.71
0.00	0.00	0.00

*h  
ok/ok/ok*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:39:42 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090130.D\data.ms

(69) 4-Bromofluorobenzene (S)

19.637min (-0.000) 9.707 ppbv m

response 377900

Ion	Exp%	Act%
-----	------	------

95.00	100.00	100.00
-------	--------	--------

173.90	73.50	63.49
--------	-------	-------

175.90	70.90	60.63
--------	-------	-------

0.00	0.00	0.00
------	------	------

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

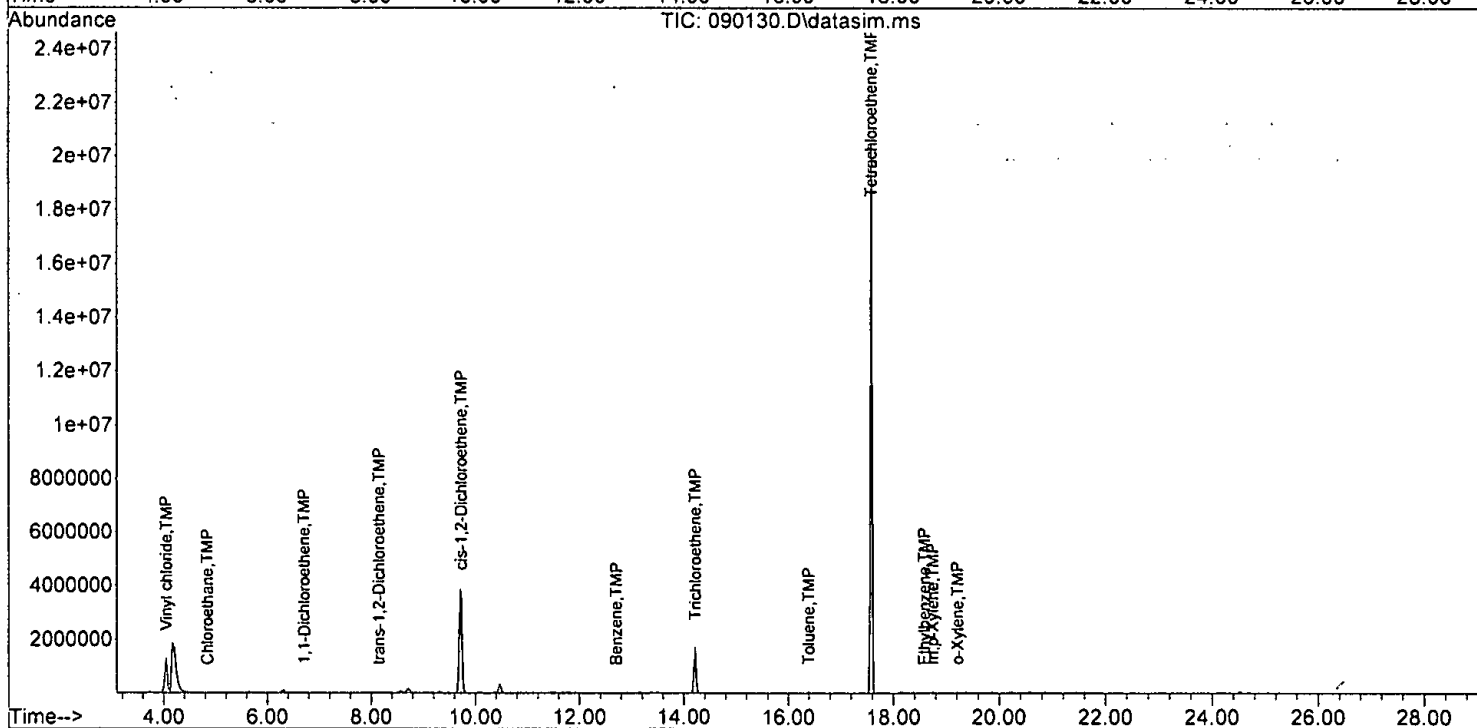
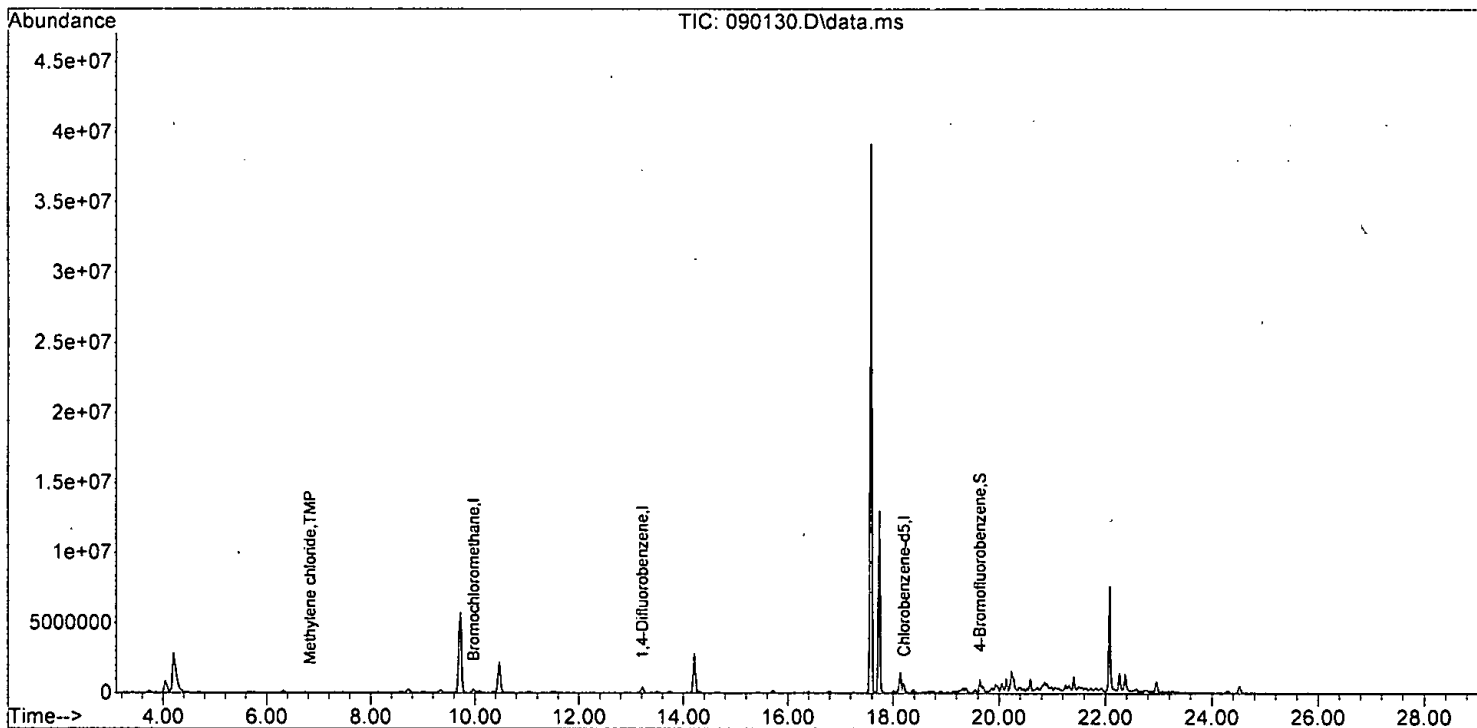
Quant Time: Sep 03 13:28:36 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

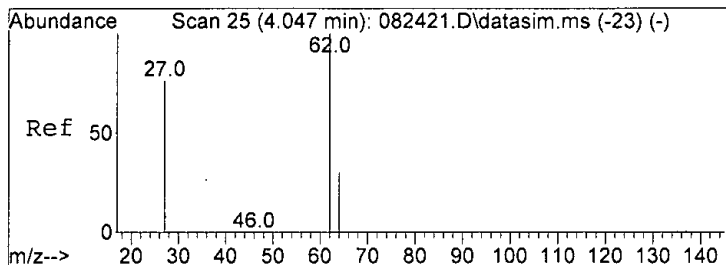
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	98769	10.000	ppbv	#-0.02
39) 1,4-Difluorobenzene	13.21	114	465672	10.000	ppbv	-0.02
56) Chlorobenzene-d5	18.21	117	429720	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	377900m	9.707	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.10%
Target Compounds						
						Qvalue
6] Vinyl chloride	4.05	62	2148921	98.509	ppbv	98
10] Chloroethane	4.84	64	420m	0.056	ppbv	
18] 1,1-Dichloroethene	6.70	96	25021	1.537	ppbv	83
19] trans-1,2-Dichloroethene	8.15	96	9257	0.576	ppbv	# 65
20] Methylene chloride	6.83	84	18546	1.073	ppbv	85
28] cis-1,2-Dichloroethene	9.73	96	3940878	224.105	ppbv	90
37] Benzene	12.70	78	9725	0.161	ppbv	98
46] Trichloroethene	14.22	95	1536214	53.369	ppbv	93
50] Toluene	16.40	92	29206	0.837	ppbv	81
53] Tetrachloroethene	17.58	164	9431244	531.607	ppbv	81
58] Ethylbenzene	18.59	91	21449	0.225	ppbv	98
65] m,p-Xylene	18.74	106	23937	0.781	ppbv	84
66] o-Xylene	19.21	106	15795	0.524	ppbv	89
-----						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

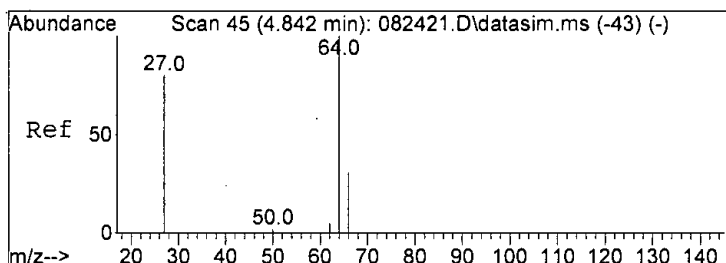
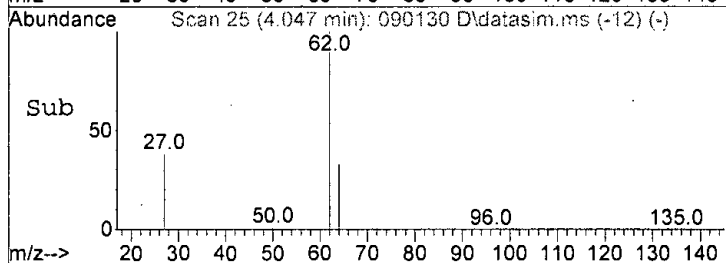
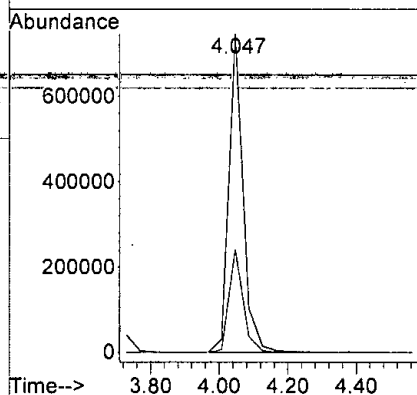
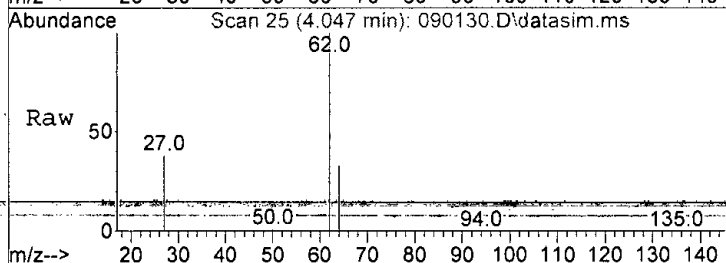
Quant Time: Sep 03 13:28:36 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





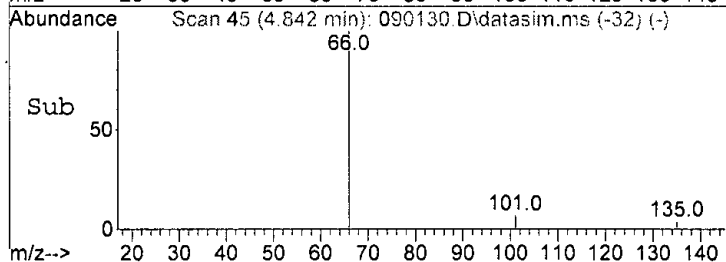
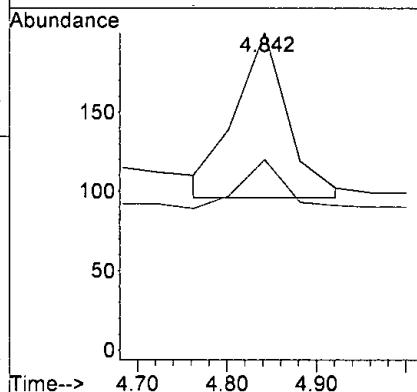
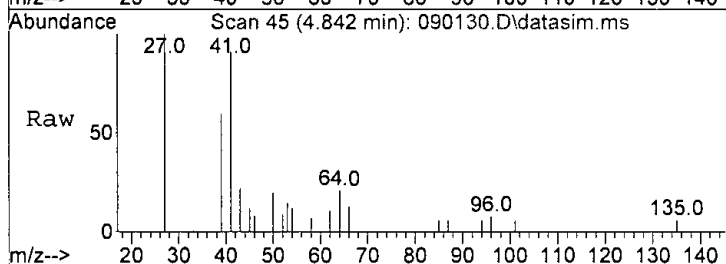
#6  
 Vinyl chloride  
 Concen: 98.509 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090130.D  
 Acq: 2 Sep 2021 4:50 am

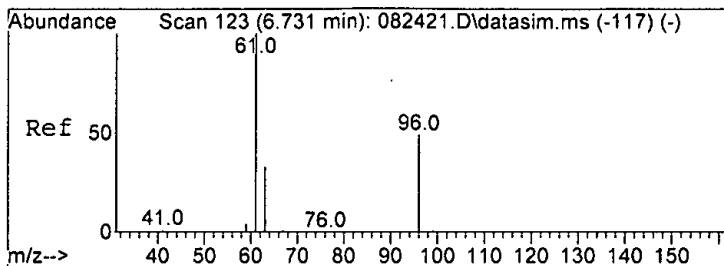
Tgt Ion: 62 Resp: 2148921  
 Ion Ratio Lower Upper  
 62 100  
 64 32.5 1.5 61.5



#10  
 Chloroethane  
 Concen: 0.056 ppbv m  
 RT: 4.84 min Scan# 45  
 Delta R.T. -0.000 min  
 Lab File: 090130.D  
 Acq: 2 Sep 2021 4:50 am

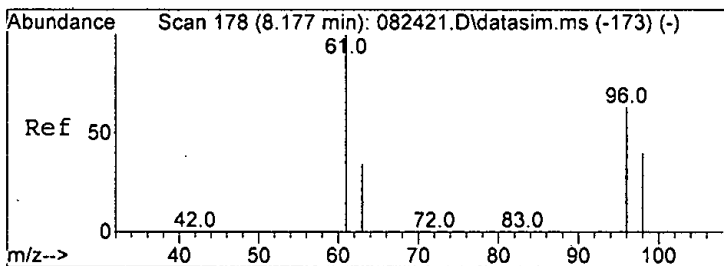
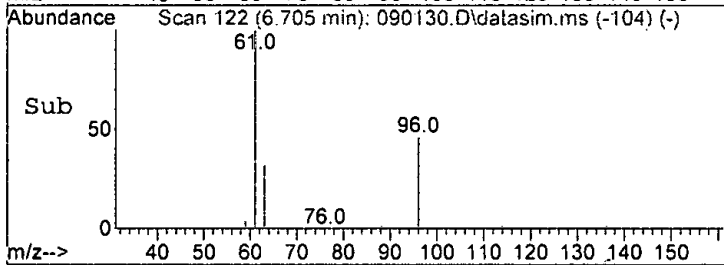
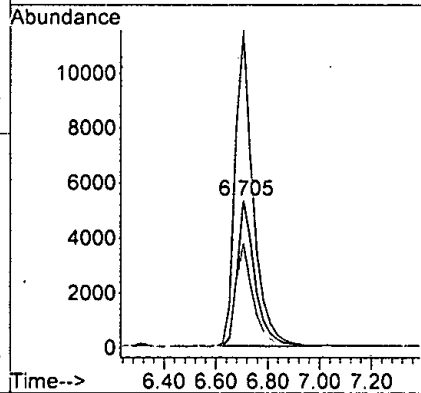
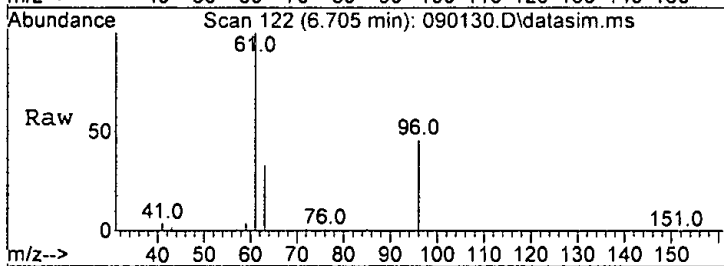
Tgt Ion: 64 Resp: 420  
 Ion Ratio Lower Upper  
 64 100  
 66 60.0 1.8 61.8





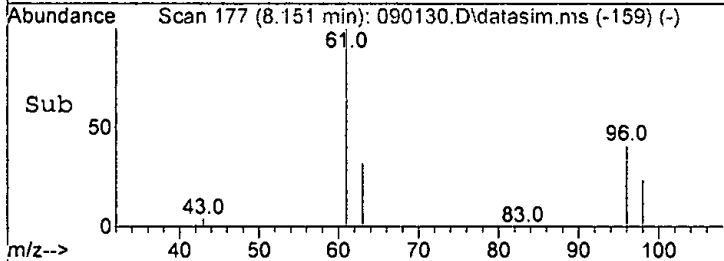
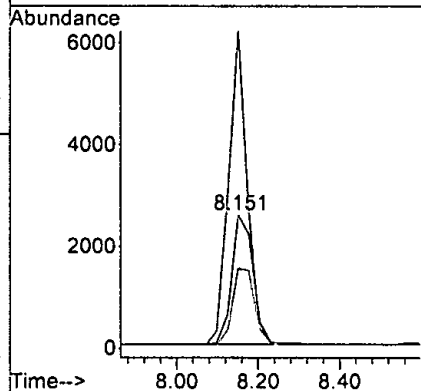
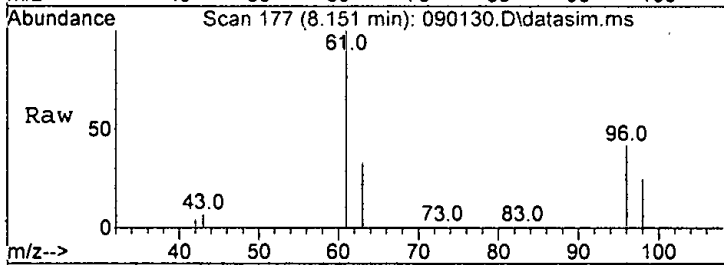
#18  
 1,1-Dichloroethene  
 Concen: 1.537 ppbv  
 RT: 6.70 min Scan# 122  
 Delta R.T. -0.026 min  
 Lab File: 090130.D  
 Acq: 2 Sep 2021 4:50 am

Tgt Ion: 96 Resp: 25021  
 Ion Ratio Lower Upper  
 96 100  
 61 217.4 159.0 219.0  
 63 70.7 32.0 92.0

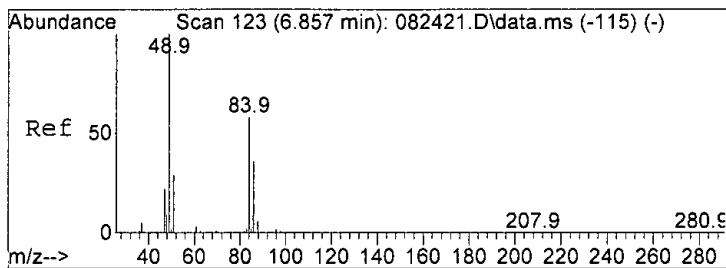


#19  
 trans-1,2-Dichloroethene  
 Concen: 0.576 ppbv  
 RT: 8.15 min Scan# 177  
 Delta R.T. -0.026 min  
 Lab File: 090130.D  
 Acq: 2 Sep 2021 4:50 am

Tgt Ion: 96 Resp: 9257  
 Ion Ratio Lower Upper  
 96 100  
 61 242.7 147.9 207.9#  
 98 59.3 34.2 94.2

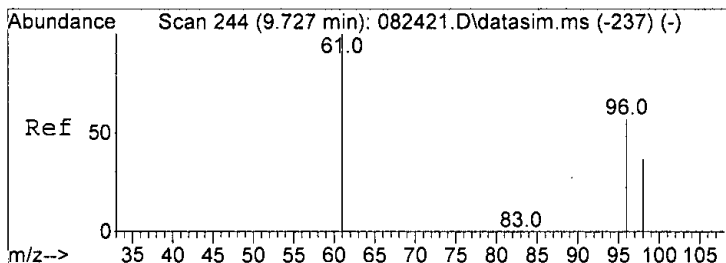
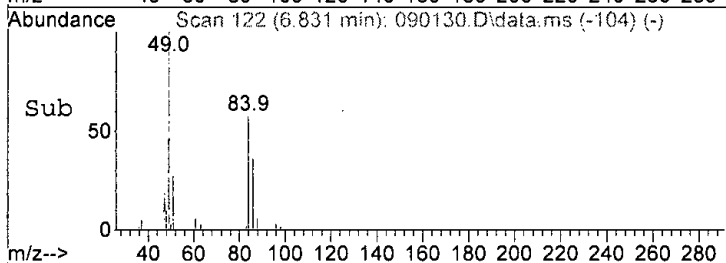
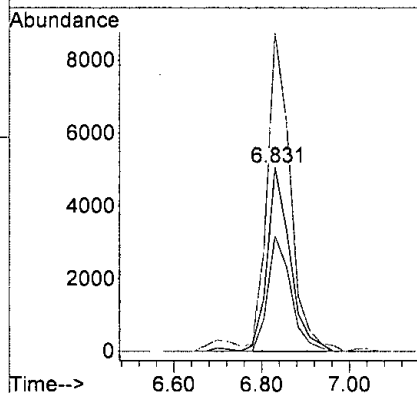
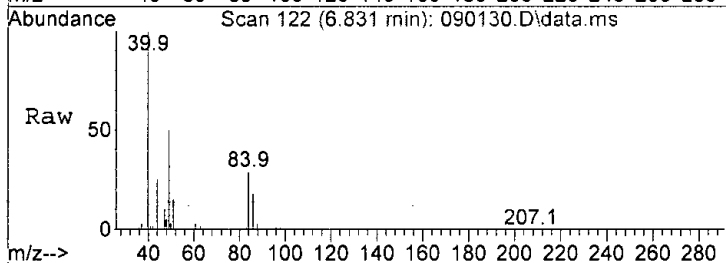






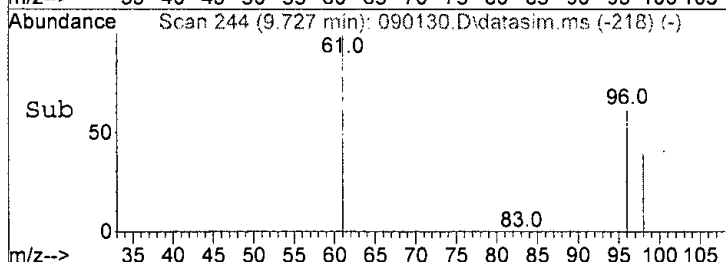
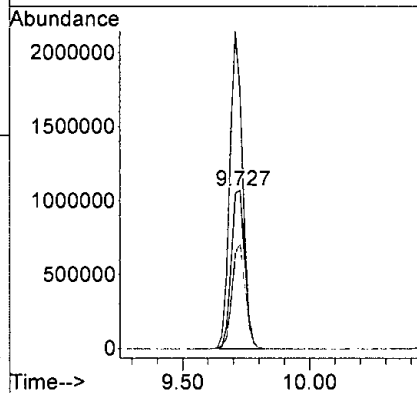
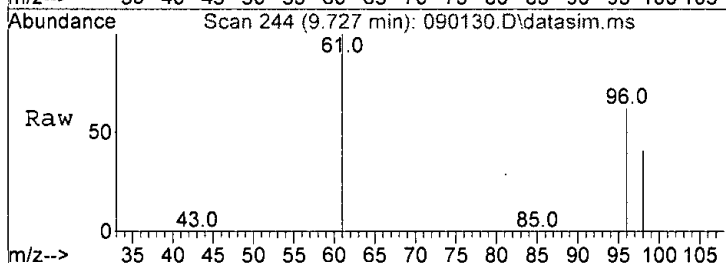
#20  
 Methylene chloride  
 Concen: 1.073 ppbv  
 RT: 6.83 min Scan# 122  
 Delta R.T. -0.026 min  
 Lab File: 090130.D  
 Acq: 2 Sep 2021 4:50 am

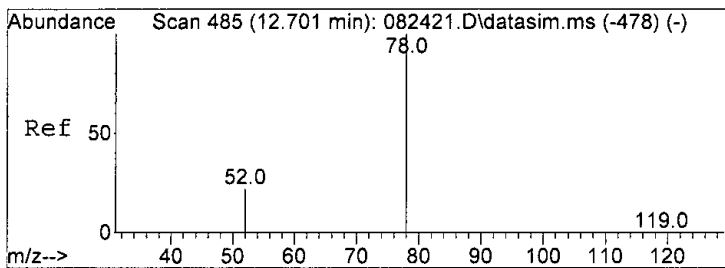
Tgt Ion	84	Resp	18546
Ion Ratio	Lower	Upper	
84	100		
86	62.9	33.9	93.9
49	173.0	116.6	176.6



#28  
 cis-1,2-Dichloroethene  
 Concen: 224.105 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. -0.000 min  
 Lab File: 090130.D  
 Acq: 2 Sep 2021 4:50 am

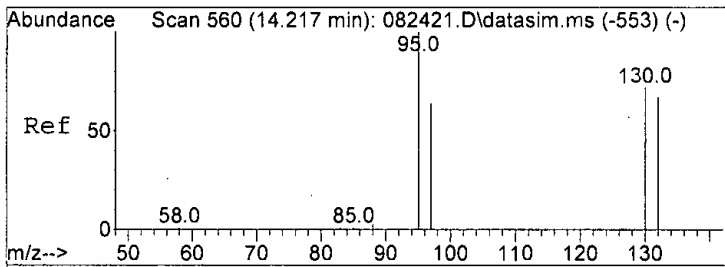
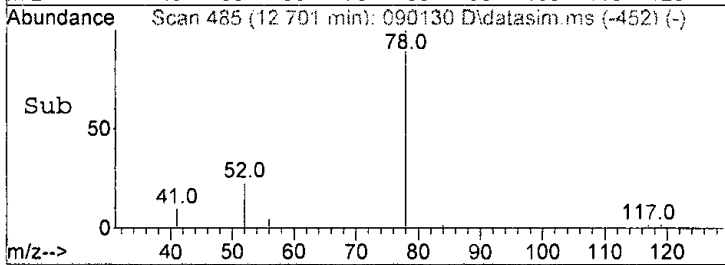
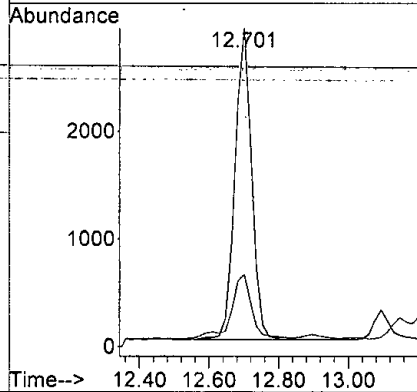
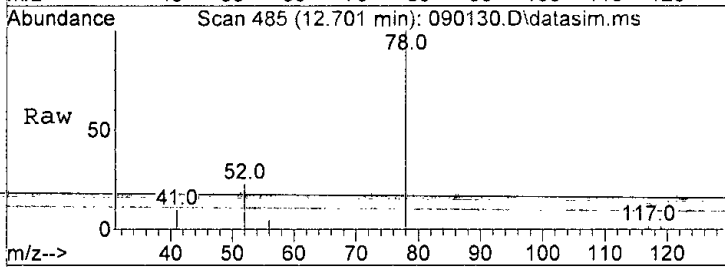
Tgt Ion	96	Resp	3940878
Ion Ratio	Lower	Upper	
96	100		
61	162.5	116.0	176.0
98	66.6	35.2	95.2





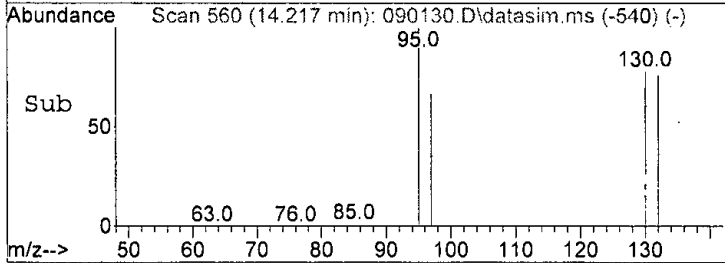
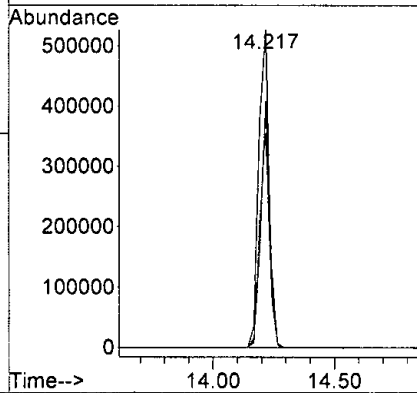
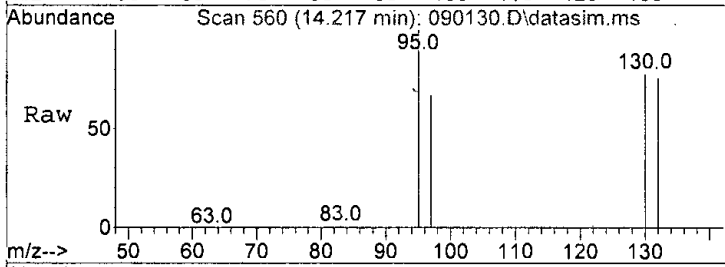
#37  
Benzene  
Concen: 0.161 ppbv  
RT: 12.70 min Scan# 485  
Delta R.T. -0.001 min  
Lab File: 090130.D  
Acq: 2 Sep 2021 4:50 am

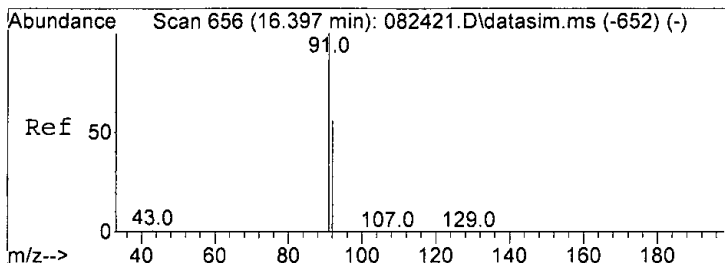
Tgt Ion: 78 Resp: 9725  
Ion Ratio Lower Upper  
78 100  
52 20.4 0.0 49.7



#46  
Trichloroethene  
Concen: 53.369 ppbv  
RT: 14.22 min Scan# 560  
Delta R.T. -0.000 min  
Lab File: 090130.D  
Acq: 2 Sep 2021 4:50 am

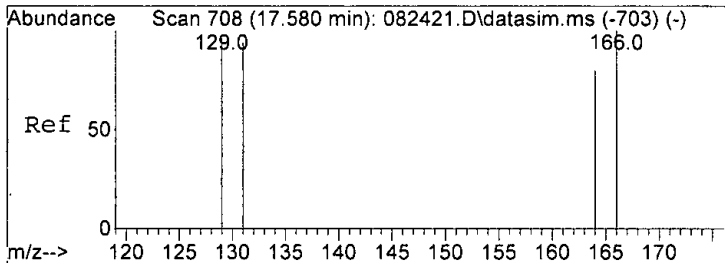
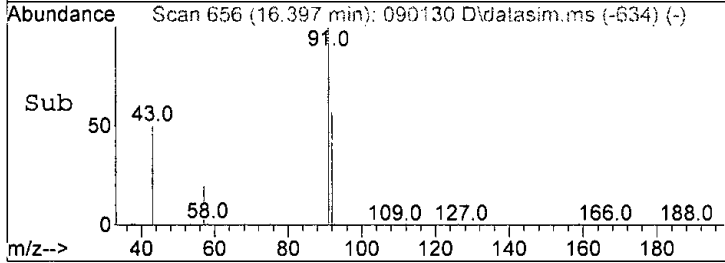
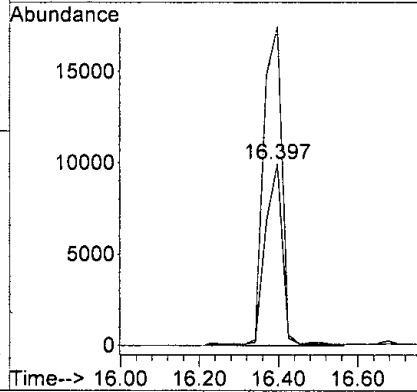
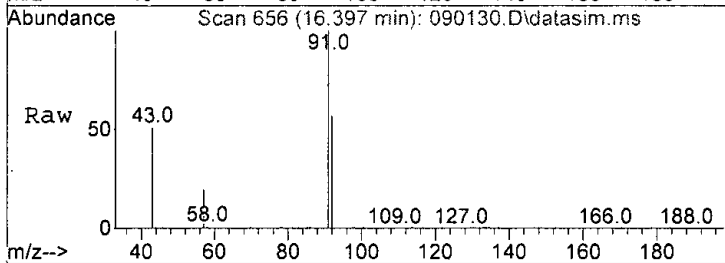
Tgt Ion: 95 Resp: 1536214  
Ion Ratio Lower Upper  
95 100  
97 67.4 37.1 97.1  
130 77.5 56.1 116.1  
132 76.2 54.3 114.3





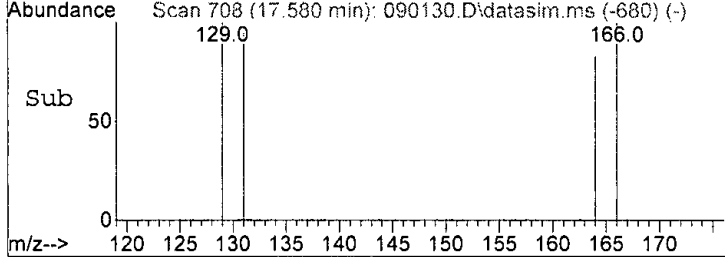
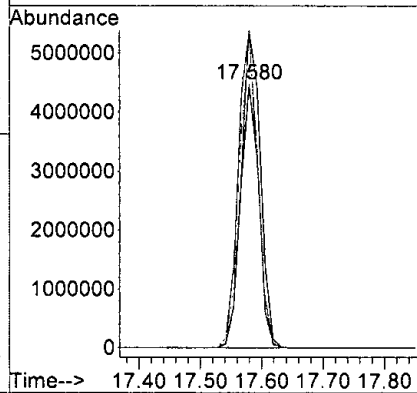
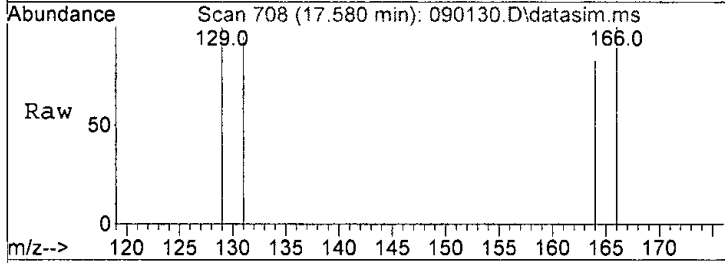
#50  
 Toluene  
 Concen: 0.837 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090130.D  
 Acq: 2 Sep 2021 4:50 am

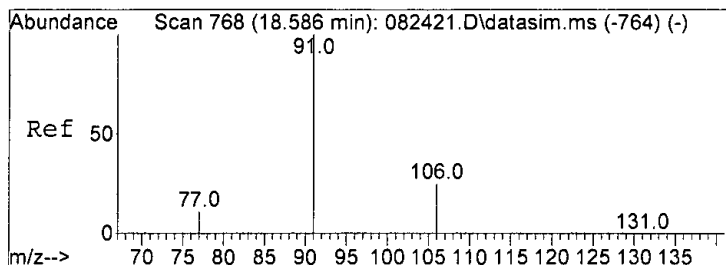
Tgt Ion: 92 Resp: 29206  
 Ion Ratio Lower Upper  
 92 100  
 91 175.4 174.6 234.6



#53  
 Tetrachloroethene  
 Concen: 531.607 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090130.D  
 Acq: 2 Sep 2021 4:50 am

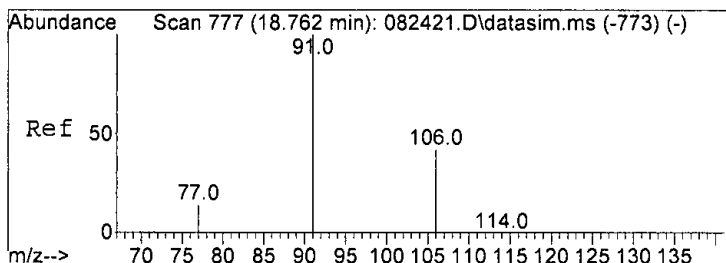
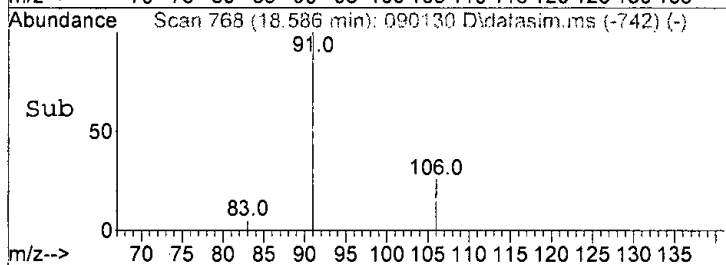
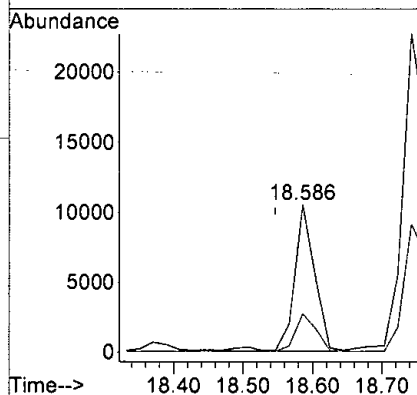
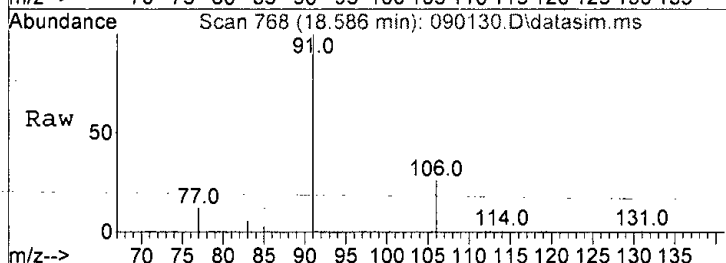
Tgt Ion: 164 Resp: 9431244  
 Ion Ratio Lower Upper  
 164 100  
 129 120.5 63.2 123.2  
 131 117.7 70.7 130.7  
 166 120.4 107.5 167.5





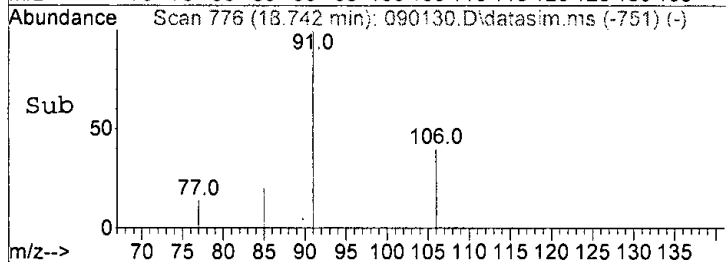
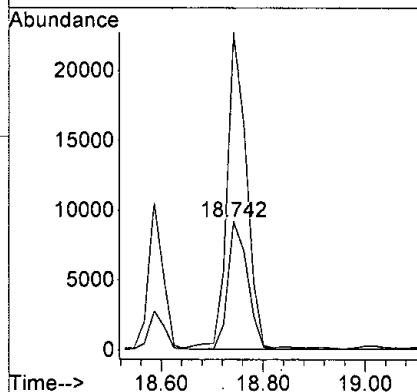
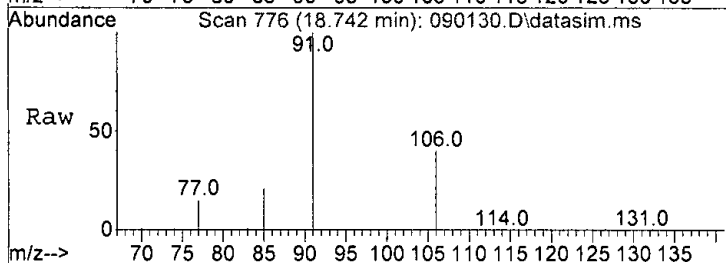
#58  
 Ethylbenzene  
 Concen: 0.225 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. -0.000 min  
 Lab File: 090130.D  
 Acq: 2 Sep 2021 4:50 am

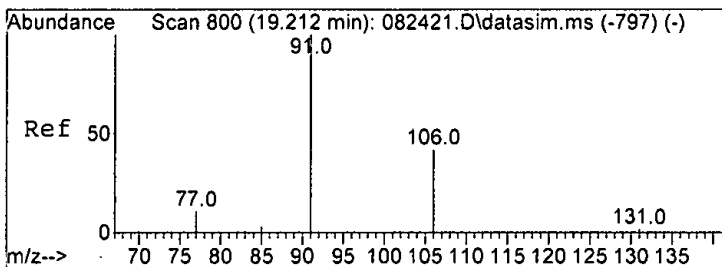
Tgt Ion: 91 Resp: 21449  
 Ion Ratio Lower Upper  
 91 100  
 106 25.8 0.0 57.0



#65  
 m,p-Xylene  
 Concen: 0.781 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.020 min  
 Lab File: 090130.D  
 Acq: 2 Sep 2021 4:50 am

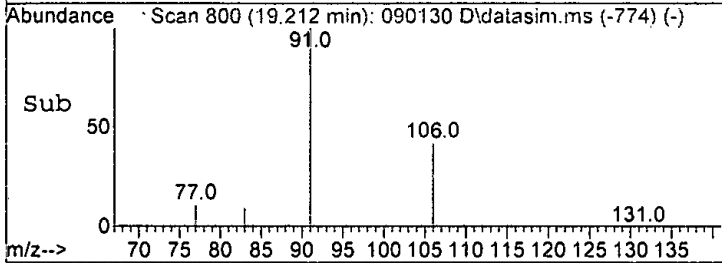
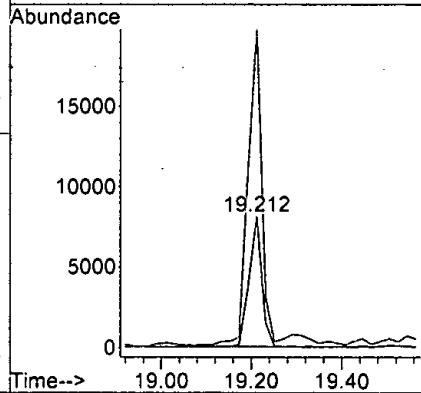
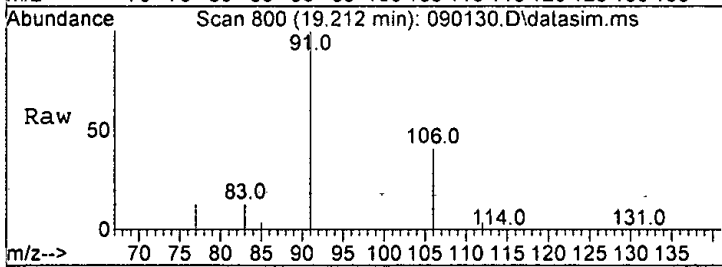
Tgt Ion: 106 Resp: 23937  
 Ion Ratio Lower Upper  
 106 100  
 91 248.2 193.0 253.0





#66  
 o-Xylene  
 Concen: 0.524 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090130.D  
 Acq: 2 Sep 2021 4:50 am

Tgt Ion: 106 Resp: 15795  
 Ion Ratio Lower Upper  
 106 100  
 91 243.1 194.4 254.4



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 13:28:36 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	98769	10.000	ppbv	#-0.02
39) 1,4-Difluorobenzene	13.21	114	465672	10.000	ppbv	-0.02
56) Chlorobenzene-d5	18.21	117	429720	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	377900m	9.707	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.10%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.		
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.		
6] Vinyl chloride	4.05	62	2148921	98.509	ppbv	98
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10] Chloroethane	4.84	64	420m	0.056	ppbv	
11) Vinyl bromide	0.00		0	N.D.		
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.		
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18] 1,1-Dichloroethene	6.70	96	25021	1.537	ppbv	83
19] trans-1,2-Dichloroethene	8.15	96	9257	0.576	ppbv #	65
20) Methylene chloride	6.83	84	18546	1.073	ppbv	85
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.		
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	8.44	63	142	N.D.		
28] cis-1,2-Dichloroethene	9.73	96	3940878	224.105	ppbv	90
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	0.00		0	N.D.	d	
35) 1,1,1-Trichloroethane	11.93	97	224	N.D.		
36) Carbon tetrachloride	0.00		0	N.D.		
37] Benzene	12.70	78	9725	0.161	ppbv	98
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

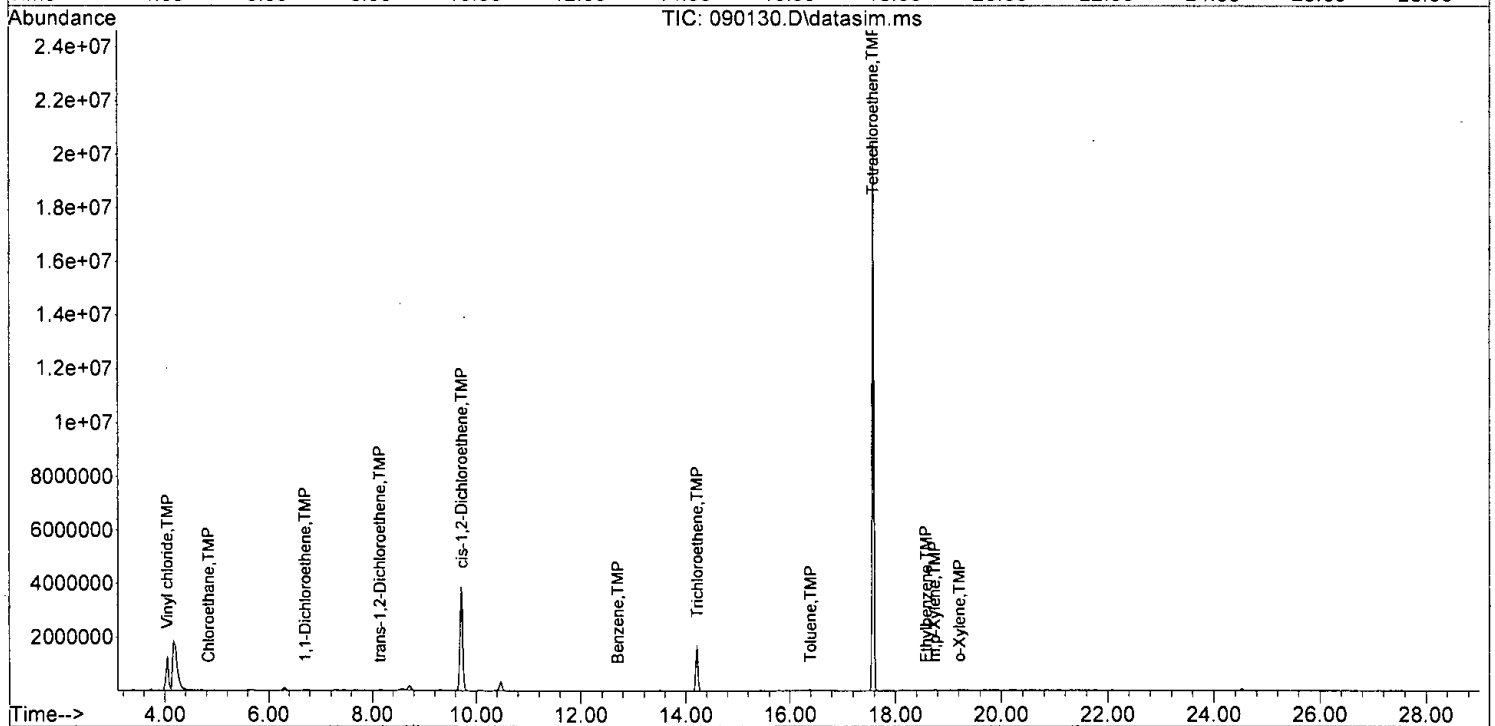
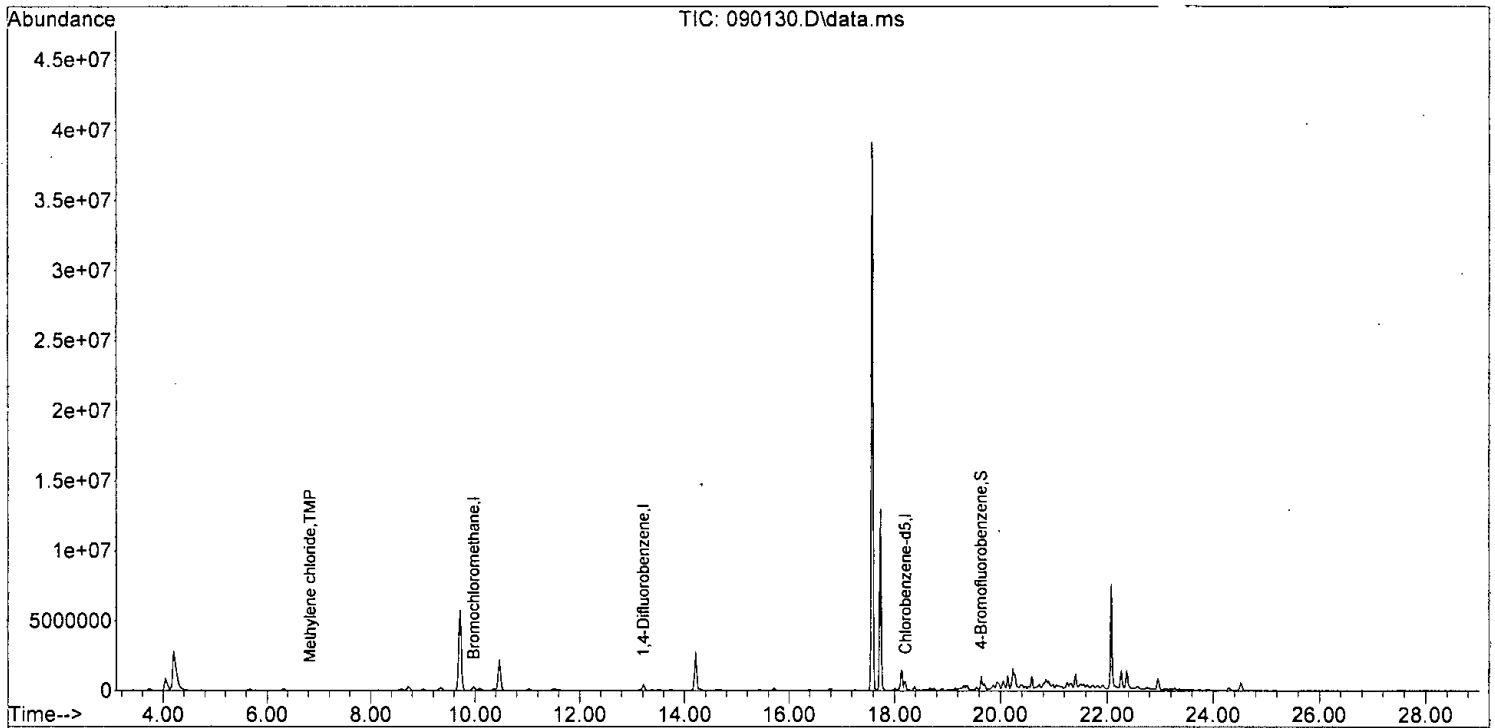
Quant Time: Sep 03 13:28:36 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	1536214	53.369	ppbv	93
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	29206	0.837	ppbv	81
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	9431244	531.607	ppbv	81
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	21449	0.225	ppbv	98
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.74	106	23937	0.781	ppbv	84
66] o-Xylene	19.21	106	15795	0.524	ppbv	89
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77) Naphthalene	23.93	128	1743	N.D.	d	
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 13:28:36 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

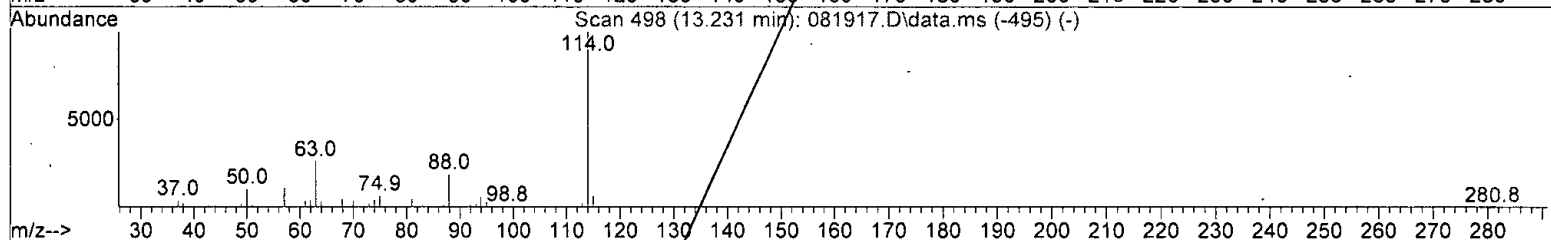
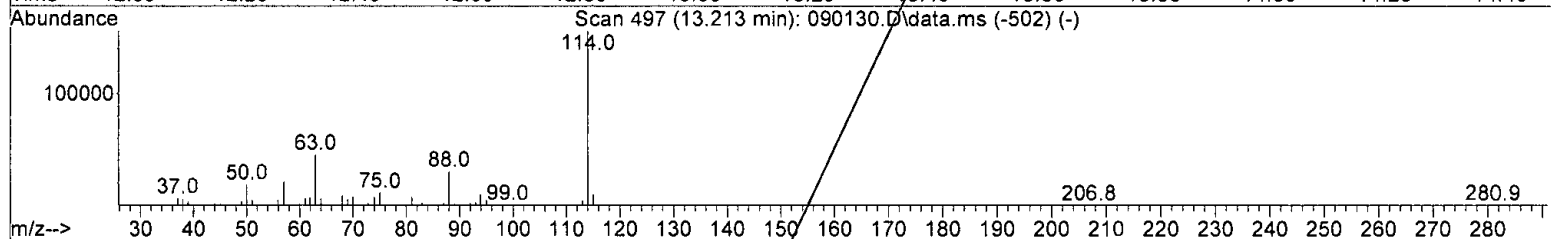
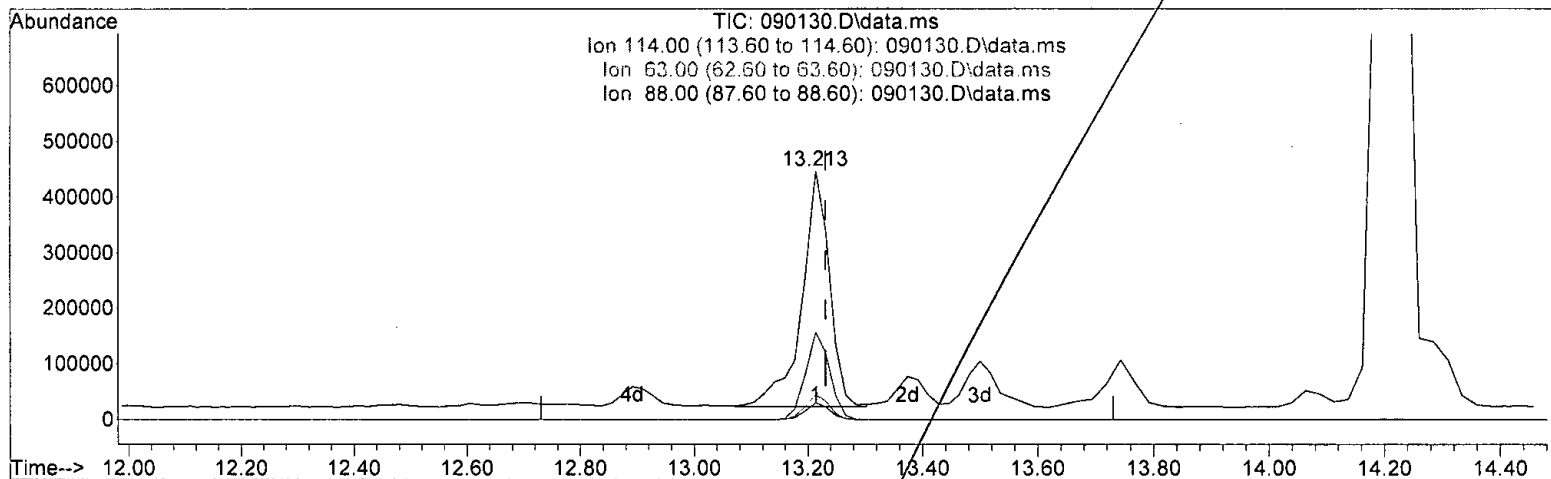




Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.213min (-0.018) 57.800 ug/m3

response 1430696

Signal Exp% Act%

TIC 100.00 100.00

114.00 43.50 37.09

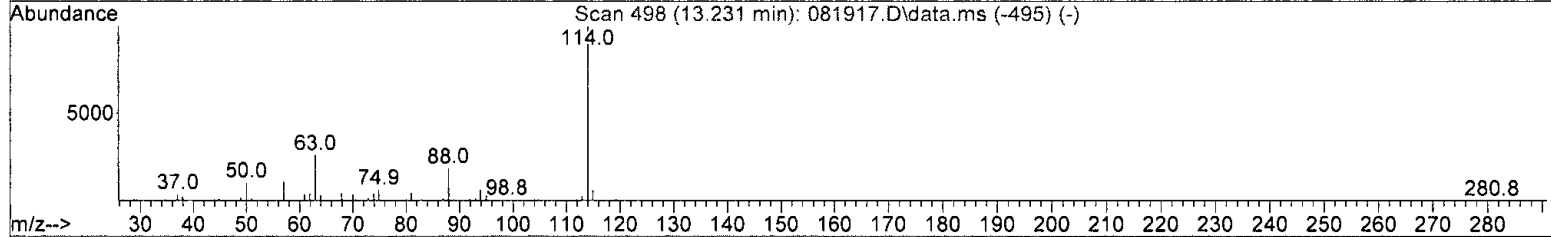
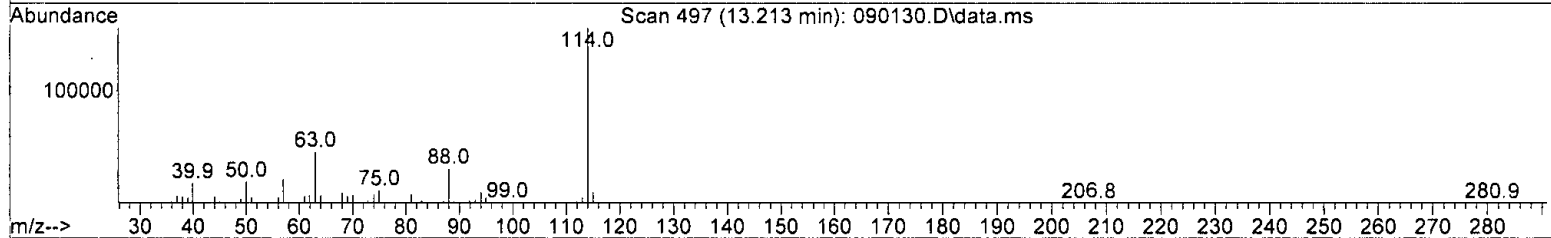
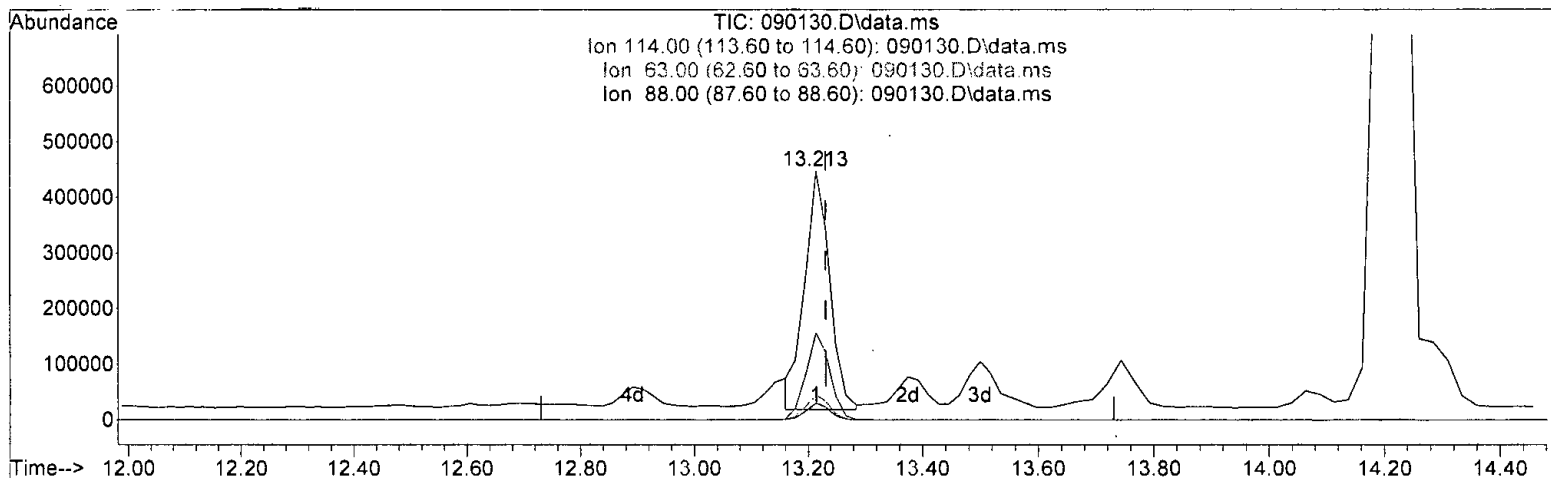
63.00 8.40 10.76

88.00 7.60 7.17

*h only*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.213min (-0.018) 53.289 ug/m3 m

response 1319041

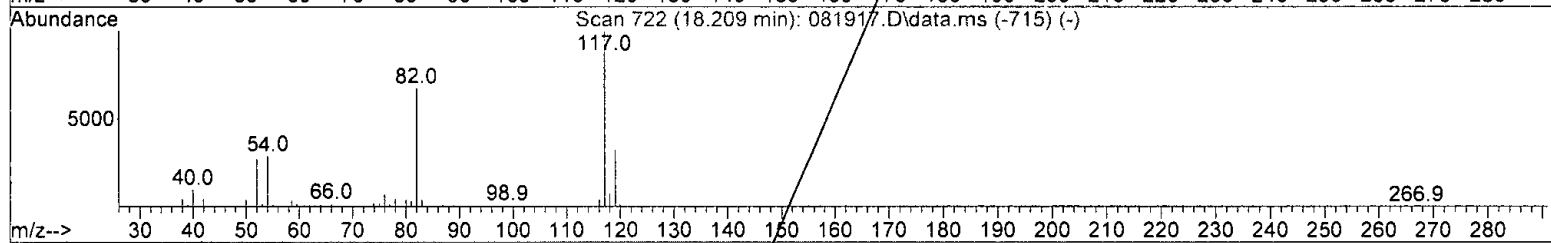
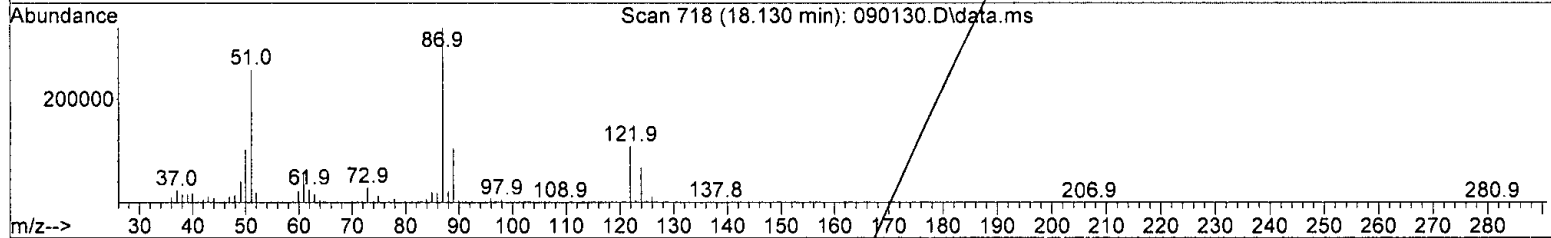
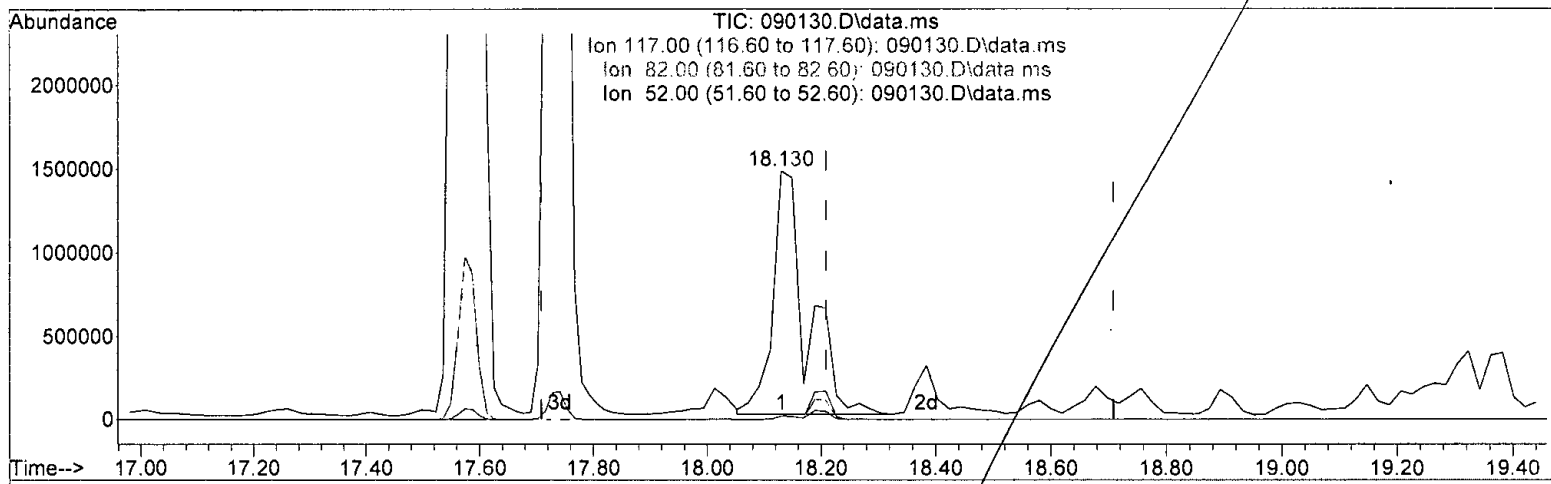
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	40.23
63.00	8.40	11.67
88.00	7.60	7.78

*h only*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

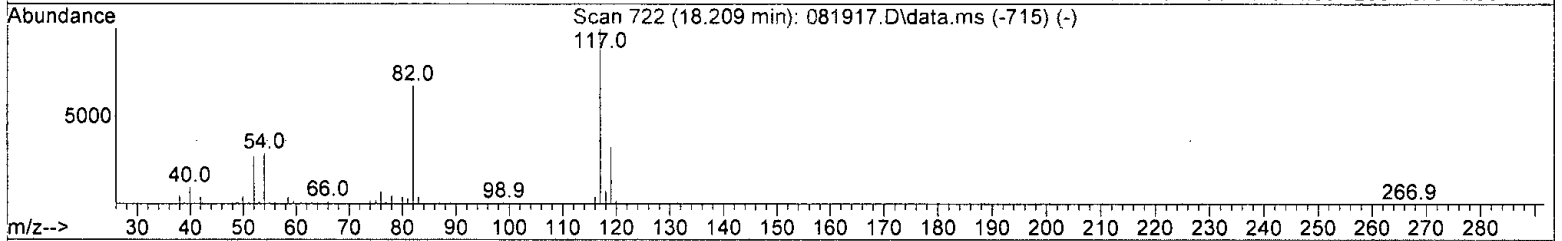
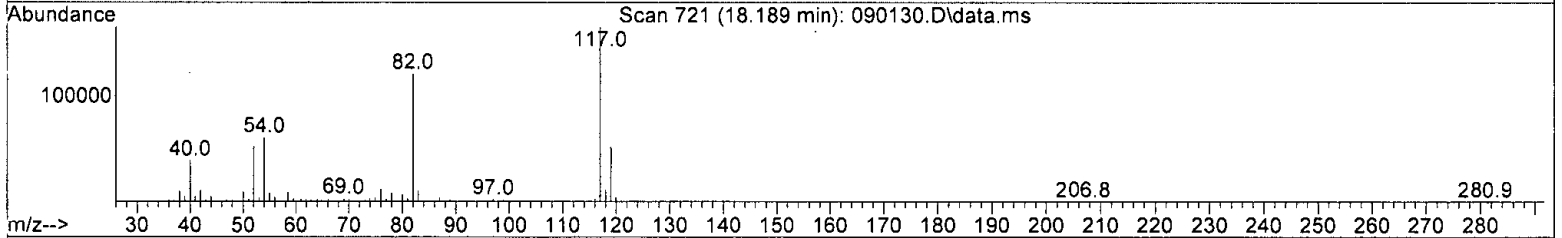
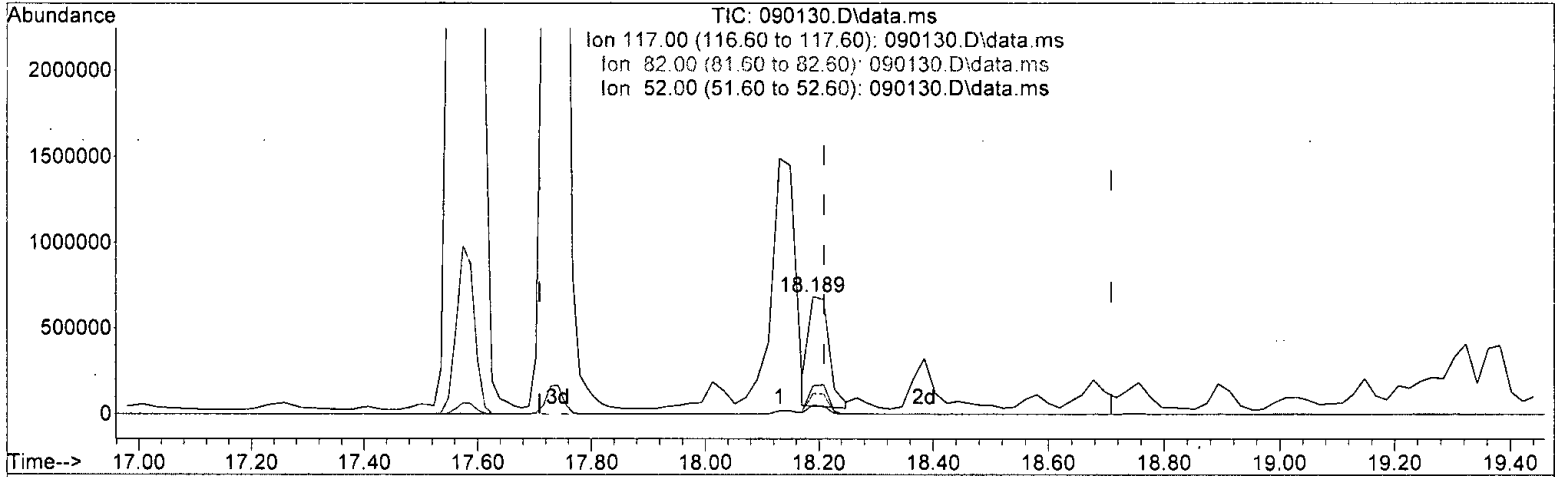
18.130min (-0.079) 204.847 ug/m3

response	6150105
Signal	Exp% Act%
TIC	100.00 100.00
117.00	34.80 6.99#
82.00	18.10 5.17
52.00	6.90 2.85

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.189min (-0.020) 54.425 ug/m3 m

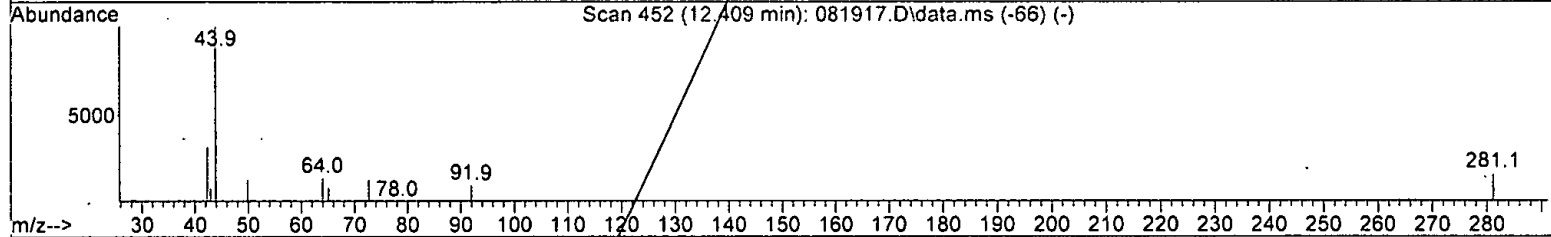
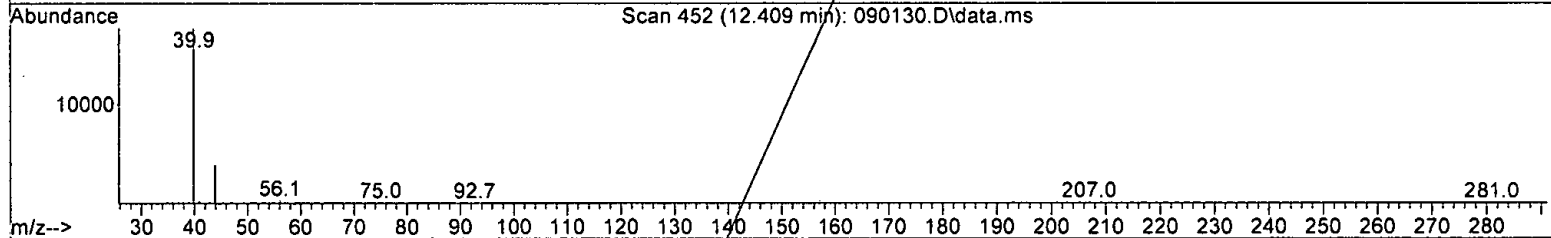
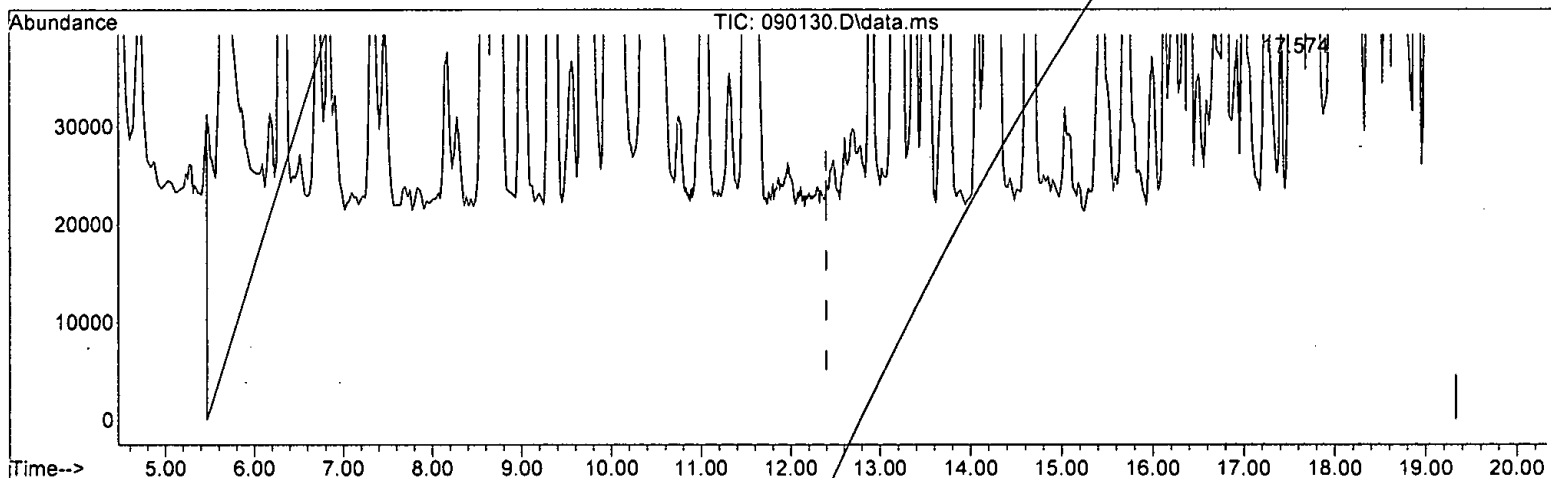
response 1633997

Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	26.30
82.00	18.10	19.44
52.00	6.90	10.74

*Handwritten signature: R. B. B. B.*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



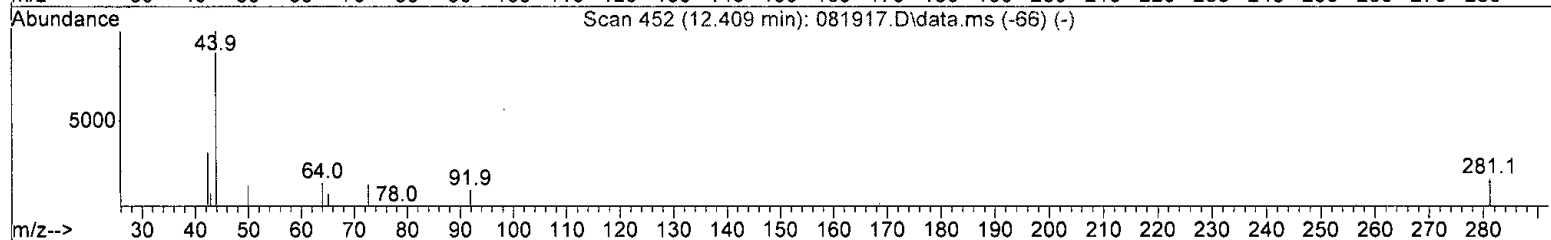
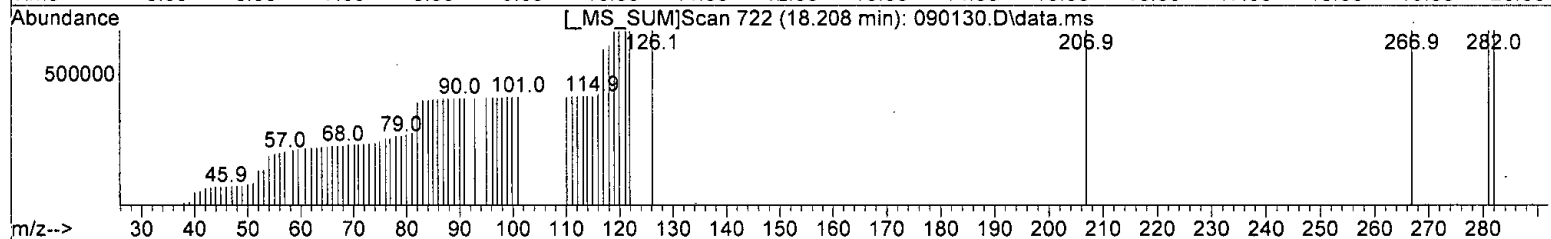
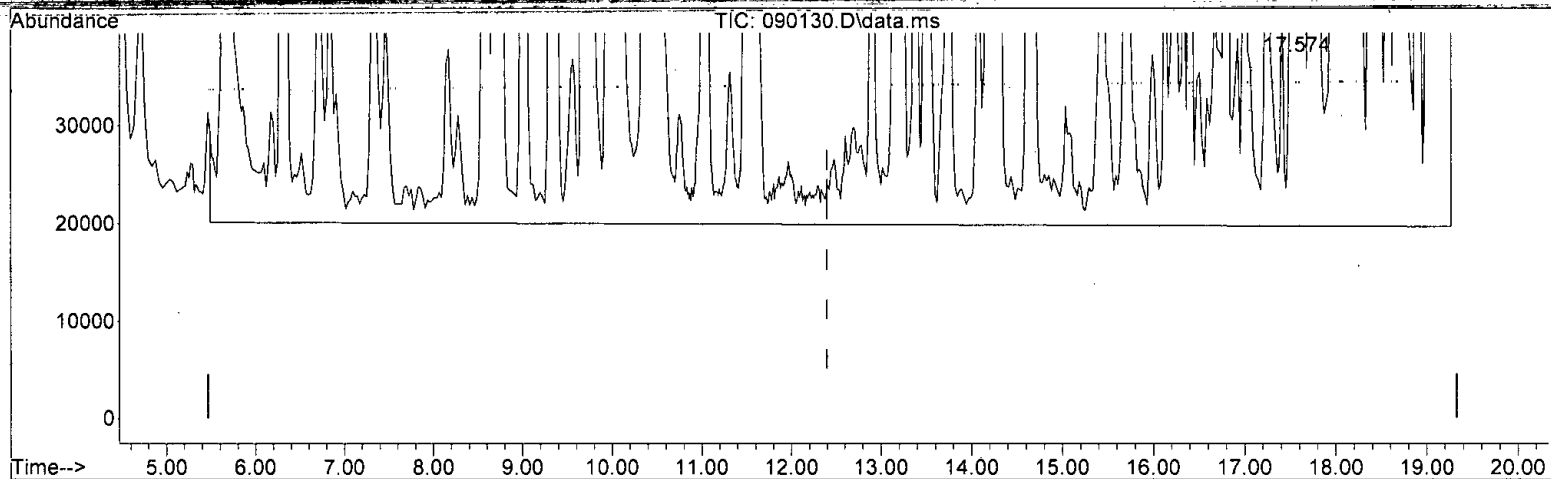
(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 4130.718 ug/m3 m  
 response 152624622

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Batoluh*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 6399.315 ug/m3 m

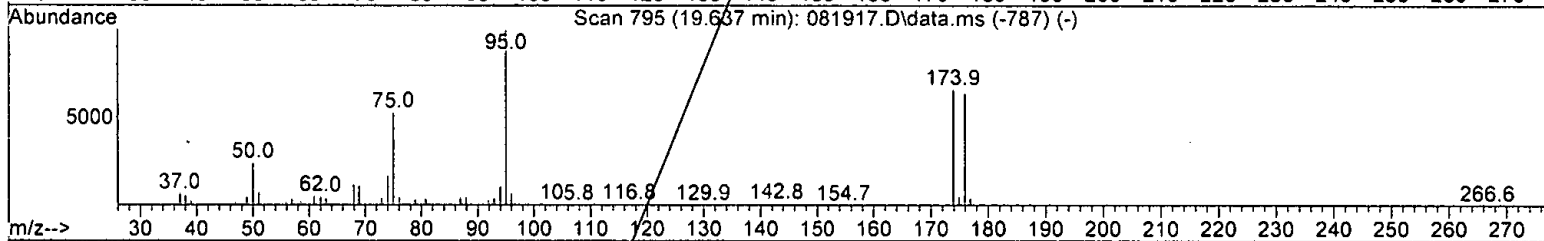
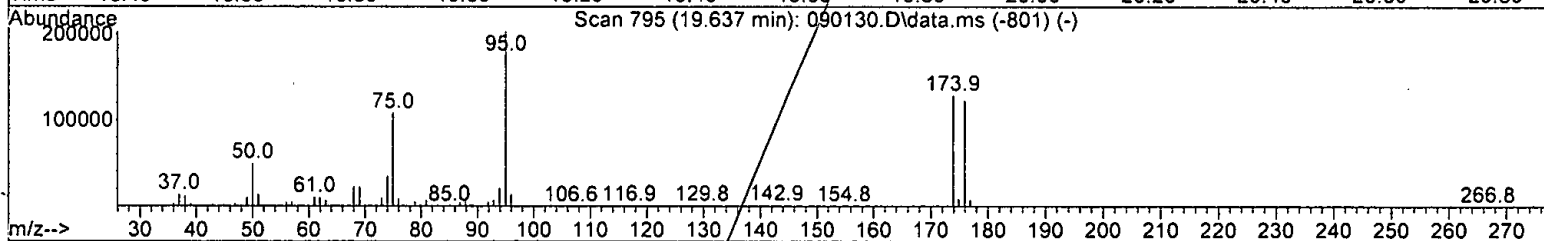
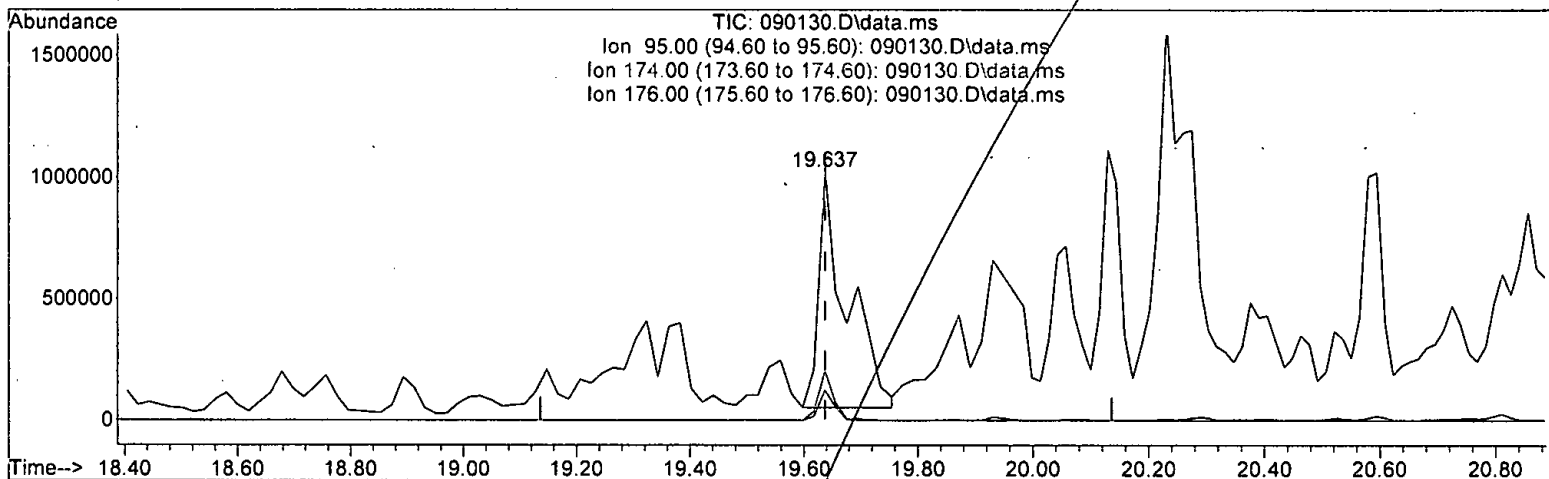
response 236446281

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Post/only*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 92.805 ug/m3

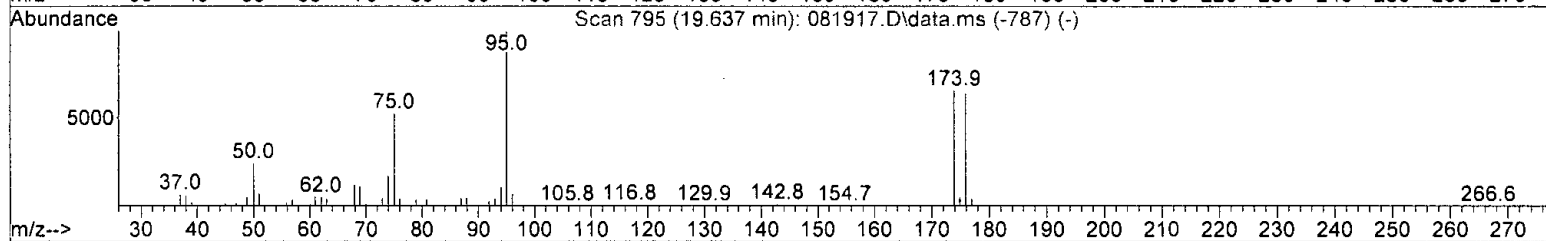
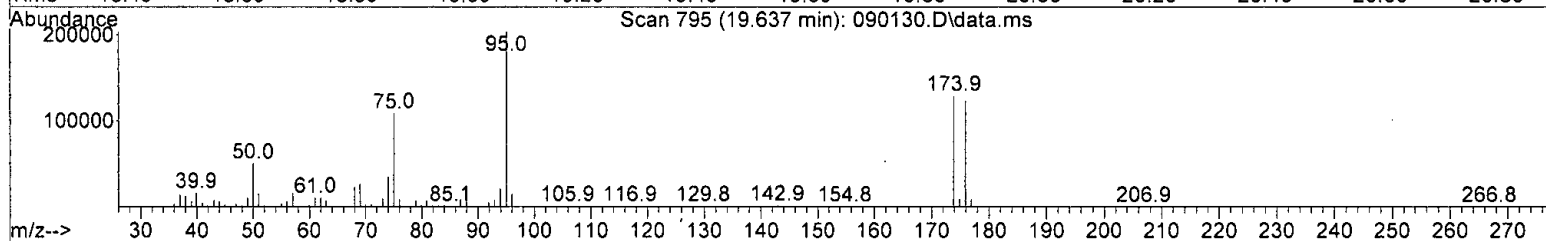
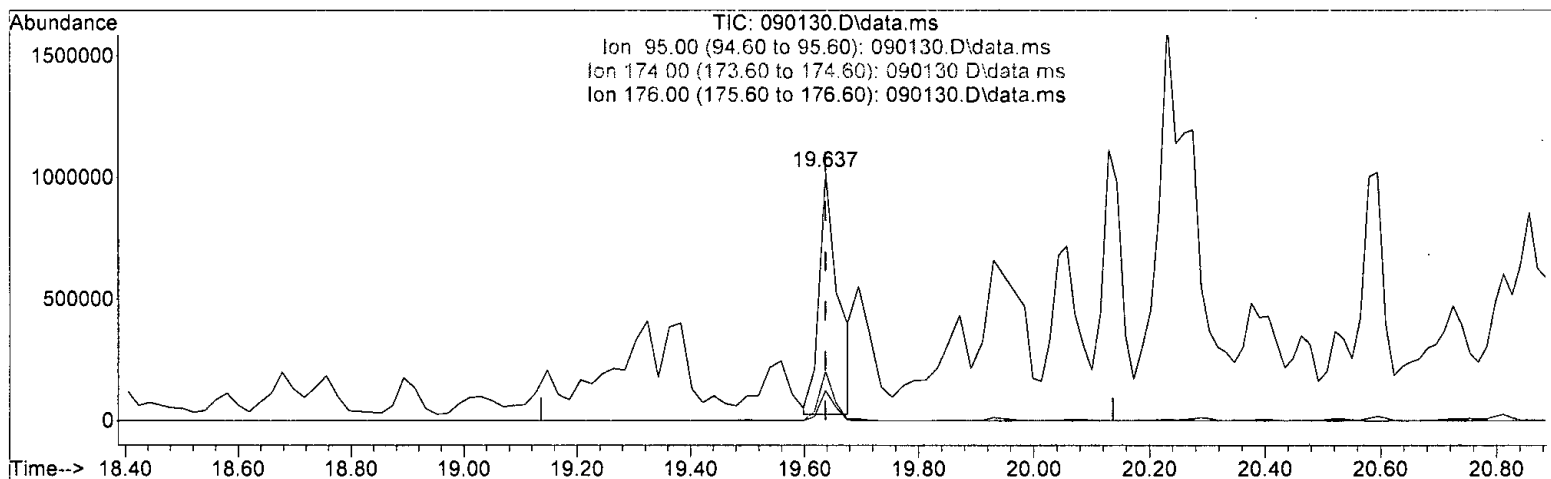
response 3366681

Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	20.96
174.00	19.20	13.33
176.00	18.70	12.73

*Bat/aly*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 66.388 ug/m3 m

response 2408360

Signal Exp% Act%

TIC 100.00 100.00

95.00 20.00 29.31

174.00 19.20 18.64

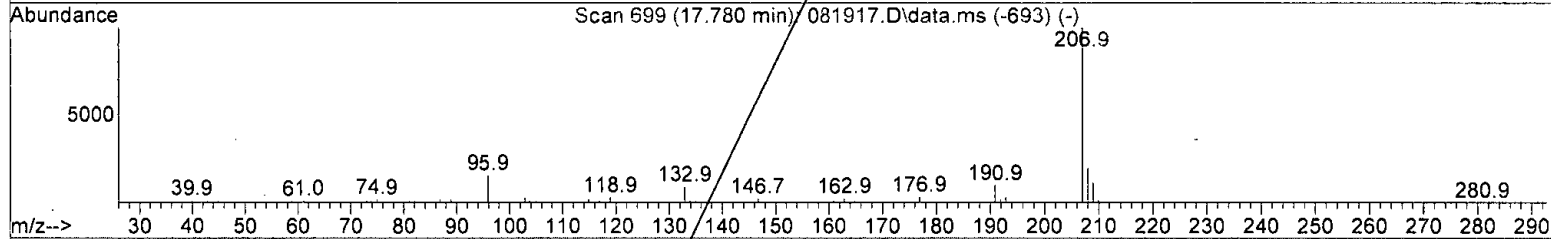
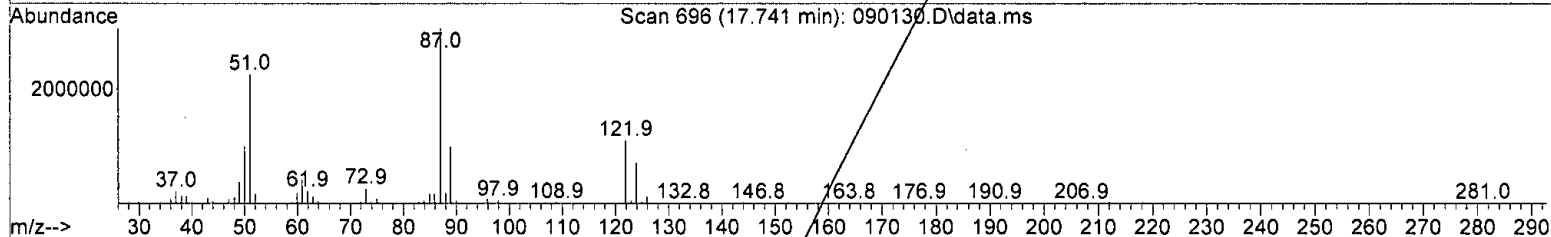
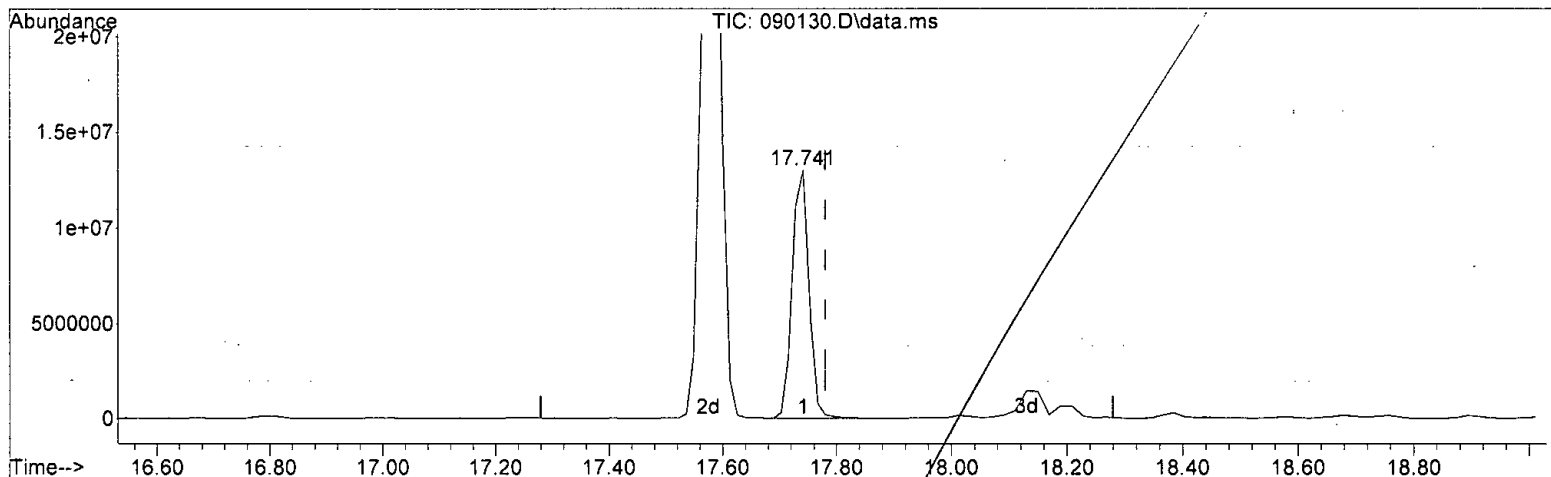
176.00 18.70 17.80

*B*  
*02/01/21*



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(22) Hexamethylcyclotrisiloxane

17.741min (-0.039) 2918.553 ppbv

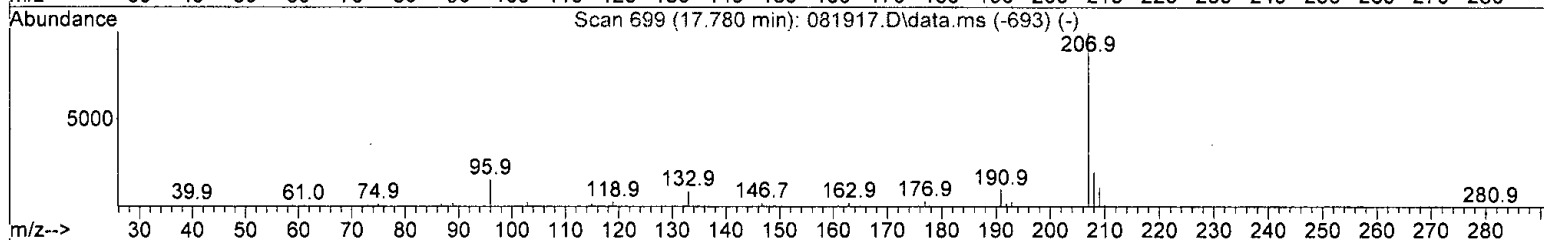
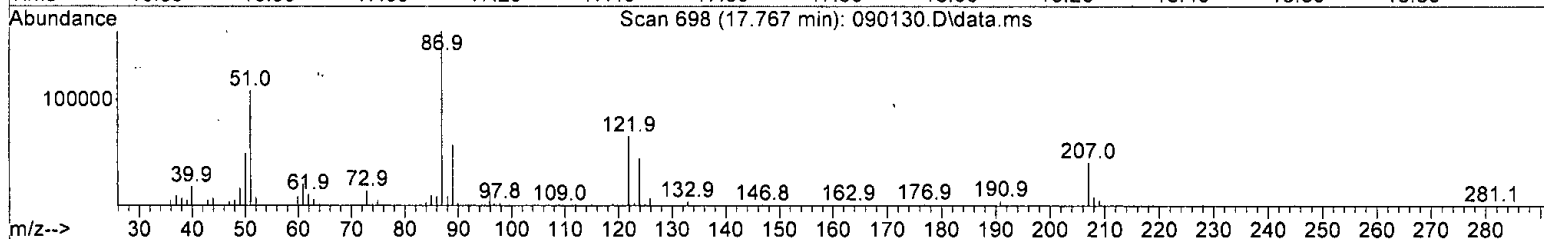
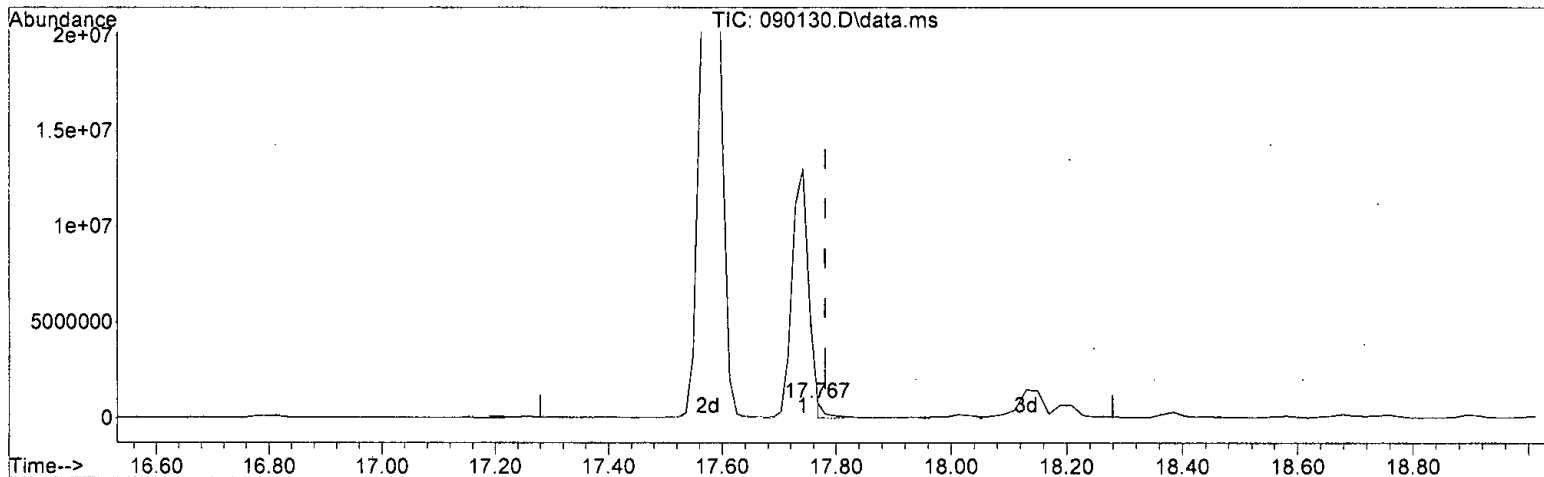
response 26078344

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* K 02/02/21

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



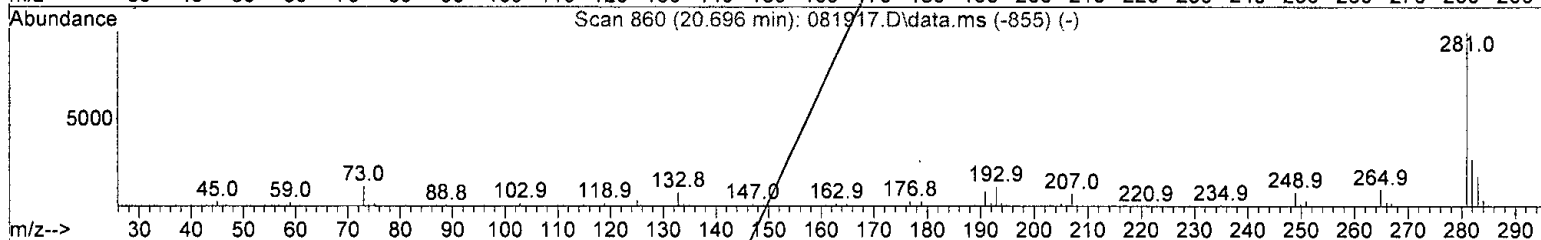
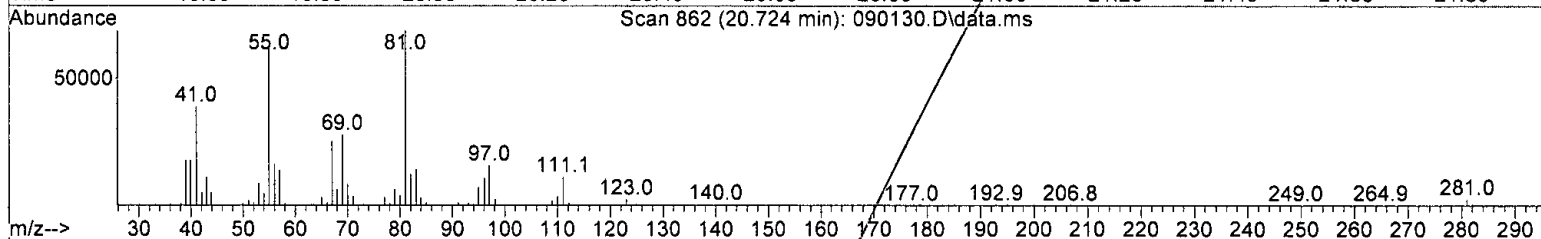
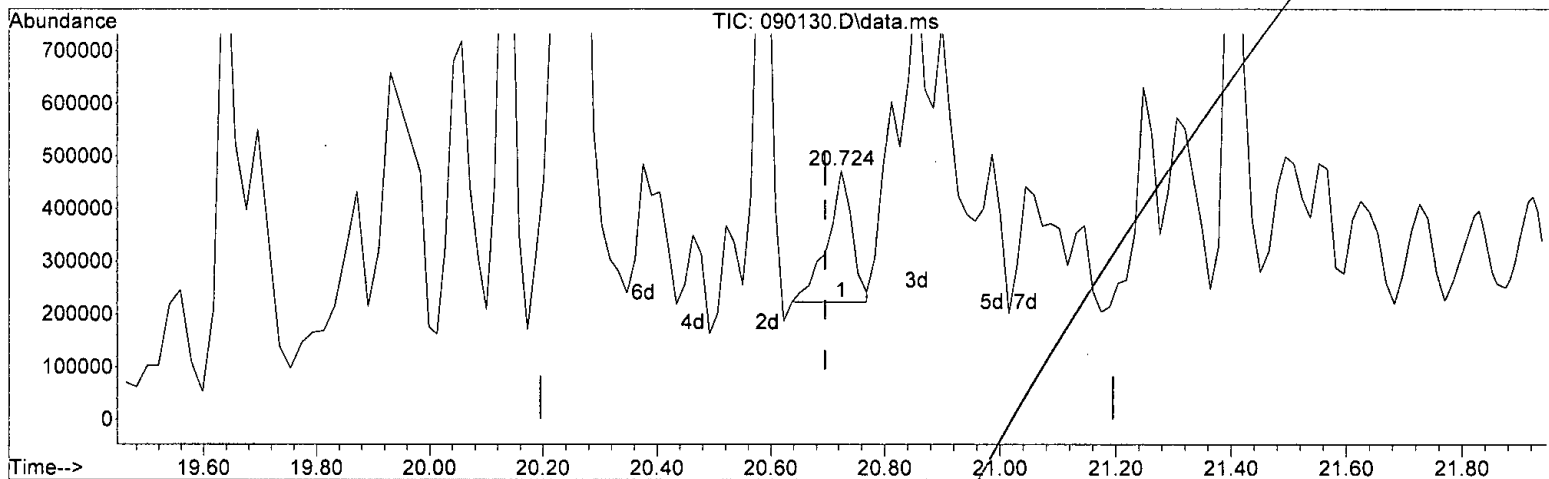
(22) Hexamethylcyclotrisiloxane  
 17.767min (-0.013) 35.676 ppbv m  
 response 318779  

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.724min (+ 0.029) 67.263 ppbv

response 750105

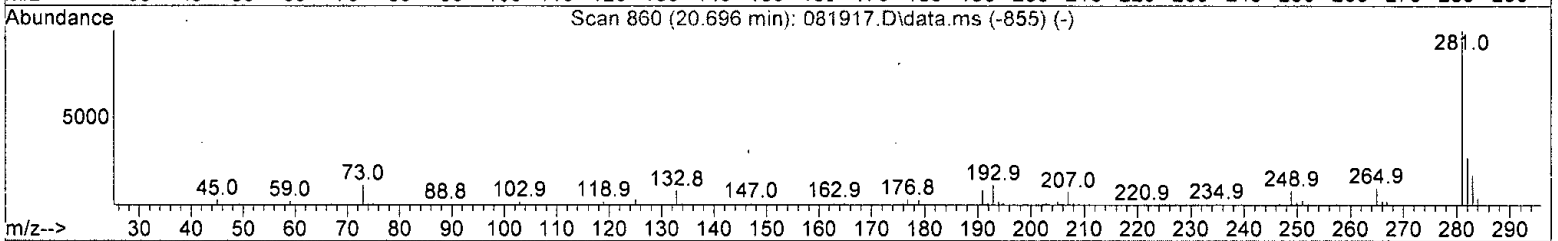
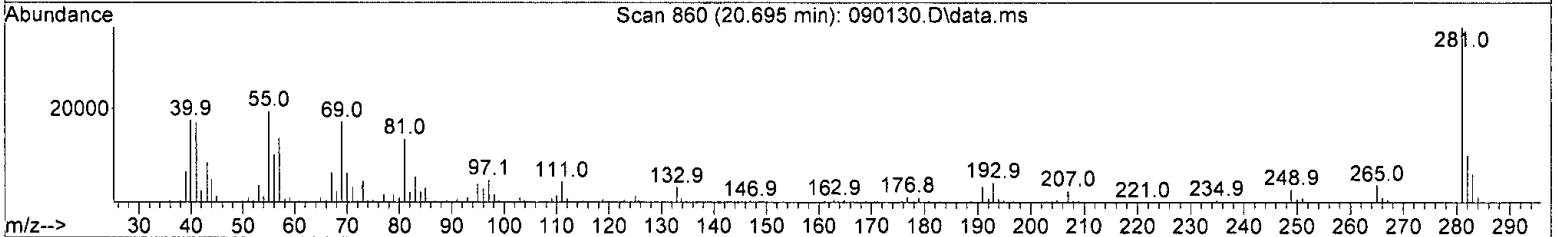
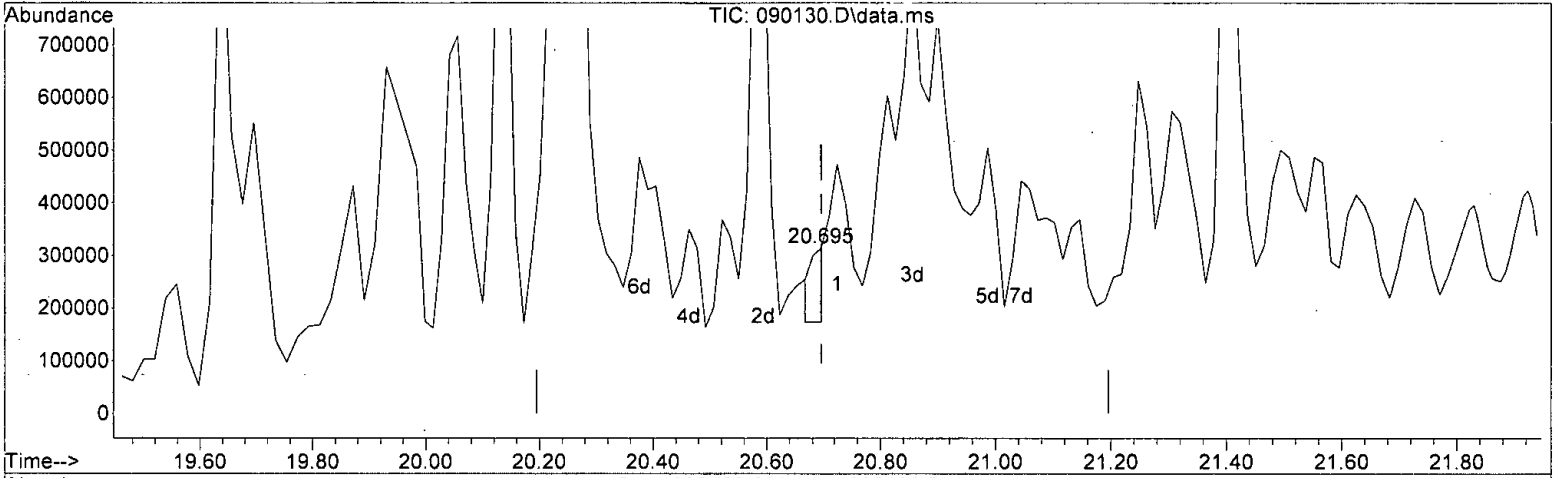
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B*  
*09/03/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

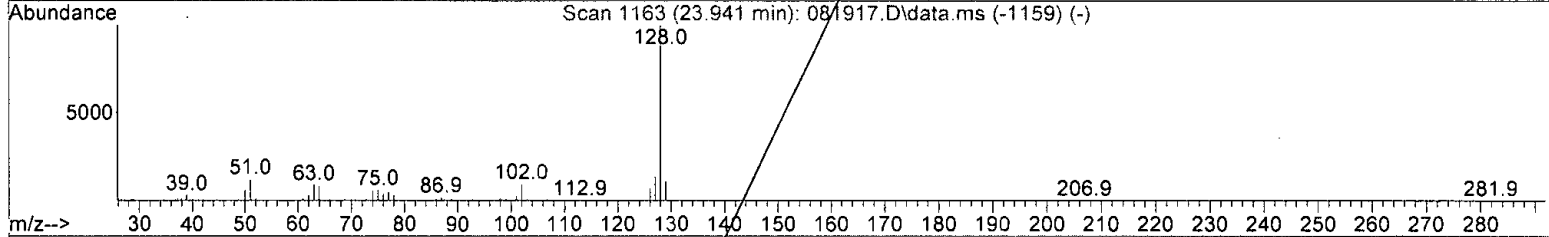
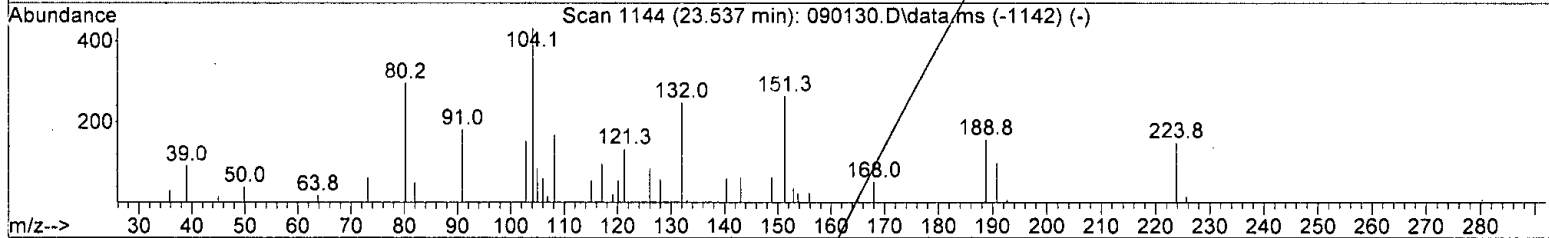
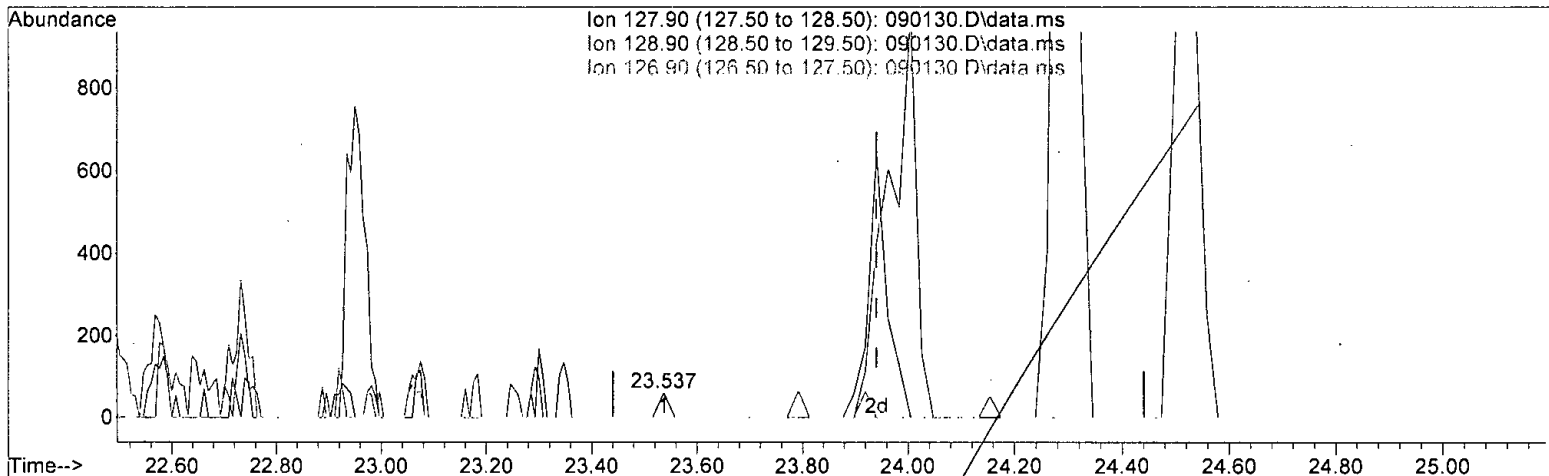
20.695min (-0.000) 20.858 ppbv m

response	Exp%	Act%
232606		
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B. G. / or / u*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(28) Naphthalene (T)

23.537min (-0.404) 0.005 ug/m3

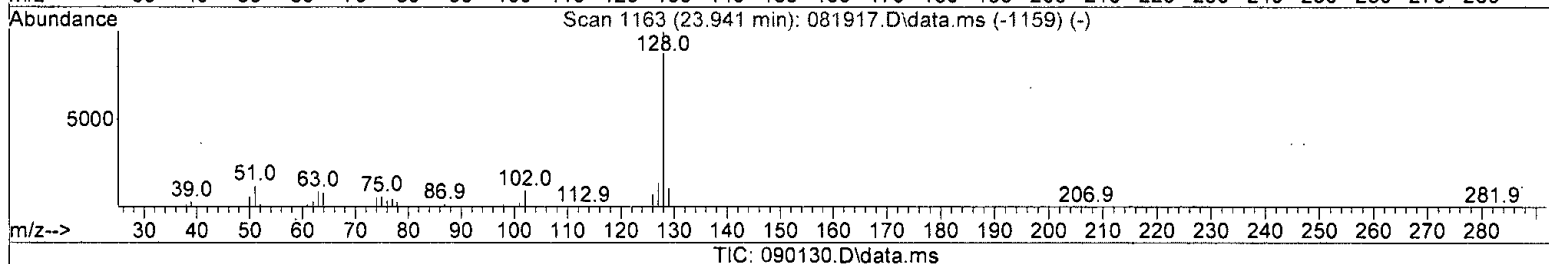
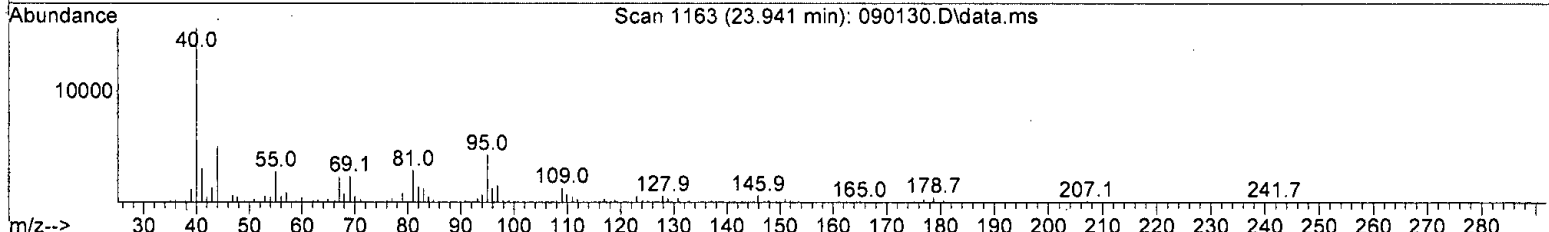
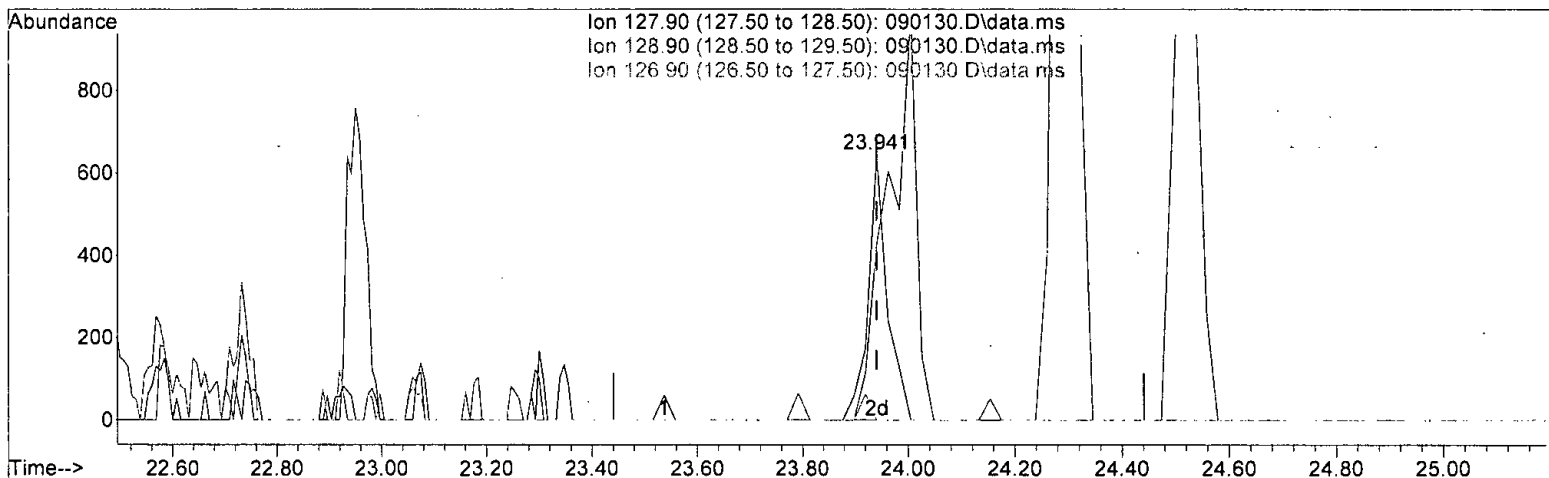
response 77

Ion	Exp%	Act%
127.90	100.00	100.00
128.90	11.10	0.00
126.90	13.70	0.00
0.00	0.00	0.00

*N*  
*09/03/21*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(28) Naphthalene (T)

23.941min (-0.000) 0.103 ug/m3 m

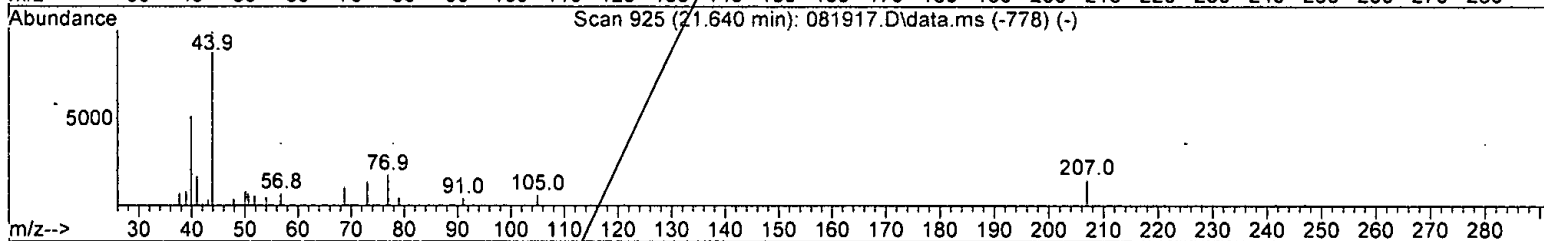
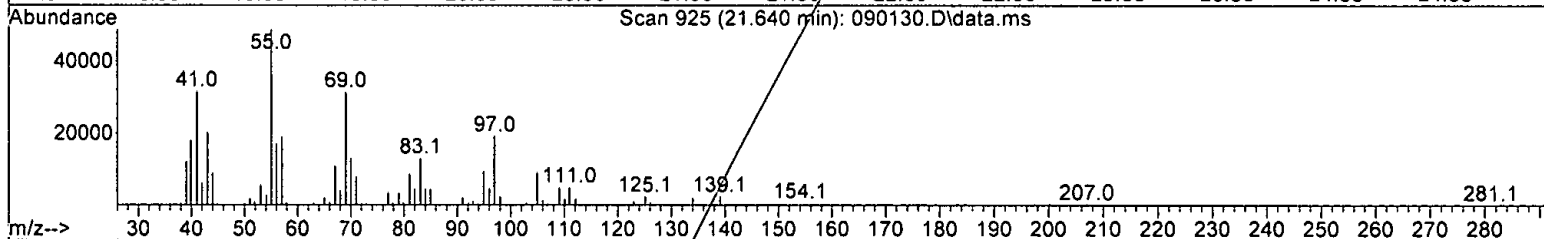
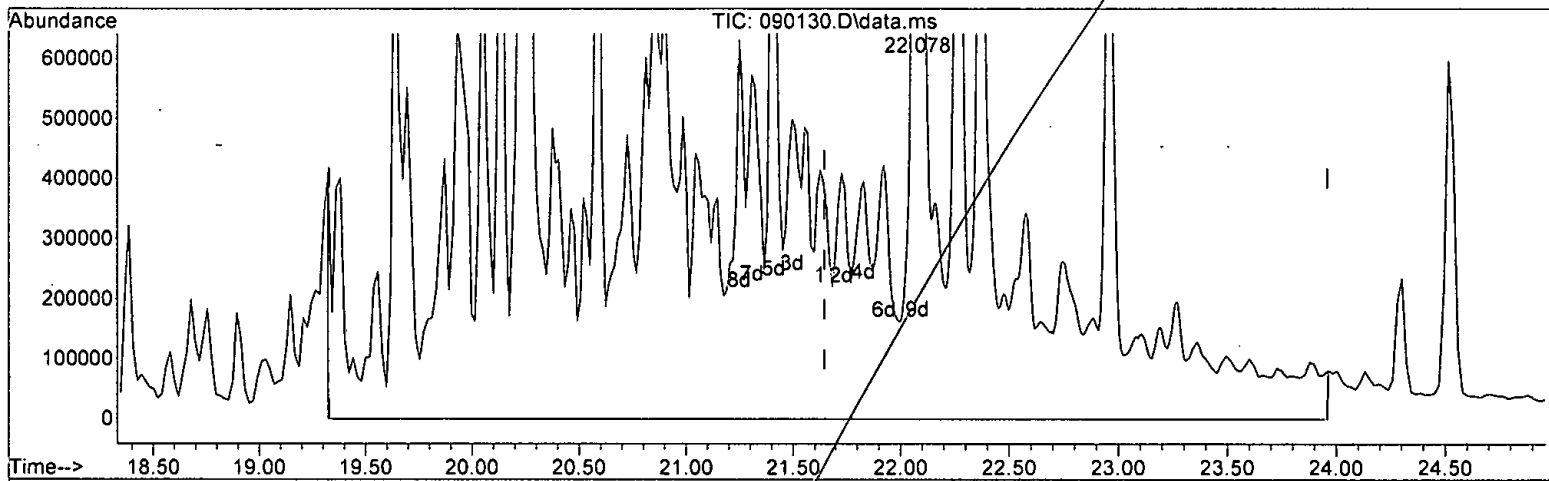
response 1585

Ion	Exp%	Act%
127.90	100.00	100.00
128.90	11.10	65.89#
126.90	13.70	0.00
0.00	0.00	0.00

*Handwritten signature: M. G. / G. / U.*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 1277.983 ug/m3 m

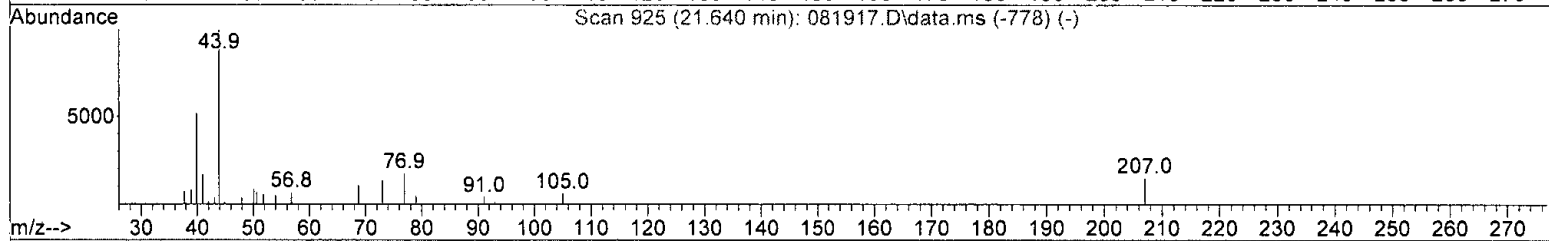
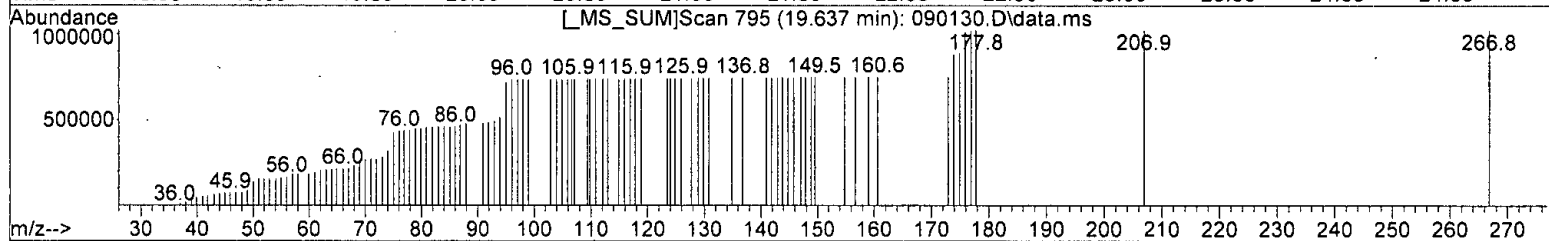
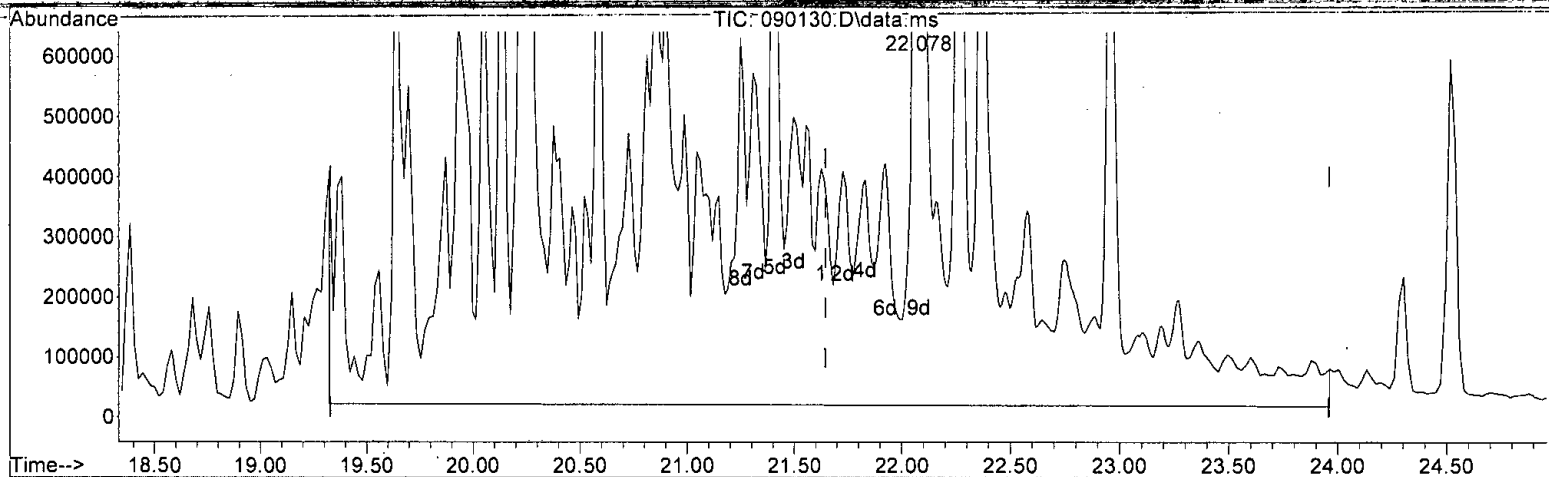
response 56188025

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Bat/2/14*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 2411.741 ug/m3 m  
 response 106035037

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

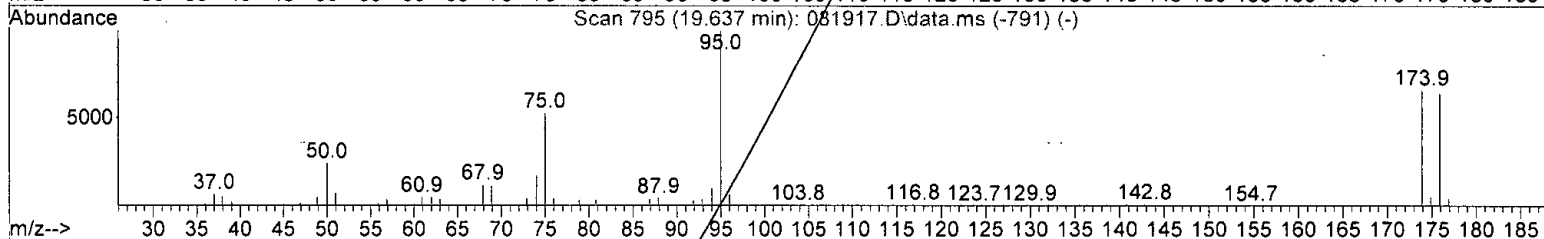
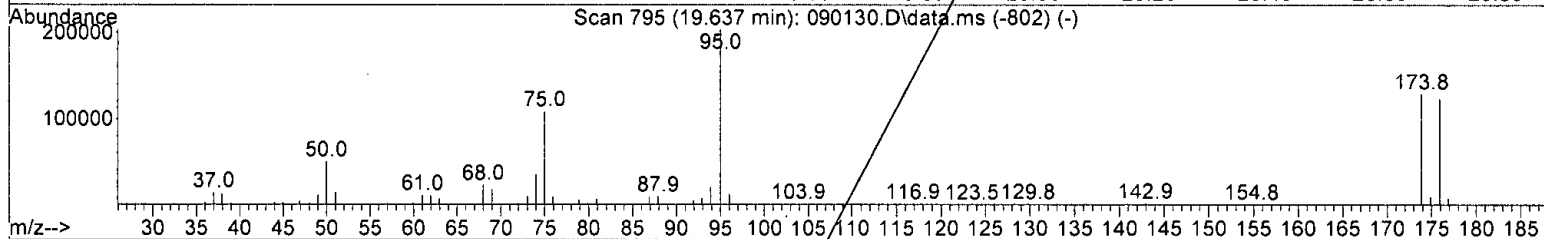
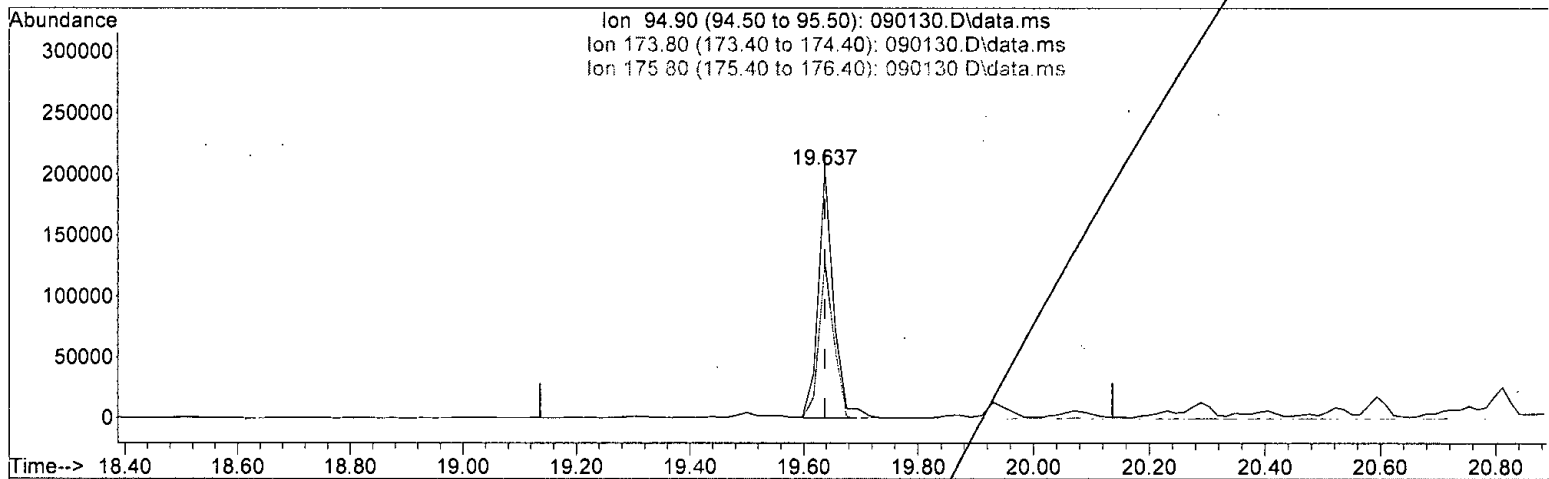
*Handwritten signature:* U 09/03/21



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*B*  
*09/03/21*

(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 72.001 ug/m3

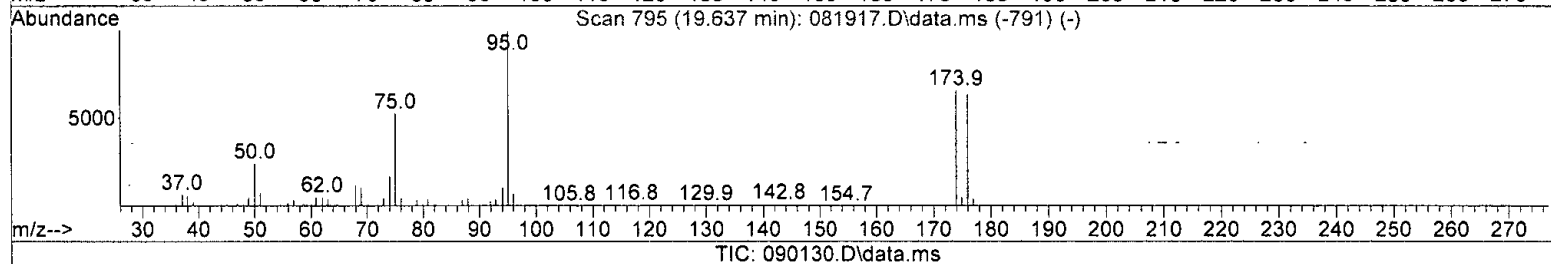
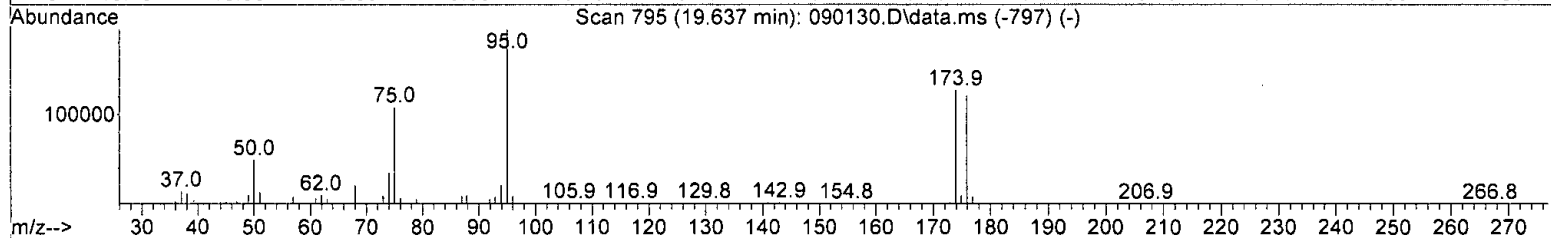
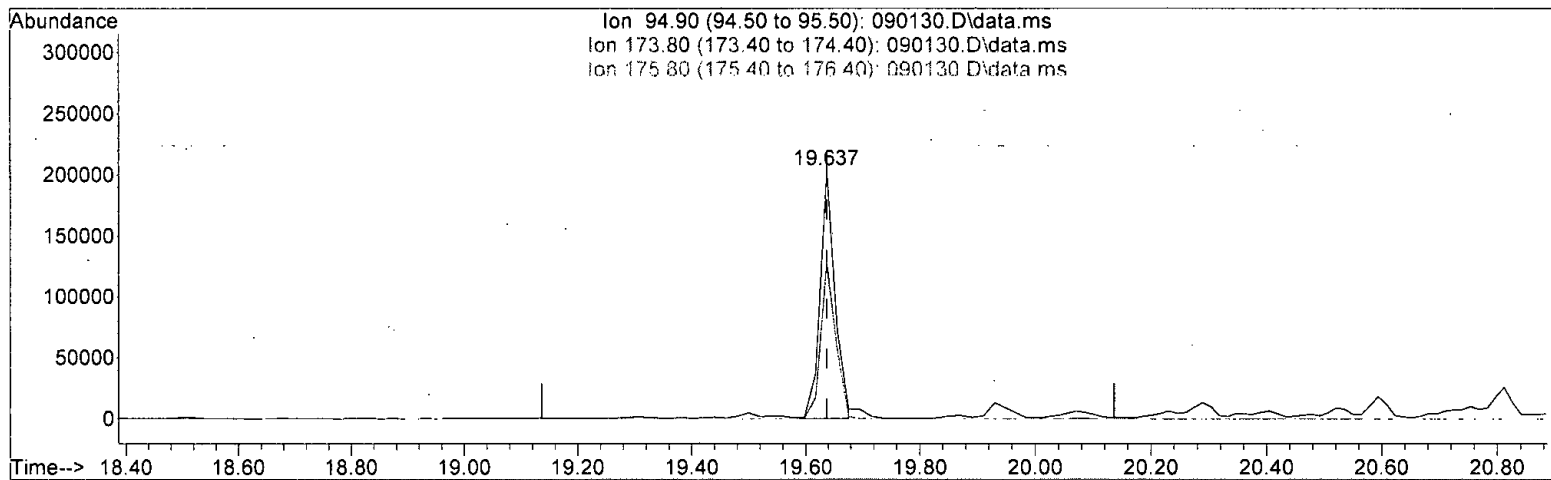
response 387639

Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	63.58#
175.80	93.50	60.71#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 70.192 ug/m3 m

response 377900

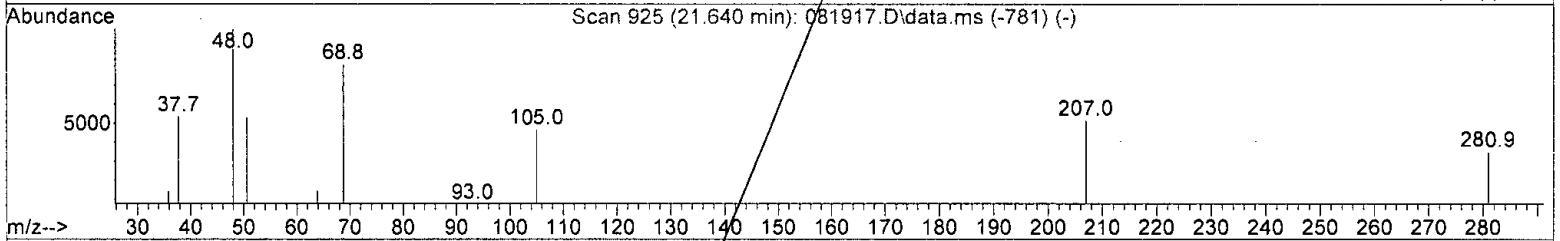
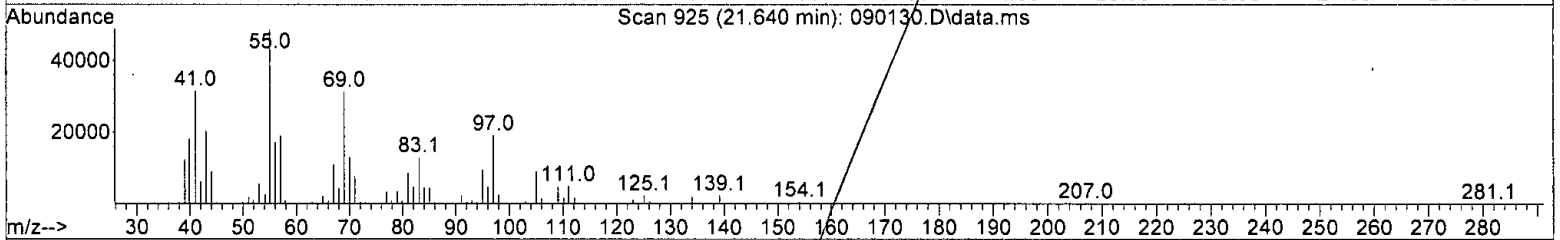
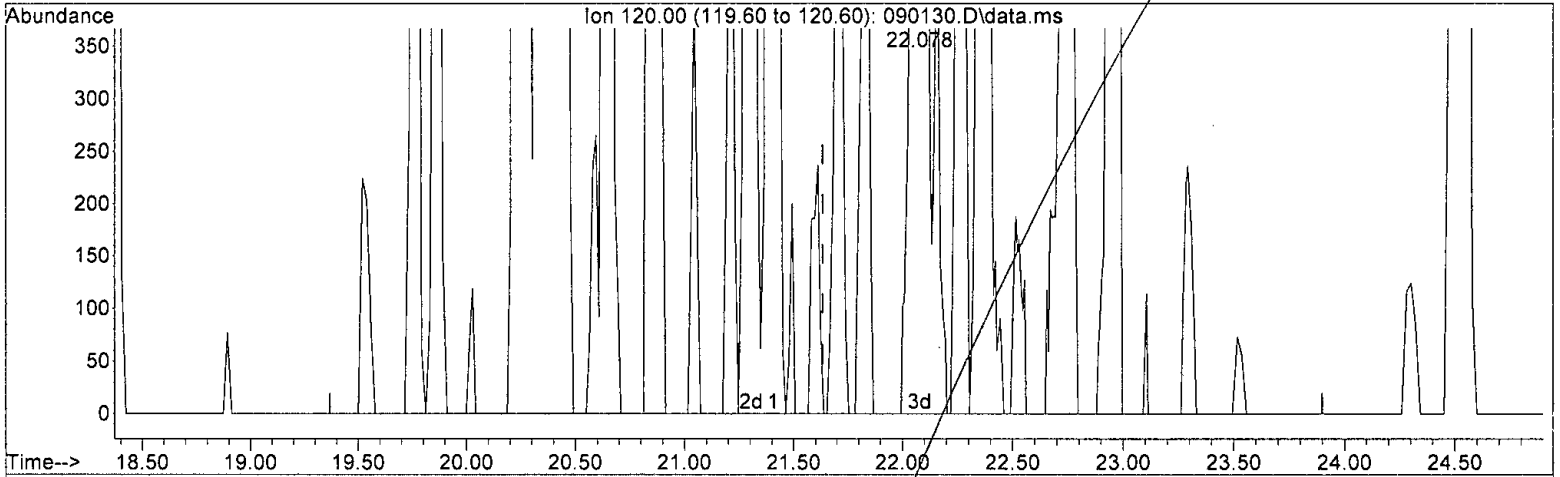
Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	63.49#
175.80	93.50	60.63#
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090130.D\data.ms

*Bat/bat*

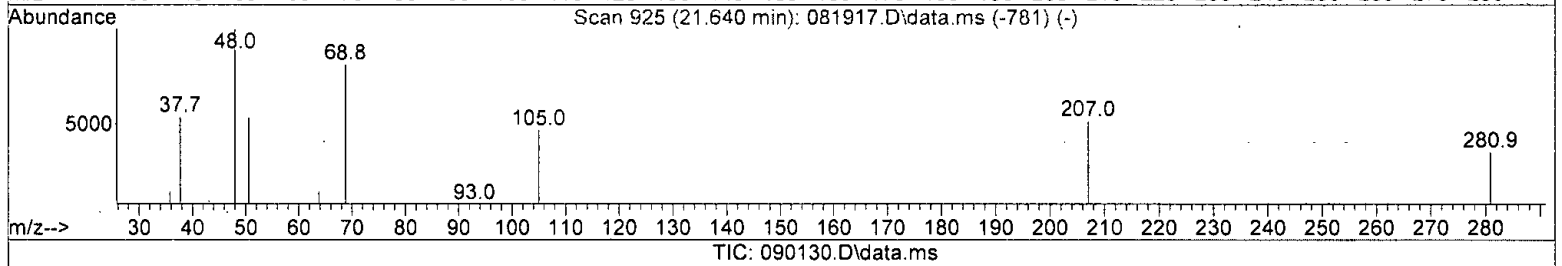
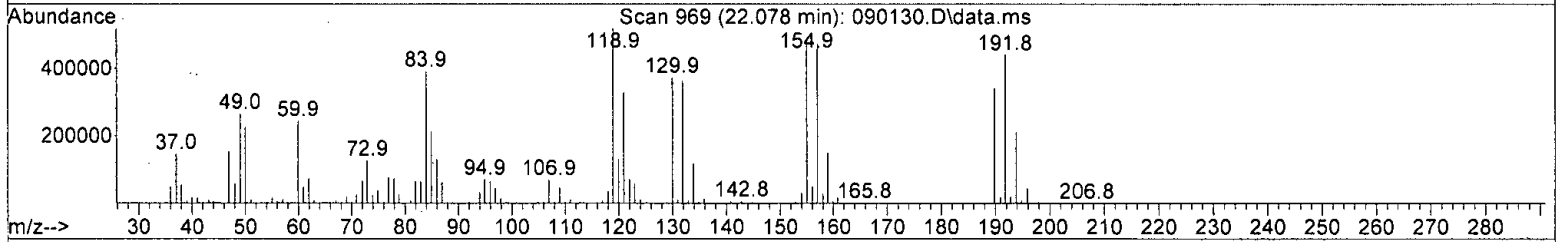
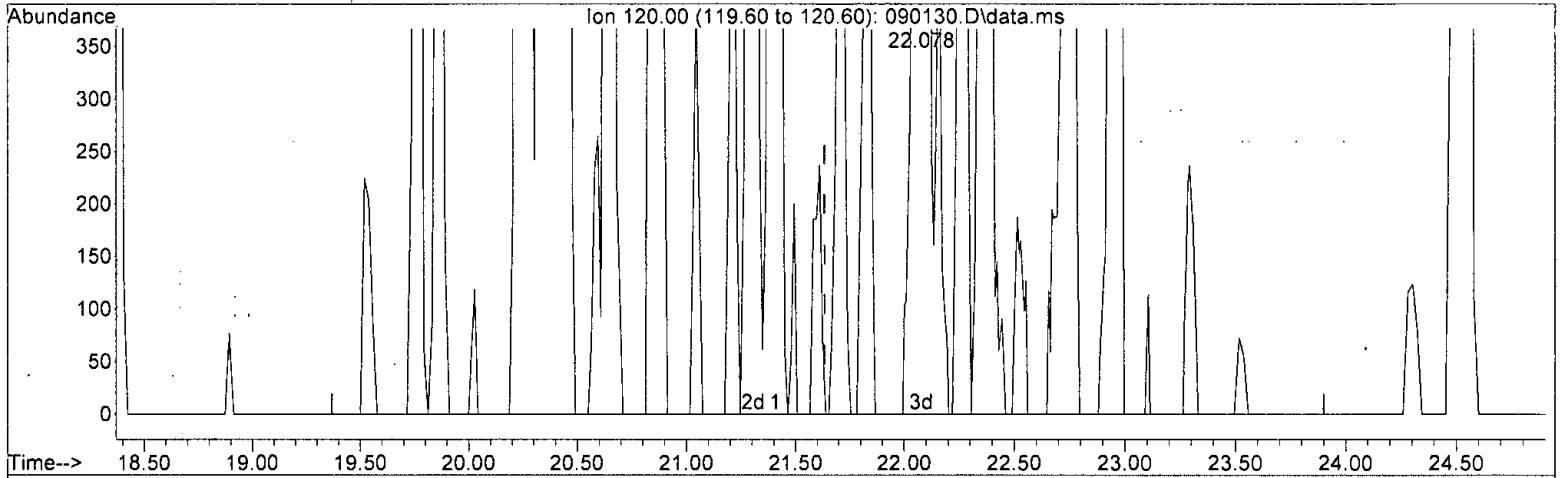
(44) APH EC9-10 aromatics (1) (H)  
 21.635min ( 0.000) 84.166 ug/m3 m  
 response 430842

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



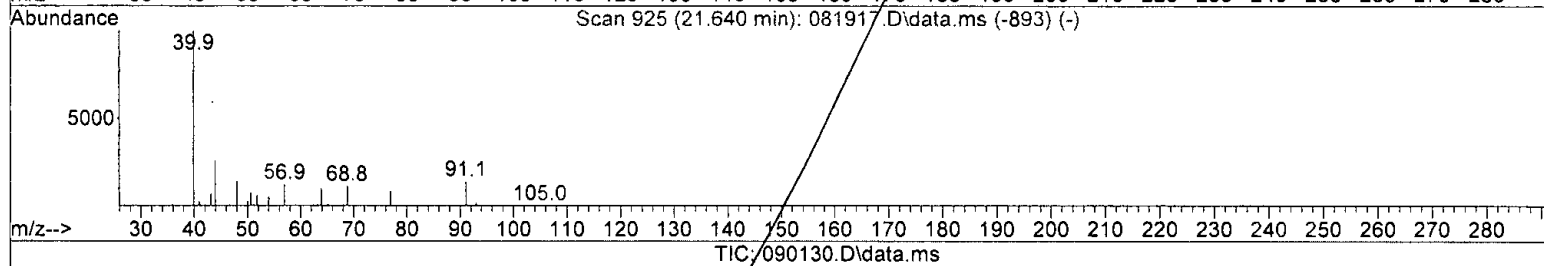
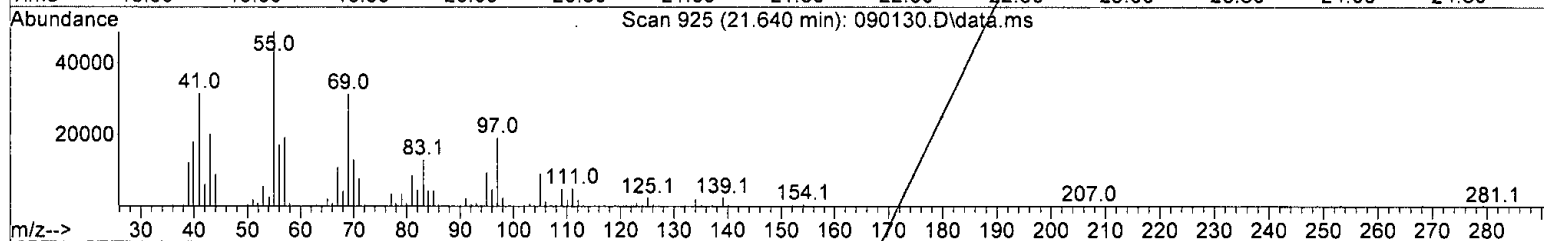
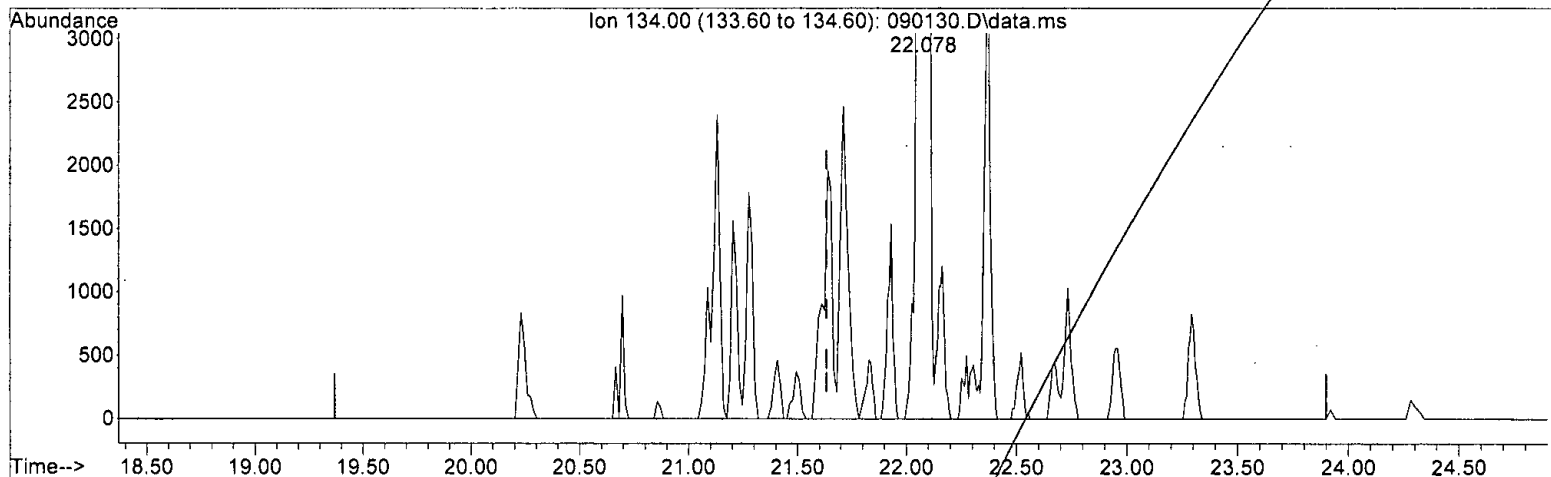
(44) APH EC9-10 aromatics (1) (H)  
 21.635min ( 0.000) 129.201 ug/m3 m  
 response 661372

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Bat/09/24*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 48.081 ug/m3 m

response 140184

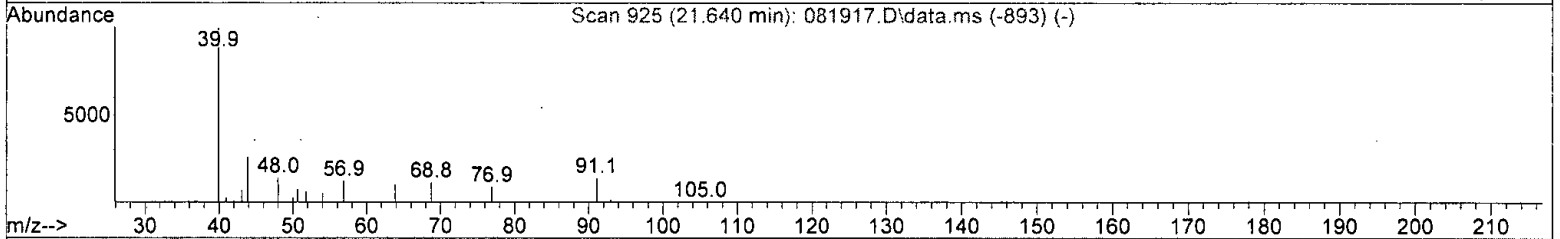
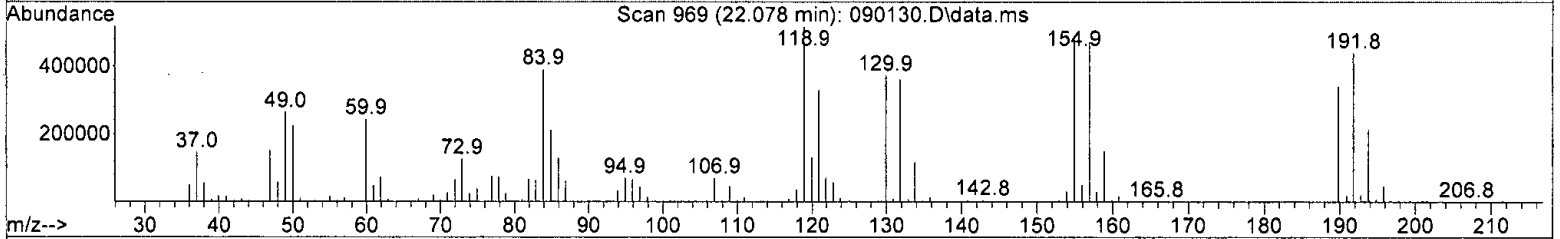
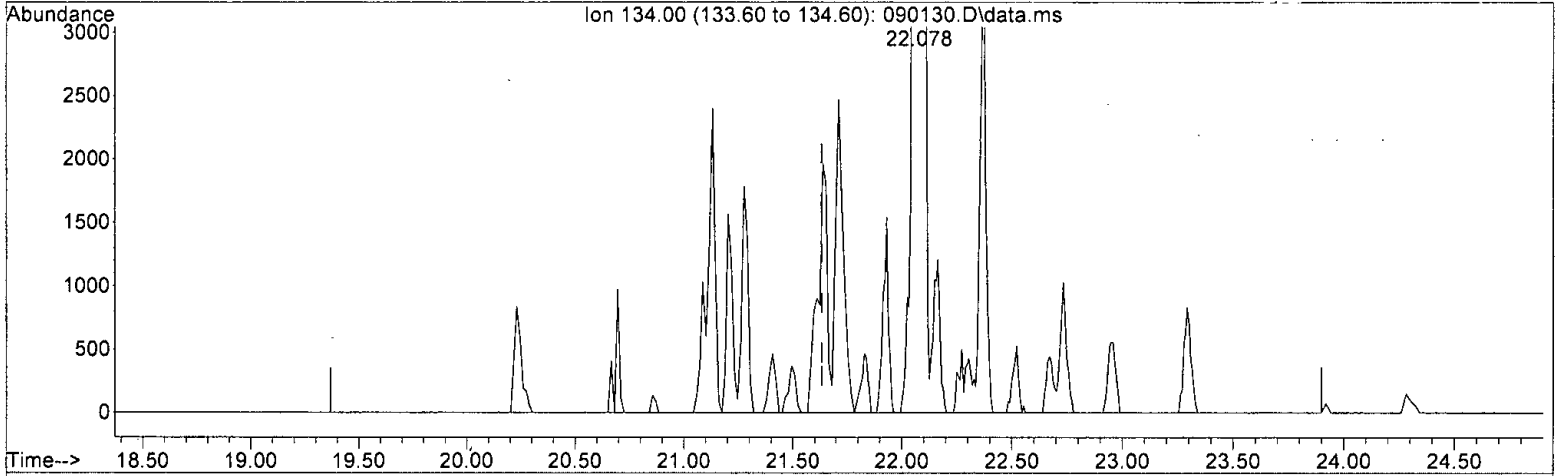
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B only*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 12:39:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090130.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 134.257 ug/m3 m

response 391443

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B*  
*09/03/21*

LSC Area Percent Report

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1

Integration Parameters: rteint.p  
 Integrator: RTE  
 Smoothing : OFF  
 Sampling : 1  
 Start Thrs: 0.2  
 Stop Thrs : 0

Filtering: 5  
 Min Area: 1 % of largest Peak  
 Max Peaks: 100  
 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >  
 Peak separation: 5

Method : F:\METHODS\Inst7\0819APH7.M  
 Title : APH TO-15 method

Signal : TIC: 090130.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	8.723	189	192	197	rVB	276686	1066134	1.21%	0.514%
2	9.721	230	235	244	rVB	5743893	20128717	22.78%	9.713%
3	9.971	244	249	253	rBV	271167	942034	1.07%	0.455%
4	10.472	273	277	282	rVB	2187577	7465101	8.45%	3.602%
5	13.213	489	497	501	rBV	422253	1408645	1.59%	0.680%
6	14.211	538	541	544	rBV	2802407	7646864	8.66%	3.690%
7	17.574	679	683	688	rBV	39147473	88343790	100.00%	42.629%
8	17.741	692	696	706	rVB	12983095	26050091	29.49%	12.570%
9	18.130	714	718	720	rBV	1430073	4122723	4.67%	1.989%
10	18.189	720	721	724	rVV	622982	1549314	1.75%	0.748%
11	19.637	793	795	797	rBV	969878	2283493	2.58%	1.102%
12	19.871	801	807	808	rBV4	335234	1151718	1.30%	0.556%
13	19.930	808	810	813	rVB3	497105	1430242	1.62%	0.690%
14	20.056	813	816	819	rBV2	555684	1489175	1.69%	0.719%
15	20.129	819	821	824	rVB	941828	1916530	2.17%	0.925%
16	20.231	824	828	829	rBV4	1456765	3071478	3.48%	1.482%
17	20.274	829	831	836	rVB5	960514	2169854	2.46%	1.047%
18	20.594	850	853	855	rVB	833500	1825763	2.07%	0.881%
19	20.724	855	862	865	rBV5	286484	1072495	1.21%	0.518%
20	20.855	869	871	873	rVV	522583	1216349	1.38%	0.587%
21	21.247	893	898	900	rBV	427543	1037282	1.17%	0.501%
22	21.305	900	902	906	rVV3	357750	1144483	1.30%	0.552%
23	21.407	906	909	912	rVV	1011589	2172144	2.46%	1.048%
24	21.494	912	915	918	rVV3	264327	976797	1.11%	0.471%
25	22.078	959	969	977	rBV	7519460	15568428	17.62%	7.512%
26	22.265	986	993	1000	rBV3	1256512	3045383	3.45%	1.470%
27	22.366	1000	1006	1017	rVB5	1298880	3165794	3.58%	1.528%
28	22.958	1076	1082	1091	rVB9	798243	2166122	2.45%	1.045%
29	24.515	1187	1190	1194	rVB	557444	1610181	1.82%	0.777%

Sum of corrected areas: 207237124

Signal : TIC: 090130.D\datasim.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
--------	----------	------------	----------	-----------	-------	-------------	------------	--------------	------------

Data Path : F:\Proc\_GCMS7\09-01-21\  
Data File : 090130.D  
Acq On : 2 Sep 2021 4:50 am  
Operator : bat  
Sample : 108515-02 1/210  
Misc : T15  
ALS Vial : 30 Sample Multiplier: 1

Integration Parameters: rteint.p  
Integrator: RTE  
Smoothing : OFF Filtering: 5  
Sampling : 1 Min Area: 1 % of largest Peak  
Start Thrs: 0.2 Max Peaks: 100  
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >  
Peak separation: 5

Method : F:\METHODS\Inst7\0819APH7.M  
Title : APH TO-15 method

No peaks were detected using the above RTE integration parameters!



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1

Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
 Peak Number 1 Pentane, 2-methyl- Concentration Rank 13

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.72	56.59 ug/m3	1066130	Bromochloromethane	9.97

Hit# of	Tentative ID	MW	MolForm	CAS#	Qual
1	Pentane, 2-methyl-	86	C6H14	000107-83-5	78
2	Pentane	72	C5H12	000109-66-0	36
3	Pentane, 3-ethyl-2-methyl-	114	C8H18	000609-26-7	23
4	Butane, 2,3-dimethyl-	86	C6H14	000079-29-8	23
5	Butanal, 2-ethyl-	100	C6H12O	000097-96-1	9

\*\*\*\*\*  
 Peak Number 2 Ethene, 1,2-dichloro-, (E)- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.72	1068.36 ug/m3	20128700	Bromochloromethane	9.97

Hit# of	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethene, 1,2-dichloro-, (E)-	96	C2H2Cl2	000156-60-5	94
2	Ethene, 1,2-dichloro-, (Z)-	96	C2H2Cl2	000156-59-2	91
3	Ethene, 1,1-dichloro-	96	C2H2Cl2	000075-35-4	90
4	Propanoic acid, 2,2,3-trichloro-	176	C3H3Cl3O2	003278-46-4	72
5	Cyanogen chloride	61	CClN	000506-77-4	9

\*\*\*\*\*  
 Peak Number 3 1,3-Butadiene, 2-chloro- Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.47	396.22 ug/m3	7465100	Bromochloromethane	9.97

Hit# of	Tentative ID	MW	MolForm	CAS#	Qual
1	1,3-Butadiene, 2-chloro-	88	C4H5Cl	000126-99-8	90
2	1-Butyne, 3-methyl-	68	C5H8	000598-23-2	59
3	1-CHLORO-2-METHYLENECYCLOPROPANE	88	C4H5Cl	000000-00-0	20
4	2-Propenenitrile	53	C3H3N	000107-13-1	9
5	Propanedinitrile, methyl-	80	C4H4N2	003696-36-4	4

\*\*\*\*\*  
 Peak Number 4 Ethene, trichloro- Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.21	271.43 ug/m3	7646860	1,4-Difluorobenzene	13.21

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1

Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P

Hit#	of	Tentative ID	MW	MolForm	CAS#	Qual
1	5	Ethene, trichloro-	130	C2HCl3	000079-01-6	97
2		2-Fluoro-5-chloropyrimidine	132	C4H2ClFN2	062802-37-3	25
3		Ethyne, chloro-	60	C2HCl	000593-63-5	10
4		Pyridine, 1-oxide	95	C5H5NO	000694-59-7	9
5		2(1H)-Pyridinone	95	C5H5NO	000142-08-5	9

\*\*\*\*\*  
 Peak Number 5 Ethene, tetrachloro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
17.57	2851.06 ug/m3	88343800	Chlorobenzene-d5	18.21

Hit#	of	Tentative ID	MW	MolForm	CAS#	Qual
1	5	Ethene, tetrachloro-	164	C2Cl4	000127-18-4	97
2		2,5-Furandione, 3,4-dichloro-	166	C4Cl2O3	001122-17-4	27
3		Quinazoline, 4-chloro-	164	C8H5ClN2	005190-68-1	9
4		2-Chloroquinoxaline	164	C8H5ClN2	001448-87-9	9
5		Pyrimidine, 5-fluoro-2,4-dichloro-	166	C4HCl2FN2	002927-71-1	9

\*\*\*\*\*  
 Peak Number 6 1,3-Butadiene, 1,4-dichloro- Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
18.13	133.05 ug/m3	4122720	Chlorobenzene-d5	18.21

Hit#	of	Tentative ID	MW	MolForm	CAS#	Qual
1	5	1,3-Butadiene, 1,4-dichloro-	122	C4H4Cl2	002984-42-1	97
2		Cyclobutene, 3,4-dichloro-	122	C4H4Cl2	041326-64-1	97
3		2-Butyne, 1,4-dichloro-	122	C4H4Cl2	000821-10-3	38
4		2-Propenenitrile, 2-chloro-	87	C3H2ClN	000920-37-6	9
5		Methane, difluoro-	52	CH2F2	000075-10-5	4

\*\*\*\*\*  
 Peak Number 7 Acetaldehyde, chloro- Concentration Rank 17

R.T.	EstConc	Area	Relative to ISTD	R.T.
19.87	37.17 ug/m3	1151720	Chlorobenzene-d5	18.21

Hit#	of	Tentative ID	MW	MolForm	CAS#	Qual
1	5	Acetaldehyde, chloro-	78	C2H3ClO	000107-20-0	35
2		1,3-Butadiyne	50	C4H2	000460-12-8	35
3		Acetic acid, chloro-	94	C2H3ClO2	000079-11-8	25

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1

Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P

4 Phosphoramidous difluoride 85 H2F2NP 025757-74-8 9  
 5 1,3,2-Oxazaborolane, 2-butyl- 127 C6H14BNO 031748-10-4 9

\*\*\*\*\*  
 Peak Number 8 3,4-Nonadiene Concentration Rank 16

R.T.	EstConc	Area	Relative to ISTD	R.T.
19.93	46.16 ug/m3	1430240	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		3,4-Nonadiene	124	C9H16	037050-03-6	72
2		Thiophene, 2,5-dihydro-2,4-dimet...	146	C6H10O2S	010033-92-8	59
3		1,3-Pentadiene, 3-methyl-, (E)-	82	C6H10	002787-43-1	53
4		1,3-Pentadiene, 3-methyl-, (Z)-	82	C6H10	002787-45-3	53
5		1,4-Pentadiene, 3-methyl-	82	C6H10	001115-08-8	50

\*\*\*\*\*  
 Peak Number 9 Cyclohexanone, 2,3-dimethyl- Concentration Rank 15

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.06	48.06 ug/m3	1489180	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		Cyclohexanone, 2,3-dimethyl-	126	C8H14O	013395-76-1	47
2		3-Heptene, 4-ethyl-	126	C9H18	033933-74-3	46
3		Pyridine, 2,3,4,5-tetrahydro-	83	C5H9N	000505-18-0	43
4		Cyclohexane, 2-propenyl-	124	C9H16	002114-42-3	43
5		Cyclopentane, 1-methyl-2-(2-prop...	124	C9H16	050746-53-7	38

\*\*\*\*\*  
 Peak Number 10 2-Decene, 5-methyl-, (Z)- Concentration Rank 11

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.13	61.85 ug/m3	1916530	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		2-Decene, 5-methyl-, (Z)-	154	C11H22	074645-86-6	56
2		Undecane, 2,6-dimethyl-	184	C13H28	017301-23-4	50
3		Ether, tert-butyl isopropylidene...	154	C10H18O	024524-56-9	47
4		Octane, 3-methyl-	128	C9H20	002216-33-3	45
5		1-Hexene, 3,5,5-trimethyl-	126	C9H18	004316-65-8	43

\*\*\*\*\*  
 Peak Number 11 Cyclohexane, 1,1,2,3-tetram... Concentration Rank 12

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 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1

Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.59	58.92 ug/m3	1825760	Chlorobenzene-d5	18.21

Hit# of	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclohexane, 1,1,2,3-tetramethyl-	140	C10H20	006783-92-2	72
2	4-Octene, 2,6-dimethyl-, [S-(Z)]-	140	C10H20	062960-77-4	59
3	2-Octene, 2,6-dimethyl-	140	C10H20	004057-42-5	45
4	1-Hexene, 3,3-dimethyl-	112	C8H16	003404-77-1	43
5	1-Hexene, 3,3,5-trimethyl-	126	C9H18	013427-43-5	43

\*\*\*\*\*  
 Peak Number 12 1,3-Butadiene, 1,1,3,4-tetr... Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
21.41	70.10 ug/m3	2172140	Chlorobenzene-d5	18.21

Hit# of	Tentative ID	MW	MolForm	CAS#	Qual
1	1,3-Butadiene, 1,1,3,4-tetrachloro-	190	C4H2Cl4	042769-38-0	89
2	1,3-Butadiyne	50	C4H2	000460-12-8	38
3	1-Propene, bromochlorodifluoro-	190	C3H2BrClF2	072403-20-4	18
4	Benzenecarboximidamide, 3-nitro-...	201	C7H8ClN3O2	056406-50-9	10
5	Acetic acid, chloro-	94	C2H3ClO2	000079-11-8	10

\*\*\*\*\*  
 Peak Number 13 Bicyclo[3.1.1]heptane, 2,6,... Concentration Rank 18

R.T.	EstConc	Area	Relative to ISTD	R.T.
21.49	31.52 ug/m3	976797	Chlorobenzene-d5	18.21

Hit# of	Tentative ID	MW	MolForm	CAS#	Qual
1	Bicyclo[3.1.1]heptane, 2,6,6-tri...	138	C10H18	000473-55-2	38
2	Cycloundecane, 1,1,2-trimethyl-	196	C14H28	062376-15-2	27
3	4-Dodecene	168	C12H24	002030-84-4	27
4	5-Dodecene, (Z)-	168	C12H24	007206-28-2	27
5	Cyclopentane, (2-methylpropyl)-	126	C9H18	003788-32-7	27

\*\*\*\*\*  
 Peak Number 14 1,3-Benzenediol, 4,6-dichlo... Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.08	502.43 ug/m3	15568400	Chlorobenzene-d5	18.21

Hit# of	Tentative ID	MW	MolForm	CAS#	Qual
---------	--------------	----	---------	------	------

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1

Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P

```
-----
1 1,3-Benzenediol, 4,6-dichloro-2-... 192 C7H6Cl2O2 052956-21-5 30
2 1,3-Butadiene, 1,1,3,4-tetrachloro- 190 C4H2Cl4 042769-38-0 30
3 Benzaldehyde, 4-chloro-, oxime 155 C7H6ClNO 003848-36-0 9
4 Benzene, 1-bromo-4-chloro- 190 C6H4BrCl 000106-39-8 9
5 Phenol, 2,4-dichloro-3,5-dimethyl- 190 C8H8Cl2O 000133-53-9 9

```

\*\*\*\*\*  
 Peak Number 15 Ethane, hexachloro- Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.27	98.28 ug/m3	3045380	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		Ethane, hexachloro-	234	C2Cl6	000067-72-1	80
2		Methanesulfonyl chloride, trichl...	216	CCl4O2S	002547-61-7	25
3		6-Chloromethyl-5-methylidene-ant...	170	C9H11ClO	066728-04-9	22
4		Acetic acid, trichloro-, anhydride	306	C4Cl6O3	004124-31-6	16
5		Methane, trichloronitro-	163	CCl3NO2	000076-06-2	12

\*\*\*\*\*  
 Peak Number 16 1,3-Butadiene, 1,1,3,4-tetr... Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.37	102.17 ug/m3	3165790	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		1,3-Butadiene, 1,1,3,4-tetrachloro-	190	C4H2Cl4	042769-38-0	90
2		1,3-Benzenediol, 4,6-dichloro-2-...	192	C7H6Cl2O2	052956-21-5	12
3		Quinoline, 4,8-dimethyl-	157	C11H11N	013362-80-6	9
4		Benzaldehyde, 3-chloro-, oxime	155	C7H6ClNO	034158-71-9	9
5		2-METHYL-4-PROPYL-1,3-OXATHIANE ...	176	C8H16O2S	000000-00-0	9

\*\*\*\*\*  
 Peak Number 17 1,3-Butadiene, pentachloro- Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.96	69.91 ug/m3	2166120	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		1,3-Butadiene, pentachloro-	224	C4HCl5	055880-77-8	95
2		Methane, tribromofluoro-	268	CBBr3F	000353-54-8	25
3		1,3-Cyclopentanedione, 2-bromo-4...	204	C7H9BrO2	057157-02-5	12
4		4-Pyridinol, 3,5-dichloro-2,6-di...	191	C7H7Cl2NO	002971-90-6	10
5		Stannane, cyclopropyltrimethyl-	206	C6H14Sn	017582-54-6	10

Library Search Compound Report

Data Path : F:\Proc\_GCMS7\09-01-21\  
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 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1

Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
 Peak Number 18 1,3-Butadiene, 1,1,2,3,4,4-... Concentration Rank 14

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.52	51.96 ug/m3	1610180	Chlorobenzene-d5	18.21

Hit#	of	5	Tentative ID	MW	MolForm	CAS#	Qual
1			1,3-Butadiene, 1,1,2,3,4,4-hexac...	258	C4Cl6	000087-68-3	99
2			Selenocyanic acid, p-(sec-butyla...	254	C11H14N2Se	022037-11-2	9
3			Phenanthrene, 9,10-dihydro-3-nitro-	225	C14H11NO2	018264-83-0	7
4			3,6-Bis(N-methylamino)carbazole	225	C14H15N3	098785-99-0	4
5			Benzene, 1-nitro-4-(2-phenylethe...	225	C14H11NO2	004003-94-5	4

Tentatively Identified Compound (LSC) summary

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Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

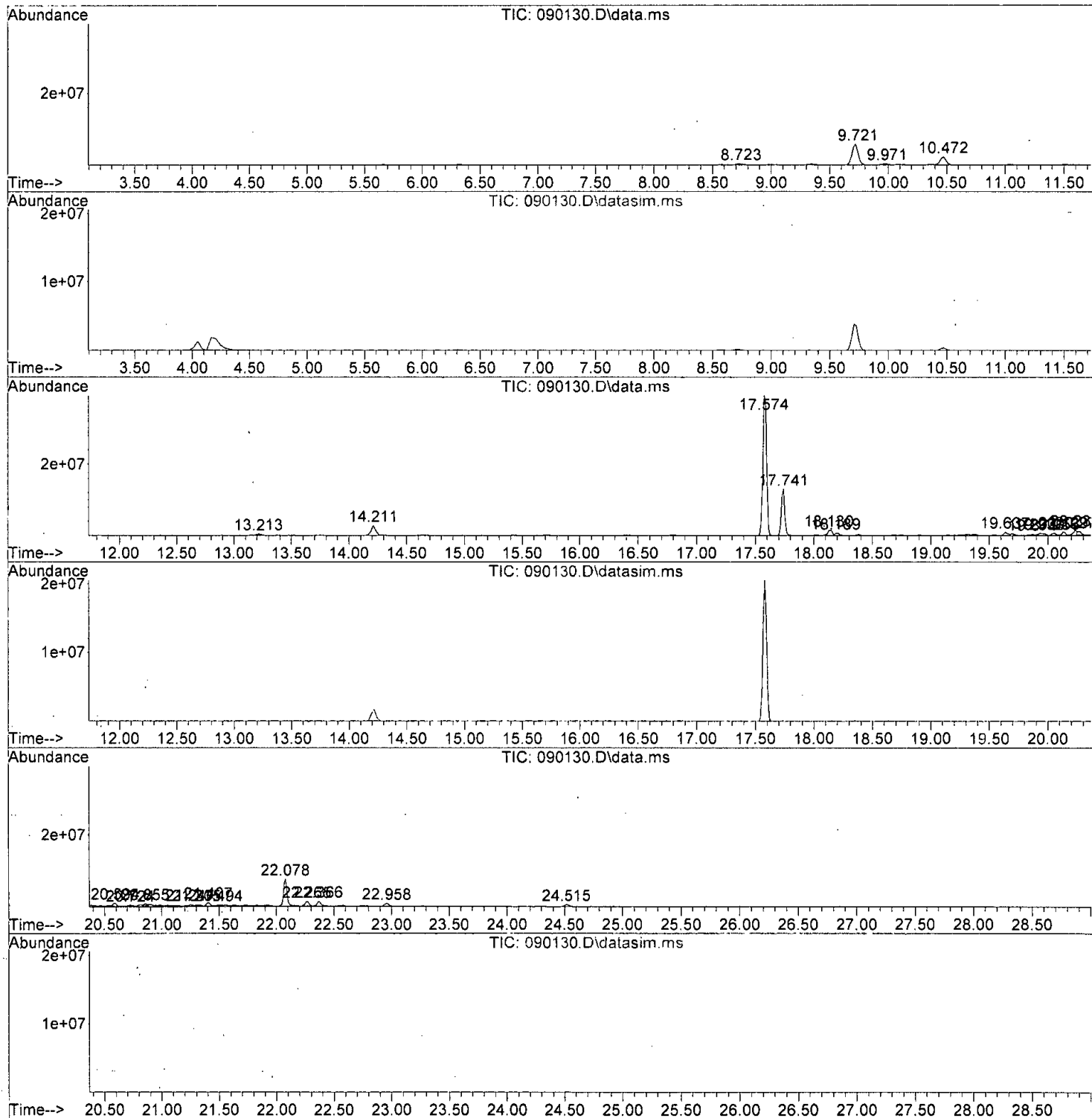
TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	--Internal Standard--			
					#	RT	Resp	Conc
Pentane, 2-methyl-	8.72	56.6	ug/m3	1066130	1	9.97	942034	50.0
Ethene, 1,2-dic...	9.72	1068.4	ug/m3	20128700	1	9.97	942034	50.0
1,3-Butadiene, ...	10.47	396.2	ug/m3	7465100	1	9.97	942034	50.0
Ethene, trichloro-	14.21	271.4	ug/m3	7646860	2	13.21	1408650	50.0
Ethene, tetrach...	17.57	2851.1	ug/m3	88343800	3	18.21	1549310	50.0
1,3-Butadiene, ...	18.13	133.1	ug/m3	4122720	3	18.21	1549310	50.0
Acetaldehyde, c...	19.87	37.2	ug/m3	1151720	3	18.21	1549310	50.0
3,4-Nonadiene	19.93	46.2	ug/m3	1430240	3	18.21	1549310	50.0
Cyclohexanone, ...	20.06	48.1	ug/m3	1489180	3	18.21	1549310	50.0
2-Decene, 5-met...	20.13	61.9	ug/m3	1916530	3	18.21	1549310	50.0
Cyclohexane, 1,...	20.59	58.9	ug/m3	1825760	3	18.21	1549310	50.0
1,3-Butadiene, ...	21.41	70.1	ug/m3	2172140	3	18.21	1549310	50.0
Bicyclo[3.1.1]h...	21.49	31.5	ug/m3	976797	3	18.21	1549310	50.0
1,3-Benzenediol...	22.08	502.4	ug/m3	15568400	3	18.21	1549310	50.0
Ethane, hexachl...	22.27	98.3	ug/m3	3045380	3	18.21	1549310	50.0
1,3-Butadiene, ...	22.37	102.2	ug/m3	3165790	3	18.21	1549310	50.0
1,3-Butadiene, ...	22.96	69.9	ug/m3	2166120	3	18.21	1549310	50.0
1,3-Butadiene, ...	24.52	52.0	ug/m3	1610180	3	18.21	1549310	50.0

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Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P





	A	B	C	D	E	F	G
1	Analysis For Volatile Compounds By Method MA-APH						
2							
3	Client Sample ID:		Client:				
4	Date Received:		Project:				
5	Date Collected:		Lab ID:	108515-02 1/210			
6	Date Analyzed:	09/02/21 04:50	Data File:	090130.D			
7	Matrx:		Instrument:	GCMS7			
8	Units:		Operator:	bat			
9							
10							
11	Surrogates:	Recovery:					
12	4-Bromofluorobenzene	99					
13							
14			Concentration				
15	Compounds:	ug/m3					
16							
17	APH EC5-8 aliphatics	#DIV/0!					
18	APH EC9-12 aliphatics	#DIV/0!					
19	APH EC9-10 aromatics	#DIV/0!					
20							

Userform7

Sample Info  
 108515021210  
 090130.D

### NON-APH PEAKS TO SUBTRACT

	Non-APH Peak #1 Response	Non-APH Peak #2 Response	Non-APH Peak #3 Response
APH EC5-8 Aliphatics	20128700	7646860	88343800
APH EC9-12 Aliphatics			

Continue

\*\*After entering all values, hit 'PrtScn' on keyboard, paste into Word, then Print page\*\*

Userform1

Sample Info  
 108515021210  
 090130.D

Flint Hills Report Format

TOLP Dilution Factor 210

Sol (dry wt) Reporting Limit

Water Calculation Factor

Product Surrogate DF 210

Air Dry Weight 0

TO-15 Sol Gas FL Initial Calb Limit

Reporting Units  Place in RUSH directory

Report to MDL

Report to 2nd MDL

OK/Continue Cancel

42	
43	
44	
45	
46	
47	
48	
49	
50	

Enter Data / MDLs / Calculations / Report

Ready



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 13:20:34 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	98769	50.000	ug/m3	#-0.02
10) 1,4-Difluorobenzene	13.21	114	465672	50.000	ug/m3	-0.02
20) Chlorobenzene-d5	18.21	117	429720	50.000	ug/m3	# 0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	377900m	70.192	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	98.86%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.97	TIC	942034	54.018	ug/m3	84
3) IS-2 1,4-Difluorobenzene	13.21	TIC	1319041m	53.289	ug/m3	
4) IS-3 Chlorobenzene-d5	18.19	TIC	1633997m	54.425	ug/m3	
5) Methylene chloride	6.83	TIC	145489	164.780	ug/m3	93
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.24	54	350127	60.200	ug/m3#	1
9) Methyl t-butyl ether	8.51	73	478	0.063	ug/m3	56
11) Benzene	12.71	78	9656	0.610	ug/m3	89
12) Isopentane	5.66	TIC	620503	19.733	ug/m3	94
13) Hexane	9.97	TIC	942034	30.525	ug/m3	61
14) Cyclohexane	13.21	TIC	1411229	43.658	ug/m3	94
15) 2,3-Dimethylpentane	13.50	TIC	372189	9.022	ug/m3	95
16) Heptane	14.65	TIC	414135	12.285	ug/m3	66
17) Octane	17.74	TIC	26006675	562.614	ug/m3	63
18) APH EC5-8 aliphatics T...	0.00	TIC	29766765m	805.624	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	236446281m	6399.315	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2408360m	66.388	ug/m3	
22) Hexamethylcyclotrisilo...	17.77	TIC	318779m	35.676	ppbv	
23) Octamethylcyclotetrasil...	20.70	TIC	232606m	20.858	ppbv	
24) Toluene	16.39	92	33061	3.586	ug/m3	96
25) Ethylbenzene	18.60	91	19363	1.017	ug/m3	91
26) m,p-Xylene	18.76	106	22736	3.551	ug/m3	82
27) o-Xylene	19.21	106	14362	2.371	ug/m3	85
28) Naphthalene	23.94	128	1585m	0.103	ug/m3	
29) 2,3-Dimethylheptane	18.68	TIC	508508	11.774	ug/m3#	73
30) Nonane	19.32	TIC	1370517	30.391	ug/m3	83
31) Decane	20.86	TIC	3482717	77.741	ug/m3	75
32) Butylcyclohexane	21.63	TIC	802881	15.777	ug/m3	70
33) Undecane	21.92	TIC	837680	18.853	ug/m3	76
34) Dodecane	23.49	TIC	140429	3.851	ug/m3	66
35) APH EC9-12 aliphatics ...	21.63	TIC	7142732m	162.460	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	106035037m	2411.741	ug/m3	
38) Isopropylbenzene	20.23	120	31225	9.264	ug/m3#	1
39) 1-Methyl-3-ethylbenzene	20.65	120	15166	3.218	ug/m3	95
40) 1,3,5-Trimethylbenzene	20.45	120	17588	2.949	ug/m3	91
41) p-Isopropyltoluene	21.28	134	3452	1.178	ug/m3#	1
42) 1,2,3-Trimethylbenzene	21.31	120	22299	3.186	ug/m3#	77
43) APH EC9-10 aromatics T...	21.63	TIC	89730m	19.355	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	661372m	129.201	ug/m3	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
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 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

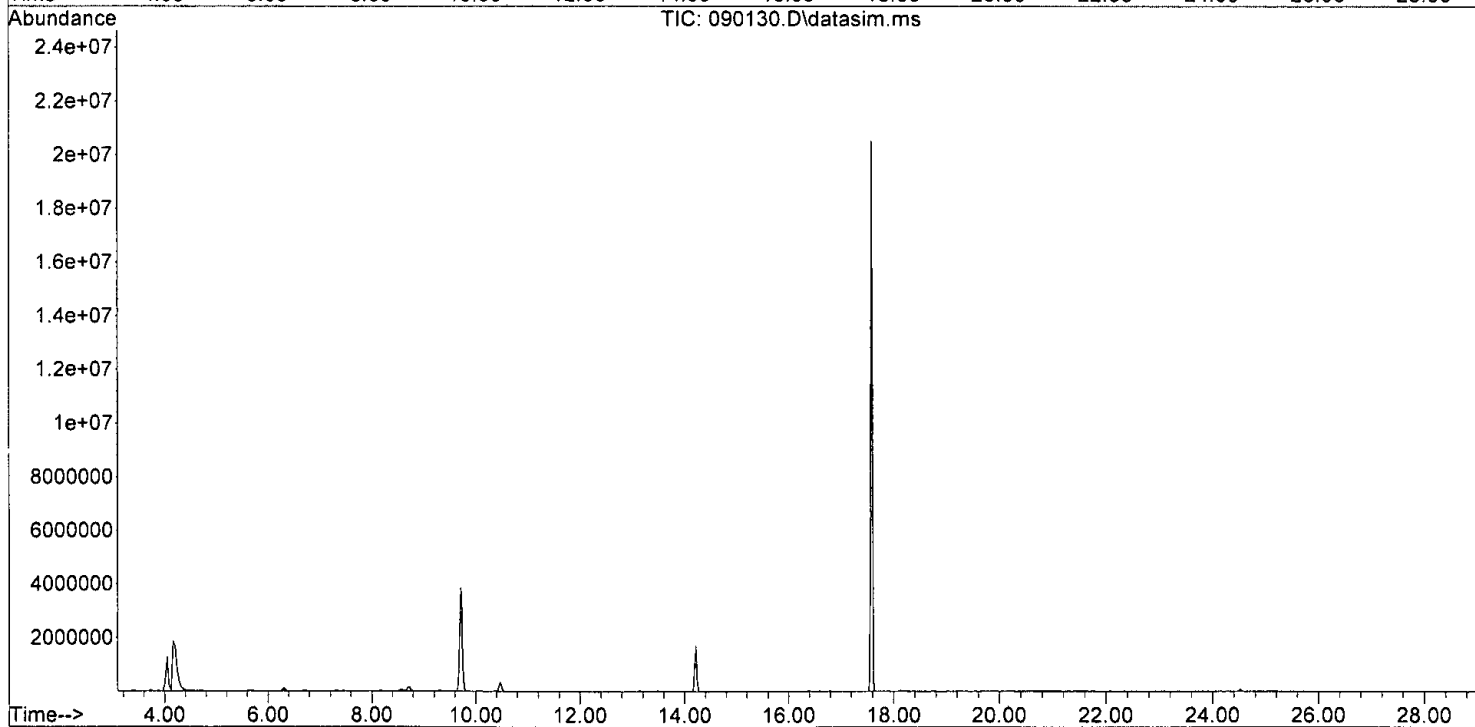
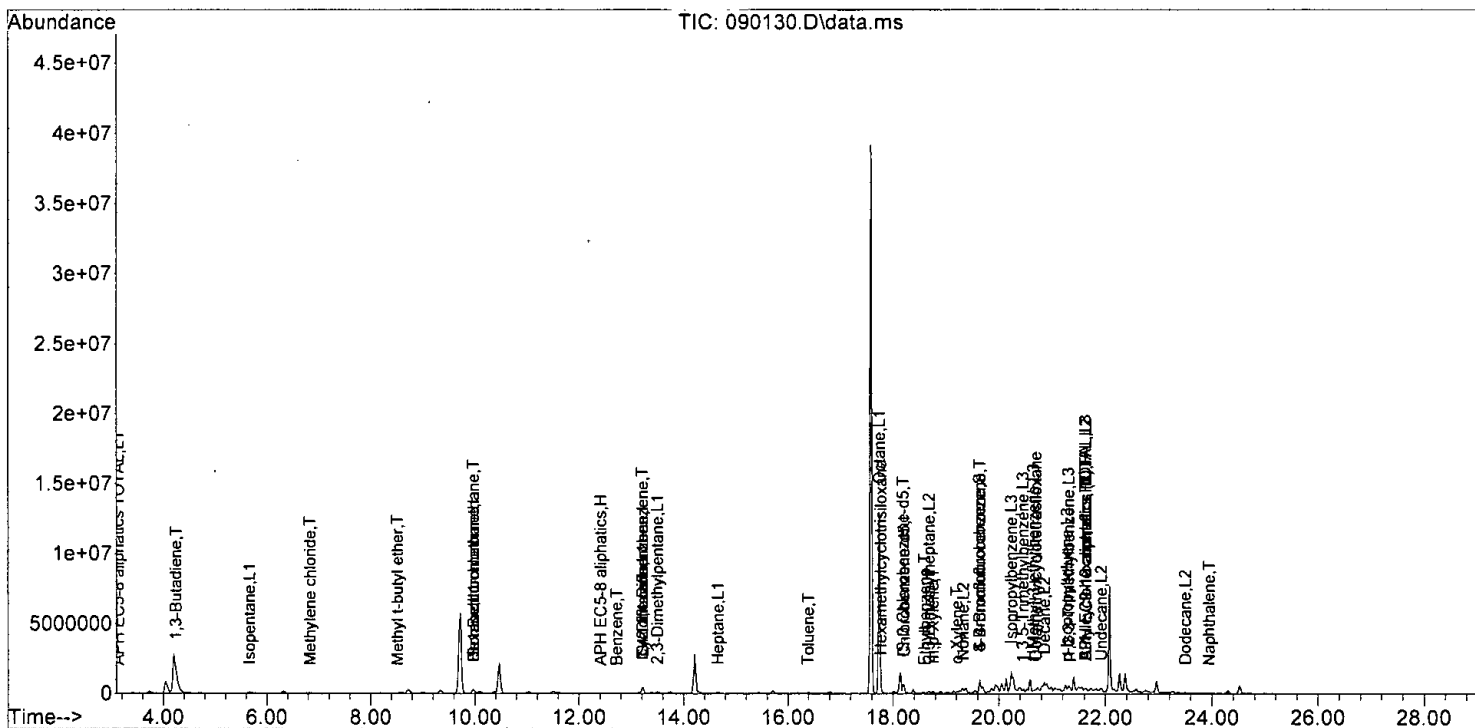
Quant Time: Sep 03 13:20:34 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	391443m	134.257	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

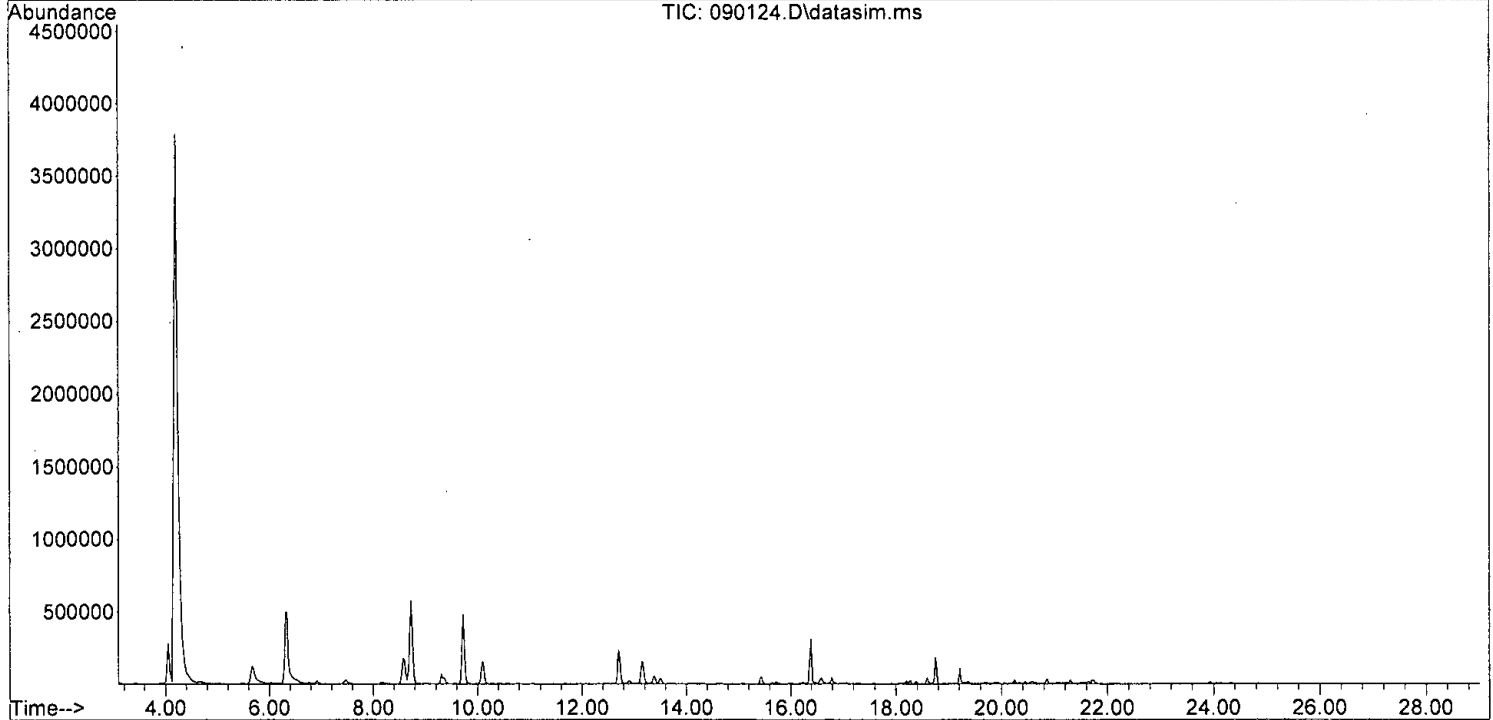
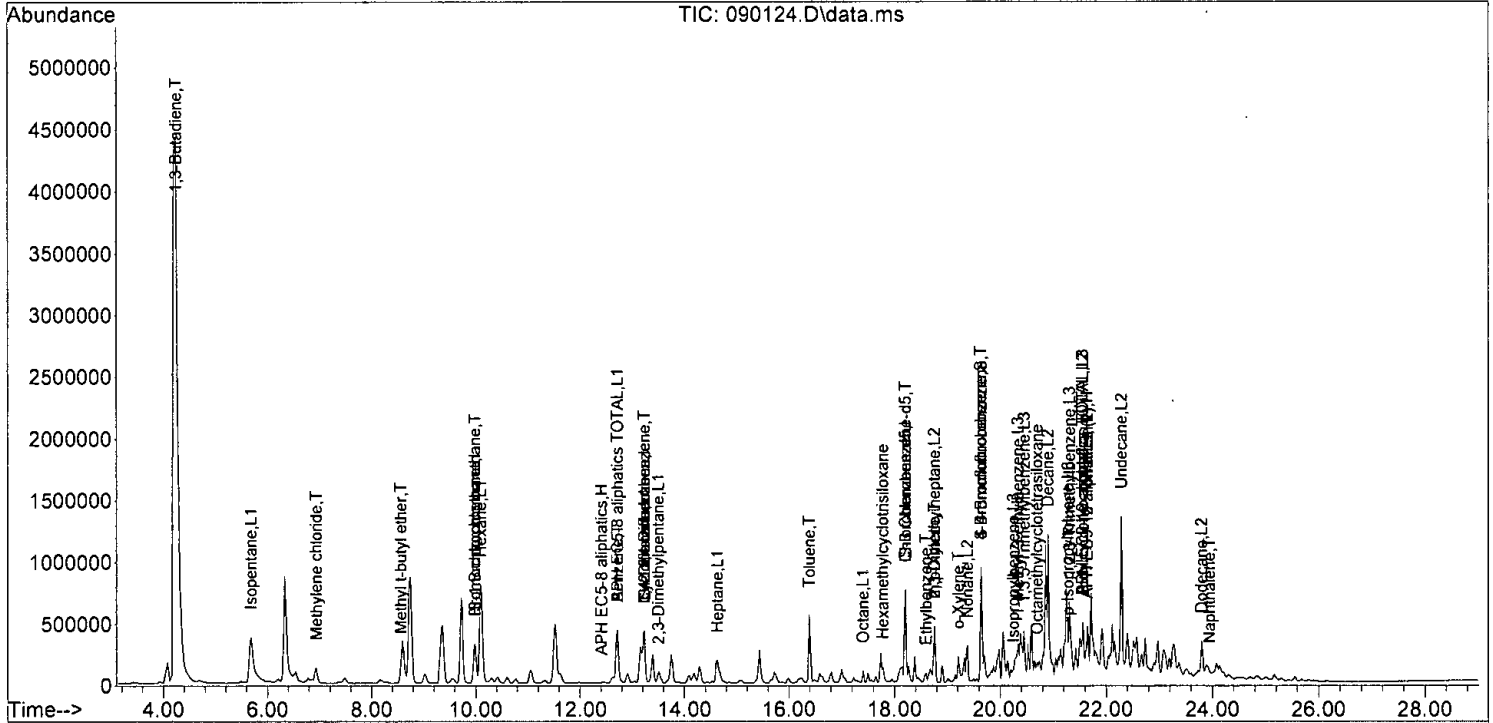
Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090130.D  
 Acq On : 2 Sep 2021 4:50 am  
 Operator : bat  
 Sample : 108515-02 1/210  
 Misc : T15  
 ALS Vial : 30 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 13:20:34 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

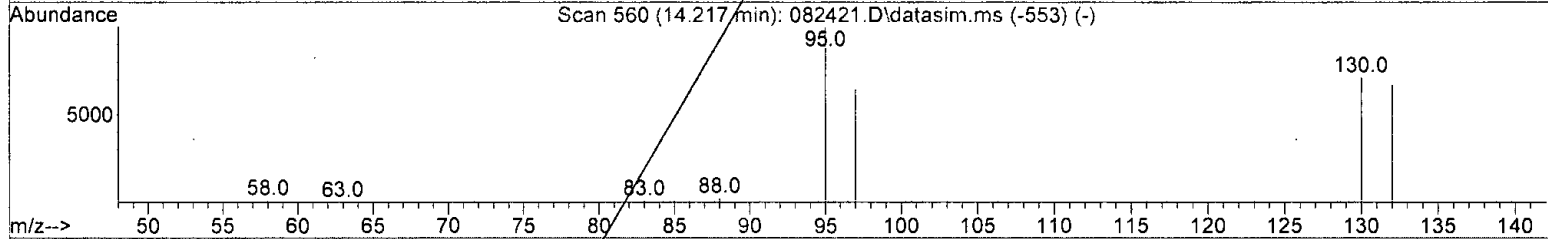
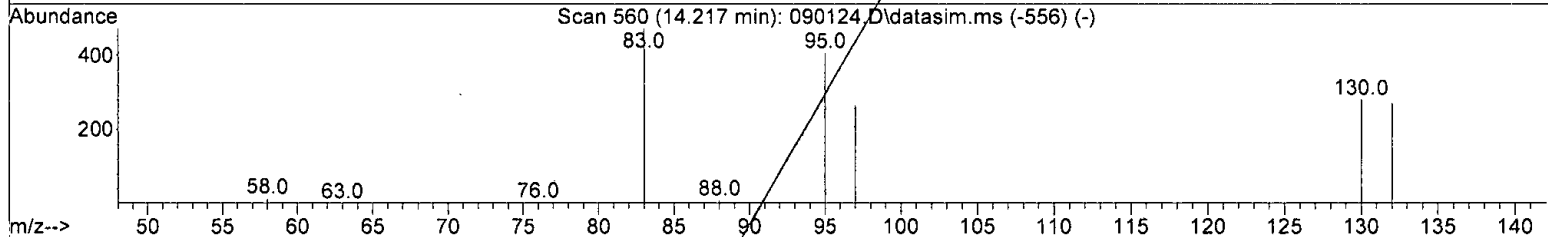
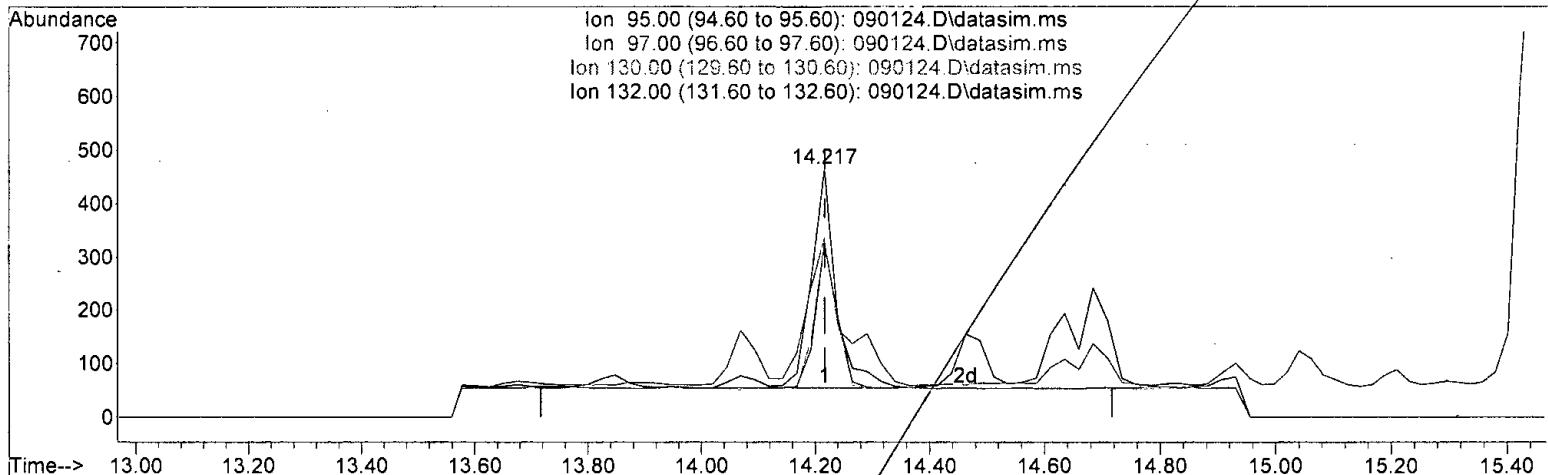
Quant Time: Sep 03 10:52:48 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:54 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090124.D\data.ms

(46) Trichloroethene (TMP)

14.217min (-0.000) 0.040 ppbv

response 1239

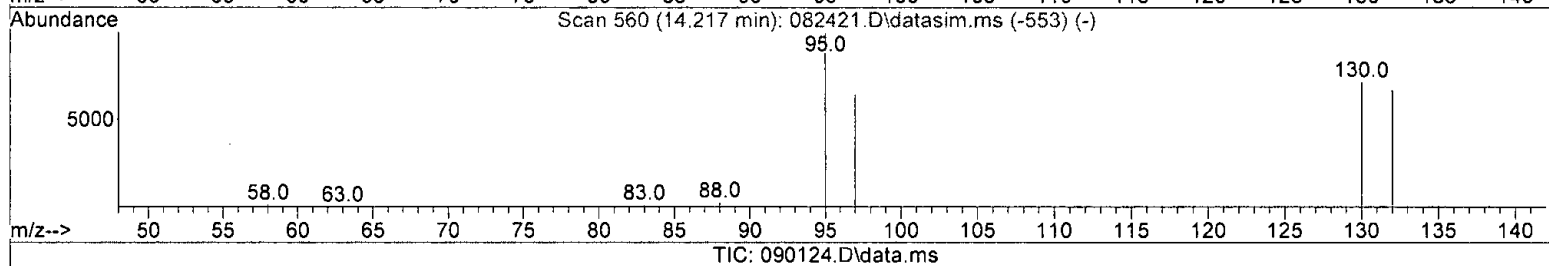
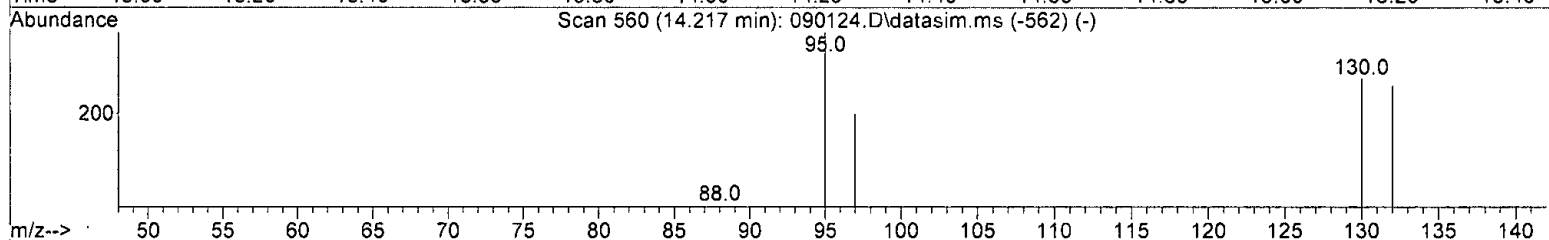
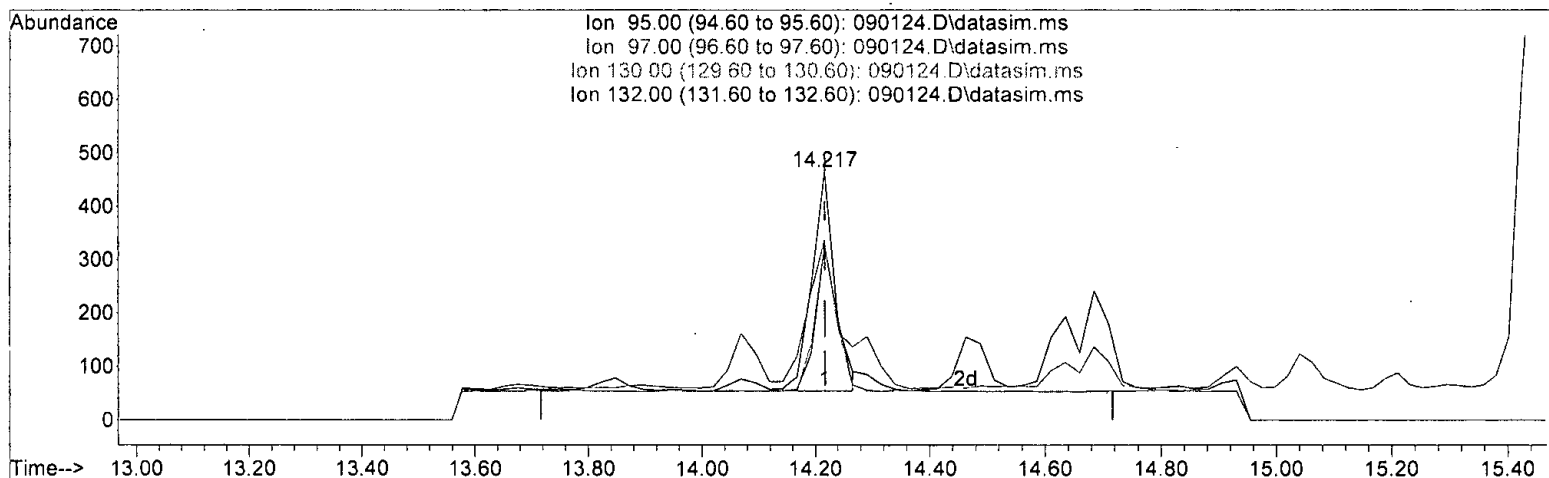
Ion	Exp%	Act%
95.00	100.00	100.00
97.00	67.10	67.56
130.00	86.10	68.54
132.00	84.30	66.10

*B  
09/03/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:54 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(46) Trichloroethene (TMP)

14.217min (-0.000) 0.037 ppbv m

response 1166

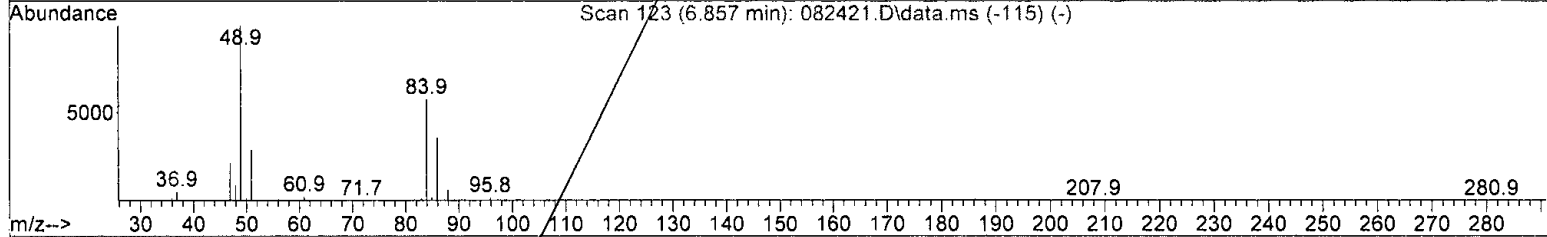
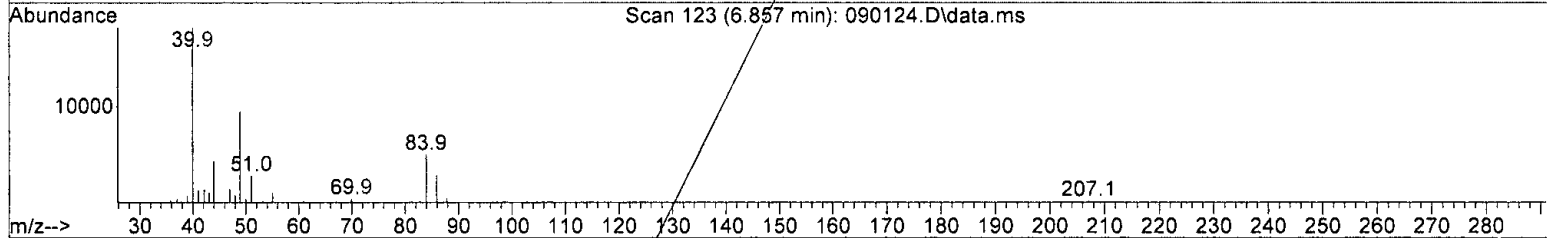
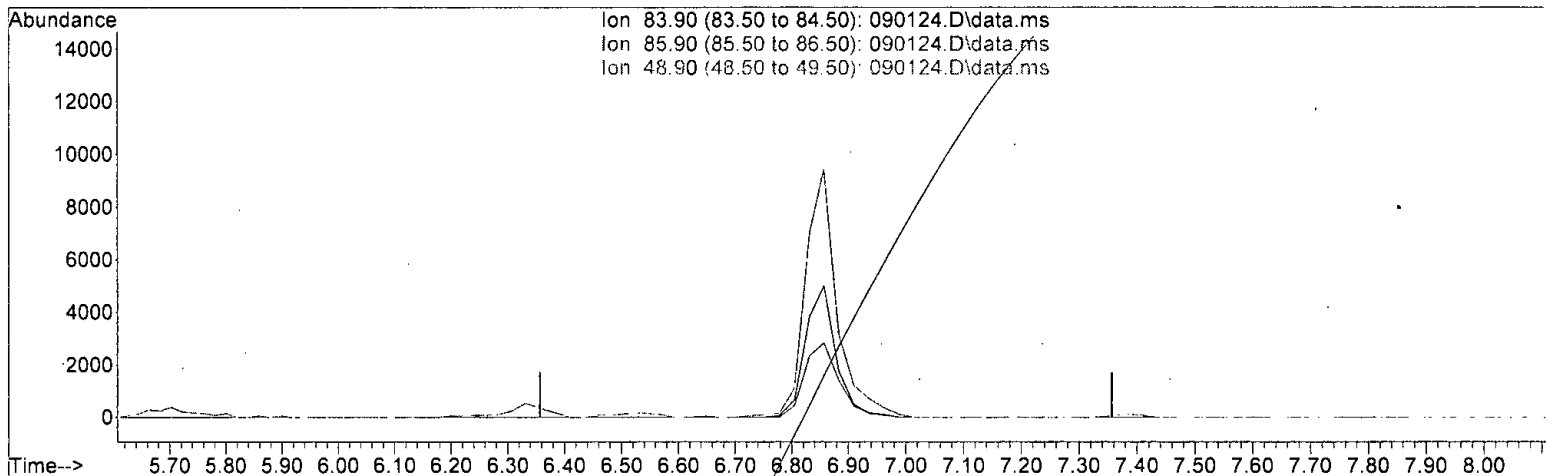
Ion	Exp%	Act%
95.00	100.00	100.00
97.00	67.10	72.26
130.00	86.10	72.04
132.00	84.30	70.11

*W 09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:54 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(20) Methylene chloride (TMP)

6.857min 0.000 ppbv d

response 0

Ion	Exp%	Act%
83.90	100.00	0.00
85.90	63.90	0.00
48.90	146.60	0.00
0.00	0.00	0.00

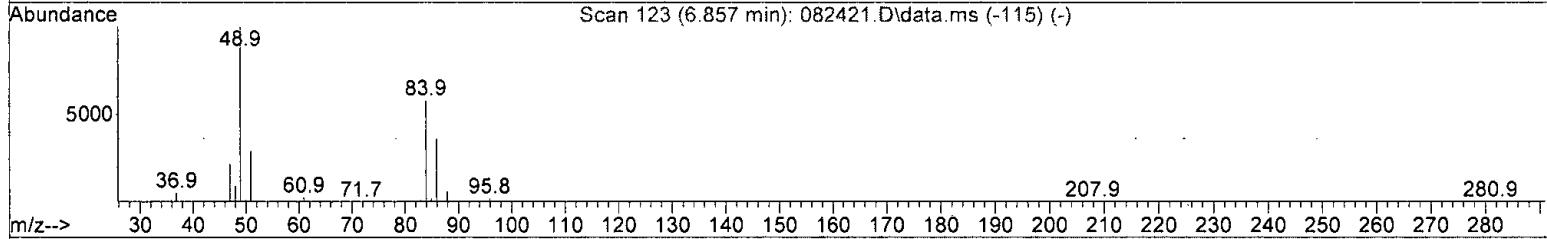
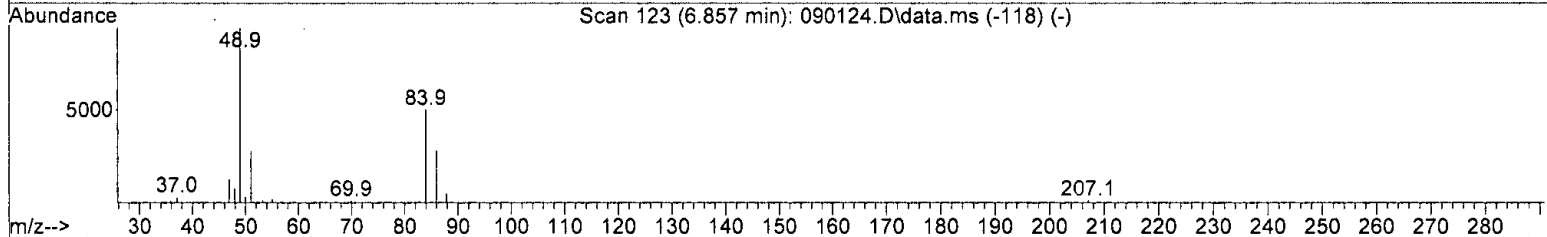
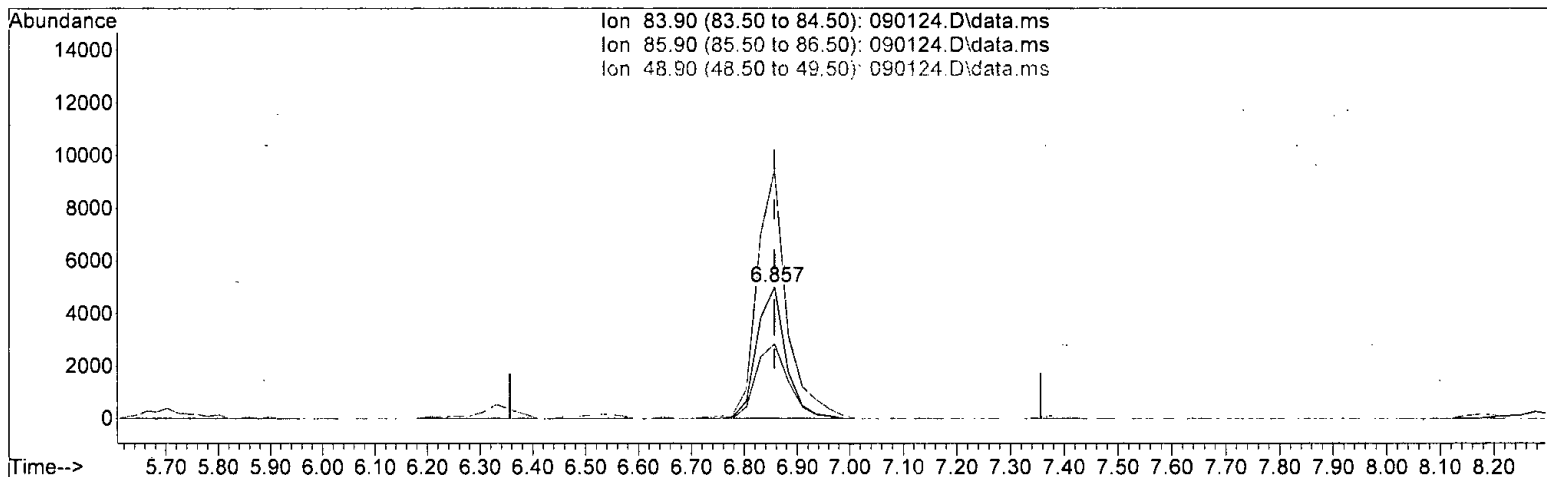
*EMR Deleted*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:54 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090124.D\data.ms

(20) Methylene chloride (TMP)

6.857min (-0.000) 1.051 ppbv m

response 19028

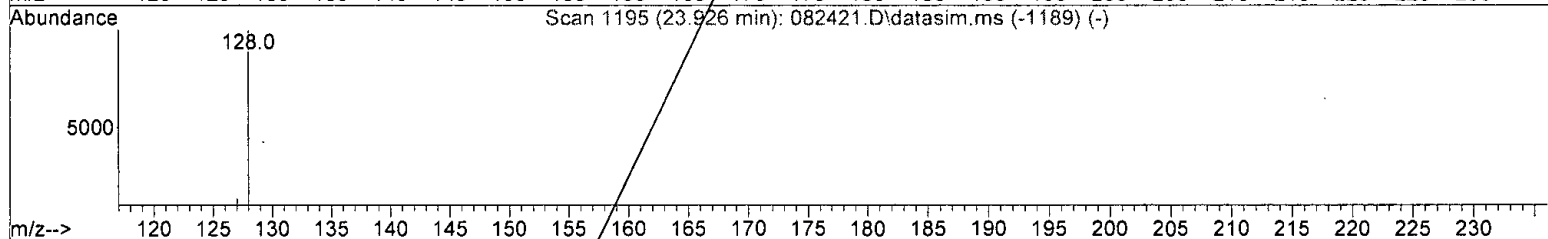
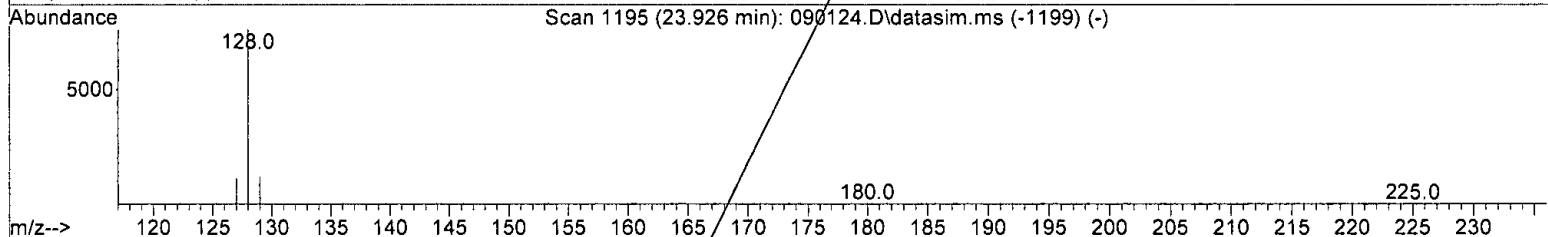
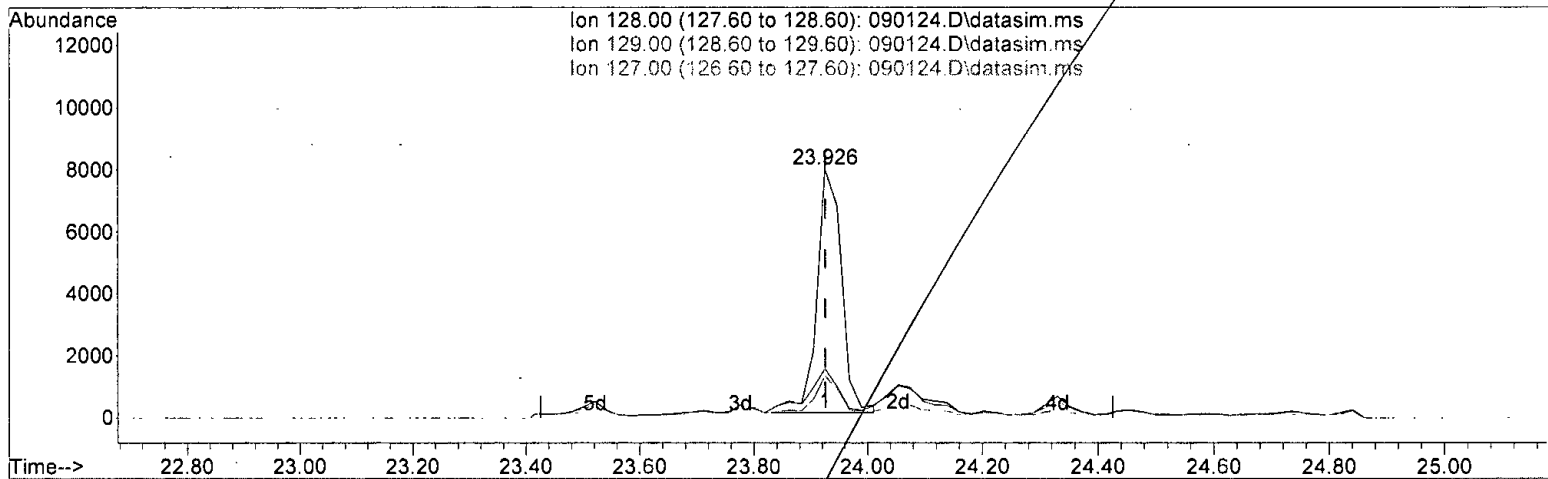
Ion	Exp%	Act%
83.90	100.00	100.00
85.90	63.90	56.68
48.90	146.60	188.53#
0.00	0.00	0.00

*Handwritten signature:* M / 09/03/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:54 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090124.D\data.ms

(77) Naphthalene (TMP)

23.926min (-0.000) 0.224 ppbv

response 23993

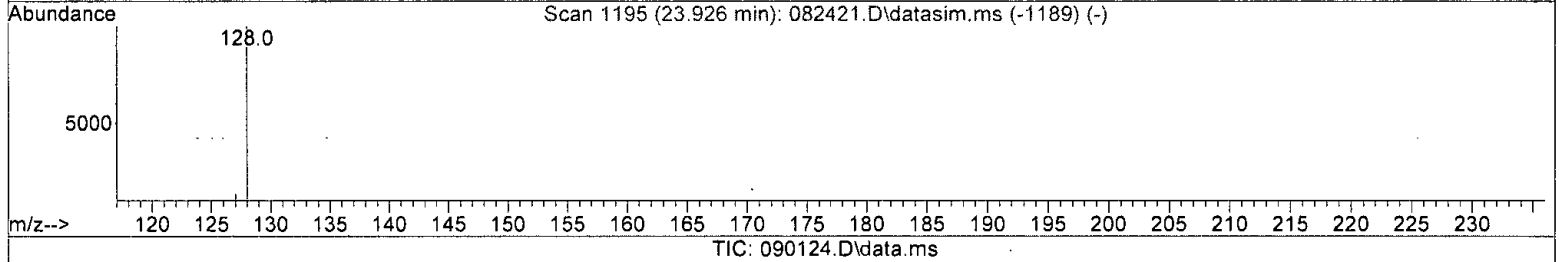
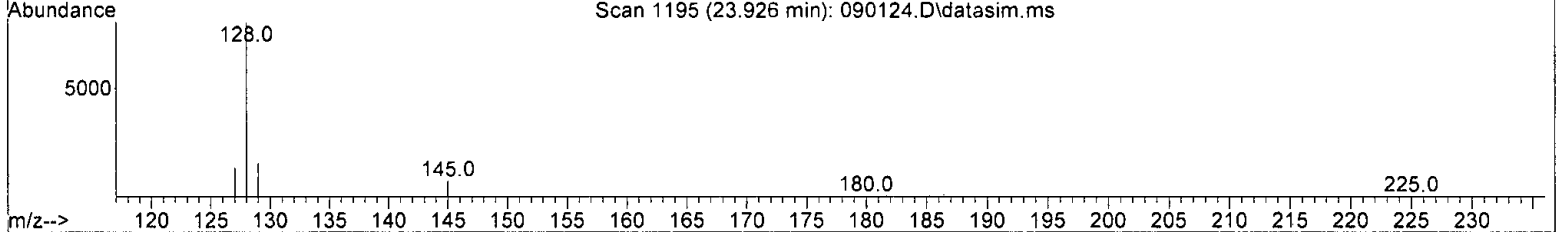
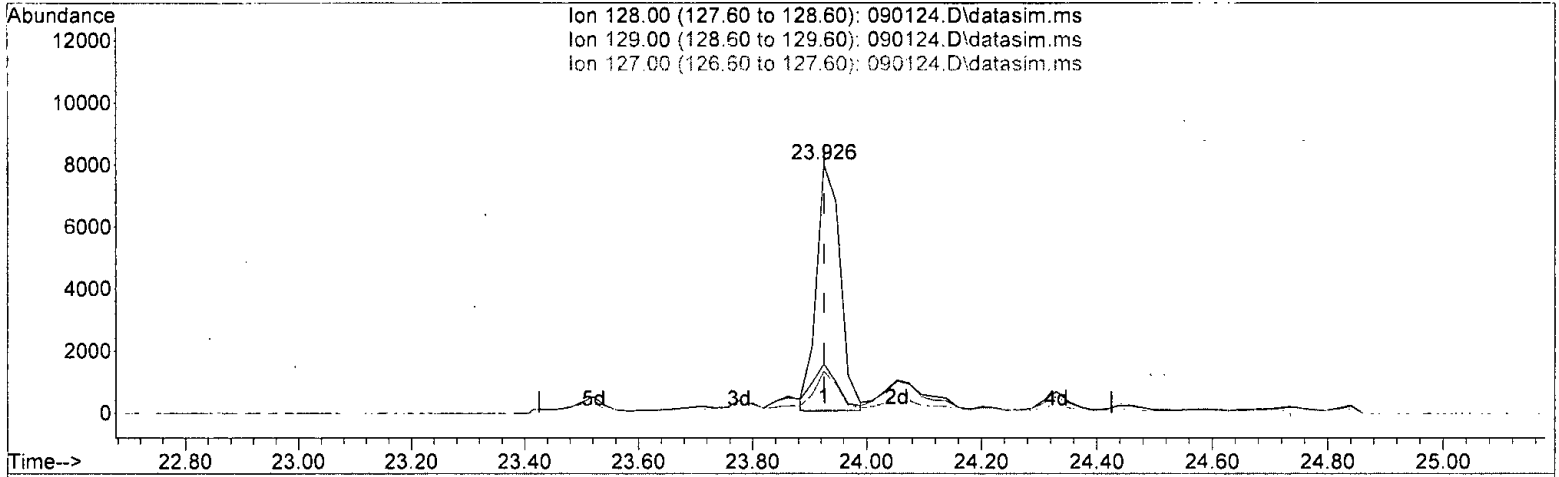
Ion	Exp%	Act%
128.00	100.00	100.00
129.00	11.00	18.06
127.00	13.20	15.37
0.00	0.00	0.00

*Handwritten signature and date: W / 09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:54 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(77) Naphthalene (TMP)

23.926min (-0.000) 0.216 ppbv m

response 23171

Ion	Exp%	Act%
128.00	100.00	100.00
129.00	11.00	19.85
127.00	13.20	16.89
0.00	0.00	0.00

*n only*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

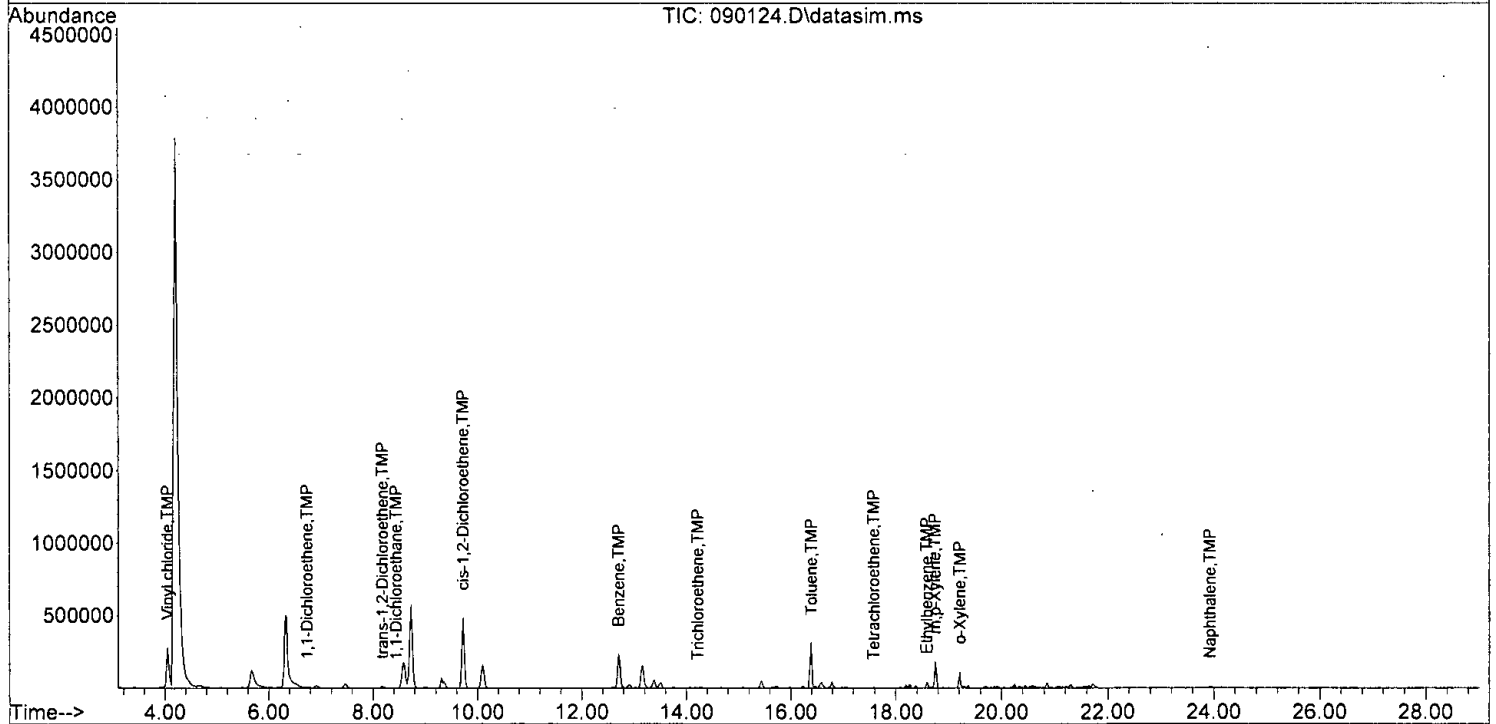
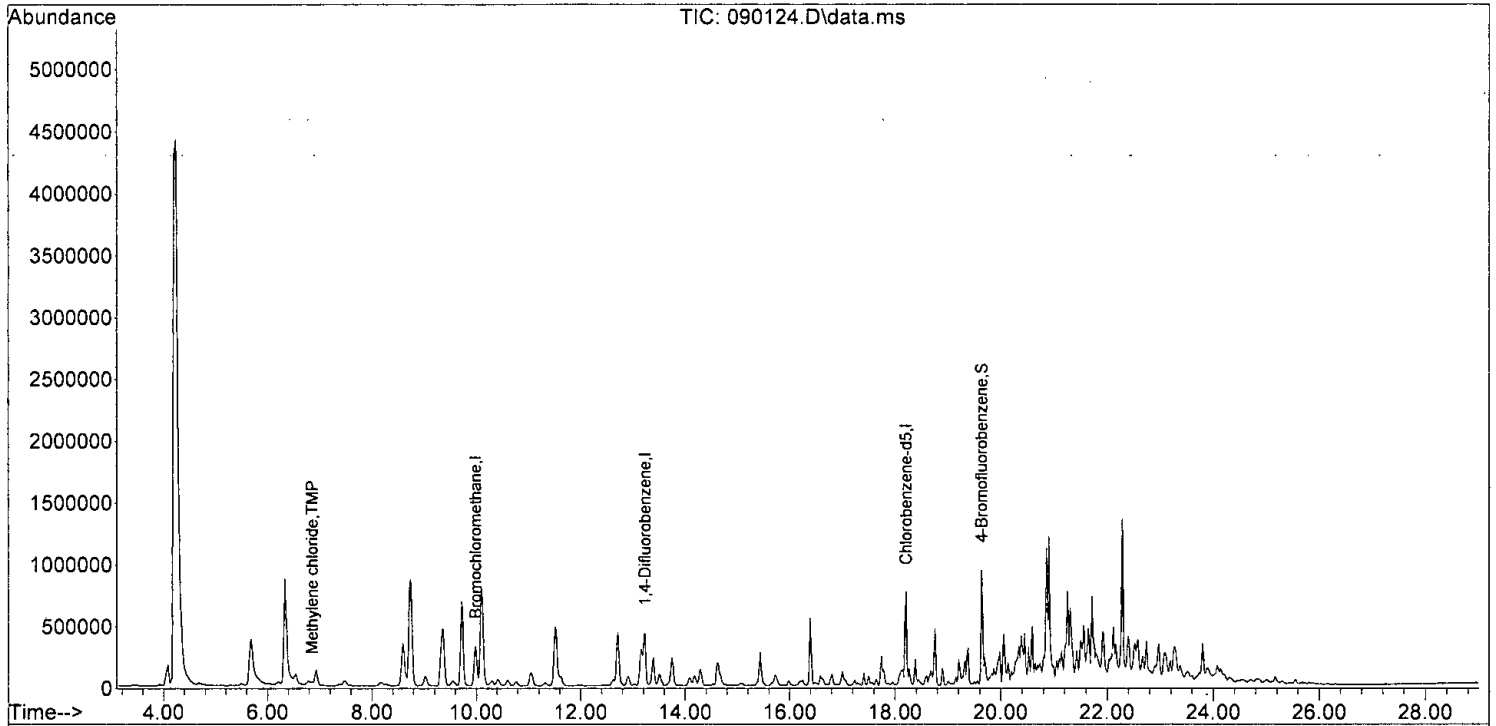
Quant Time: Sep 03 10:57:50 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

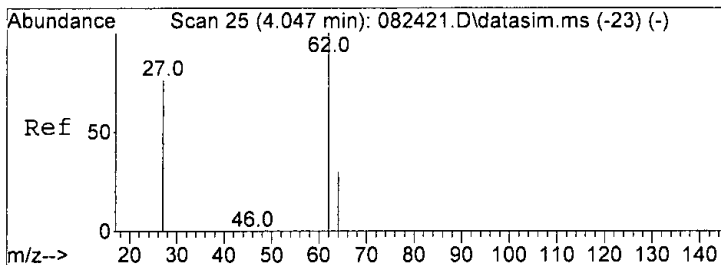
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
-----							
Internal Standards							
1) Bromochloromethane	9.99	128	103425	10.000	ppbv	#	0.00
39) 1,4-Difluorobenzene	13.23	114	503941	10.000	ppbv		0.00
56) Chlorobenzene-d5	18.21	117	437982	10.000	ppbv		0.00
System Monitoring Compounds							
69) 4-Bromofluorobenzene	19.64	95	399047	10.057	ppbv		0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=		100.60%
Target Compounds							
						Qvalue	
6] Vinyl chloride	4.05	62	463536	20.292	ppbv		97
18] 1,1-Dichloroethene	6.73	96	2507	0.147	ppbv		93
19] trans-1,2-Dichloroethene	8.18	96	7327	0.436	ppbv		91
20] Methylene chloride	6.86	84	19028m	1.051	ppbv		
27] 1,1-Dichloroethane	8.44	63	650	0.016	ppbv		93
28] cis-1,2-Dichloroethene	9.73	96	474868	25.789	ppbv	#	78
37] Benzene	12.70	78	659687	10.417	ppbv		95
46] Trichloroethene	14.22	95	1166m	0.037	ppbv		
50] Toluene	16.40	92	268847	7.120	ppbv		81
53] Tetrachloroethene	17.58	164	2126	0.111	ppbv		83
58] Ethylbenzene	18.59	91	65101	0.669	ppbv		97
65] m,p-Xylene	18.74	106	117107	3.749	ppbv	#	81
66] o-Xylene	19.21	106	54693	1.781	ppbv		89
77] Naphthalene	23.93	128	23171m	0.216	ppbv		
-----							

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

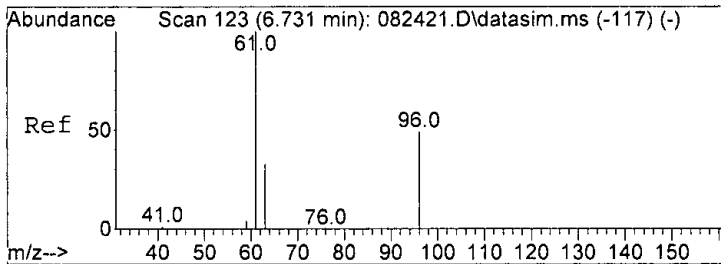
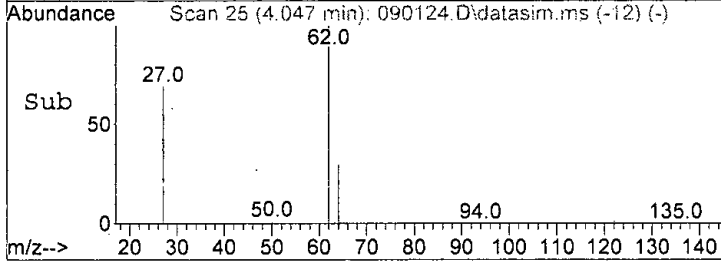
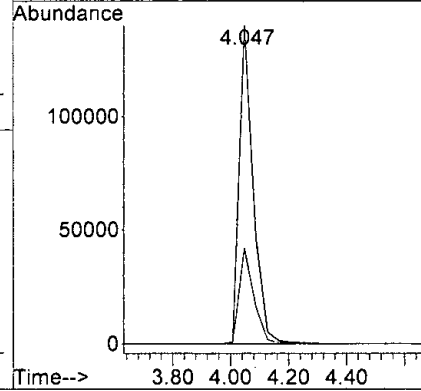
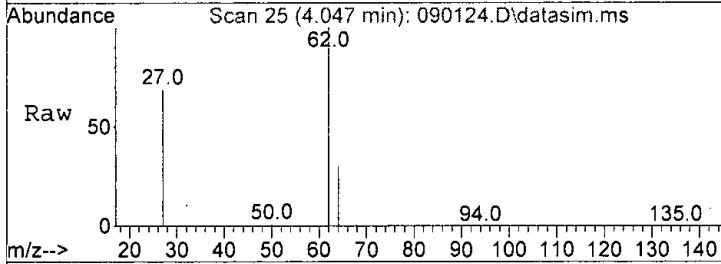
Quant Time: Sep 03 10:57:50 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





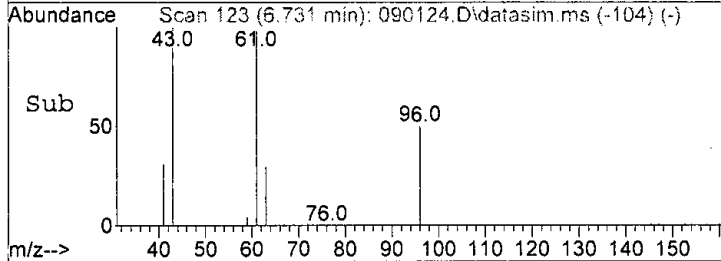
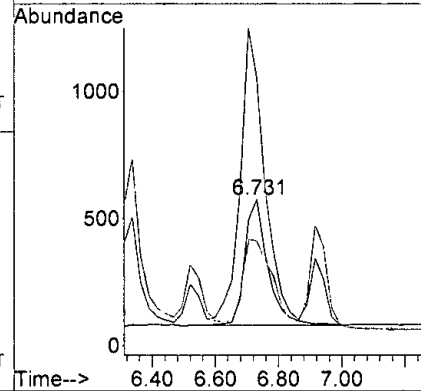
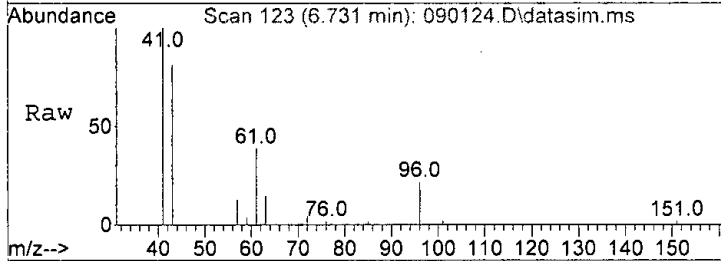
#6  
 Vinyl chloride  
 Concen: 20.292 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090124.D  
 Acq: 2 Sep 2021 12:52 am

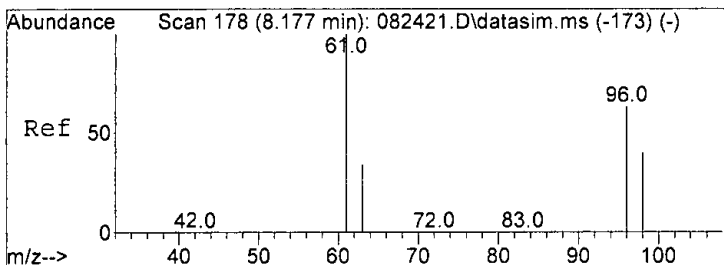
Tgt Ion: 62 Resp: 463536  
 Ion Ratio Lower Upper  
 62 100  
 64 30.0 1.5 61.5



#18  
 1,1-Dichloroethene  
 Concen: 0.147 ppbv  
 RT: 6.73 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090124.D  
 Acq: 2 Sep 2021 12:52 am

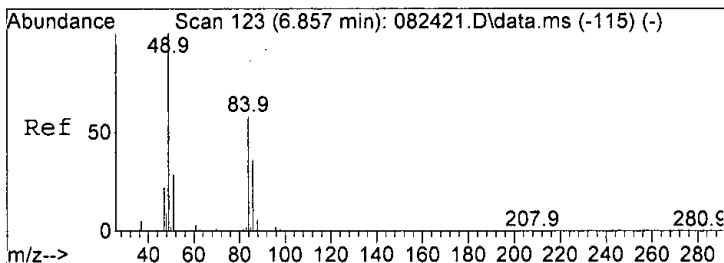
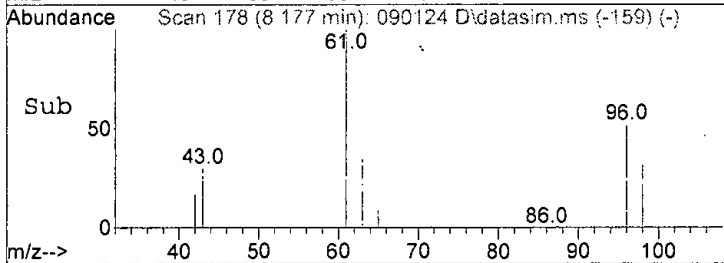
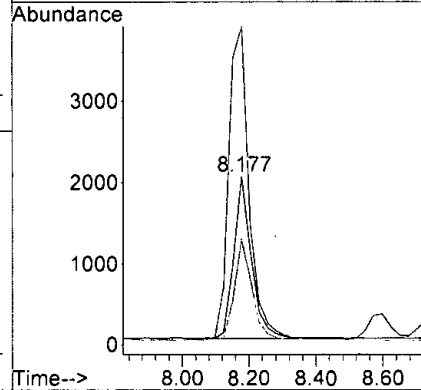
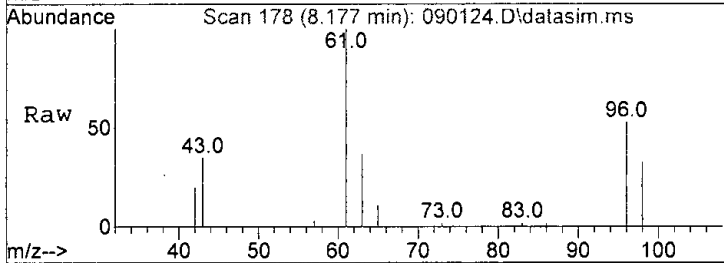
Tgt Ion: 96 Resp: 2507  
 Ion Ratio Lower Upper  
 96 100  
 61 198.4 159.0 219.0  
 63 67.7 32.0 92.0





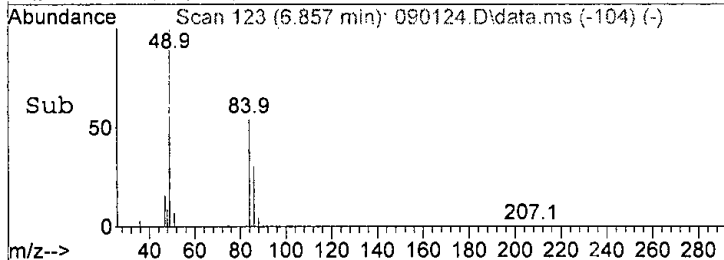
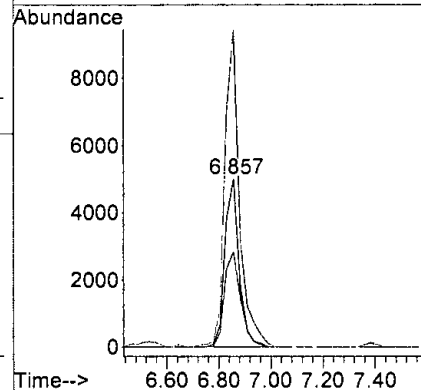
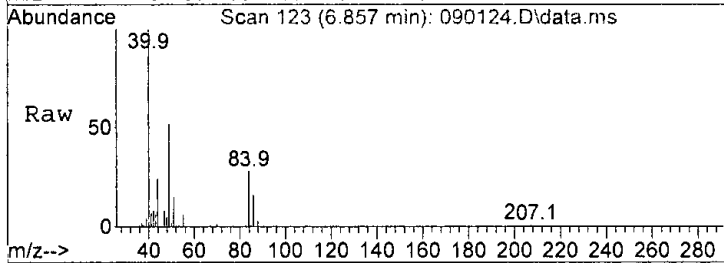
#19  
 trans-1,2-Dichloroethene  
 Concen: 0.436 ppbv  
 RT: 8.18 min Scan# 178  
 Delta R.T. 0.000 min  
 Lab File: 090124.D  
 Acq: 2 Sep 2021 12:52 am

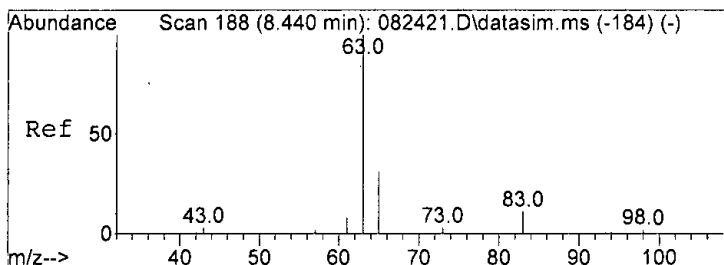
Tgt Ion:	Resp:	Lower	Upper
96	7327		
61	193.3	147.9	207.9
98	62.4	34.2	94.2



#20  
 Methylene chloride  
 Concen: 1.051 ppbv m  
 RT: 6.86 min Scan# 123  
 Delta R.T. -0.000 min  
 Lab File: 090124.D  
 Acq: 2 Sep 2021 12:52 am

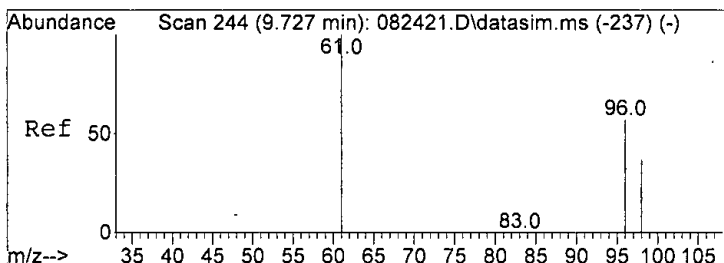
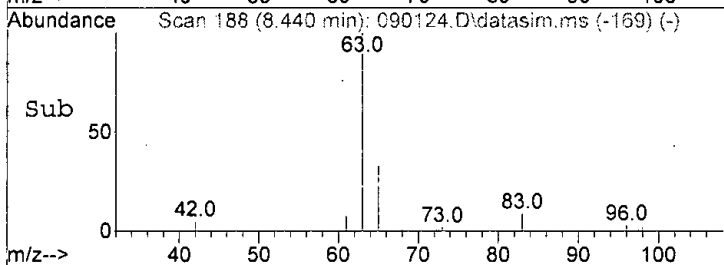
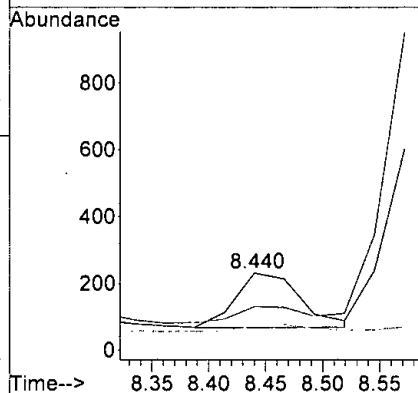
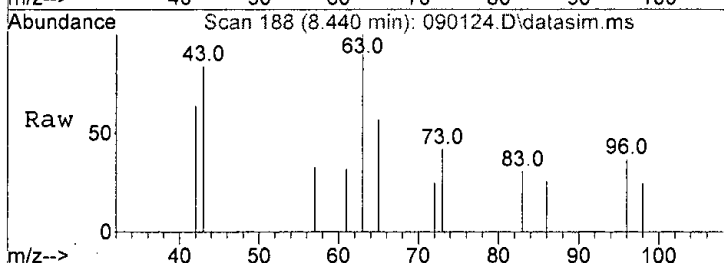
Tgt Ion:	Resp:	Lower	Upper
84	19028		
86	56.7	33.9	93.9
49	188.5	116.6	176.6#





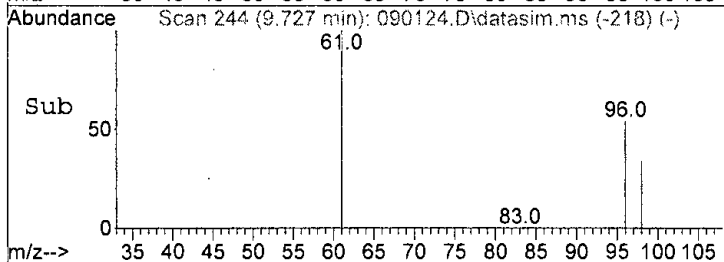
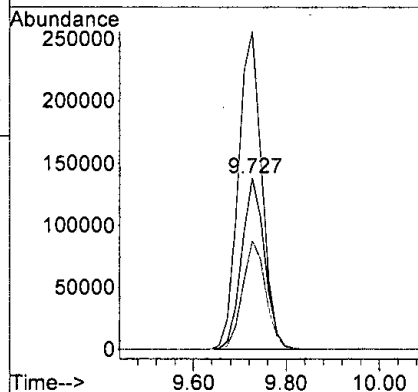
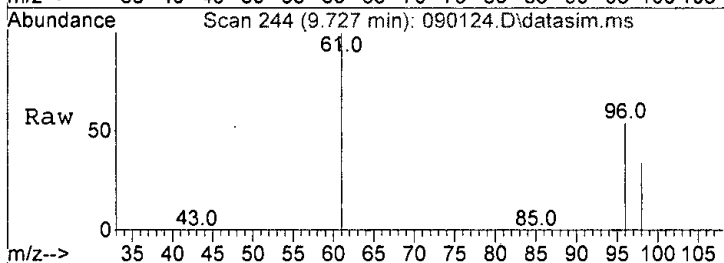
#27  
 1,1-Dichloroethane  
 Concen: 0.016 ppbv  
 RT: 8.44 min Scan# 188  
 Delta R.T. 0.000 min  
 Lab File: 090124.D  
 Acq: 2 Sep 2021 12:52 am

Tgt Ion	Ratio	Lower	Upper
63	100		
65	29.6	2.5	62.5
83	8.6	0.0	43.2

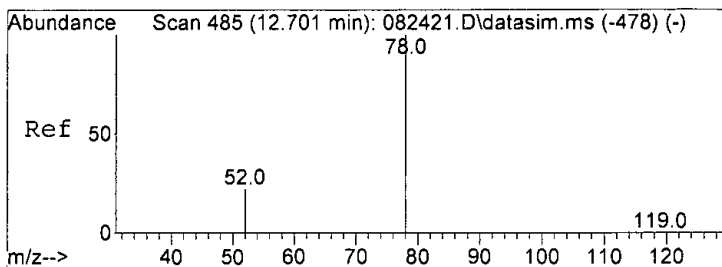


#28  
 cis-1,2-Dichloroethene  
 Concen: 25.789 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. -0.000 min  
 Lab File: 090124.D  
 Acq: 2 Sep 2021 12:52 am

Tgt Ion	Ratio	Lower	Upper
96	100		
61	185.2	116.0	176.0#
98	63.6	35.2	95.2

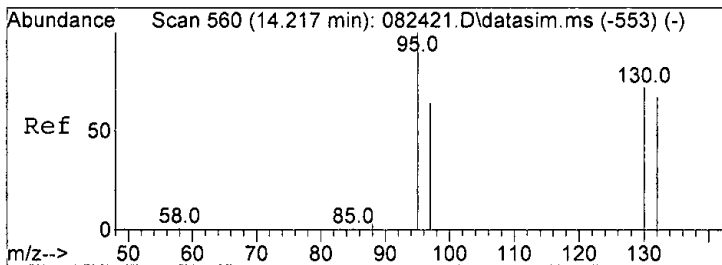
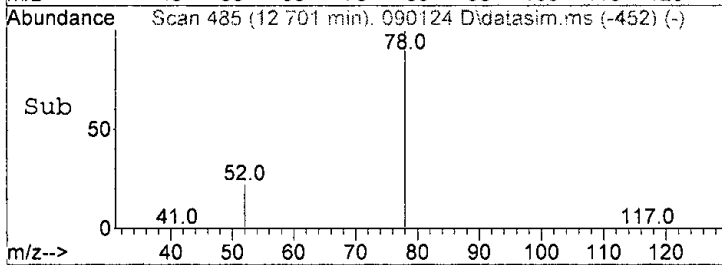
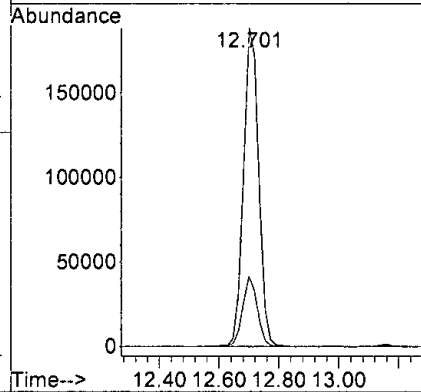
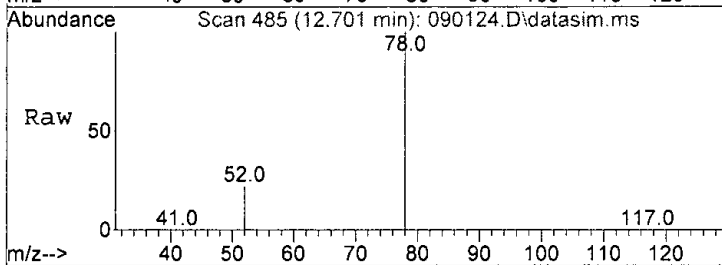






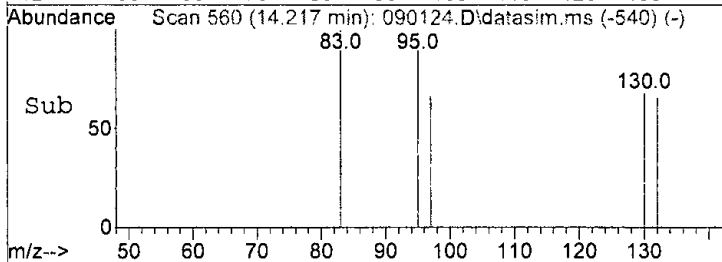
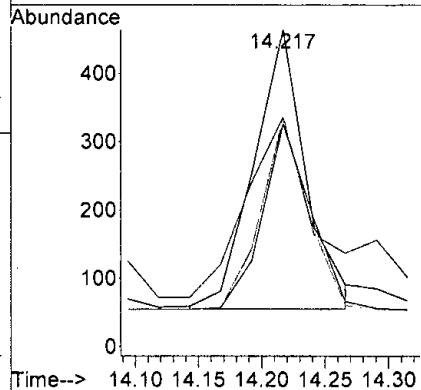
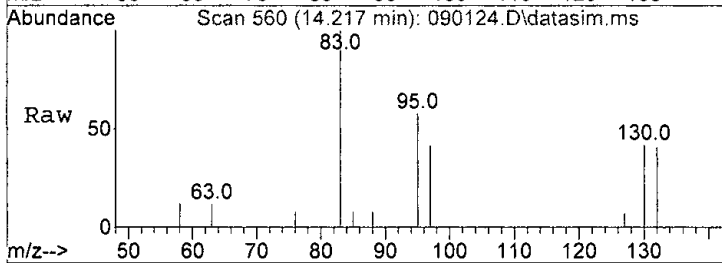
#37  
Benzene  
Concen: 10.417 ppbv  
RT: 12.70 min Scan# 485  
Delta R.T. -0.000 min  
Lab File: 090124.D  
Acq: 2 Sep 2021 12:52 am

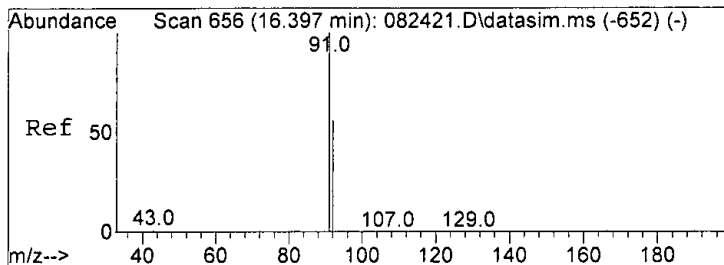
Tgt Ion: 78 Resp: 659687  
Ion Ratio Lower Upper  
78 100  
52 22.0 0.0 49.7



#46  
Trichloroethene  
Concen: 0.037 ppbv m  
RT: 14.22 min Scan# 560  
Delta R.T. -0.000 min  
Lab File: 090124.D  
Acq: 2 Sep 2021 12:52 am

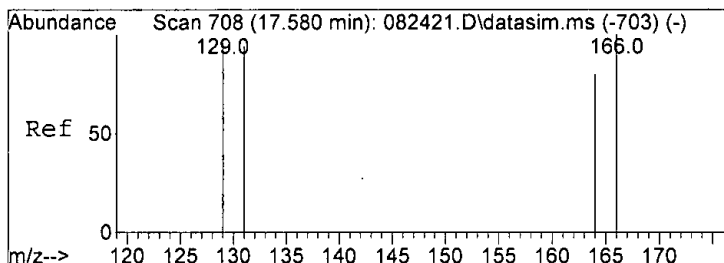
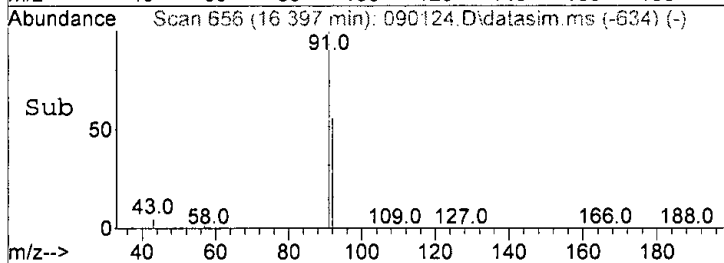
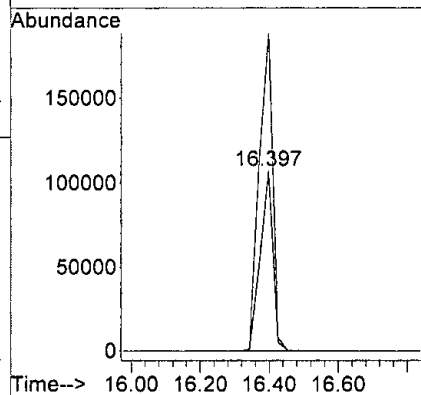
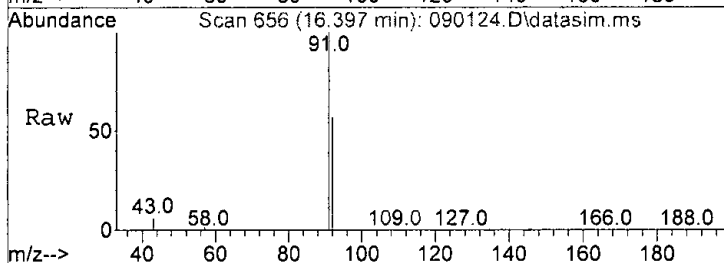
Tgt Ion: 95 Resp: 1166  
Ion Ratio Lower Upper  
95 100  
97 72.3 37.1 97.1  
130 72.0 56.1 116.1  
132 70.1 54.3 114.3





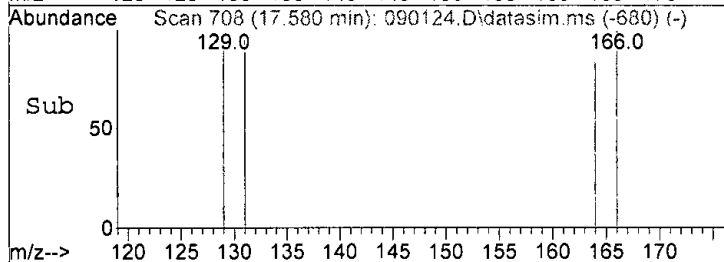
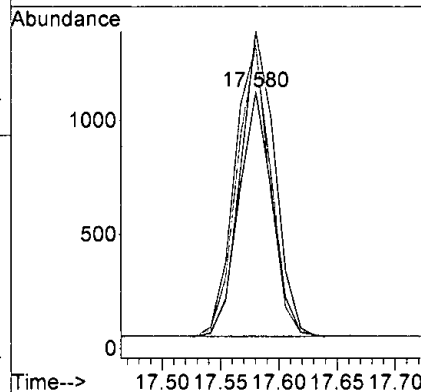
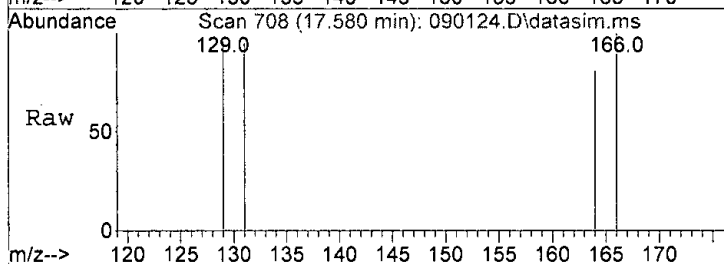
#50  
 Toluene  
 Concen: 7.120 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090124.D  
 Acq: 2 Sep 2021 12:52 am

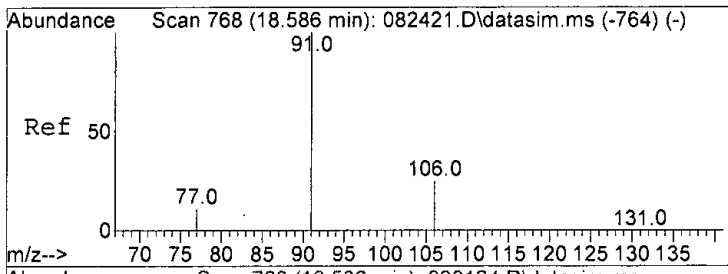
Tgt Ion: 92 Resp: 268847  
 Ion Ratio Lower Upper  
 92 100  
 91 176.1 174.6 234.6



#53  
 Tetrachloroethene  
 Concen: 0.111 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090124.D  
 Acq: 2 Sep 2021 12:52 am

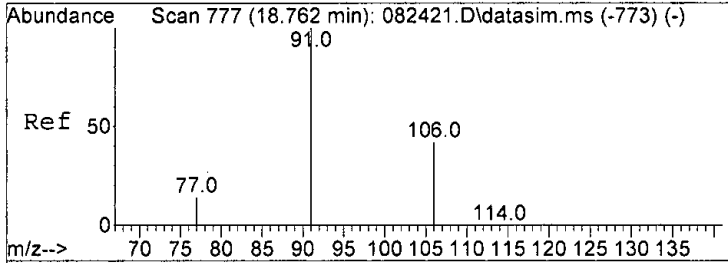
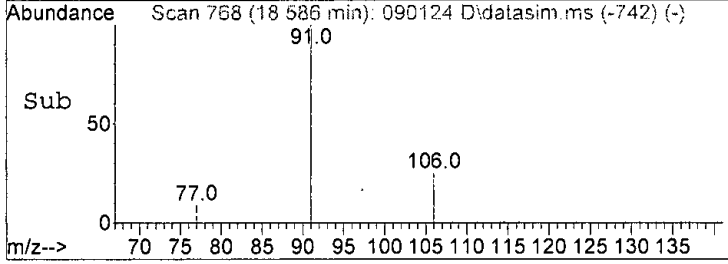
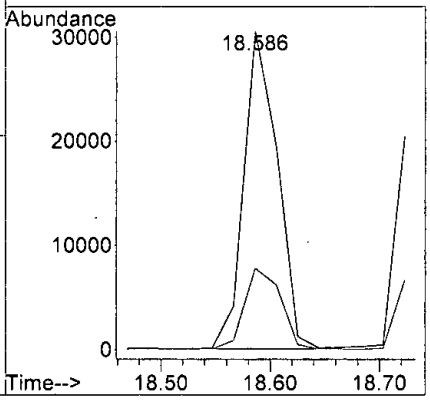
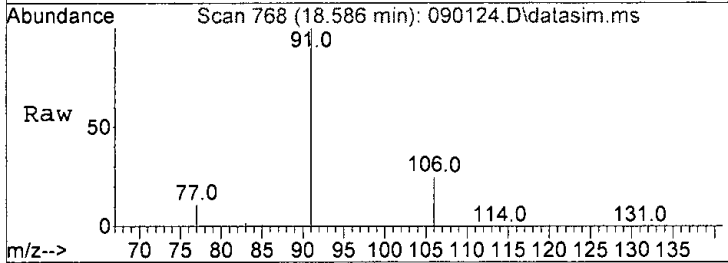
Tgt Ion: 164 Resp: 2126  
 Ion Ratio Lower Upper  
 164 100  
 129 119.1 63.2 123.2  
 131 118.0 70.7 130.7  
 166 124.8 107.5 167.5





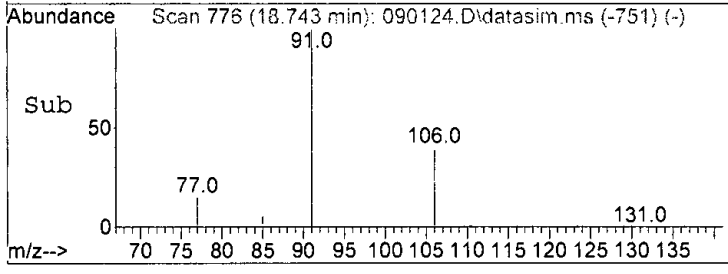
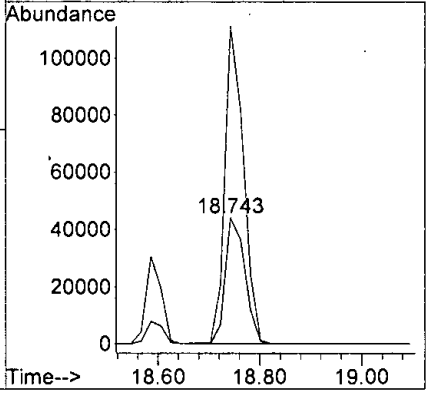
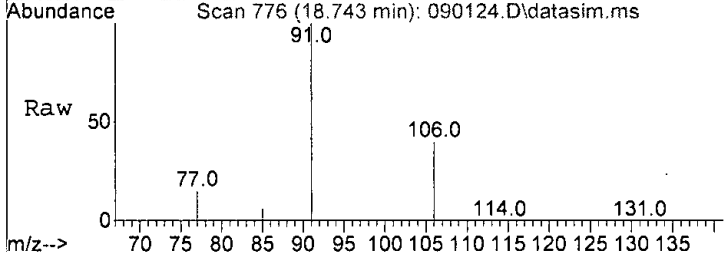
#58  
 Ethylbenzene  
 Concen: 0.669 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090124.D  
 Acq: 2 Sep 2021 12:52 am

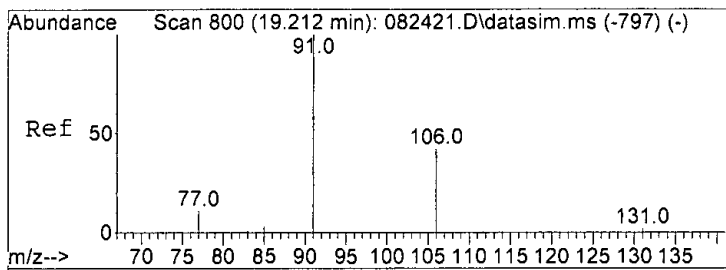
Tgt Ion	Resp	Lower	Upper
91	100		
106	25.4	0.0	57.0



#65  
 m,p-Xylene  
 Concen: 3.749 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.019 min  
 Lab File: 090124.D  
 Acq: 2 Sep 2021 12:52 am

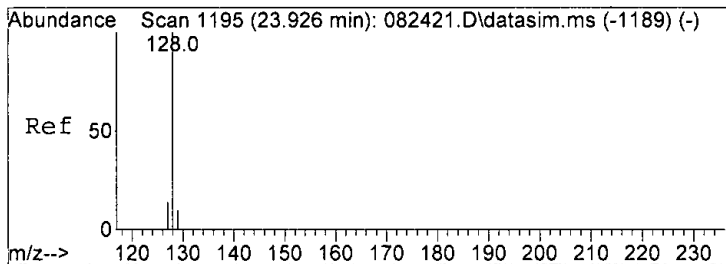
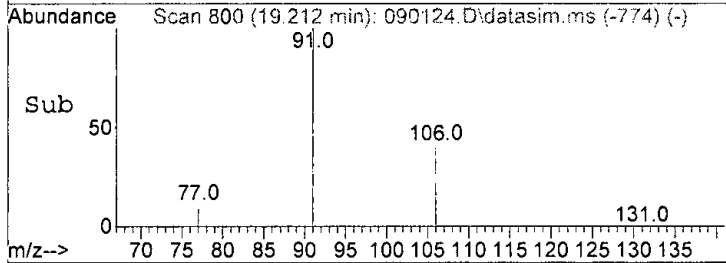
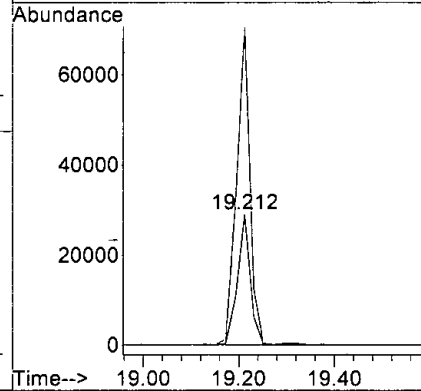
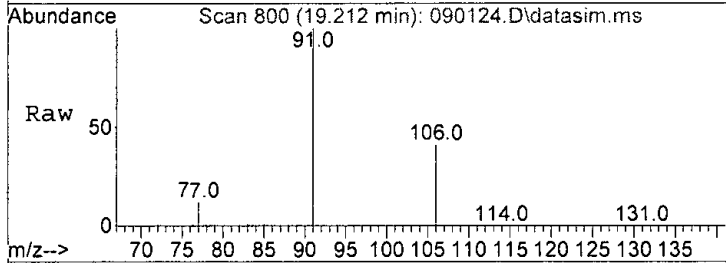
Tgt Ion	Resp	Lower	Upper
106	100		
91	253.0	193.0	253.0#





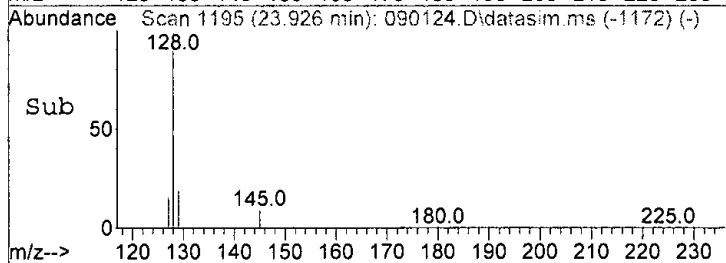
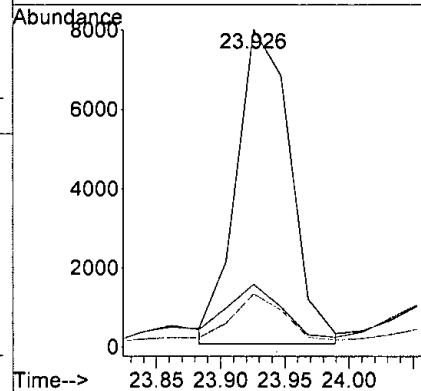
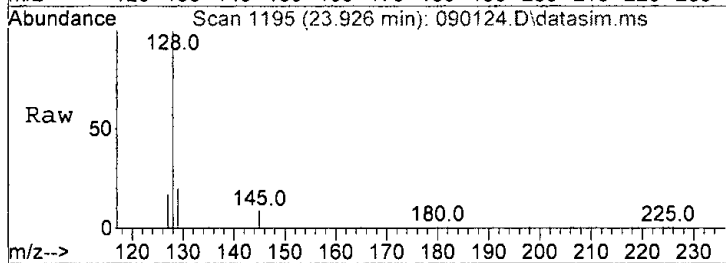
#66  
 o-Xylene  
 Concen: 1.781 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090124.D  
 Acq: 2 Sep 2021 12:52 am

Tgt Ion:106 Resp: 54693  
 Ion Ratio Lower Upper  
 106 100  
 91 242.7 194.4 254.4



#77  
 Naphthalene  
 Concen: 0.216 ppbv m  
 RT: 23.93 min Scan# 1195  
 Delta R.T. -0.000 min  
 Lab File: 090124.D  
 Acq: 2 Sep 2021 12:52 am

Tgt Ion:128 Resp: 23171  
 Ion Ratio Lower Upper  
 128 100  
 129 19.9 0.0 41.0  
 127 16.9 0.0 43.2



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:57:50 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	103425	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	503941	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	437982	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	399047	10.057	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	100.60%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.		
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.		
6] Vinyl chloride	4.05	62	463536	20.292	ppbv	97
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.	d	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18] 1,1-Dichloroethene	6.73	96	2507	0.147	ppbv	93
19] trans-1,2-Dichloroethene	8.18	96	7327	0.436	ppbv	91
20) Methylene chloride	6.86	84	19028m	1.051	ppbv	
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.		
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.44	63	650	0.016	ppbv	93
28] cis-1,2-Dichloroethene	9.73	96	474868	25.789	ppbv #	78
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	0.00		0	N.D.	d	
35) 1,1,1-Trichloroethane	11.70	97	187	N.D.		
36) Carbon tetrachloride	0.00		0	N.D.		
37] Benzene	12.70	78	659687	10.417	ppbv	95
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

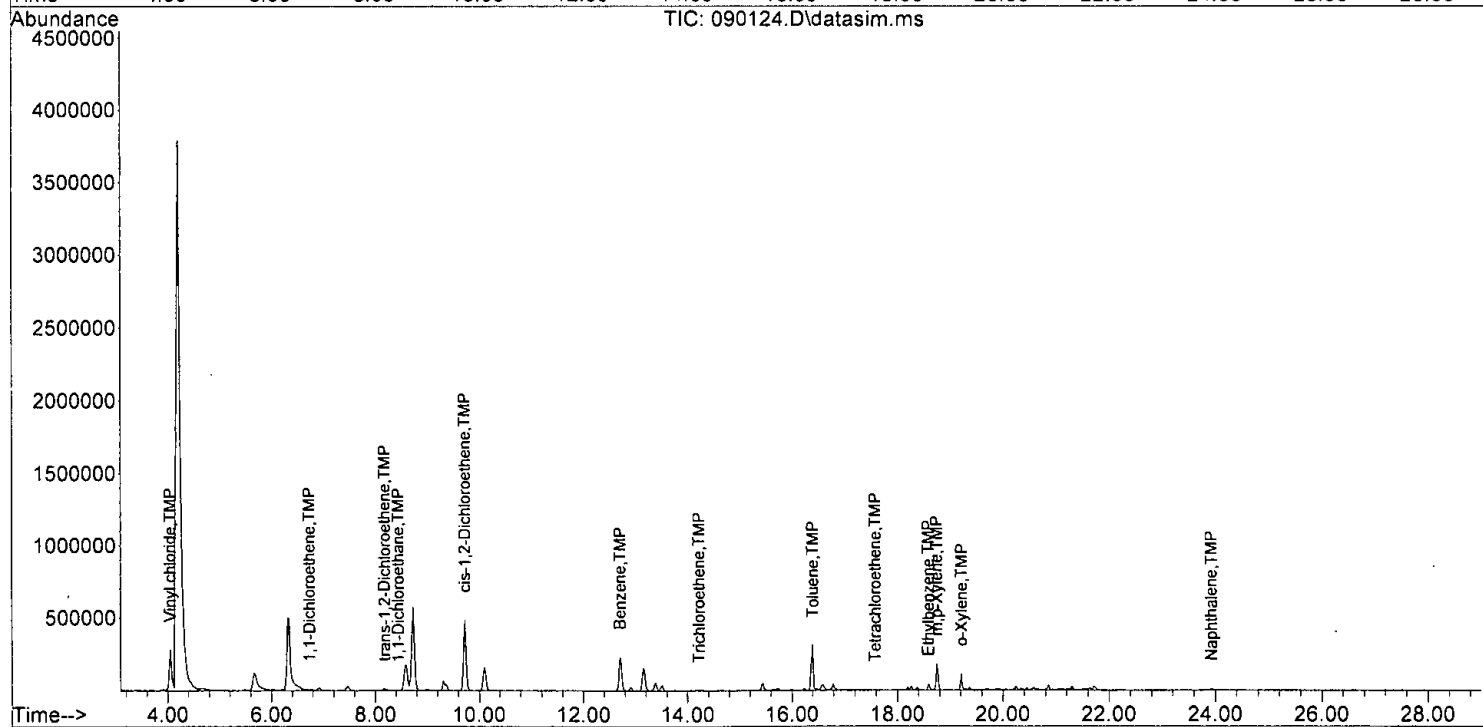
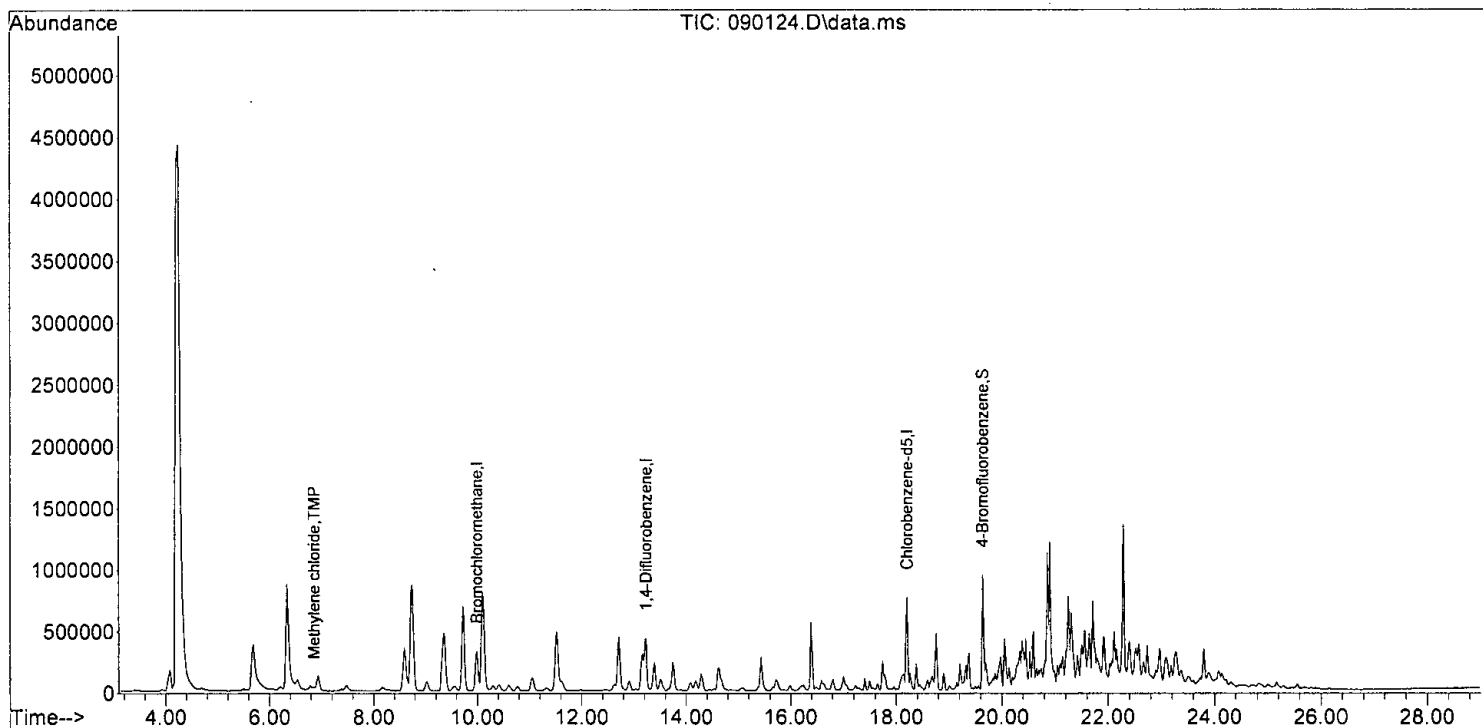
Quant Time: Sep 03 10:57:50 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	1166m	0.037	ppbv	
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	268847	7.120	ppbv	81
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	2126	0.111	ppbv	83
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	65101	0.669	ppbv	97
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.74	106	117107	3.749	ppbv #	81
66] o-Xylene	19.21	106	54693	1.781	ppbv	89
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77] Naphthalene	23.93	128	23171m	0.216	ppbv	
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

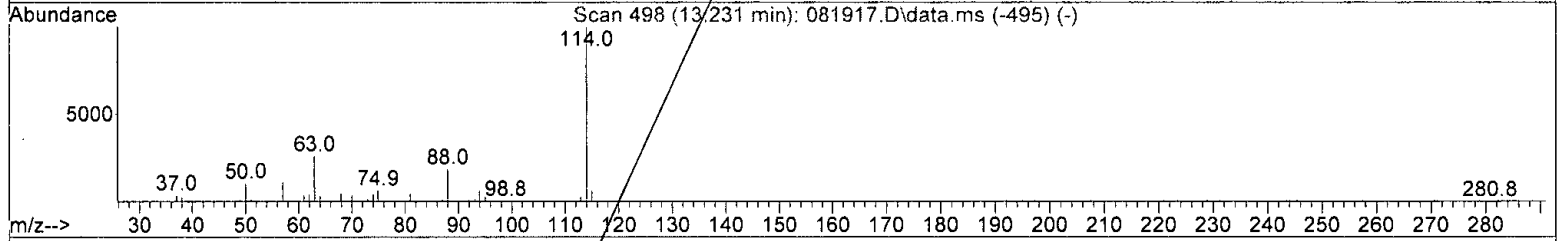
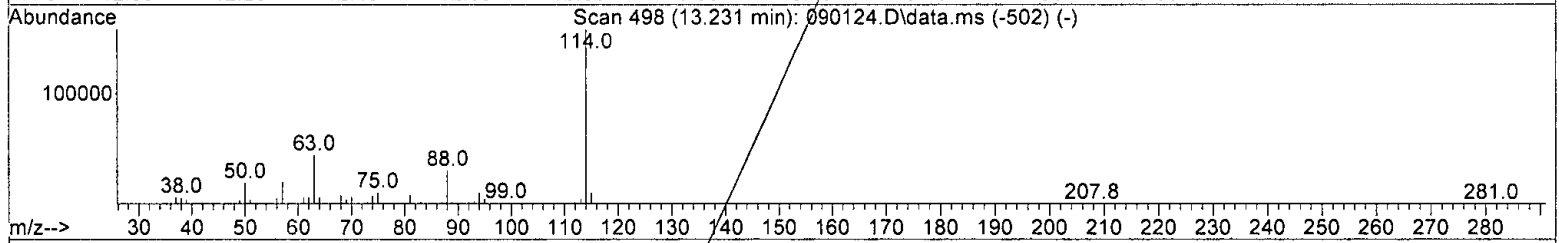
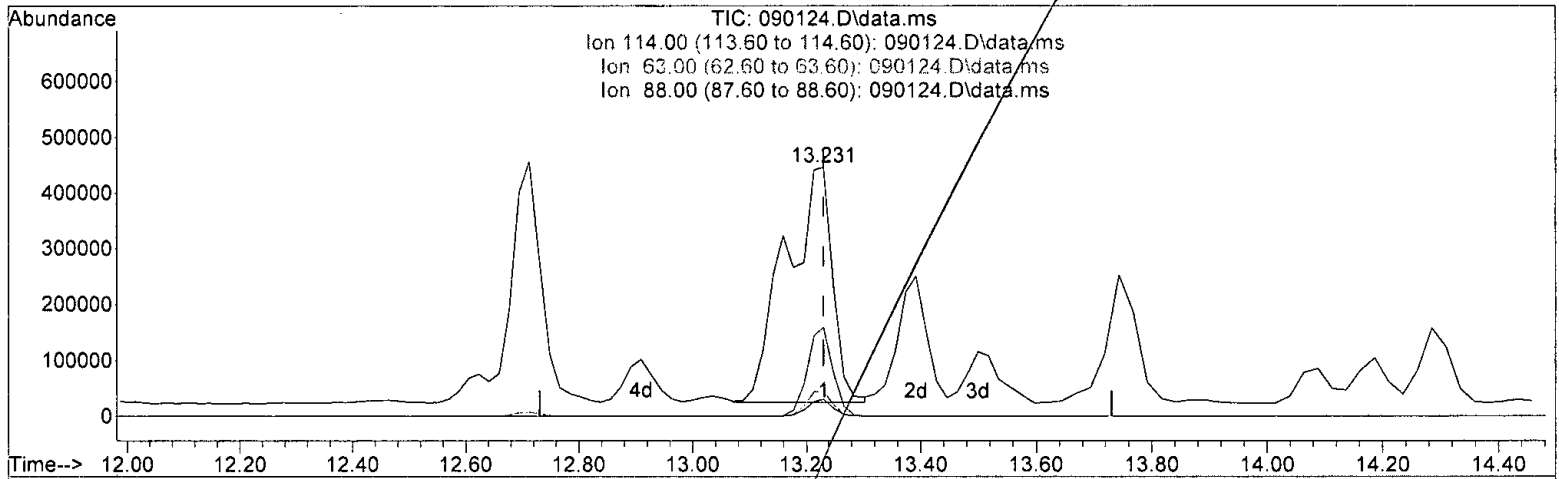
Quant Time: Sep 03 10:57:50 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)  
 13.231min (+ 0.000) 93.052 ug/m3  
 response 2411834

Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	38.03
63.00	8.40	10.54
88.00	7.60	7.19

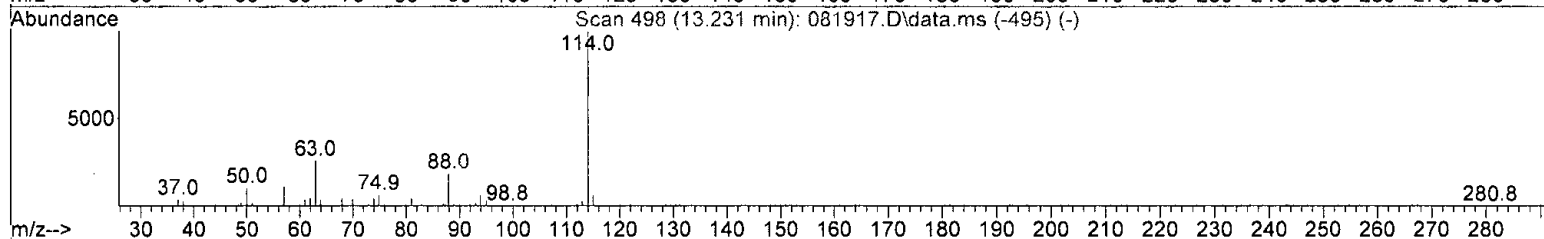
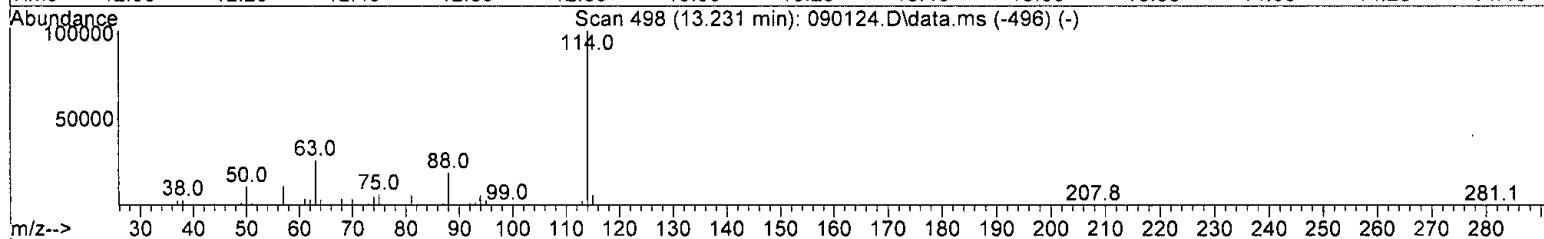
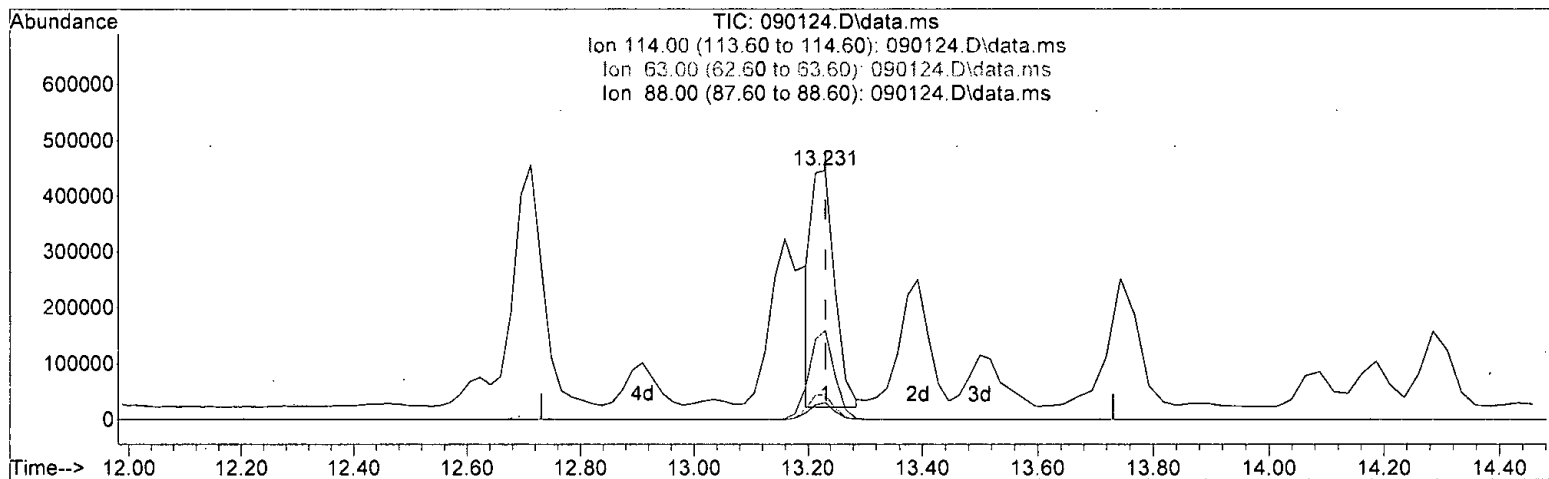
*Handwritten signature:* A 09/03/21



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090124.D\data.ms

(3) IS-2 1,4-Difluorobenzene (T)

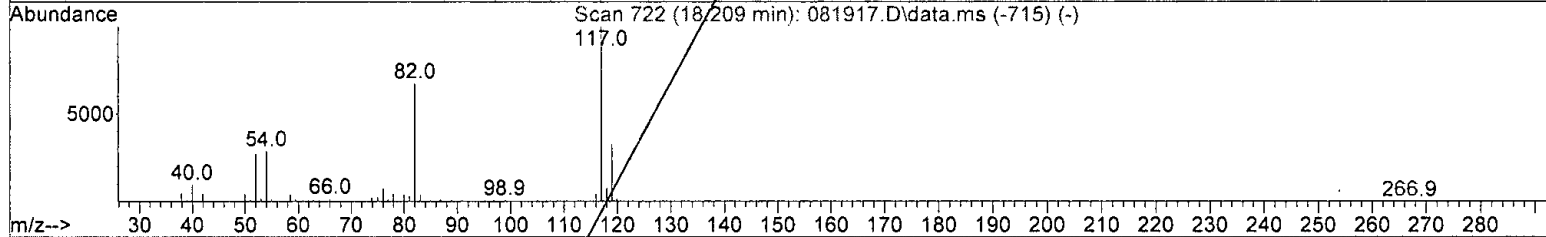
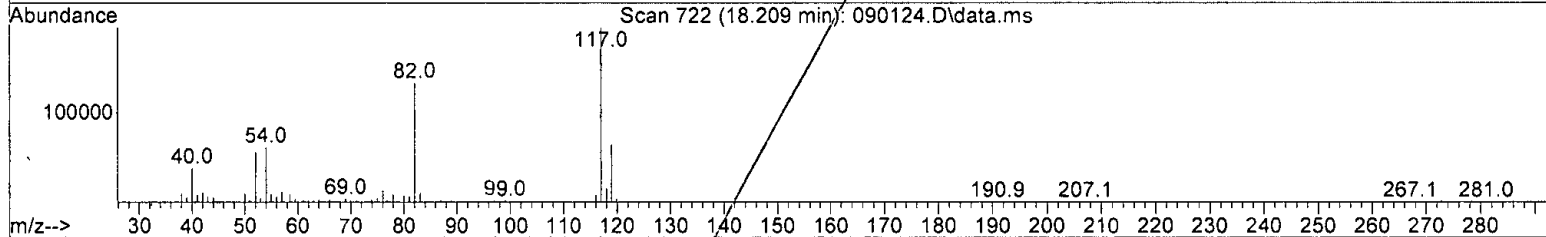
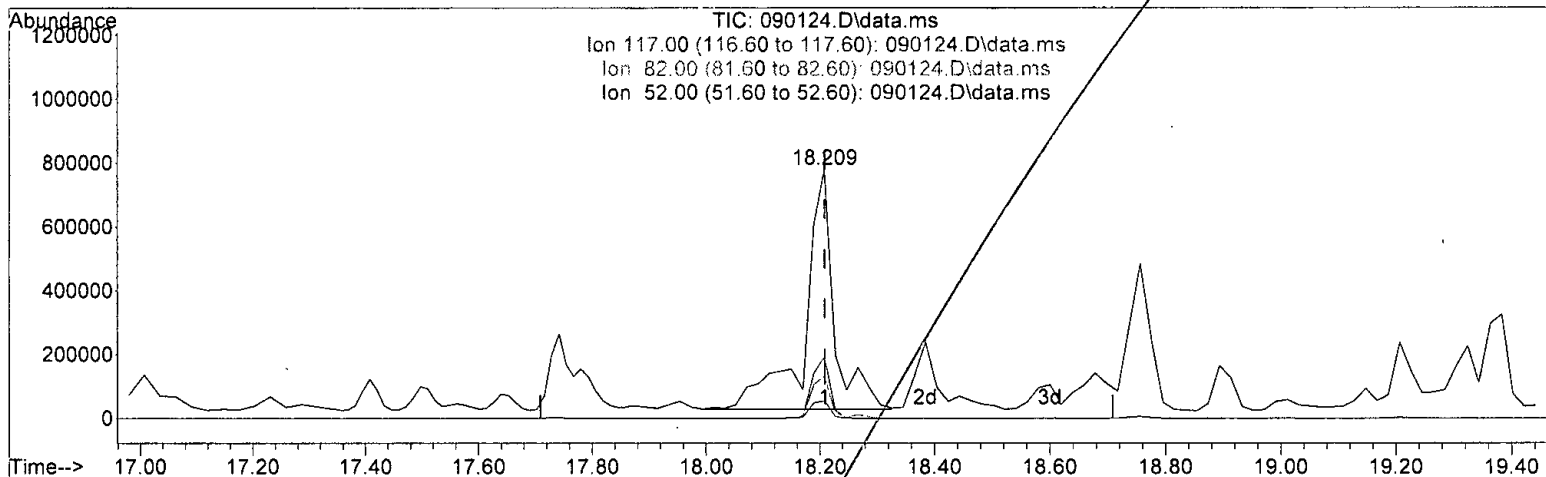
13.231min (+ 0.000)	45.889 ug/m3 m
response	1189406
Signal	Exp% Act%
TIC	100.00 100.00
114.00	43.50 77.11#
63.00	8.40 21.36
88.00	7.60 14.59

*h 09/03/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)  
 18.209min (-0.000) 88.217 ug/m3

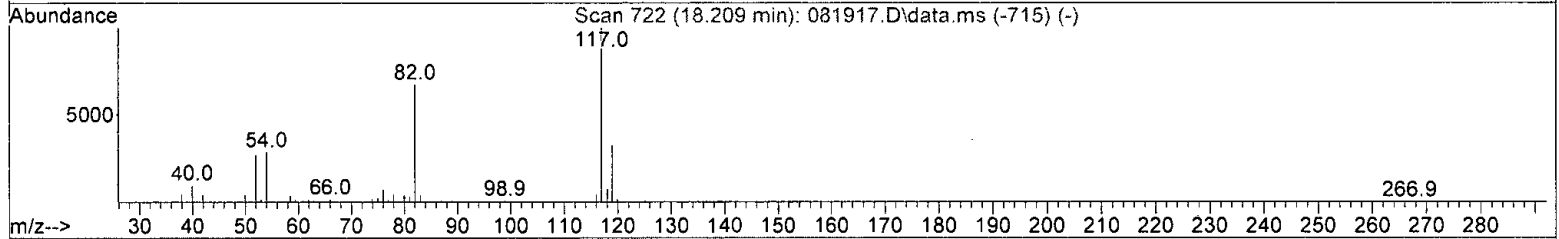
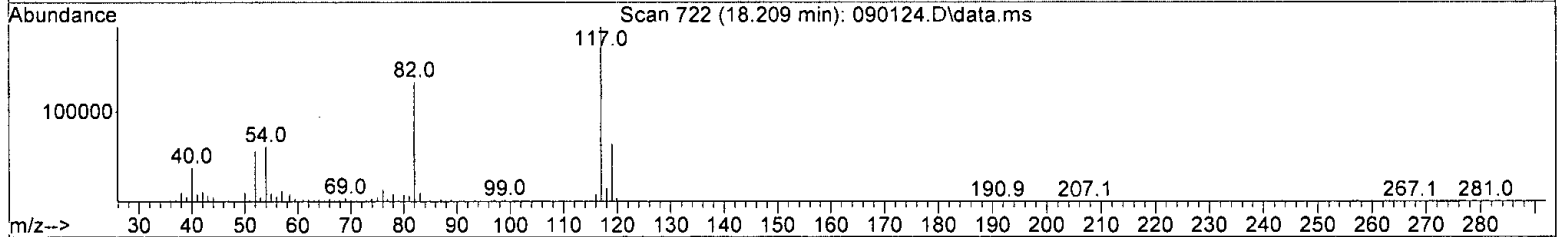
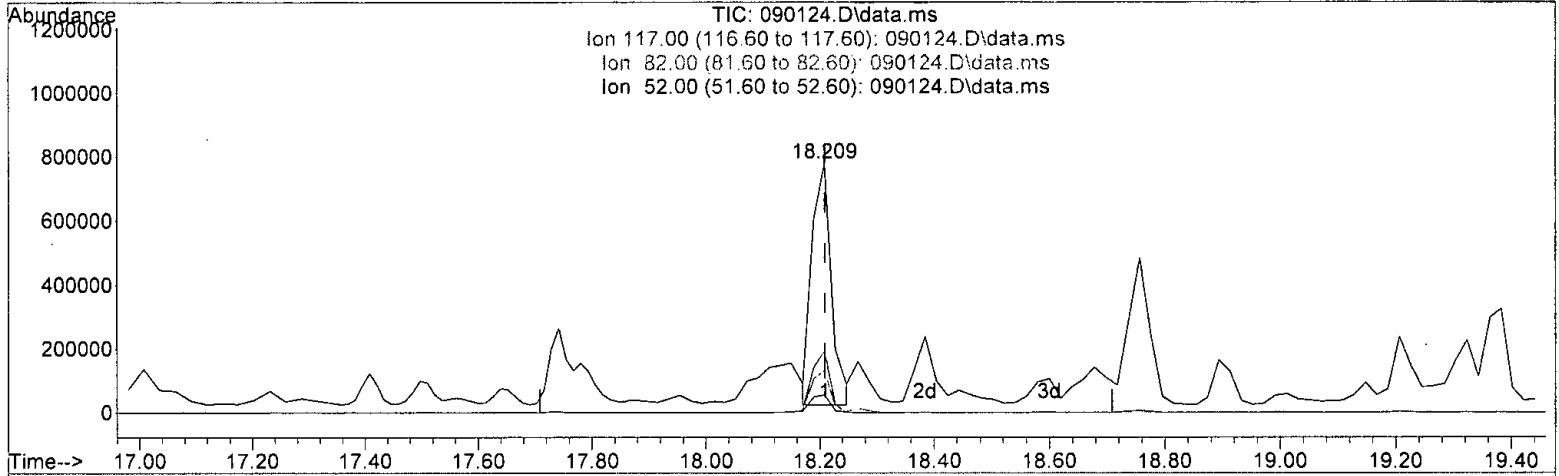
response 2773374

Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	15.79
82.00	18.10	12.10
52.00	6.90	5.04

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 58.815 ug/m3 m

response 1849045

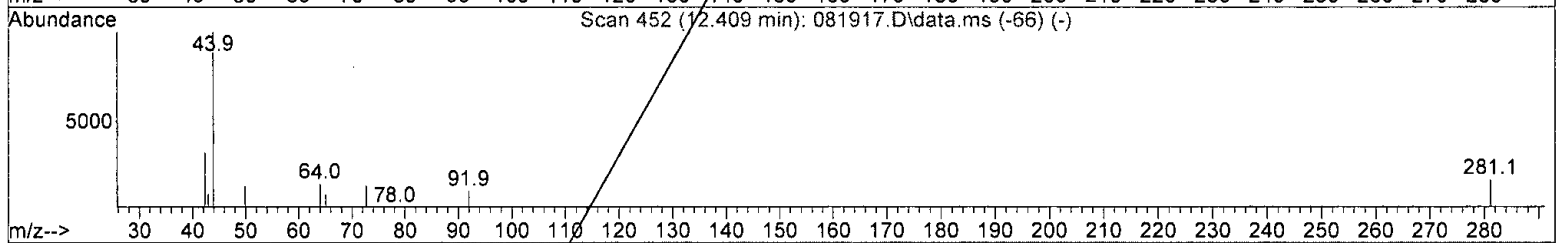
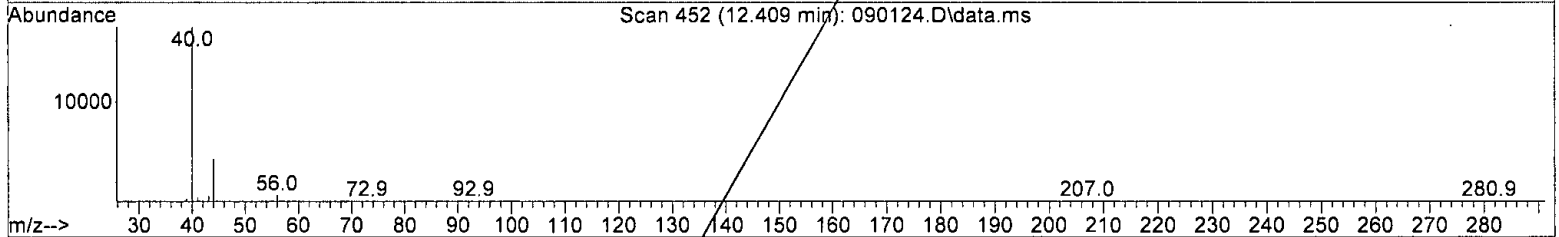
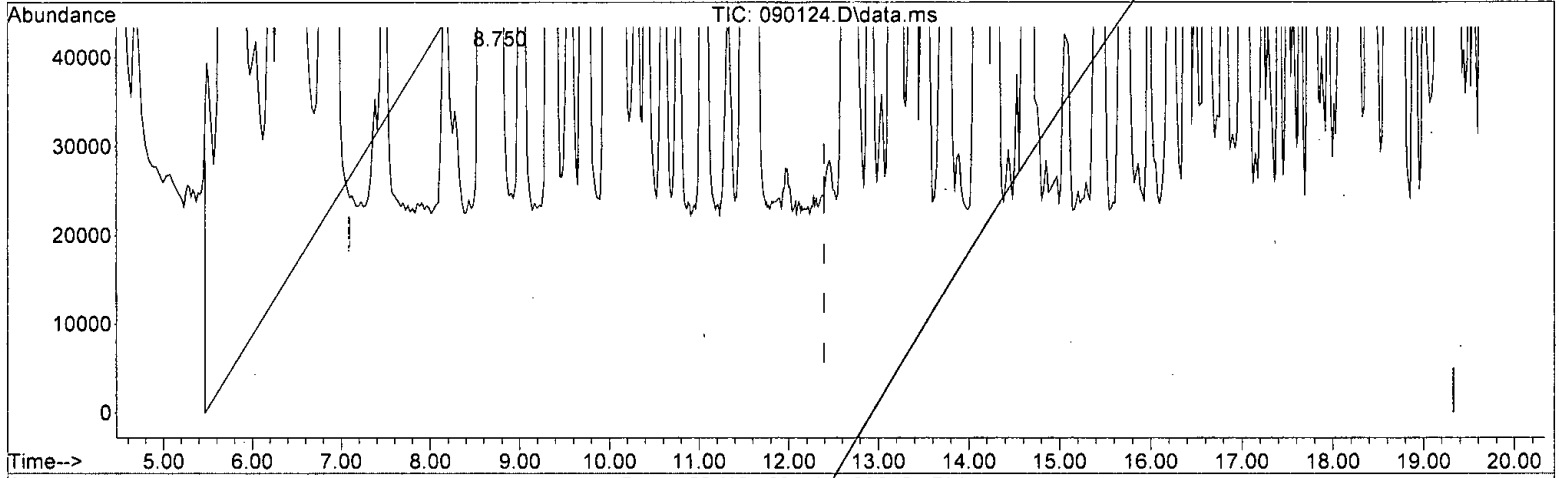
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	23.69
82.00	18.10	18.14
52.00	6.90	7.56

*12/01/2021*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



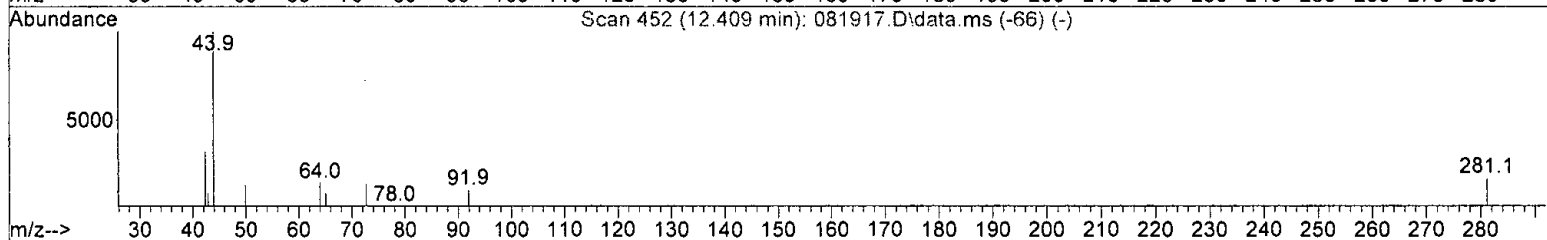
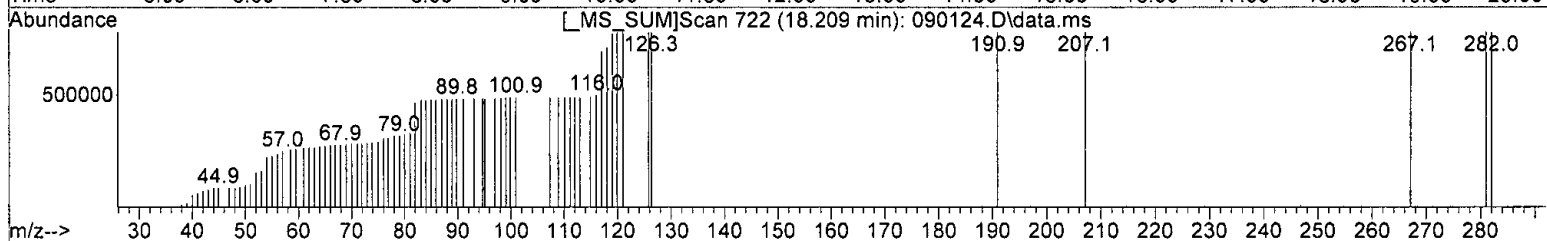
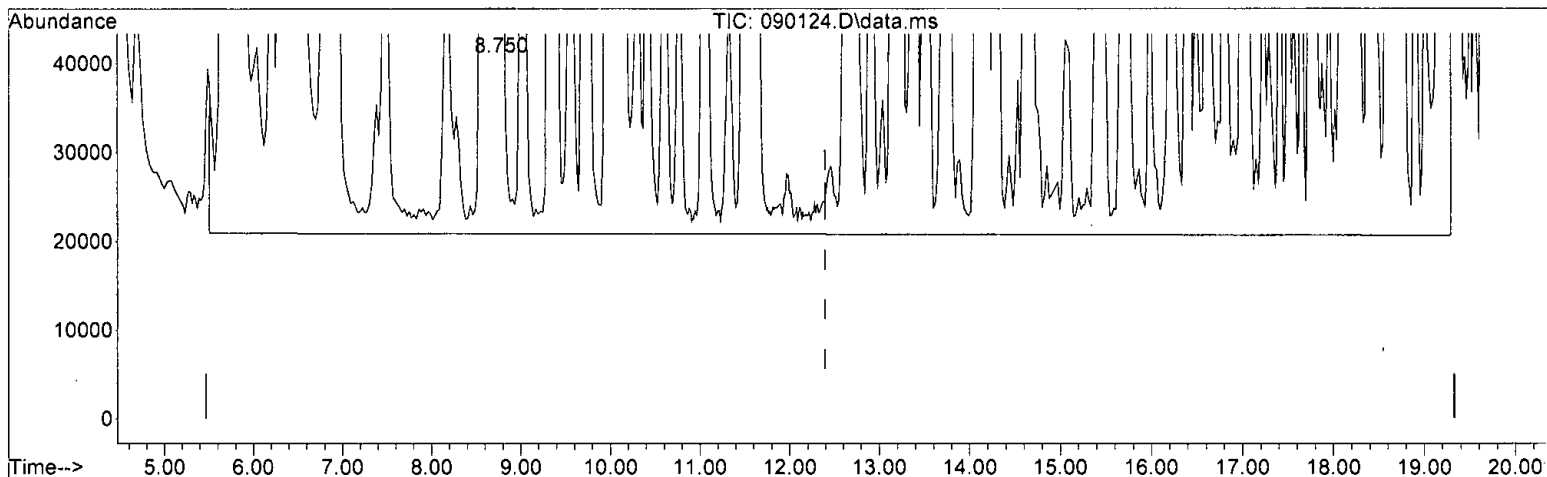
(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 1052.800 ug/m3 m  
 response 42096351

*R only*

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 1241.126 ug/m3 m

response 49626588

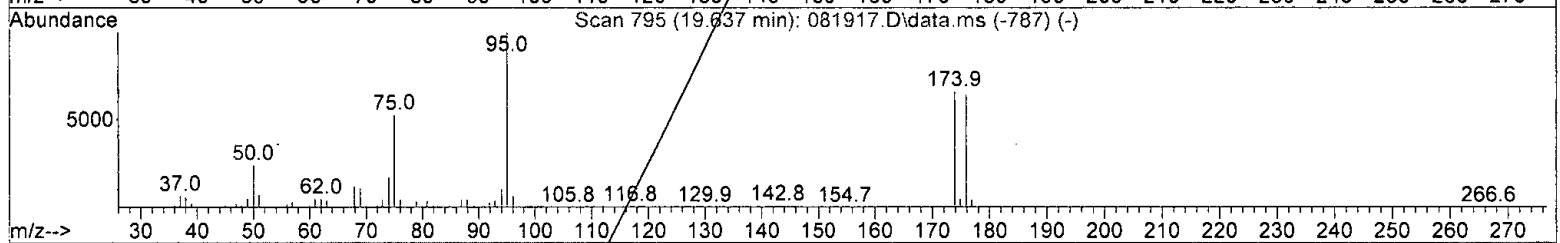
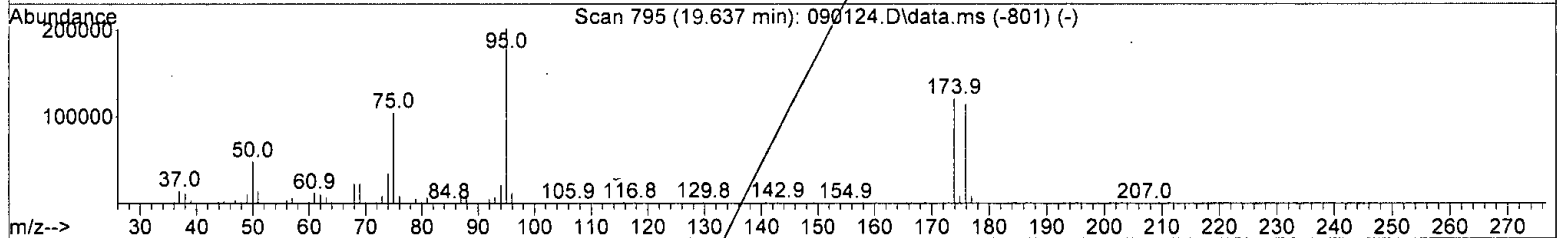
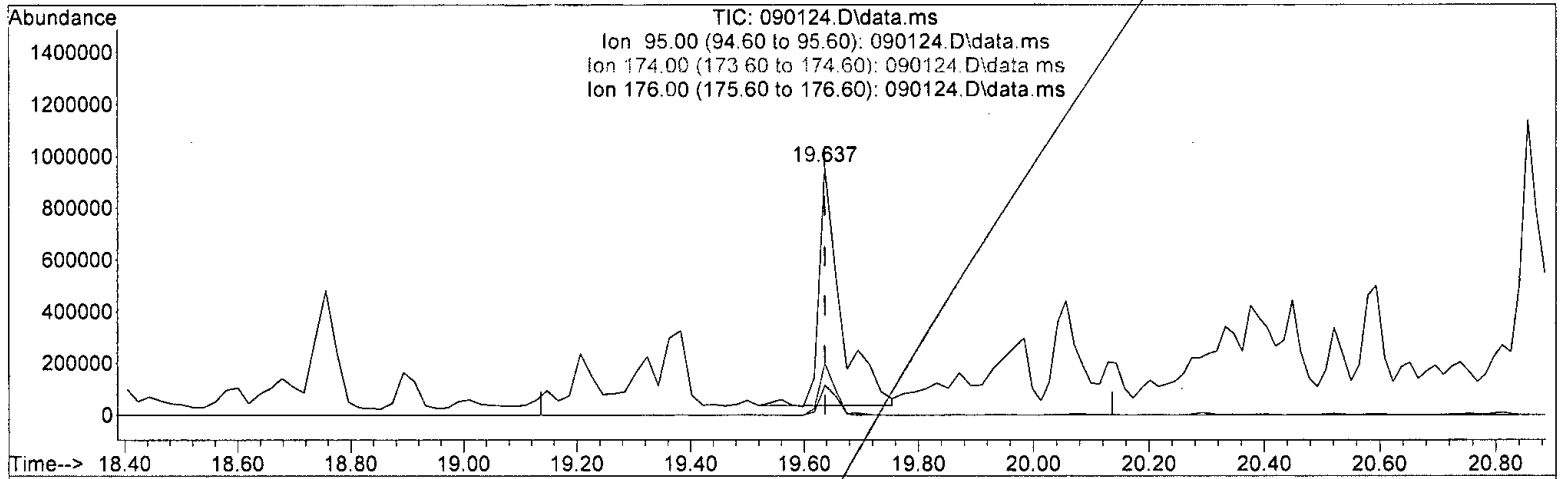
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*U only*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 68.360 ug/m3

response 2527575

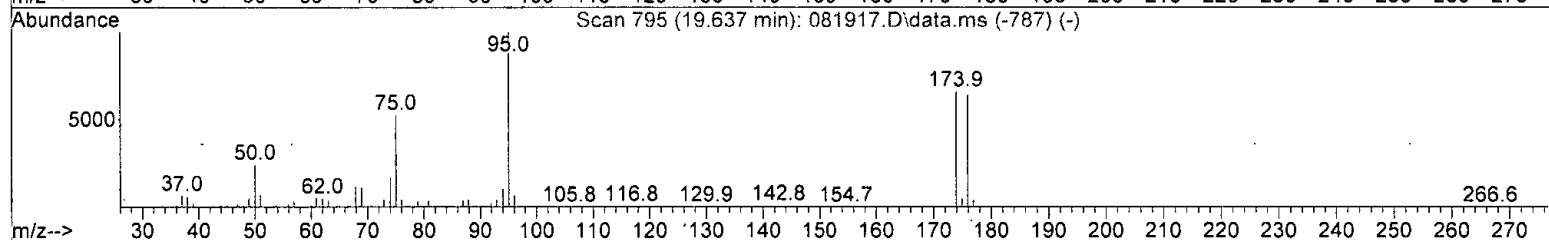
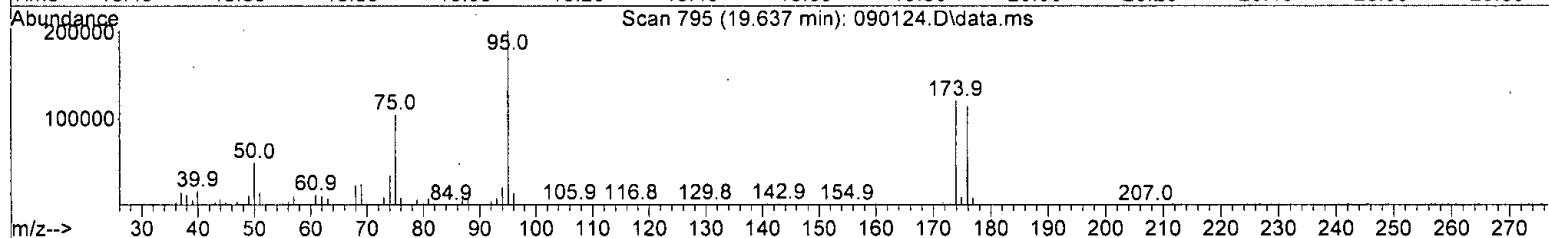
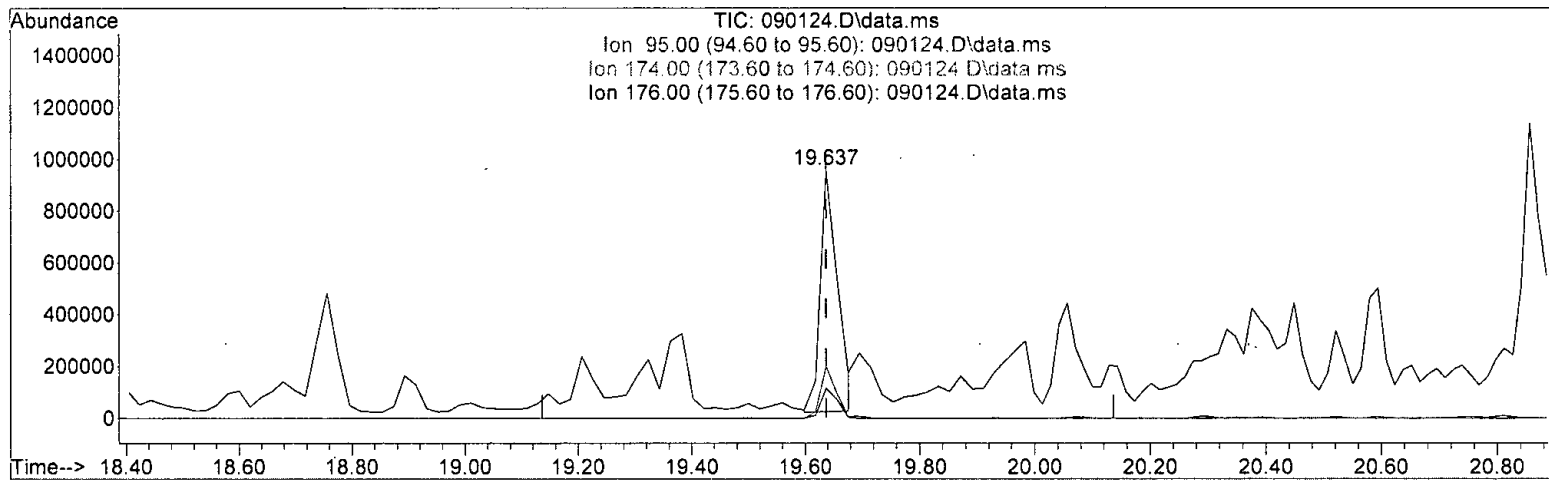
Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	21.86
174.00	19.20	13.08
176.00	18.70	12.39

*Handwritten signature and date: bat 09/03/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 54.545 ug/m3 m

response 2016784

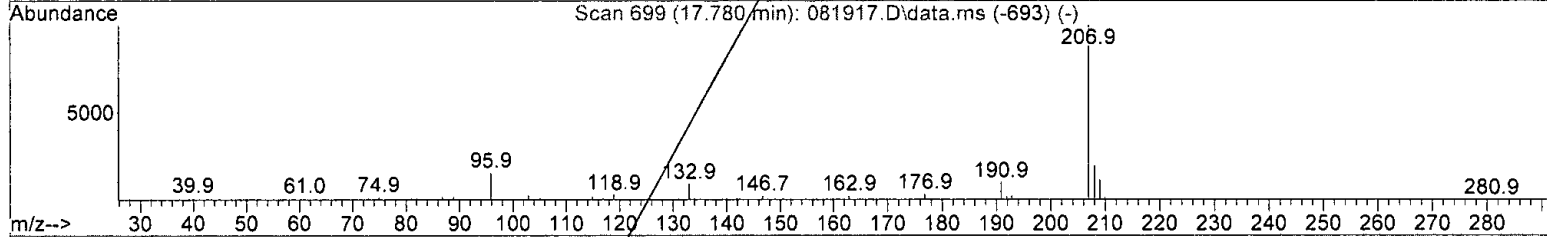
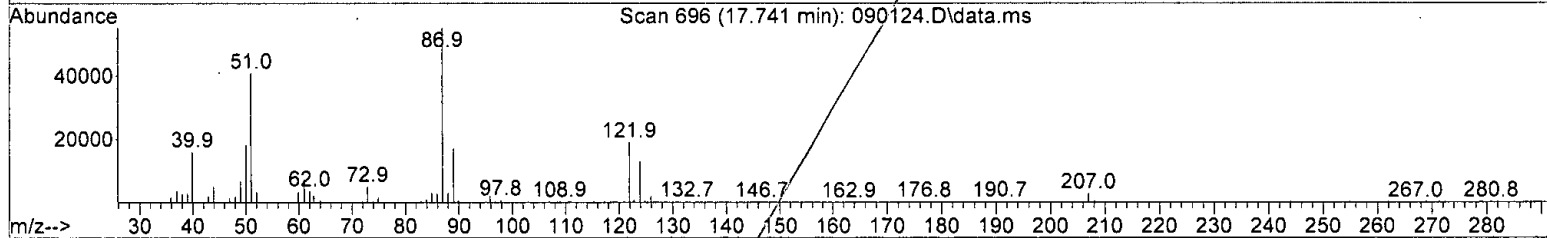
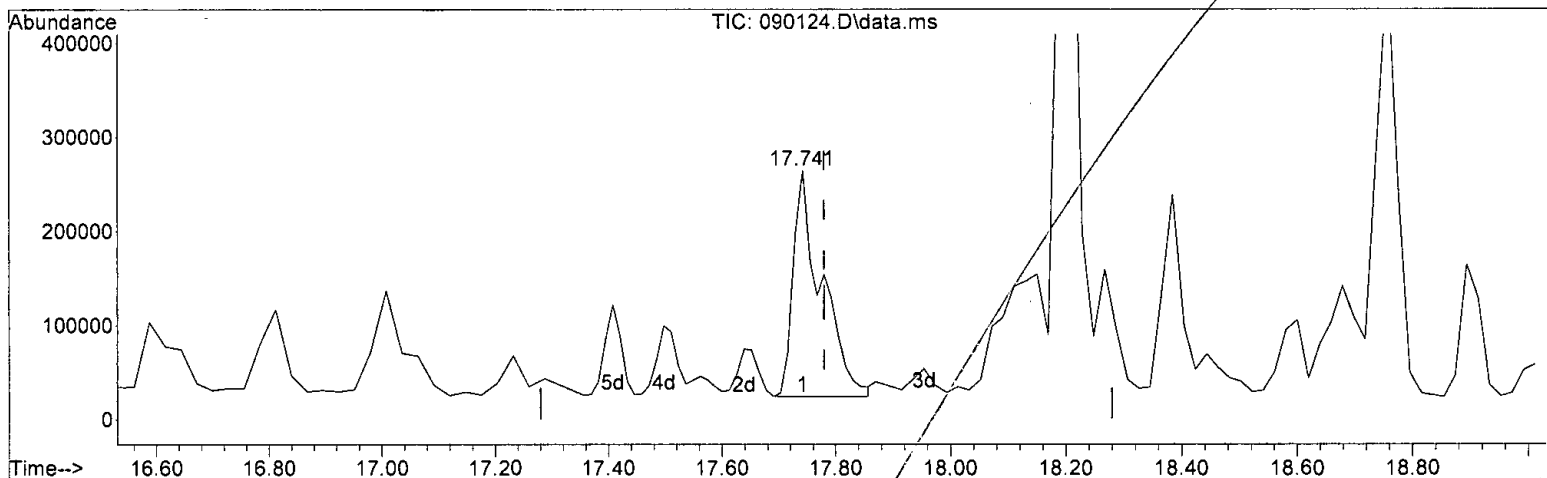
Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	27.40
174.00	19.20	16.40
176.00	18.70	15.53

*B  
09/03/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(22) Hexamethylcyclotrisiloxane

17.741min (-0.039) 91.244 ppbv

response 830975

Signal	Exp%	Act%
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TIC	100.00	100.00
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0.00	0.00	0.00
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0.00	0.00	0.00
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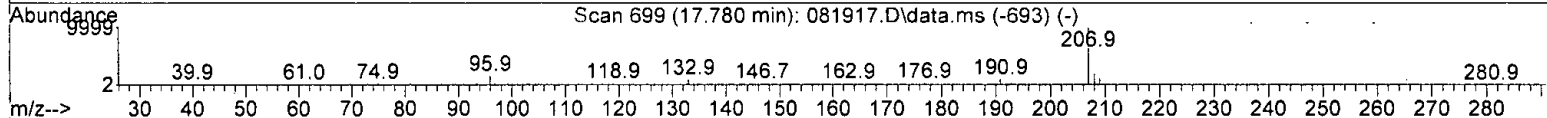
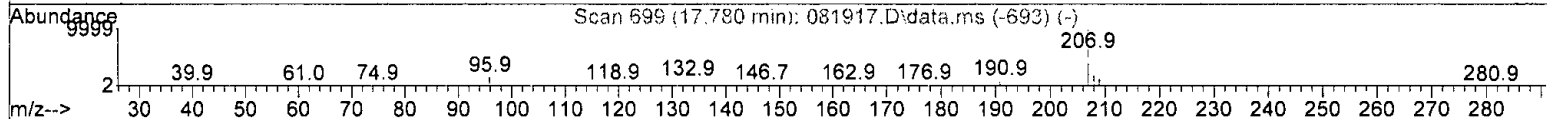
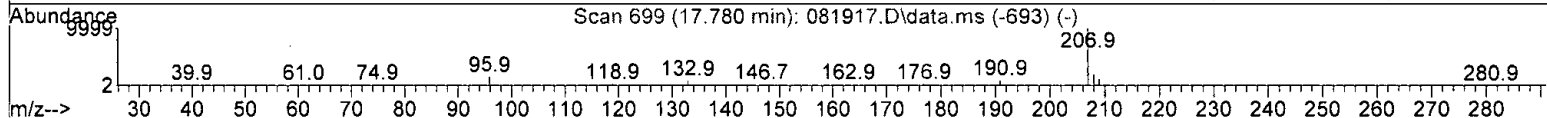
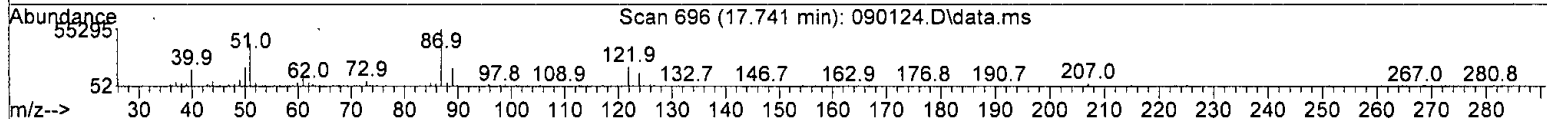
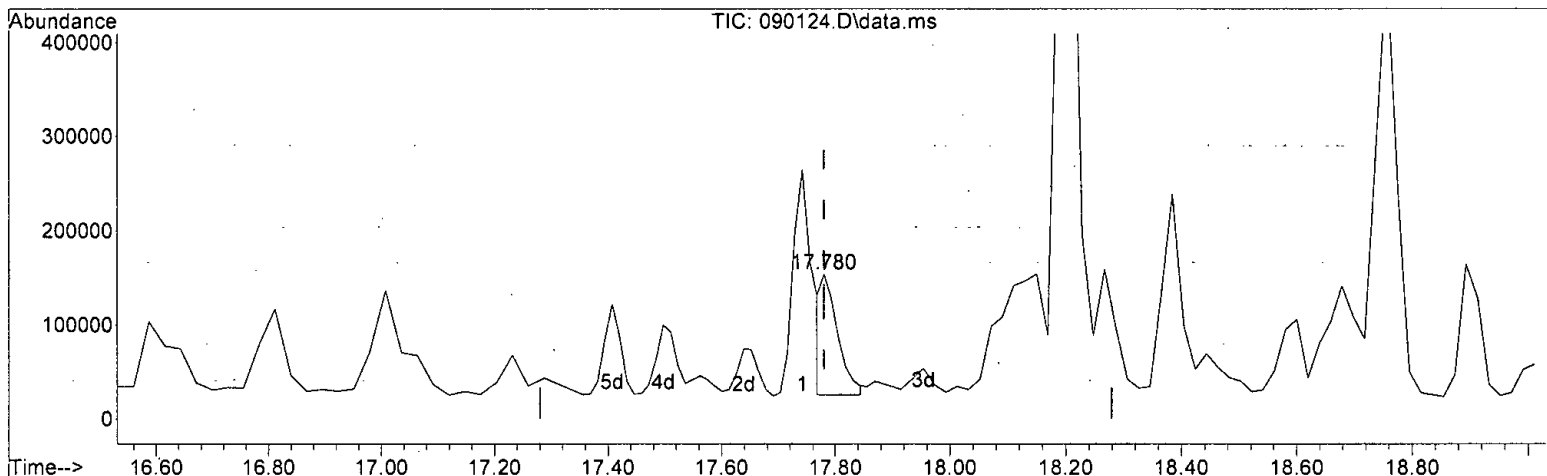
0.00	0.00	0.00
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*B. Ocalan*



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090124.D\data.ms

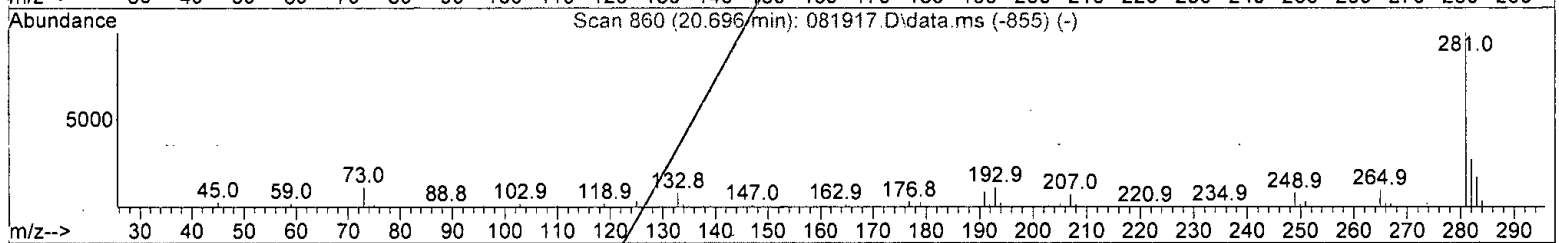
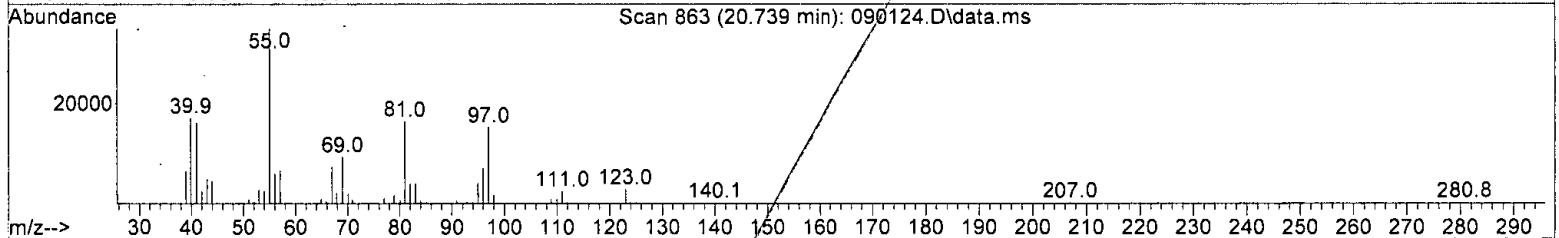
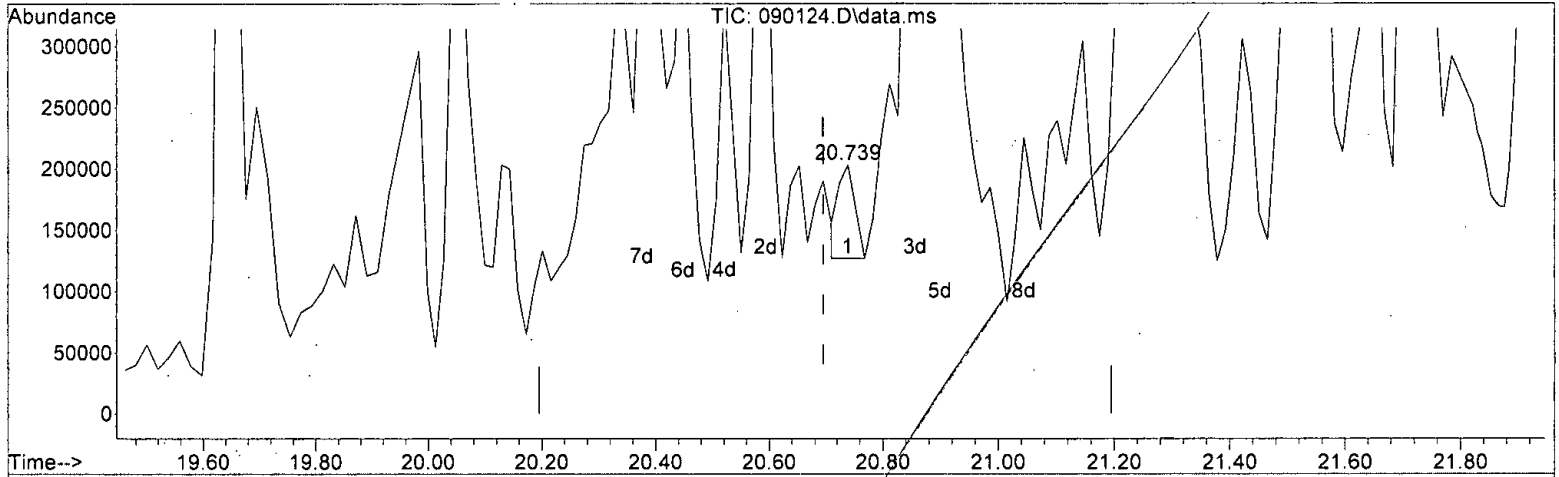
(22) Hexamethylcyclotrisiloxane			
17.780min (-0.000)	29.351 ppbv m		
response	267303		
Signal	Exp%	Act%	
TIC	100.00	100.00	
0.00	0.00	0.00	
0.00	0.00	0.00	
0.00	0.00	0.00	

*R. Balakrishnan*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

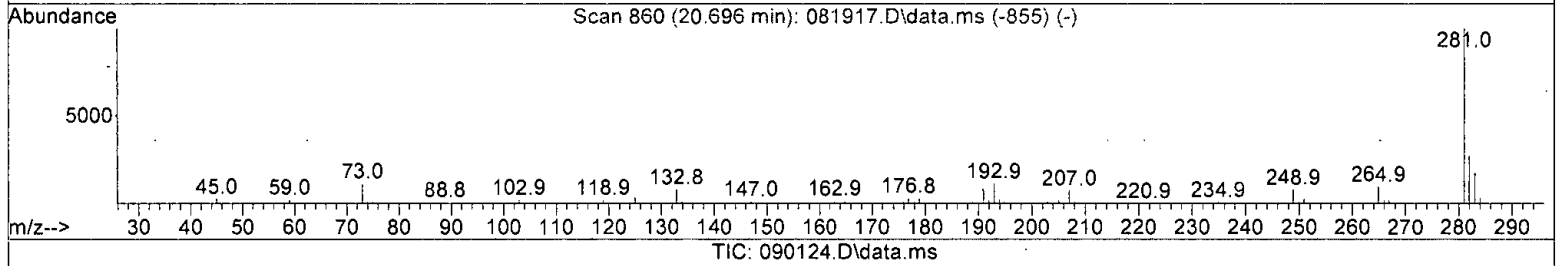
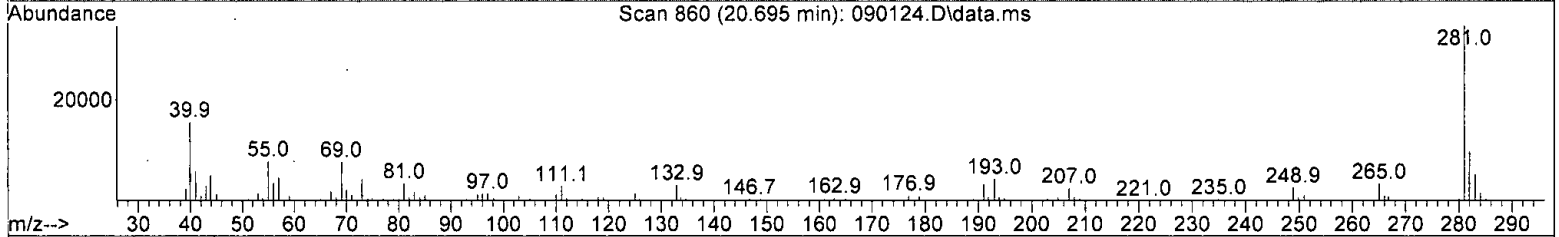
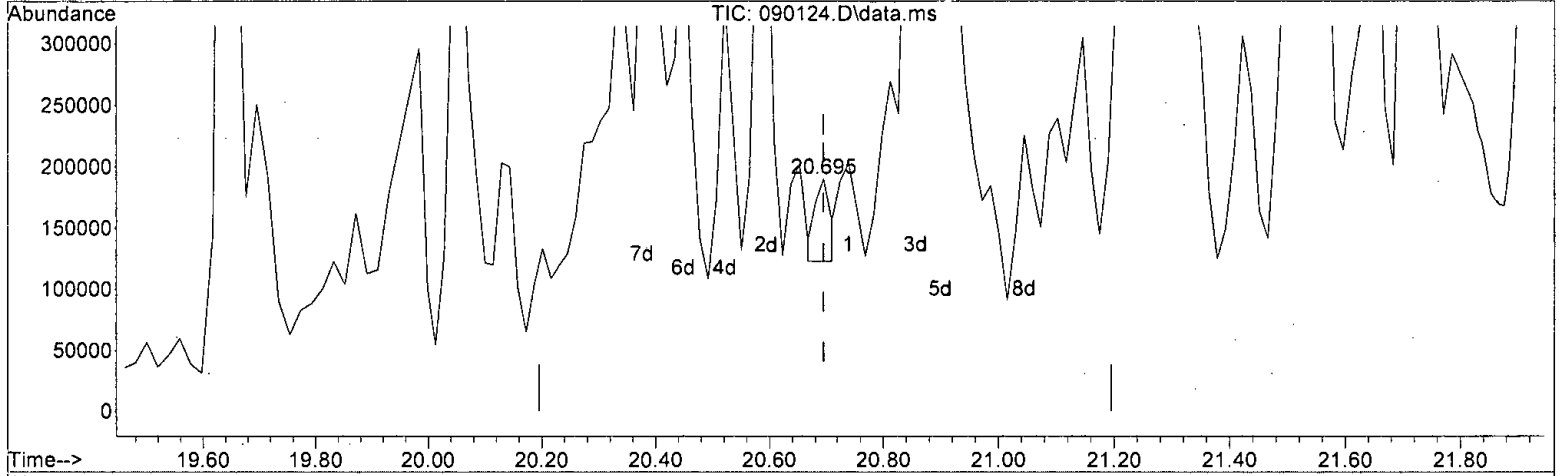
20.739min (+ 0.043) 13.479 ppbv

response	Exp%	Act%
153211		
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten note:* 13.479 ppbv

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

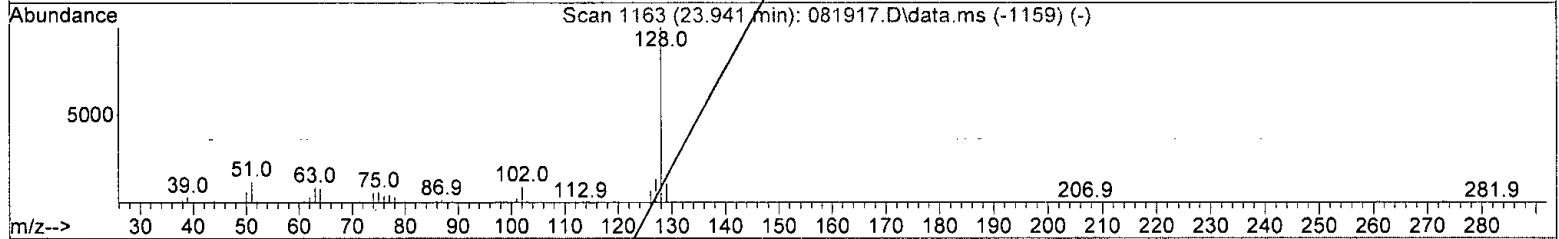
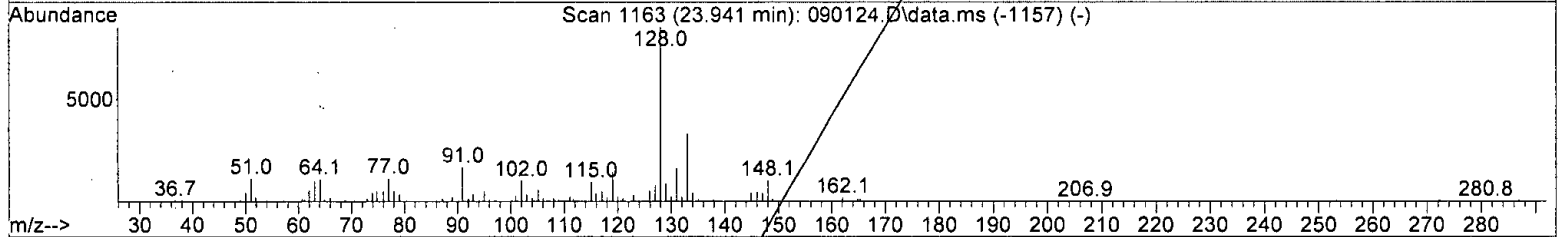
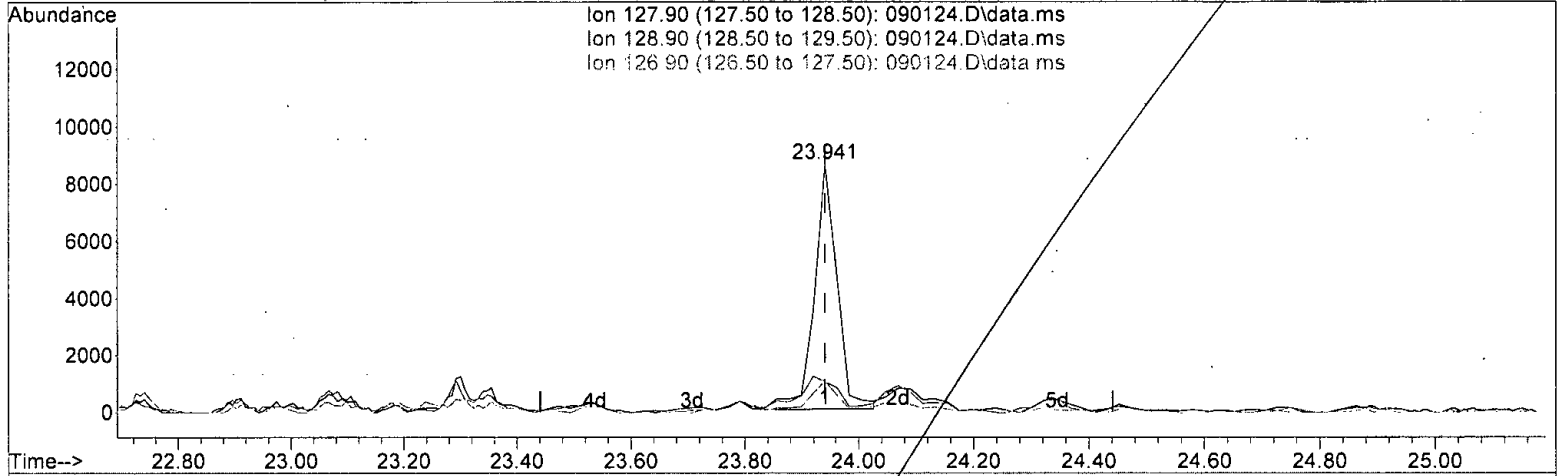
20.695min (-0.000) 11.362 ppbv m

response	129145		
Signal	Exp%	Act%	
TIC	100.00	100.00	
0.00	0.00	0.00	
0.00	0.00	0.00	
0.00	0.00	0.00	

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090124.D\data.ms

(28) Naphthalene (T)

23.941min (-0.000) 1.539 ug/m3

response 24254

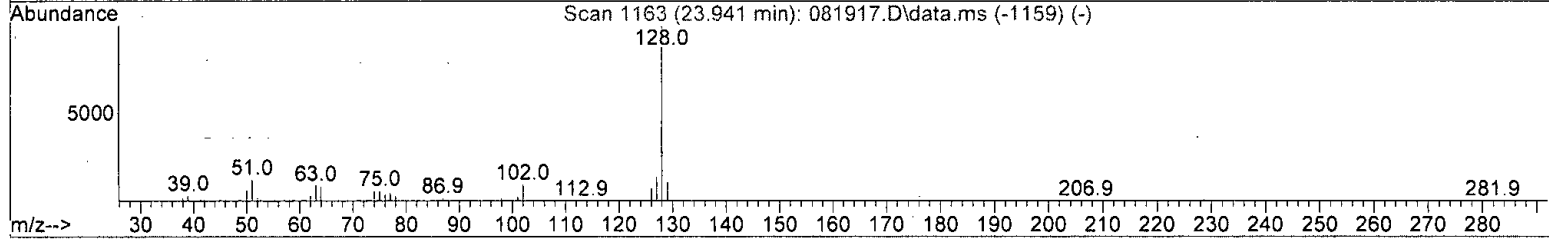
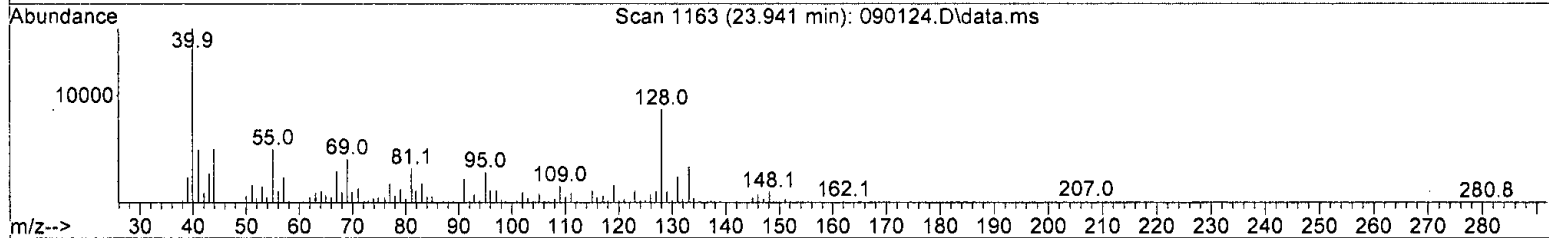
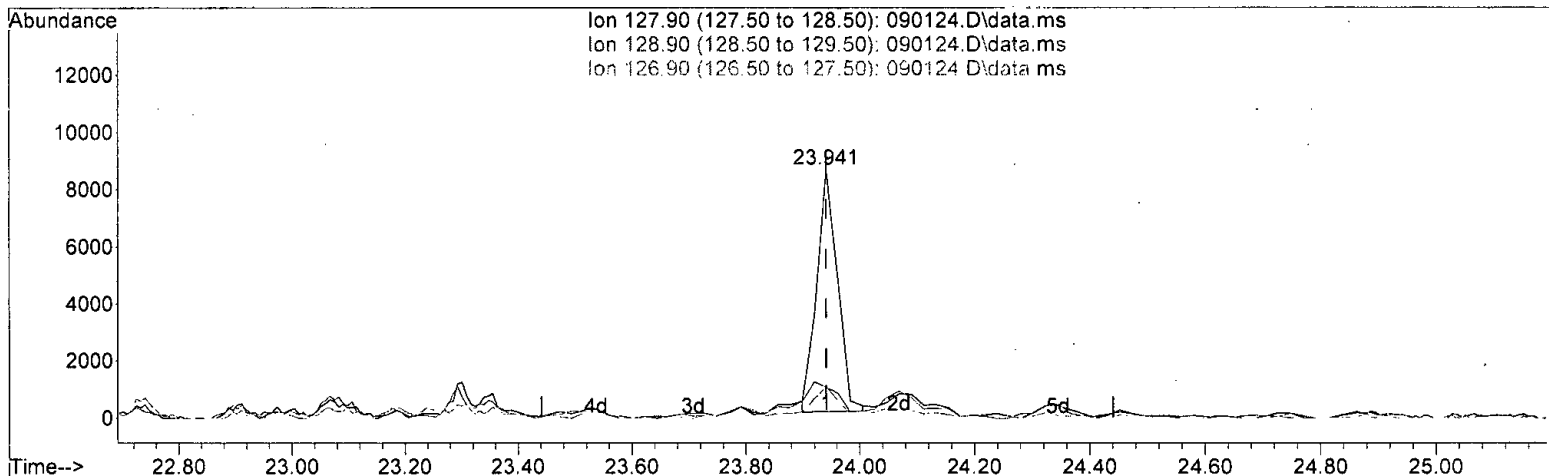
Ion	Exp%	Act%
127.90	100.00	100.00
128.90	11.10	10.20
126.90	13.70	10.58
0.00	0.00	0.00

*Bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(28) Naphthalene (T)

23.941min (-0.000) 1.370 ug/m3 m

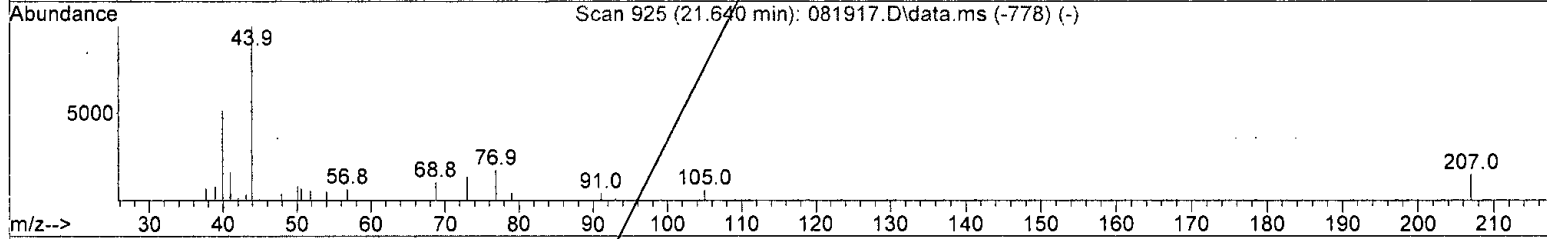
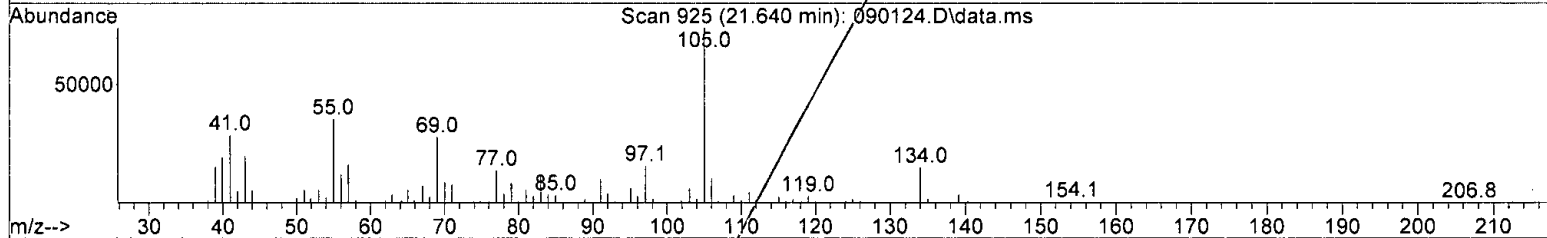
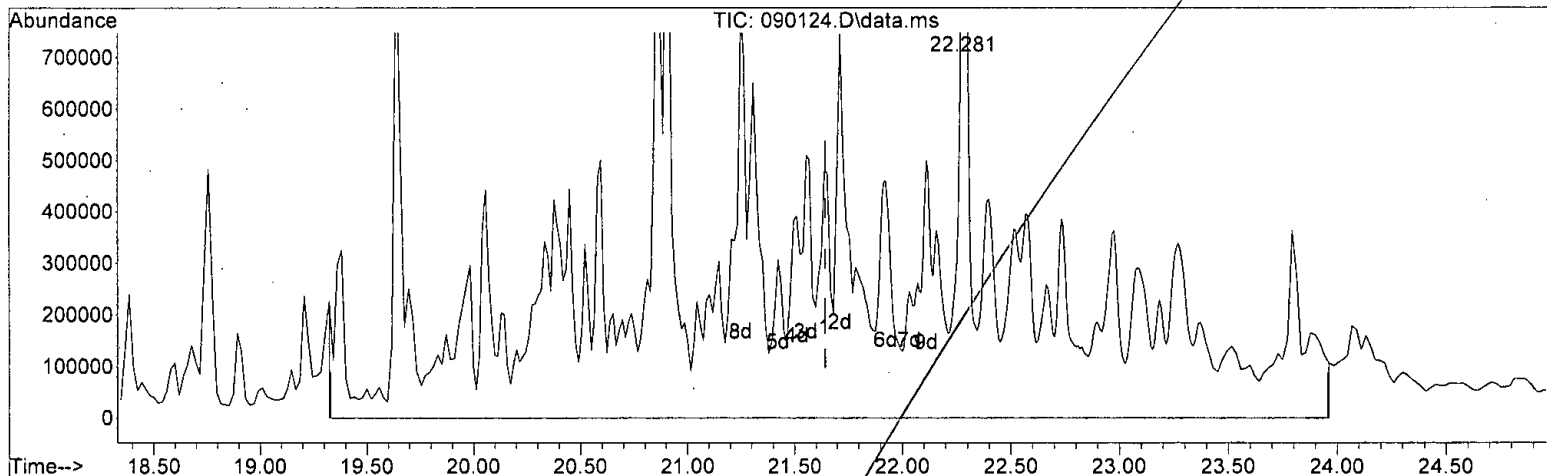
response 21587

Ion	Exp%	Act%
127.90	100.00	100.00
128.90	11.10	12.35
126.90	13.70	12.76
0.00	0.00	0.00

*Bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 718.505 ug/m3/m

response 32197275

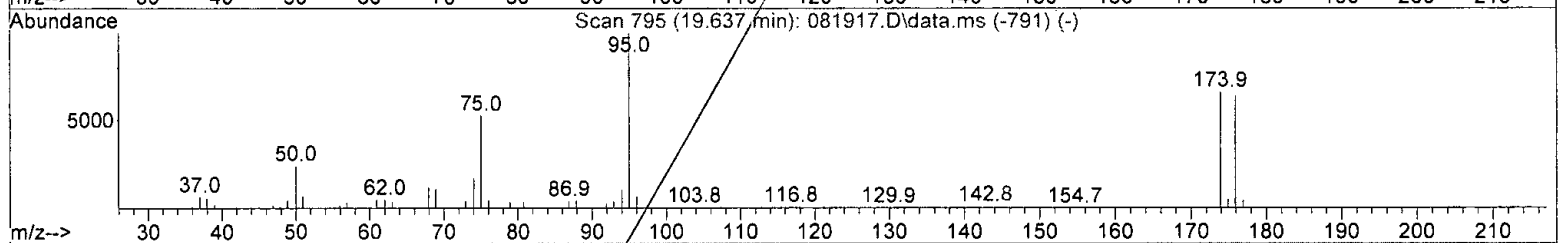
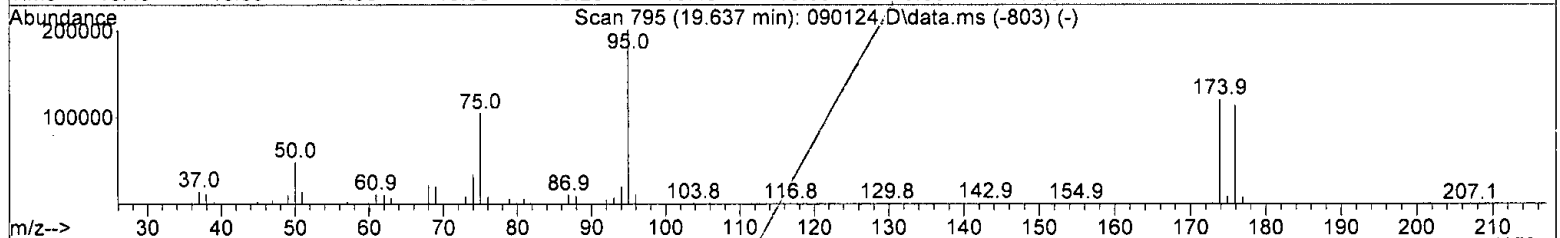
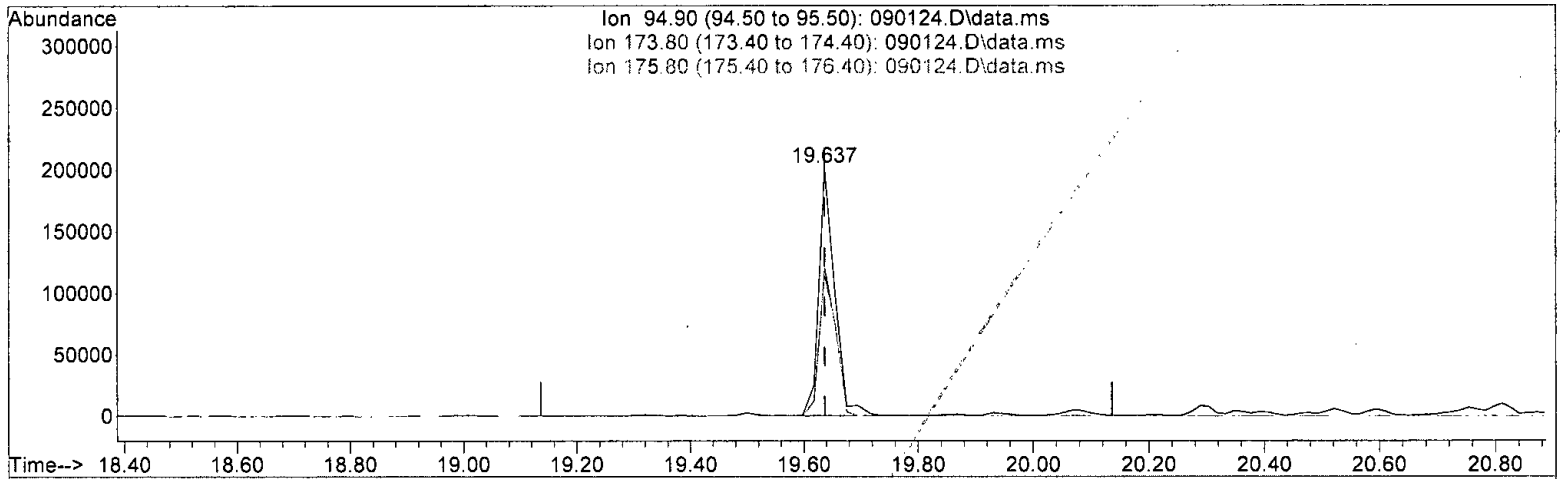
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Bataly*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



TIC: 090124.D\data.ms

(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 72.722 ug/m3

response 399047

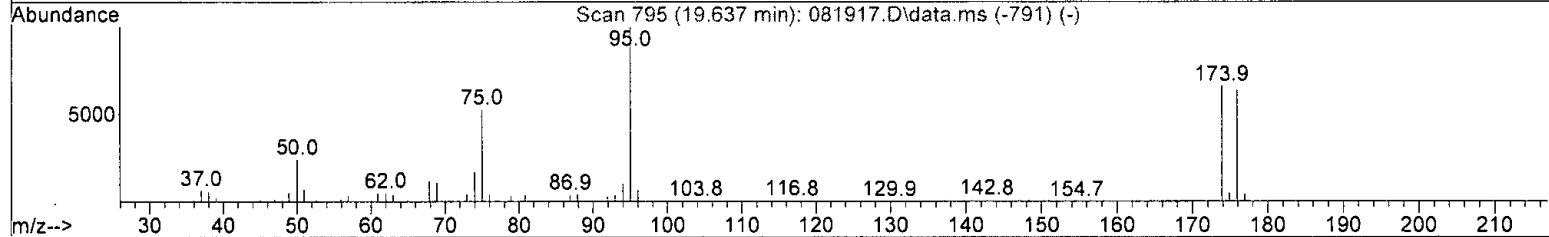
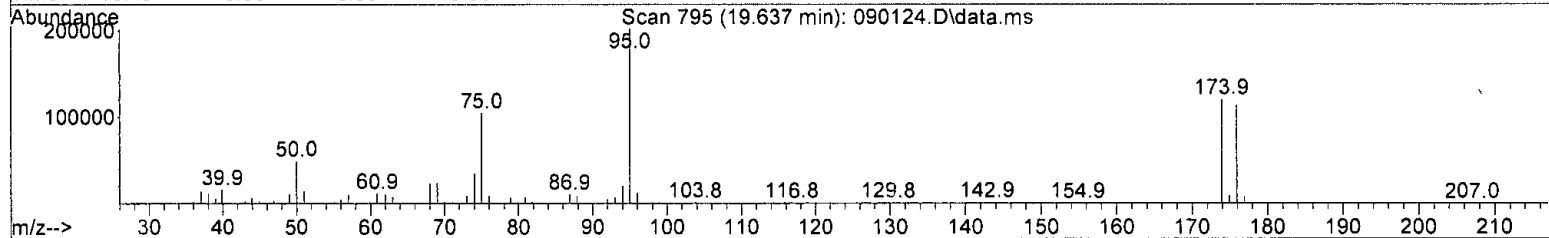
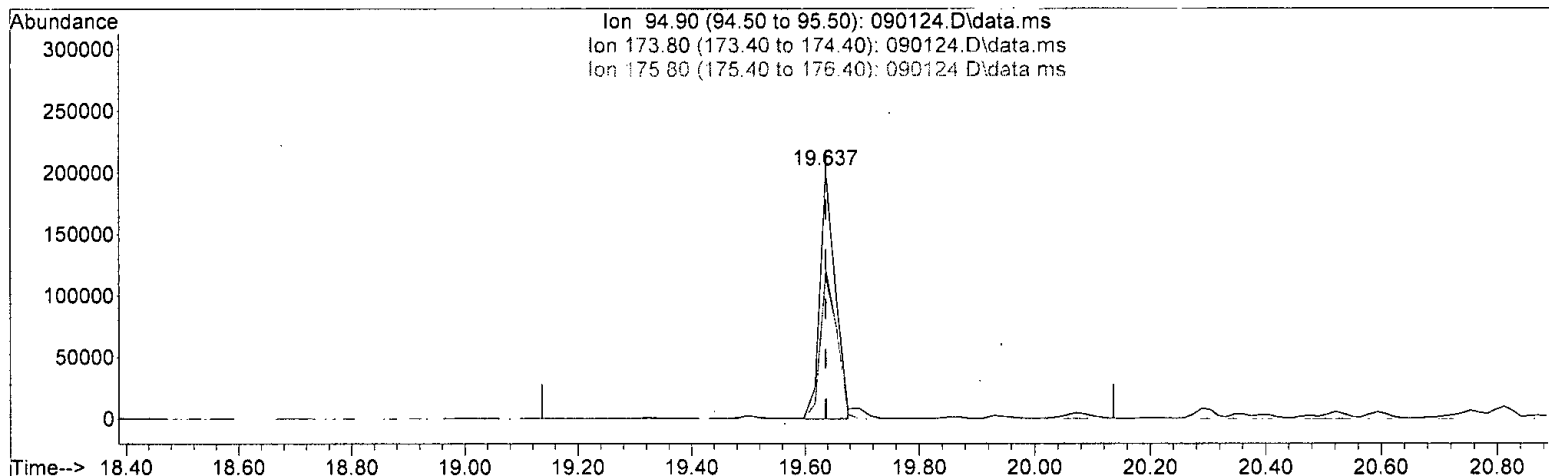
Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	59.85#
175.80	93.50	56.70#
0.00	0.00	0.00

*B. bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*Batalu*

(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 70.612 ug/m3 m

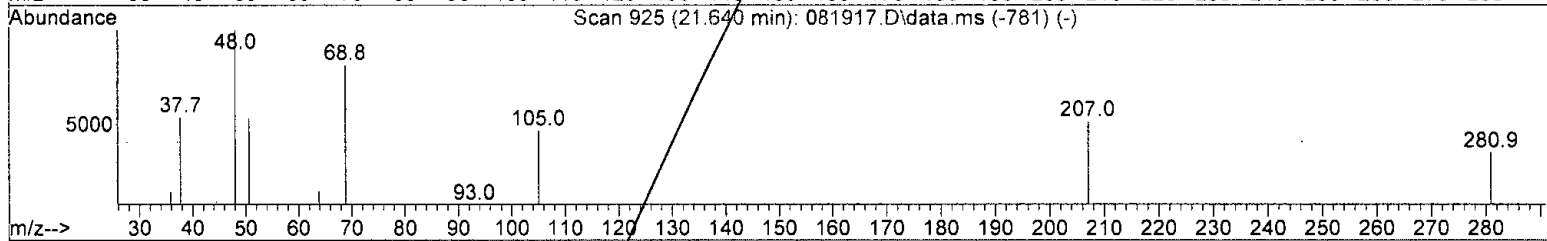
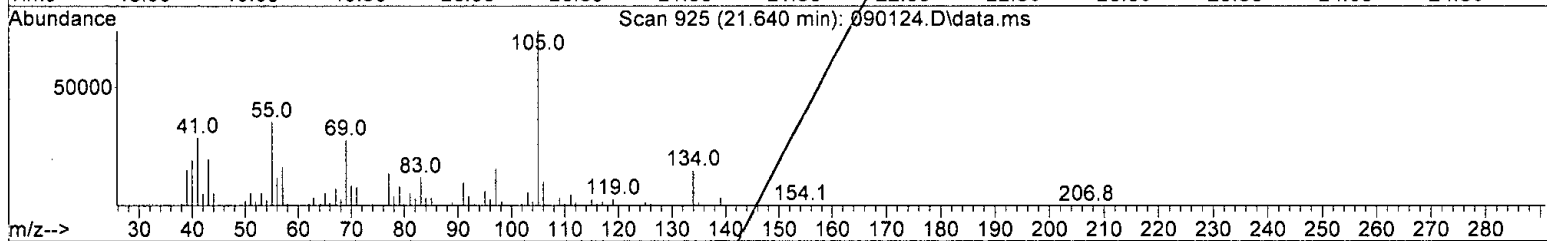
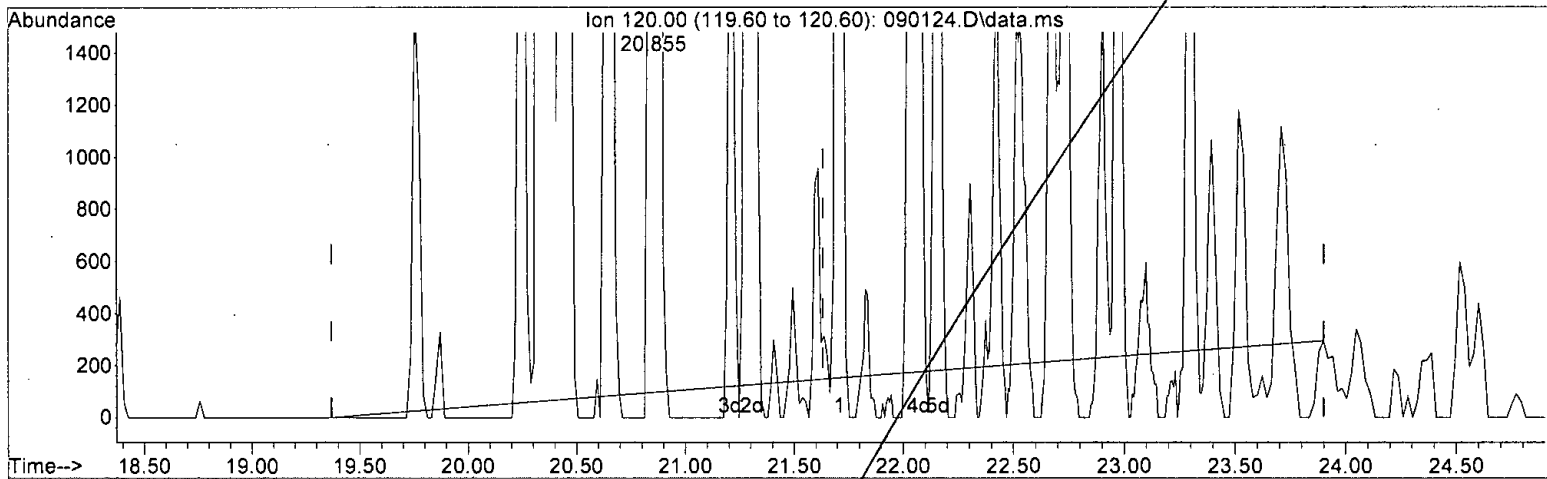
response	Exp%	Act%
387468		
Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	59.81#
175.80	93.50	56.65#
0.00	0.00	0.00



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 79.624 ug/m3 m

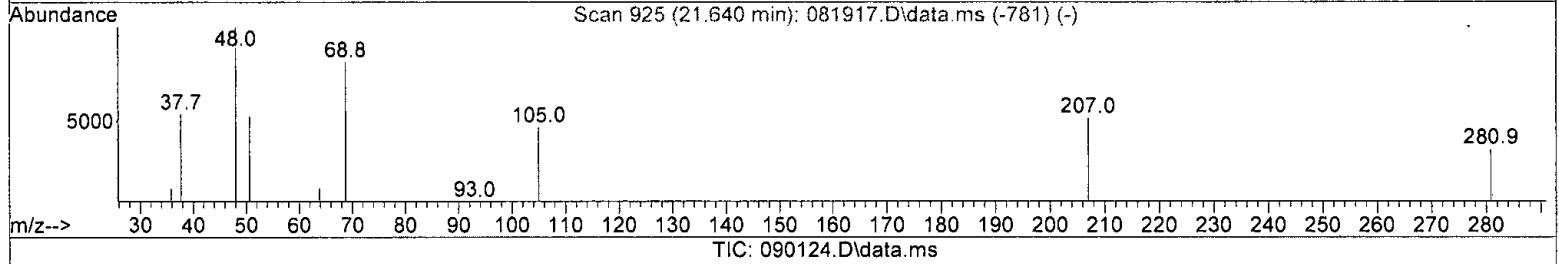
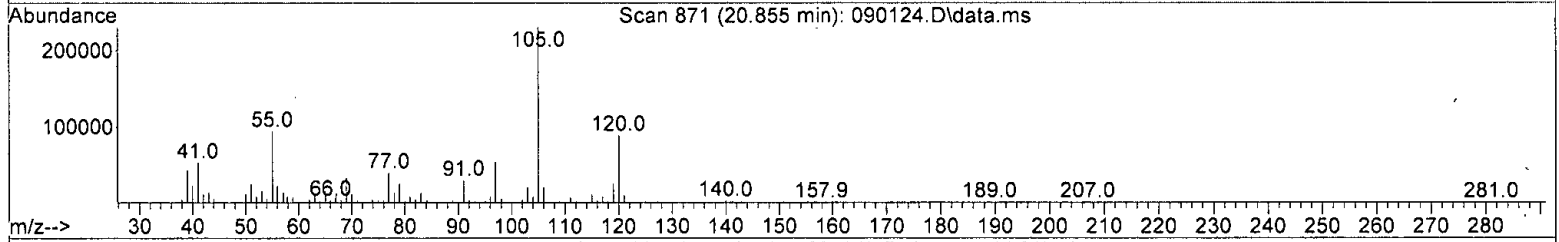
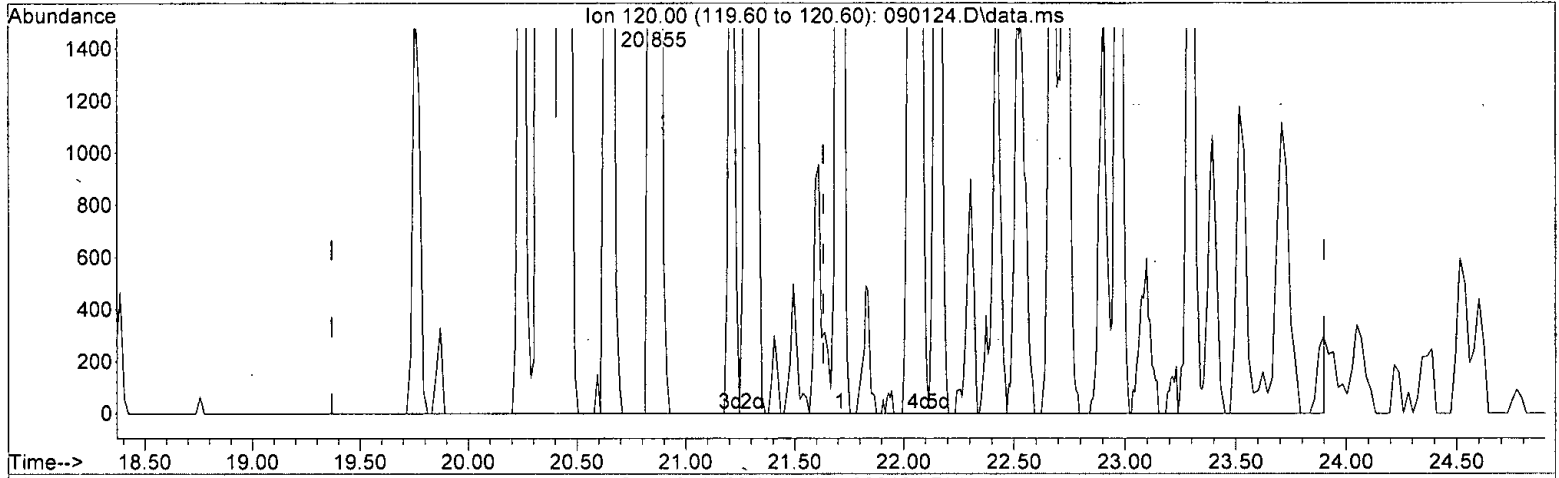
response 415429

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Batbat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 94.521 ug/m3 m

response 493150

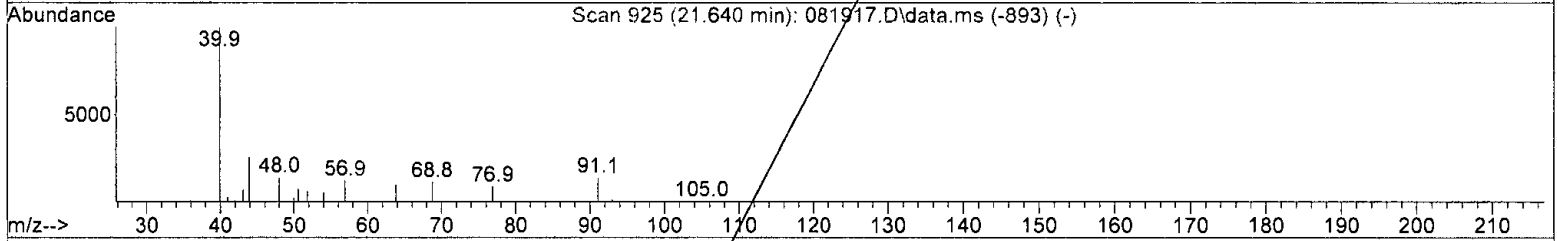
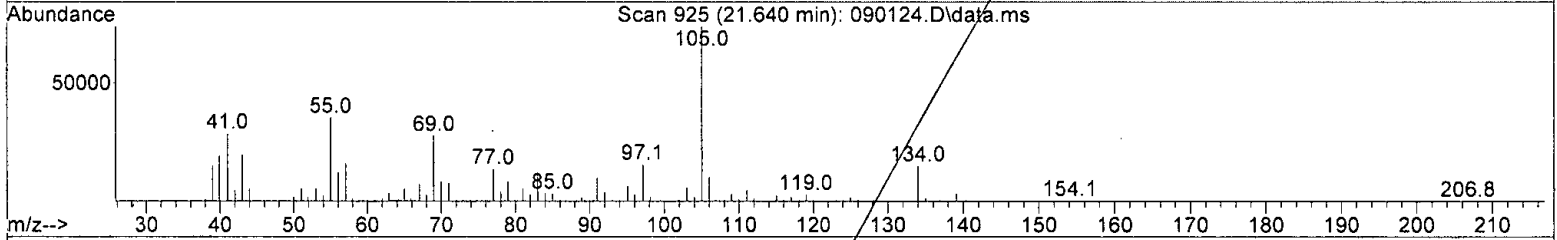
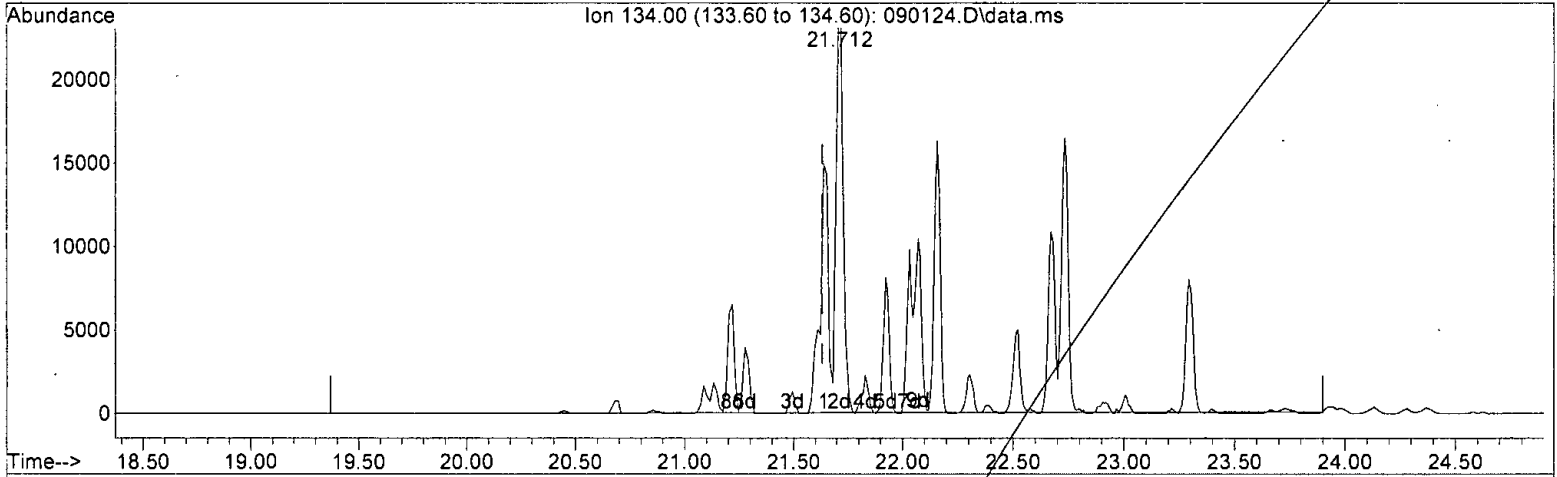
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B. B. B.*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090124.D\data.ms

(45) APH EC9-10 aromatics (2) (H)  
 21.635min ( 0.000) 77.444 ug/m3 m  
 response 230137

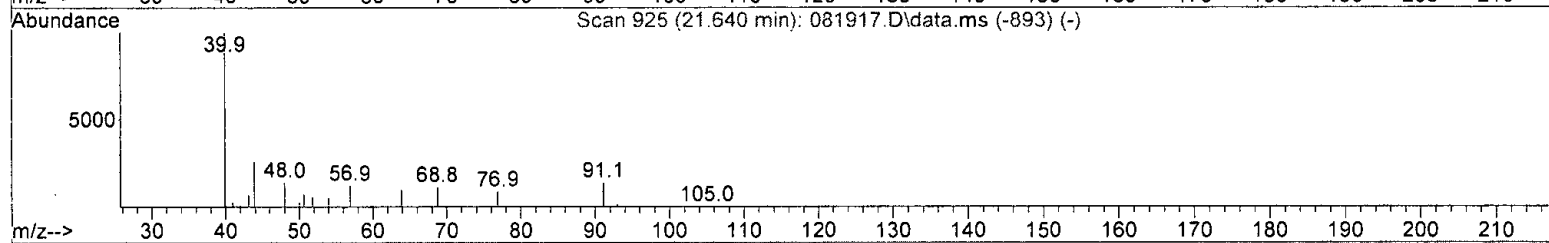
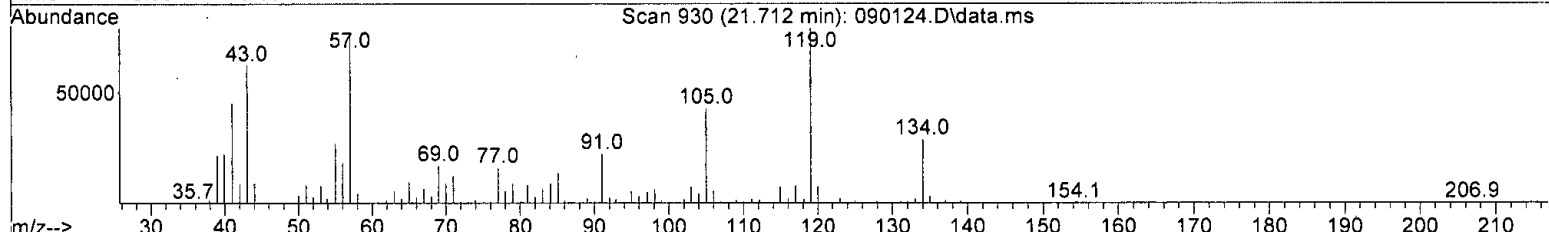
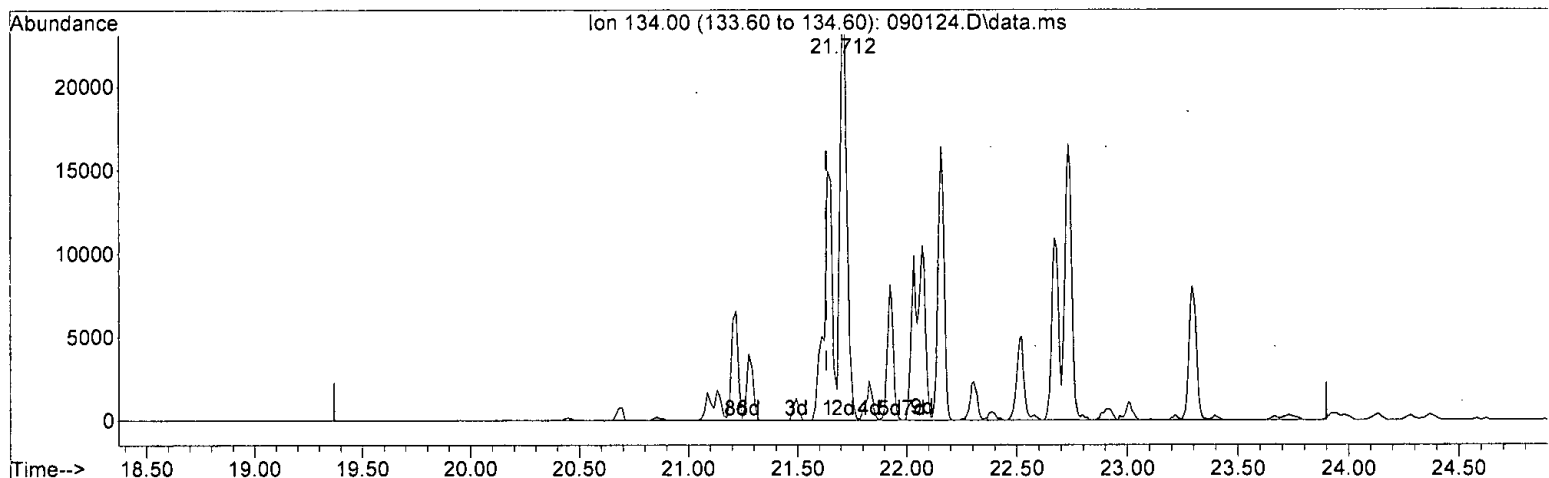
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* VA 6/2/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:36:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090124.D\data.ms

(45) APH EC9-10 aromatics (2) (H)  
 21.635min ( 0.000) 133.225 ug/m3 m

response	Ion	Exp%	Act%
395901	134.00	100.00	100.00
	0.00	0.00	0.00
	0.00	0.00	0.00
	0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:52:48 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	103425	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	503941	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	437982	50.000	ug/m3	# 0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	387468m	70.612	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	99.45%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1215310	66.551	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1189406m	45.889	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1849045m	58.815	ug/m3	
5) Methylene chloride	6.94	TIC	531009	574.345	ug/m3	51
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.	d	
8) 1,3-Butadiene	4.24	54	259649	42.633	ug/m3#	1
9) Methyl t-butyl ether	8.57	73	382	0.048	ug/m3#	1
11) Benzene	12.71	78	622388	36.325	ug/m3	89
12) Isopentane	5.68	TIC	2674581	78.597	ug/m3	96
13) Hexane	10.10	TIC	3143558	94.598	ug/m3	93
14) Cyclohexane	13.23	TIC	2383885	68.149	ug/m3	94
15) 2,3-Dimethylpentane	13.50	TIC	431750	9.672	ug/m3	94
16) Heptane	14.63	TIC	973992	26.698	ug/m3	95
17) Octane	17.41	TIC	190273	3.804	ug/m3	93
18) APH EC5-8 aliphatics T...	12.71	TIC	9798039m	245.042	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	49626588m	1241.126	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2016784m	54.545	ug/m3	
22) Hexamethylcyclotrisilo...	17.78	TIC	267303m	29.351	ppbv	
23) Octamethylcyclotetrasil...	20.70	TIC	129145m	11.362	ppbv	
24) Toluene	16.39	92	264218	28.118	ug/m3	98
25) Ethylbenzene	18.60	91	61754	3.182	ug/m3	95
26) m,p-Xylene	18.76	106	109547	16.788	ug/m3	86
27) o-Xylene	19.21	106	51465	8.337	ug/m3	88
28) Naphthalene	23.94	128	21587m	1.370	ug/m3	
29) 2,3-Dimethylheptane	18.76	TIC	1603083	36.419	ug/m3#	67
30) Nonane	19.38	TIC	1226865	26.692	ug/m3	84
31) Decane	20.90	TIC	2383522	52.201	ug/m3	95
32) Butylcyclohexane	21.55	TIC	952724	18.368	ug/m3	91
33) Undecane	22.28	TIC	2728330	60.247	ug/m3	94
34) Dodecane	23.79	TIC	1087854	29.267	ug/m3	94
35) APH EC9-12 aliphatics ...	21.55	TIC	9982378m	222.764	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	62195679m	1387.940	ug/m3	
38) Isopropylbenzene	20.25	120	8463	2.464	ug/m3#	1
39) 1-Methyl-3-ethylbenzene	20.33	120	60724	12.640	ug/m3#	83
40) 1,3,5-Trimethylbenzene	20.45	120	88596	14.574	ug/m3	89
41) p-Isopropyltoluene	21.28	134	7966	2.667	ug/m3#	1
42) 1,2,3-Trimethylbenzene	21.31	120	85963	12.049	ug/m3#	60
43) APH EC9-10 aromatics T...	21.55	TIC	251712m	53.272	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	493150m	94.521	ug/m3	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

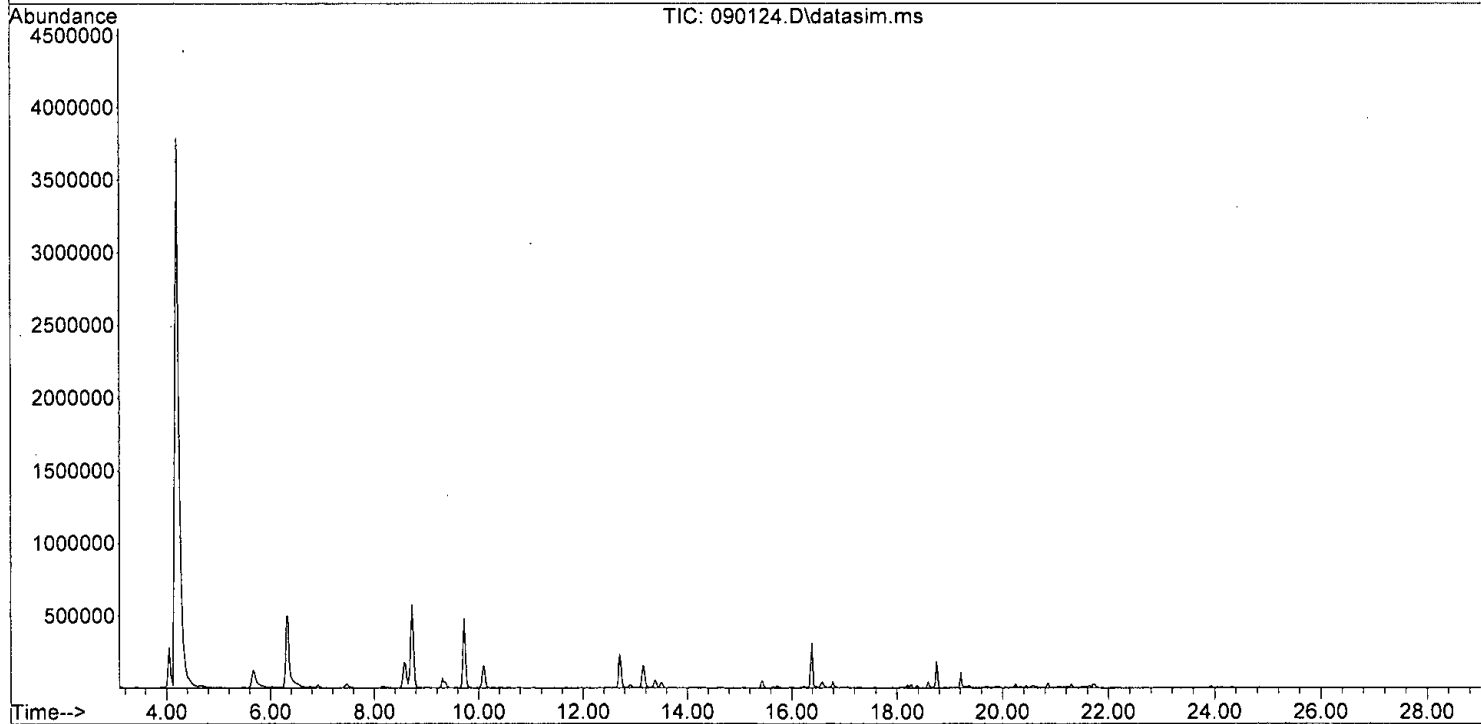
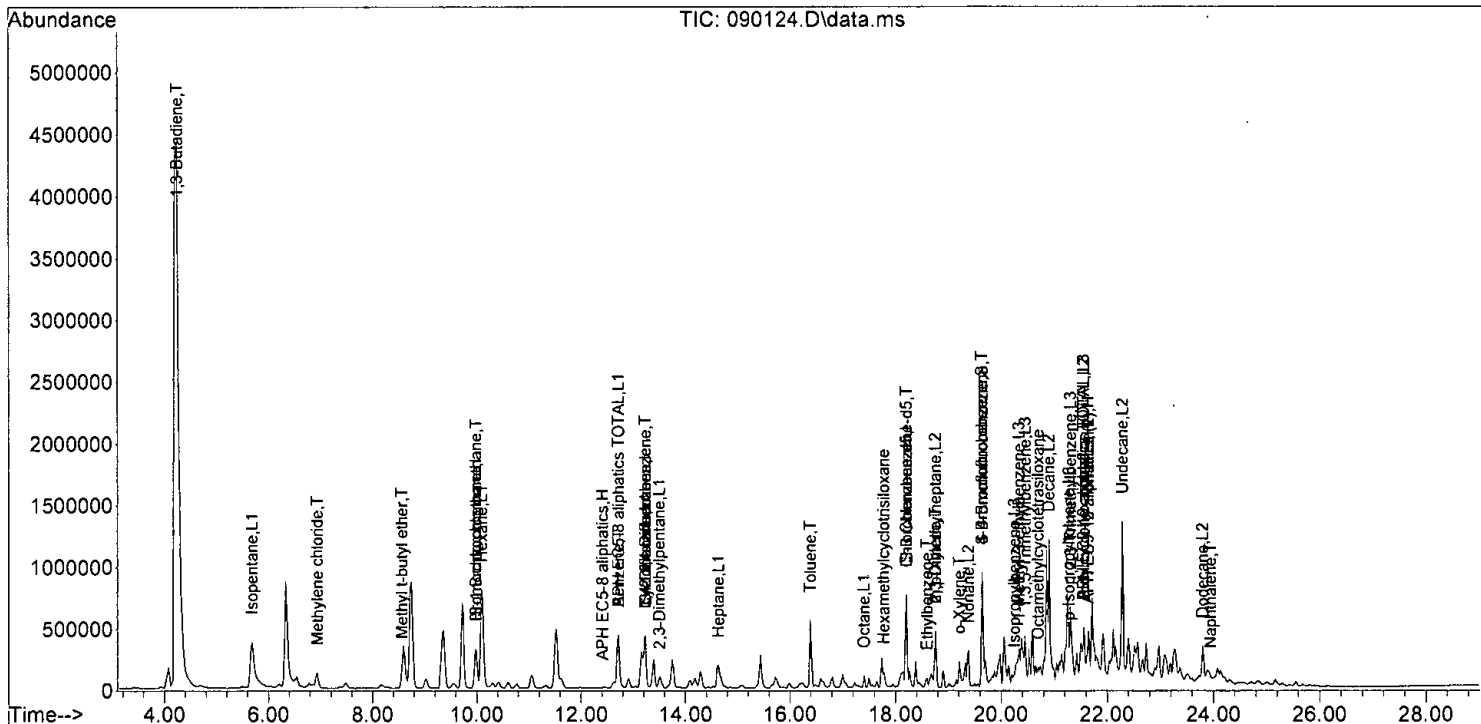
Quant Time: Sep 03 10:52:48 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	395901m	133.225	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090124.D  
 Acq On : 2 Sep 2021 12:52 am  
 Operator : bat  
 Sample : 108515-03 1/1000  
 Misc : T12  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

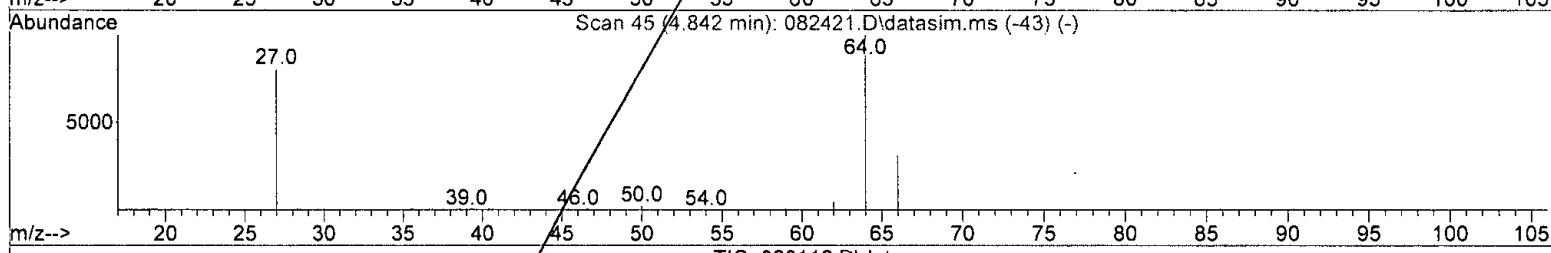
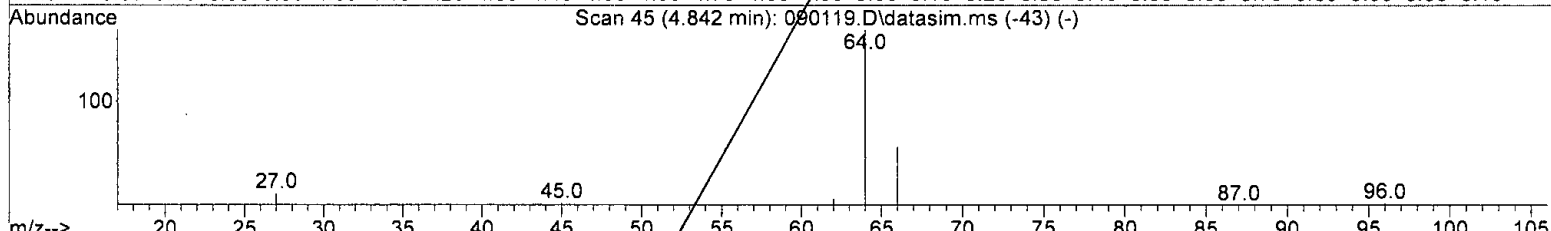
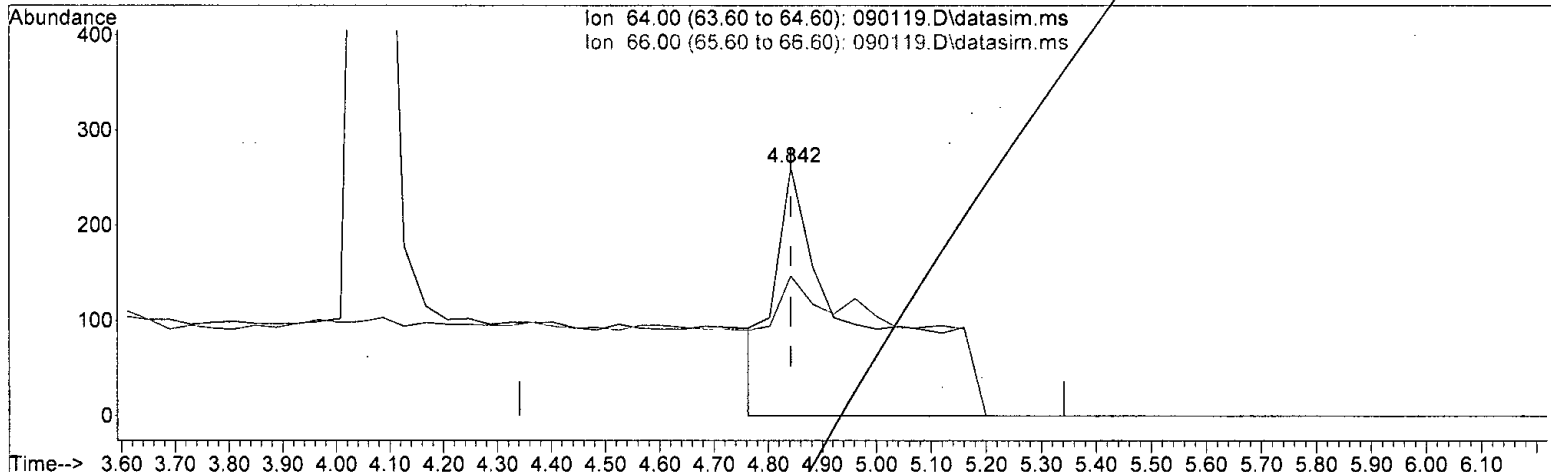
Quant Time: Sep 03 10:52:48 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:14 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*Batuku*

(10) Chloroethane (TMP)

4.842min (+ 0.000) 0.344 ppbv

response 2683

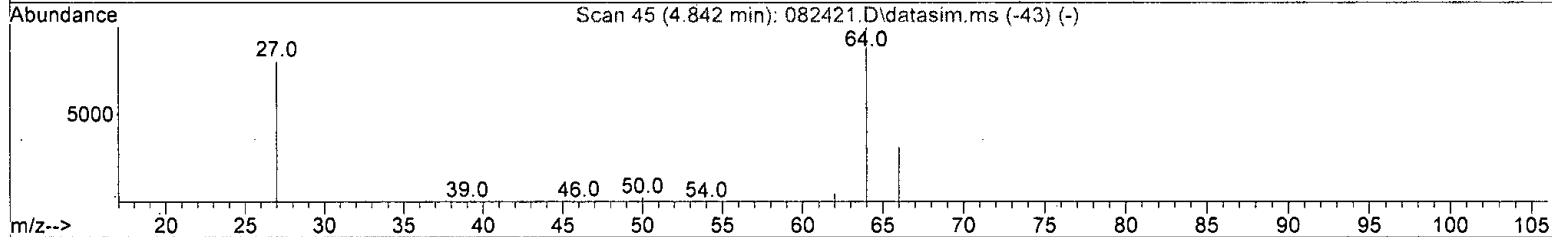
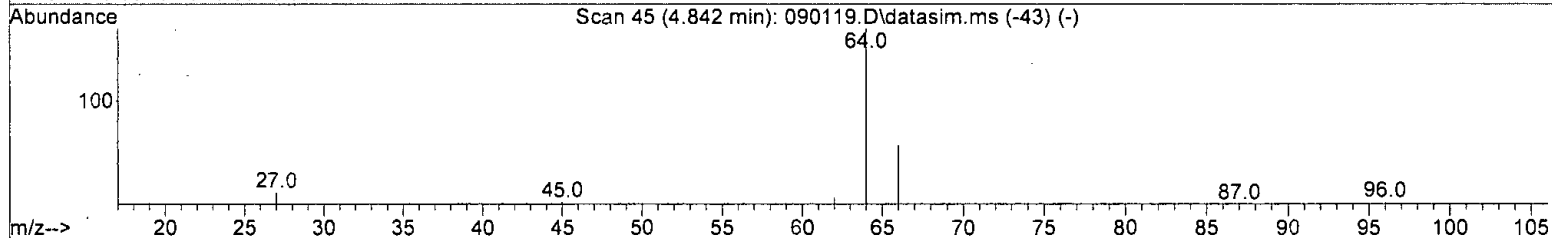
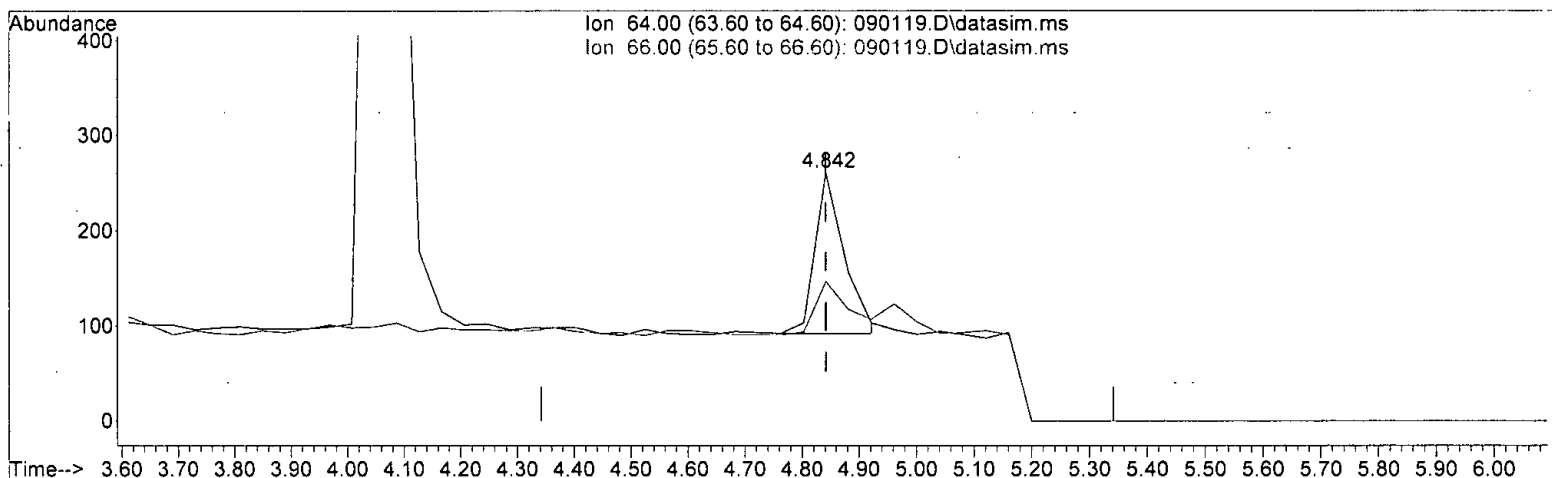
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	56.32
0.00	0.00	0.00
0.00	0.00	0.00



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:14 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*B. B. B.*

TIC: 090119.D\data.ms

(10) Chloroethane (TMP)

4.842min (+ 0.000) 0.078 ppbv m

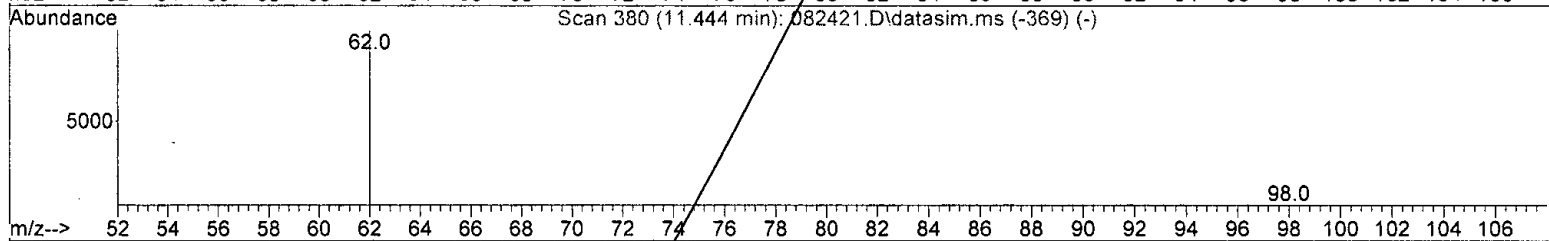
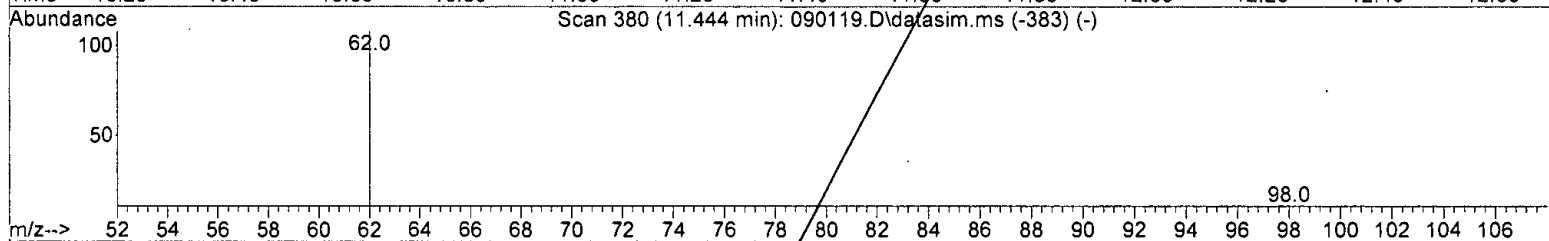
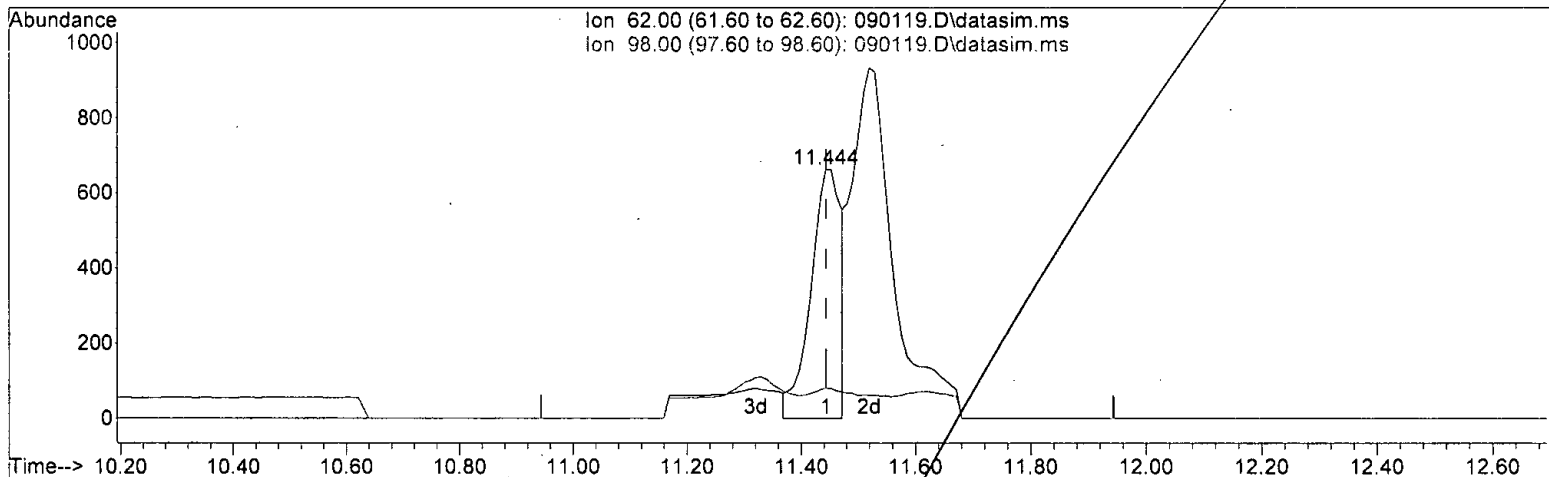
response 608

Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	56.32
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:14 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(34) 1,2-Dichloroethane (EDC) (TMP)

11.444min (-0.000) 0.073 ppbv

response 2458

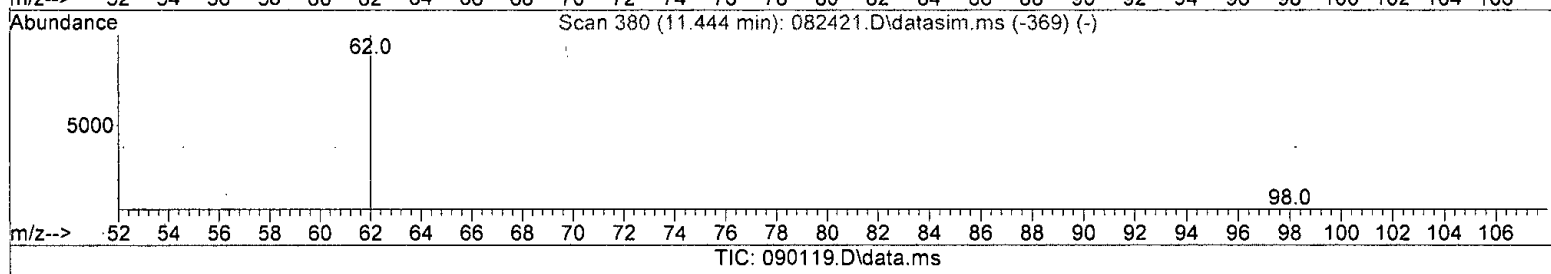
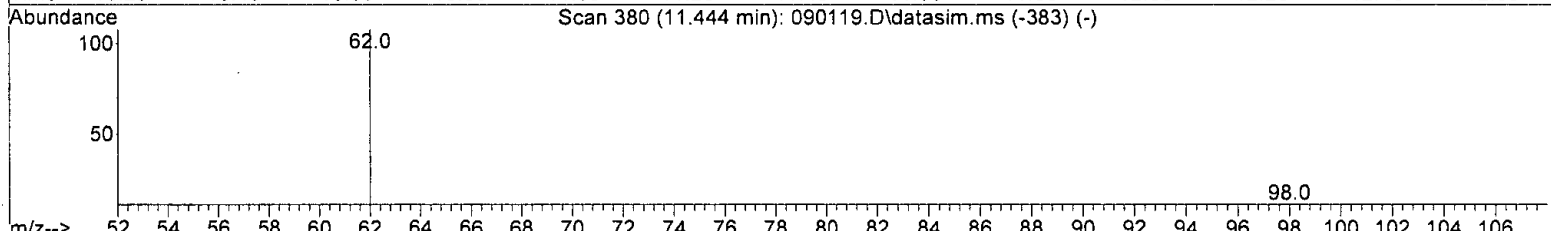
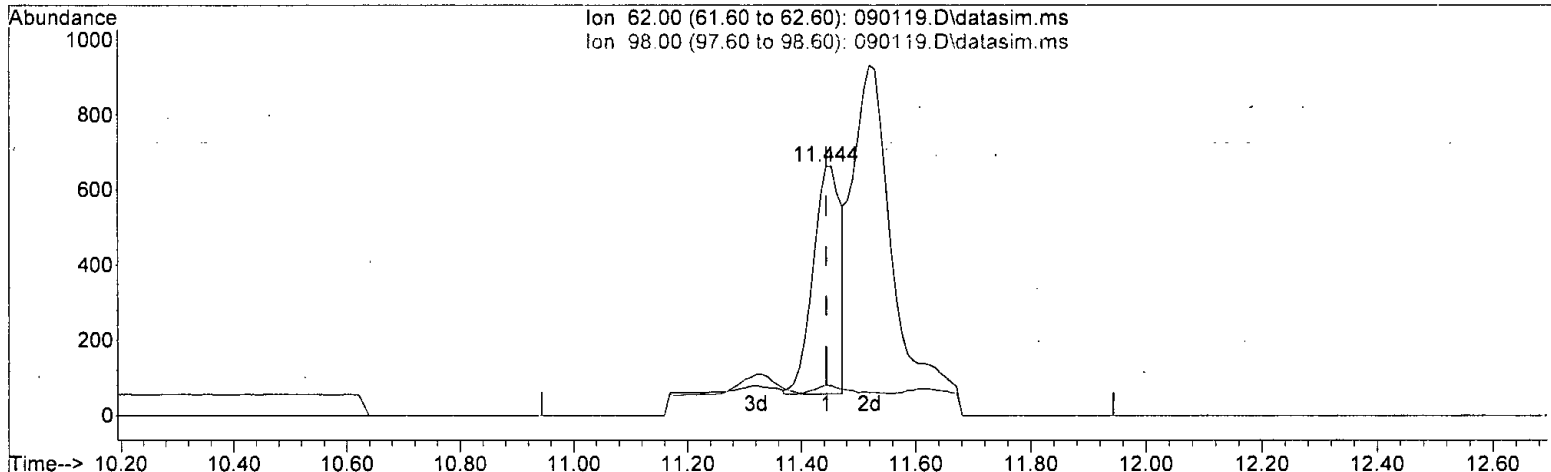
Ion	Exp%	Act%
62.00	100.00	100.00
98.00	5.30	1.85
0.00	0.00	0.00
0.00	0.00	0.00

*Barlow*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:14 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(34) 1,2-Dichloroethane (EDC) (TMP)

11.444min (-0.000) 0.062 ppbv m

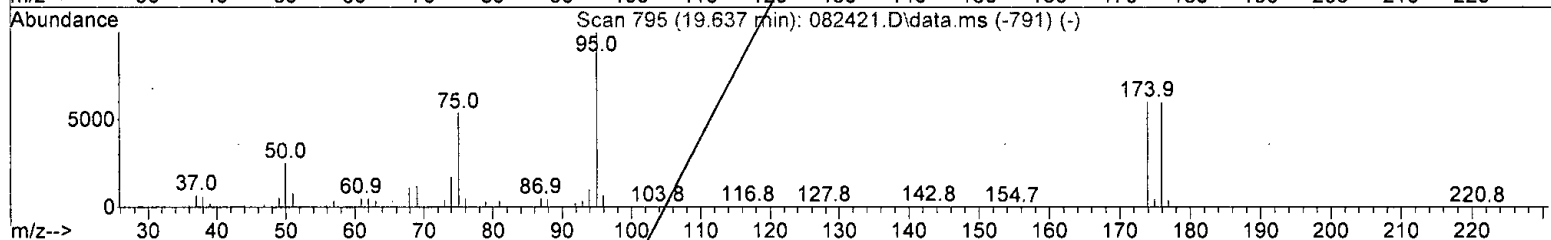
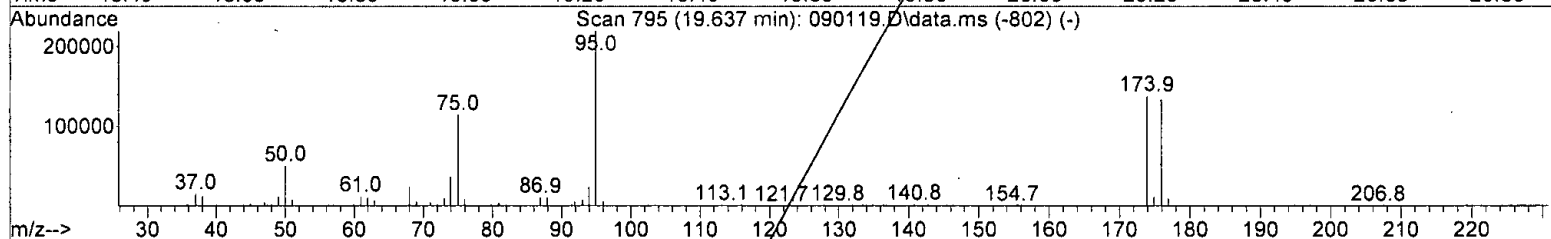
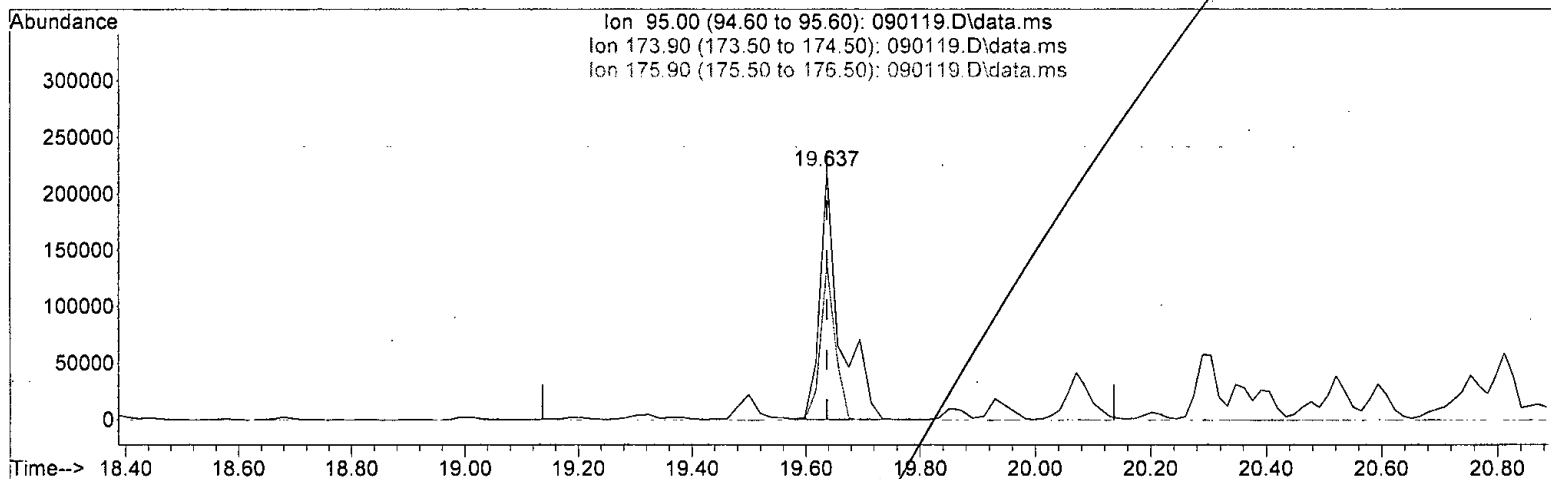
response 2096

Ion	Exp%	Act%
62.00	100.00	100.00
98.00	5.30	12.24
0.00	0.00	0.00
0.00	0.00	0.00

*Bobak*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:14 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(69) 4-Bromofluorobenzene (S)

19.637min (-0.000) 14.034 ppbv

response 547641

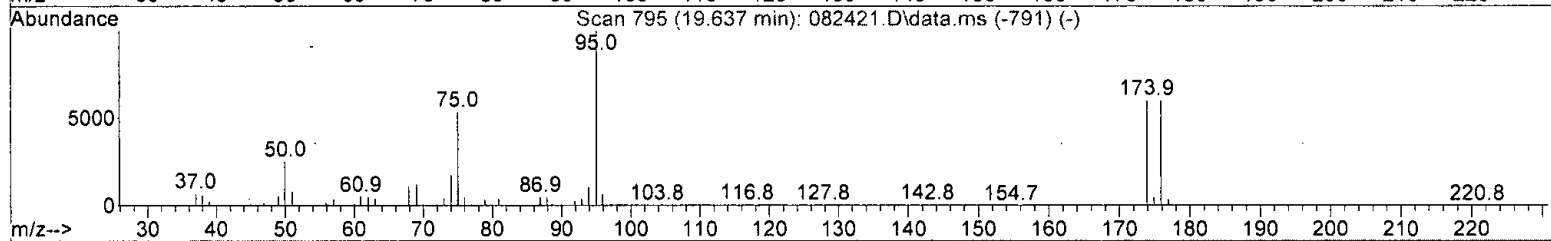
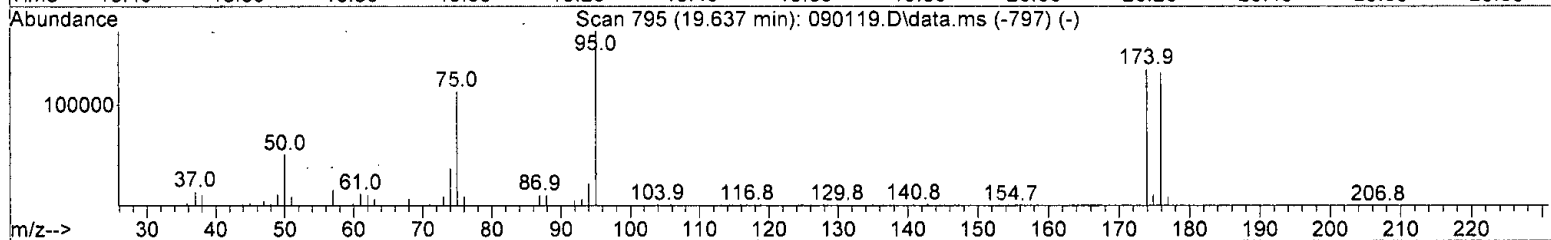
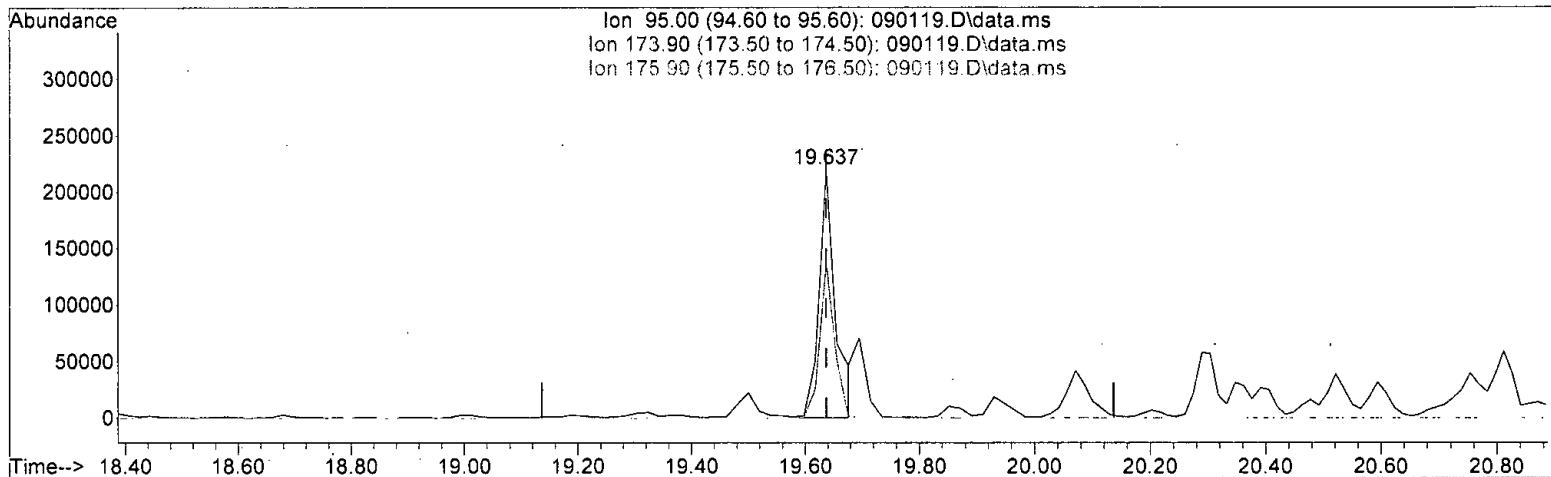
Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	62.76
175.90	70.90	60.99
0.00	0.00	0.00

*bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:14 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090119.D\data.ms

(69) 4-Bromofluorobenzene (S)

19.637min (-0.000) 11.575 ppbv m

response 451683

Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	62.59
175.90	70.90	60.82
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

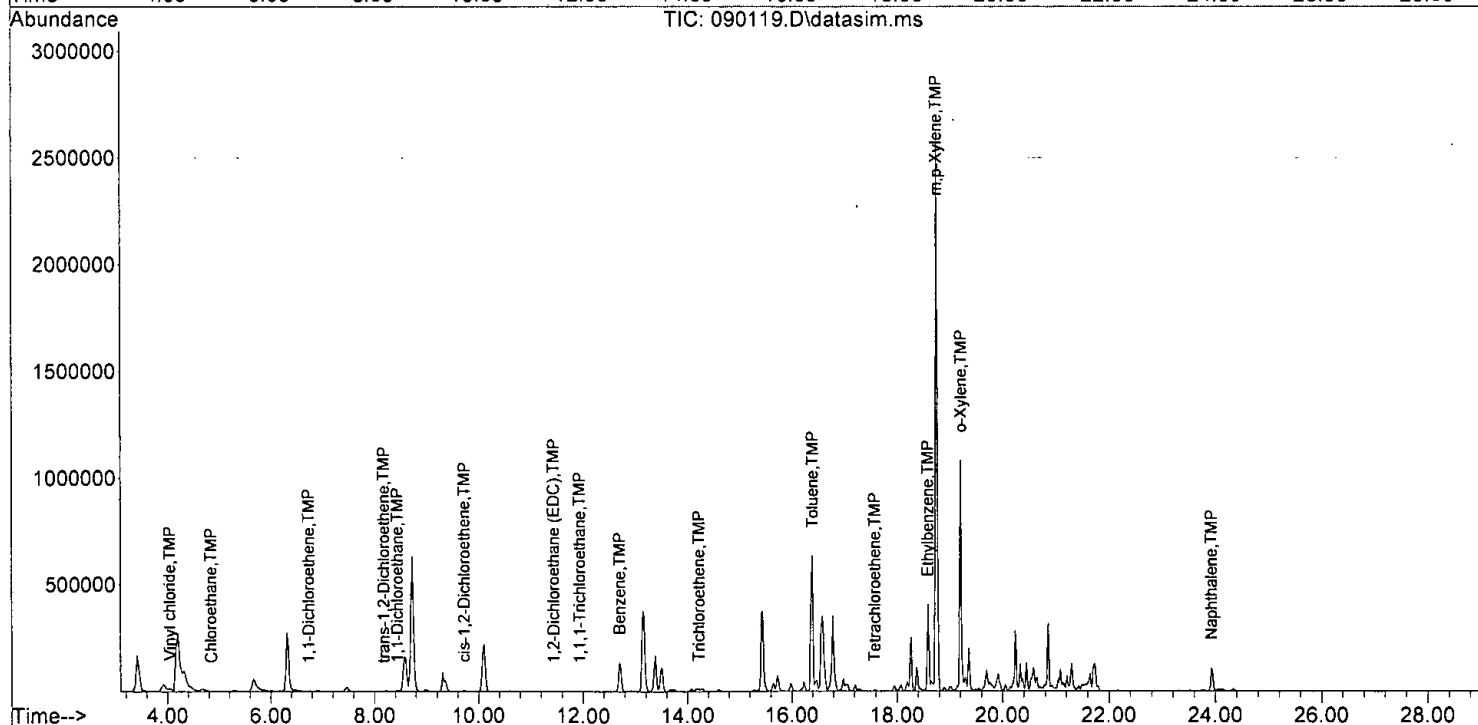
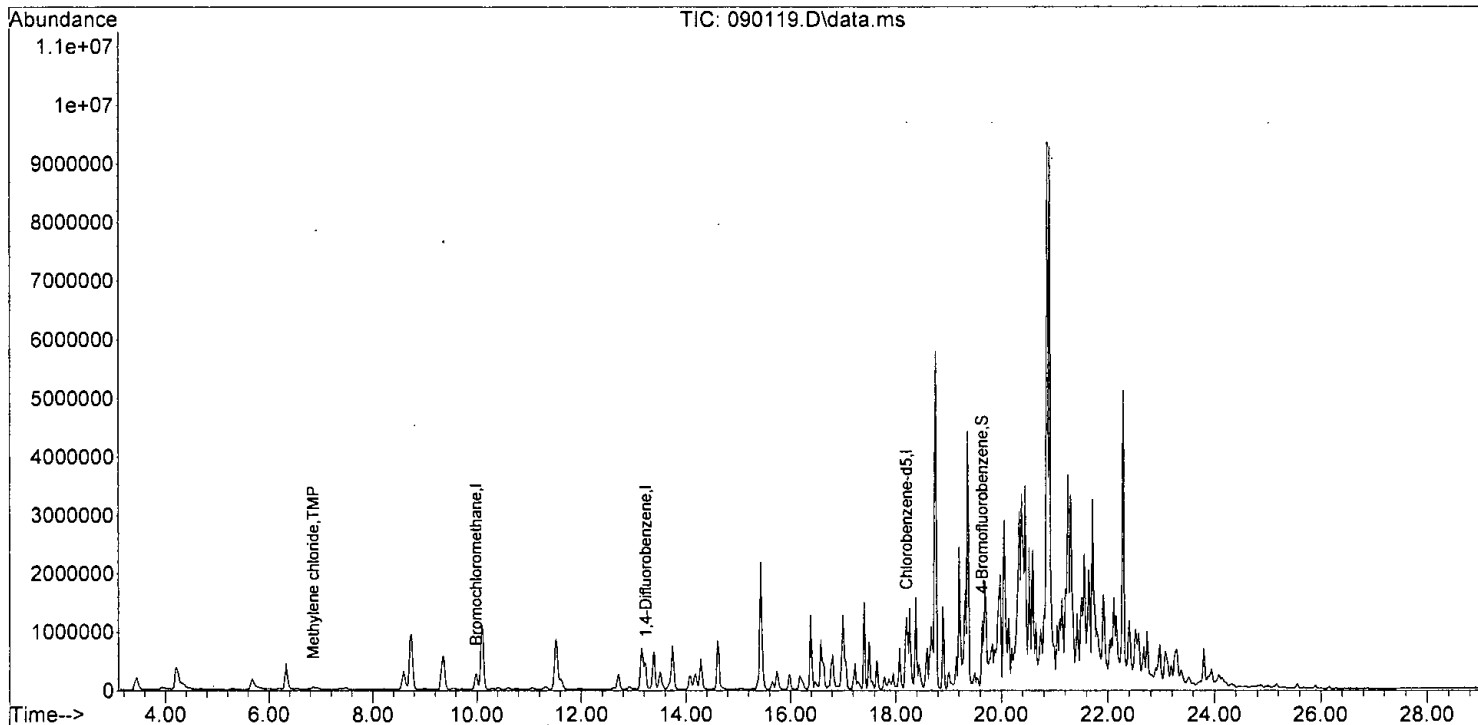
Quant Time: Sep 02 13:41:11 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

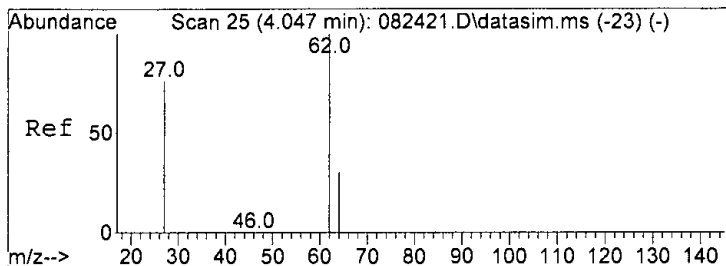
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	102635	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	487166	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	430726	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	451683m	11.575	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	115.80%
Target Compounds						
						Qvalue
6] Vinyl chloride	4.05	62	14564	0.642	ppbv	95
10] Chloroethane	4.84	64	608m	0.078	ppbv	
18] 1,1-Dichloroethene	6.73	96	338	0.020	ppbv	# 54
19] trans-1,2-Dichloroethene	8.18	96	304	0.018	ppbv	97
20) Methylene chloride	6.86	84	32019	1.782	ppbv	85
27] 1,1-Dichloroethane	8.44	63	8931	0.226	ppbv	95
28] cis-1,2-Dichloroethene	9.73	96	5308	0.290	ppbv	# 77
34] 1,2-Dichloroethane (EDC)	11.44	62	2096m	0.062	ppbv	
35] 1,1,1-Trichloroethane	11.94	97	391	0.012	ppbv	87
37] Benzene	12.70	78	380720	6.058	ppbv	96
46] Trichloroethene	14.22	95	8738	0.290	ppbv	88
50] Toluene	16.40	92	590356	16.173	ppbv	# 80
53] Tetrachloroethene	17.58	164	3037	0.164	ppbv	84
58] Ethylbenzene	18.59	91	595155	6.221	ppbv	98
65] m,p-Xylene	18.74	106	1585032	51.599	ppbv	87
66] o-Xylene	19.21	106	596840	19.765	ppbv	97
77] Naphthalene	23.93	128	240203	2.434	ppbv	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

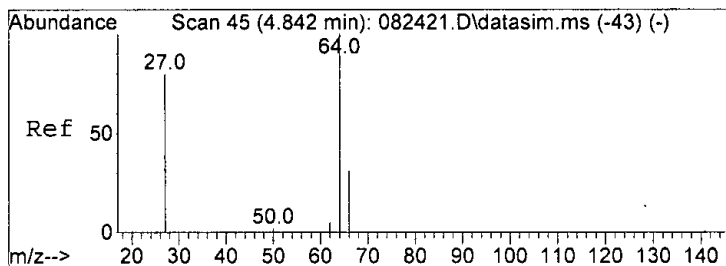
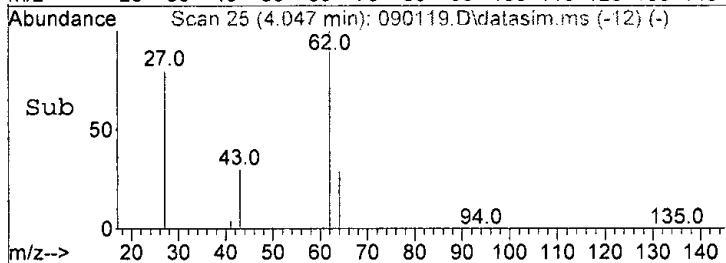
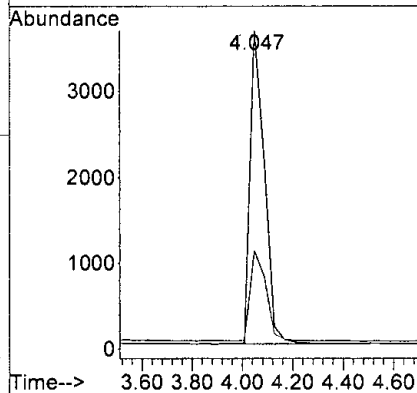
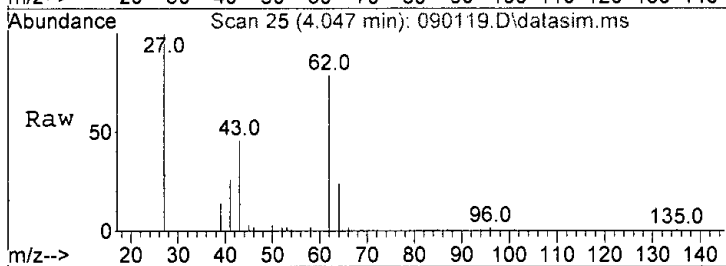
Quant Time: Sep 02 13:41:11 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





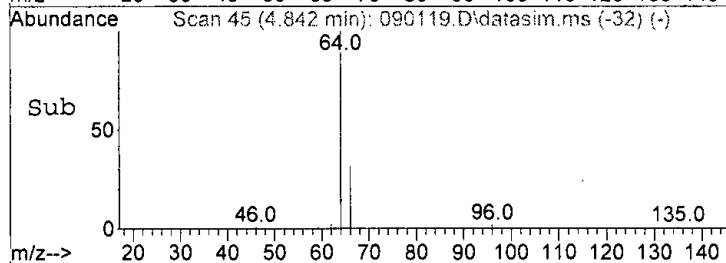
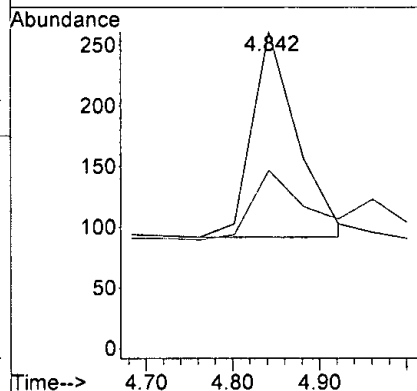
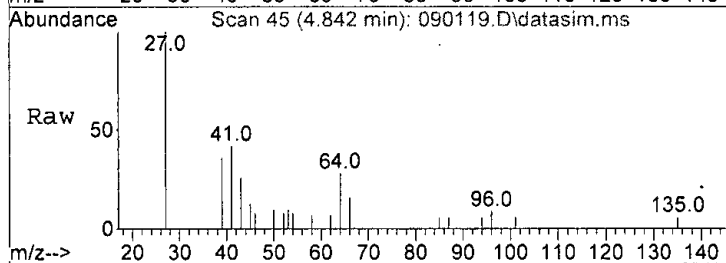
#6  
 Vinyl chloride  
 Concen: 0.642 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090119.D  
 Acq: 1 Sep 2021 9:42 pm

Tgt Ion: 62 Resp: 14564  
 Ion Ratio Lower Upper  
 62 100  
 64 28.8 1.5 61.5

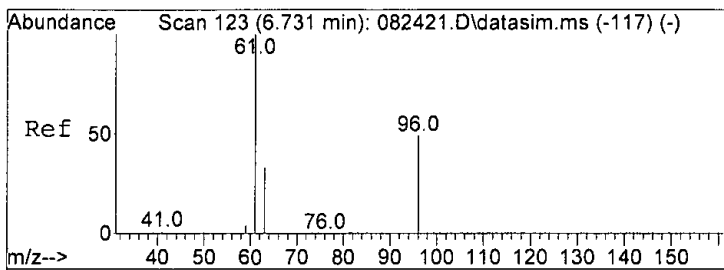


#10  
 Chloroethane  
 Concen: 0.078 ppbv m  
 RT: 4.84 min Scan# 45  
 Delta R.T. 0.000 min  
 Lab File: 090119.D  
 Acq: 1 Sep 2021 9:42 pm

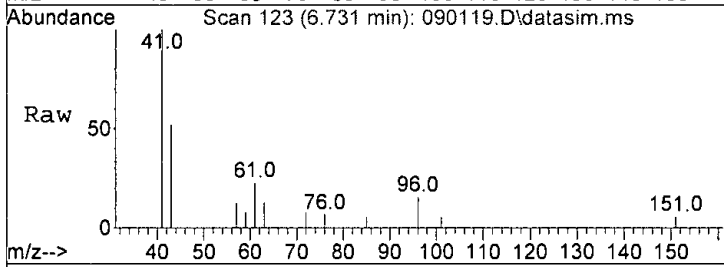
Tgt Ion: 64 Resp: 608  
 Ion Ratio Lower Upper  
 64 100  
 66 56.3 1.8 61.8



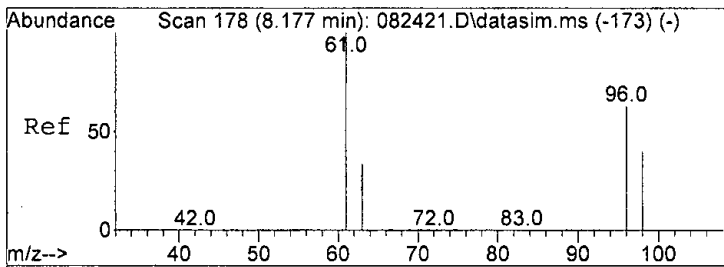
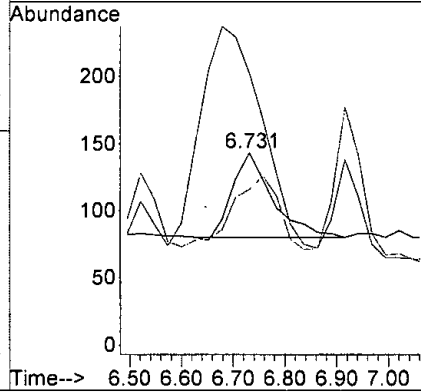
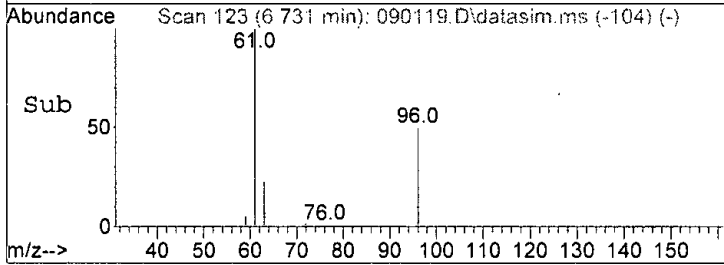




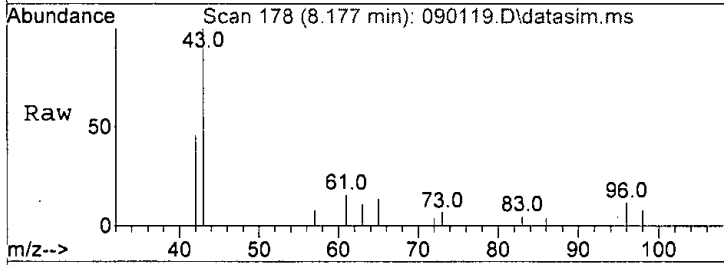
#18  
 1,1-Dichloroethene  
 Concen: 0.020 ppbv  
 RT: 6.73 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090119.D  
 Acq: 1 Sep 2021 9:42 pm



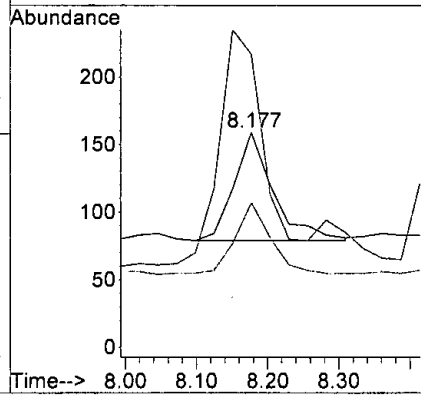
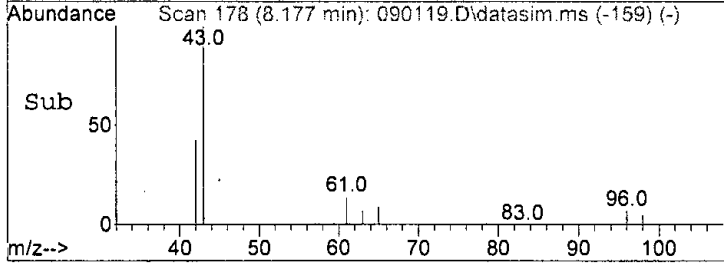
Tgt Ion: 96 Resp: 338  
 Ion Ratio Lower Upper  
 96 100  
 61 101.6 159.0 219.0#  
 63 60.3 32.0 92.0

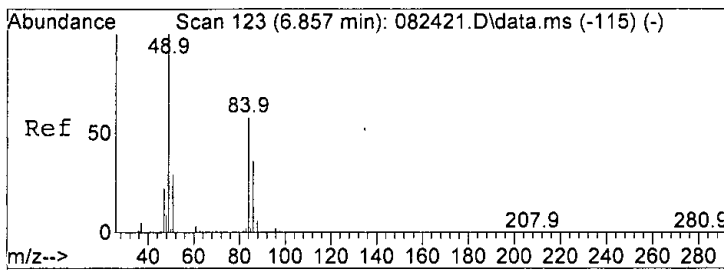


#19  
 trans-1,2-Dichloroethene  
 Concen: 0.018 ppbv  
 RT: 8.18 min Scan# 178  
 Delta R.T. 0.000 min  
 Lab File: 090119.D  
 Acq: 1 Sep 2021 9:42 pm



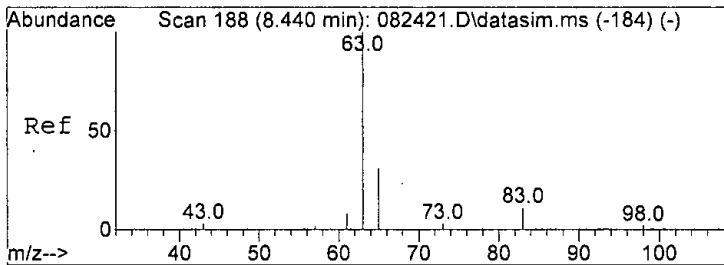
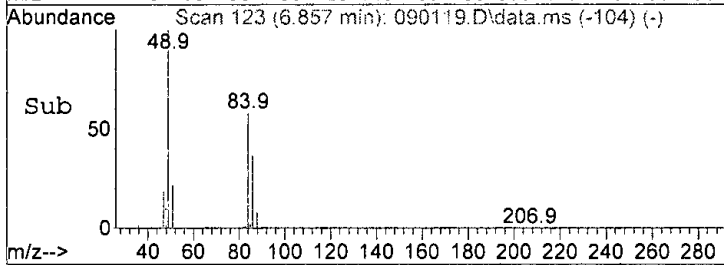
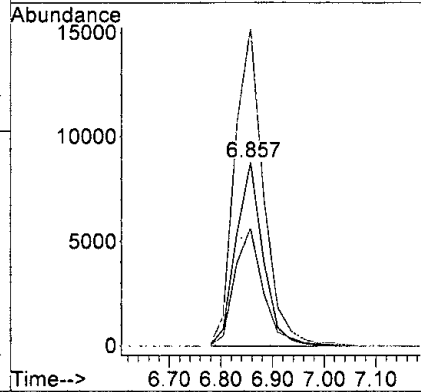
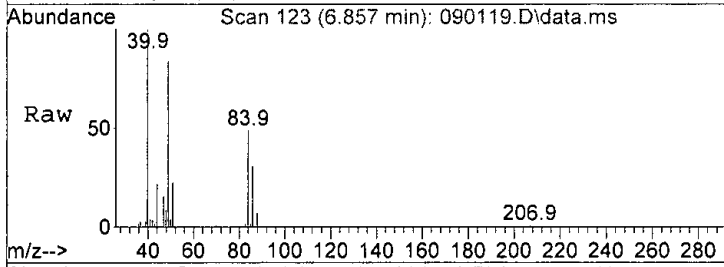
Tgt Ion: 96 Resp: 304  
 Ion Ratio Lower Upper  
 96 100  
 61 183.8 147.9 207.9  
 98 65.0 34.2 94.2





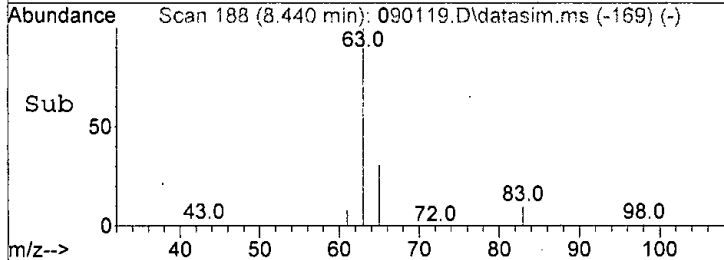
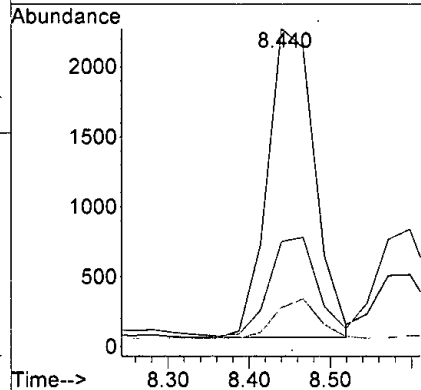
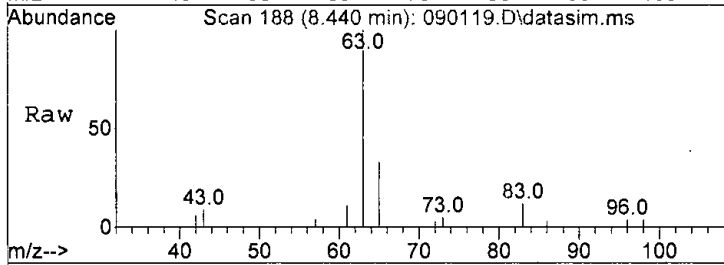
#20  
 Methylene chloride  
 Concen: 1.782 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090119.D  
 Acq: 1 Sep 2021 9:42 pm

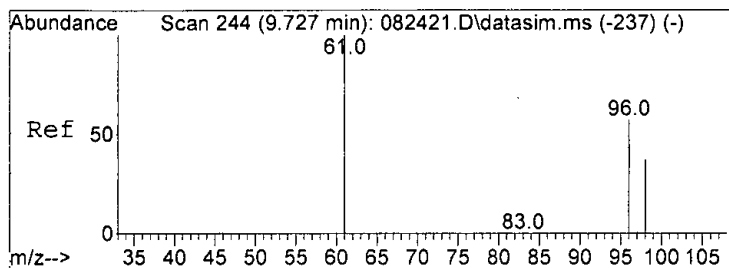
Tgt Ion:	84	Resp:	32019
Ion	Ratio	Lower	Upper
84	100		
86	64.2	33.9	93.9
49	173.8	116.6	176.6



#27  
 1,1-Dichloroethane  
 Concen: 0.226 ppbv  
 RT: 8.44 min Scan# 188  
 Delta R.T. 0.000 min  
 Lab File: 090119.D  
 Acq: 1 Sep 2021 9:42 pm

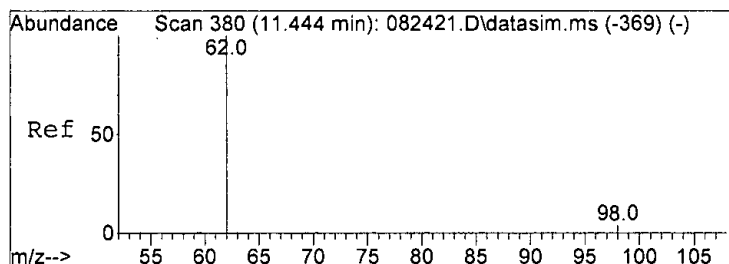
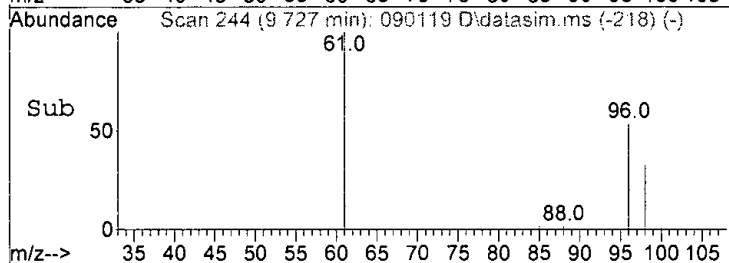
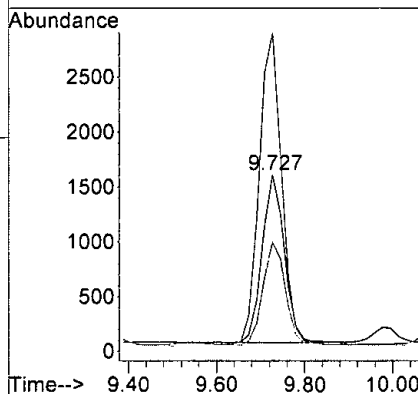
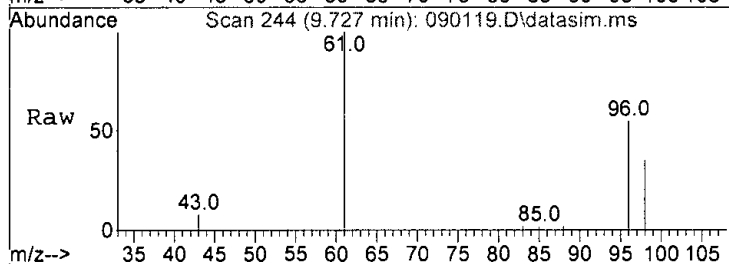
Tgt Ion:	63	Resp:	8931
Ion	Ratio	Lower	Upper
63	100		
65	30.2	2.5	62.5
83	10.1	0.0	43.2





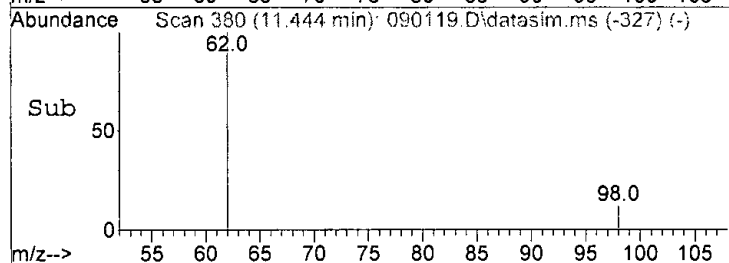
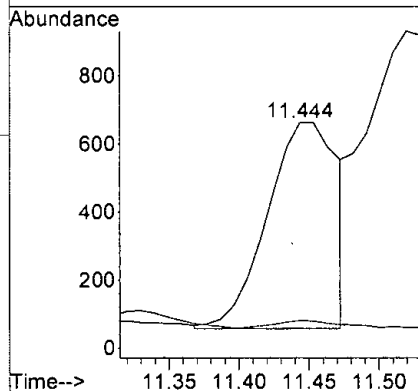
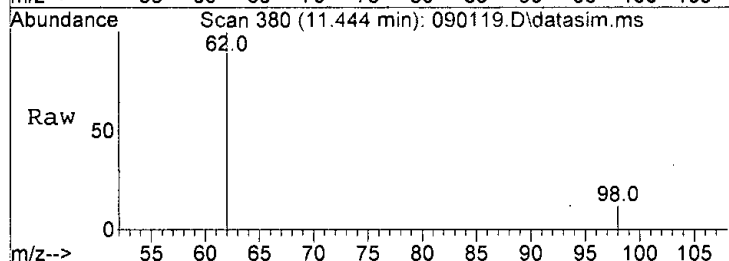
#28  
 cis-1,2-Dichloroethene  
 Concen: 0.290 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. 0.000 min  
 Lab File: 090119.D  
 Acq: 1 Sep 2021 9:42 pm

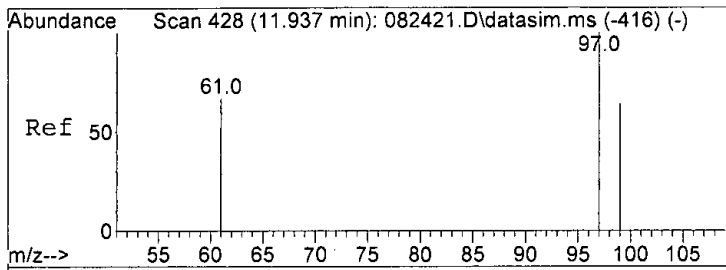
Tgt Ion: 96 Resp: 5308  
 Ion Ratio Lower Upper  
 96 100  
 61 185.5 116.0 176.0#  
 98 61.8 35.2 95.2



#34  
 1,2-Dichloroethane (EDC)  
 Concen: 0.062 ppbv m  
 RT: 11.44 min Scan# 380  
 Delta R.T. -0.000 min  
 Lab File: 090119.D  
 Acq: 1 Sep 2021 9:42 pm

Tgt Ion: 62 Resp: 2096  
 Ion Ratio Lower Upper  
 62 100  
 98 12.2 0.0 35.3

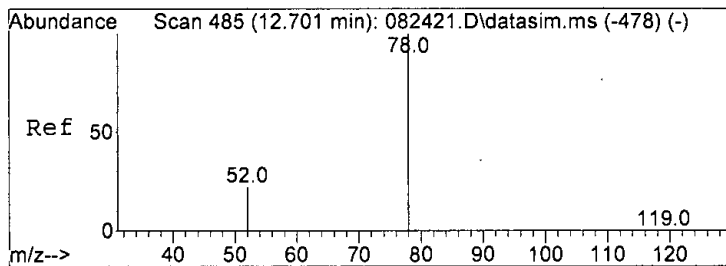
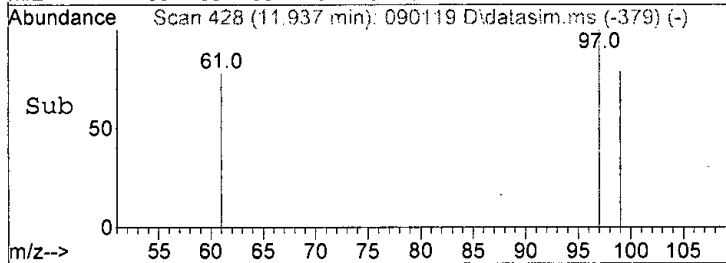
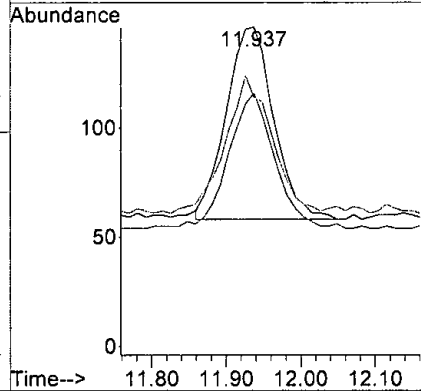
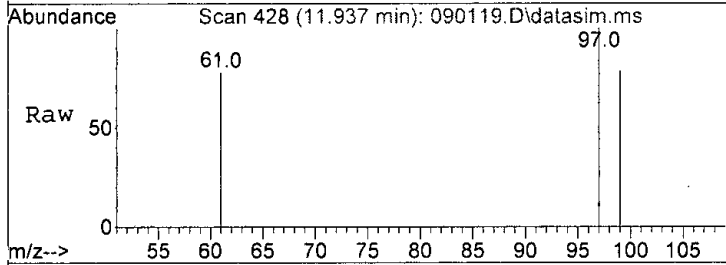




#35  
 1,1,1-Trichloroethane  
 Concen: 0.012 ppbv  
 RT: 11.94 min Scan# 428  
 Delta R.T. 0.000 min  
 Lab File: 090119.D  
 Acq: 1 Sep 2021 9:42 pm

Tgt Ion: 97 Resp: 391

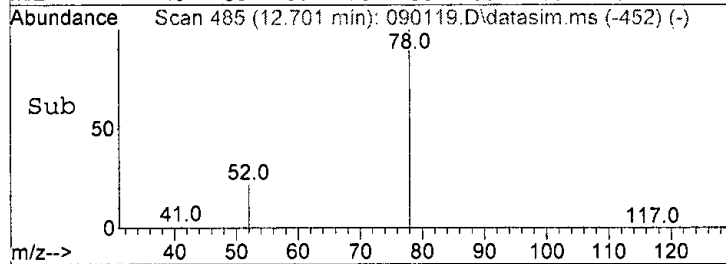
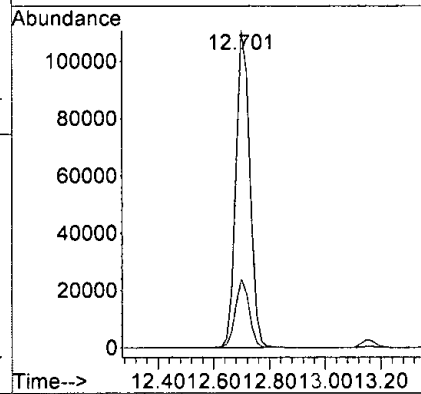
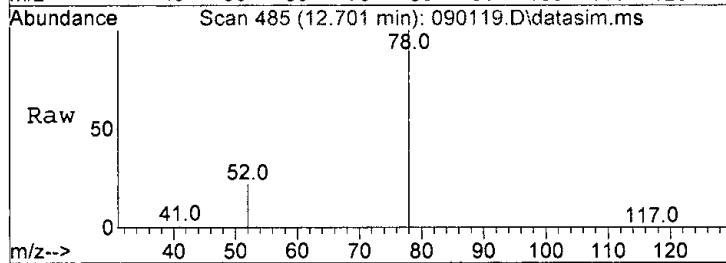
Ion	Ratio	Lower	Upper
97	100		
99	70.5	31.7	91.7
61	59.1	19.3	79.3

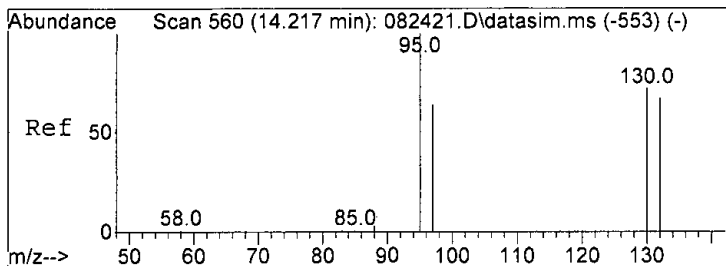


#37  
 Benzene  
 Concen: 6.058 ppbv  
 RT: 12.70 min Scan# 485  
 Delta R.T. -0.000 min  
 Lab File: 090119.D  
 Acq: 1 Sep 2021 9:42 pm

Tgt Ion: 78 Resp: 380720

Ion	Ratio	Lower	Upper
78	100		
52	21.7	0.0	49.7

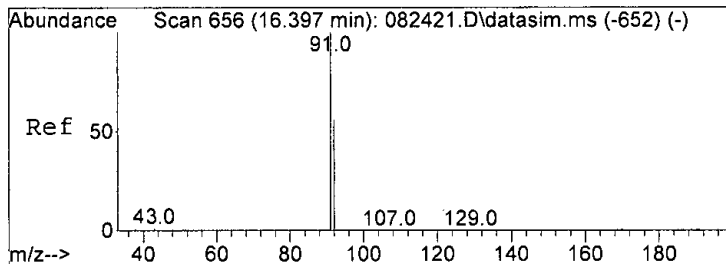
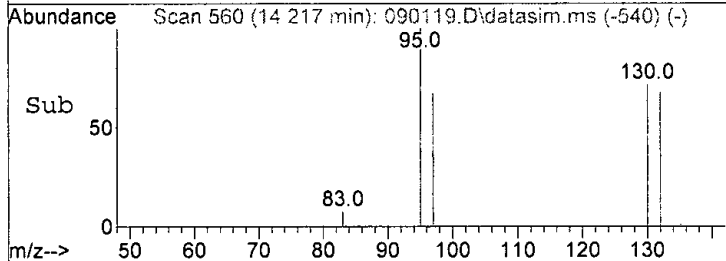
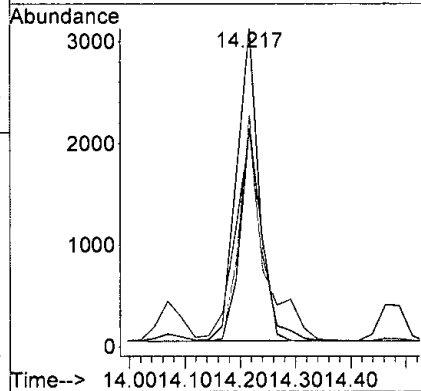
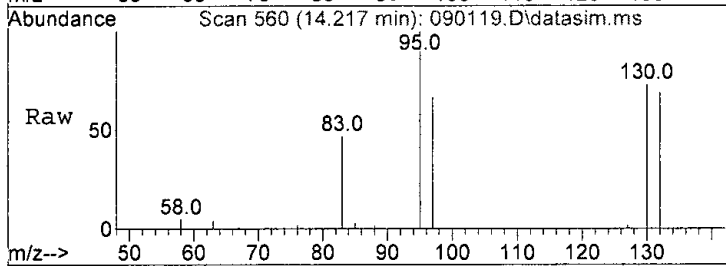




#46  
 Trichloroethene  
 Concen: 0.290 ppbv  
 RT: 14.22 min Scan# 560  
 Delta R.T. -0.000 min  
 Lab File: 090119.D  
 Acq: 1 Sep 2021 9:42 pm

Tgt Ion: 95 Resp: 8738

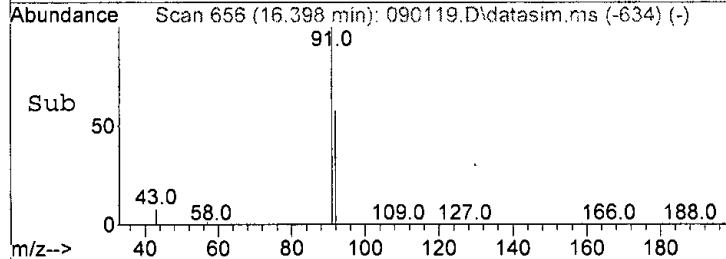
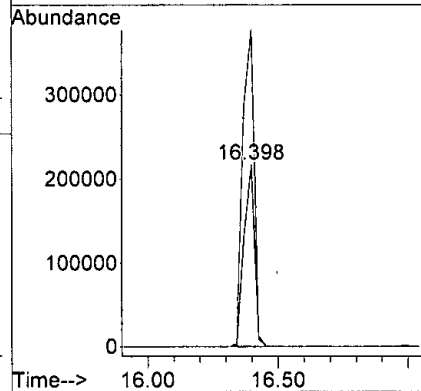
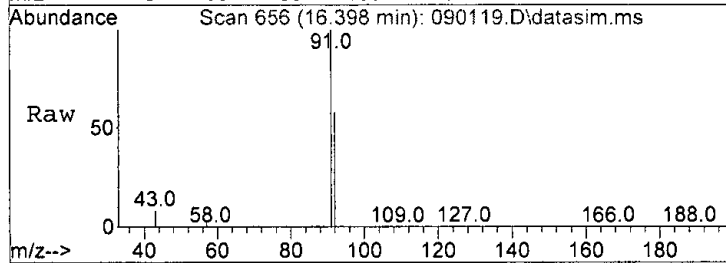
Ion	Ratio	Lower	Upper
95	100		
97	66.7	37.1	97.1
130	72.2	56.1	116.1
132	68.0	54.3	114.3

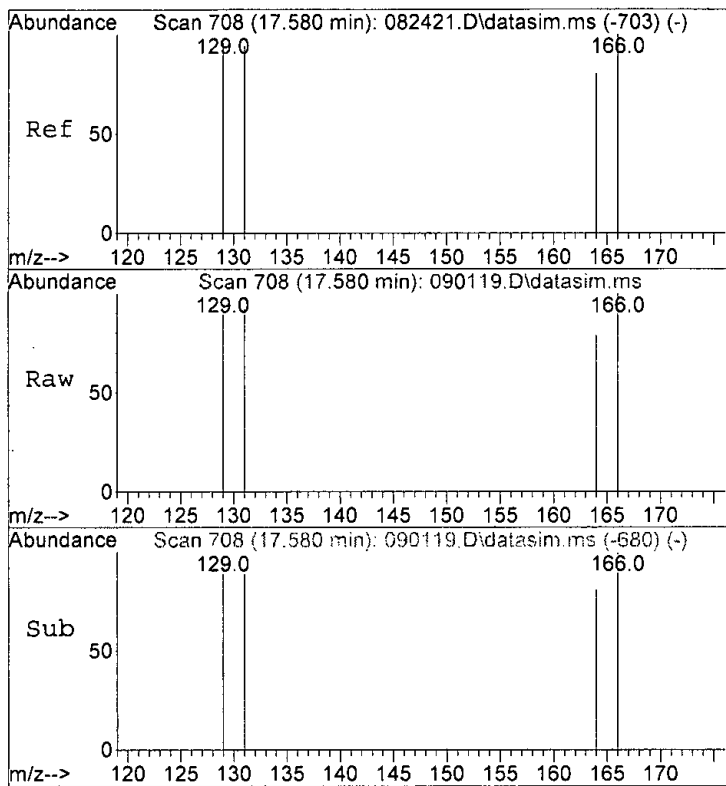


#50  
 Toluene  
 Concen: 16.173 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.001 min  
 Lab File: 090119.D  
 Acq: 1 Sep 2021 9:42 pm

Tgt Ion: 92 Resp: 590356

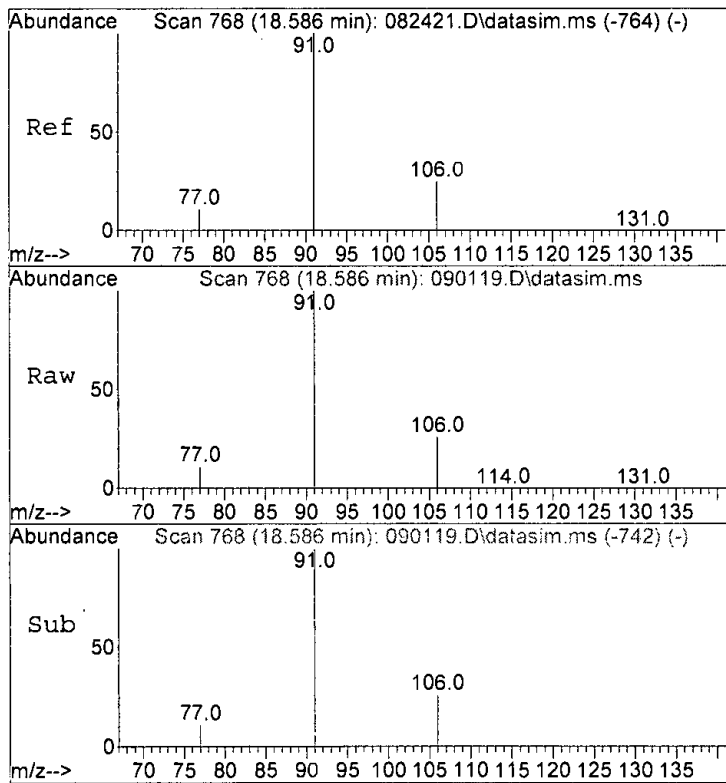
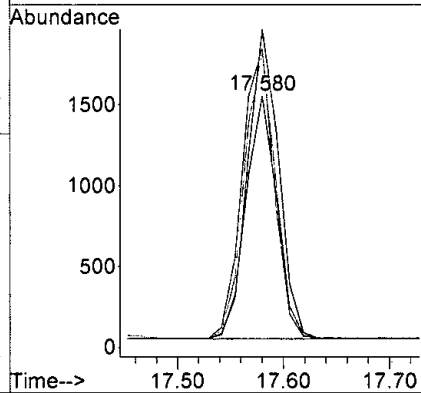
Ion	Ratio	Lower	Upper
92	100		
91	173.8	174.6	234.6#





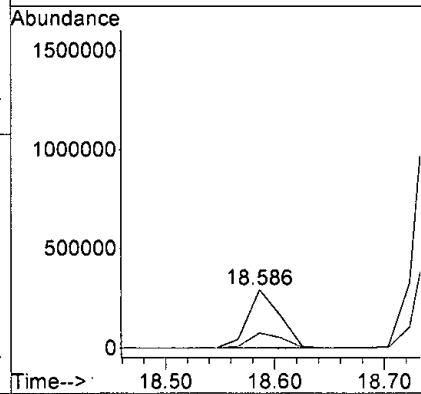
#53  
 Tetrachloroethene  
 Concen: 0.164 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090119.D  
 Acq: 1 Sep 2021 9:42 pm

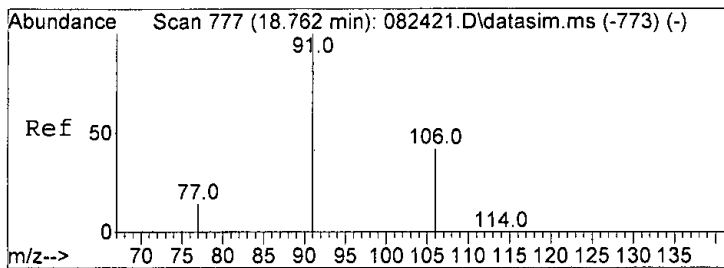
Tgt Ion	Ratio	Lower	Upper
164	100		
129	119.6	63.2	123.2
131	117.4	70.7	130.7
166	127.2	107.5	167.5



#58  
 Ethylbenzene  
 Concen: 6.221 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090119.D  
 Acq: 1 Sep 2021 9:42 pm

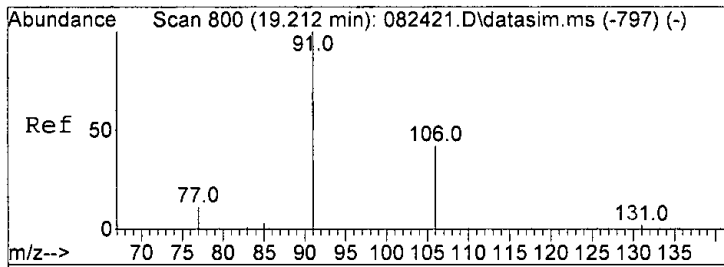
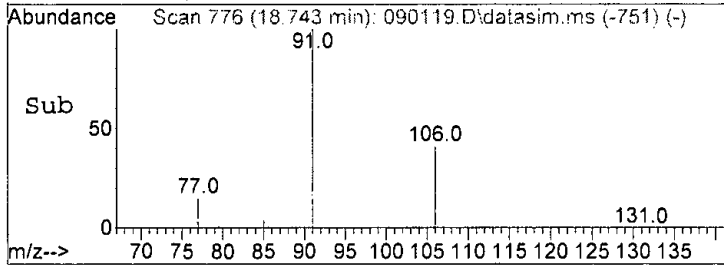
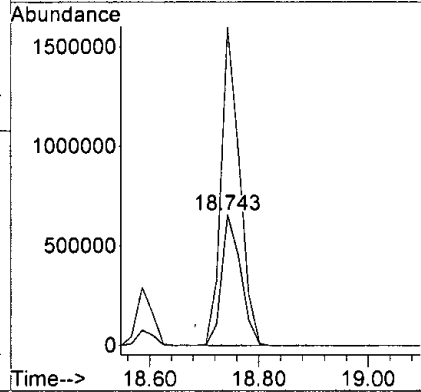
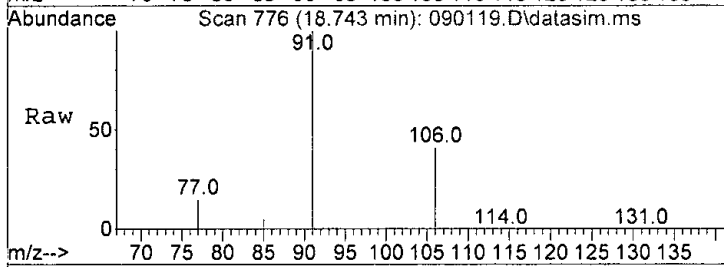
Tgt Ion	Ratio	Lower	Upper
91	100		
106	25.9	0.0	57.0





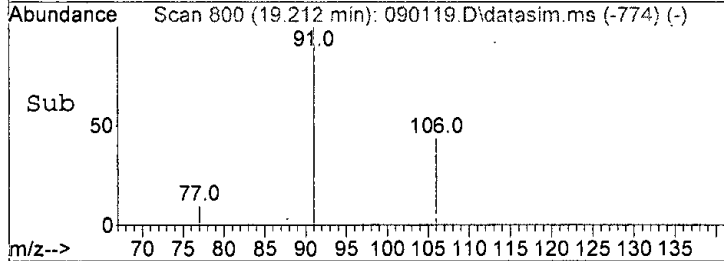
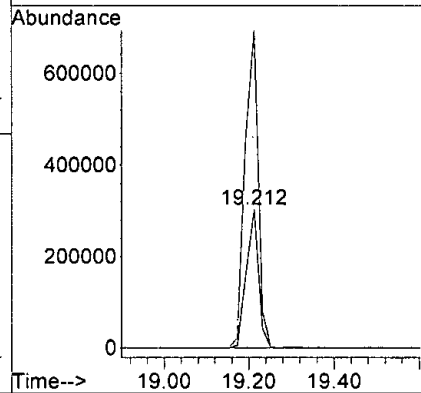
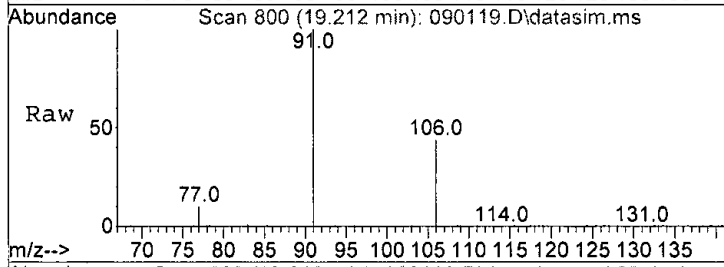
#65  
 m,p-Xylene  
 Concen: 51.599 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.019 min  
 Lab File: 090119.D  
 Acq: 1 Sep 2021 9:42 pm

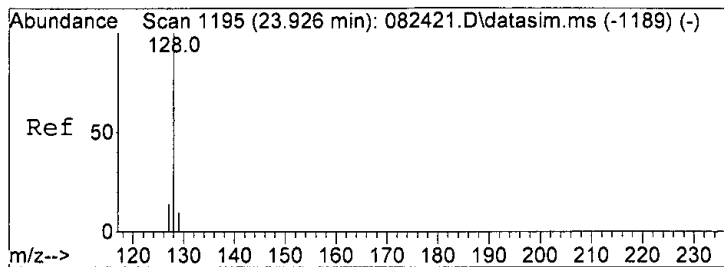
Tgt Ion:106 Resp: 1585032  
 Ion Ratio Lower Upper  
 106 100  
 91 244.8 193.0 253.0



#66  
 o-Xylene  
 Concen: 19.765 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090119.D  
 Acq: 1 Sep 2021 9:42 pm

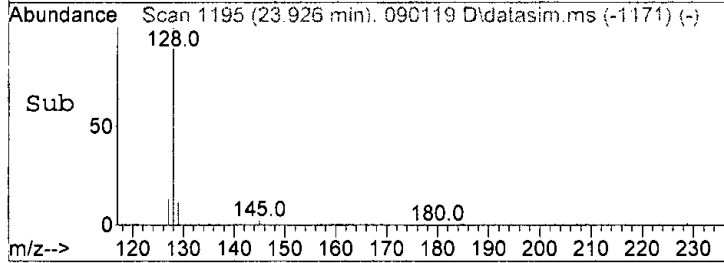
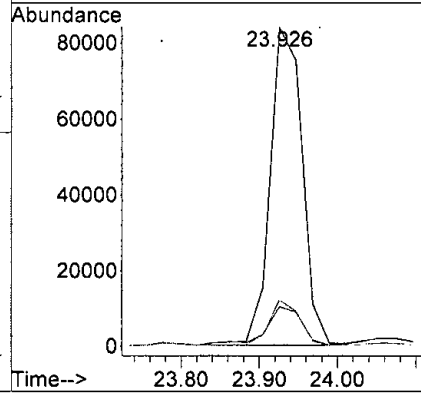
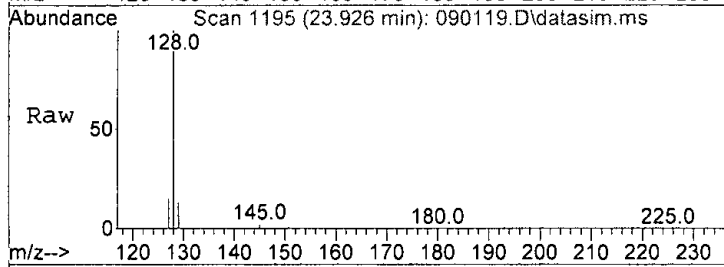
Tgt Ion:106 Resp: 596840  
 Ion Ratio Lower Upper  
 106 100  
 91 229.8 194.4 254.4





#77  
 Naphthalene  
 Concen: 2.434 ppbv  
 RT: 23.93 min Scan# 1195  
 Delta R.T. -0.000 min  
 Lab File: 090119.D  
 Acq: 1 Sep 2021 9:42 pm

Tgt Ion	Resp	Lower	Upper
128	100		
129	12.2	0.0	41.0
127	14.4	0.0	43.2





Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:41:11 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	102635	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	487166	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	430726	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	451683m	11.575	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	115.80%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.	d	
6] Vinyl chloride	4.05	62	14564	0.642	ppbv	95
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.	d	
10] Chloroethane	4.84	64	608m	0.078	ppbv	
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.	d	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18] 1,1-Dichloroethene	6.73	96	338	0.020	ppbv	# 54
19] trans-1,2-Dichloroethene	8.18	96	304	0.018	ppbv	97
20) Methylene chloride	6.86	84	32019	1.782	ppbv	85
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.44	63	8931	0.226	ppbv	95
28] cis-1,2-Dichloroethene	9.73	96	5308	0.290	ppbv	# 77
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34] 1,2-Dichloroethane (EDC)	11.44	62	2096m	0.062	ppbv	
35] 1,1,1-Trichloroethane	11.94	97	391	0.012	ppbv	87
36) Carbon tetrachloride	0.00		0	N.D.	d	
37] Benzene	12.70	78	380720	6.058	ppbv	96
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.	d	
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

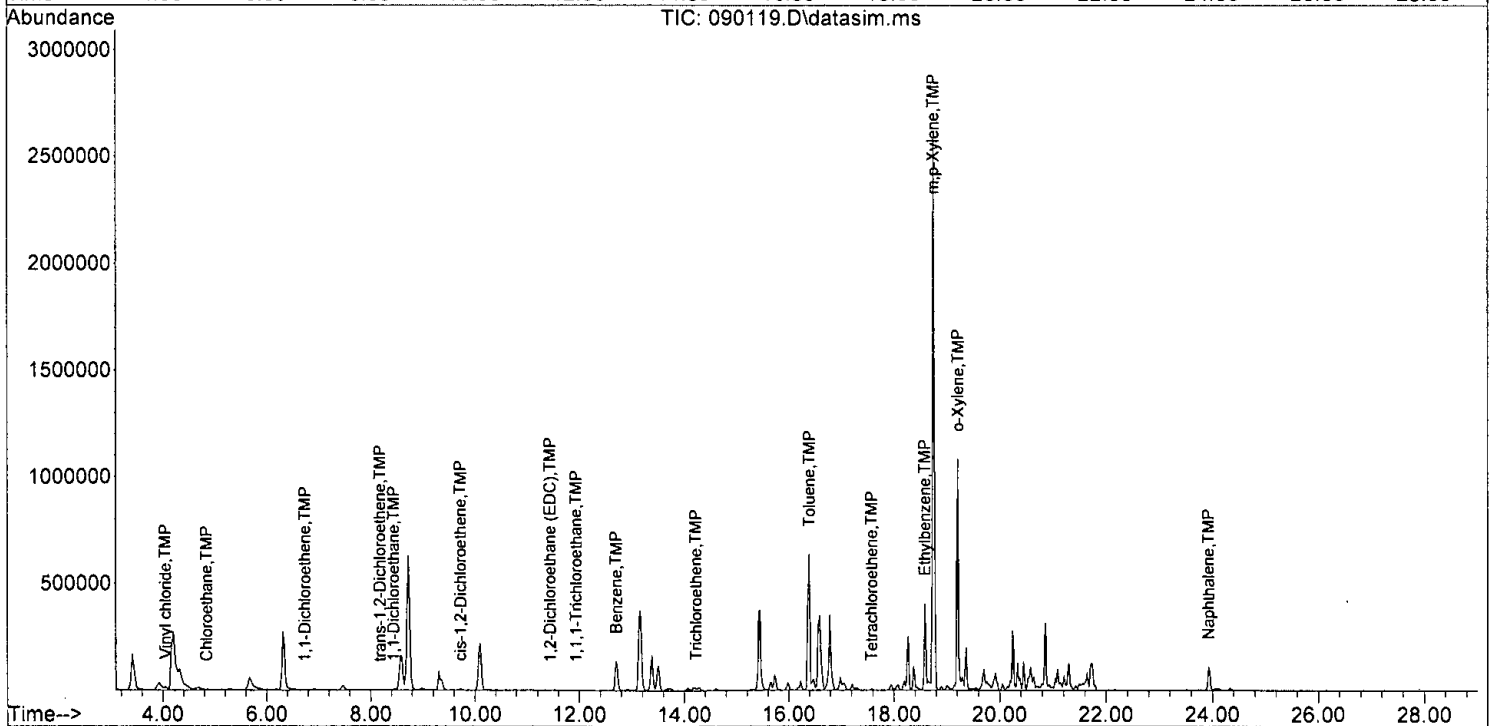
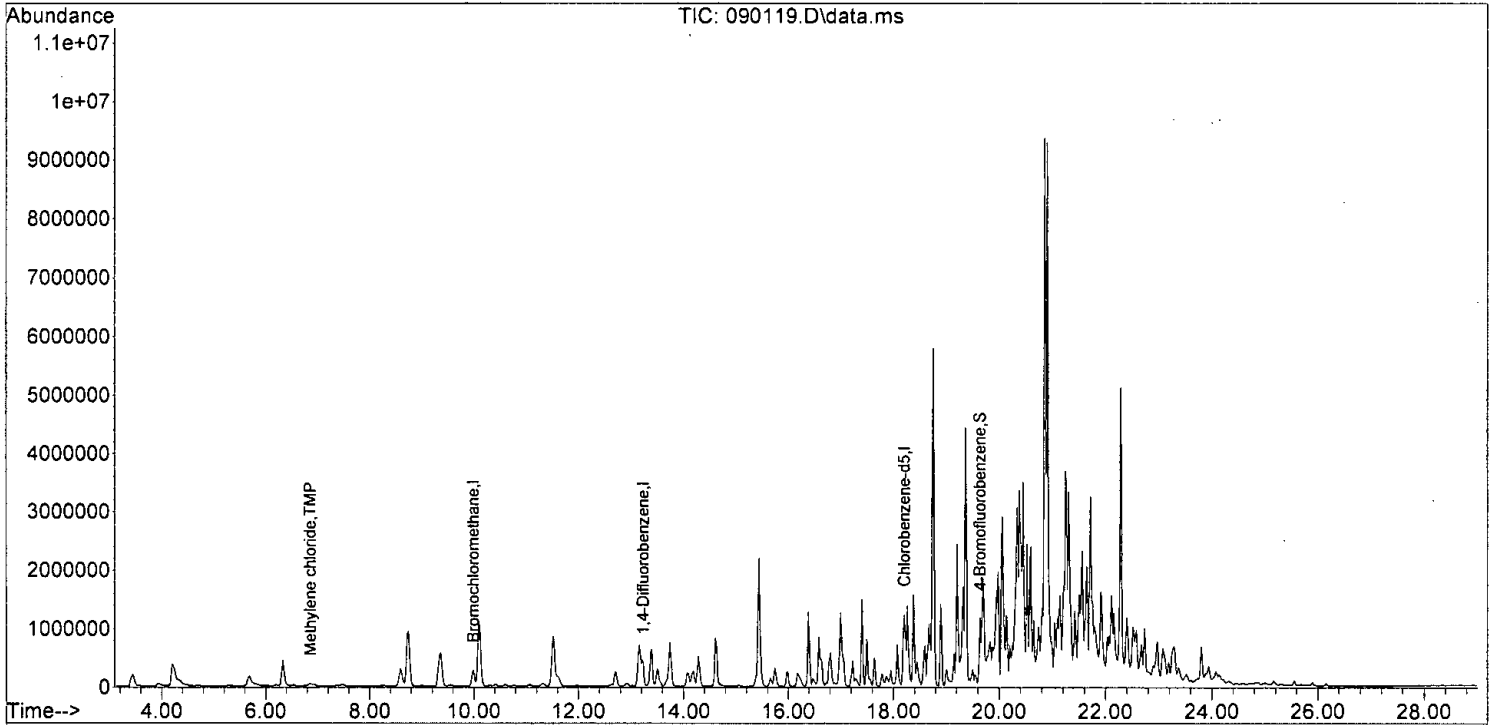
Quant Time: Sep 02 13:41:11 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	8738	0.290	ppbv	88
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	590356	16.173	ppbv #	80
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	3037	0.164	ppbv	84
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	595155	6.221	ppbv	98
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.74	106	1585032	51.599	ppbv	87
66] o-Xylene	19.21	106	596840	19.765	ppbv	97
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77] Naphthalene	23.93	128	240203	2.434	ppbv	97
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

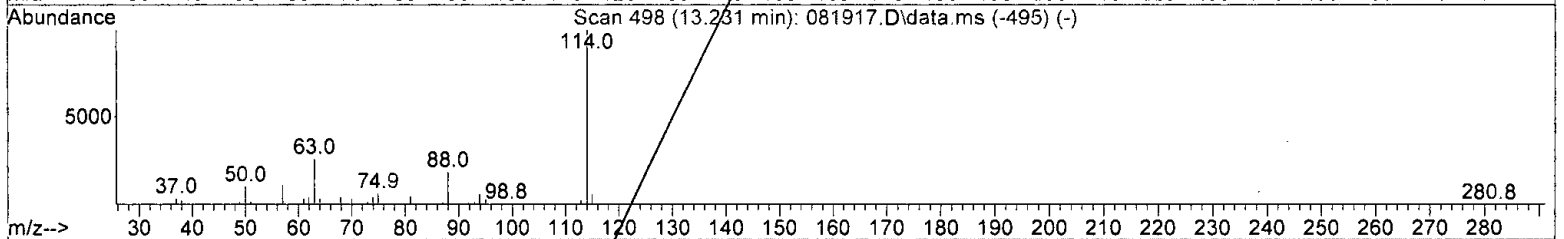
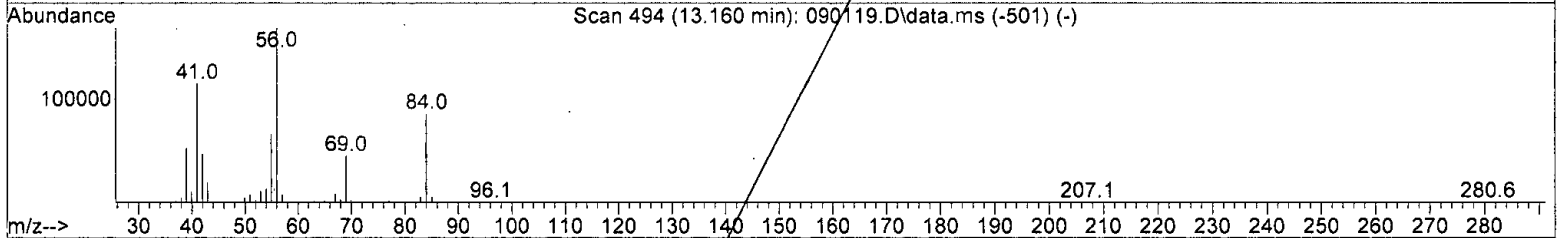
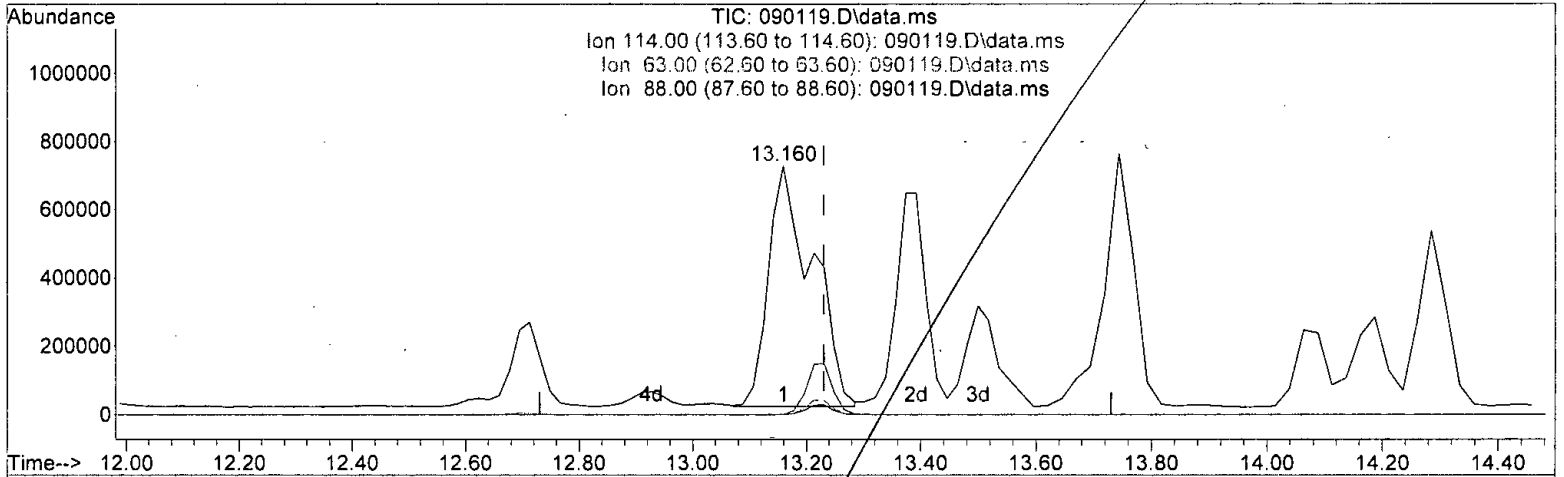
Quant Time: Sep 02 13:41:11 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:27:52 2021  
 Quant Method: F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.160min (-0.071) 147.593 ug/m3

response 3796287

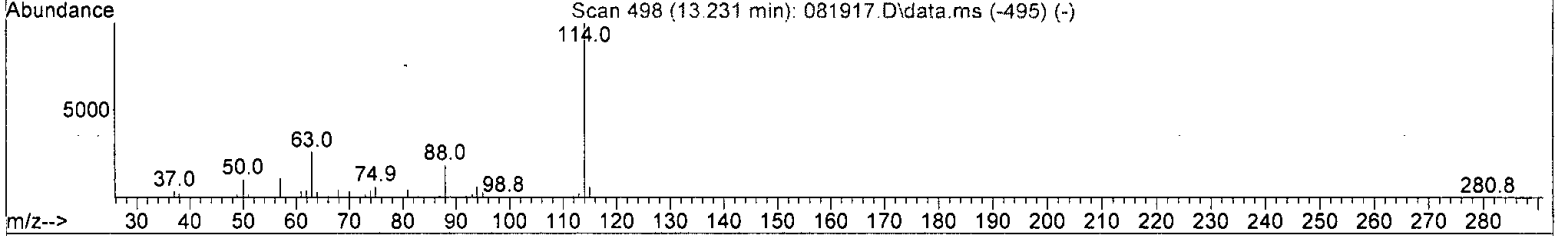
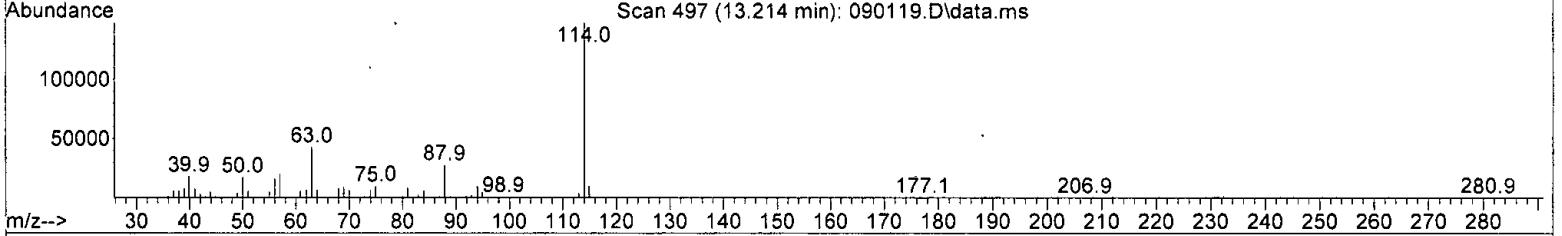
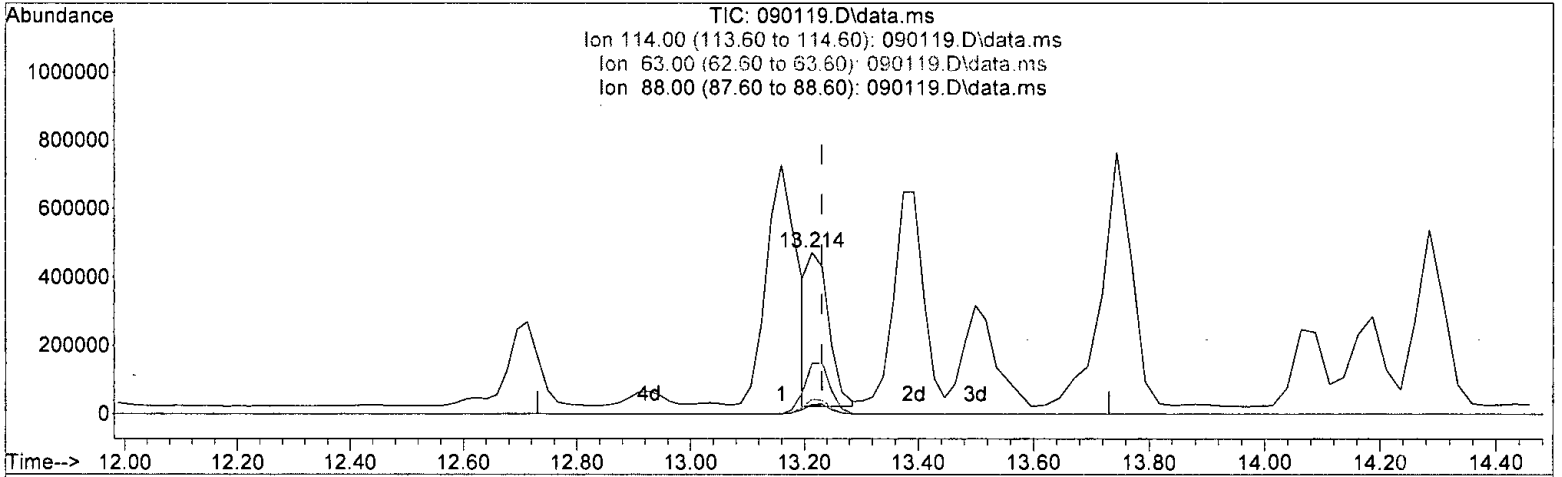
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	0.14#
63.00	8.40	0.23
88.00	7.60	0.03

*Handwritten note:* 13.160min

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:27:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090119.D\data.ms

(3) IS-2 1,4-Difluorobenzene (T)

13.214min (-0.017) 45.479 ug/m3 m

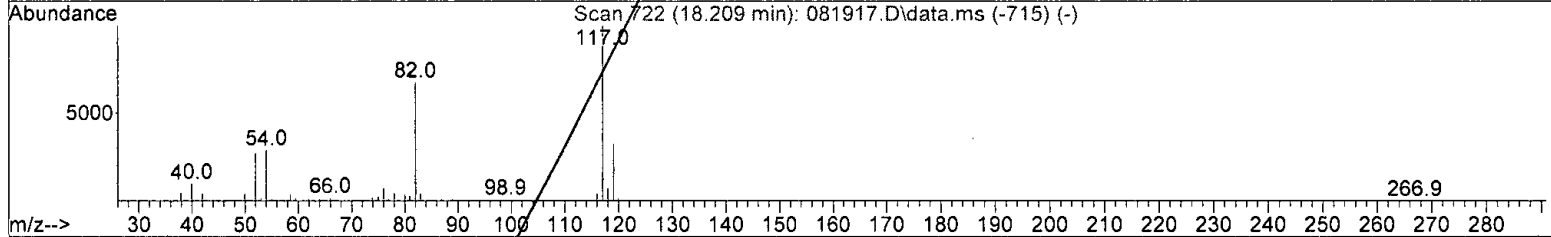
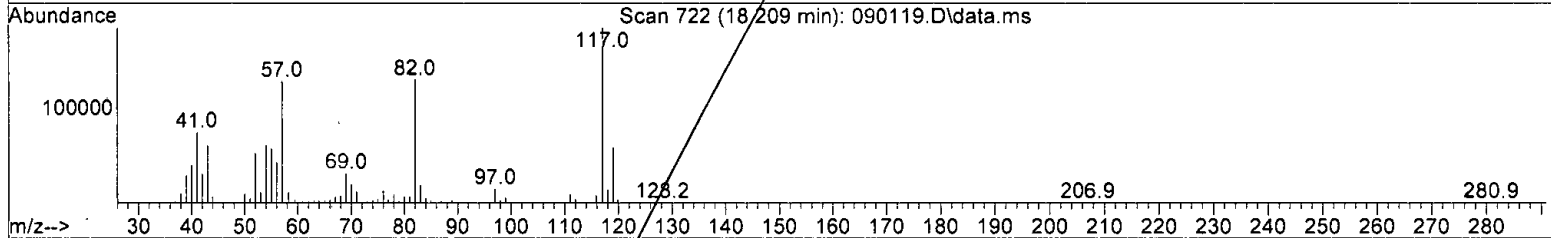
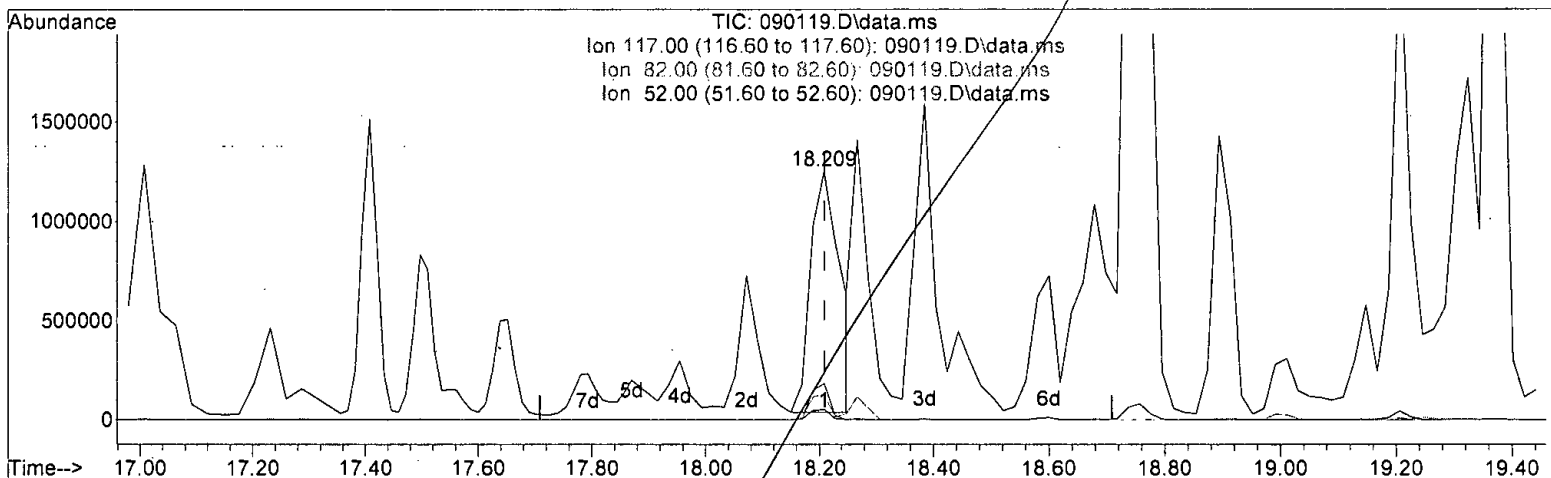
response	1169784
Signal	Exp% Act%
TIC	100.00 100.00
114.00	43.50 0.44#
63.00	8.40 0.76
88.00	7.60 0.09

*h*  
*or/alk*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:27:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 141.035 ug/m3

response 4400010

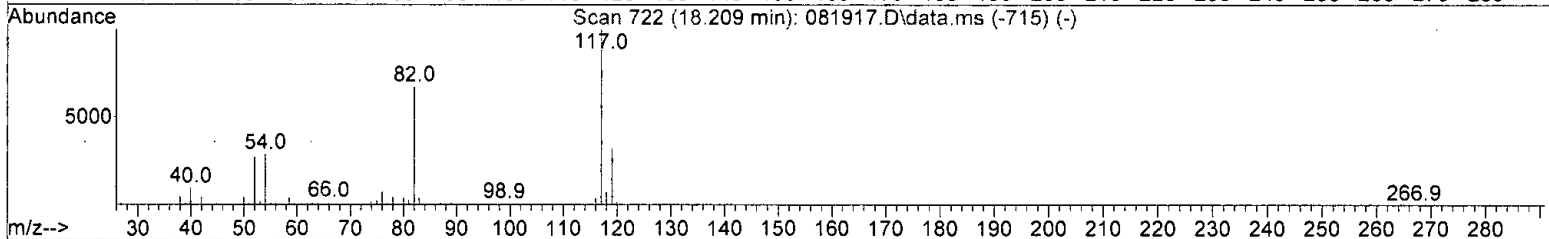
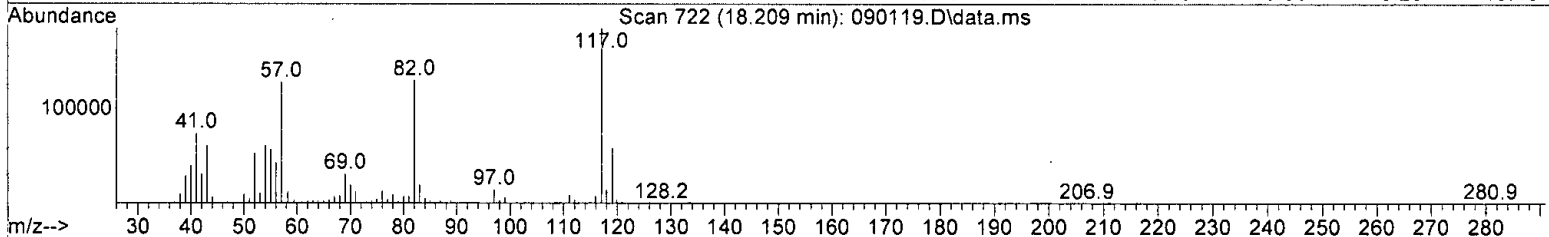
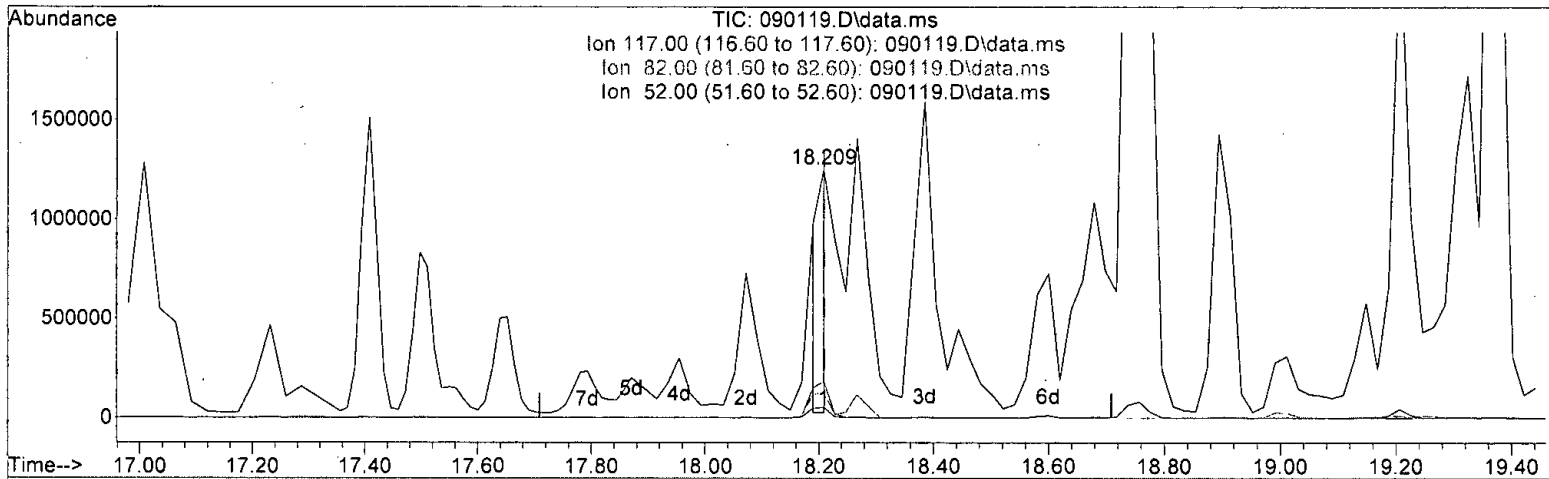
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	9.79#
82.00	18.10	7.33
52.00	6.90	3.17

*h  
bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:27:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 46.164 ug/m3 m

response 1440220

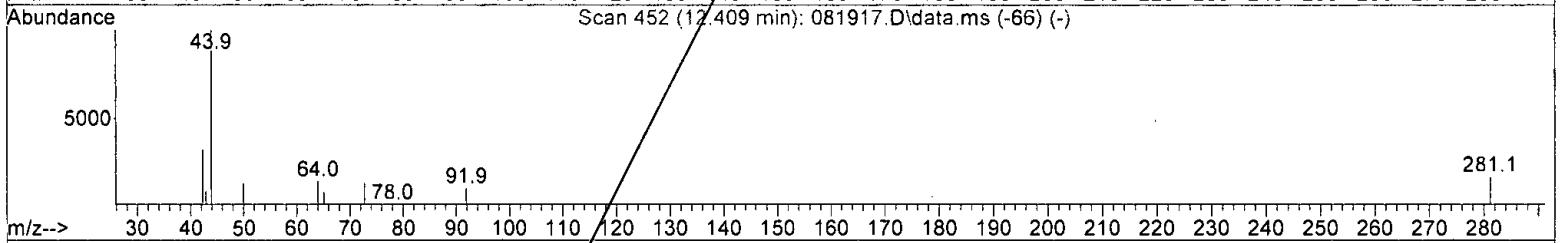
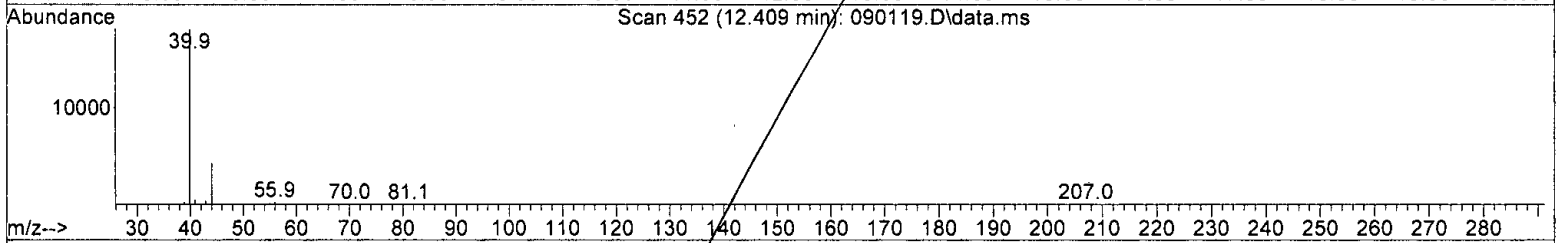
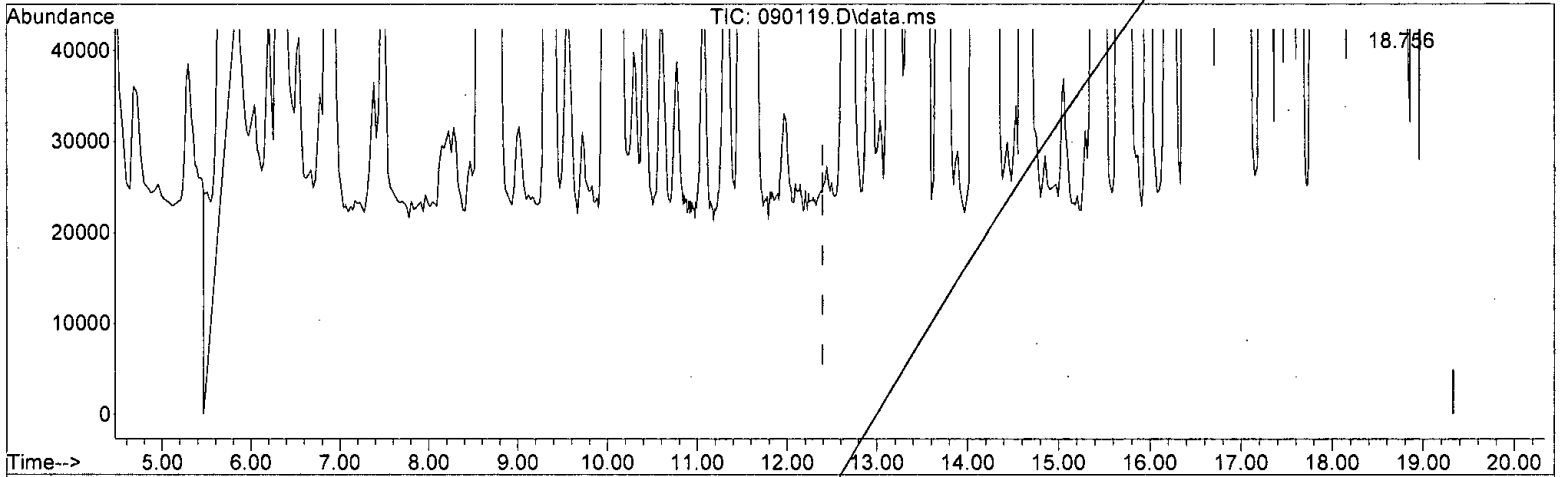
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	29.91
82.00	18.10	22.39
52.00	6.90	9.70

*N orlov*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:27:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 2677.459 ug/m3 m

response 103494845

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

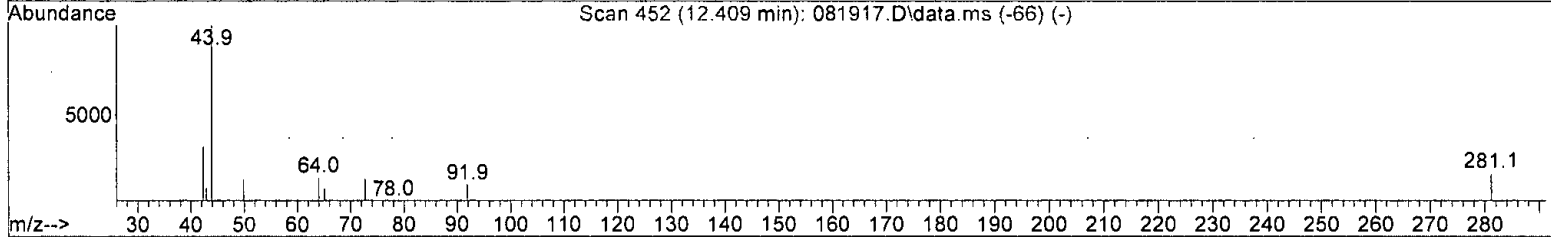
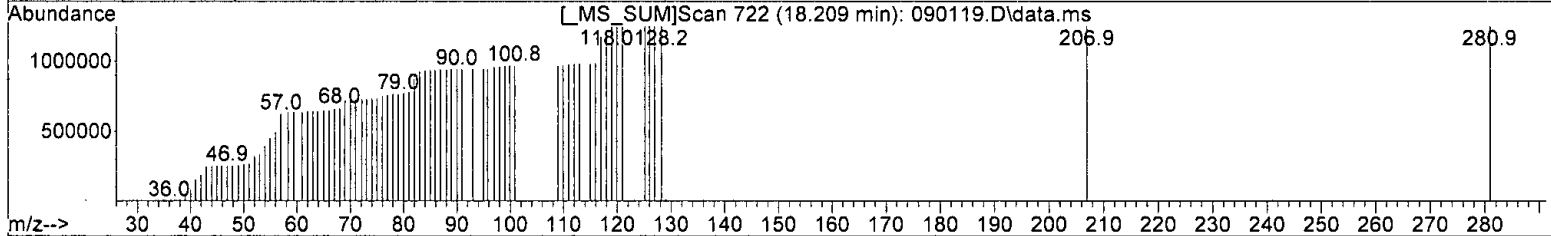
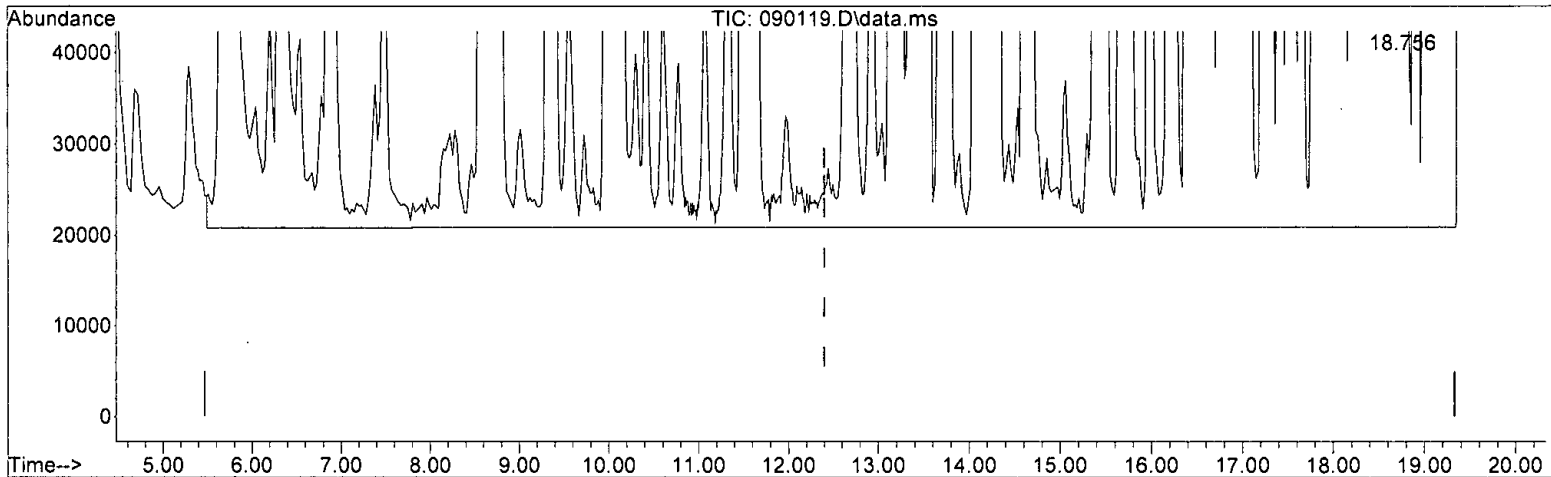
*R. Orlov*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:27:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 3211.028 ug/m3 m

response 124119496

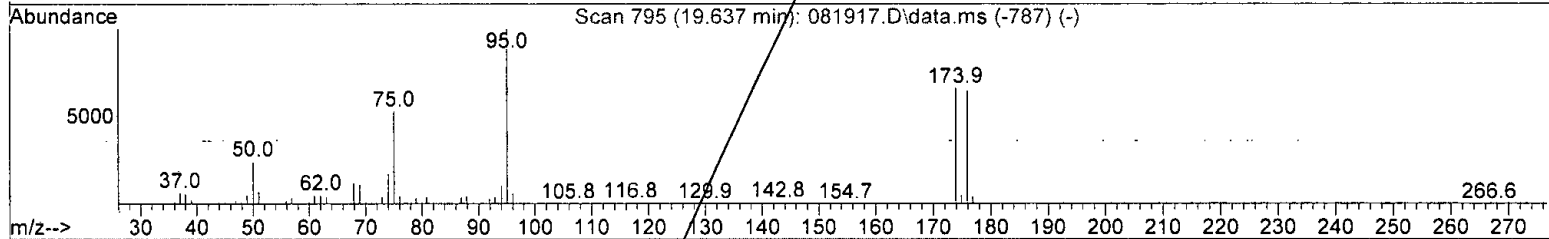
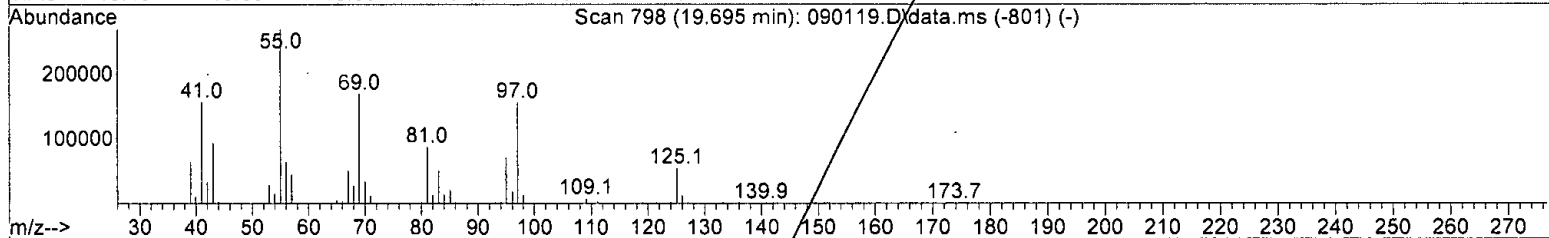
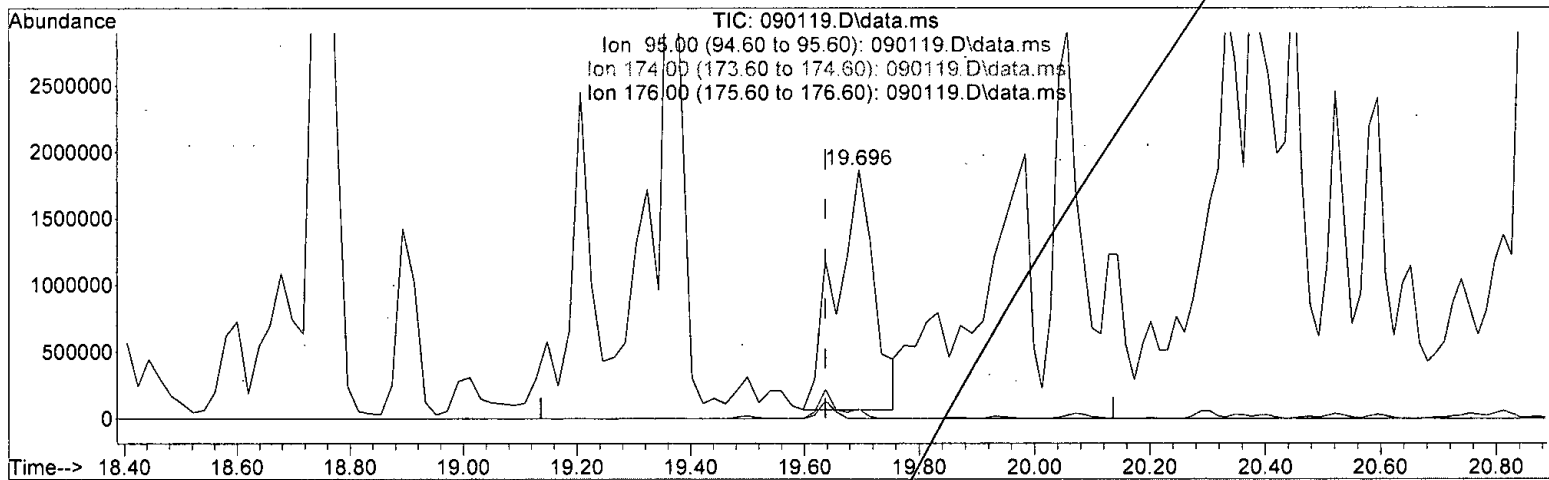
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B. 09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:27:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

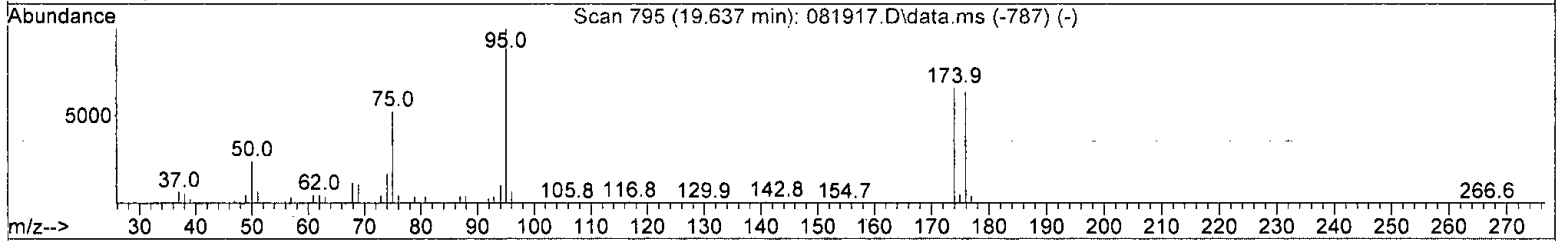
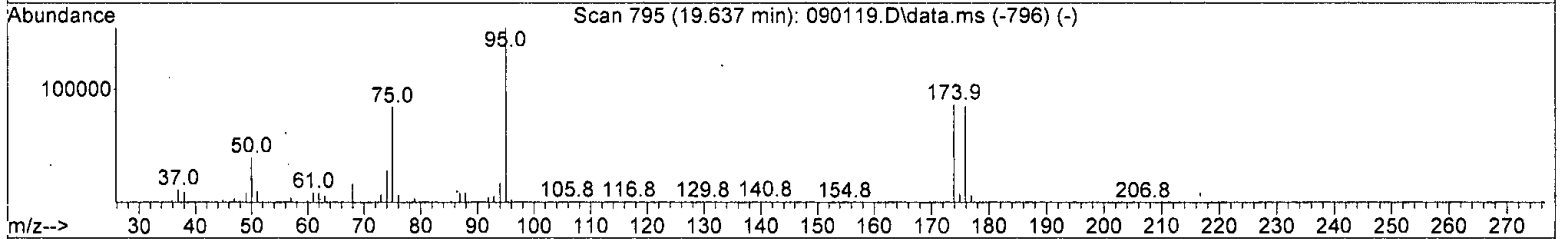
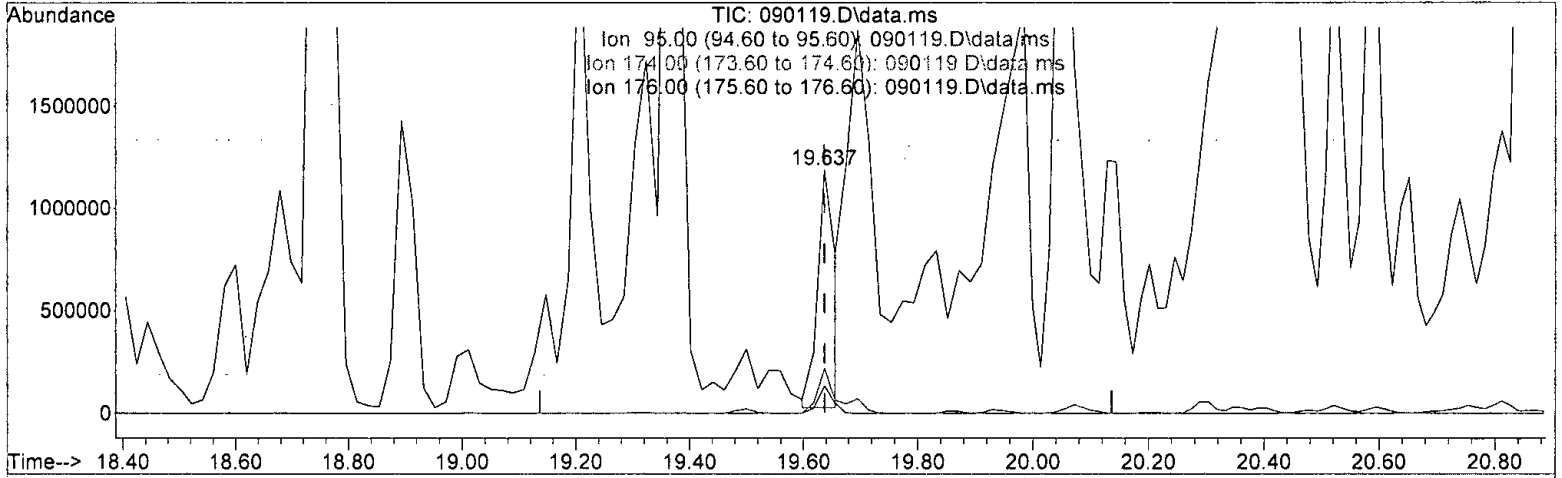
19.695min (+ 0.059) 227.707 ug/m3

response	8279884
Signal	Exp% Act%
TIC	100.00 100.00
95.00	20.00 3.91
174.00	19.20 0.01
176.00	18.70 0.00

*N. Orlov*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:27:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 70.210 ug/m3 m

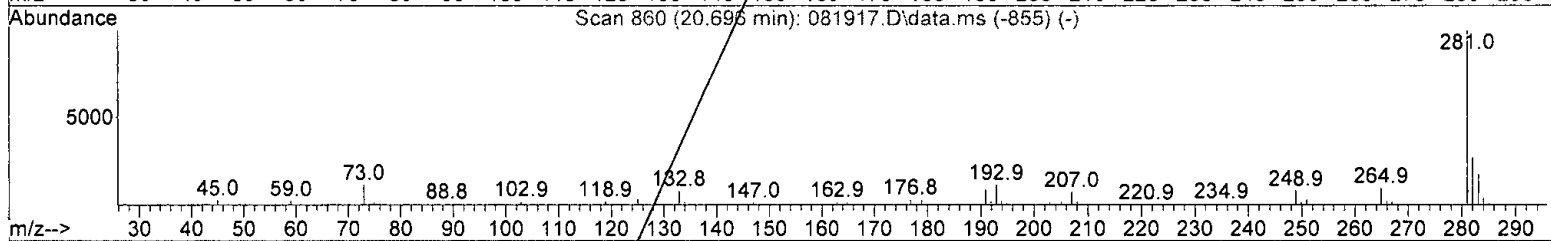
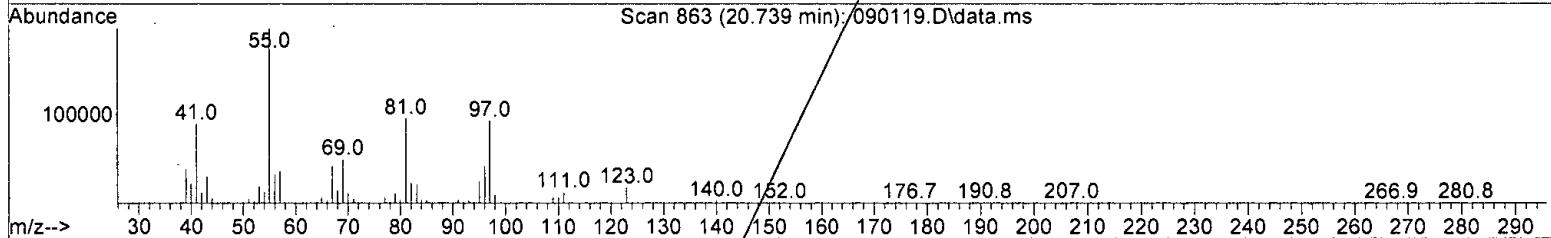
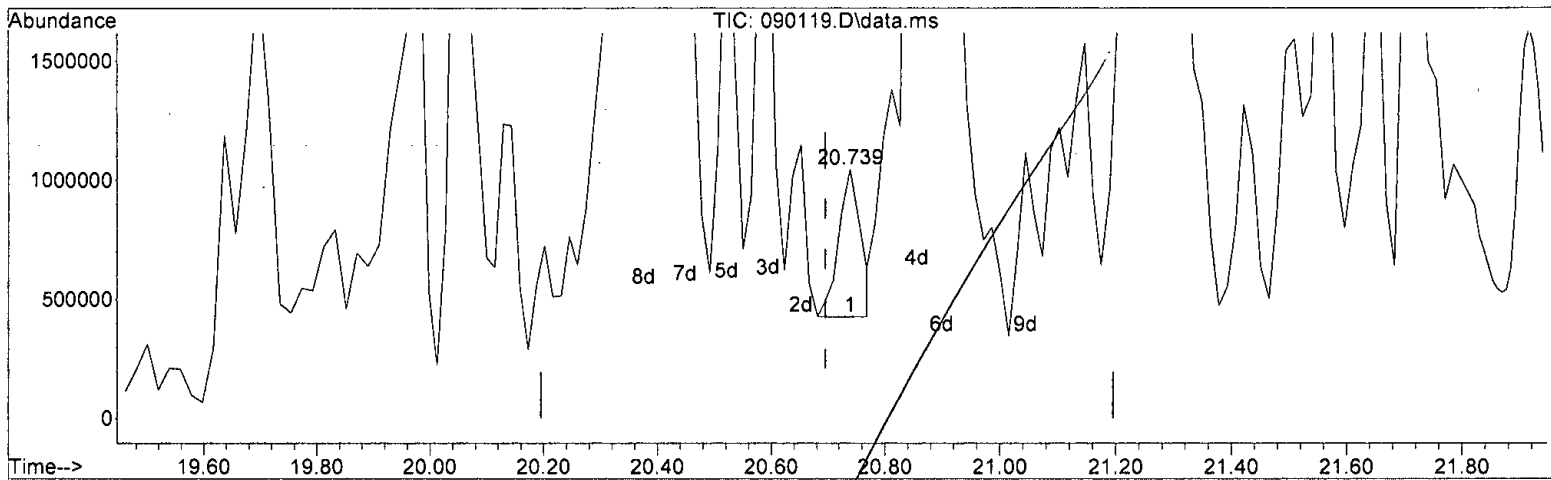
response 2552986

Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	12.69
174.00	19.20	0.02
176.00	18.70	0.01

*bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:27:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.739min (+ 0.044) 146.773 ppbv

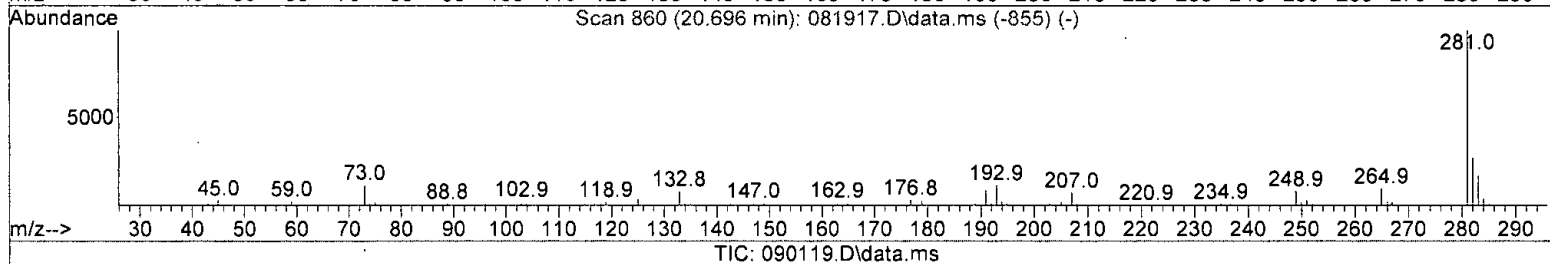
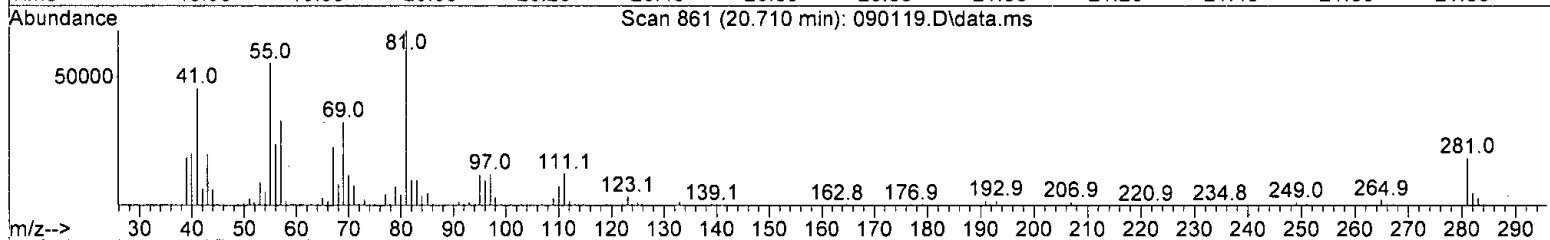
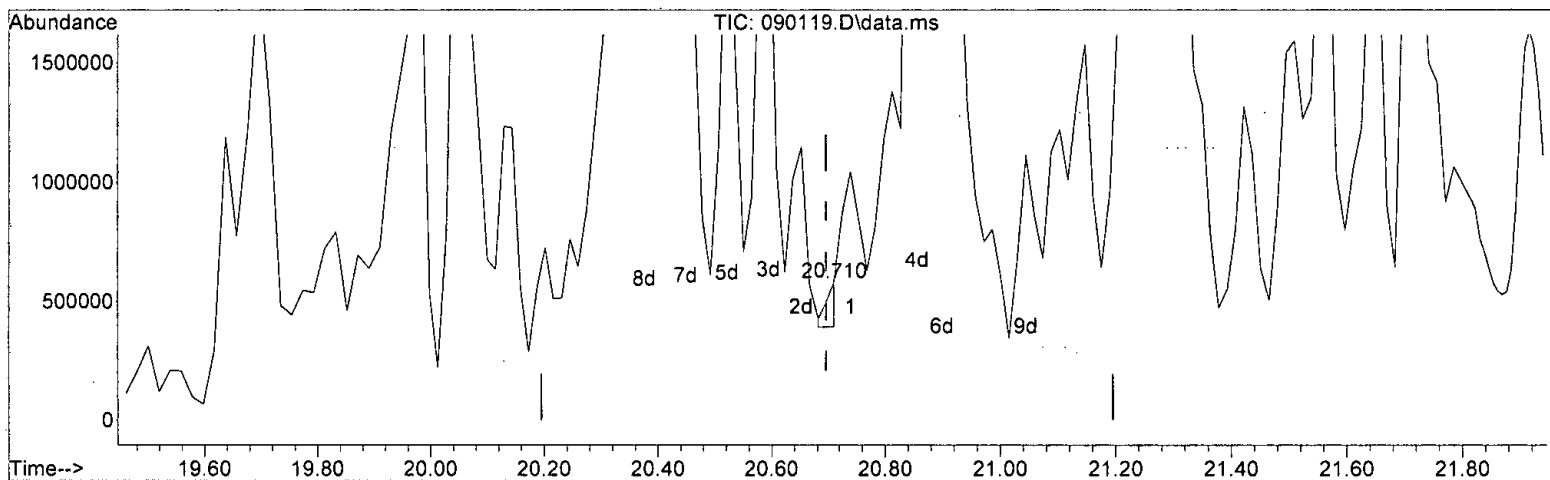
response 1640629

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B. Balakrishnan*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:27:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.710min (+ 0.015) 22.384 ppbv m

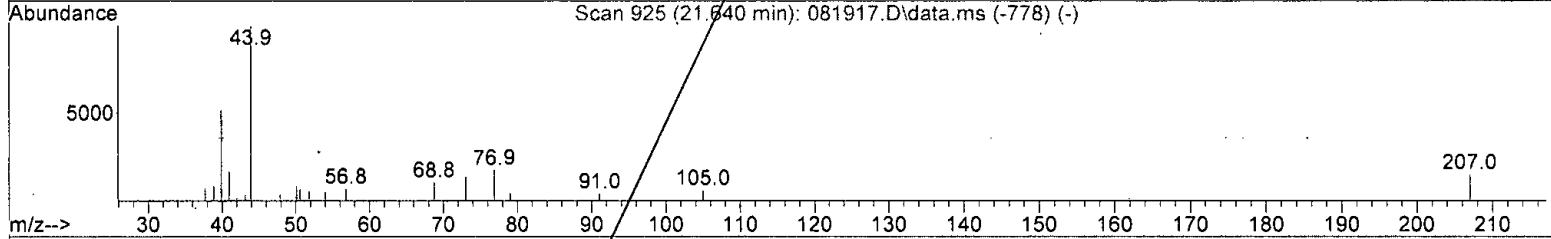
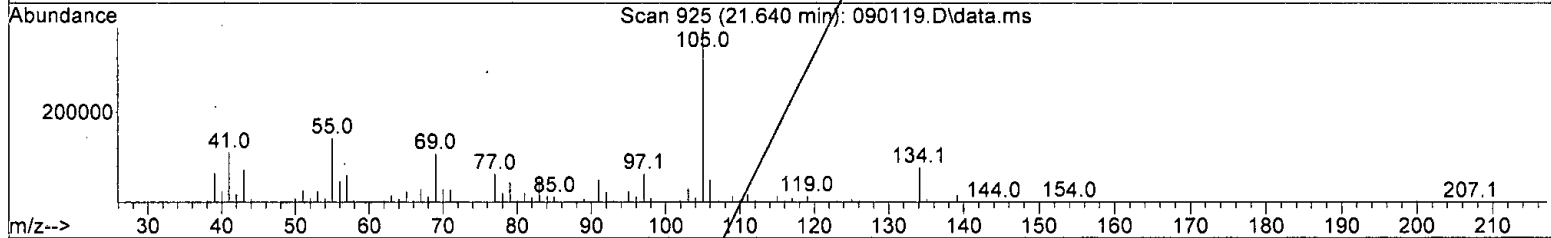
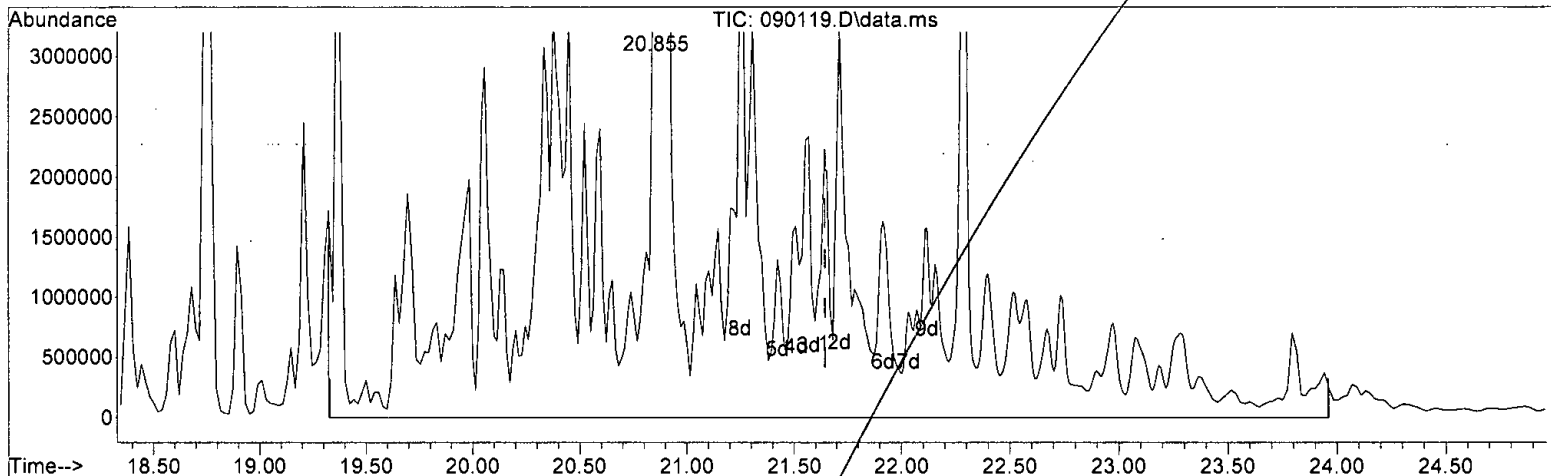
response 250213

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:27:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 3415.029 ug/m3 m

response 150497286

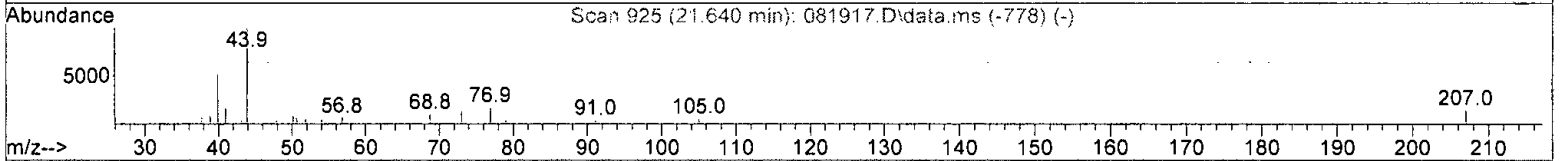
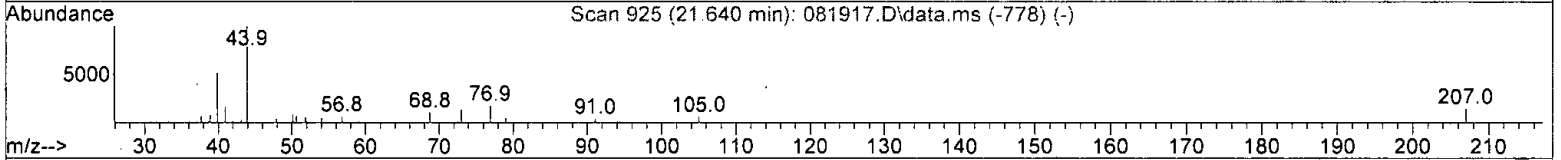
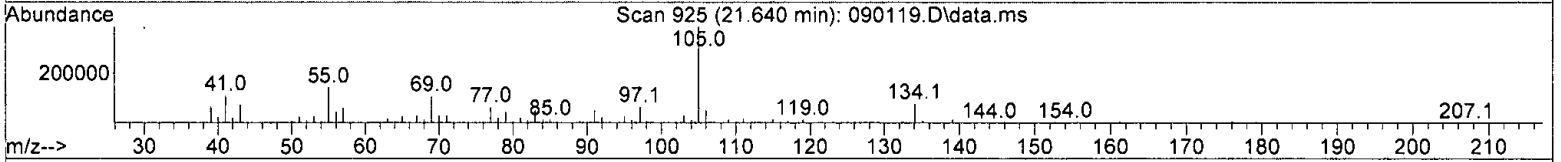
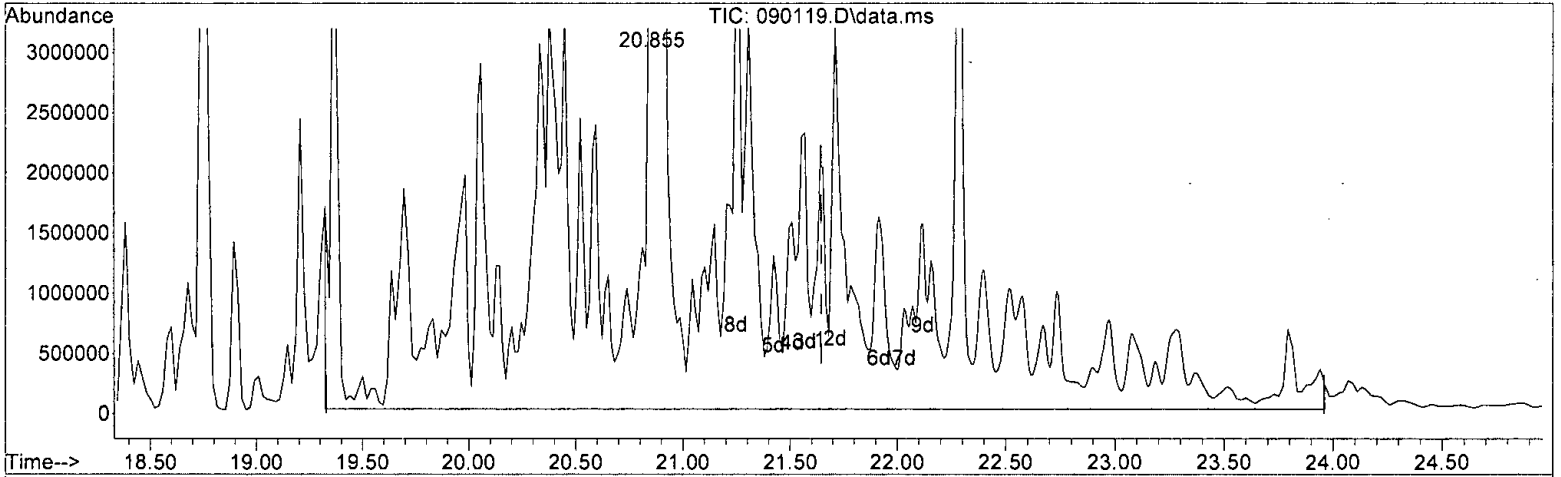
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:27:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090119.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 5843.510 ug/m3 m

response 257518286

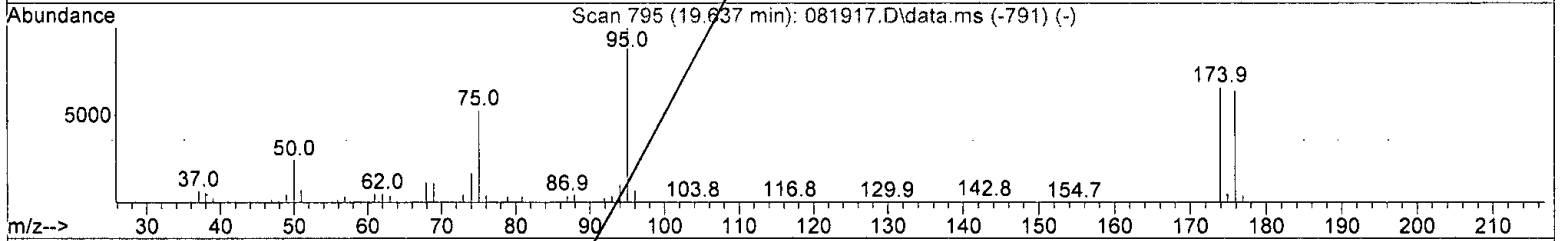
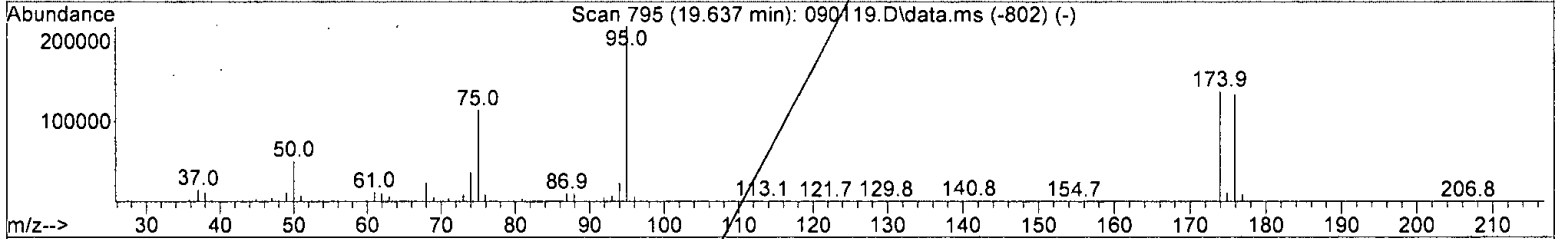
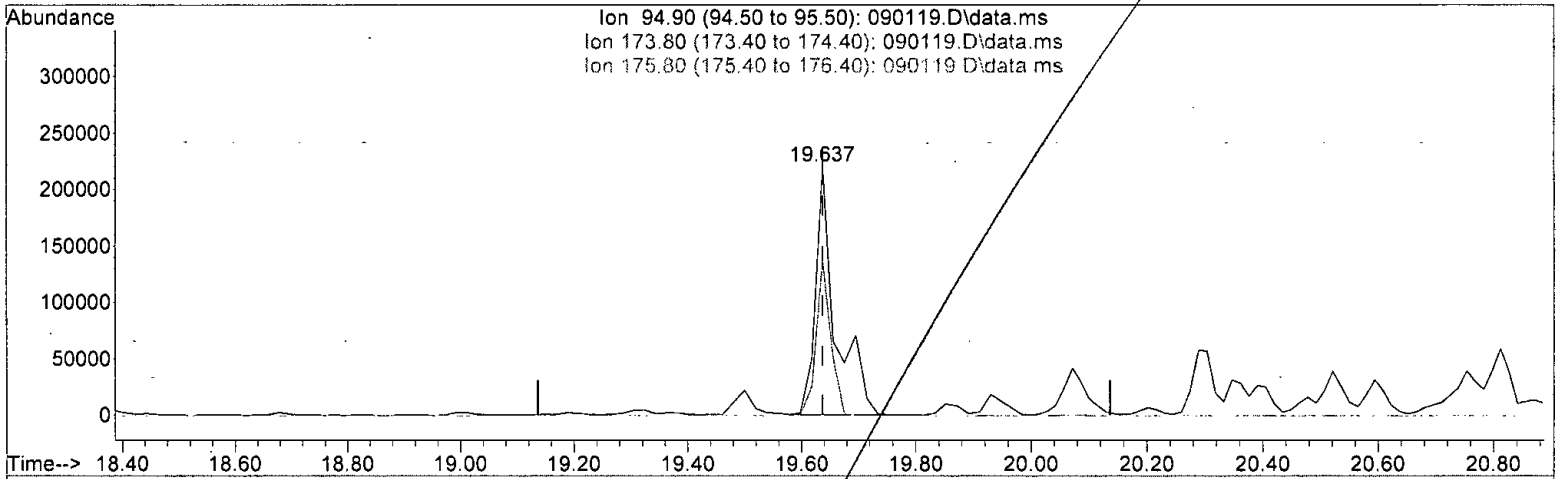
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*W orlo/h*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:27:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 101.483 ug/m3

response 547641

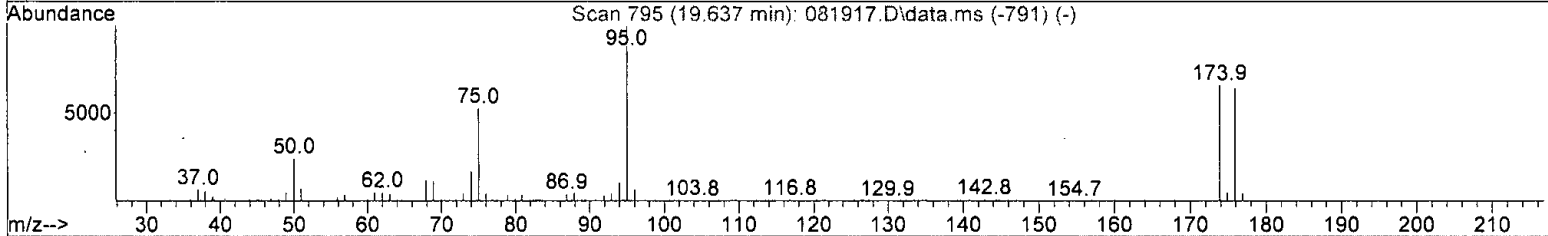
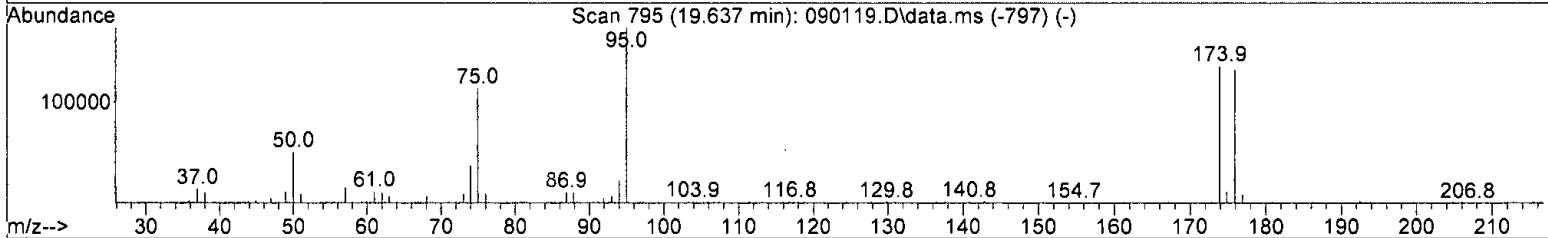
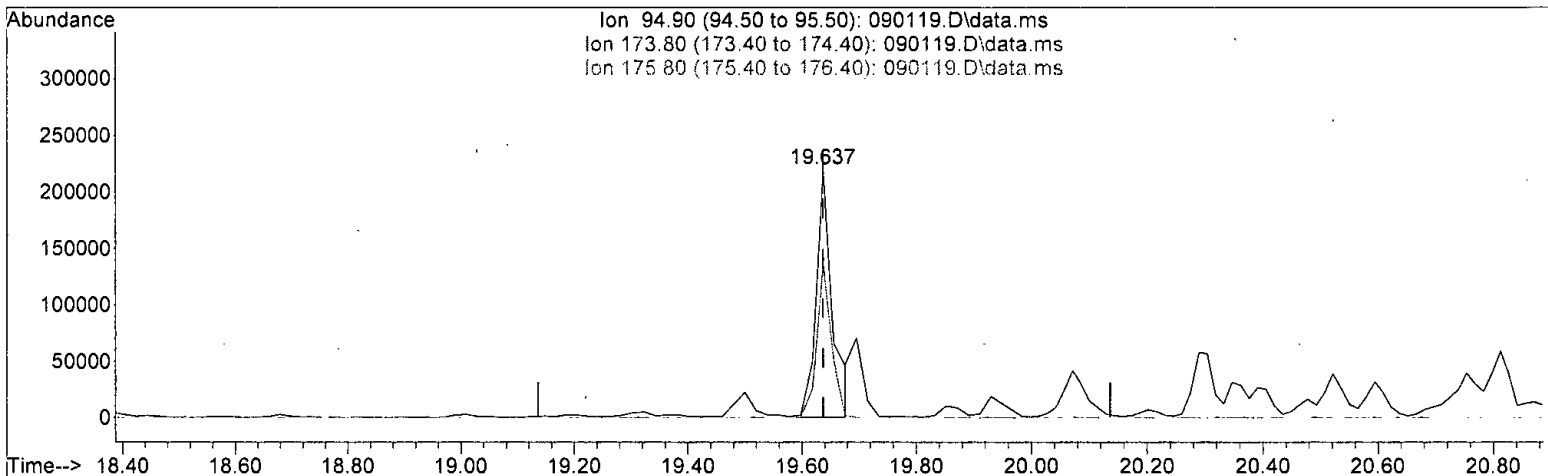
Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	62.76#
175.80	93.50	60.99#
0.00	0.00	0.00

*Batol*



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:27:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090119.D\data.ms

(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 83.701 ug/m3 m

response 451683

Ion Exp% Act%

94.90 100.00 100.00

173.80 96.00 62.59#

175.80 93.50 60.82#

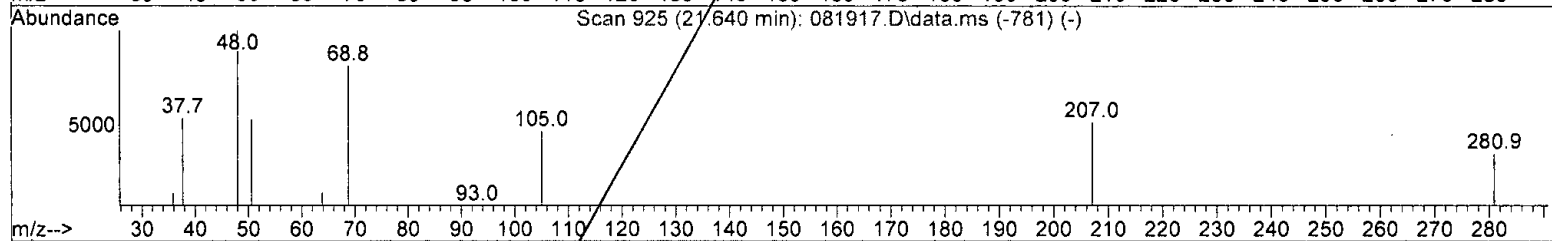
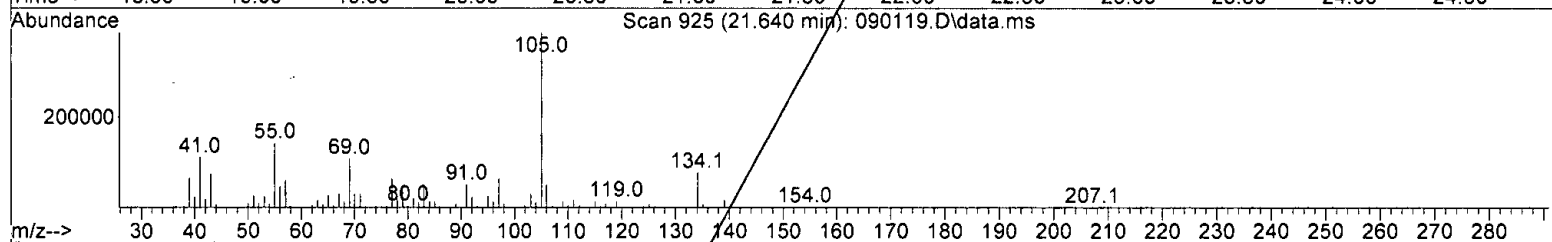
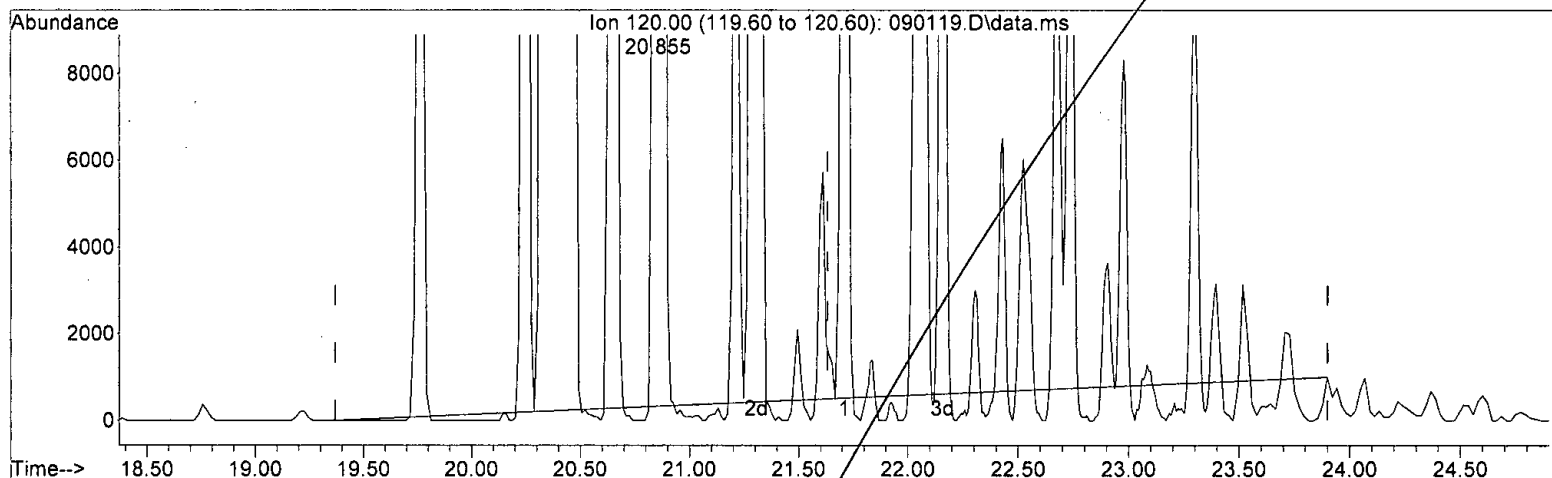
0.00 0.00 0.00

*U orlaty*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:27:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 743.946 ug/m3 m

response 3817129

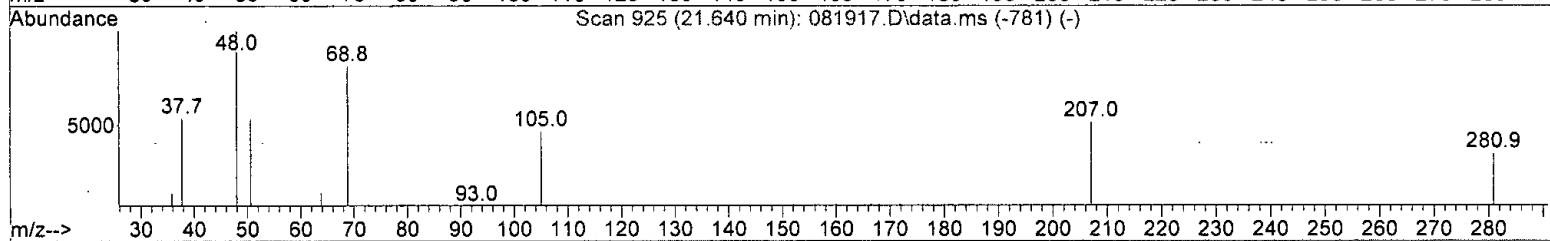
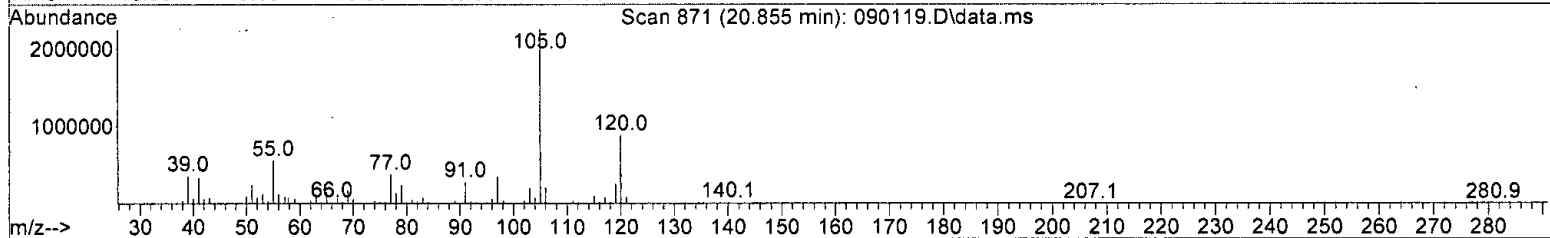
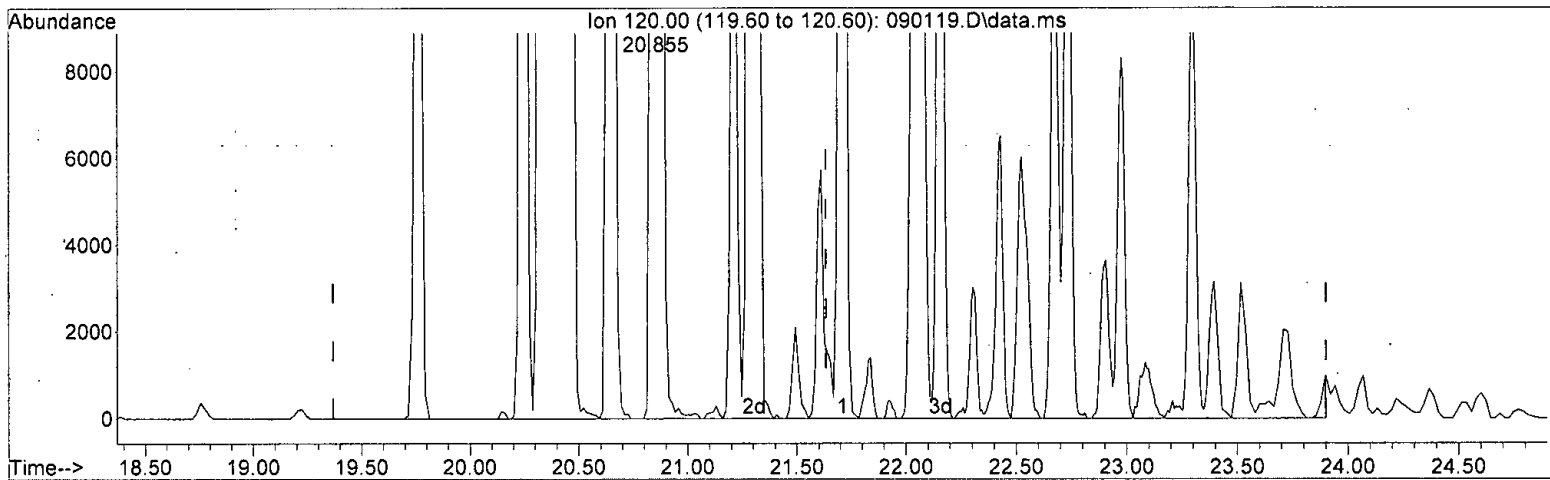
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B orlatu*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:27:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090119.D\data.ms

(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 720.531 ug/m3 m

response 3696990

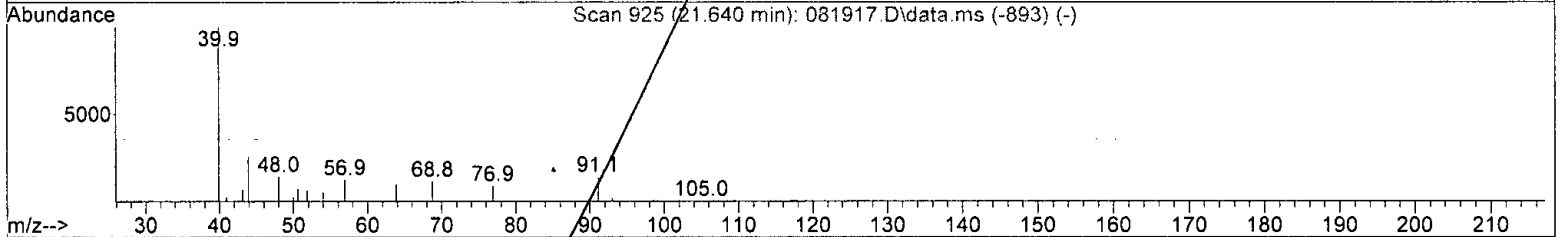
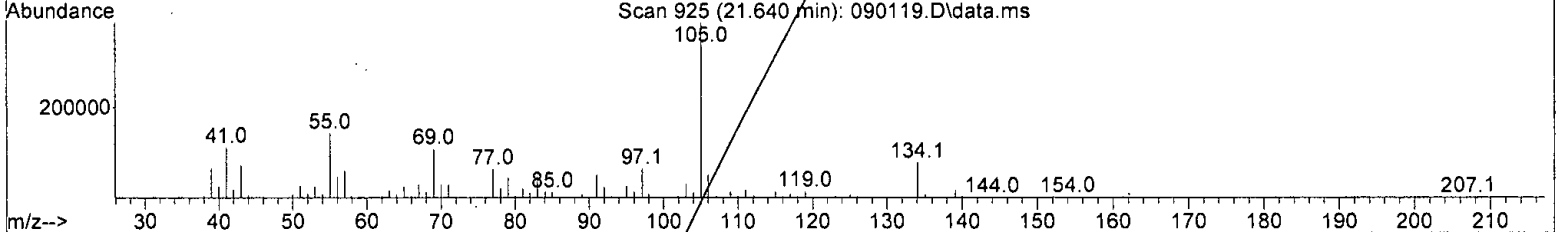
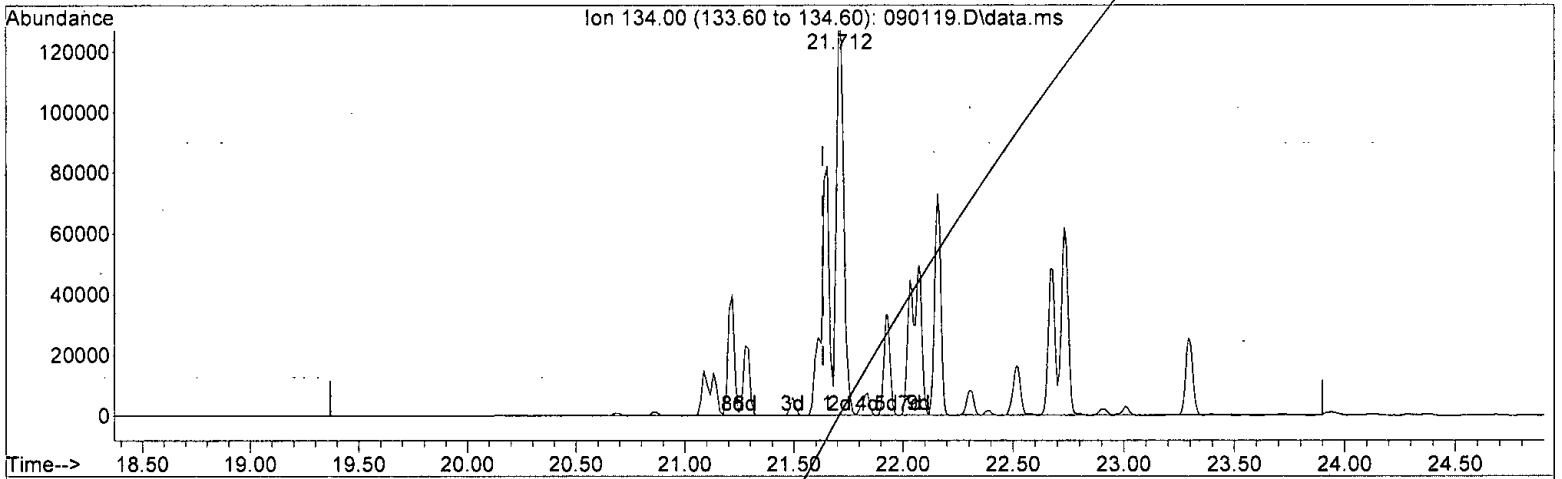
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B. Orlosky*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:27:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090119.D\data.ms

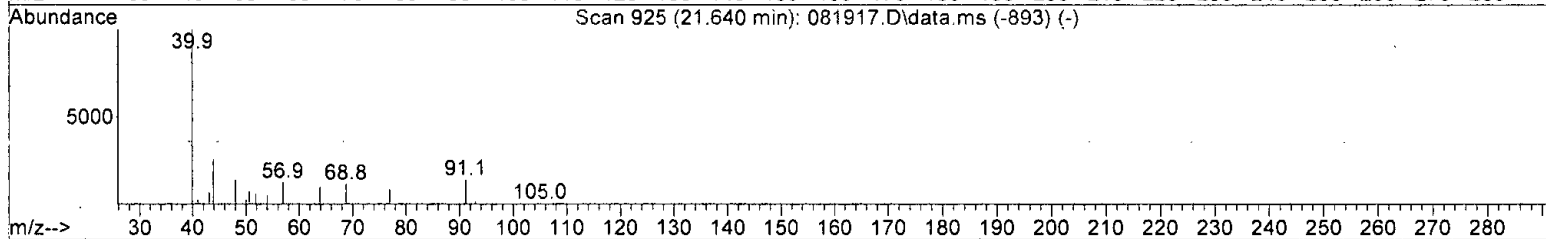
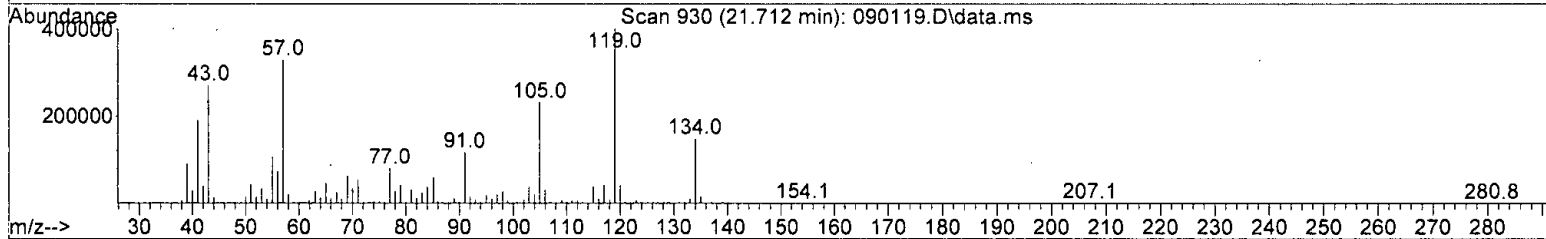
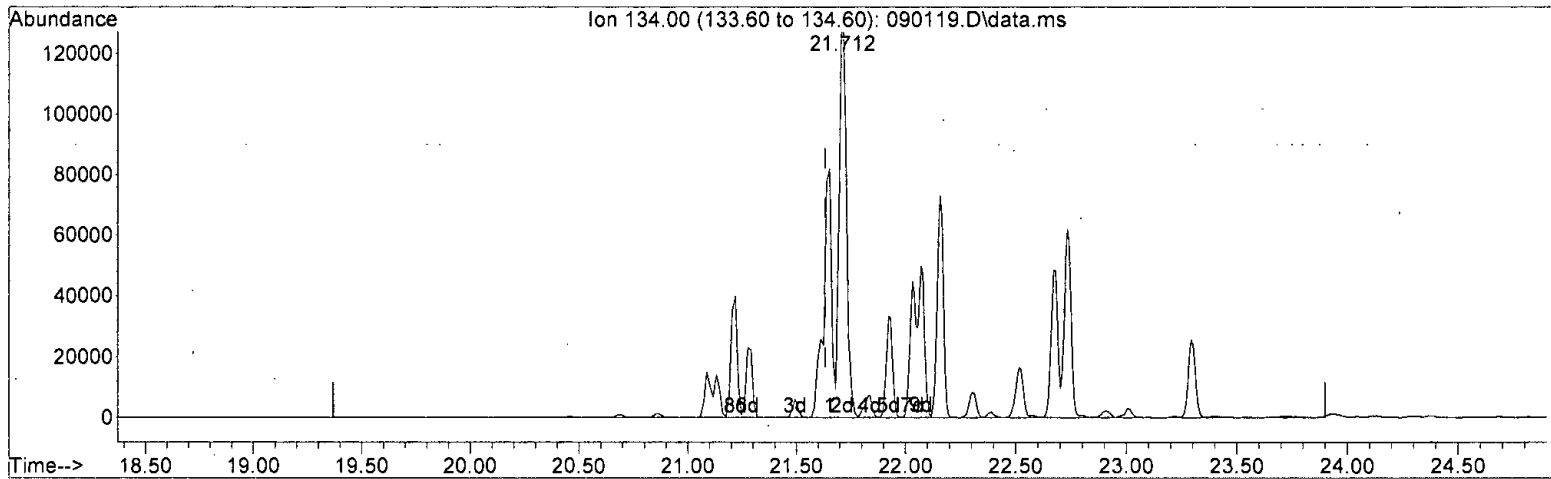
(45) APH EC9-10 aromatics (2) (H)  
 21.635min ( 0.000) 463.715 µg/m3 m

response	1355179	
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:27:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*B. B. B.*

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 610.316 ug/m3 m

response 1783613

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:32:46 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	102635	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	487166	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	430726	50.000	ug/m3	# 0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	451683m	83.701	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	117.89%

Target Compounds						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	943984	52.091	ug/m3	86
3) IS-2 1,4-Difluorobenzene	13.21	TIC	1169784m	45.479	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1440220m	46.164	ug/m3	
5) Methylene chloride	6.86	TIC	354301	386.165	ug/m3	92
6) Acetone	5.68	TIC	1163040	24.030	ppbv	100
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.20	54	20635	3.414	ug/m3#	1
9) Methyl t-butyl ether	8.51	73	1514	0.191	ug/m3#	17
11) Benzene	12.71	78	361115	21.802	ug/m3	87
12) Isopentane	5.68	TIC	1163040	35.355	ug/m3	95
13) Hexane	10.10	TIC	4352396	135.582	ug/m3	93
14) Cyclohexane	13.16	TIC	3772181	111.549	ug/m3	49
15) 2,3-Dimethylpentane	13.50	TIC	1347295	31.220	ug/m3	94
16) Heptane	14.60	TIC	2644855	74.995	ug/m3	92
17) Octane	17.41	TIC	2889784	59.758	ug/m3	91
18) APH EC5-8 aliphatics T...	12.71	TIC	16169551m	418.314	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	124119496m	3211.028	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2552986m	70.210	ug/m3	
22) Hexamethylcyclotrisilo...	17.79	TIC	703330	78.529	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	250213m	22.384	ppbv	
24) Toluene	16.39	92	570912	61.780	ug/m3	99
25) Ethylbenzene	18.60	91	562660	29.483	ug/m3	96
26) m,p-Xylene	18.76	106	1496661	233.224	ug/m3	87
27) o-Xylene	19.21	106	555229	91.460	ug/m3	85
28) Naphthalene	23.94	128	229292	14.796	ug/m3	98
29) 2,3-Dimethylheptane	18.60	TIC	1839460	42.493	ug/m3#	93
30) Nonane	19.36	TIC	13047950	288.662	ug/m3	89
31) Decane	20.90	TIC	17473740	389.135	ug/m3	94
32) Butylcyclohexane	21.57	TIC	4870505	95.481	ug/m3	92
33) Undecane	22.29	TIC	10241847	229.969	ug/m3	95
34) Dodecane	23.79	TIC	2153233	58.905	ug/m3	95
35) APH EC9-12 aliphatics ...	21.57	TIC	49626735m	1126.112	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	257518286m	5843.510	ug/m3	
38) Isopropylbenzene	20.25	120	89309	26.435	ug/m3#	1
39) 1-Methyl-3-ethylbenzene	20.33	120	613300	129.810	ug/m3#	84
40) 1,3,5-Trimethylbenzene	20.45	120	749106	125.305	ug/m3	89
41) p-Isopropyltoluene	21.28	134	47996	16.342	ug/m3#	1
42) 1,2,3-Trimethylbenzene	21.31	120	524471	74.751	ug/m3#	64
43) APH EC9-10 aromatics T...	21.57	TIC	2024182m	435.611	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	3696990m	720.531	ug/m3	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

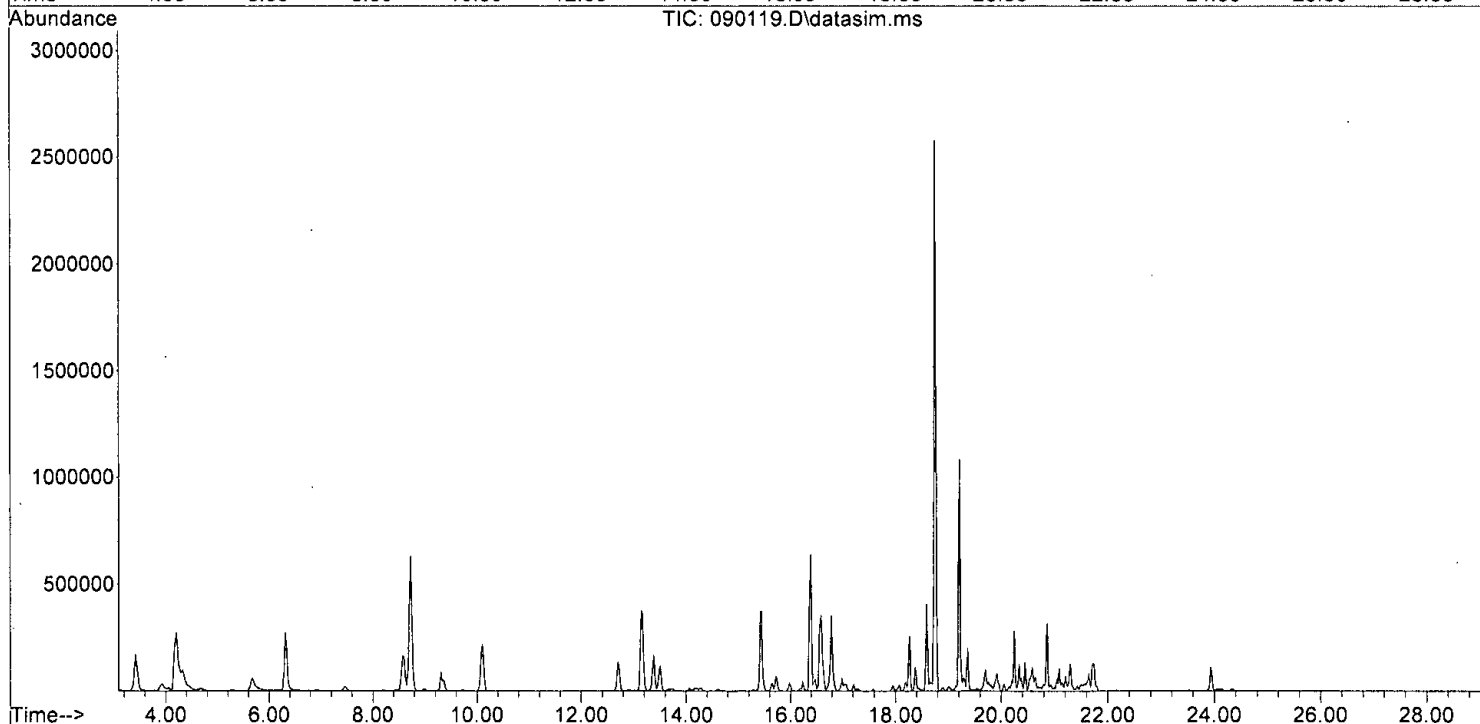
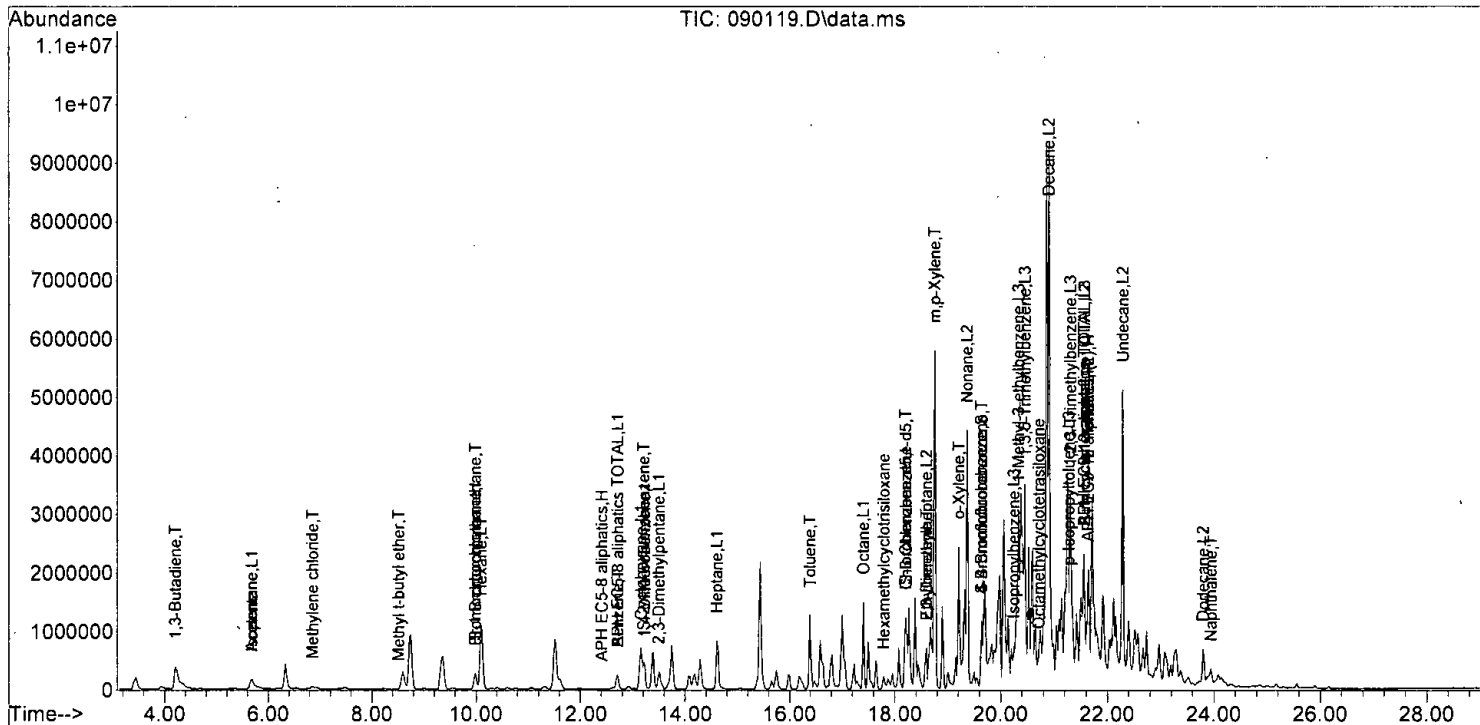
Quant Time: Sep 02 13:32:46 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	1783613m	610.316	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090119.D  
 Acq On : 1 Sep 2021 9:42 pm  
 Operator : bat  
 Sample : 108515-04 1/1000  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:32:46 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

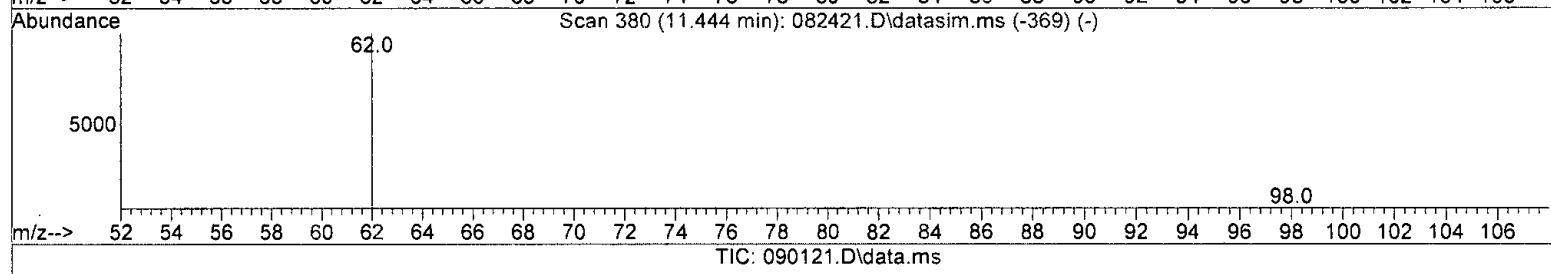
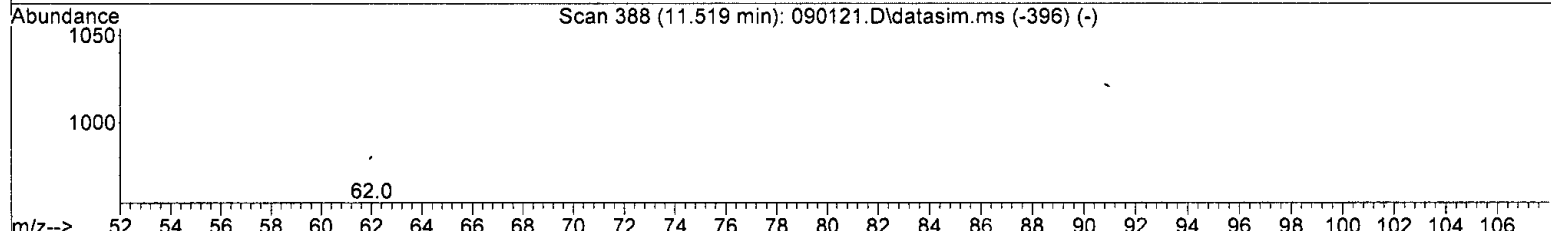
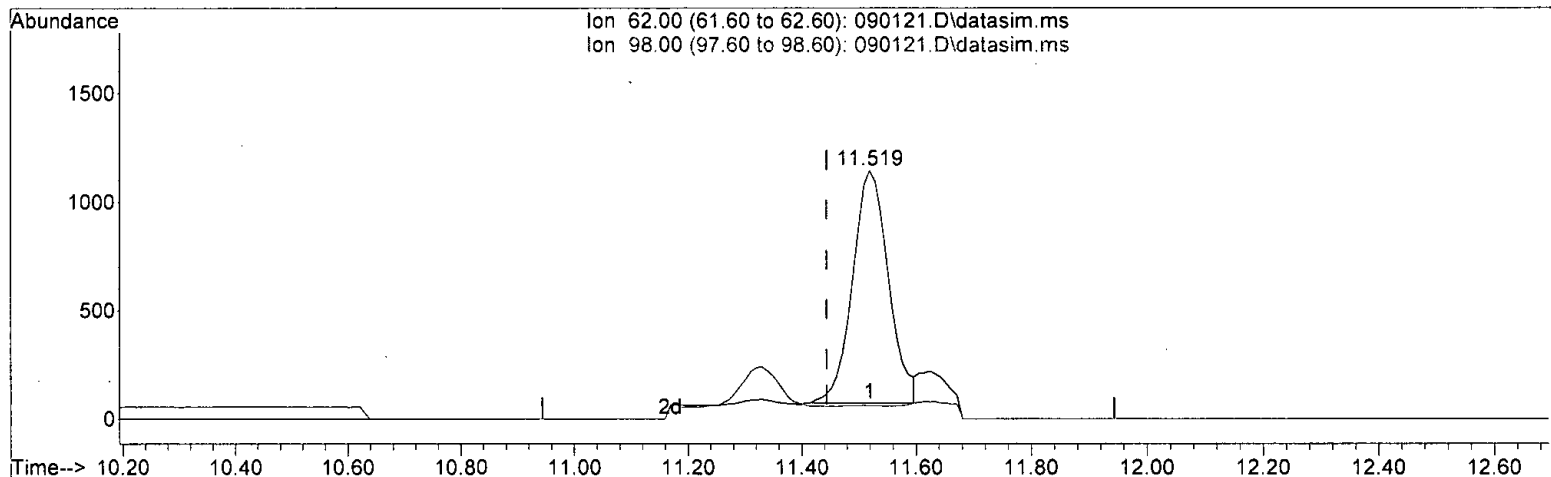




Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:30 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(34) 1,2-Dichloroethane (EDC) (TMP)

11.519min (+ 0.075) 0.134 ppbv

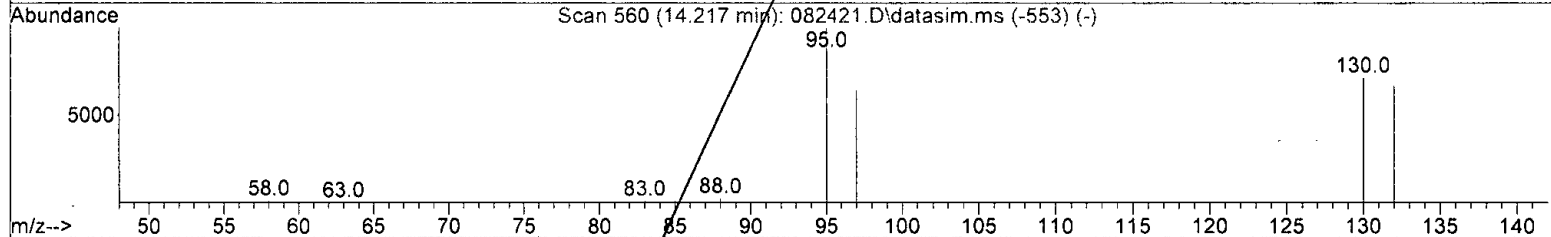
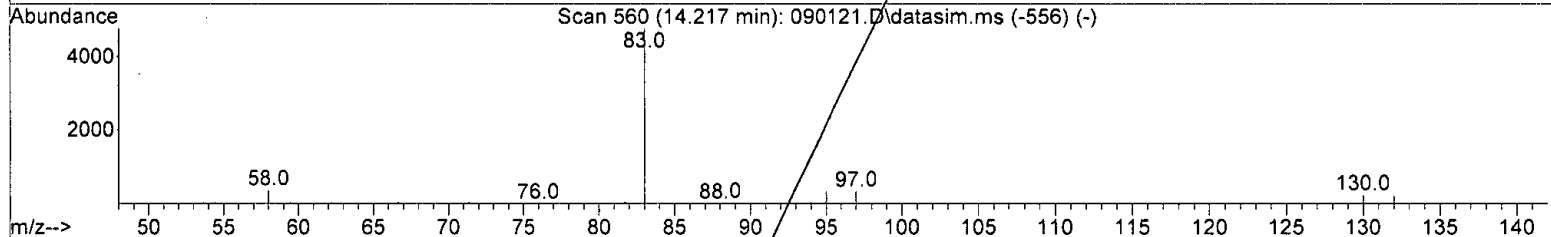
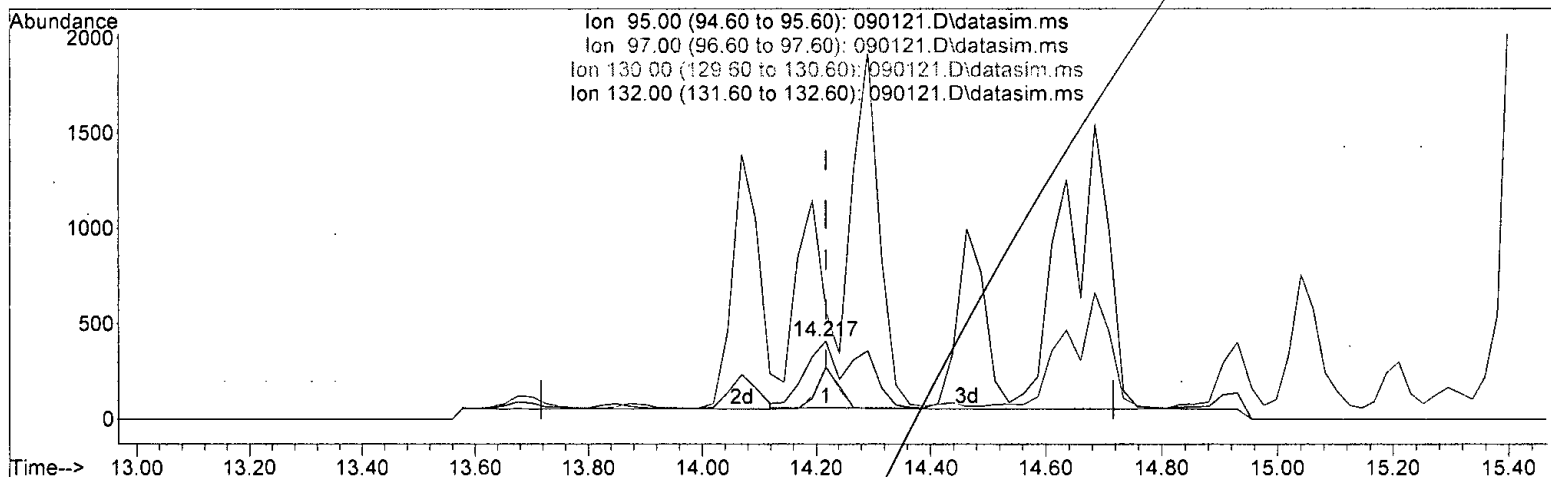
response 4626

Ion	Exp%	Act%
62.00	100.00	100.00
98.00	5.30	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:30 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090121.D\data.ms

(46) Trichloroethene (TMP)  
 14.217min (-0.000) 0.074 ppbv  
 response 2333

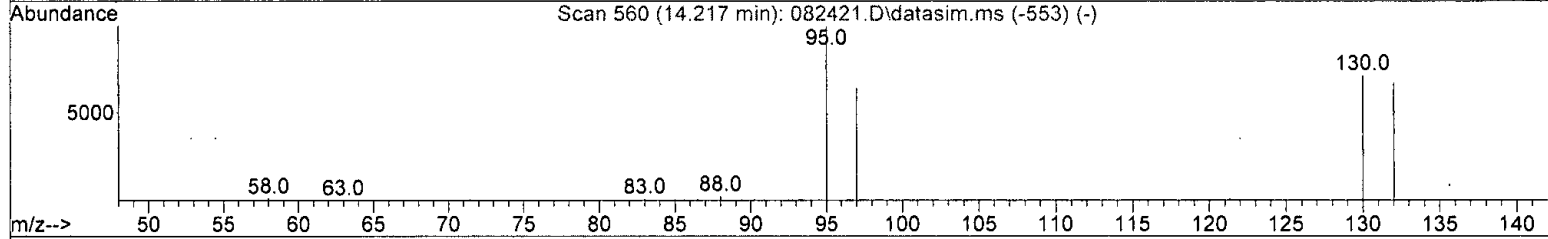
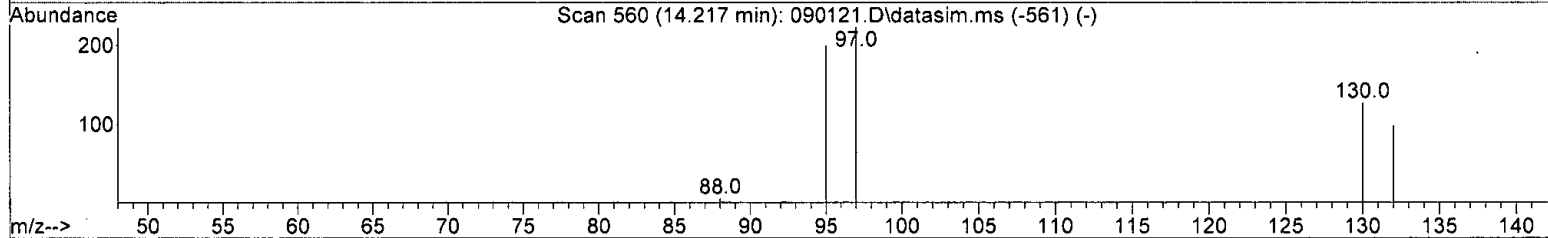
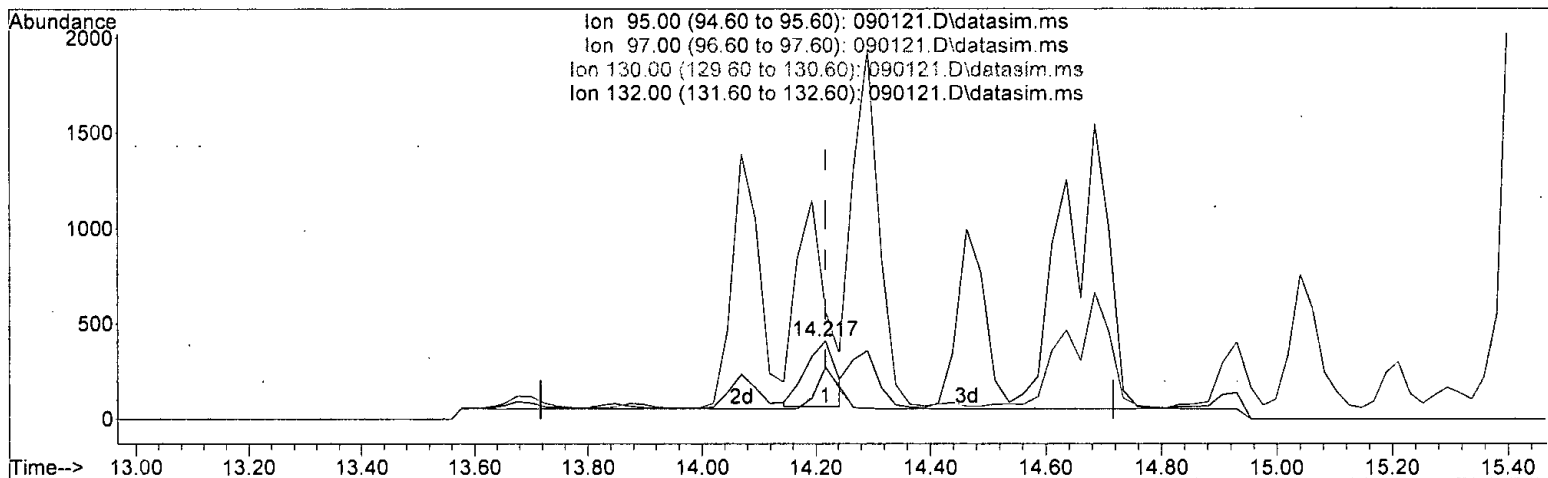
Ion	Exp%	Act%
95.00	100.00	100.00
97.00	67.10	142.98#
130.00	86.10	65.90
132.00	84.30	62.46

*h/only*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:30 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090121.D\data.ms

(46) Trichloroethene (TMP)

14.217min (-0.000) 0.040 ppbv m

response 1273

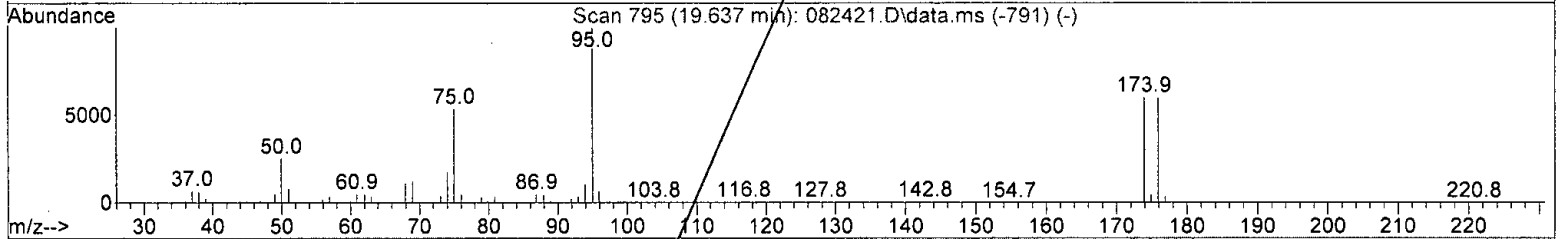
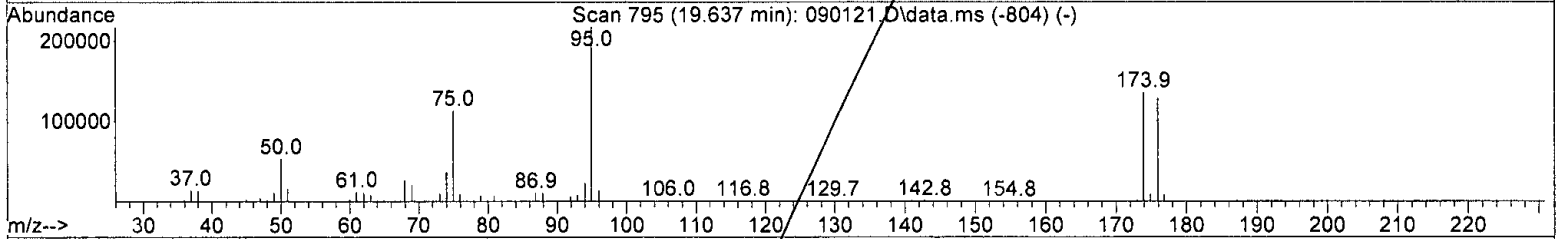
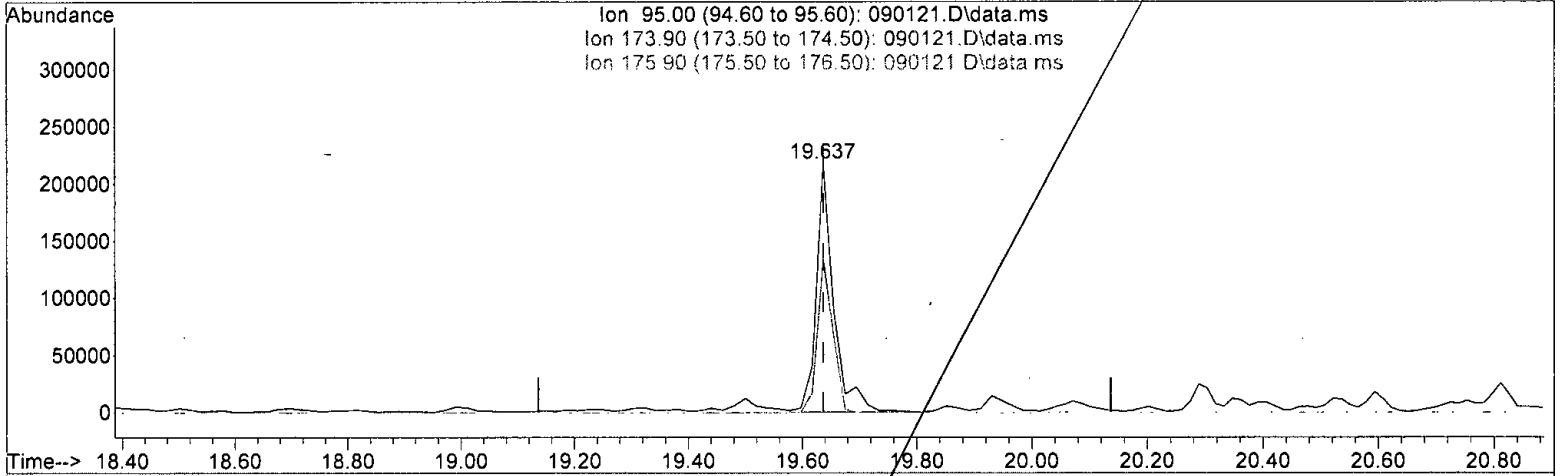
Ion	Exp%	Act%
95.00	100.00	100.00
97.00	67.10	138.78#
130.00	86.10	69.27
132.00	84.30	66.34

*W / 09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:30 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*Handwritten signature:* bat 09/02/21

(69) 4-Bromofluorobenzene (S)

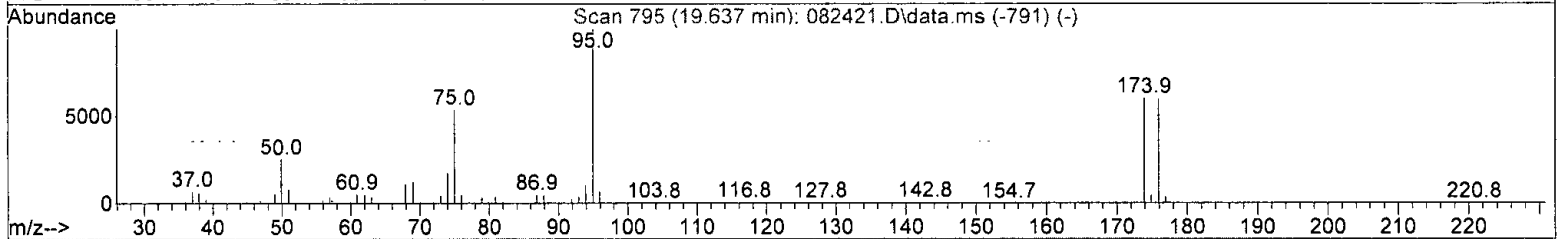
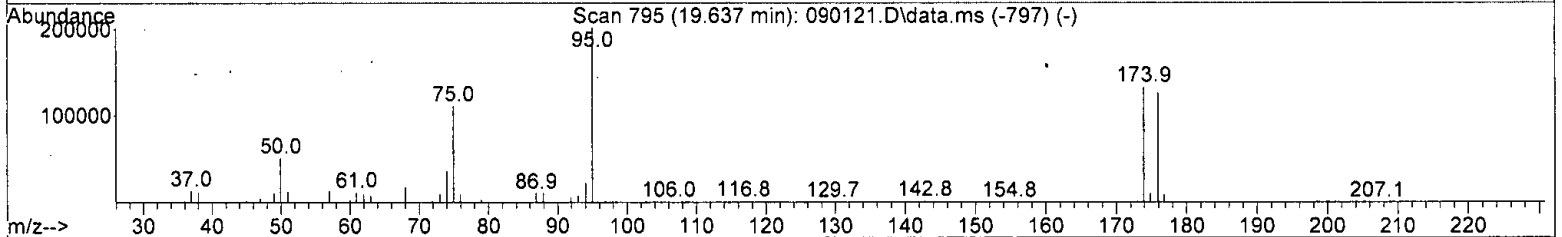
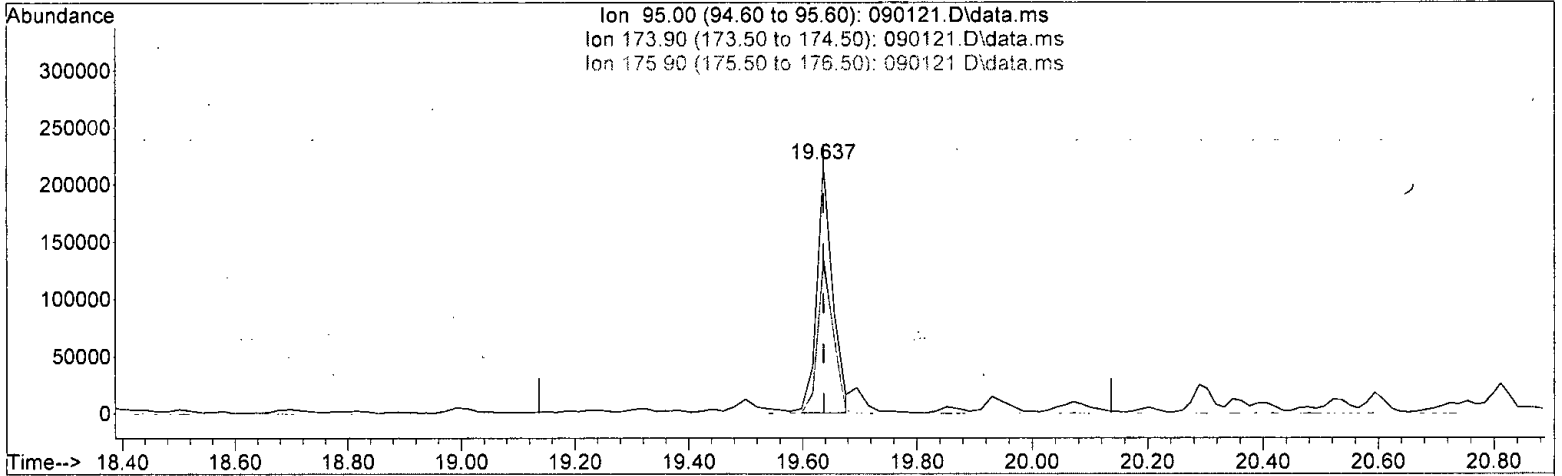
19.637min (-0.000) 11.303 ppbv

response 465224

Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	62.44
175.90	70.90	59.24
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:30 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090121.D\data.ms

(69) 4-Bromofluorobenzene (S)

19.637min (-0.000) 10.404 ppbv m

response 428195

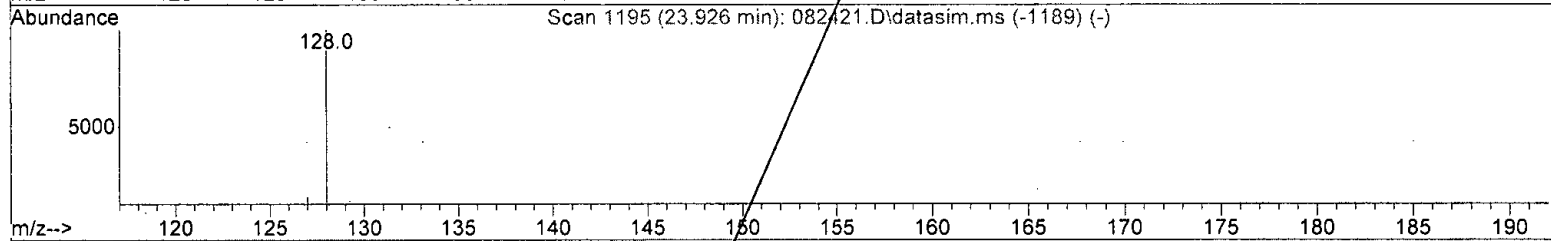
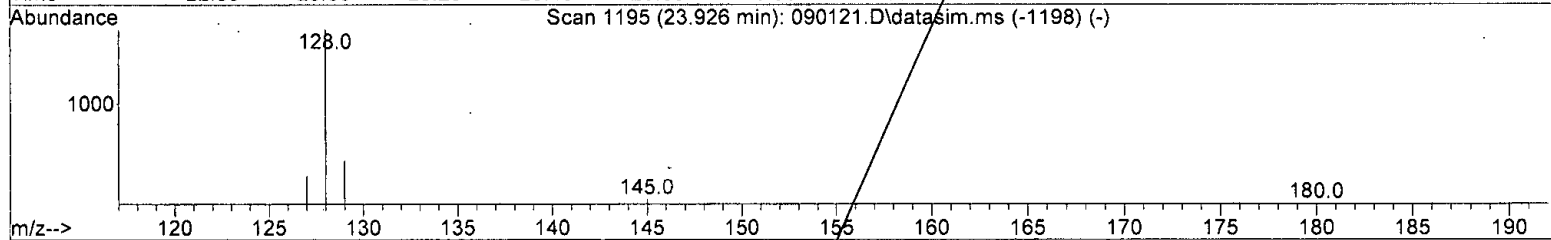
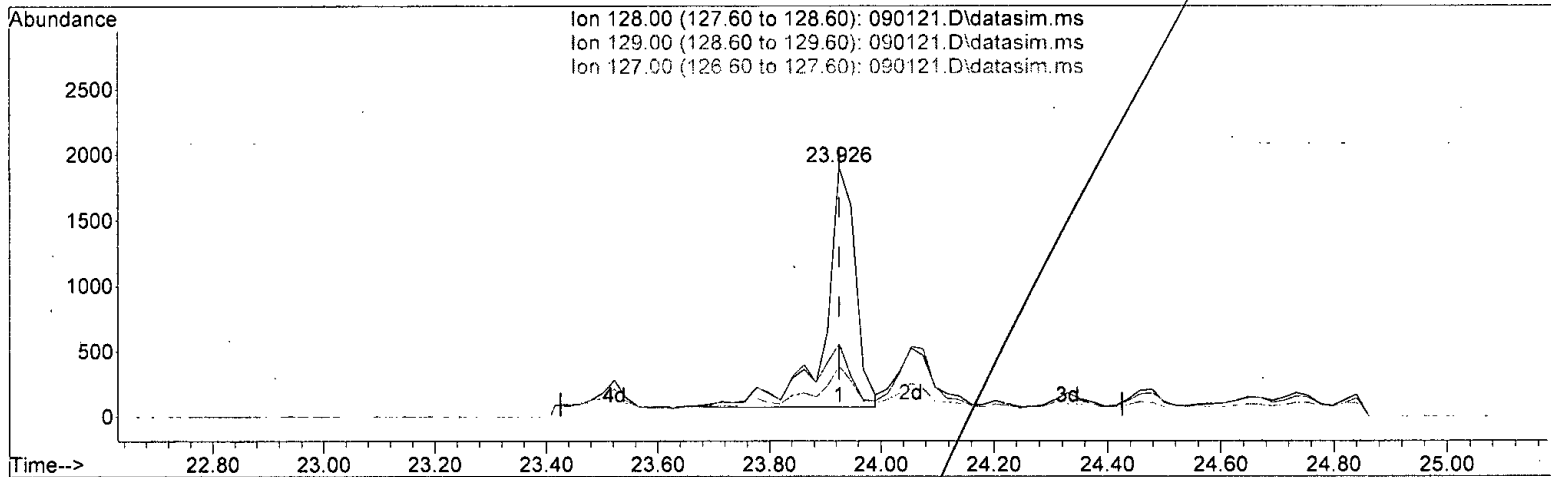
Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	62.35
175.90	70.90	59.15
0.00	0.00	0.00

*Handwritten signature and date: bat 09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:30 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090121.D\data.ms

(77) Naphthalene (TMP)

23.926min (-0.000) 0.052 ppbv

response 7031

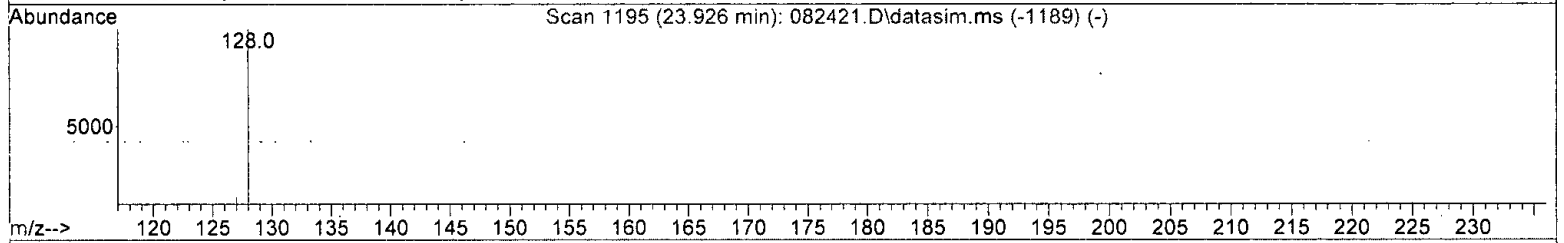
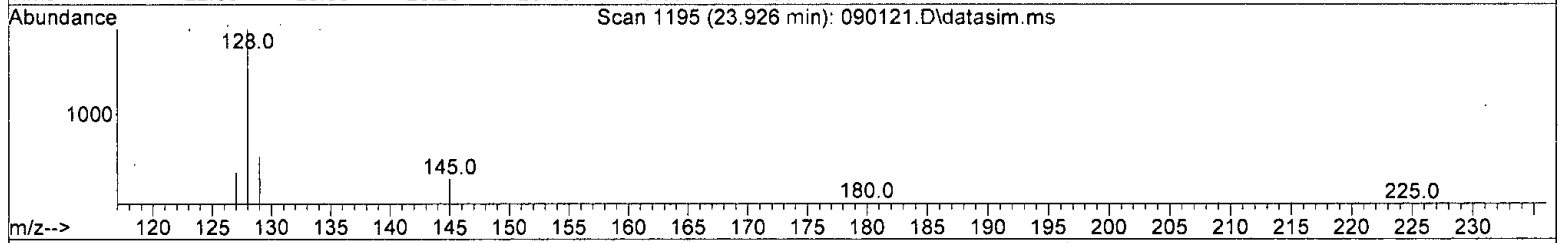
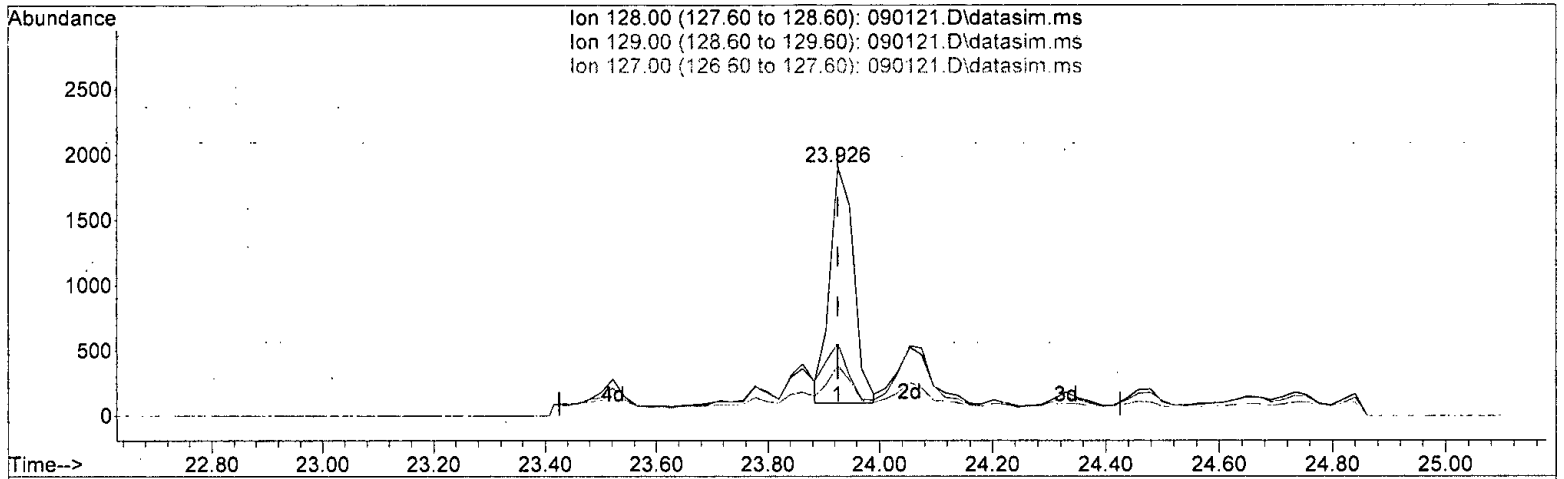
Ion	Exp%	Act%
128.00	100.00	100.00
129.00	11.00	26.86
127.00	13.20	17.19
0.00	0.00	0.00

*Handwritten signature:* B / 09/2/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:30 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(77) Naphthalene (TMP)

23.926min (-0.000) 0.036 ppbv m

response 5362

Ion	Exp%	Act%
128.00	100.00	100.00
129.00	11.00	29.22
127.00	13.20	20.23
0.00	0.00	0.00

*Handwritten signature*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:23:23 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

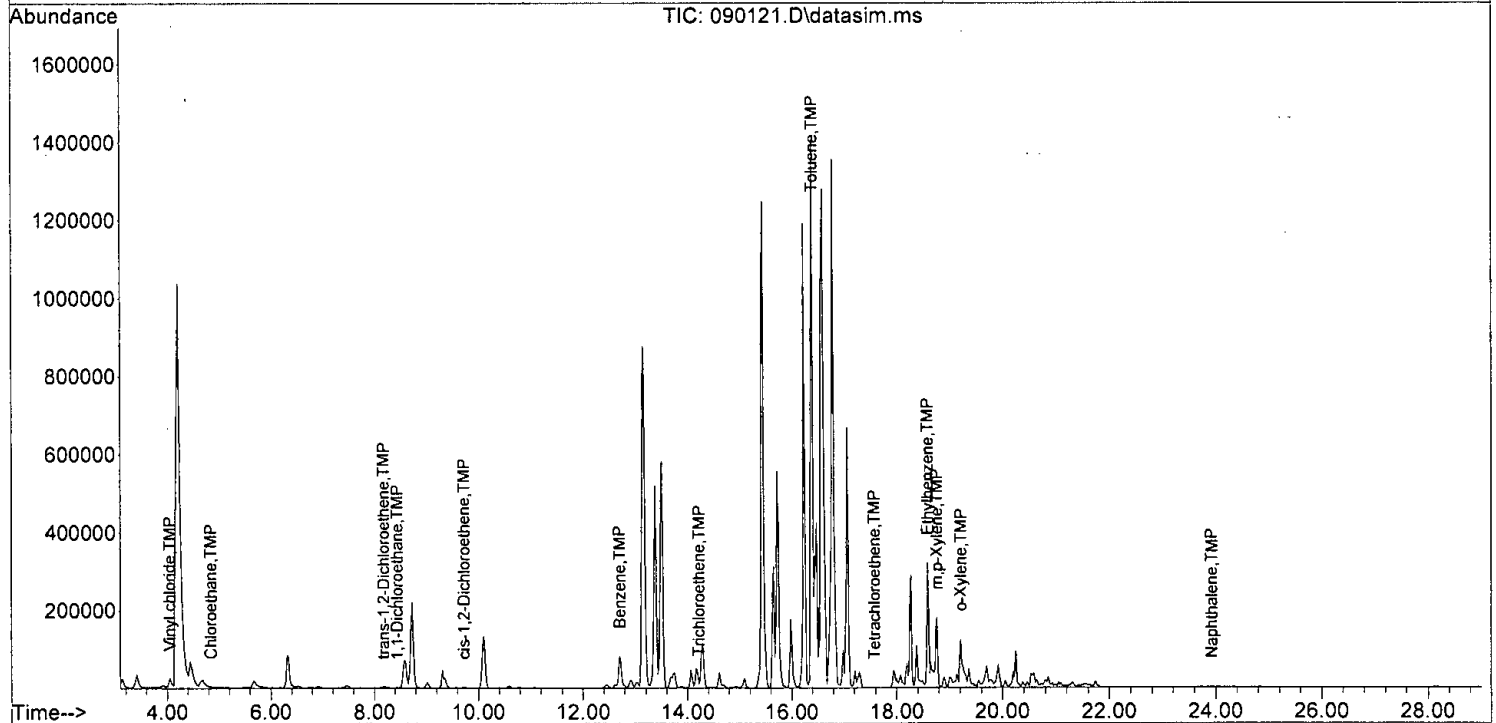
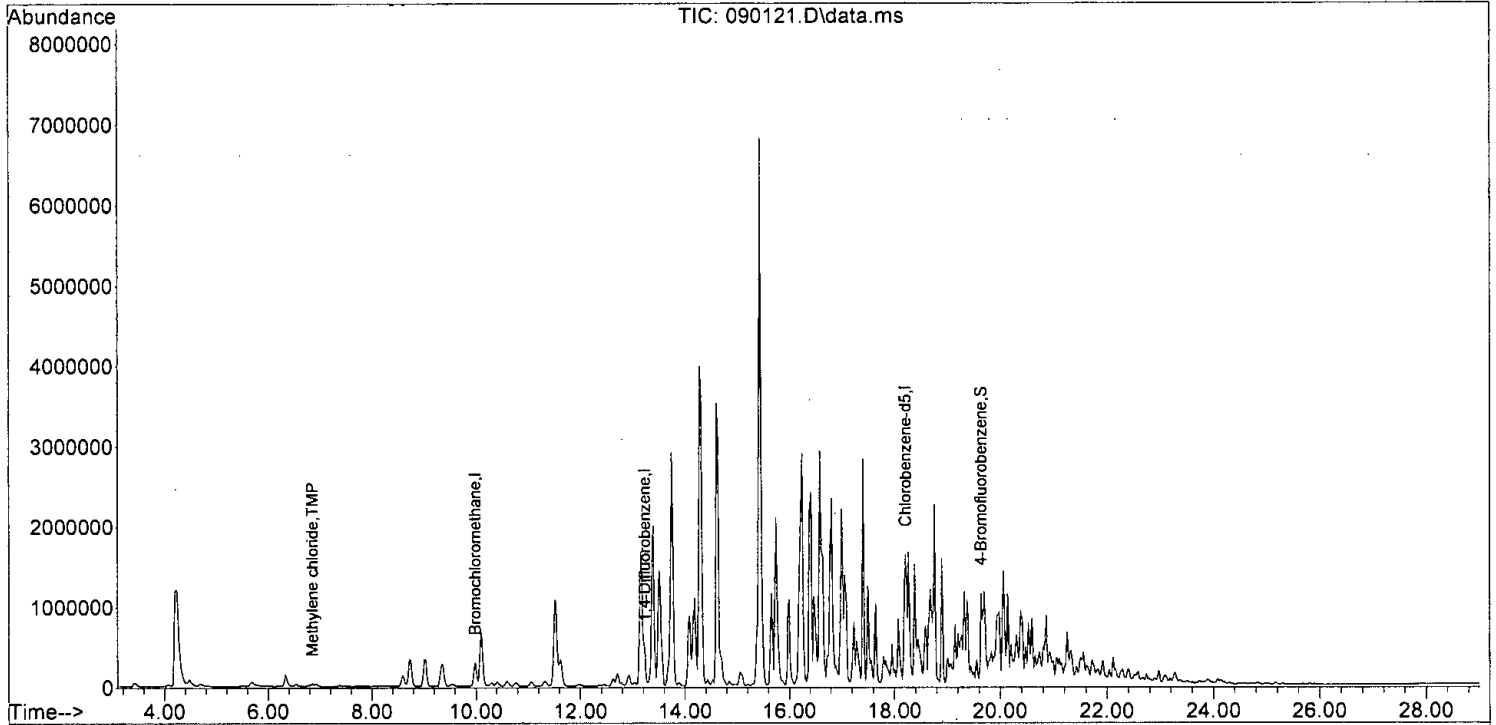
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	105198	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	511313	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	454305	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	428195m	10.404	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	104.00%
Target Compounds						
						Qvalue
6] Vinyl chloride	4.05	62	38842	1.672	ppbv	96
10] Chloroethane	4.84	64	1345	0.168	ppbv	100
19] trans-1,2-Dichloroethene	8.18	96	1853	0.108	ppbv	95
20] Methylene chloride	6.86	84	24659	1.339	ppbv #	77
27] 1,1-Dichloroethane	8.44	63	1407	0.035	ppbv	96
28] cis-1,2-Dichloroethene	9.73	96	3249	0.173	ppbv #	78
37] Benzene	12.70	78	228663	3.550	ppbv	95
46] Trichloroethene	14.22	95	1273m	0.040	ppbv	
50] Toluene	16.40	92	145042	3.786	ppbv	83
53] Tetrachloroethene	17.58	164	842	0.043	ppbv	84
58] Ethylbenzene	18.59	91	464397	4.602	ppbv	98
65] m,p-Xylene	18.76	106	65159	2.011	ppbv	87
66] o-Xylene	19.21	106	57906	1.818	ppbv	94
77] Naphthalene	23.93	128	5362m	0.036	ppbv	

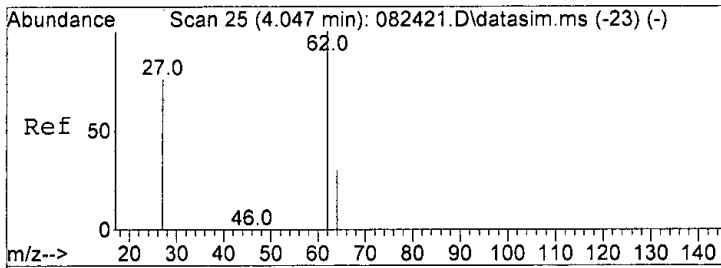
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

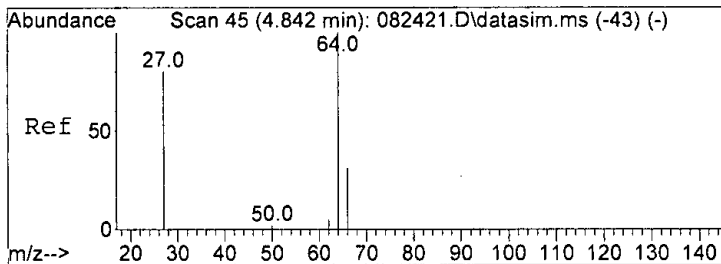
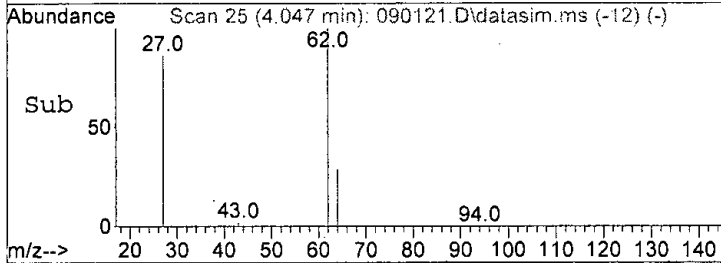
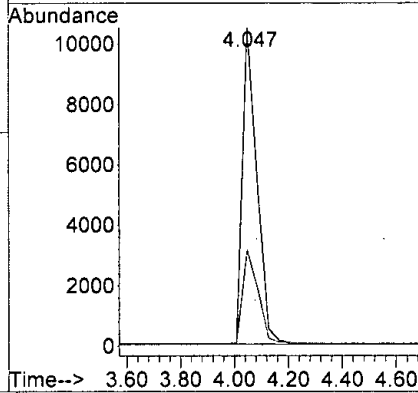
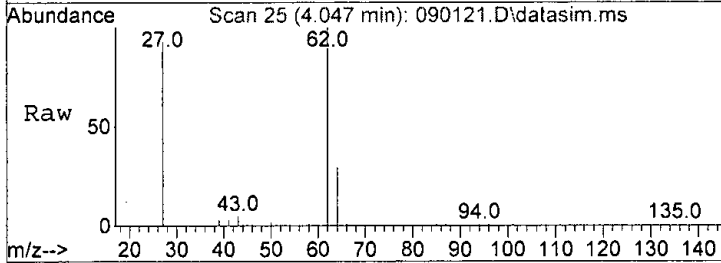
Quant Time: Sep 02 14:23:23 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





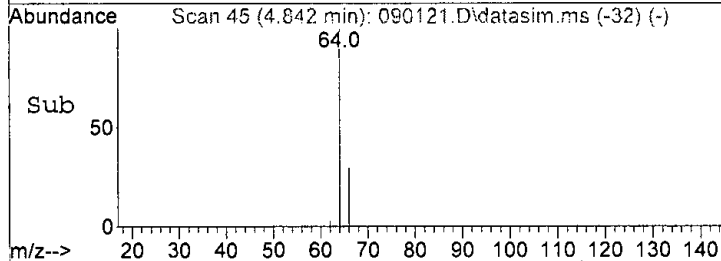
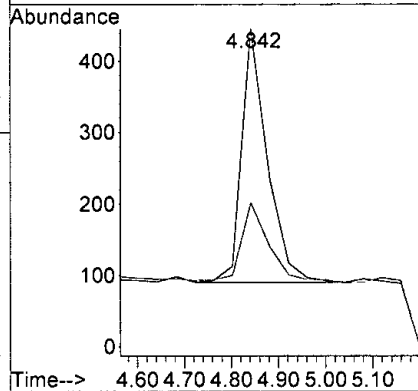
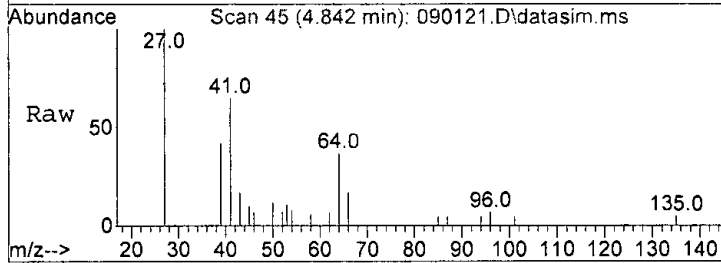
#6  
 Vinyl chloride  
 Concen: 1.672 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090121.D  
 Acq: 1 Sep 2021 10:54 pm

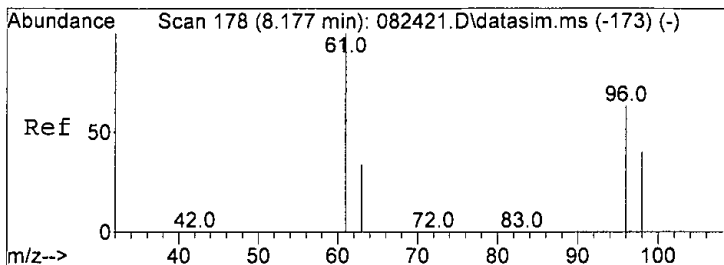
Tgt Ion: 62 Resp: 38842  
 Ion Ratio Lower Upper  
 62 100  
 64 29.4 1.5 61.5



#10  
 Chloroethane  
 Concen: 0.168 ppbv  
 RT: 4.84 min Scan# 45  
 Delta R.T. 0.000 min  
 Lab File: 090121.D  
 Acq: 1 Sep 2021 10:54 pm

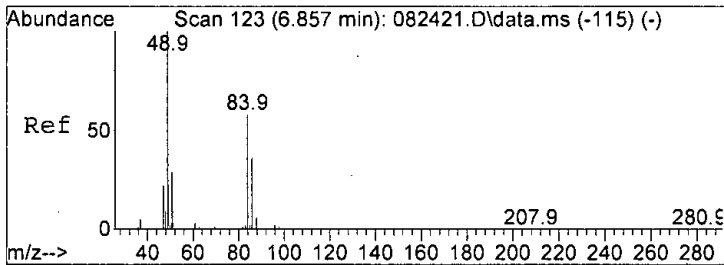
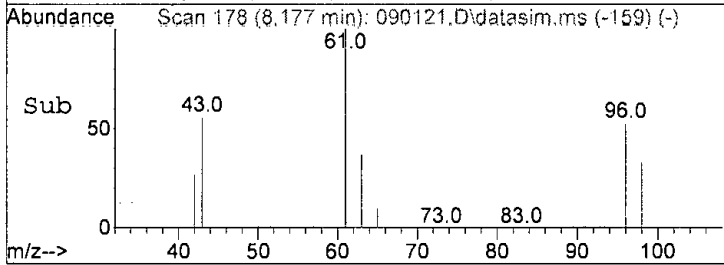
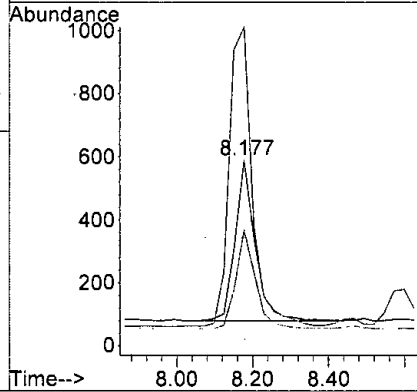
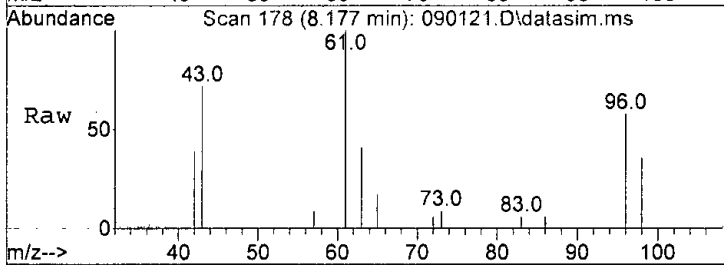
Tgt Ion: 64 Resp: 1345  
 Ion Ratio Lower Upper  
 64 100  
 66 31.7 1.8 61.8





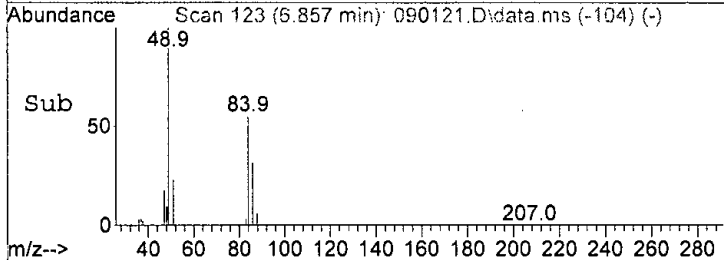
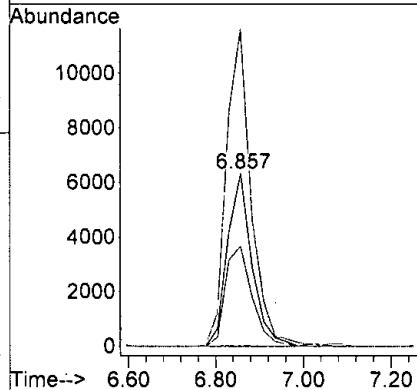
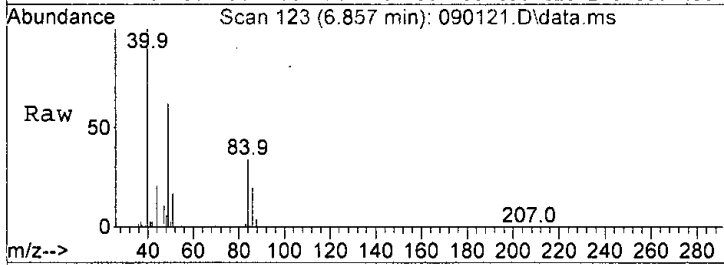
#19  
 trans-1,2-Dichloroethene  
 Concen: 0.108 ppbv  
 RT: 8.18 min Scan# 178  
 Delta R.T. 0.000 min  
 Lab File: 090121.D  
 Acq: 1 Sep 2021 10:54 pm

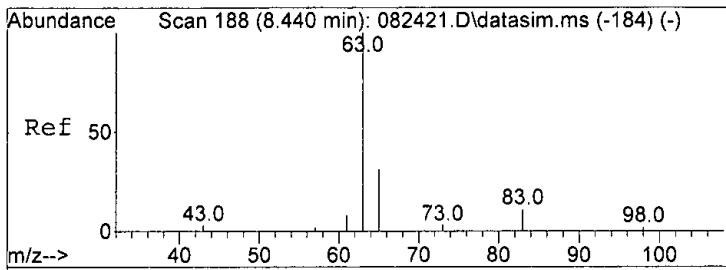
Tgt Ion	Resp	Lower	Upper
96	1853		
61	186.1	147.9	207.9
98	61.2	34.2	94.2



#20  
 Methylene chloride  
 Concen: 1.339 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090121.D  
 Acq: 1 Sep 2021 10:54 pm

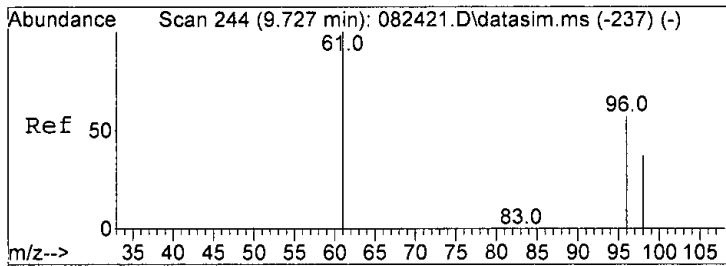
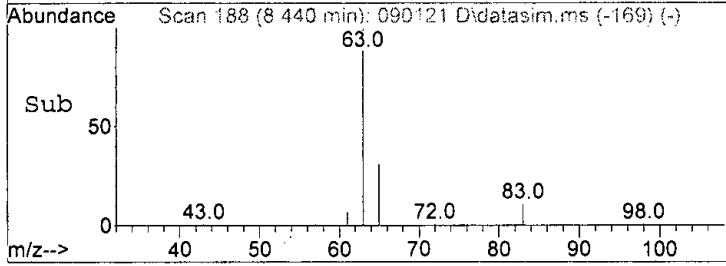
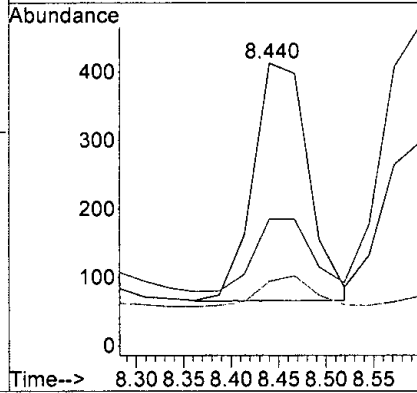
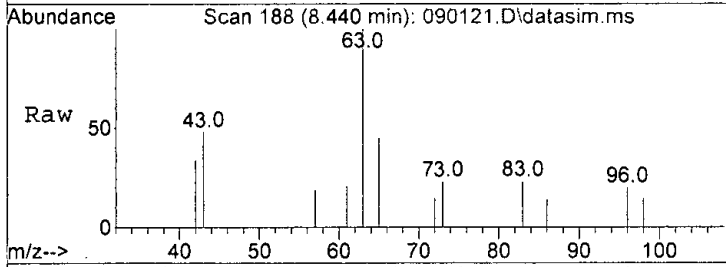
Tgt Ion	Resp	Lower	Upper
84	24659		
86	58.0	33.9	93.9
49	183.5	116.6	176.6#





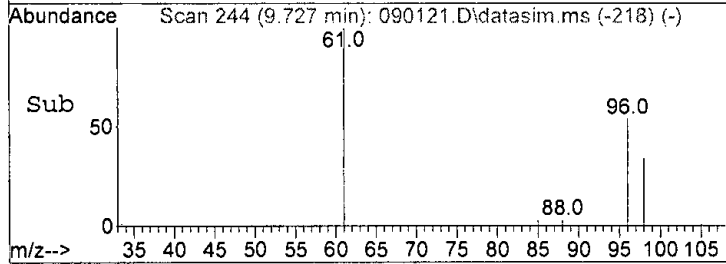
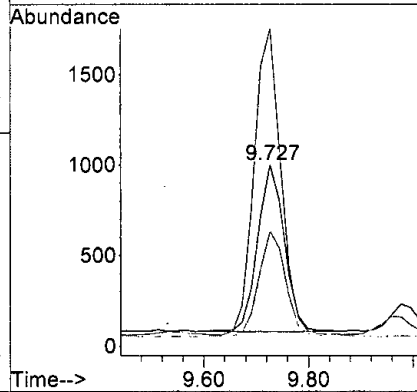
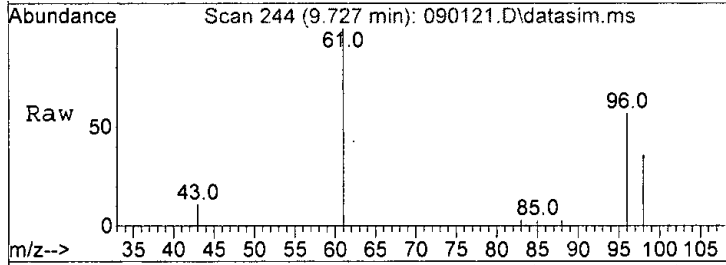
#27  
 1,1-Dichloroethane  
 Concen: 0.035 ppbv  
 RT: 8.44 min Scan# 188  
 Delta R.T. 0.000 min  
 Lab File: 090121.D  
 Acq: 1 Sep 2021 10:54 pm

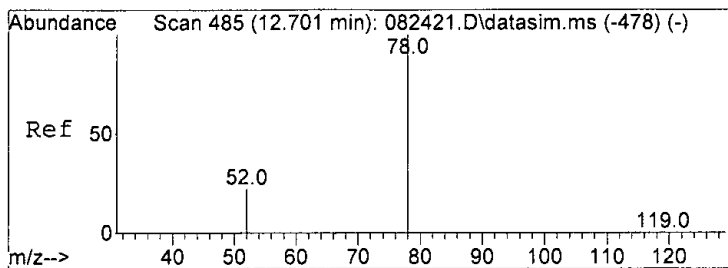
Tgt Ion	Resp	Lower	Upper
63	1407		
65	30.6	2.5	62.5
83	10.7	0.0	43.2



#28  
 cis-1,2-Dichloroethene  
 Concen: 0.173 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. 0.000 min  
 Lab File: 090121.D  
 Acq: 1 Sep 2021 10:54 pm

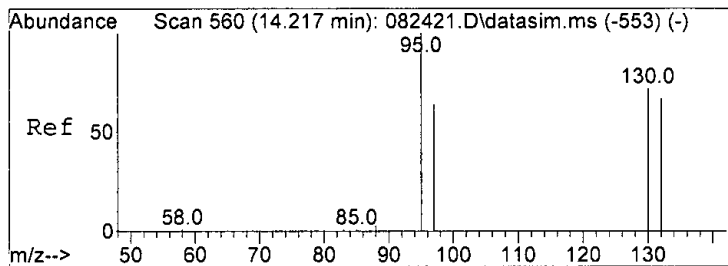
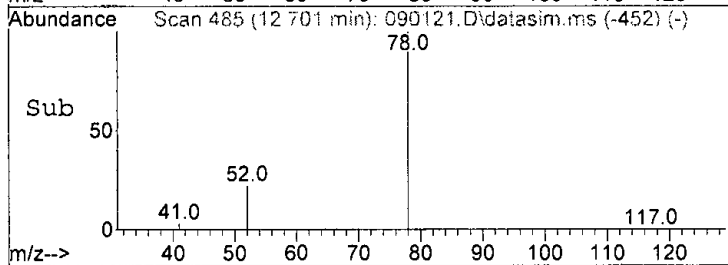
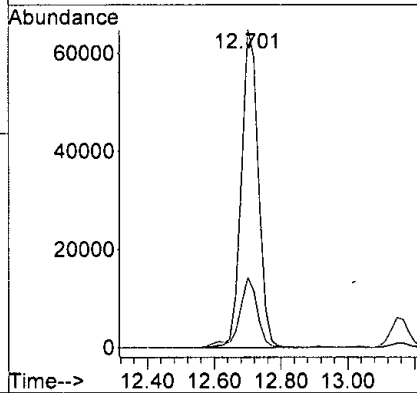
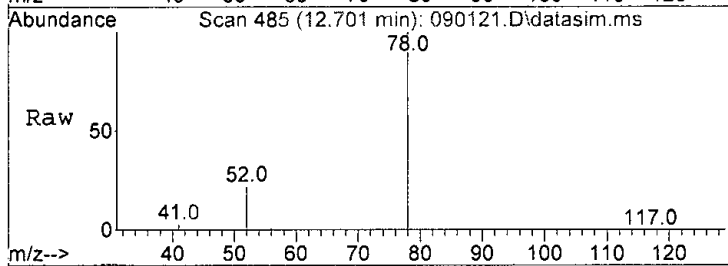
Tgt Ion	Resp	Lower	Upper
96	3249		
61	183.8	116.0	176.0#
98	63.1	35.2	95.2





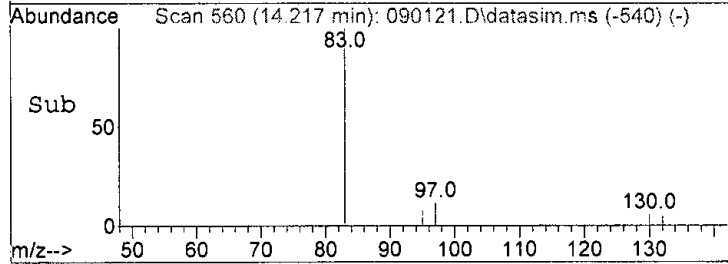
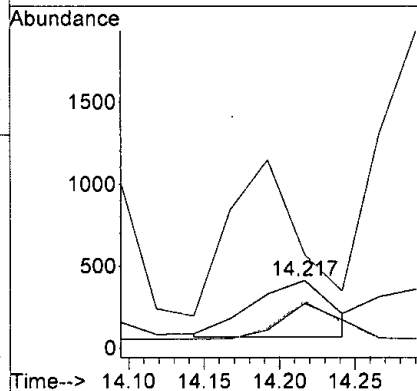
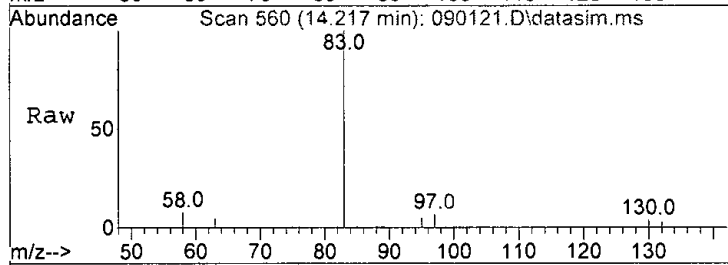
#37  
Benzene  
Concen: 3.550 ppbv  
RT: 12.70 min Scan# 485  
Delta R.T. -0.000 min  
Lab File: 090121.D  
Acq: 1 Sep 2021 10:54 pm

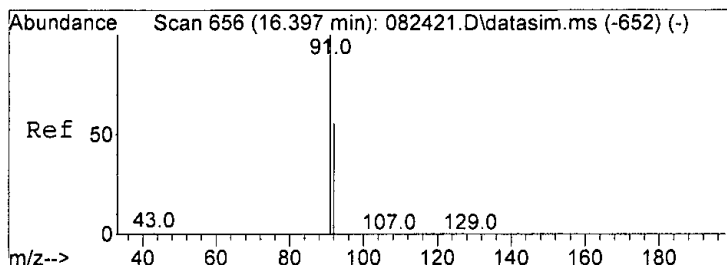
Tgt Ion: 78 Resp: 228663  
Ion Ratio Lower Upper  
78 100  
52 22.1 0.0 49.7



#46  
Trichloroethene  
Concen: 0.040 ppbv m  
RT: 14.22 min Scan# 560  
Delta R.T. -0.000 min  
Lab File: 090121.D  
Acq: 1 Sep 2021 10:54 pm

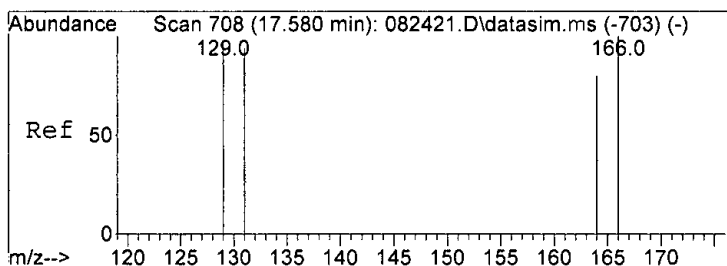
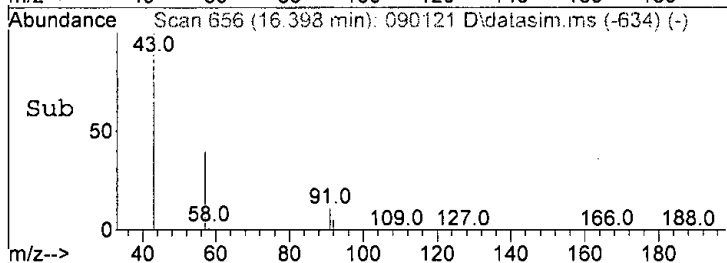
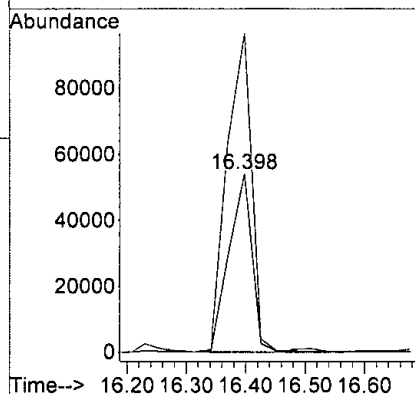
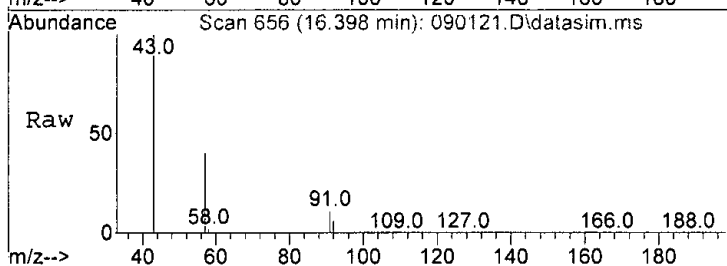
Tgt Ion: 95 Resp: 1273  
Ion Ratio Lower Upper  
95 100  
97 138.8 37.1 97.1#  
130 69.3 56.1 116.1  
132 66.3 54.3 114.3





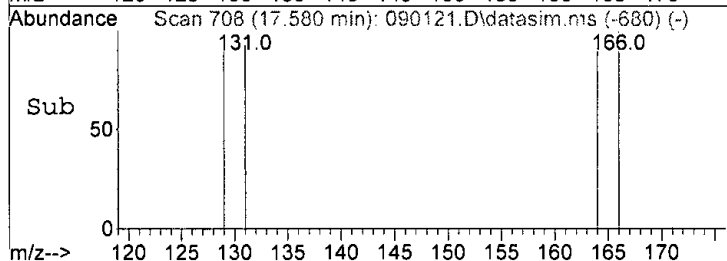
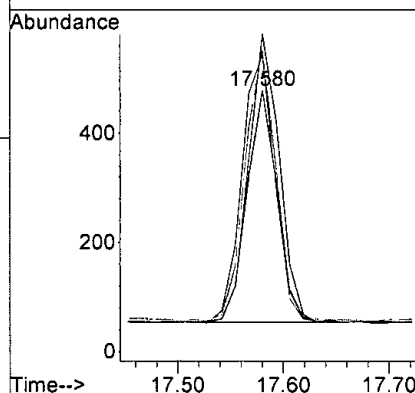
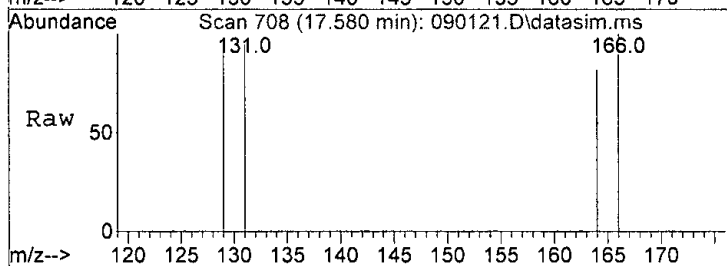
#50  
 Toluene  
 Concen: 3.786 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.001 min  
 Lab File: 090121.D  
 Acq: 1 Sep 2021 10:54 pm

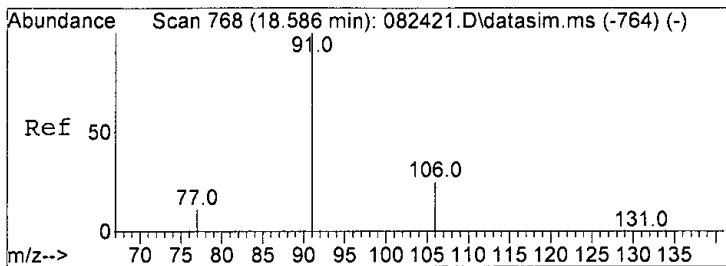
Tgt Ion: 92 Resp: 145042  
 Ion Ratio Lower Upper  
 92 100  
 91 178.3 174.6 234.6



#53  
 Tetrachloroethene  
 Concen: 0.043 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090121.D  
 Acq: 1 Sep 2021 10:54 pm

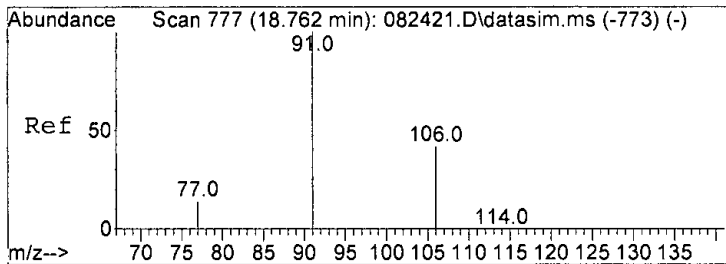
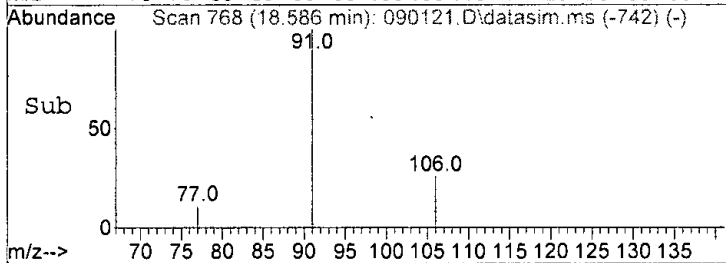
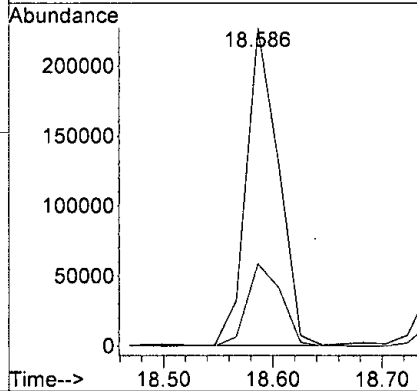
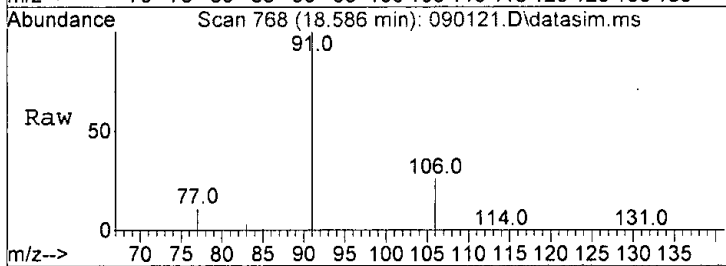
Tgt Ion: 164 Resp: 842  
 Ion Ratio Lower Upper  
 164 100  
 129 115.3 63.2 123.2  
 131 116.7 70.7 130.7  
 166 124.3 107.5 167.5





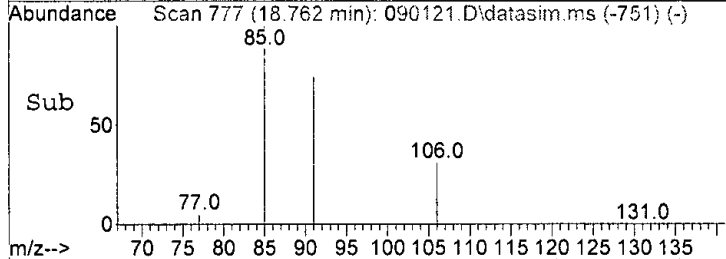
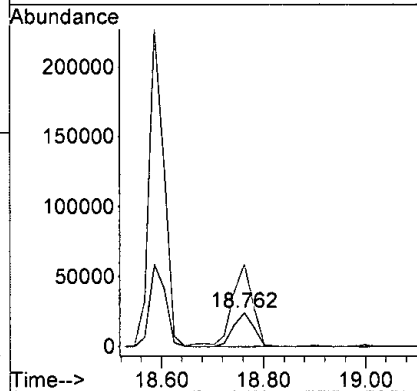
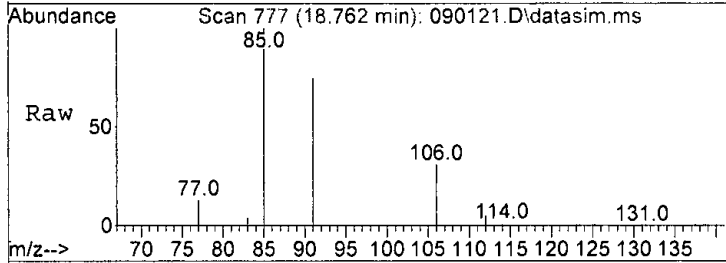
#58  
Ethylbenzene  
Concen: 4.602 ppbv  
RT: 18.59 min Scan# 768  
Delta R.T. 0.000 min  
Lab File: 090121.D  
Acq: 1 Sep 2021 10:54 pm

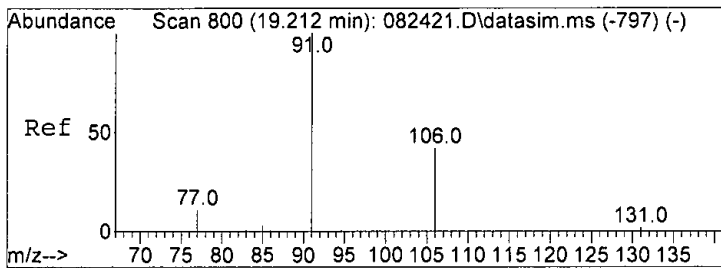
Tgt Ion: 91 Resp: 464397  
Ion Ratio Lower Upper  
91 100  
106 25.7 0.0 57.0



#65  
m,p-Xylene  
Concen: 2.011 ppbv  
RT: 18.76 min Scan# 777  
Delta R.T. 0.000 min  
Lab File: 090121.D  
Acq: 1 Sep 2021 10:54 pm

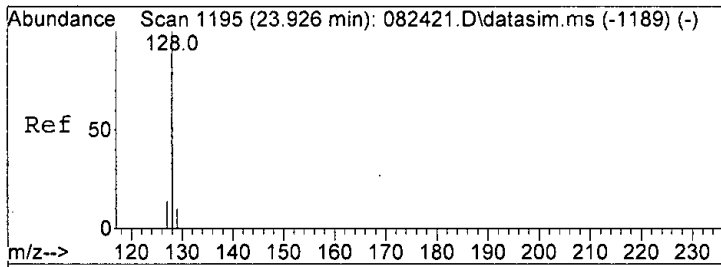
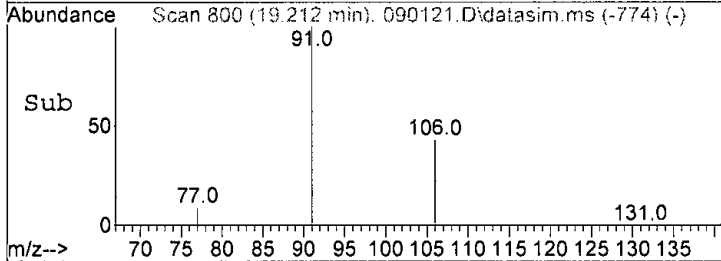
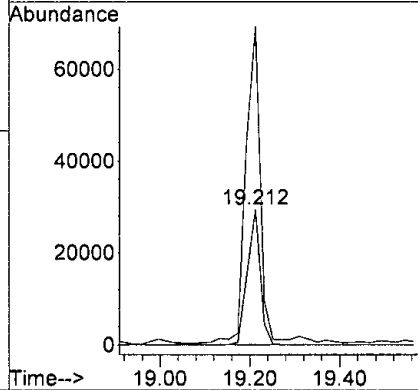
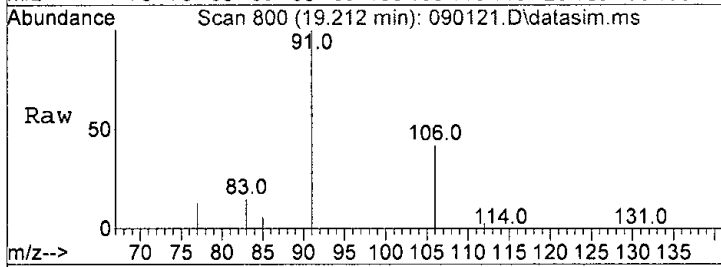
Tgt Ion: 106 Resp: 65159  
Ion Ratio Lower Upper  
106 100  
91 244.0 193.0 253.0





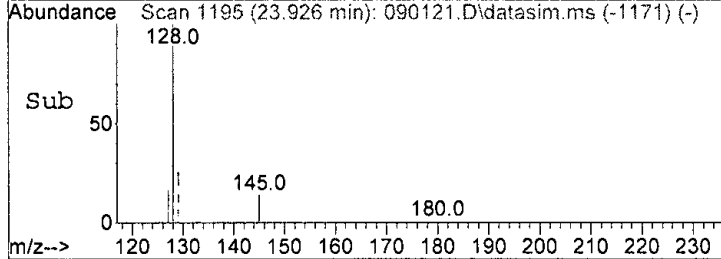
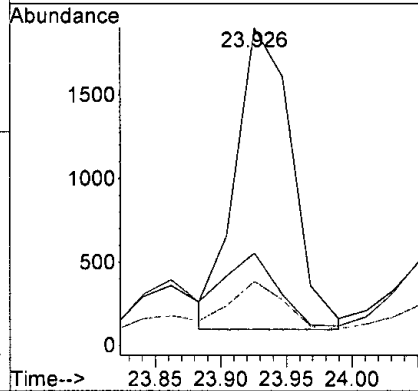
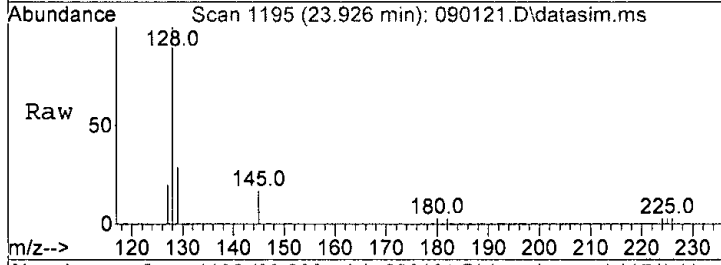
#66  
 o-Xylene  
 Concen: 1.818 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090121.D  
 Acq: 1 Sep 2021 10:54 pm

Tgt Ion:106 Resp: 57906  
 Ion Ratio Lower Upper  
 106 100  
 91 235.0 194.4 254.4



#77  
 Naphthalene  
 Concen: 0.036 ppbv m  
 RT: 23.93 min Scan# 1195  
 Delta R.T. -0.000 min  
 Lab File: 090121.D  
 Acq: 1 Sep 2021 10:54 pm

Tgt Ion:128 Resp: 5362  
 Ion Ratio Lower Upper  
 128 100  
 129 29.2 0.0 41.0  
 127 20.2 0.0 43.2





Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:23:23 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.99	128	105198	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	511313	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	454305	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	428195m	10.404	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	104.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.	d	
6] Vinyl chloride	4.05	62	38842	1.672	ppbv	96
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.	d	
10] Chloroethane	4.84	64	1345	0.168	ppbv	100
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.	d	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	6.73	96	104	N.D.	d	
19] trans-1,2-Dichloroethene	8.18	96	1853	0.108	ppbv	95
20) Methylene chloride	6.86	84	24659	1.339	ppbv #	77
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.44	63	1407	0.035	ppbv	96
28] cis-1,2-Dichloroethene	9.73	96	3249	0.173	ppbv #	78
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	0.00		0	N.D.	d	
35) 1,1,1-Trichloroethane	11.69	97	191	N.D.	d	
36) Carbon tetrachloride	0.00		0	N.D.	d	
37] Benzene	12.70	78	228663	3.550	ppbv	95
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.	d	
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

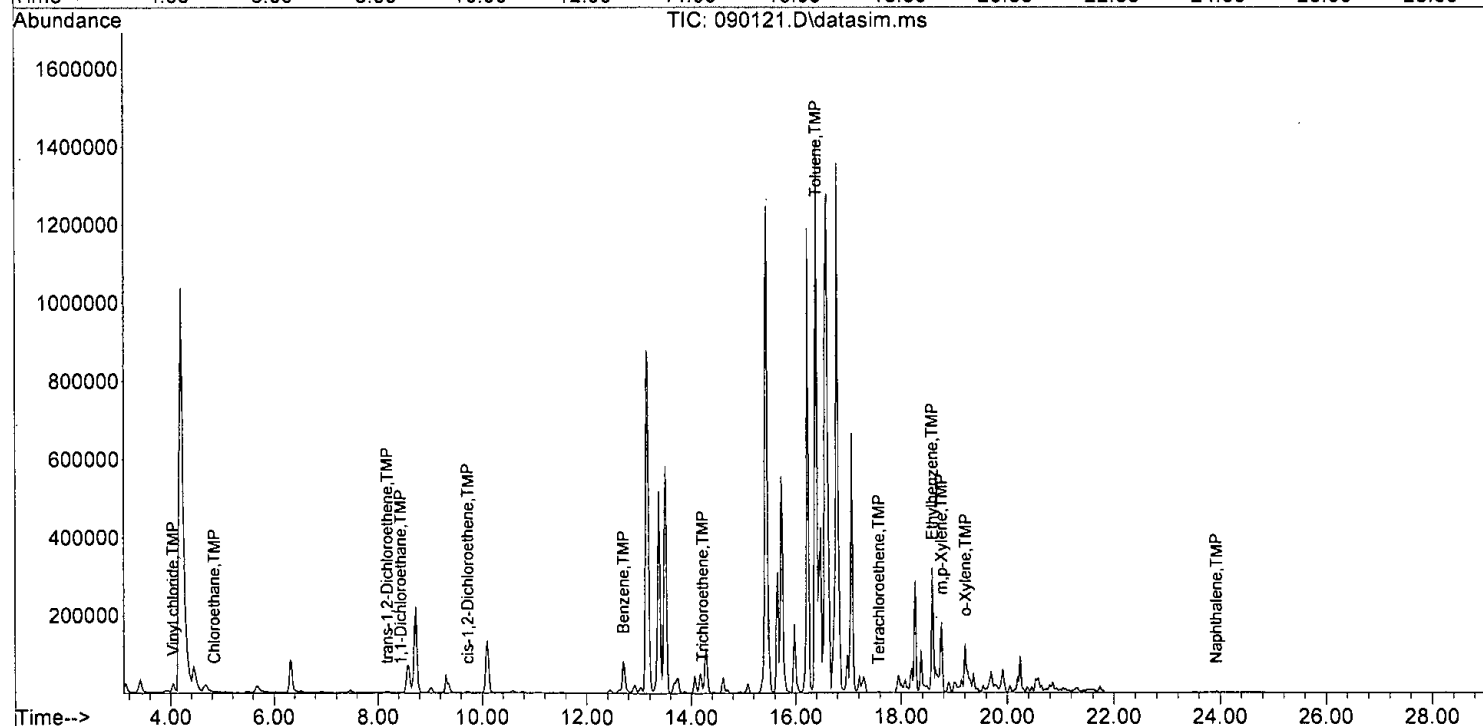
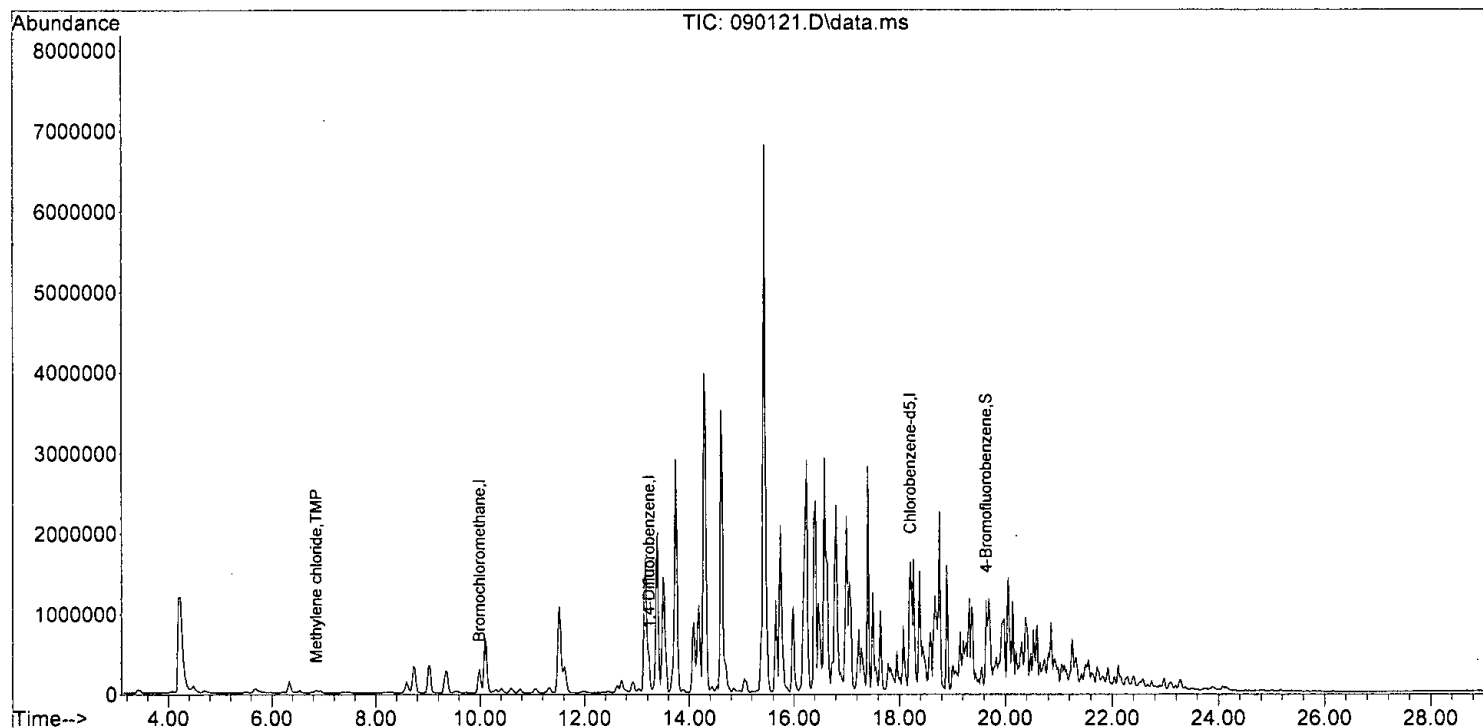
Quant Time: Sep 02 14:23:23 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	1273m	0.040	ppbv	
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	145042	3.786	ppbv	83
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	842	0.043	ppbv	84
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	464397	4.602	ppbv	98
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.76	106	65159	2.011	ppbv	87
66] o-Xylene	19.21	106	57906	1.818	ppbv	94
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77] Naphthalene	23.93	128	5362m	0.036	ppbv	
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

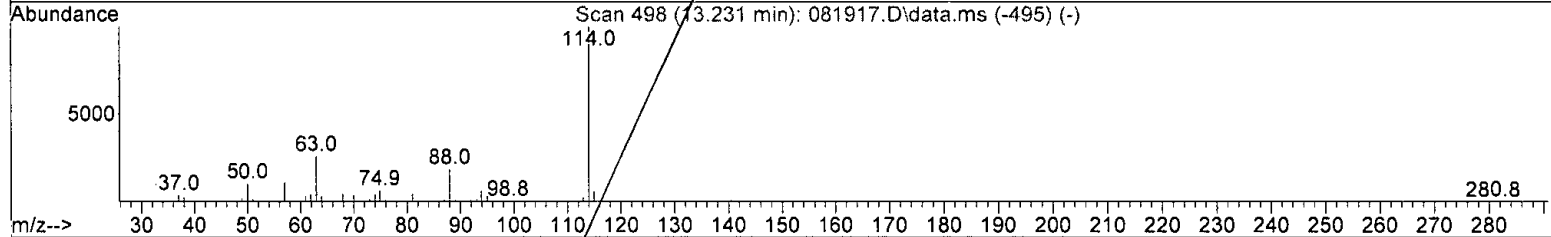
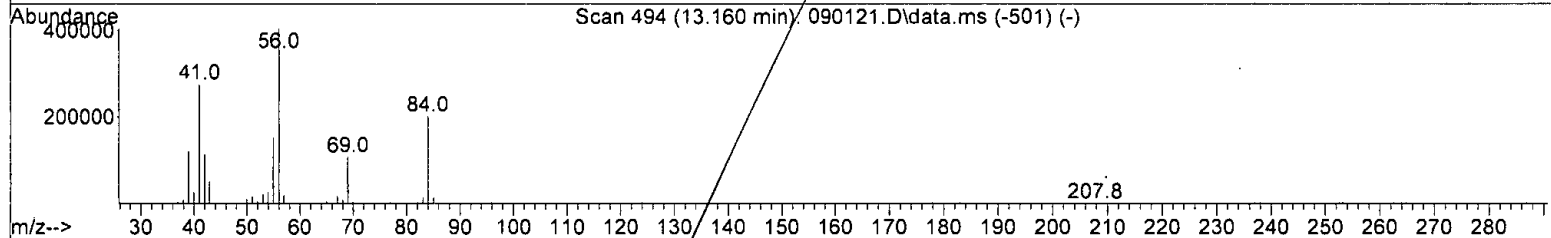
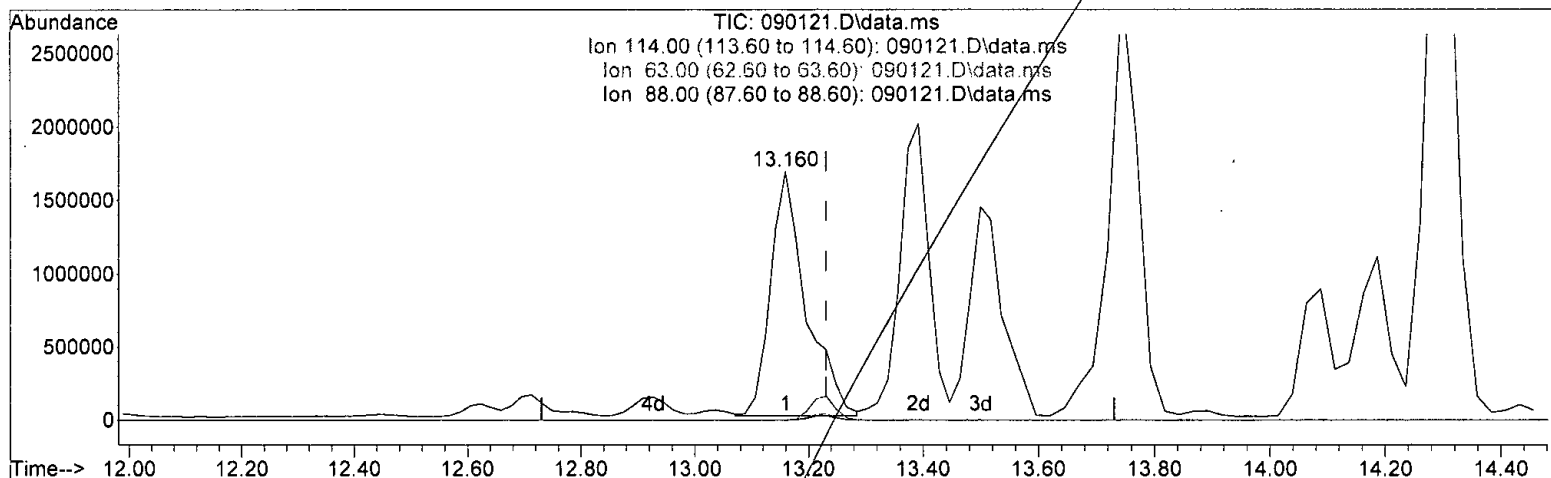
Quant Time: Sep 02 14:23:23 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



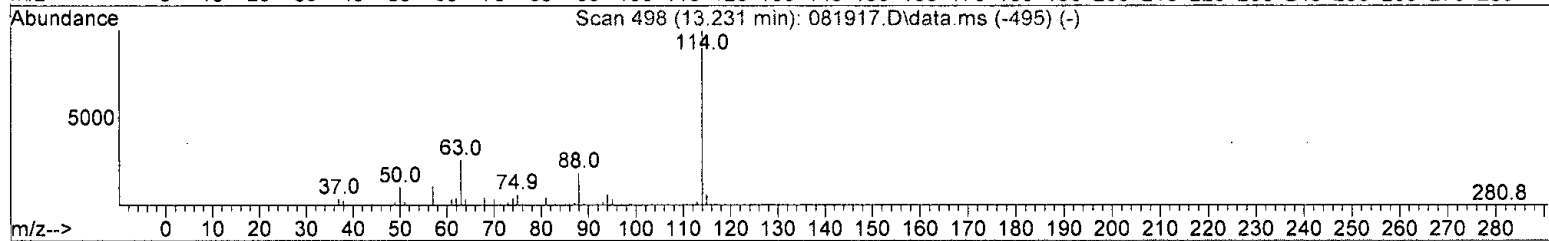
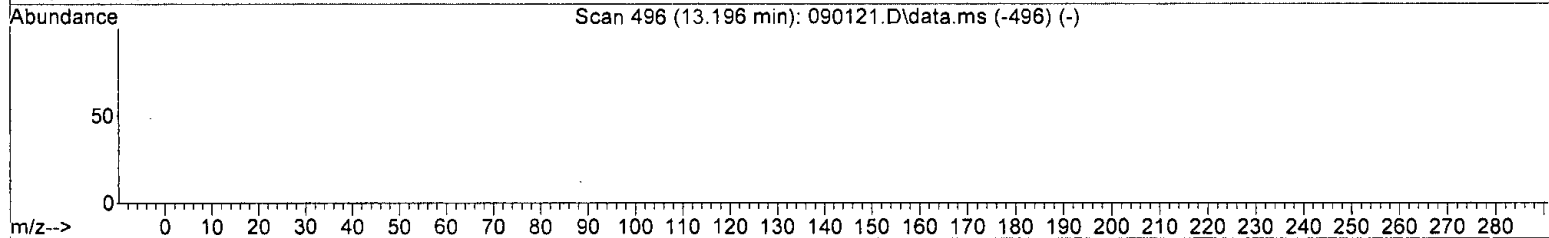
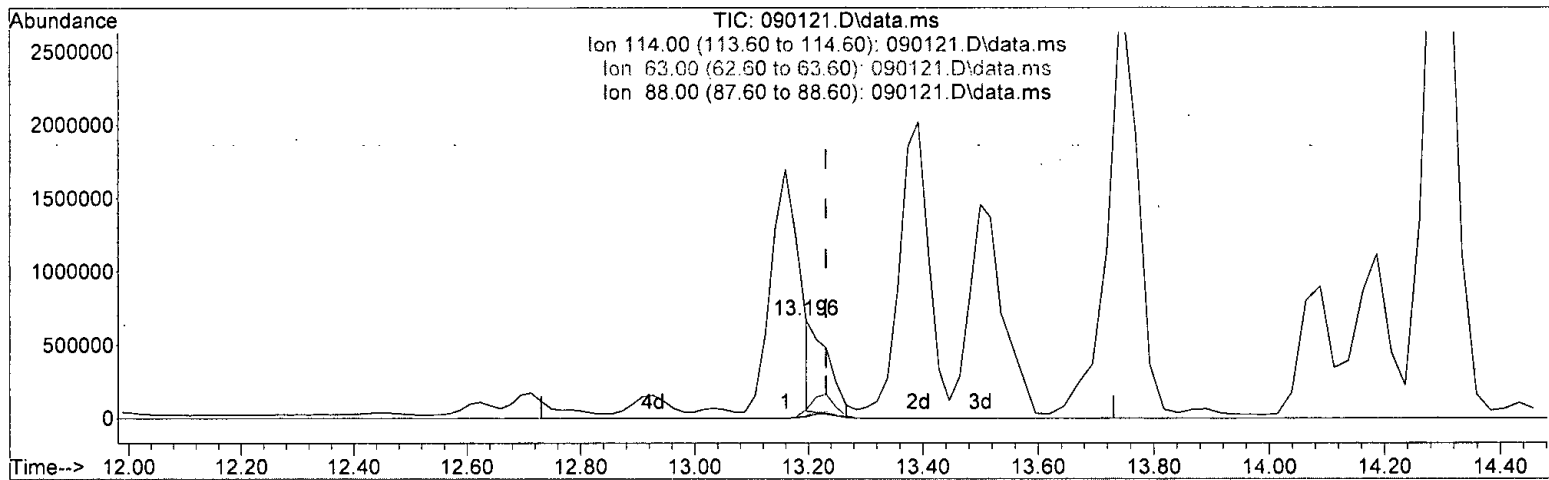
(3) IS-2 1,4-Difluorobenzene (T)  
 13.160min (-0.071) 273.083 ug/m3  
 response 7199442  
 Signal Exp% Act%  
 TIC 100.00 100.00  
 114.00 43.50 0.05#  
 63.00 8.40 0.16  
 88.00 7.60 0.02

*M/Orb/24*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.196min (-0.035) 50.133 ug/m3 m

response 1321675

Signal Exp% Act%

TIC 100.00 100.00

114.00 43.50 0.29#

63.00 8.40 0.86

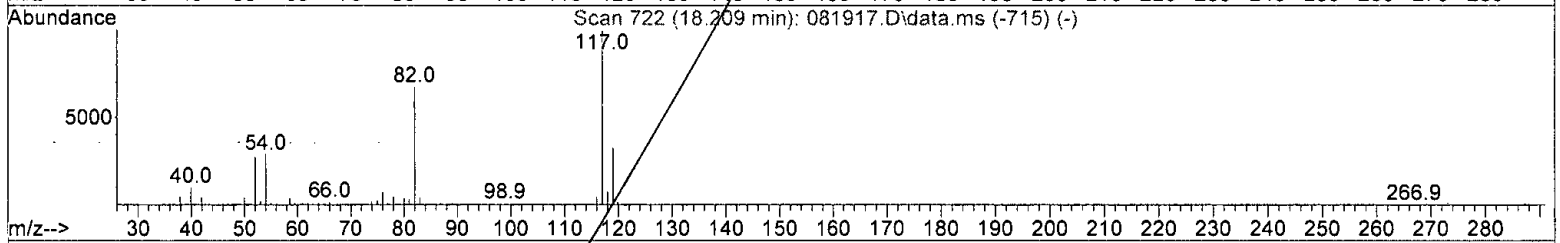
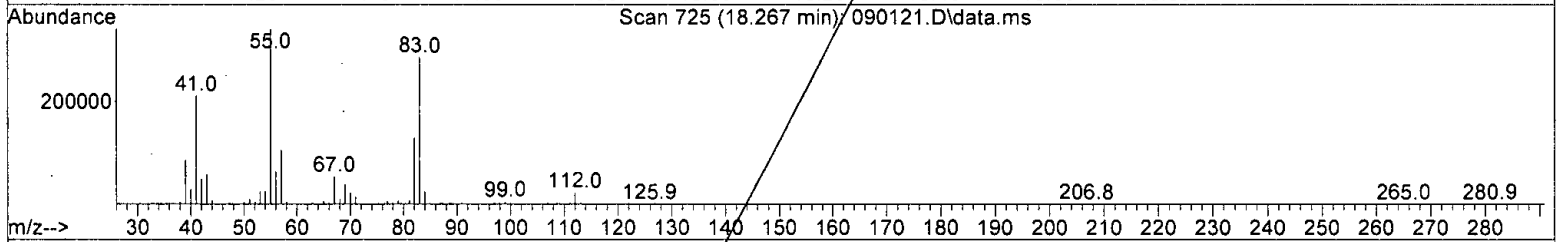
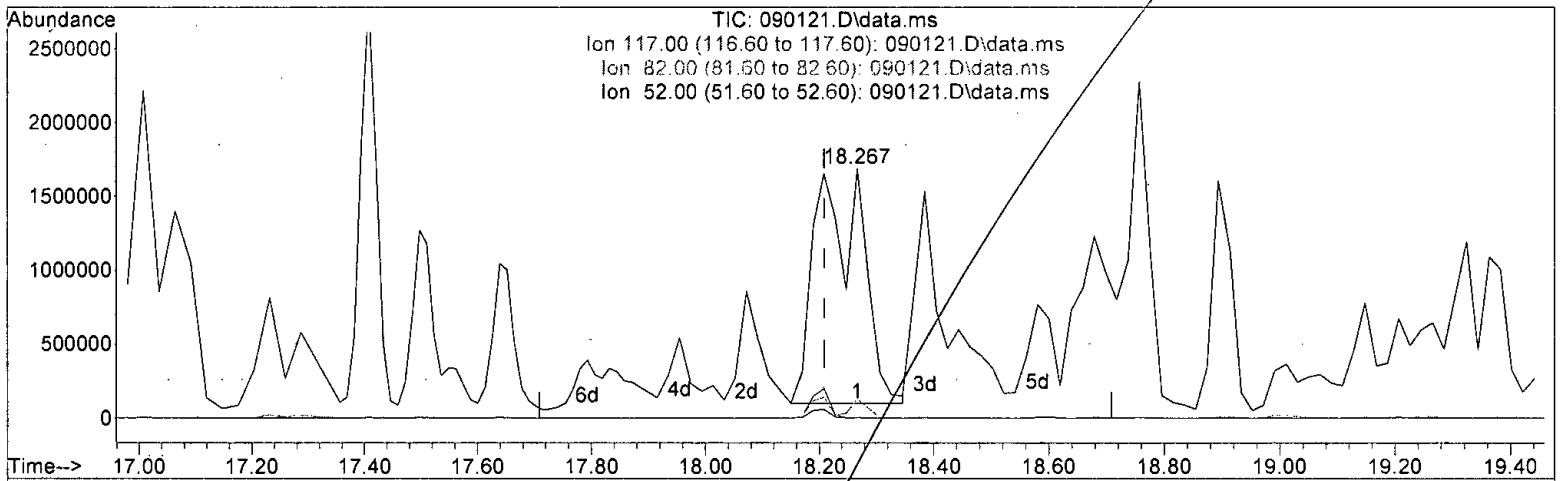
88.00 7.60 0.09

*Handwritten signature: B. B. B.*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)  
 18.267min (+ 0.058) 284.081 ug/m3  
 response 9084105

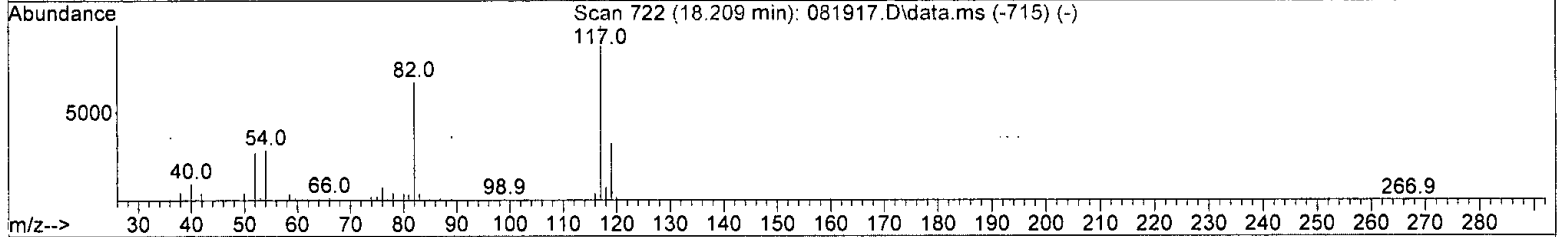
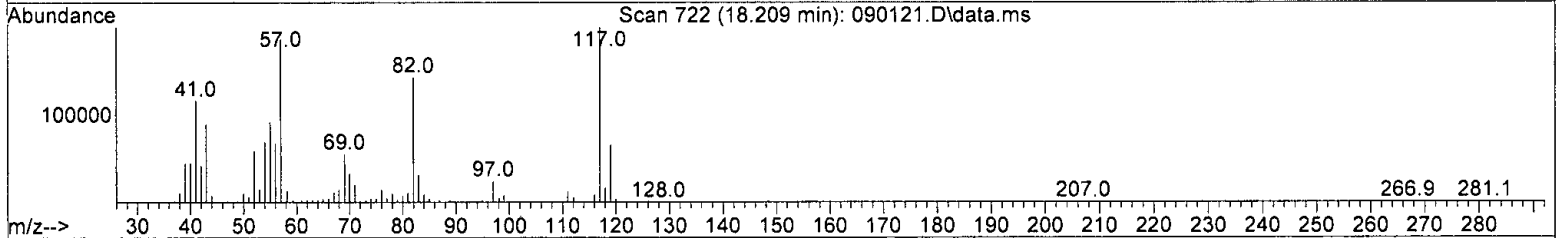
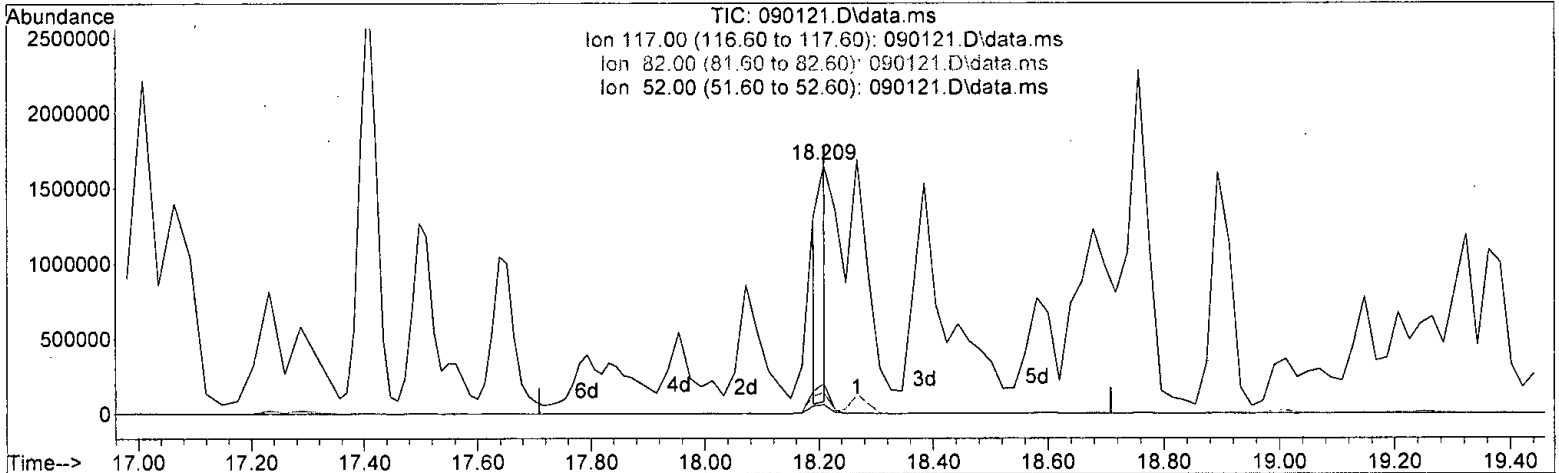
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	0.00#
82.00	18.10	2.58
52.00	6.90	0.00

*M. Kelly*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 58.085 ug/m3 m

response 1857394

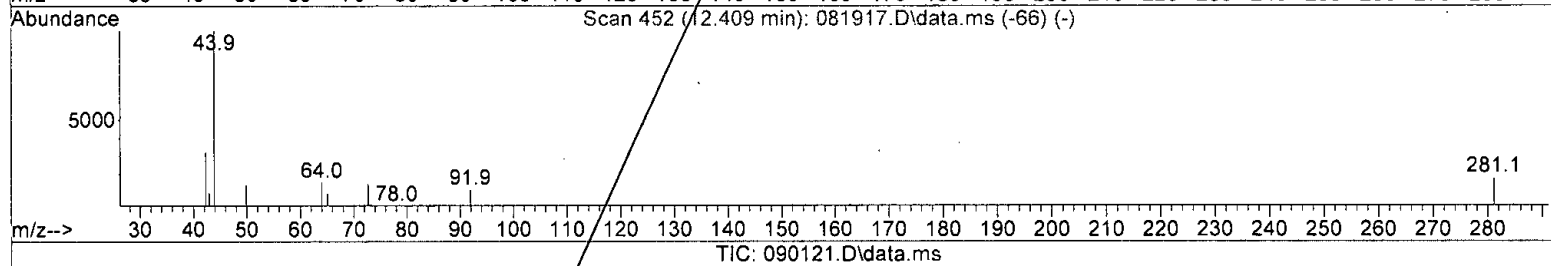
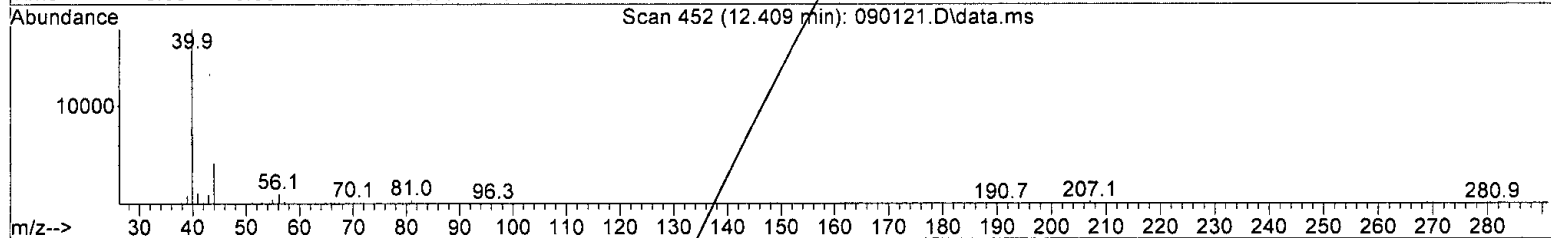
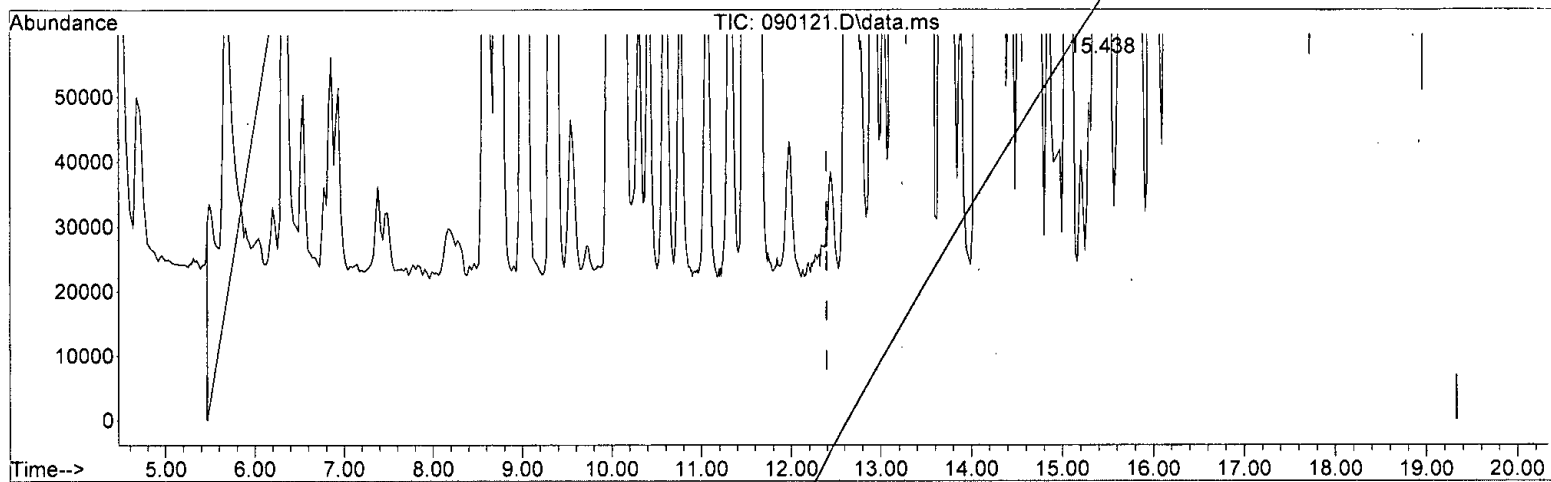
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	0.00#
82.00	18.10	12.62
52.00	6.90	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 5159.849 ug/m3 m

response 209335441

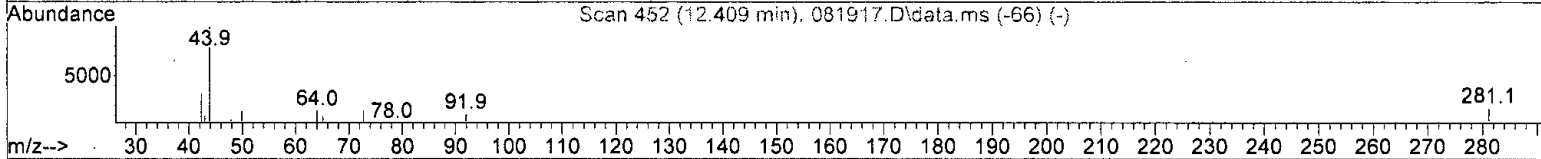
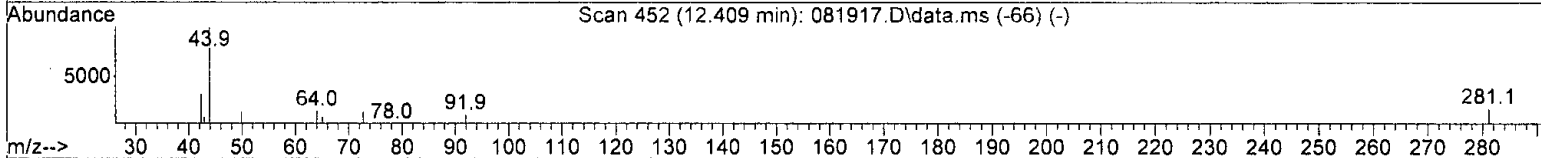
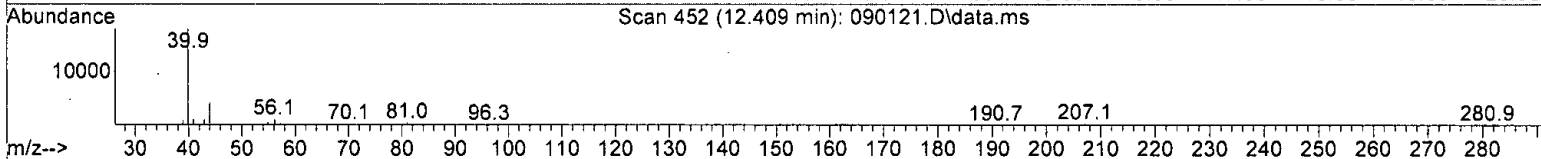
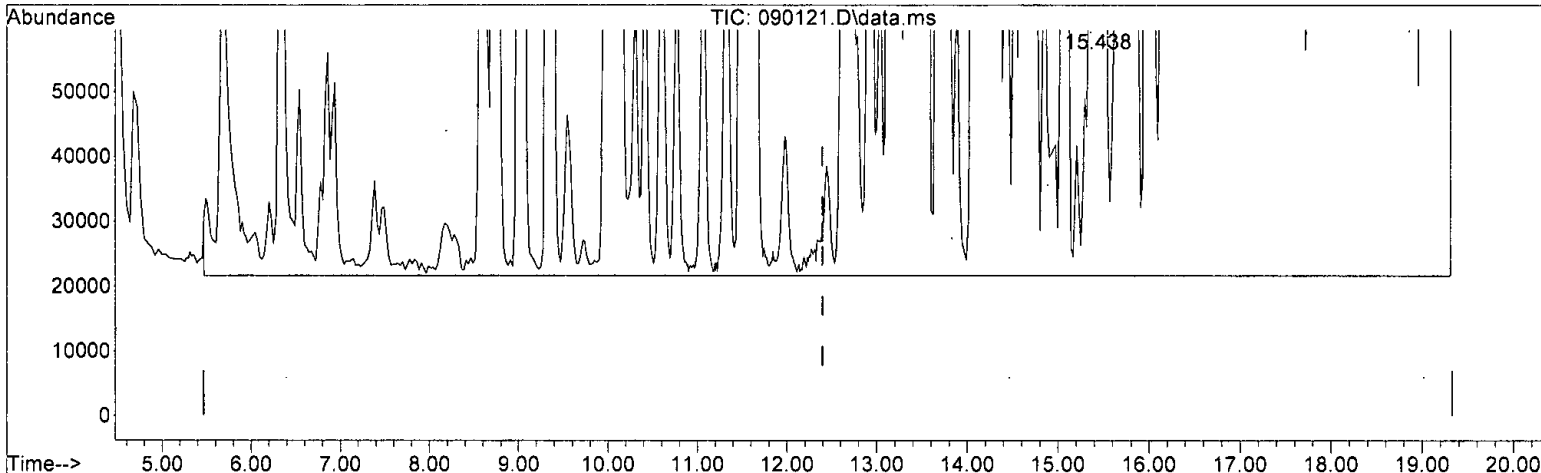
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* P. 09/2/21



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 5530.406 ug/m3 m

response 224368945

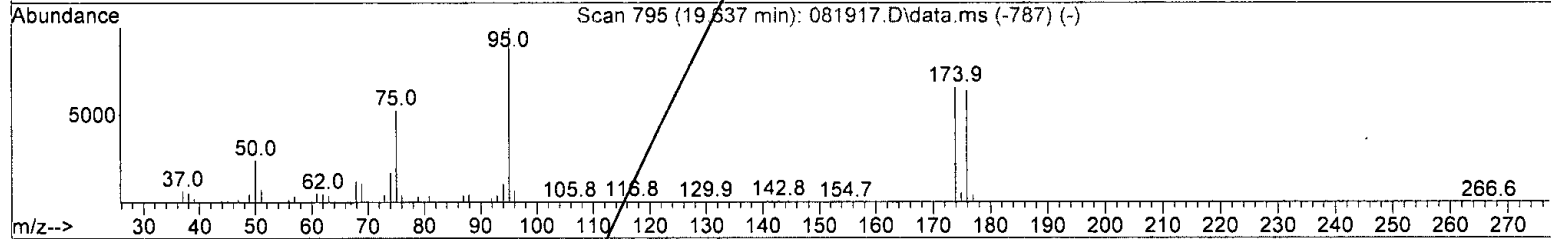
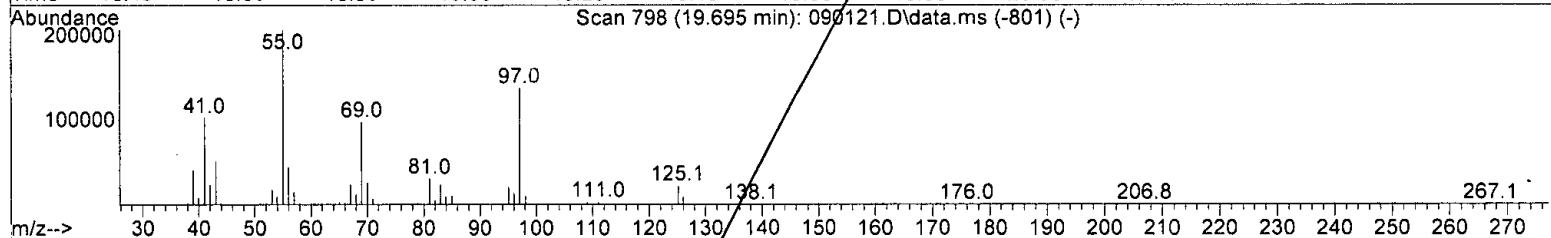
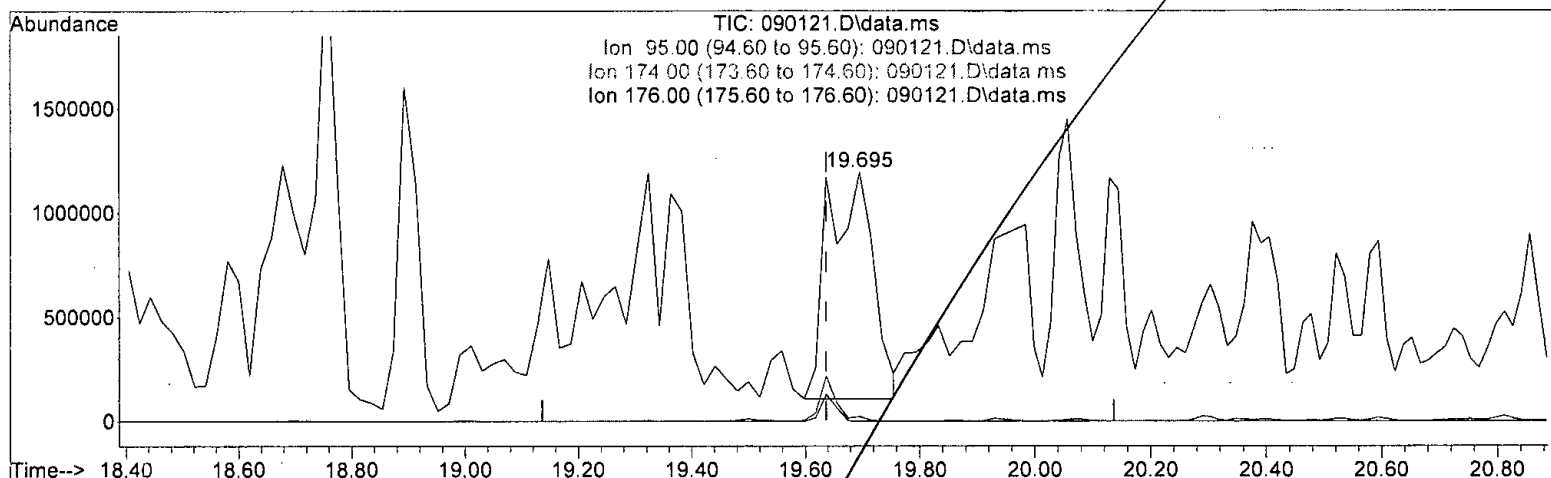
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

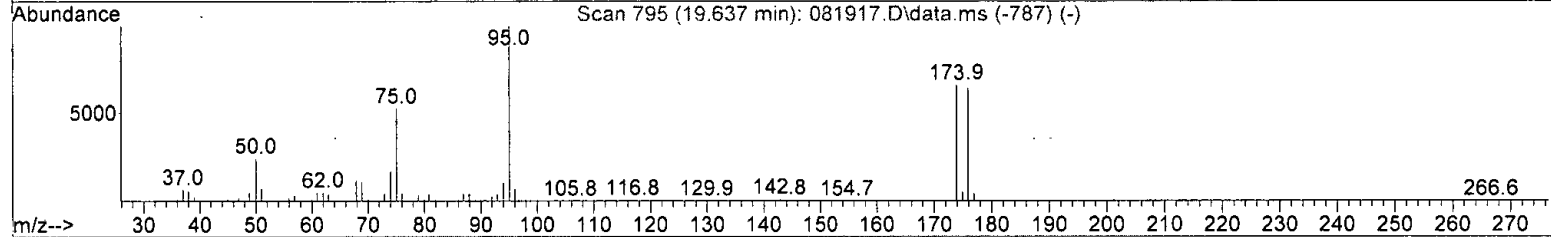
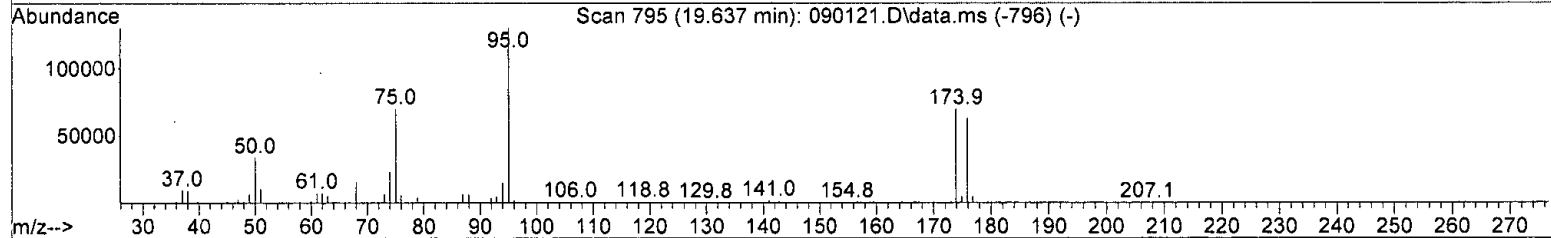
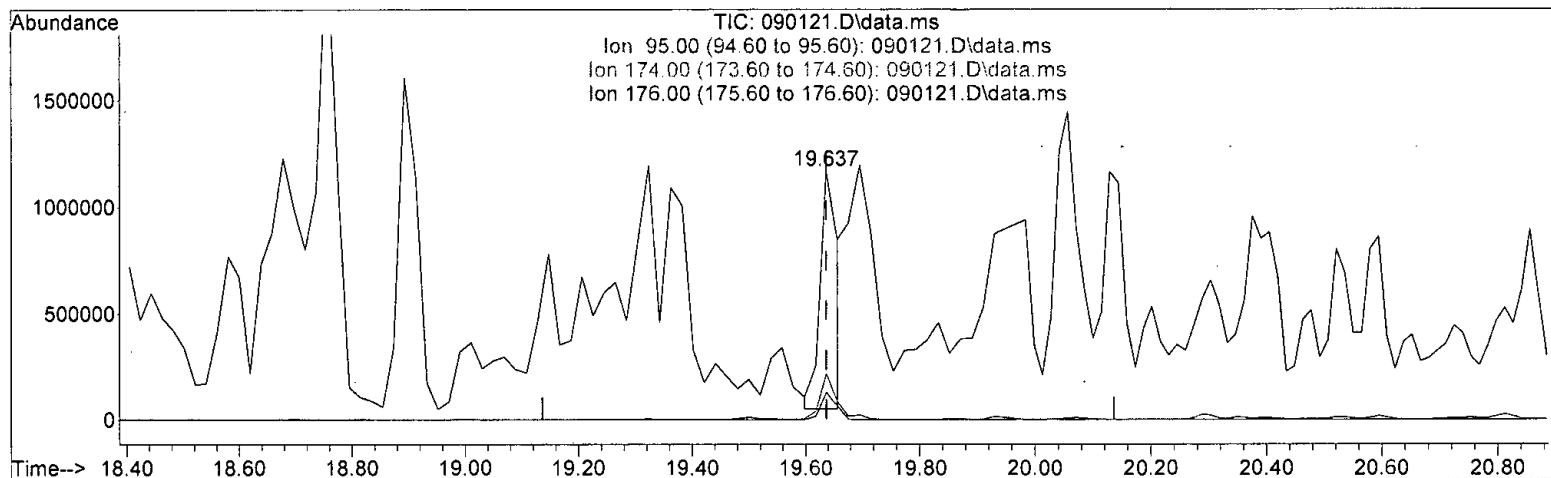
19.695min (+ 0.059) 153.870 ug/m3

response	5901307
Signal	Exp% Act%
TIC	100.00 100.00
95.00	20.00 1.87
174.00	19.20 0.01
176.00	18.70 0.02

*B*  
*05/2/21*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

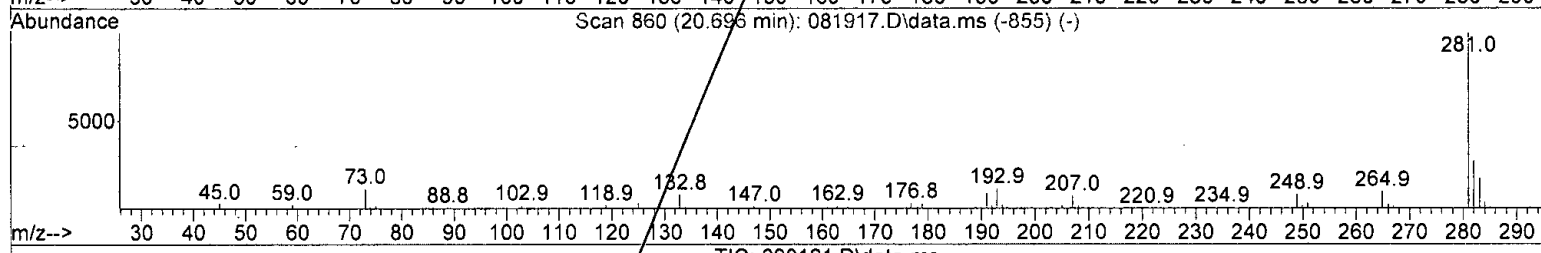
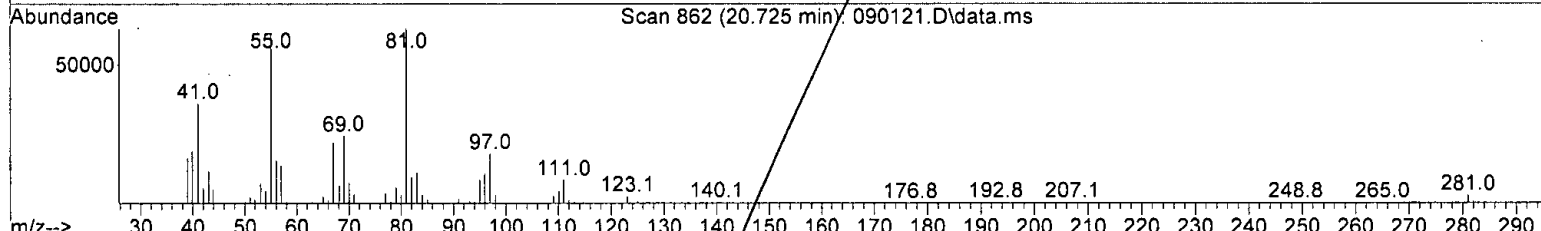
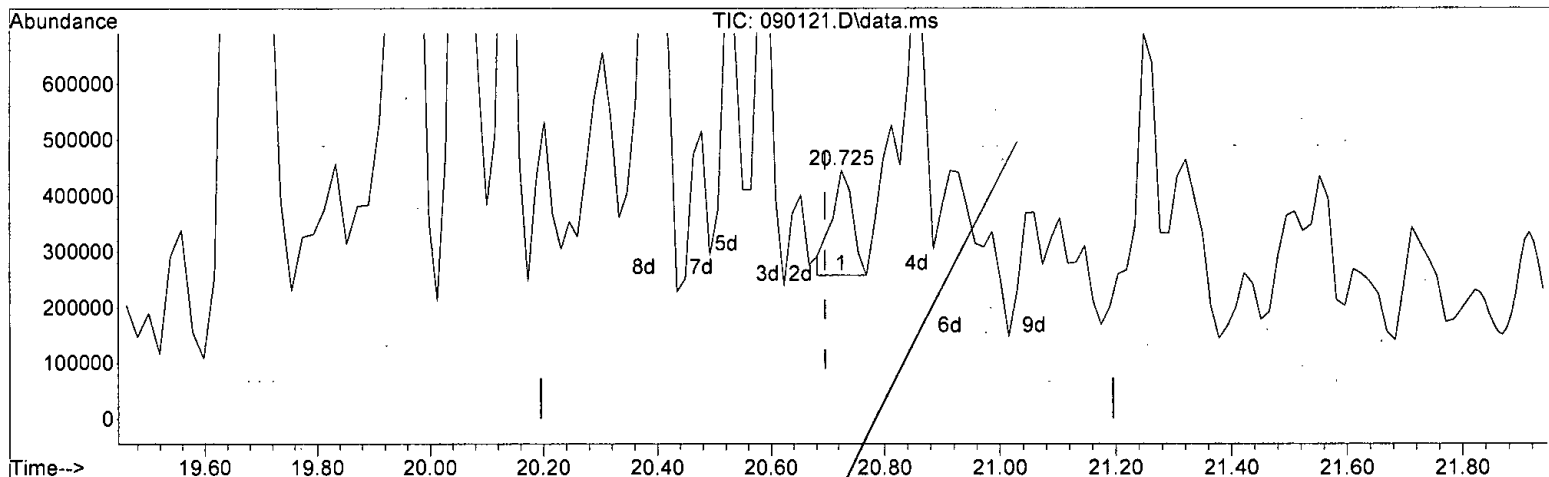
19.637min (-0.000) 64.842 ug/m3 m

response	2486852
Signal	Exp% Act%
TIC	100.00 100.00
95.00	20.00 4.45
174.00	19.20 0.03
176.00	18.70 0.04

*R*  
*09/02/21*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.725min (+ 0.029) 40.537 ppbv

response 477931

Signal Exp% Act%

TIC 100.00 100.00

0.00 0.00 0.00

0.00 0.00 0.00

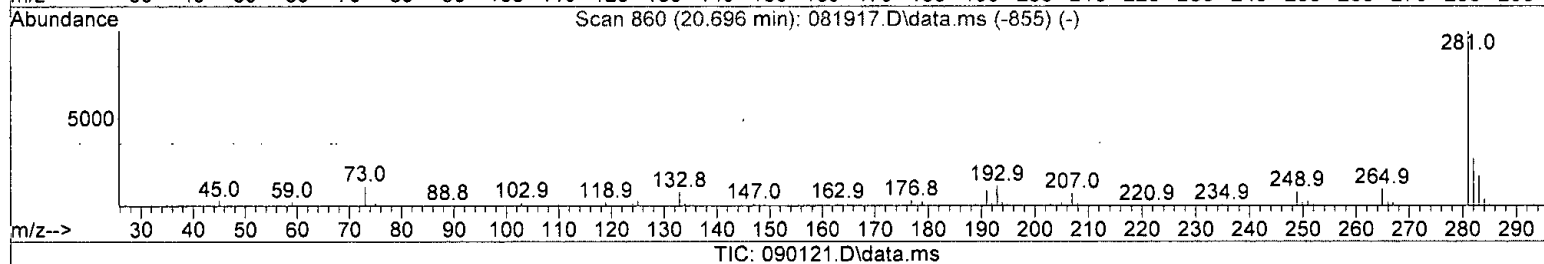
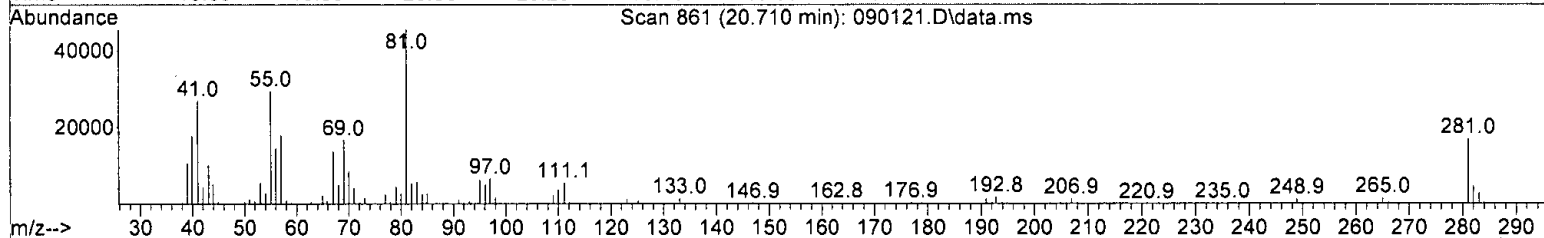
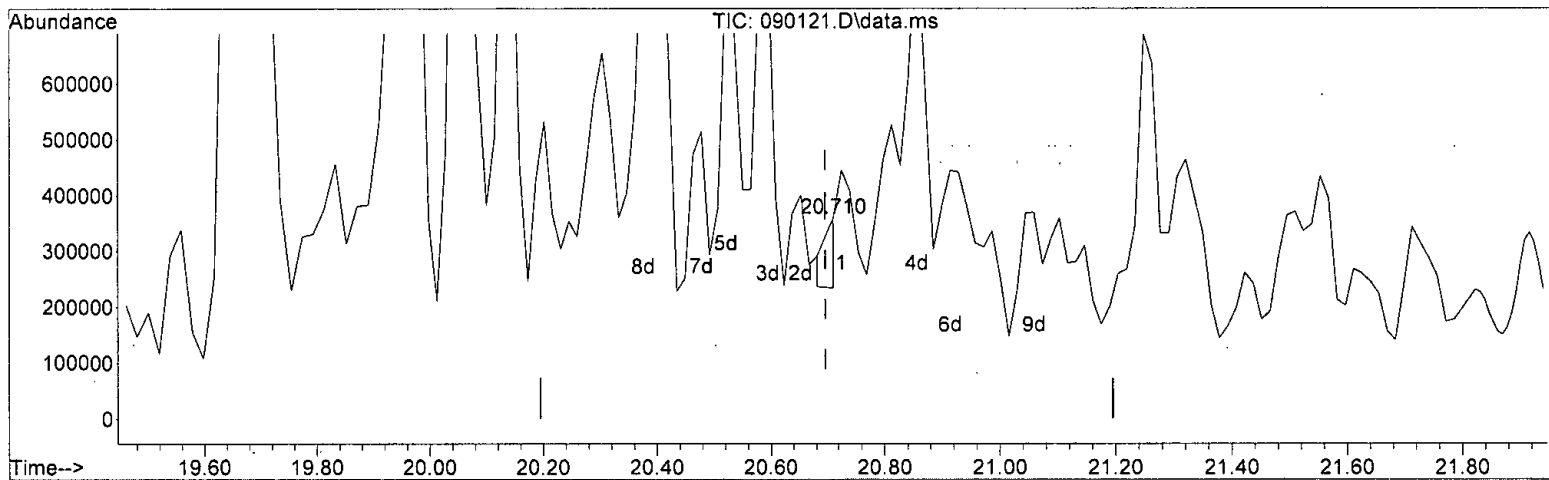
0.00 0.00 0.00

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.710min (+ 0.015) 15.818 ppbv m

response 186494

Signal Exp% Act%

TIC 100.00 100.00

0.00 0.00 0.00

0.00 0.00 0.00

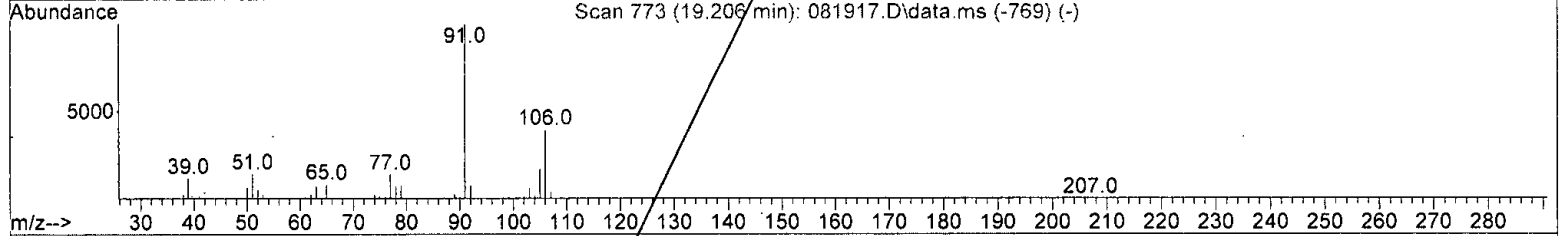
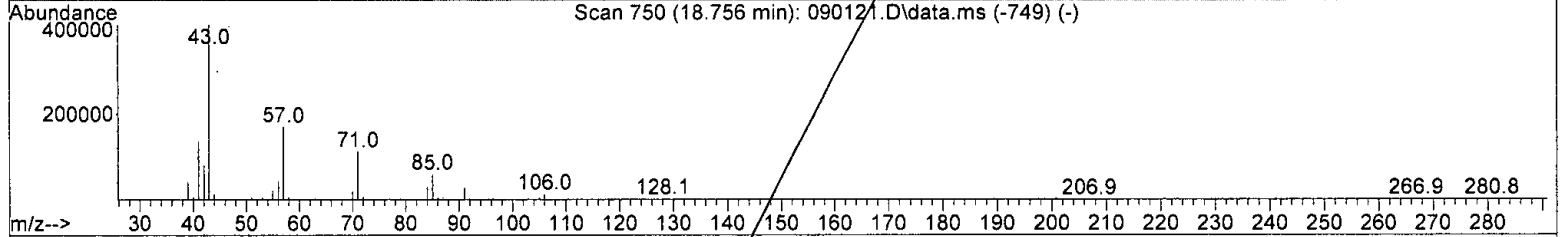
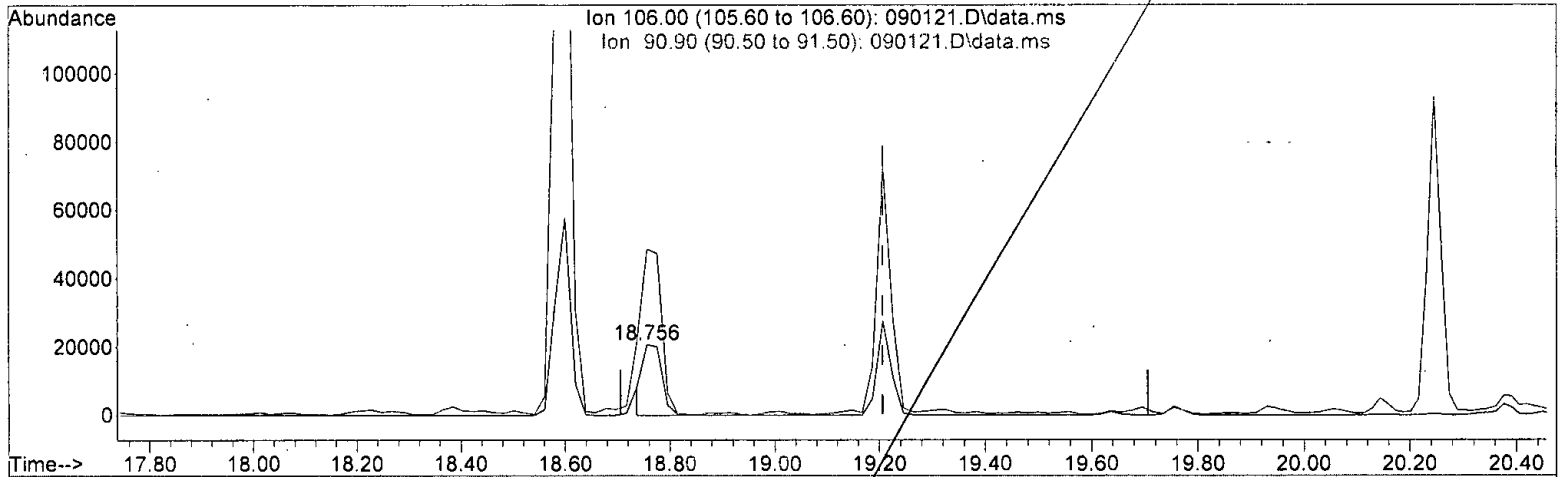
0.00 0.00 0.00

*h  
08/24/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

18.756min (-0.450) 8.040 ug/m3

response 51481

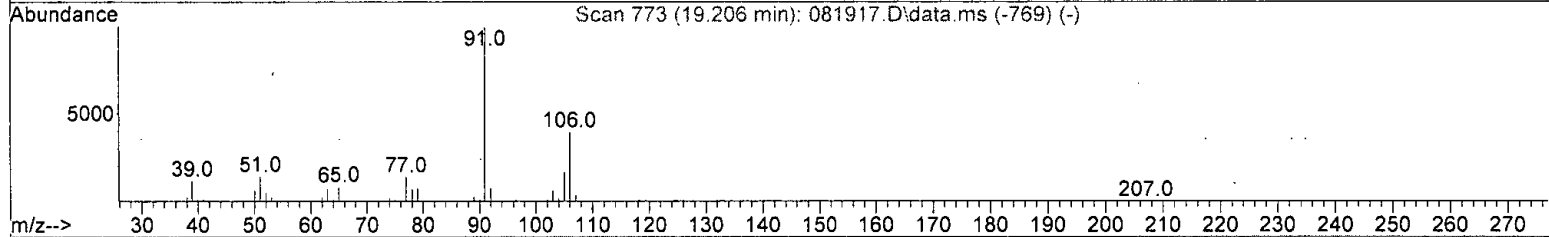
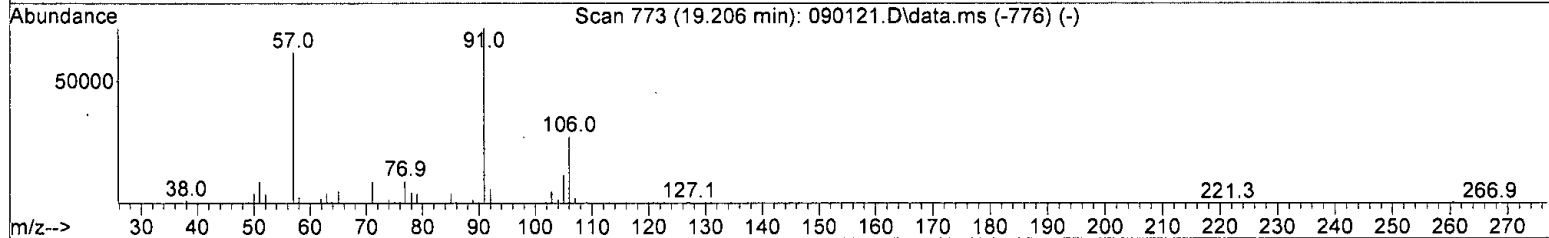
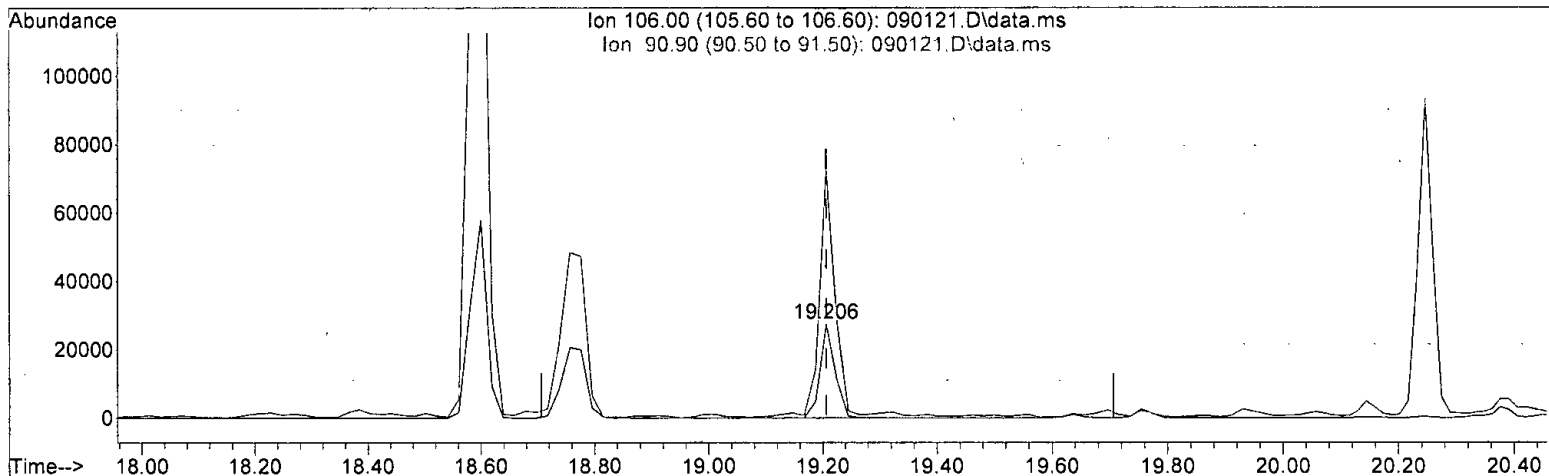
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	233.74
0.00	0.00	0.00
0.00	0.00	0.00

*h*  
*09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*h*  
*only*

(27) o-Xylene (T)

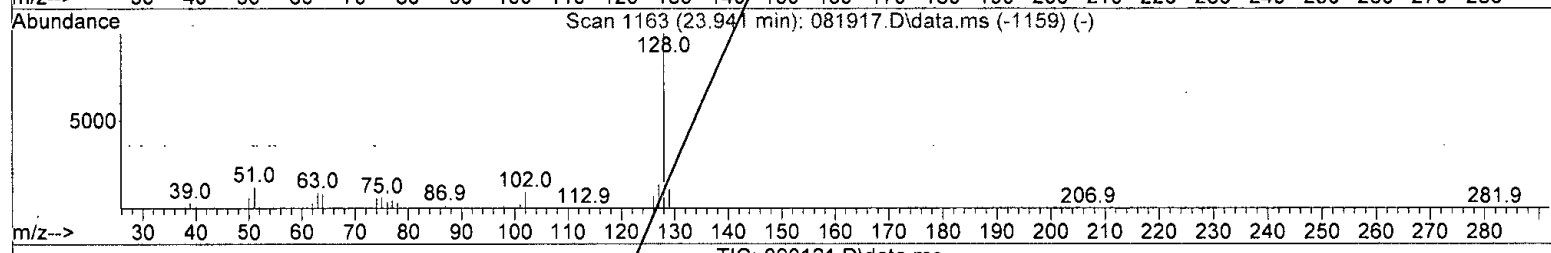
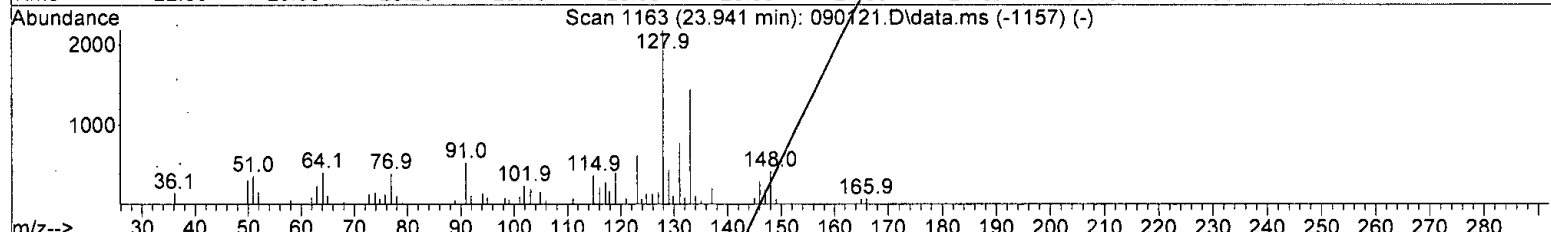
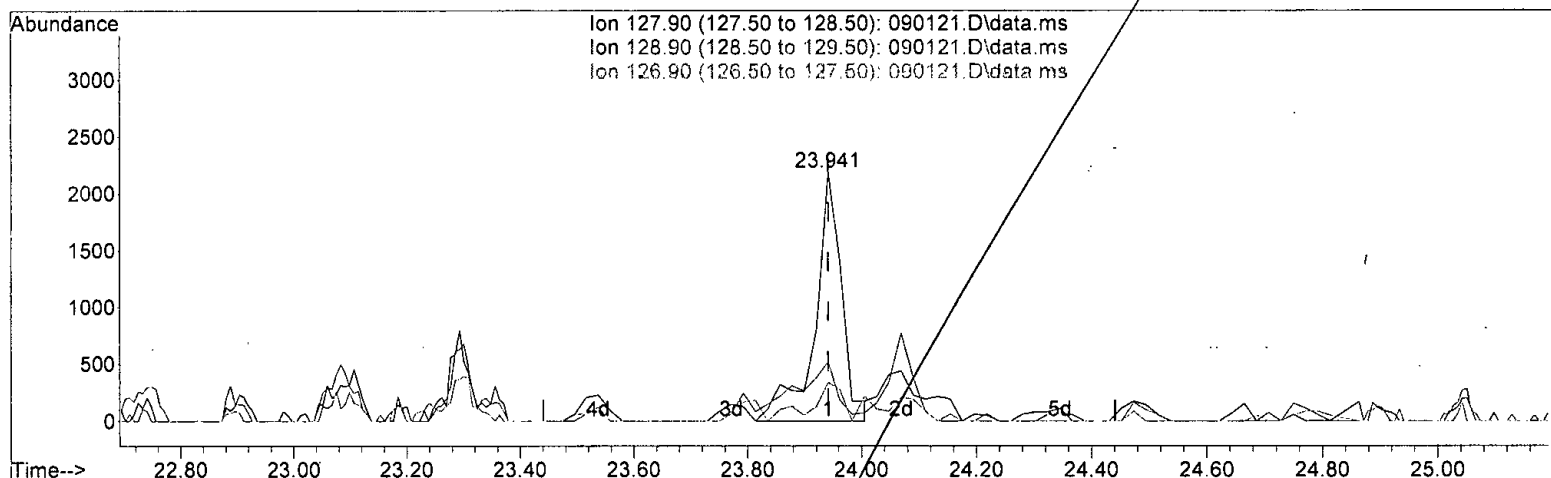
19.206min (-0.000) 8.037 ug/m3 m

response	51464
Ion	Exp% Act%
106.00	100.00 100.00
90.90	226.40 263.97#
0.00	0.00 0.00
0.00	0.00 0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(28) Naphthalene (T)

23.941min (-0.000) 0.445 ug/m3

response 7273

Ion	Exp%	Act%
127.90	100.00	100.00
128.90	11.10	20.63
126.90	13.70	7.37
0.00	0.00	0.00

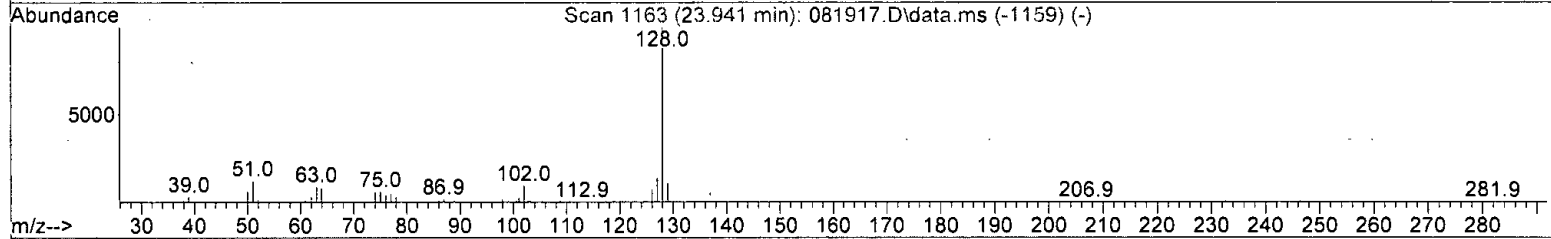
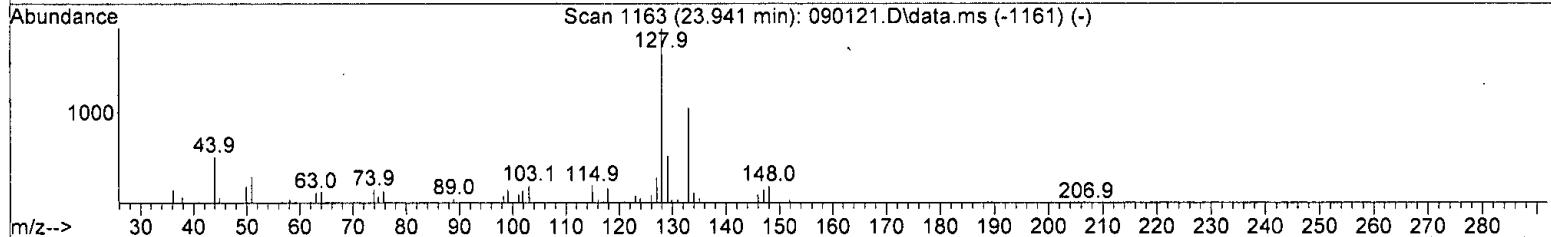
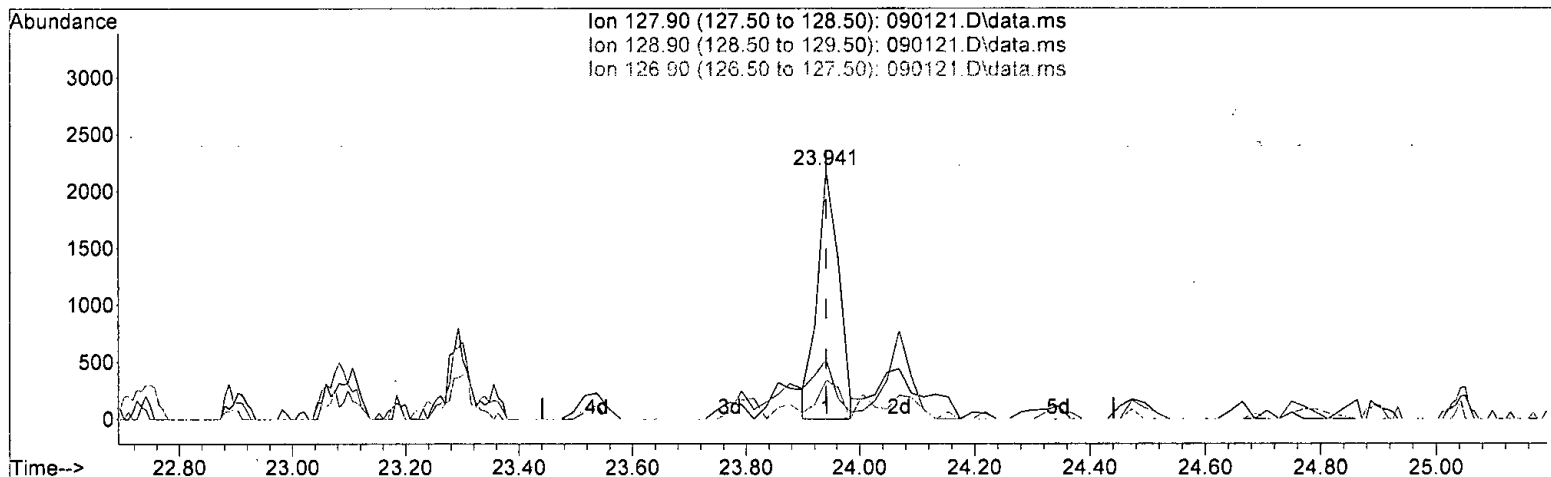
*Barker*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090121.D\data.ms

(28) Naphthalene (T)

23.941min (-0.000) 0.357 ug/m3 m

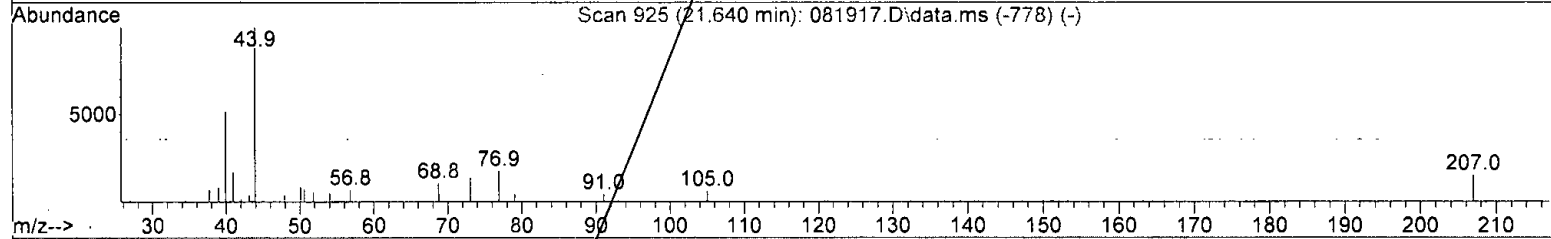
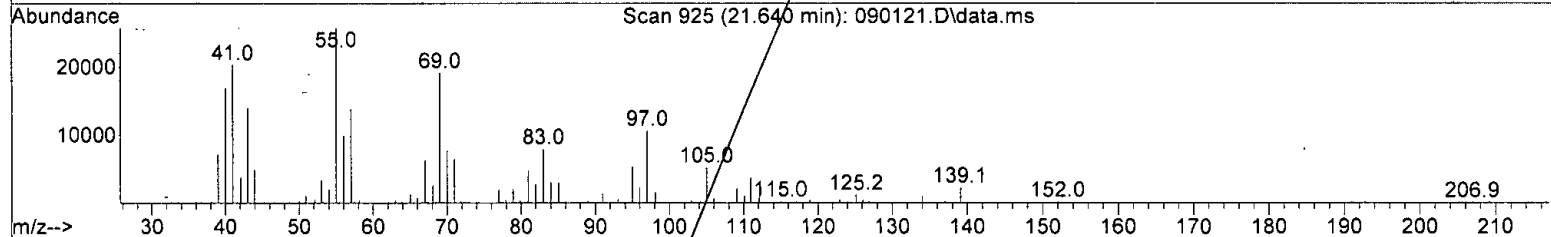
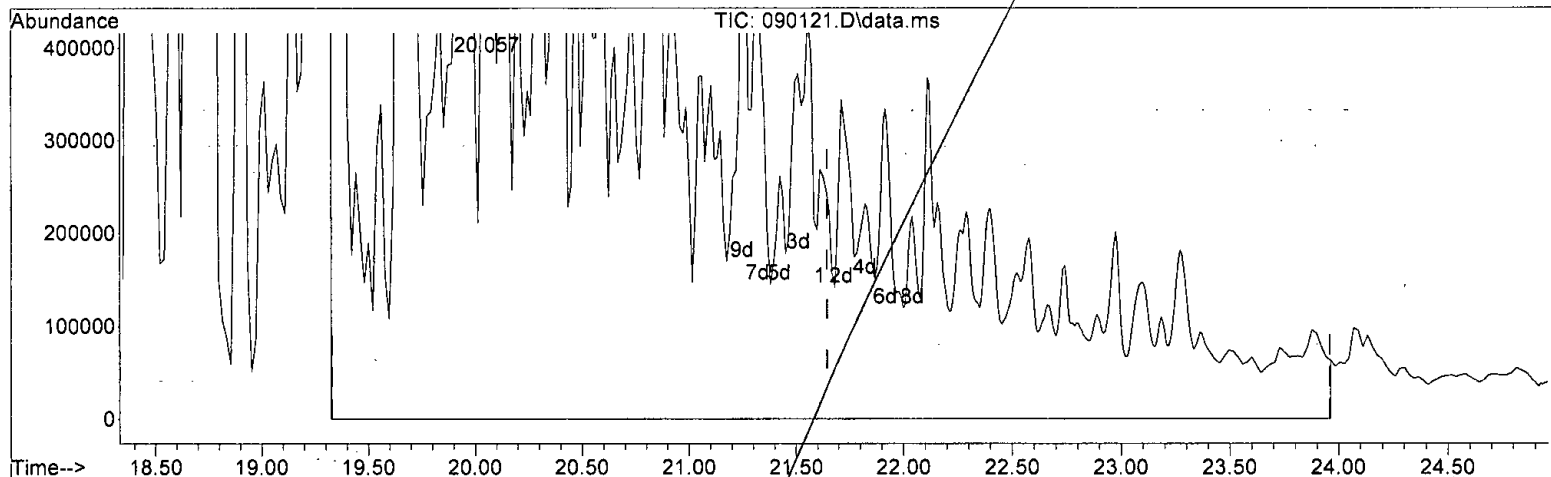
response 5839

Ion	Exp%	Act%
127.90	100.00	100.00
128.90	11.10	23.88
126.90	13.70	15.60
0.00	0.00	0.00

*N. naphthalene*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 761.339 ug/m3 m

response 35388232

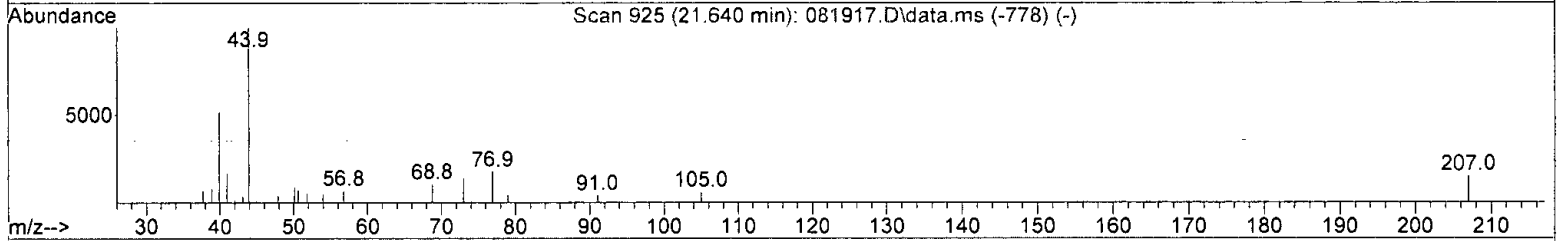
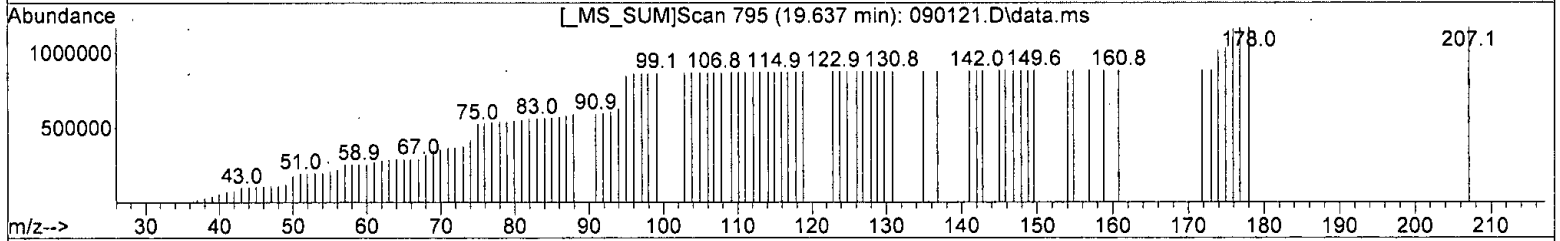
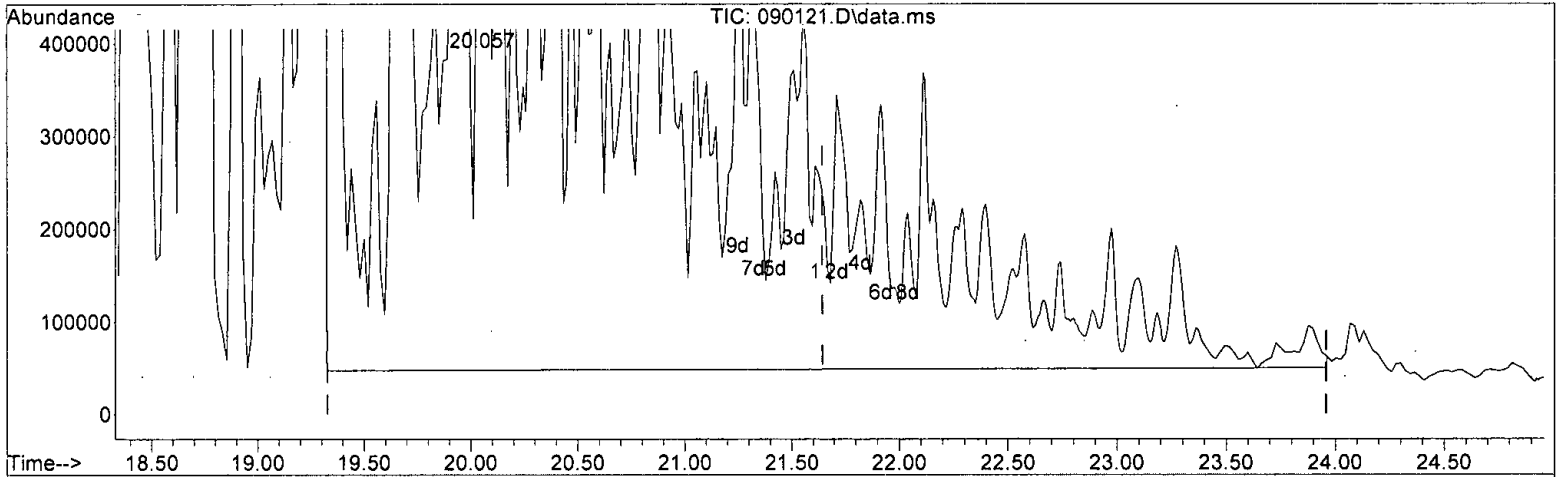
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 1230.659 ug/m3 m

response 57202969

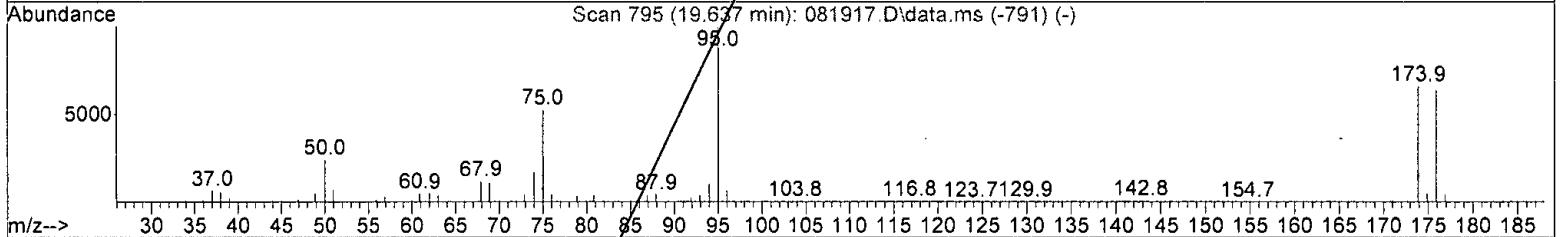
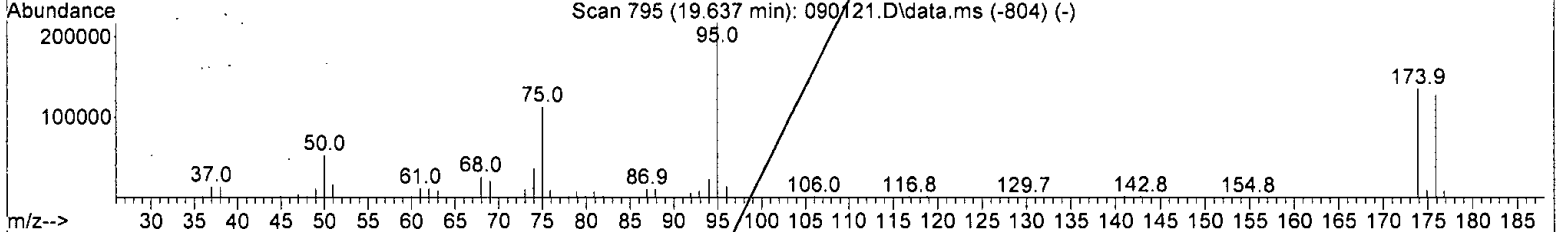
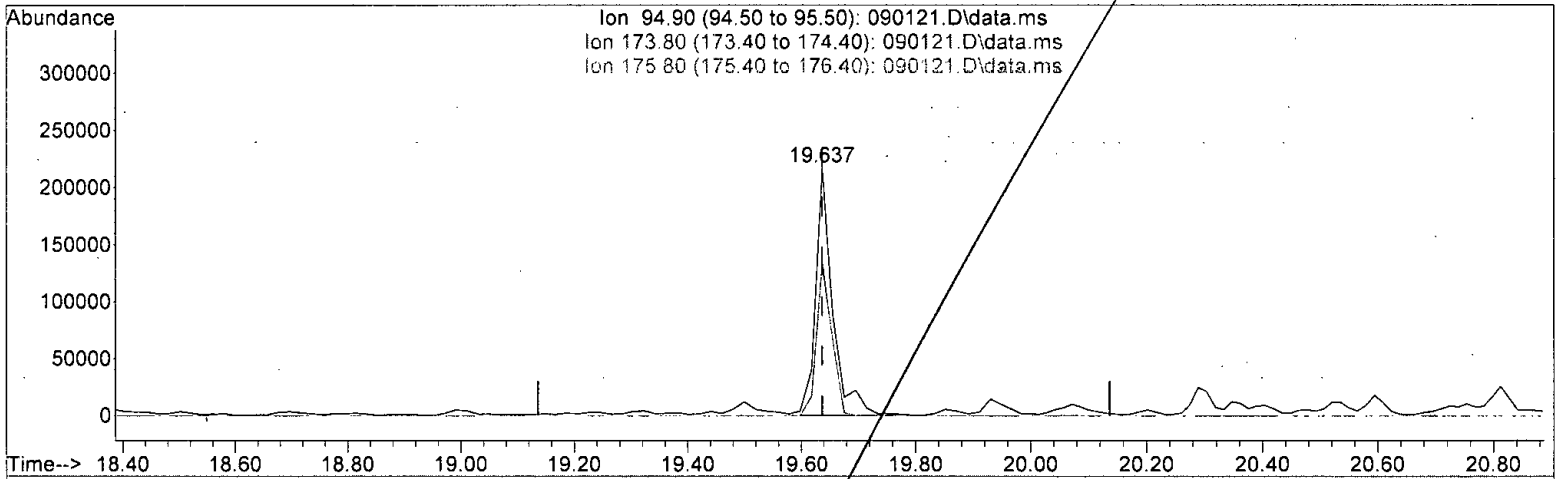
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: B. Orshel*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090121.D\data.ms

(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 81.736 ug/m3

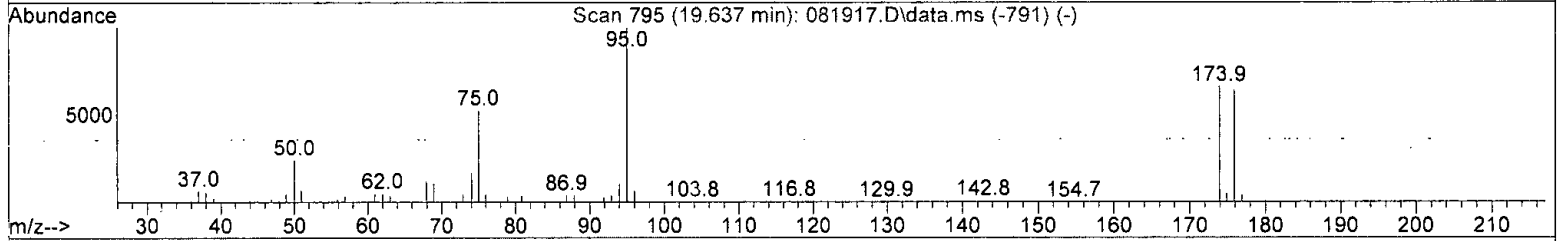
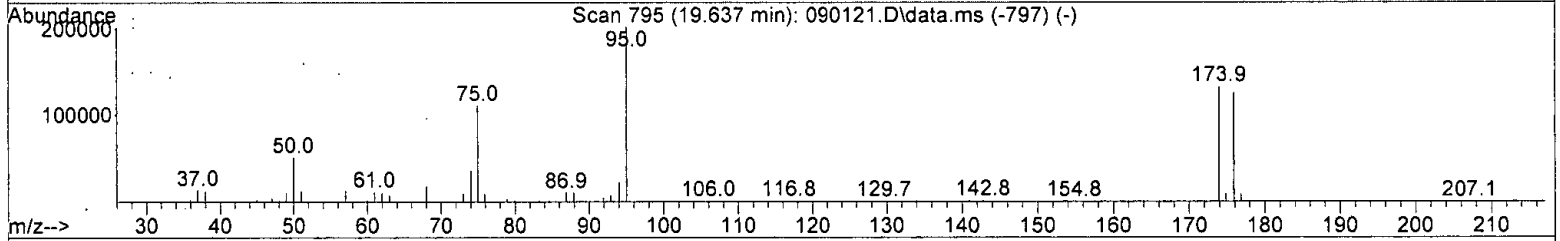
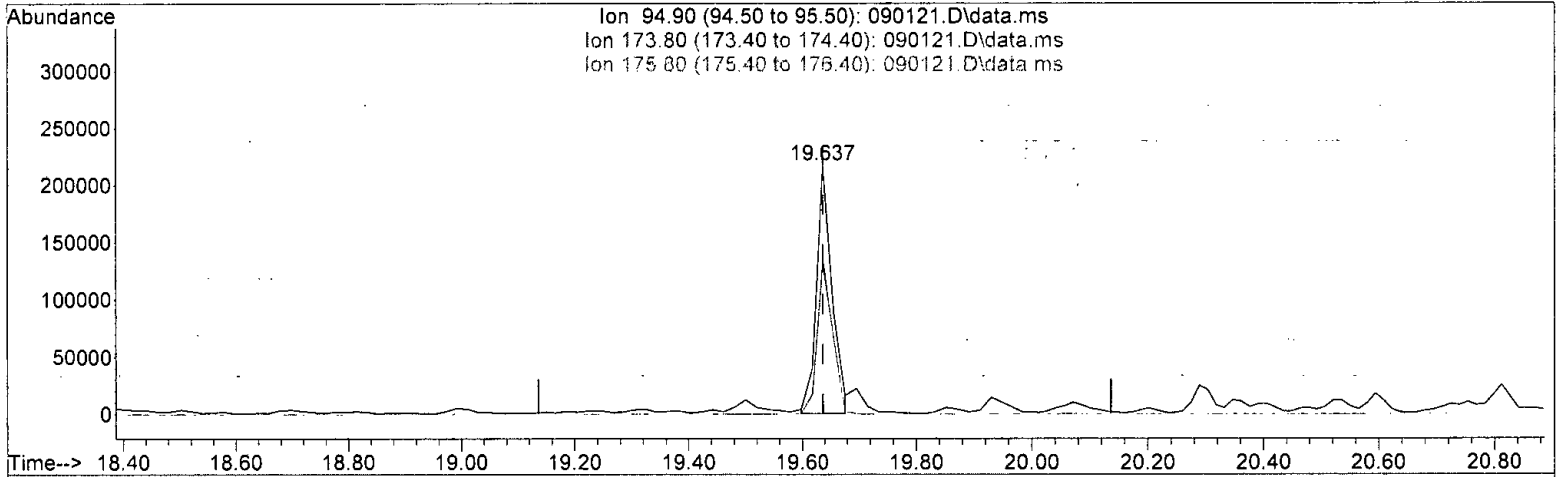
response	Exp%	Act%
465224		
Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	62.44#
175.80	93.50	59.24#
0.00	0.00	0.00

*bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 74.485 ug/m3 m

response 423957

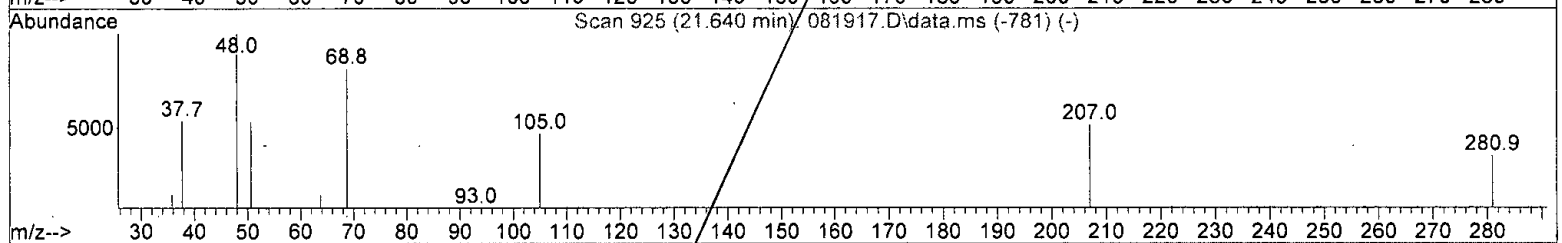
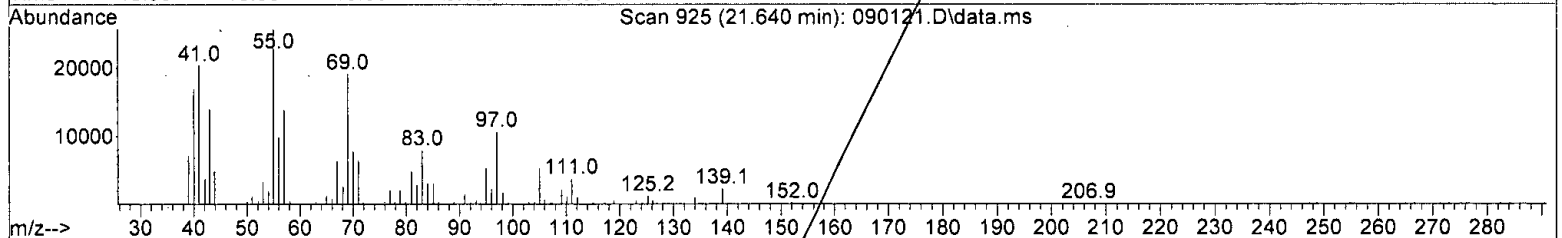
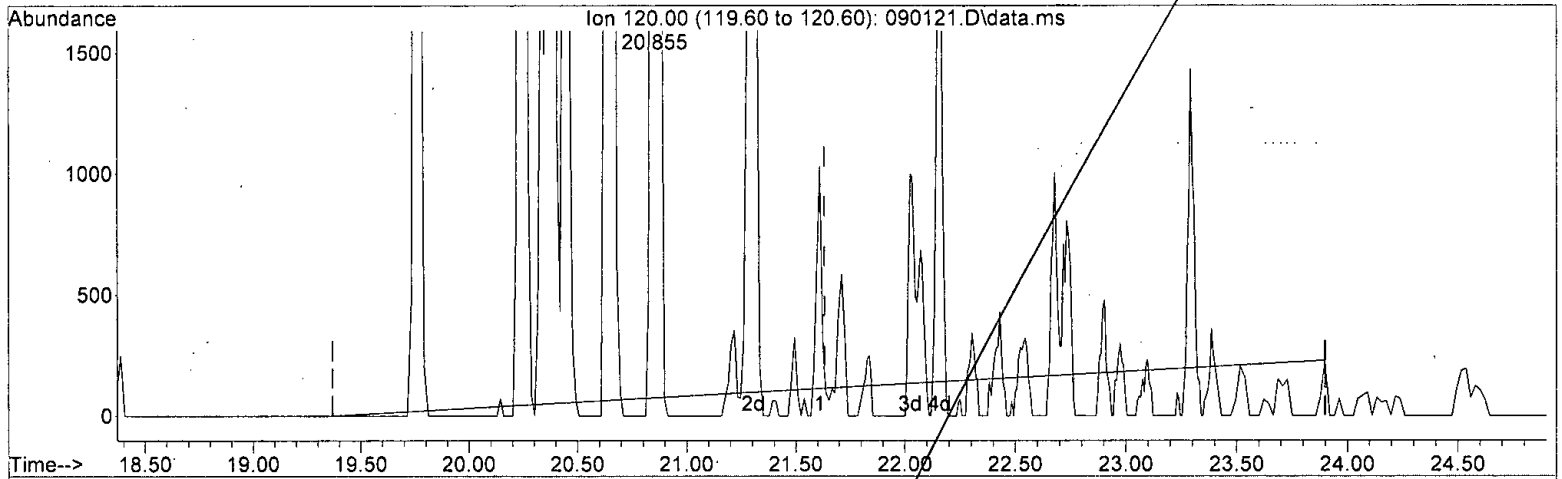
Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	62.35#
175.80	93.50	59.15#
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



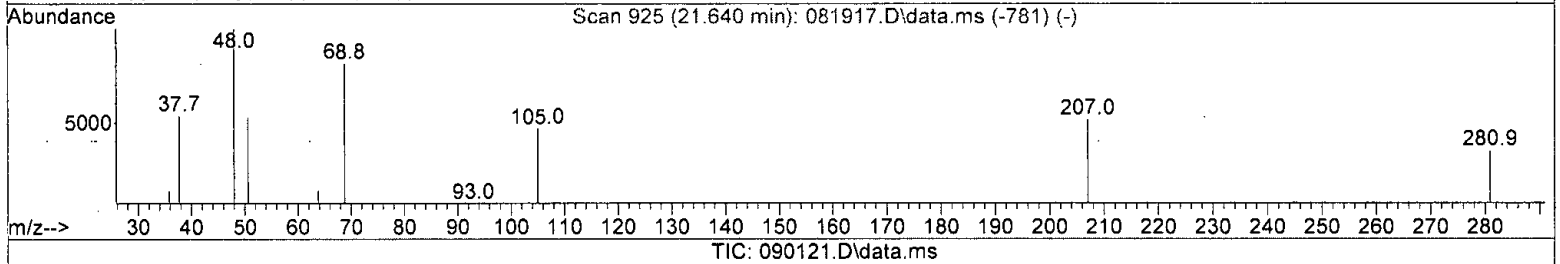
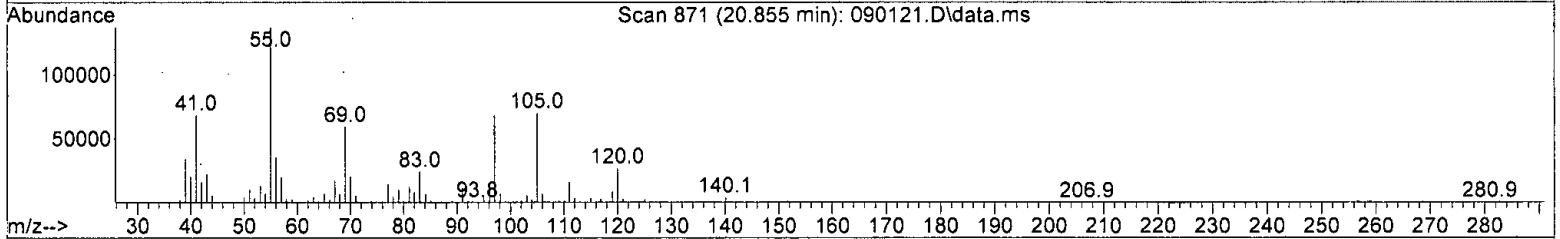
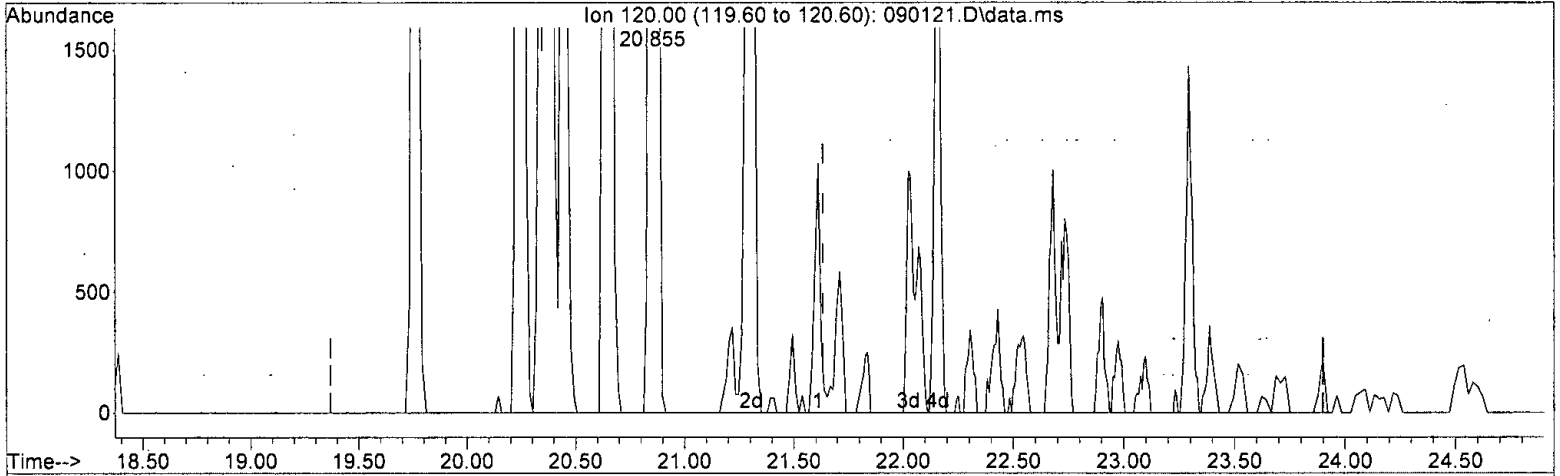
(44) APH EC9-10 aromatics (1) (H)  
 21.635min ( 0.000) 19.410 ug/m3 m  
 response 105044

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: B. 09/02/21*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 33.043 ug/m3 m

response 178822

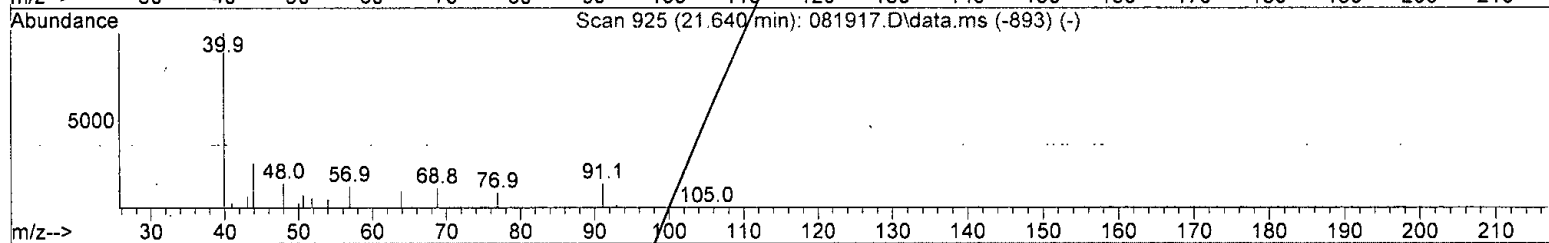
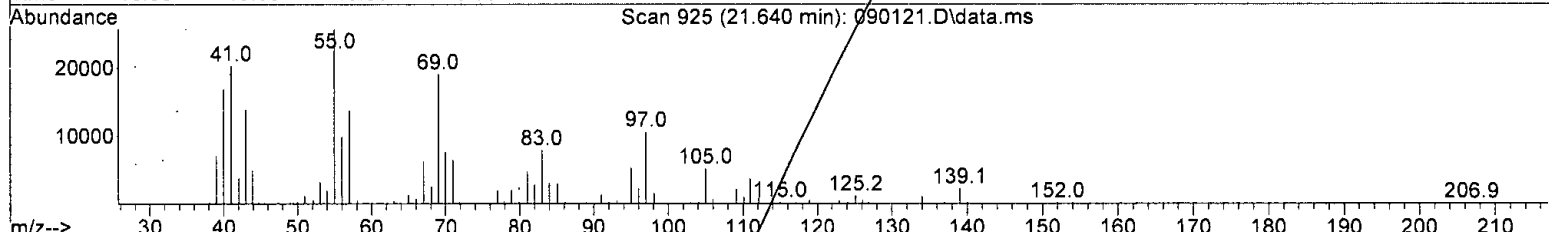
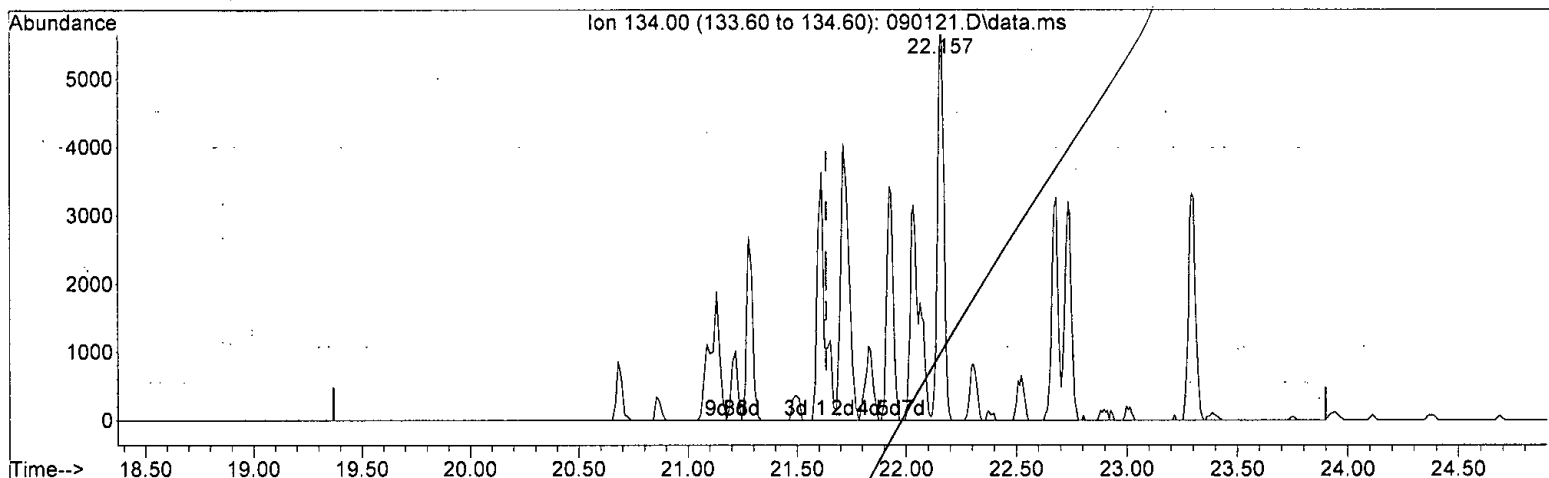
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090121.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 1.454 ug/m3 m

response 4482

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

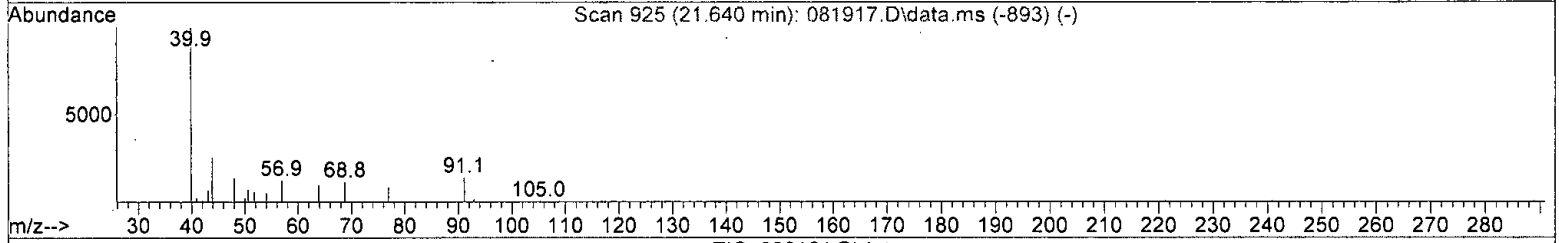
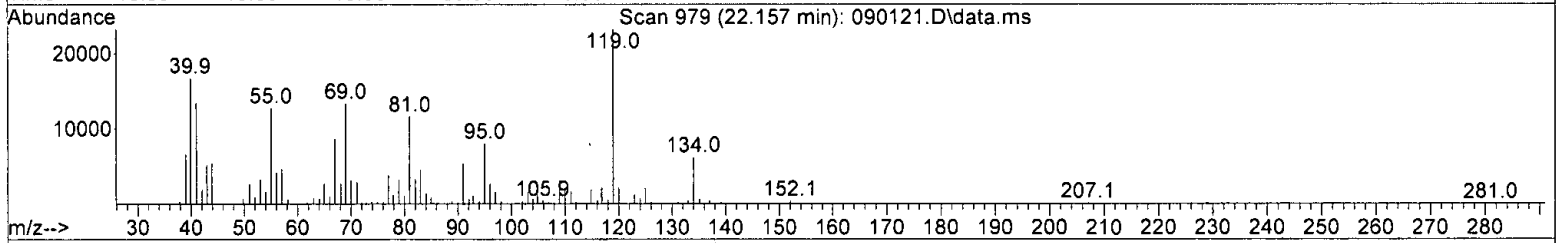
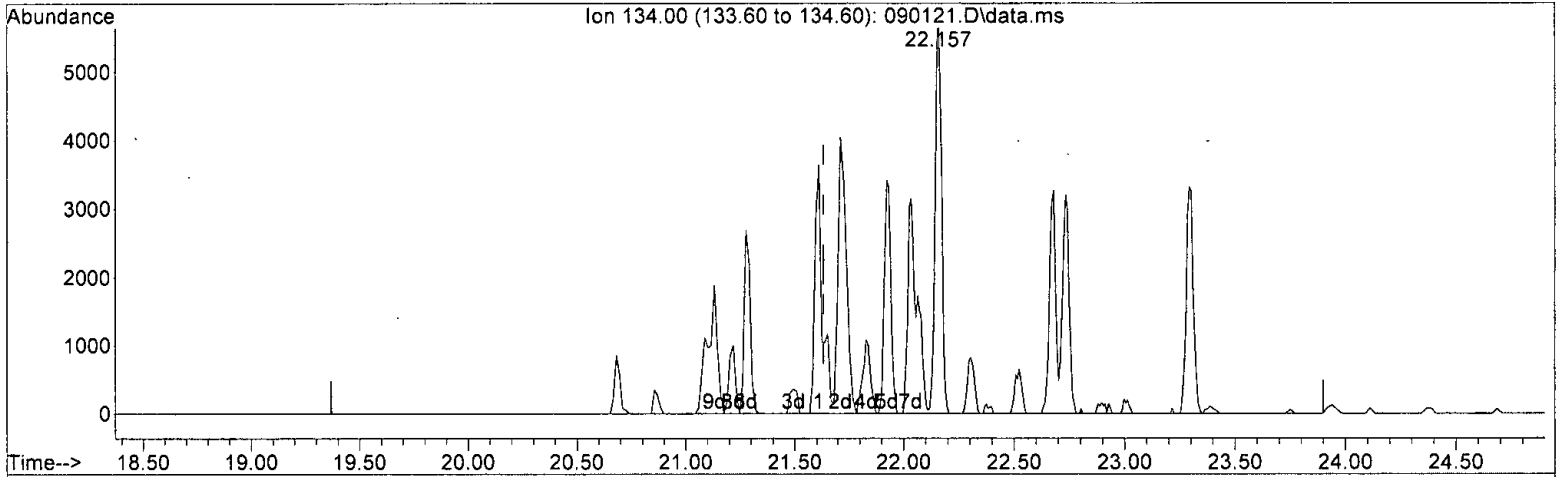
*Handwritten signature and date: bat 09/02/21*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:00:59 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 37.071 ug/m3 m

response 114269

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B or 2/2*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:11:31 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	105198	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	511313	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	454305	50.000	ug/m3	# 0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	423957m	74.485	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	104.92%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1096476	59.032	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.20	TIC	1321675m	50.133	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1857394m	58.085	ug/m3	
5) Methylene chloride	6.86	TIC	265037	281.835	ug/m3	90
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.	d	
8) 1,3-Butadiene	4.24	54	67567	10.907	ug/m3#	1
9) Methyl t-butyl ether	8.49	73	427	0.053	ug/m3	56
11) Benzene	12.71	78	213819	12.299	ug/m3	89
12) Isopentane	5.68	TIC	343046	9.936	ug/m3	92
13) Hexane	10.10	TIC	2689657	79.736	ug/m3	93
14) Cyclohexane	13.16	TIC	7082982	199.563	ug/m3	48
15) 2,3-Dimethylpentane	13.50	TIC	6750818	149.043	ug/m3	94
16) Heptane	14.60	TIC	12573076	339.672	ug/m3	92
17) Octane	17.41	TIC	5530468	108.963	ug/m3	91
18) APH EC5-8 aliphatics T...	0.00	TIC	34970047m	861.967	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	224368945m	5530.406	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2486852m	64.842	ug/m3	
22) Hexamethylcyclotrisilo...	17.79	TIC	976336	103.353	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	186494m	15.818	ppbv	
24) Toluene	16.39	92	136903	14.046	ug/m3	97
25) Ethylbenzene	18.60	91	442602	21.989	ug/m3	93
26) m,p-Xylene	18.76	106	61679	9.113	ug/m3	89
27) o-Xylene	19.21	106	51464m	8.037	ug/m3	
28) Naphthalene	23.94	128	5839m	0.357	ug/m3	
29) 2,3-Dimethylheptane	18.68	TIC	4211320	92.236	ug/m3#	77
30) Nonane	19.32	TIC	3149079	66.052	ug/m3	83
31) Decane	20.91	TIC	1254474	26.487	ug/m3	82
32) Butylcyclohexane	21.55	TIC	739205	13.739	ug/m3	88
33) Undecane	22.29	TIC	414428	8.823	ug/m3	67
34) Dodecane	23.73	TIC	142997	3.709	ug/m3	73
35) APH EC9-12 aliphatics ...	21.61	TIC	9911503m	213.235	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	57202969m	1230.659	ug/m3	
38) Isopropylbenzene	19.75	120	11119	3.120	ug/m3#	72
39) 1-Methyl-3-ethylbenzene	20.38	120	21825	4.380	ug/m3#	69
40) 1,3,5-Trimethylbenzene	20.45	120	8021	1.272	ug/m3	98
41) p-Isopropyltoluene	21.28	134	5134	1.657	ug/m3#	22
42) 1,2,3-Trimethylbenzene	21.31	120	15138	2.046	ug/m3#	60
43) APH EC9-10 aromatics T...	21.61	TIC	61237m	12.494	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	178822m	33.043	ug/m3	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

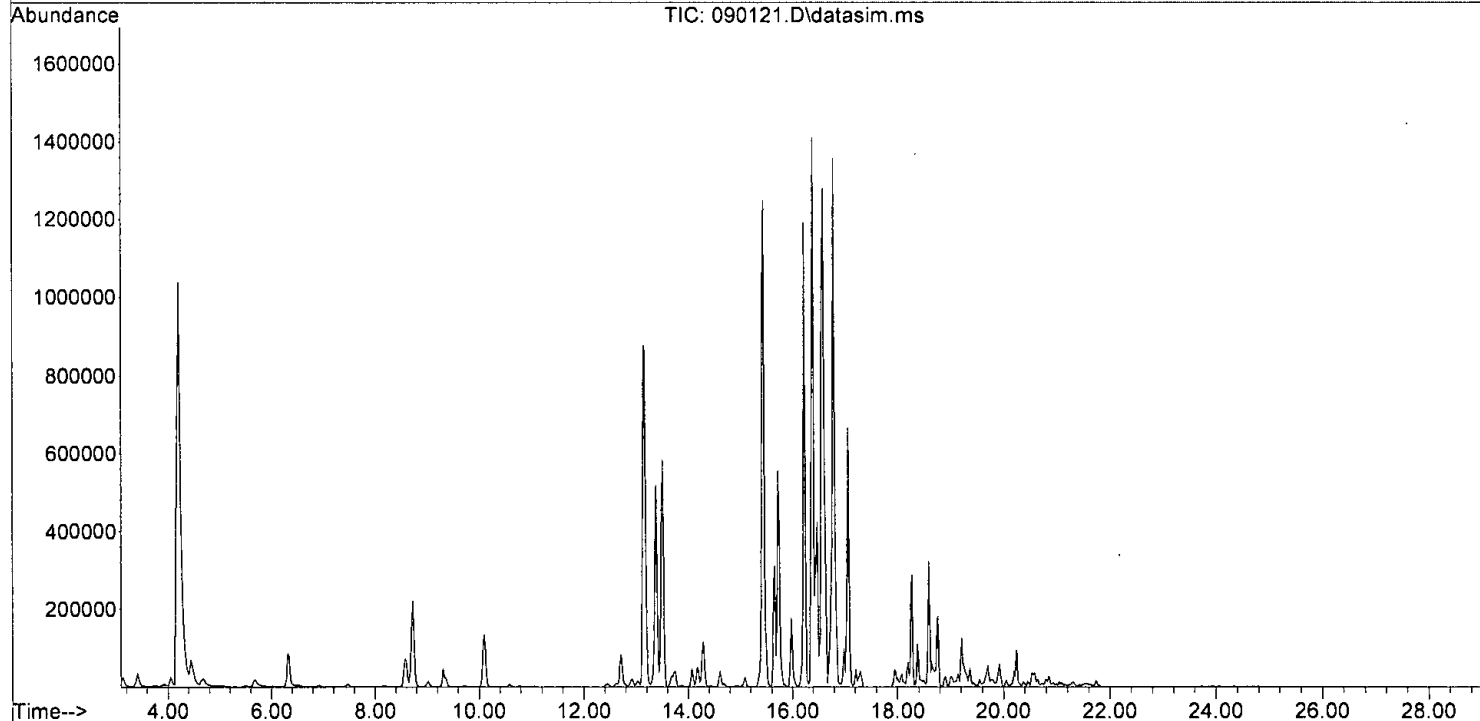
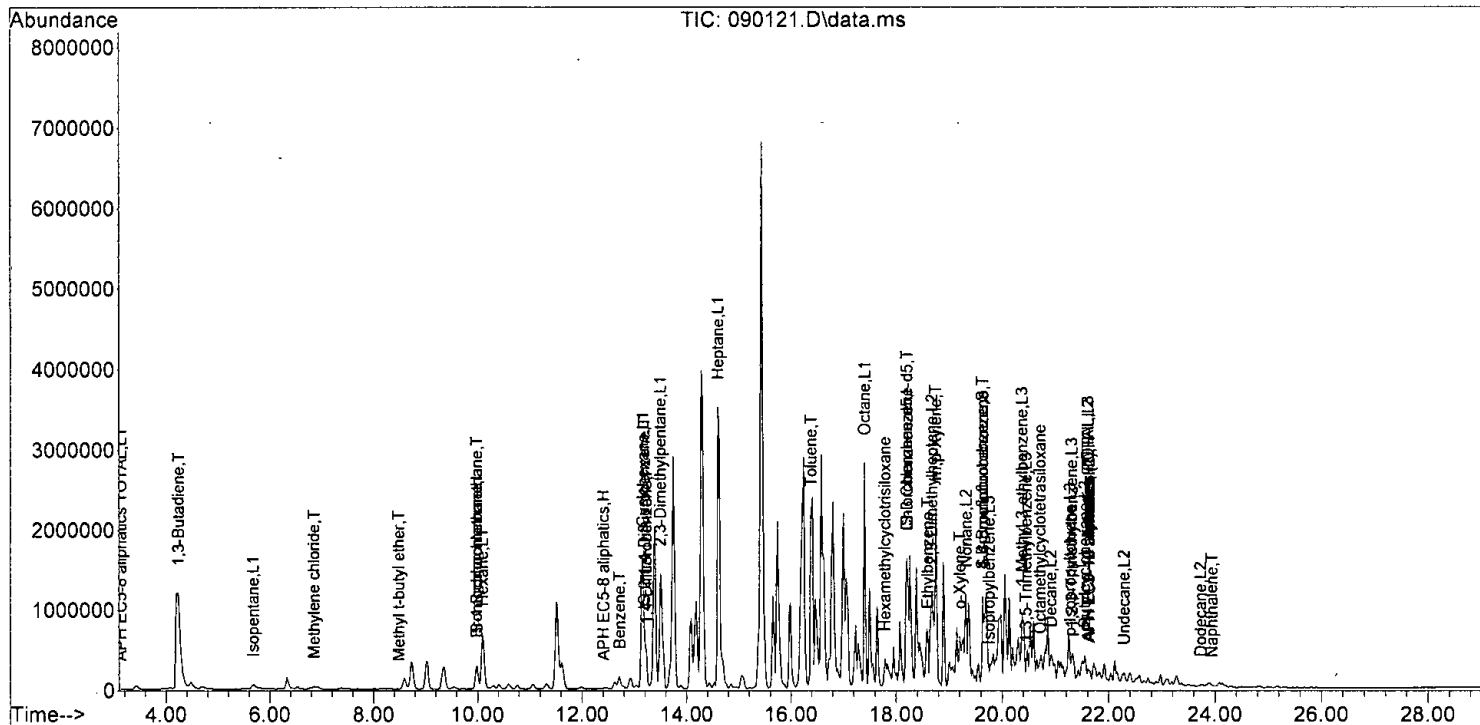
Quant Time: Sep 02 14:11:31 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	114269m	37.071	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090121.D  
 Acq On : 1 Sep 2021 10:54 pm  
 Operator : bat  
 Sample : 108515-05 1/1100  
 Misc : T10  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

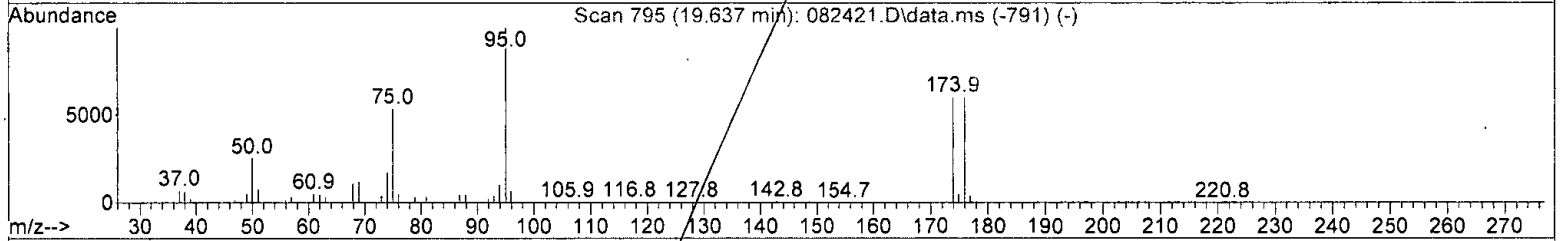
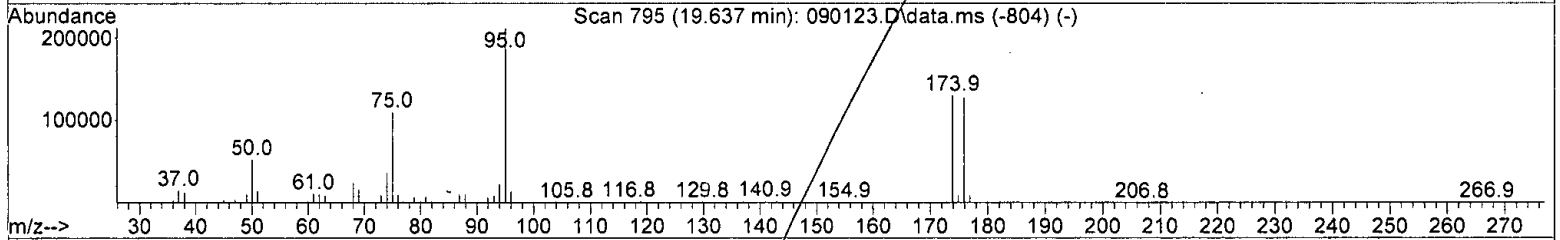
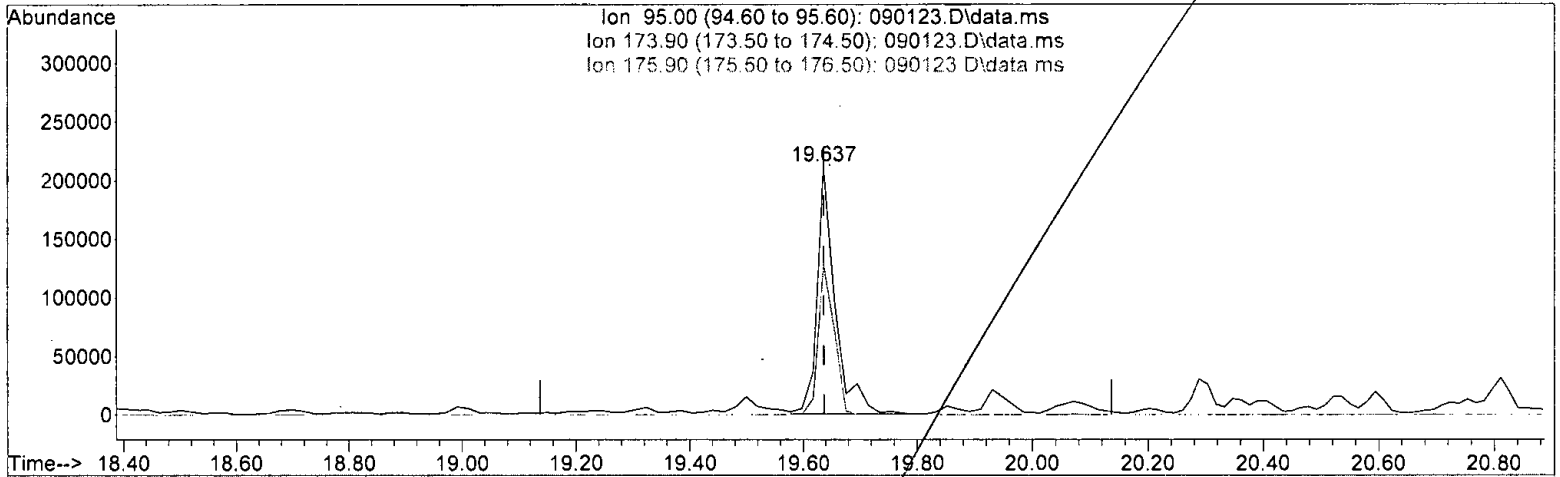
Quant Time: Sep 02 14:11:31 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:46 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(69) 4-Bromofluorobenzene (S)

19.637min (-0.000) 11.998 ppbv

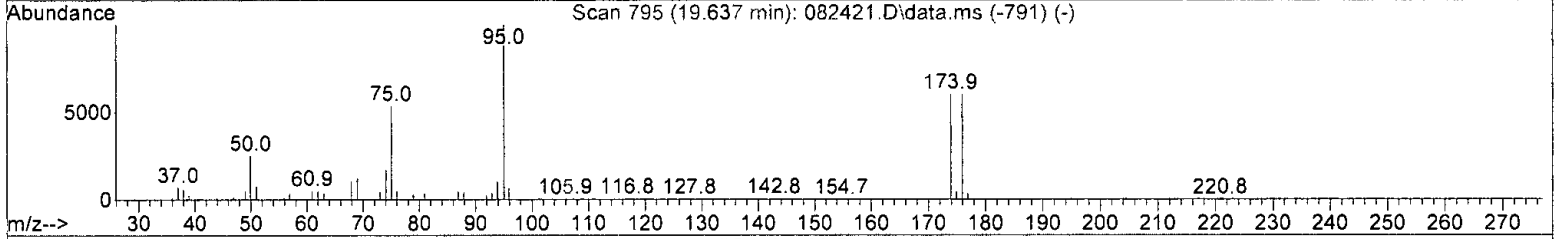
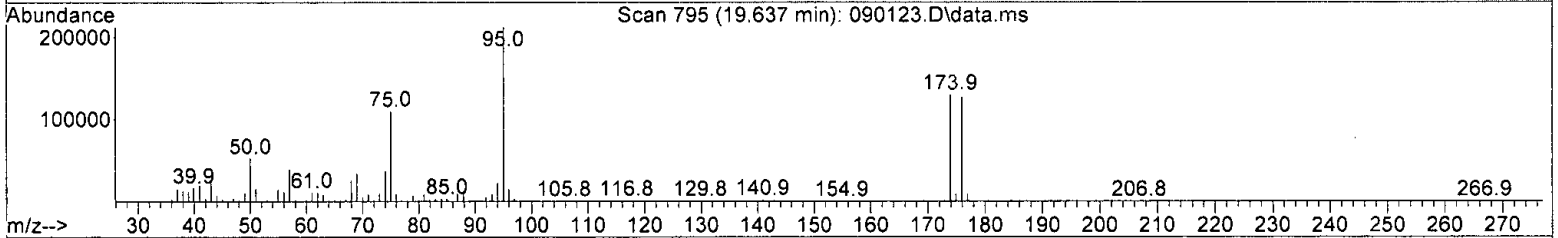
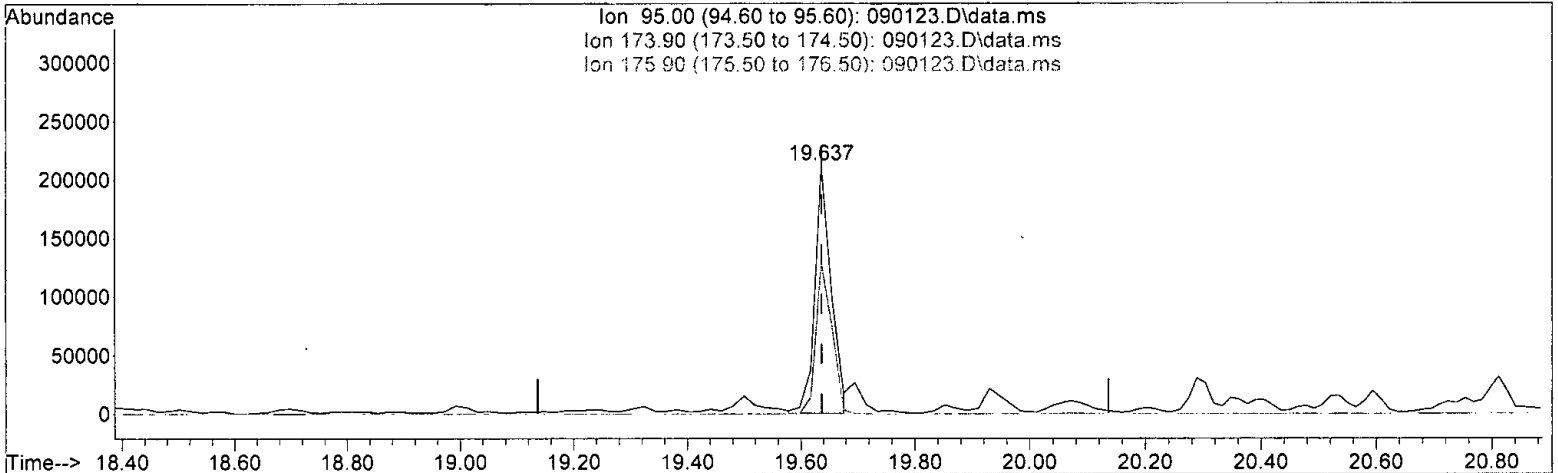
response	474199
Ion	Exp% Act%
95.00	100.00 100.00
173.90	73.50 61.34
175.90	70.90 59.97
0.00	0.00 0.00

*N*  
*6/2/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:46 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(69) 4-Bromofluorobenzene (S)

19.637min (-0.000) 10.880 ppbv m

response 430031

Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	61.21
175.90	70.90	59.84
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

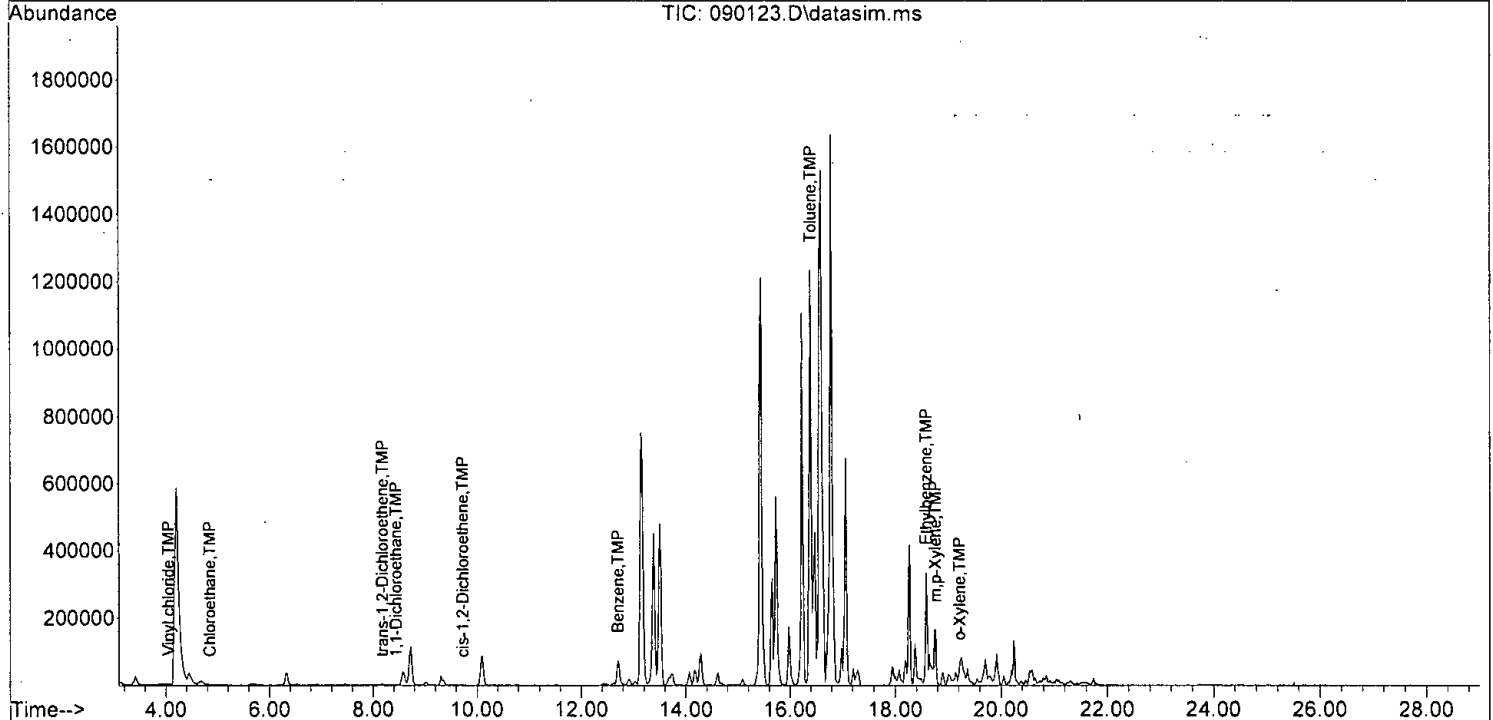
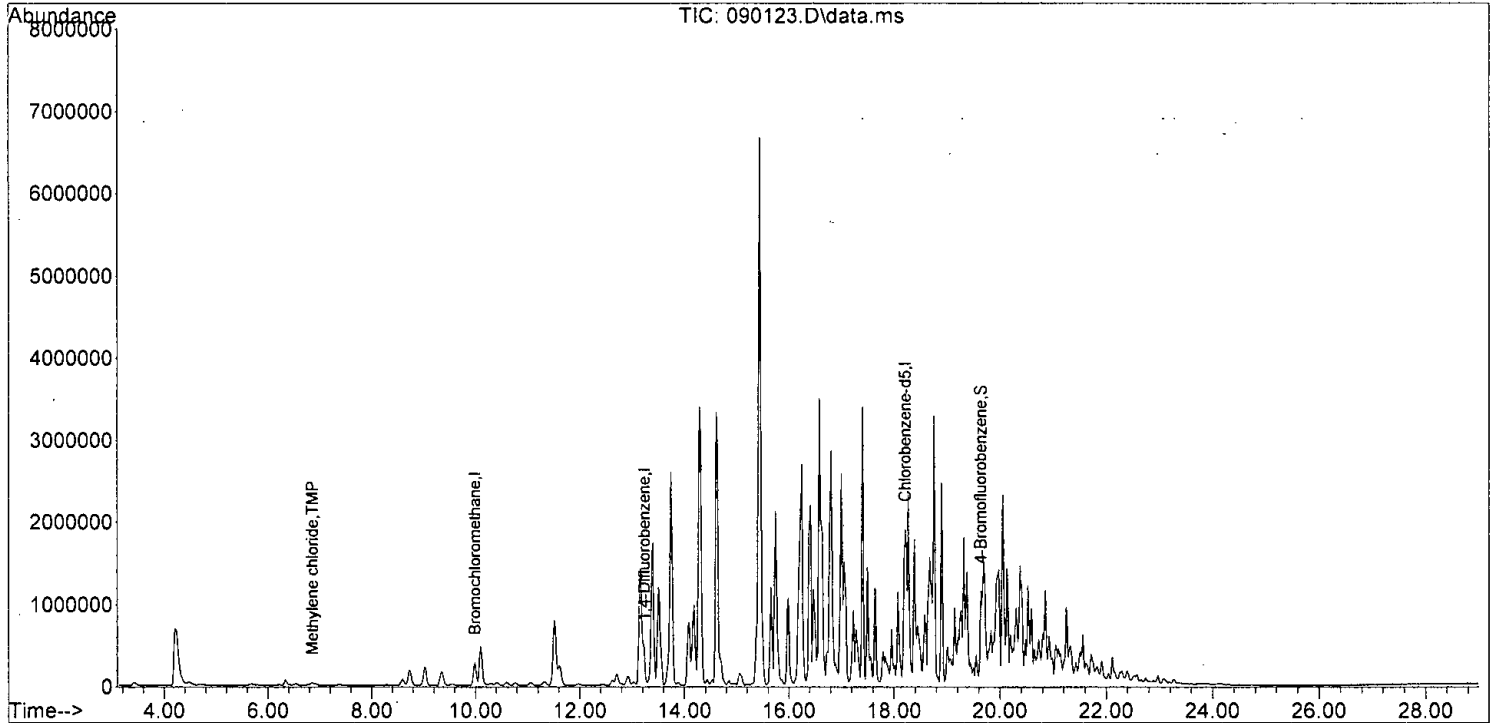
Quant Time: Sep 03 10:35:39 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	100652	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	498527	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	436273	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	430031m	10.880	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	108.80%
Target Compounds						
						Qvalue
6] Vinyl chloride	4.05	62	5610	0.252	ppbv	96
10] Chloroethane	4.84	64	489m	0.064	ppbv	
19] trans-1,2-Dichloroethene	8.18	96	1593	0.097	ppbv	98
20] Methylene chloride	6.86	84	25294	1.436	ppbv	84
27] 1,1-Dichloroethane	8.44	63	594	0.015	ppbv	93
28] cis-1,2-Dichloroethene	9.73	96	577	0.032	ppbv	# 82
37] Benzene	12.70	78	207926	3.374	ppbv	95
50] Toluene	16.40	92	57162	1.530	ppbv	84
58] Ethylbenzene	18.59	91	492579	5.083	ppbv	97
65] m,p-Xylene	18.76	106	20719	0.666	ppbv	87
66] o-Xylene	19.21	106	14611	0.478	ppbv	88
-----						

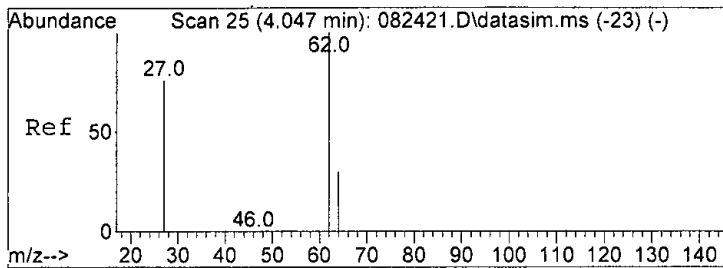
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:35:39 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

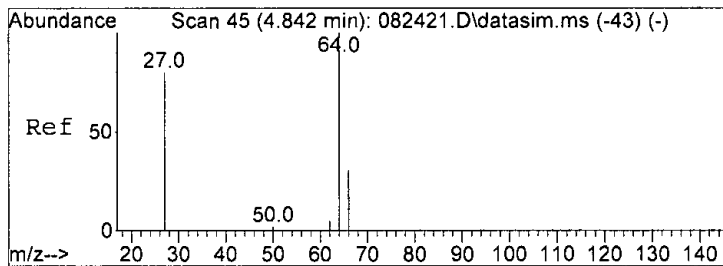
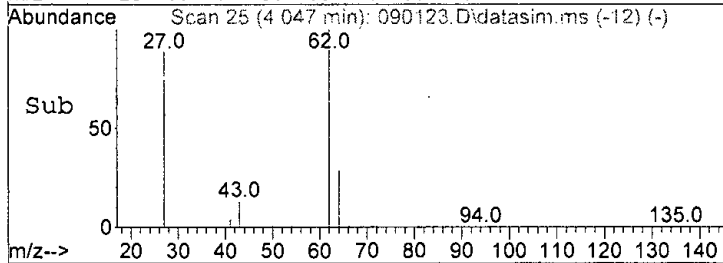
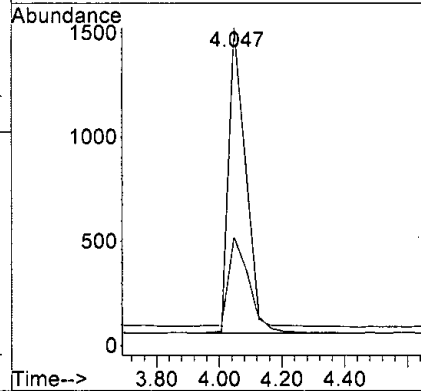
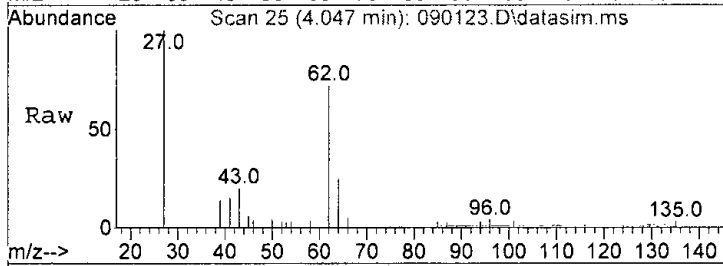






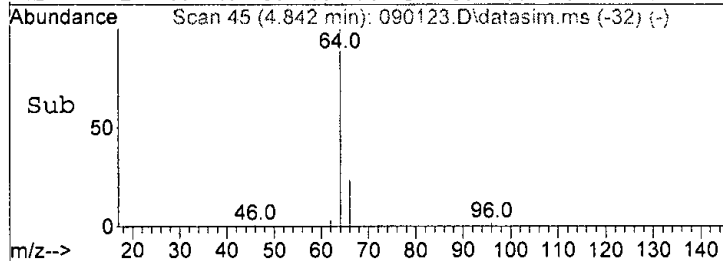
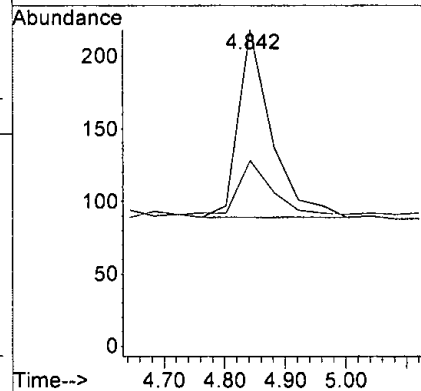
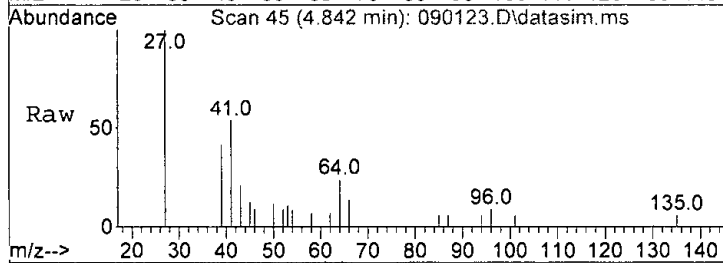
#6  
 Vinyl chloride  
 Concen: 0.252 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090123.D  
 Acq: 2 Sep 2021 12:16 am

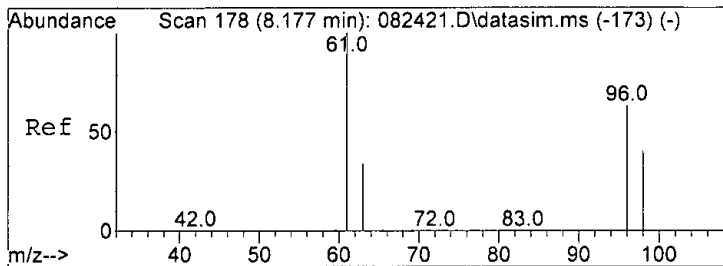
Tgt Ion: 62 Resp: 5610  
 Ion Ratio Lower Upper  
 62 100  
 64 29.2 1.5 61.5



#10  
 Chloroethane  
 Concen: 0.064 ppbv m  
 RT: 4.84 min Scan# 45  
 Delta R.T. 0.000 min  
 Lab File: 090123.D  
 Acq: 2 Sep 2021 12:16 am

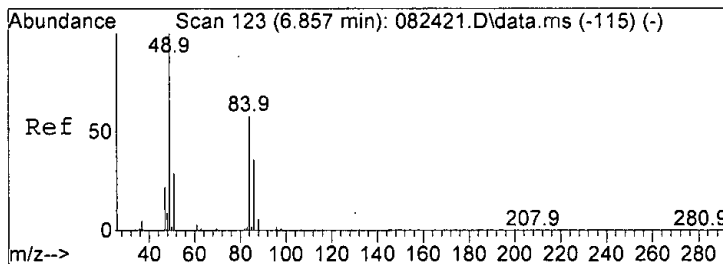
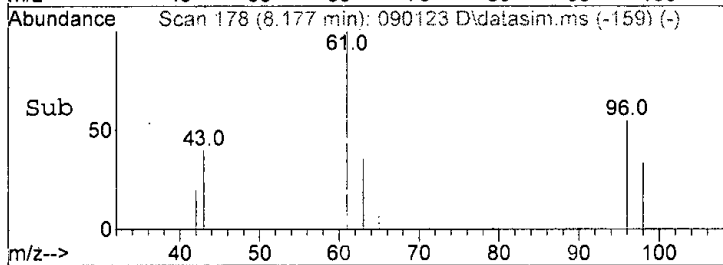
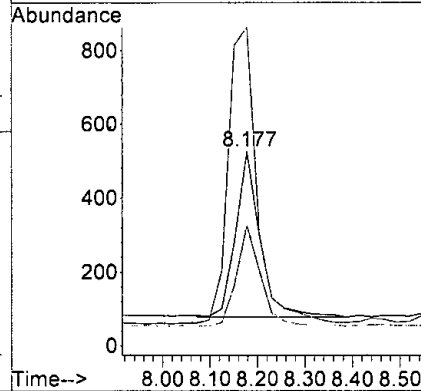
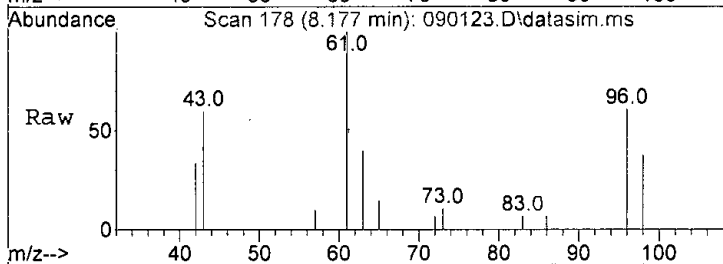
Tgt Ion: 64 Resp: 489  
 Ion Ratio Lower Upper  
 64 100  
 66 58.7 1.8 61.8





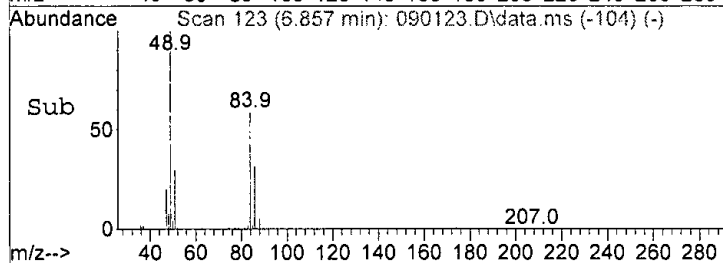
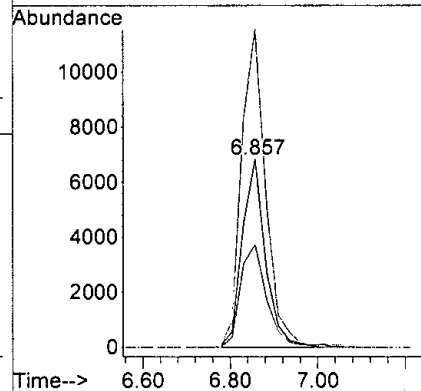
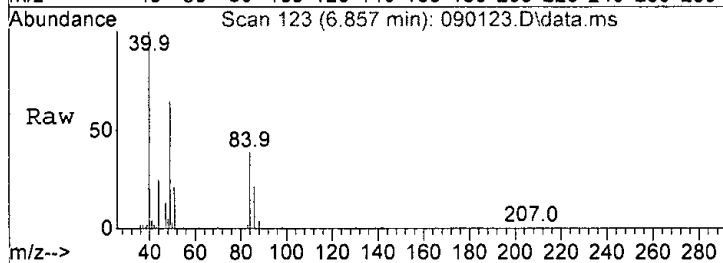
#19  
 trans-1,2-Dichloroethene  
 Concen: 0.097 ppbv  
 RT: 8.18 min Scan# 178  
 Delta R.T. 0.000 min  
 Lab File: 090123.D  
 Acq: 2 Sep 2021 12:16 am

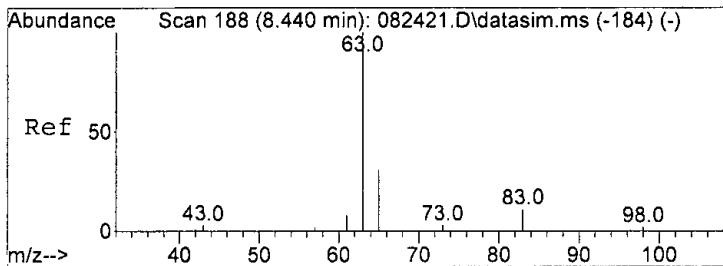
Tgt Ion	Resp	Lower	Upper
96	1593		
61	178.8	147.9	207.9
98	60.9	34.2	94.2



#20  
 Methylene chloride  
 Concen: 1.436 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090123.D  
 Acq: 2 Sep 2021 12:16 am

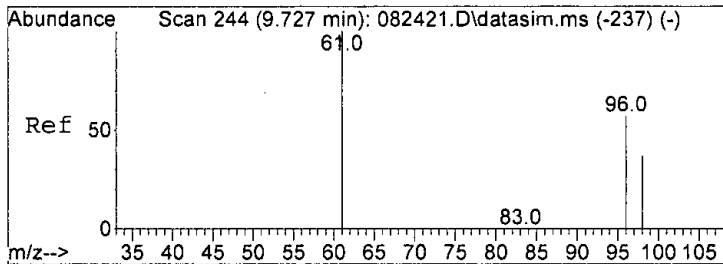
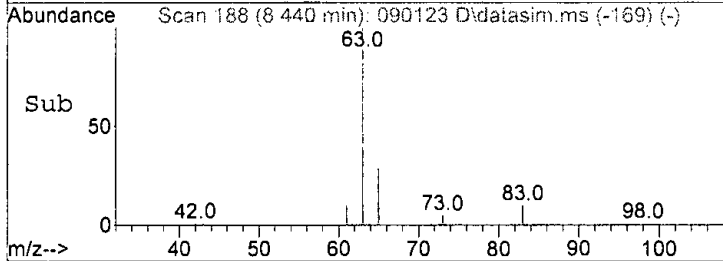
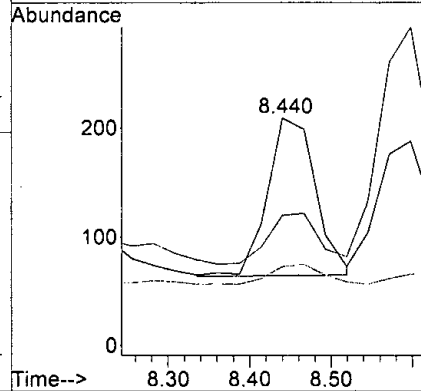
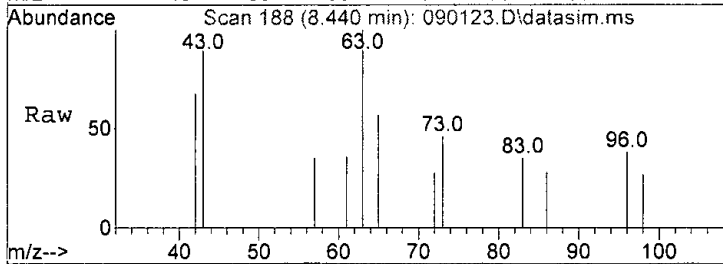
Tgt Ion	Resp	Lower	Upper
84	25294		
86	54.7	33.9	93.9
49	168.9	116.6	176.6





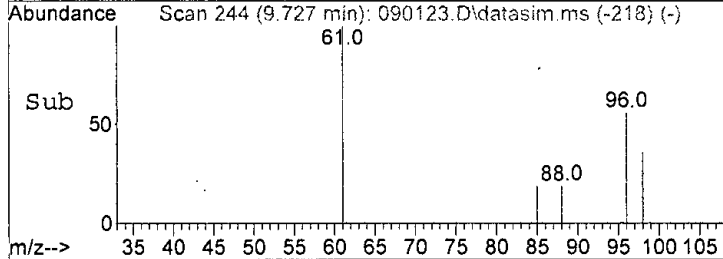
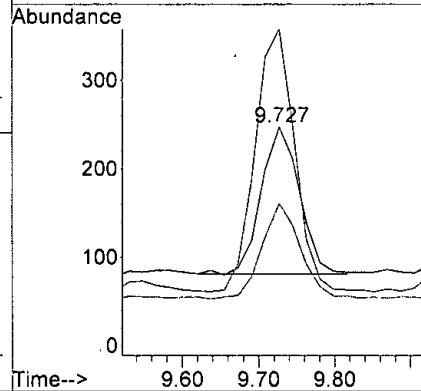
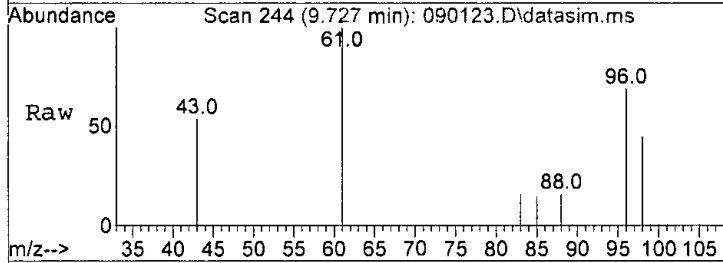
#27  
 1,1-Dichloroethane  
 Concen: 0.015 ppbv  
 RT: 8.44 min Scan# 188  
 Delta R.T. 0.000 min  
 Lab File: 090123.D  
 Acq: 2 Sep 2021 12:16 am

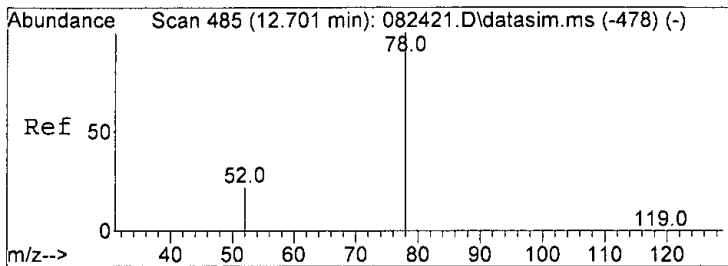
Tgt Ion:	63	Resp:	594
Ion Ratio	Lower	Upper	
63	100		
65	28.5	2.5	62.5
83	11.1	0.0	43.2



#28  
 cis-1,2-Dichloroethene  
 Concen: 0.032 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. -0.000 min  
 Lab File: 090123.D  
 Acq: 2 Sep 2021 12:16 am

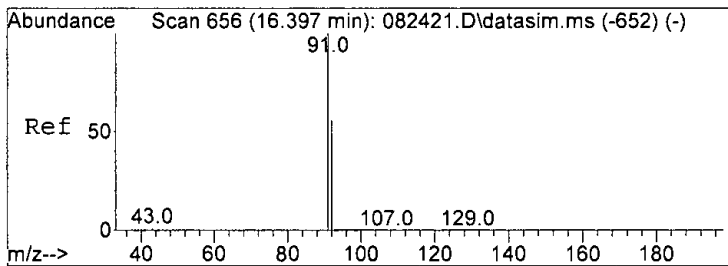
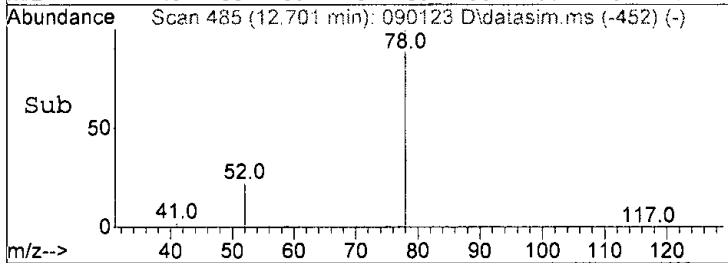
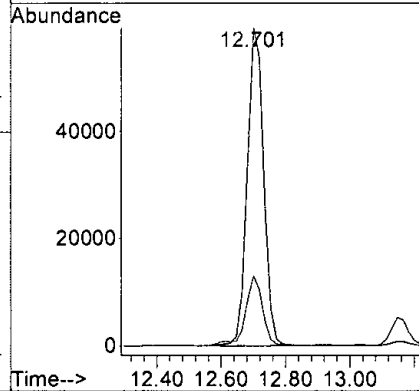
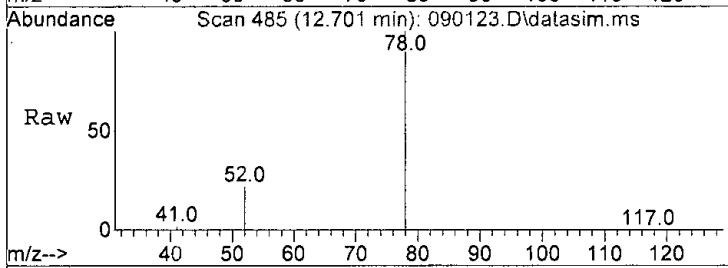
Tgt Ion:	96	Resp:	577
Ion Ratio	Lower	Upper	
96	100		
61	178.3	116.0	176.0#
98	63.9	35.2	95.2





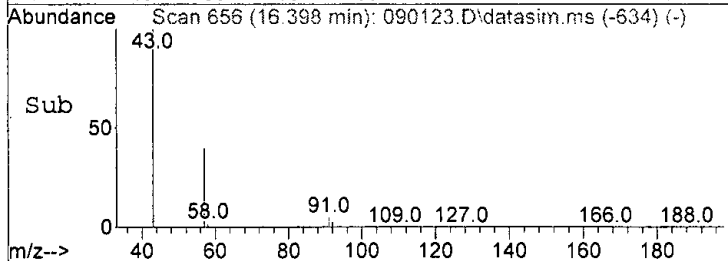
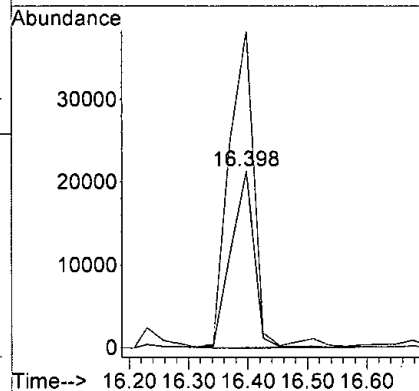
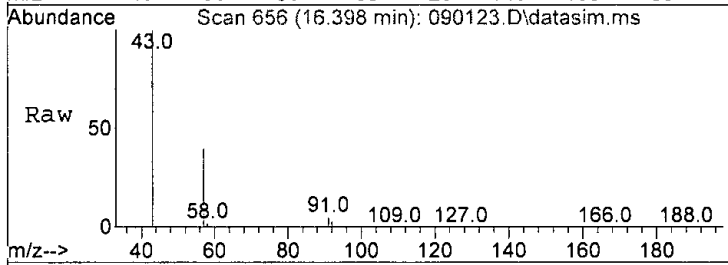
#37  
Benzene  
Concen: 3.374 ppbv  
RT: 12.70 min Scan# 485  
Delta R.T. -0.000 min  
Lab File: 090123.D  
Acq: 2 Sep 2021 12:16 am

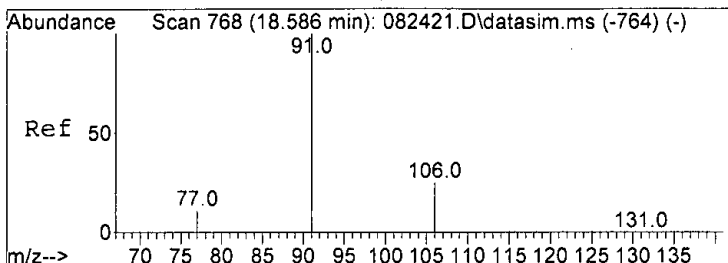
Tgt Ion: 78 Resp: 207926  
Ion Ratio Lower Upper  
78 100  
52 21.9 0.0 49.7



#50  
Toluene  
Concen: 1.530 ppbv  
RT: 16.40 min Scan# 656  
Delta R.T. 0.001 min  
Lab File: 090123.D  
Acq: 2 Sep 2021 12:16 am

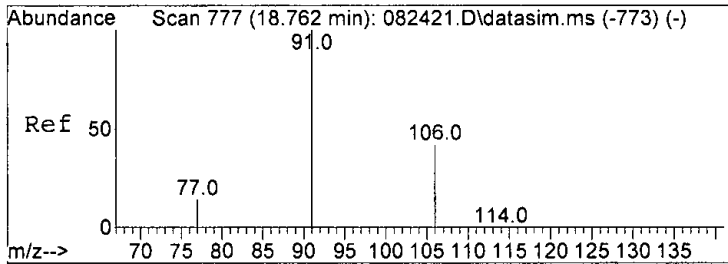
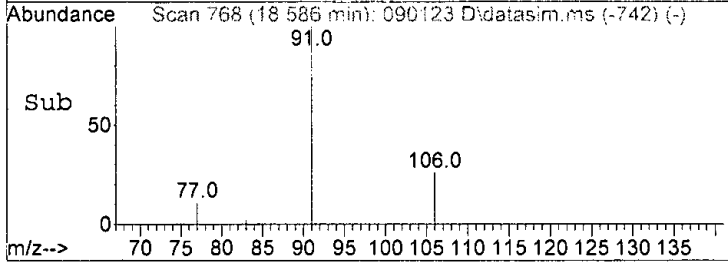
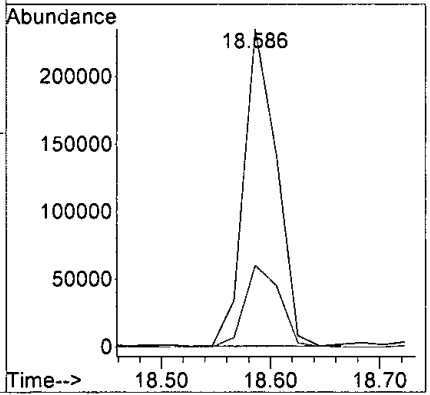
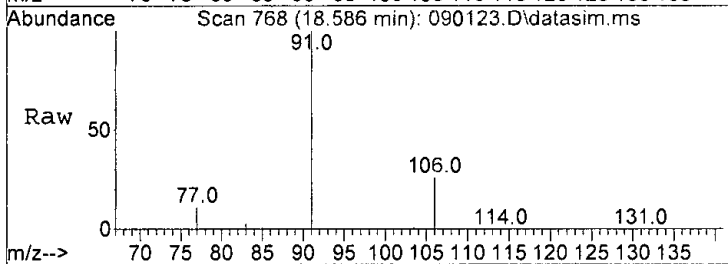
Tgt Ion: 92 Resp: 57162  
Ion Ratio Lower Upper  
92 100  
91 179.8 174.6 234.6





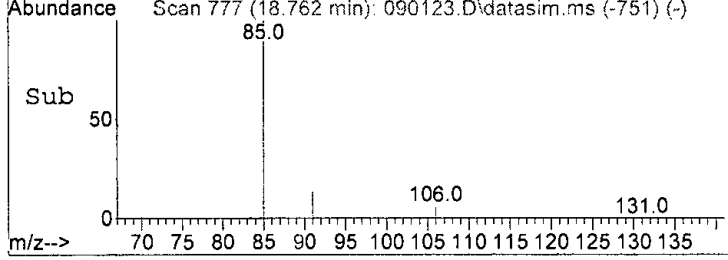
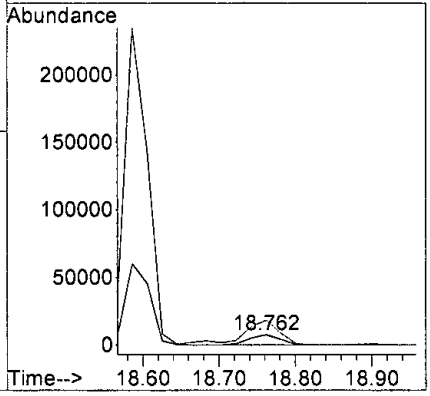
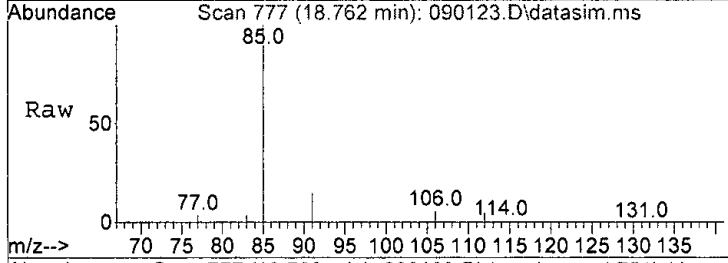
#58  
 Ethylbenzene  
 Concen: 5.083 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090123.D  
 Acq: 2 Sep 2021 12:16 am

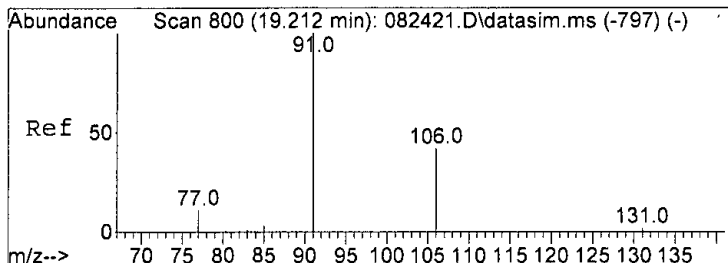
Tgt Ion	Resp	Lower	Upper
91	100		
106	25.6	0.0	57.0



#65  
 m,p-Xylene  
 Concen: 0.666 ppbv  
 RT: 18.76 min Scan# 777  
 Delta R.T. 0.000 min  
 Lab File: 090123.D  
 Acq: 2 Sep 2021 12:16 am

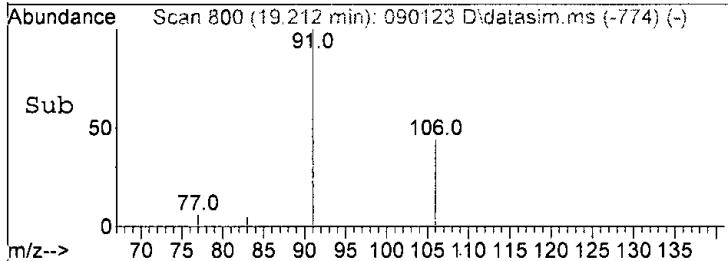
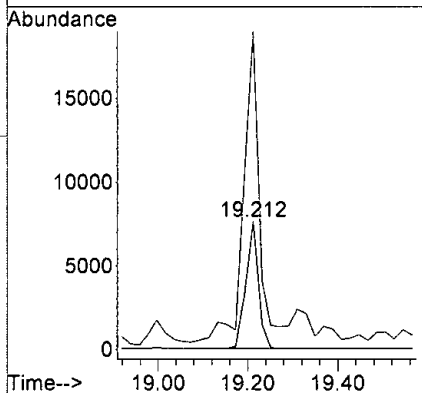
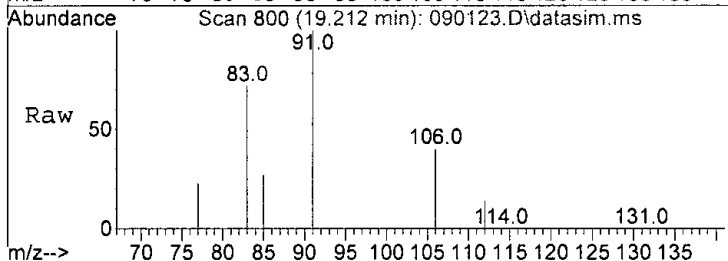
Tgt Ion	Resp	Lower	Upper
106	100		
91	243.3	193.0	253.0





#66  
 o-Xylene  
 Concen: 0.478 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090123.D  
 Acq: 2 Sep 2021 12:16 am

Tgt Ion:106 Resp: 14611  
 Ion Ratio Lower Upper  
 106 100  
 91 244.4 194.4 254.4



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:35:39 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	100652	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	498527	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	436273	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	430031m	10.880	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	108.80%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.		
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.		
6] Vinyl chloride	4.05	62	5610	0.252	ppbv	96
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10] Chloroethane	4.84	64	489m	0.064	ppbv	
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.		
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.		
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	6.73	96	103	N.D.		
19] trans-1,2-Dichloroethene	8.18	96	1593	0.097	ppbv	98
20) Methylene chloride	6.86	84	25294	1.436	ppbv	84
21) t-Butyl alcohol (TBA)	0.00		0	N.D.		
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.		
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.		
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.44	63	594	0.015	ppbv	93
28] cis-1,2-Dichloroethene	9.73	96	577	0.032	ppbv #	82
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	0.00		0	N.D.	d	
35) 1,1,1-Trichloroethane	11.69	97	146	N.D.		
36) Carbon tetrachloride	0.00		0	N.D.		
37] Benzene	12.70	78	207926	3.374	ppbv	95
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:35:39 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

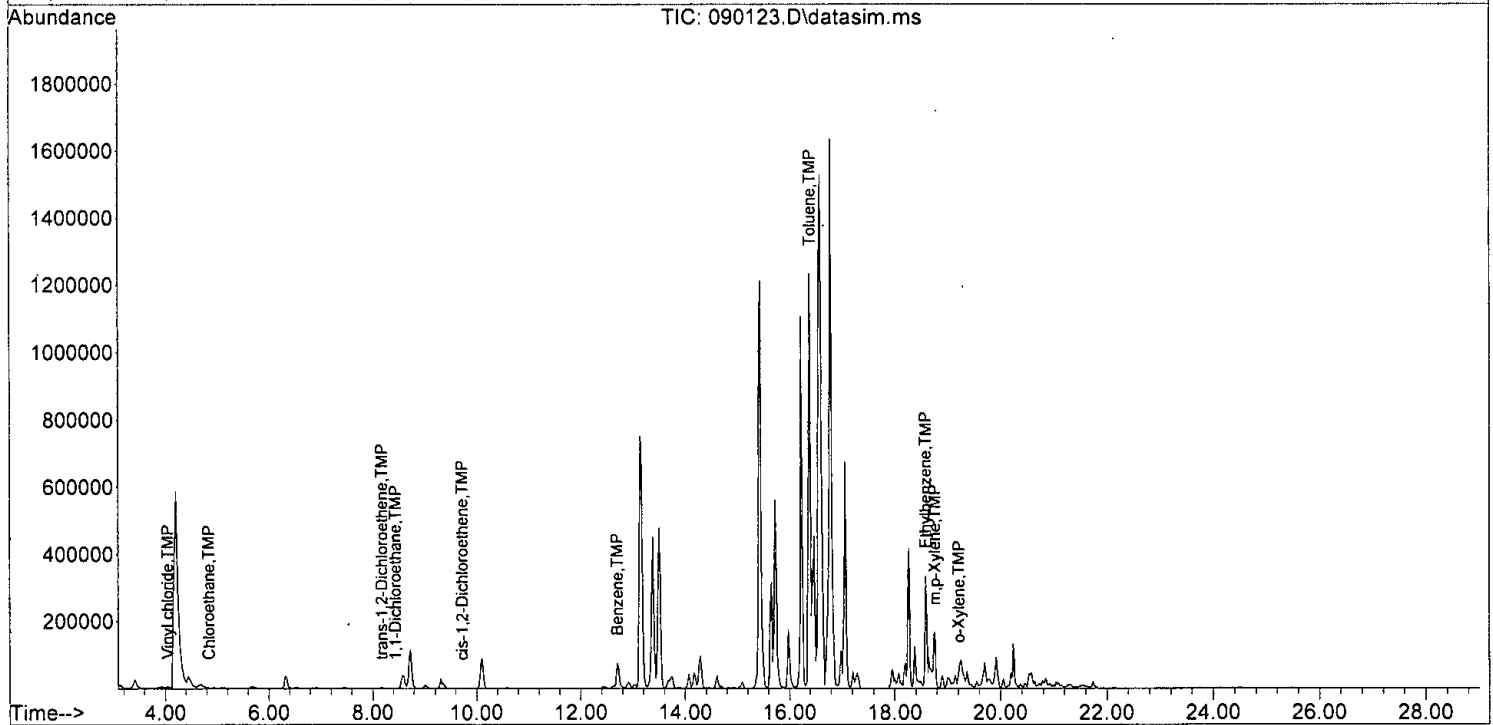
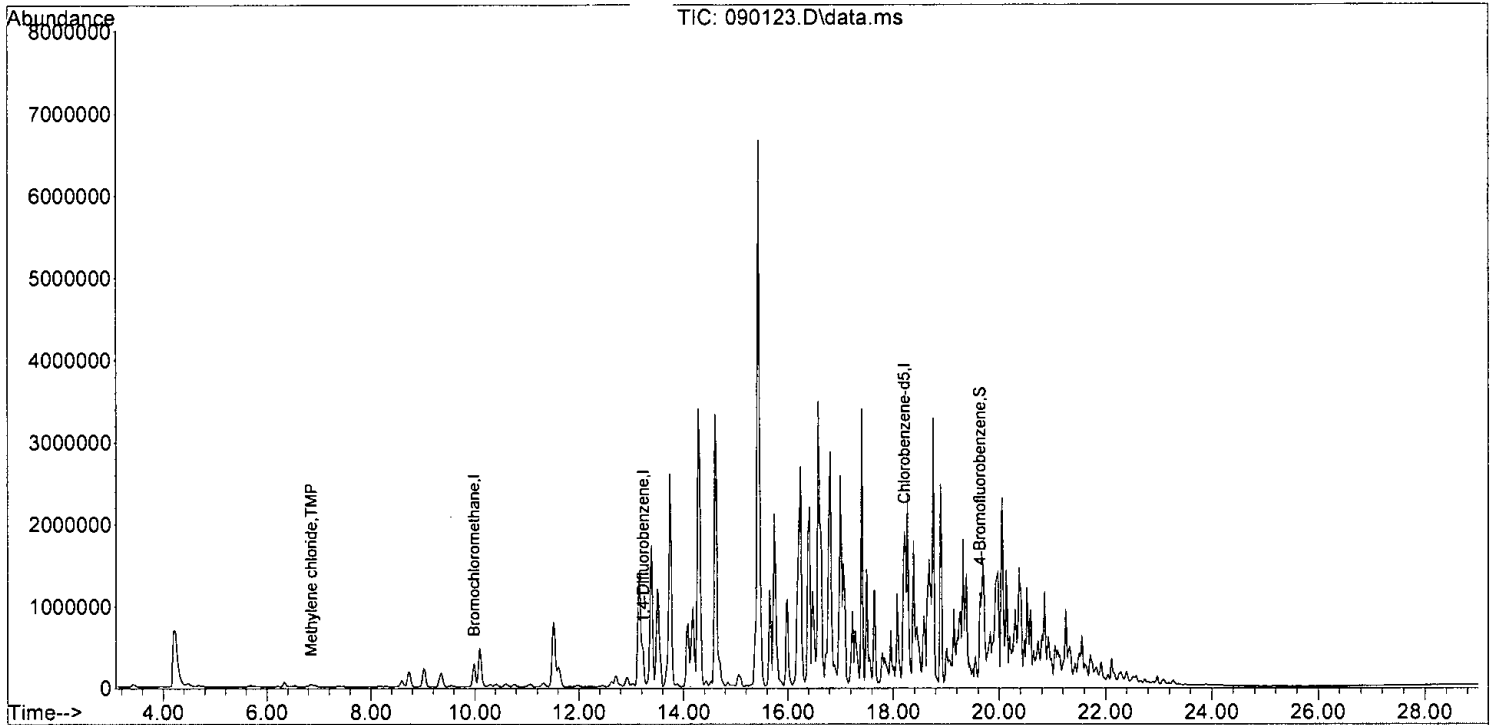
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46) Trichloroethene	0.00		0	N.D.	d	
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	57162	1.530	ppbv	84
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53) Tetrachloroethene	17.58	164	111	N.D.		
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	492579	5.083	ppbv	97
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.76	106	20719	0.666	ppbv	87
66] o-Xylene	19.21	106	14611	0.478	ppbv	88
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.		
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77) Naphthalene	23.93	128	2369	N.D.		
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

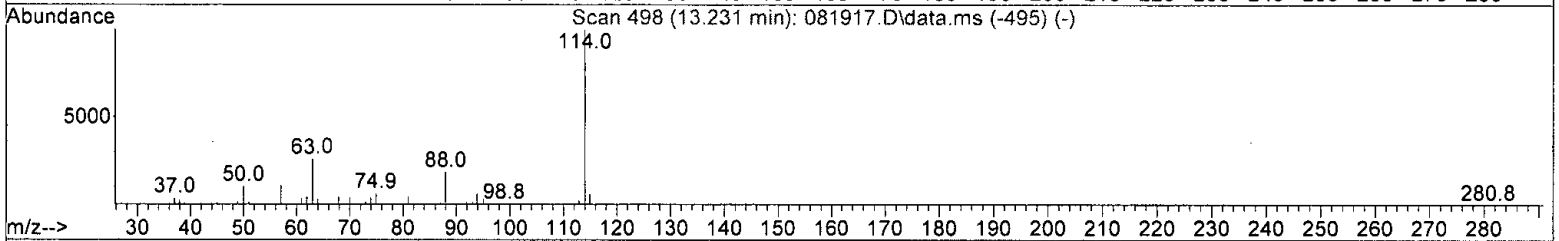
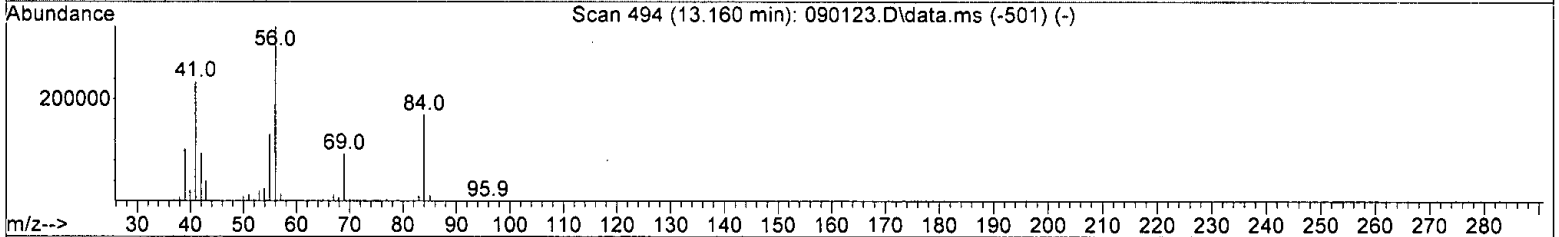
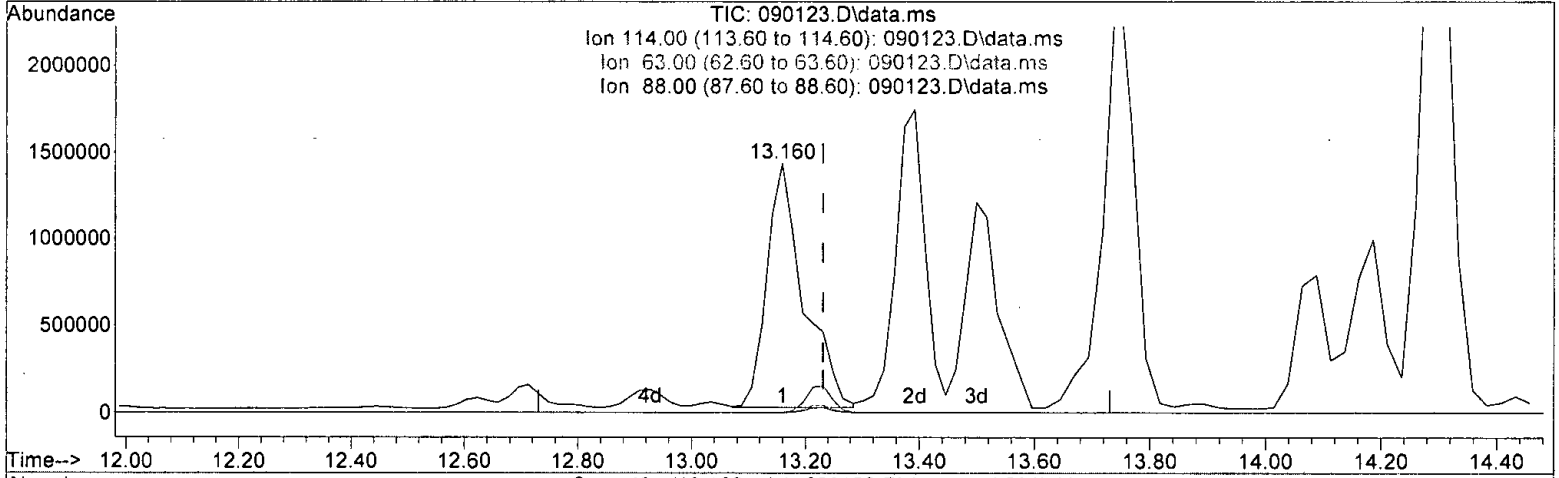
Quant Time: Sep 03 10:35:39 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:35:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.160min (-0.071) 250.443 ug/m3

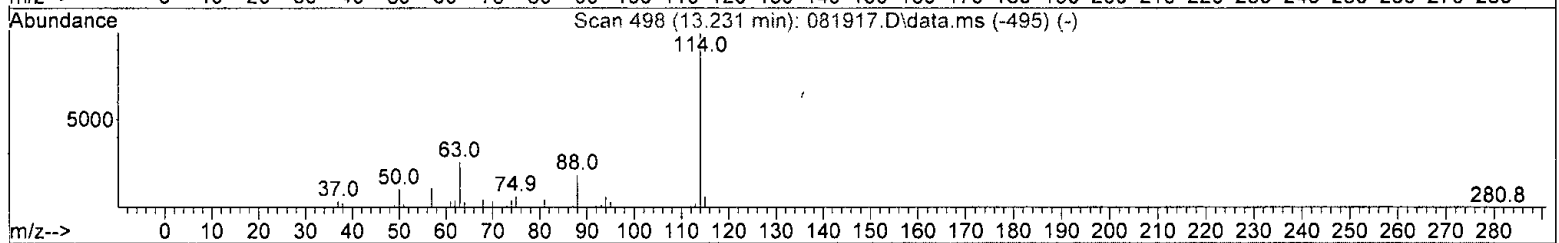
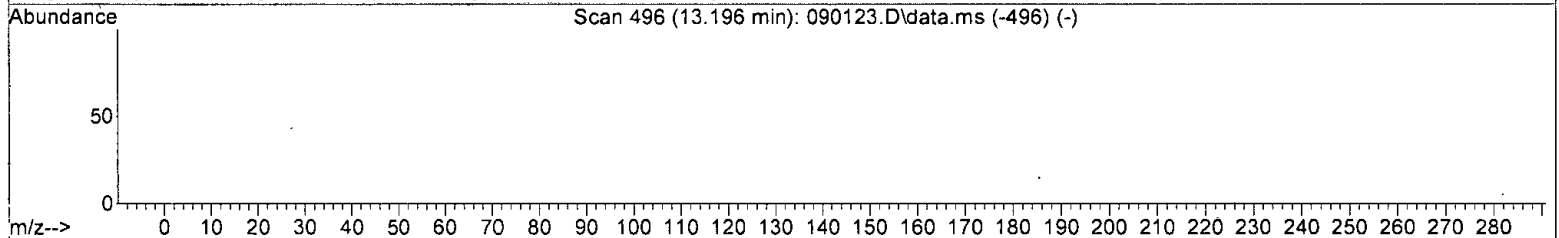
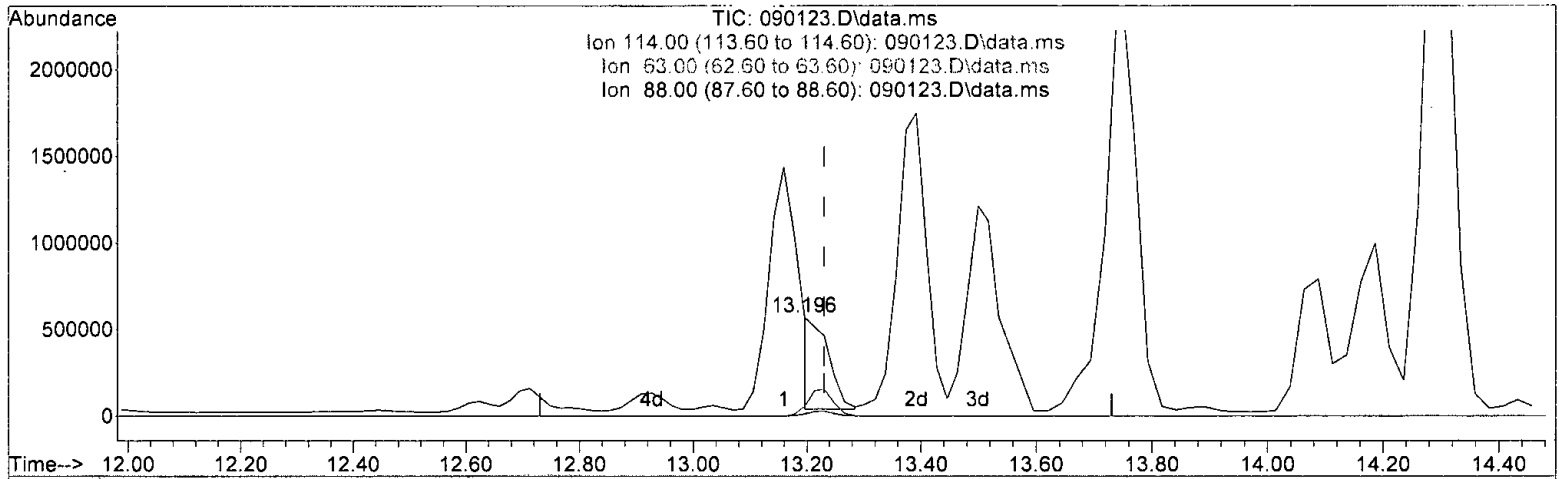
response 6317259

Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	0.07#
63.00	8.40	0.18
88.00	7.60	0.01

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:50:20 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.196min (-0.035) 48.340 ug/m3 m

response 1219333

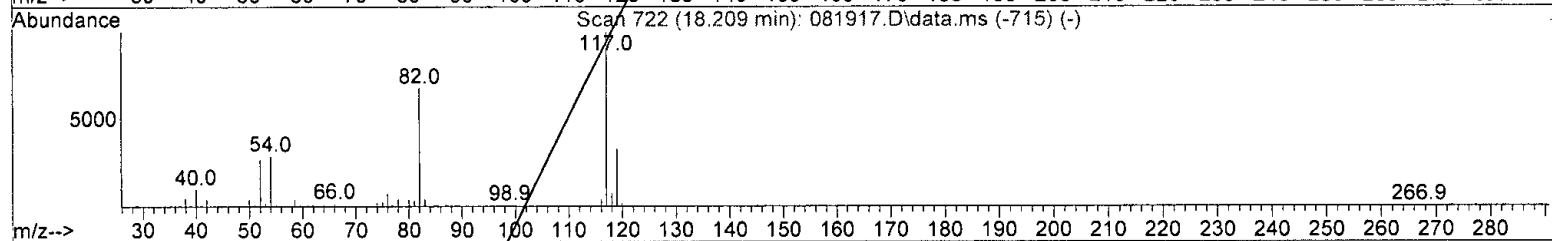
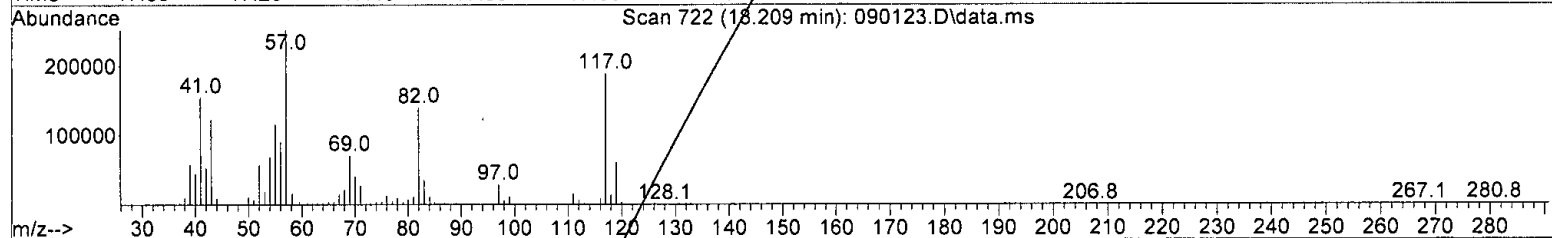
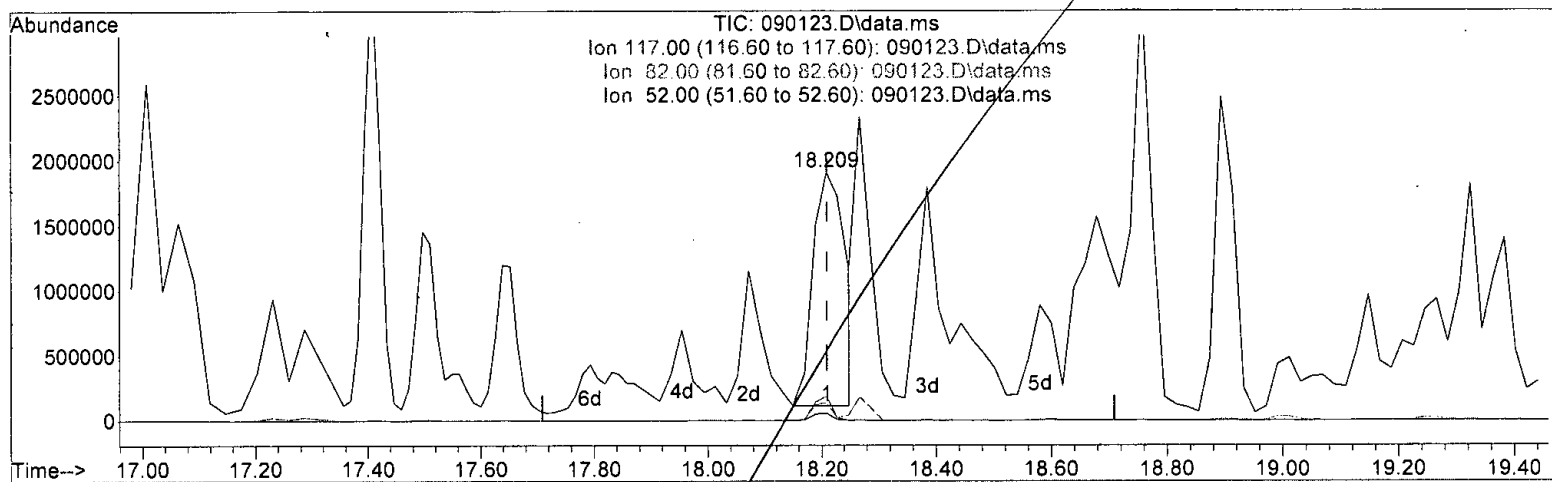
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	0.35#
63.00	8.40	0.93
88.00	7.60	0.07

*bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:35:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 234.596 ug/m3

response 7177544

Signal Exp% Act%

TIC 100.00 100.00

117.00 34.80 6.08#

82.00 18.10 4.86

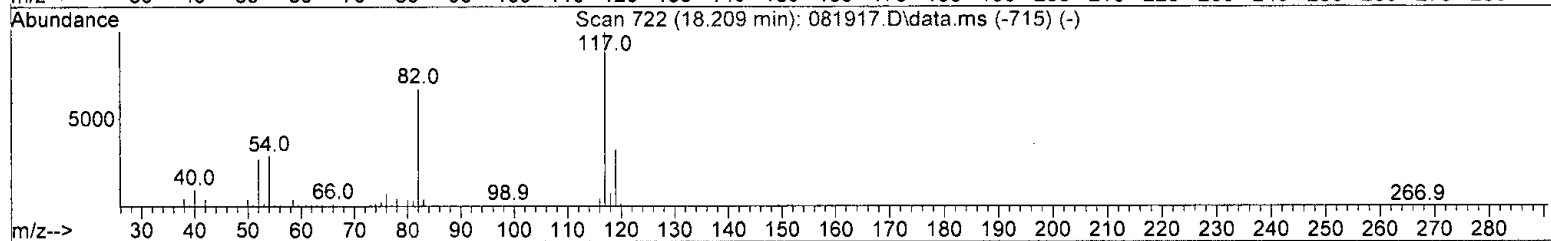
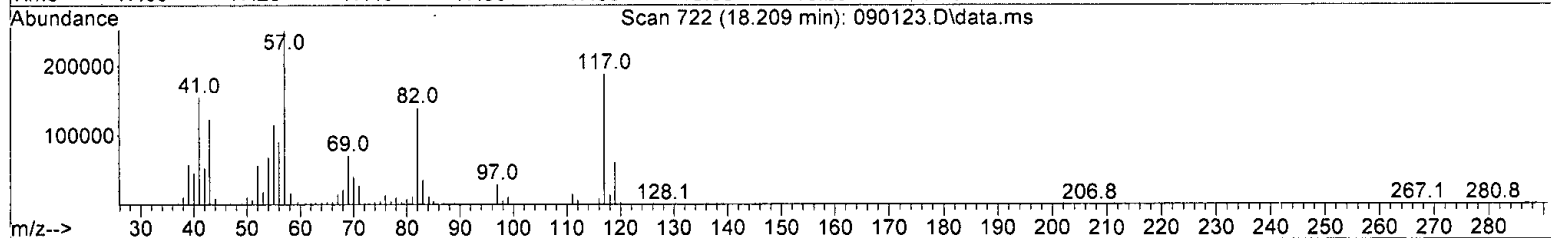
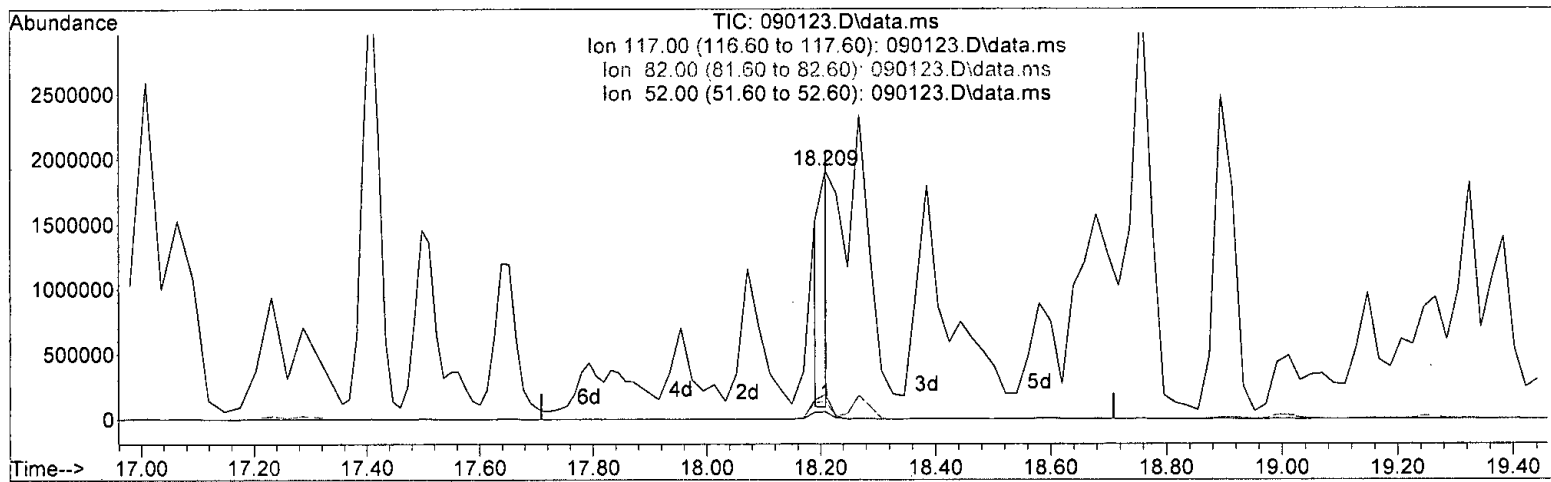
52.00 6.90 2.15

*Handwritten note:* 10/27/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:35:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 69.693 ug/m3 m

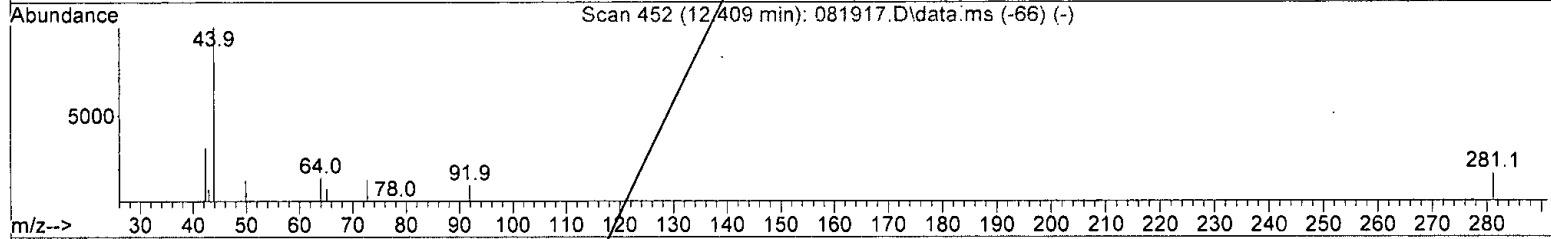
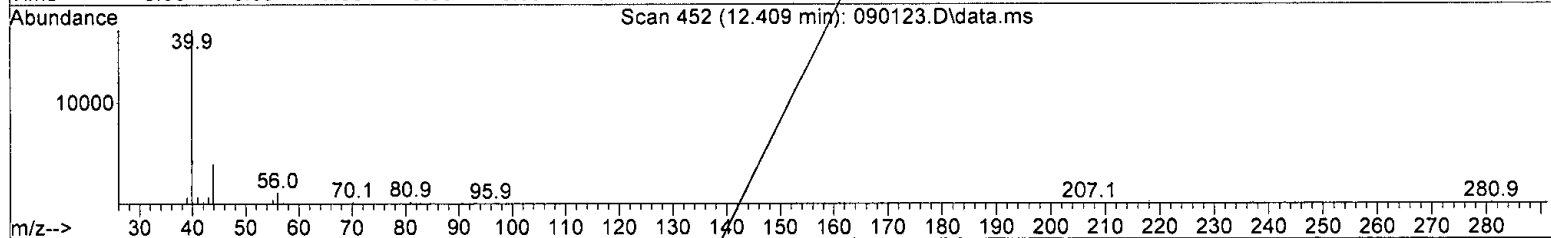
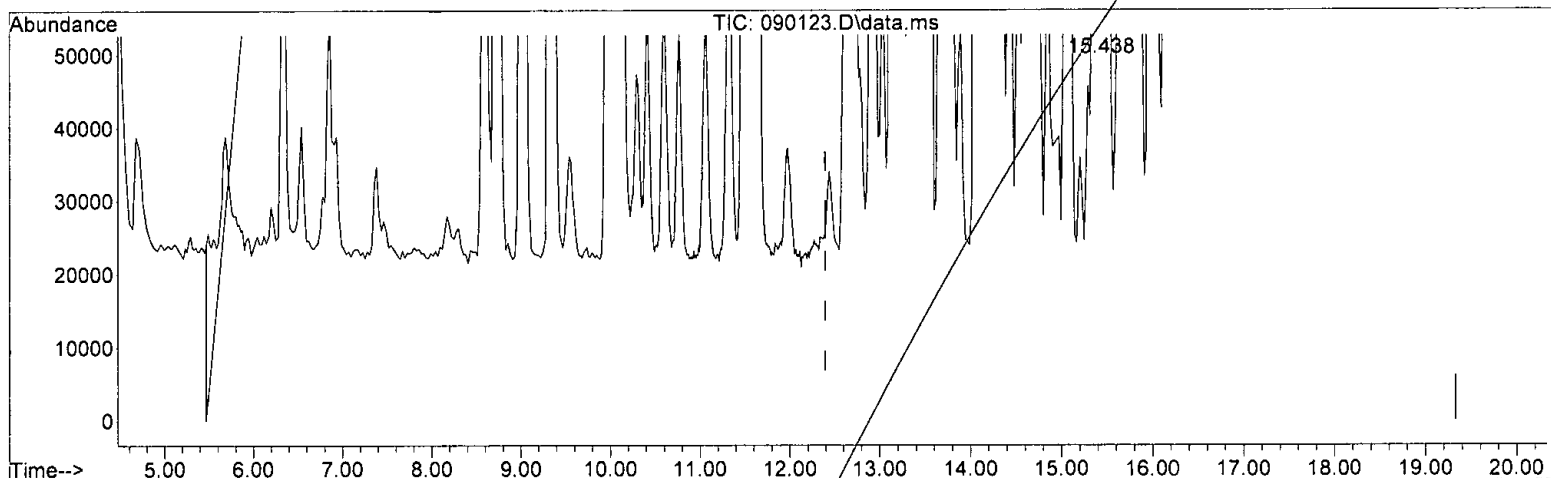
response 2132266

Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	20.46
82.00	18.10	16.36
52.00	6.90	7.23

*batonk*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:35:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 5290.211 ug/m3 m  
 response 209257281

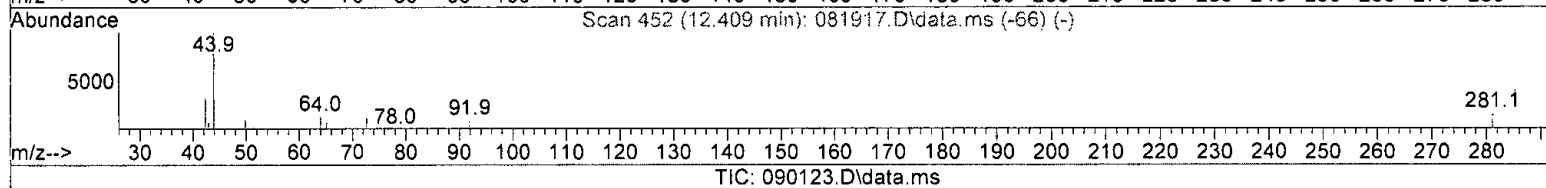
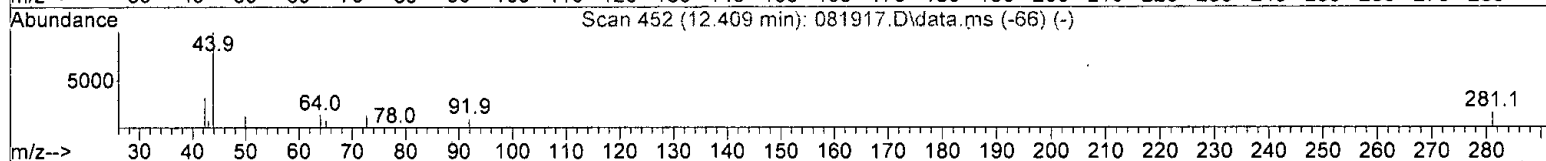
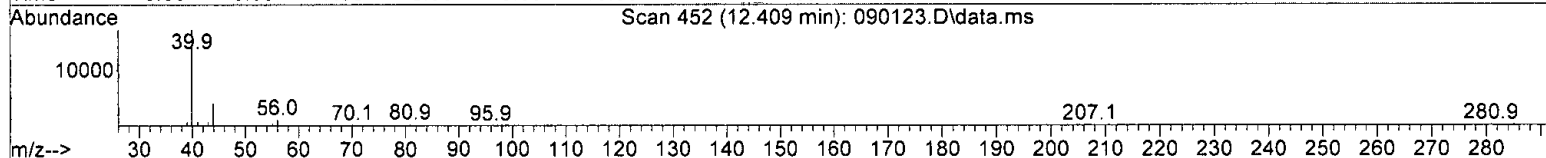
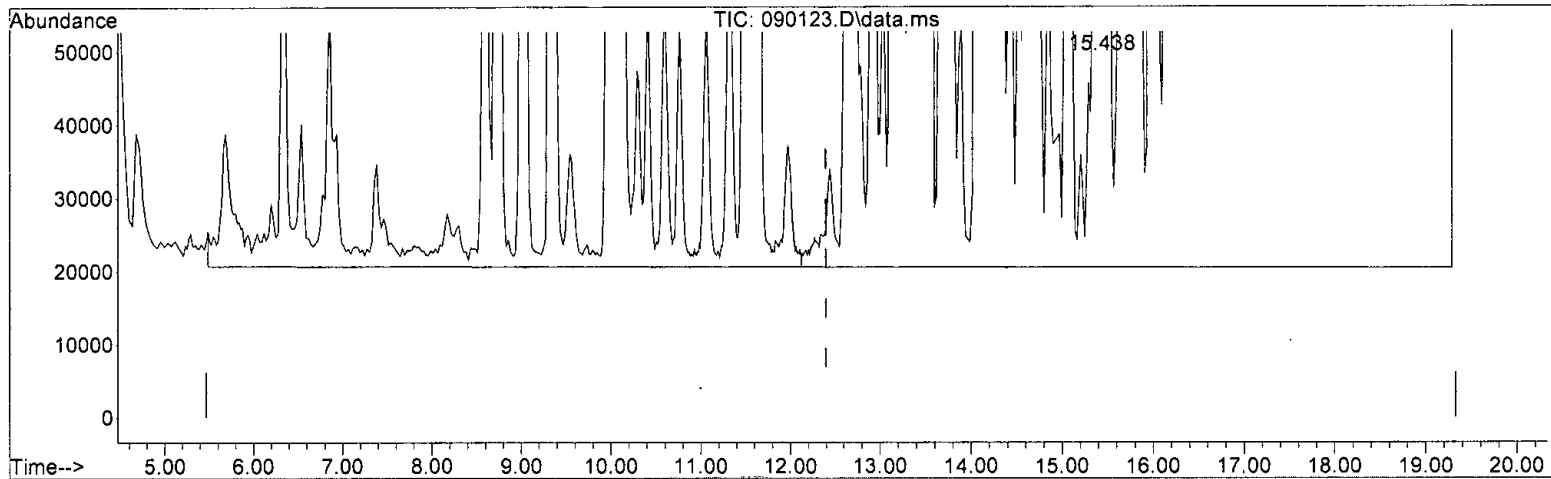
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*6/6/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:35:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 5784.111 ug/m3 m

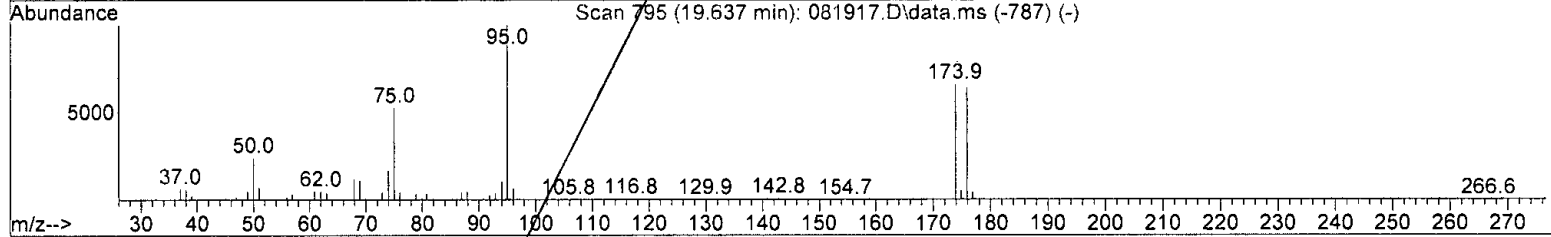
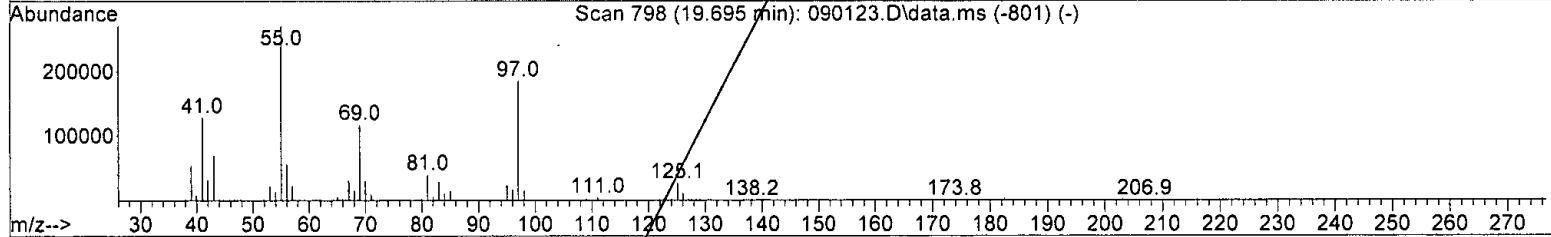
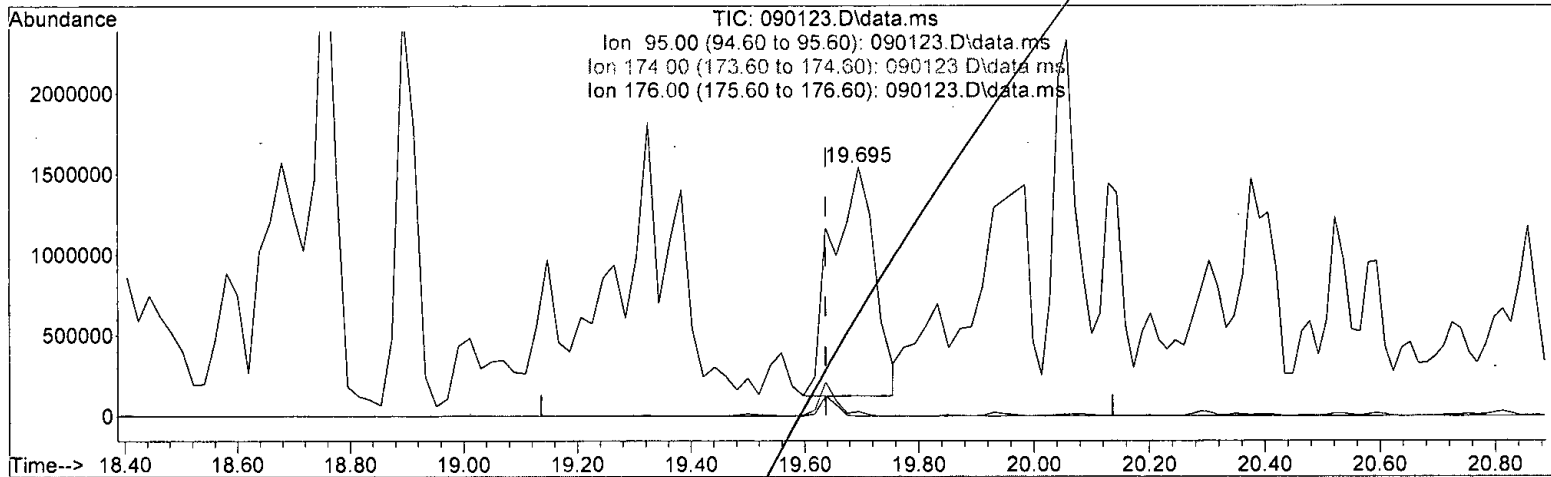
response 228793771

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*W or only*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:35:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.695min (+ 0.059) 200.521 ug/m3

response 7385243

Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	1.69
174.00	19.20	0.01
176.00	18.70	0.01

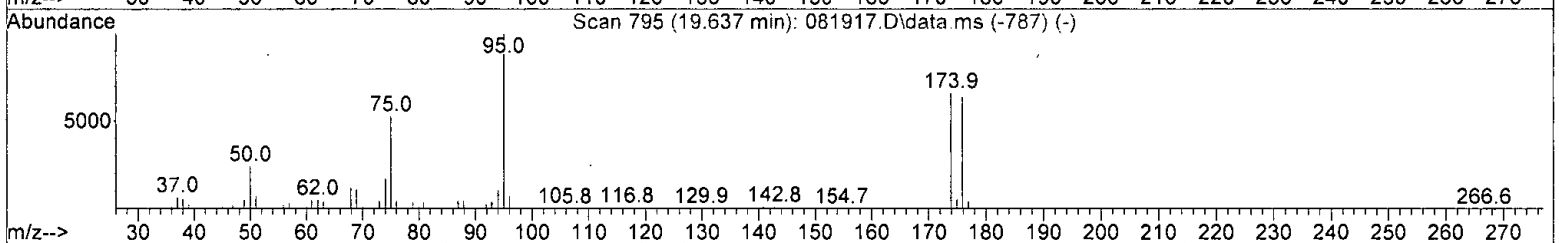
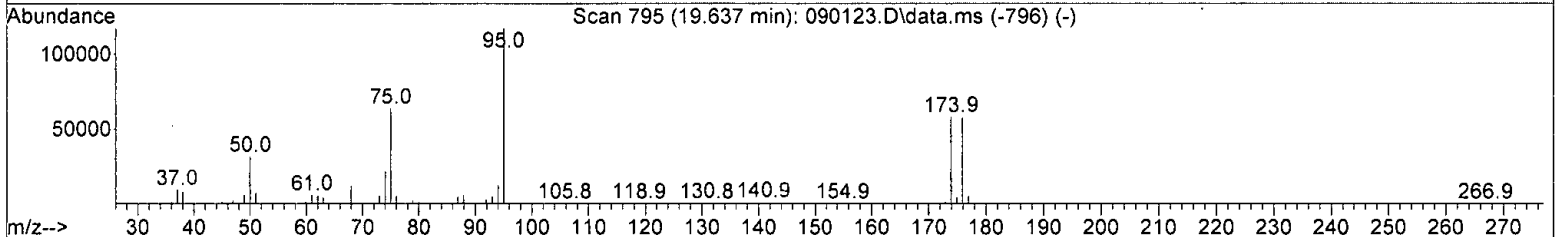
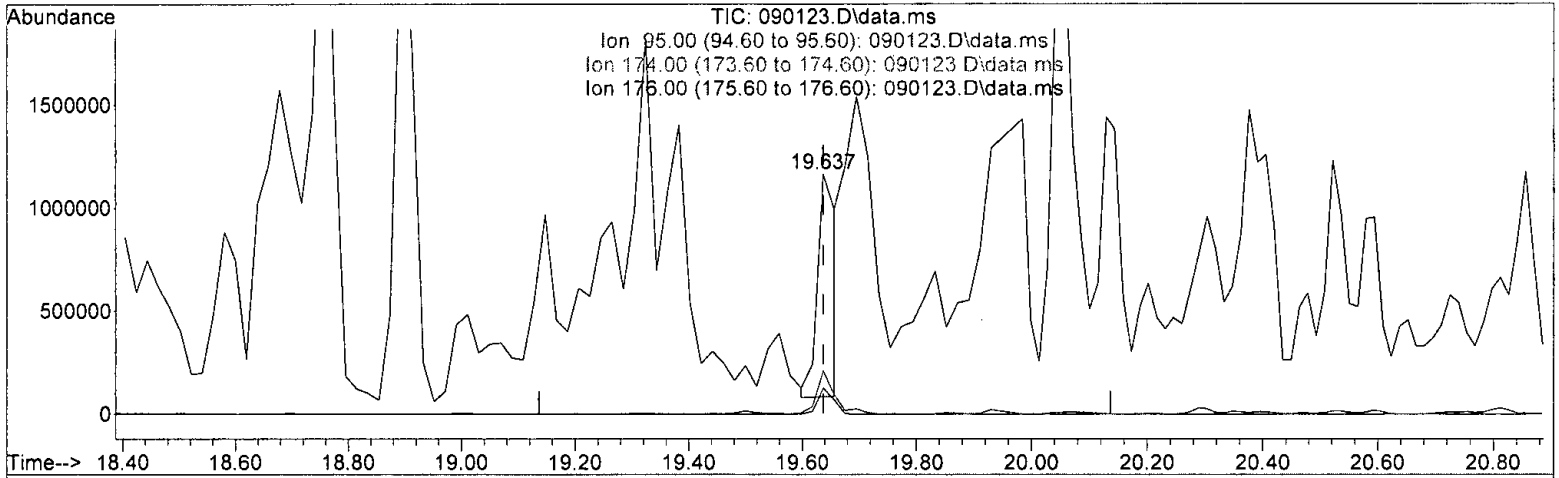
*h/only*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:35:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 68.679 ug/m3 m

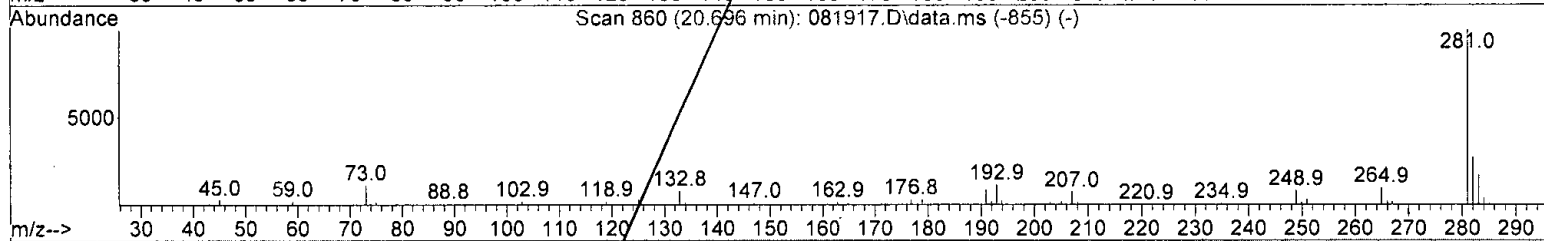
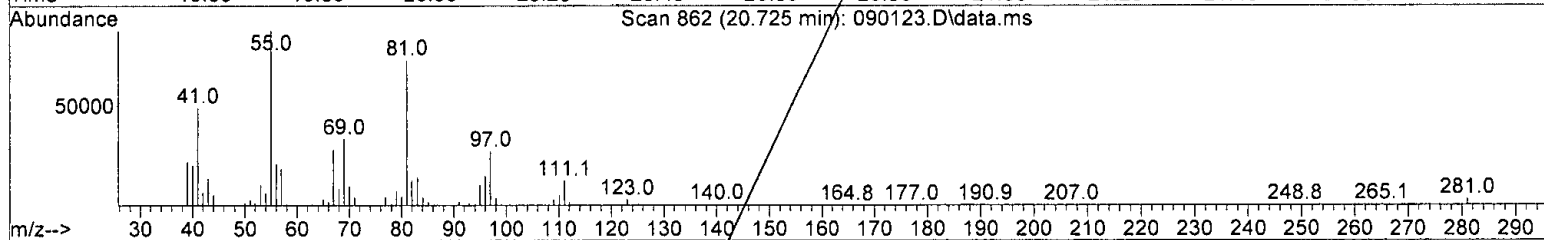
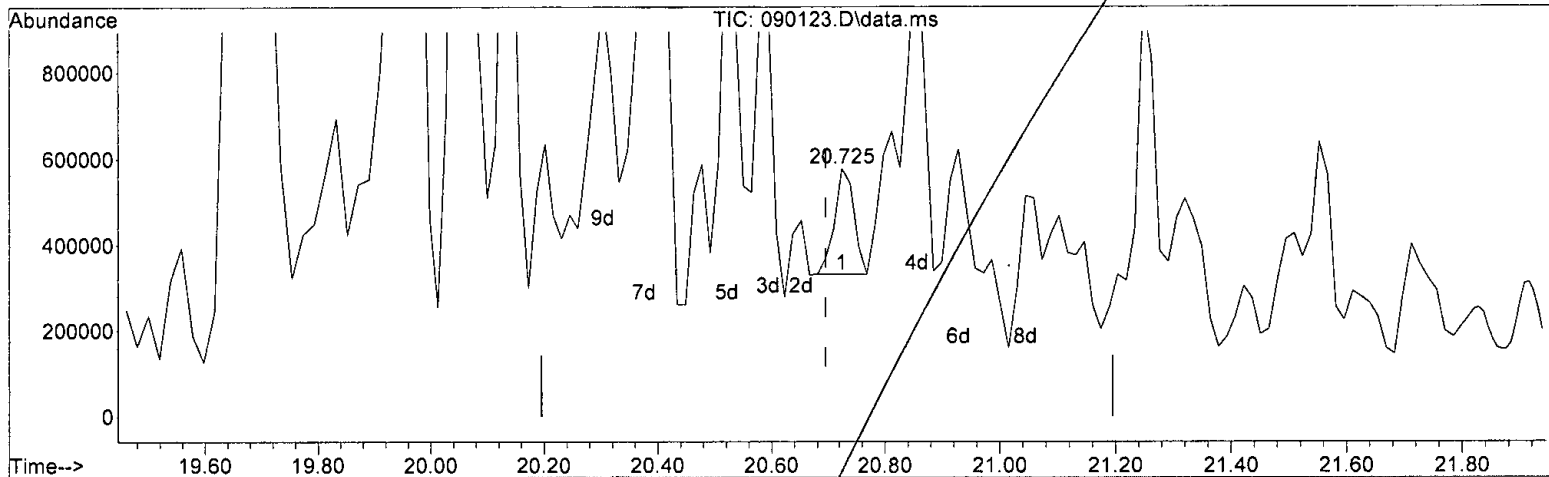
response	2529478
Signal	Exp% Act%
TIC	100.00 100.00
95.00	20.00 4.93
174.00	19.20 0.03
176.00	18.70 0.02

*N only*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:35:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.725min (+ 0.029) 51.224 ppbv

response 579961

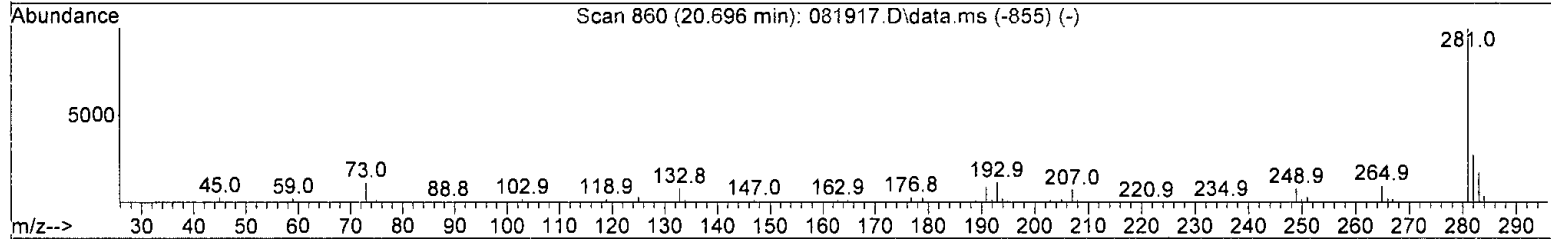
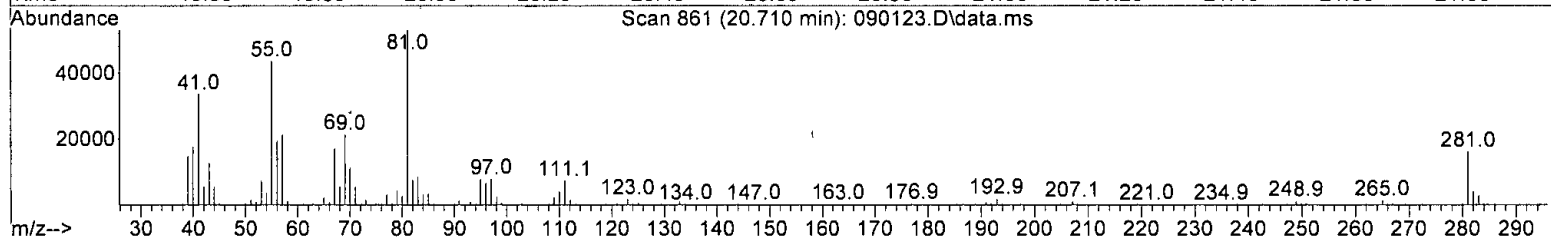
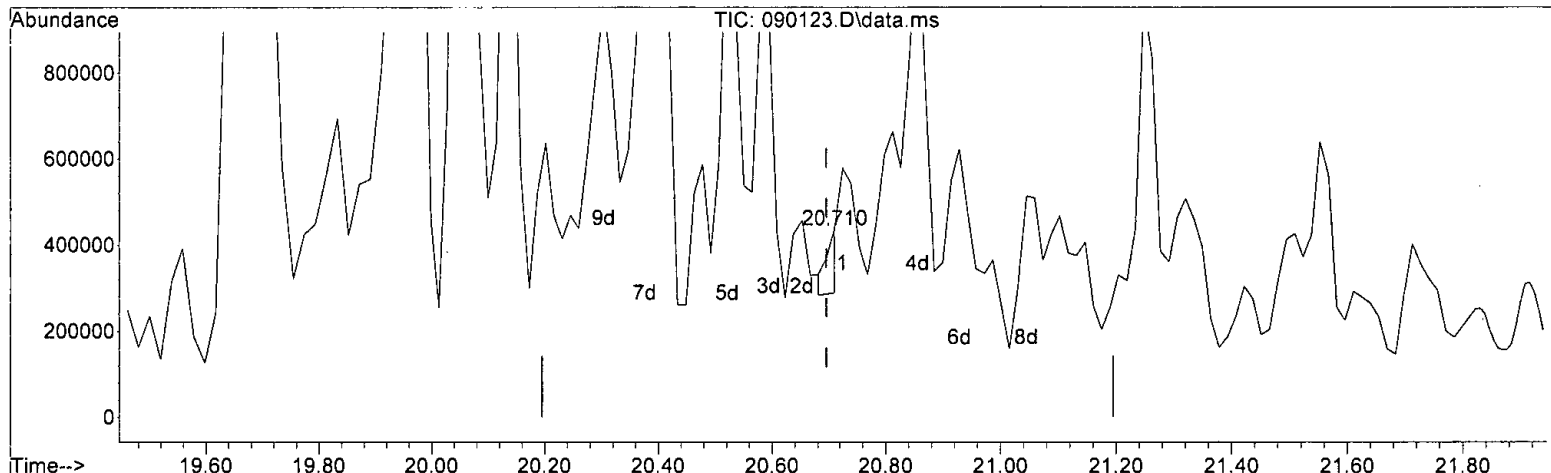
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:35:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.710min (+ 0.014) 17.834 ppbv m

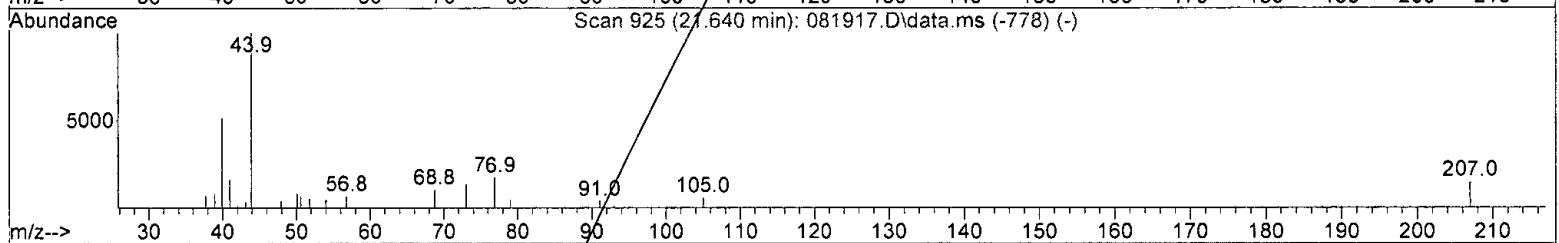
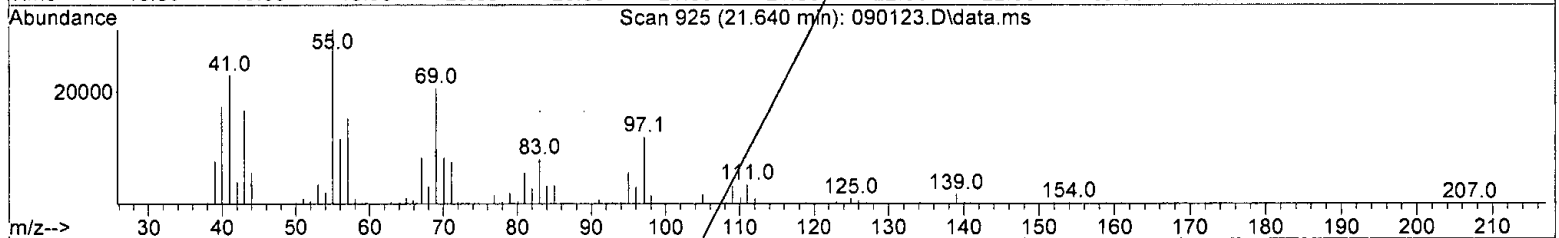
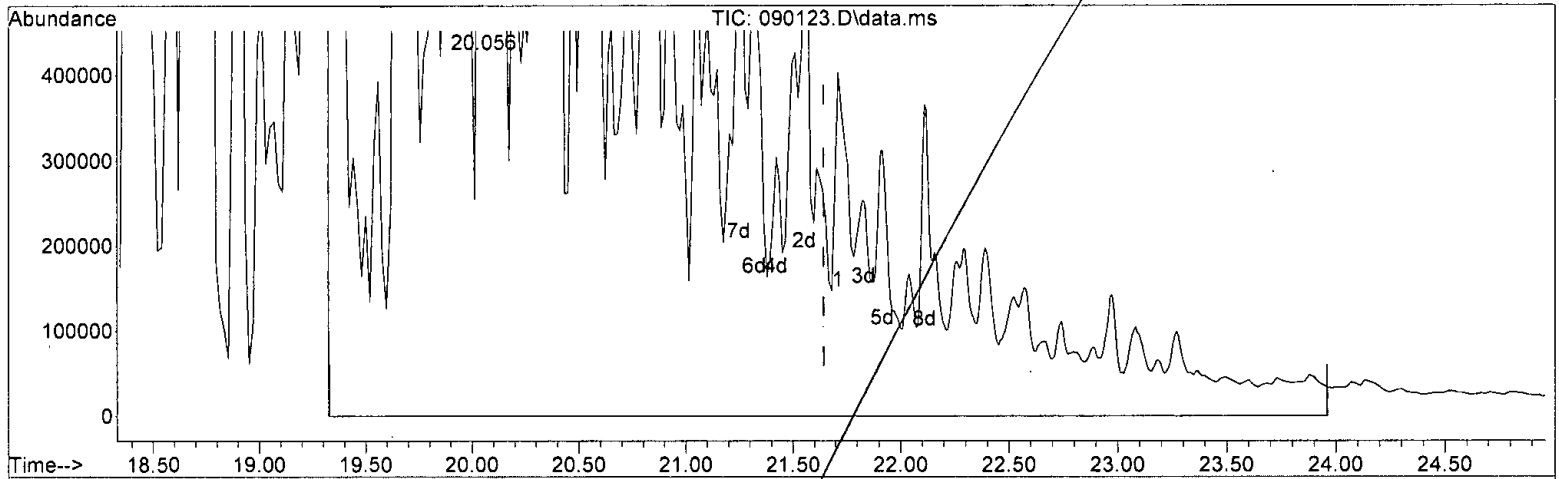
response	Exp%	Act%
201919		
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:35:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 1053.193 ug/m3 m

response 47010999

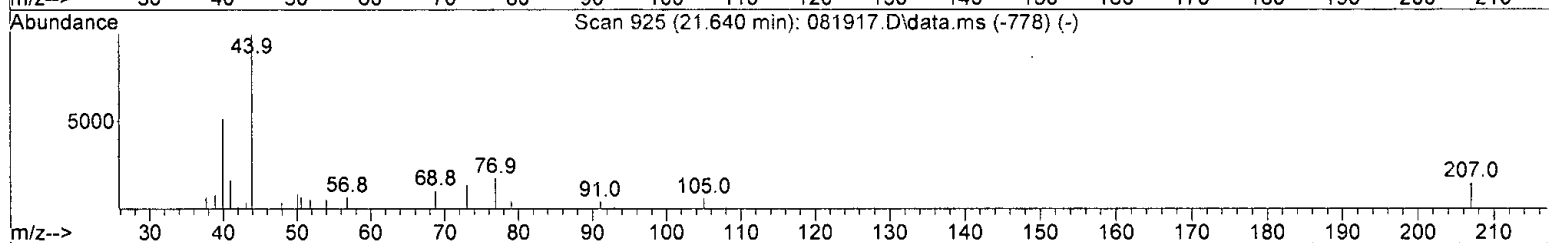
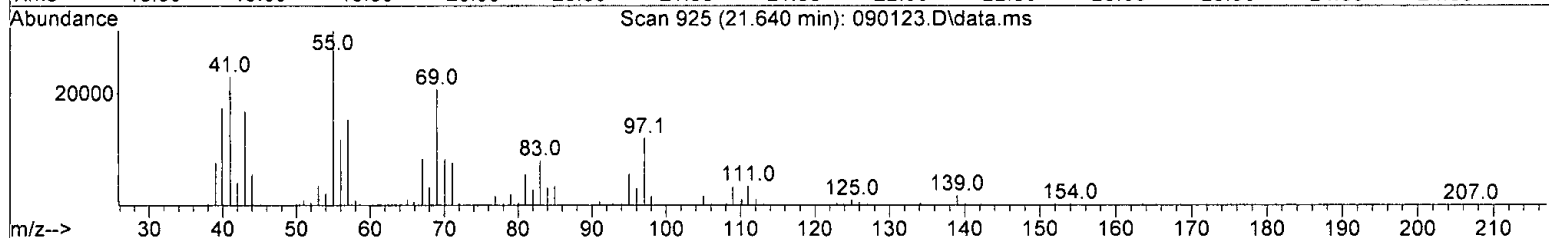
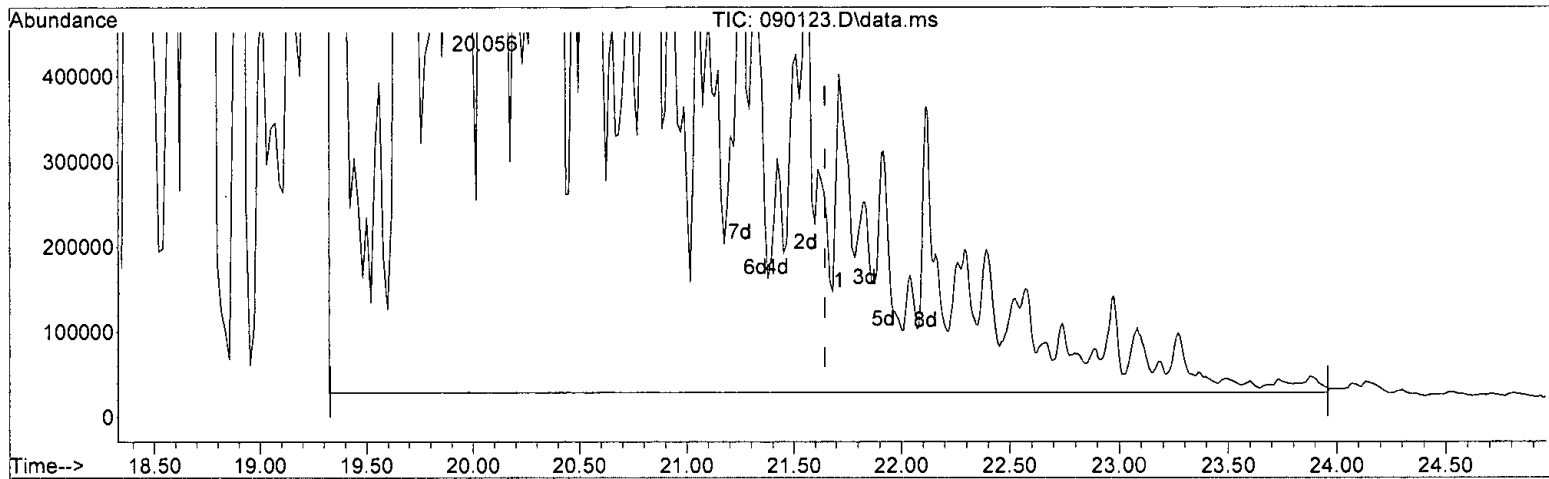
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten note:* 11/01/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:35:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 1624.842 ug/m3 m

response 72527497

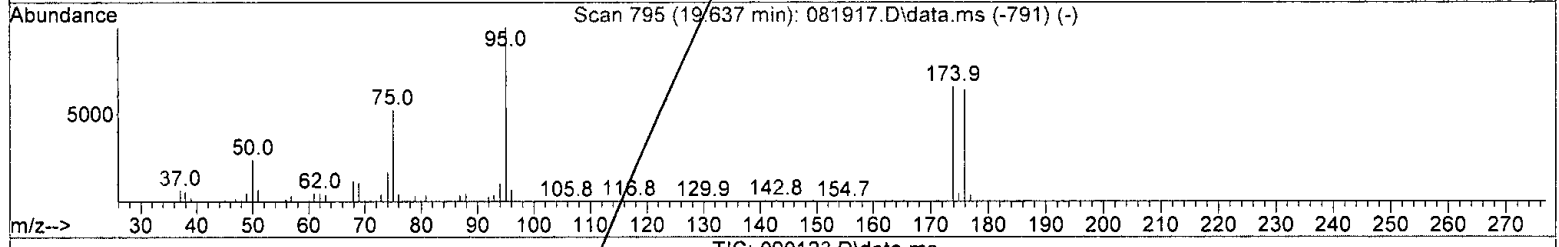
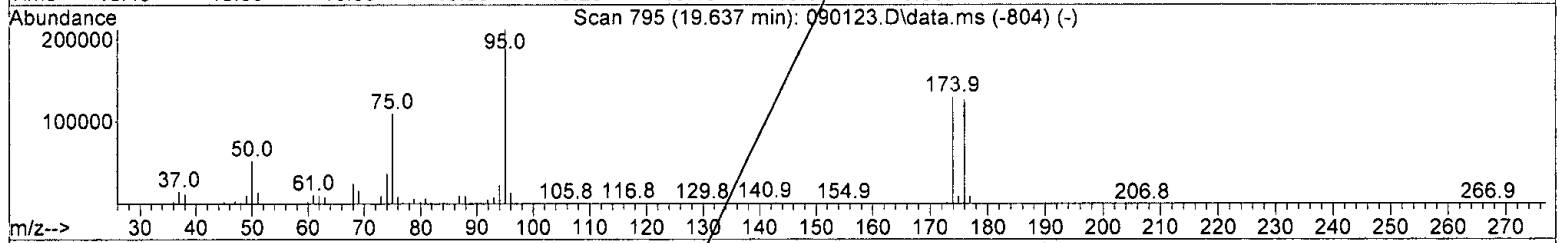
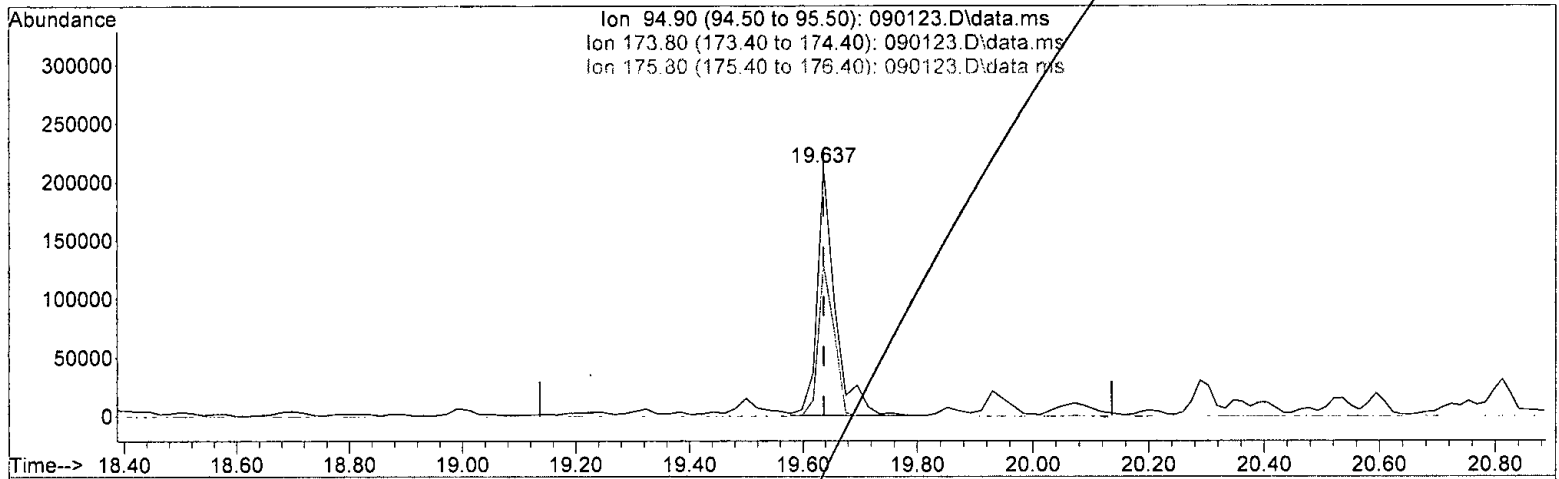
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:35:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 86.756 ug/m3

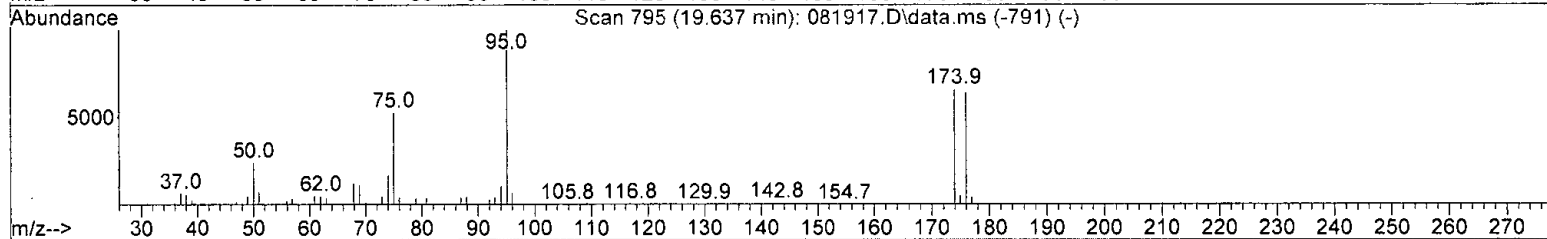
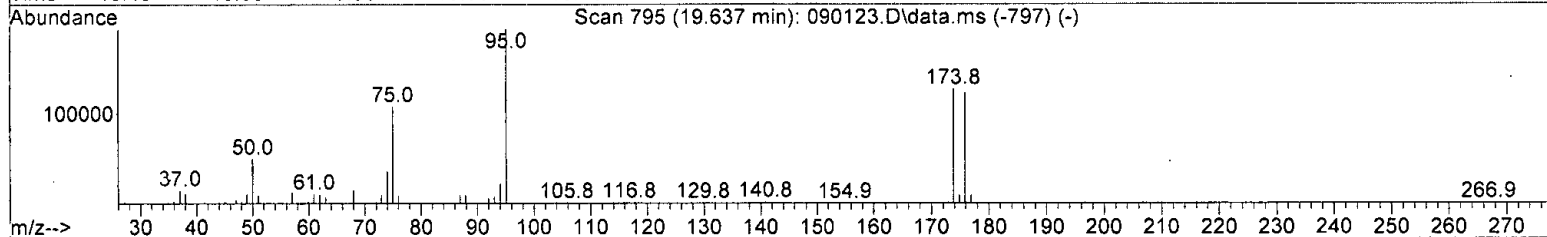
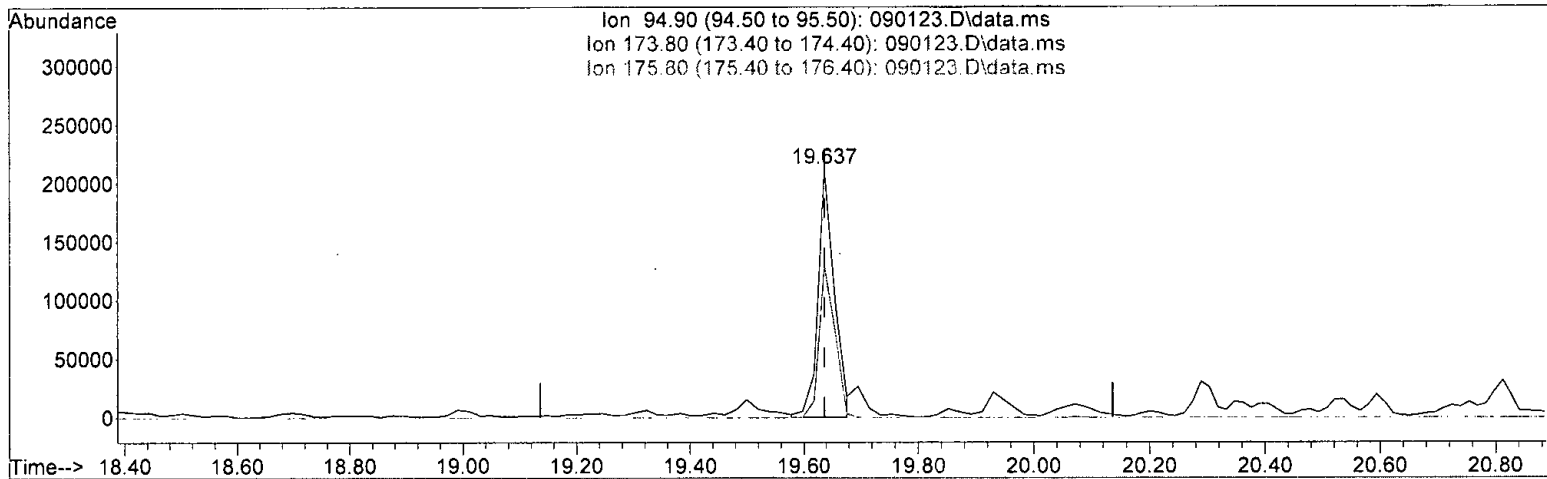
response	474199	
Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	61.34#
175.80	93.50	59.97#
0.00	0.00	0.00

*6/2/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:35:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090123.D\data.ms

(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 78.675 ug/m3 m

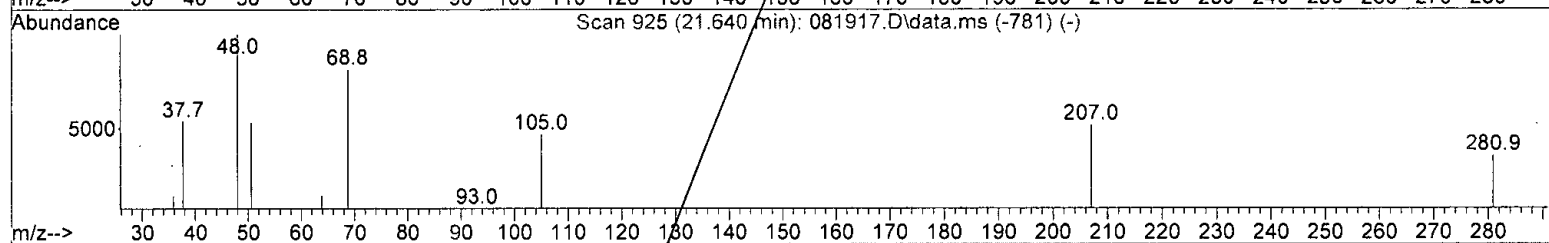
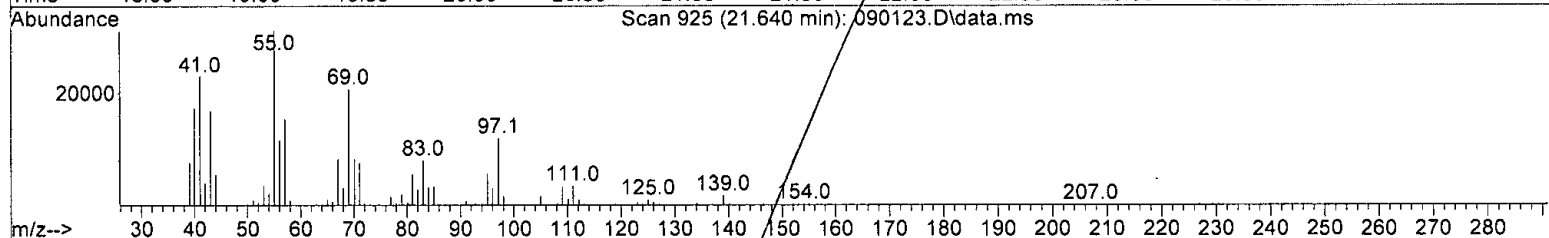
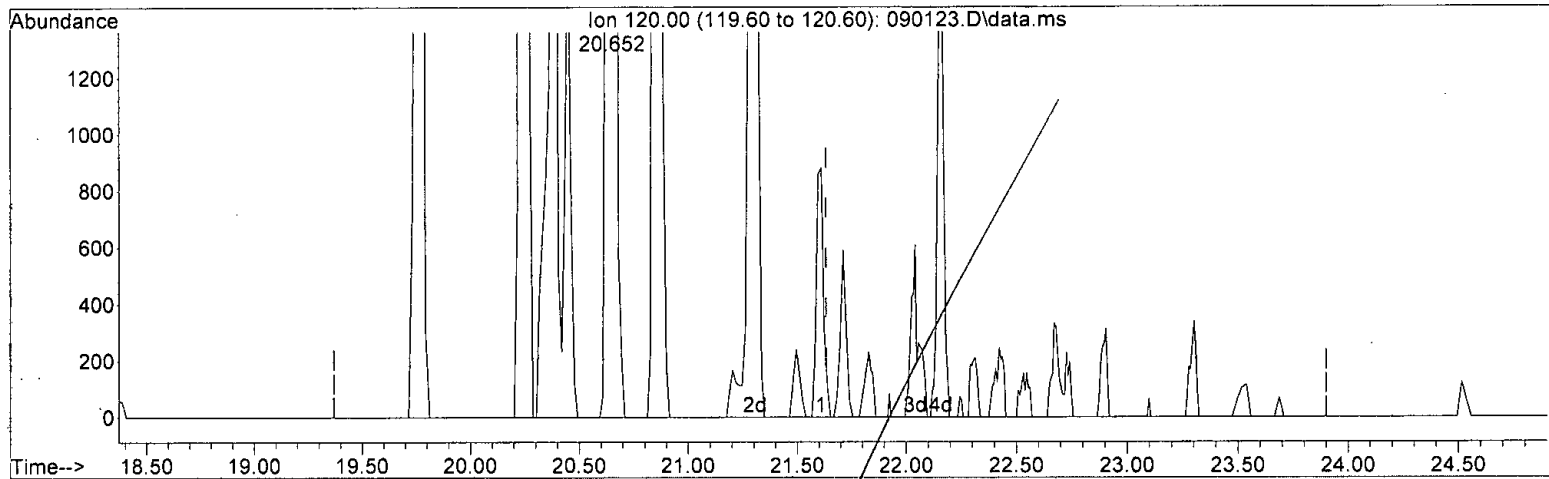
response	430031
Ion	Exp% Act%
94.90	100.00 100.00
173.80	96.00 61.21#
175.80	93.50 59.84#
0.00	0.00 0.00

*W  
calculated*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:35:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)  
 21.635min ( 0.000) 14.635 ug/m3 m  
 response 76058

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

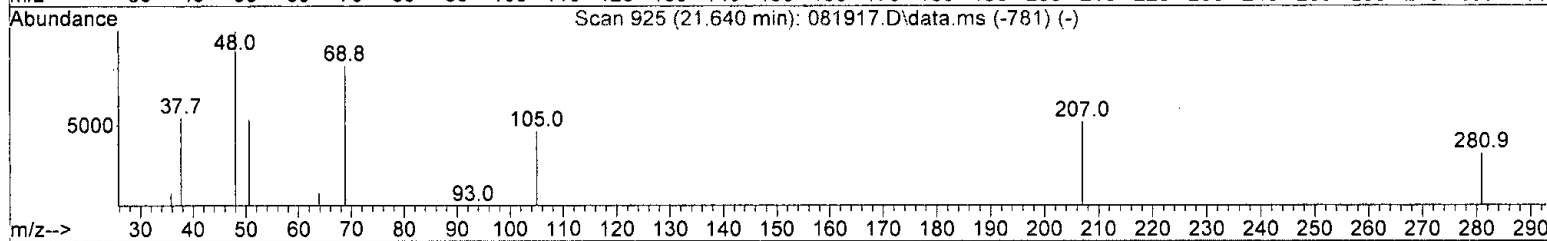
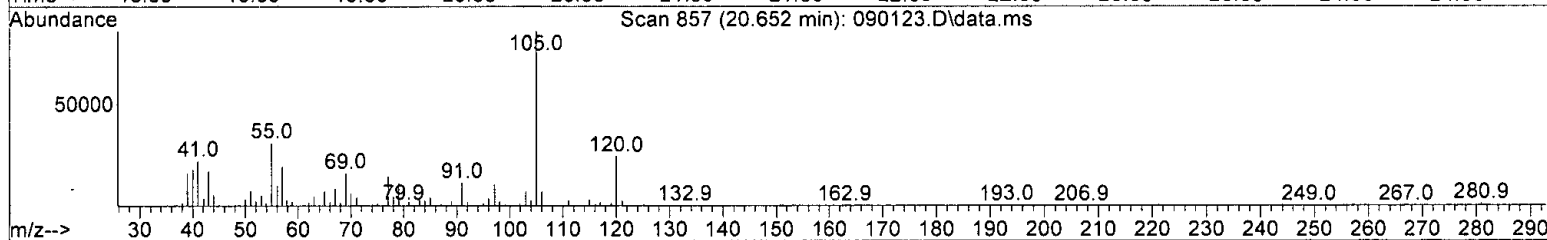
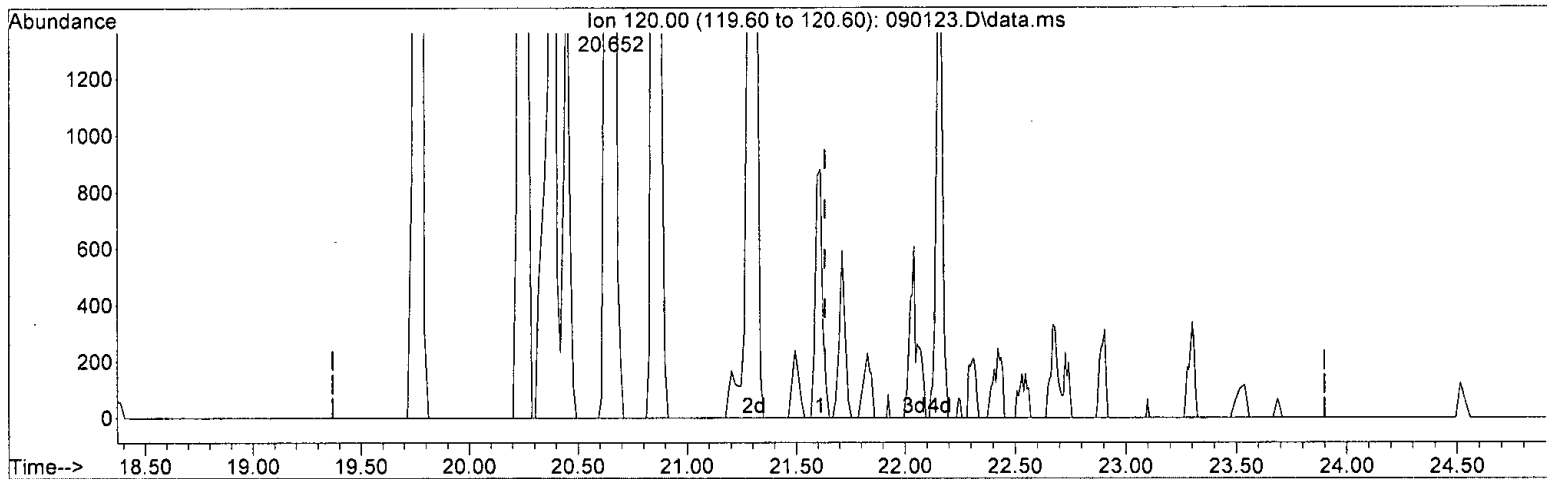
*N oratory*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:35:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*Handwritten signature: W. Orlosky*

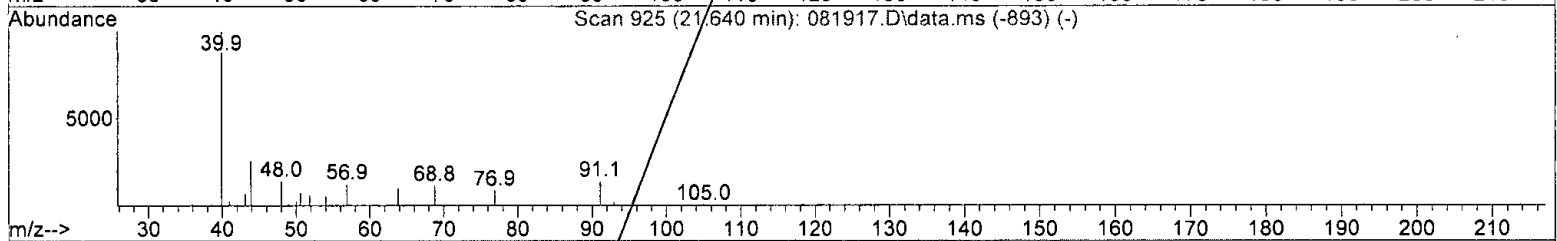
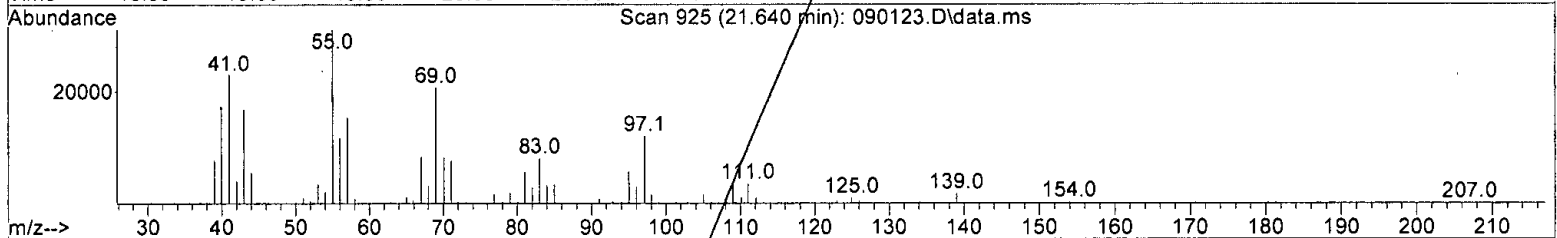
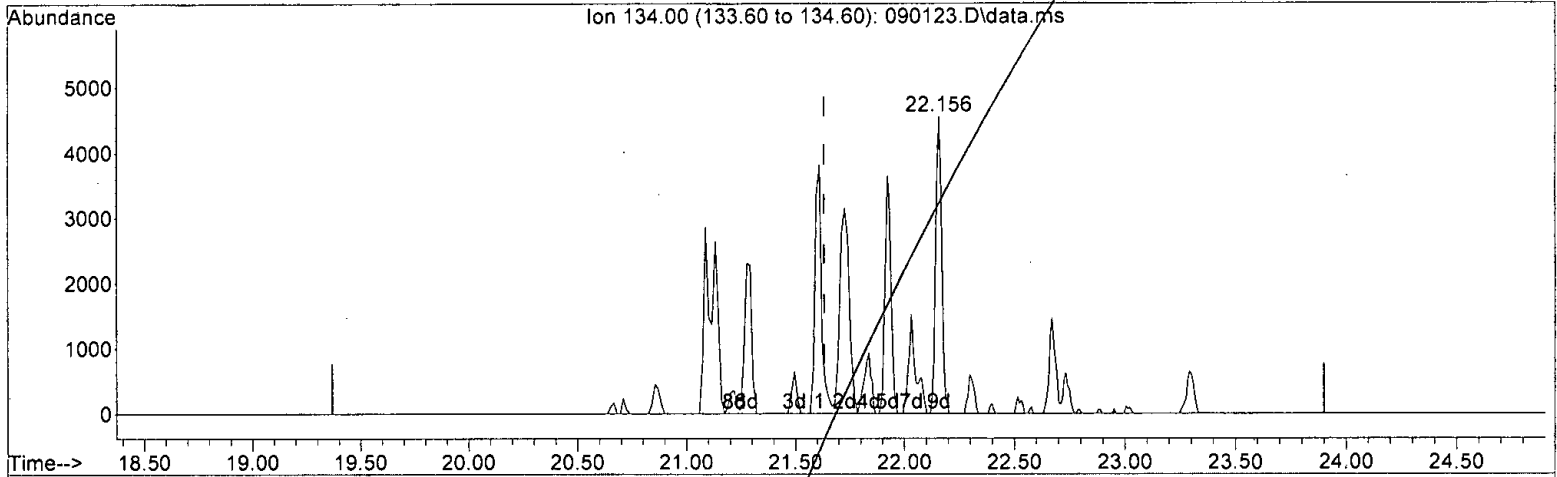
(44) APH EC9-10 aromatics (1) (H)  
 21.635min ( 0.000) 27.273 ug/m3 m

response	141739
Ion	Exp% Act%
120.00	100.00 100.00
0.00	0.00 0.00
0.00	0.00 0.00
0.00	0.00 0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:35:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*Handwritten signature:* H. Orlov

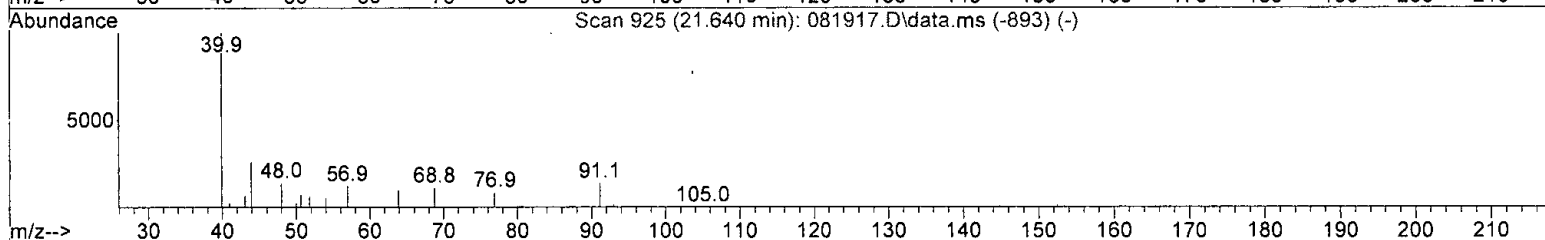
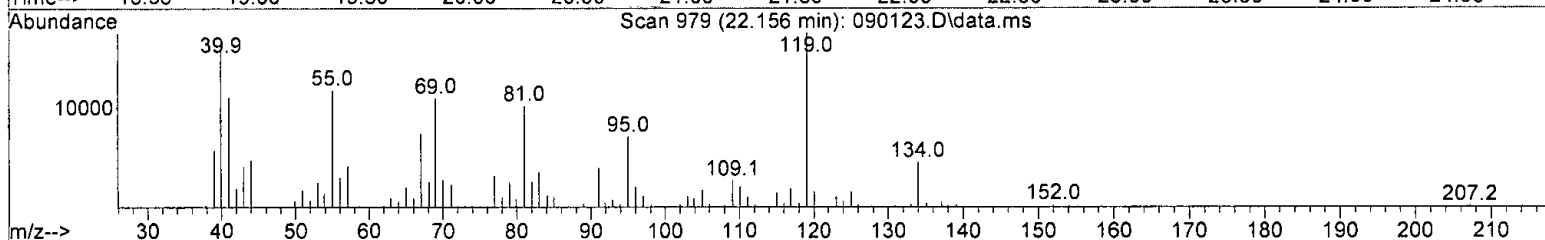
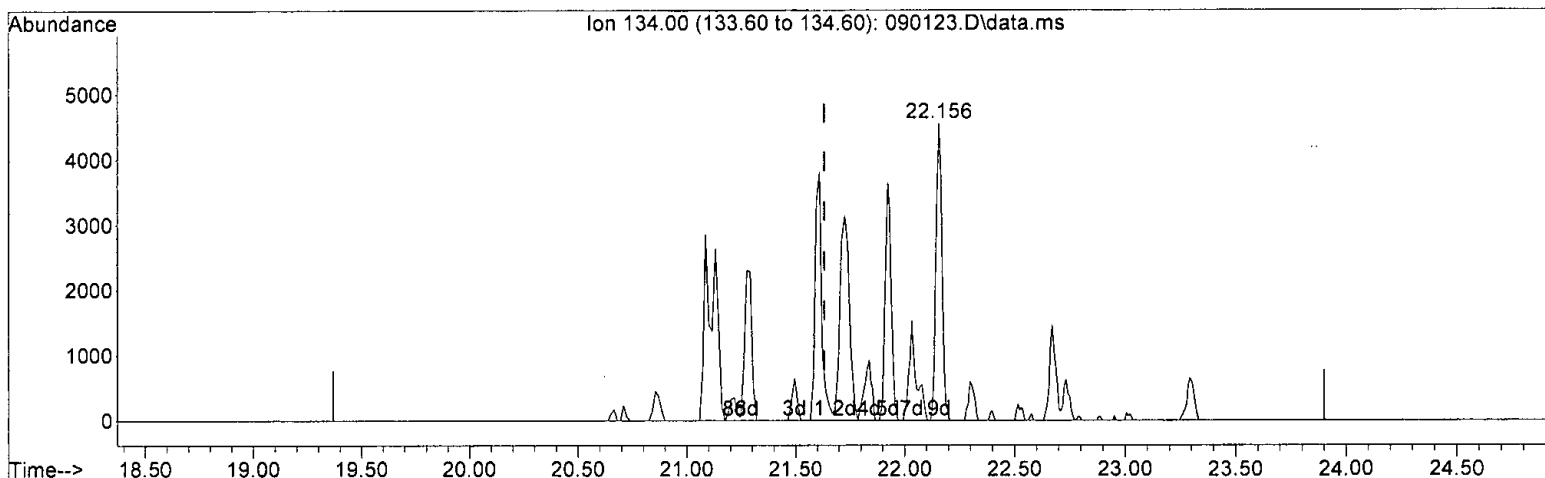
(45) APH EC9-10 aromatics (2) (H)  
 21.635min ( 0.000) -9.181 ug/m3 m  
 response -27178

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:35:49 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090123.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 24.619 ug/m3 m

response 72875

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h  
01/01/21*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:50:20 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	100652	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	498527	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	436273	50.000	ug/m3	# 0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	430031m	78.675	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	110.82%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1027083	57.793	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.20	TIC	1219333m	48.340	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	2132266m	69.693	ug/m3	
5) Methylene chloride	6.86	TIC	215761	239.799	ug/m3	92
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.24	54	39493	6.663	ug/m3#	1
9) Methyl t-butyl ether	0.00		0	N.D.		
11) Benzene	12.71	78	195497	11.534	ug/m3	89
12) Isopentane	5.68	TIC	112683	3.347	ug/m3	93
13) Hexane	10.10	TIC	1813536	55.073	ug/m3	93
14) Cyclohexane	13.16	TIC	6244690	180.457	ug/m3	48
15) 2,3-Dimethylpentane	13.50	TIC	5565794	126.032	ug/m3	94
16) Heptane	14.60	TIC	11628172	322.201	ug/m3	92
17) Octane	17.41	TIC	6702954	135.451	ug/m3	91
18) APH EC5-8 aliphatics T...	0.00	TIC	32067829m	810.703	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	228793771m	5784.111	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2529478m	68.679	ug/m3	
22) Hexamethylcyclotrisilo...	17.79	TIC	1056036	116.411	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	201919m	17.834	ppbv	
24) Toluene	16.39	92	55742	5.955	ug/m3	96
25) Ethylbenzene	18.60	91	468388	24.231	ug/m3	94
26) m,p-Xylene	18.76	106	20245	3.115	ug/m3	91
27) o-Xylene	19.21	106	13899	2.260	ug/m3	96
28) Naphthalene	23.94	128	1975	0.126	ug/m3	87
29) 2,3-Dimethylheptane	18.68	TIC	5692661	129.833	ug/m3#	78
30) Nonane	19.32	TIC	10361665	226.318	ug/m3	66
31) Decane	20.86	TIC	2473242	54.378	ug/m3	65
32) Butylcyclohexane	21.55	TIC	1886036	36.504	ug/m3	80
33) Undecane	22.26	TIC	193371	4.287	ug/m3	70
34) Dodecane	23.73	TIC	52067	1.406	ug/m3	83
35) APH EC9-12 aliphatics ...	21.55	TIC	20659042m	462.827	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	72527497m	1624.842	ug/m3	
38) Isopropylbenzene	19.75	120	18934	5.533	ug/m3#	85
39) 1-Methyl-3-ethylbenzene	20.38	120	9587	2.003	ug/m3#	79
40) 1,3,5-Trimethylbenzene	20.45	120	3017	0.498	ug/m3#	86
41) p-Isopropyltoluene	21.28	134	5158	1.734	ug/m3#	76
42) 1,2,3-Trimethylbenzene	21.31	120	10408	1.465	ug/m3#	74
43) APH EC9-10 aromatics T...	21.55	TIC	47104m	10.008	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	141739m	27.273	ug/m3	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

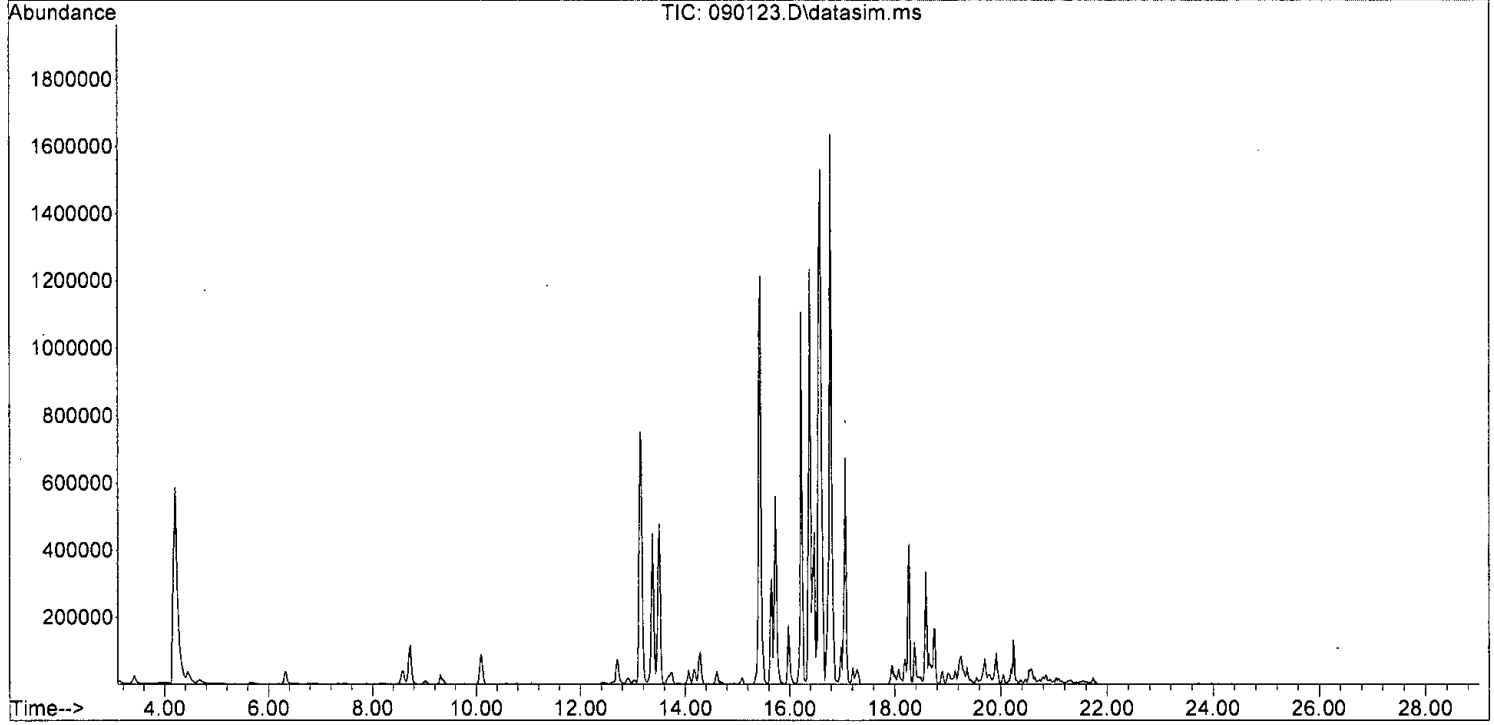
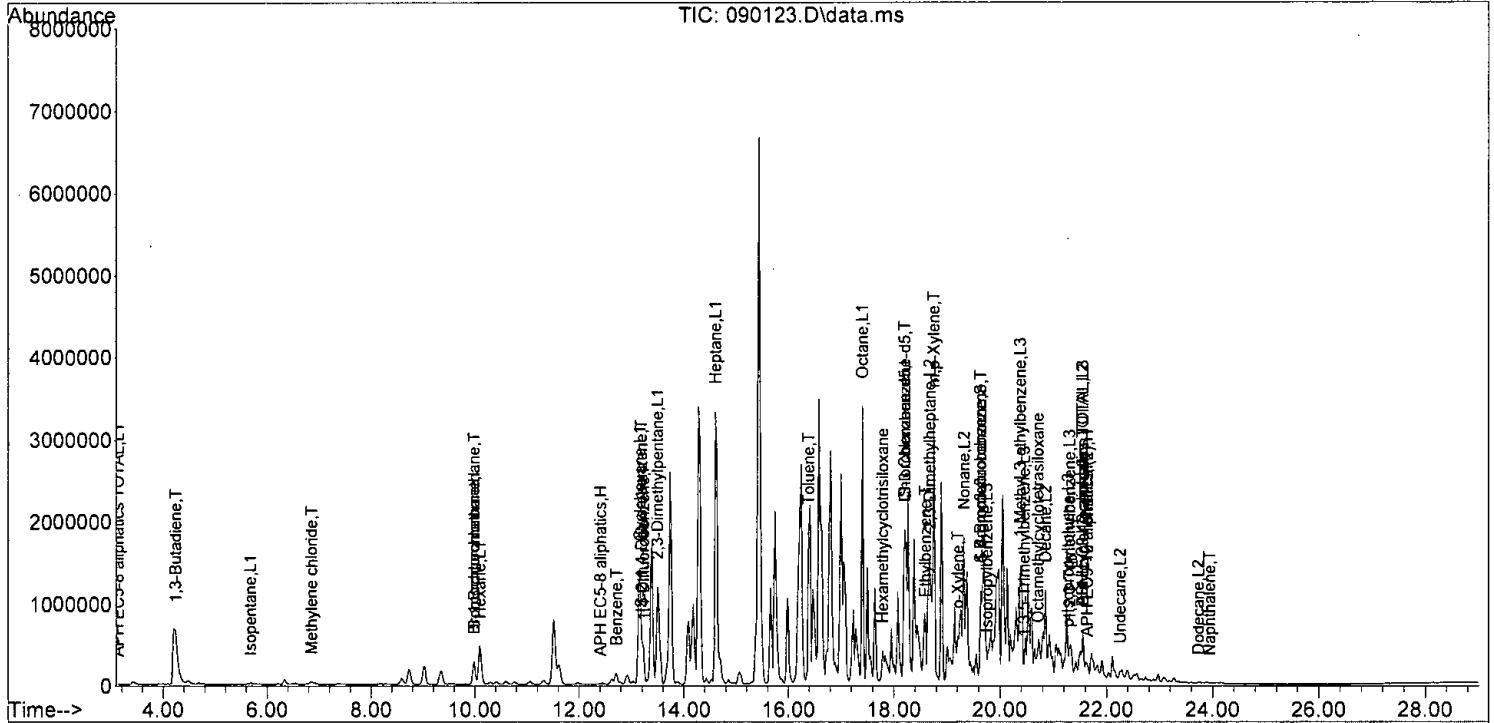
Quant Time: Sep 02 14:50:20 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	72875m	24.619	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:50:20 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:50:20 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	100652	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	498527	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	436273	50.000	ug/m3	# 0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	430031m	78.675	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	110.82%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1027083	57.793	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.20	TIC	1219333m	48.340	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	2132266m	69.693	ug/m3	
5) Methylene chloride	6.86	TIC	215761	239.799	ug/m3	92
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.24	54	39493	6.663	ug/m3#	1
9) Methyl t-butyl ether	0.00		0	N.D.		
11) Benzene	12.71	78	195497	11.534	ug/m3	89
12) Isopentane	5.68	TIC	112683	3.347	ug/m3	93
13) Hexane	10.10	TIC	1813536	55.073	ug/m3	93
14) Cyclohexane	13.16	TIC	6244690	180.457	ug/m3	48
15) 2,3-Dimethylpentane	13.50	TIC	5565794	126.032	ug/m3	94
16) Heptane	14.60	TIC	11628172	322.201	ug/m3	92
17) Octane	17.41	TIC	6702954	135.451	ug/m3	91
18) APH EC5-8 aliphatics T...	0.00	TIC	32067829m	810.703	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	228793771m	5784.111	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2529478m	68.679	ug/m3	
22) Hexamethylcyclotrisilo...	17.79	TIC	1056036	116.411	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	201919m	17.834	ppbv	
24) Toluene	16.39	92	55742	5.955	ug/m3	96
25) Ethylbenzene	18.60	91	468388	24.231	ug/m3	94
26) m,p-Xylene	18.76	106	20245	3.115	ug/m3	91
27) o-Xylene	19.21	106	13899	2.260	ug/m3	96
28) Naphthalene	23.94	128	1975	0.126	ug/m3	87
29) 2,3-Dimethylheptane	18.68	TIC	5692661	129.833	ug/m3#	78
30) Nonane	19.32	TIC	10361665	226.318	ug/m3	66
31) Decane	20.86	TIC	2473242	54.378	ug/m3	65
32) Butylcyclohexane	21.55	TIC	1886036	36.504	ug/m3	80
33) Undecane	22.26	TIC	193371	4.287	ug/m3	70
34) Dodecane	23.73	TIC	52067	1.406	ug/m3	83
35) APH EC9-12 aliphatics ...	21.55	TIC	20659042m	462.827	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	72527497m	1624.842	ug/m3	
38) Isopropylbenzene	19.75	120	18934	5.533	ug/m3#	85
39) 1-Methyl-3-ethylbenzene	20.38	120	9587	2.003	ug/m3#	79
40) 1,3,5-Trimethylbenzene	20.45	120	3017	0.498	ug/m3#	86
41) p-Isopropyltoluene	21.28	134	5158	1.734	ug/m3#	76
42) 1,2,3-Trimethylbenzene	21.31	120	10408	1.465	ug/m3#	74
43) APH EC9-10 aromatics T...	21.55	TIC	47104m	10.008	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	141739m	27.273	ug/m3	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 14:50:20 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

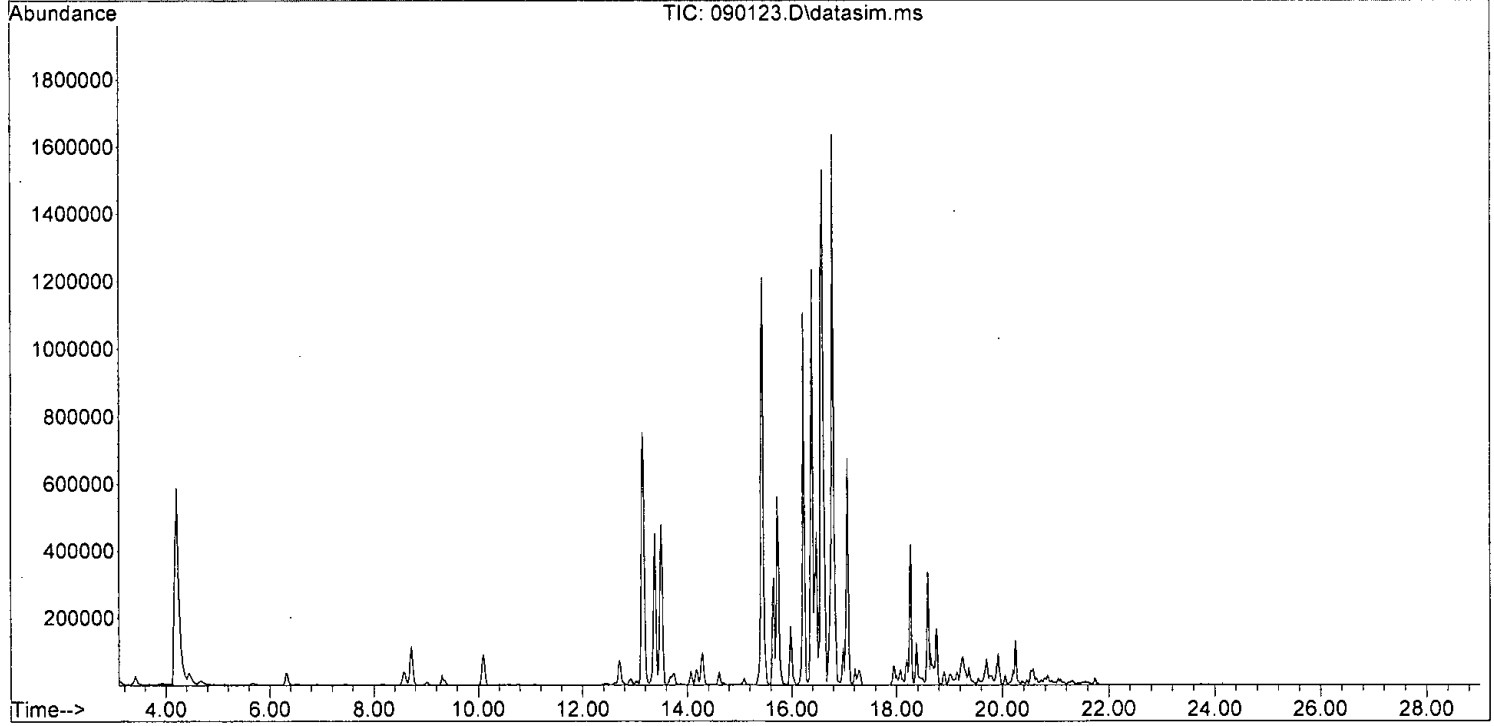
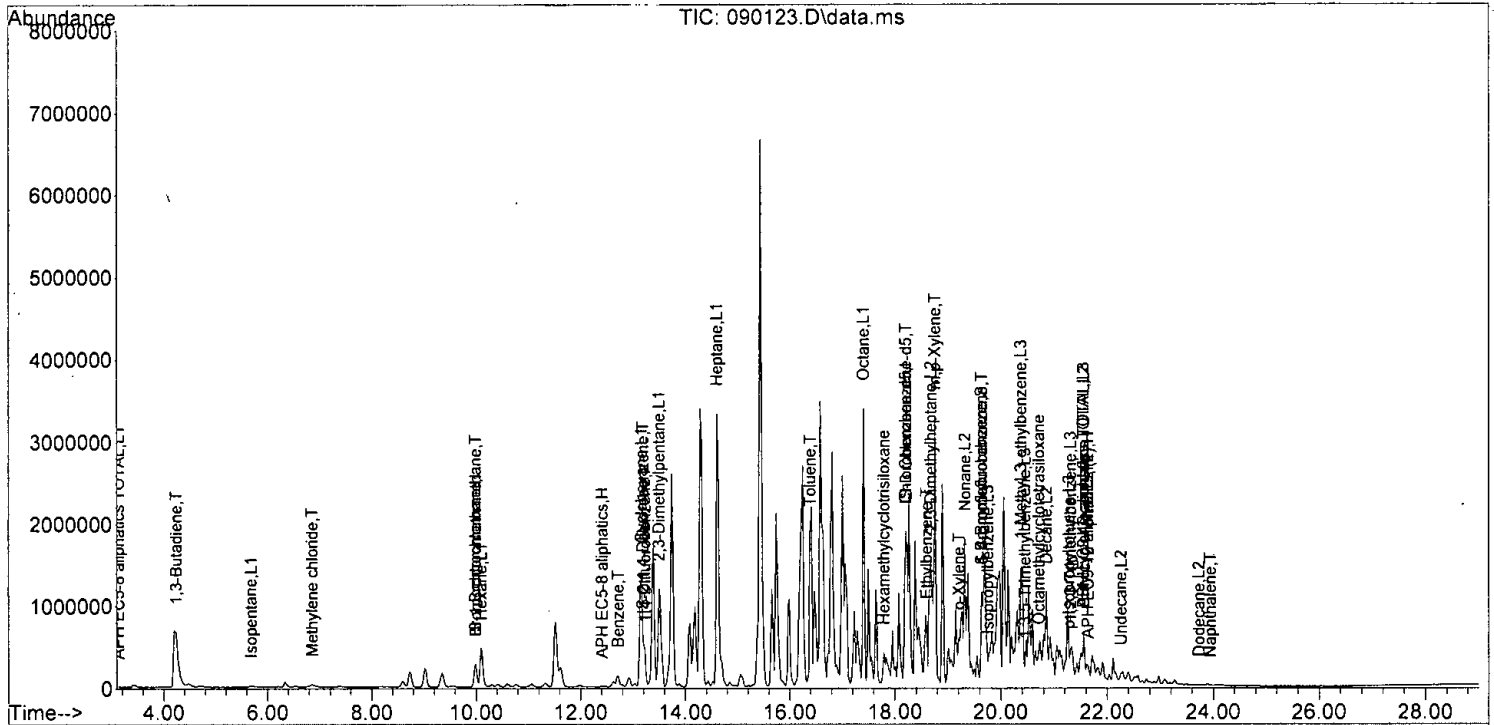
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	72875m	24.619	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090123.D  
 Acq On : 2 Sep 2021 12:16 am  
 Operator : bat  
 Sample : 108515-06 1/1000  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

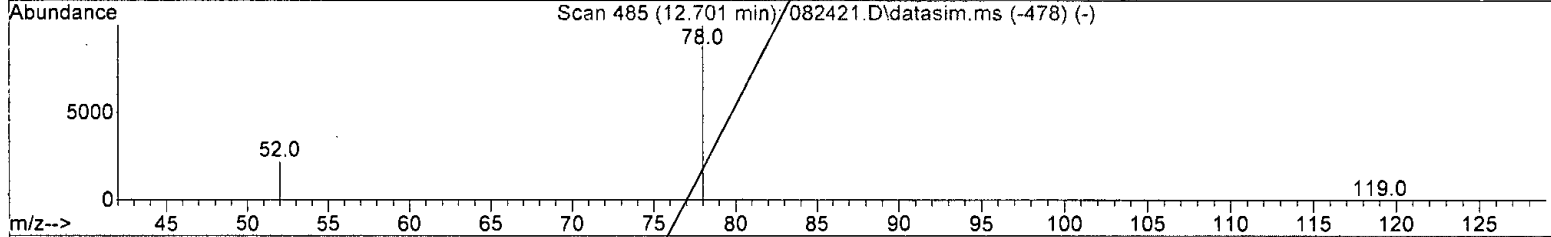
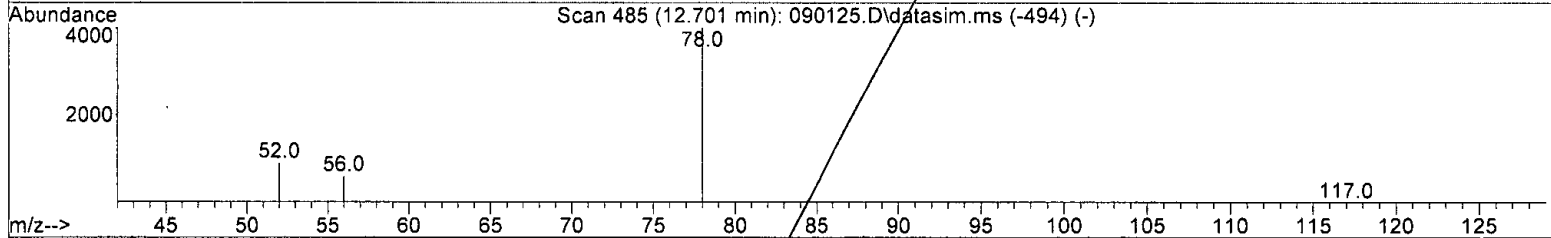
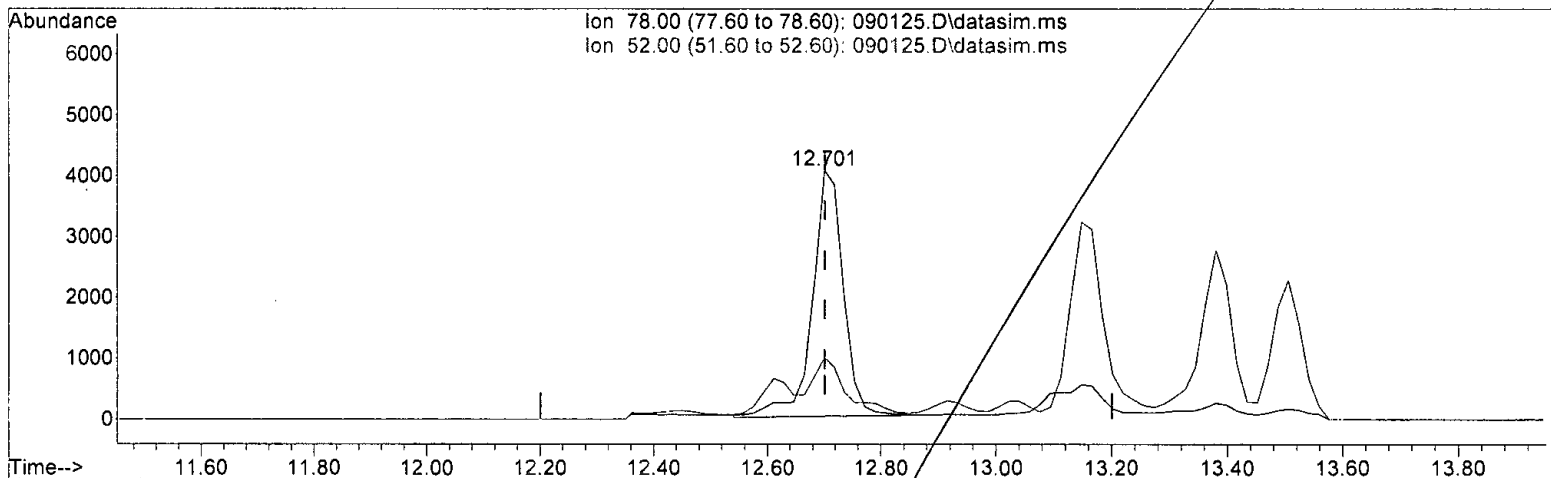
Quant Time: Sep 02 14:50:20 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:39:02 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090125.D\data.ms

(37) Benzene (TMP)

12.701min (-0.000) 0.245 ppbv

response 15583

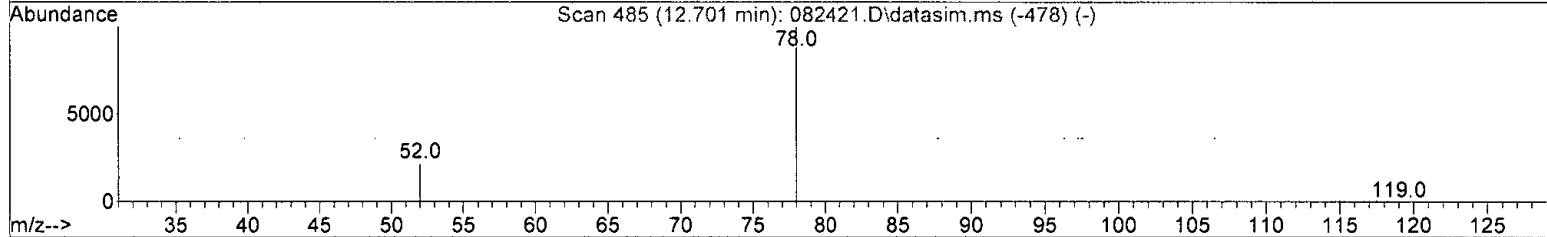
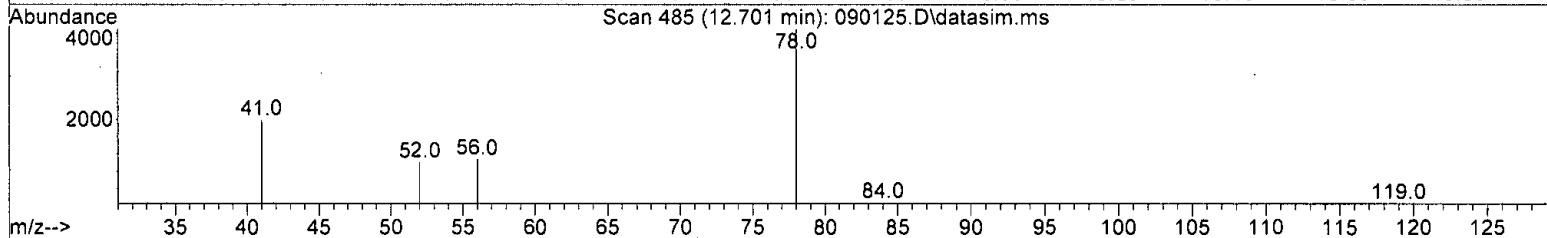
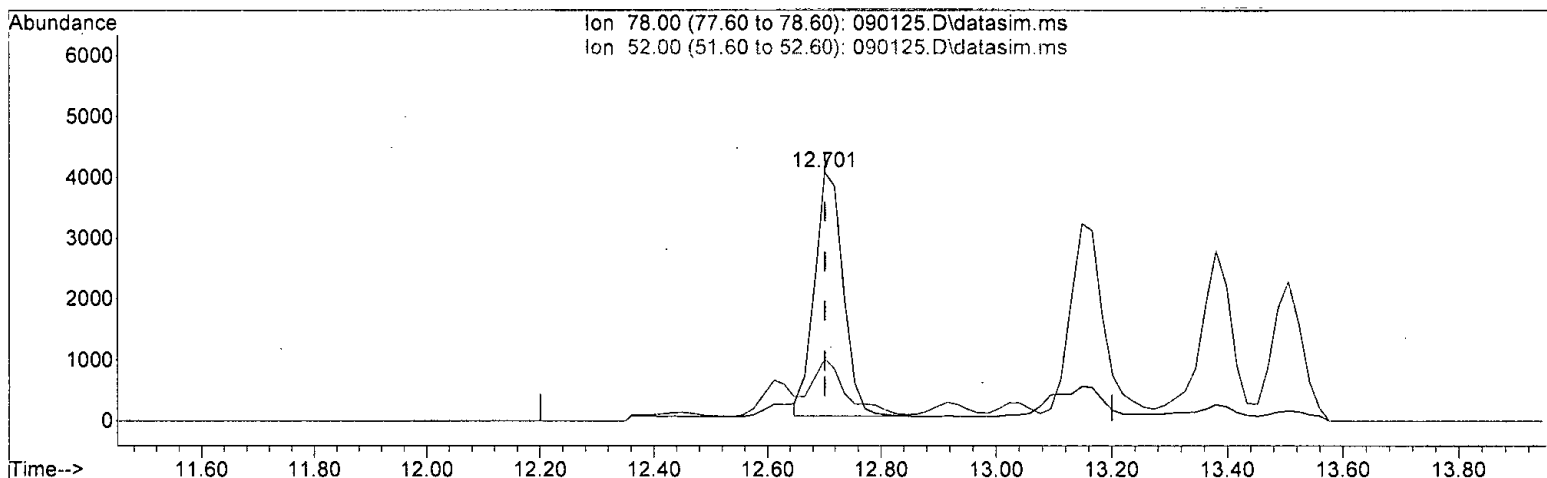
Ion	Exp%	Act%
78.00	100.00	100.00
52.00	19.70	23.26
0.00	0.00	0.00
0.00	0.00	0.00

*h  
09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:39:02 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090125.D\data.ms

(37) Benzene (TMP)

12.701min (-0.000) 0.224 ppbv m

response 14240

Ion	Exp%	Act%
78.00	100.00	100.00
52.00	19.70	24.79
0.00	0.00	0.00
0.00	0.00	0.00

*M  
09/02/21*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

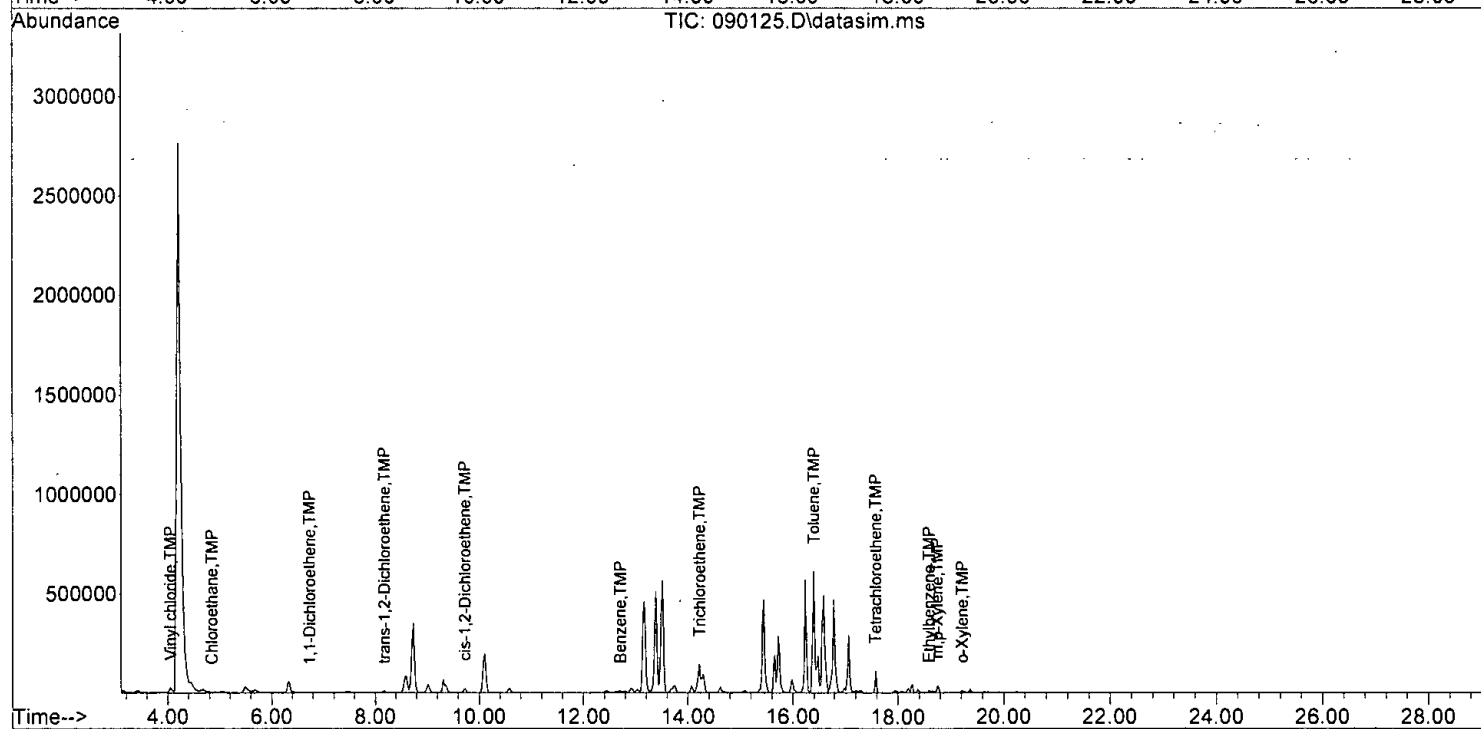
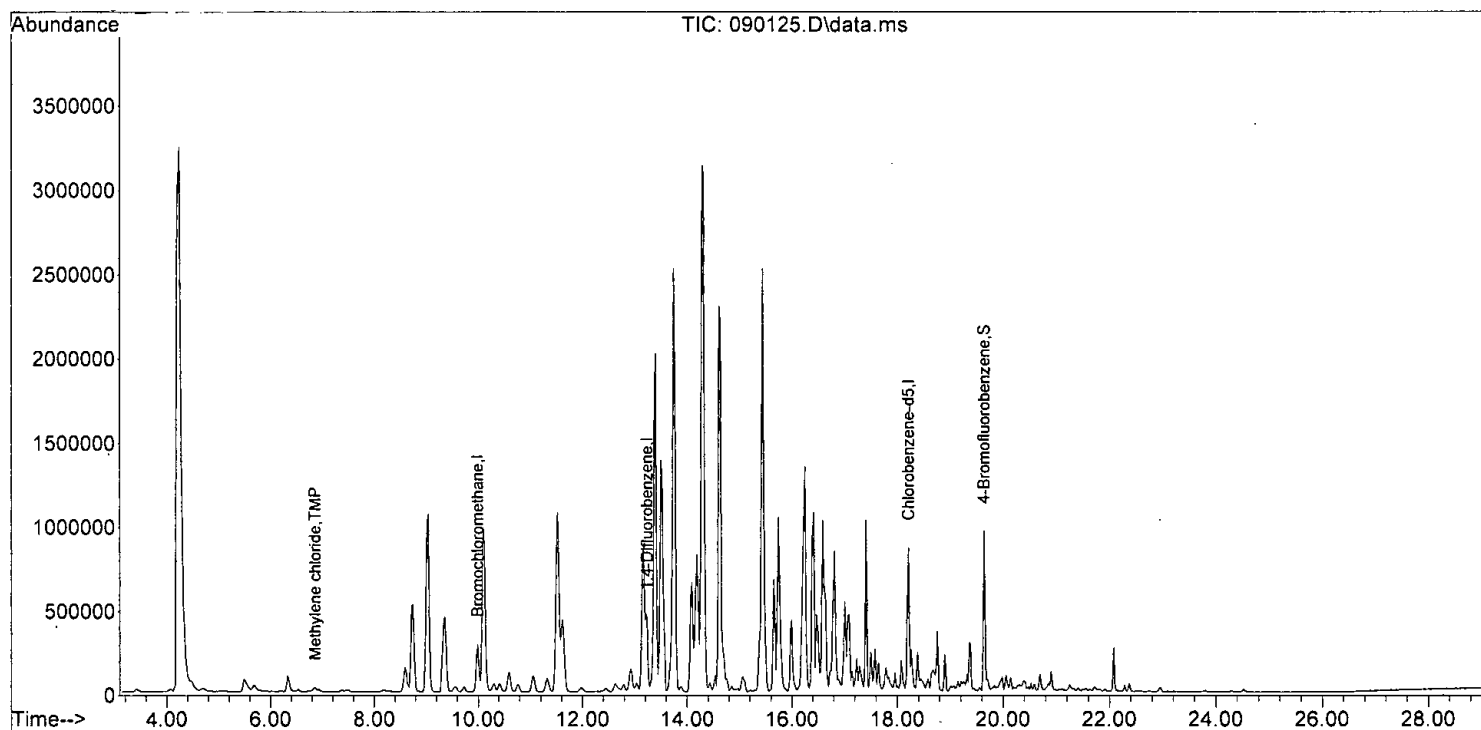
Quant Time: Sep 03 11:26:25 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

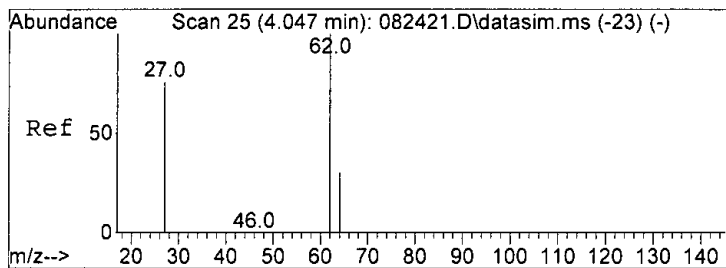
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	103721	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	496701	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	441493	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	389908	9.748	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.50%
Target Compounds						
						Qvalue
6] Vinyl chloride	4.05	62	38721	1.690	ppbv	96
10] Chloroethane	4.84	64	393	0.050	ppbv	95
18] 1,1-Dichloroethene	6.73	96	1567	0.092	ppbv	91
19] trans-1,2-Dichloroethene	8.18	96	5159	0.306	ppbv	92
20] Methylene chloride	6.86	84	17671	0.973	ppbv #	78
28] cis-1,2-Dichloroethene	9.73	96	20091	1.088	ppbv #	76
37] Benzene	12.70	78	14240m	0.224	ppbv	
46] Trichloroethene	14.22	95	119767	3.901	ppbv	87
50] Toluene	16.40	92	36436	0.979	ppbv	84
53] Tetrachloroethene	17.58	164	47425	2.506	ppbv	83
58] Ethylbenzene	18.59	91	16617	0.169	ppbv	97
65] m,p-Xylene	18.74	106	14975	0.476	ppbv #	81
66] o-Xylene	19.21	106	4572	0.148	ppbv	88
-----						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

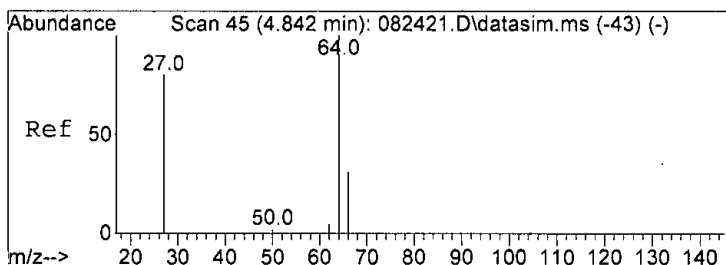
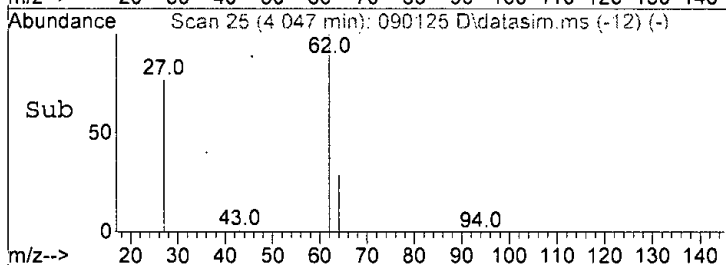
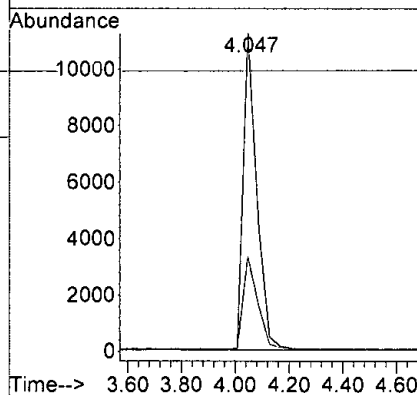
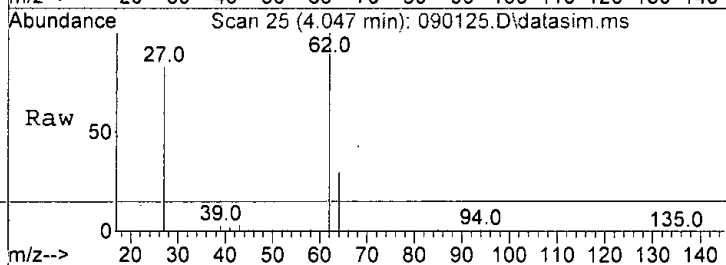
Quant Time: Sep 03 11:26:25 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





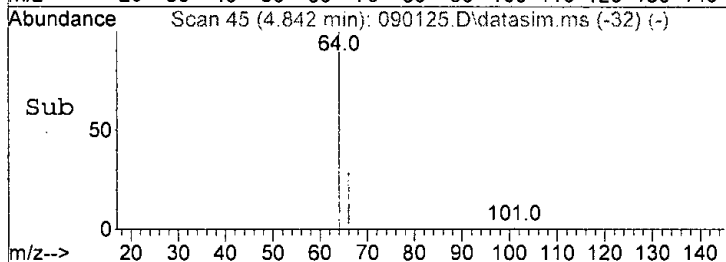
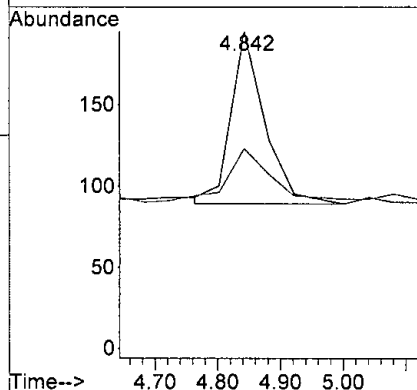
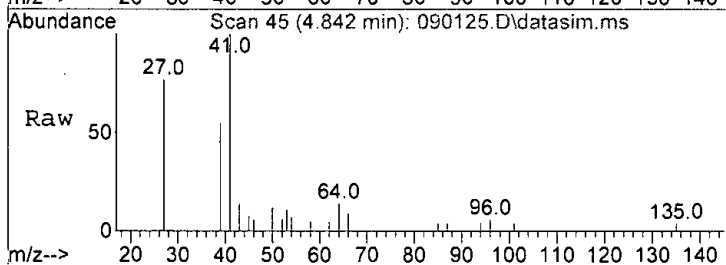
#6  
 Vinyl chloride  
 Concen: 1.690 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090125.D  
 Acq: 2 Sep 2021 1:27 am

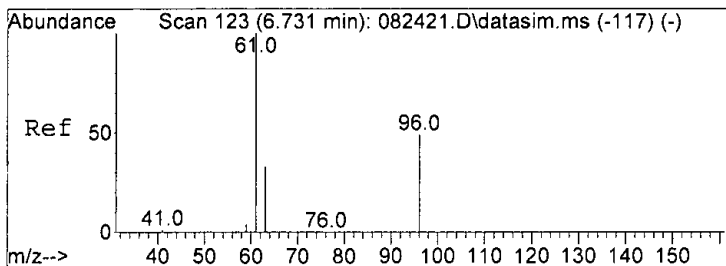
Tgt Ion: 62 Resp: 38721  
 Ion Ratio Lower Upper  
 62 100  
 64 29.3 1.5 61.5



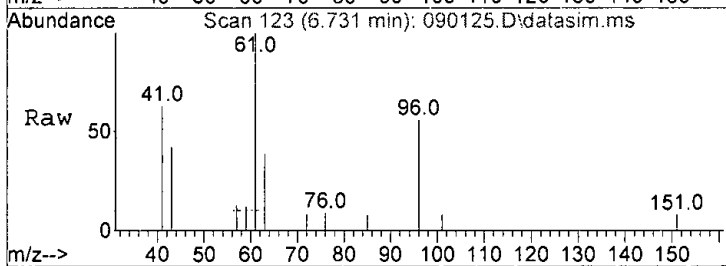
#10  
 Chloroethane  
 Concen: 0.050 ppbv  
 RT: 4.84 min Scan# 45  
 Delta R.T. 0.000 min  
 Lab File: 090125.D  
 Acq: 2 Sep 2021 1:27 am

Tgt Ion: 64 Resp: 393  
 Ion Ratio Lower Upper  
 64 100  
 66 29.2 1.8 61.8

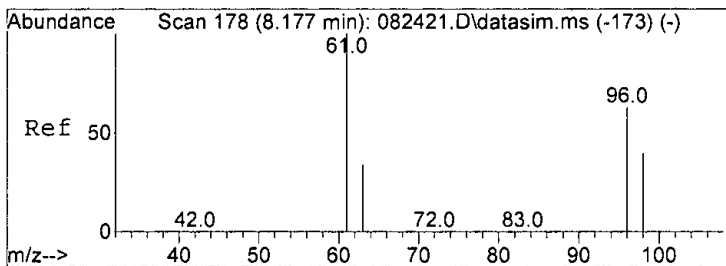
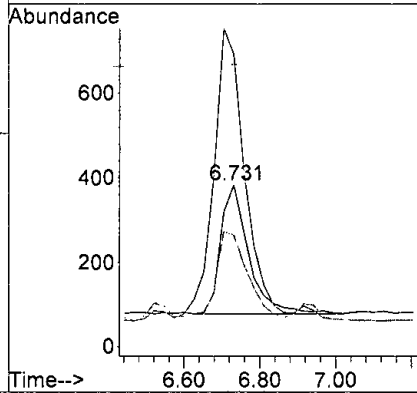
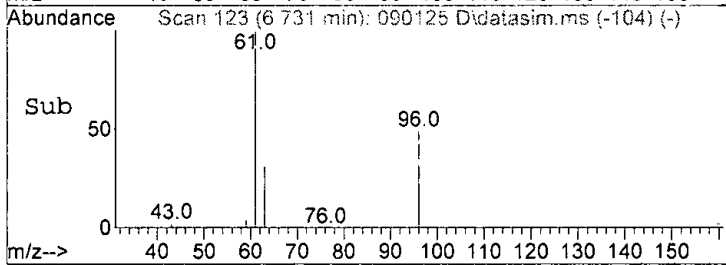




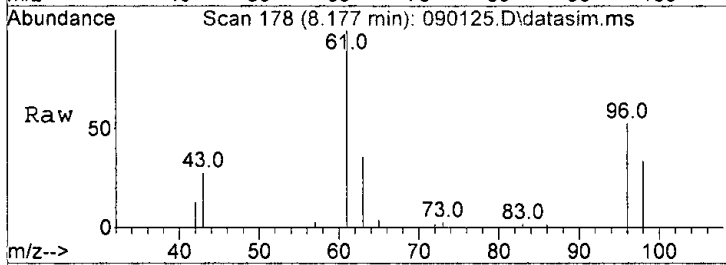
#18  
 1,1-Dichloroethene  
 Concen: 0.092 ppbv  
 RT: 6.73 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090125.D  
 Acq: 2 Sep 2021 1:27 am



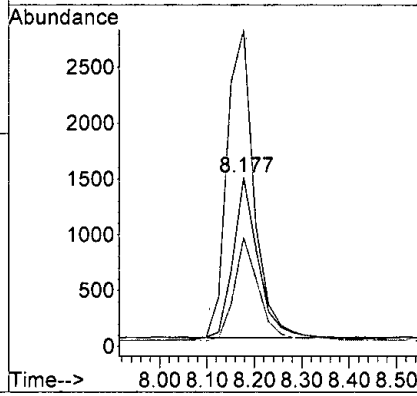
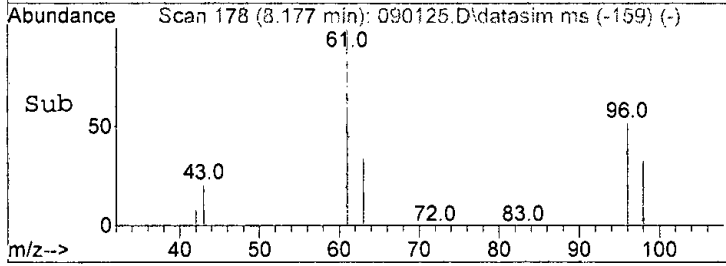
Tgt Ion: 96 Resp: 1567  
 Ion Ratio Lower Upper  
 96 100  
 61 204.9 159.0 219.0  
 63 65.9 32.0 92.0

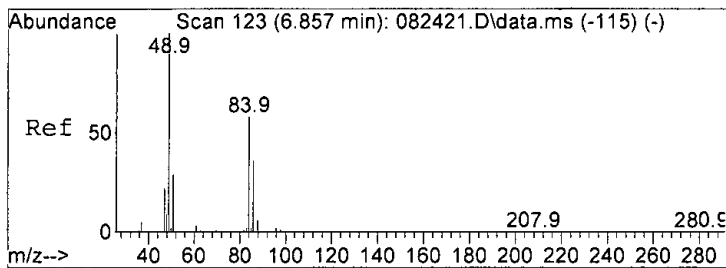


#19  
 trans-1,2-Dichloroethene  
 Concen: 0.306 ppbv  
 RT: 8.18 min Scan# 178  
 Delta R.T. 0.000 min  
 Lab File: 090125.D  
 Acq: 2 Sep 2021 1:27 am



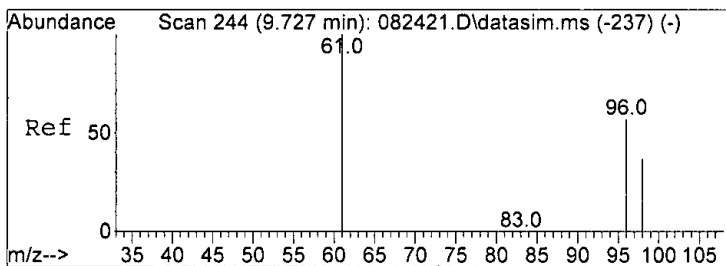
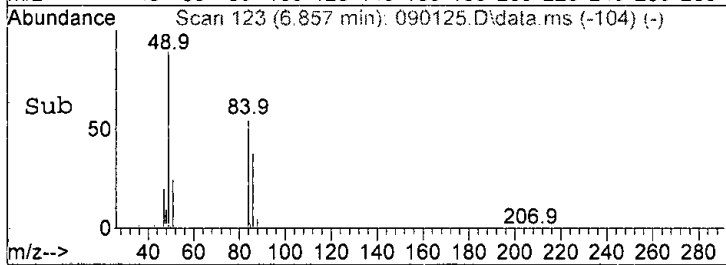
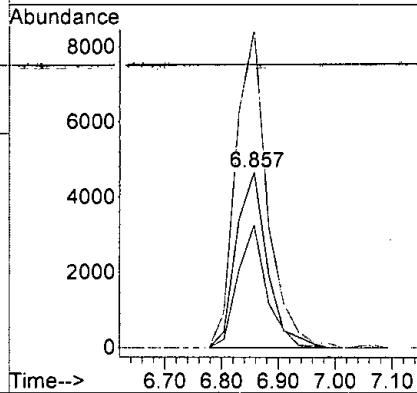
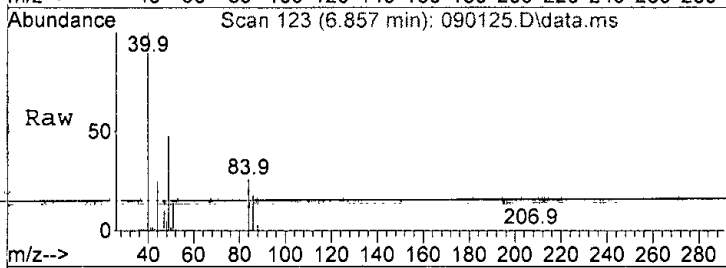
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 98 64.1 34.2 94.2





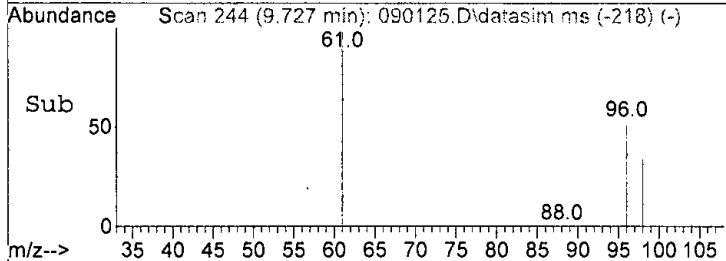
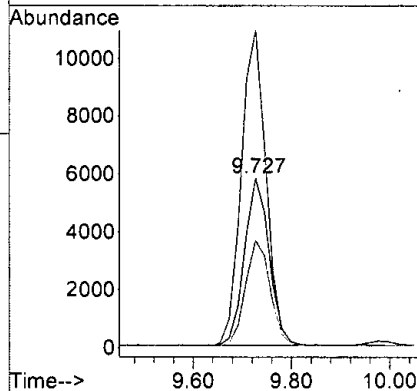
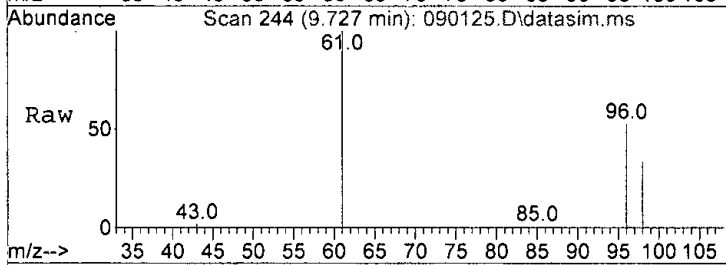
#20  
 Methylene chloride  
 Concen: 0.973 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090125.D  
 Acq: 2 Sep 2021 1:27 am

Tgt Ion: 84 Resp: 17671  
 Ion Ratio Lower Upper  
 84 100  
 86 69.6 33.9 93.9  
 49 181.3 116.6 176.6#

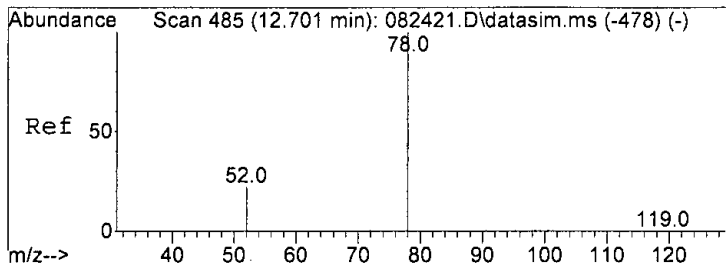


#28  
 cis-1,2-Dichloroethene  
 Concen: 1.088 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. -0.000 min  
 Lab File: 090125.D  
 Acq: 2 Sep 2021 1:27 am

Tgt Ion: 96 Resp: 20091  
 Ion Ratio Lower Upper  
 96 100  
 61 188.9 116.0 176.0#  
 98 63.3 35.2 95.2

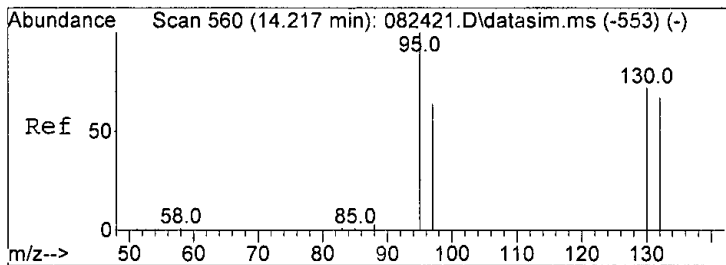
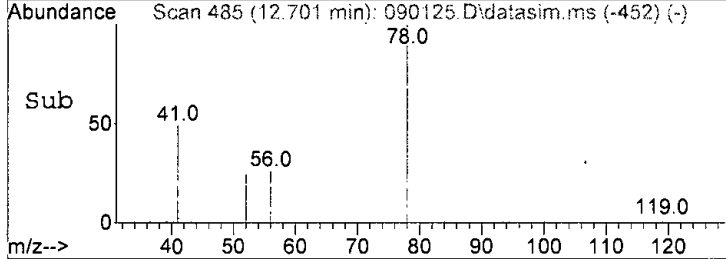
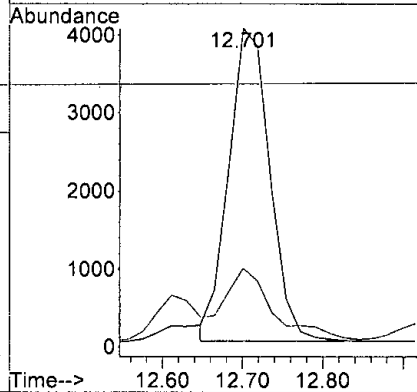
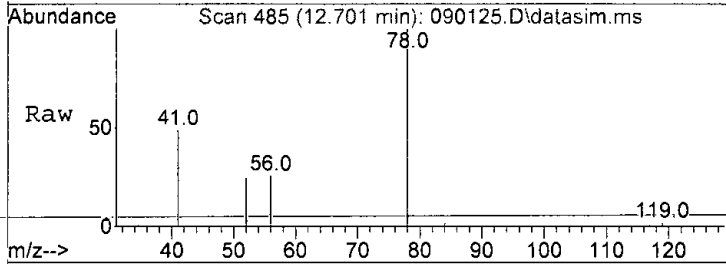






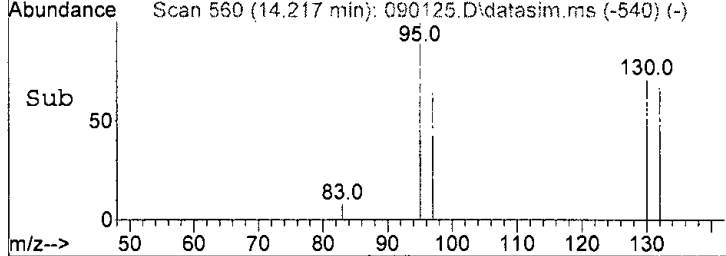
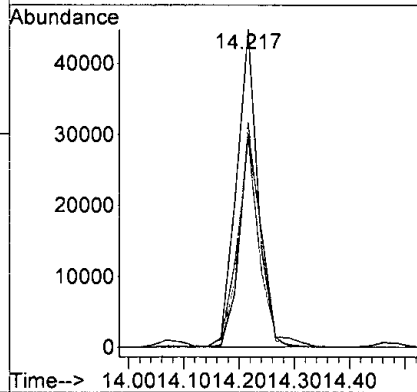
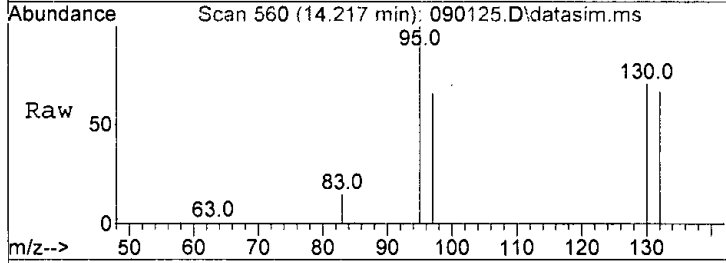
#37  
Benzene  
Concen: 0.224 ppbv m  
RT: 12.70 min Scan# 485  
Delta R.T. -0.000 min  
Lab File: 090125.D  
Acq: 2 Sep 2021 1:27 am

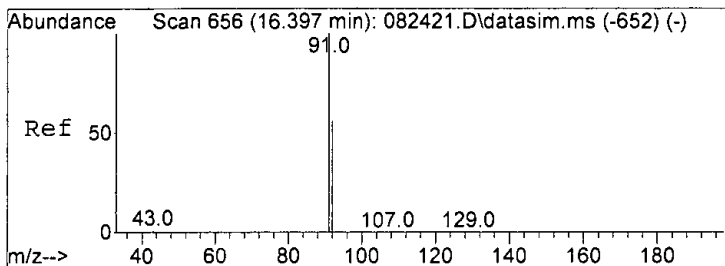
Tgt Ion	Resp	Lower	Upper
78	14240		
52	24.8	0.0	49.7



#46  
Trichloroethene  
Concen: 3.901 ppbv  
RT: 14.22 min Scan# 560  
Delta R.T. -0.000 min  
Lab File: 090125.D  
Acq: 2 Sep 2021 1:27 am

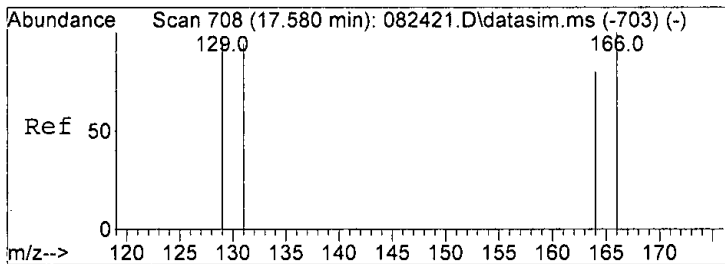
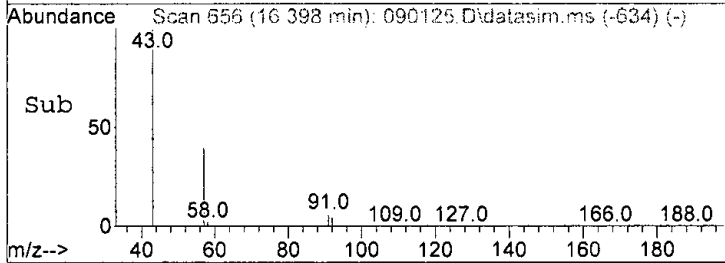
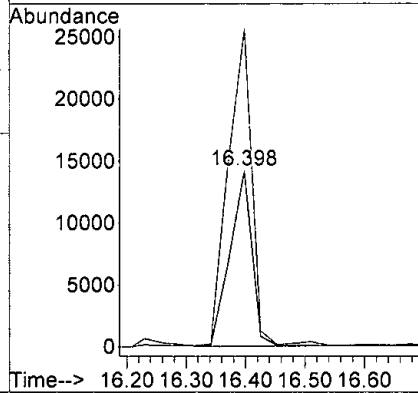
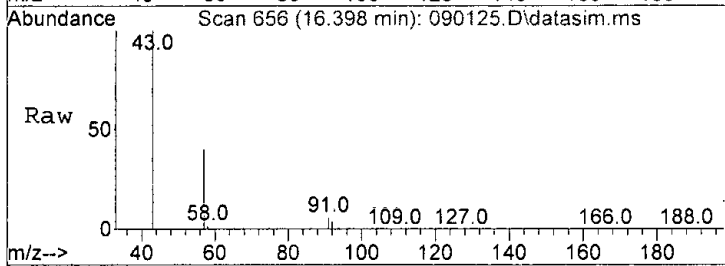
Tgt Ion	Resp	Lower	Upper
95	119767		
97	65.5	37.1	97.1
130	71.1	56.1	116.1
132	67.3	54.3	114.3





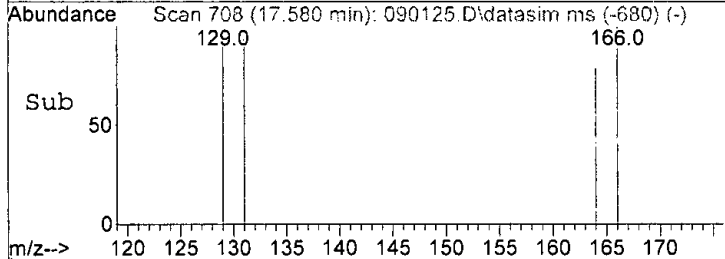
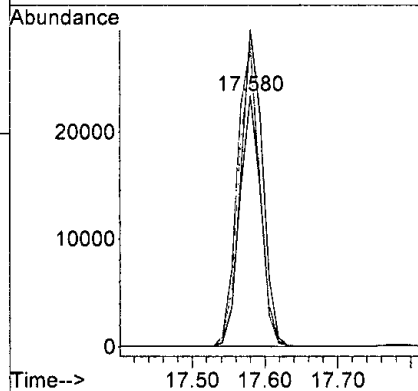
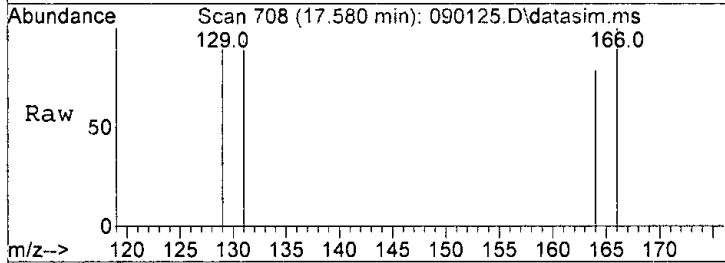
#50  
 Toluene  
 Concen: 0.979 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.001 min  
 Lab File: 090125.D  
 Acq: 2 Sep 2021 1:27 am

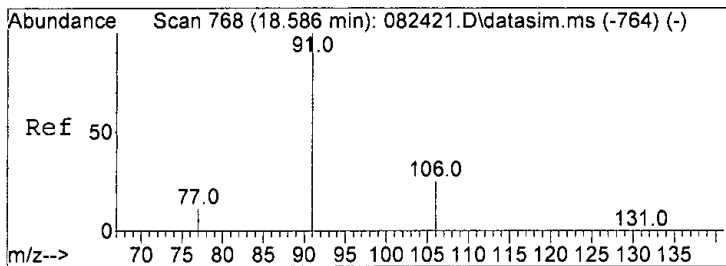
Tgt Ion: 92 Resp: 36436  
 Ion Ratio Lower Upper  
 92 100  
 91 180.4 174.6 234.6



#53  
 Tetrachloroethene  
 Concen: 2.506 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090125.D  
 Acq: 2 Sep 2021 1:27 am

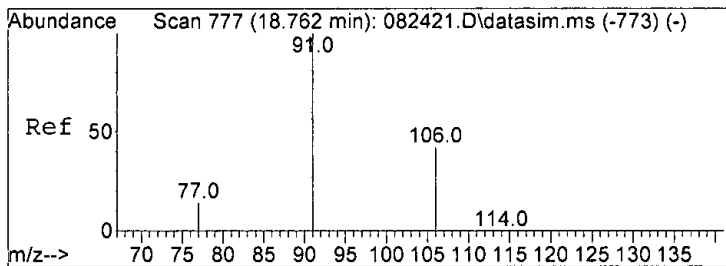
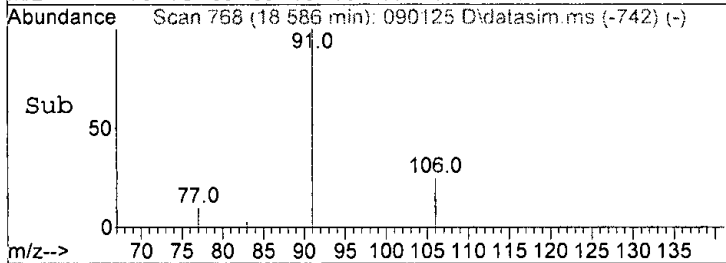
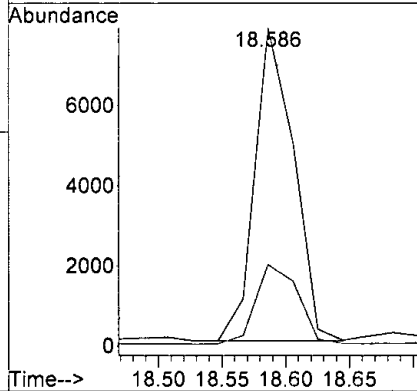
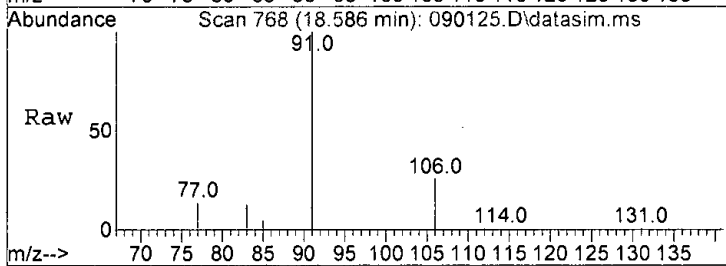
Tgt Ion: 164 Resp: 47425  
 Ion Ratio Lower Upper  
 164 100  
 129 120.4 63.2 123.2  
 131 118.4 70.7 130.7  
 166 126.4 107.5 167.5





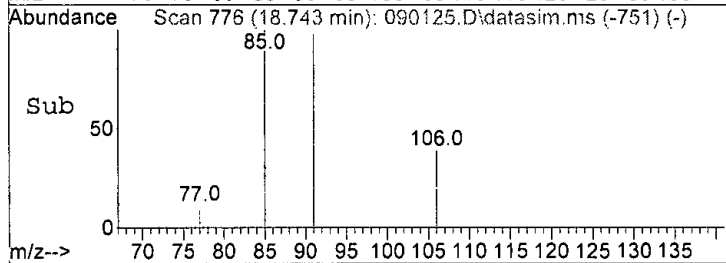
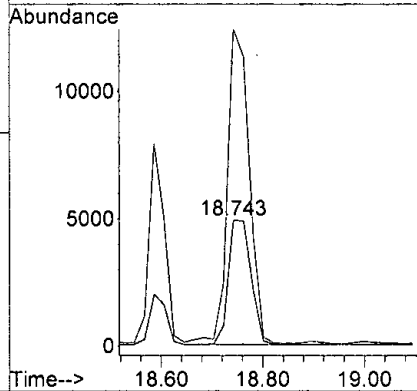
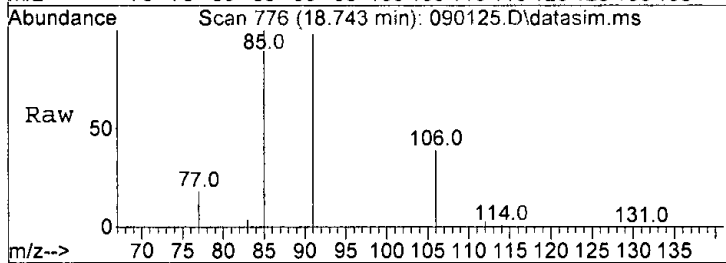
#58  
 Ethylbenzene  
 Concen: 0.169 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090125.D  
 Acq: 2 Sep 2021 1:27 am

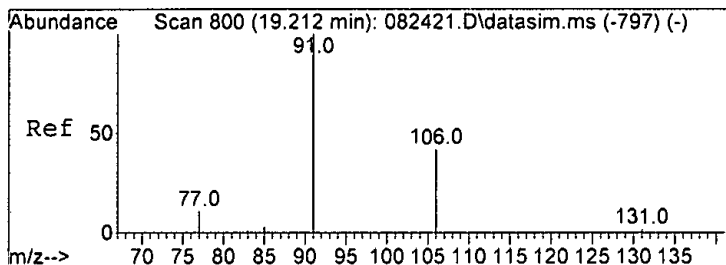
Tgt Ion: 91 Resp: 16617  
 Ion Ratio Lower Upper  
 91 100  
 106 25.2 0.0 57.0



#65  
 m,p-Xylene  
 Concen: 0.476 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.019 min  
 Lab File: 090125.D  
 Acq: 2 Sep 2021 1:27 am

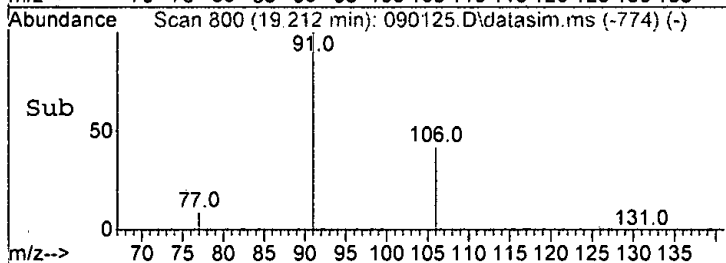
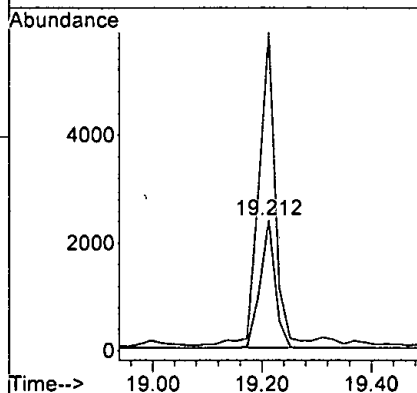
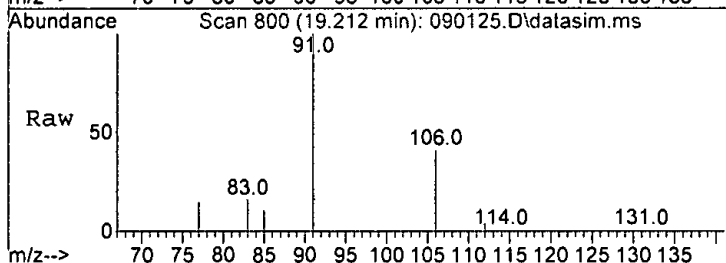
Tgt Ion: 106 Resp: 14975  
 Ion Ratio Lower Upper  
 106 100  
 91 253.5 193.0 253.0#





#66  
 o-Xylene  
 Concen: 0.148 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090125.D  
 Acq: 2 Sep 2021 1:27 am

Tgt Ion: 106 Resp: 4572  
 Ion Ratio Lower Upper  
 106 100  
 91 244.2 194.4 254.4



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 11:26:25 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	103721	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	496701	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	441493	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	389908	9.748	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.50%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.		
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.		
6] Vinyl chloride	4.05	62	38721	1.690	ppbv	96
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10] Chloroethane	4.84	64	393	0.050	ppbv	95
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.	d	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.		
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18] 1,1-Dichloroethene	6.73	96	1567	0.092	ppbv	91
19] trans-1,2-Dichloroethene	8.18	96	5159	0.306	ppbv	92
20) Methylene chloride	6.86	84	17671	0.973	ppbv #	78
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.		
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.44	63	221	N.D.		
28] cis-1,2-Dichloroethene	9.73	96	20091	1.088	ppbv #	76
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	0.00		0	N.D.	d	
35) 1,1,1-Trichloroethane	11.69	97	187	N.D.		
36) Carbon tetrachloride	0.00		0	N.D.		
37] Benzene	12.70	78	14240m	0.224	ppbv	
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

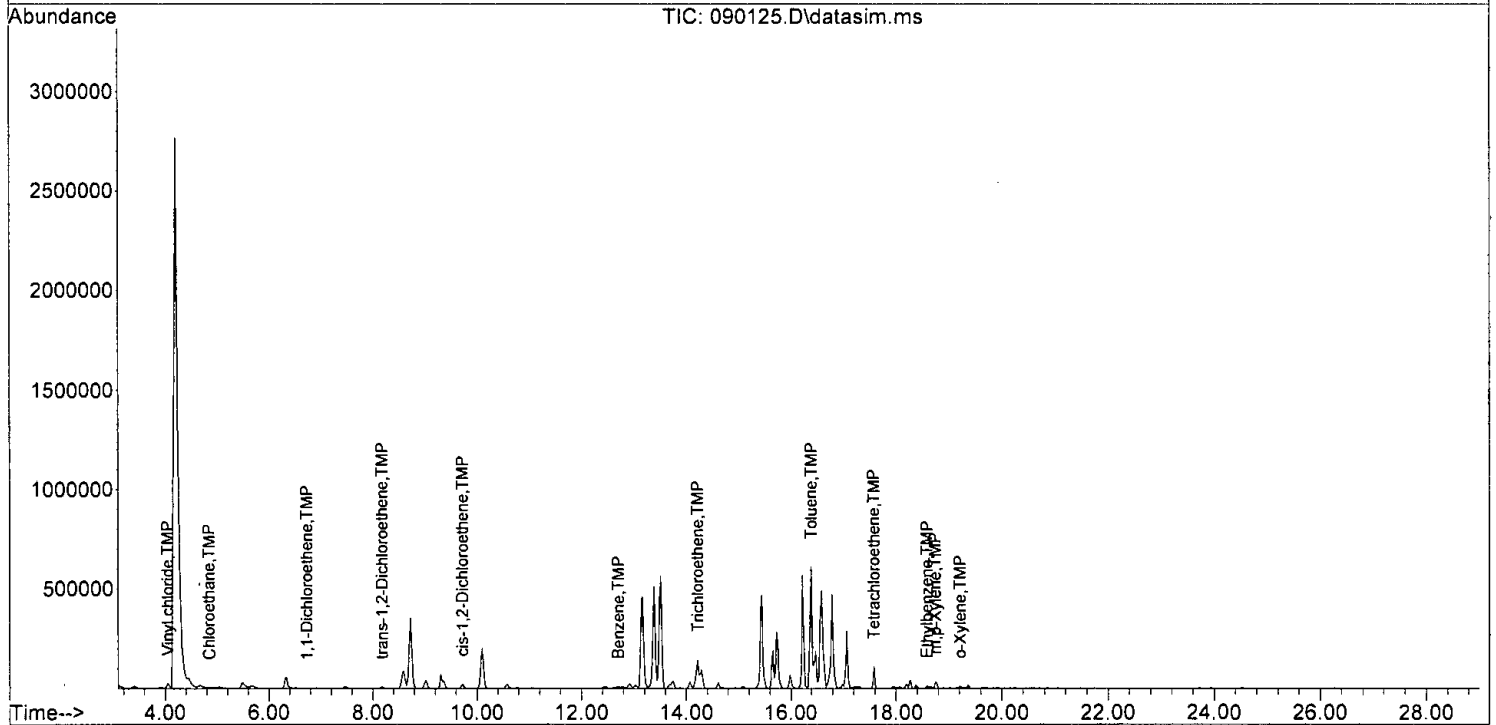
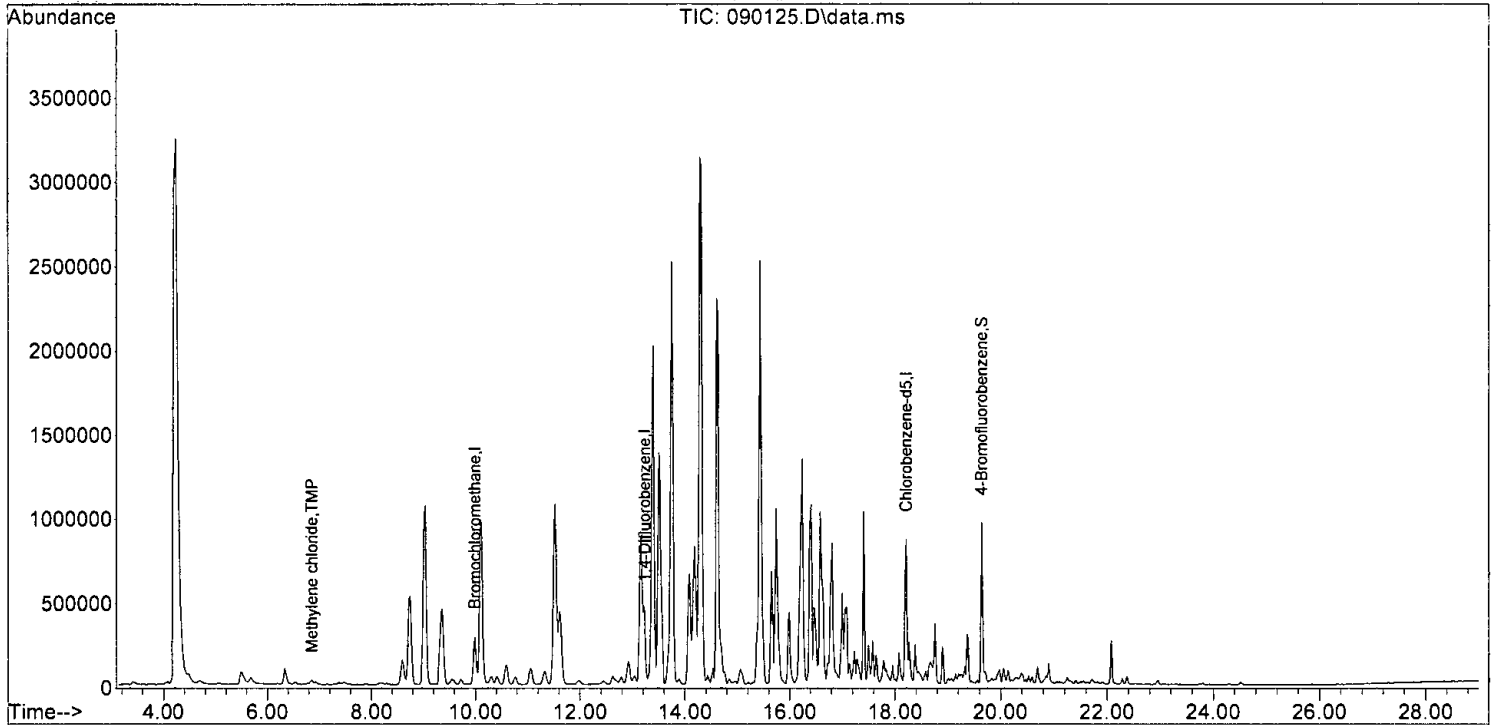
Quant Time: Sep 03 11:26:25 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	119767	3.901	ppbv	87
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	36436	0.979	ppbv	84
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	47425	2.506	ppbv	83
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	16617	0.169	ppbv	97
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.74	106	14975	0.476	ppbv #	81
66] o-Xylene	19.21	106	4572	0.148	ppbv	88
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77) Naphthalene	23.95	128	1780	N.D.	d	
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

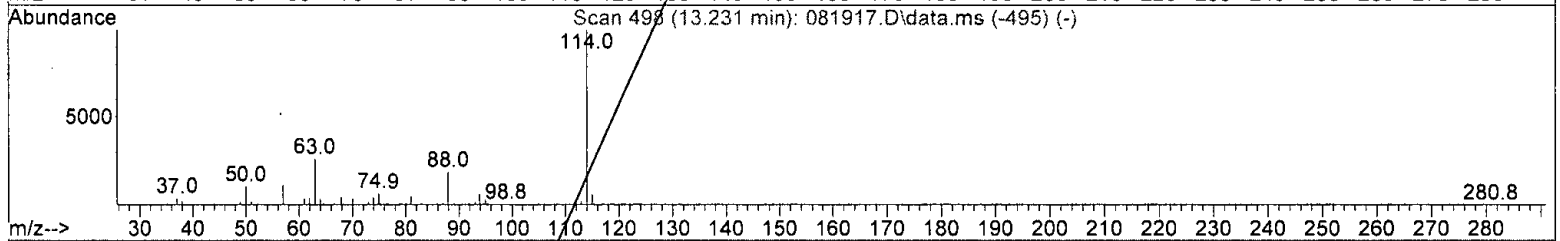
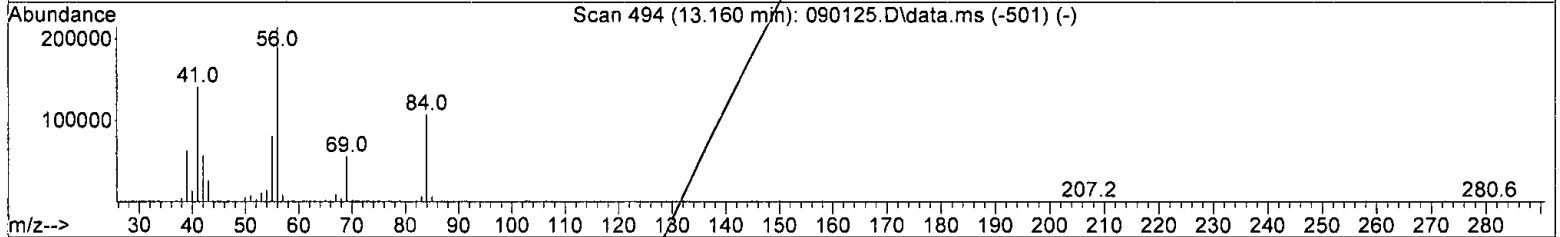
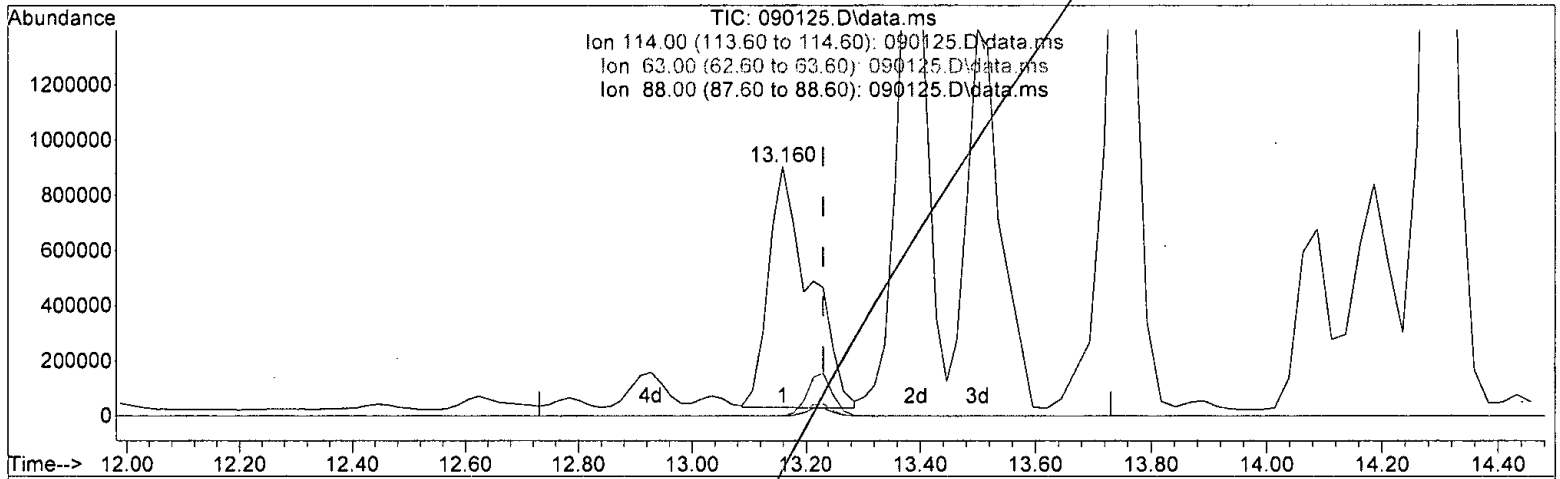
Quant Time: Sep 03 11:26:25 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.160min (-0.071) 170.635 ug/m3

response 4435385

Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	0.09#
63.00	8.40	0.17
88.00	7.60	0.03

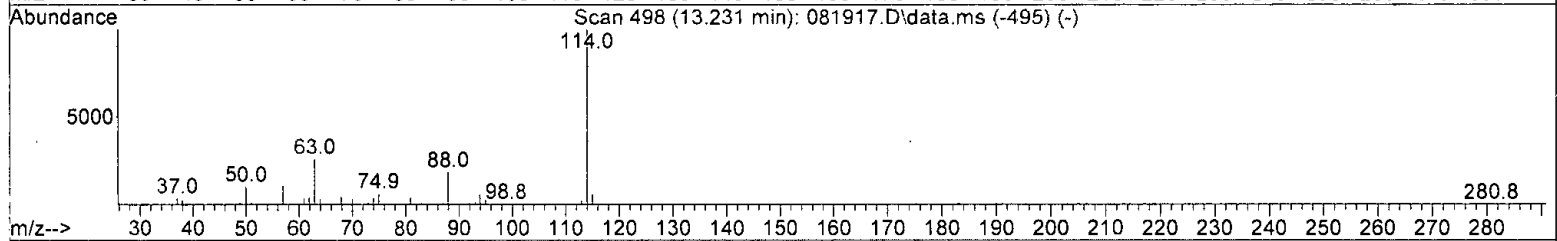
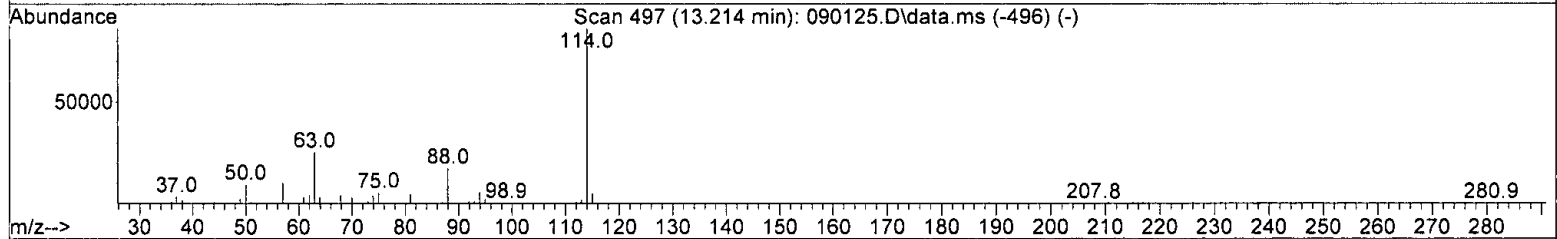
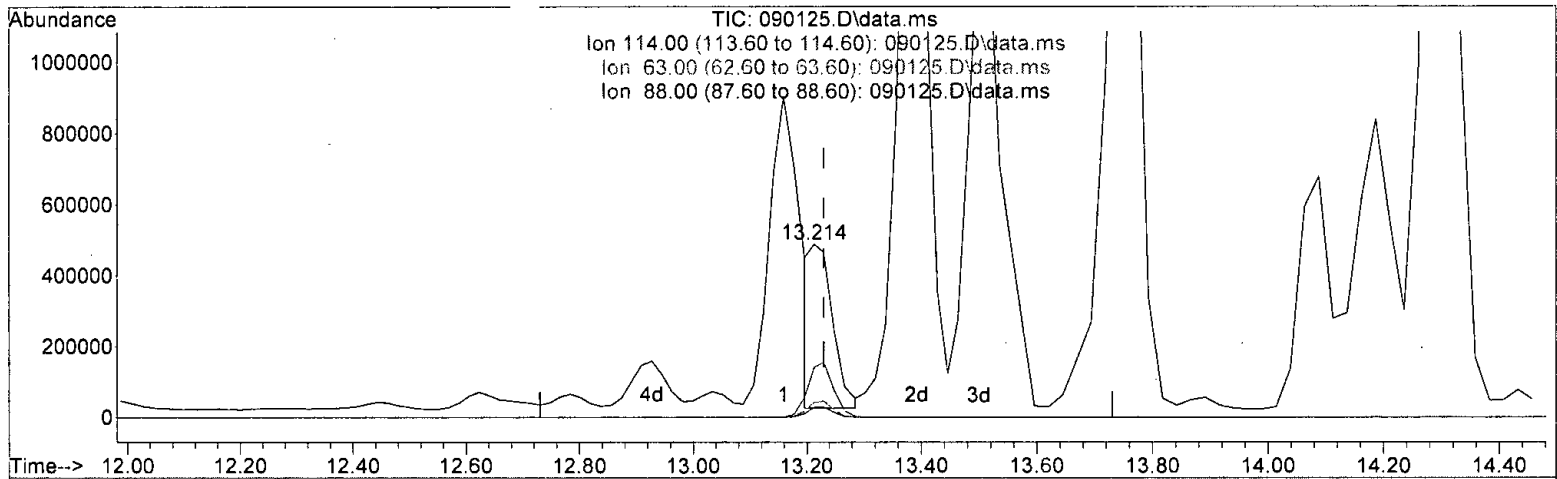
*Handwritten signature and date: 09/03/21*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.214min (-0.018) 49.747 ug/m3 m

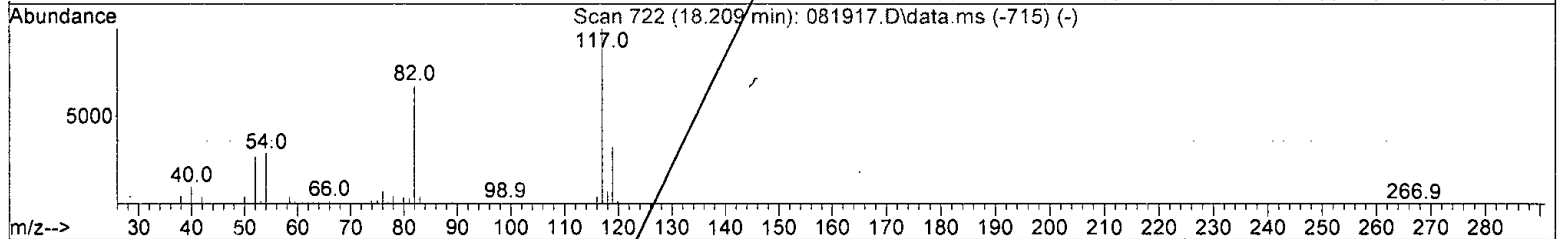
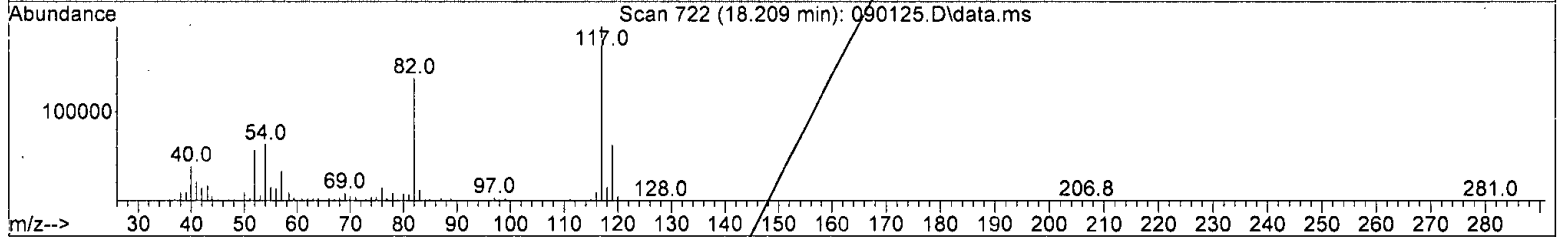
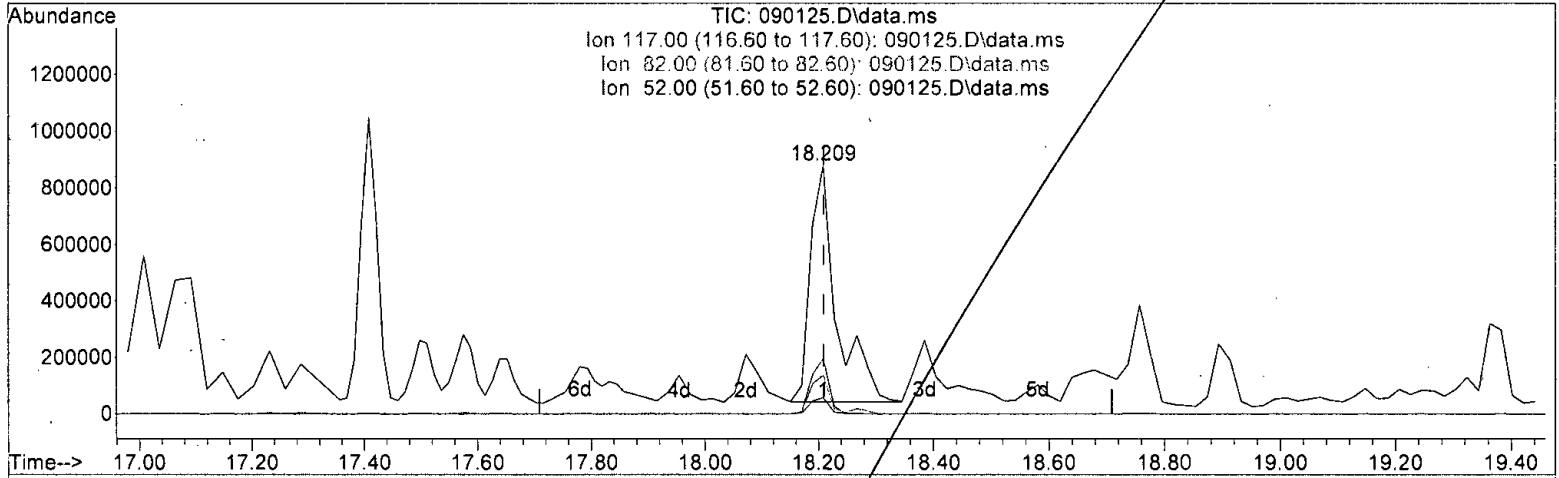
response	1293103
Signal	Exp% Act%
TIC	100.00 100.00
114.00	43.50 0.31#
63.00	8.40 0.59
88.00	7.60 0.09

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)  
 18.209min (-0.000) 86.854 ug/m3  
 response 2738342

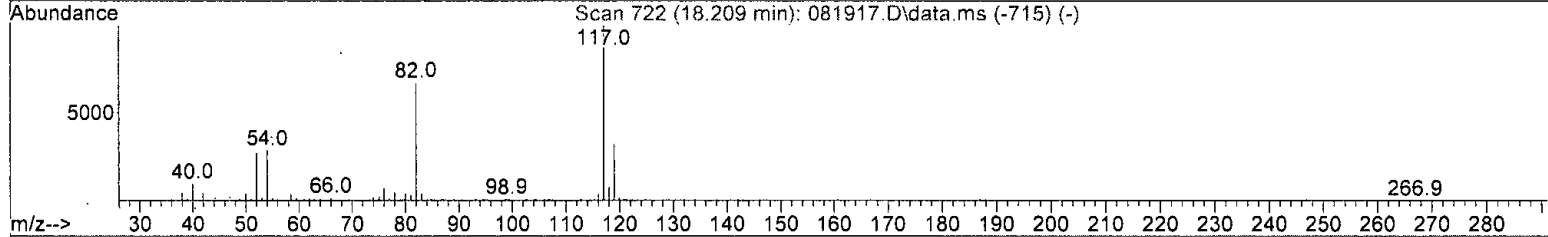
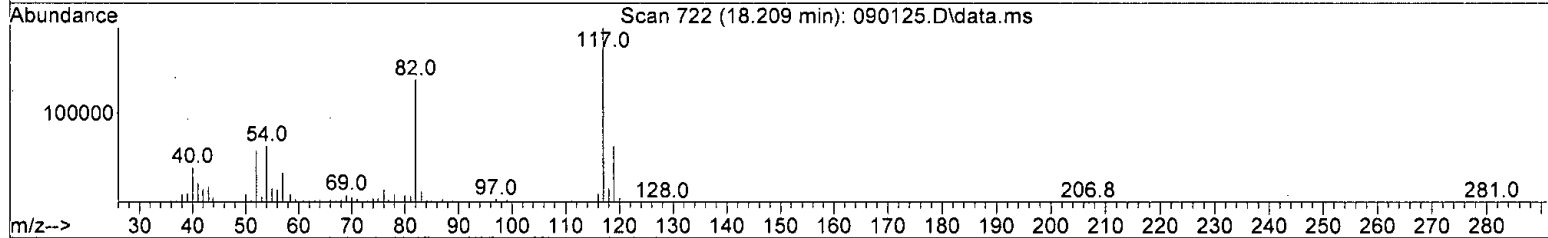
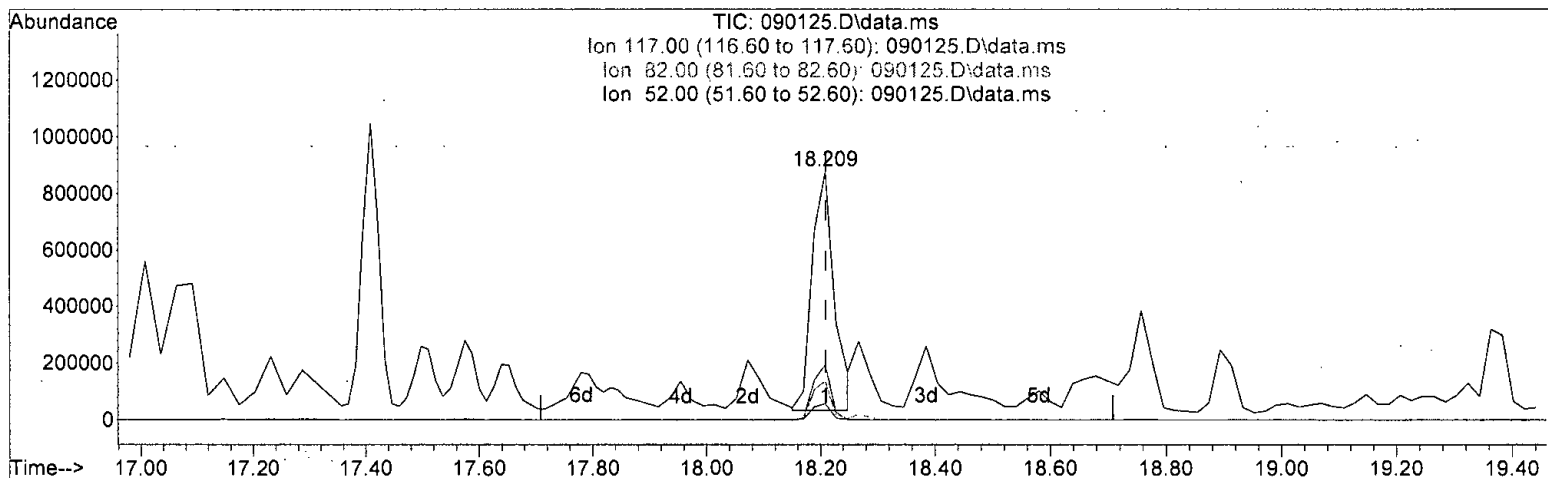
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	16.12
82.00	18.10	11.86
52.00	6.90	4.96

*Handwritten note:* 11/09/03/14

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 74.113 ug/m3 m

response 2336638

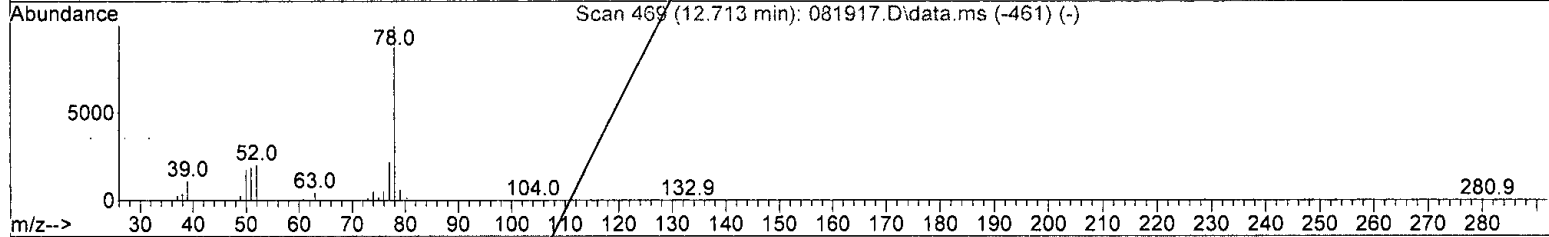
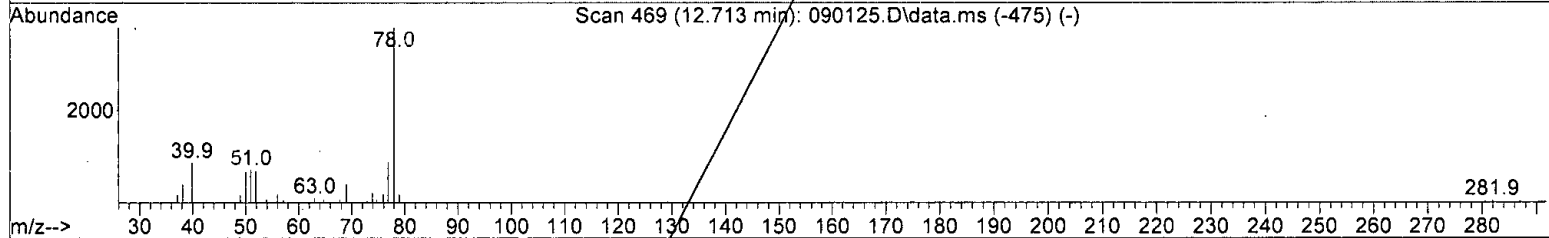
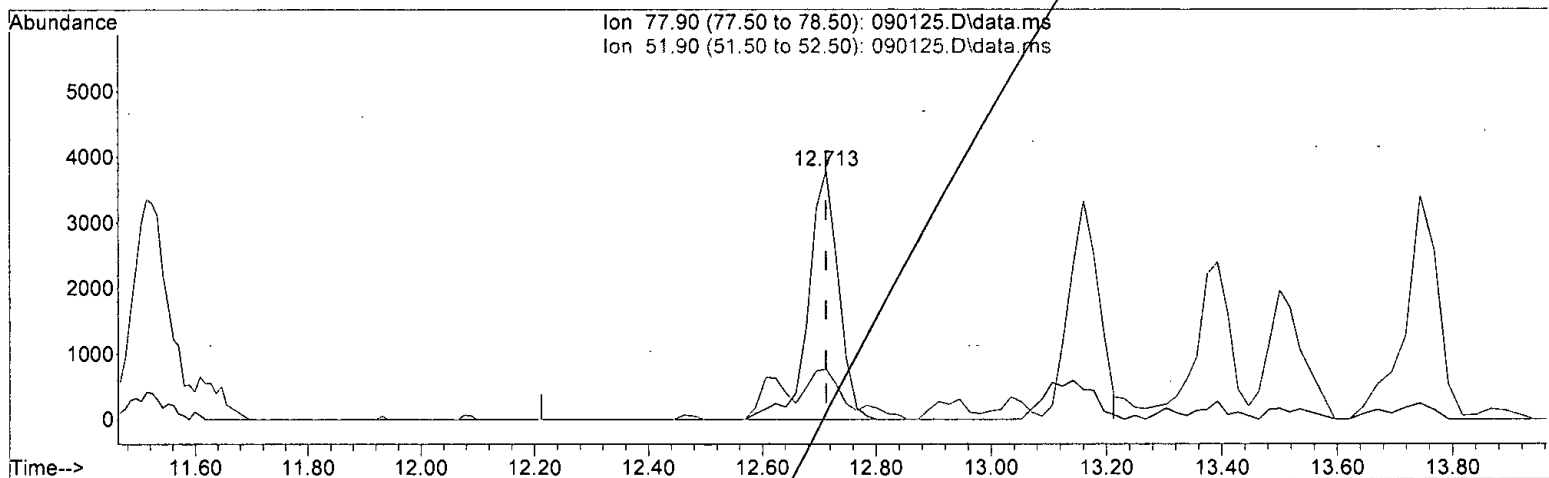
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	18.89
82.00	18.10	13.90
52.00	6.90	5.82

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090125.D\data.ms

(11) Benzene (T)

12.713min (-0.000) 0.835 ug/m3

response 14094

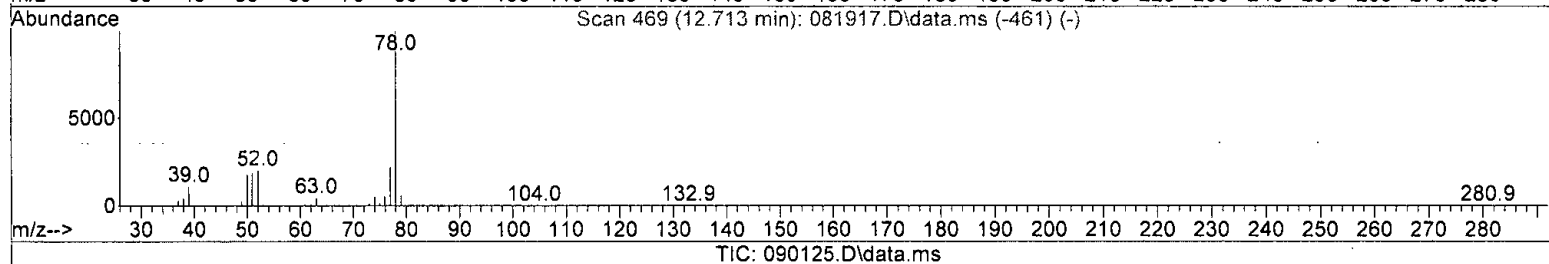
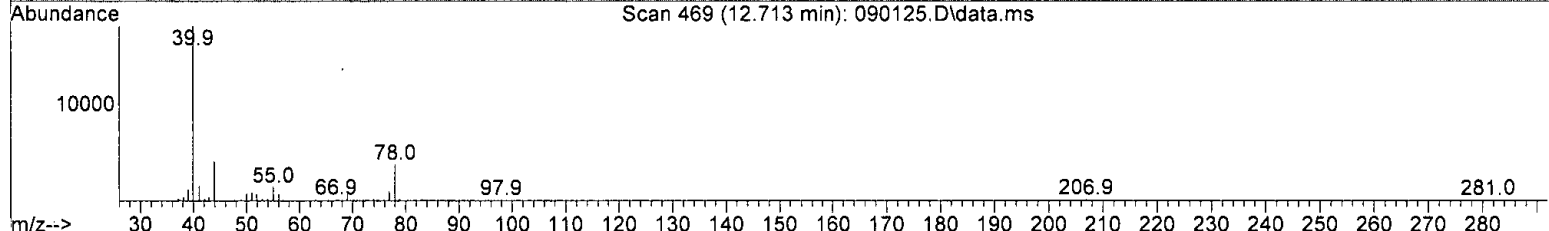
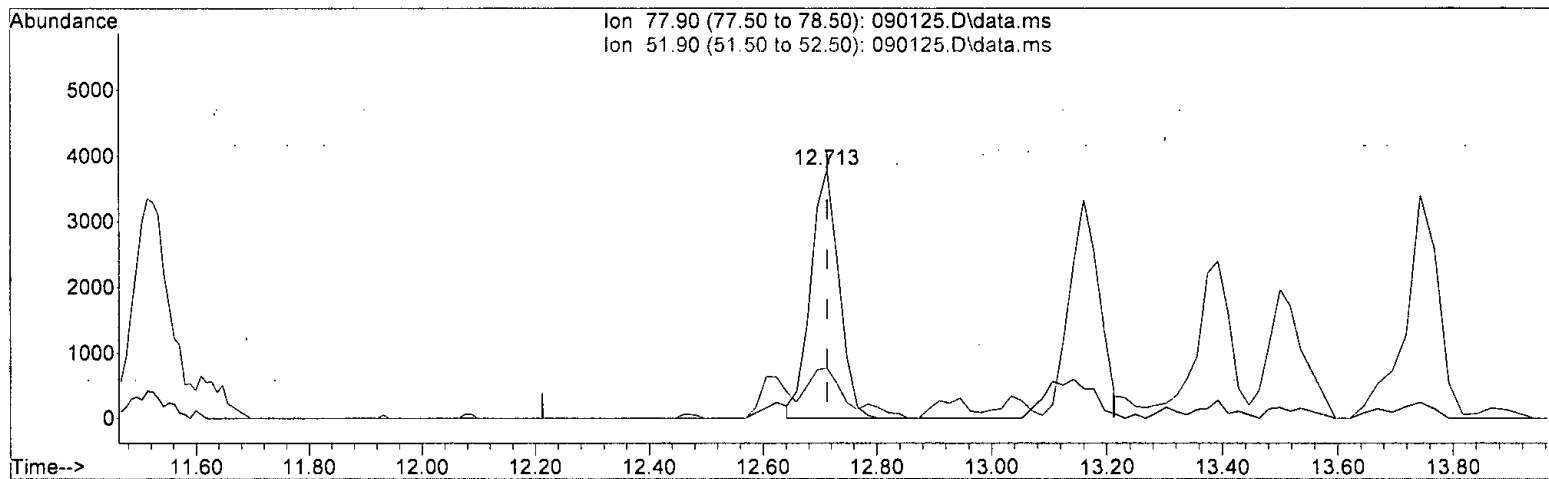
Ion	Exp%	Act%
77.90	100.00	100.00
51.90	16.60	20.32
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(11) Benzene (T)

12.713min (-0.000) 0.792 ug/m3 m

response 13368

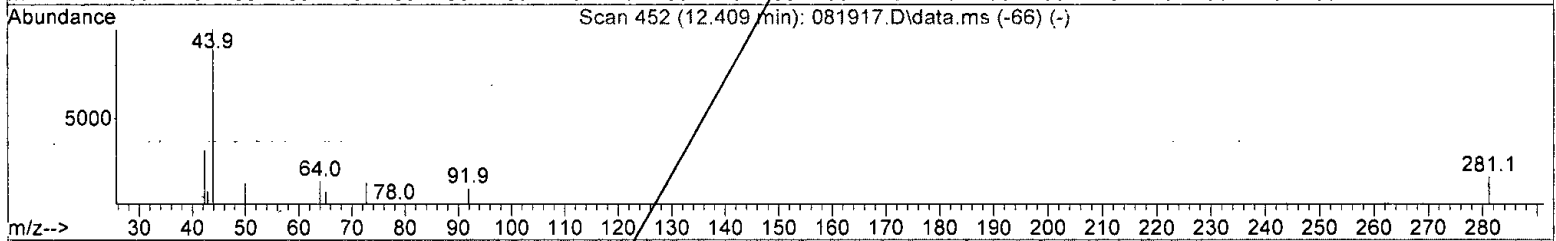
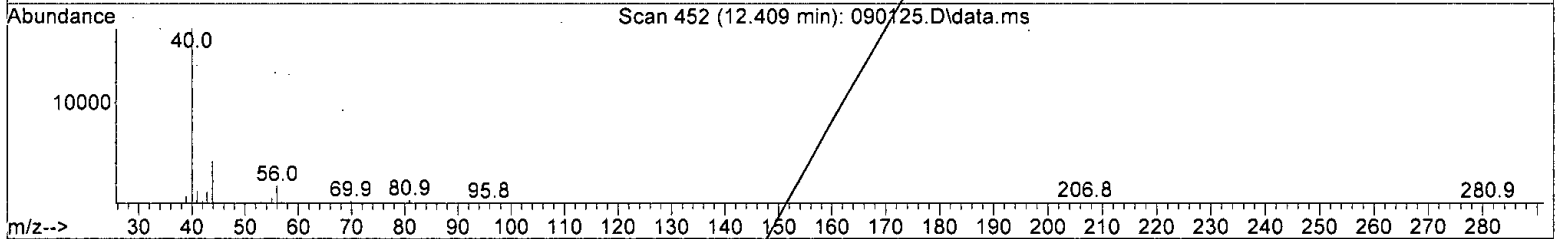
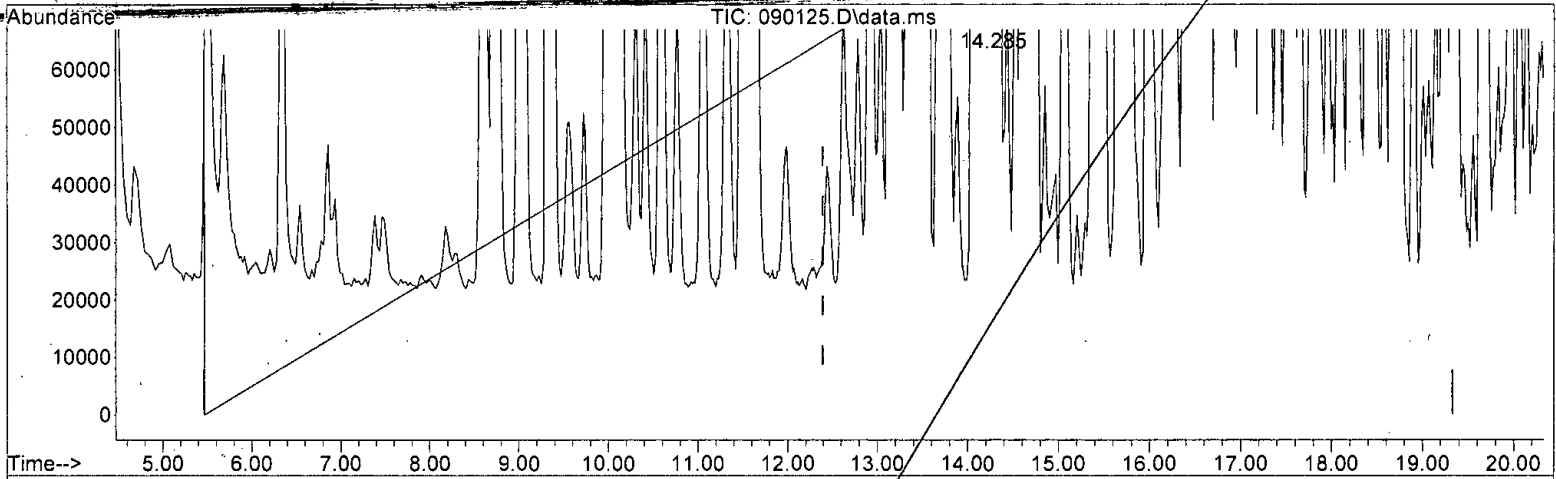
Ion	Exp%	Act%
77.90	100.00	100.00
51.90	16.60	20.32
0.00	0.00	0.00
0.00	0.00	0.00

*W 09/03/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 2924.331 ug/m3 m

response 115249888

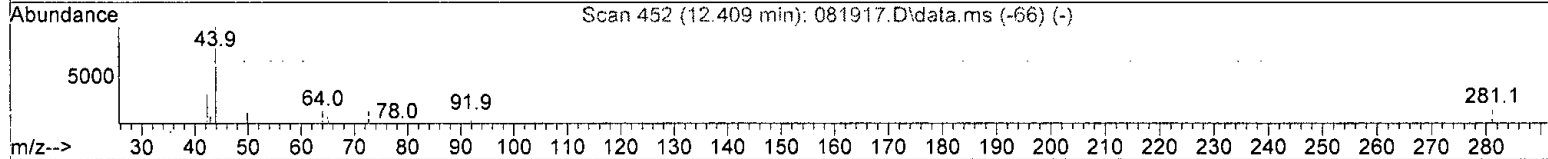
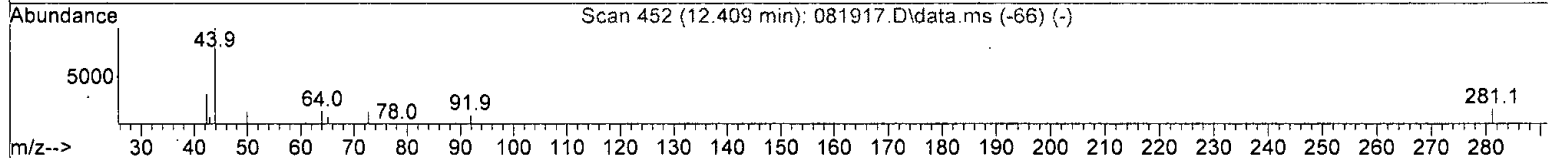
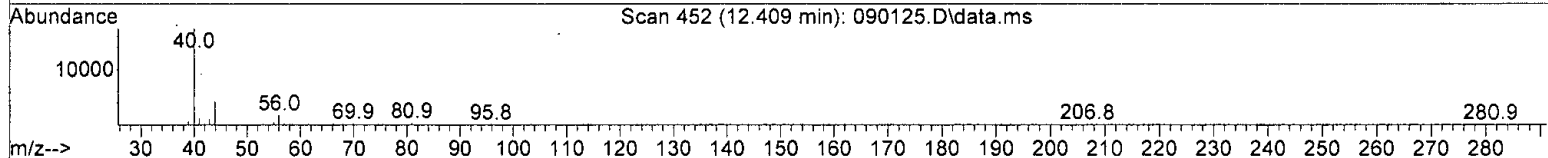
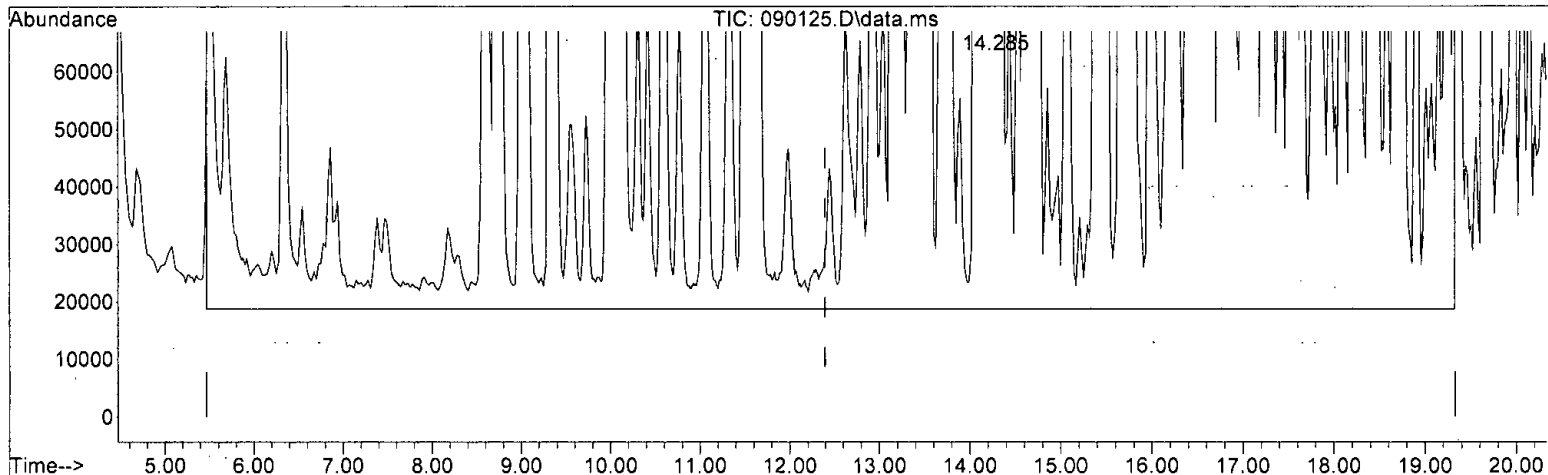
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten note:* 12/01/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090125.D\data.ms

(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 3173.823 ug/m3 m

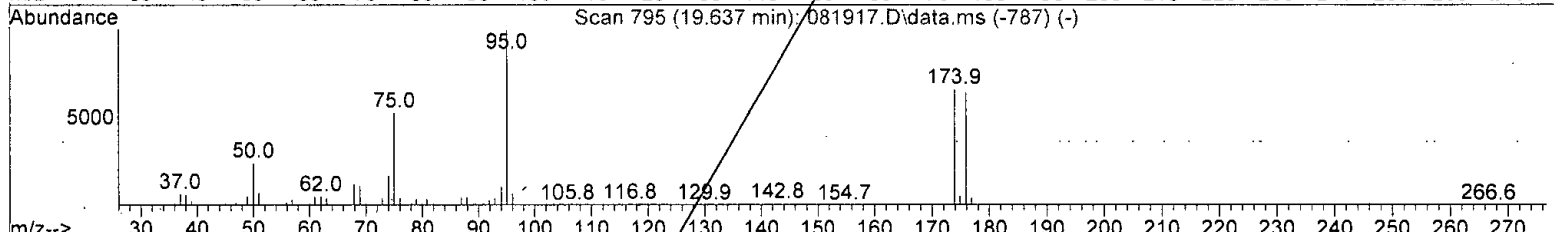
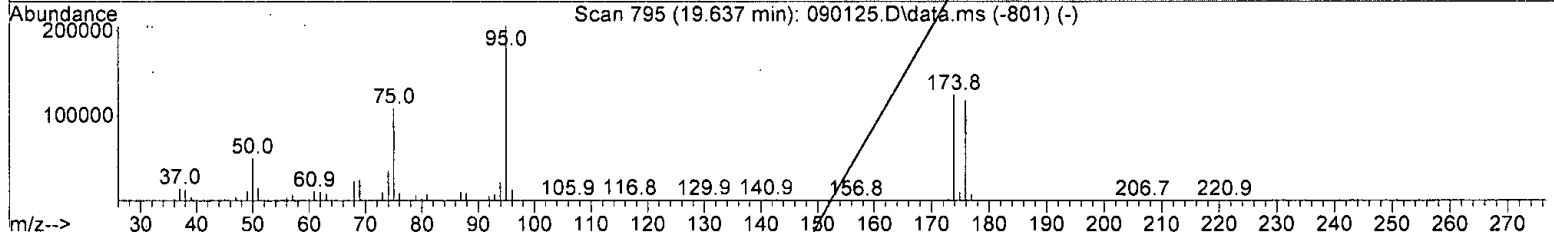
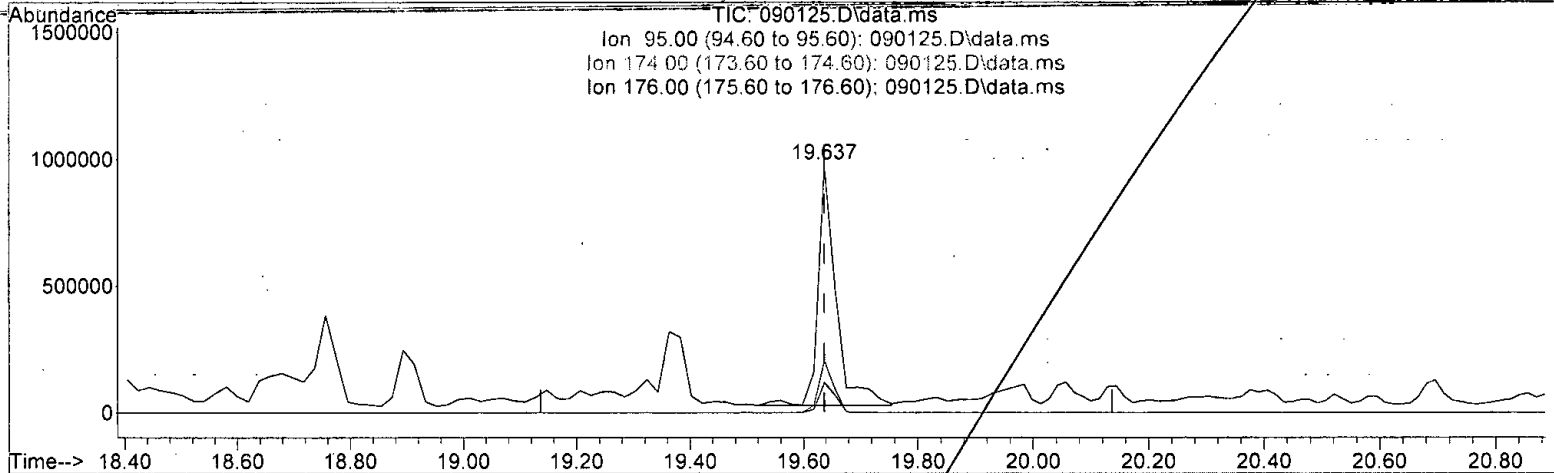
response 125082541

*B. Balogh*

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 57.038 ug/m3

response 2125860

Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	21.56
174.00	19.20	13.07
176.00	18.70	12.40

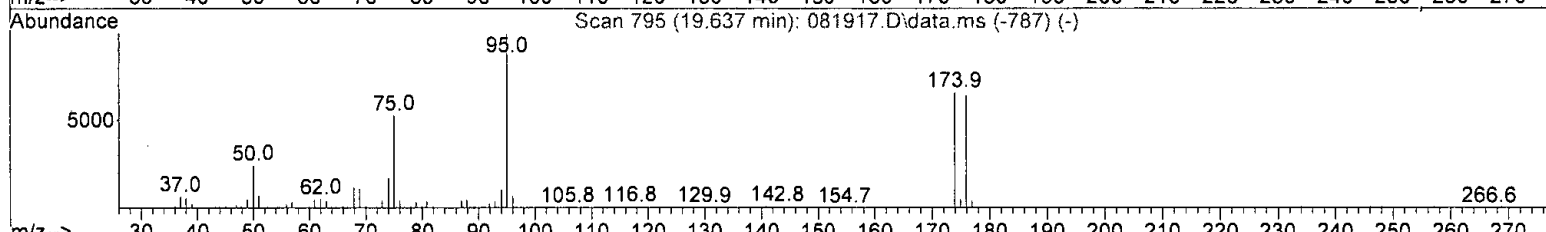
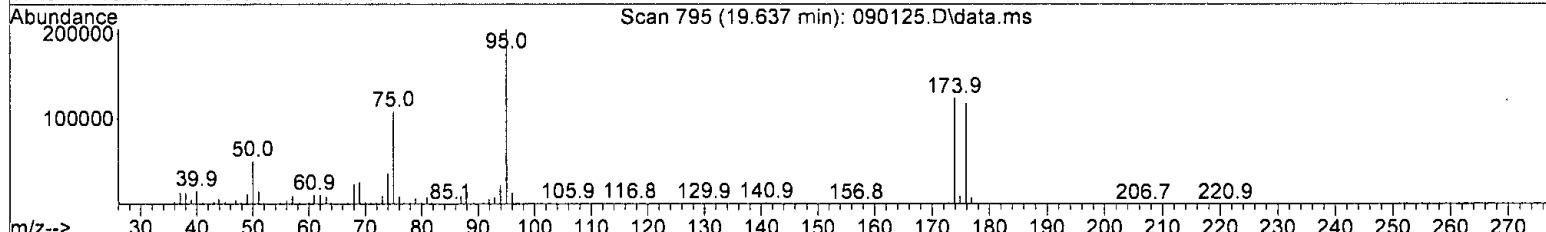
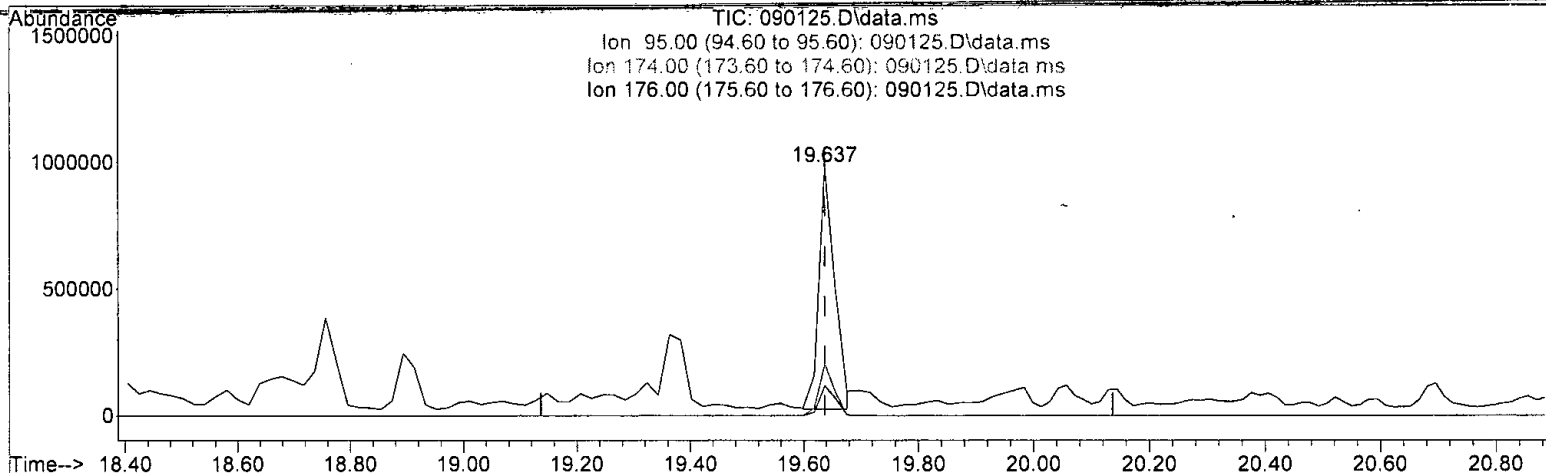
*Bat*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



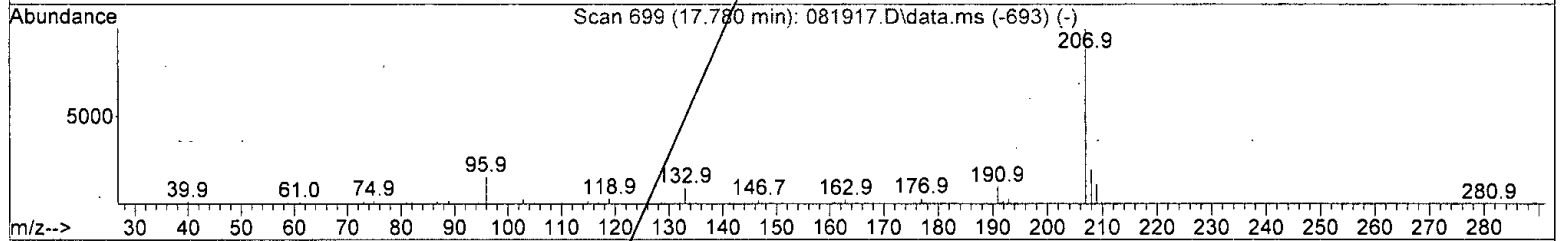
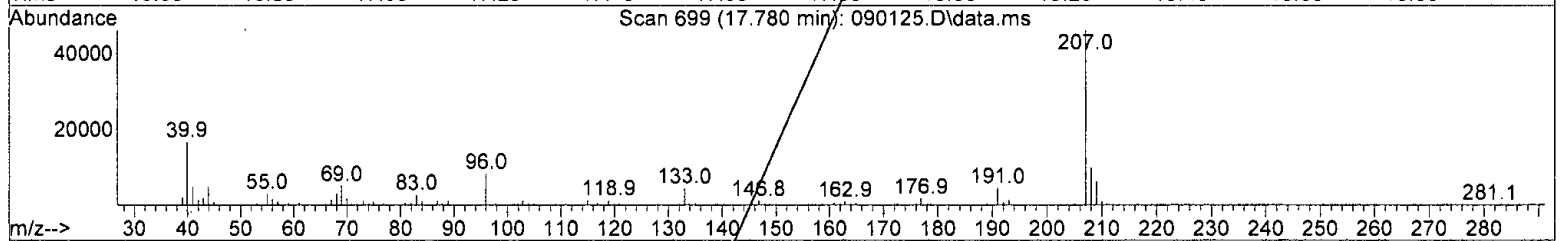
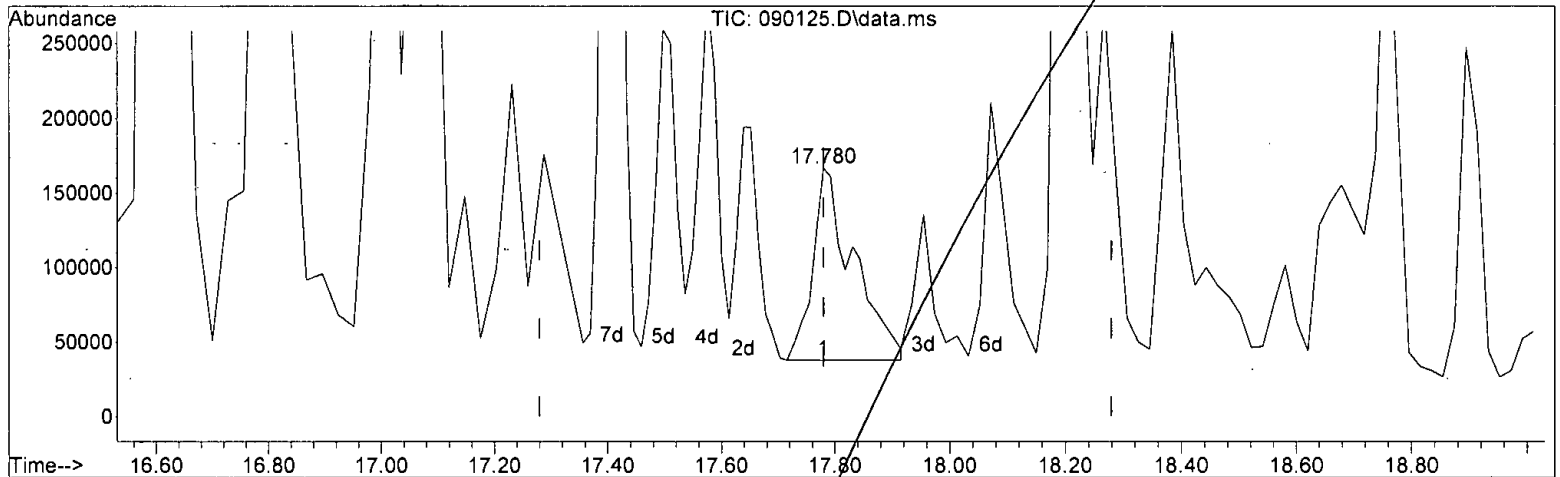
(21) S 4-Bromofluorobenzene (T)  
 19.637min (-0.000) 50.920 ug/m3 m  
 response 1897845

Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	24.15
174.00	19.20	14.64
176.00	18.70	13.89

*B. B. B.*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(22) Hexamethylcyclotrisiloxane

17.780min (-0.000) 78.110 ppbv

response 717063

Signal	Exp%	Act%
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TIC	100.00	100.00
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0.00	0.00	0.00
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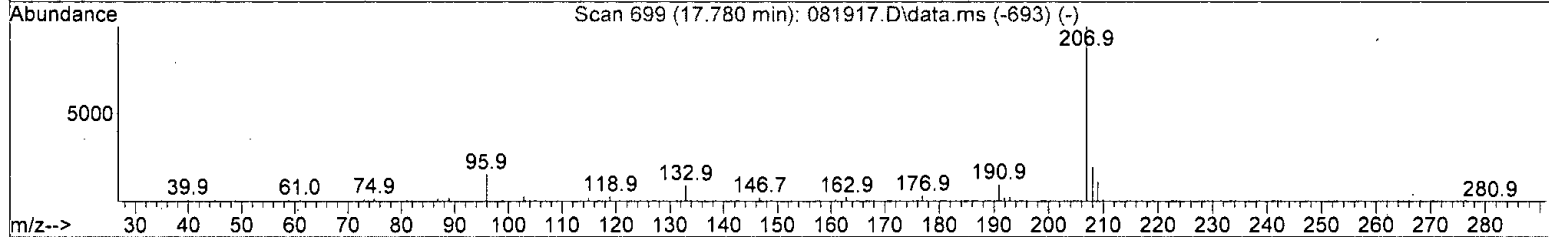
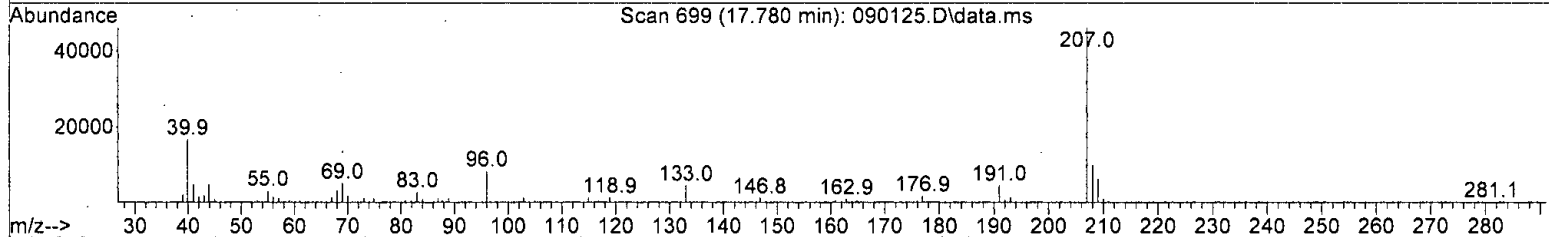
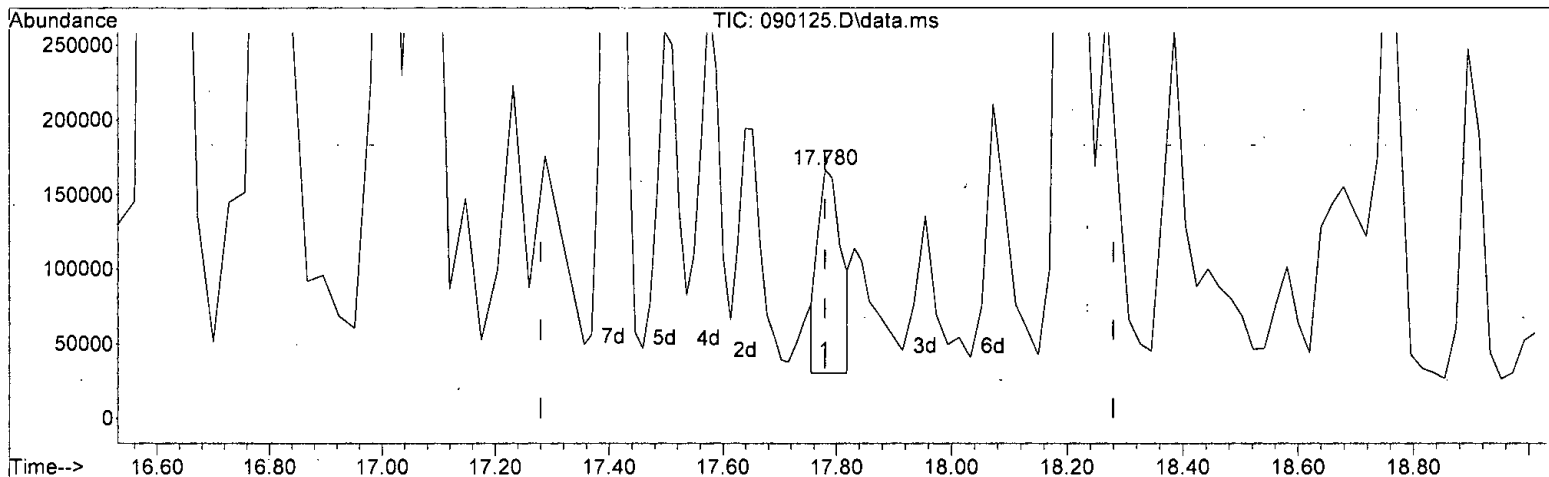
0.00	0.00	0.00
------	------	------

0.00	0.00	0.00
------	------	------

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Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast.Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(22) Hexamethylcyclotrisiloxane  
 17.780min (-0.000) 43.132 ppbv m  
 response 395958  

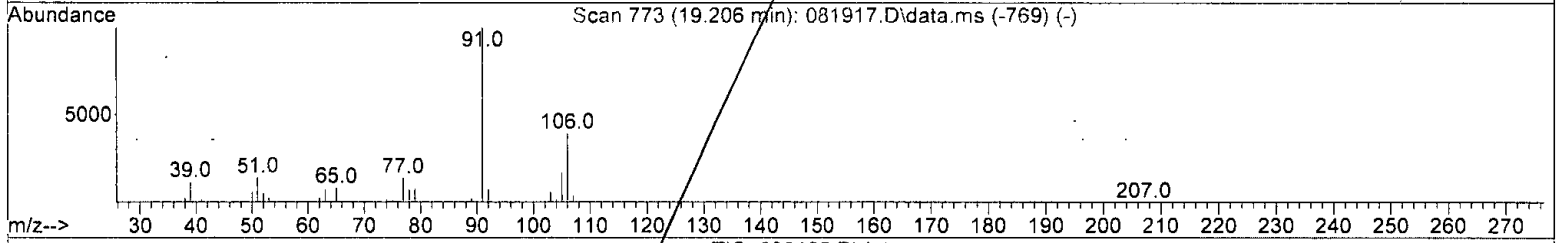
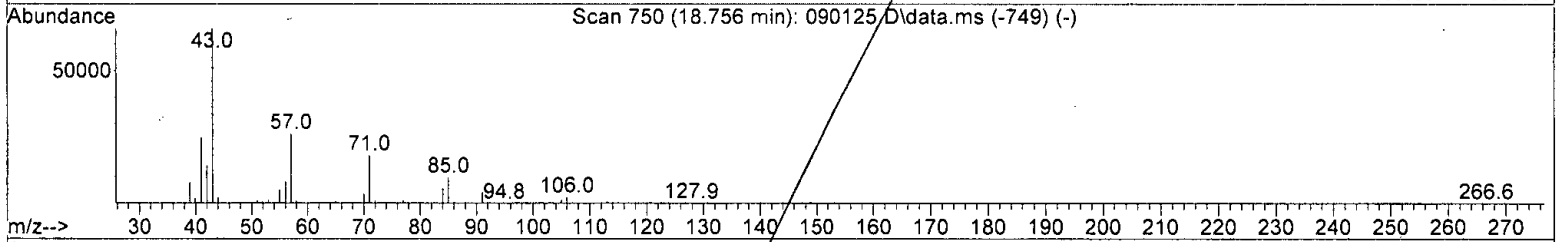
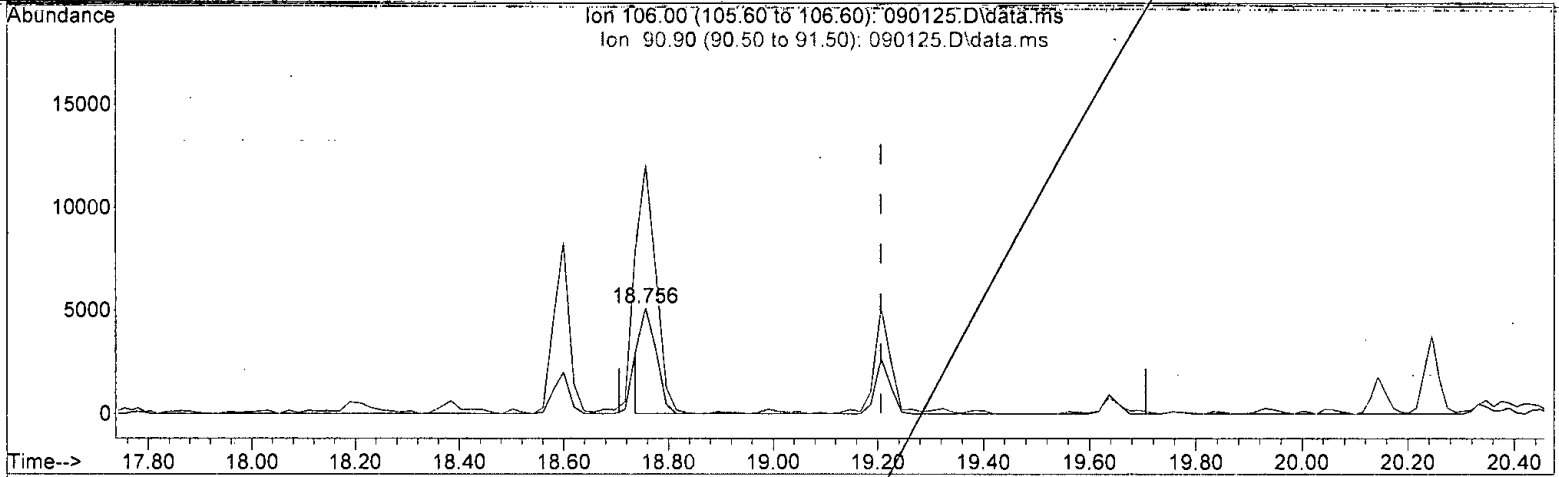
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*W 09/03/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090125.D\data.ms

(27) o-Xylene (T)

18.756min (-0.450) 1.634 ug/m3

response 10170

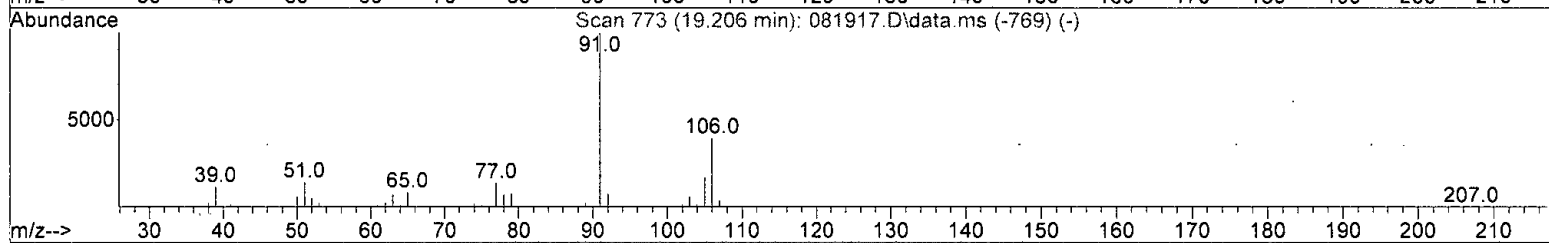
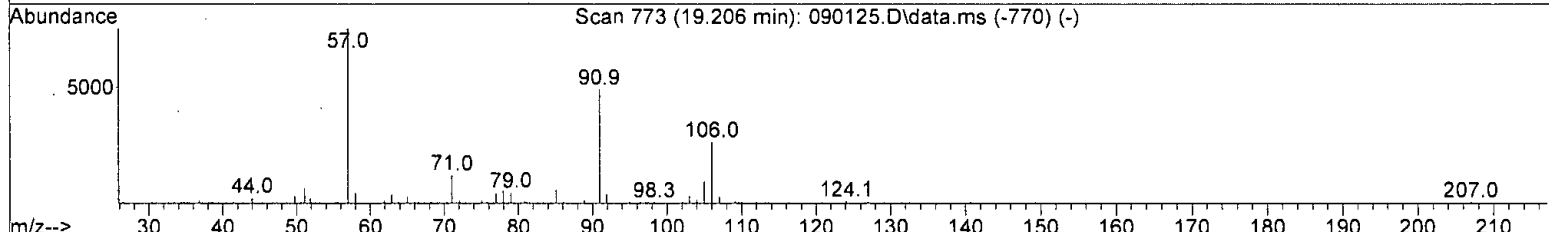
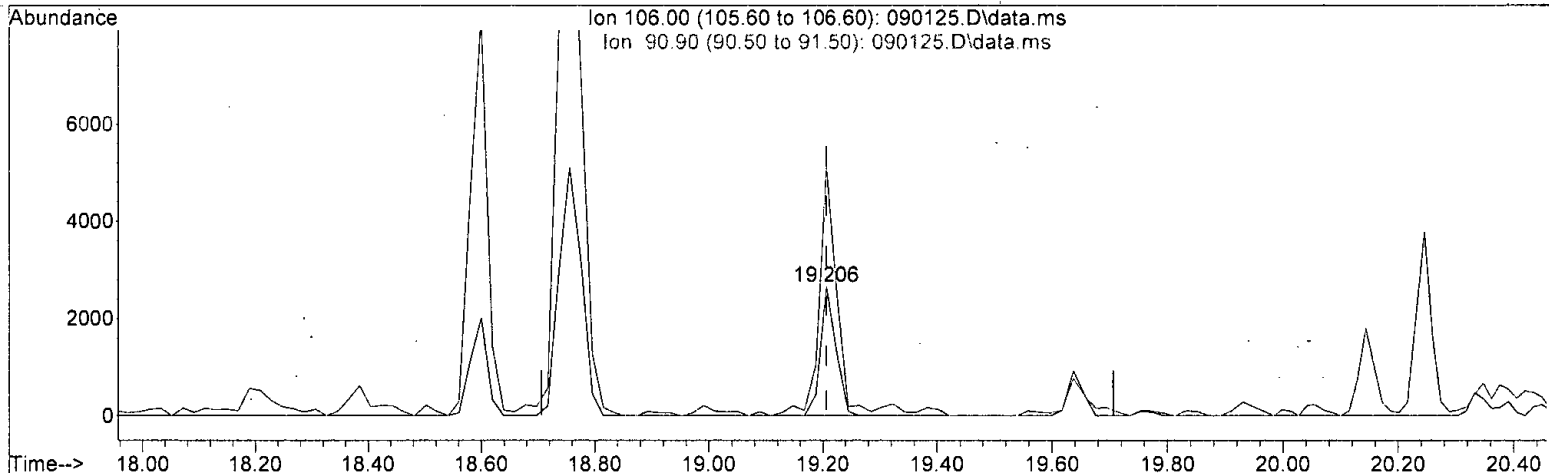
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	235.33
0.00	0.00	0.00
0.00	0.00	0.00

*u or/only*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

19.206min (-0.000) 0.836 ug/m3 m

response 5204

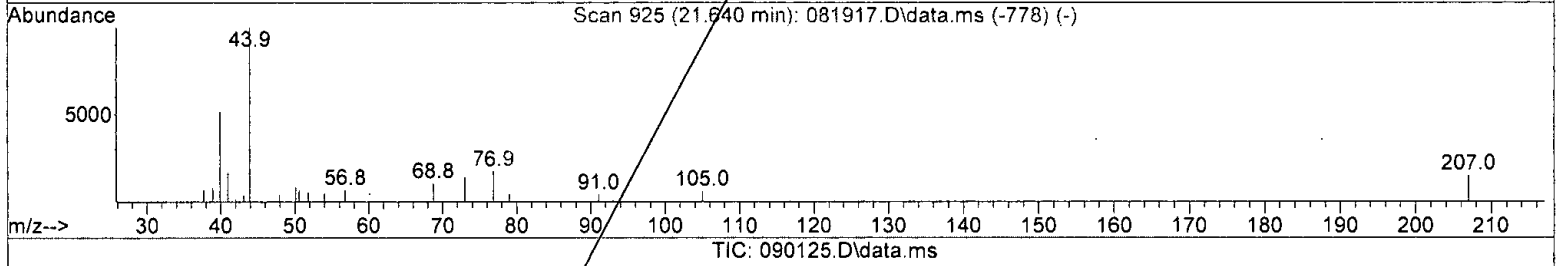
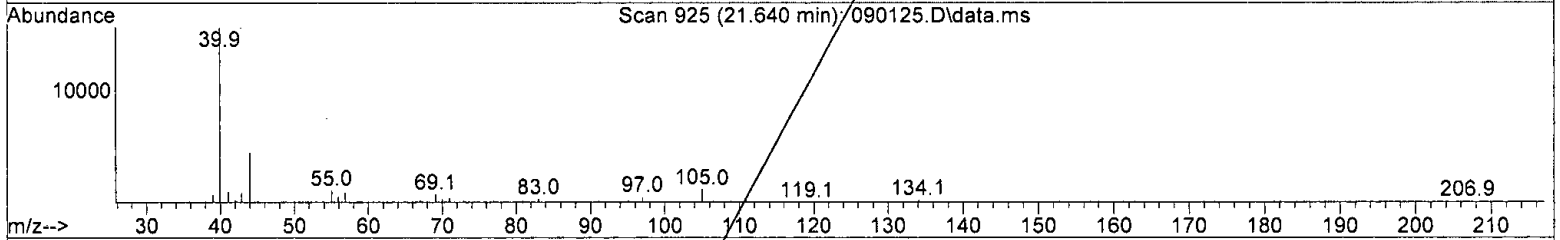
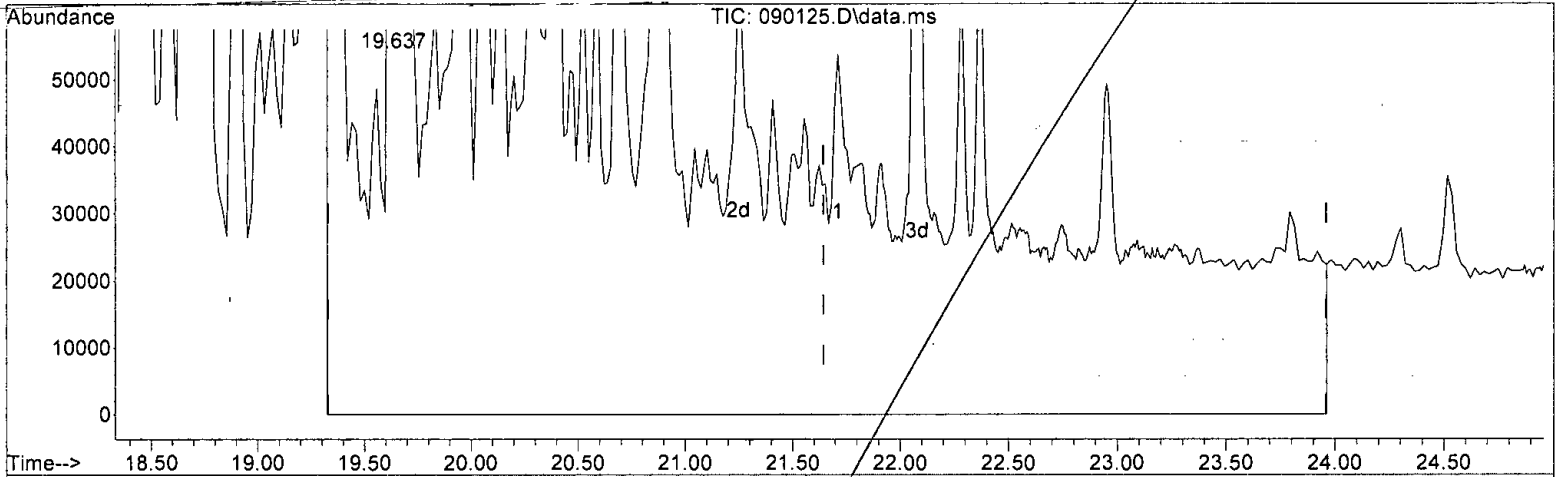
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	193.10#
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: U. Orlosky*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 71.238 ug/m3 m  
 response 3217892

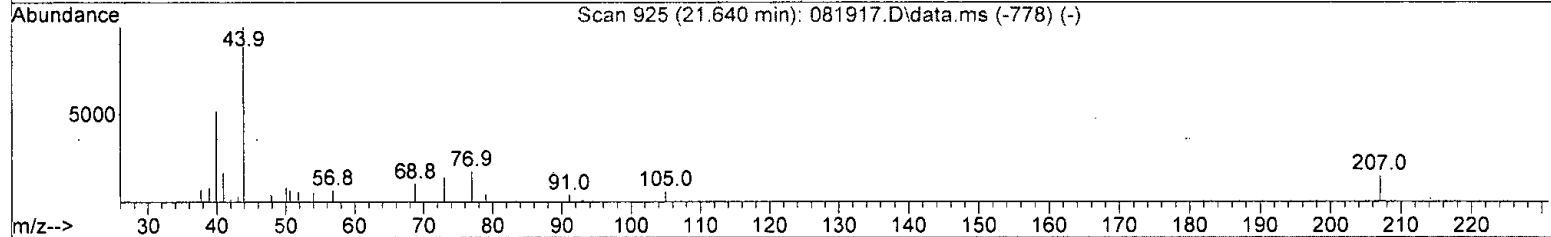
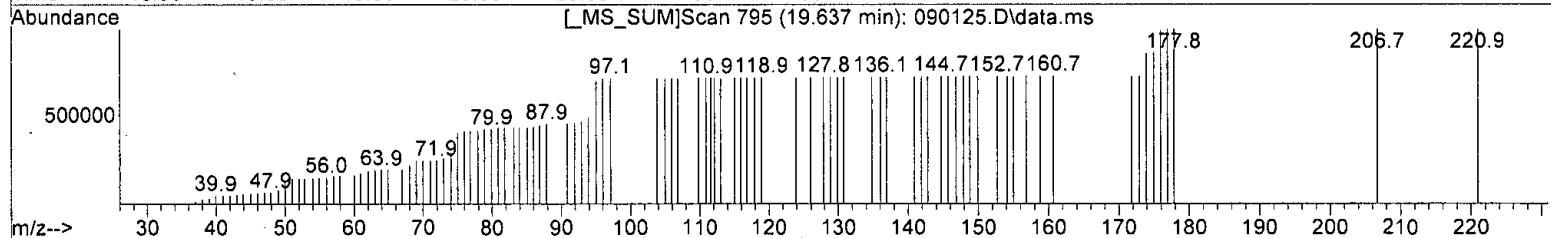
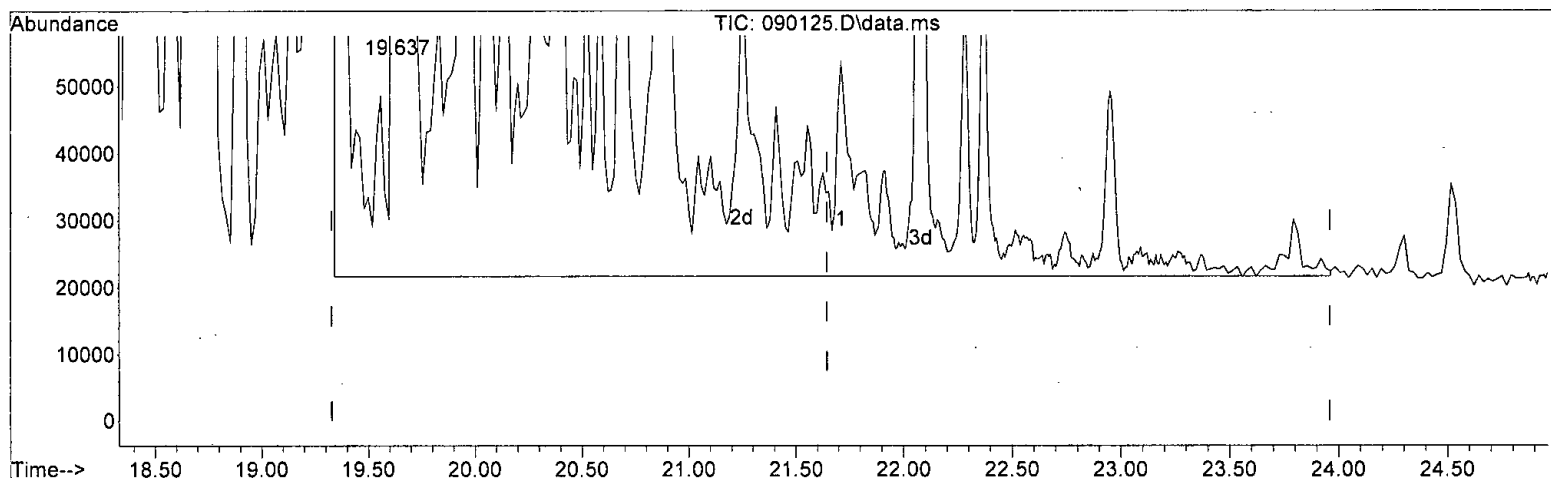
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B. G. G. G.*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 144.498 ug/m3 m

response 6527064

Signal Exp% Act%

TIC 100.00 100.00

0.00 0.00 0.00

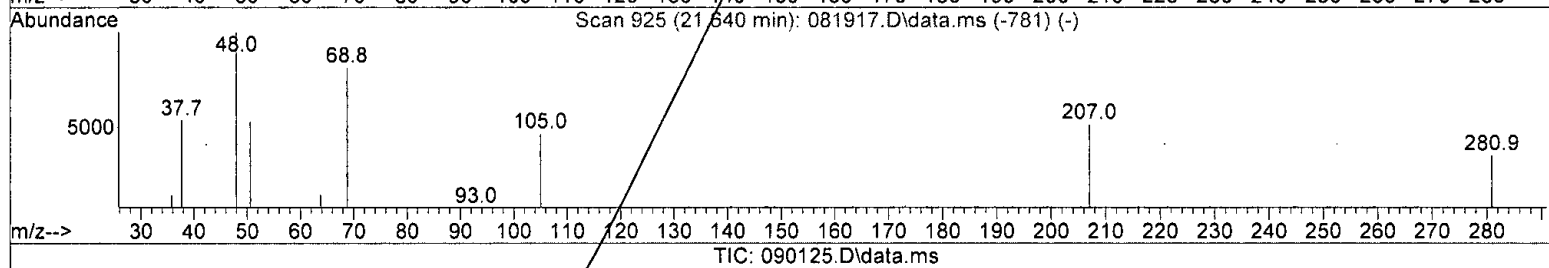
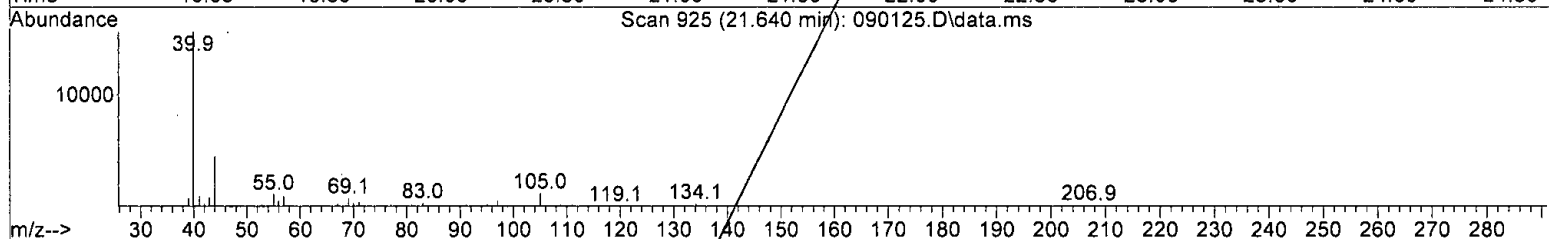
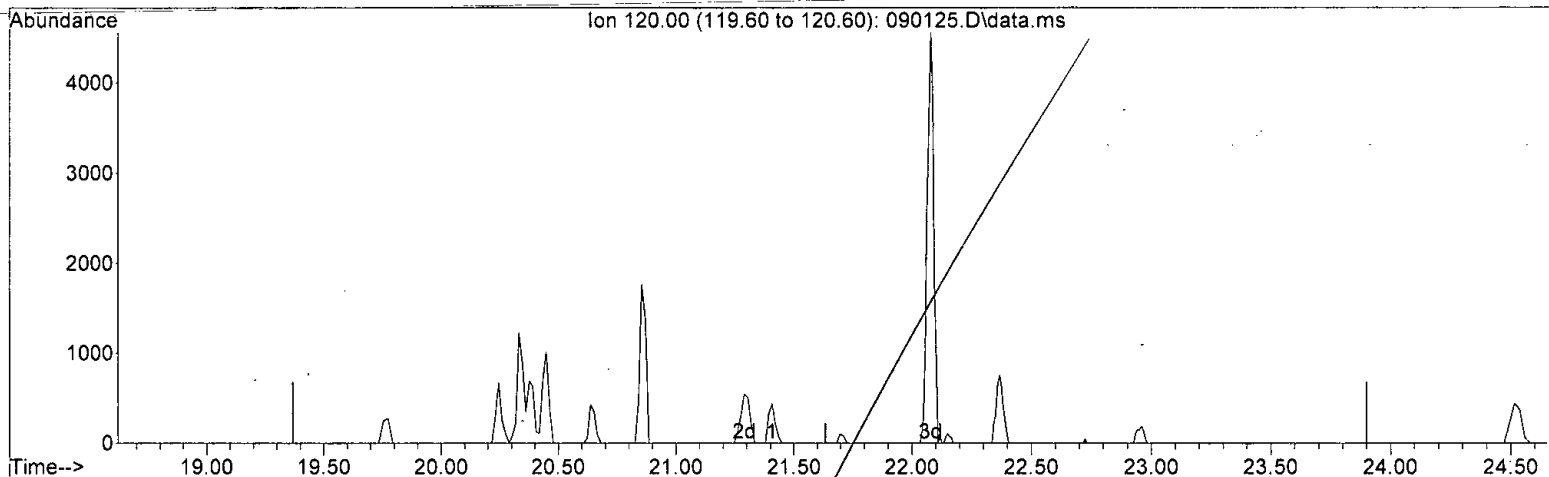
0.00 0.00 0.00

0.00 0.00 0.00

*Bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (F)  
 21.635min ( 0.000) -10.917 ug/m3 m  
 response -57413

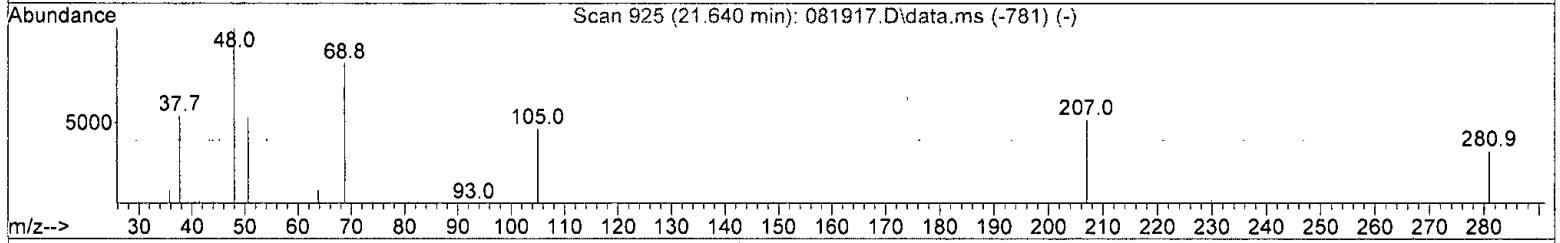
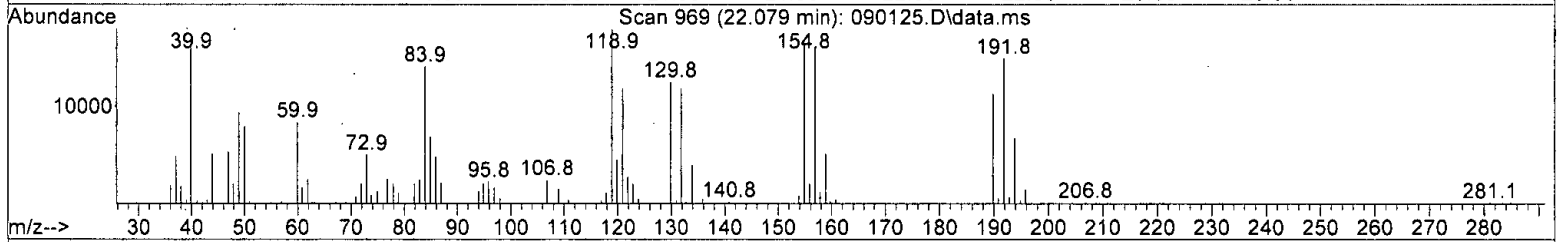
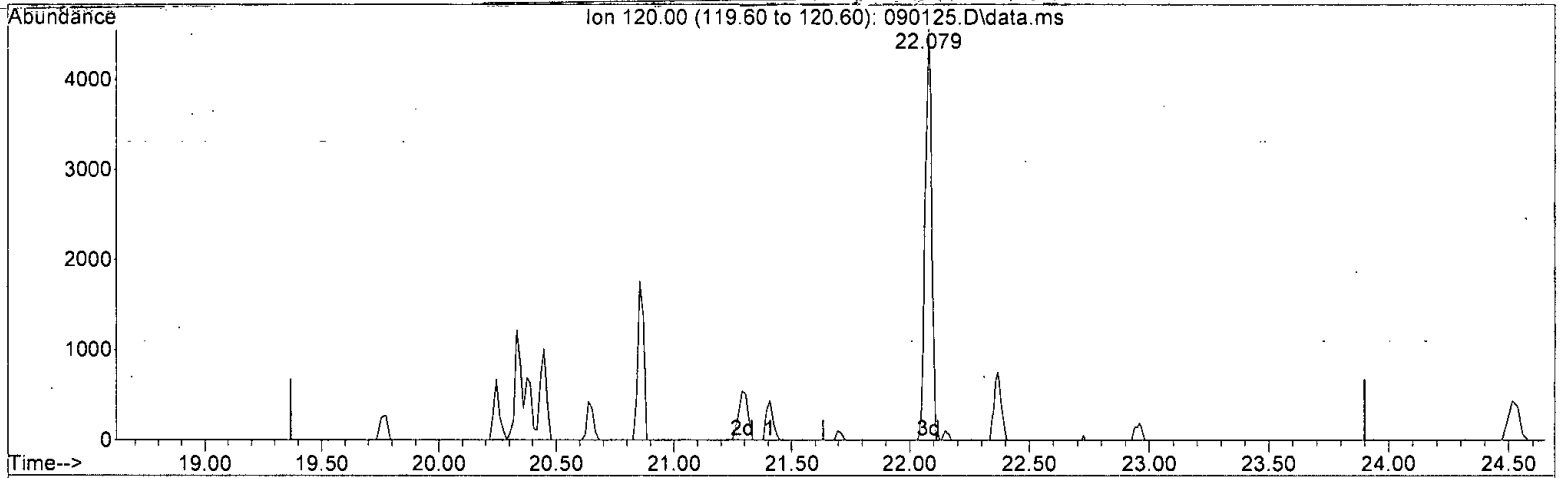
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature/initials*



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 5.277 ug/m3 m

response 27752

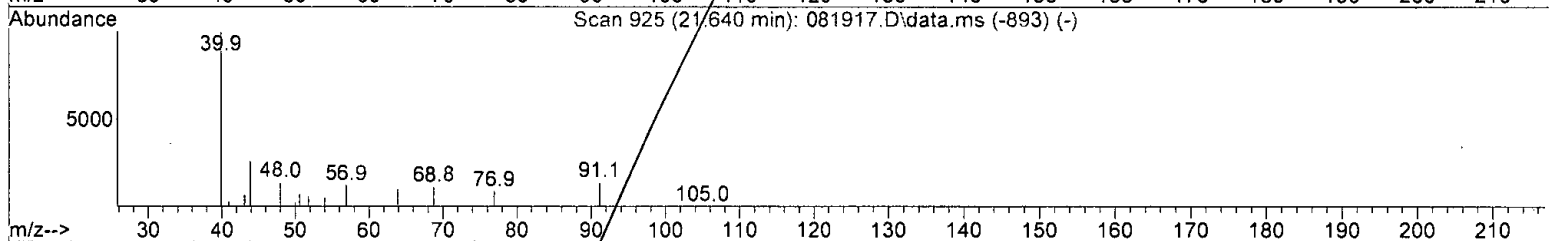
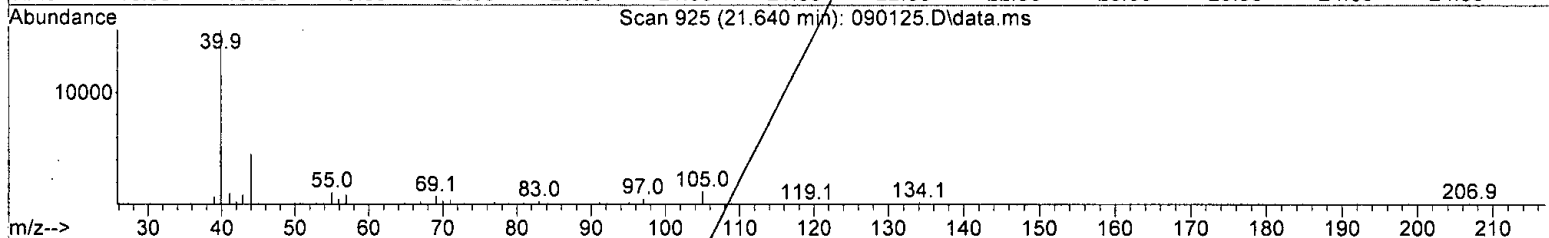
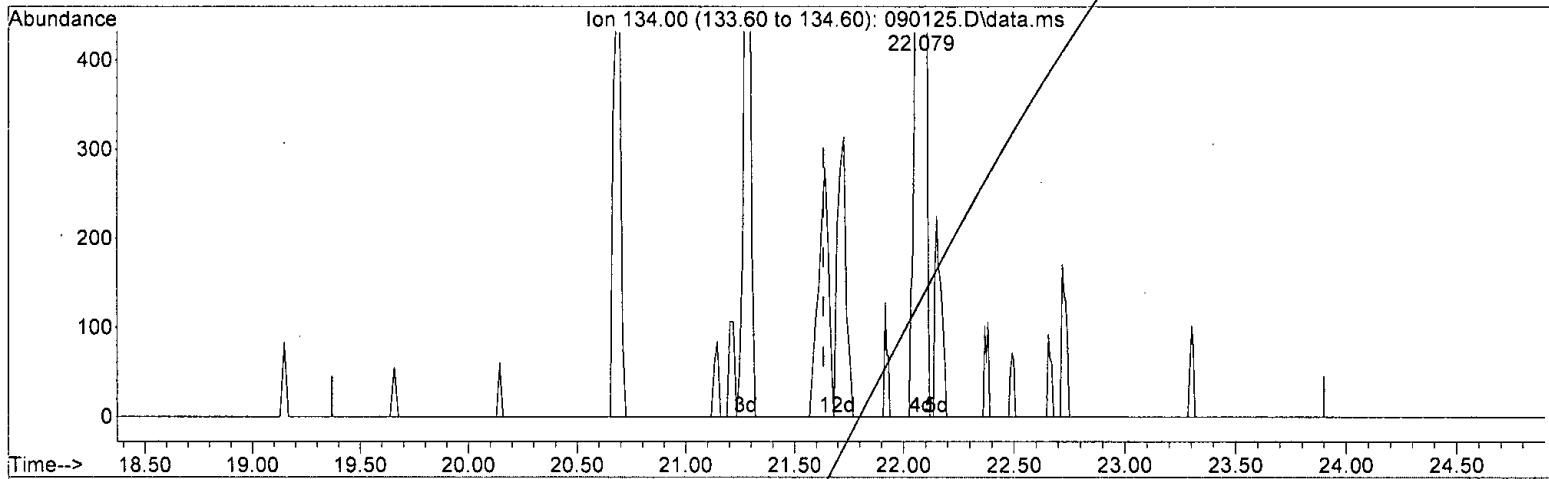
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*U only*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) -22.905 ug/m3 m

response -68611

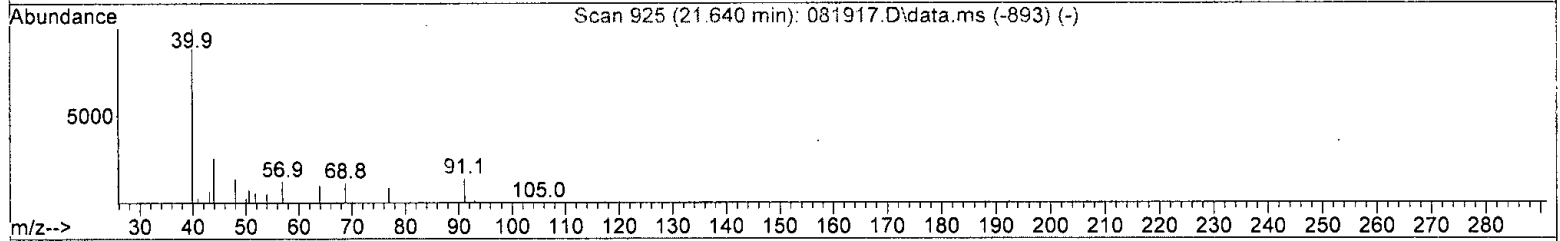
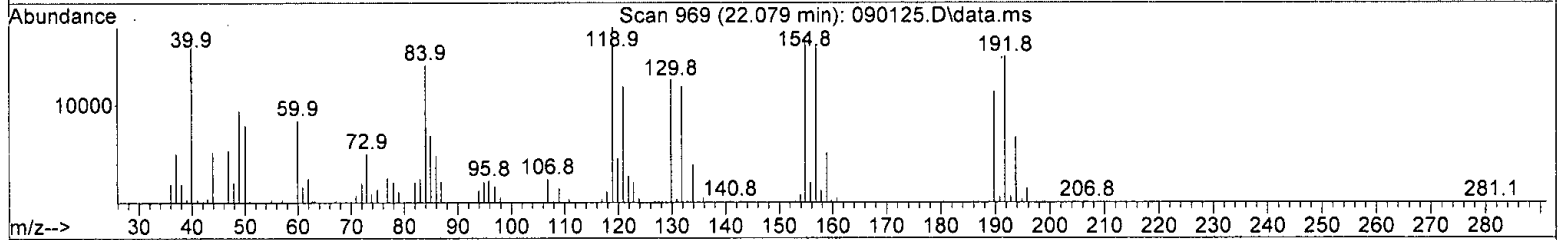
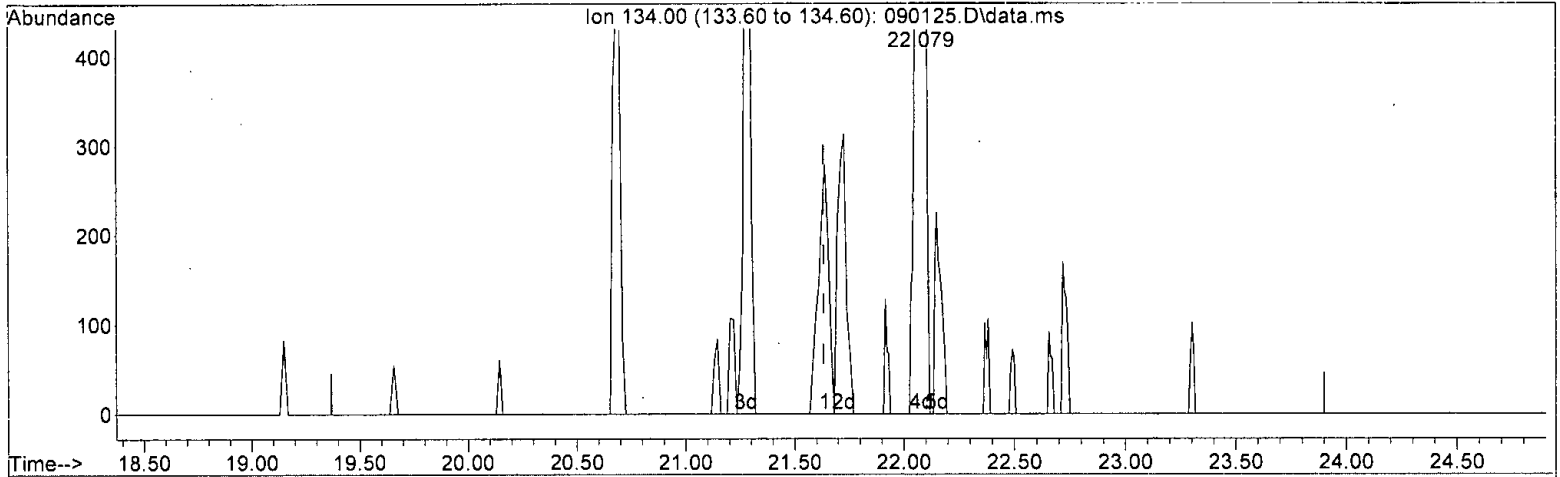
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten note:* k alaly

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 10:59:32 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*W/only*

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 5.954 ug/m3 m

response 17835

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 11:22:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	9.99	128	103721	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	496701	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	441493	50.000	ug/m3	# 0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	389908	70.491	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	99.28%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1046186	57.126	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.21	TIC	1293103m	49.747	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	2336638m	74.113	ug/m3	
5) Methylene chloride	6.86	TIC	178588	192.611	ug/m3	91
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.	d	
8) 1,3-Butadiene	4.24	54	180640	29.576	ug/m3#	1
9) Methyl t-butyl ether	8.67	73	184	0.023	ug/m3#	1
11) Benzene	12.71	78	13368m	0.792	ug/m3	
12) Isopentane	5.68	TIC	237827	7.091	ug/m3	91
13) Hexane	10.10	TIC	3902676	119.212	ug/m3	92
14) Cyclohexane	13.16	TIC	4349835	126.162	ug/m3	47
15) 2,3-Dimethylpentane	13.50	TIC	6539245	148.619	ug/m3	94
16) Heptane	14.60	TIC	8712330	242.295	ug/m3	92
17) Octane	17.41	TIC	2014182	40.852	ug/m3	91
18) APH EC5-8 aliphatics T...	12.93	TIC	25756095m	653.531	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	125082541m	3173.823	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1897845m	50.920	ug/m3	
22) Hexamethylcyclotrisilo...	17.78	TIC	395958m	43.132	ppbv	
23) Octamethylcyclotetrasil...	20.70	TIC	237674	20.744	ppbv	100
24) Toluene	16.39	92	36019	3.803	ug/m3	93
25) Ethylbenzene	18.60	91	17276	0.883	ug/m3	89
26) m,p-Xylene	18.76	106	13844	2.105	ug/m3	89
27) o-Xylene	19.21	106	5204m	0.836	ug/m3	
28) Naphthalene	23.94	128	1725	0.109	ug/m3	86
29) 2,3-Dimethylheptane	18.68	TIC	549811	12.391	ug/m3#	80
30) Nonane	19.36	TIC	998592	21.553	ug/m3	90
31) Decane	20.90	TIC	439185	9.542	ug/m3	84
32) Butylcyclohexane	21.55	TIC	25523	0.488	ug/m3	91
33) Undecane	22.28	TIC	77257	1.692	ug/m3	95
34) Dodecane	23.79	TIC	42174	1.126	ug/m3	85
35) APH EC9-12 aliphatics ...	21.71	TIC	2132542m	47.211	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	6527064m	144.498	ug/m3	
38) Isopropylbenzene	19.77	120	615	0.178	ug/m3#	82
39) 1-Methyl-3-ethylbenzene	20.33	120	3737	0.772	ug/m3	95
40) 1,3,5-Trimethylbenzene	20.45	120	1839	0.300	ug/m3#	75
41) p-Isopropyltoluene	21.28	134	1612	0.535	ug/m3#	51
42) 1,2,3-Trimethylbenzene	21.29	120	1467	0.204	ug/m3#	84
43) APH EC9-10 aromatics T...	21.71	TIC	9270m	1.946	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	27752m	5.277	ug/m3	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

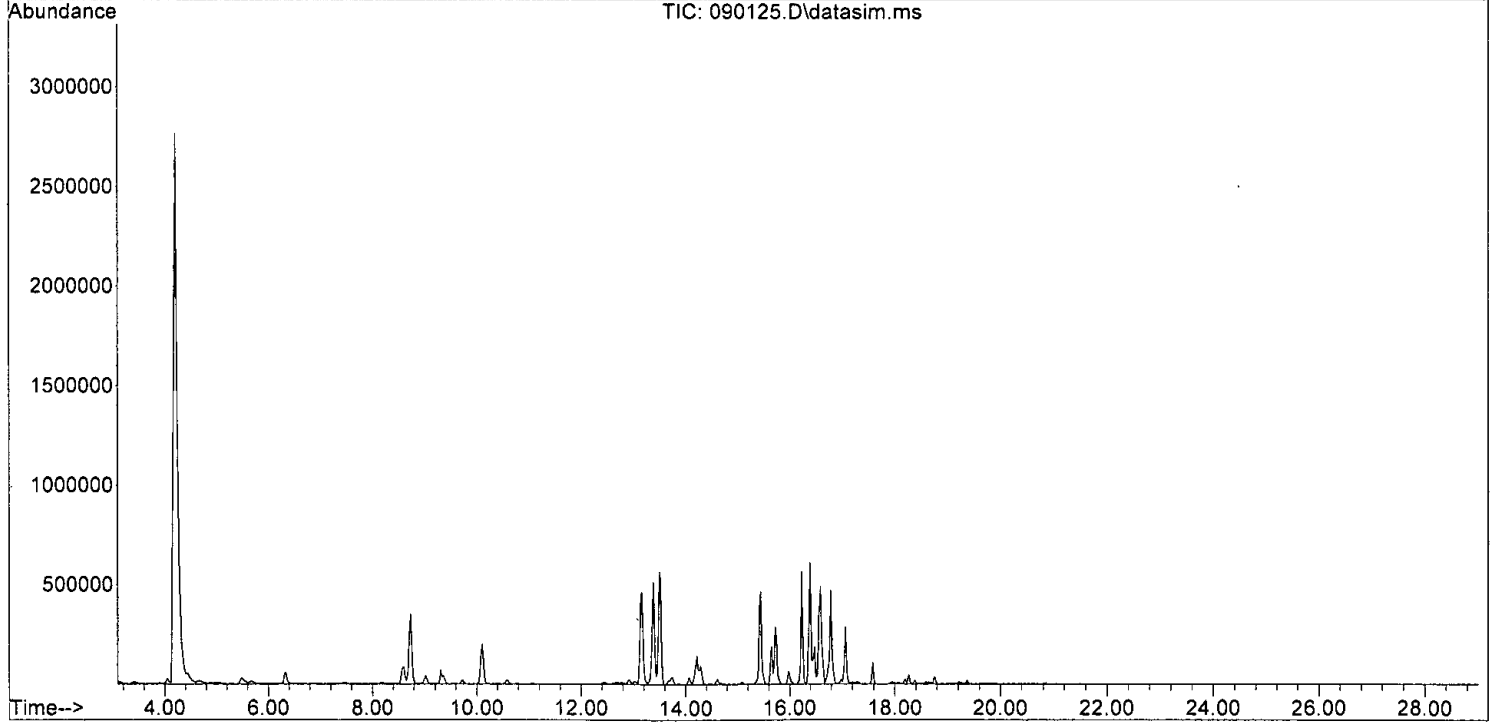
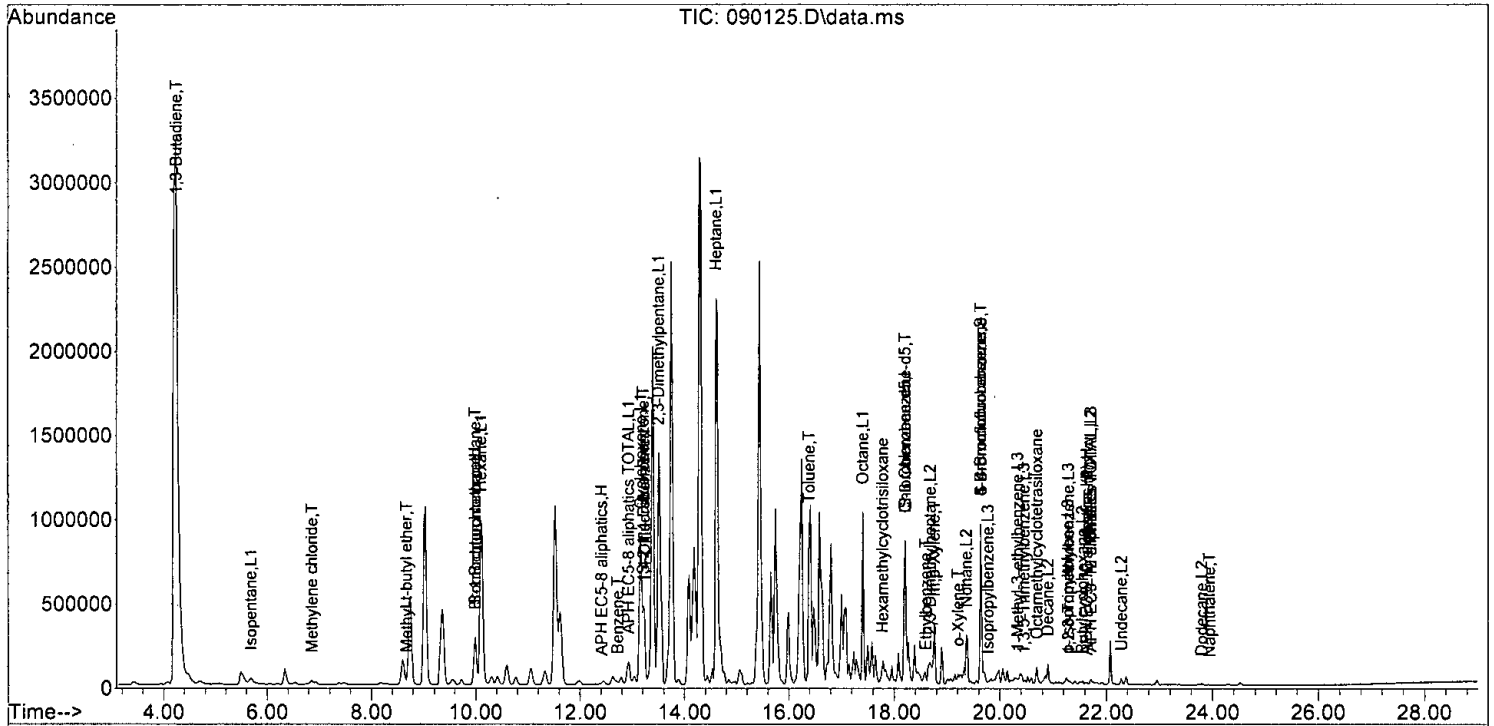
Quant Time: Sep 03 11:22:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	17835m	5.954	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

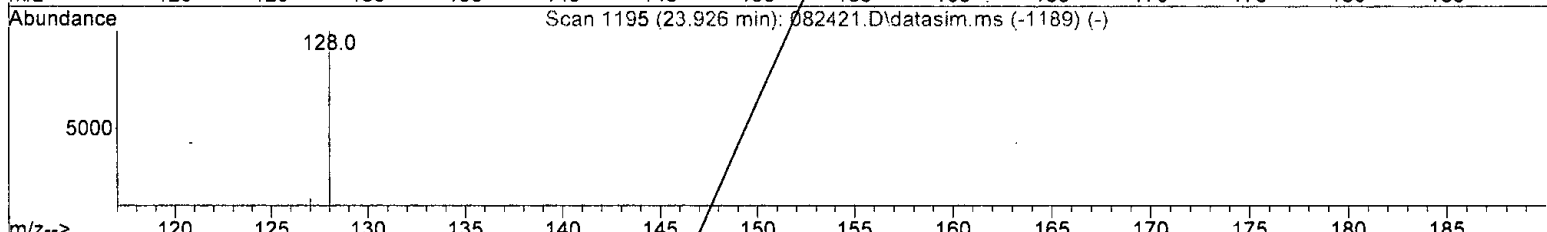
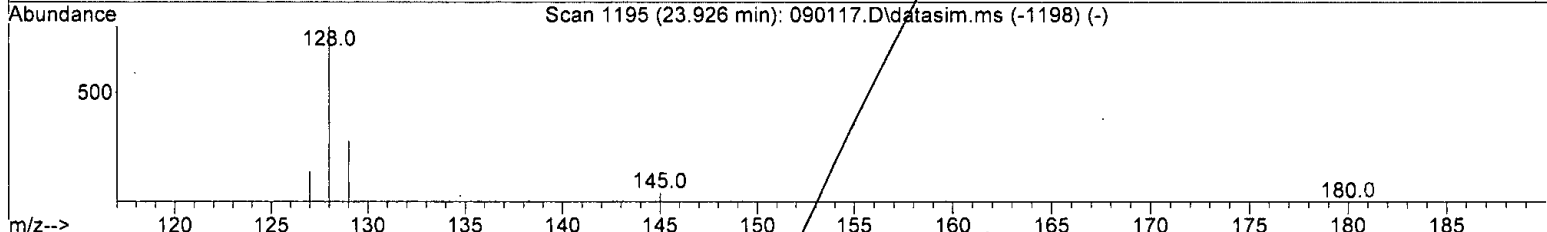
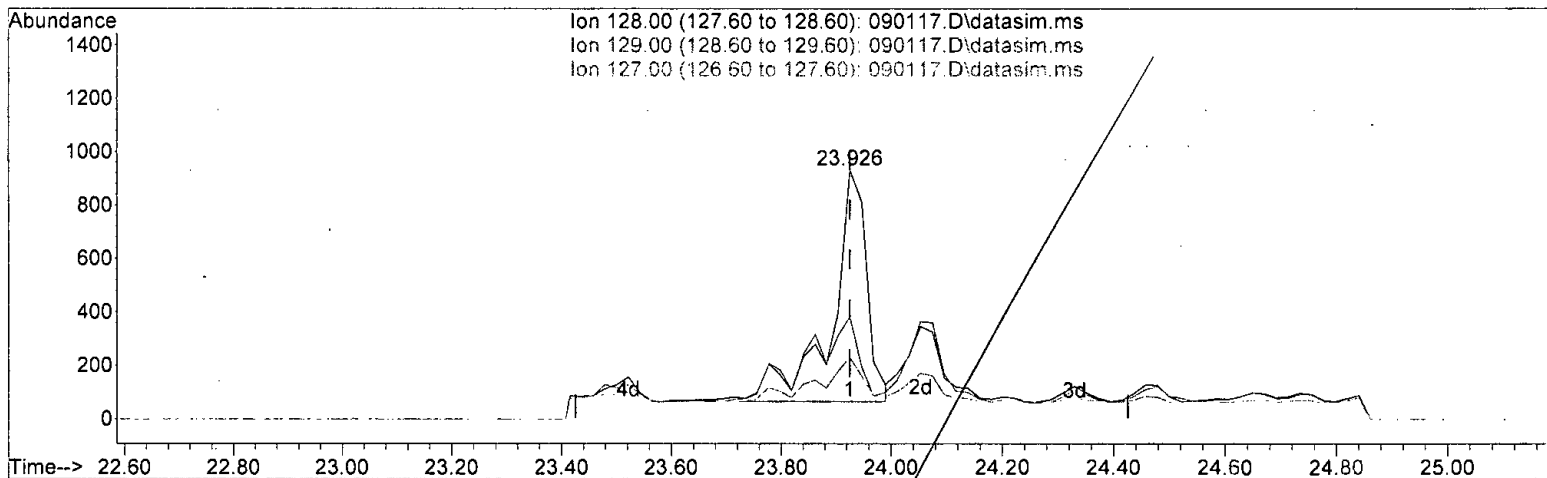
Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090125.D  
 Acq On : 2 Sep 2021 1:27 am  
 Operator : bat  
 Sample : 108515-07 1/2200  
 Misc : T13  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 03 11:22:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:58 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(77) Naphthalene (TMP)

23.926min (-0.000) 0.022 ppbv

response 3869

Ion	Exp%	Act%
-----	------	------

128.00	100.00	100.00
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129.00	11.00	36.99
--------	-------	-------

127.00	13.20	19.19
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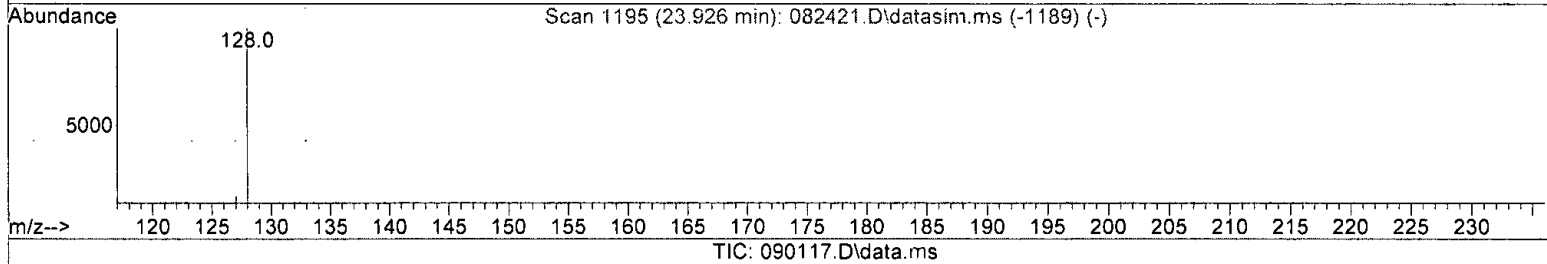
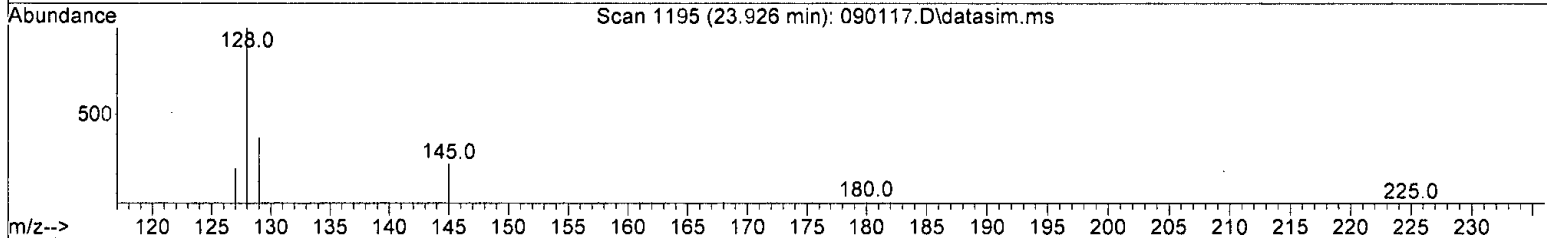
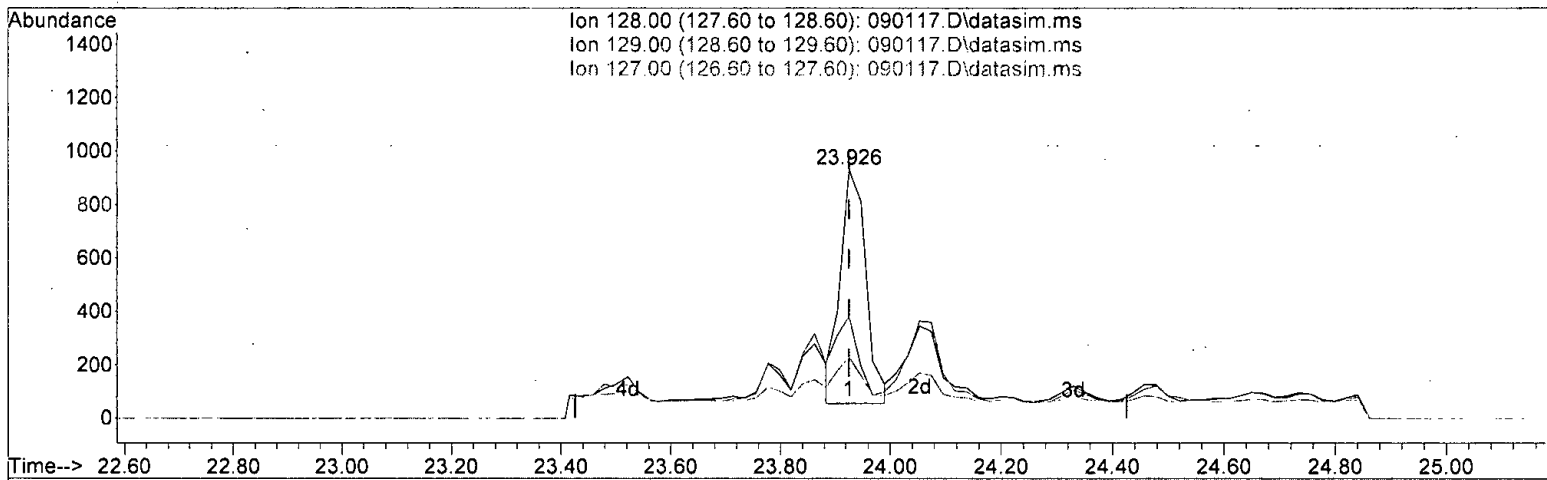
0.00	0.00	0.00
------	------	------

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:58 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(77) Naphthalene (TMP)

23.926min (-0.000) 0.012 ppbv m

response 2808

Ion Exp% Act%

128.00 100.00 100.00

129.00 11.00 41.14#

127.00 13.20 24.70

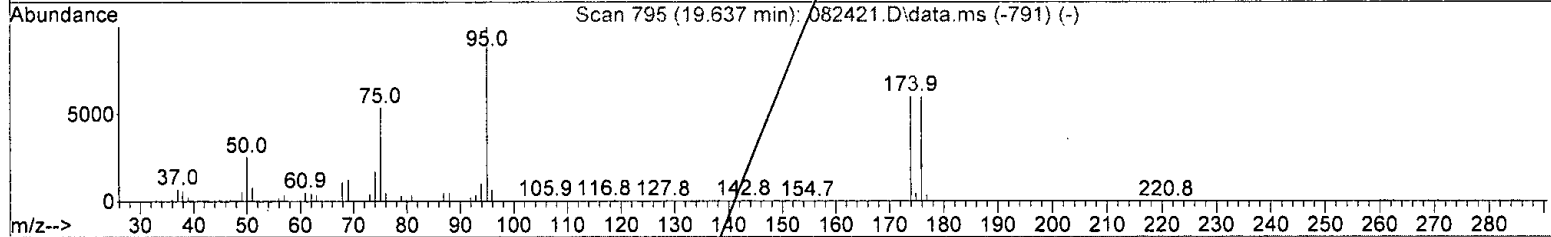
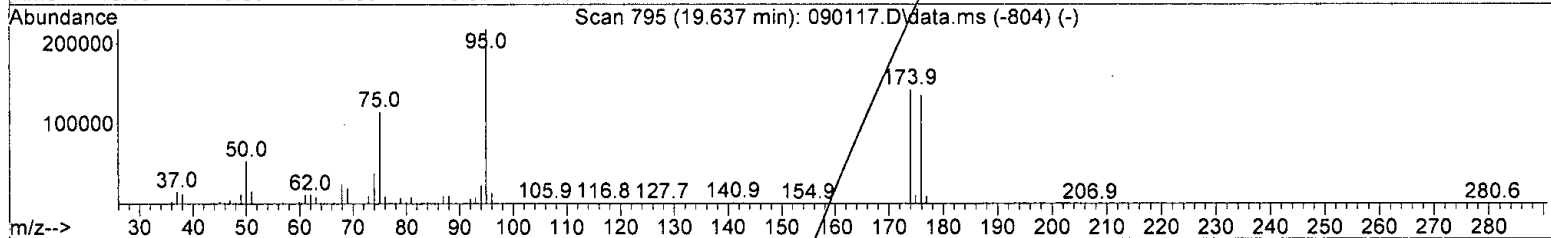
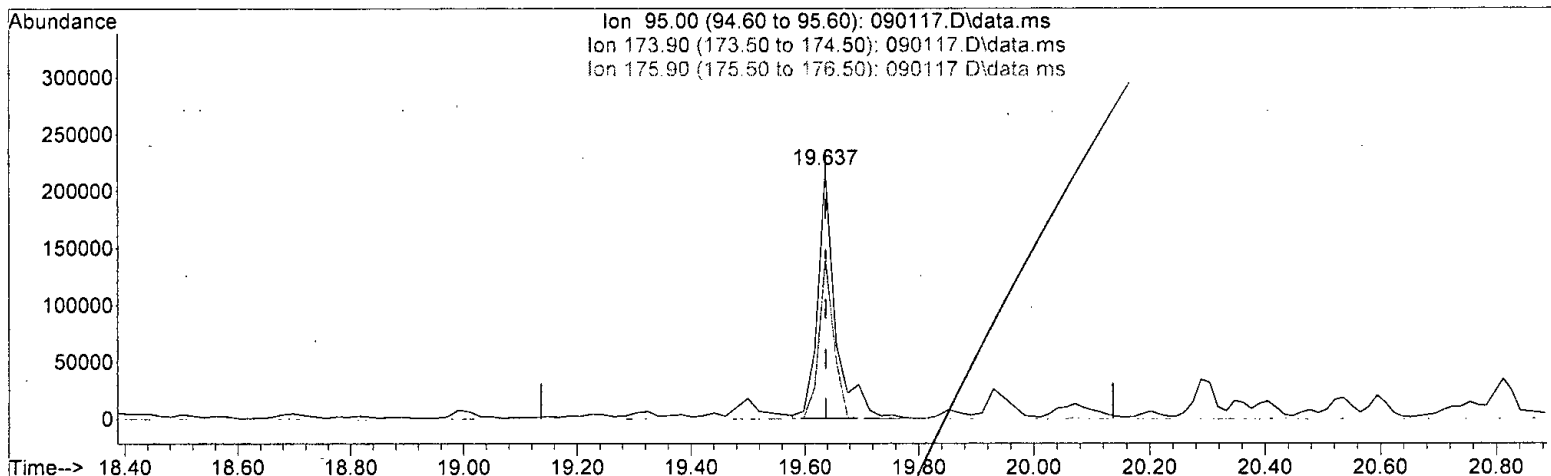
0.00 0.00 0.00

*B. Ortolini*



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:11:15 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090117.D\data.ms

(69) 4-Bromofluorobenzene (S)

19.637min (-0.000) 11.944 ppbv

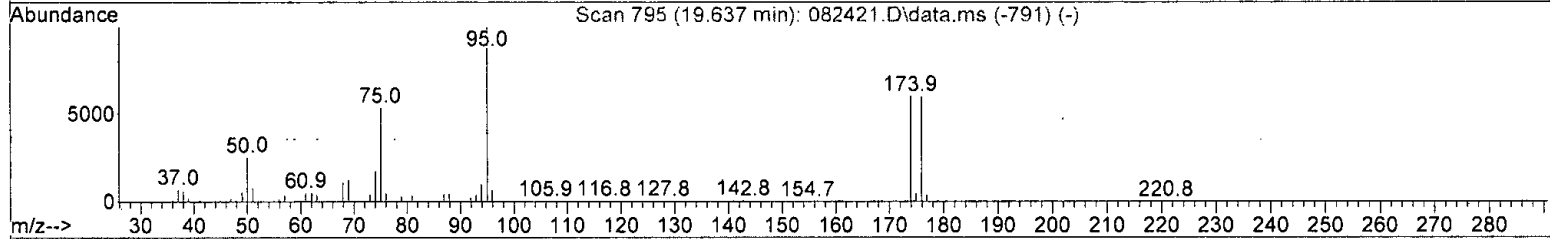
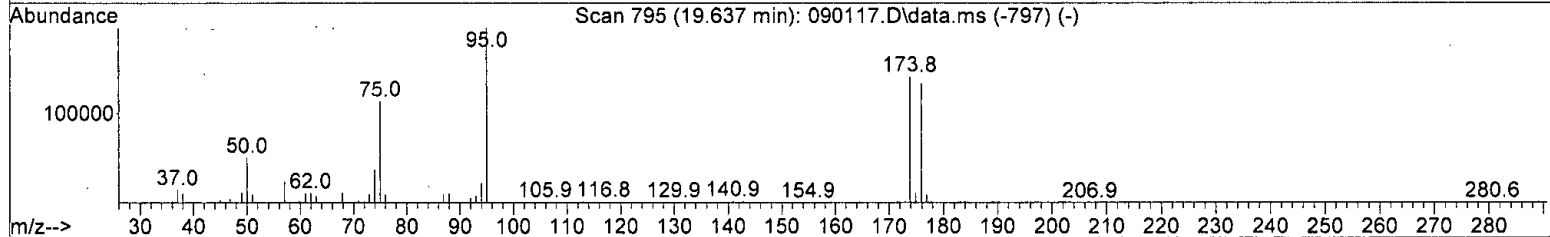
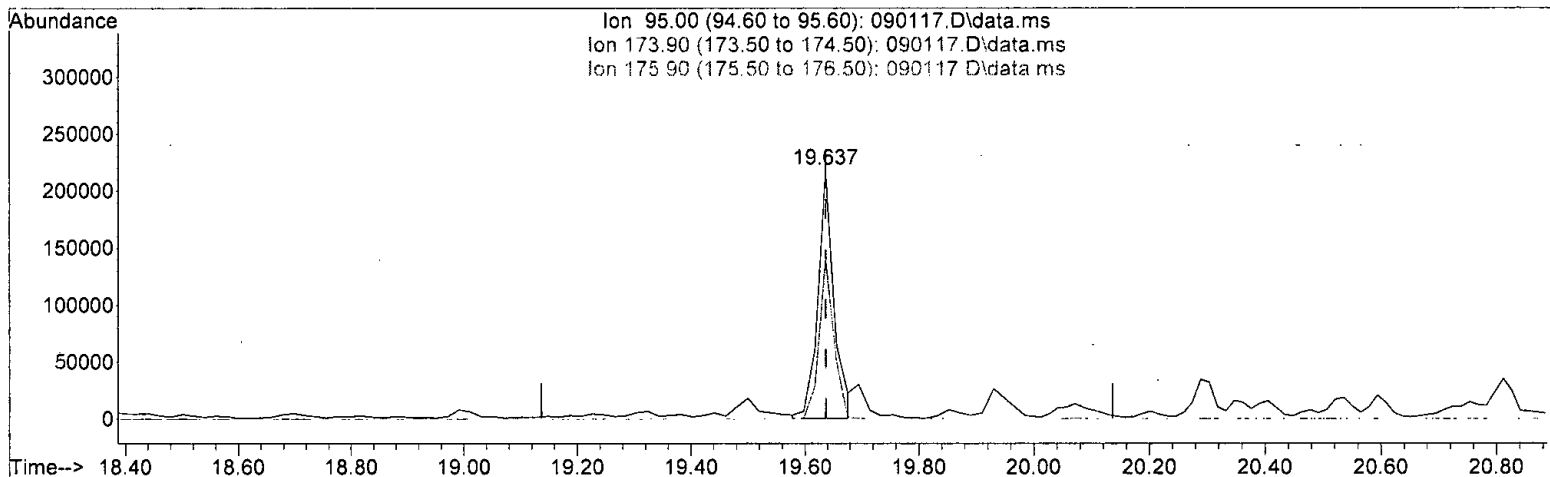
response	485222
Ion	Exp% Act%
95.00	100.00 100.00
173.90	73.50 65.34
175.90	70.90 62.12
0.00	0.00 0.00

*Handwritten signature: U. Ojala*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:11:15 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update: Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*Handwritten signature: N. Oshiki*

(69) 4-Bromofluorobenzene (S)

19.637min (-0.000) 10.714 ppbv m

response 435253

Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	65.22
175.90	70.90	62.00
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

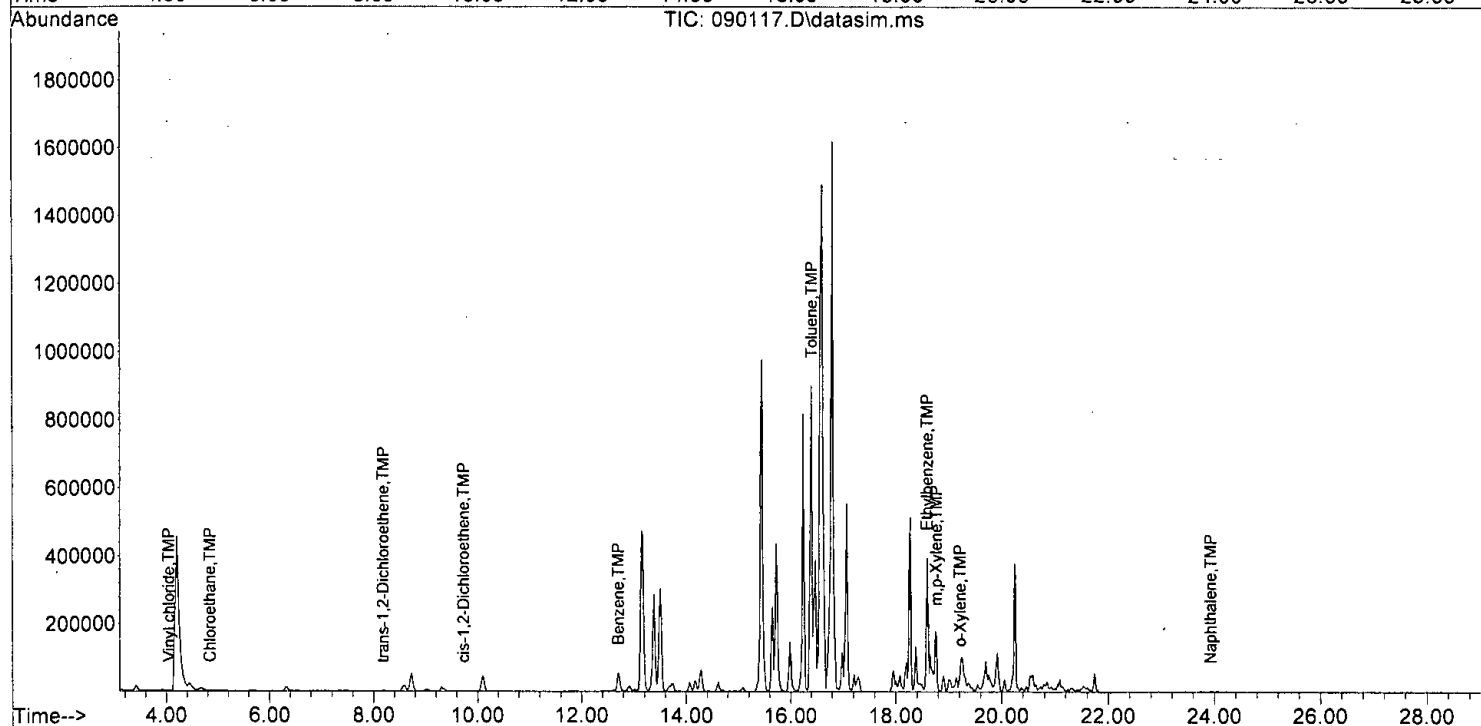
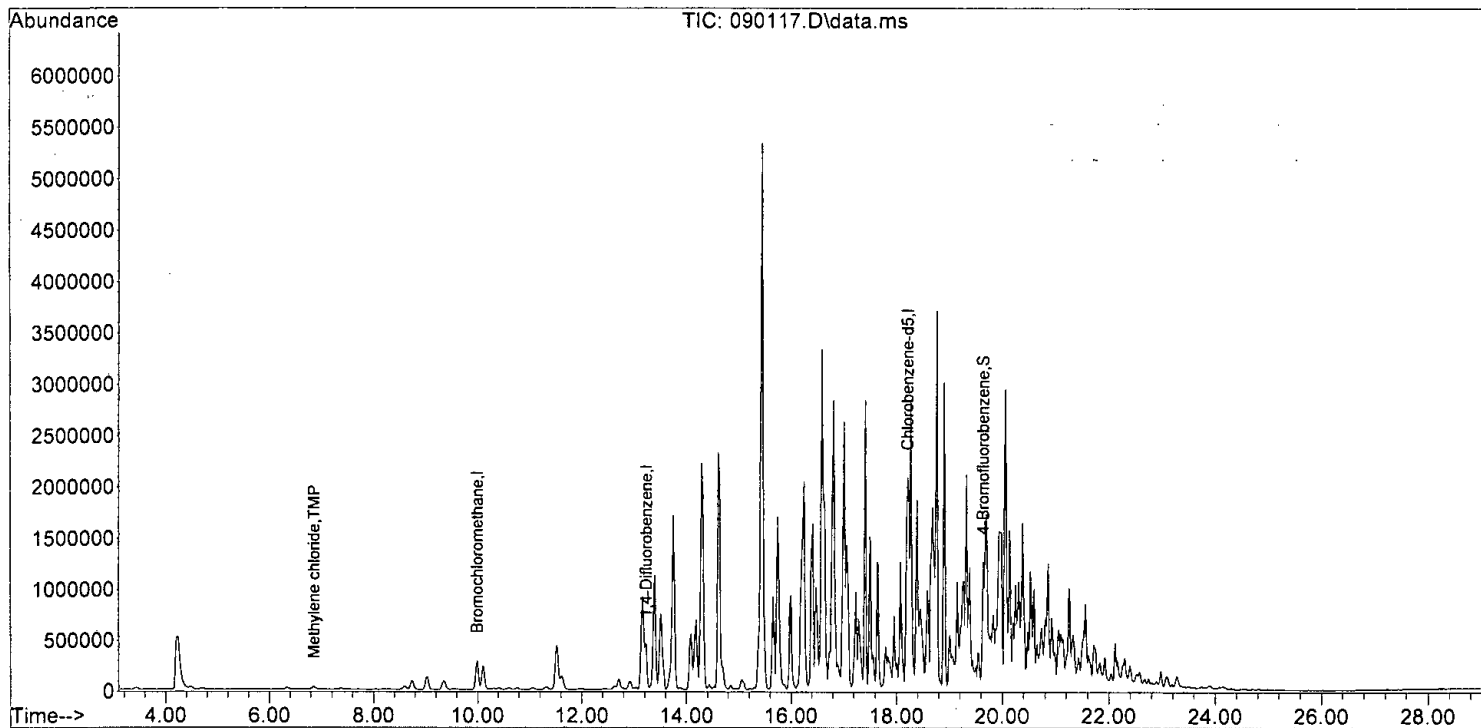
Quant Time: Sep 02 13:12:24 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

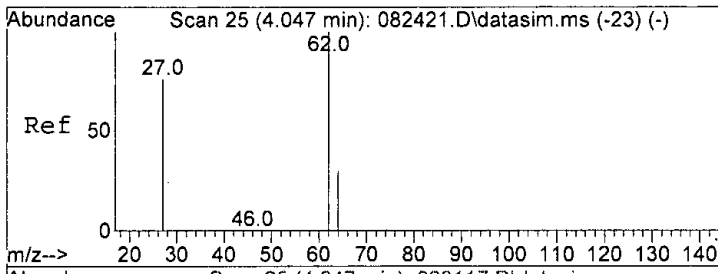
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	103536	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	498419	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	448442	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	435253m	10.714	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	107.10%
Target Compounds						
						Qvalue
6] Vinyl chloride	4.05	62	2163	0.095	ppbv	97
10] Chloroethane	4.84	64	196m	0.025	ppbv	
19] trans-1,2-Dichloroethene	8.18	96	609	0.036	ppbv	96
20) Methylene chloride	6.86	84	21930	1.210	ppbv #	77
28] cis-1,2-Dichloroethene	9.73	96	241	0.013	ppbv #	82
37] Benzene	12.70	78	153324	2.418	ppbv	95
50] Toluene	16.40	92	20946	0.561	ppbv	86
58] Ethylbenzene	18.59	91	578105	5.804	ppbv	98
65] m,p-Xylene	18.76	106	9795	0.306	ppbv #	80
66] o-Xylene	19.21	106	11321	0.360	ppbv	88
77] Naphthalene	23.93	128	2808m	0.012	ppbv	
-----						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

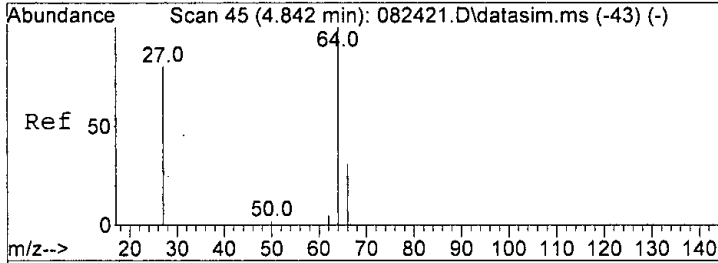
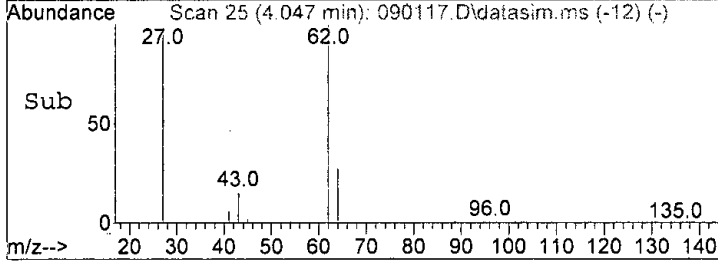
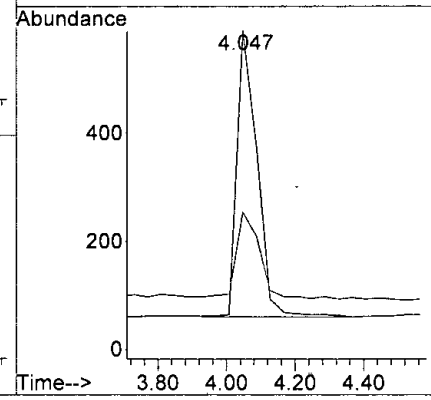
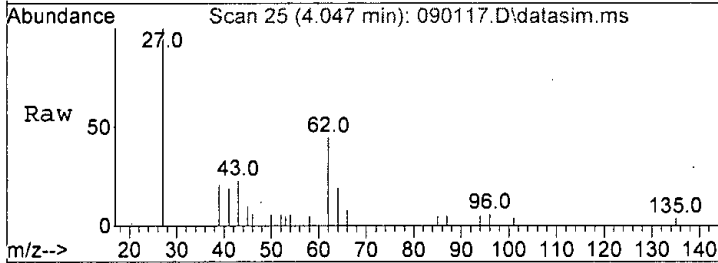
Quant Time: Sep 02 13:12:24 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M





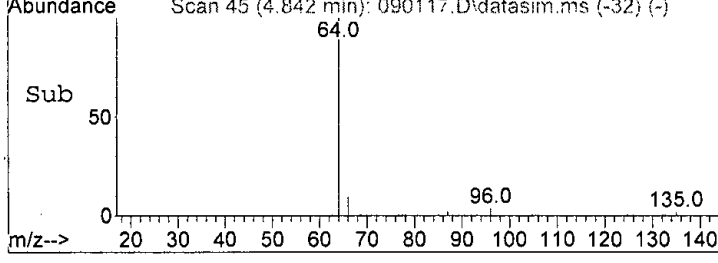
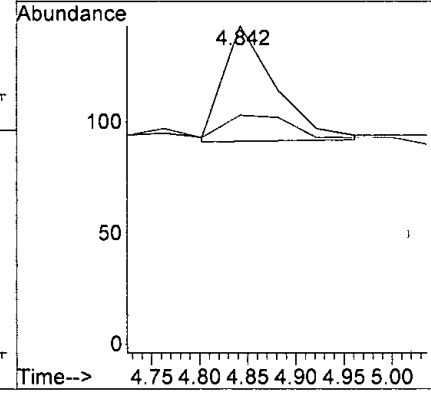
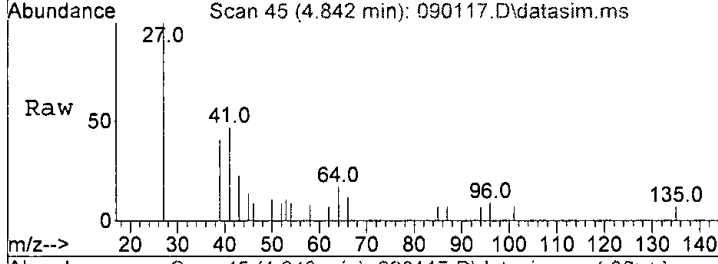
#6  
 Vinyl chloride  
 Concen: 0.095 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090117.D  
 Acq: 1 Sep 2021 8:19 pm

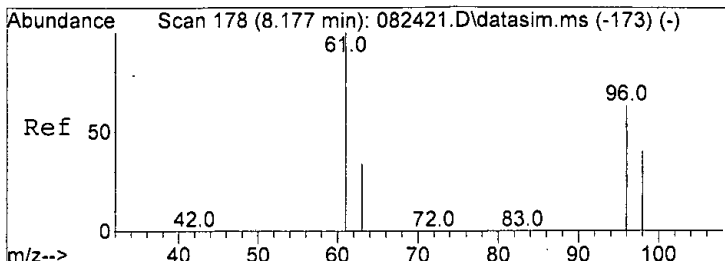
Tgt Ion: 62 Resp: 2163  
 Ion Ratio Lower Upper  
 62 100  
 64 29.9 1.5 61.5



#10  
 Chloroethane  
 Concen: 0.025 ppbv m  
 RT: 4.84 min Scan# 45  
 Delta R.T. -0.000 min  
 Lab File: 090117.D  
 Acq: 1 Sep 2021 8:19 pm

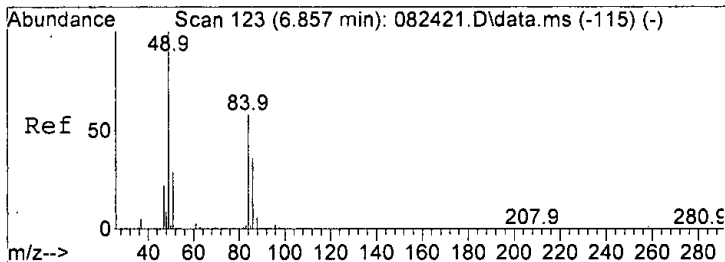
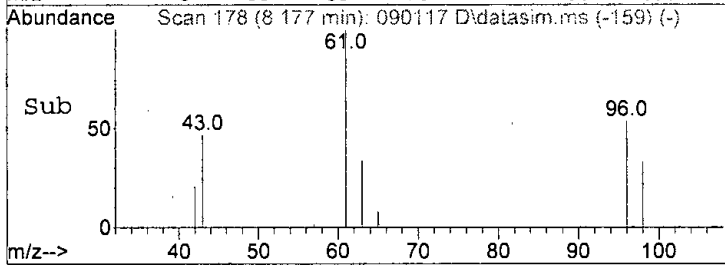
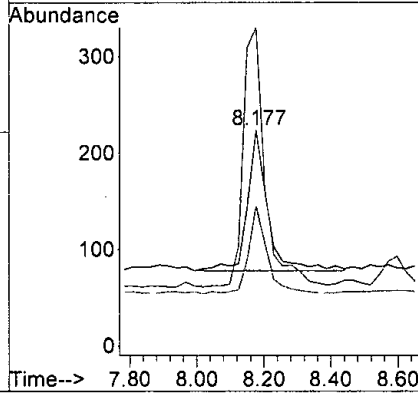
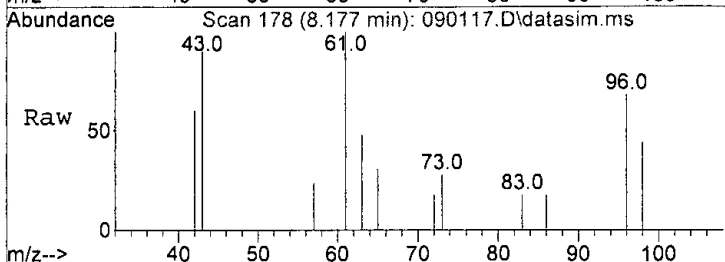
Tgt Ion: 64 Resp: 196  
 Ion Ratio Lower Upper  
 64 100  
 66 72.0 1.8 61.8#





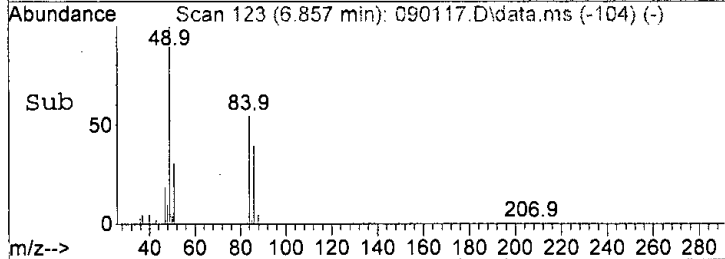
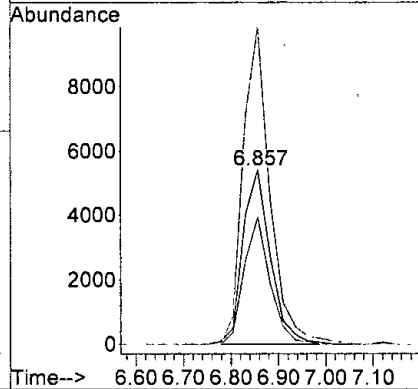
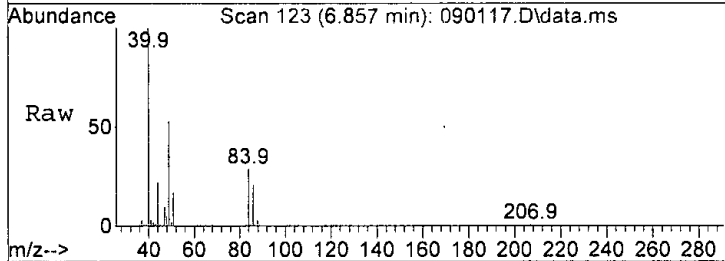
#19  
 trans-1,2-Dichloroethene  
 Concen: 0.036 ppbv  
 RT: 8.18 min Scan# 178  
 Delta R.T. 0.000 min  
 Lab File: 090117.D  
 Acq: 1 Sep 2021 8:19 pm

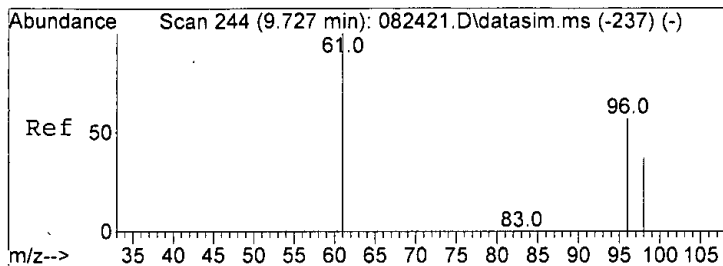
Tgt Ion	Resp	Lower	Upper
96	609		
96	100		
61	183.6	147.9	207.9
98	61.0	34.2	94.2



#20  
 Methylene chloride  
 Concen: 1.210 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. -0.000 min  
 Lab File: 090117.D  
 Acq: 1 Sep 2021 8:19 pm

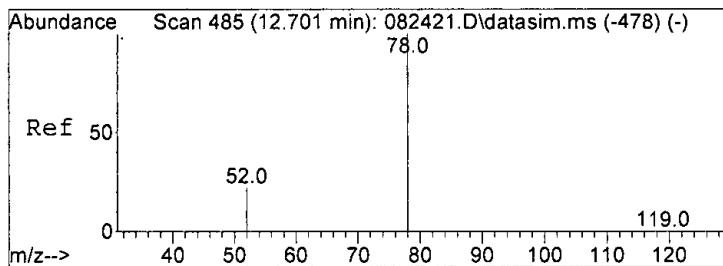
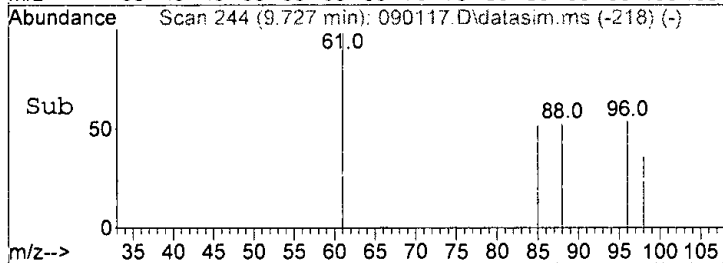
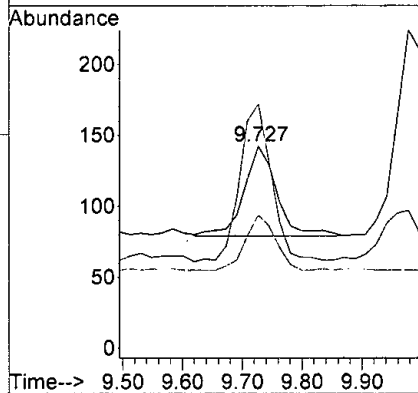
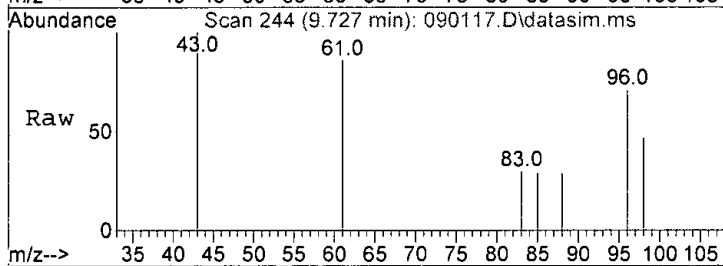
Tgt Ion	Resp	Lower	Upper
84	21930		
84	100		
86	72.9	33.9	93.9
49	182.2	116.6	176.6#





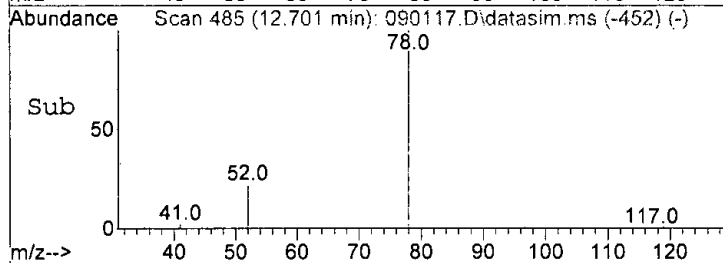
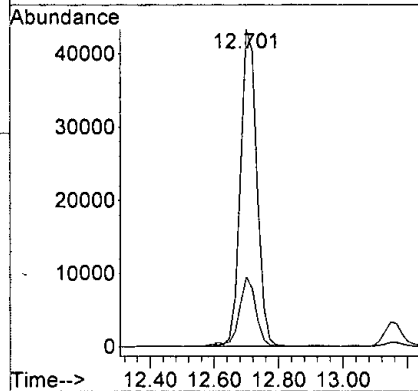
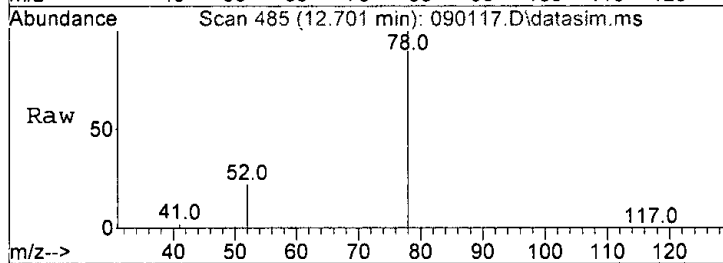
#28  
 cis-1,2-Dichloroethene  
 Concen: 0.013 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. -0.000 min  
 Lab File: 090117.D  
 Acq: 1 Sep 2021 8:19 pm

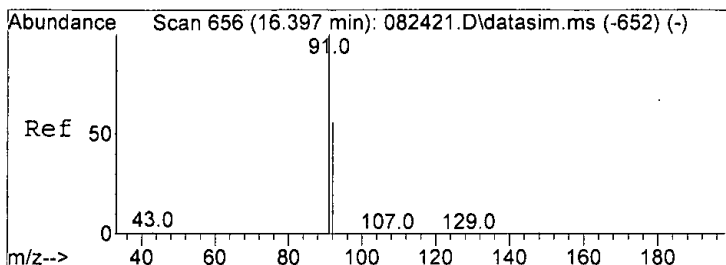
Tgt Ion: 96 Resp: 241  
 Ion Ratio Lower Upper  
 96 100  
 61 176.2 116.0 176.0#  
 98 61.9 35.2 95.2



#37  
 Benzene  
 Concen: 2.418 ppbv  
 RT: 12.70 min Scan# 485  
 Delta R.T. -0.000 min  
 Lab File: 090117.D  
 Acq: 1 Sep 2021 8:19 pm

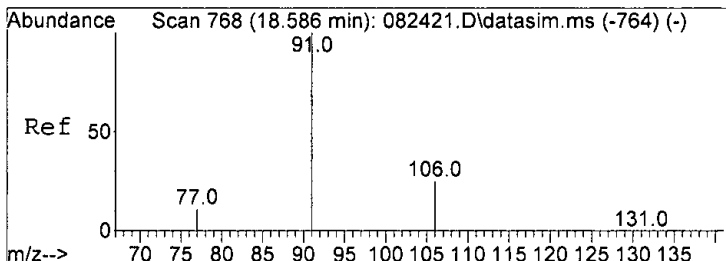
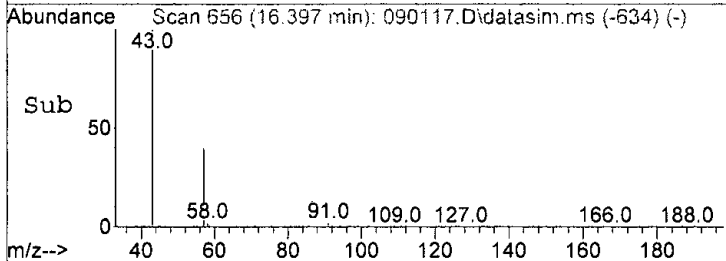
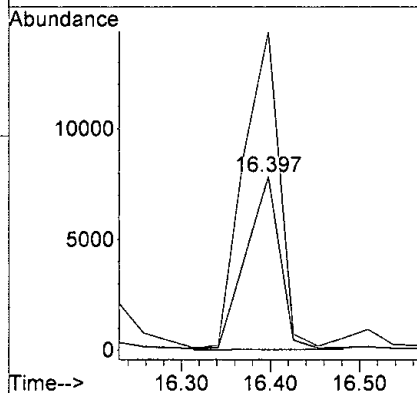
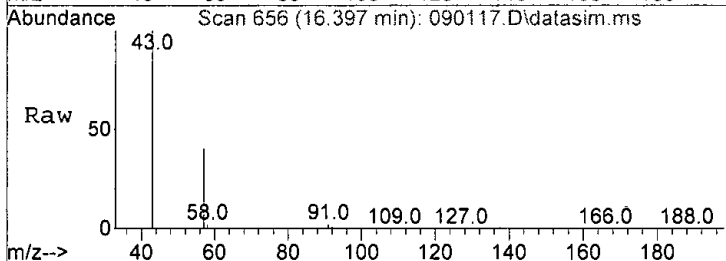
Tgt Ion: 78 Resp: 153324  
 Ion Ratio Lower Upper  
 78 100  
 52 21.9 0.0 49.7





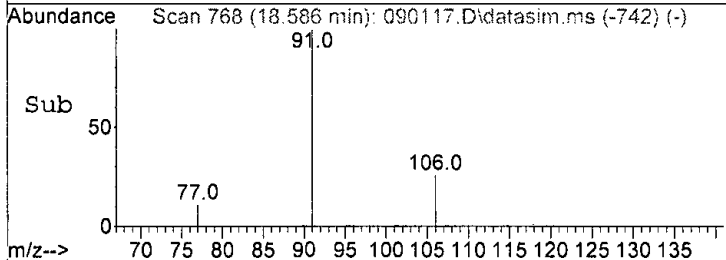
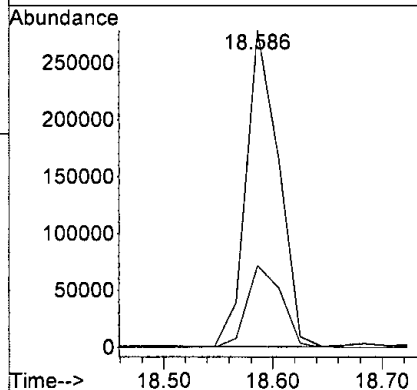
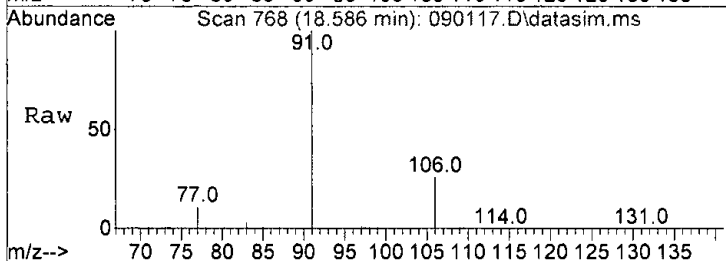
#50  
 Toluene  
 Concen: 0.561 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090117.D  
 Acq: 1 Sep 2021 8:19 pm

Tgt Ion: 92 Resp: 20946  
 Ion Ratio Lower Upper  
 92 100  
 91 183.4 174.6 234.6

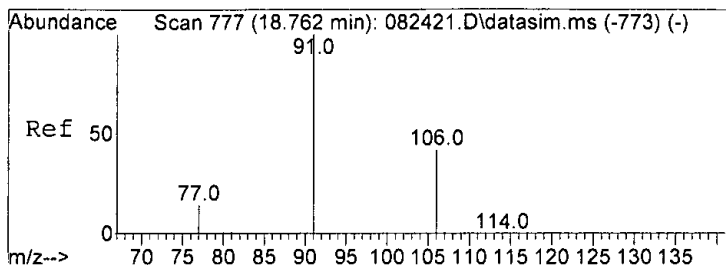


#58  
 Ethylbenzene  
 Concen: 5.804 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090117.D  
 Acq: 1 Sep 2021 8:19 pm

Tgt Ion: 91 Resp: 578105  
 Ion Ratio Lower Upper  
 91 100  
 106 25.7 0.0 57.0

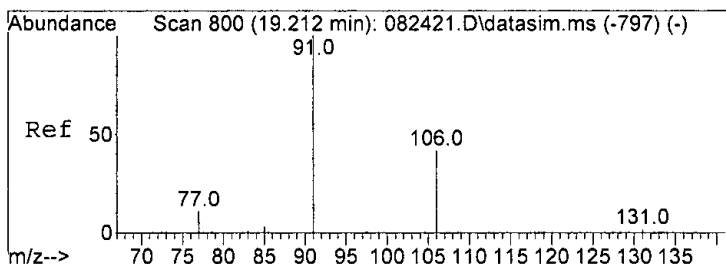
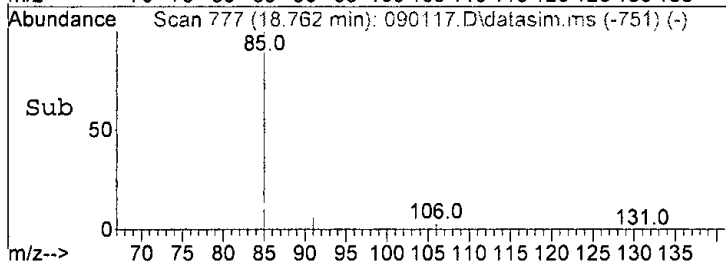
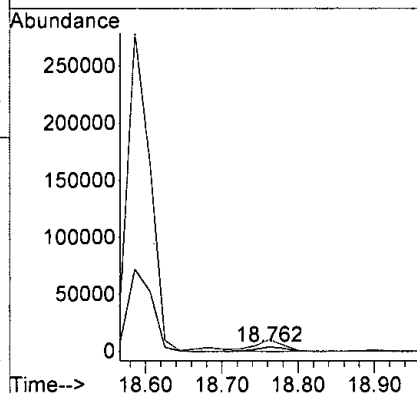
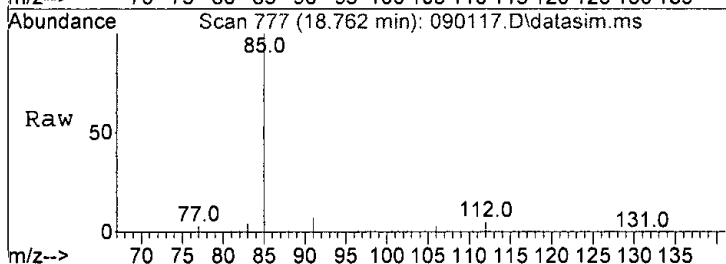






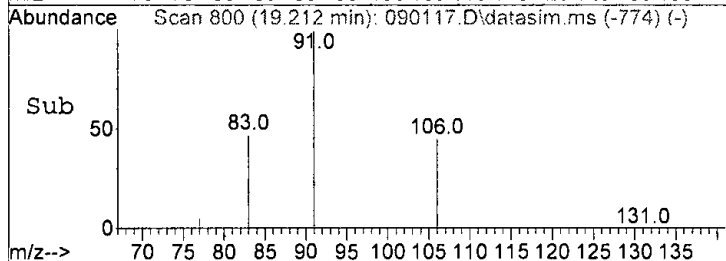
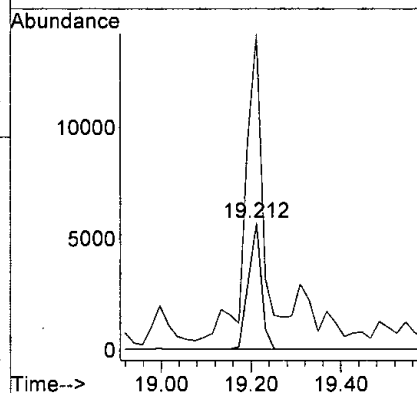
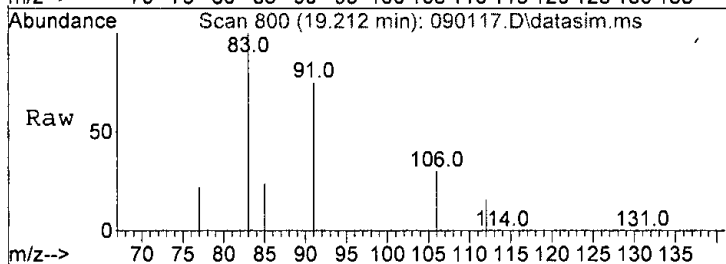
#65  
 m,p-Xylene  
 Concen: 0.306 ppbv  
 RT: 18.76 min Scan# 777  
 Delta R.T. 0.000 min  
 Lab File: 090117.D  
 Acq: 1 Sep 2021 8:19 pm

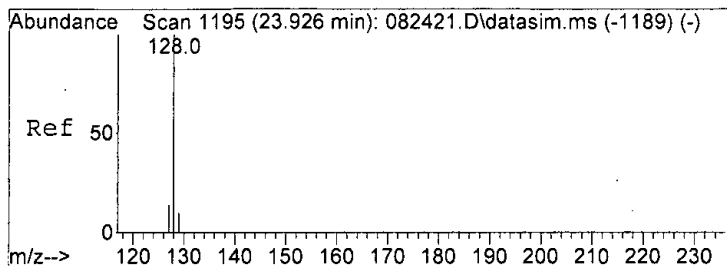
Tgt Ion:106 Resp: 9795  
 Ion Ratio Lower Upper  
 106 100  
 91 255.0 193.0 253.0#



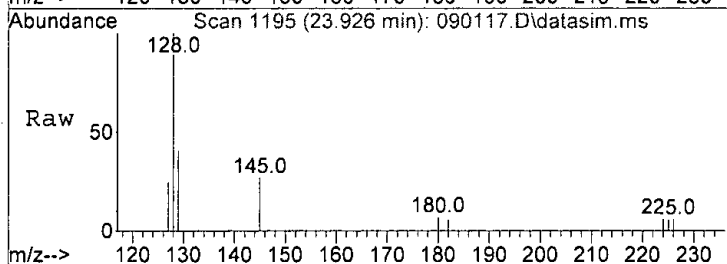
#66  
 o-Xylene  
 Concen: 0.360 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090117.D  
 Acq: 1 Sep 2021 8:19 pm

Tgt Ion:106 Resp: 11321  
 Ion Ratio Lower Upper  
 106 100  
 91 243.6 194.4 254.4



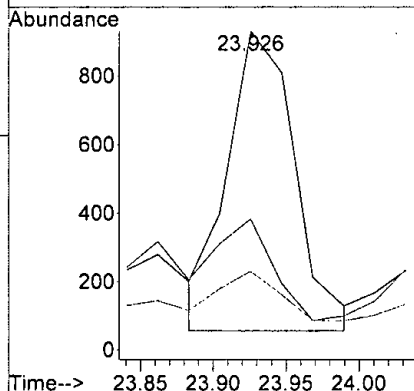
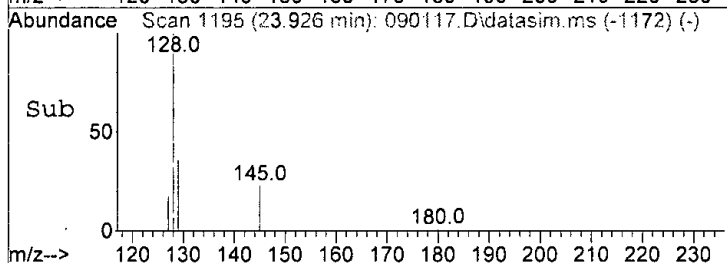


#77  
 Naphthalene  
 Concen: 0.012 ppbv m  
 RT: 23.93 min Scan# 1195  
 Delta R.T. -0.000 min  
 Lab File: 090117.D  
 Acq: 1 Sep 2021 8:19 pm



Tgt Ion:128 Resp: 2808

Ion	Ratio	Lower	Upper
128	100		
129	41.1	0.0	41.0#
127	24.7	0.0	43.2



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:12:24 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	103536	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	498419	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	448442	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	435253m	10.714	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	107.10%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.	d	
6] Vinyl chloride	4.05	62	2163	0.095	ppbv	97
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.	d	
10] Chloroethane	4.84	64	196m	0.025	ppbv	
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.	d	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	6.70	96	131	N.D.	d	
19] trans-1,2-Dichloroethene	8.18	96	609	0.036	ppbv	96
20) Methylene chloride	6.86	84	21930	1.210	ppbv #	77
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	8.44	63	292	N.D.	d	
28] cis-1,2-Dichloroethene	9.73	96	241	0.013	ppbv #	82
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	0.00		0	N.D.	d	
35) 1,1,1-Trichloroethane	11.93	97	124	N.D.	d	
36) Carbon tetrachloride	0.00		0	N.D.	d	
37] Benzene	12.70	78	153324	2.418	ppbv	95
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.	d	
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

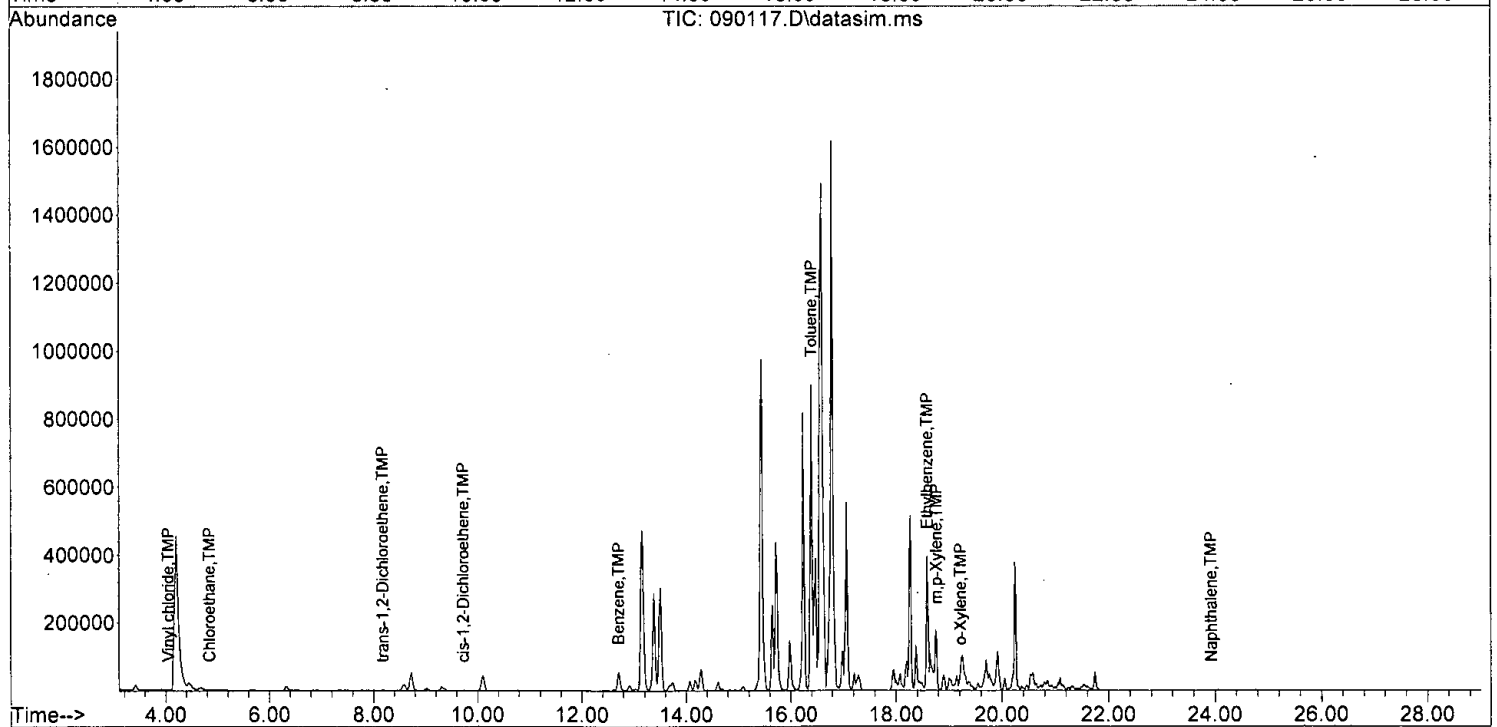
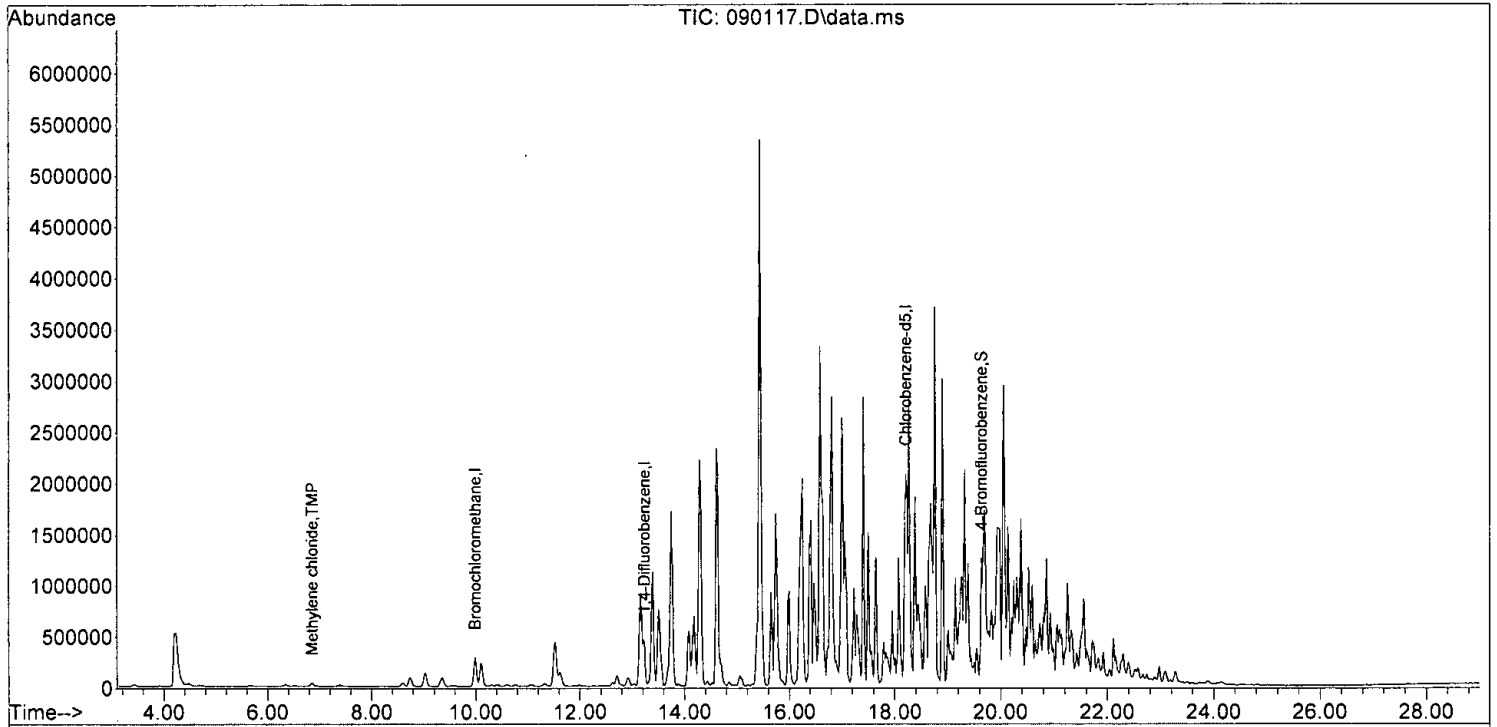
Quant Time: Sep 02 13:12:24 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46) Trichloroethene	0.00		0	N.D.	d	
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	20946	0.561	ppbv	86
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53) Tetrachloroethene	17.58	164	118	N.D.		
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	578105	5.804	ppbv	98
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.76	106	9795	0.306	ppbv #	80
66] o-Xylene	19.21	106	11321	0.360	ppbv	88
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.		
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77] Naphthalene	23.93	128	2808m	0.012	ppbv	
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

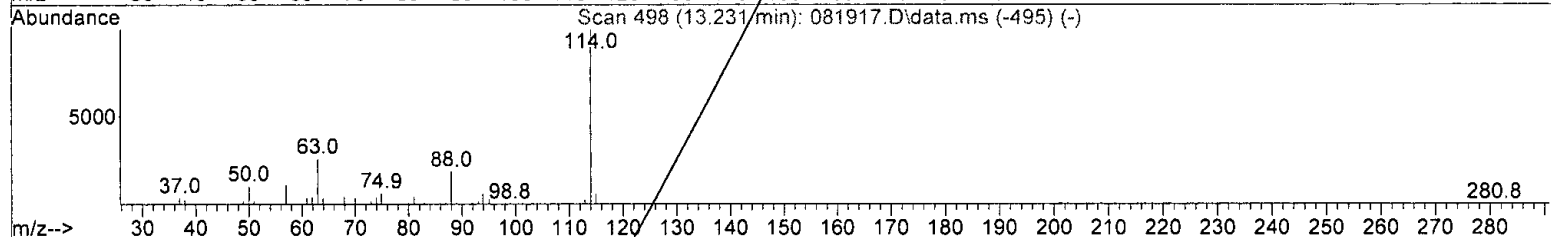
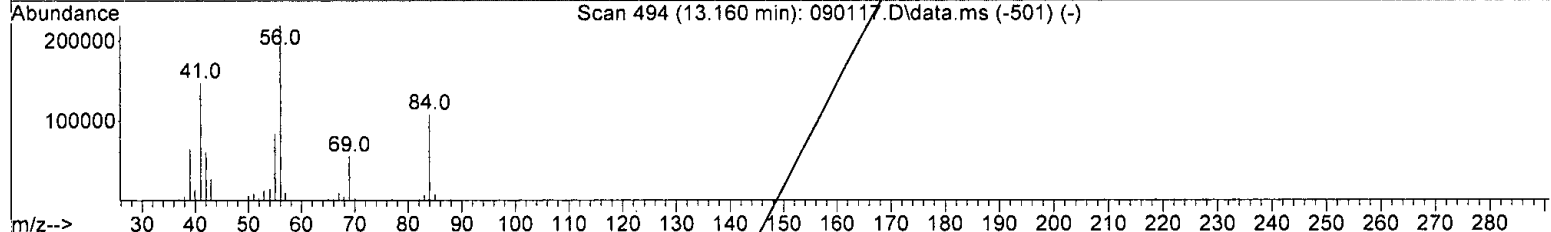
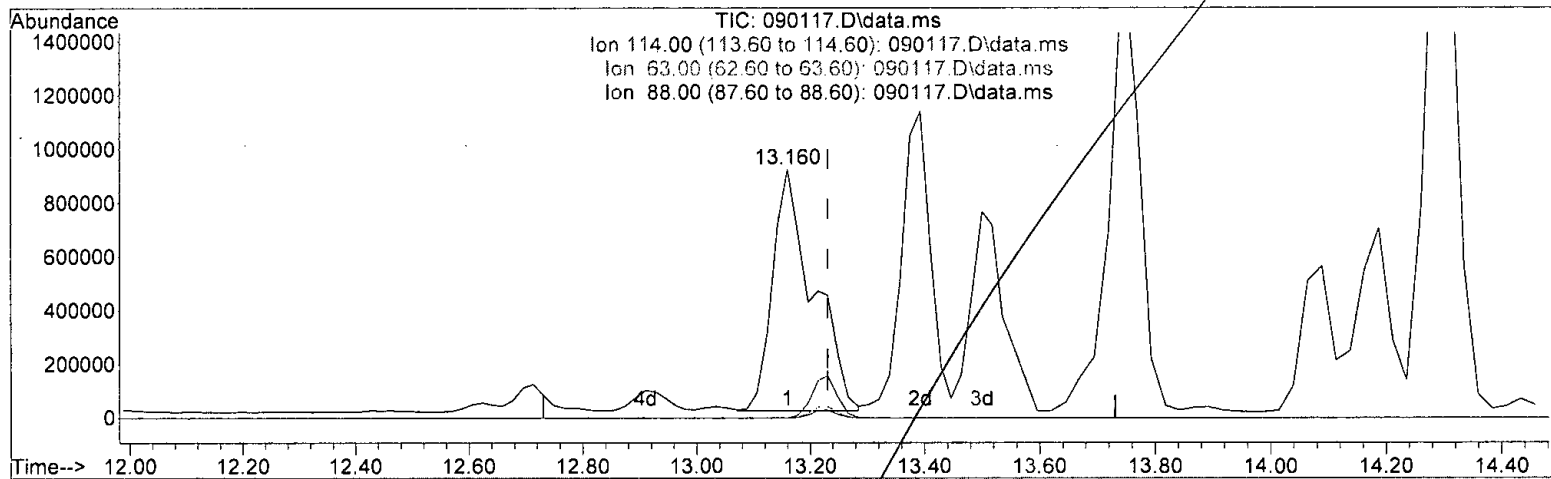
Quant Time: Sep 02 13:12:24 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.160min (-0.071) 172.247 ug/m3

response 4469303

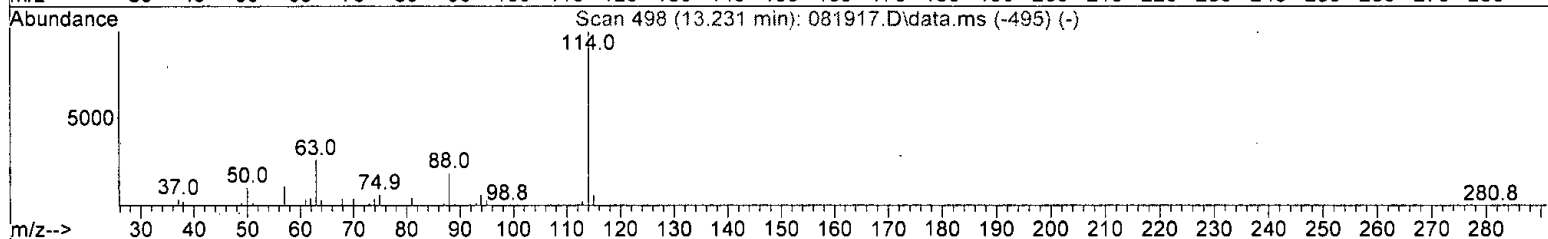
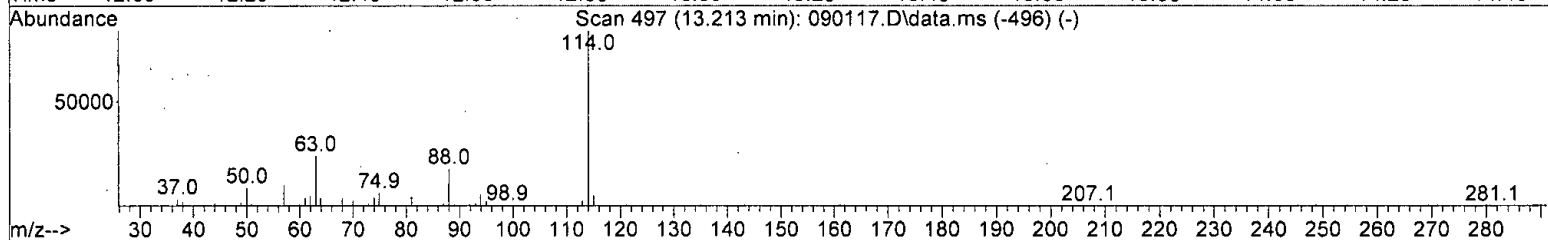
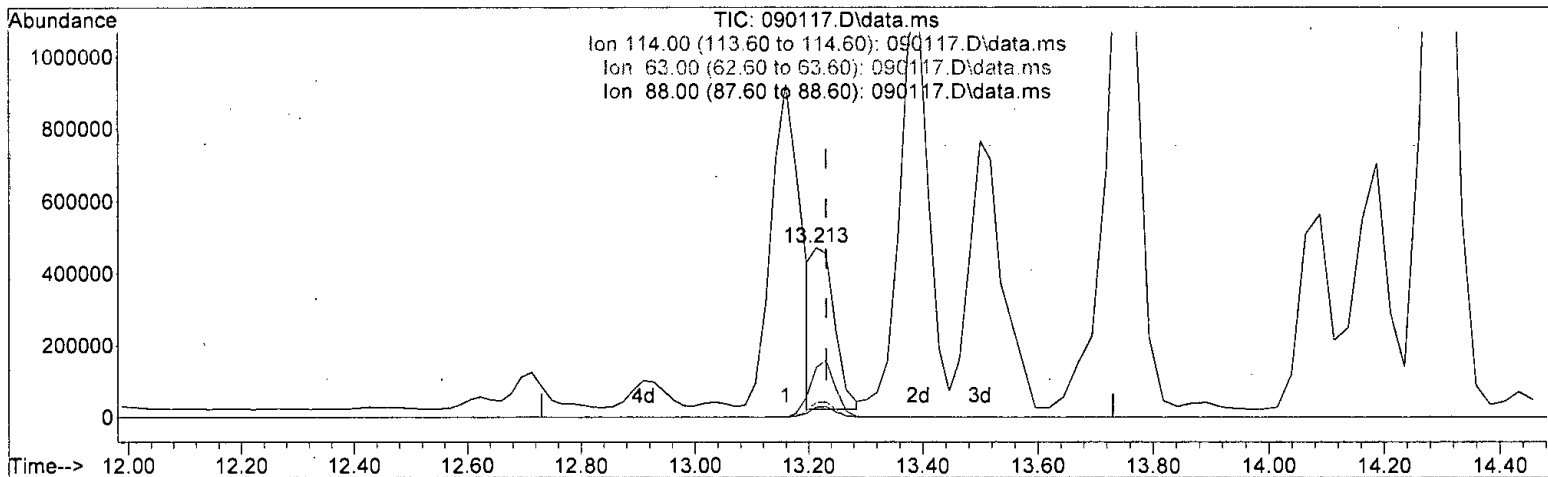
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	0.10#
63.00	8.40	0.17
88.00	7.60	0.02

*n*  
*01/02/24*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.213min (-0.018) 48.443 ug/m3 m

response 1256959

Signal Exp% Act%

TIC 100.00 100.00

114.00 43.50 0.35#

63.00 8.40 0.61

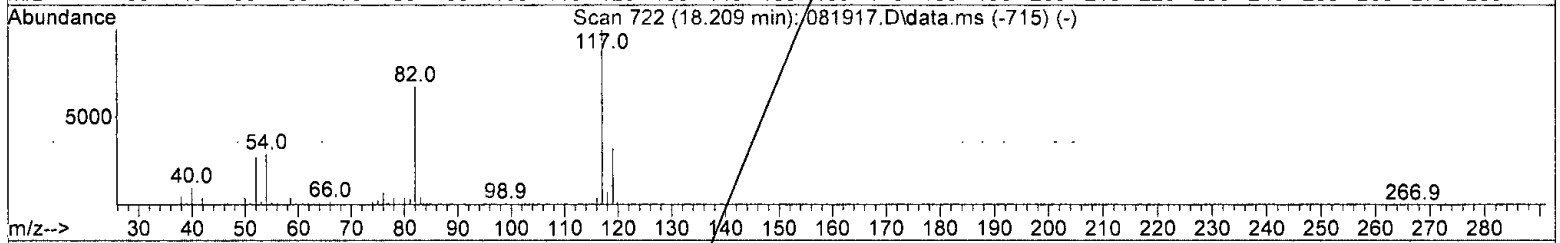
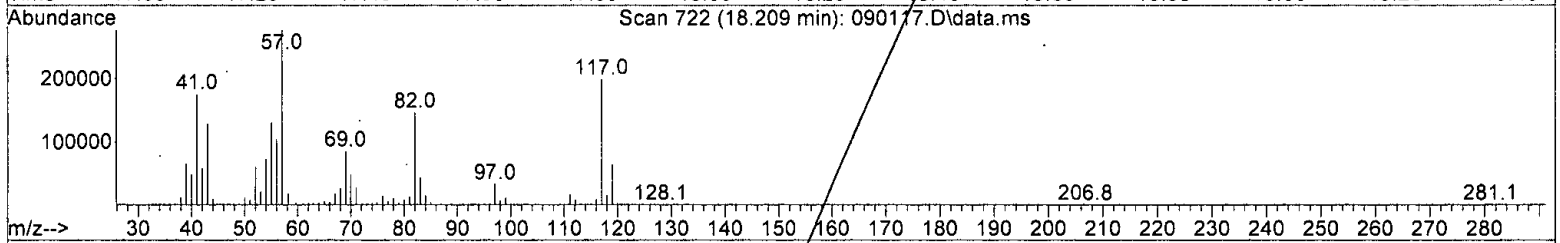
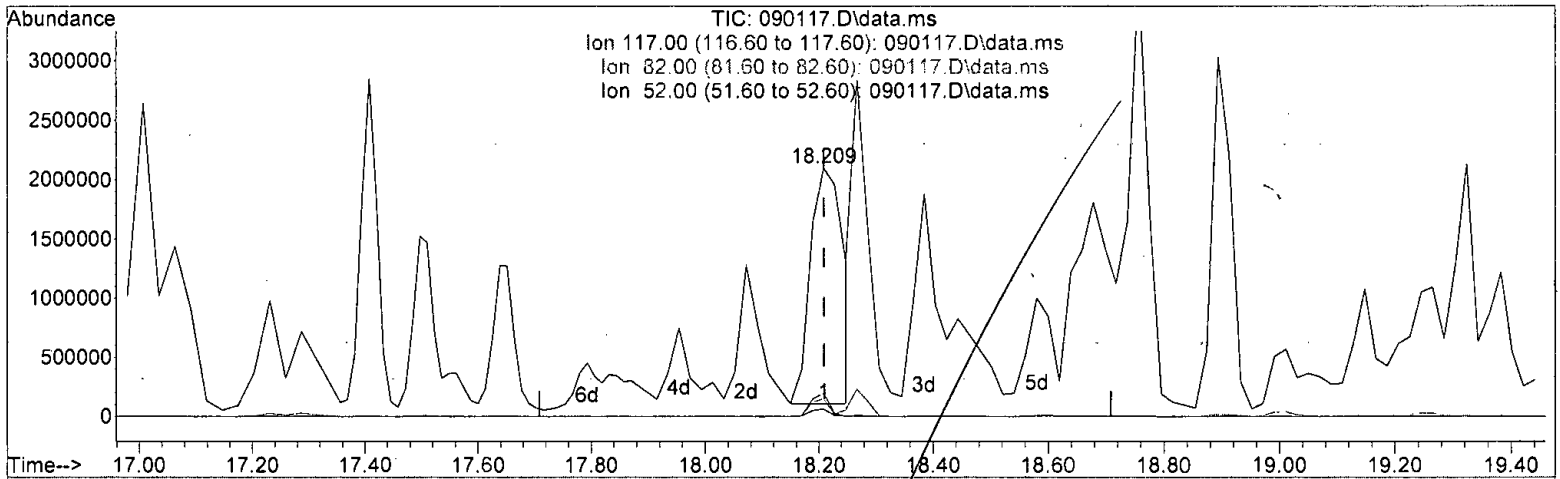
88.00 7.60 0.07

*Handwritten signature: K. A. / 09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 256.324 ug/m3

response 8067010

Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	5.56#
82.00	18.10	4.36
52.00	6.90	2.04

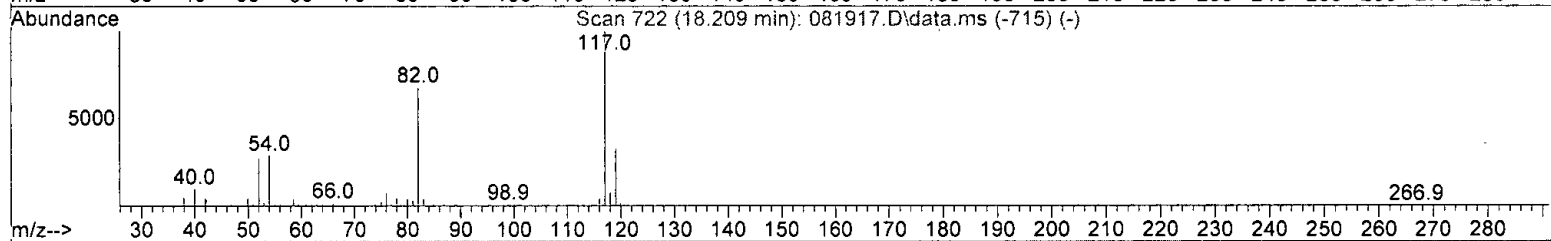
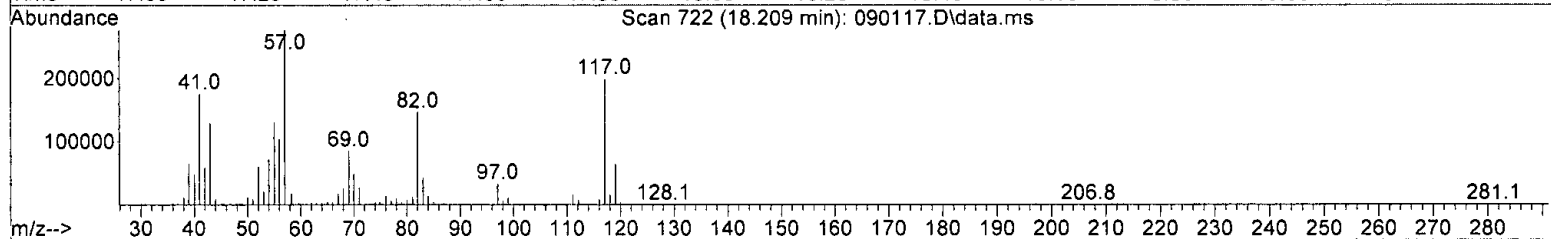
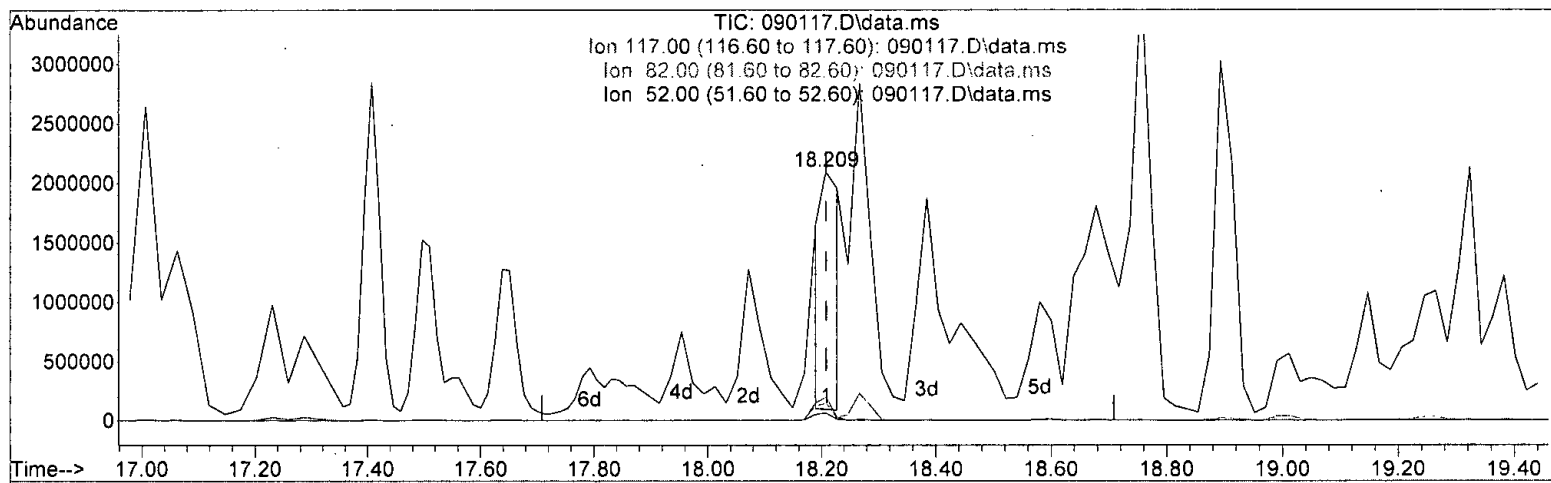
*Handwritten signature/initials*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 144.262 ug/m<sup>3</sup> m

response 4540206

Signal Exp% Act%

TIC 100.00 100.00

117.00 34.80 9.88#

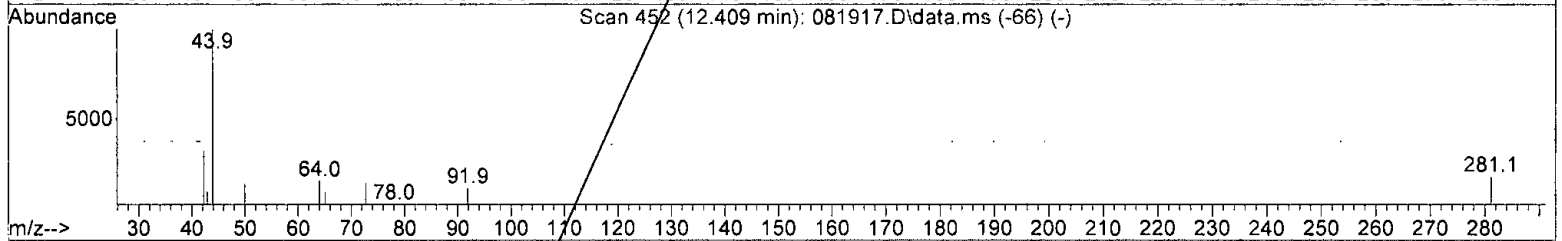
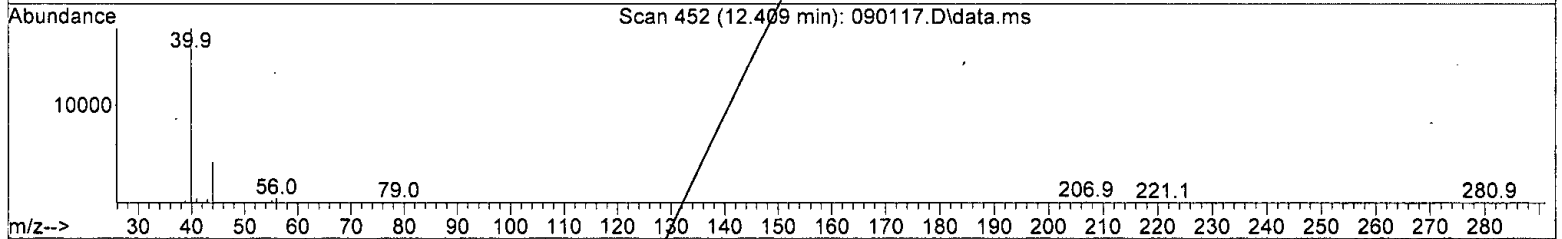
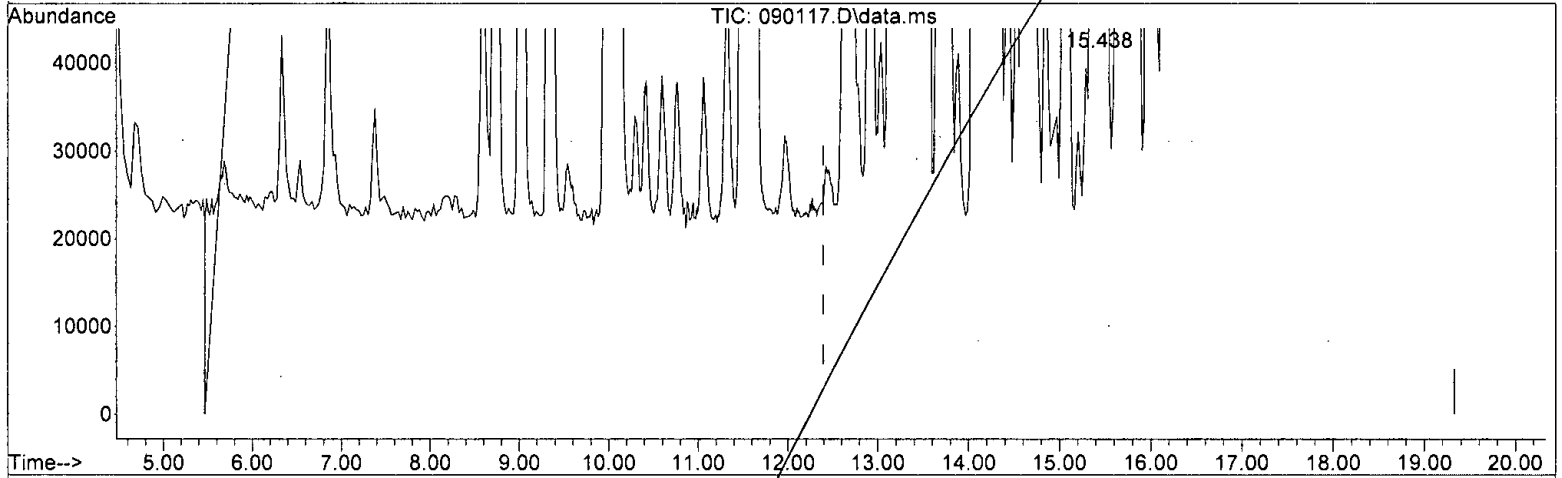
82.00 18.10 7.75

52.00 6.90 3.62

*M/*  
*02/02/21*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 4507.418 ug/m3 m

response 178254850

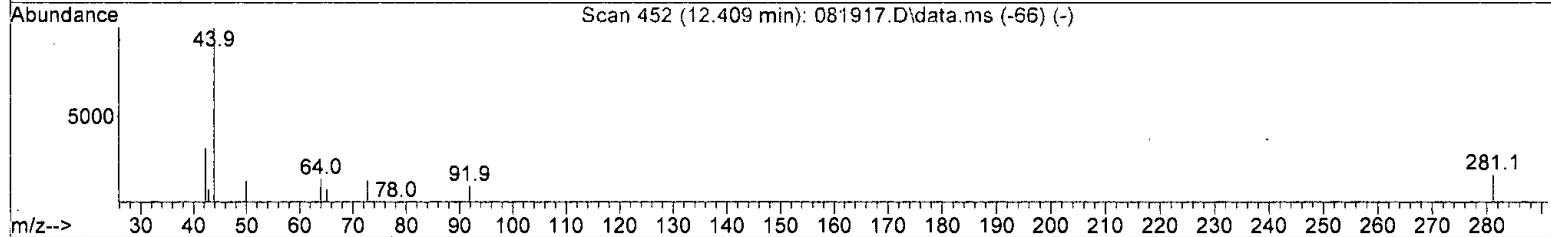
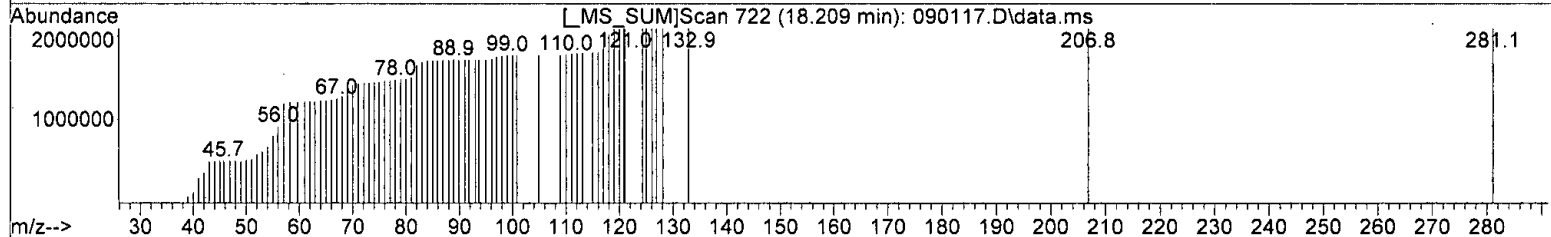
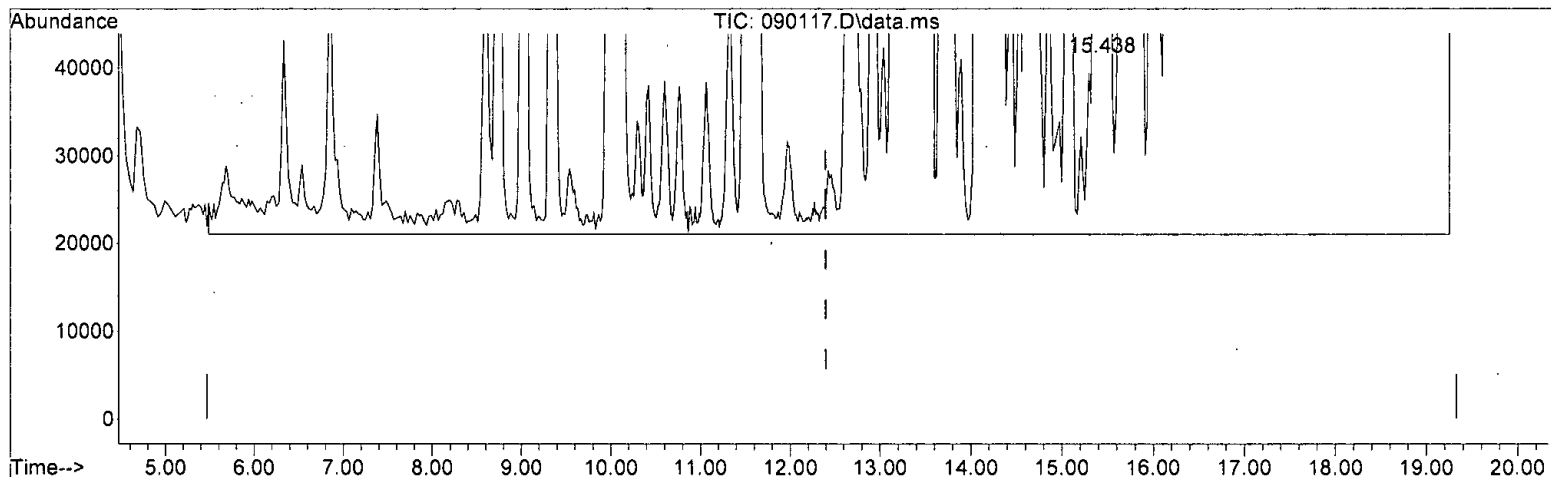
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: K. Oatuku*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 5001.960 ug/m3 m  
 response 197812500

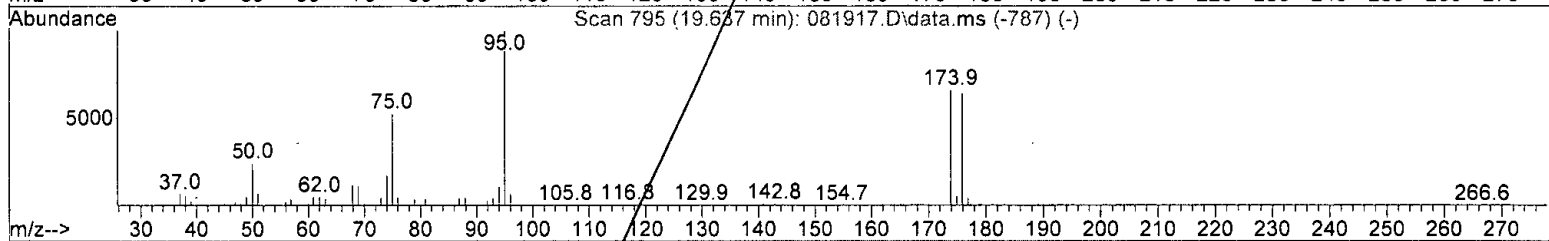
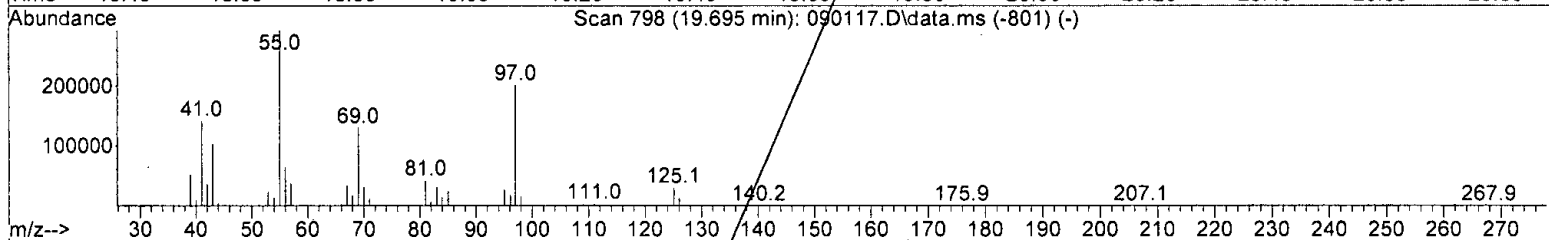
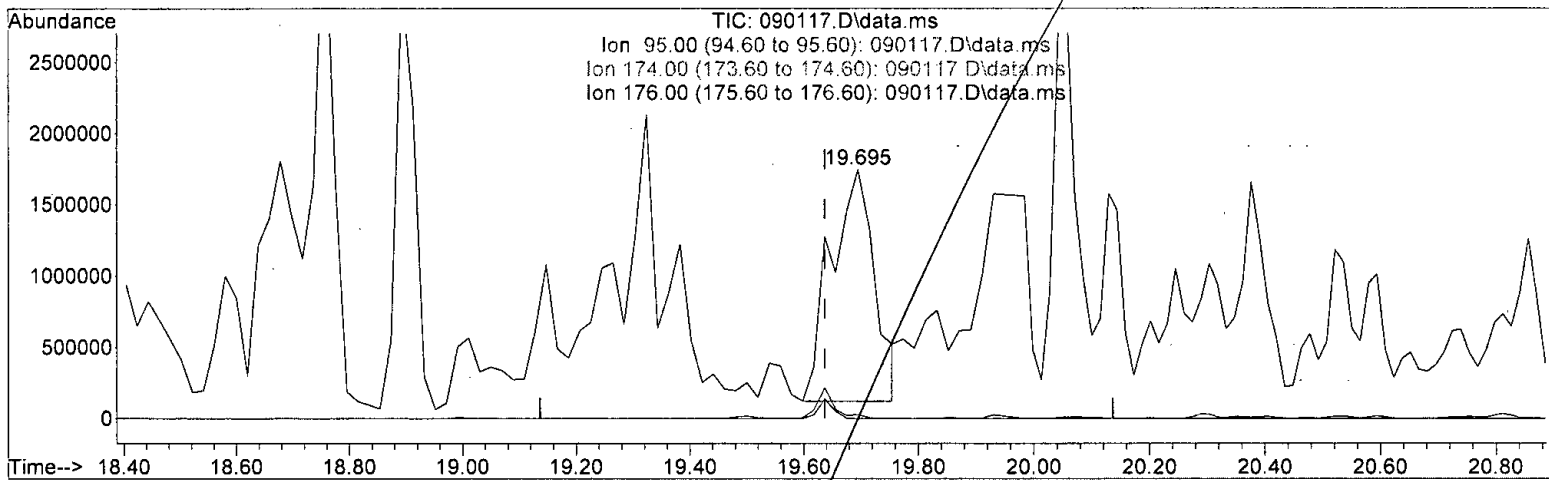
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.695min (+ 0.059) 227.115 ug/m3

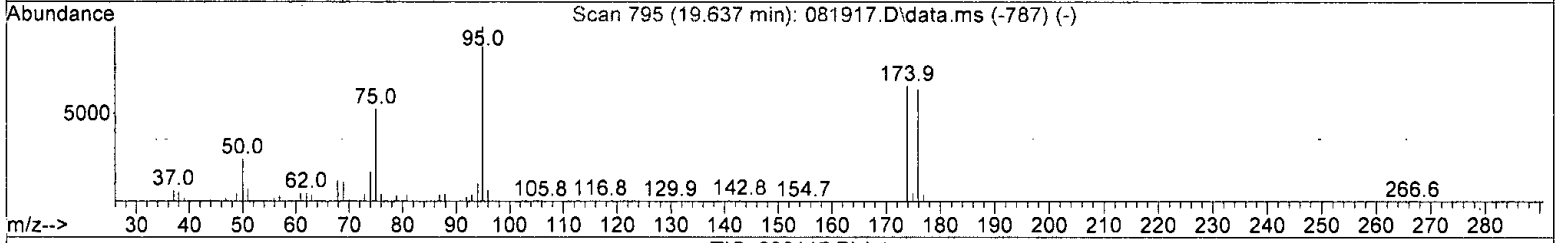
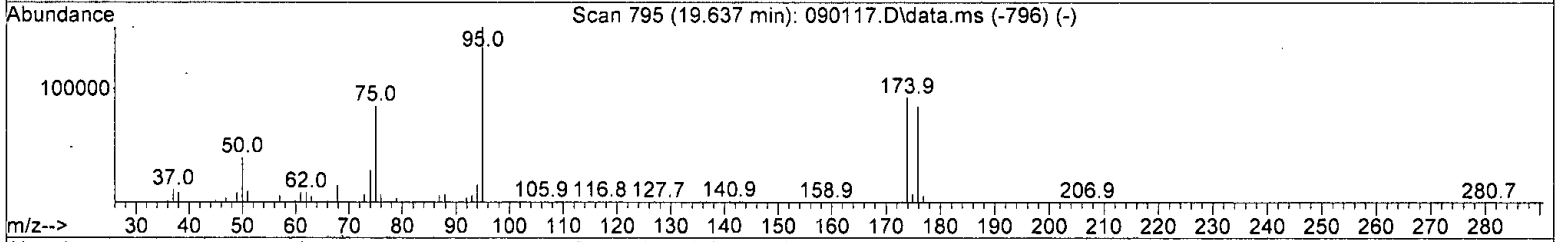
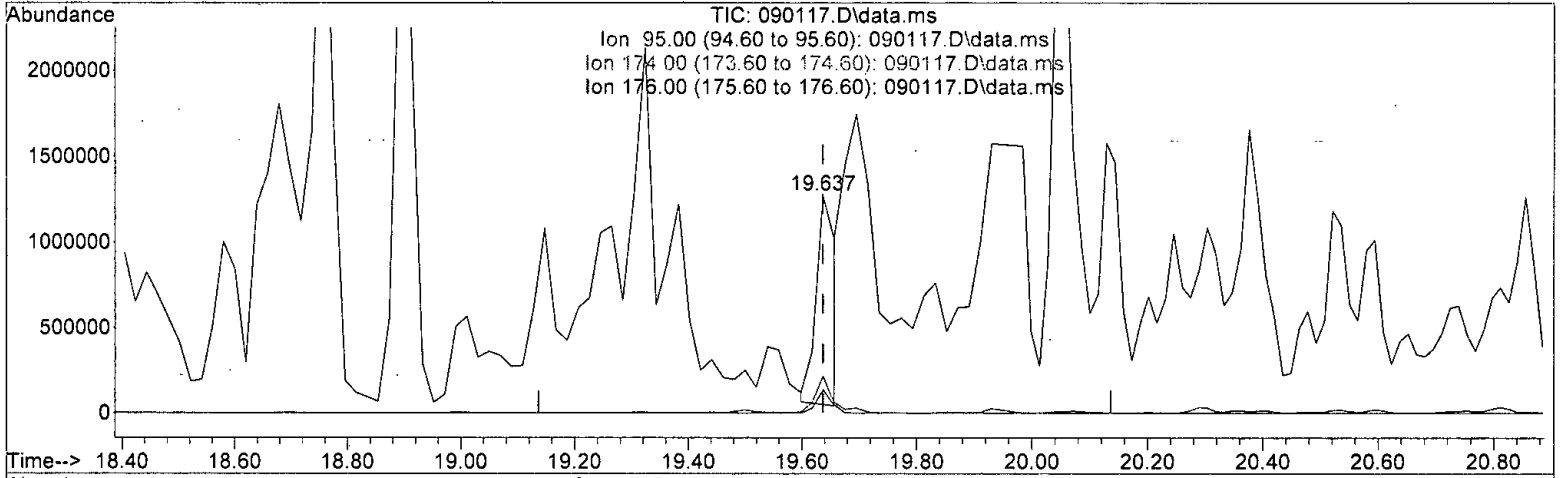
response 8598015

Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	1.64
174.00	19.20	0.01
176.00	18.70	0.01

*Batalu*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 77.376 ug/m3 m

response 2929278

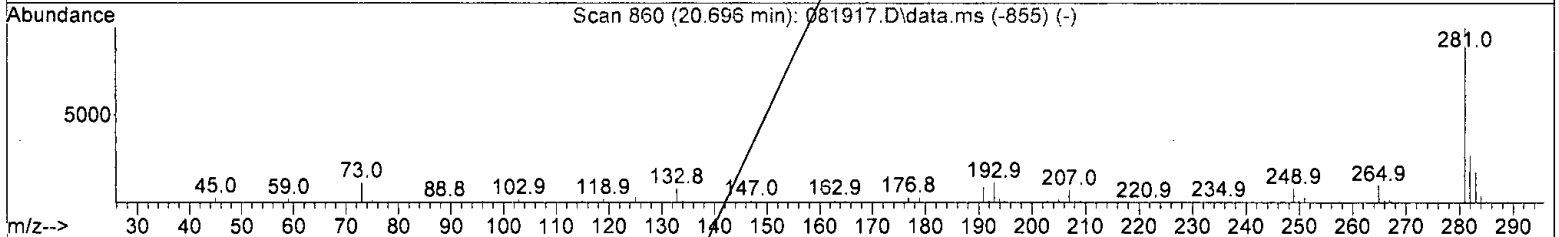
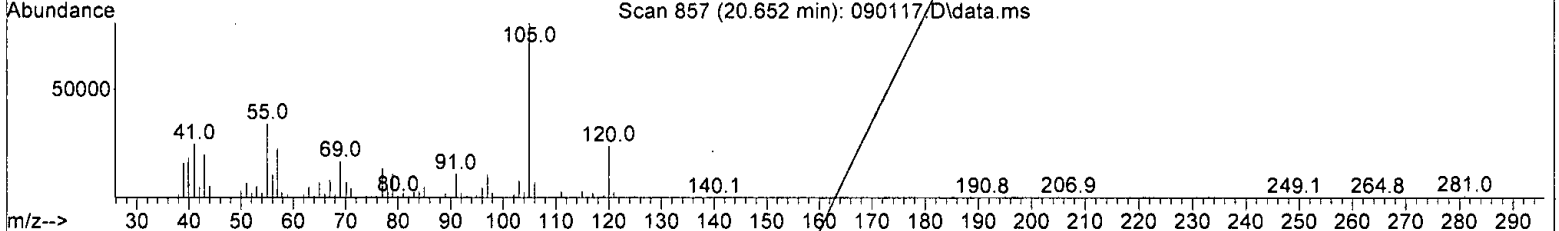
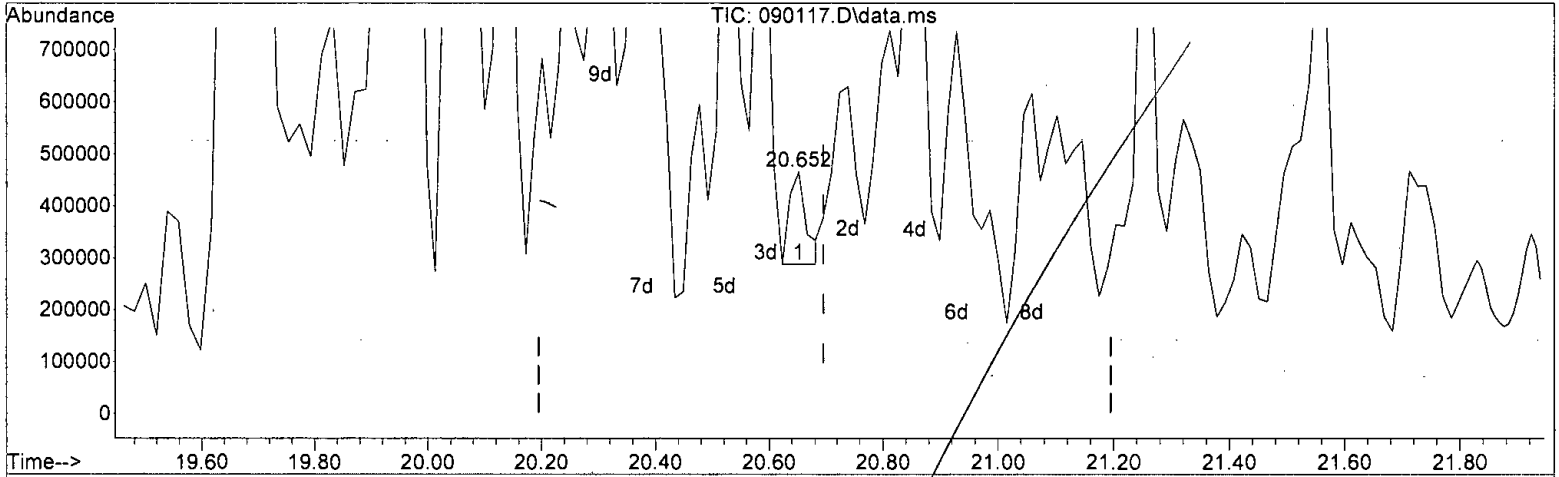
Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	4.83
174.00	19.20	0.03
176.00	18.70	0.04

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.652min (-0.044) 31.199 ppbv

response 363086

Signal Exp% Act%

TIC 100.00 100.00

0.00 0.00 0.00

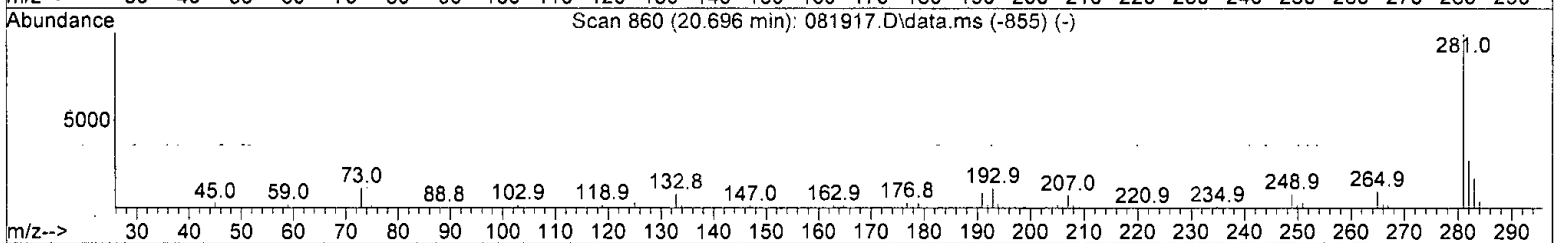
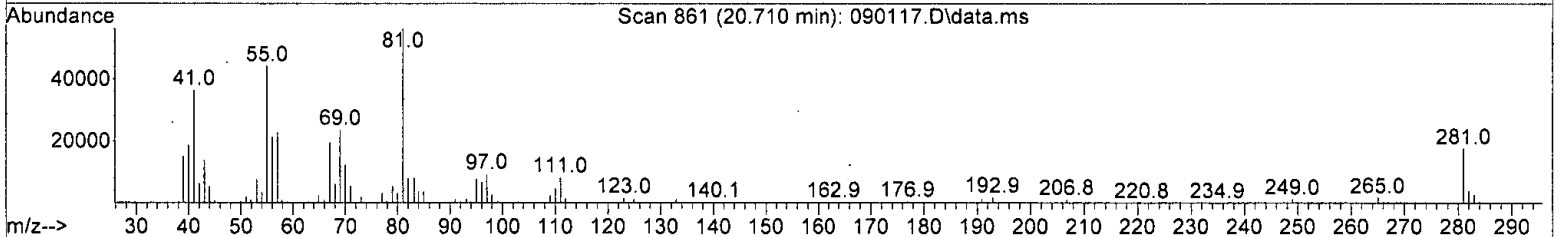
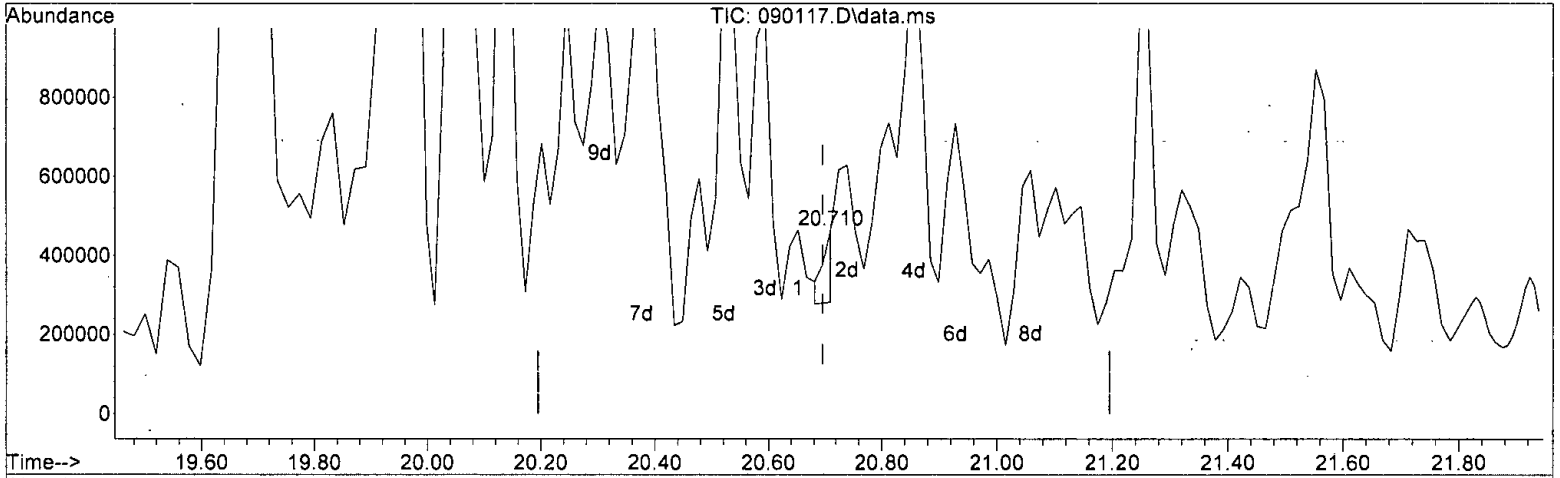
0.00 0.00 0.00

0.00 0.00 0.00

*Handwritten signature: D. Ortolini*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.710min (+ 0.014) 21.195 ppbv m

response 246668

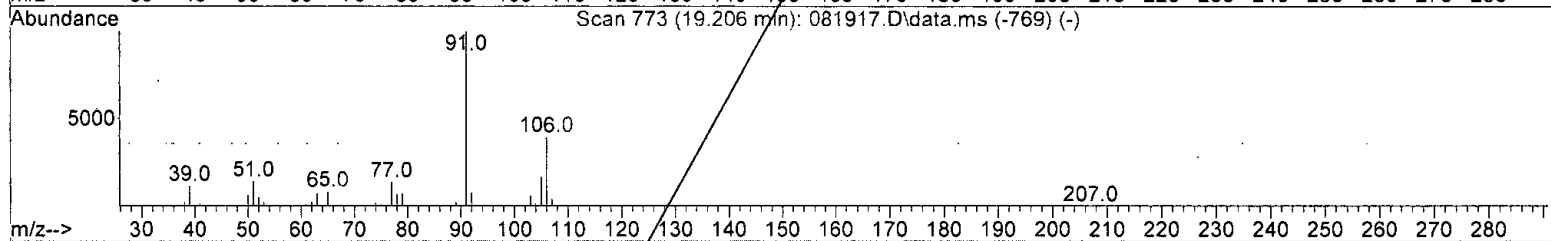
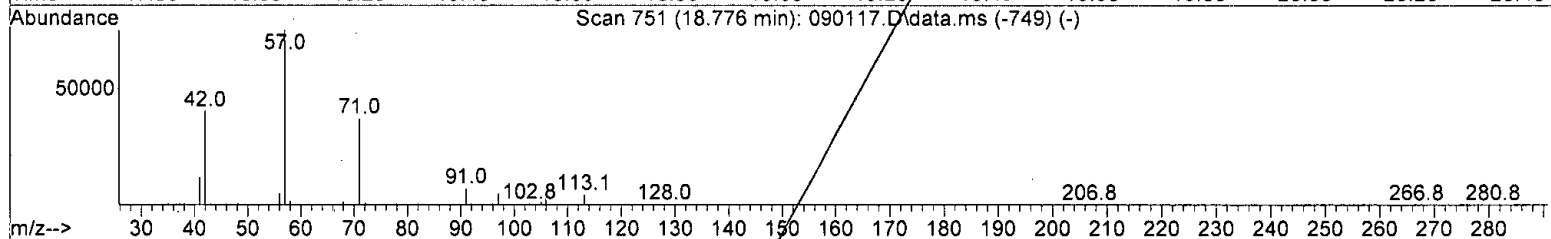
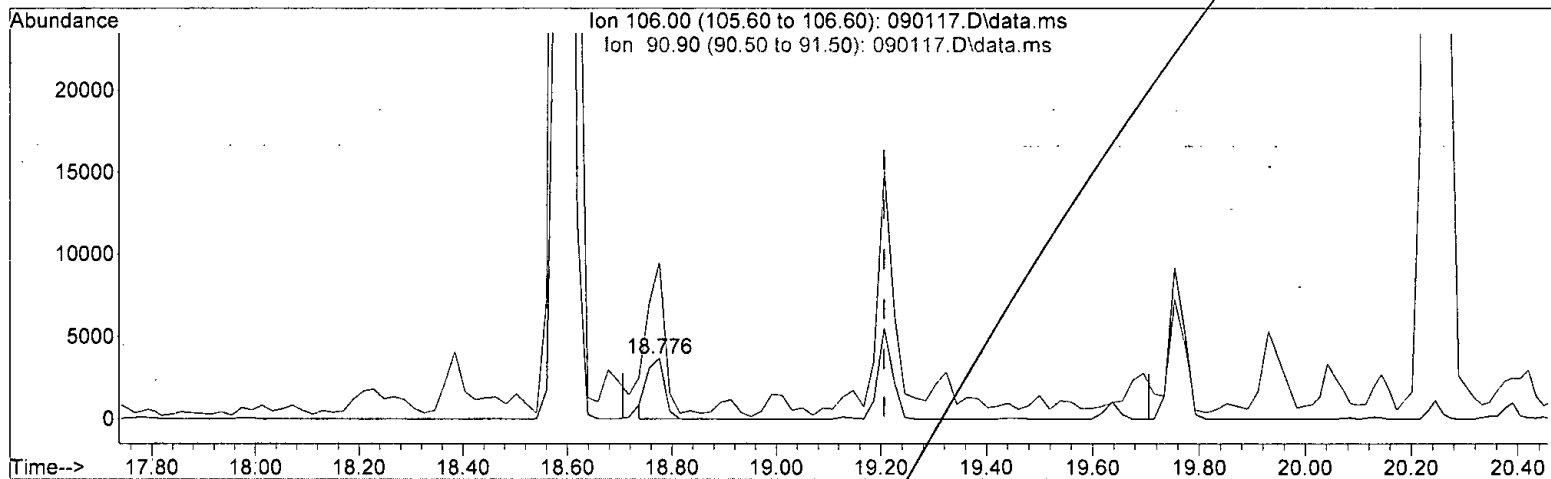
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B. Delatorre*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*B. D. [Signature]*

(27) o-Xylene (T)

18.776min (-0.431) 1.343 ug/m3

response 8488

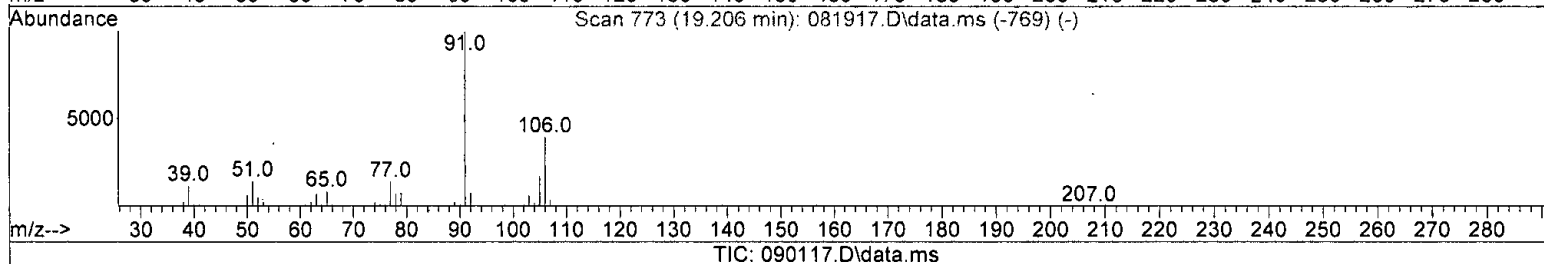
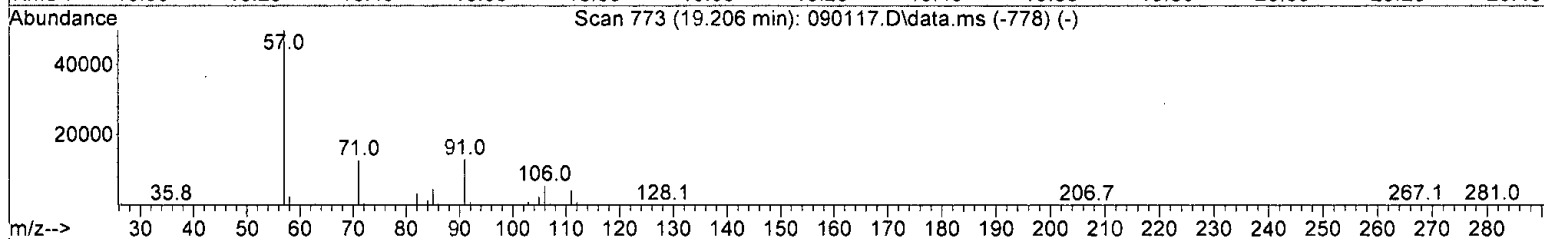
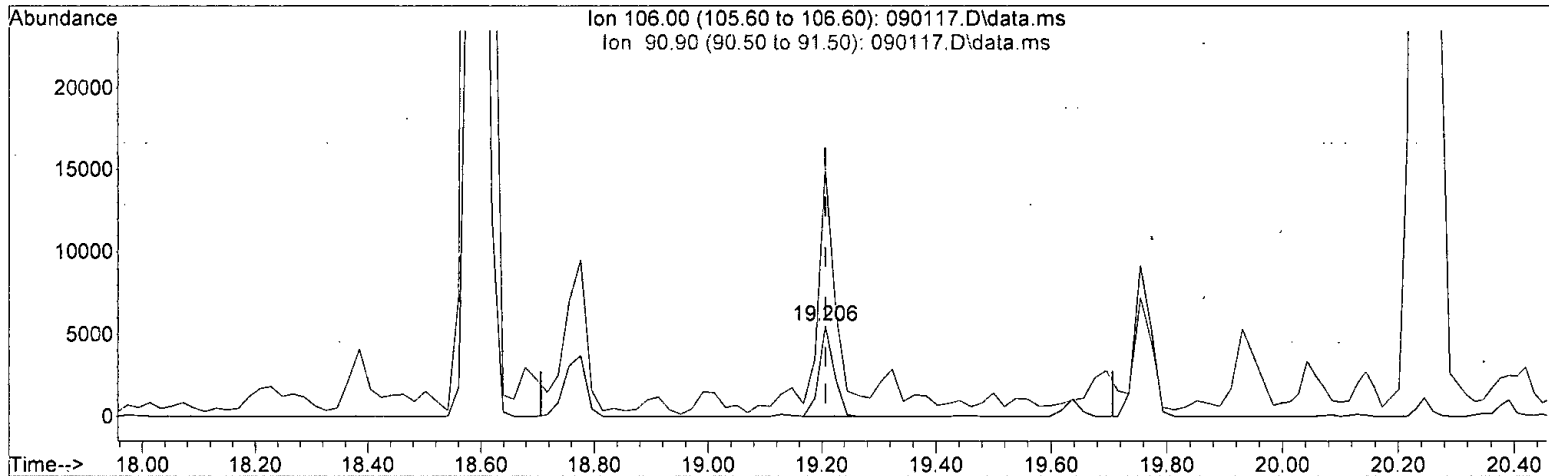
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	244.99
0.00	0.00	0.00
0.00	0.00	0.00



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

19.206min (-0.000) 1.662 ug/m3 m

response 10505

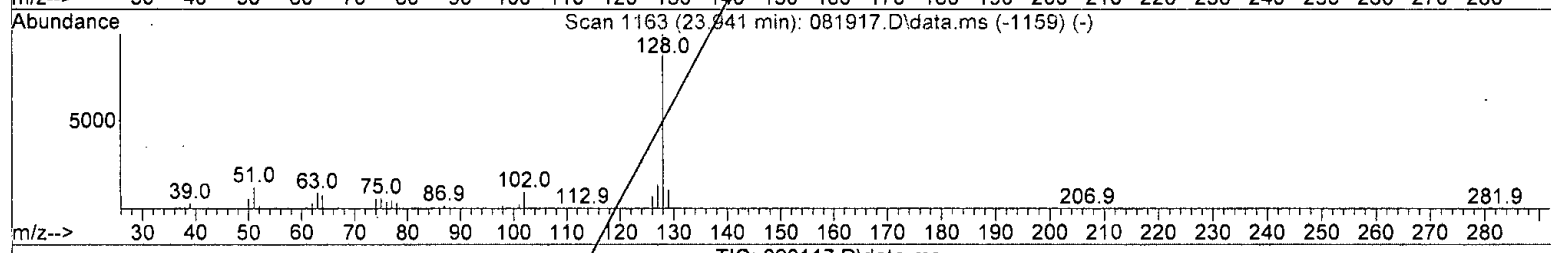
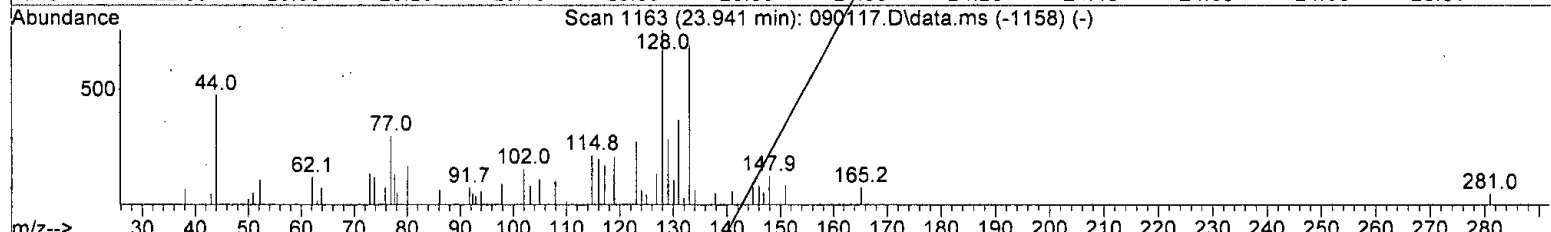
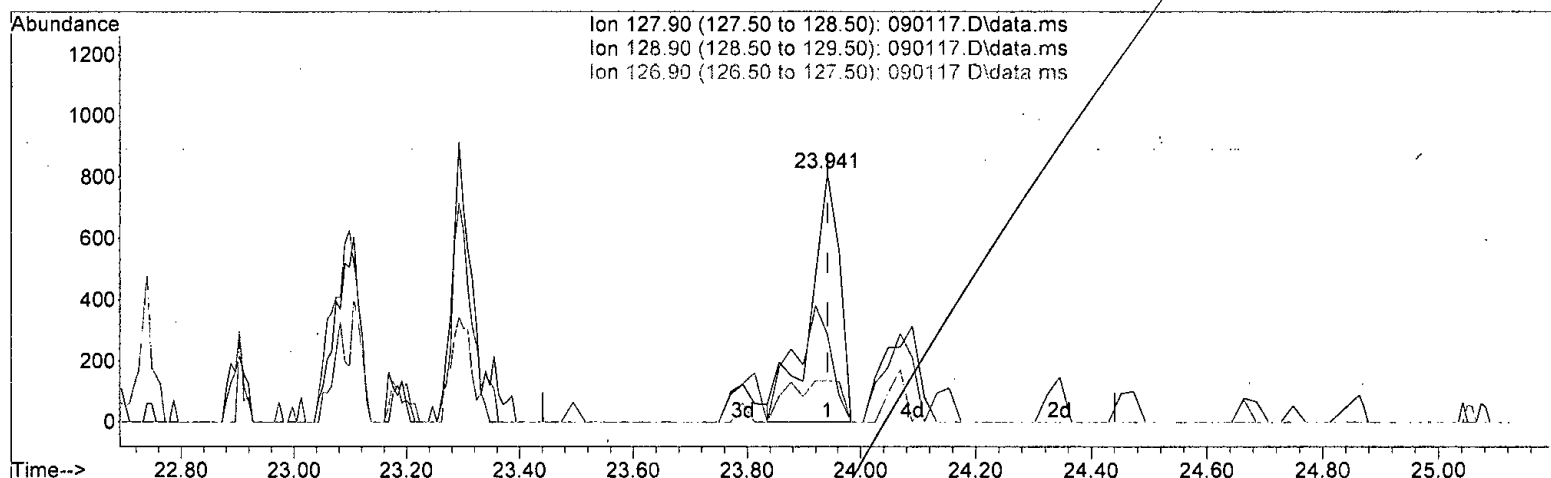
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	273.84#
0.00	0.00	0.00
0.00	0.00	0.00

*B. Orlob*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(28) Naphthalene (T)

23.941min (-0.000) 0.185 ug/m<sup>3</sup>

response 2977

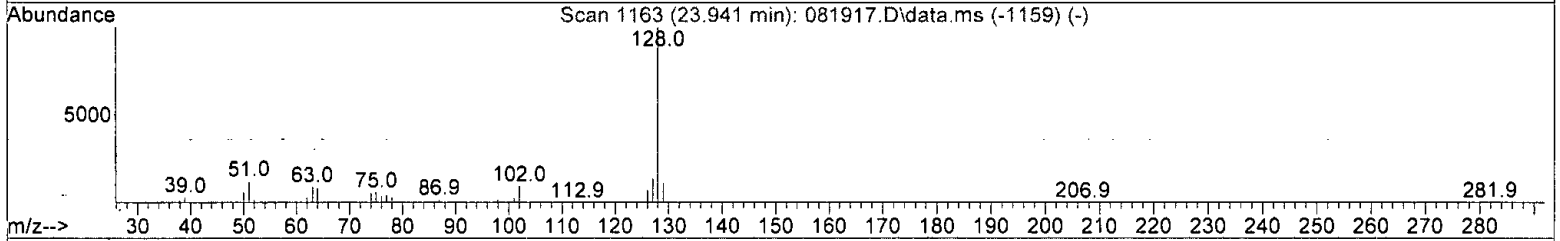
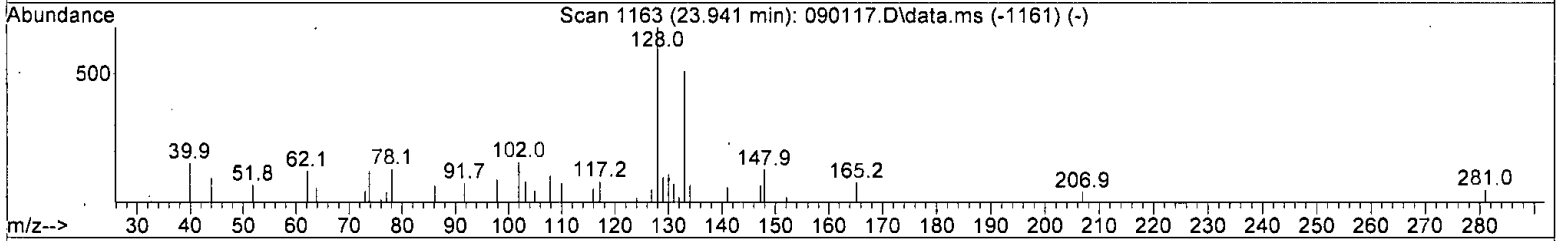
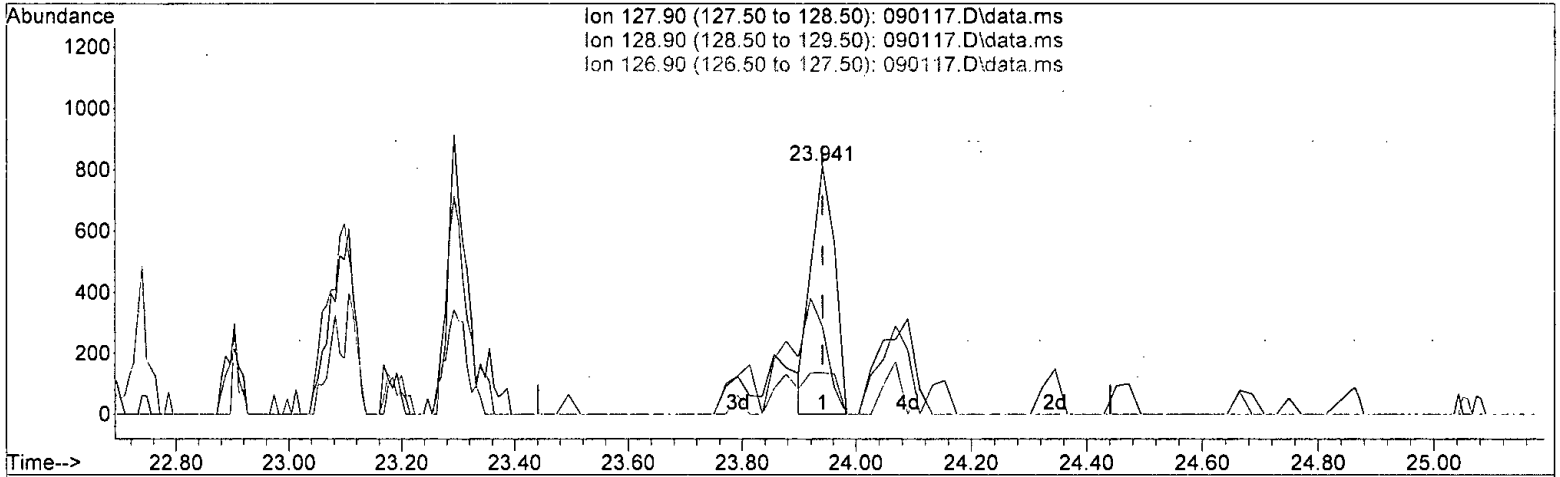
Ion	Exp%	Act%
127.90	100.00	100.00
128.90	11.10	35.18
126.90	13.70	16.73
0.00	0.00	0.00

*Bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(28) Naphthalene (T)

23.941min (-0.000) 0.146 ug/m3 m

response 2362

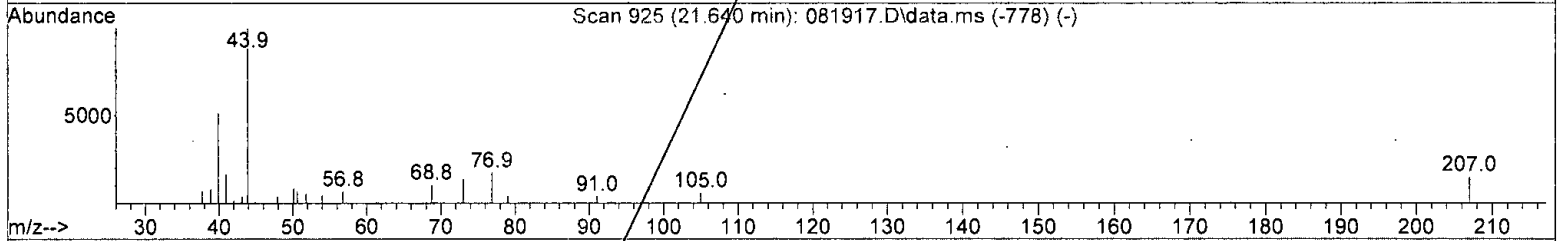
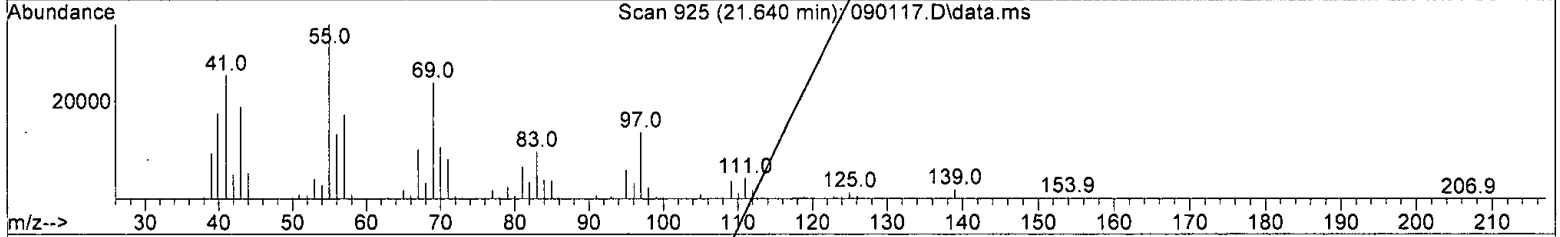
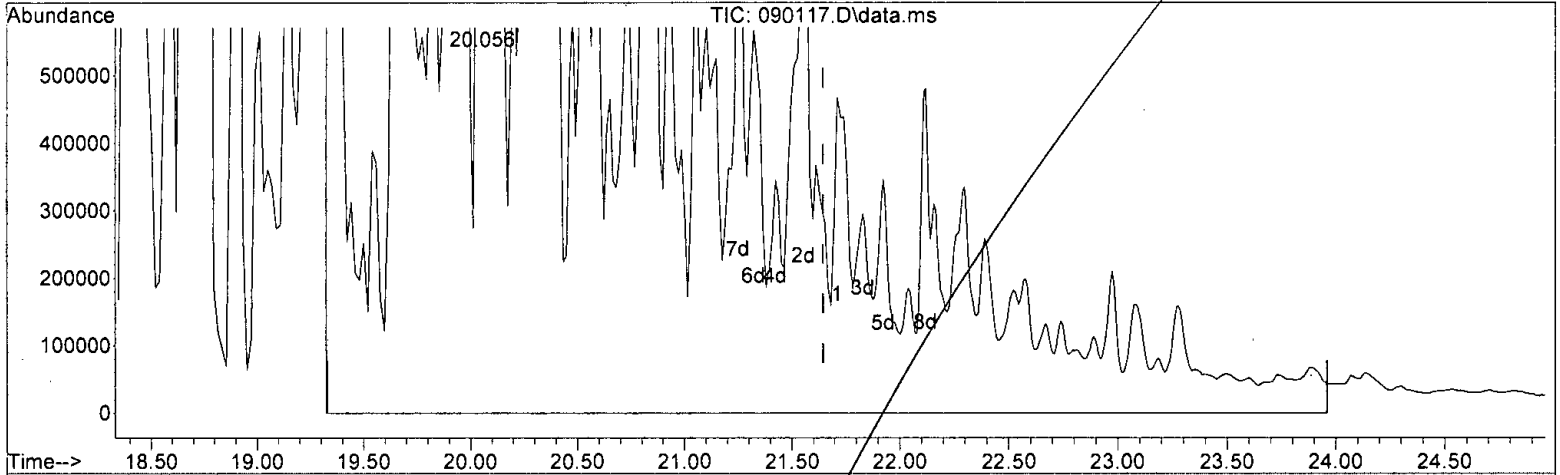
Ion	Exp%	Act%
127.90	100.00	100.00
128.90	11.10	35.18
126.90	13.70	16.73
0.00	0.00	0.00

*R. Roberts*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



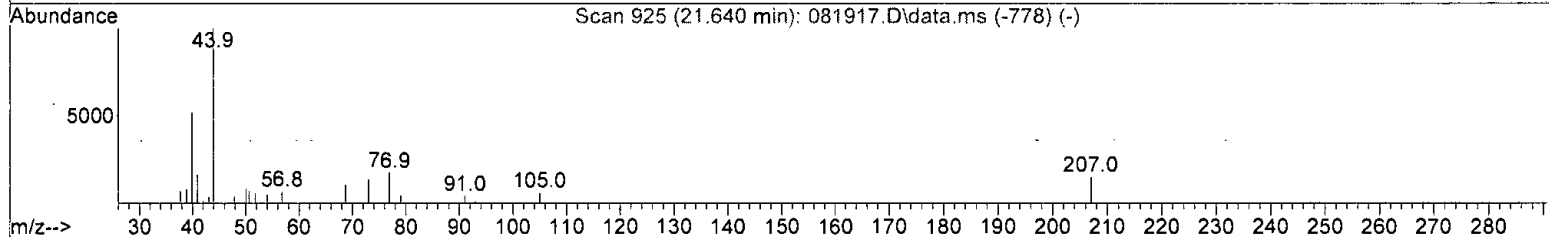
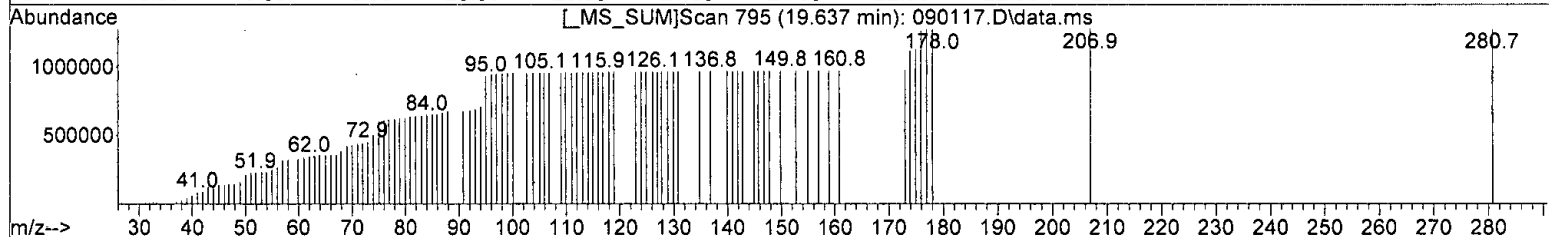
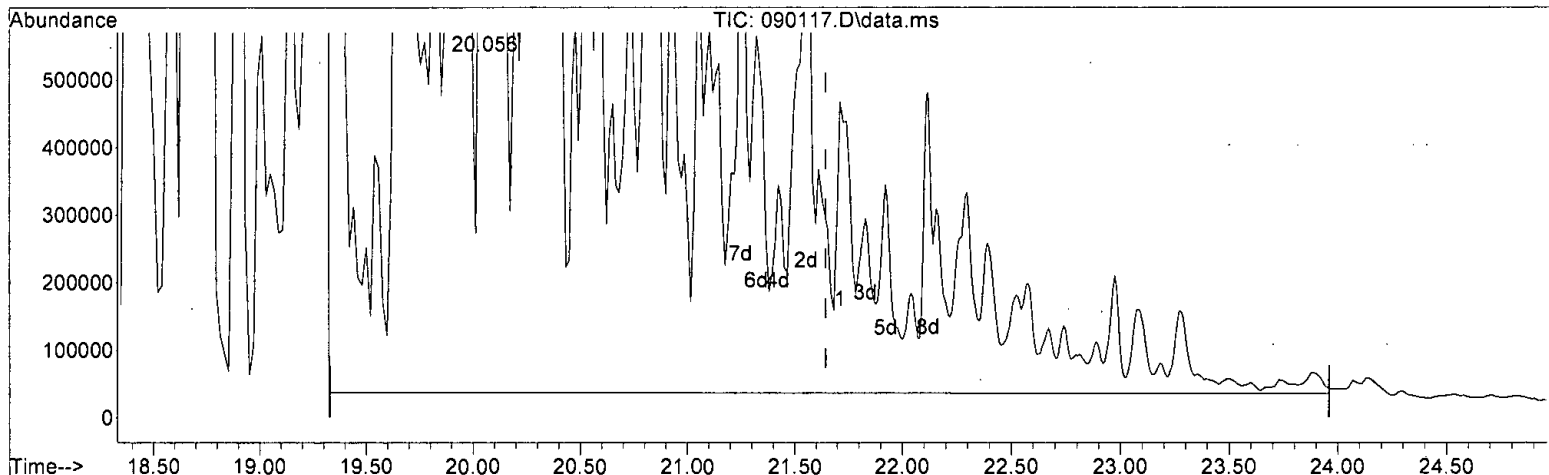
(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 1232.512 ug/m3 m  
 response 56549760  

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*12/01/2021*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 1810.593 ug/m3 m

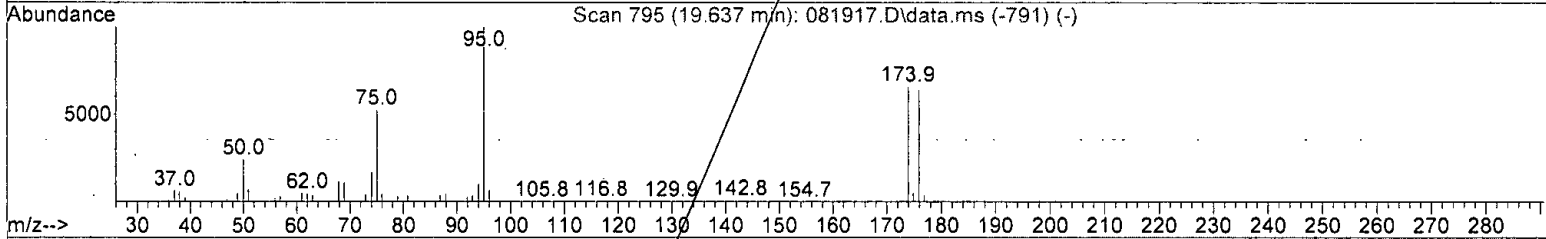
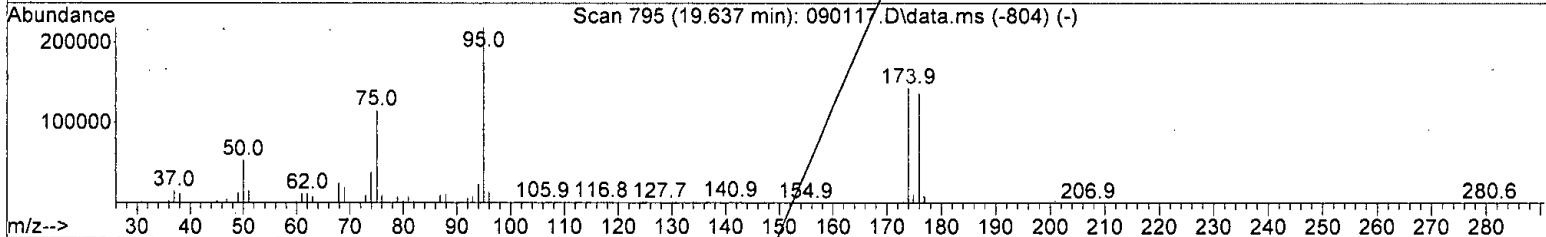
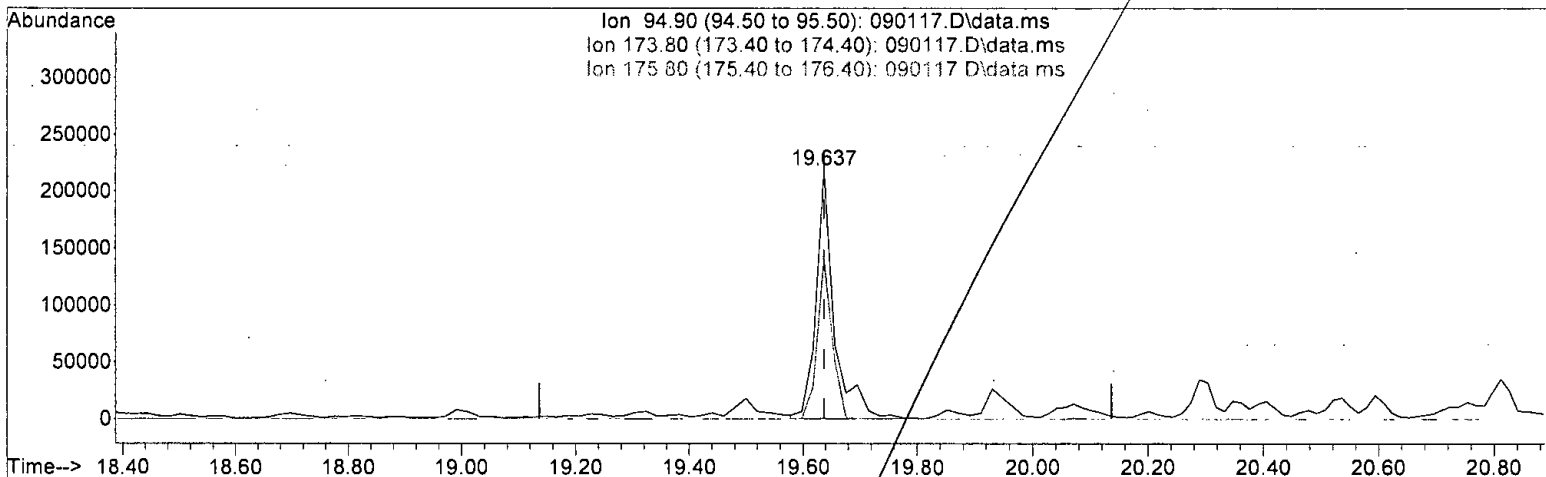
response 83073055

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: P. V. G. L. K.*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090117.D\data.ms

(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 86.364 ug/m3

response 485222

Ion	Exp%	Act%
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94.90	100.00	100.00
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173.80	96.00	65.34#
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175.80	93.50	62.12#
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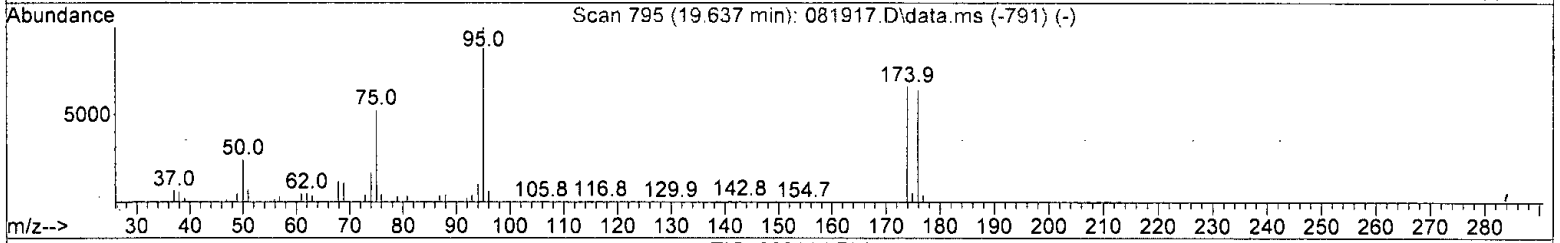
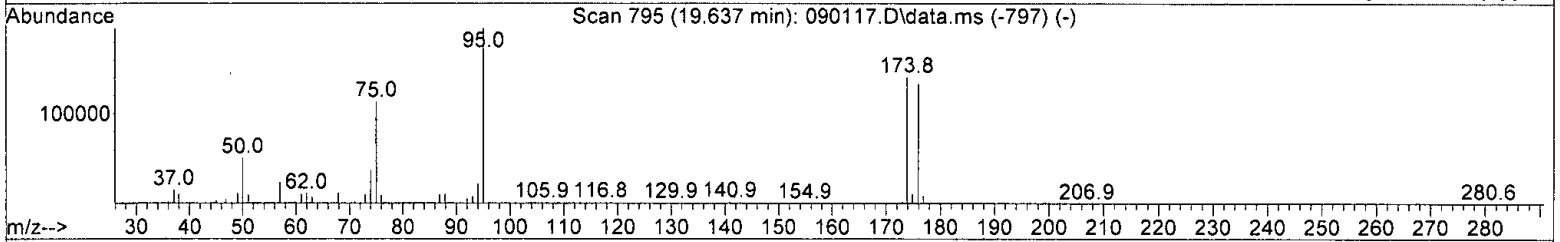
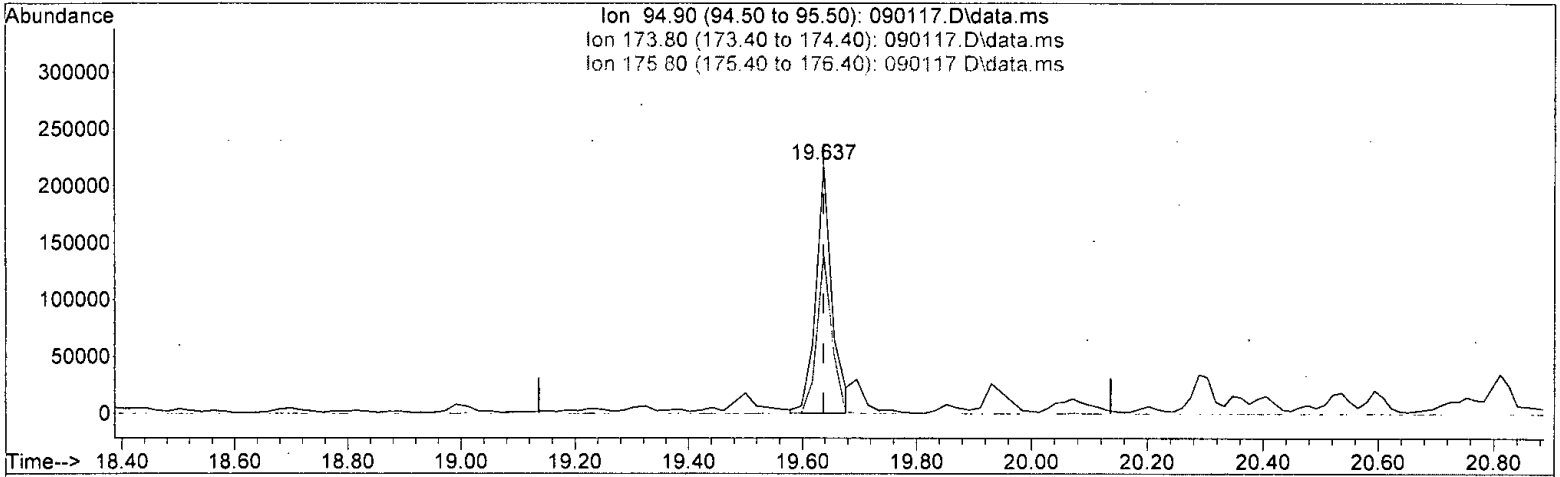
0.00	0.00	0.00
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*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 77.470 ug/m3 m

response 435253

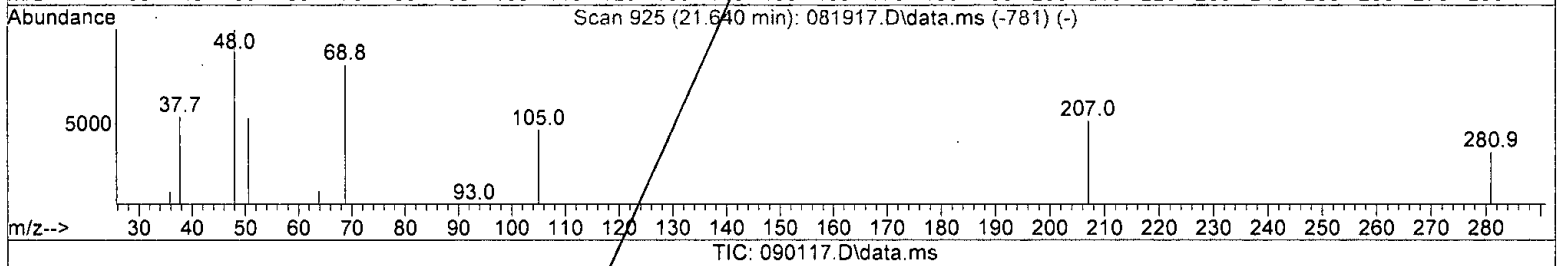
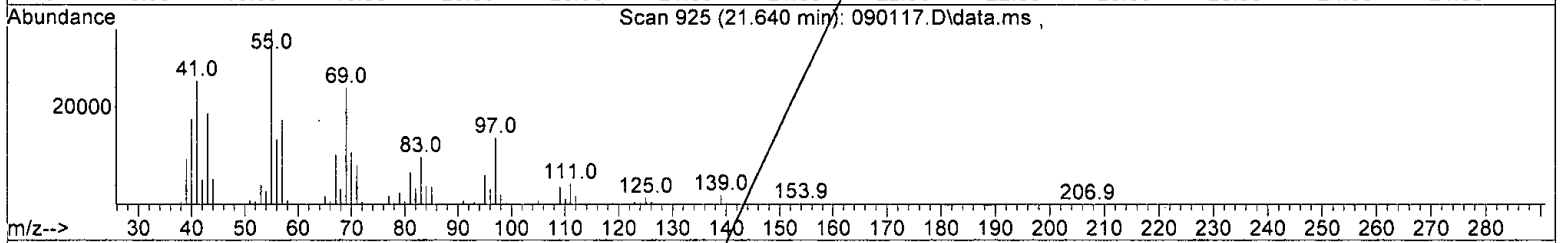
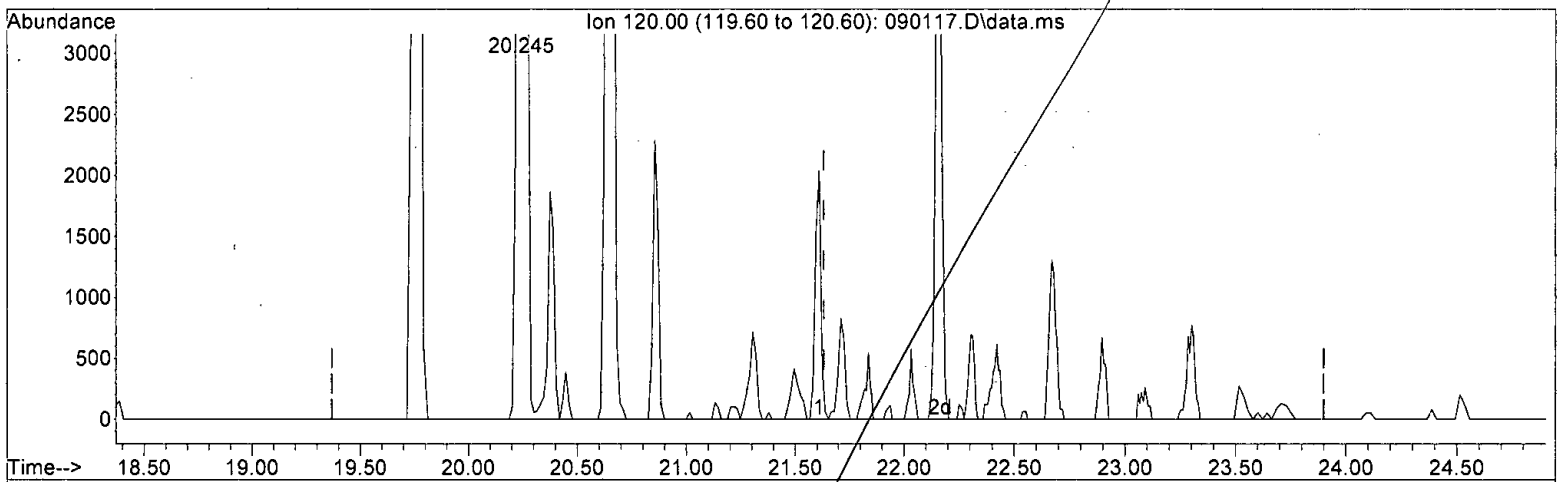
Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	65.22#
175.80	93.50	62.00#
0.00	0.00	0.00

*B. 08/20/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 27.634 ug/m3

response 147618

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

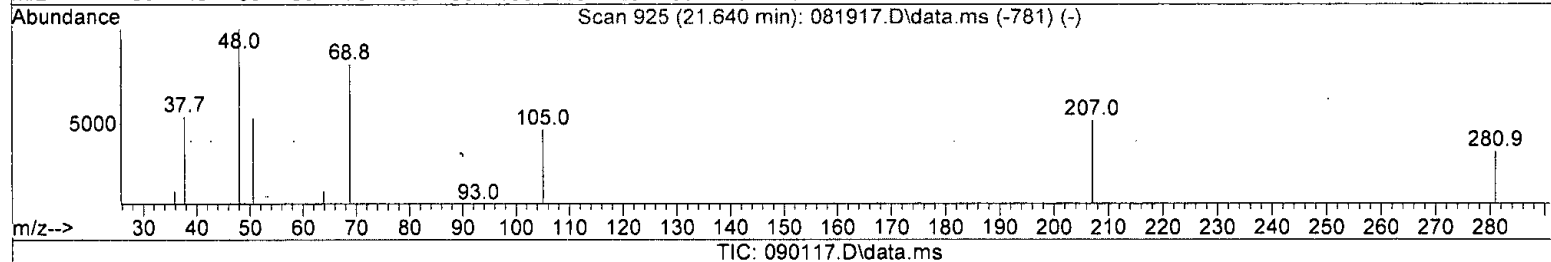
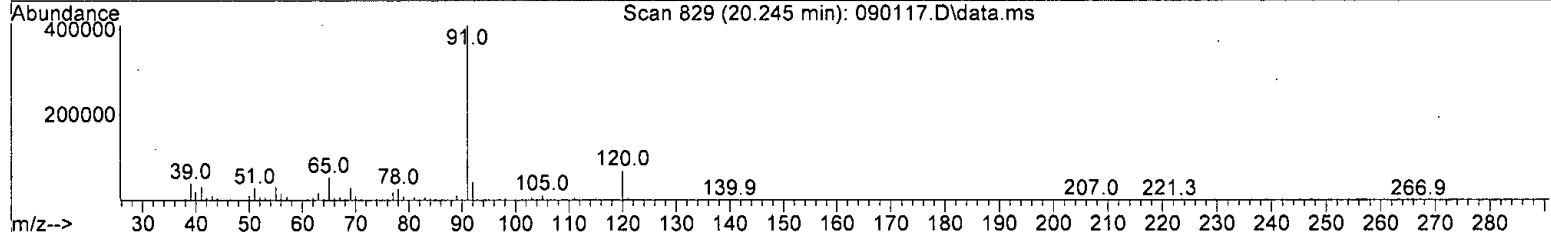
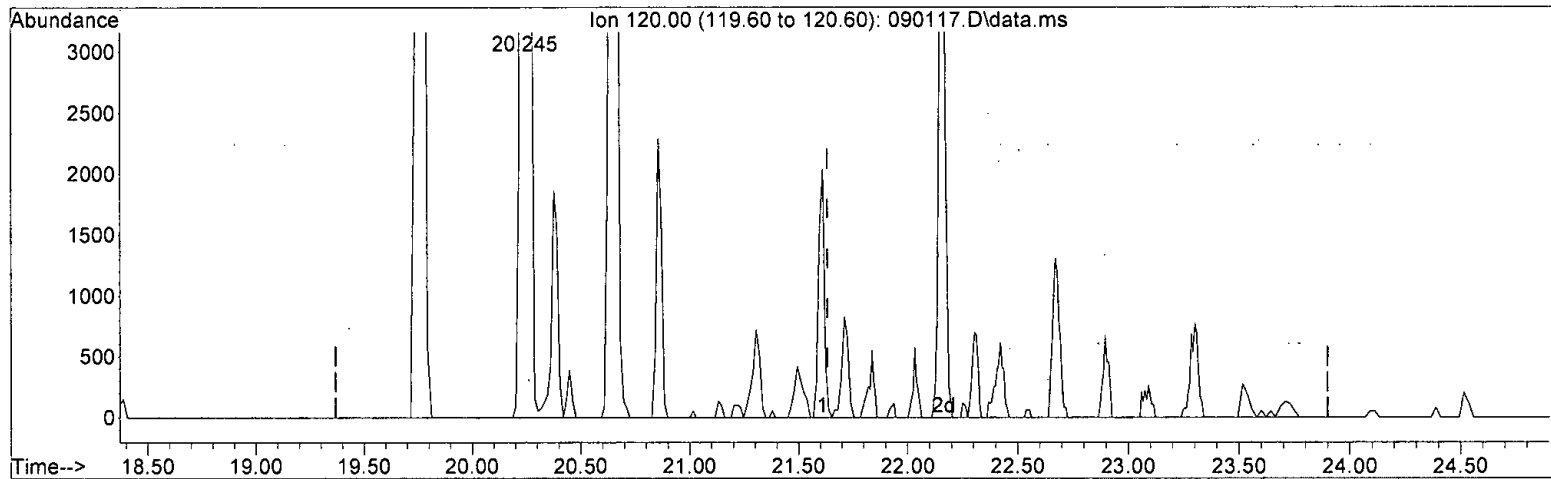
*bat*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 39.302 ug/m3 m

response 209950

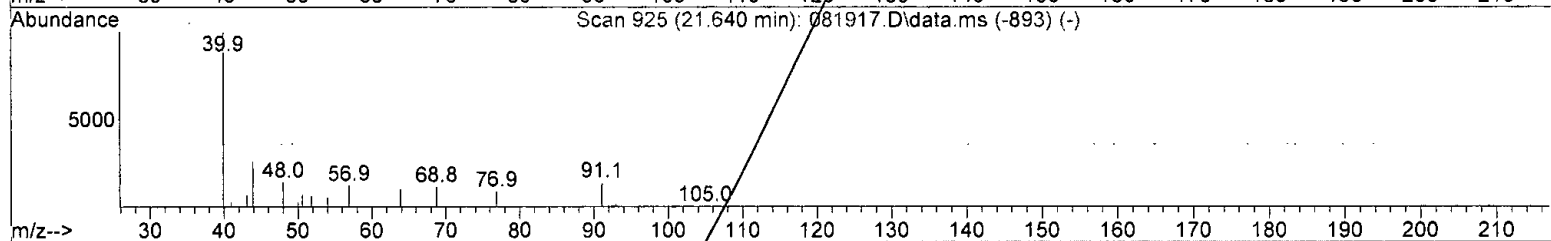
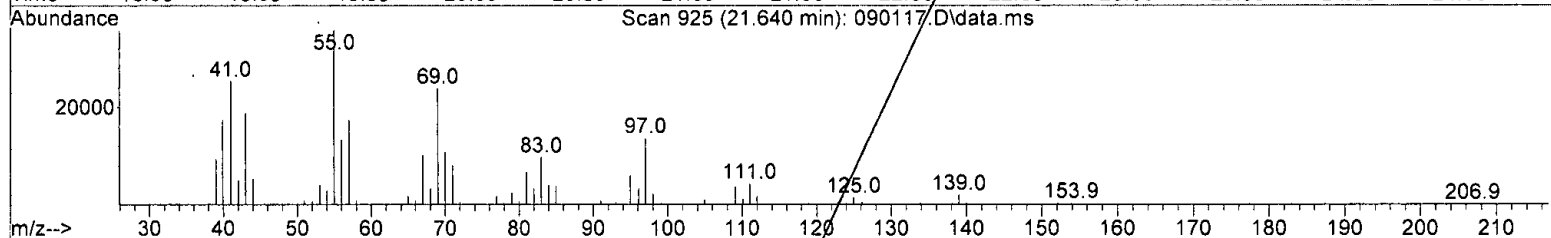
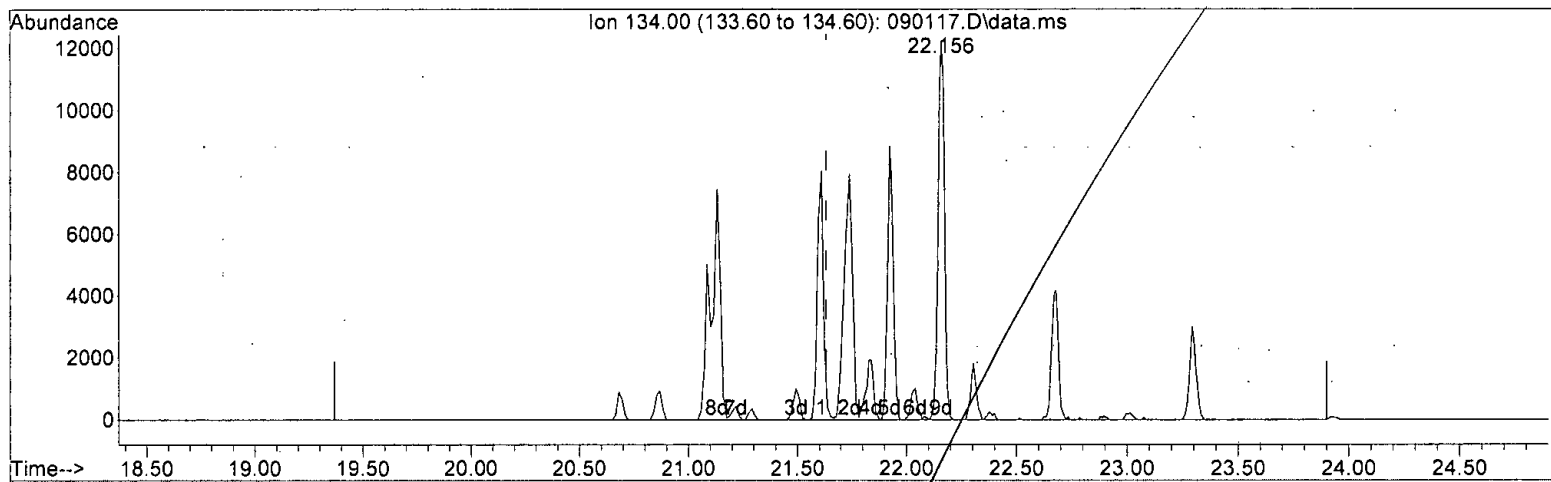
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: R. V. V. V.*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 16.480 ug/m3 m

response 50142

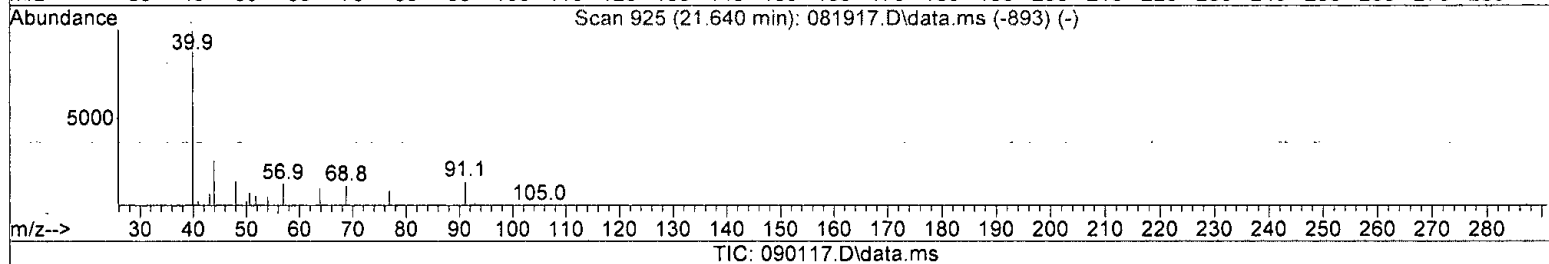
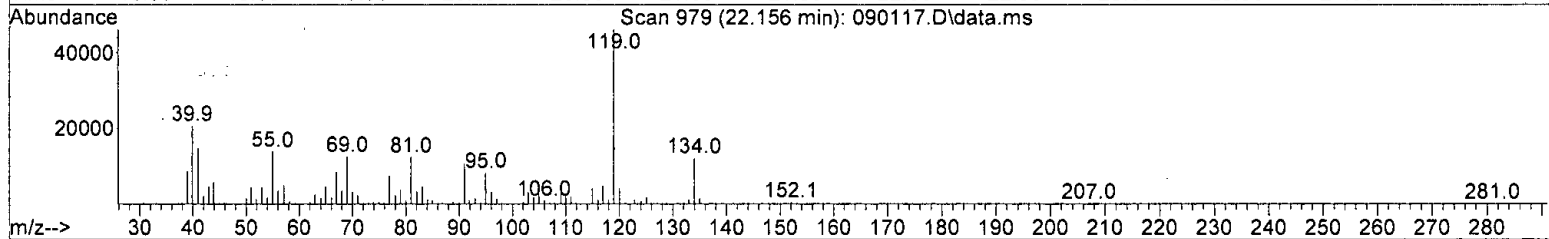
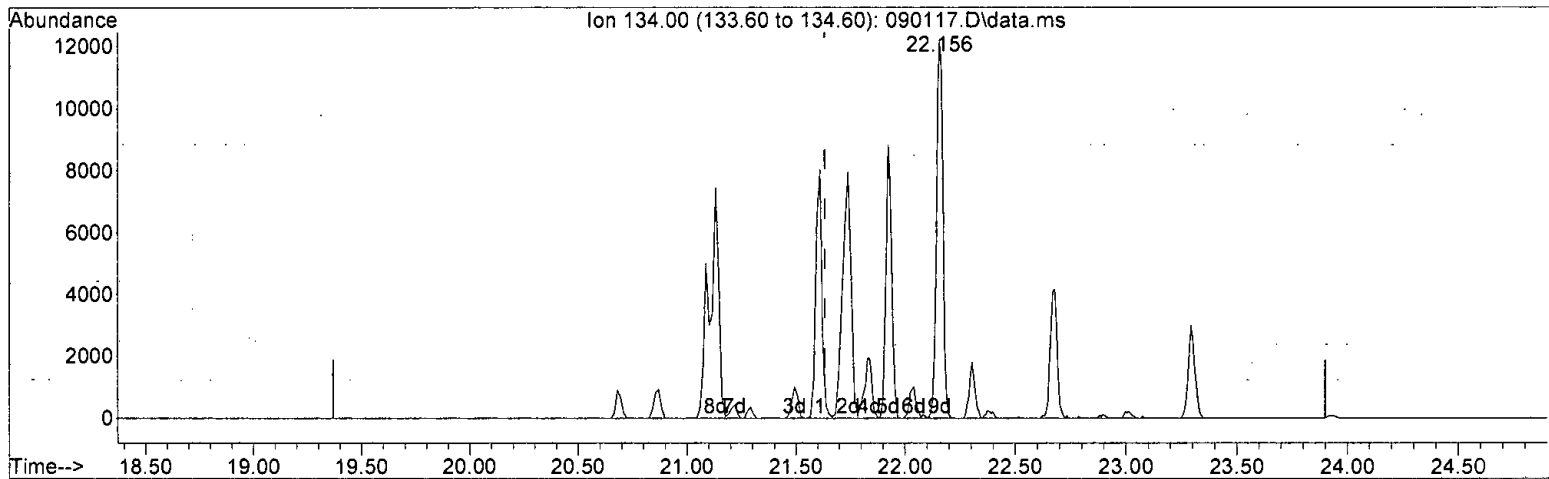
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:45:35 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 51.592 ug/m3 m

response 156975

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*

Data Path : F:\Proc GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:50:57 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.99	128	103536	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	498419	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	448442	50.000	ug/m3	# 0.00

System Monitoring Compounds

37) 4-Bromofluorobenzene	19.64	95	435253m	77.470	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	109.11%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1009586	55.226	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.21	TIC	1256959m	48.443	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	4540206m	144.262	ug/m3	
5) Methylene chloride	6.86	TIC	151350	163.526	ug/m3	92
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.	d	
8) 1,3-Butadiene	4.24	54	28474	4.670	ug/m3#	1
9) Methyl t-butyl ether	8.49	73	150	0.019	ug/m3	56
11) Benzene	12.71	78	143598	8.474	ug/m3	90
12) Isopentane	5.68	TIC	49967	1.485	ug/m3	87
13) Hexane	10.10	TIC	903386	27.326	ug/m3	93
14) Cyclohexane	13.16	TIC	4429642	128.034	ug/m3	48
15) 2,3-Dimethylpentane	13.50	TIC	3496593	79.194	ug/m3	94
16) Heptane	14.60	TIC	8257696	228.859	ug/m3	92
17) Octane	17.41	TIC	5603849	113.265	ug/m3	92
18) APH EC5-8 aliphatics T...	0.00	TIC	22741133m	575.041	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	197812500m	5001.960	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2929278m	77.376	ug/m3	
22) Hexamethylcyclotrisilo...	17.79	TIC	1102196	118.202	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	246668m	21.195	ppbv	
24) Toluene	16.39	92	19279	2.004	ug/m3	98
25) Ethylbenzene	18.60	91	540468	27.202	ug/m3	96
26) m,p-Xylene	18.78	106	9596	1.436	ug/m3	82
27) o-Xylene	19.21	106	10505m	1.662	ug/m3	
28) Naphthalene	23.94	128	2362m	0.146	ug/m3	
29) 2,3-Dimethylheptane	18.68	TIC	6768026	150.171	ug/m3#	79
30) Nonane	19.32	TIC	10339401	219.704	ug/m3	61
31) Decane	20.86	TIC	2859942	61.174	ug/m3	65
32) Butylcyclohexane	21.55	TIC	2477349	46.647	ug/m3	82
33) Undecane	22.52	TIC	223387	4.818	ug/m3	69
34) Dodecane	23.73	TIC	95878	2.519	ug/m3	70
35) APH EC9-12 aliphatics ...	21.55	TIC	22763983m	496.145	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	83073055m	1810.593	ug/m3	
38) Isopropylbenzene	19.75	120	46154	13.122	ug/m3#	79
39) 1-Methyl-3-ethylbenzene	20.38	120	3923	0.798	ug/m3	94
40) 1,3,5-Trimethylbenzene	20.38	120	3923	0.630	ug/m3#	37
41) p-Isopropyltoluene	21.22	134	746	0.244	ug/m3#	14
42) 1,2,3-Trimethylbenzene	21.31	120	1735	0.238	ug/m3#	43
43) APH EC9-10 aromatics T...	21.55	TIC	56481m	11.675	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	209950m	39.302	ug/m3	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090117.D  
 Acq On : 1 Sep 2021 8:19 pm  
 Operator : bat  
 Sample : 108515-08 1/1100  
 Misc : T7  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

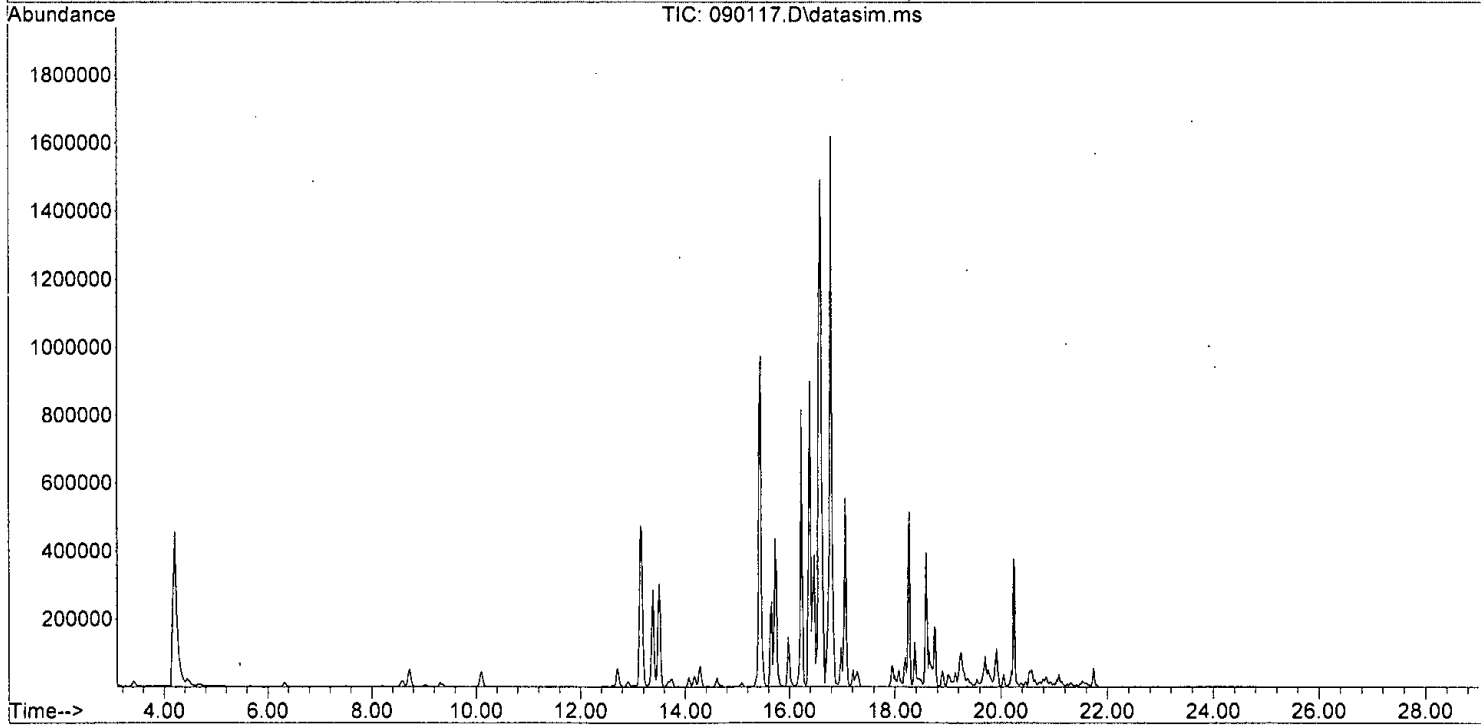
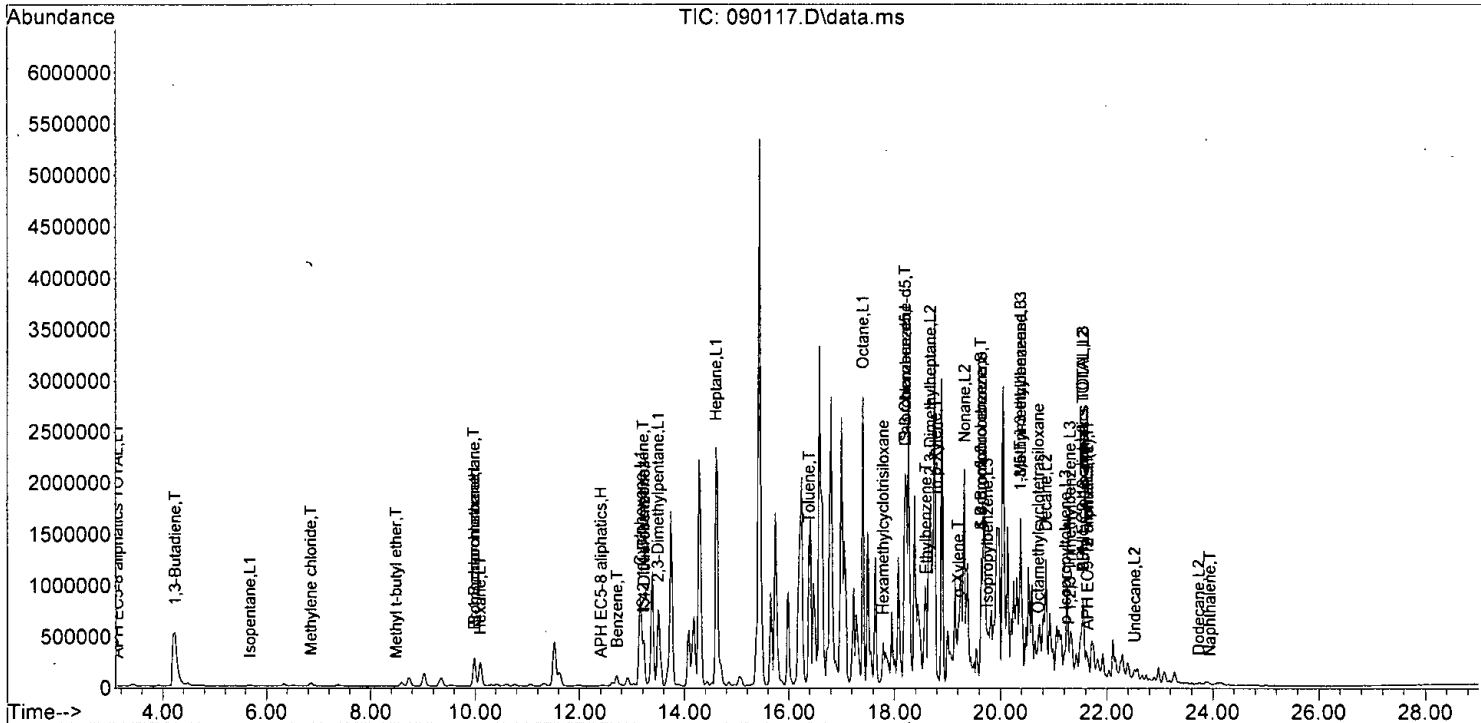
Quant Time: Sep 02 12:50:57 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	156975m	51.592	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

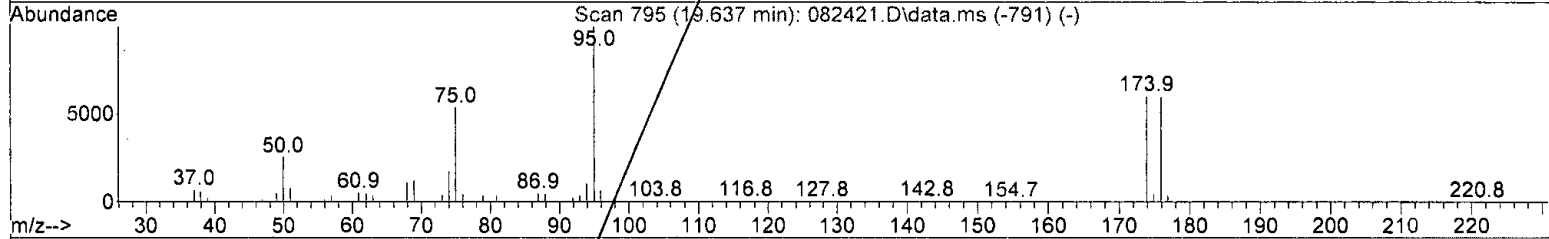
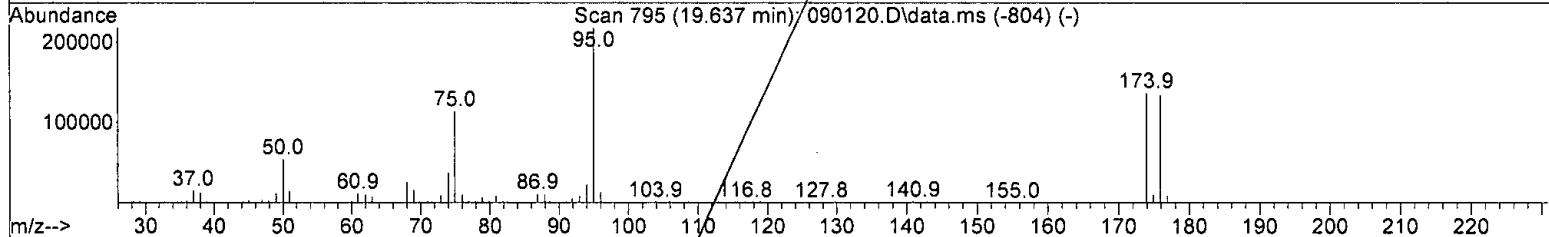
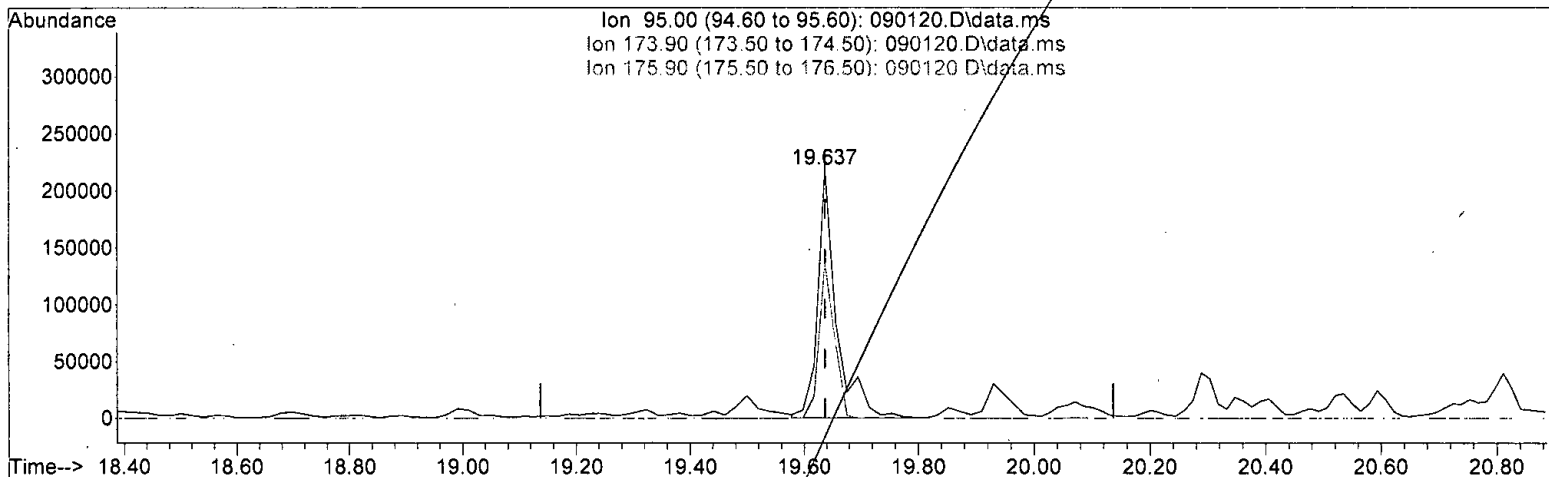
Data Path : F:\Proc\_GCMS7\09-01-21\  
Data File : 090117.D  
Acq On : 1 Sep 2021 8:19 pm  
Operator : bat  
Sample : 108515-08 1/1100  
Misc : T7  
ALS Vial : 16 Sample Multiplier: 1  
InstName : GCMS7

Quant Time: Sep 02 12:50:57 2021  
Quant Method : F:\METHODS\Inst7\0819APH7.M  
Quant Title : APH TO-15 method  
QLast Update : Fri Aug 20 08:33:26 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:22 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(69) 4-Bromofluorobenzene (S)

19.637min (-0.000) 12.159 ppbv

response 505207

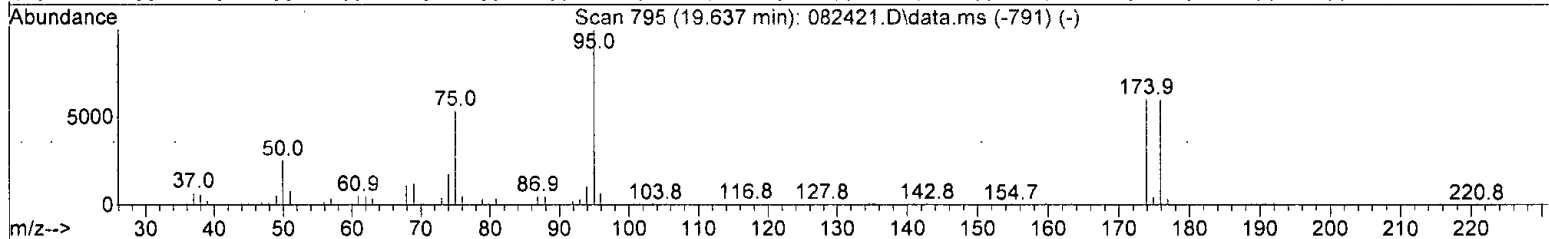
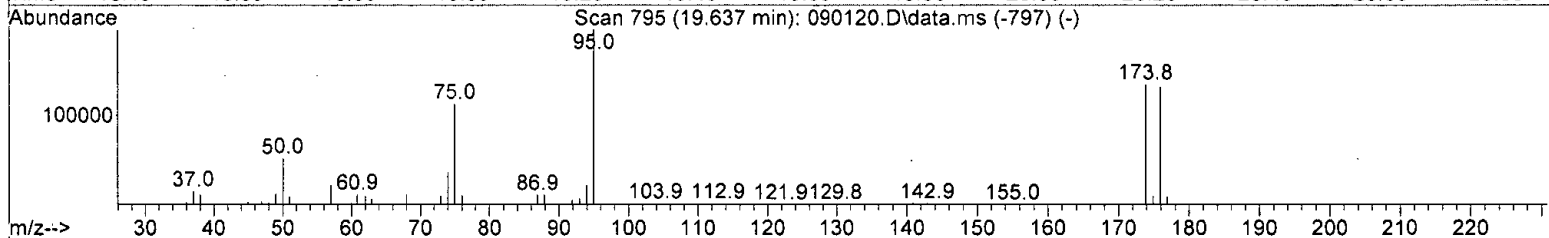
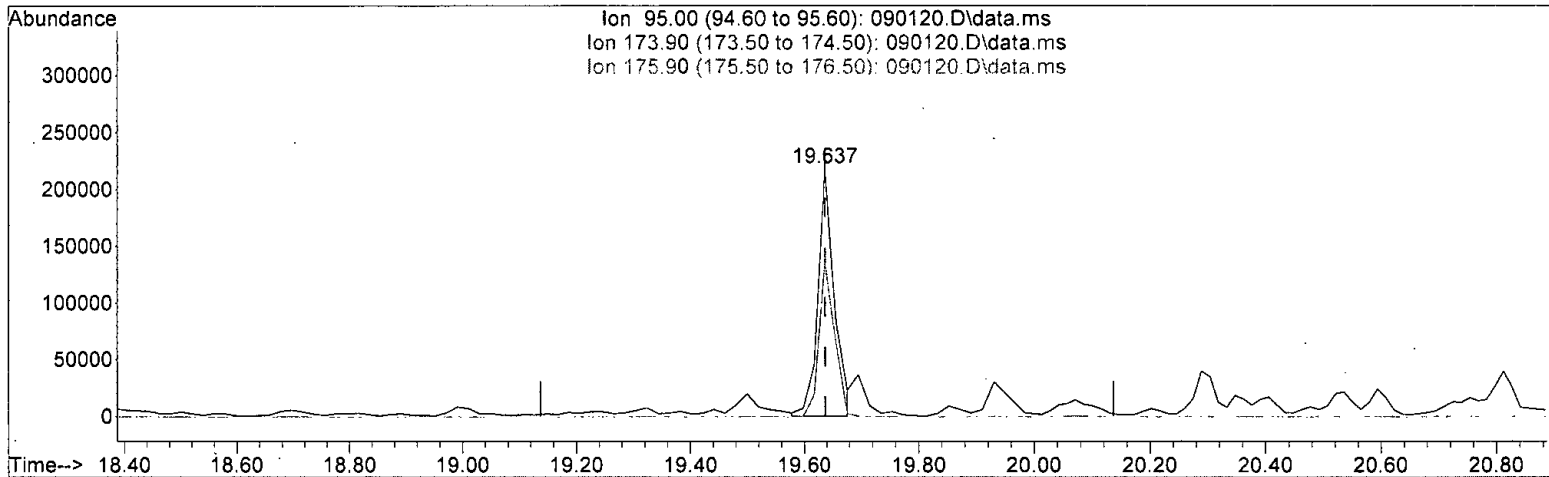
Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	62.80
175.90	70.90	61.37
0.00	0.00	0.00

*Handwritten signature: B. Orlov*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:22 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*N orlak*

(69) 4-Bromofluorobenzene (S)

19.637min (-0.000) 10.656 ppbv m

response 442751

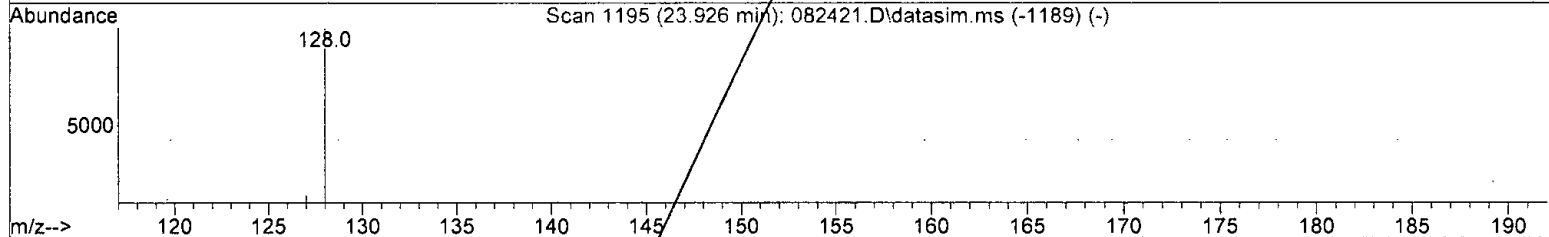
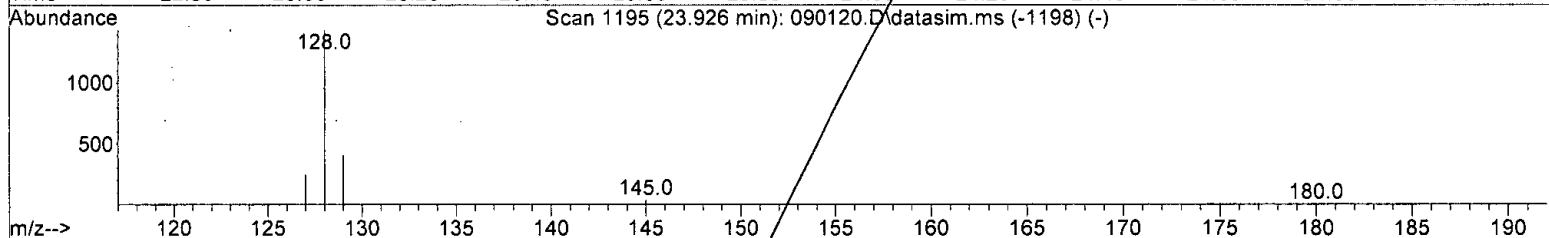
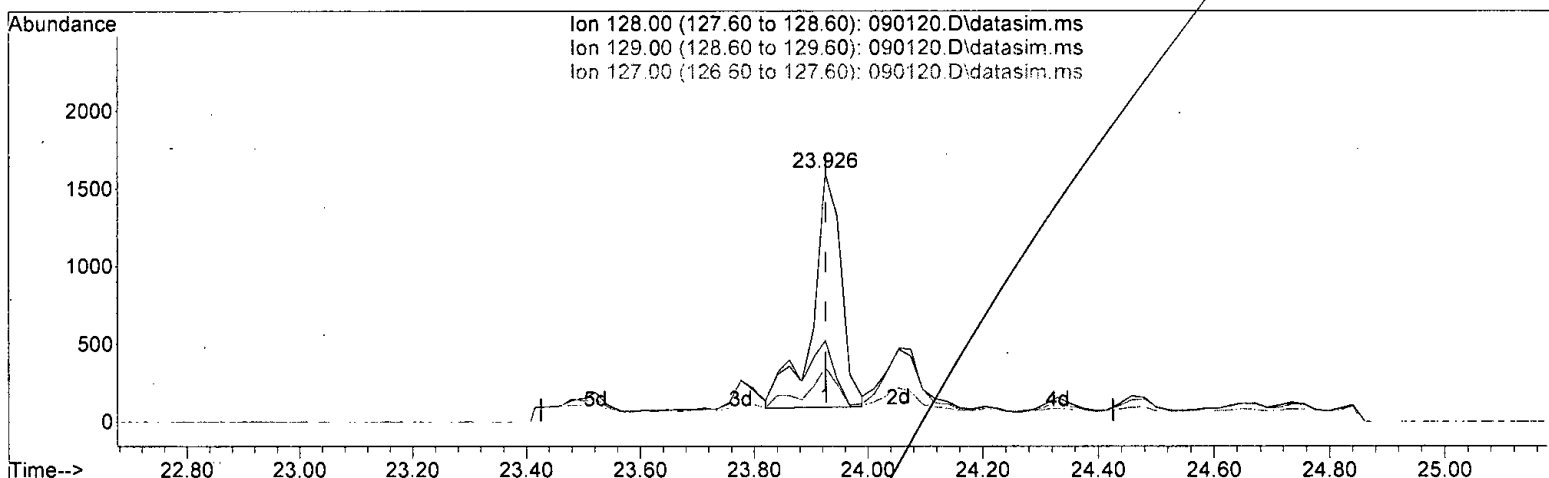
Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	62.70
175.90	70.90	61.26
0.00	0.00	0.00



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:22 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



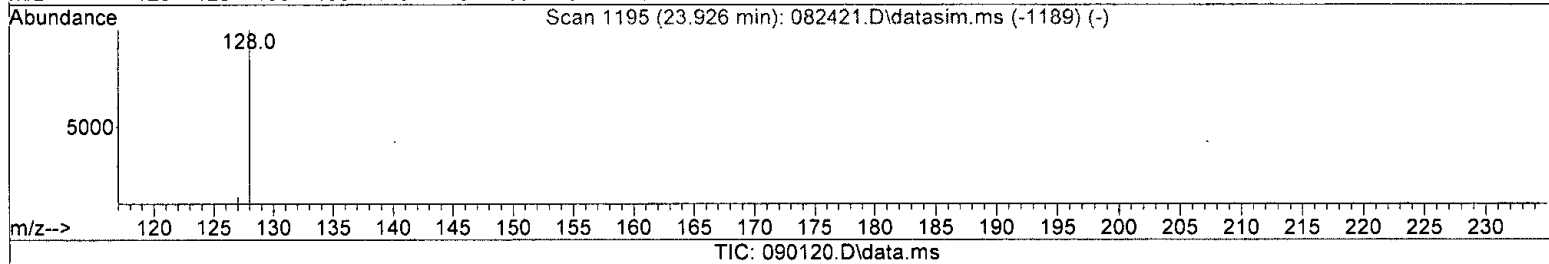
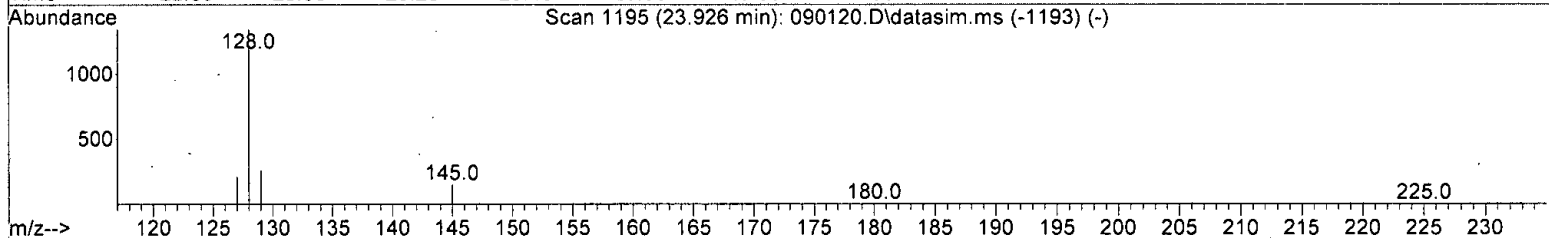
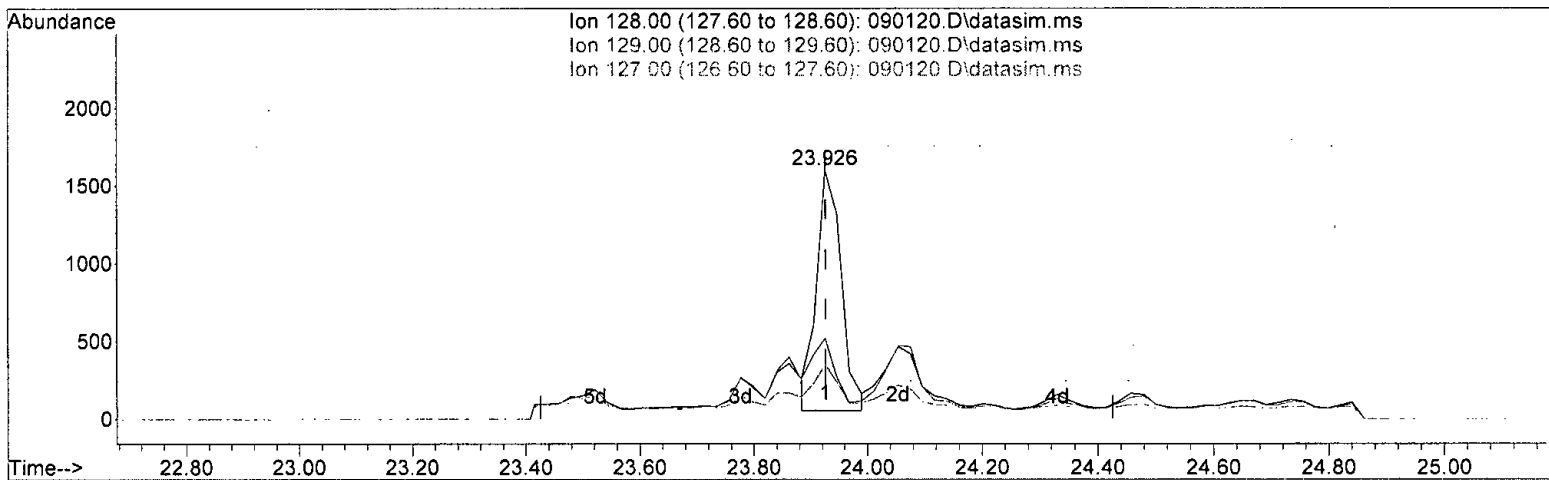
*Naphthalene*

(77) Naphthalene (TMP)		
23.926min (-0.000)	0.035 ppbv	
response	5320	
Ion	Exp%	Act%
128.00	100.00	100.00
129.00	11.00	27.72
127.00	13.20	17.71
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:22 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(77) Naphthalene (TMP)

23.926min (-0.000) 0.030 ppbv m

response 4752

Ion	Exp%	Act%
128.00	100.00	100.00
129.00	11.00	32.54
127.00	13.20	21.92
0.00	0.00	0.00

*bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

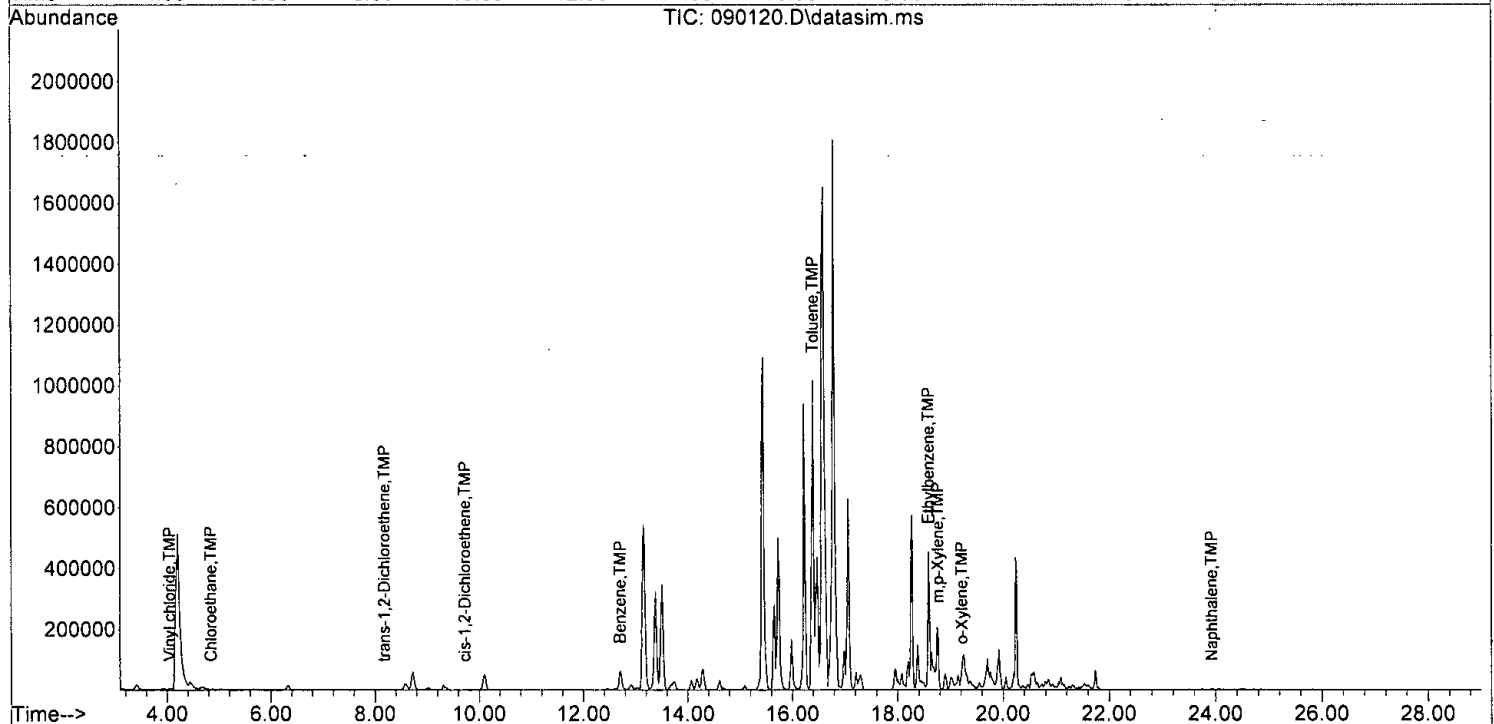
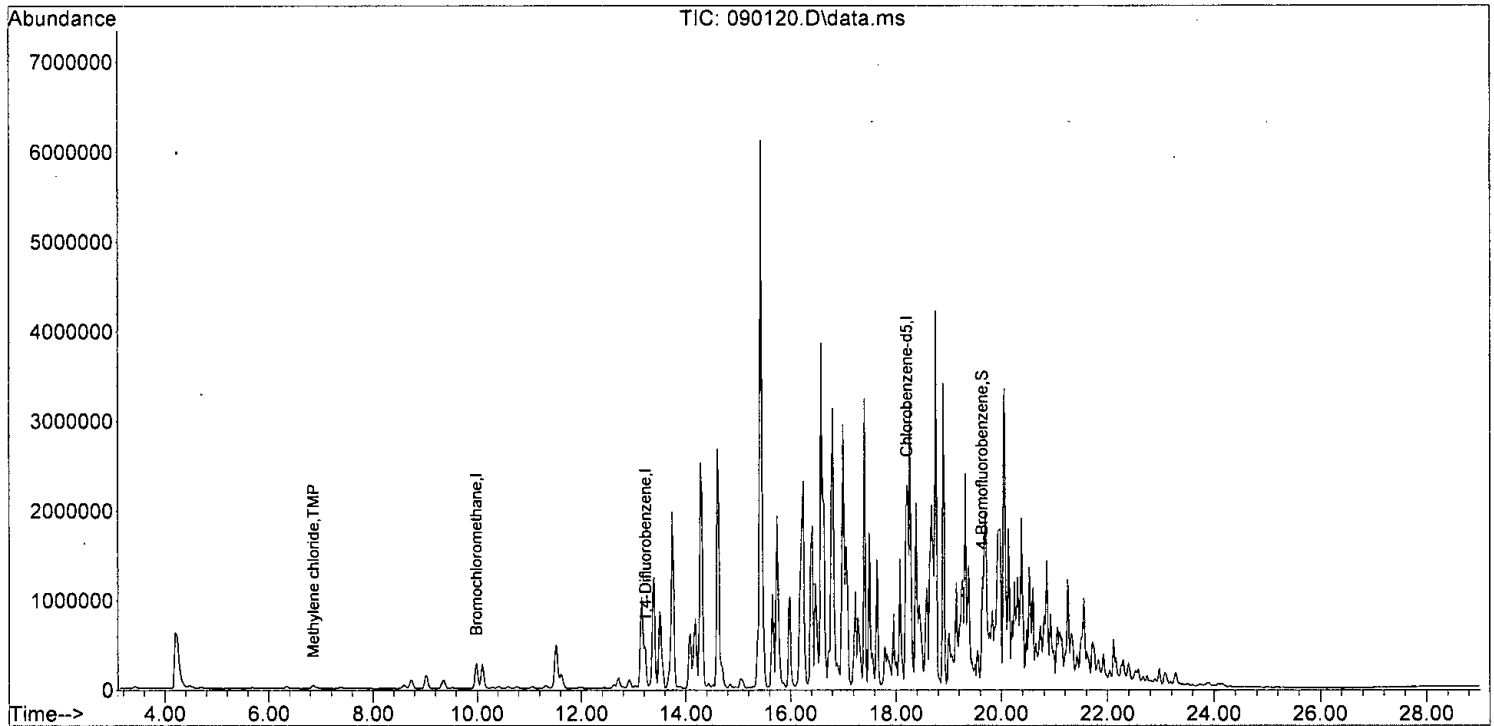
Quant Time: Sep 02 13:59:36 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

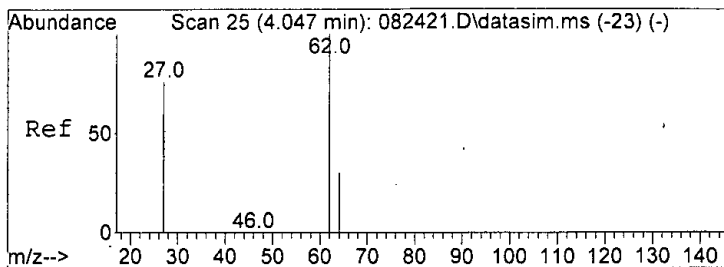
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	101728	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	506561	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	458627	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	442751m	10.656	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	106.60%
Target Compounds						
						Qvalue
6] Vinyl chloride	4.05	62	2463	0.110	ppbv	96
10] Chloroethane	4.84	64	217	0.028	ppbv	99
19] trans-1,2-Dichloroethene	8.18	96	648	0.039	ppbv	98
20] Methylene chloride	6.86	84	27650	1.553	ppbv	86
28] cis-1,2-Dichloroethene	9.73	96	260	0.014	ppbv	# 77
37] Benzene	12.70	78	174226	2.797	ppbv	95
50] Toluene	16.40	92	23951	0.631	ppbv	85
58] Ethylbenzene	18.59	91	654908	6.429	ppbv	98
65] m,p-Xylene	18.76	106	12367	0.378	ppbv	83
66] o-Xylene	19.21	106	13281	0.413	ppbv	87
77] Naphthalene	23.93	128	4752m	0.030	ppbv	
-----						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

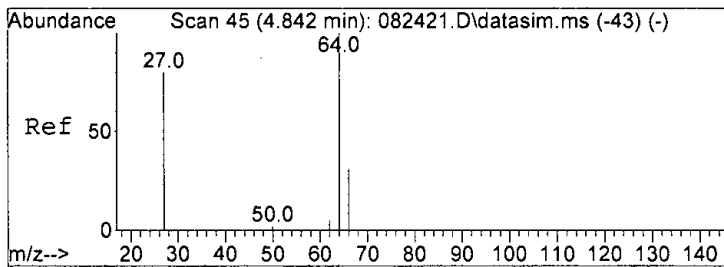
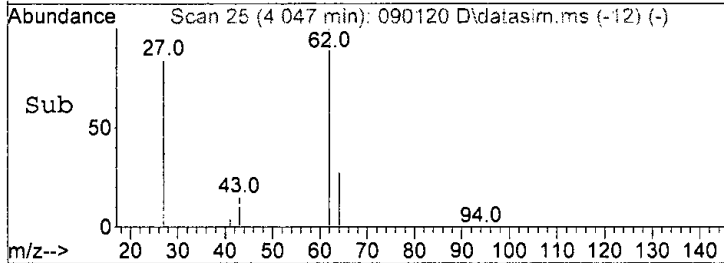
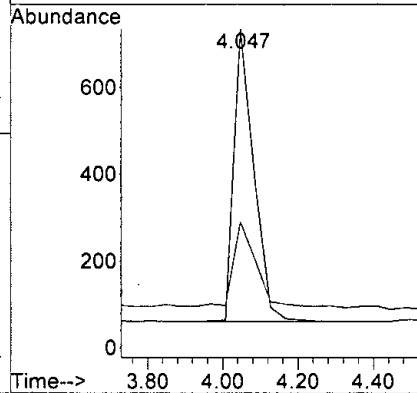
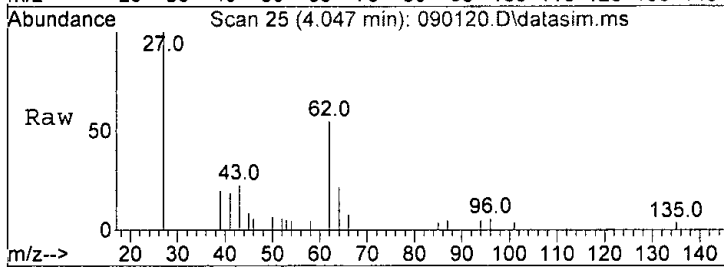
Quant Time: Sep 02 13:59:36 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





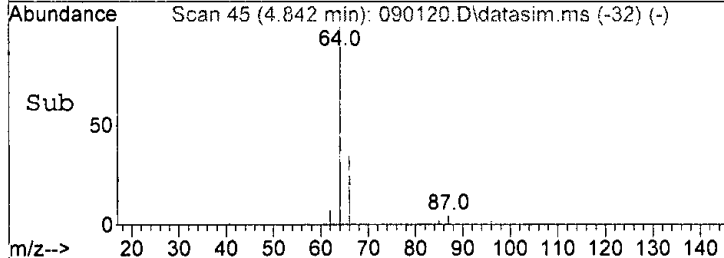
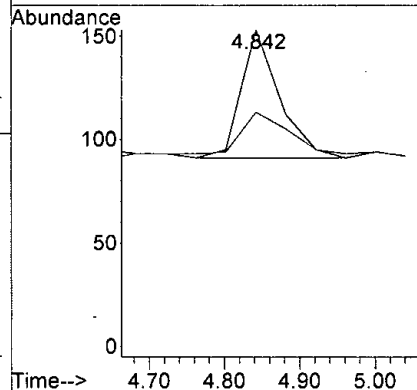
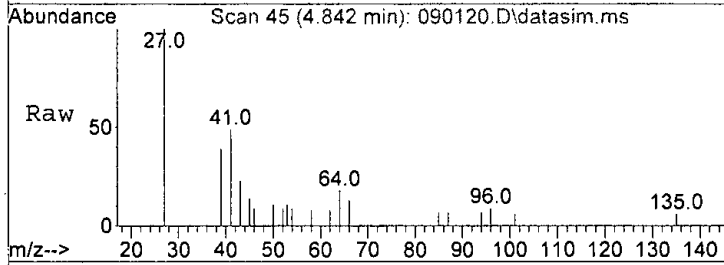
#6  
 Vinyl chloride  
 Concen: 0.110 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090120.D  
 Acq: 1 Sep 2021 10:18 pm

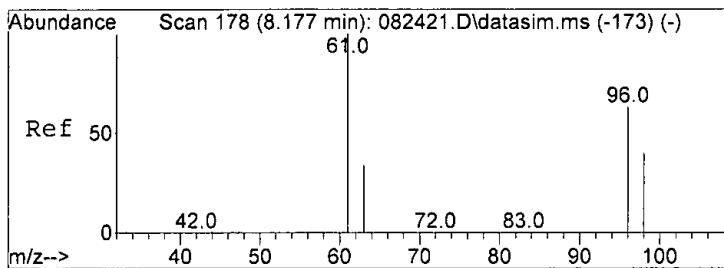
Tgt Ion: 62 Resp: 2463  
 Ion Ratio Lower Upper  
 62 100  
 64 29.2 1.5 61.5



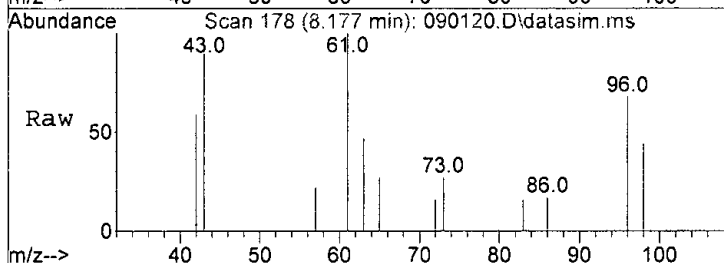
#10  
 Chloroethane  
 Concen: 0.028 ppbv  
 RT: 4.84 min Scan# 45  
 Delta R.T. 0.000 min  
 Lab File: 090120.D  
 Acq: 1 Sep 2021 10:18 pm

Tgt Ion: 64 Resp: 217  
 Ion Ratio Lower Upper  
 64 100  
 66 32.3 1.8 61.8

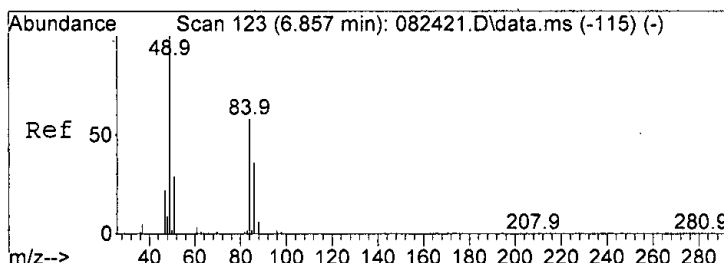
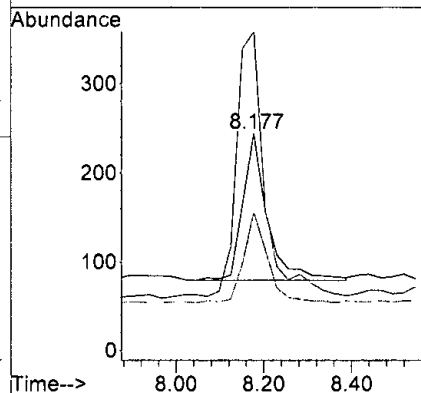
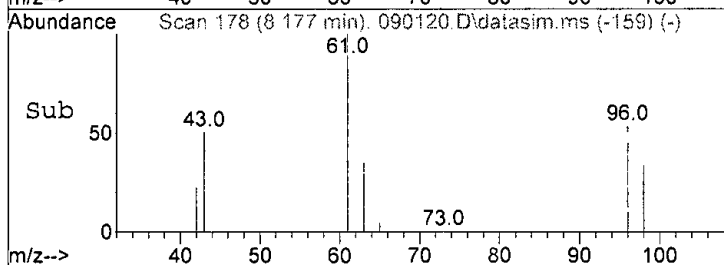




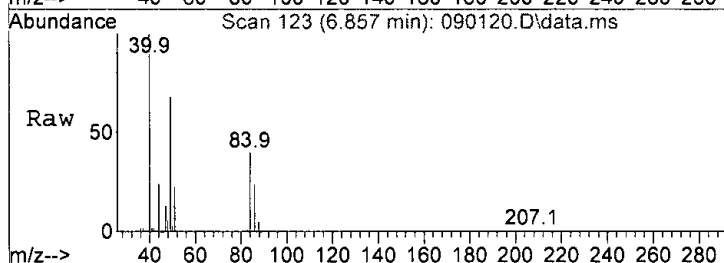
#19  
 trans-1,2-Dichloroethene  
 Concen: 0.039 ppbv  
 RT: 8.18 min Scan# 178  
 Delta R.T. 0.000 min  
 Lab File: 090120.D  
 Acq: 1 Sep 2021 10:18 pm



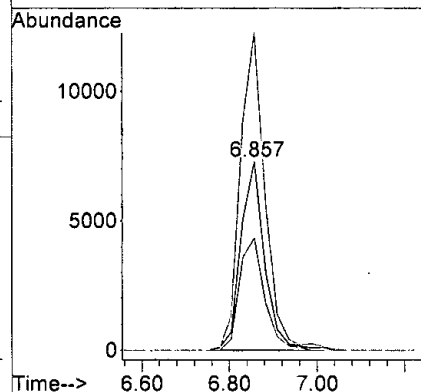
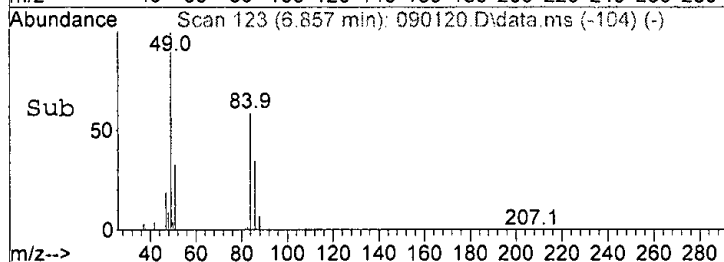
Tgt Ion: 96 Resp: 648  
 Ion Ratio Lower Upper  
 96 100  
 61 179.4 147.9 207.9  
 98 61.8 34.2 94.2

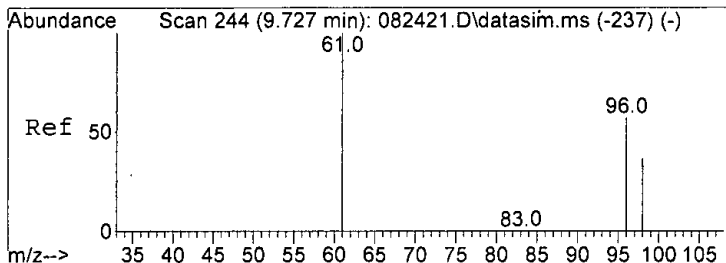


#20  
 Methylene chloride  
 Concen: 1.553 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. -0.000 min  
 Lab File: 090120.D  
 Acq: 1 Sep 2021 10:18 pm



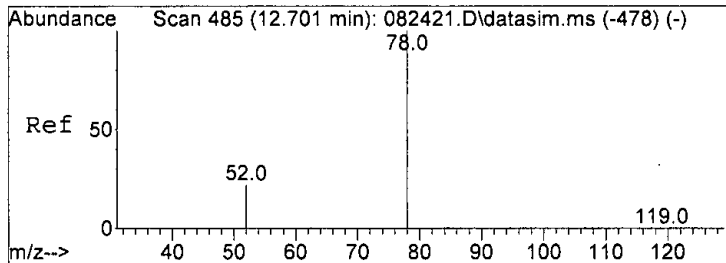
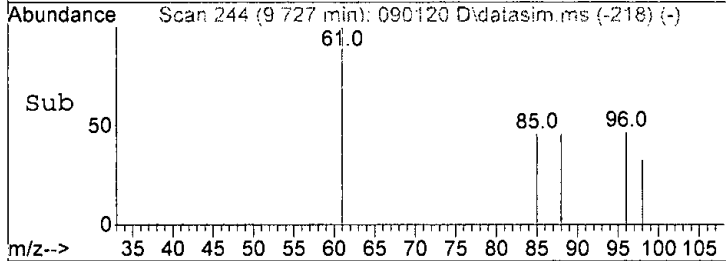
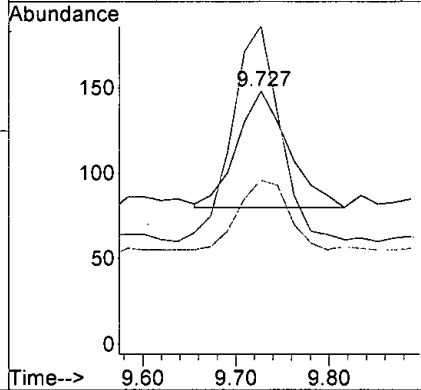
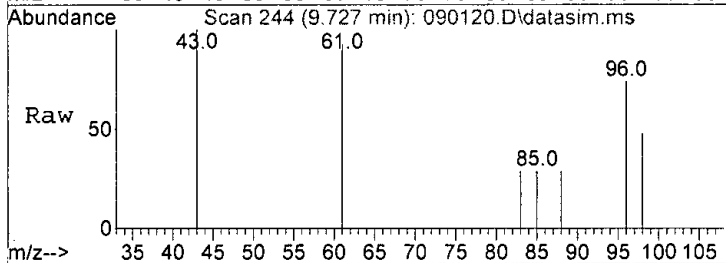
Tgt Ion: 84 Resp: 27650  
 Ion Ratio Lower Upper  
 84 100  
 86 59.6 33.9 93.9  
 49 168.2 116.6 176.6





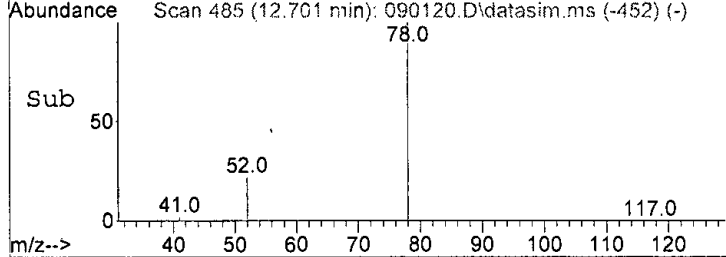
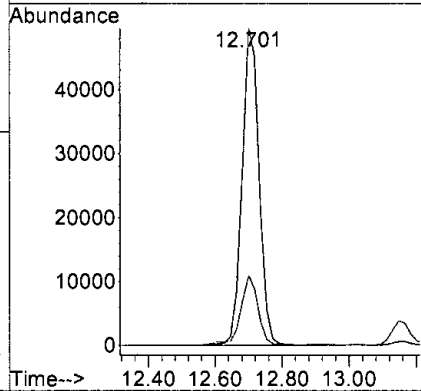
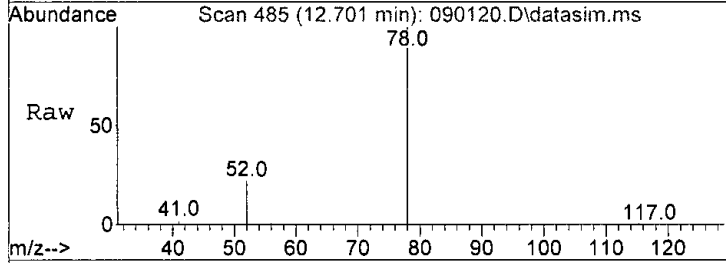
#28  
 cis-1,2-Dichloroethene  
 Concen: 0.014 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. -0.000 min  
 Lab File: 090120.D  
 Acq: 1 Sep 2021 10:18 pm

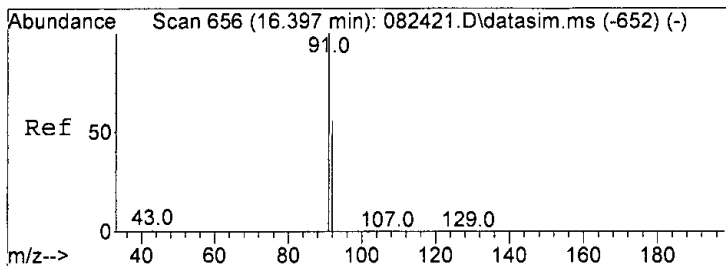
Tgt Ion: 96 Resp: 260  
 Ion Ratio Lower Upper  
 96 100  
 61 183.8 116.0 176.0#  
 98 60.3 35.2 95.2



#37  
 Benzene  
 Concen: 2.797 ppbv  
 RT: 12.70 min Scan# 485  
 Delta R.T. -0.000 min  
 Lab File: 090120.D  
 Acq: 1 Sep 2021 10:18 pm

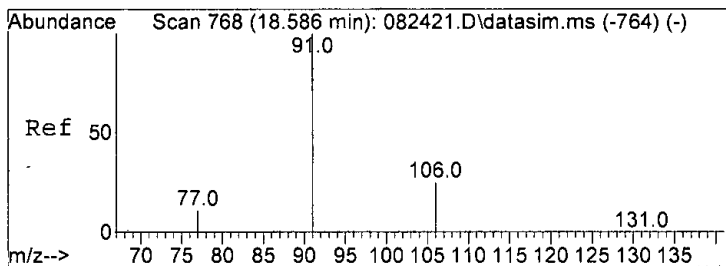
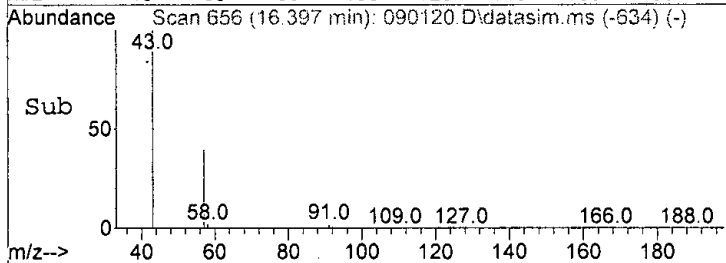
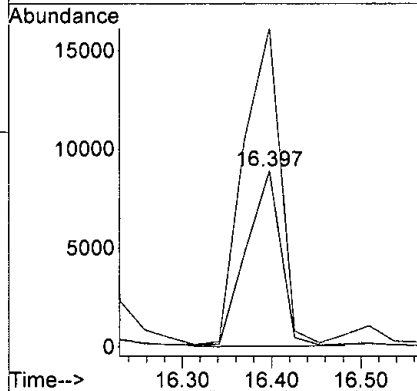
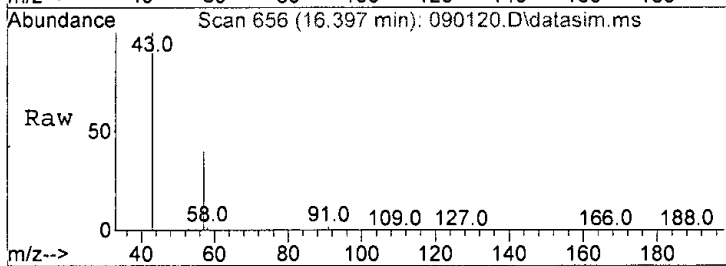
Tgt Ion: 78 Resp: 174226  
 Ion Ratio Lower Upper  
 78 100  
 52 22.0 0.0 49.7





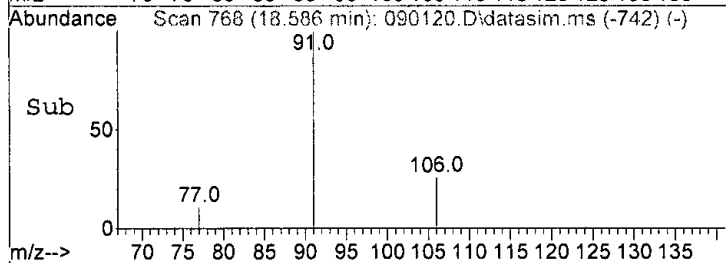
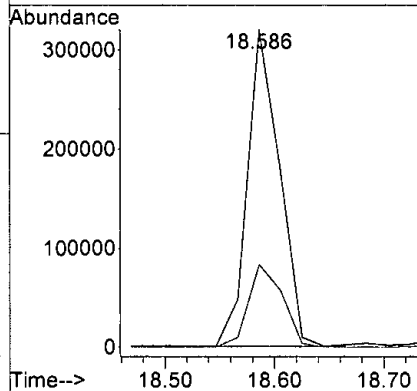
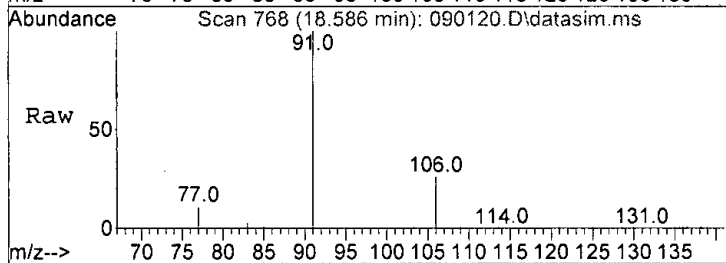
#50  
 Toluene  
 Concen: 0.631 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090120.D  
 Acq: 1 Sep 2021 10:18 pm

Tgt Ion: 92 Resp: 23951  
 Ion Ratio Lower Upper  
 92 100  
 91 181.7 174.6 234.6

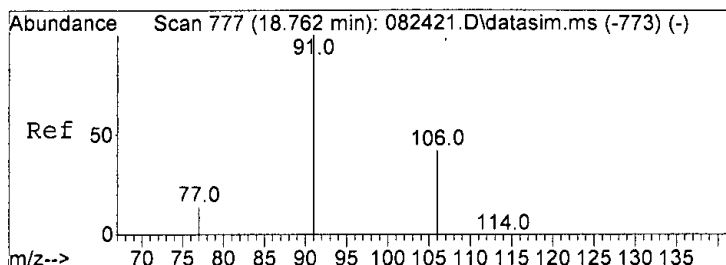


#58  
 Ethylbenzene  
 Concen: 6.429 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090120.D  
 Acq: 1 Sep 2021 10:18 pm

Tgt Ion: 91 Resp: 654908  
 Ion Ratio Lower Upper  
 91 100  
 106 26.1 0.0 57.0

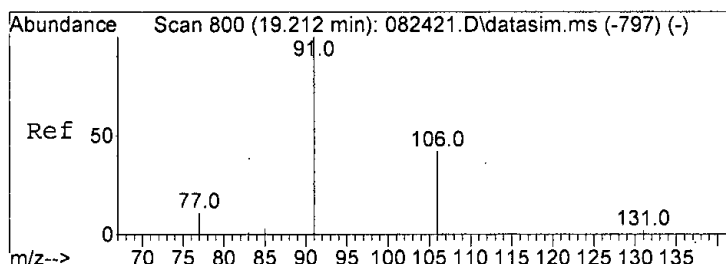
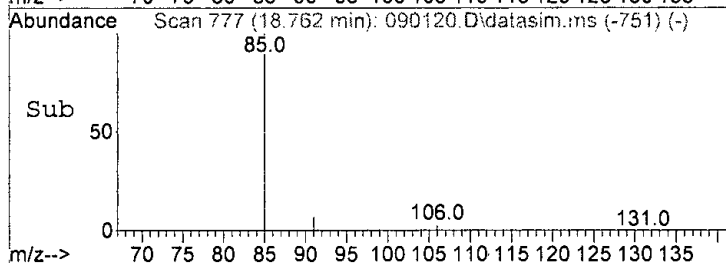
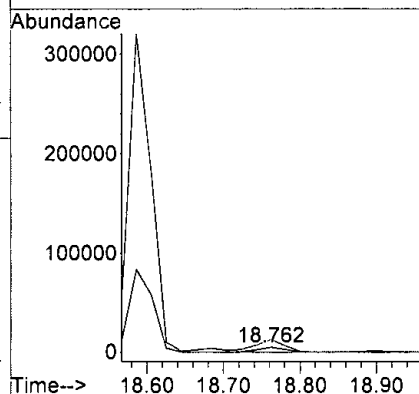
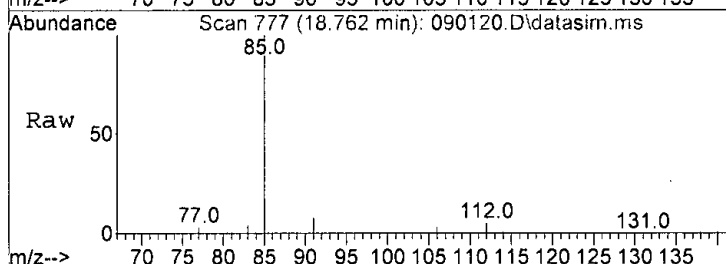






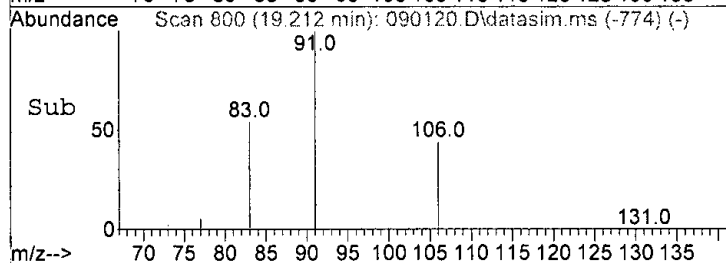
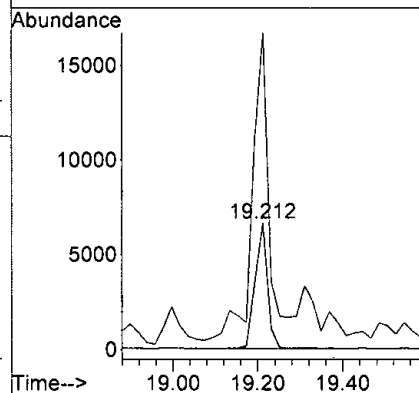
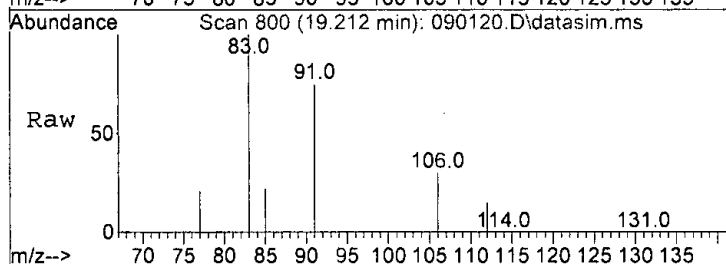
#65  
 m,p-Xylene  
 Concen: 0.378 ppbv  
 RT: 18.76 min Scan# 777  
 Delta R.T. 0.000 min  
 Lab File: 090120.D  
 Acq: 1 Sep 2021 10:18 pm

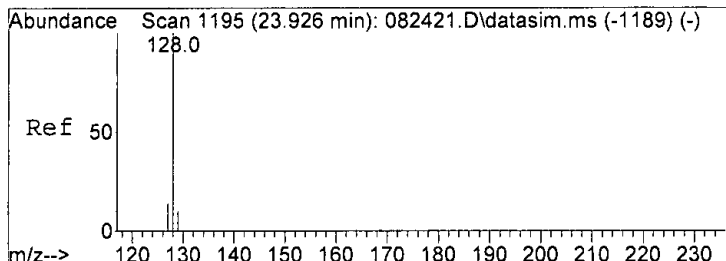
Tgt Ion:106 Resp: 12367  
 Ion Ratio Lower Upper  
 106 100  
 91 250.1 193.0 253.0



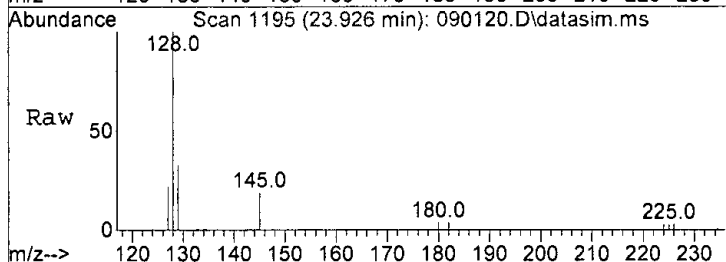
#66  
 o-Xylene  
 Concen: 0.413 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090120.D  
 Acq: 1 Sep 2021 10:18 pm

Tgt Ion:106 Resp: 13281  
 Ion Ratio Lower Upper  
 106 100  
 91 245.6 194.4 254.4

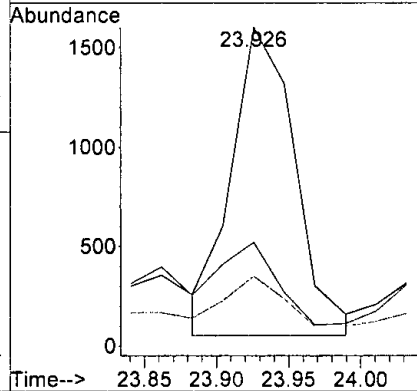
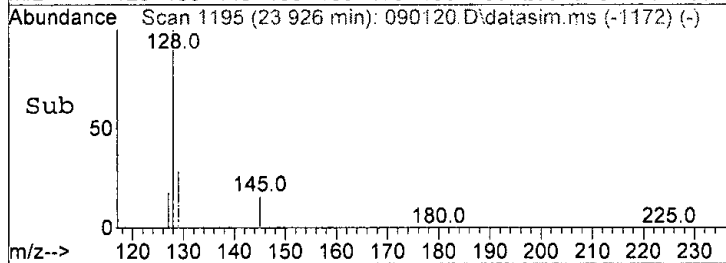




#77  
 Naphthalene  
 Concen: 0.030 ppbv m  
 RT: 23.93 min Scan# 1195  
 Delta R.T. -0.000 min  
 Lab File: 090120.D  
 Acq: 1 Sep 2021 10:18 pm



Tgt Ion	Resp	Lower	Upper
128	4752		
129	32.5	0.0	41.0
127	21.9	0.0	43.2



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:59:36 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
-----							
Internal Standards							
1) Bromochloromethane	9.99	128	101728	10.000	ppbv	#	0.00
39) 1,4-Difluorobenzene	13.23	114	506561	10.000	ppbv		0.00
56) Chlorobenzene-d5	18.21	117	458627	10.000	ppbv		0.00
System Monitoring Compounds							
69) 4-Bromofluorobenzene	19.64	95	442751m	10.656	ppbv		0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=		106.60%
Target Compounds							
						Qvalue	
2) Propene	0.00		0	N.D.	d		
3) Dichlorodifluoromethane	0.00		0	N.D.			
4) Chloromethane	0.00		0	N.D.	d		
5) F-114	0.00		0	N.D.			
6] Vinyl chloride	4.05	62	2463	0.110	ppbv		96
7) 1,3-Butadiene	0.00		0	N.D.	d		
8) Butane	0.00		0	N.D.	d		
9) Bromomethane	0.00		0	N.D.			
10] Chloroethane	4.84	64	217	0.028	ppbv		99
11) Vinyl bromide	0.00		0	N.D.	d		
12) Ethanol	0.00		0	N.D.	d		
13) Acrolein	0.00		0	N.D.			
14) Pentane	0.00		0	N.D.	d		
15) Trichlorofluoromethane	0.00		0	N.D.			
16) Acetone	0.00		0	N.D.	d		
17) 2-Propanol	0.00		0	N.D.	d		
18) 1,1-Dichloroethene	0.00		0	N.D.			
19] trans-1,2-Dichloroethene	8.18	96	648	0.039	ppbv		98
20) Methylene chloride	6.86	84	27650	1.553	ppbv		86
21) t-Butyl alcohol (TBA)	0.00		0	N.D.			
22) 3-Chloropropene	0.00		0	N.D.	d		
23) CFC-113	0.00		0	N.D.			
24) Carbon disulfide	0.00		0	N.D.	d		
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d		
26) Vinyl acetate	0.00		0	N.D.	d		
27) 1,1-Dichloroethane	8.44	63	301	N.D.			
28] cis-1,2-Dichloroethene	9.73	96	260	0.014	ppbv	#	77
29) Hexane	0.00		0	N.D.	d		
30) Chloroform	0.00		0	N.D.	d		
31) Ethyl acetate	0.00		0	N.D.	d		
32) Tetrahydrofuran	0.00		0	N.D.	d		
33) 2-Butanone (MEK)	0.00		0	N.D.	d		
34) 1,2-Dichloroethane (EDC)	0.00		0	N.D.	d		
35) 1,1,1-Trichloroethane	11.68	97	110	N.D.			
36) Carbon tetrachloride	0.00		0	N.D.	d		
37] Benzene	12.70	78	174226	2.797	ppbv		95
38) Cyclohexane	0.00		0	N.D.	d		
40) 1,2-Dichloropropane	0.00		0	N.D.	d		
41) 1,4-Dioxane	0.00		0	N.D.			
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d		

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

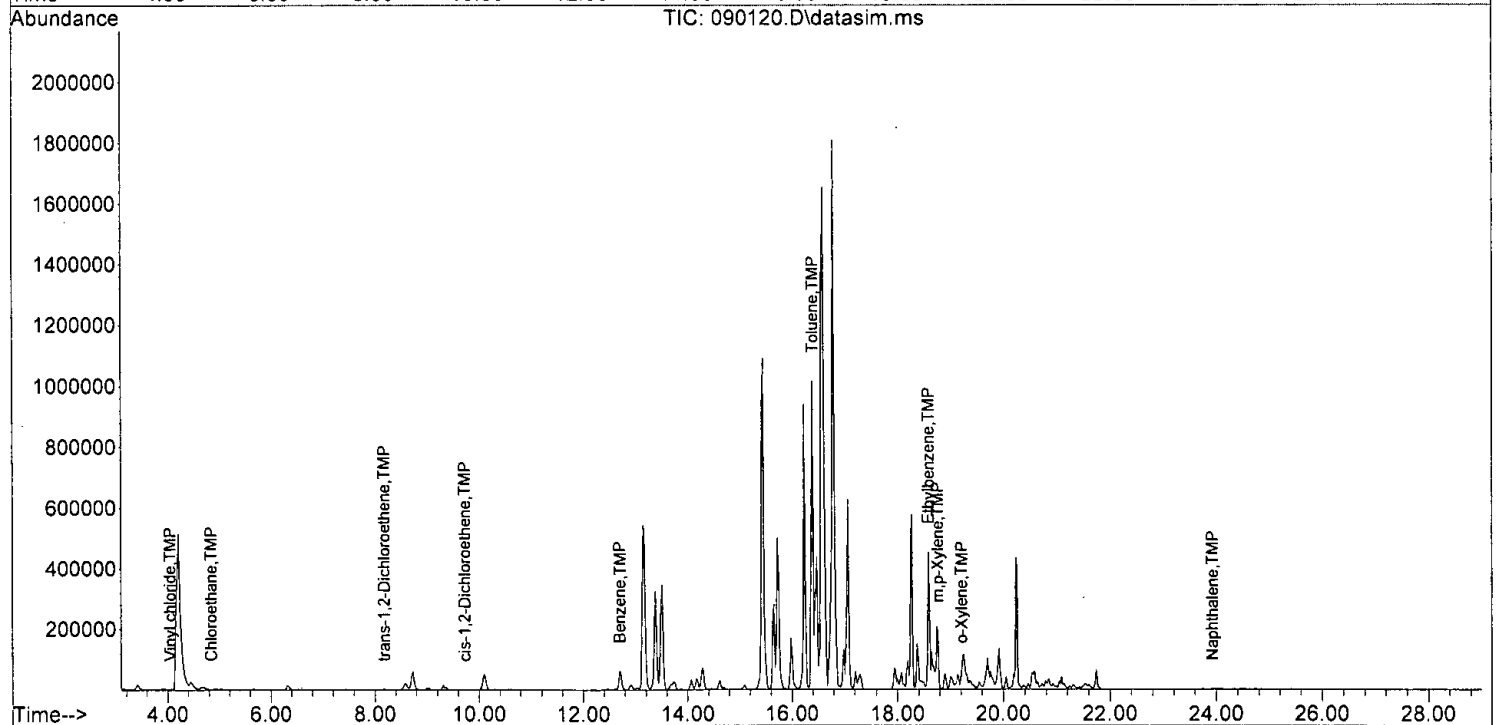
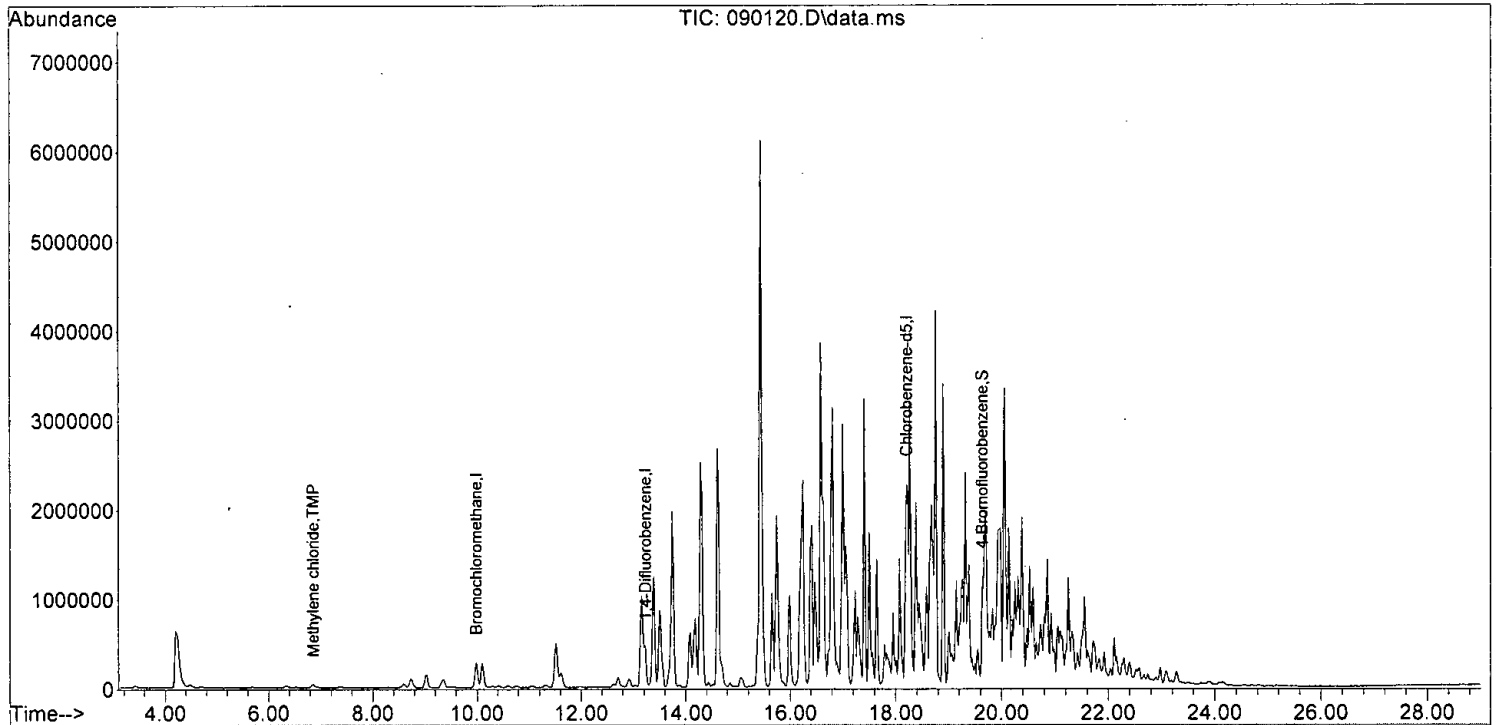
Quant Time: Sep 02 13:59:36 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46) Trichloroethene	0.00		0	N.D.	d	
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	23951	0.631	ppbv	85
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53) Tetrachloroethene	17.58	164	119	N.D.		
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	654908	6.429	ppbv	98
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.76	106	12367	0.378	ppbv	83
66] o-Xylene	19.21	106	13281	0.413	ppbv	87
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.		
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77] Naphthalene	23.93	128	4752m	0.030	ppbv	
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

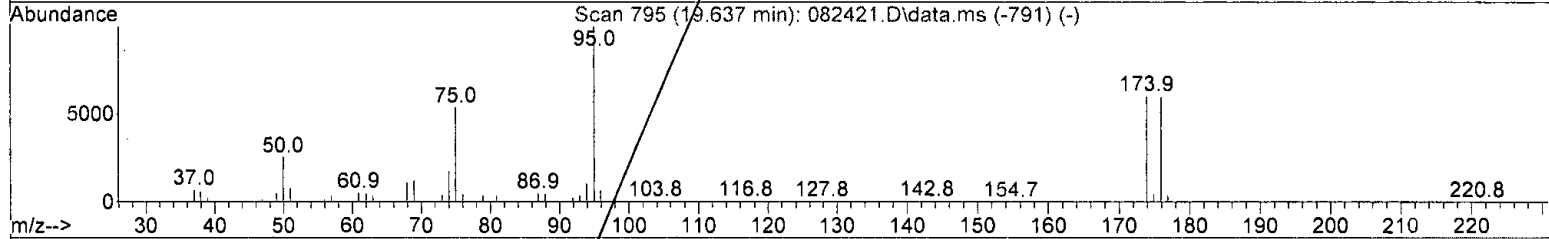
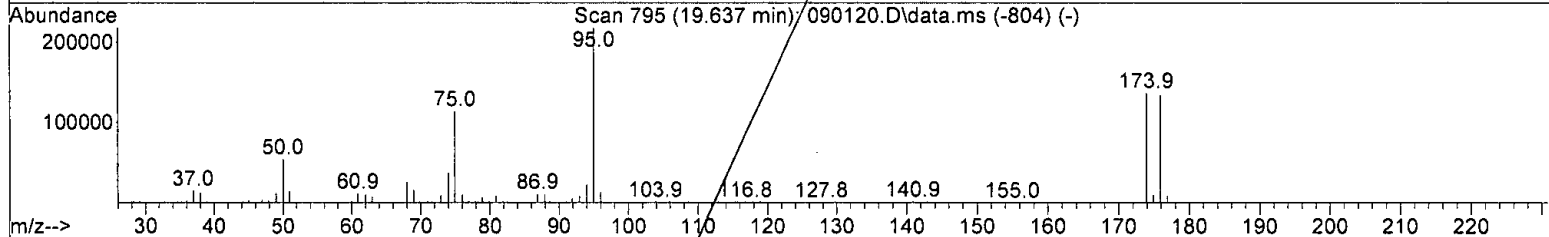
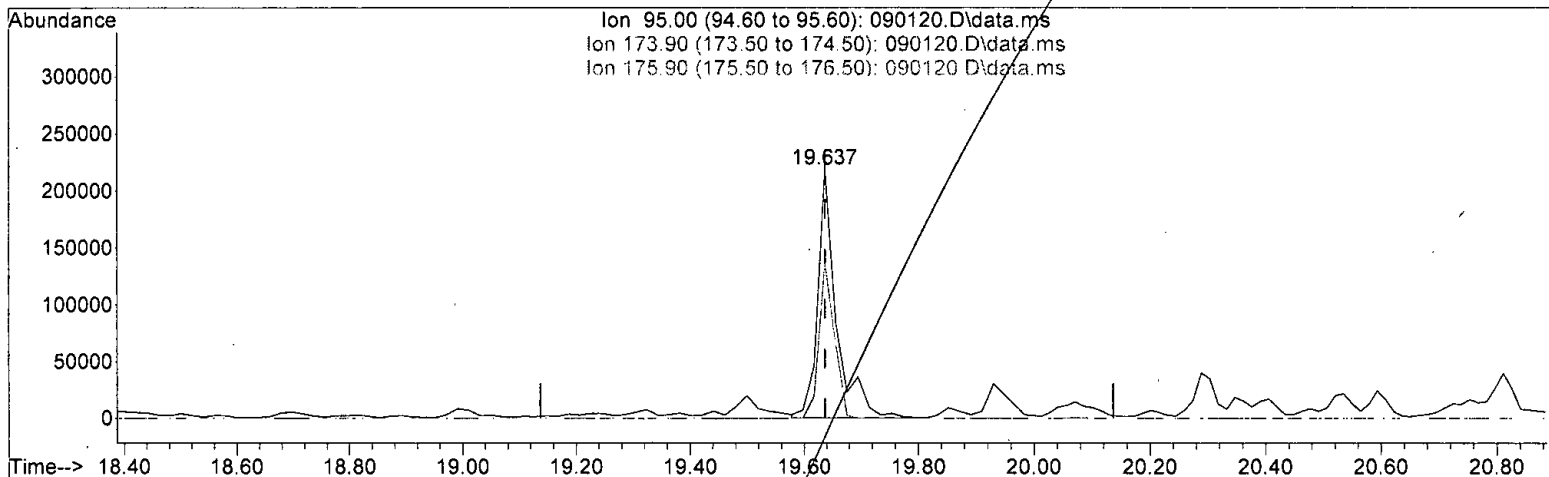
Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:59:36 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:38:22 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(69) 4-Bromofluorobenzene (S)

19.637min (-0.000) 12.159 ppbv

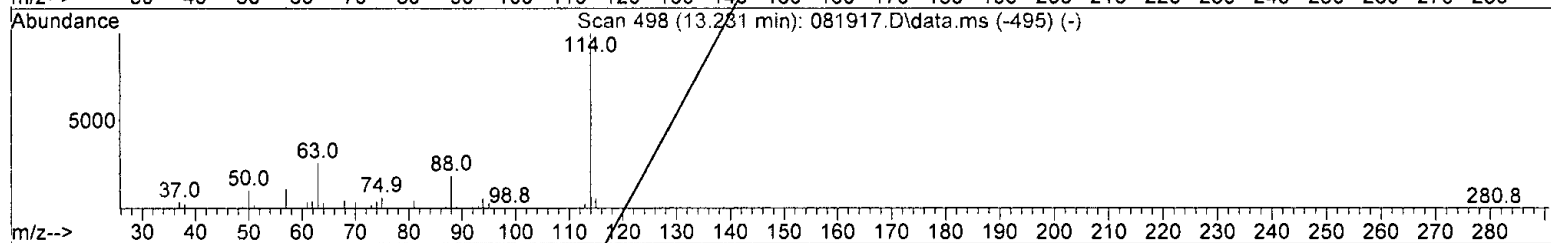
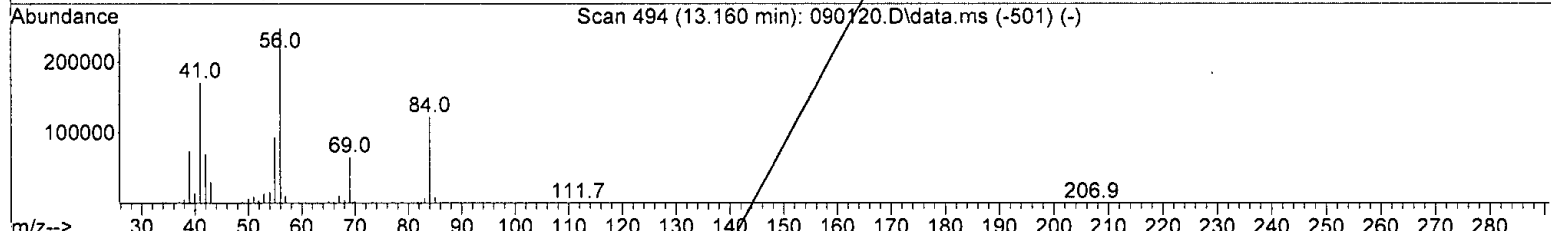
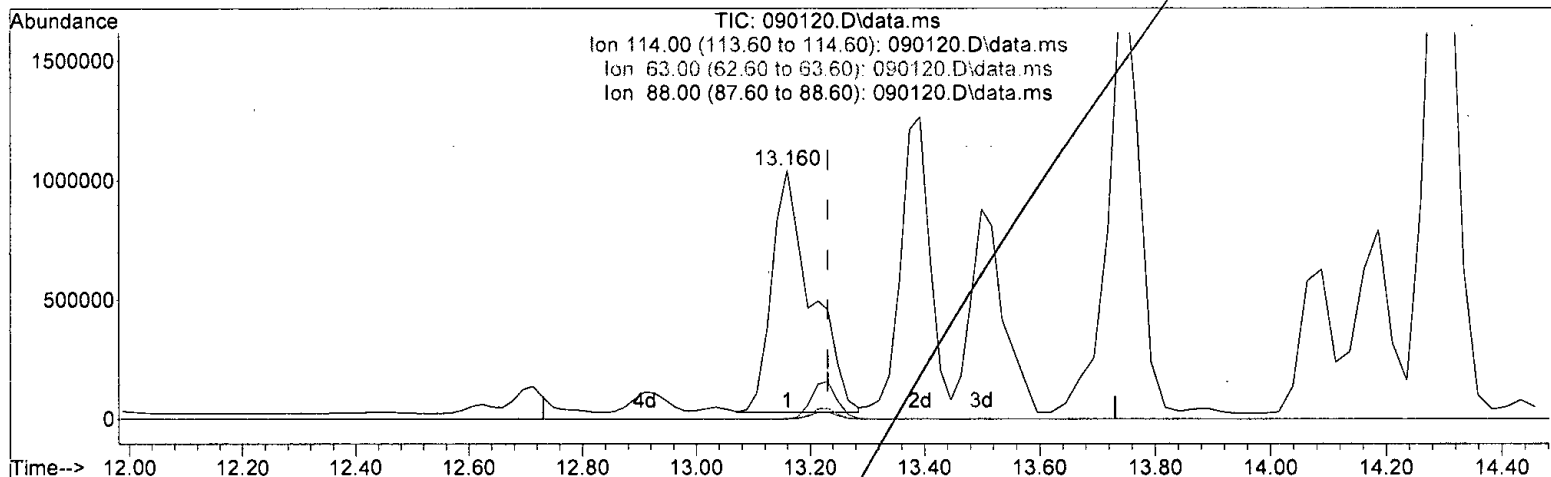
response 505207

Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	62.80
175.90	70.90	61.37
0.00	0.00	0.00

*Handwritten signature: B. Orlov*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.160min (-0.071) 193.764 ug/m3

response 4939820

Signal Exp% Act%

TIC 100.00 100.00

114.00 43.50 0.08#

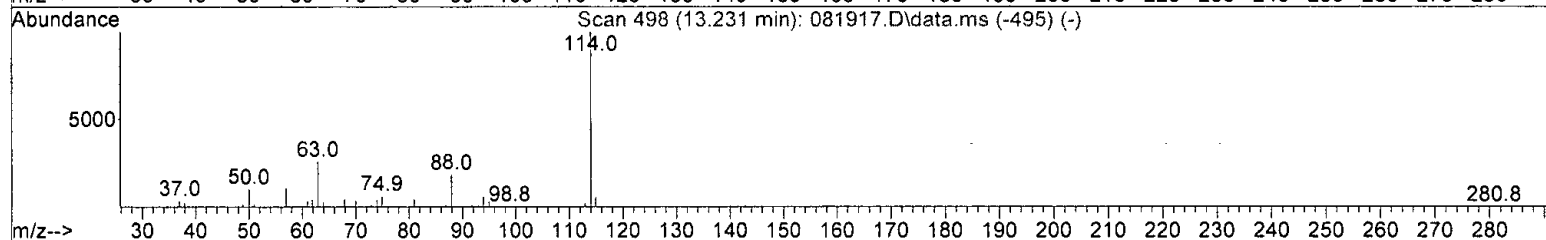
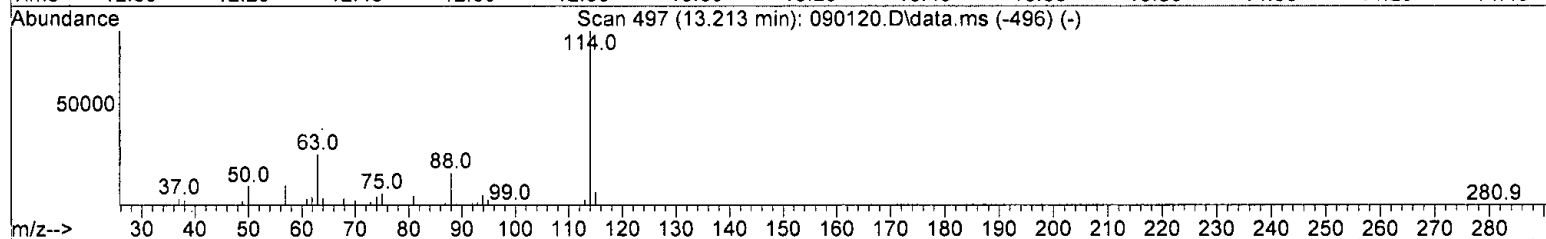
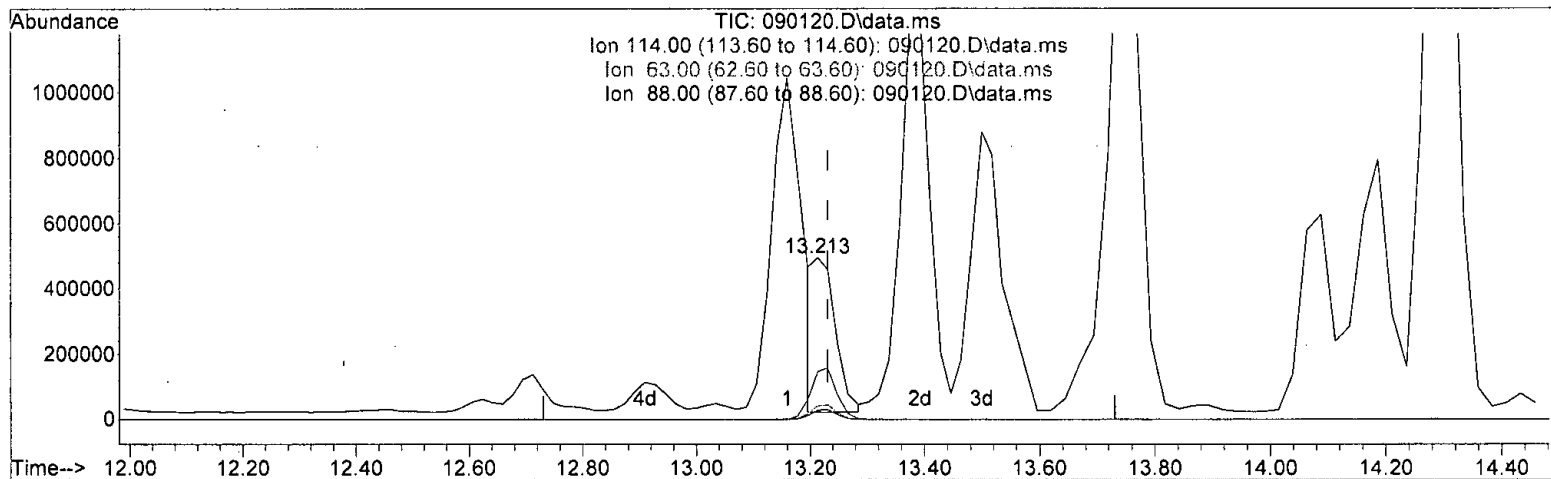
63.00 8.40 0.19

88.00 7.60 0.02

*h  
or/ok*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.213min (-0.018) 50.334 ug/m3 m

response 1283207

Signal Exp% Act%

TIC 100.00 100.00

114.00 43.50 0.32#

63.00 8.40 0.73

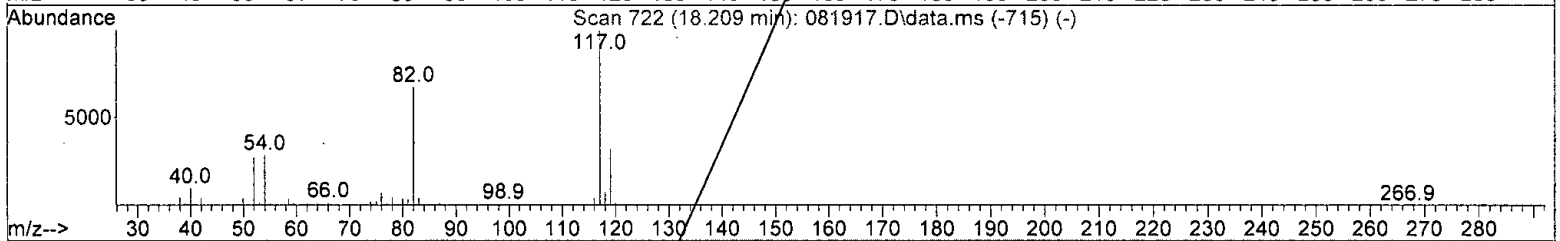
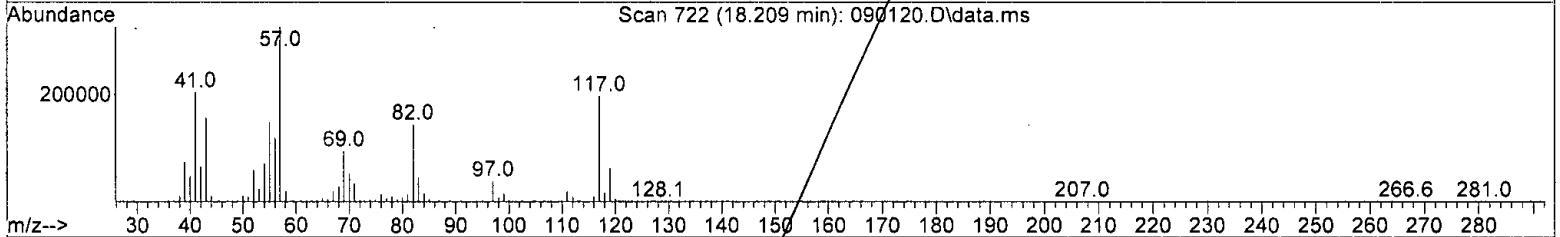
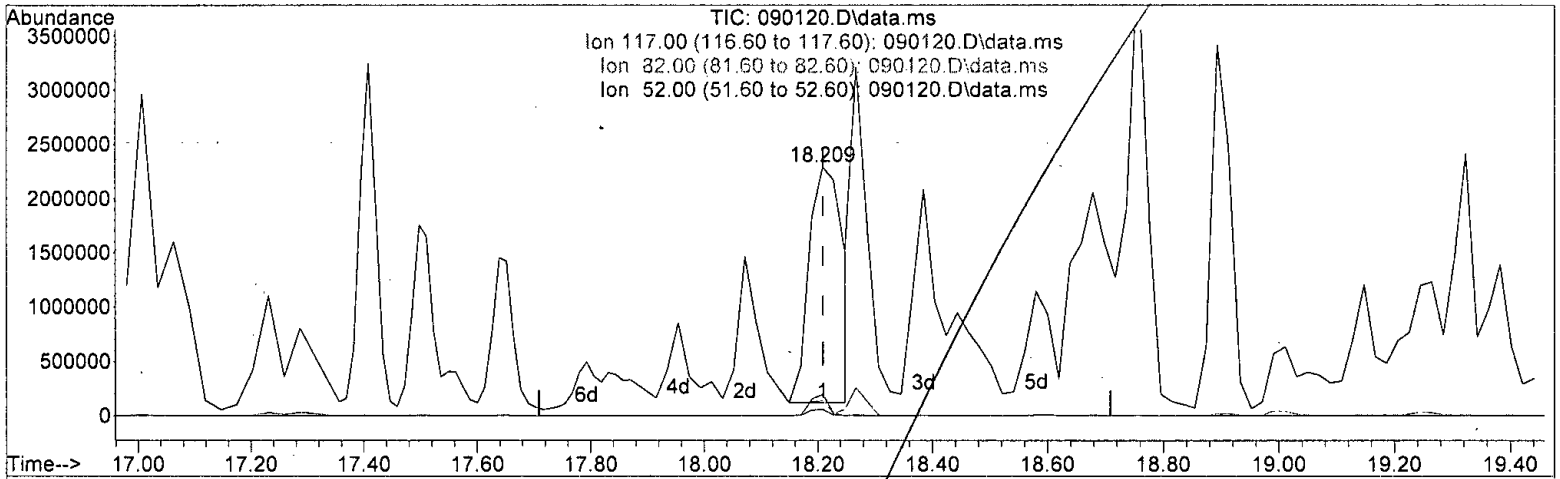
88.00 7.60 0.07

*n*  
*at*



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 291.055 ug/m3

response 9000123

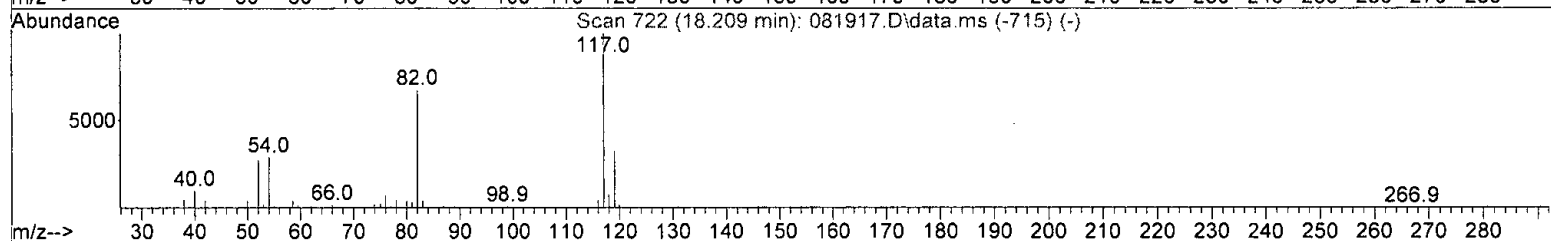
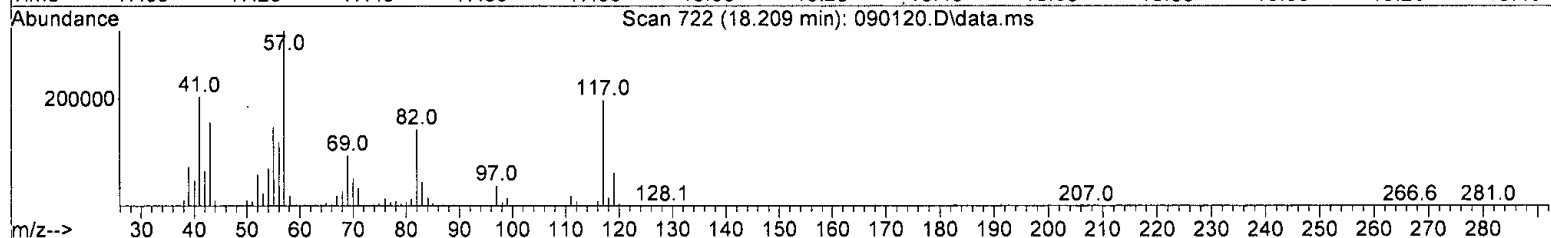
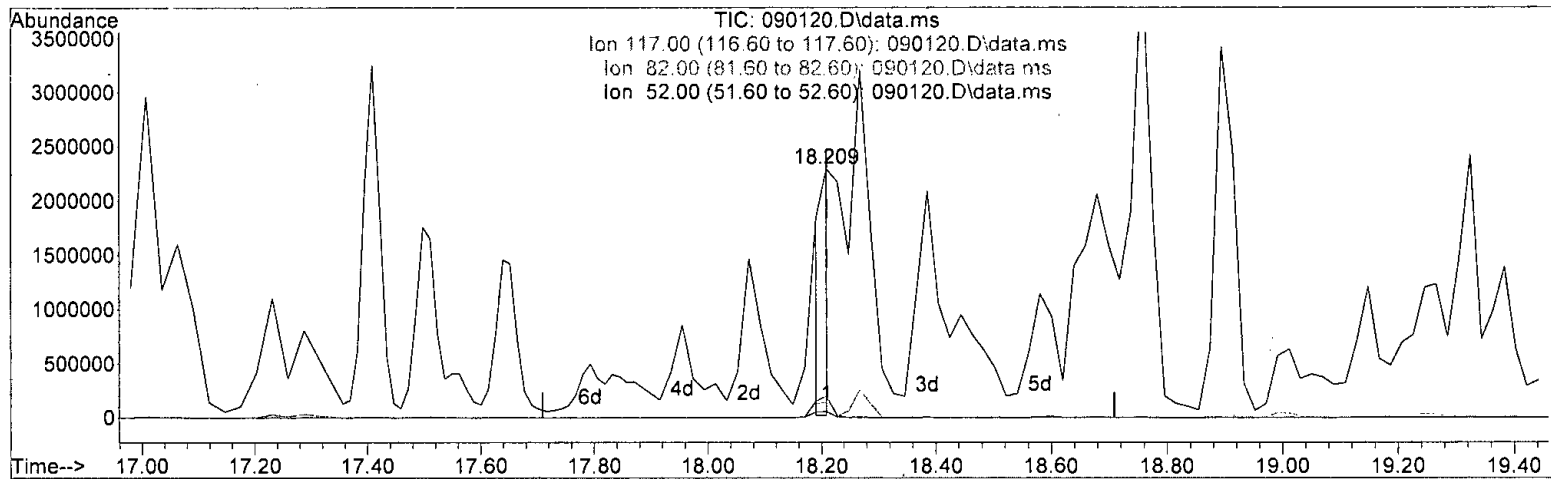
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	5.10#
82.00	18.10	4.05
52.00	6.90	1.83

*N. Orlandy*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 86.176 ug/m3 m

response 2664782

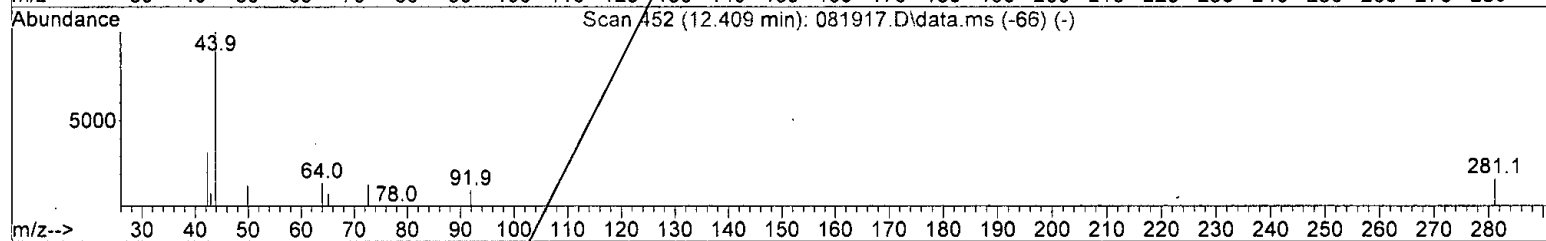
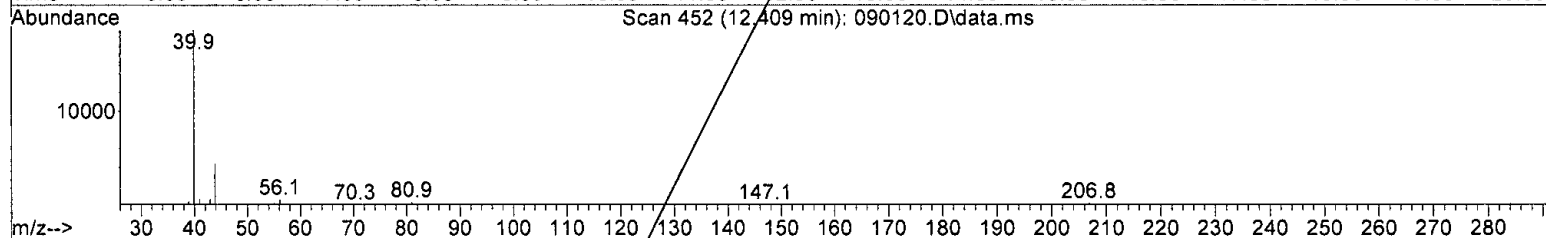
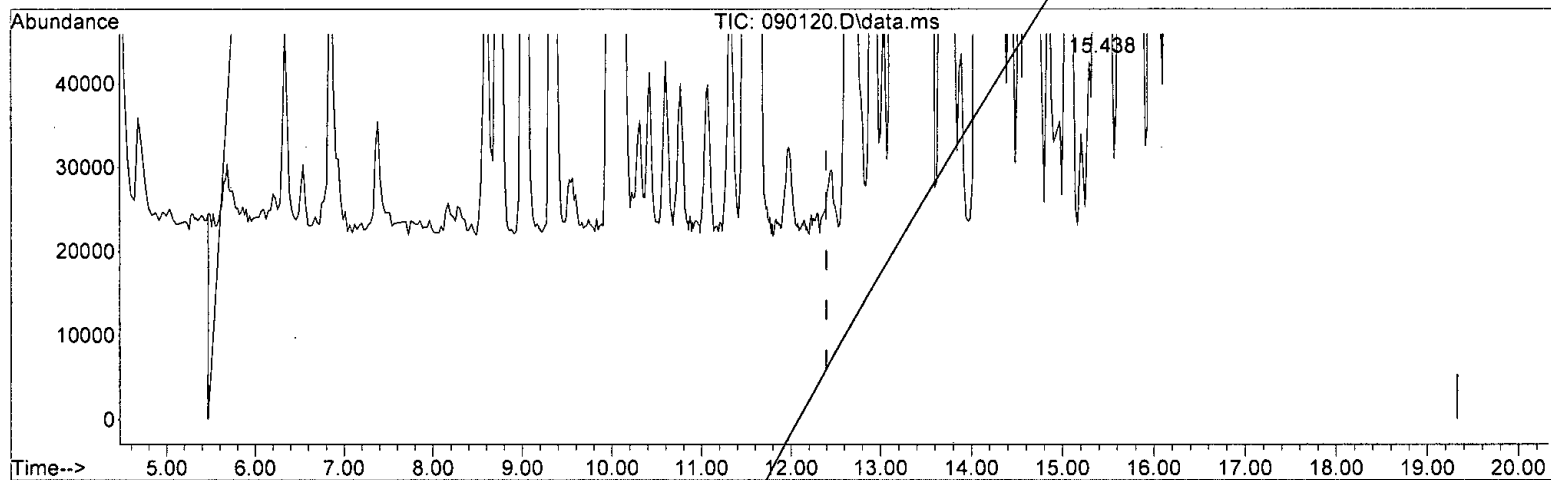
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	17.21
82.00	18.10	13.66
52.00	6.90	6.19

*W. Orsky*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 5031.004 ug/m3 m

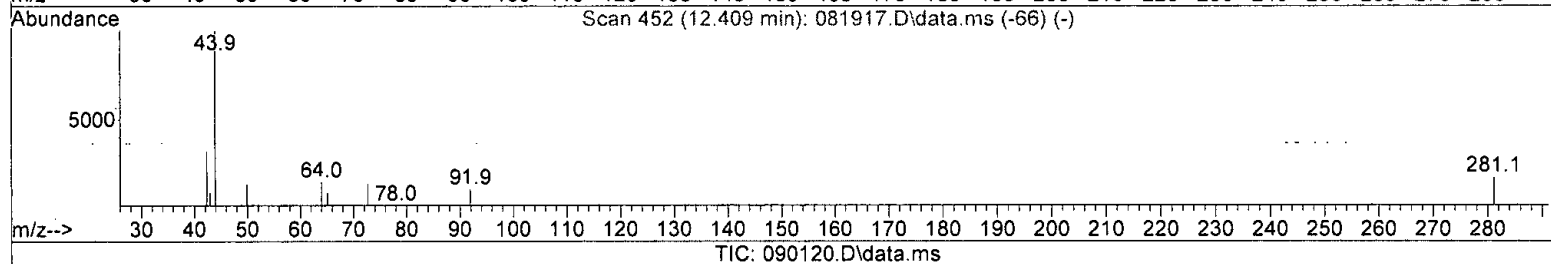
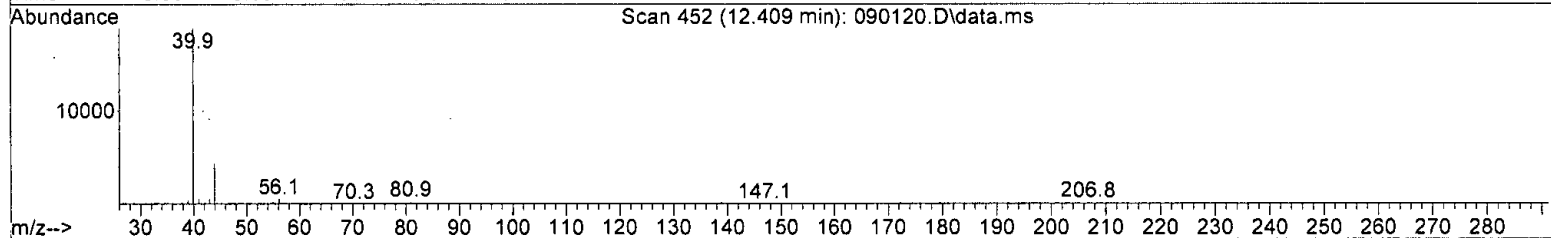
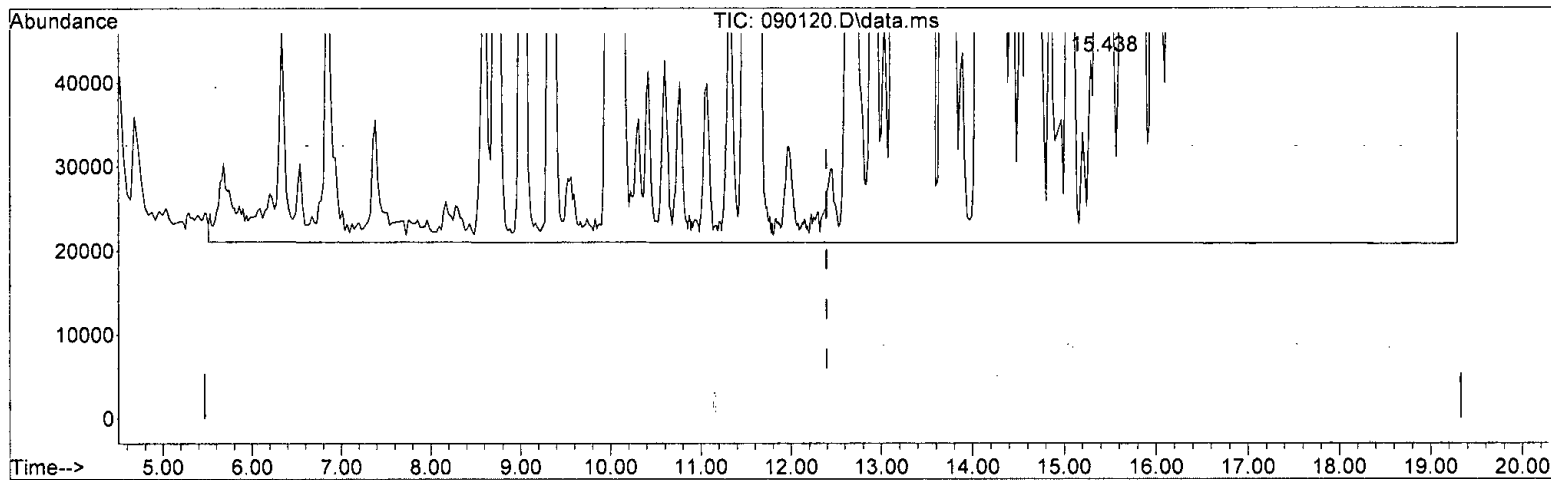
response 202211266

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 5626.621 ug/m3 m

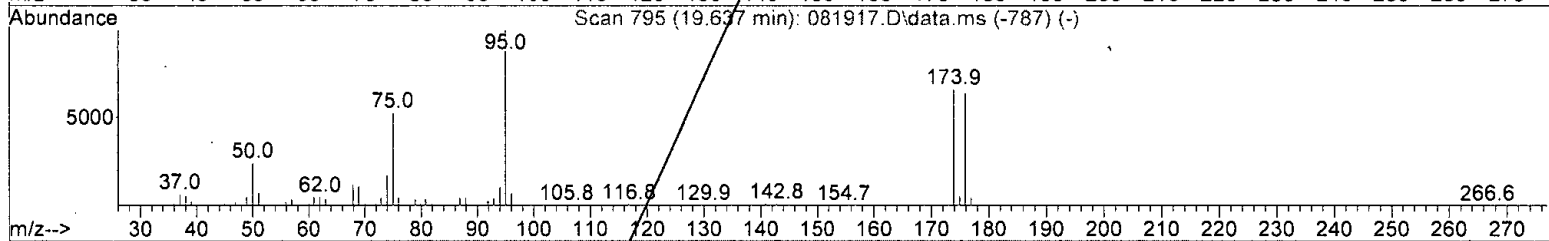
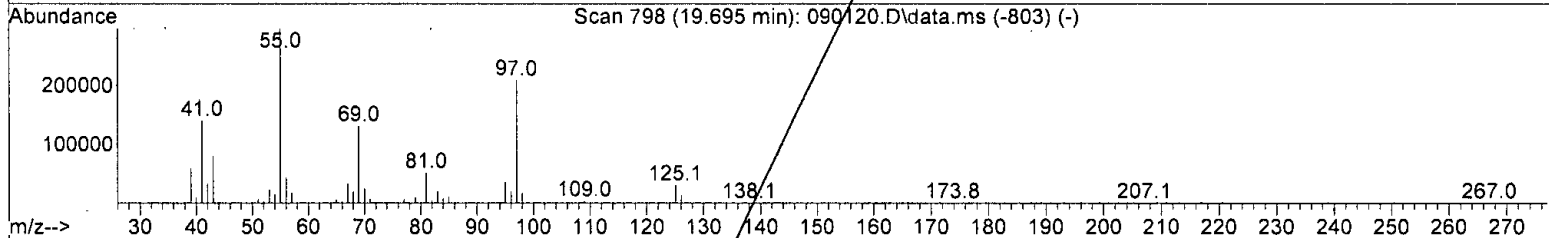
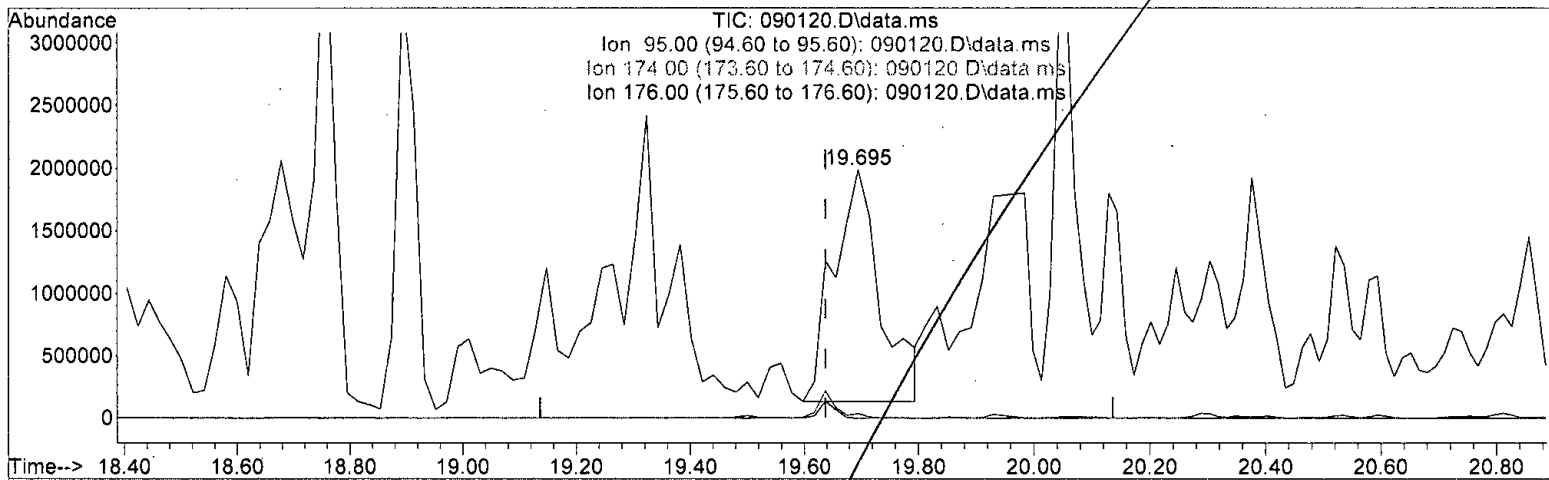
response 226150915

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.695min (+ 0.059) 273.665 ug/m3

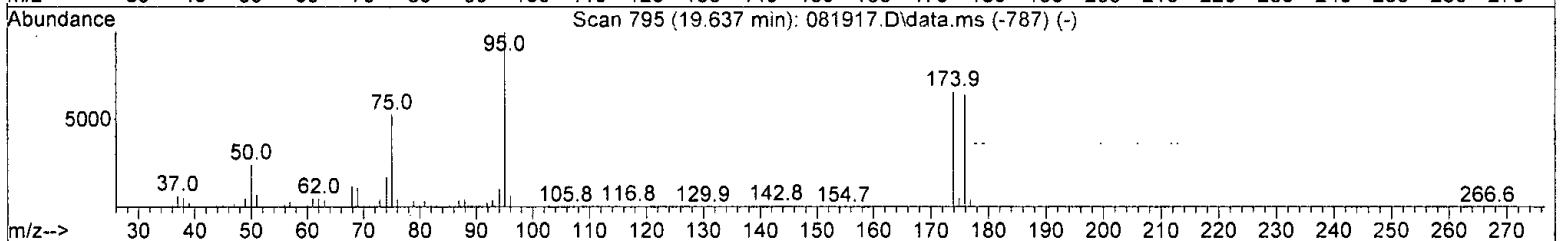
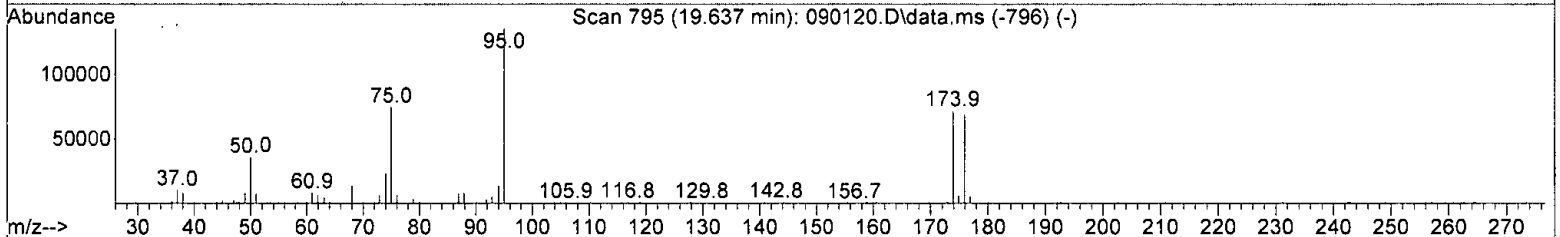
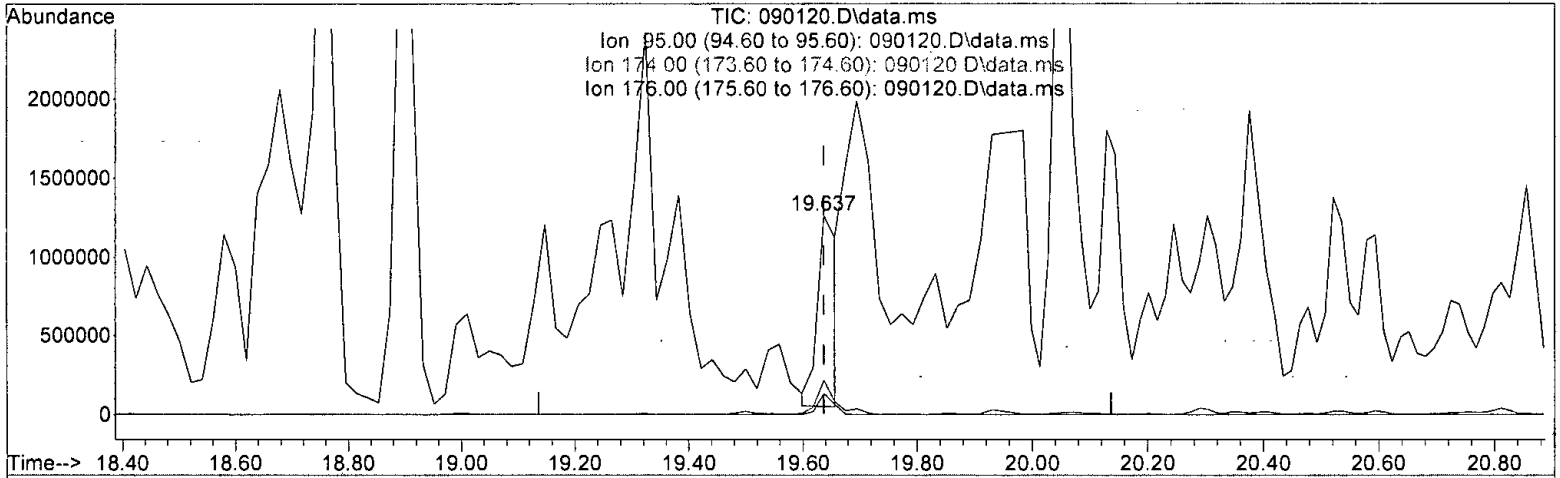
response 10595584

Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	1.93
174.00	19.20	0.01
176.00	18.70	0.01

*Bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

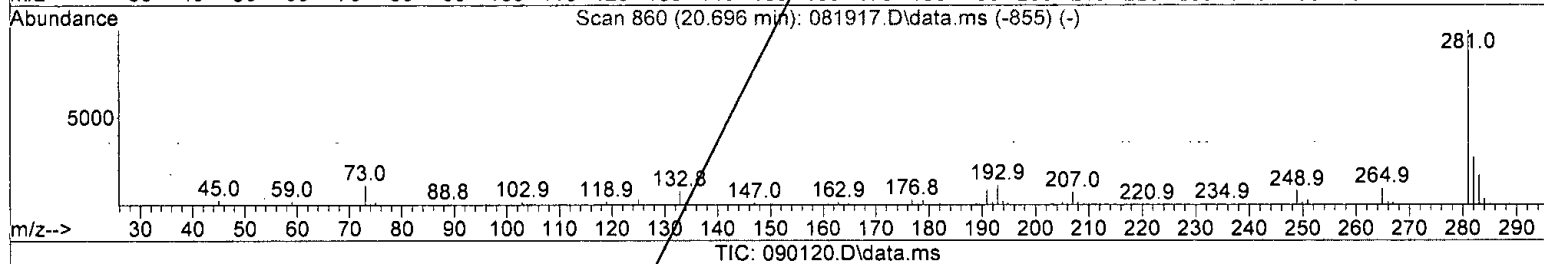
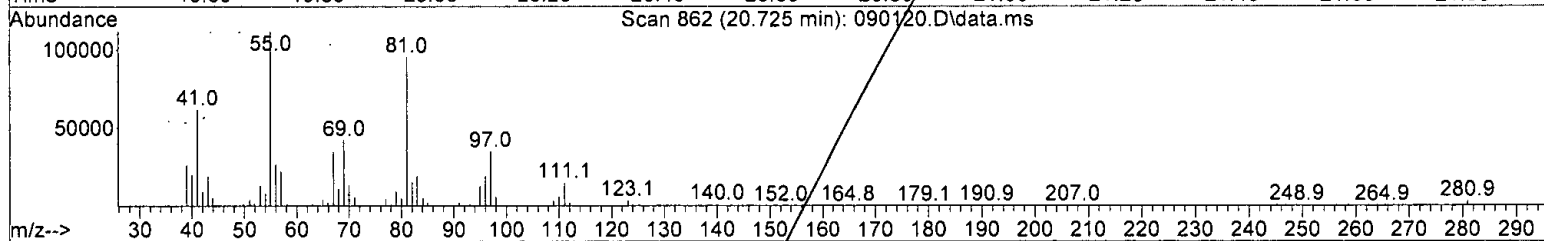
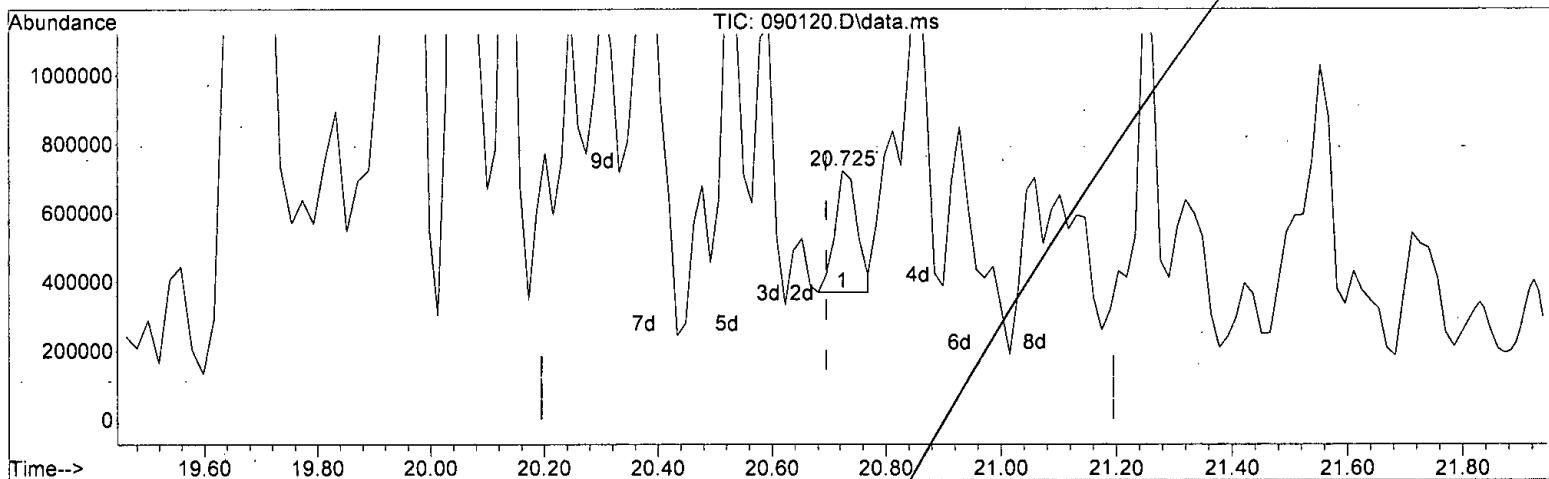
19.637min (-0.000) 76.500 ug/m3 m

response	2961893
Signal	Exp% Act%
TIC	100.00 100.00
95.00	20.00 6.90
174.00	19.20 0.04
176.00	18.70 0.04

*Bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.725min (+ 0.029) 80.285 ppbv

response 955554

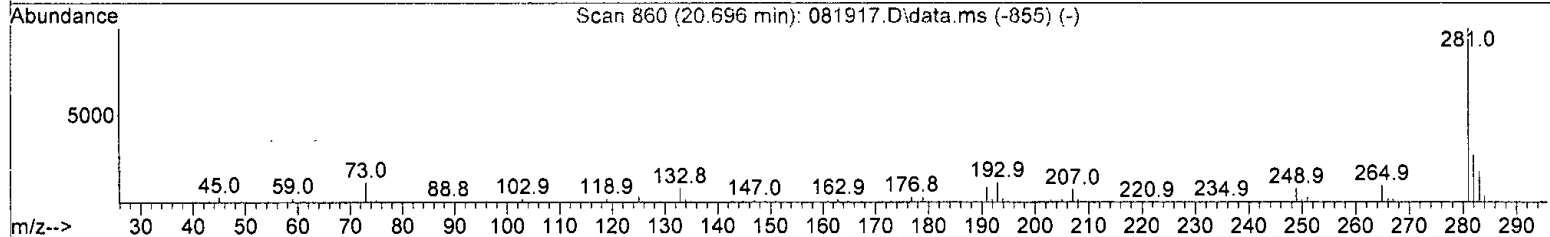
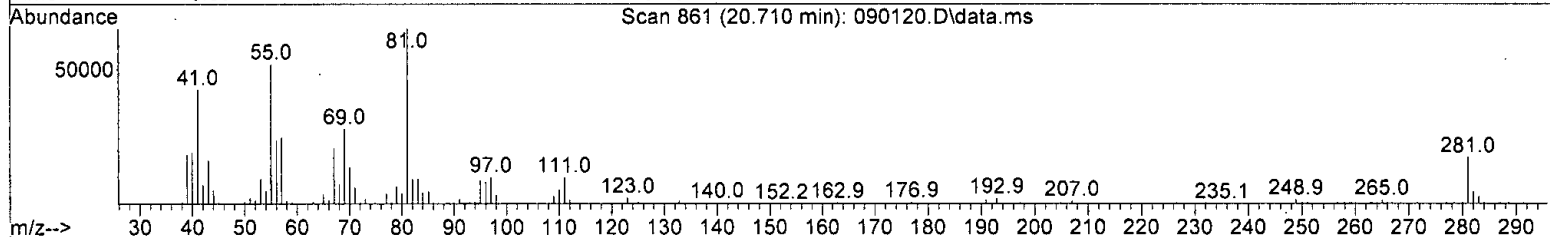
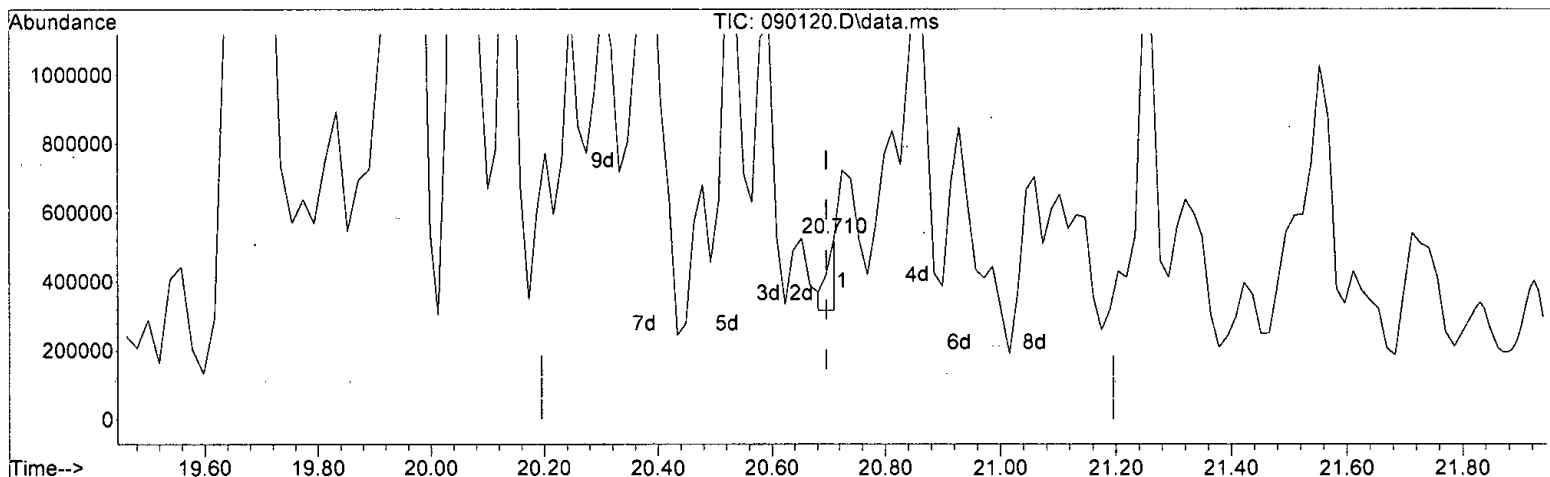
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: V. Orbach*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.710min (+ 0.014)	22.906 ppbv m
response	272630
Signal	Exp% Act%
TIC	100.00 100.00
0.00	0.00 0.00
0.00	0.00 0.00
0.00	0.00 0.00

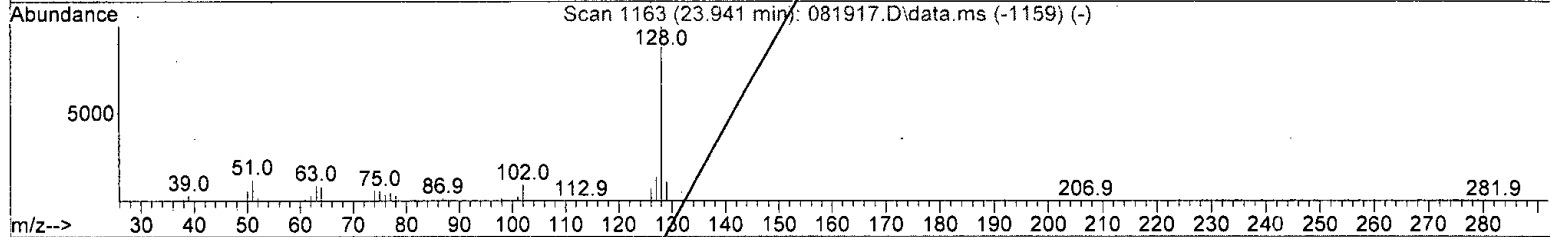
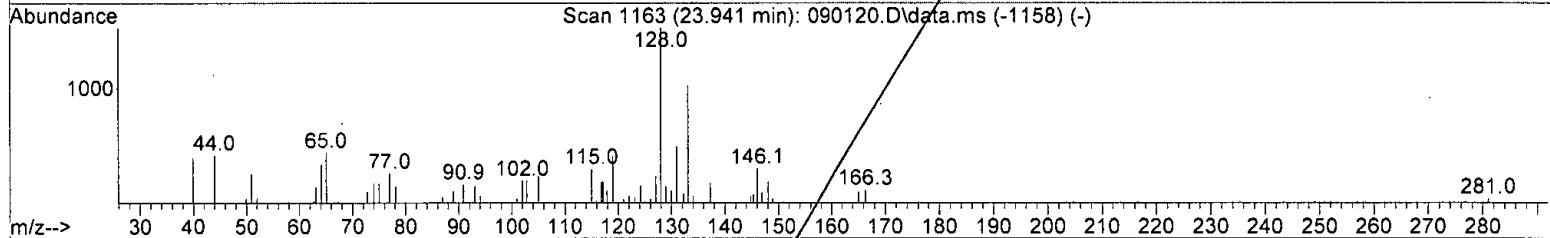
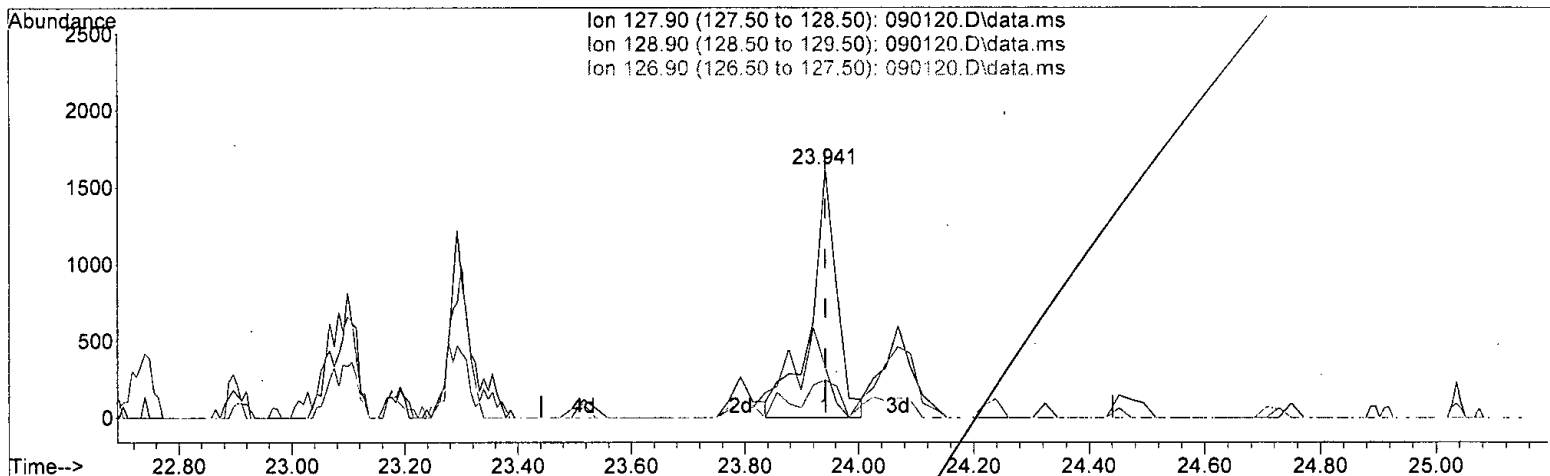
*Bat*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(28) Naphthalene (T)

23.941min (-0.000) 0.319 ug/m3

response 5262

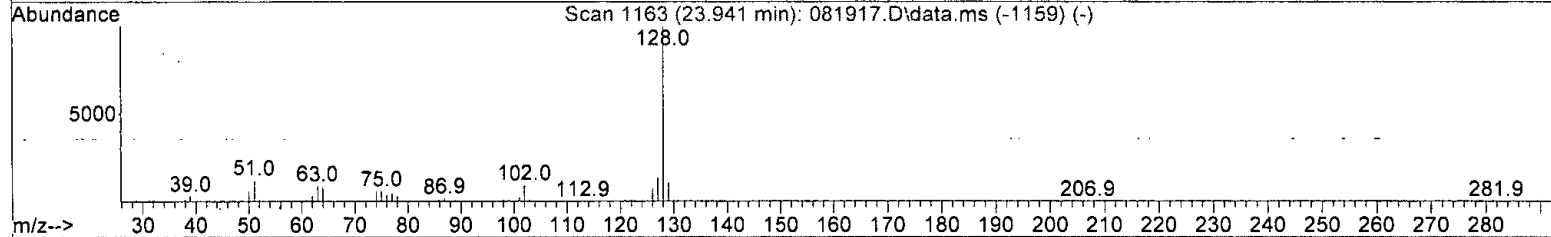
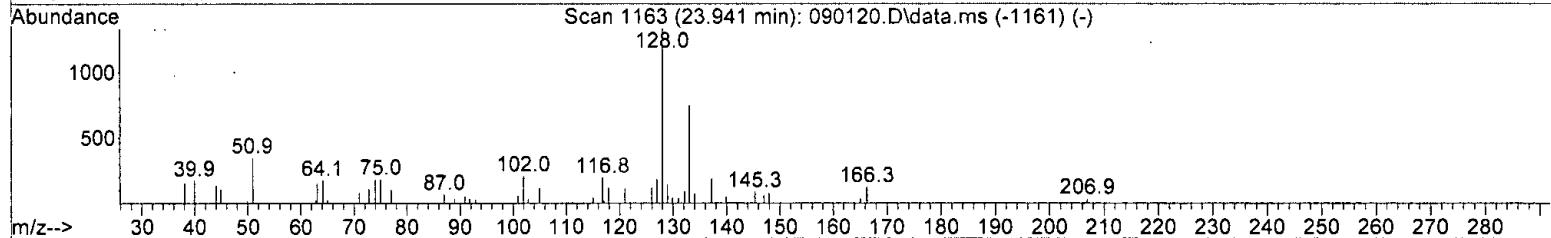
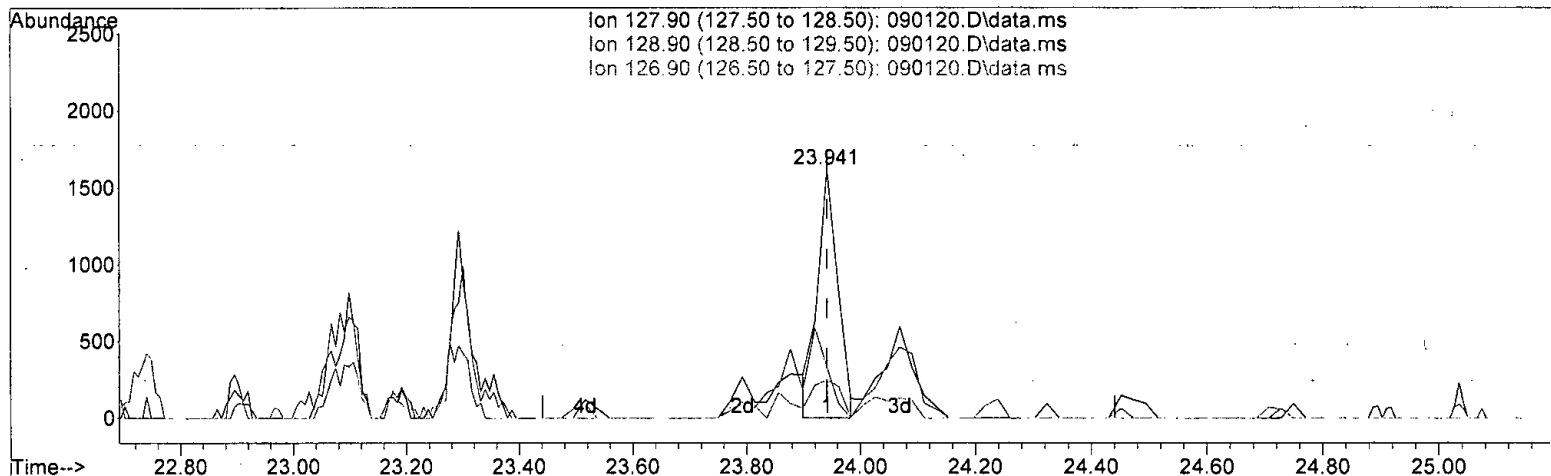
Ion	Exp%	Act%
127.90	100.00	100.00
128.90	11.10	13.73
126.90	13.70	16.44
0.00	0.00	0.00

*Naphthalene*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(28) Naphthalene (T)

23.941min (-0.000) 0.248 ug/m3 m

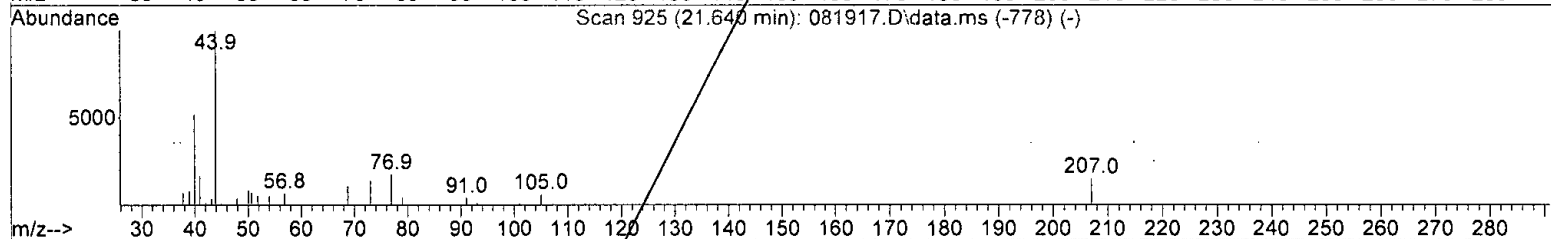
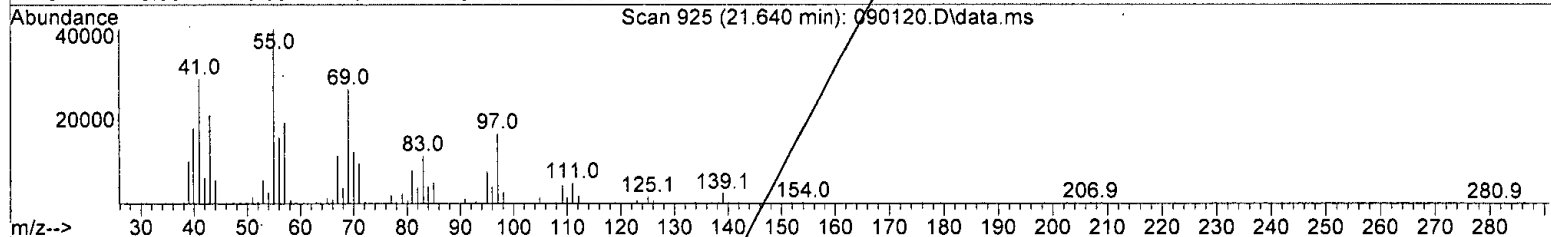
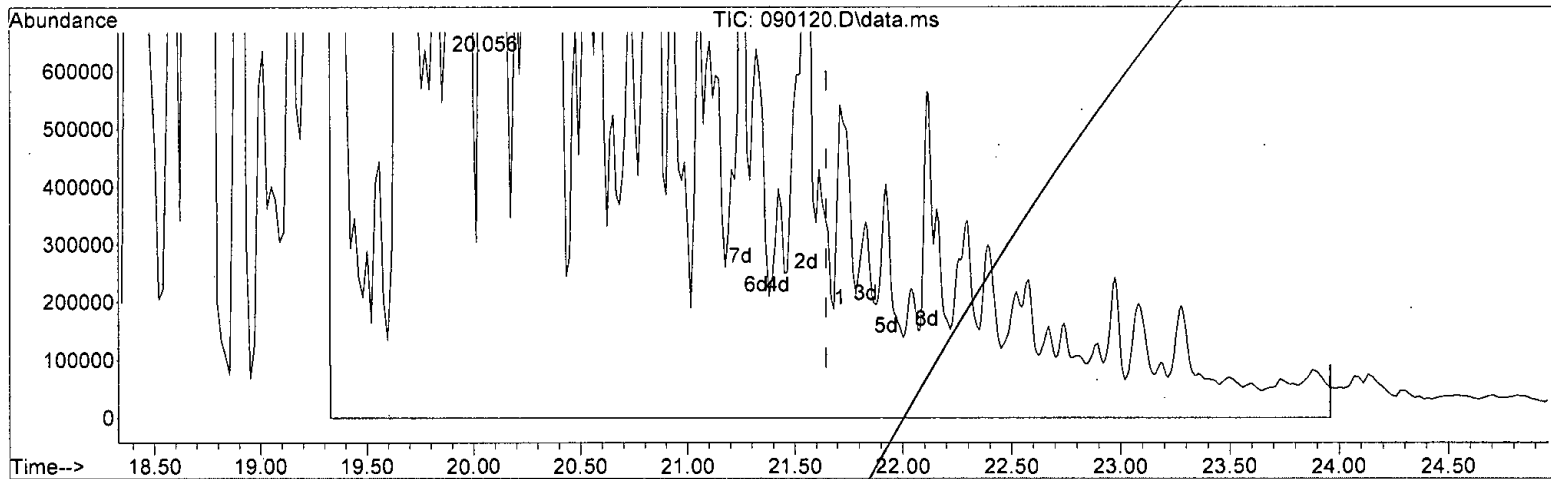
response 4087

Ion	Exp%	Act%
127.90	100.00	100.00
128.90	11.10	20.33
126.90	13.70	15.39
0.00	0.00	0.00

*Bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 1396.528 ug/m3 m

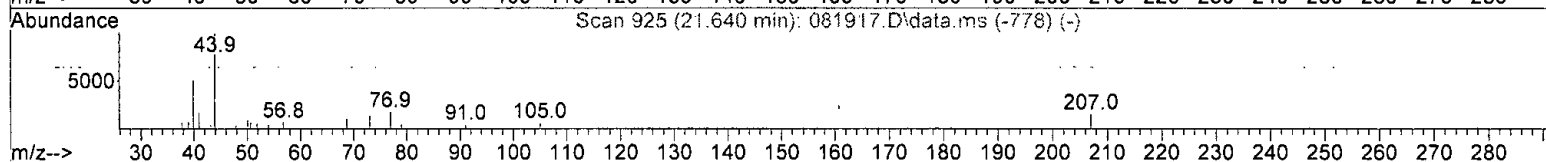
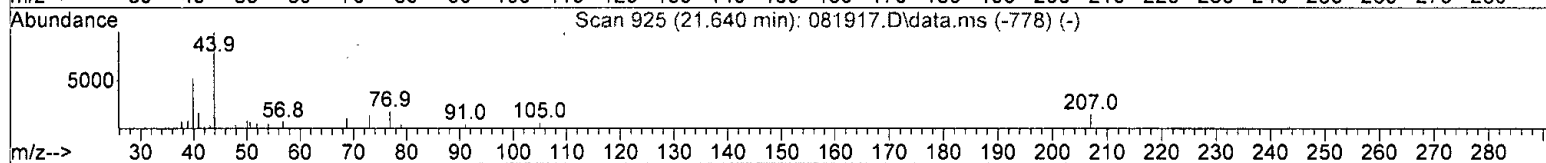
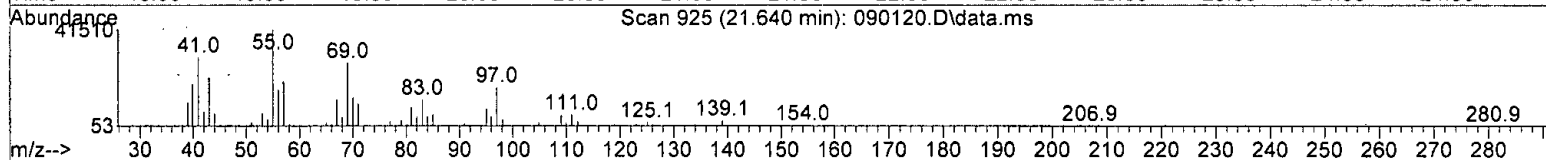
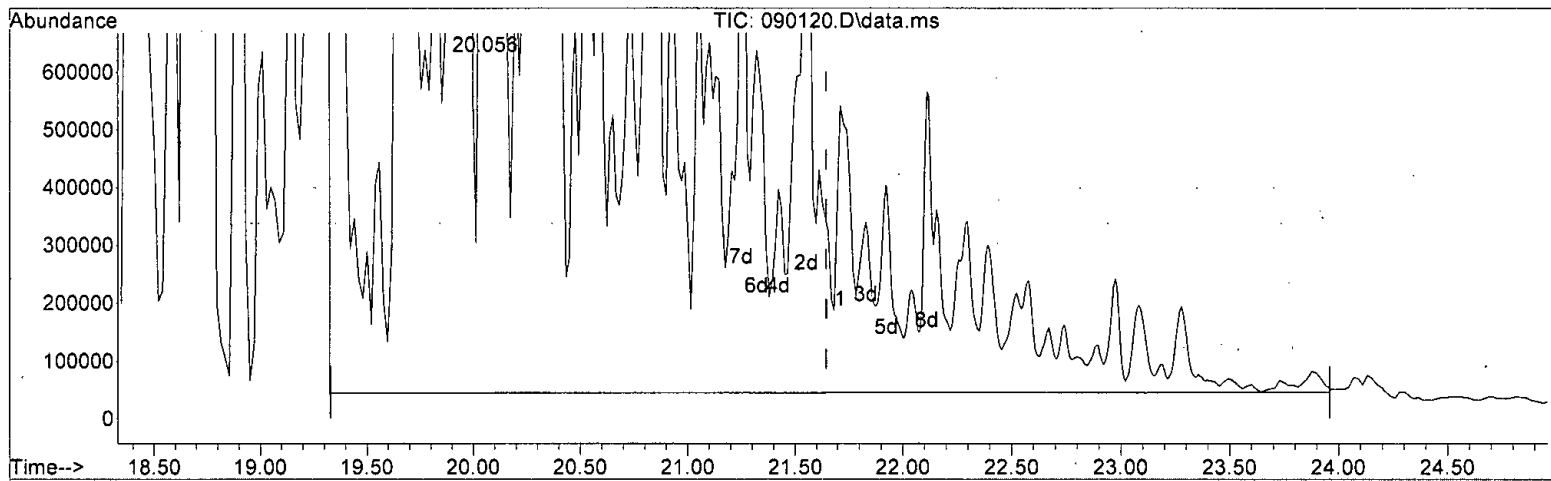
response 65530320

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: K. Ostal*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



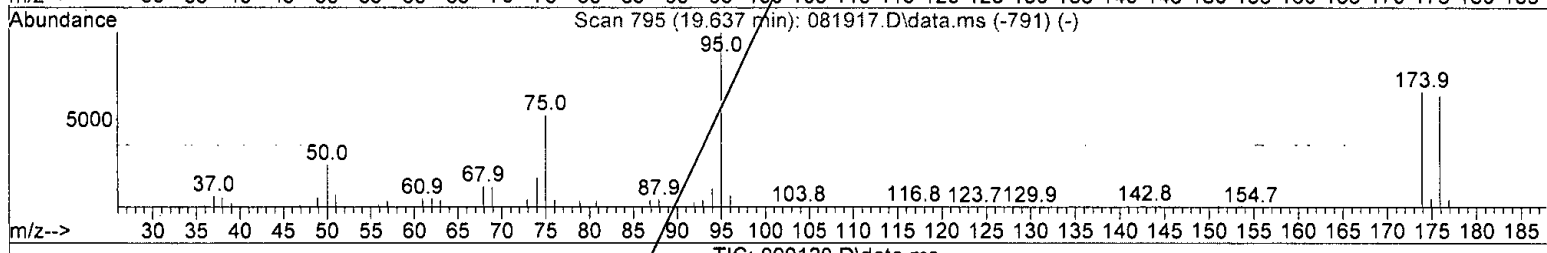
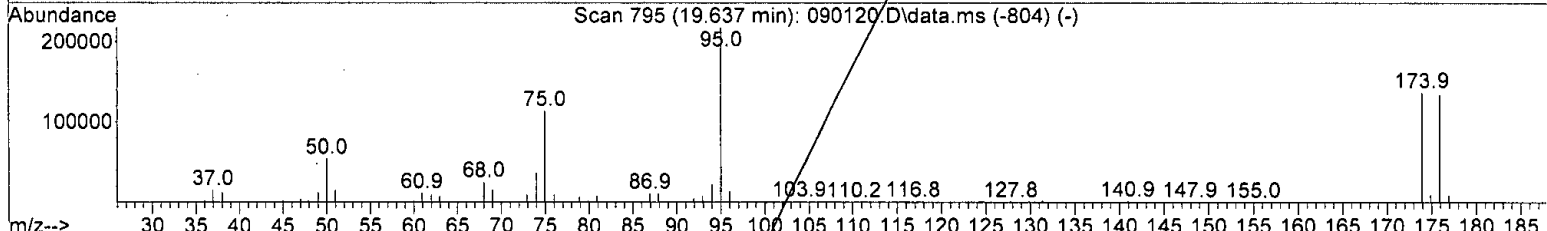
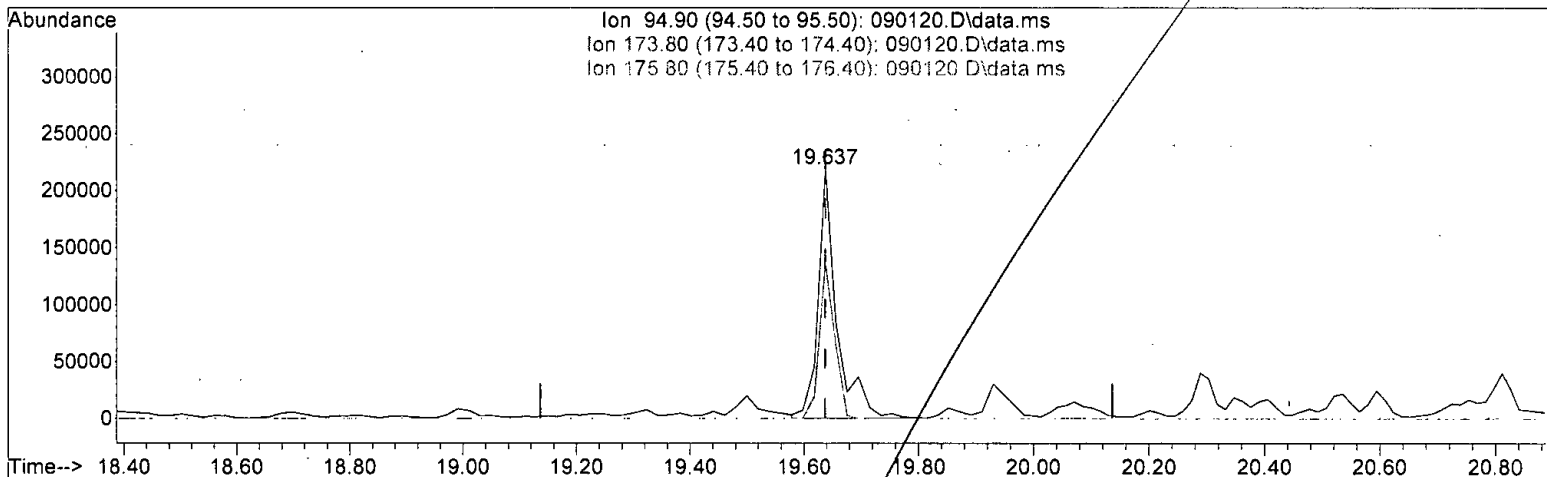
*bat*

(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 2002.843 ug/m3 m  
 response 93980930

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090120.D\data.ms

(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 87.924 ug/m3

response 505207

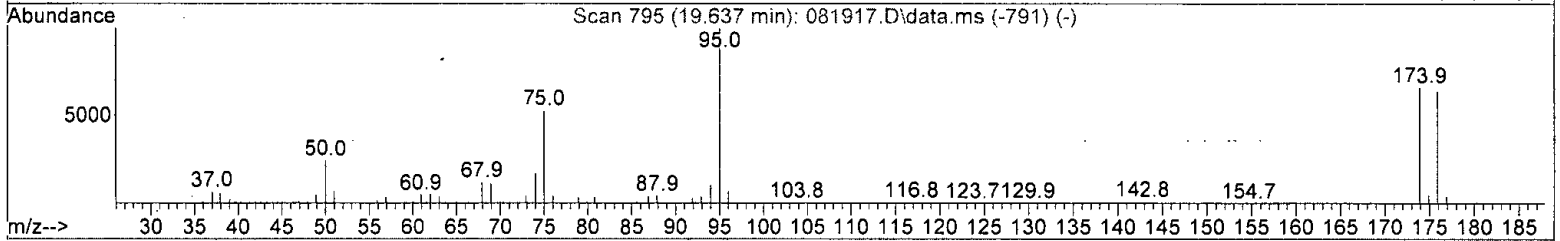
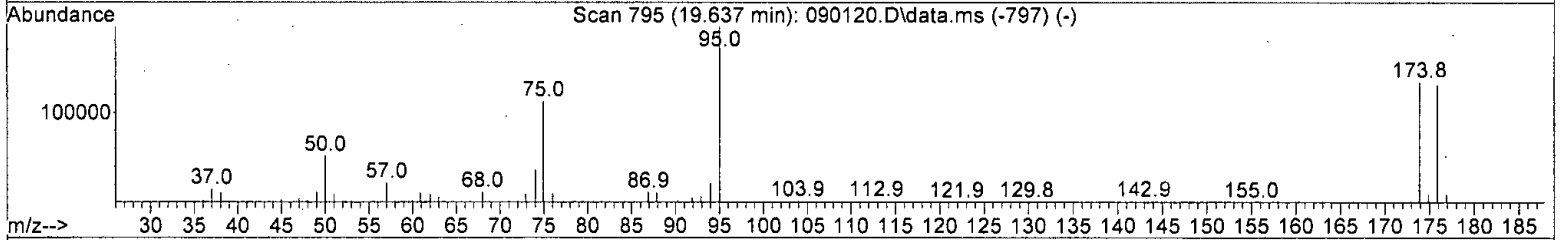
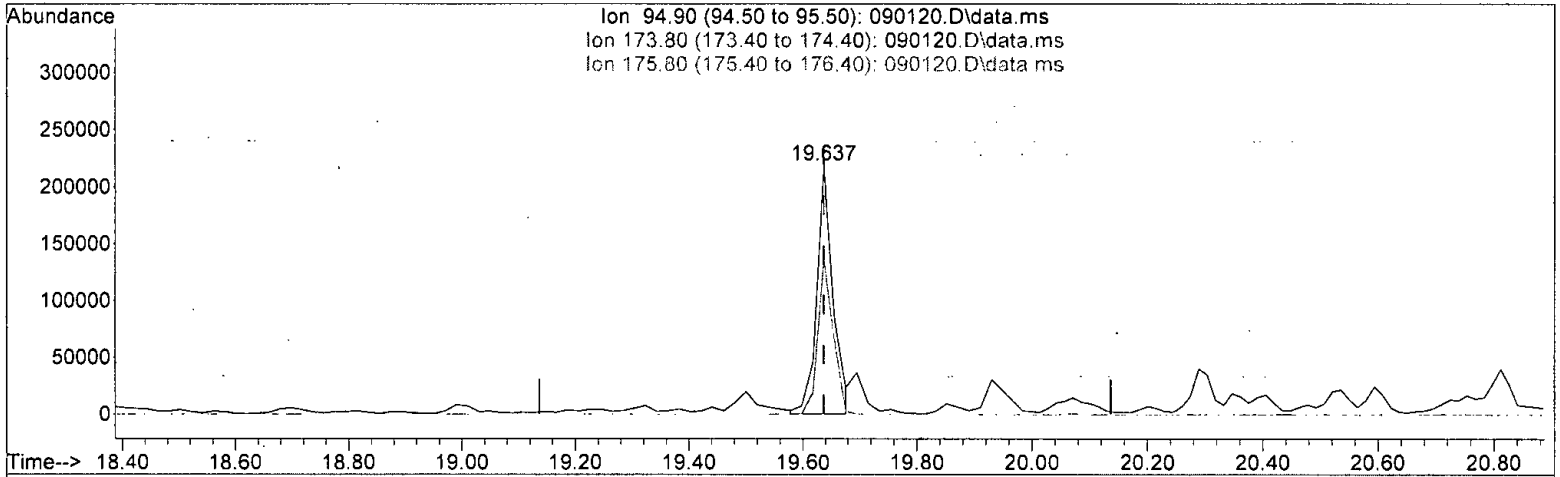
Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	62.80#
175.80	93.50	61.37#
0.00	0.00	0.00

*Bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090120.D\data.ms

(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 77.054 ug/m3 m

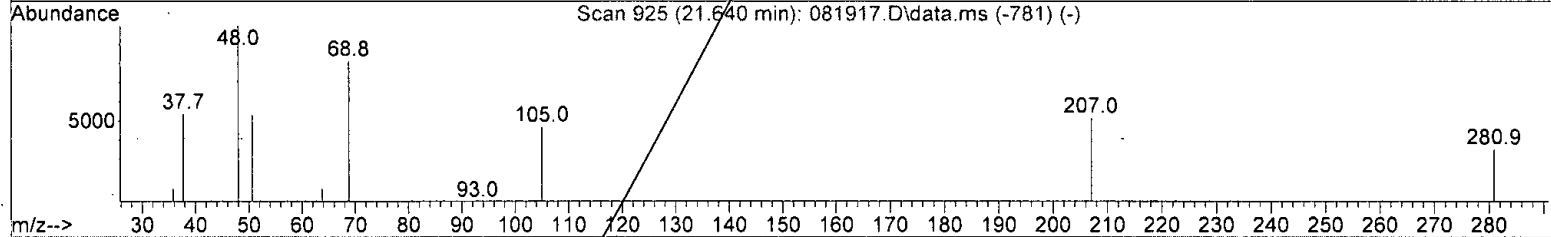
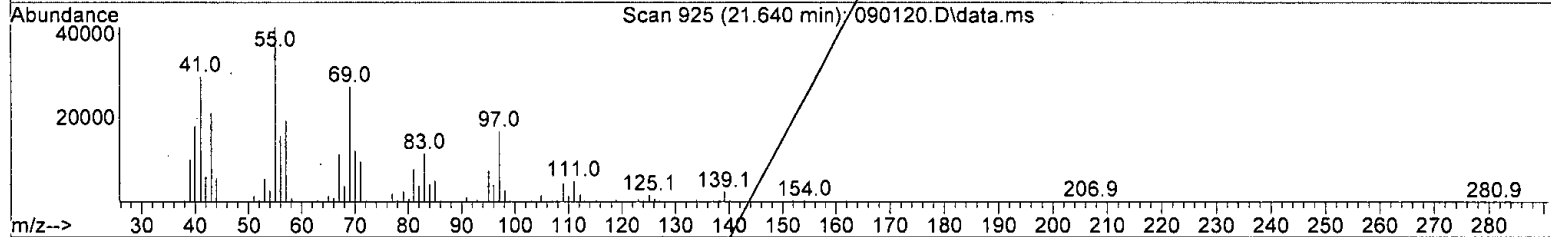
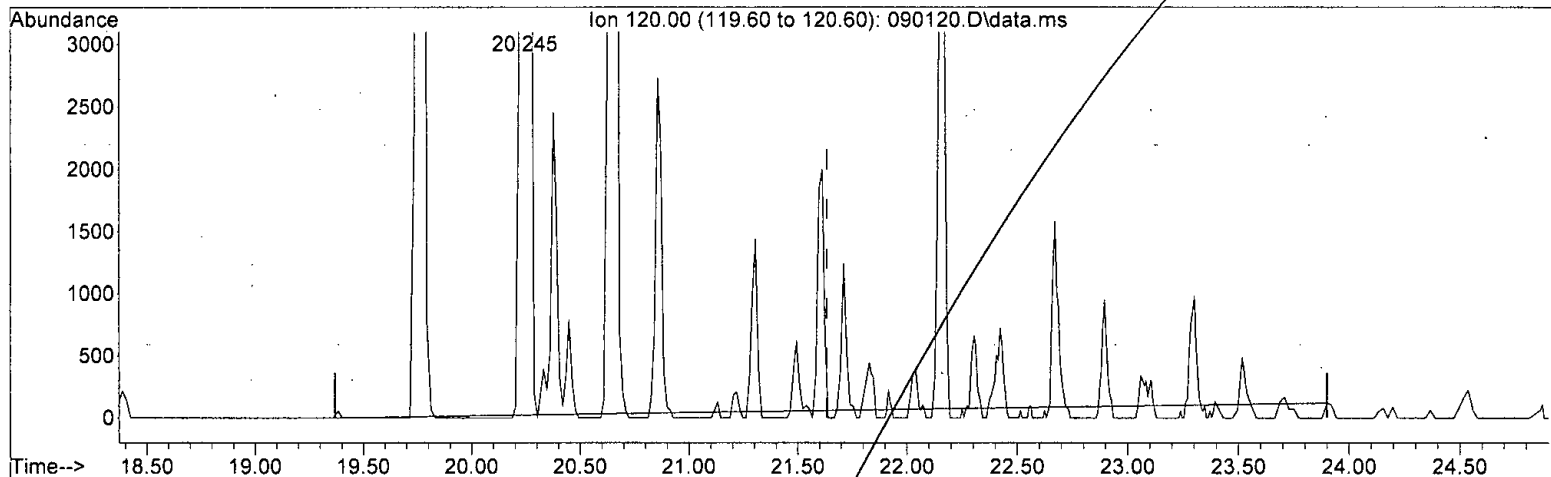
response 442751

Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	62.70#
175.80	93.50	61.26#
0.00	0.00	0.00

*bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 32.770 ug/m3 m

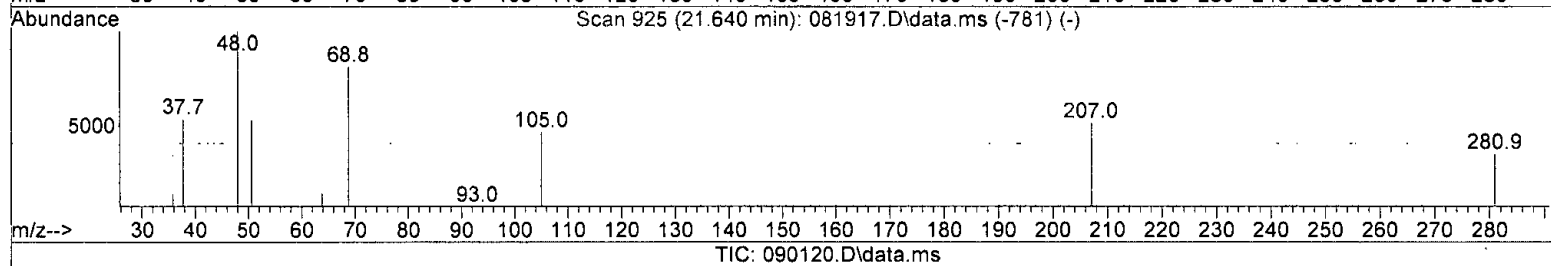
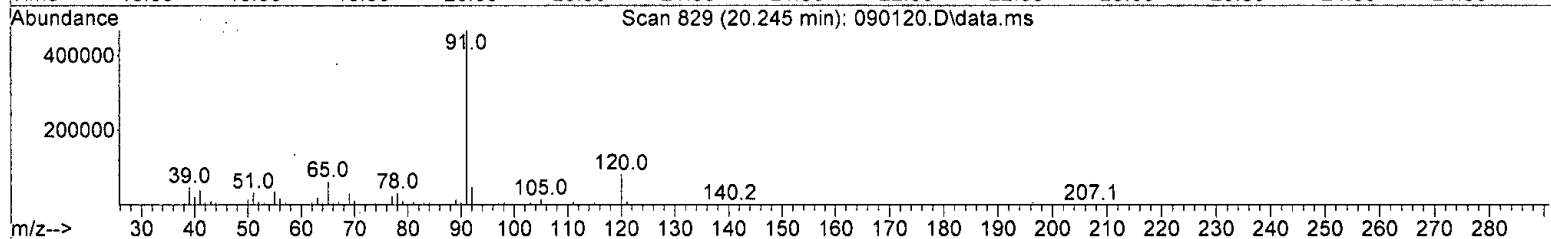
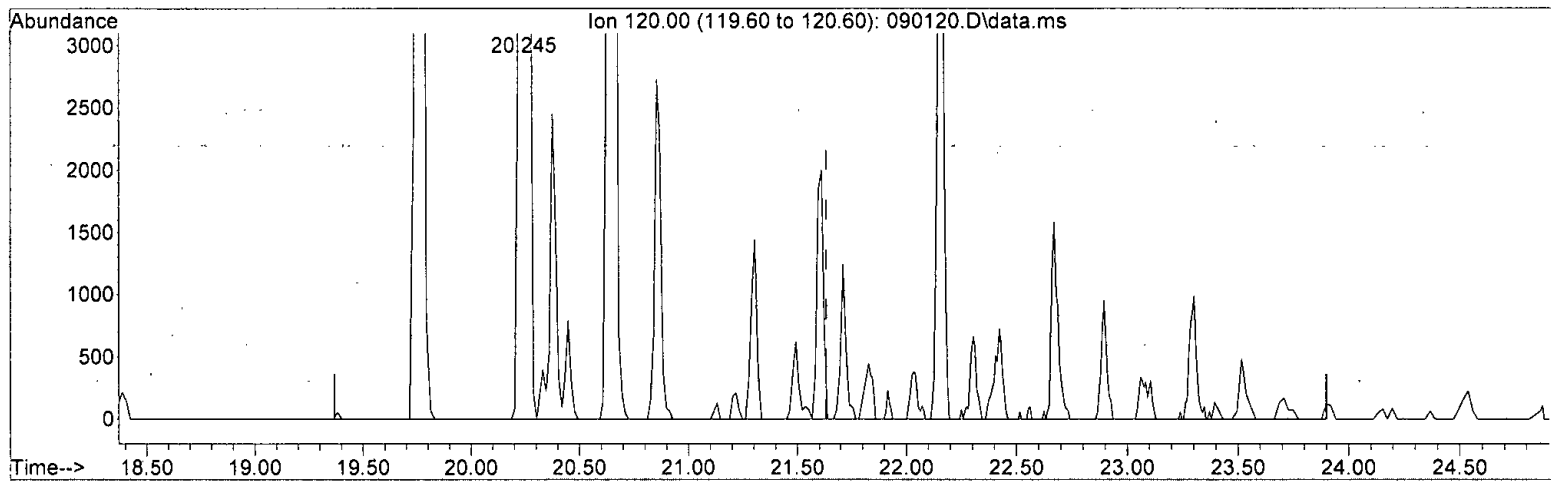
response 179034

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 45.298 ug/m3 m

response 247478

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

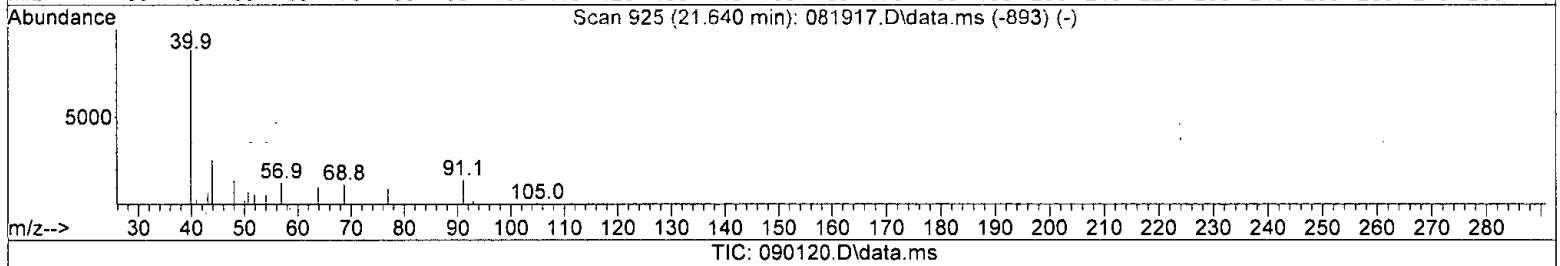
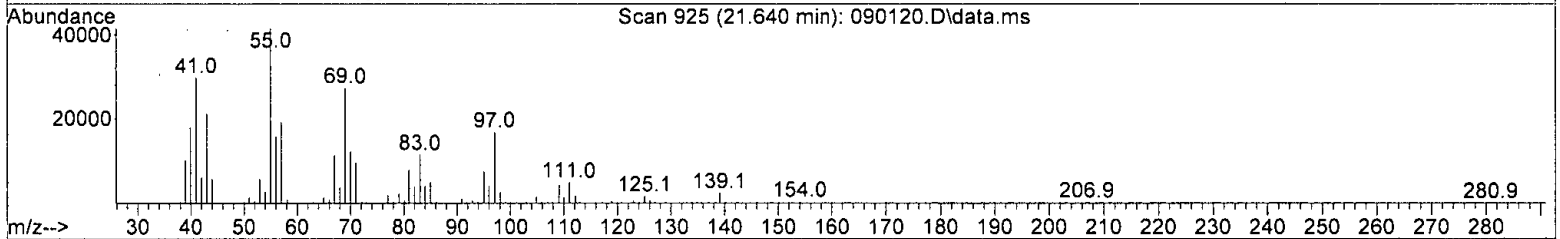
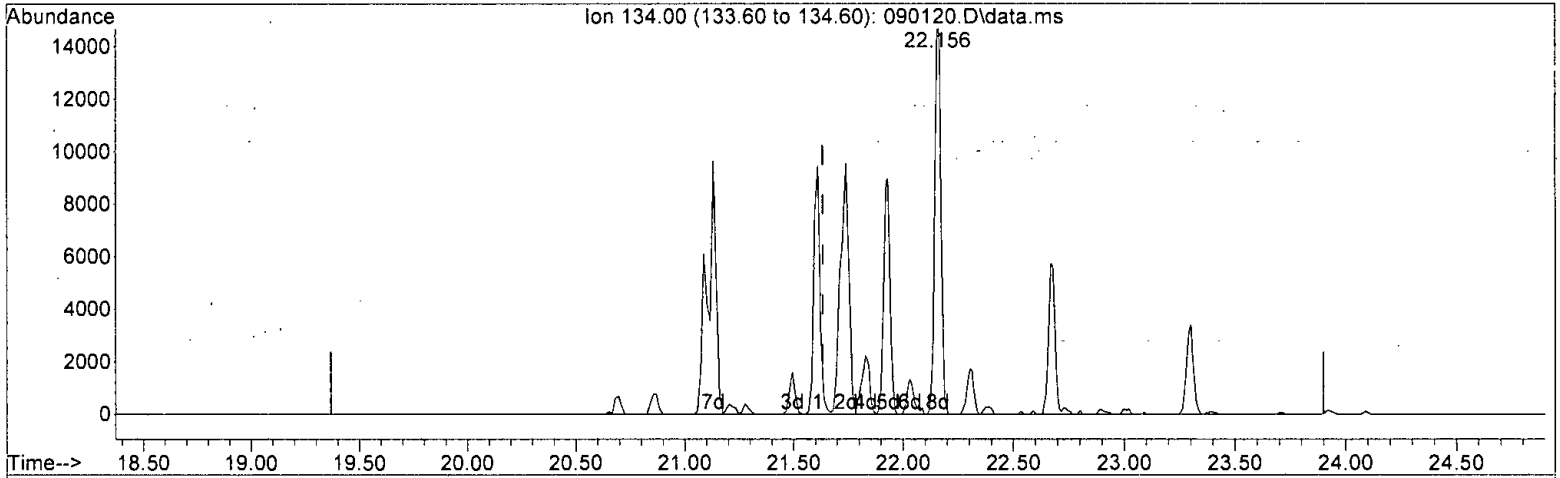
*Handwritten signature*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update.: Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 22.390 ug/m3 m

response 69671

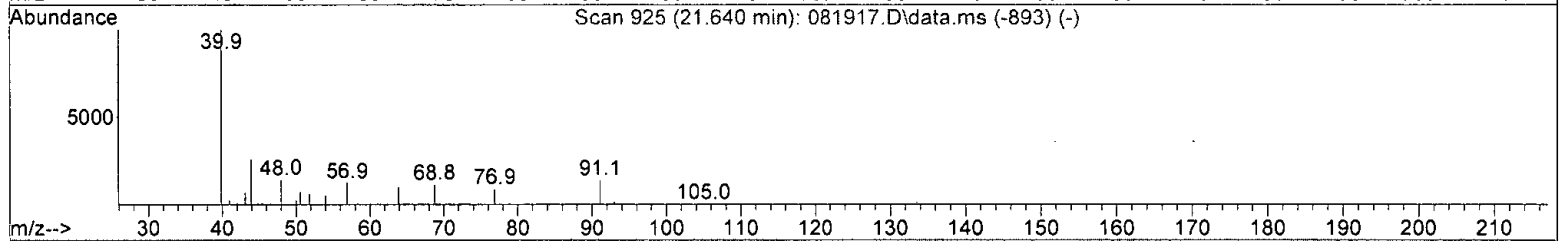
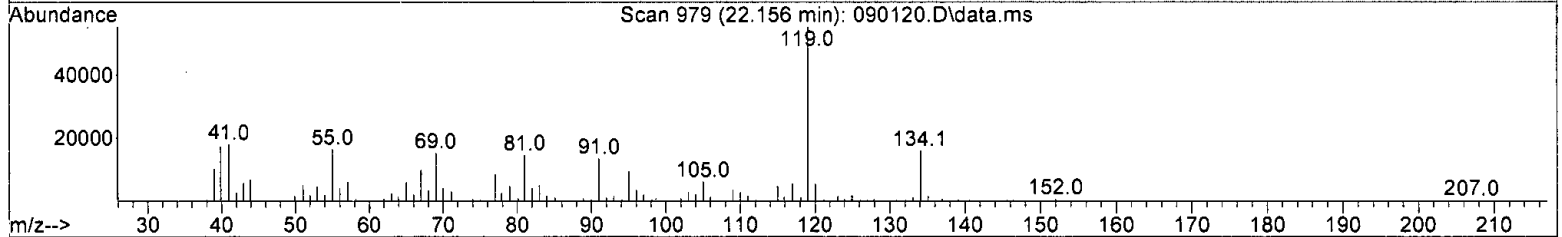
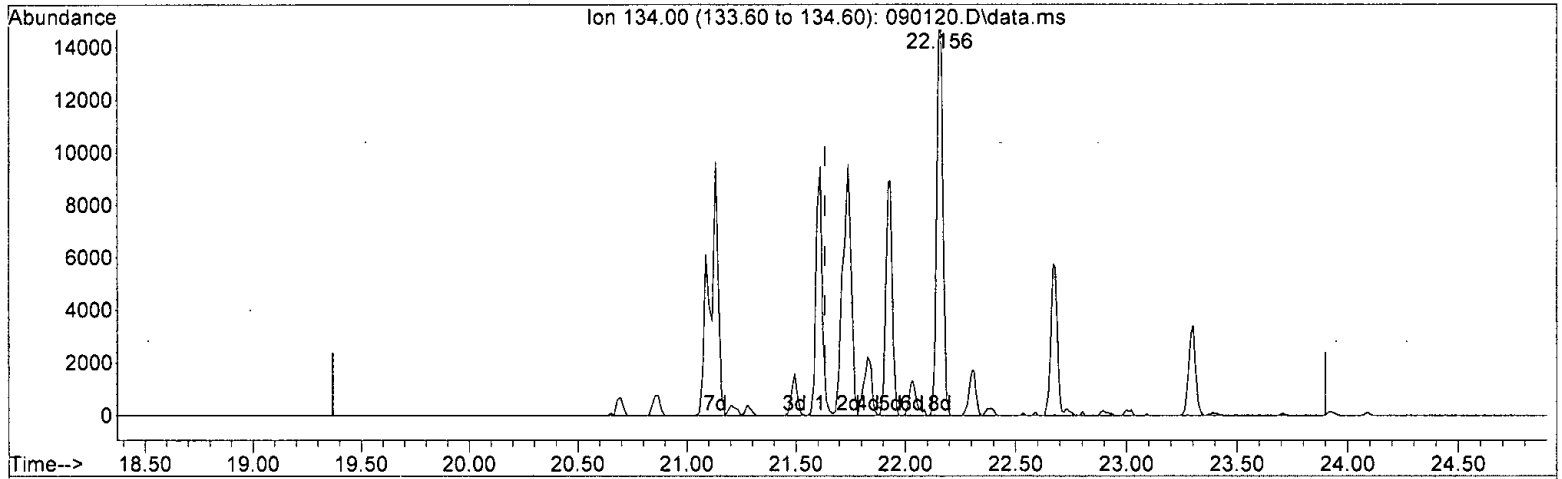
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: u o y l a / u*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:43:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090120.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 60.272 ug/m3 m

response 187550

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h/bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 13:46:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	101728	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	506561	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	458627	50.000	ug/m3	# 0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	442751m	77.054	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	108.52%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1011715	56.326	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.21	TIC	1283207m	50.334	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	2664782m	86.176	ug/m3	
5) Methylene chloride	6.86	TIC	201502	221.582	ug/m3	93
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.20	54	33512	5.594	ug/m3#	1
9) Methyl t-butyl ether	8.54	73	520	0.066	ug/m3	56
11) Benzene	12.71	78	163327	9.483	ug/m3	88
12) Isopentane	5.68	TIC	52388	1.532	ug/m3	87
13) Hexane	10.10	TIC	1024256	30.511	ug/m3	93
14) Cyclohexane	13.16	TIC	4897152	139.272	ug/m3	48
15) 2,3-Dimethylpentane	13.50	TIC	3987446	88.860	ug/m3	94
16) Heptane	14.60	TIC	9375944	255.675	ug/m3	92
17) Octane	17.41	TIC	6362380	126.530	ug/m3	92
18) APH EC5-8 aliphatics T...	0.00	TIC	25699566m	639.404	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	226150915m	5626.621	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2961893m	76.500	ug/m3	
22) Hexamethylcyclotrisilo...	17.79	TIC	1208782	126.754	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	272630m	22.906	ppbv	
24) Toluene	16.39	92	24092	2.448	ug/m3	90
25) Ethylbenzene	18.60	91	619299	30.477	ug/m3	95
26) m,p-Xylene	18.78	106	11445	1.675	ug/m3#	81
27) o-Xylene	19.21	106	13524	2.092	ug/m3	93
28) Naphthalene	23.94	128	4087m	0.248	ug/m3	
29) 2,3-Dimethylheptane	18.68	TIC	7665814	166.314	ug/m3#	79
30) Nonane	19.32	TIC	12018269	249.707	ug/m3	61
31) Decane	20.86	TIC	3244006	67.848	ug/m3	65
32) Butylcyclohexane	21.55	TIC	2832783	52.155	ug/m3	81
33) Undecane	22.39	TIC	566147	11.939	ug/m3	64
34) Dodecane	23.73	TIC	109193	2.805	ug/m3	79
35) APH EC9-12 aliphatics ...	21.55	TIC	26436212m	563.387	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	93980930m	2002.843	ug/m3	
38) Isopropylbenzene	19.75	120	52897	14.705	ug/m3#	78
39) 1-Methyl-3-ethylbenzene	20.38	120	5130	1.020	ug/m3#	88
40) 1,3,5-Trimethylbenzene	20.86	120	5383	0.846	ug/m3	95
41) p-Isopropyltoluene	21.13	134	27080	8.659	ug/m3#	1
42) 1,2,3-Trimethylbenzene	20.86	120	4788	0.641	ug/m3	94
43) APH EC9-10 aromatics T...	21.55	TIC	95278m	19.257	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	247478m	45.298	ug/m3	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

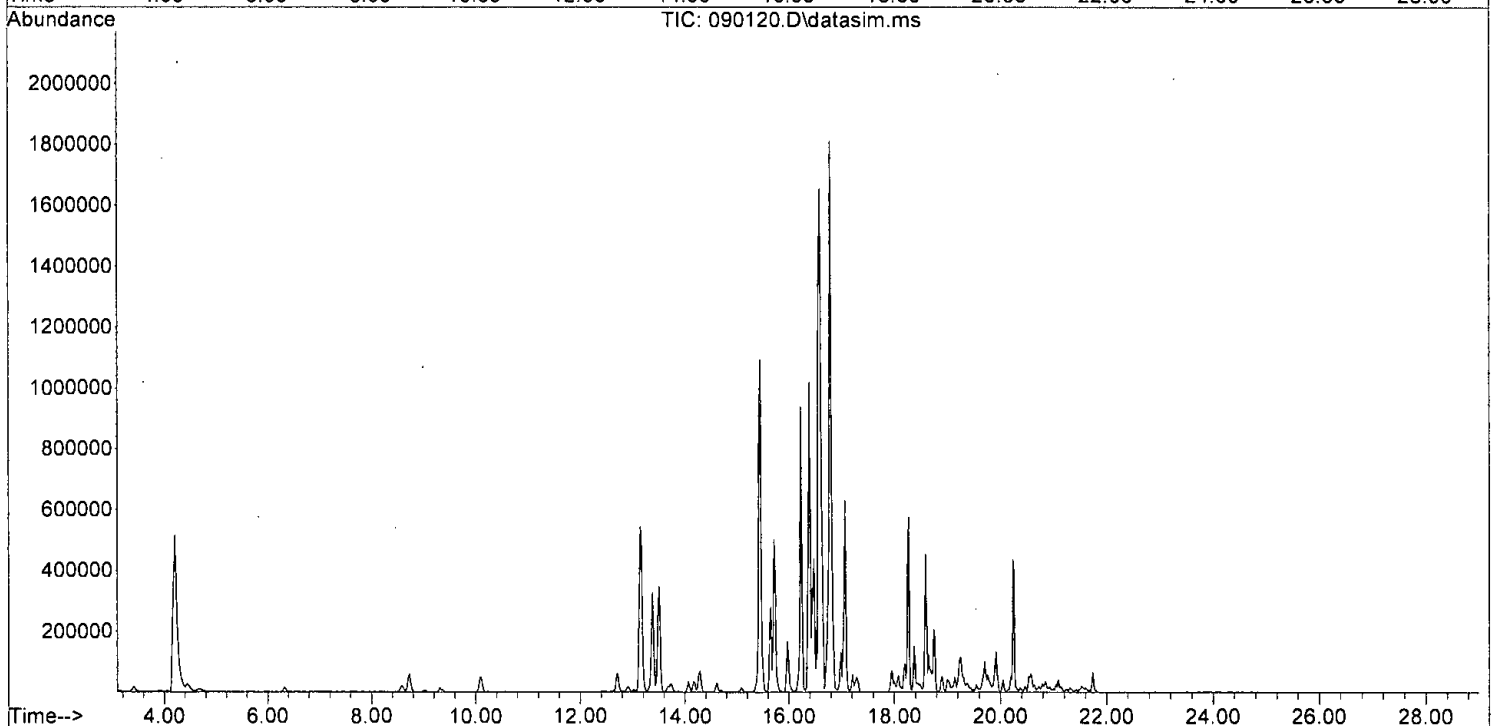
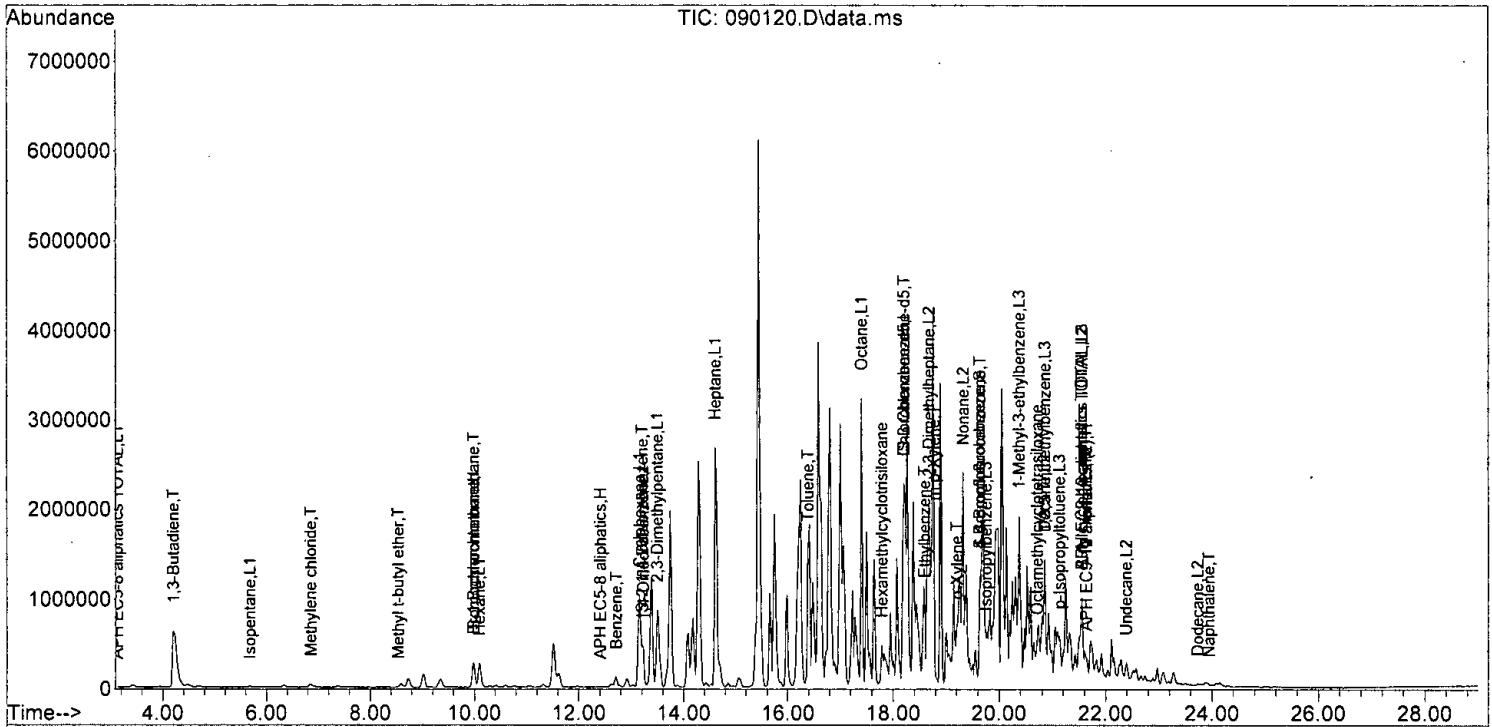
Quant Time: Sep 02 13:46:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	187550m	60.272	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090120.D  
 Acq On : 1 Sep 2021 10:18 pm  
 Operator : bat  
 Sample : 108515-09 1/1000  
 Misc : T9  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

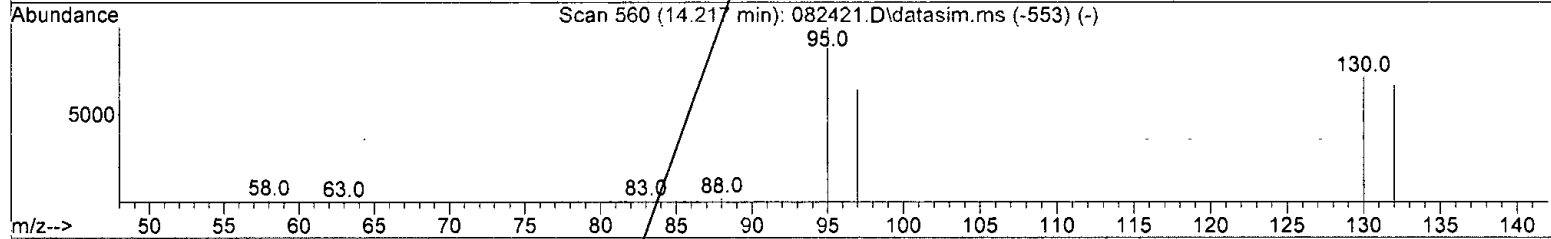
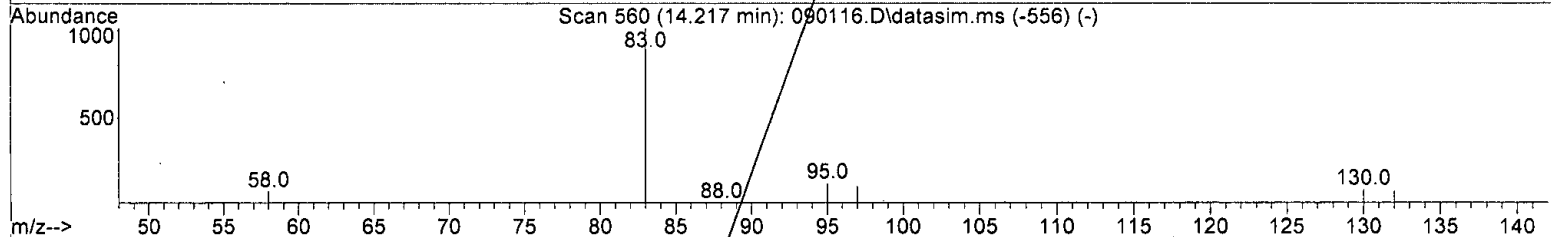
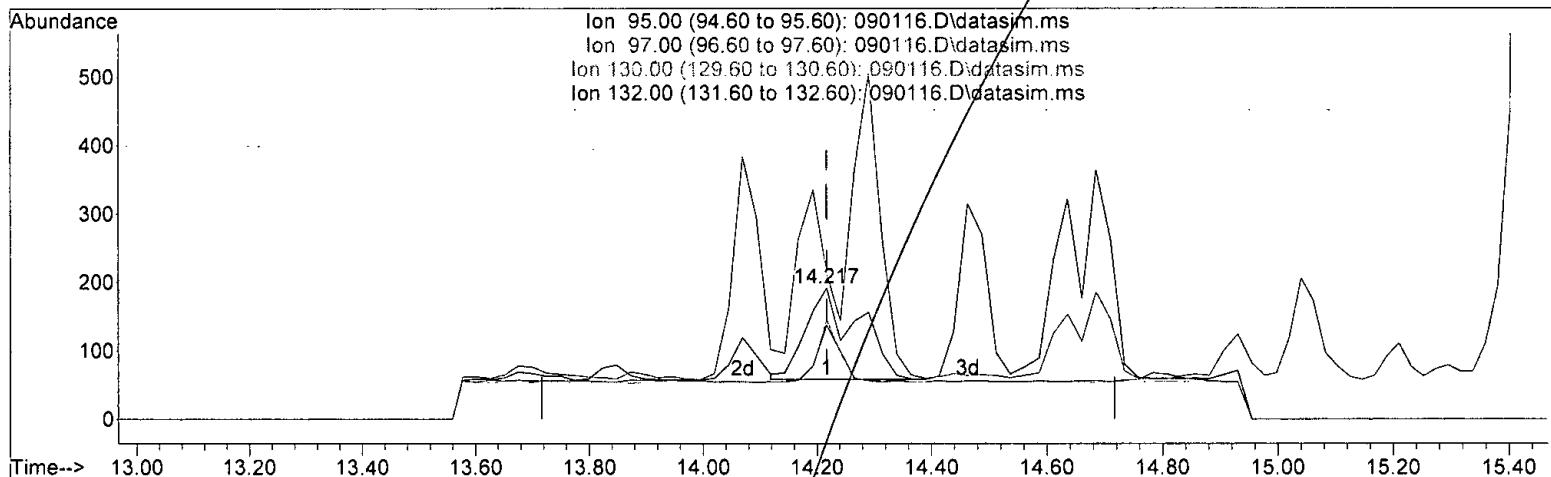
Quant Time: Sep 02 13:46:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:50 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(46) Trichloroethene (TMP)

14.217min (-0.000) 0.028 ppbv

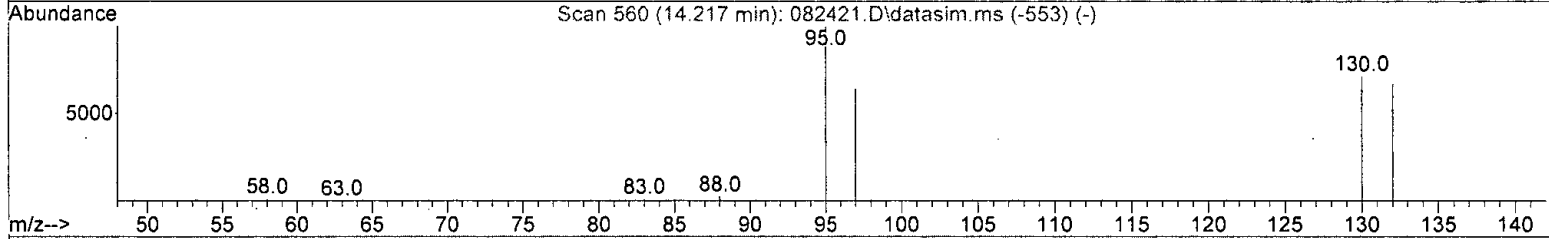
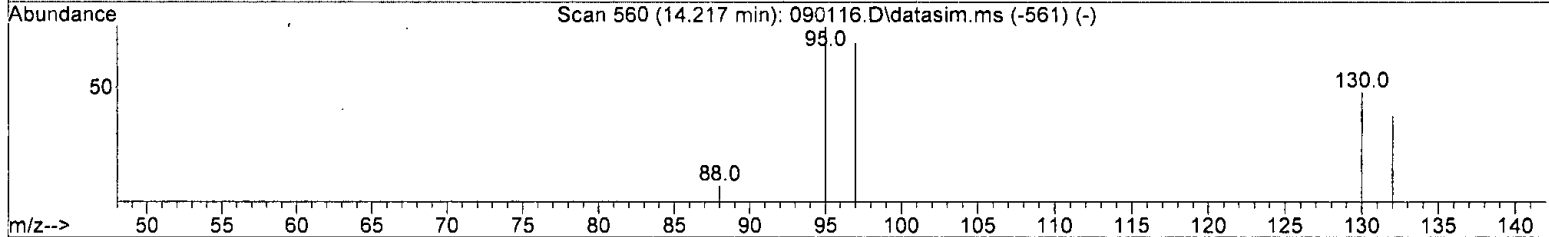
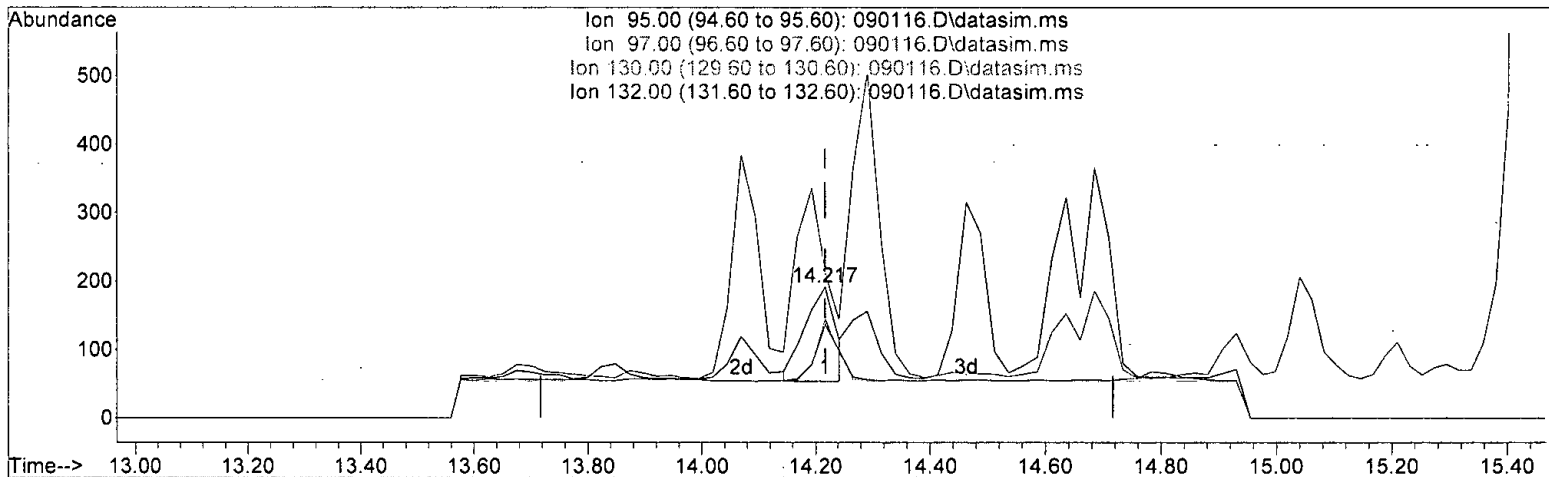
response 849

Ion	Exp%	Act%
95.00	100.00	100.00
97.00	67.10	115.04#
130.00	86.10	67.67
132.00	84.30	61.65

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:50 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090116.D\data.ms

(46) Trichloroethene (TMP)

14.217min (-0.000) 0.017 ppbv m

response 523

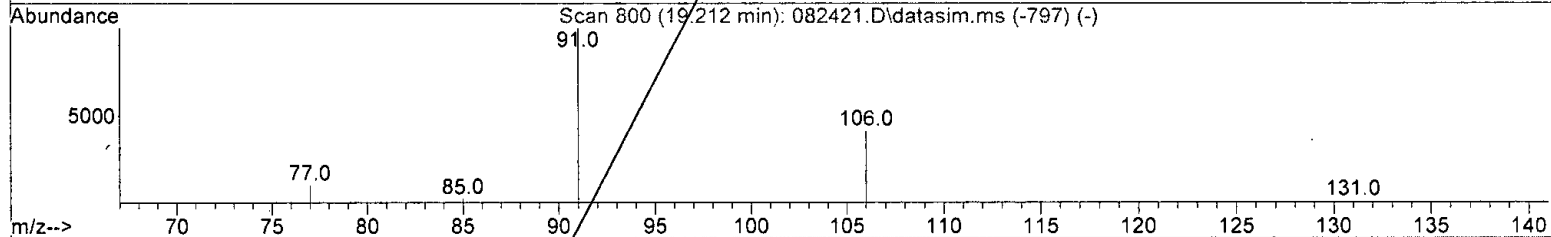
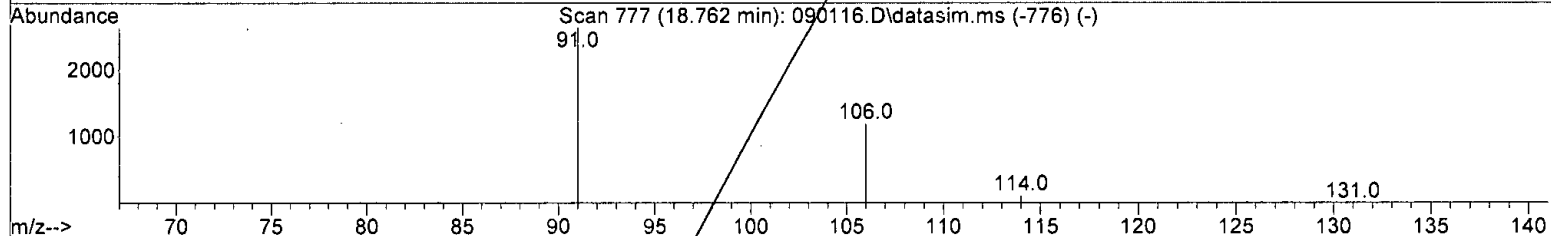
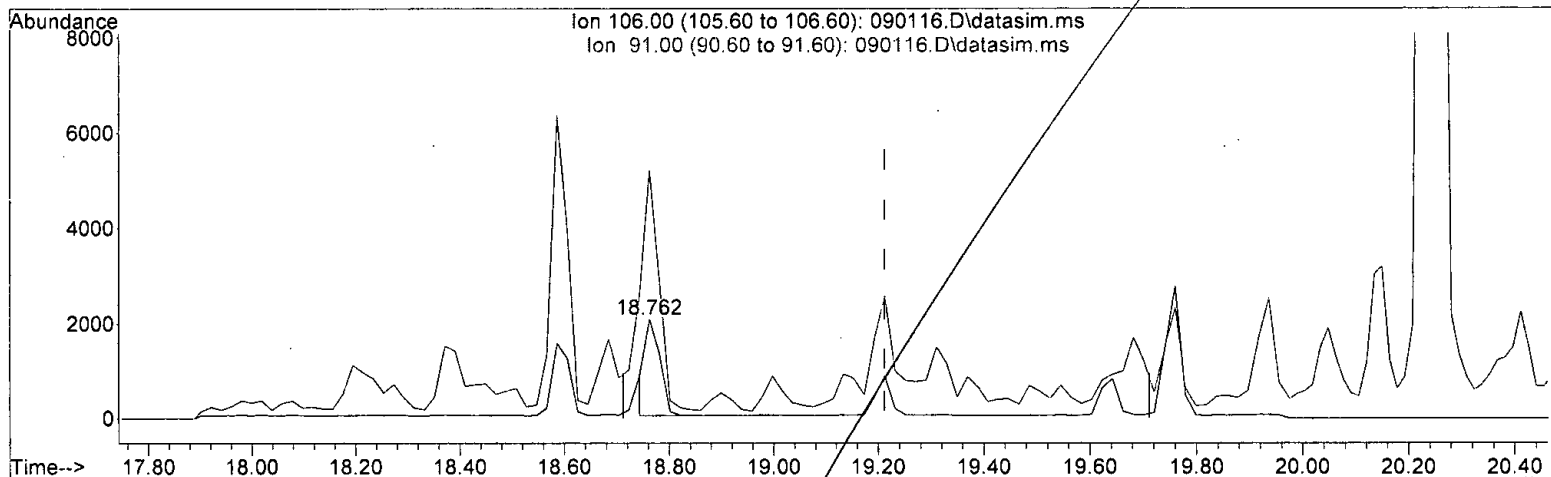
Ion	Exp%	Act%
95.00	100.00	100.00
97.00	67.10	111.52#
130.00	86.10	75.92
132.00	84.30	71.73

*h. orlat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:50 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*B. Orlov*

(66) o-Xylene (TMP)

18.762min (-0.450) 0.131 ppbv

response 4003

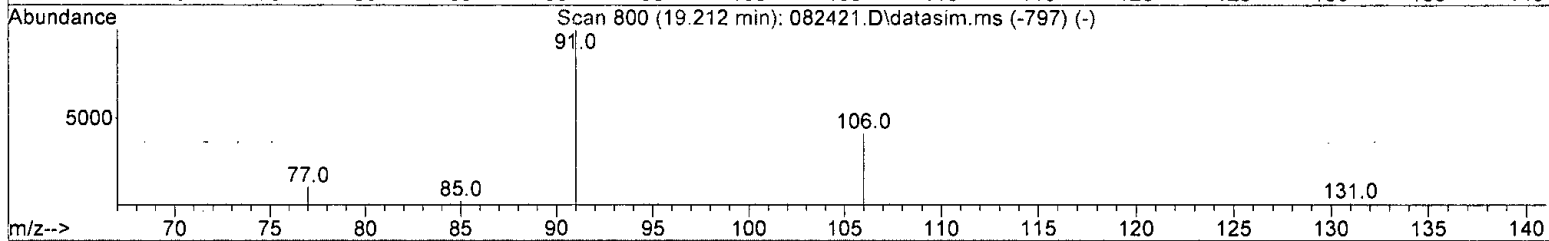
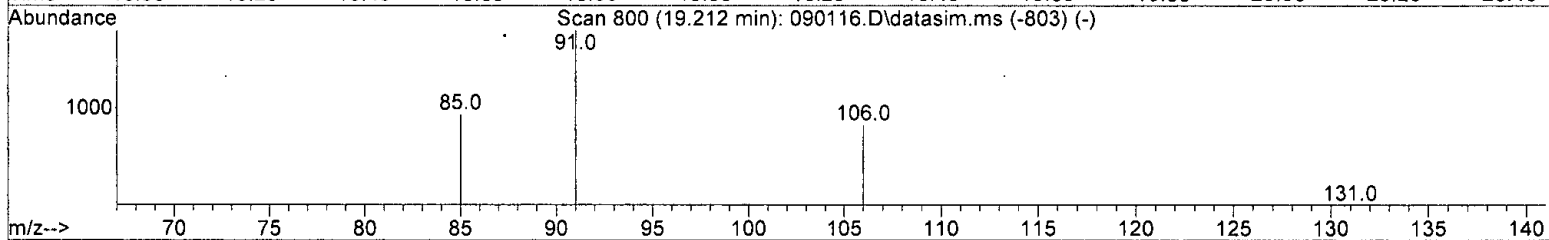
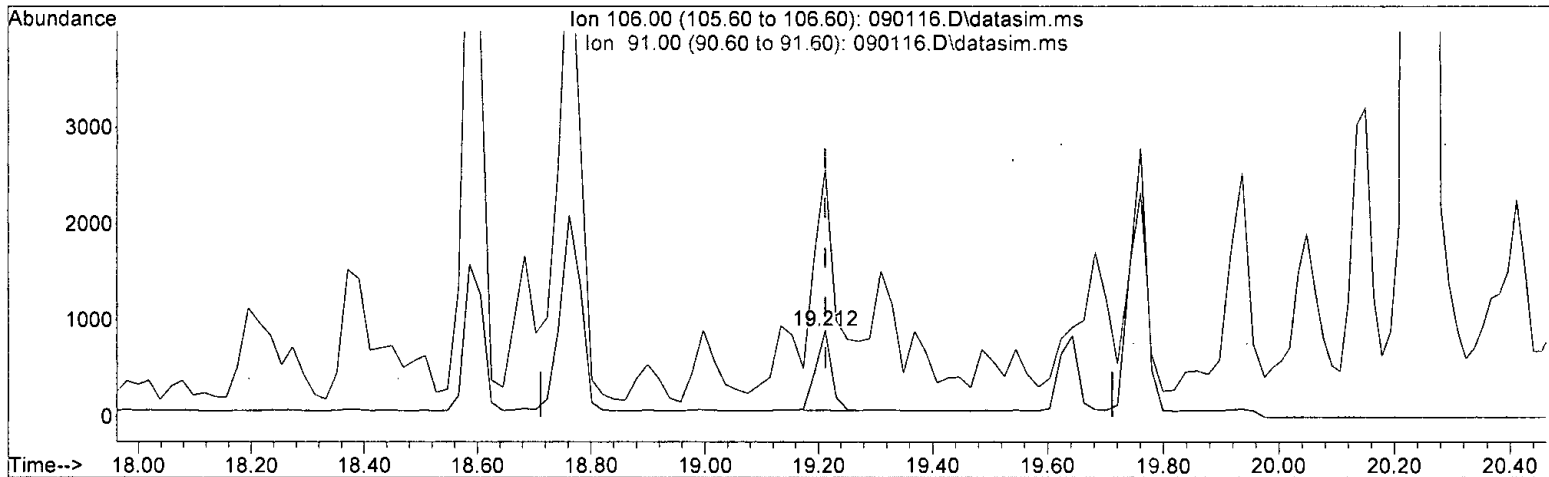
Ion	Exp%	Act%
106.00	100.00	100.00
91.00	224.40	248.96
0.00	0.00	0.00
0.00	0.00	0.00



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:50 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*Handwritten signature: M. 09/02/21*

(66) o-Xylene (TMP)

19.212min (+ 0.000) 0.052 ppbv m

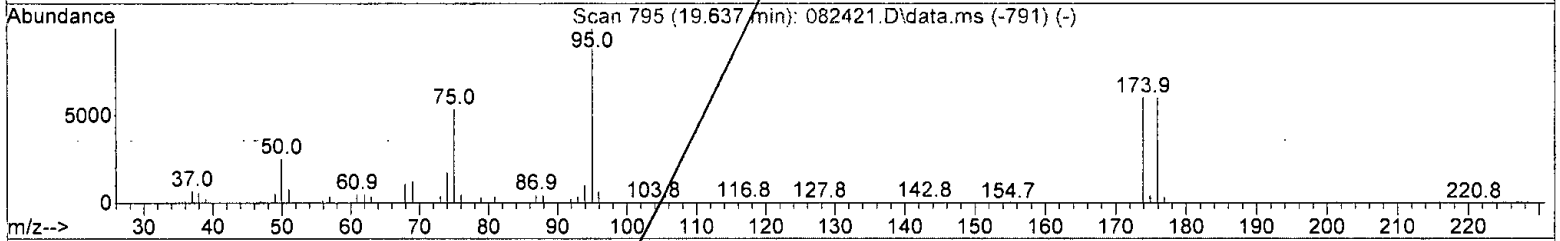
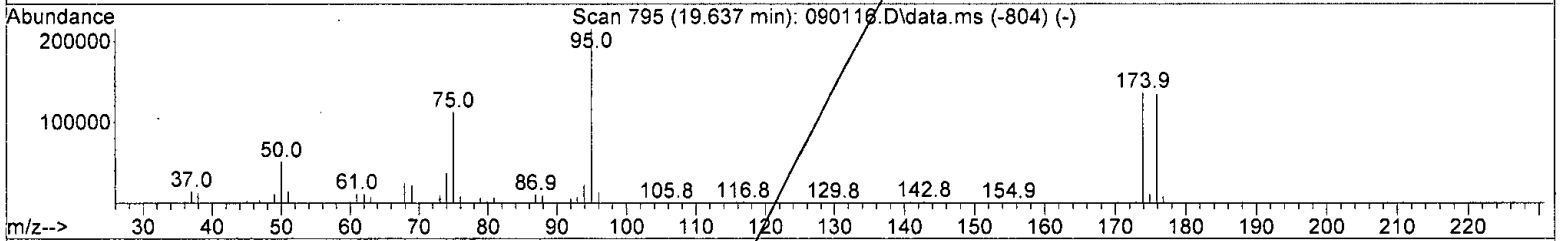
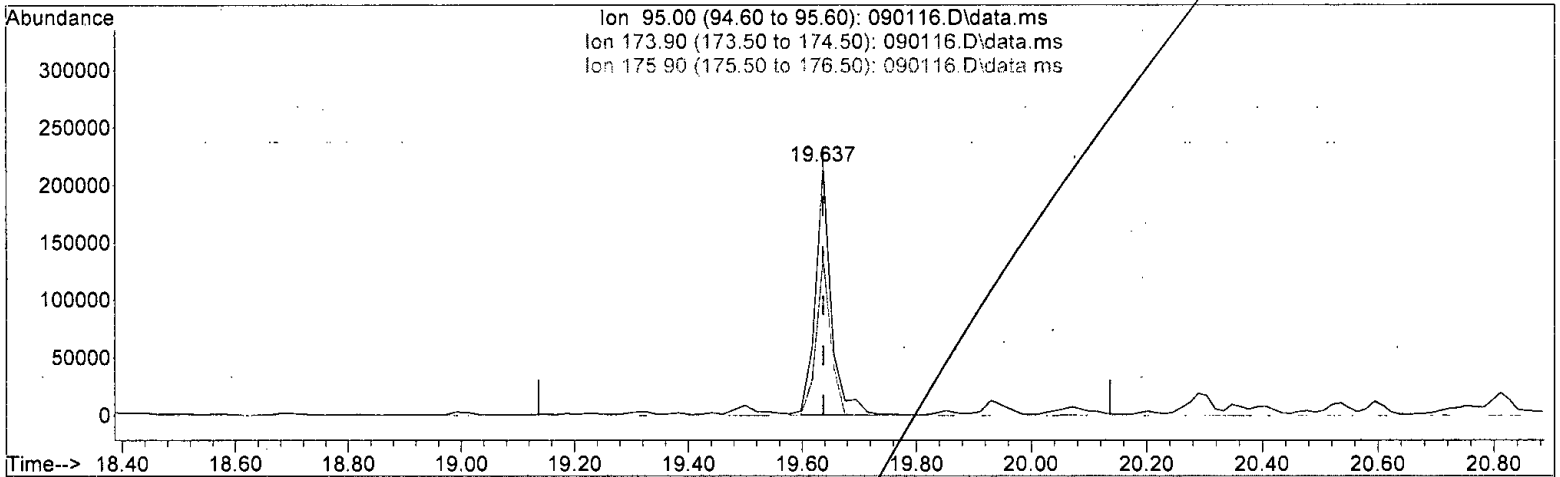
response 1604

Ion	Exp%	Act%
106.00	100.00	100.00
91.00	224.40	288.80#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:50 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(69) 4-Bromofluorobenzene (S)  
 19.637min (-0.000) 10.753 ppbv  
 response 424565

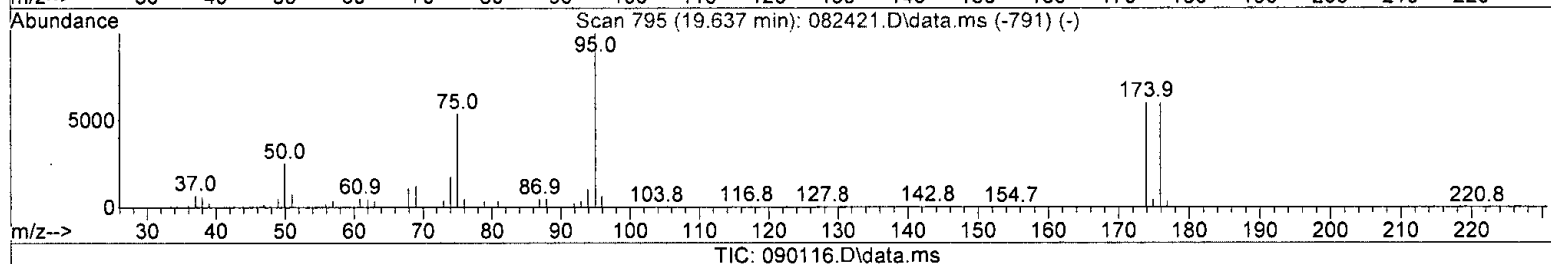
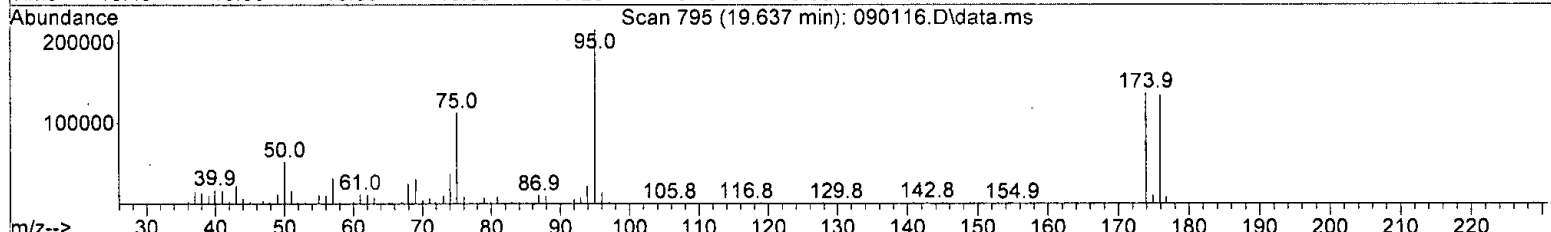
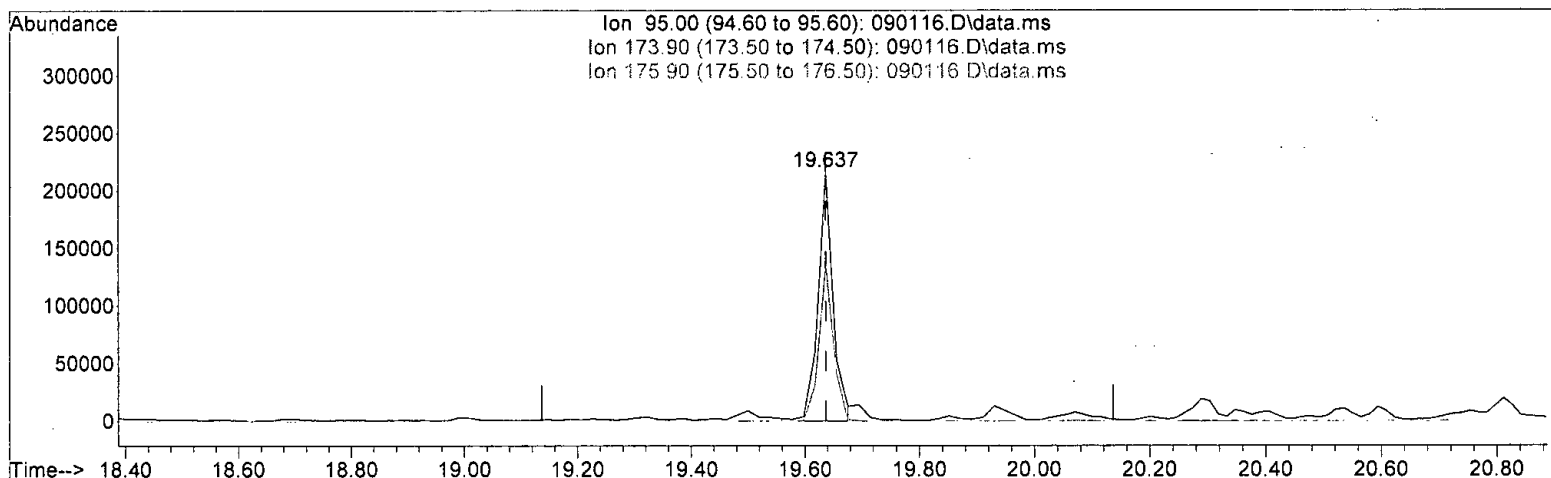
Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	63.41
175.90	70.90	62.35
0.00	0.00	0.00

*B  
09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:50 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(69) 4-Bromofluorobenzene (S)

19.637min (-0.000) 10.264 ppbv m

response 405244

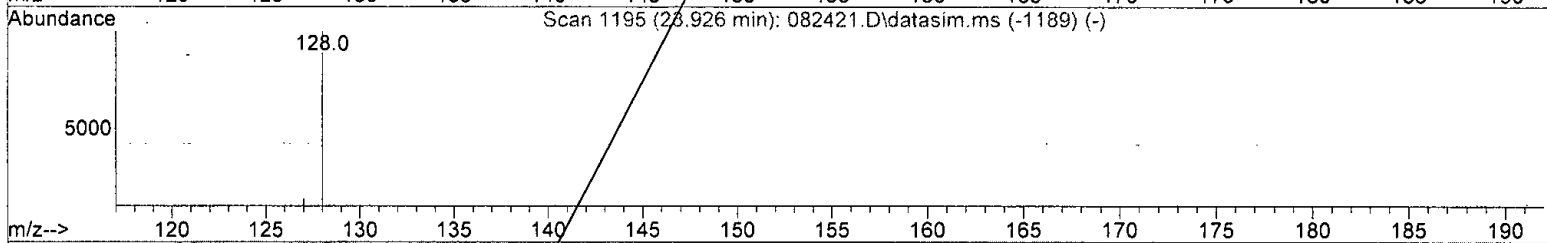
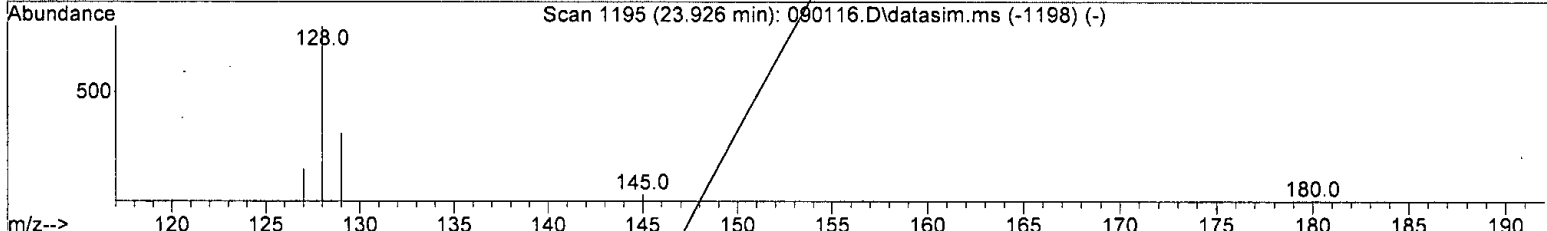
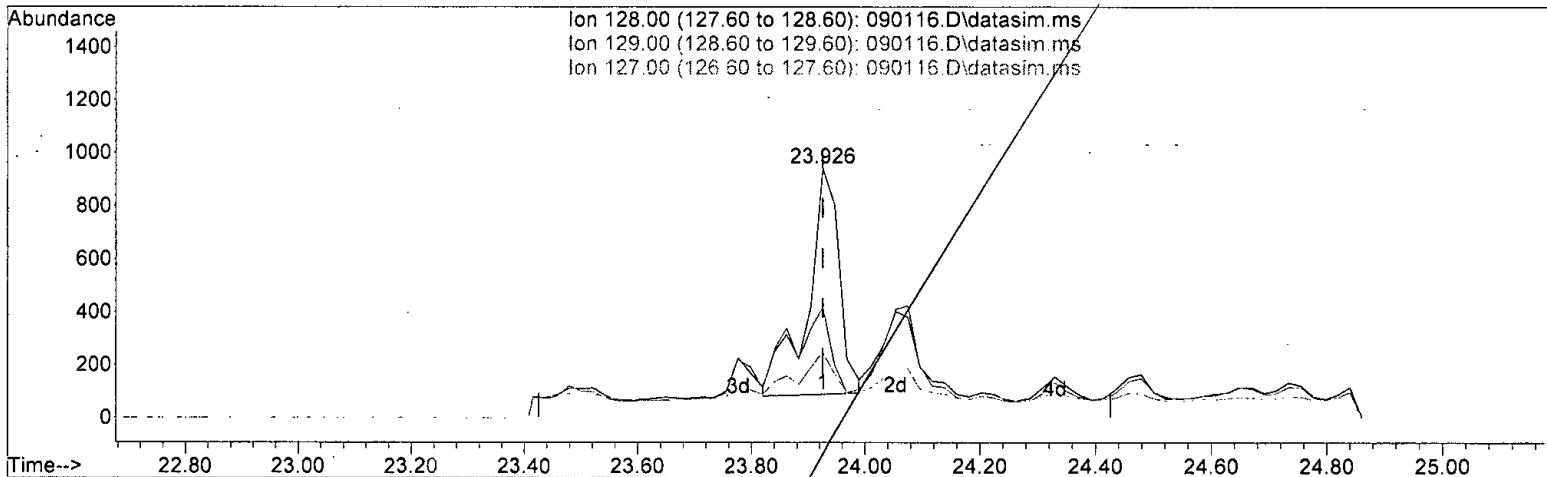
Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	63.34
175.90	70.90	62.27
0.00	0.00	0.00

*bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:50 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(77) Naphthalene (TMP)

23.926min (-0.000) 0.018 ppbv

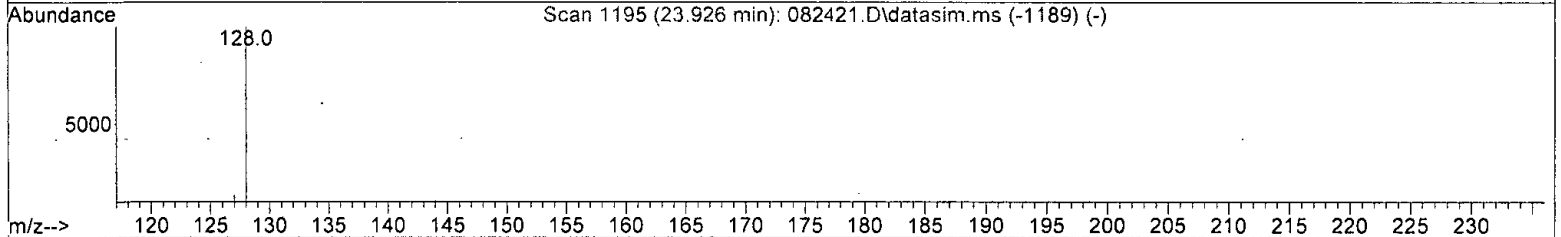
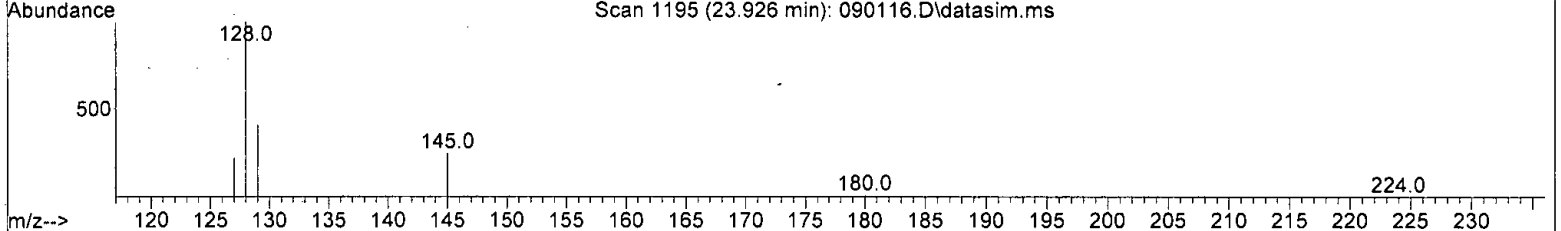
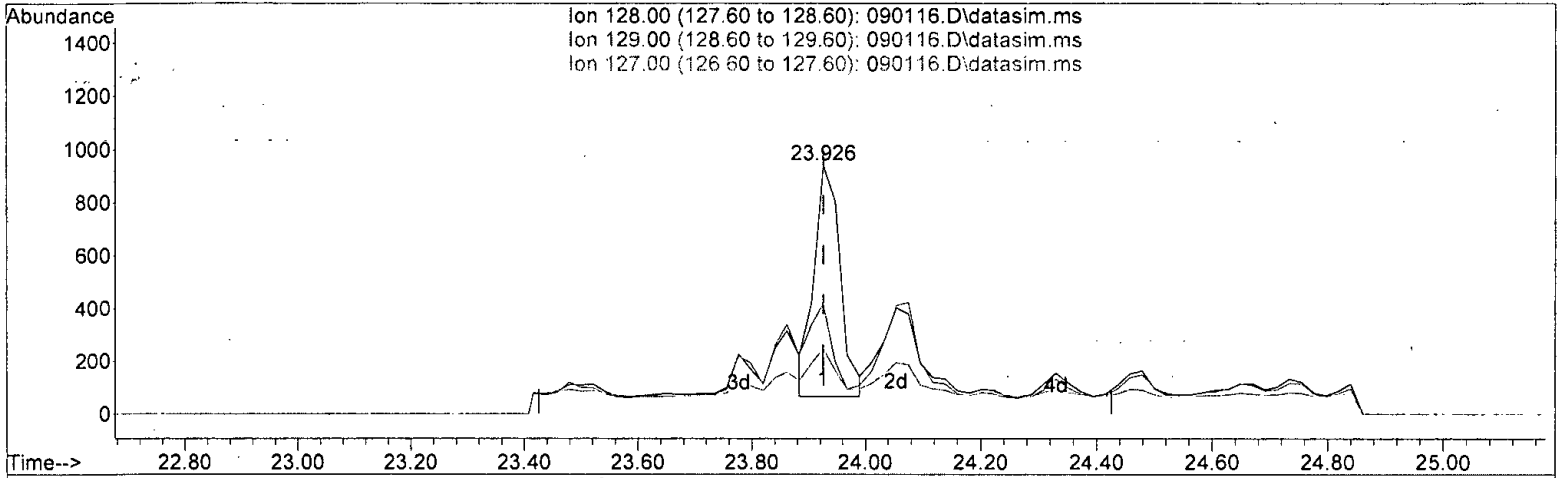
response 3340

Ion	Exp%	Act%
128.00	100.00	100.00
129.00	11.00	37.58
127.00	13.20	19.27
0.00	0.00	0.00

*Handwritten signature*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:50 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(77) Naphthalene (TMP)

23.926min (-0.000) 0.013 ppbv m

response 2808

Ion	Exp%	Act%
128.00	100.00	100.00
129.00	11.00	44.53#
127.00	13.20	26.35
0.00	0.00	0.00

*Handwritten signature*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

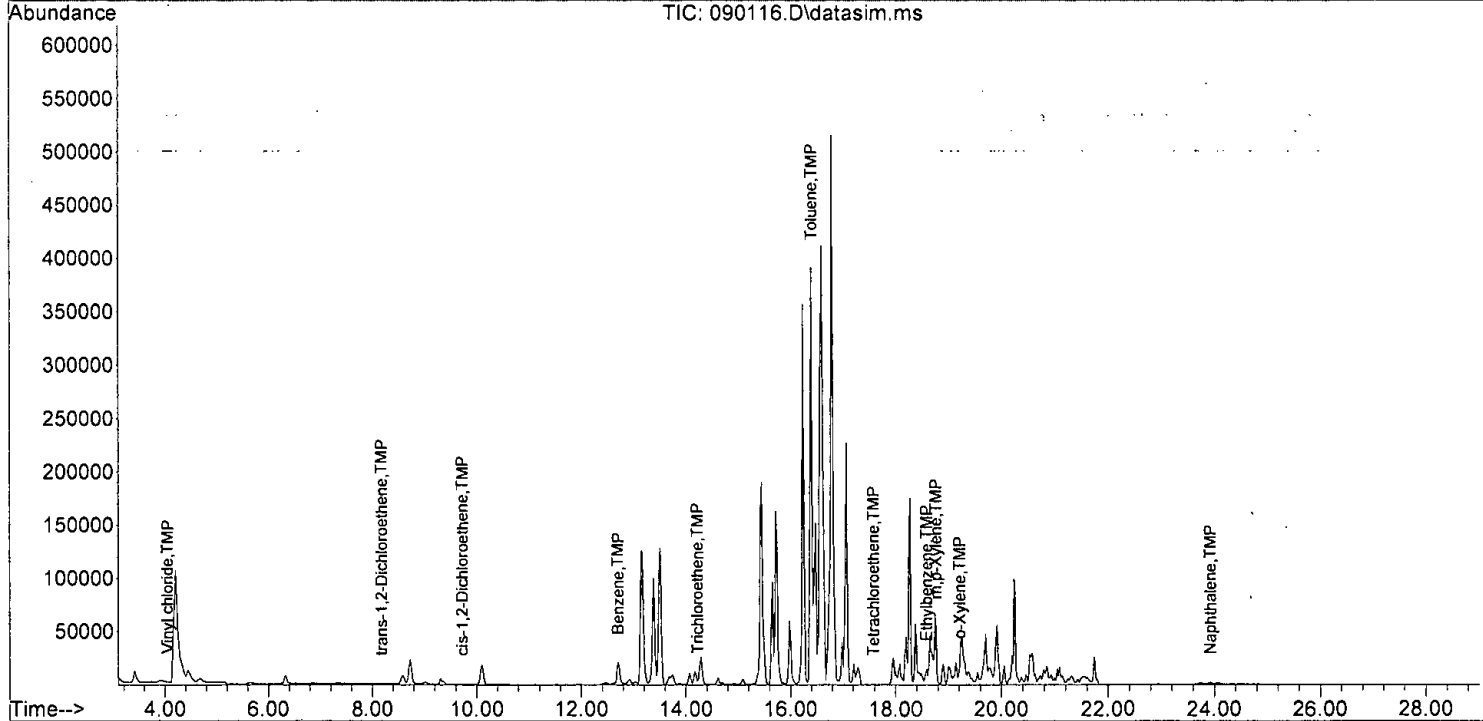
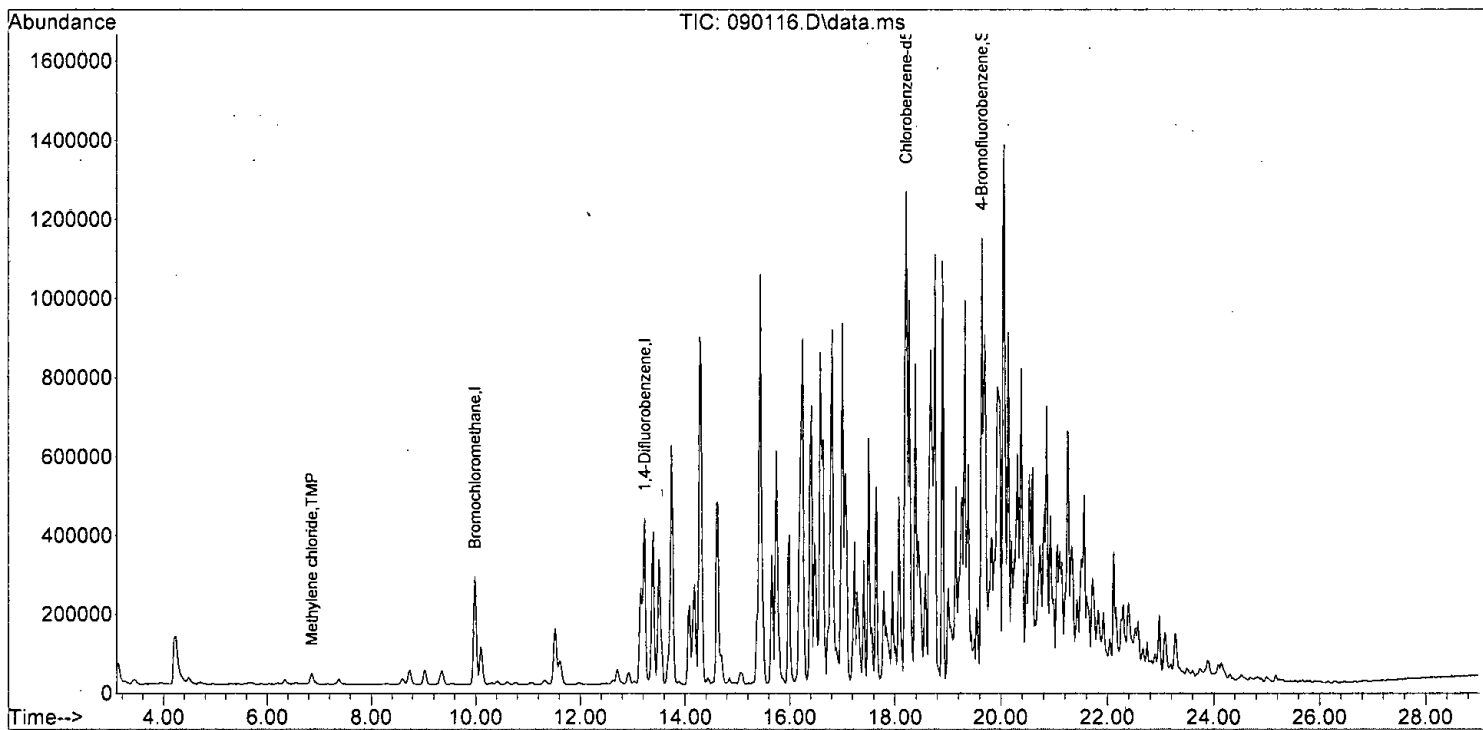
Quant Time: Sep 02 12:43:46 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

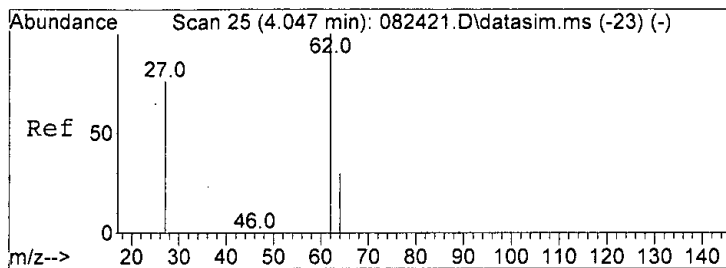
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	102411	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	483608	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	435821	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	405244m	10.264	ppbv	0.00
Spiked Amount	10.000	Range 70 - 130	Recovery	= 102.60%		
Target Compounds						
						Qvalue
6] Vinyl chloride	4.05	62	796	0.035	ppbv	98
19] trans-1,2-Dichloroethene	8.18	96	334	0.020	ppbv	91
20] Methylene chloride	6.86	84	20221	1.128	ppbv	# 76
28] cis-1,2-Dichloroethene	9.73	96	390	0.021	ppbv	# 80
37] Benzene	12.70	78	58693	0.936	ppbv	95
46] Trichloroethene	14.22	95	523m	0.017	ppbv	
50] Toluene	16.40	92	3328	0.092	ppbv	91
53] Tetrachloroethene	17.58	164	423	0.023	ppbv	81
58] Ethylbenzene	18.59	91	13026	0.135	ppbv	96
65] m,p-Xylene	18.76	106	5168	0.166	ppbv	84
66] o-Xylene	19.21	106	1604m	0.052	ppbv	
77] Naphthalene	23.93	128	2808m	0.013	ppbv	
-----						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
Data File : 090116.D  
Acq On : 1 Sep 2021 7:43 pm  
Operator : bat  
Sample : 108515-10 1/1100  
Misc : T6  
ALS Vial : 15 Sample Multiplier: 1  
InstName : GCMS7

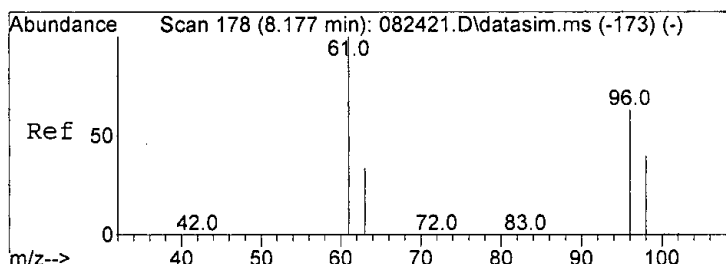
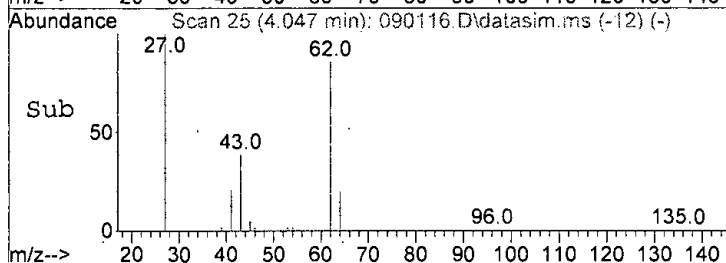
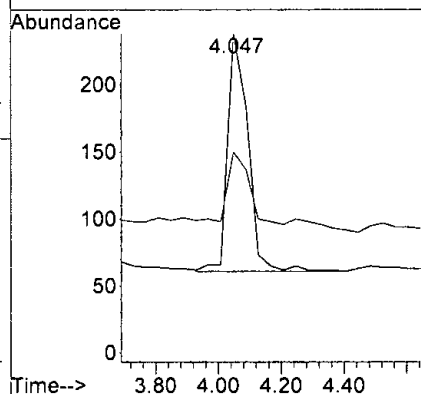
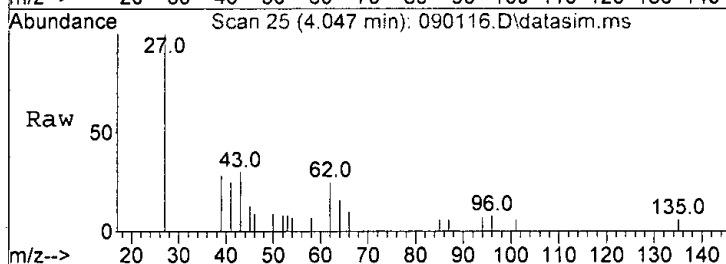
Quant Time: Sep 02 12:43:46 2021  
Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
Quant Title : TO-15 SS method  
QLast Update : Wed Aug 25 09:28:09 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M





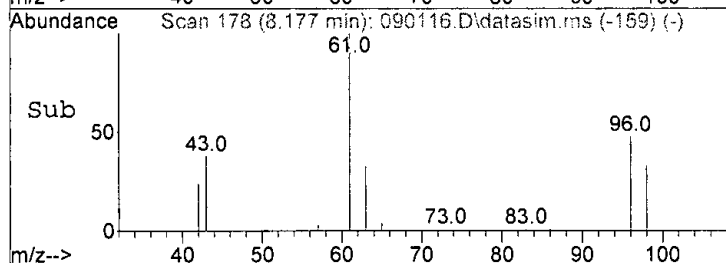
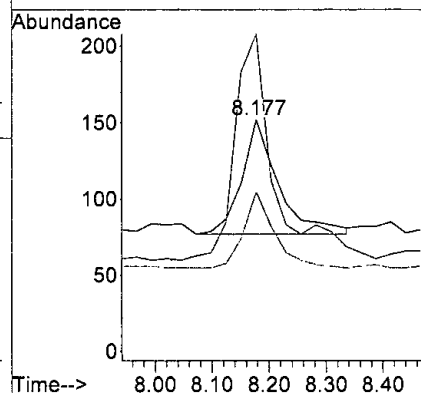
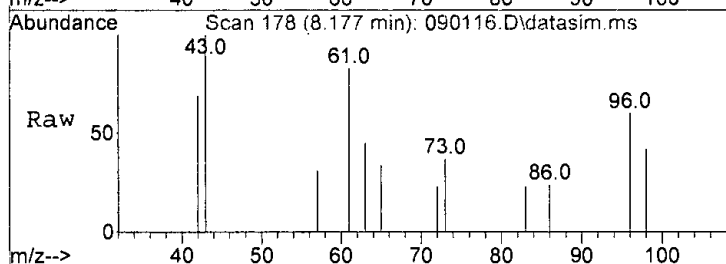
#6  
 Vinyl chloride  
 Concen: 0.035 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090116.D  
 Acq: 1 Sep 2021 7:43 pm

Tgt Ion	Resp	Lower	Upper
62	100		
64	32.8	1.5	61.5

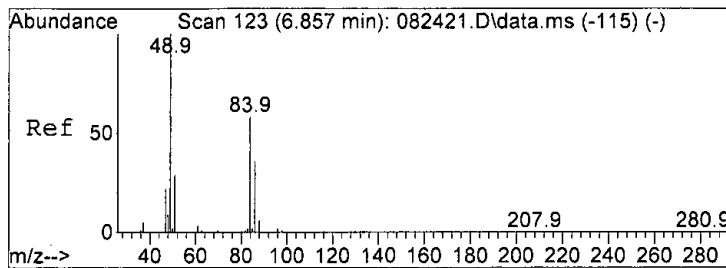


#19  
 trans-1,2-Dichloroethene  
 Concen: 0.020 ppbv  
 RT: 8.18 min Scan# 178  
 Delta R.T. 0.000 min  
 Lab File: 090116.D  
 Acq: 1 Sep 2021 7:43 pm

Tgt Ion	Resp	Lower	Upper
96	100		
61	193.3	147.9	207.9
98	66.7	34.2	94.2

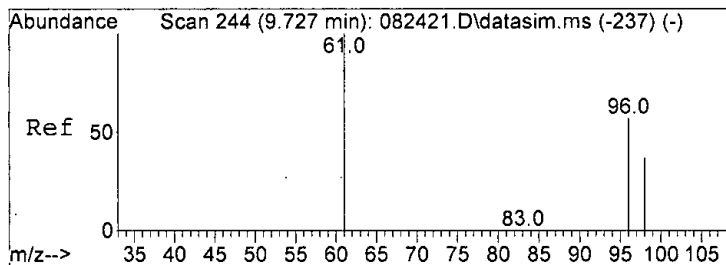
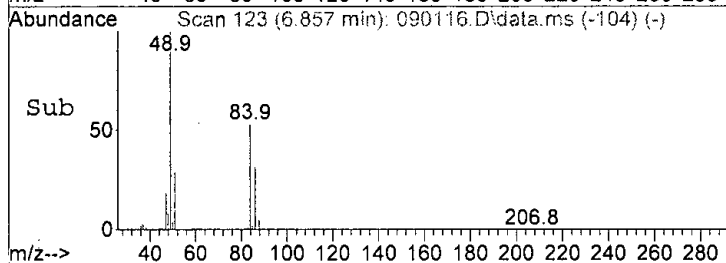
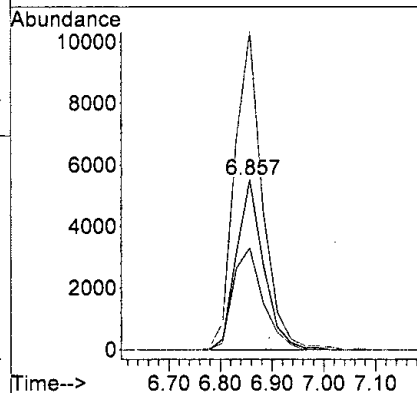
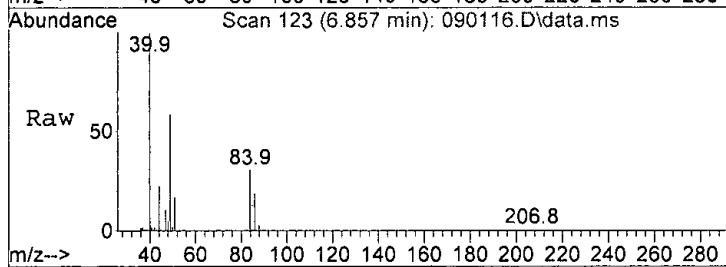






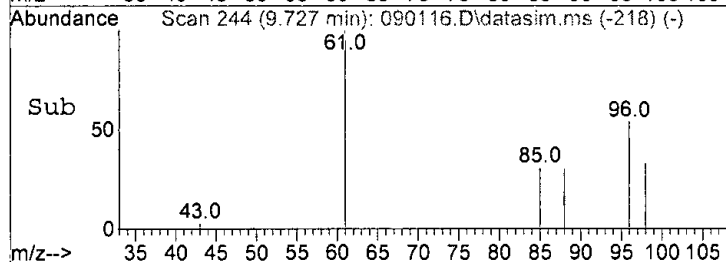
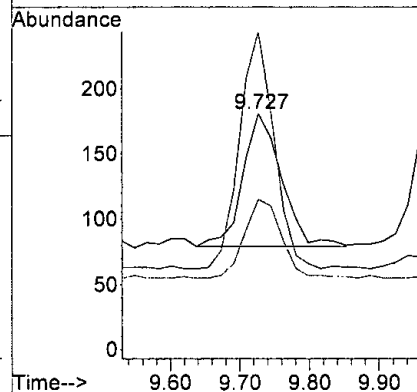
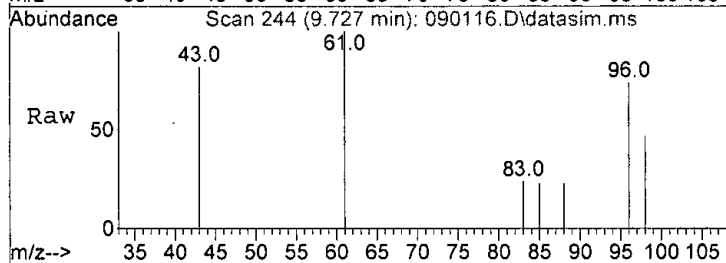
#20  
 Methylene chloride  
 Concen: 1.128 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090116.D  
 Acq: 1 Sep 2021 7:43 pm

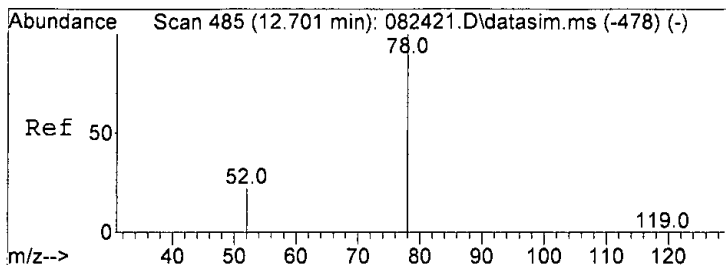
Tgt Ion: 84 Resp: 20221  
 Ion Ratio Lower Upper  
 84 100  
 86 59.9 33.9 93.9  
 49 187.2 116.6 176.6#



#28  
 cis-1,2-Dichloroethene  
 Concen: 0.021 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. 0.000 min  
 Lab File: 090116.D  
 Acq: 1 Sep 2021 7:43 pm

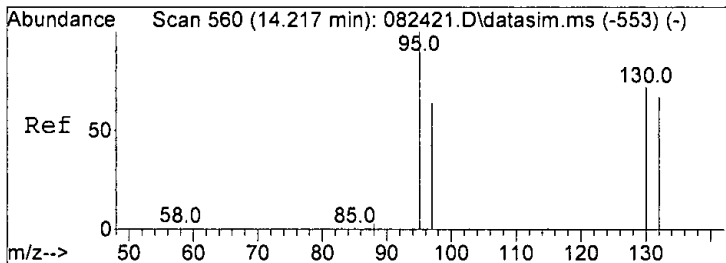
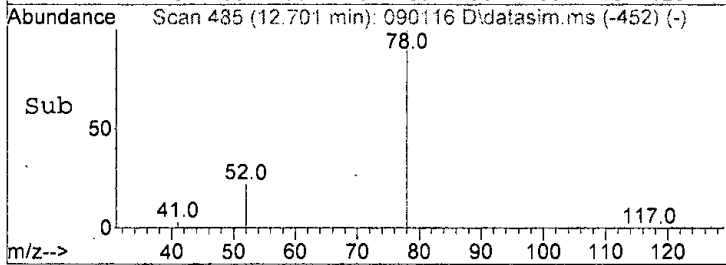
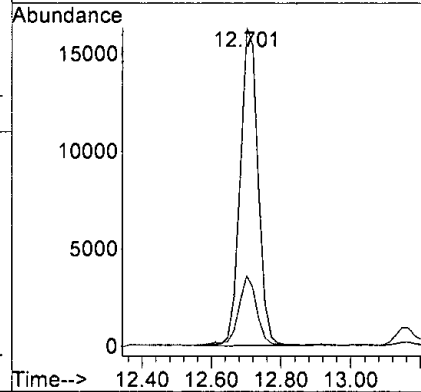
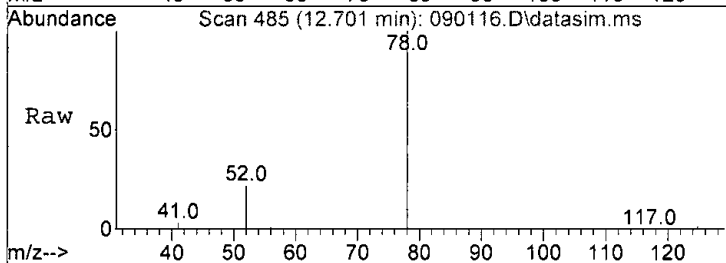
Tgt Ion: 96 Resp: 390  
 Ion Ratio Lower Upper  
 96 100  
 61 178.4 116.0 176.0#  
 98 58.8 35.2 95.2





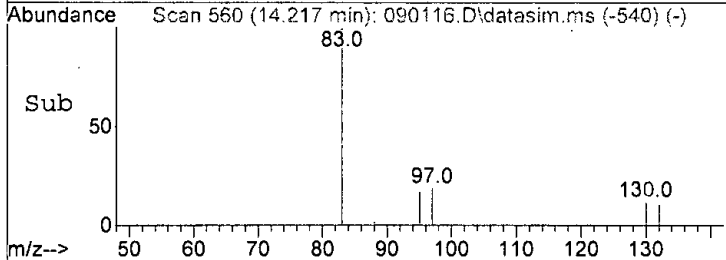
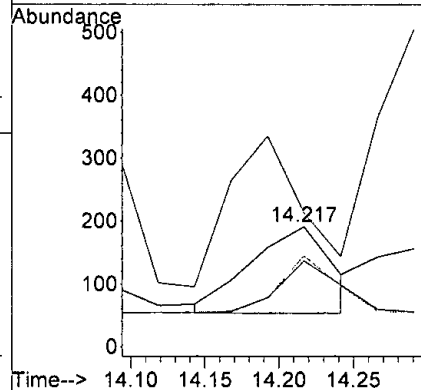
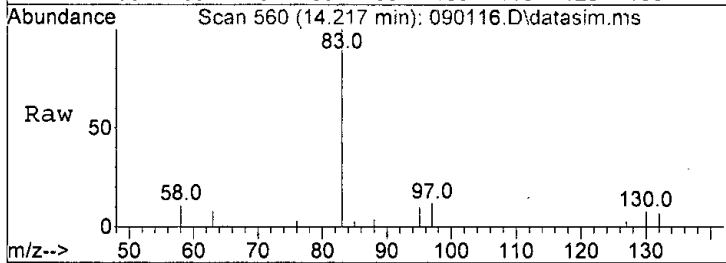
#37  
Benzene  
Concen: 0.936 ppbv  
RT: 12.70 min Scan# 485  
Delta R.T. -0.000 min  
Lab File: 090116.D  
Acq: 1 Sep 2021 7:43 pm

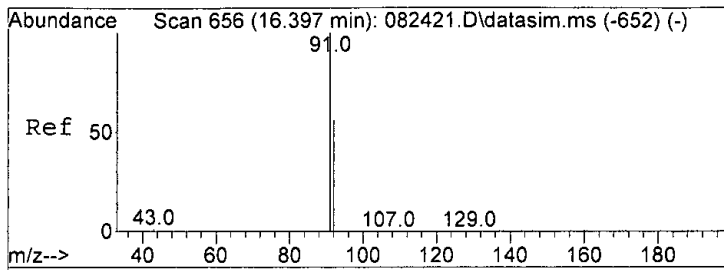
Tgt Ion: 78 Resp: 58693  
Ion Ratio Lower Upper  
78 100  
52 21.8 0.0 49.7



#46  
Trichloroethene  
Concen: 0.017 ppbv m  
RT: 14.22 min Scan# 560  
Delta R.T. -0.000 min  
Lab File: 090116.D  
Acq: 1 Sep 2021 7:43 pm

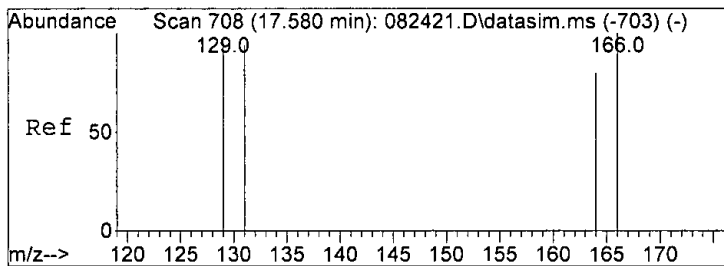
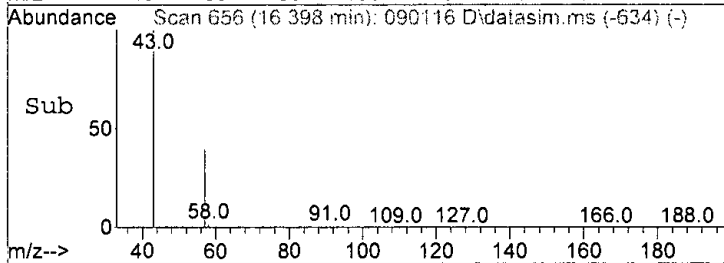
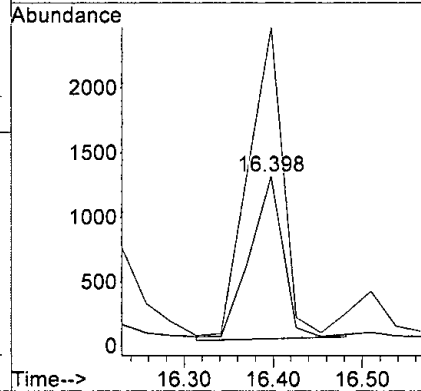
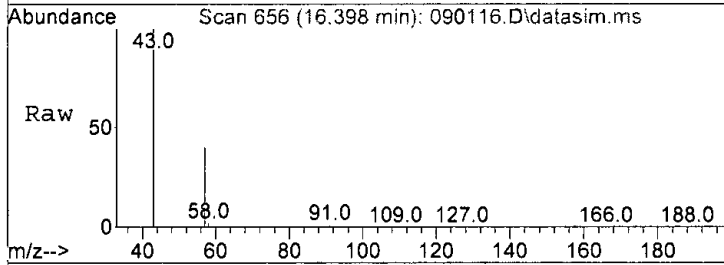
Tgt Ion: 95 Resp: 523  
Ion Ratio Lower Upper  
95 100  
97 111.5 37.1 97.1#  
130 75.9 56.1 116.1  
132 71.7 54.3 114.3





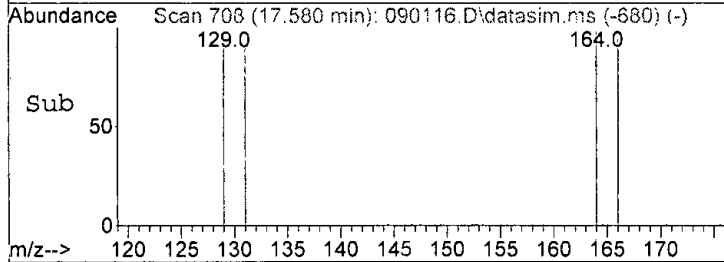
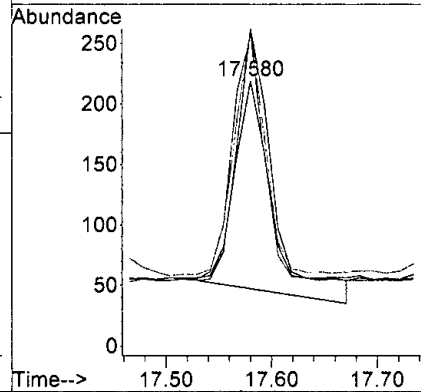
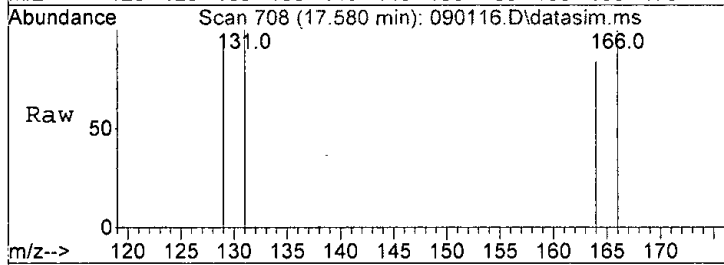
#50  
 Toluene  
 Concen: 0.092 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.001 min  
 Lab File: 090116.D  
 Acq: 1 Sep 2021 7:43 pm

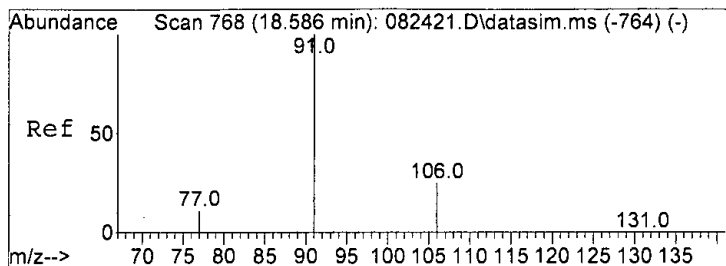
Tgt Ion: 92 Resp: 3328  
 Ion Ratio Lower Upper  
 92 100  
 91 191.4 174.6 234.6



#53  
 Tetrachloroethene  
 Concen: 0.023 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090116.D  
 Acq: 1 Sep 2021 7:43 pm

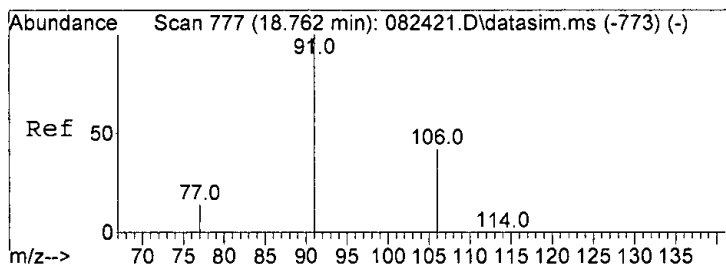
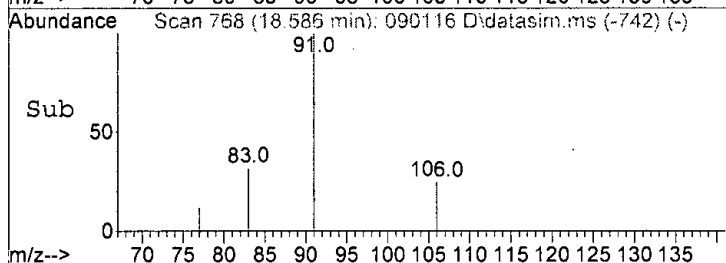
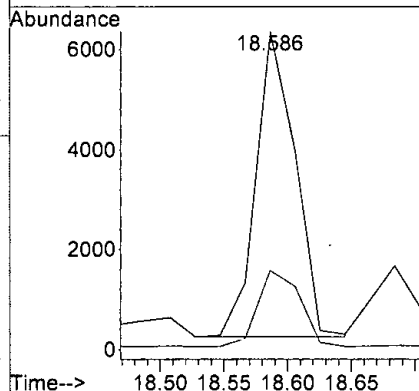
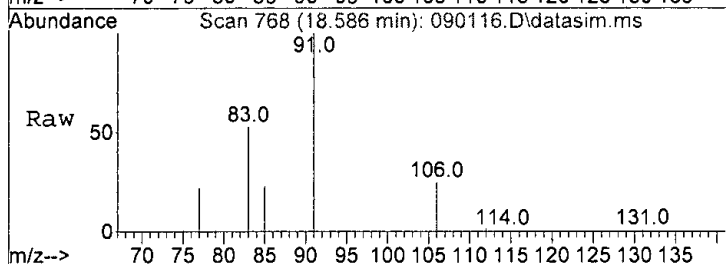
Tgt Ion: 164 Resp: 423  
 Ion Ratio Lower Upper  
 164 100  
 129 122.4 63.2 123.2  
 131 122.4 70.7 130.7  
 166 126.1 107.5 167.5





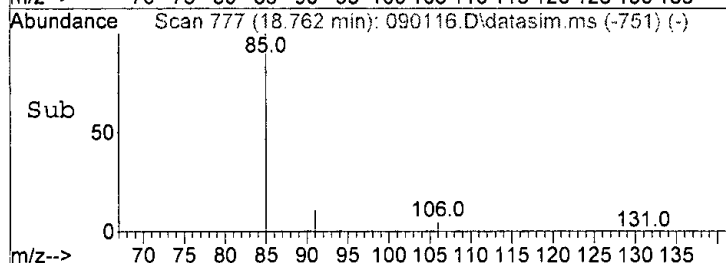
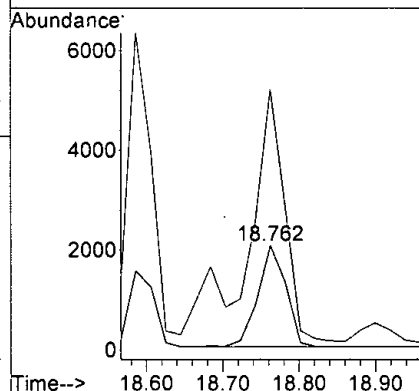
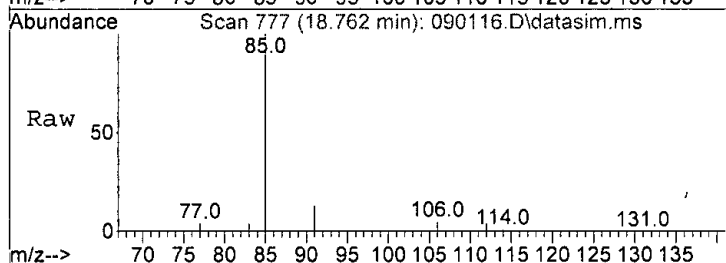
#58  
 Ethylbenzene  
 Concen: 0.135 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090116.D  
 Acq: 1 Sep 2021 7:43 pm

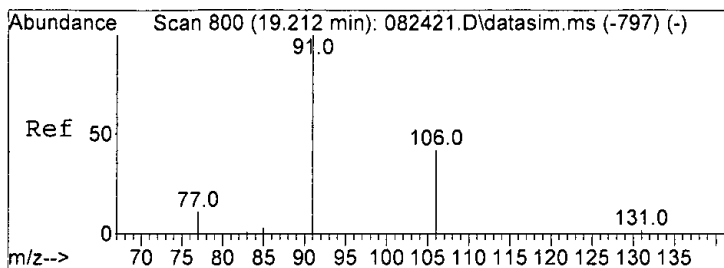
Tgt Ion: 91 Resp: 13026  
 Ion Ratio Lower Upper  
 91 100  
 106 24.9 0.0 57.0



#65  
 m,p-Xylene  
 Concen: 0.166 ppbv  
 RT: 18.76 min Scan# 777  
 Delta R.T. 0.000 min  
 Lab File: 090116.D  
 Acq: 1 Sep 2021 7:43 pm

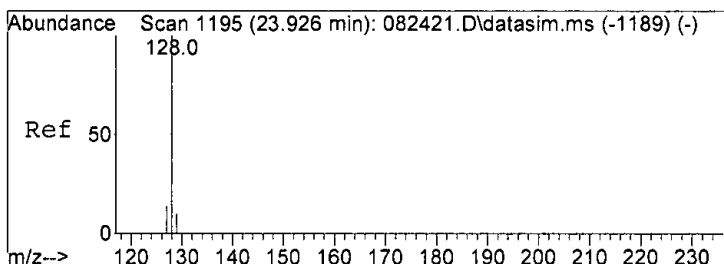
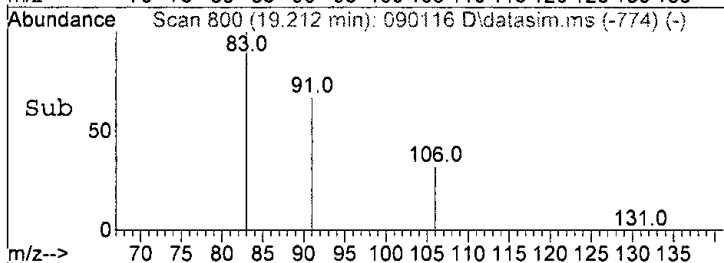
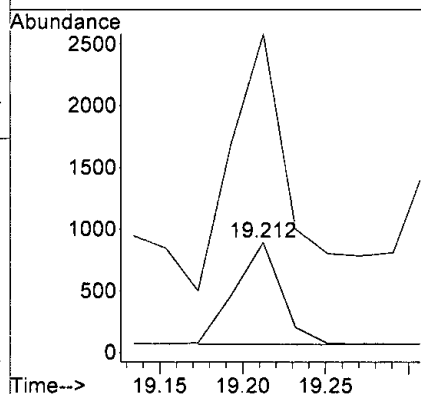
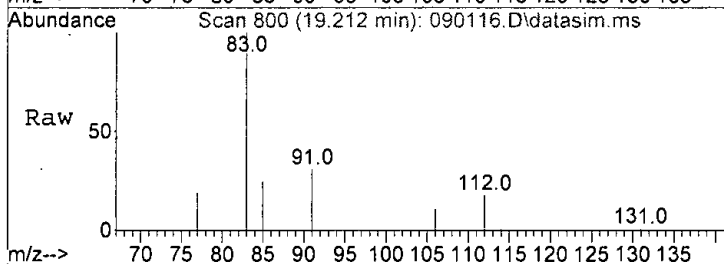
Tgt Ion: 106 Resp: 5168  
 Ion Ratio Lower Upper  
 106 100  
 91 249.0 193.0 253.0





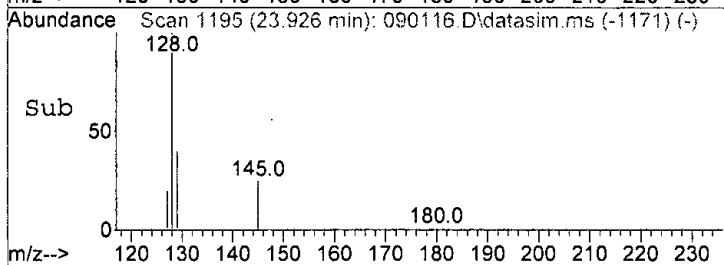
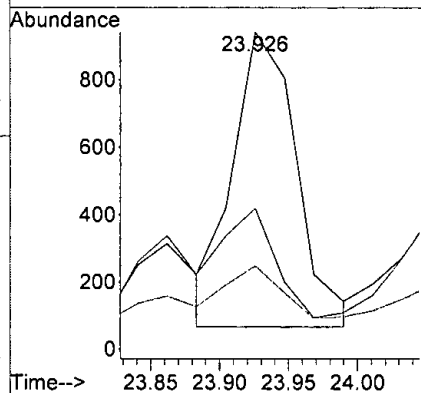
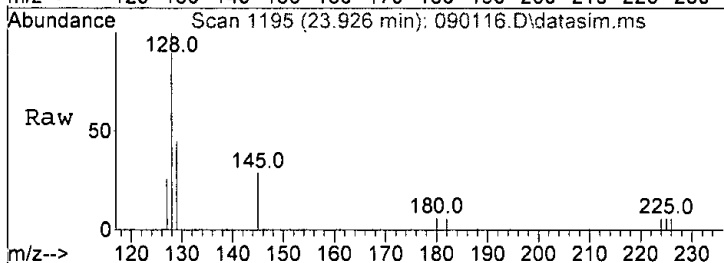
#66  
 o-Xylene  
 Concen: 0.052 ppbv m  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090116.D  
 Acq: 1 Sep 2021 7:43 pm

Tgt Ion: 106 Resp: 1604  
 Ion Ratio Lower Upper  
 106 100  
 91 288.8 194.4 254.4#



#77  
 Naphthalene  
 Concen: 0.013 ppbv m  
 RT: 23.93 min Scan# 1195  
 Delta R.T. -0.000 min  
 Lab File: 090116.D  
 Acq: 1 Sep 2021 7:43 pm

Tgt Ion: 128 Resp: 2808  
 Ion Ratio Lower Upper  
 128 100  
 129 44.5 0.0 41.0#  
 127 26.4 0.0 43.2



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:43:46 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	102411	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	483608	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	435821	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	405244m	10.264	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	102.60%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.		
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.	d	
6] Vinyl chloride	4.05	62	796	0.035	ppbv	98
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.		
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.		
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	6.73	96	121	N.D.		
19] trans-1,2-Dichloroethene	8.18	96	334	0.020	ppbv	91
20) Methylene chloride	6.86	84	20221	1.128	ppbv #	76
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	8.44	63	183	N.D.		
28] cis-1,2-Dichloroethene	9.73	96	390	0.021	ppbv #	80
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.		
34) 1,2-Dichloroethane (EDC)	0.00		0	N.D.	d	
35) 1,1,1-Trichloroethane	11.94	97	137	N.D.		
36) Carbon tetrachloride	0.00		0	N.D.	d	
37] Benzene	12.70	78	58693	0.936	ppbv	95
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

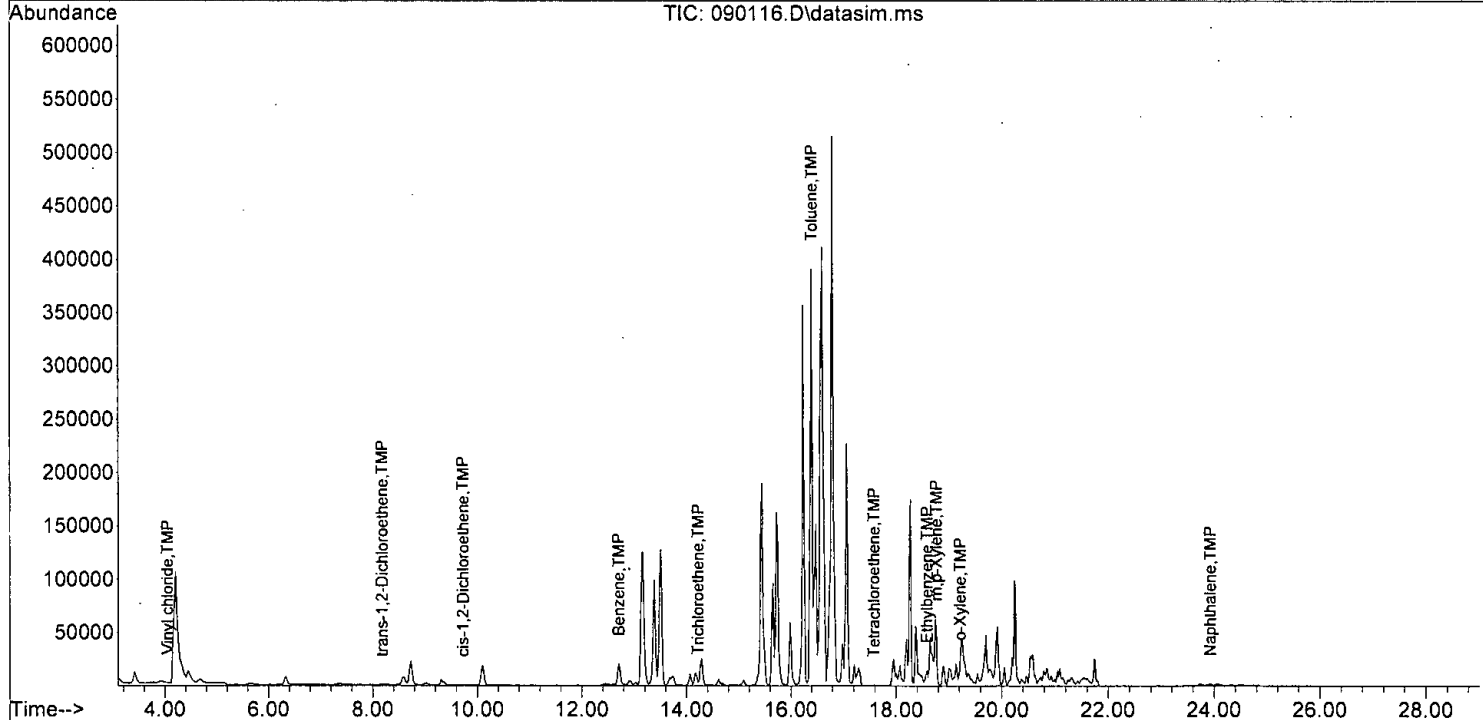
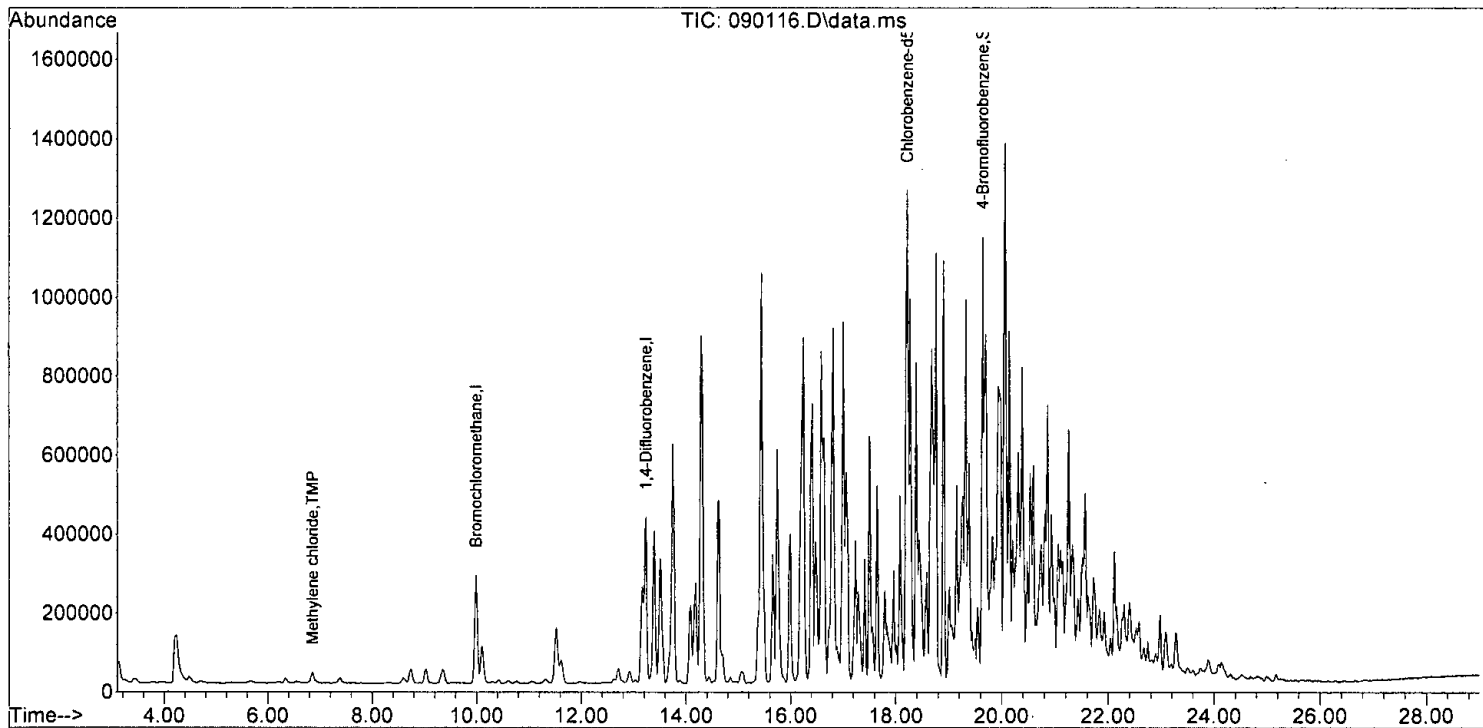
Quant Time: Sep 02 12:43:46 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	523m	0.017	ppbv	
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	3328	0.092	ppbv	91
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	423	0.023	ppbv	81
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	13026	0.135	ppbv	96
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.76	106	5168	0.166	ppbv	84
66] o-Xylene	19.21	106	1604m	0.052	ppbv	
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77] Naphthalene	23.93	128	2808m	0.013	ppbv	
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
Data File : 090116.D  
Acq On : 1 Sep 2021 7:43 pm  
Operator : bat  
Sample : 108515-10 1/1100  
Misc : T6  
ALS Vial : 15 Sample Multiplier: 1  
InstName : GCMS7

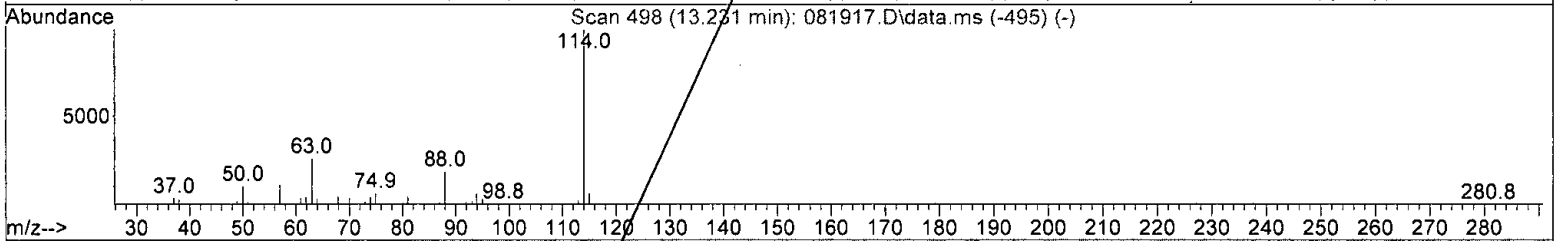
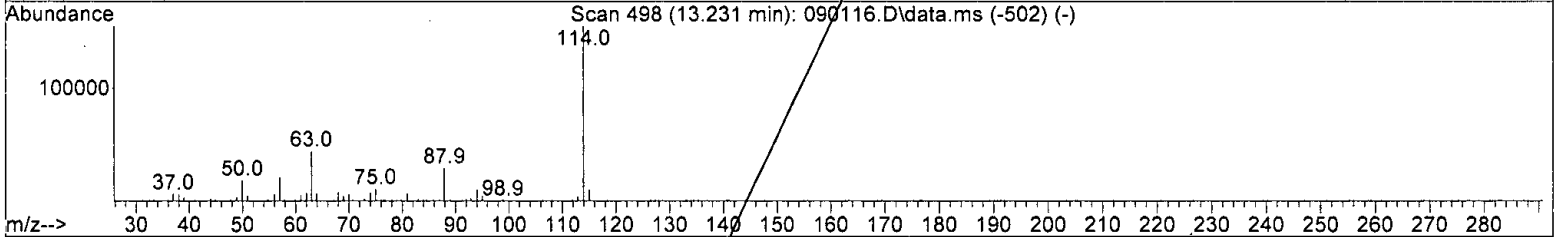
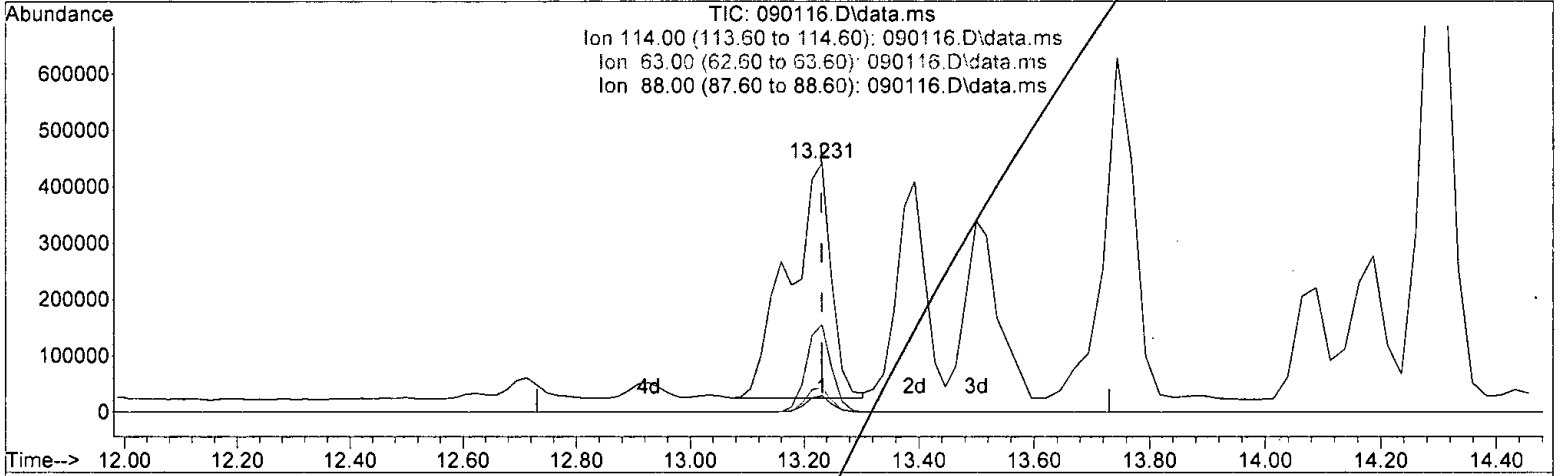
Quant Time: Sep 02 12:43:46 2021  
Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
Quant Title : TO-15 SS method  
QLast Update : Wed Aug 25 09:28:09 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M





Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000) 84.086 ug/m3

response 2158073

Signal Exp% Act%

TIC 100.00 100.00

114.00 43.50 37.35

63.00 8.40 10.63

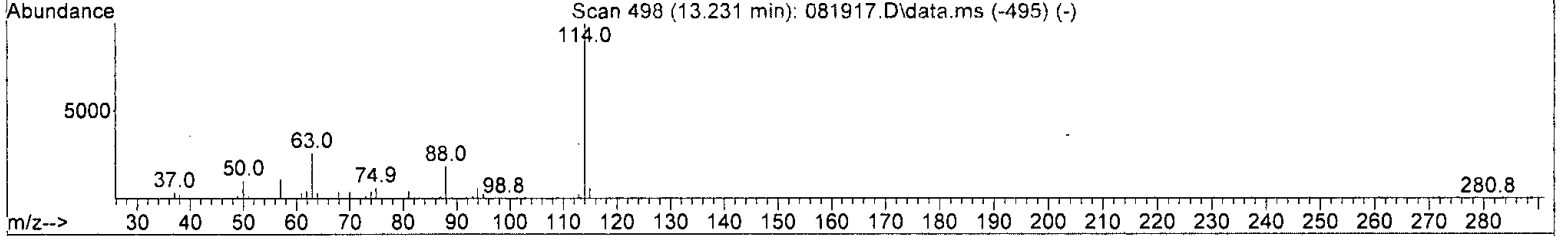
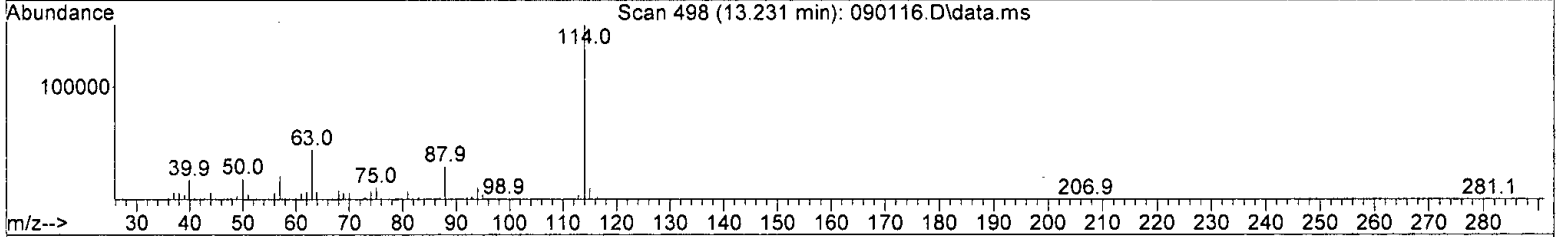
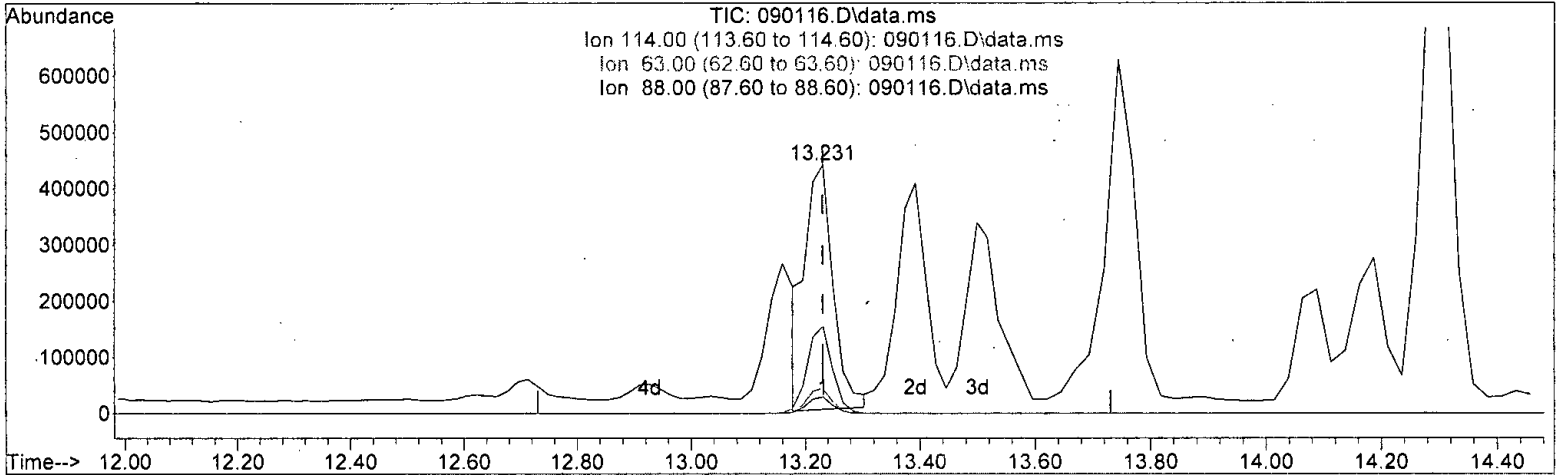
88.00 7.60 7.08

*M. Orshy*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



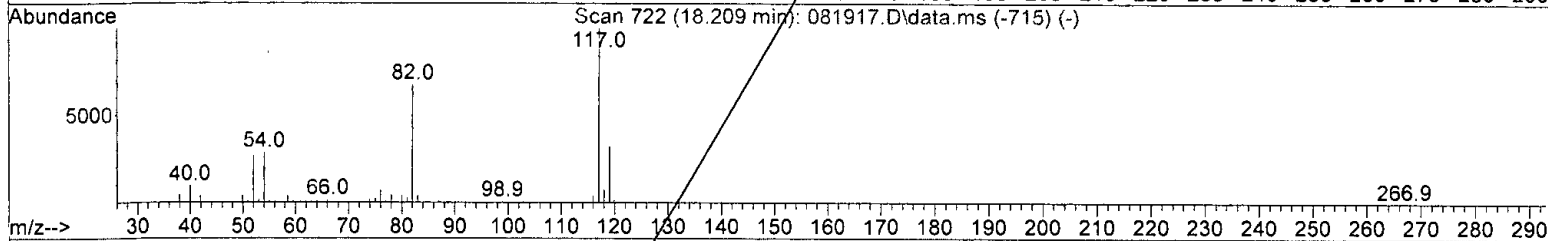
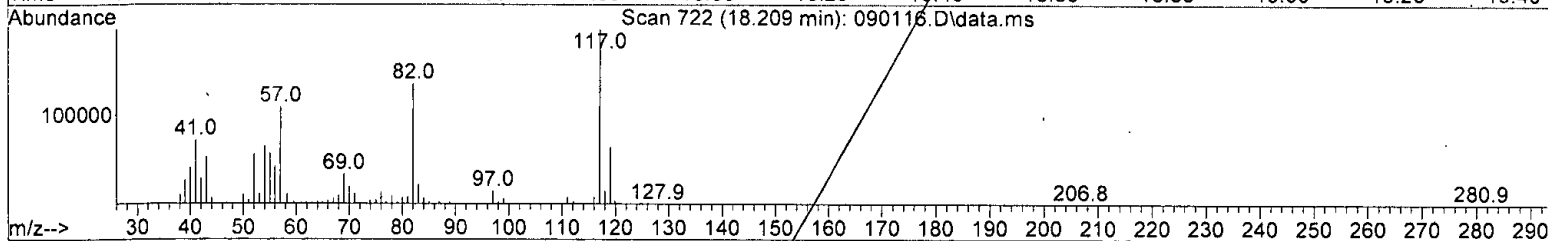
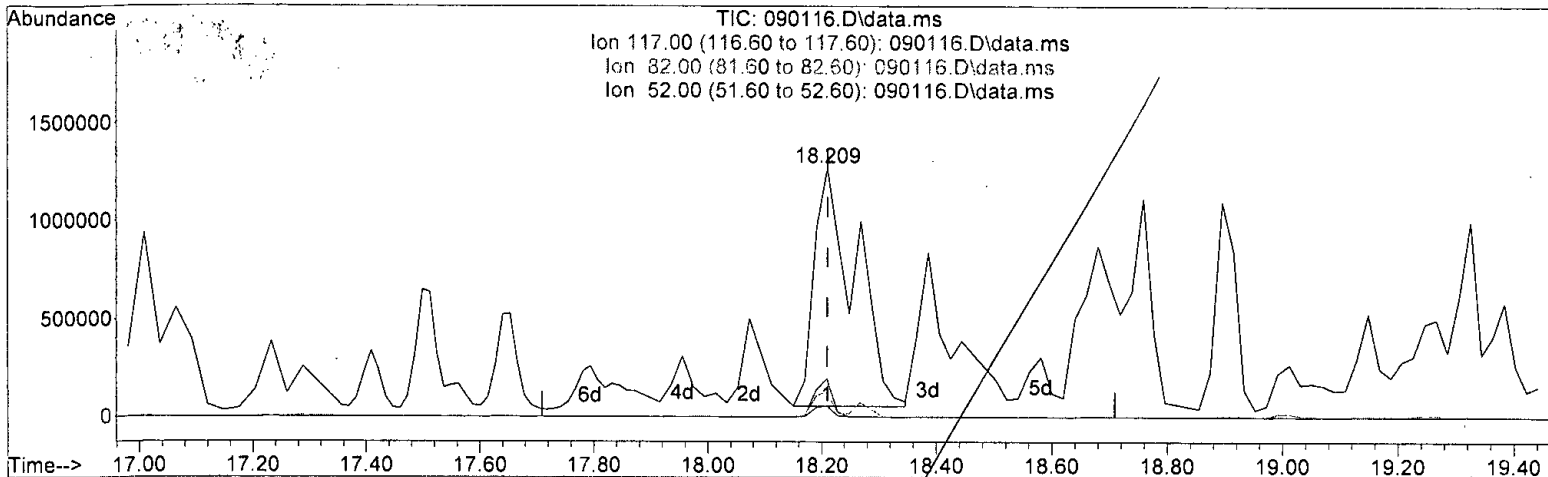
(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000)	59.038 ug/m3 m
response	1515215
Signal	Exp% Act%
TIC	100.00 100.00
114.00	43.50 53.19
63.00	8.40 15.15
88.00	7.60 10.08

*Handwritten signature: N. Orata*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 196.384 ug/m3

response 6113436

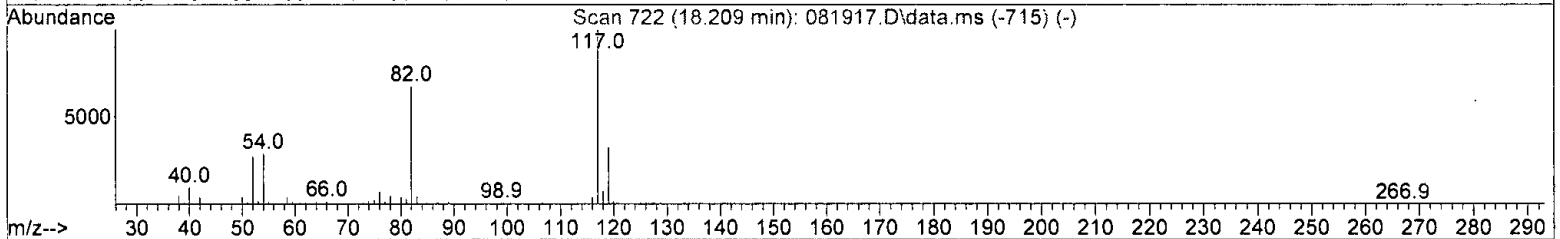
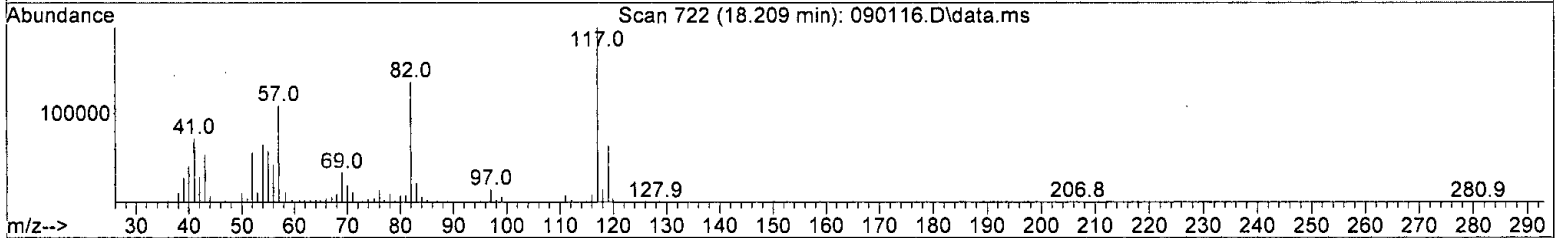
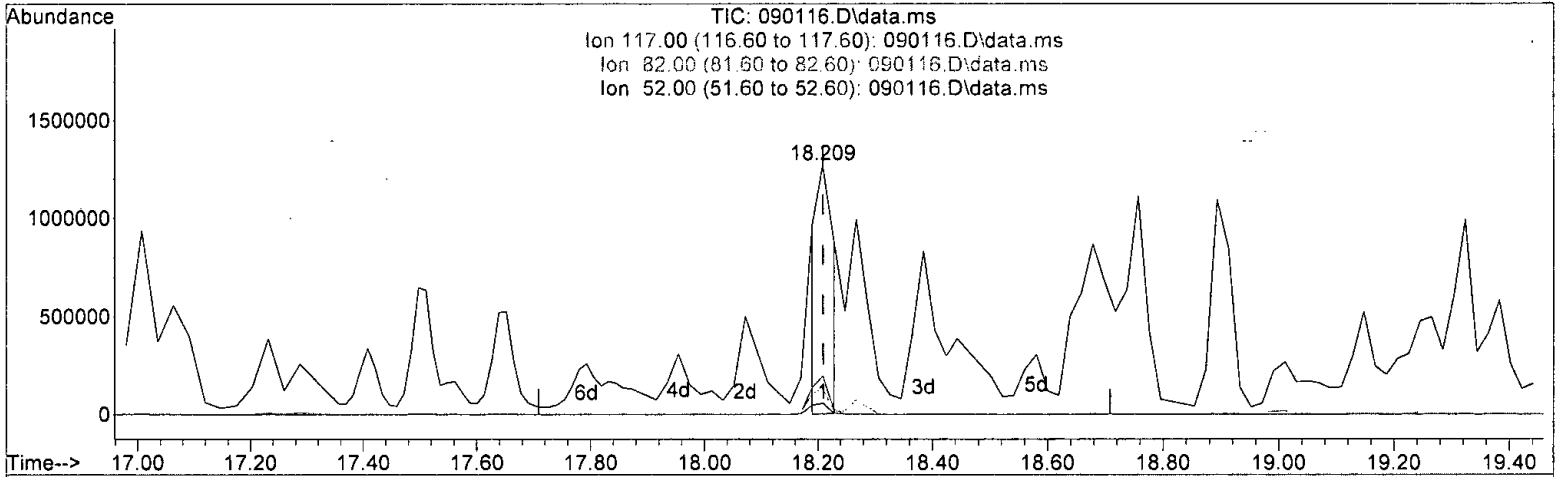
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	7.13#
82.00	18.10	5.51
52.00	6.90	2.27

*Handwritten signature: R. Orbach*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 81.022 ug/m3 m

response 2522211

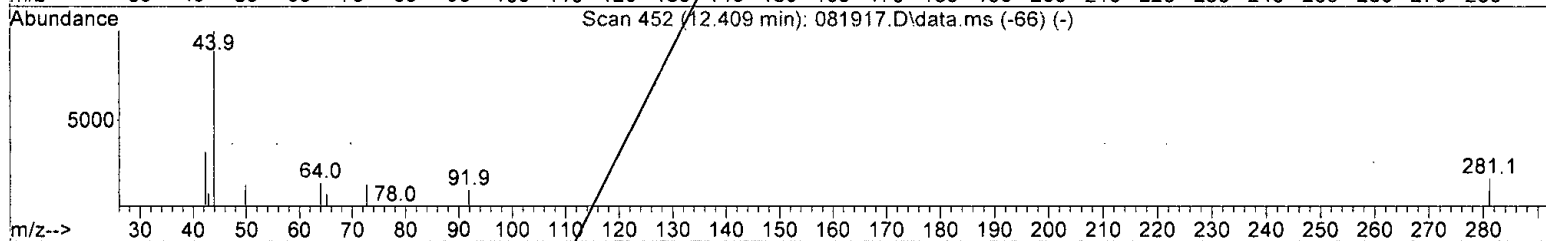
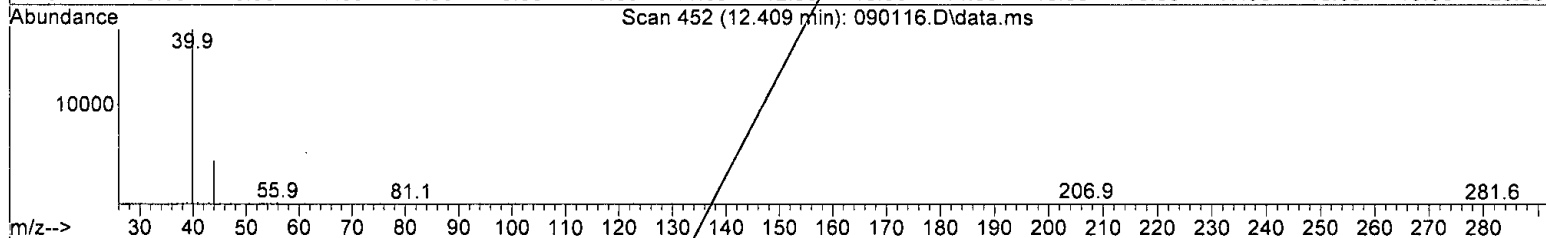
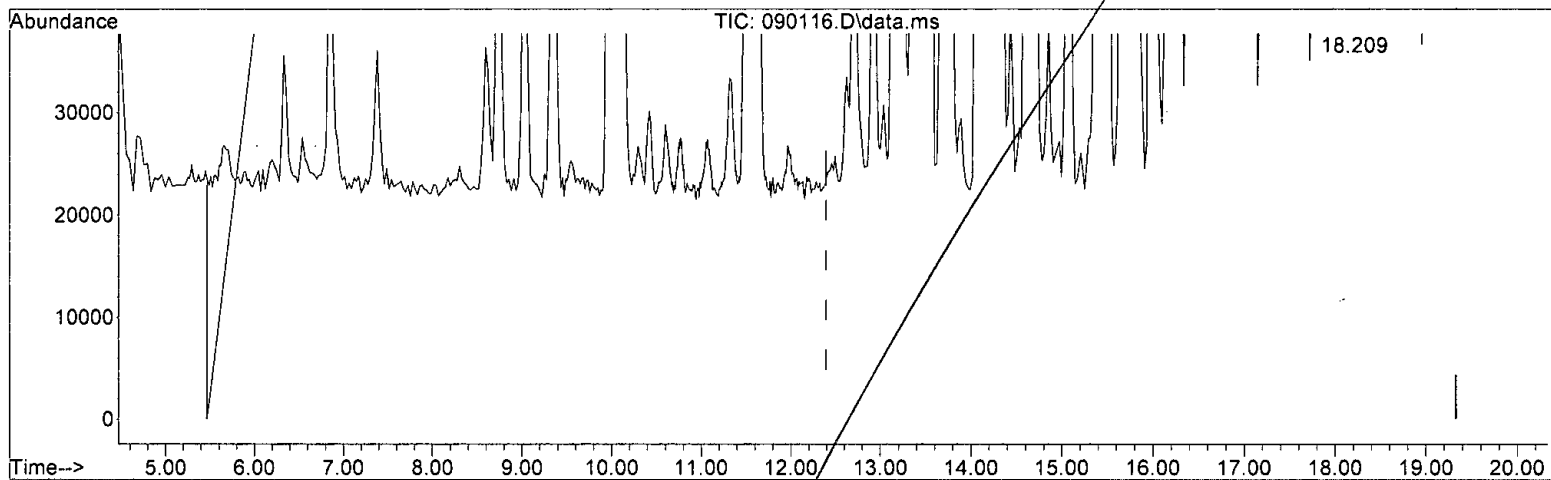
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	17.28
82.00	18.10	13.35
52.00	6.90	5.49

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 1665.635 ug/m3

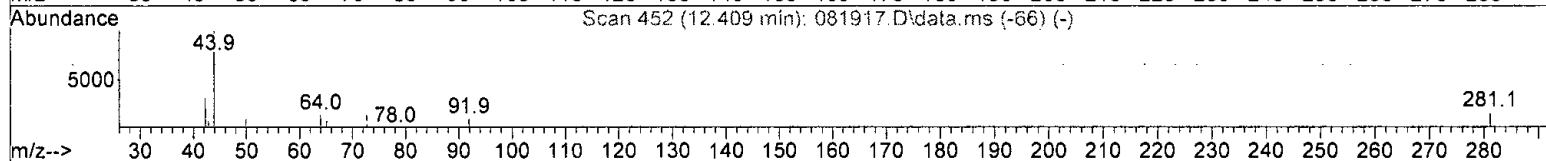
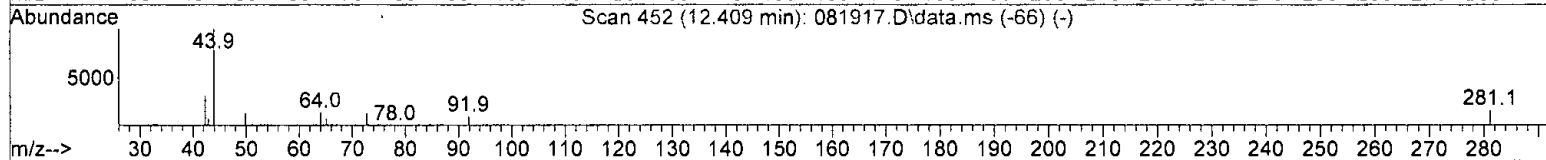
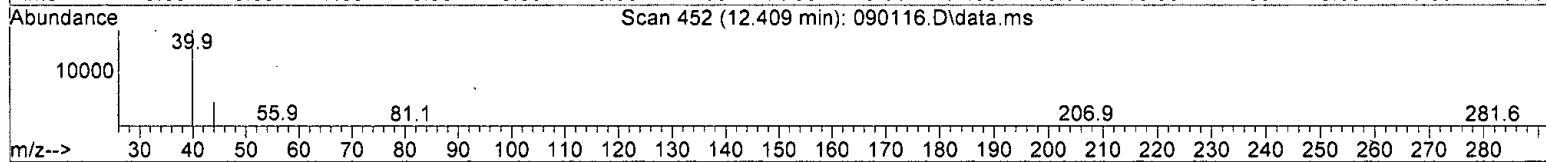
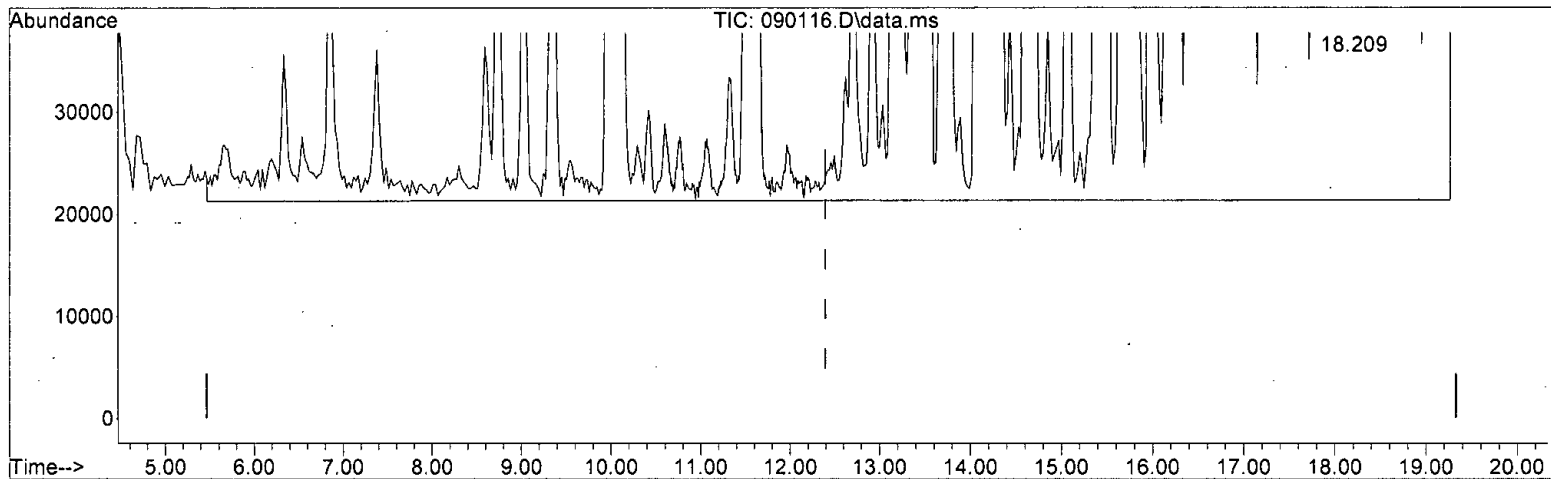
response 63913434

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



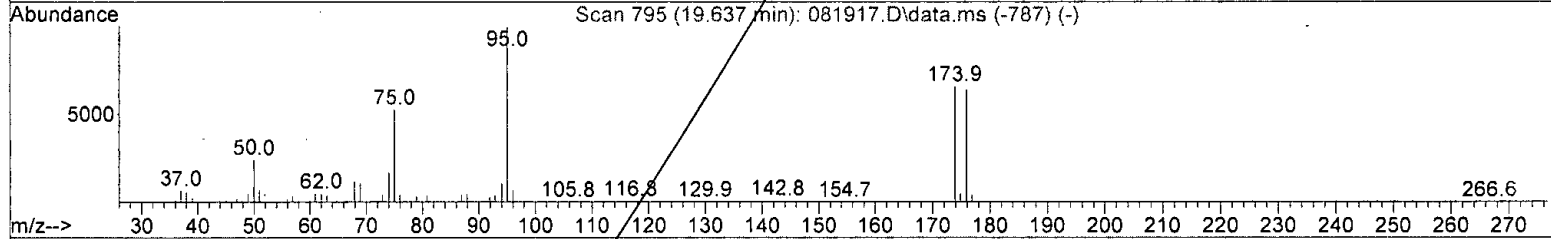
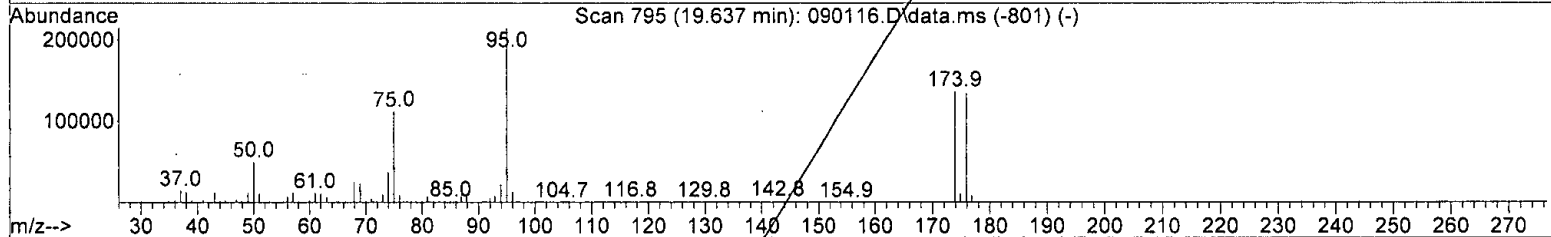
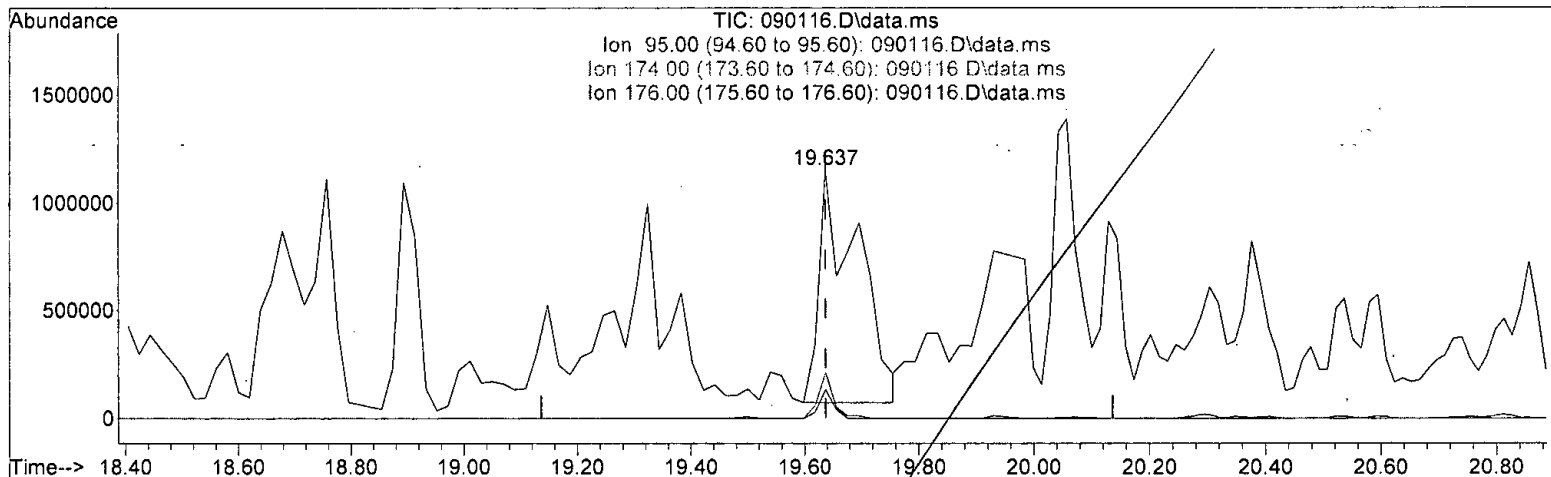
(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 1906.456 ug/m3 m  
 response 73154182

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min ( 0.000) 140.201 ug/m3

response 5158277

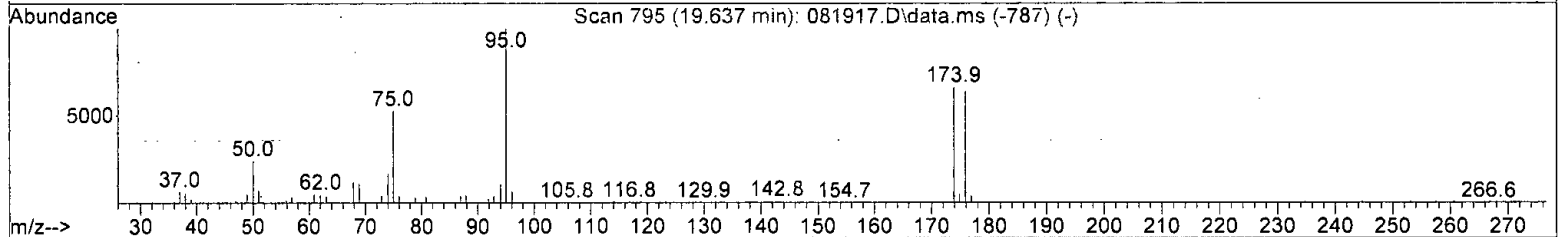
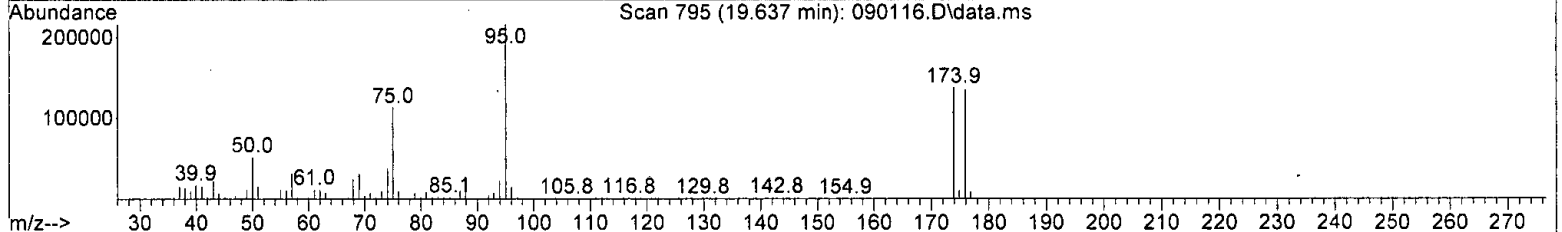
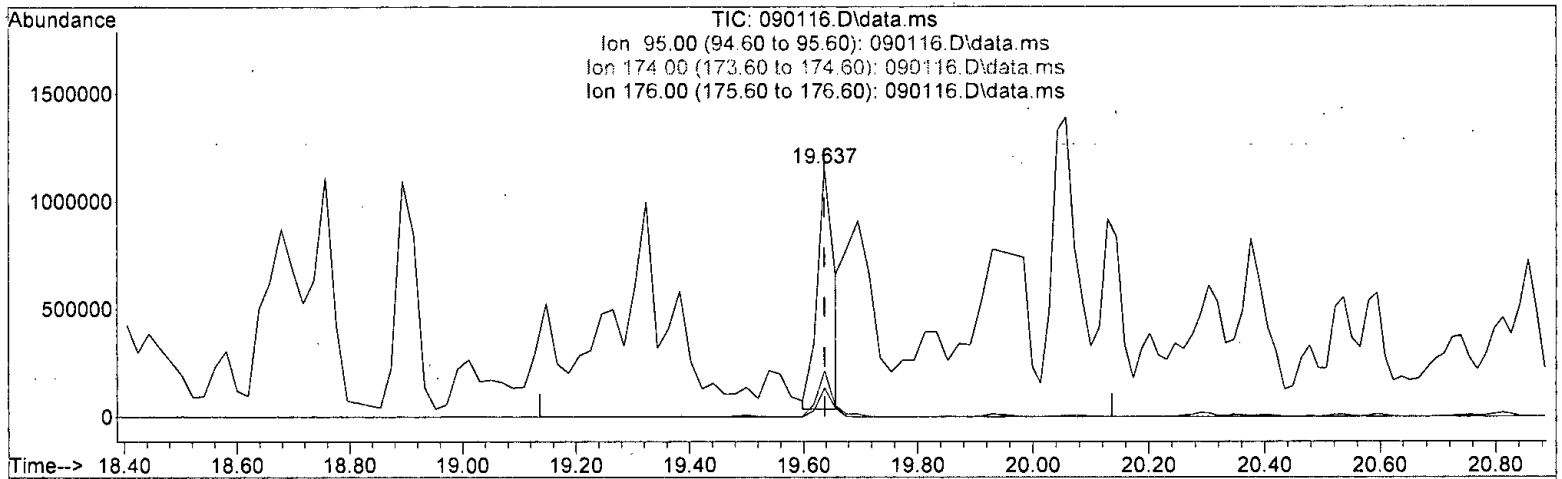
Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	19.90
174.00	19.20	12.67
176.00	18.70	12.46

*Bataly*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)  
 19.637min ( 0.000) 65.176 ug/m3 m  
 response 2397950

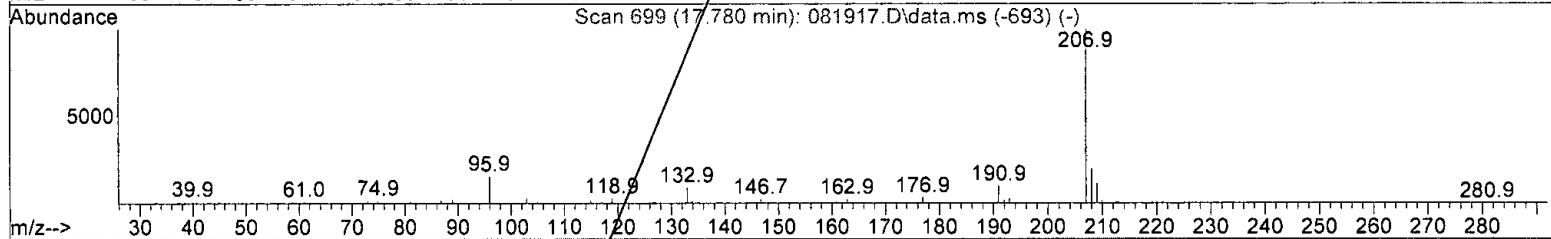
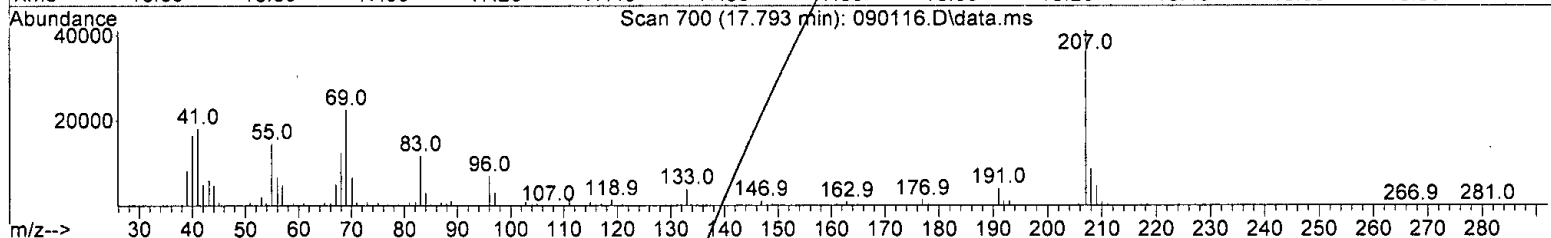
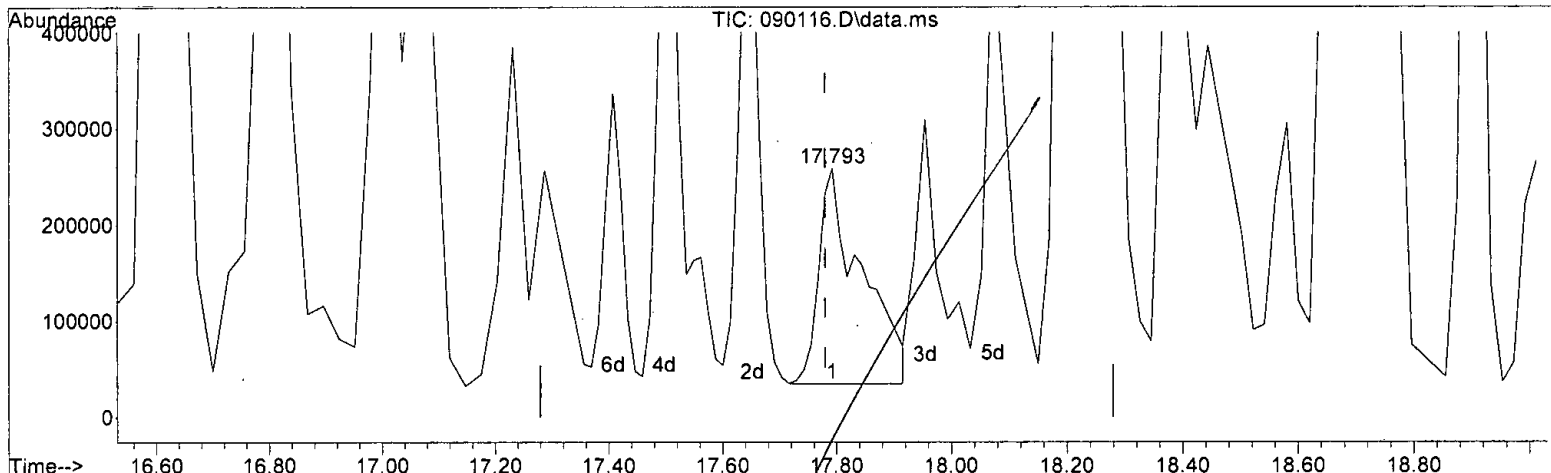
Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	42.81
174.00	19.20	27.26
176.00	18.70	26.81

*Bat*



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(22) Hexamethylcyclotrisiloxane

17.793min (+ 0.013) 136.538 ppbv

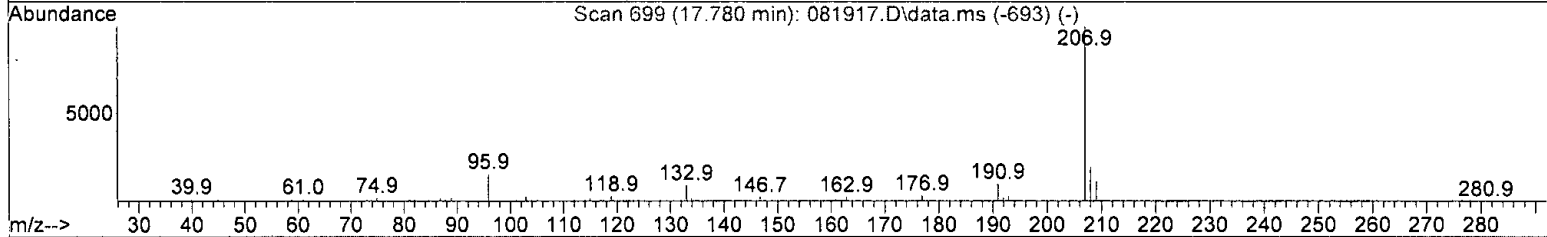
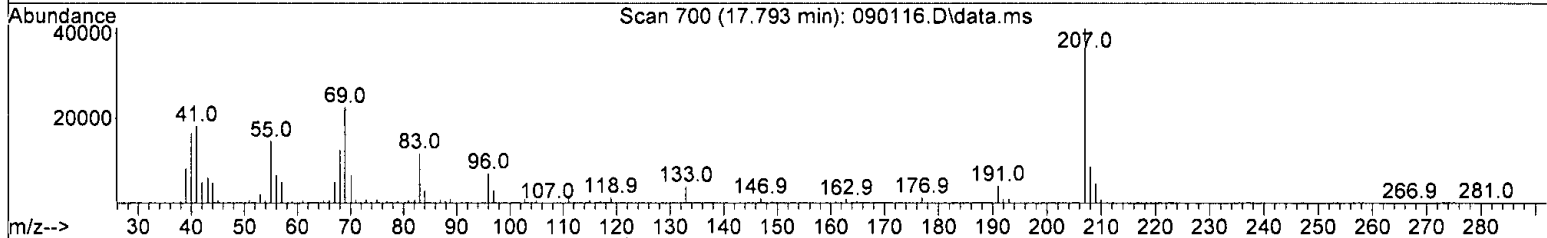
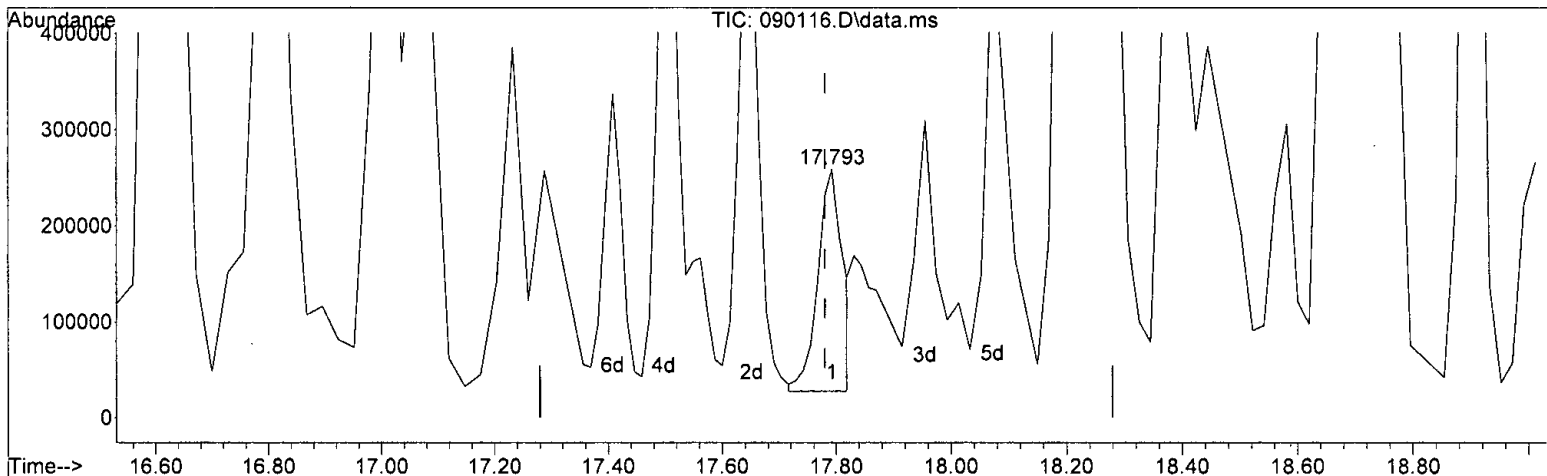
response 1237340

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:39:24 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



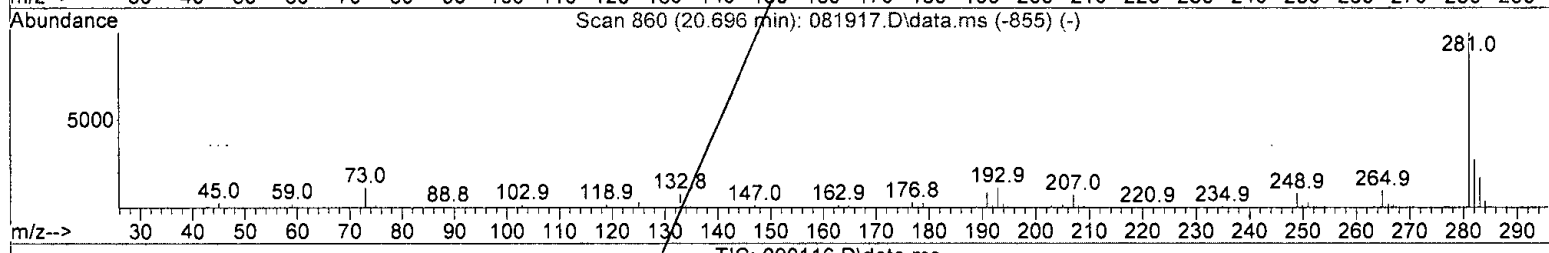
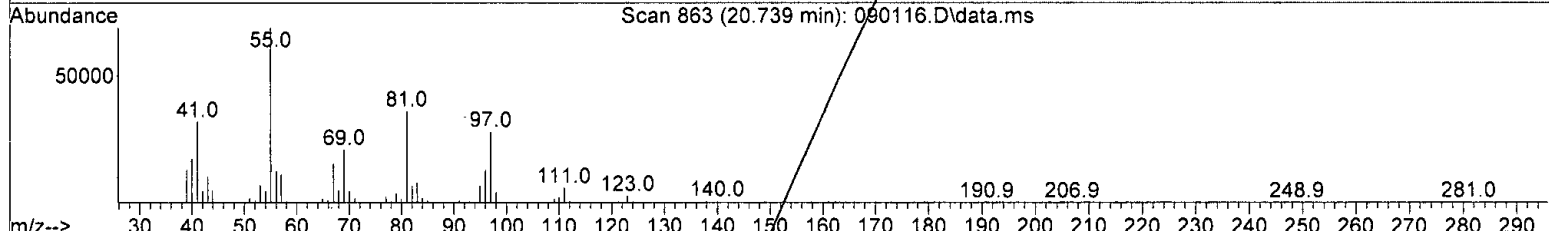
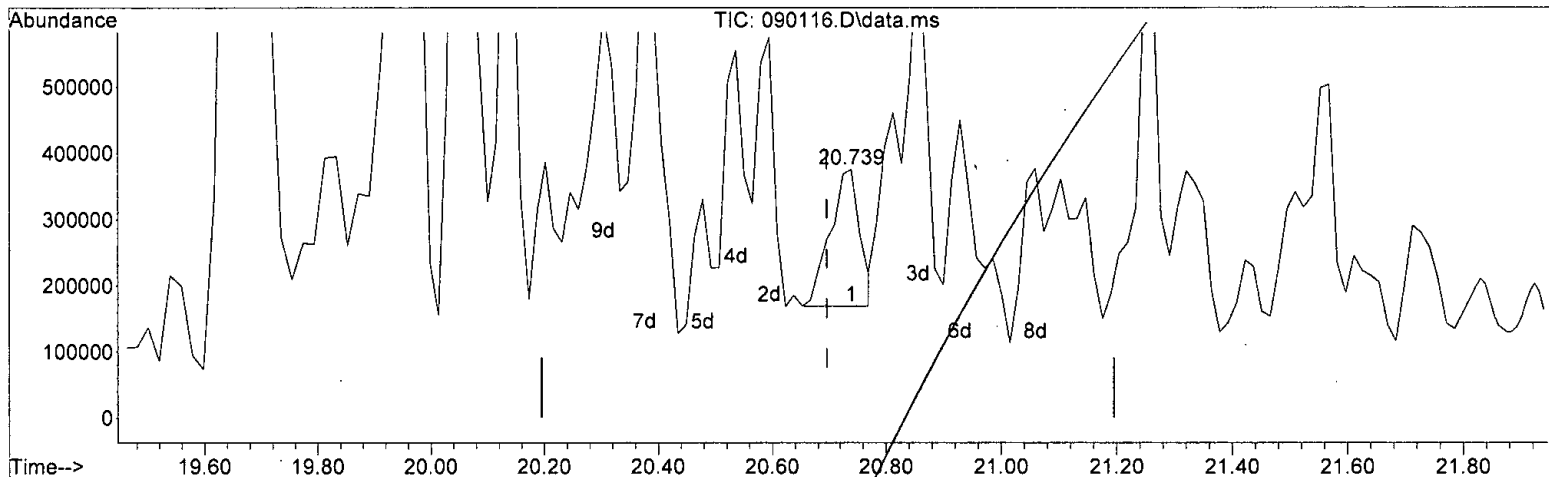
(22) Hexamethylcyclotrisiloxane  
 17.793min (+ 0.013) 77.286 ppbv m  
 response 700380  

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*  
 09/2/21

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.739min (+ 0.044) 65.962 ppbv

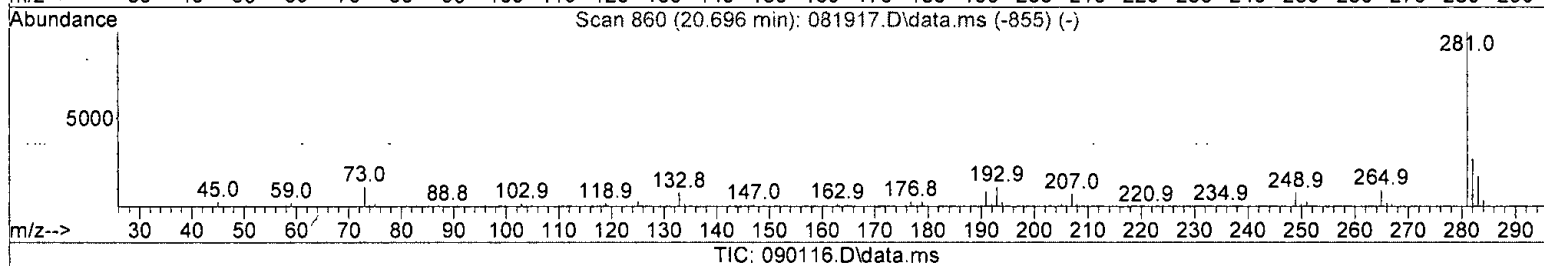
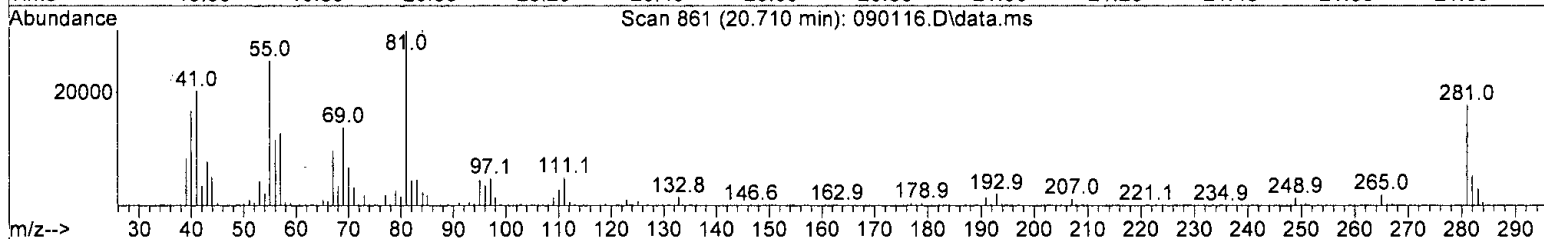
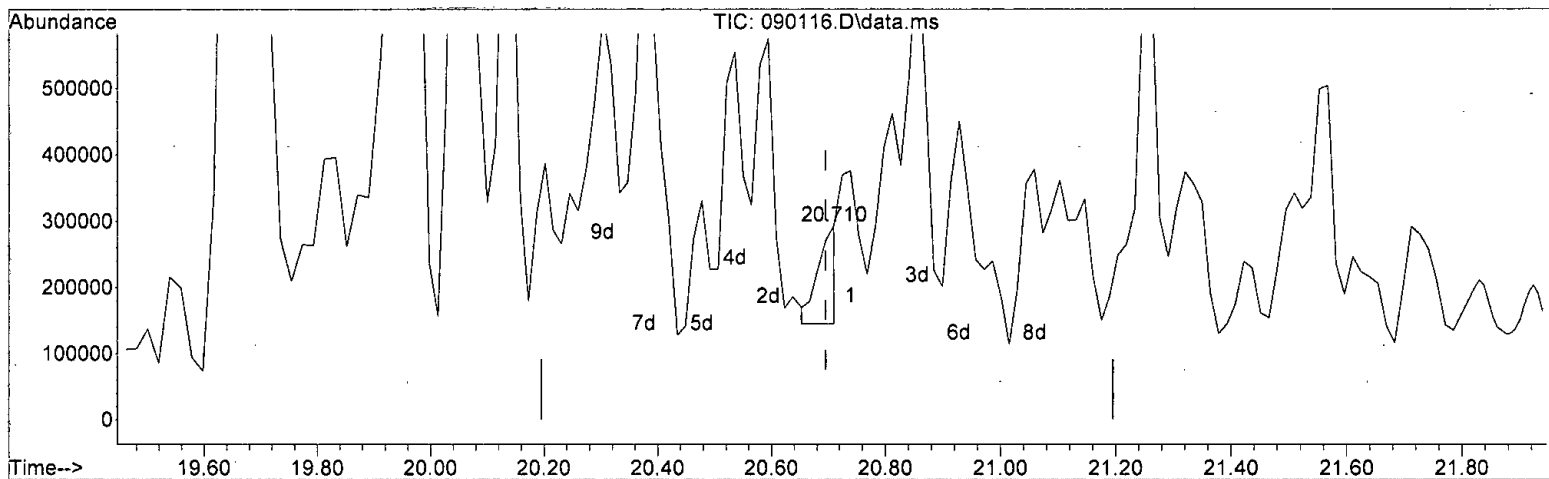
response 746047

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

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Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.710min (+ 0.015) 29.934 ppbv m

response 338558

Signal Exp% Act%

TIC 100.00 100.00

0.00 0.00 0.00

0.00 0.00 0.00

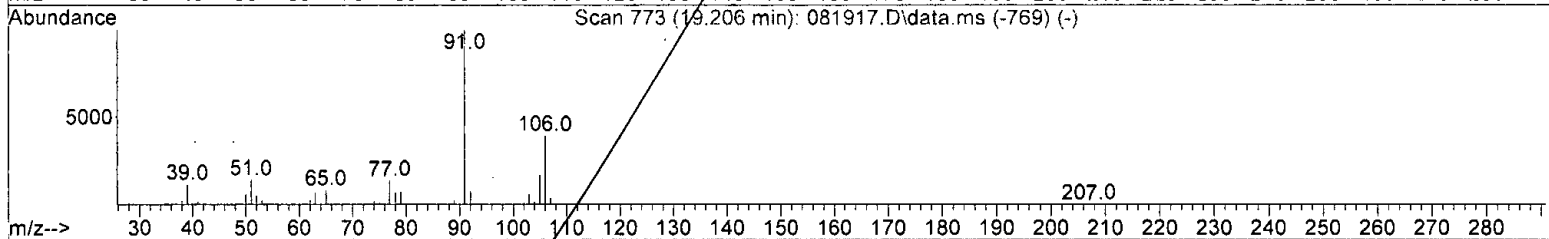
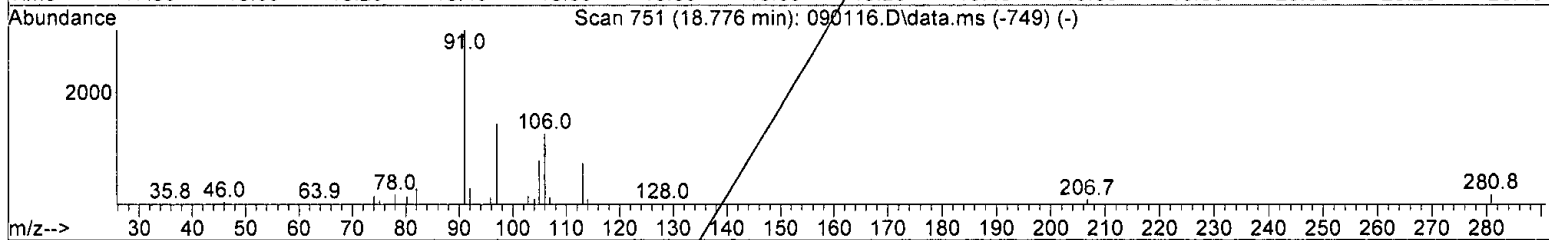
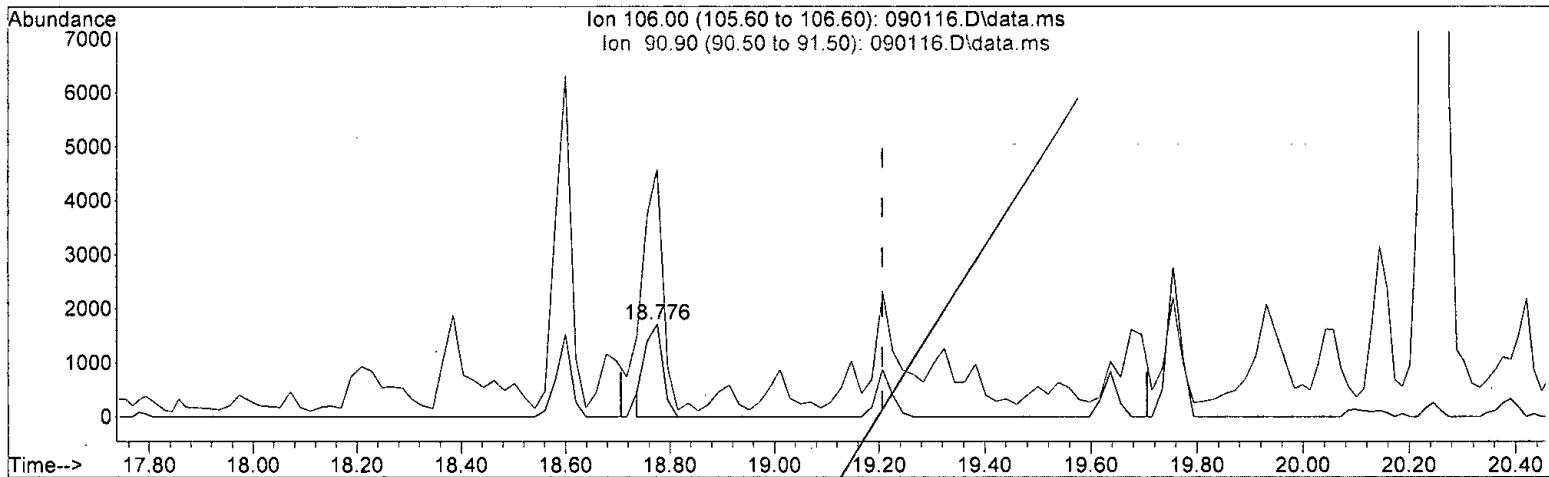
0.00 0.00 0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090116.D\data.ms

(27) o-Xylene (T)

18.776min (-0.430) 0.653 ug/m3

response 4010

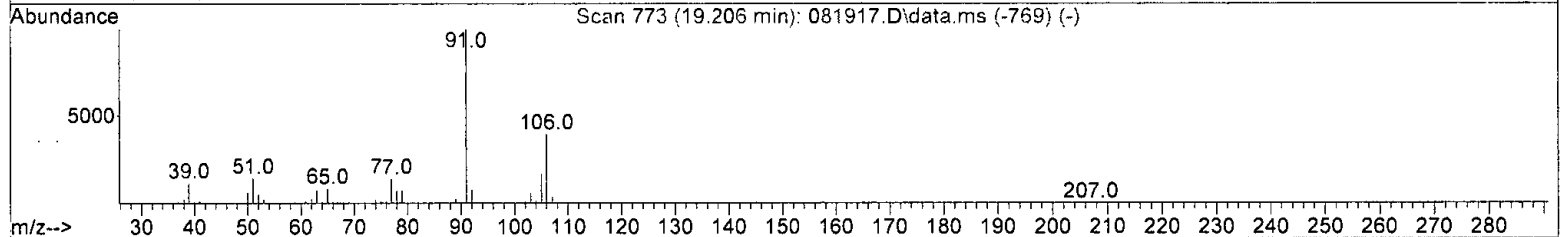
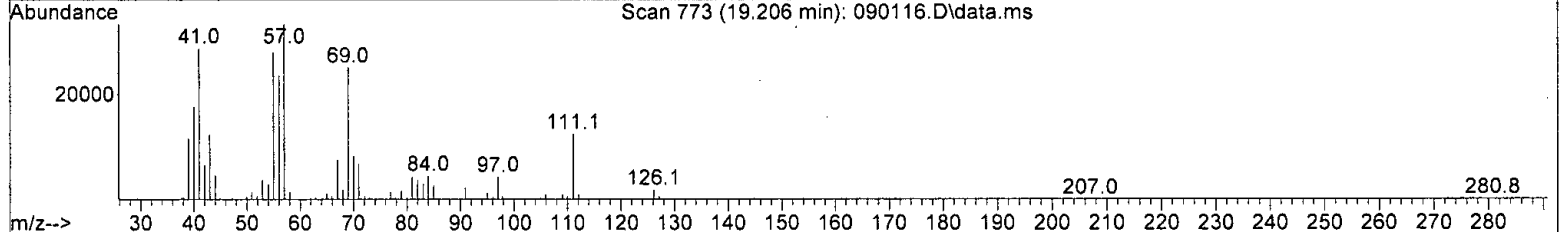
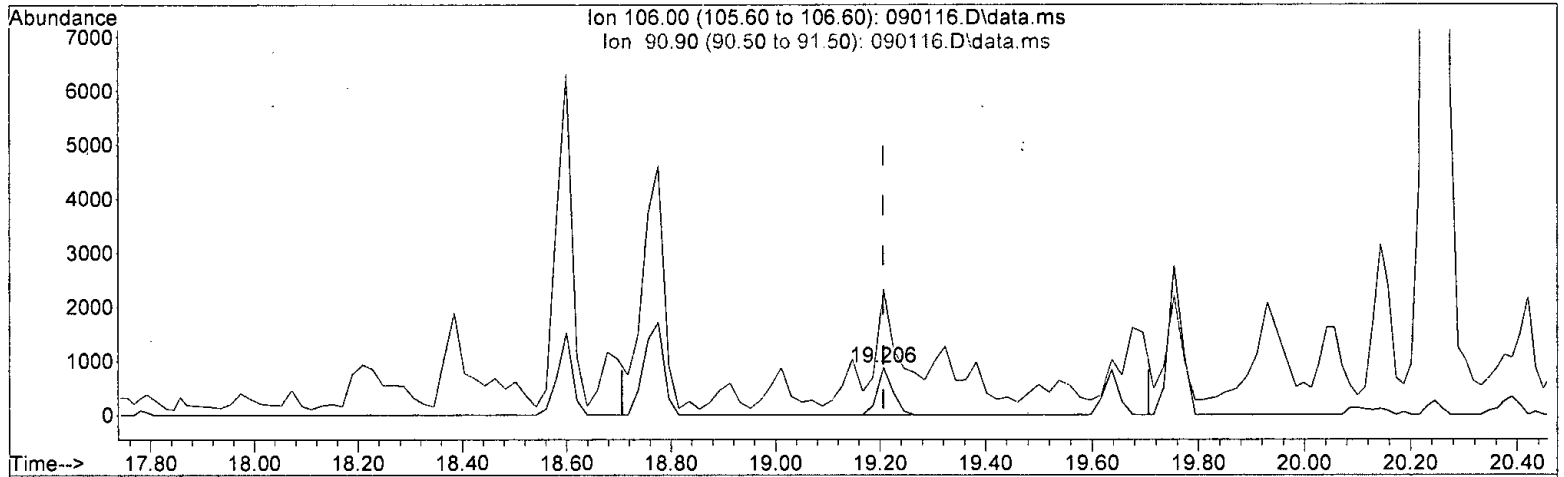
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	253.91
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: h orlah*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

19.206min (+ 0.000) 0.293 ug/m3 m

response 1797

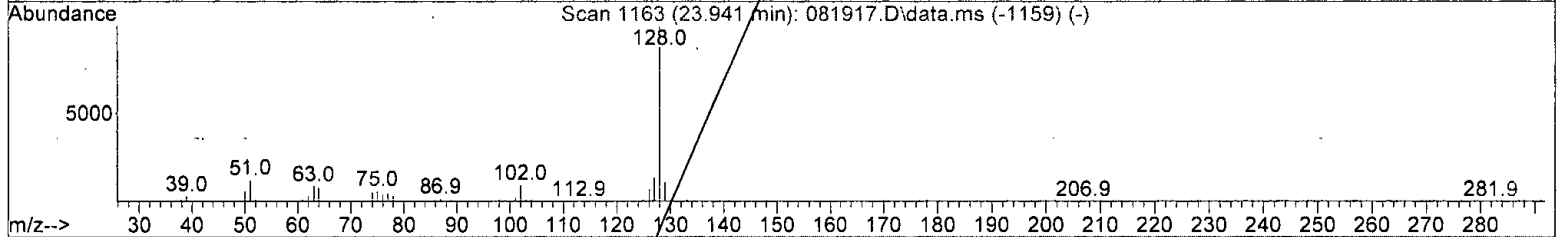
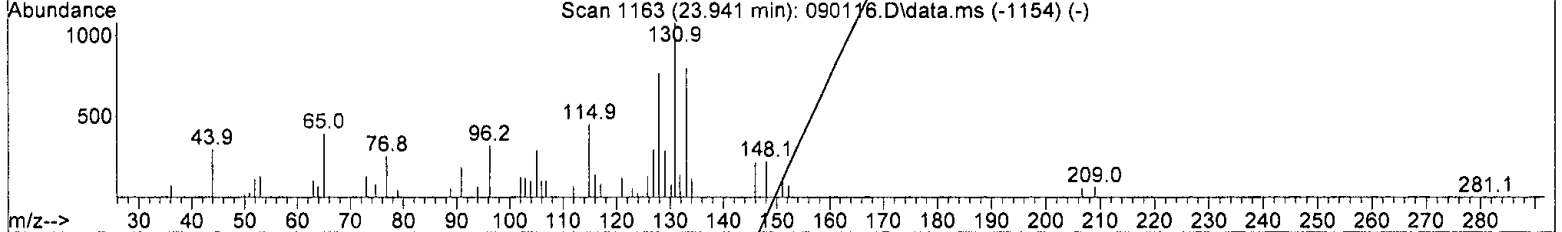
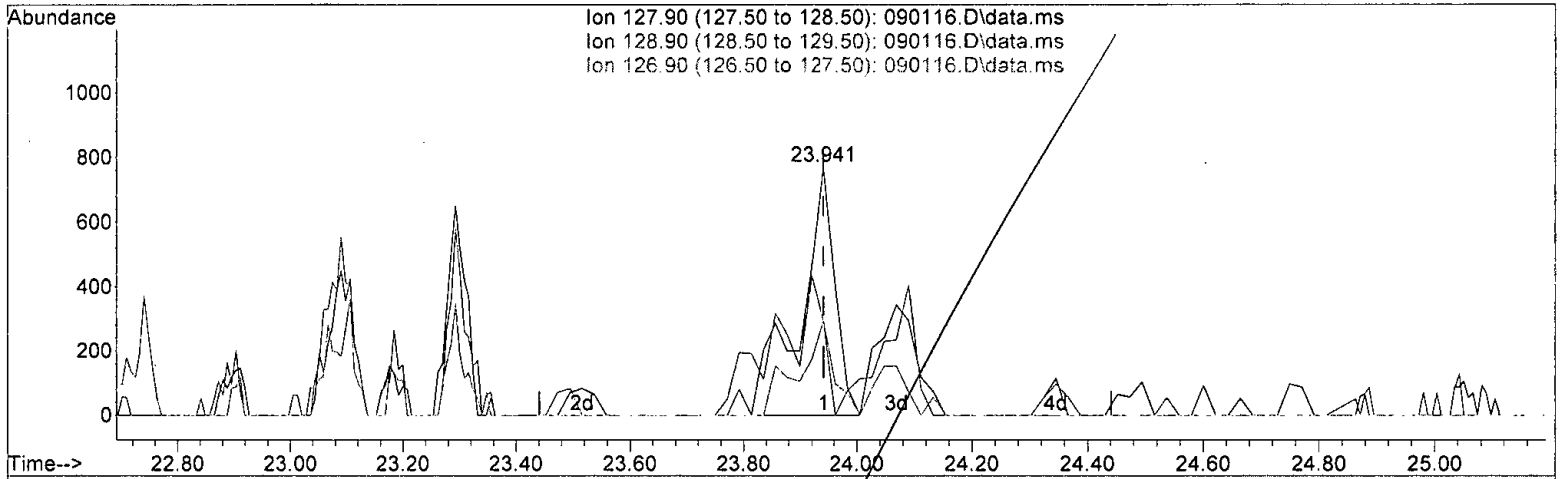
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	264.09#
0.00	0.00	0.00
0.00	0.00	0.00

*M  
o-xylene*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(28) Naphthalene (T)

23.941min (+ 0.000) 0.219 ug/m3

response 3431

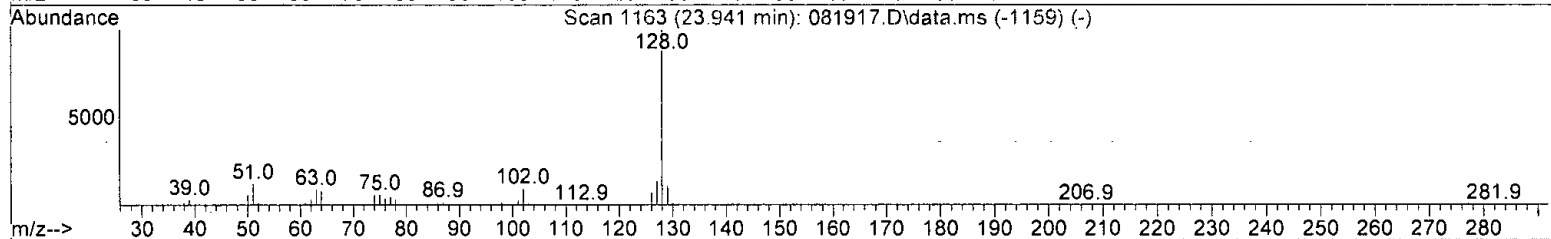
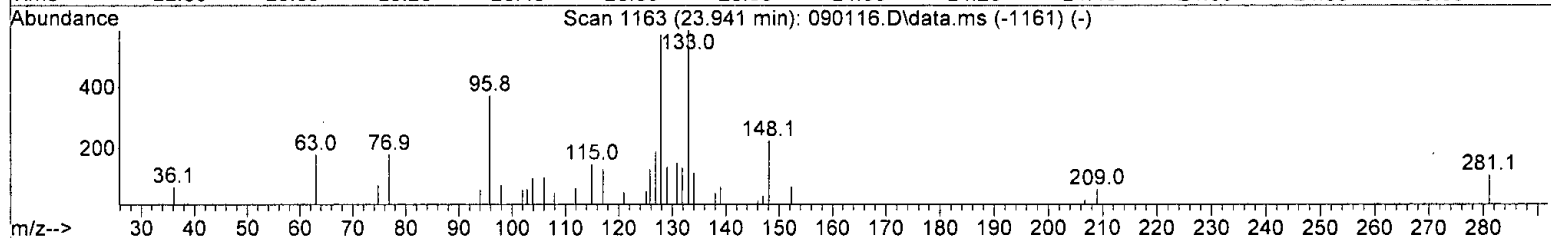
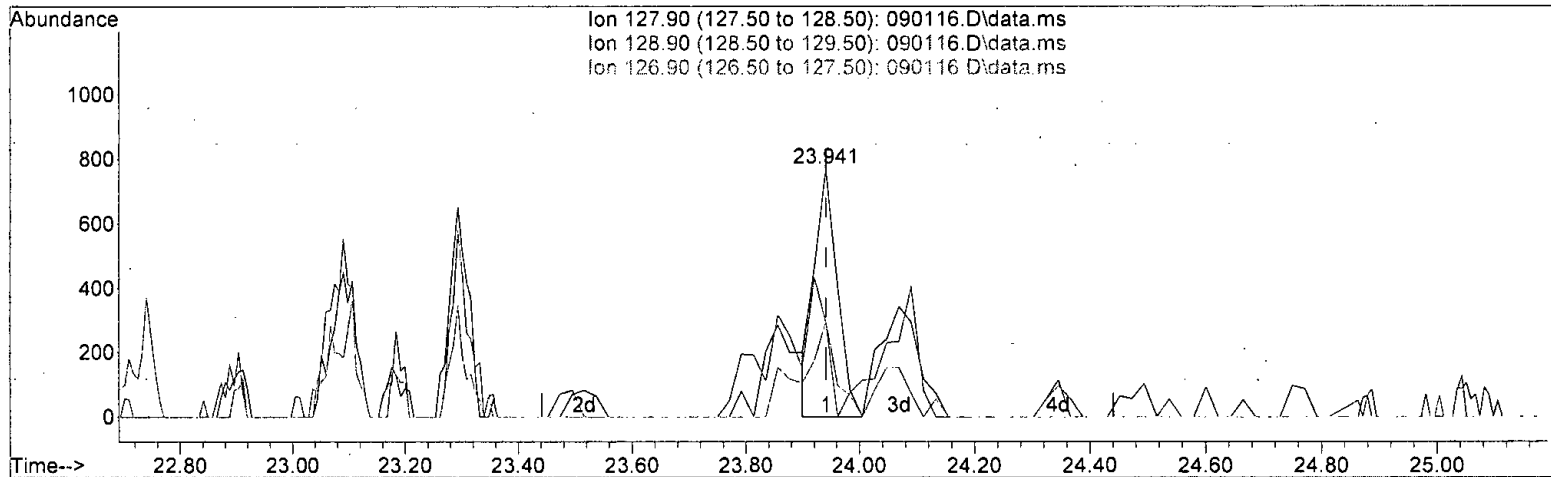
Ion	Exp%	Act%
127.90	100.00	100.00
128.90	11.10	37.61
126.90	13.70	38.52
0.00	0.00	0.00

*Naphthalene*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(28) Naphthalene (T)

23.941min (+ 0.000) 0.140 ug/m3 m

response 2198

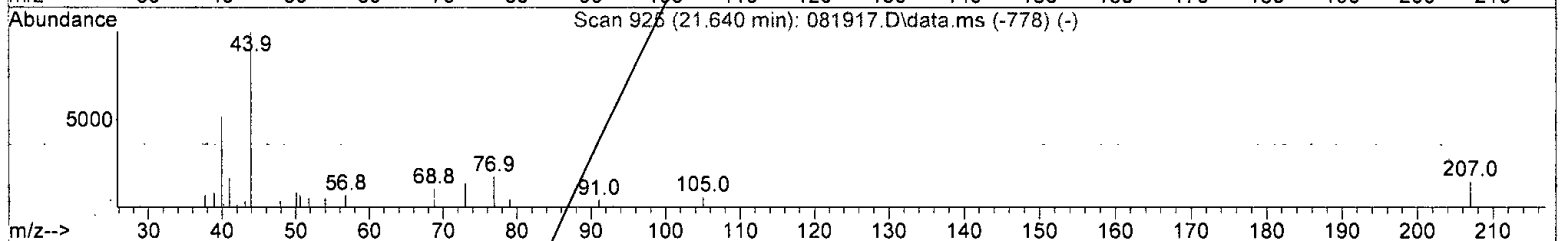
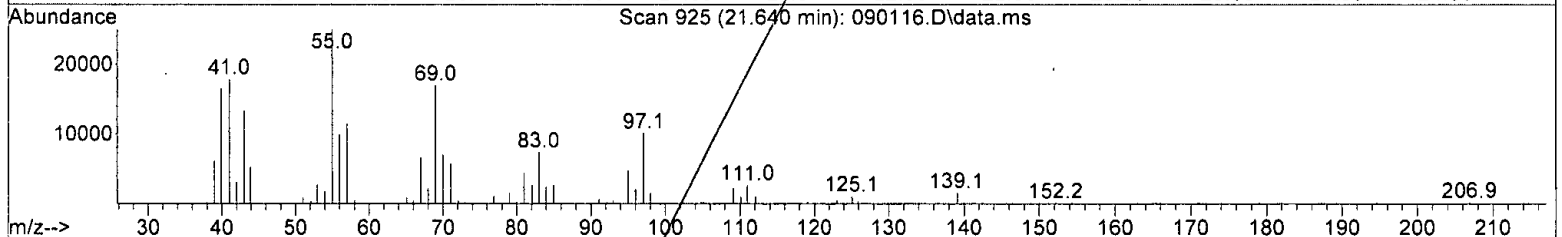
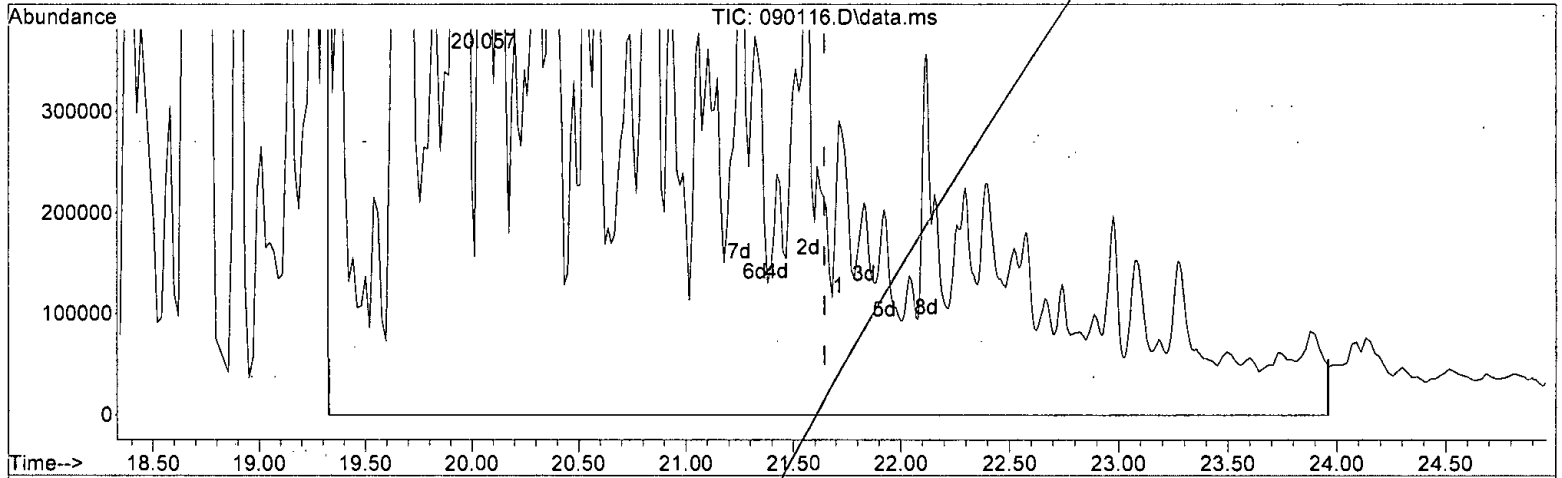
Ion	Exp%	Act%
127.90	100.00	100.00
128.90	11.10	37.61
126.90	13.70	38.52
0.00	0.00	0.00

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Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 709.579 ug/m3 m

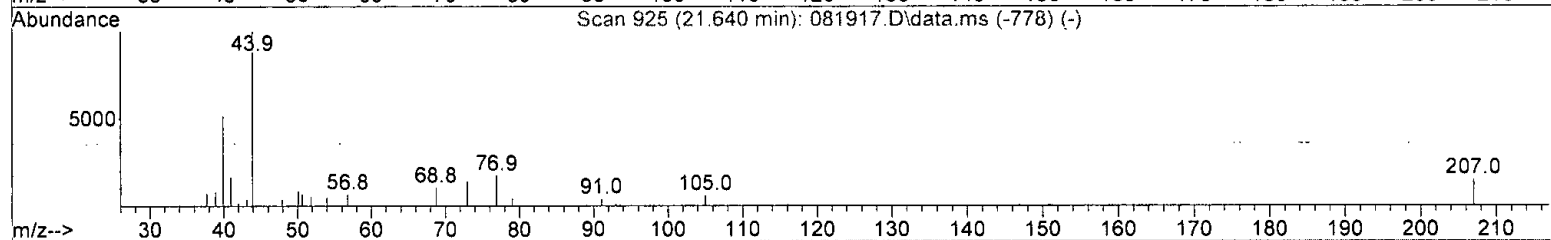
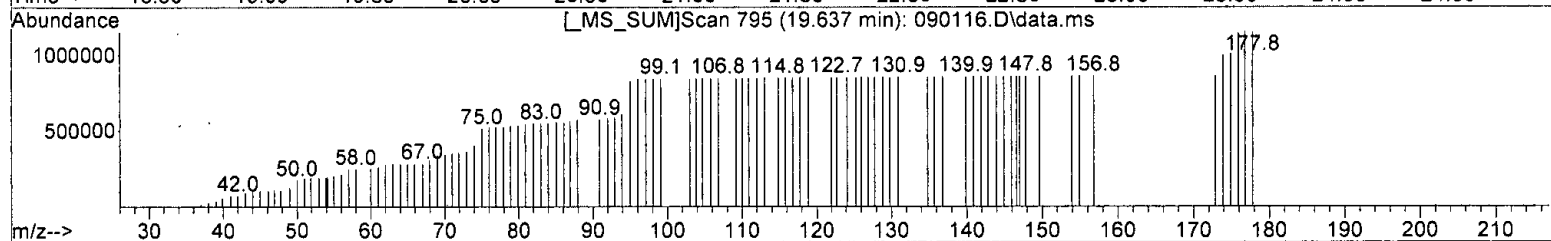
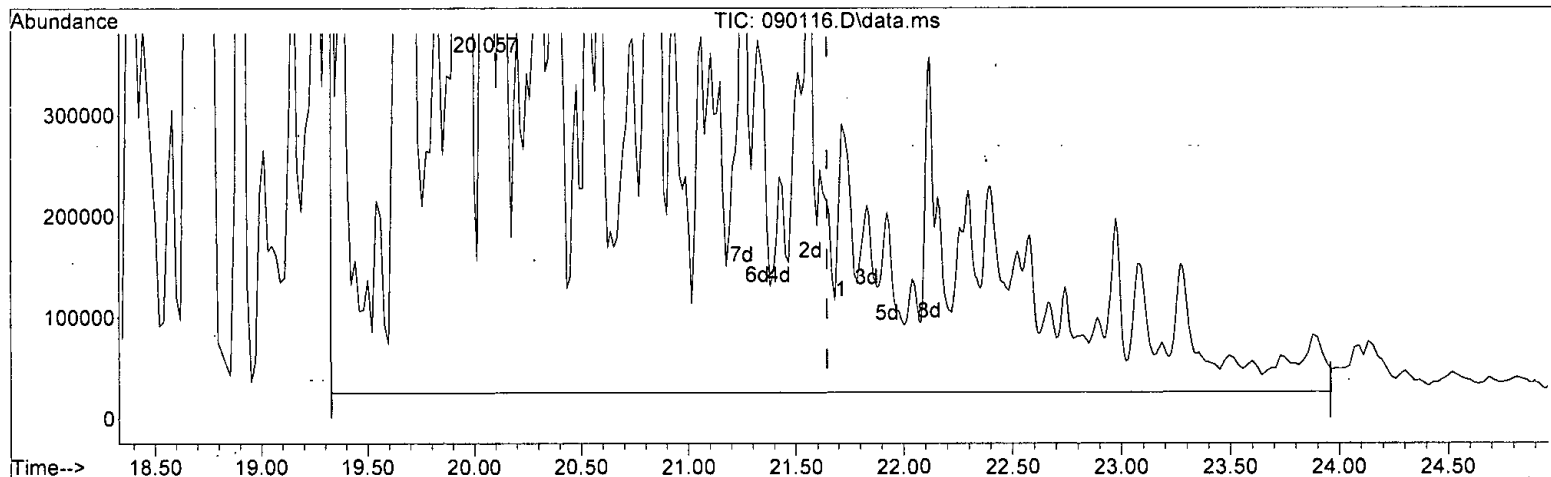
response 31640412

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

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 H  
 09/02/21

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 1171.322 ug/m3 m

response 52229718

Signal	Exp%	Act%
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TIC	100.00	100.00
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0.00	0.00	0.00
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0.00	0.00	0.00
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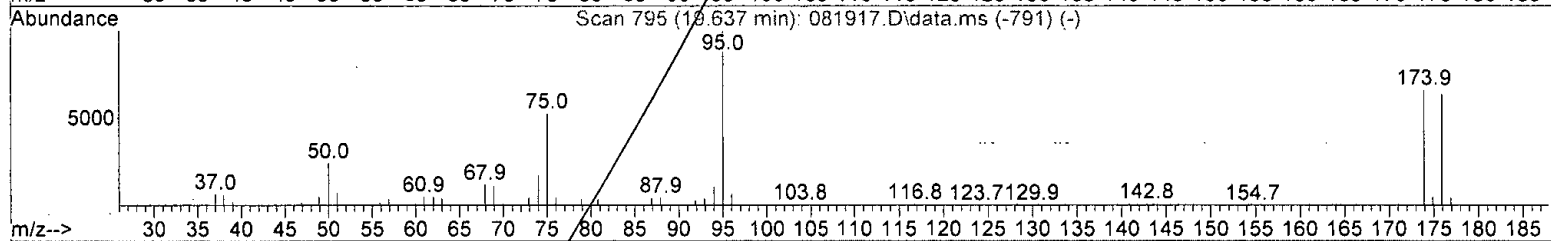
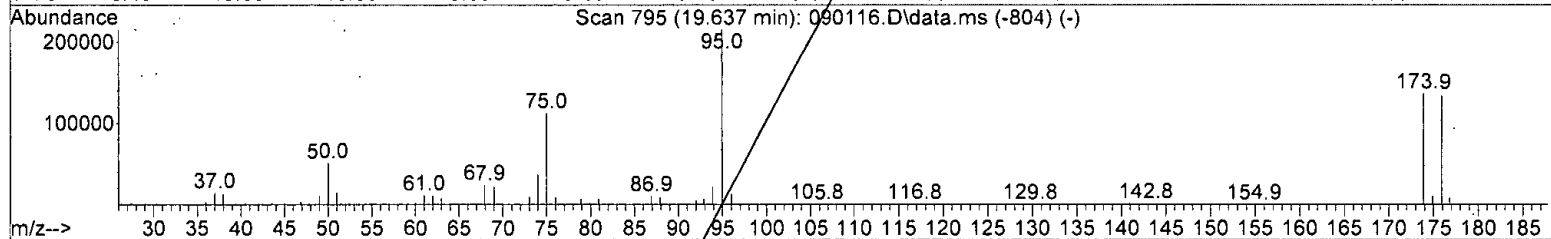
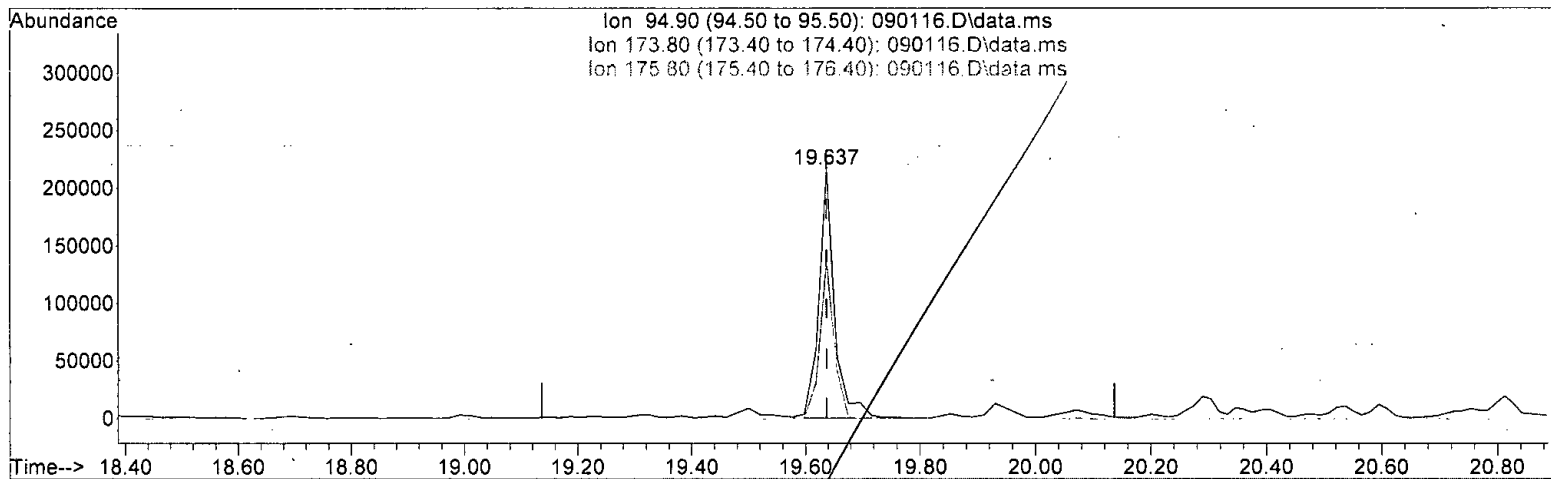
0.00	0.00	0.00
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*B. Ostal*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090116.D\data.ms

(37) 4-Bromofluorobenzene (S)

19.637min ( 0.000) 77.756 ug/m3

response 424565

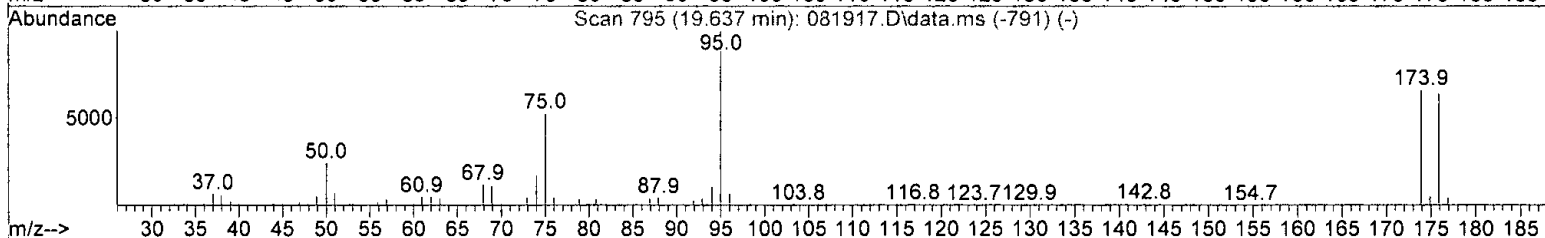
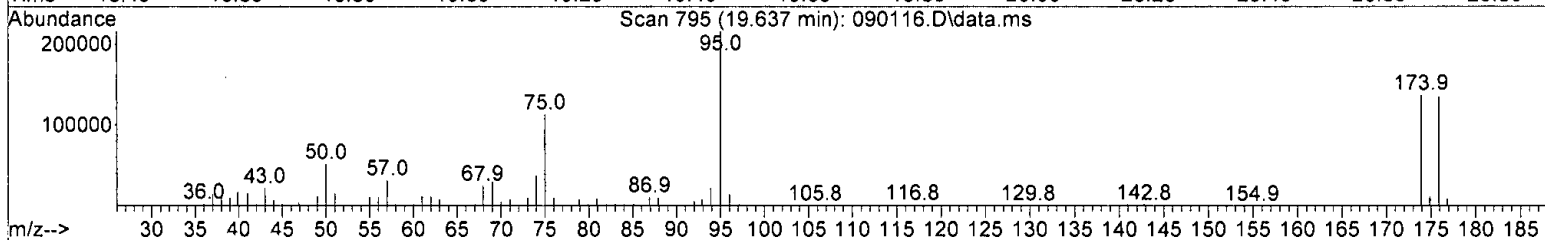
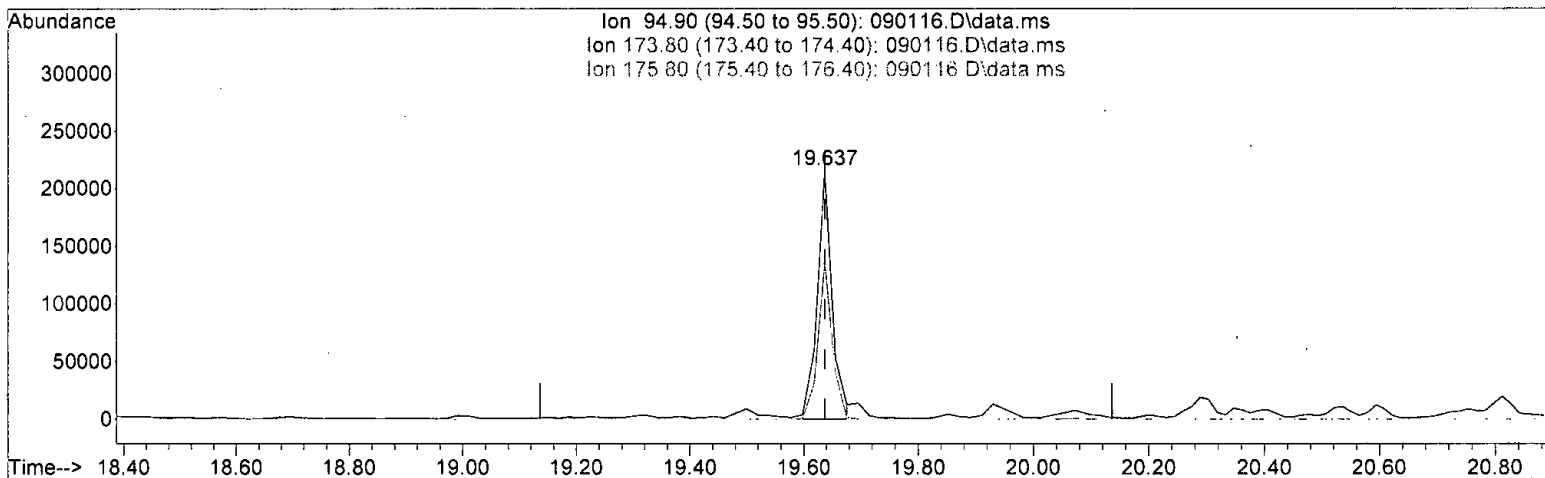
Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	63.41#
175.80	93.50	62.35#
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090116.D\data.ms

(37) 4-Bromofluorobenzene (S)

19.637min ( 0.000) 73.963 ug/m3 m

response 403853

Ion	Exp%	Act%
-----	------	------

94.90	100.00	100.00
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173.80	96.00	63.34#
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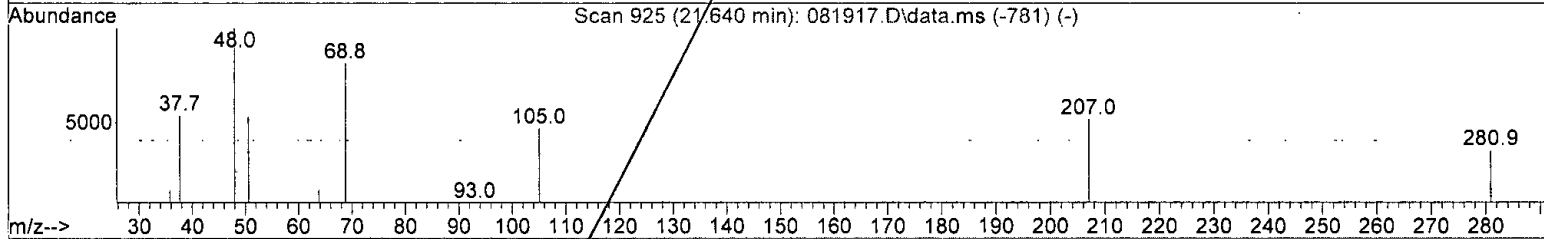
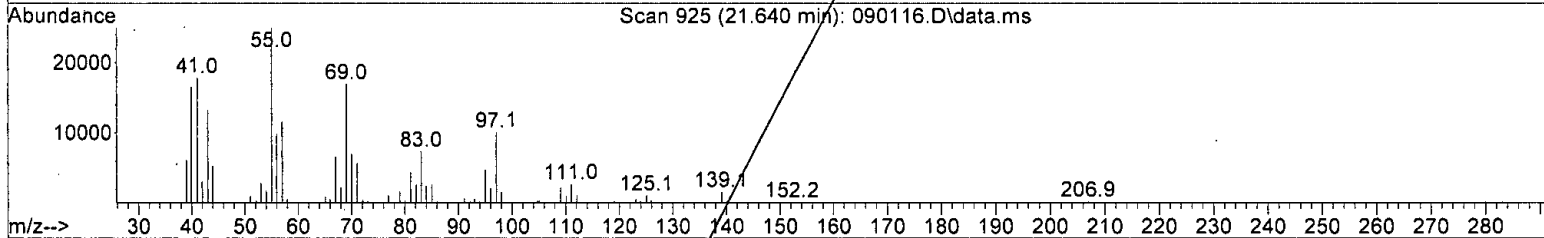
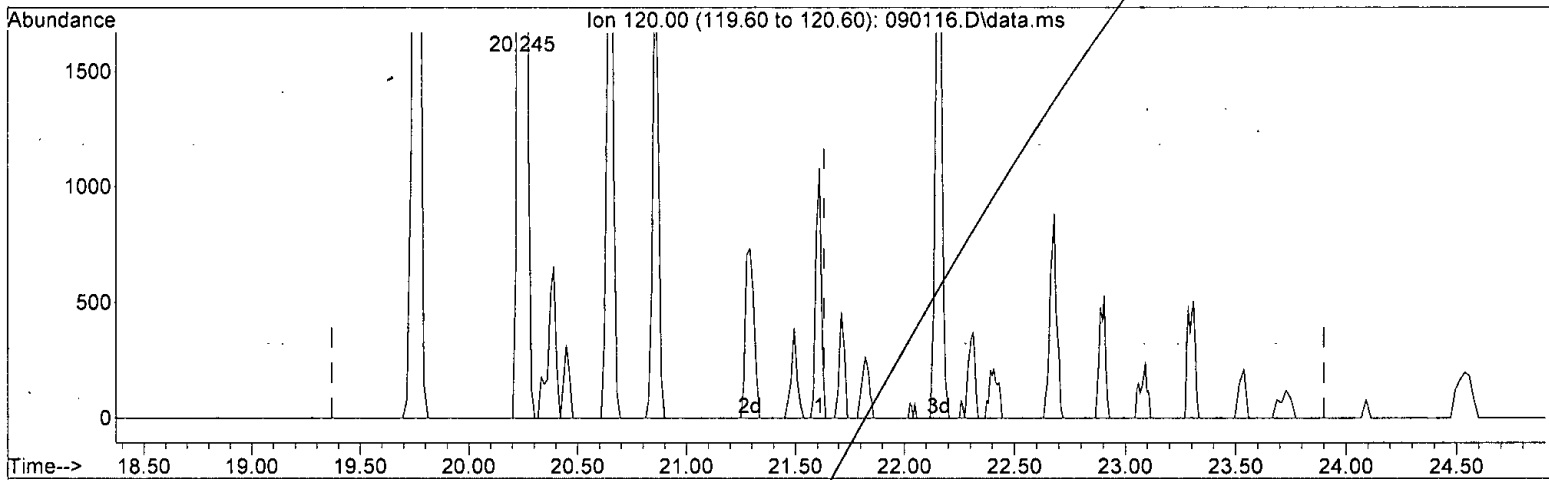
175.80	93.50	62.27#
--------	-------	--------

0.00	0.00	0.00
------	------	------

*Bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1.  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



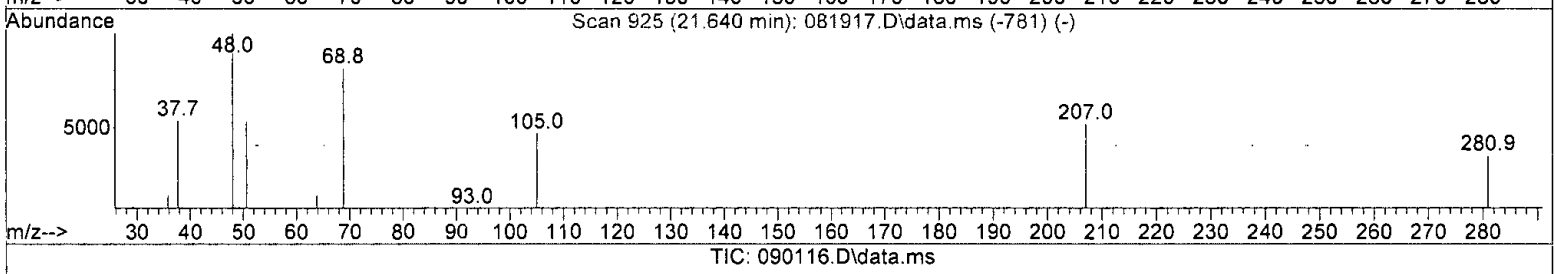
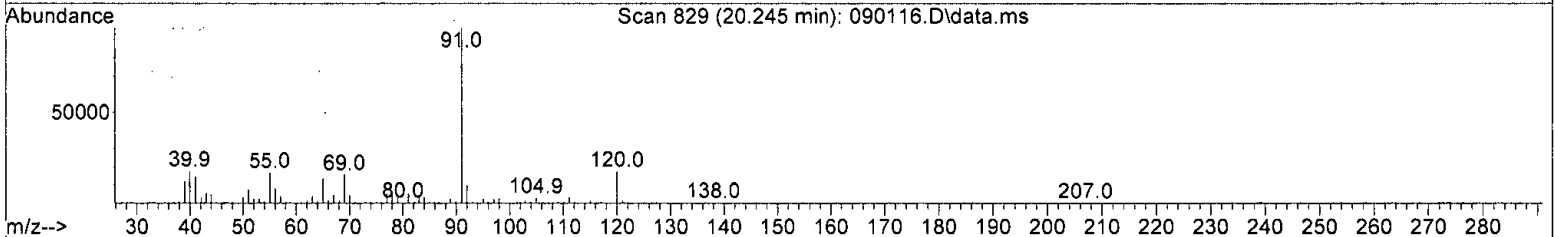
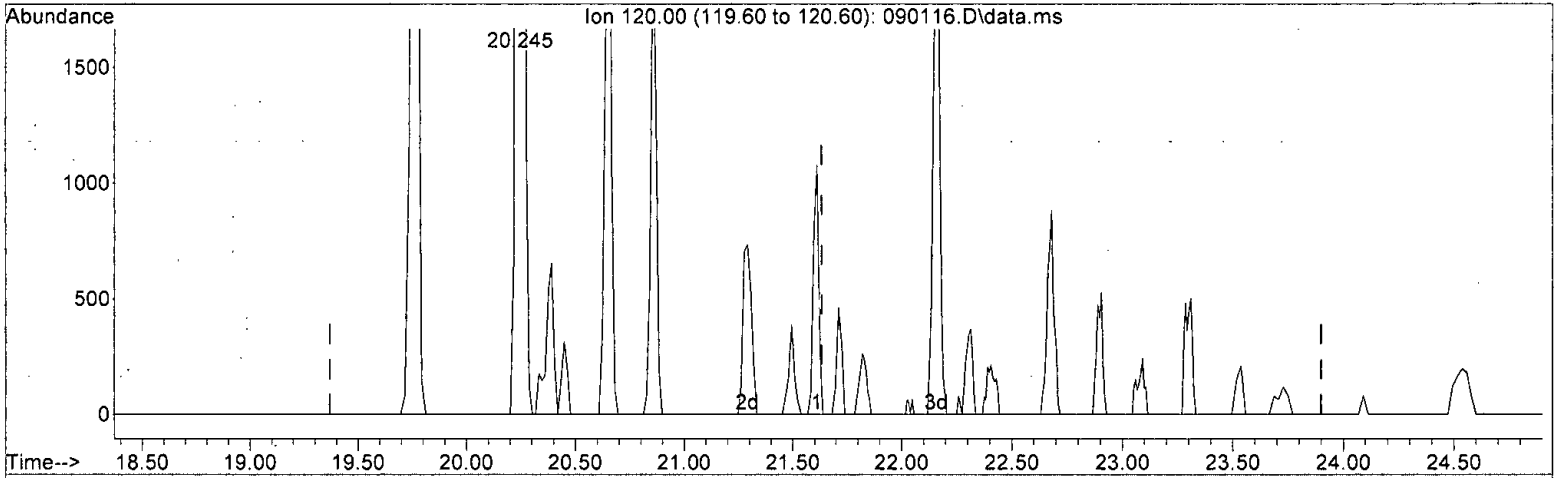
*Bat*

(44) APH EC9-10 aromatics (1) (A)  
 21.635min ( 0.000) -2.490 ug/m3 m  
 response -12926

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



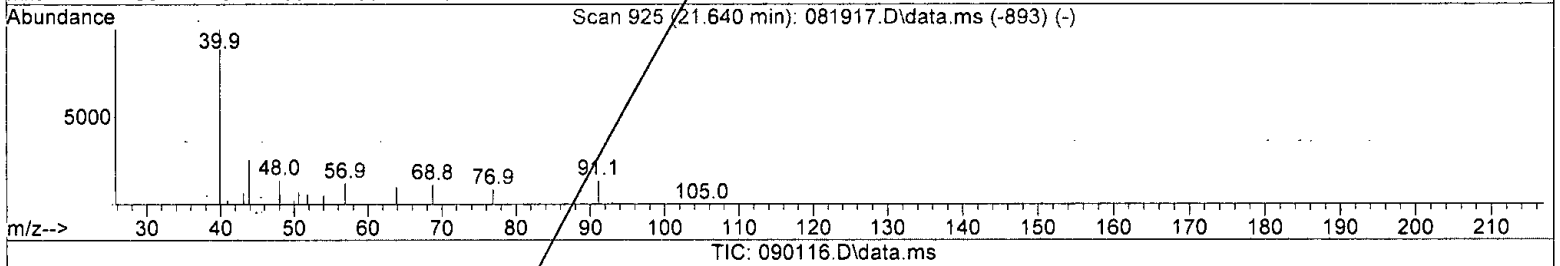
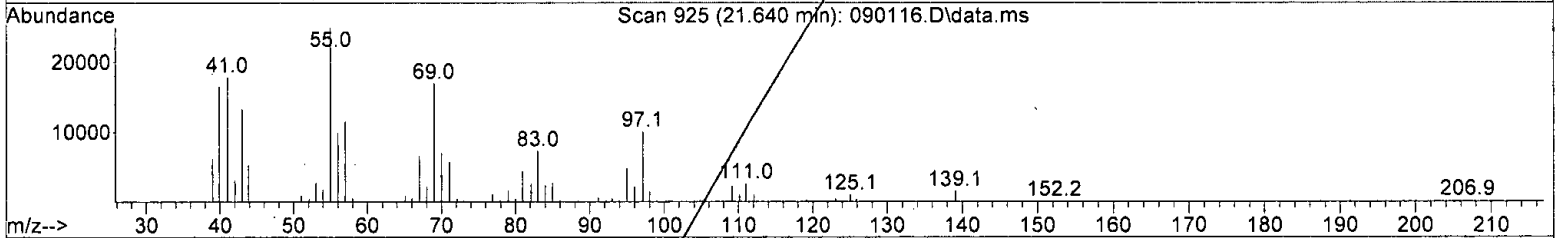
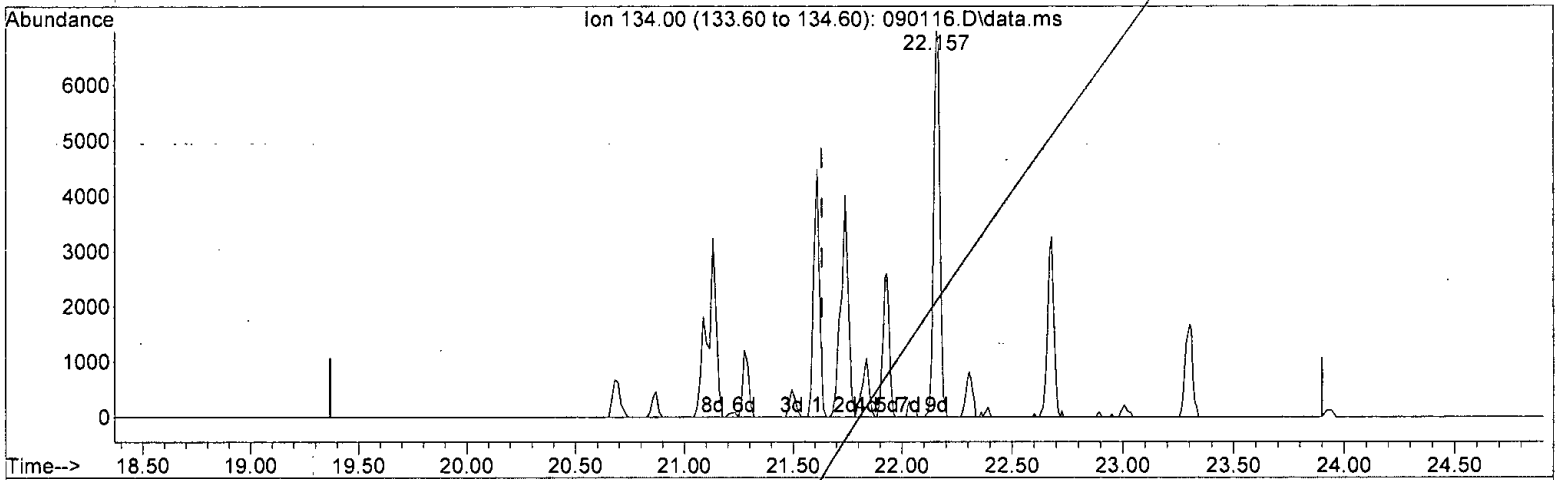
(44) APH EC9-10 aromatics (1) (H)  
 21.635min ( 0.000) 12.453 ug/m3 m  
 response 64652

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B. Ortolini*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) -3.982 ug/m3 m

response -11775

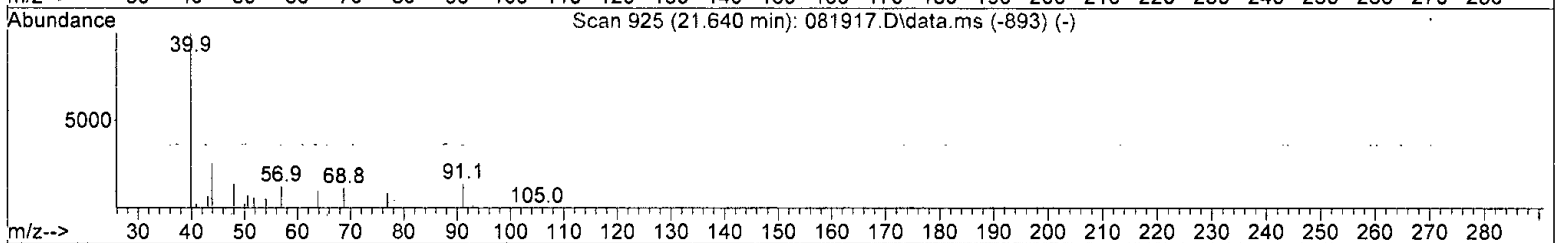
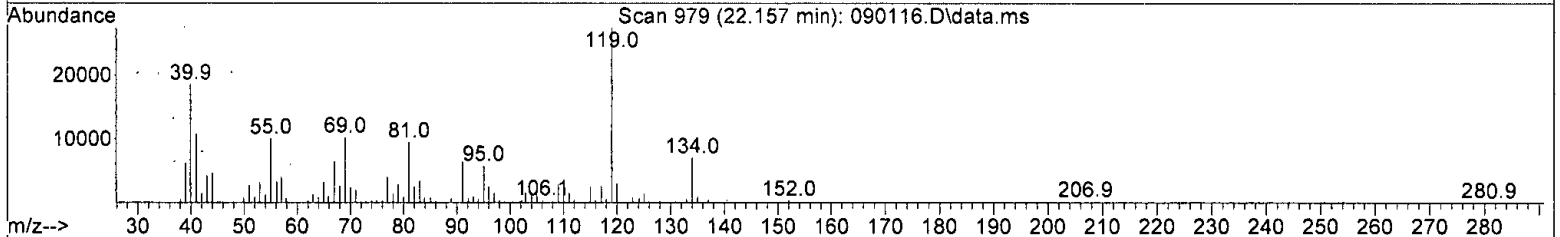
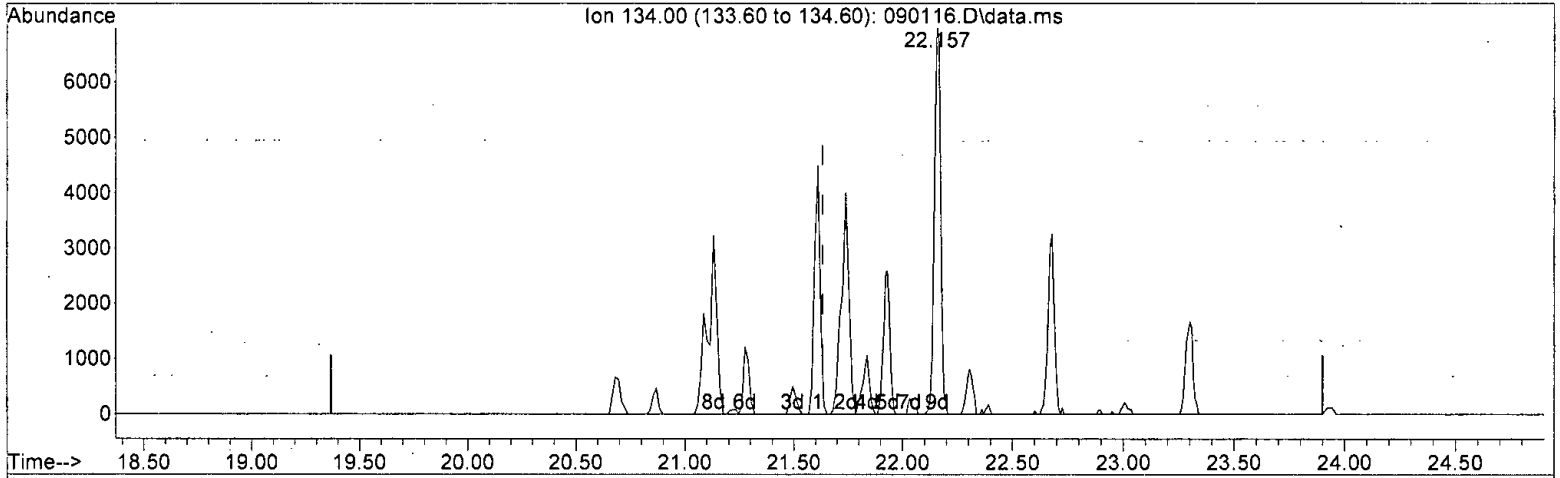
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*N / 10/6/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:29:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090116.D\data.ms

(45) APH EC9-10 aromatics (2) (H)		
21.635min ( 0.000)	27.061 ug/m3 m	
response	80019	
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B. B. B.*



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:39:24 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	102411	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	483608	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	435821	50.000	ug/m3	# 0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	403853m	73.963	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	104.17%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	969216	53.601	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1515215m	59.038	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	2522211m	81.022	ug/m3	
5) Methylene chloride	6.86	TIC	137615	150.319	ug/m3	90
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.	d	
8) 1,3-Butadiene	4.20	54	6716	1.114	ug/m3#	1
9) Methyl t-butyl ether	8.51	73	240	0.030	ug/m3	56
11) Benzene	12.71	78	55937	3.402	ug/m3	88
12) Isopentane	5.66	TIC	36887	1.130	ug/m3	81
13) Hexane	10.10	TIC	387794	11.964	ug/m3	93
14) Cyclohexane	13.23	TIC	2148935	64.015	ug/m3	94
15) 2,3-Dimethylpentane	13.50	TIC	1470159	34.317	ug/m3	95
16) Heptane	14.63	TIC	1809249	51.678	ug/m3	94
17) Octane	17.41	TIC	611875	12.746	ug/m3	95
18) APH EC5-8 aliphatics T...	12.71	TIC	6464899m	168.480	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	73154182m	1906.456	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2397950m	65.176	ug/m3	
22) Hexamethylcyclotrisilo...	17.79	TIC	700380m	77.286	ppbv	
23) Octamethylcyclotetrasil...	20.71	TIC	338558m	29.934	ppbv	
24) Toluene	16.39	92	3365	0.360	ug/m3	94
25) Ethylbenzene	18.60	91	12732	0.659	ug/m3	89
26) m,p-Xylene	18.78	106	4538	0.699	ug/m3#	77
27) o-Xylene	19.21	106	1797m	0.293	ug/m3	
28) Naphthalene	23.94	128	2198m	0.140	ug/m3	
29) 2,3-Dimethylheptane	18.68	TIC	3190529	72.842	ug/m3#	76
30) Nonane	19.15	TIC	1207215	26.395	ug/m3	69
31) Decane	20.86	TIC	1664069	36.625	ug/m3	65
32) Butylcyclohexane	21.57	TIC	1380486	26.747	ug/m3	84
33) Undecane	22.39	TIC	441444	9.796	ug/m3	64
34) Dodecane	23.73	TIC	112435	3.040	ug/m3	76
35) APH EC9-12 aliphatics ...	21.57	TIC	7996178m	179.325	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	52229718m	1171.322	ug/m3	
38) Isopropylbenzene	19.75	120	12846	3.758	ug/m3#	86
39) 1-Methyl-3-ethylbenzene	20.39	120	1656	0.346	ug/m3#	76
40) 1,3,5-Trimethylbenzene	20.86	120	3646	0.603	ug/m3	94
41) p-Isopropyltoluene	21.28	134	2432	0.818	ug/m3#	44
42) 1,2,3-Trimethylbenzene	21.29	120	2047	0.288	ug/m3#	64
43) APH EC9-10 aromatics T...	21.57	TIC	22627m	4.812	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	64652m	12.453	ug/m3	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

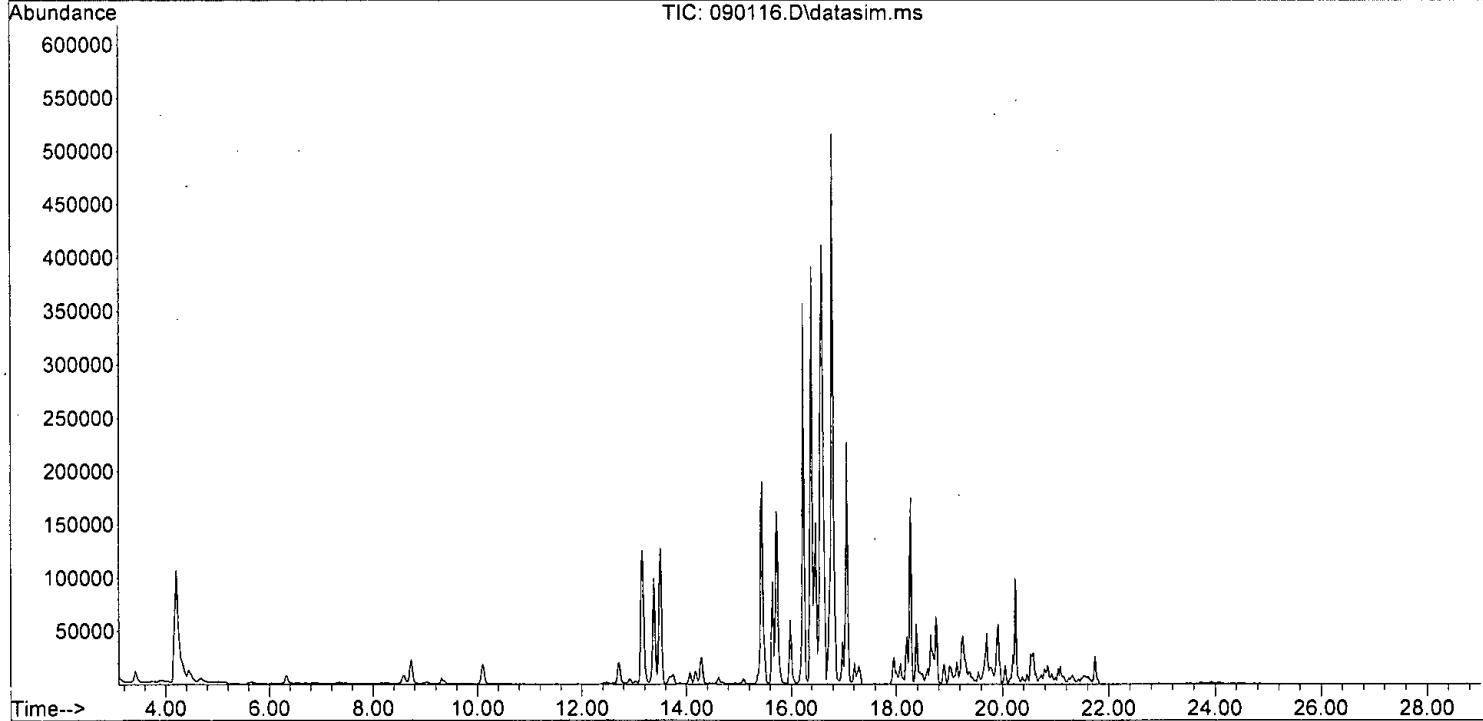
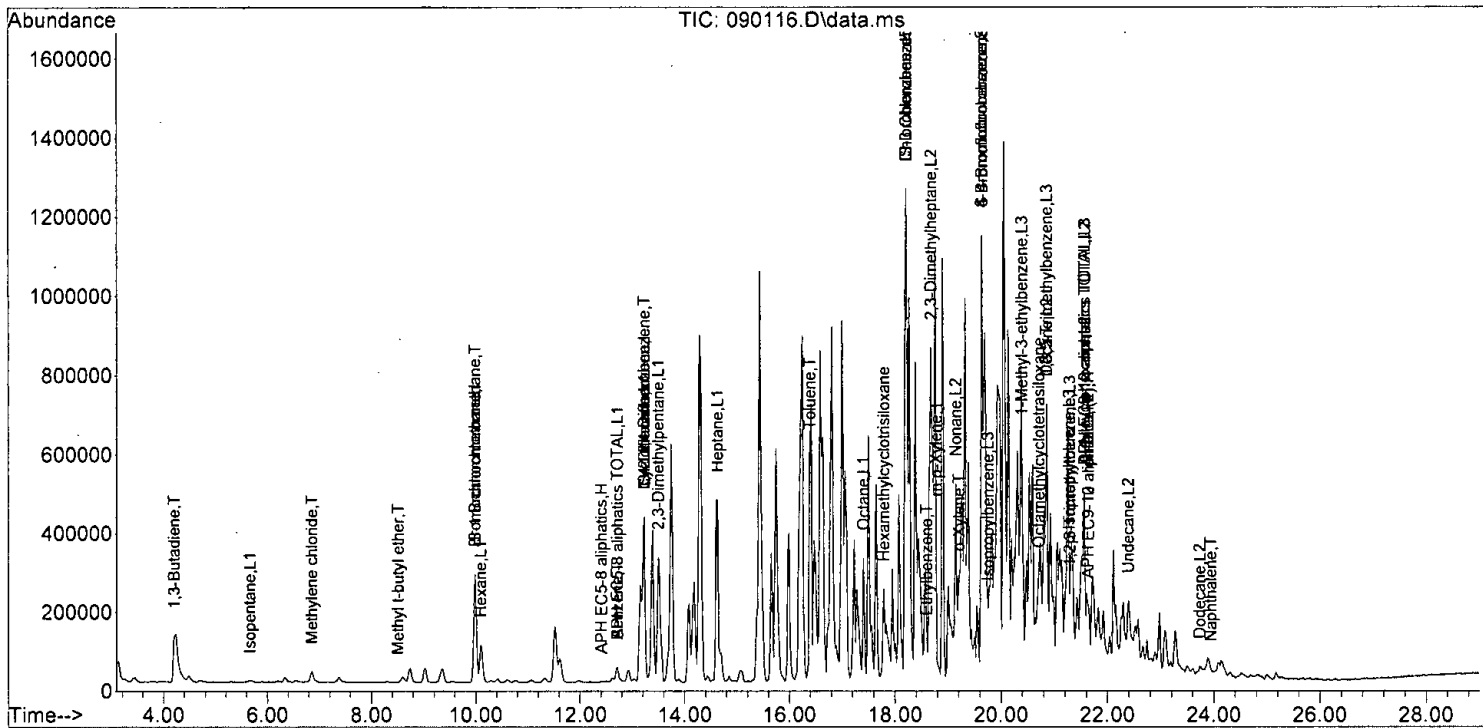
Quant Time: Sep 02 12:39:24 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	80019m	27.061	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File ; 090116.D  
 Acq On : 1 Sep 2021 7:43 pm  
 Operator : bat  
 Sample : 108515-10 1/1100  
 Misc : T6  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

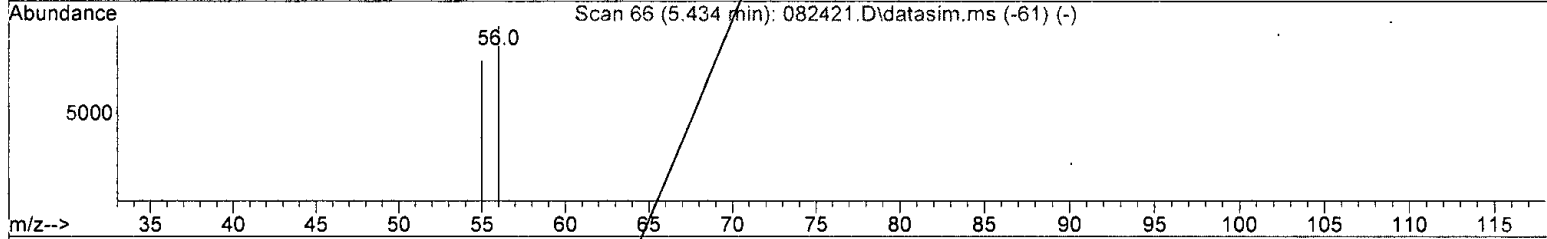
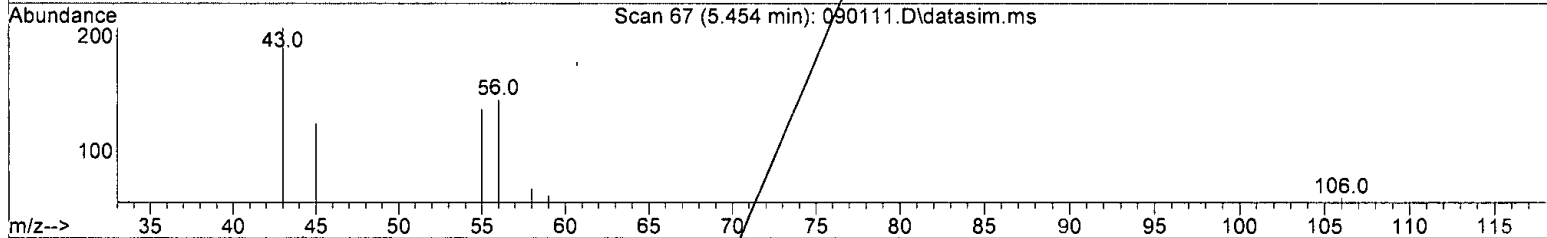
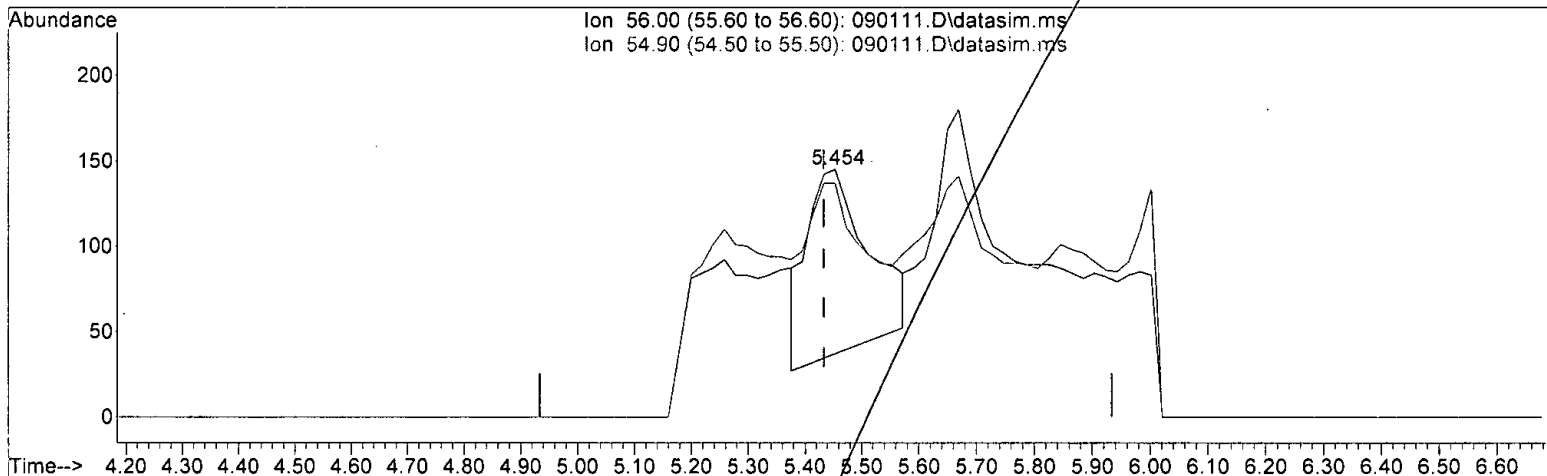
Quant Time: Sep 02 12:39:24 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:10 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.454min (+ 0.020) 0.117 ppbv

response 815

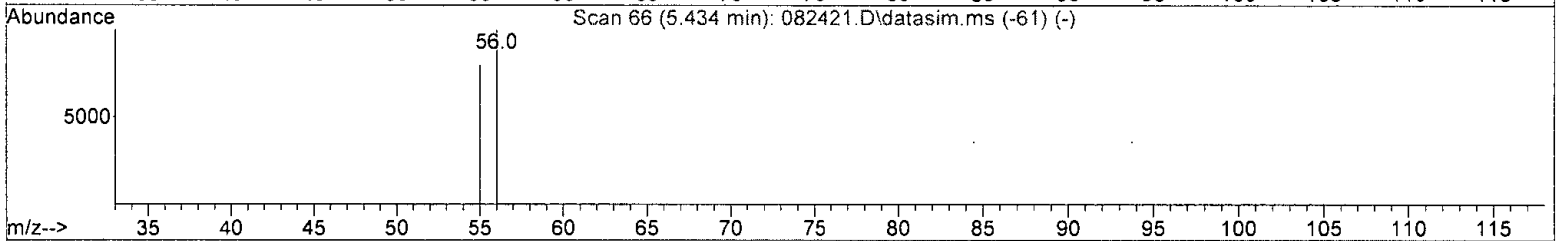
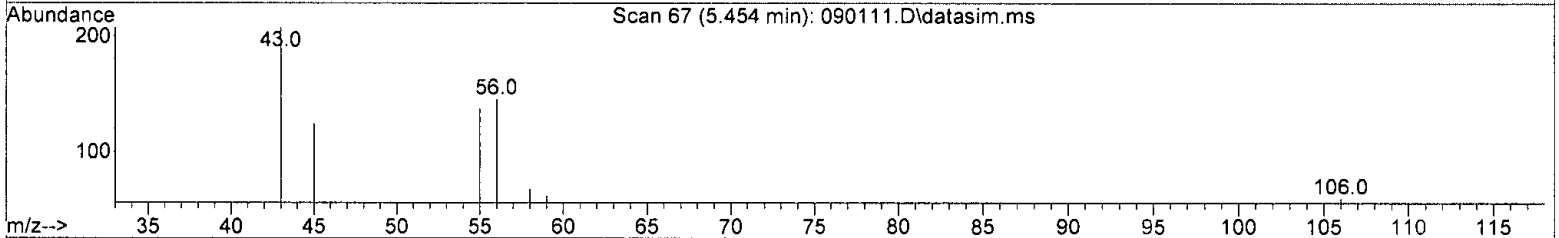
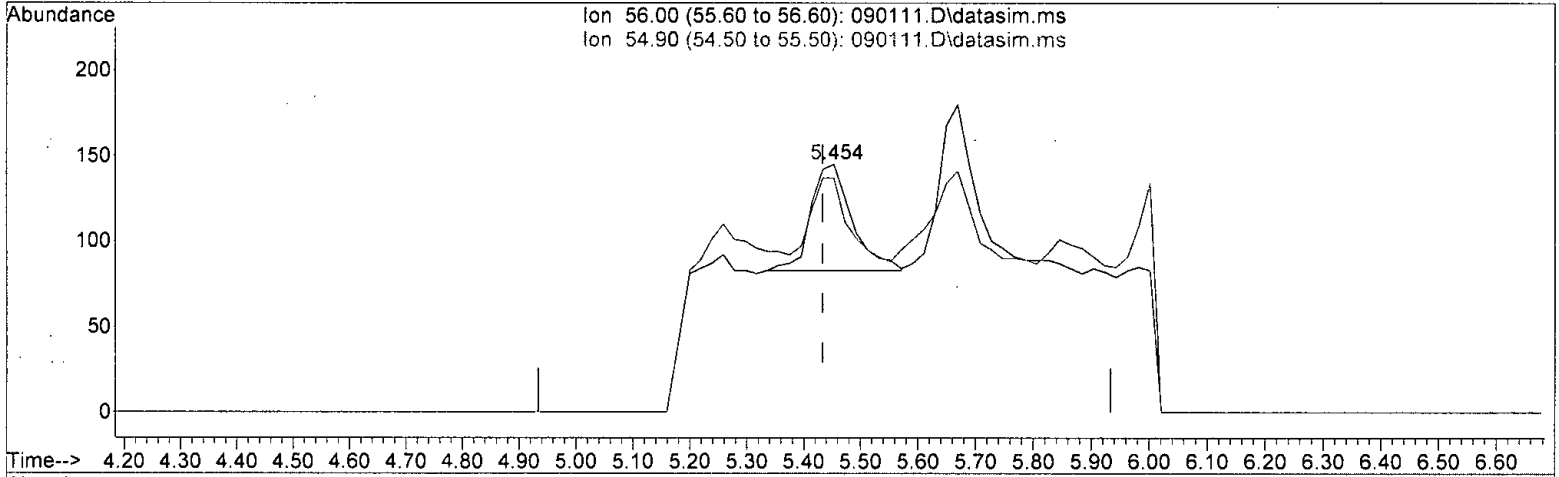
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	87.61
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: K / 09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:10 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.454min (+ 0.020) 0.045 ppbv m

response 312

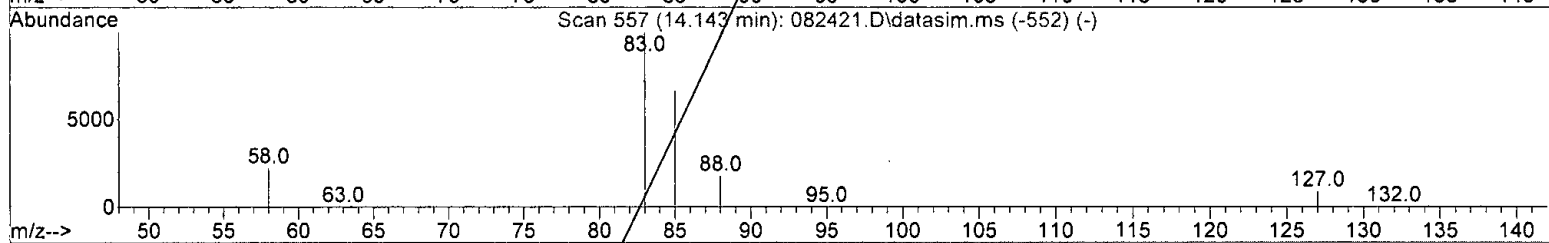
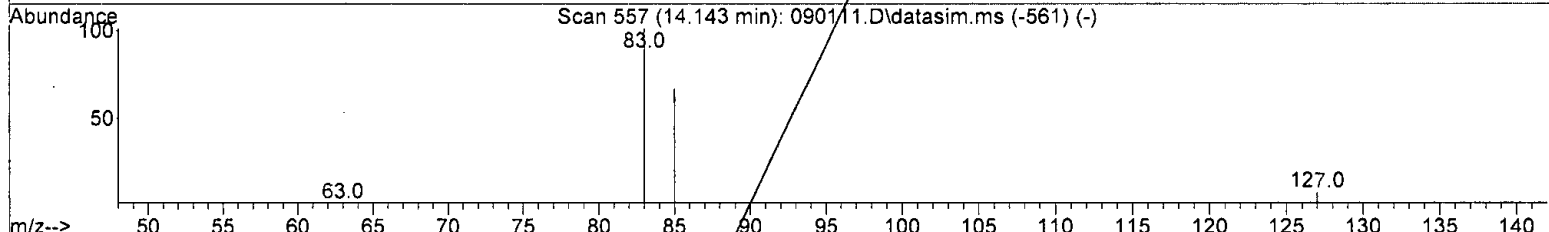
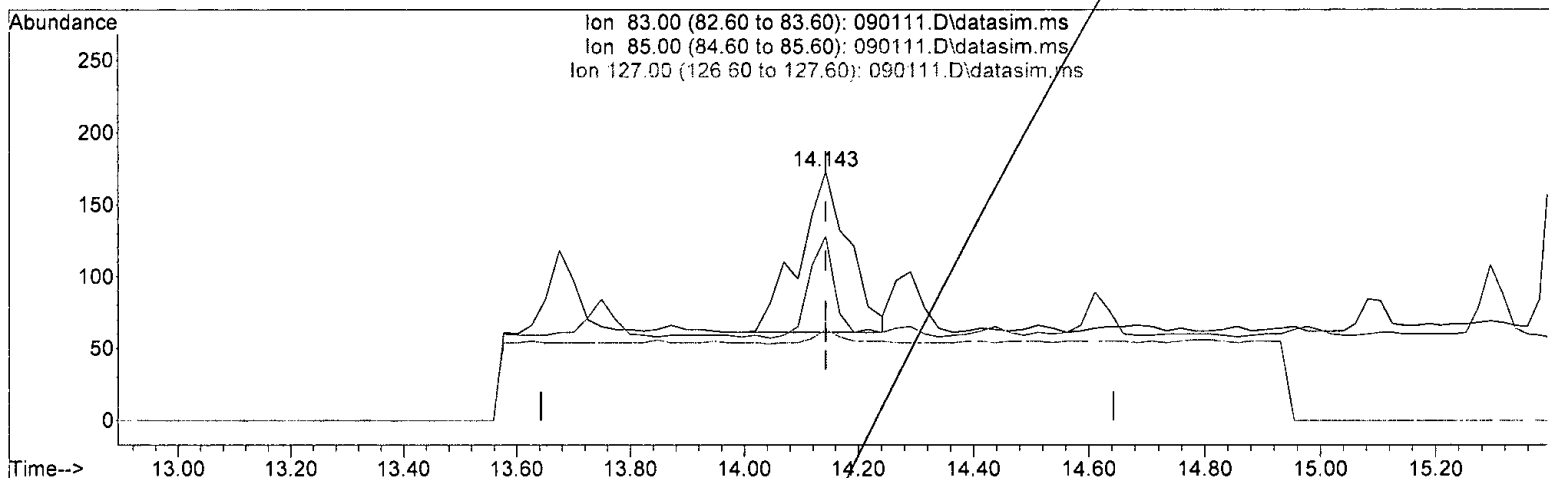
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	59.29
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: W. G. Gately*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:10 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) Bromodichloromethane (TMP)

14.143min (-0.000) 0.016 ppbv

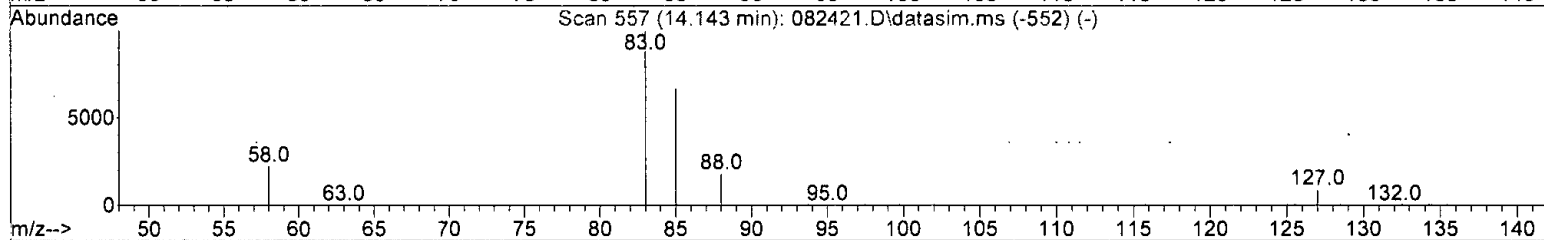
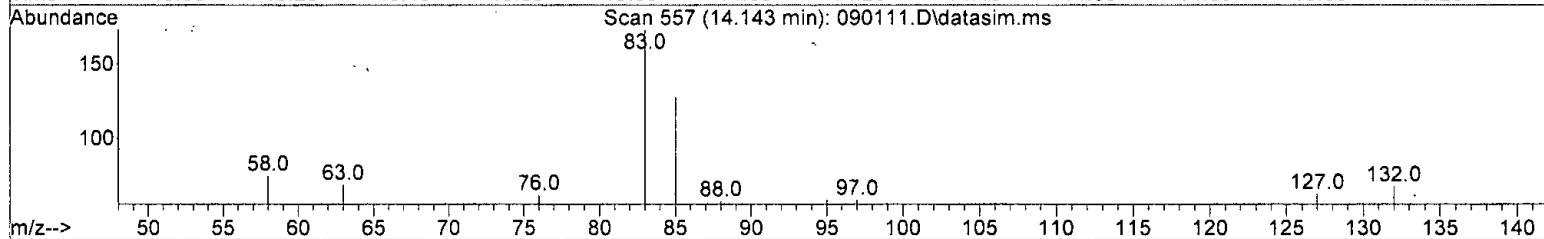
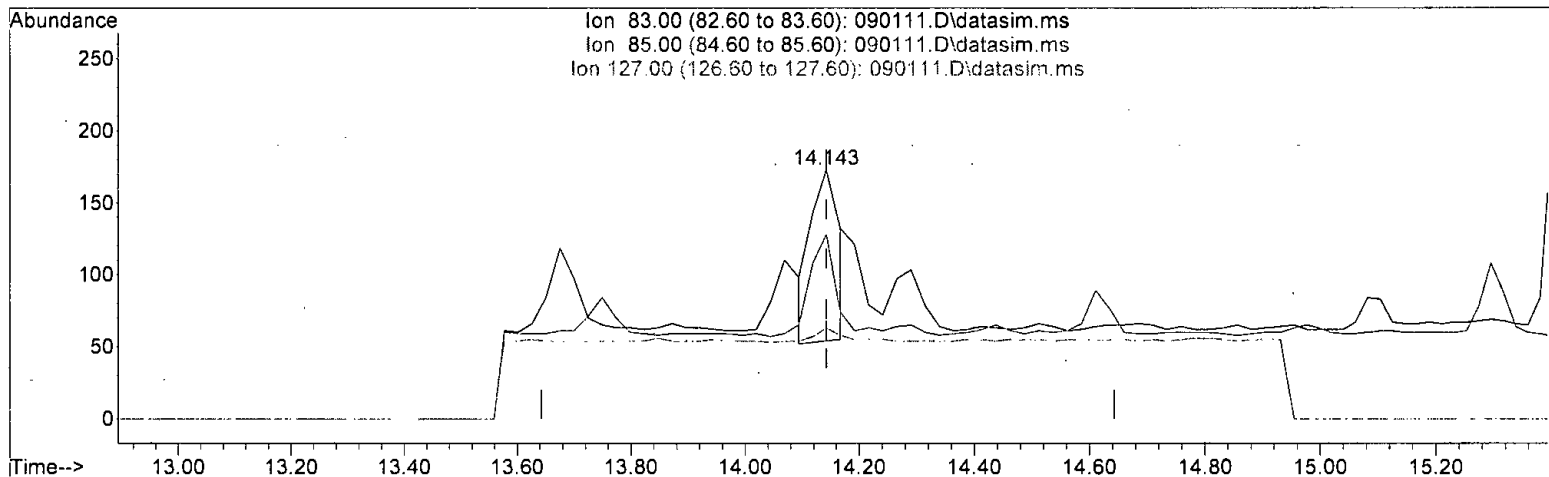
response 681

Ion	Exp%	Act%
83.00	100.00	100.00
85.00	61.00	62.50
127.00	0.00	8.04
0.00	0.00	0.00

*M/6/24*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:10 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090111.D\data.ms

(45) Bromodichloromethane (TMP)

14.143min (-0.000) 0.010 ppbv m

response 424

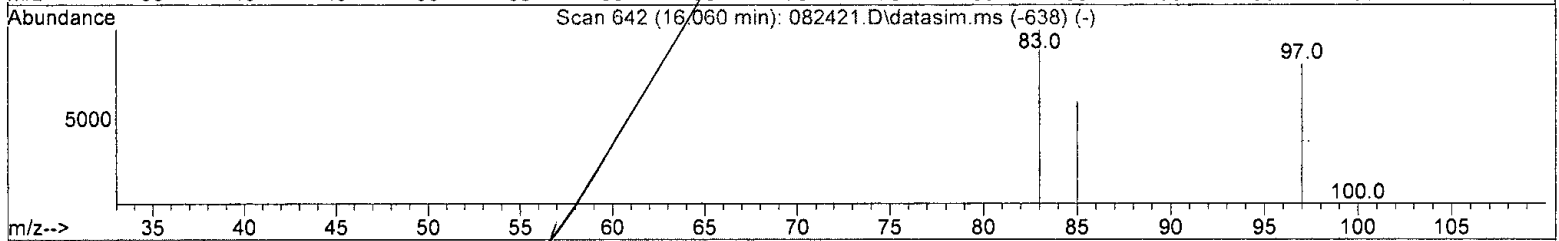
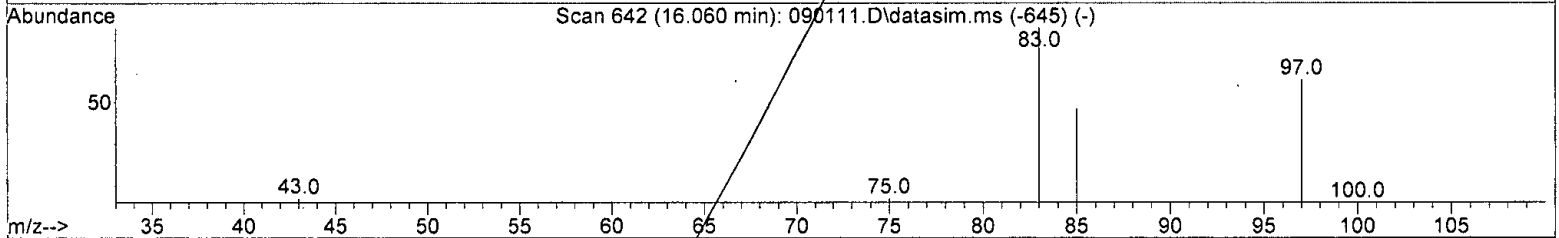
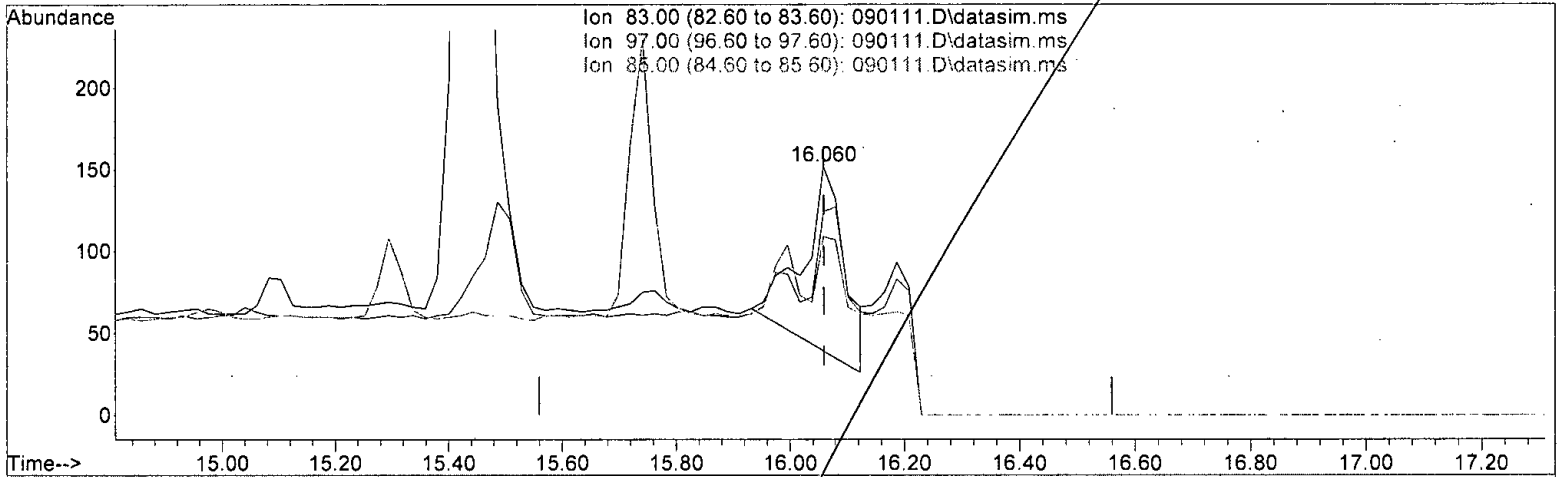
Ion	Exp%	Act%
83.00	100.00	100.00
85.00	61.00	73.99
127.00	0.00	36.42#
0.00	0.00	0.00

*W. Orta/4*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:10 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(51) 1,1,2-Trichloroethane (TMP)

16.060min (-0.000) 0.022 ppbv

response 559

Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	71.26
85.00	60.50	54.02
0.00	0.00	0.00

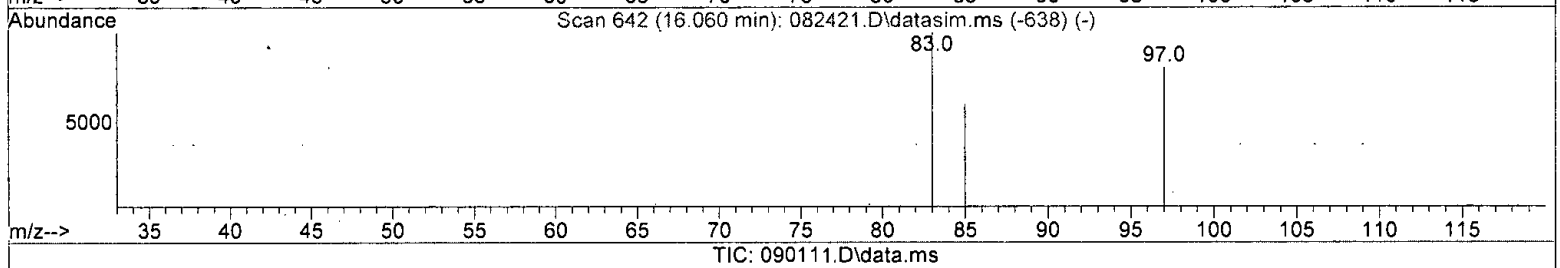
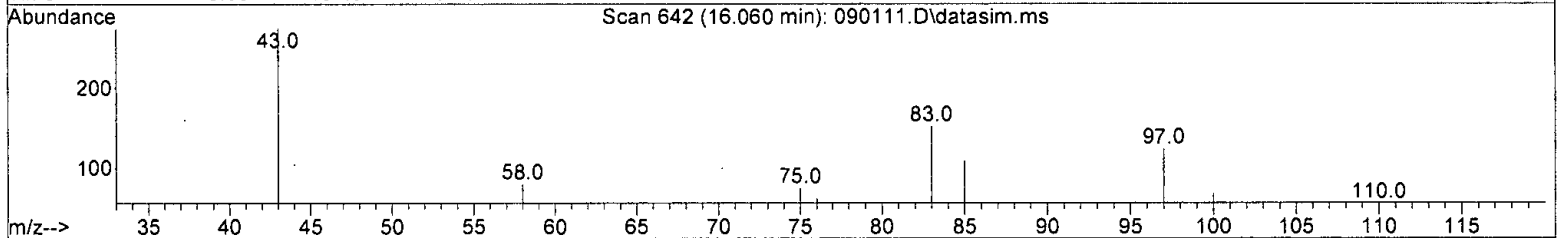
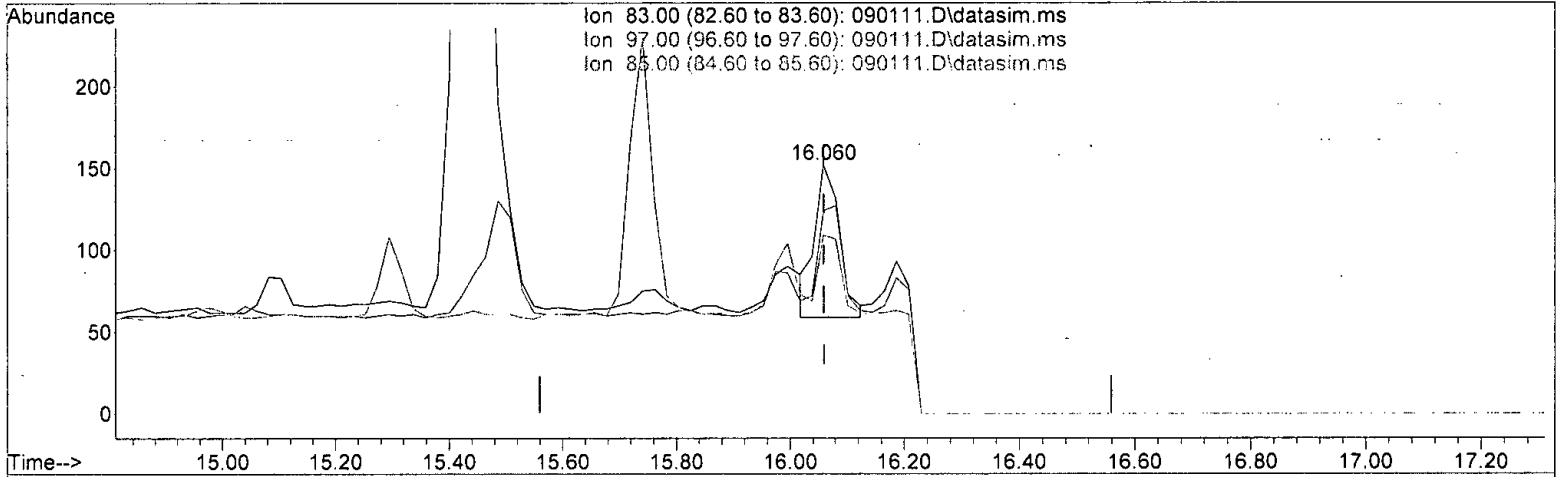
*M/aly*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:10 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(51) 1,1,2-Trichloroethane (TMP)

16.060min (-0.000) 0.011 ppbv m

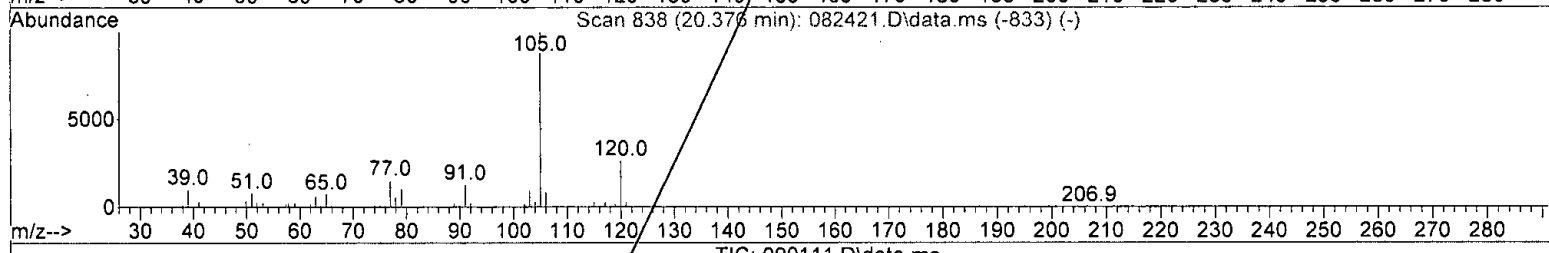
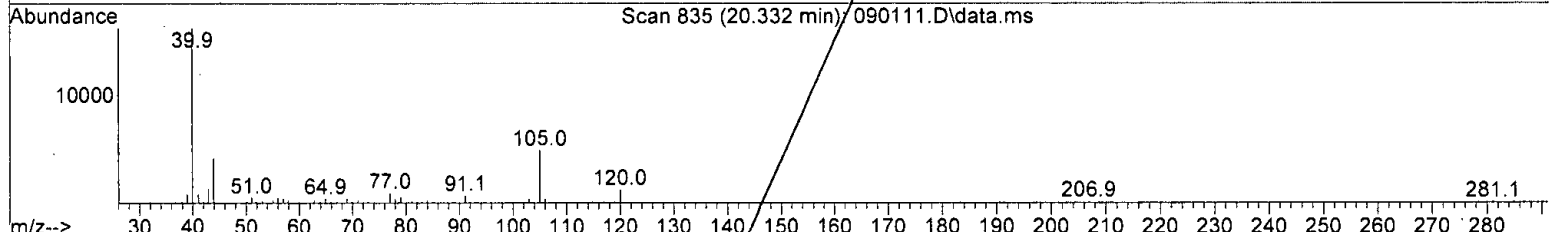
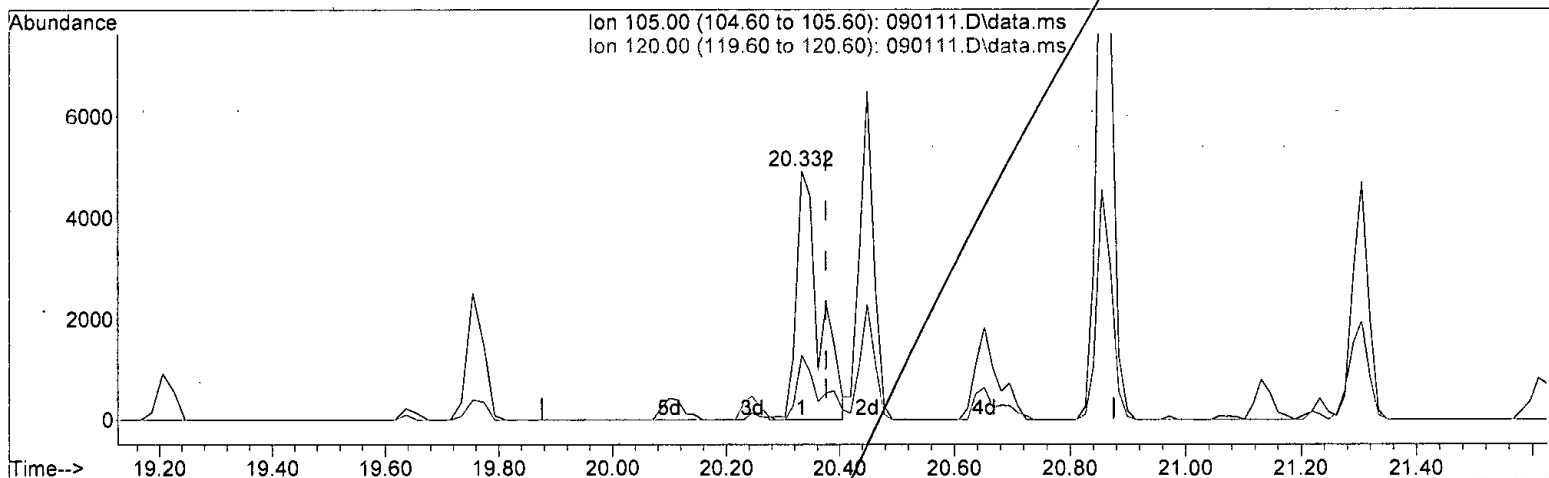
response 286

Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	81.58
85.00	60.50	71.71
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:10 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(64) 4-Ethyltoluene (TMP)

20.332min (-0.044) 0.169 ppbv

response 13916

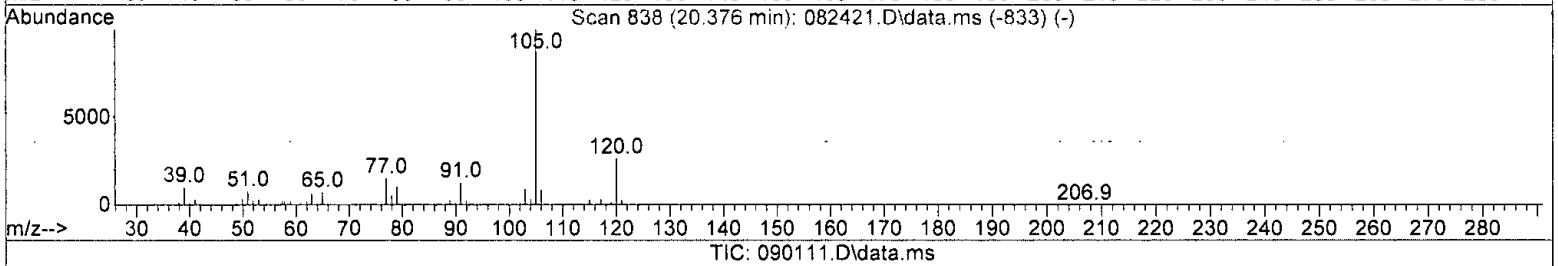
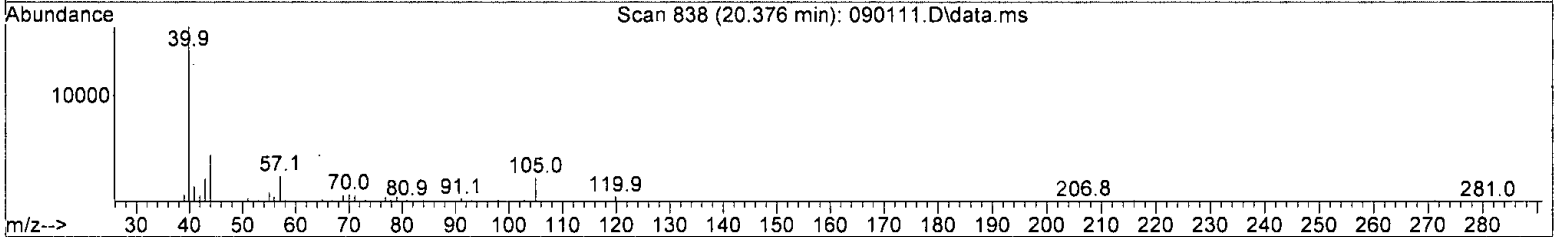
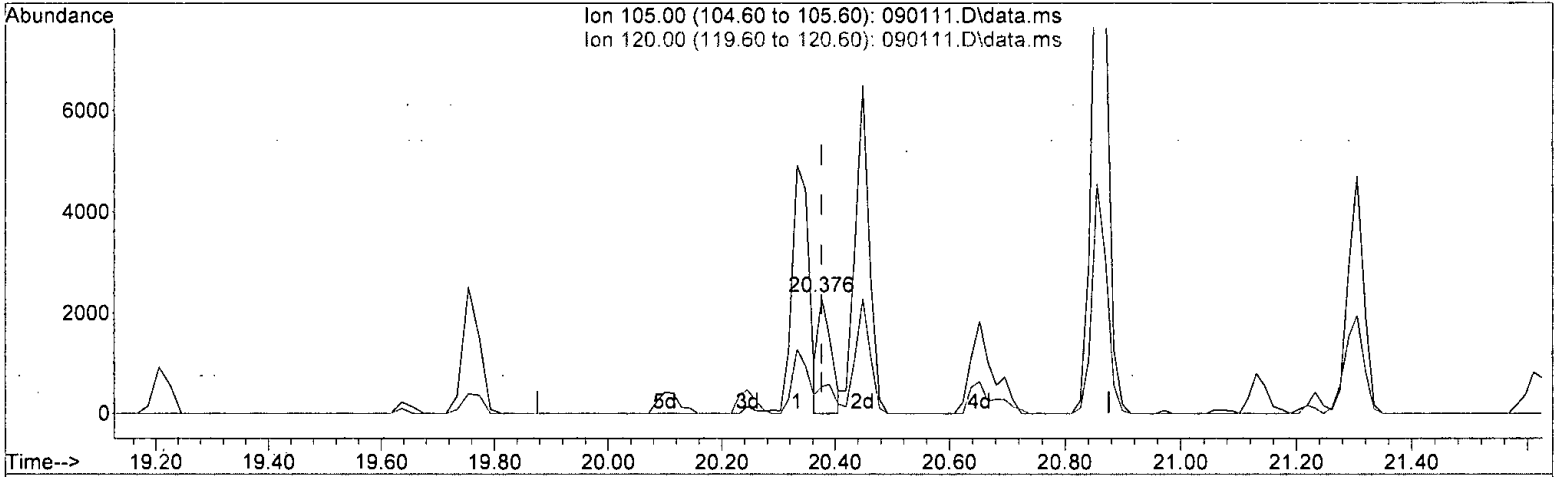
Ion	Exp%	Act%
105.00	100.00	100.00
120.00	28.70	27.03
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:10 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(64) 4-Ethyltoluene (TMP)

20.376min (-0.000) 0.045 ppbv m

response 3738

Ion	Exp%	Act%
105.00	100.00	100.00
120.00	28.70	100.62#
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:28:01 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	95676	10.000	ppbv	#-0.02
39) 1,4-Difluorobenzene	13.23	114	457951	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	406061	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	356920	9.702	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.45	41	6311	0.386	ppbv	83
3) Dichlorodifluoromethane	3.52	85	5024	0.119	ppbv	90
4) Chloromethane	3.73	50	973	0.049	ppbv	99
5) F-114	3.88	85	1488	0.035	ppbv	74
6] Vinyl chloride	4.05	62	355	0.017	ppbv	98
7] 1,3-Butadiene	4.25	54	820	0.056	ppbv #	44
8) Butane	4.36	43	6066	0.195	ppbv #	80
12) Ethanol	4.96	45	5724	1.070	ppbv	93
13] Acrolein	5.45	56	312m	0.045	ppbv	
14) Pentane	6.33	43	5557	0.149	ppbv	97
15) Trichlorofluoromethane	5.88	101	2497	0.053	ppbv	98
16) Acetone	5.62	58	9149	1.087	ppbv #	85
17) 2-Propanol	5.86	45	47541	1.397	ppbv	95
19] trans-1,2-Dichloroethene	8.18	96	183	0.012	ppbv #	73
20) Methylene chloride	6.86	84	67929	4.056	ppbv	89
24) Carbon disulfide	7.33	76	13853	0.252	ppbv	73
25) Methyl t-butyl ether (...)	8.51	73	2309	0.063	ppbv	82
27] 1,1-Dichloroethane	8.44	63	585	0.016	ppbv	94
28] cis-1,2-Dichloroethene	9.73	96	314	0.018	ppbv	90
29) Hexane	10.10	57	9205	0.325	ppbv	86
30] Chloroform	10.19	83	1540	0.037	ppbv	99
31) Ethyl acetate	10.03	43	7964	0.134	ppbv #	95
33) 2-Butanone (MEK)	8.99	72	722	0.106	ppbv #	2
37] Benzene	12.70	78	5981	0.102	ppbv	95
38) Cyclohexane	13.16	84	2373	0.149	ppbv #	76
44) Heptane	14.63	43	7908	0.180	ppbv #	73
46] Trichloroethene	14.22	95	1519	0.054	ppbv	88
47) cis-1,3-Dichloropropene	15.27	75	301	0.010	ppbv	63
49] trans-1,3-Dichloropropene	15.85	75	421	0.017	ppbv	74
50] Toluene	16.40	92	13945	0.406	ppbv	83
51] 1,1,2-Trichloroethane	16.06	83	286m	0.011	ppbv	
53] Tetrachloroethene	17.58	164	3414	0.196	ppbv	81
55] 1,2-Dibromoethane (EDB)	17.10	107	364	0.010	ppbv	86
57) Chlorobenzene	18.25	112	1805	0.041	ppbv	74
58] Ethylbenzene	18.59	91	7455	0.083	ppbv	96
60) Nonane	19.36	43	9305	0.136	ppbv #	90
61] Isopropylbenzene	19.75	105	5195	0.066	ppbv	92
63) Propylbenzene	20.25	91	6376	0.036	ppbv	92
64) 4-Ethyltoluene	20.38	105	3738m	0.045	ppbv	
65] m,p-Xylene	18.74	106	8684	0.300	ppbv #	79

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

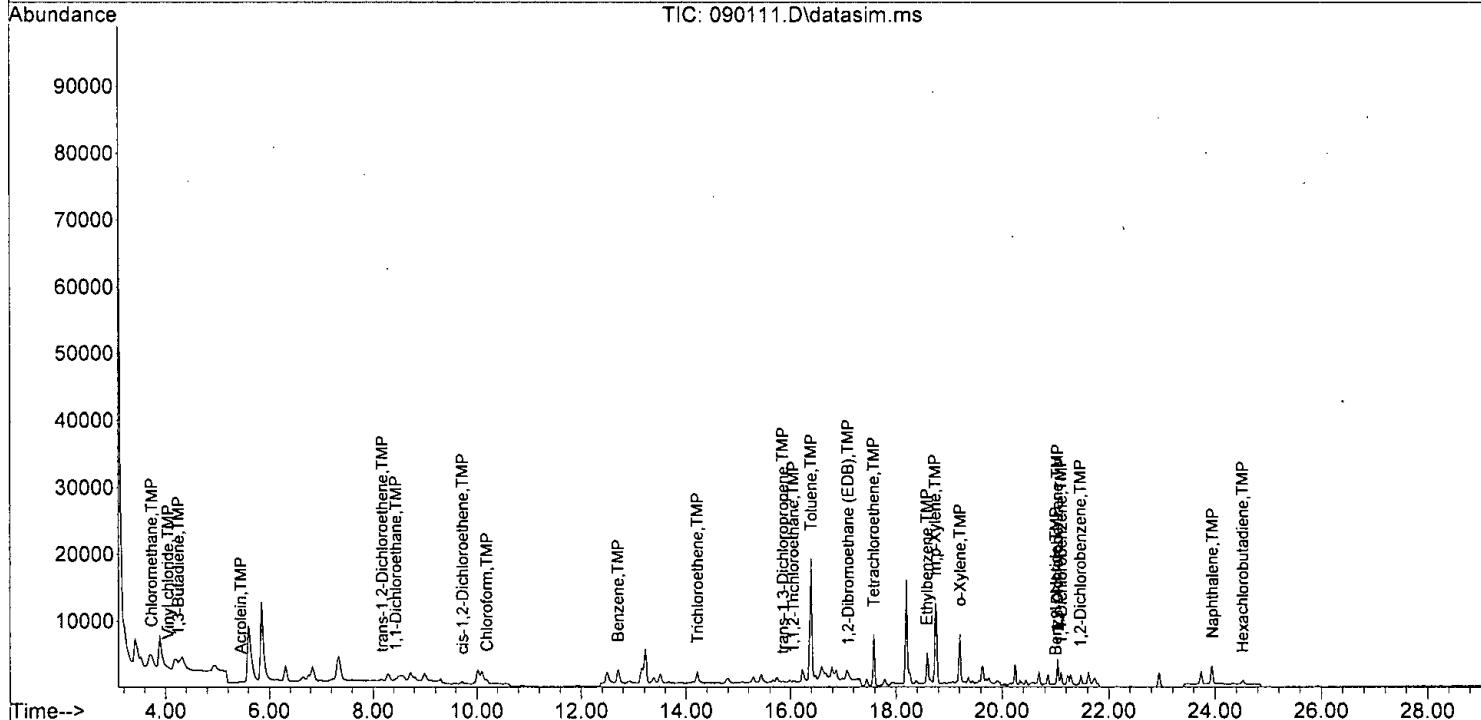
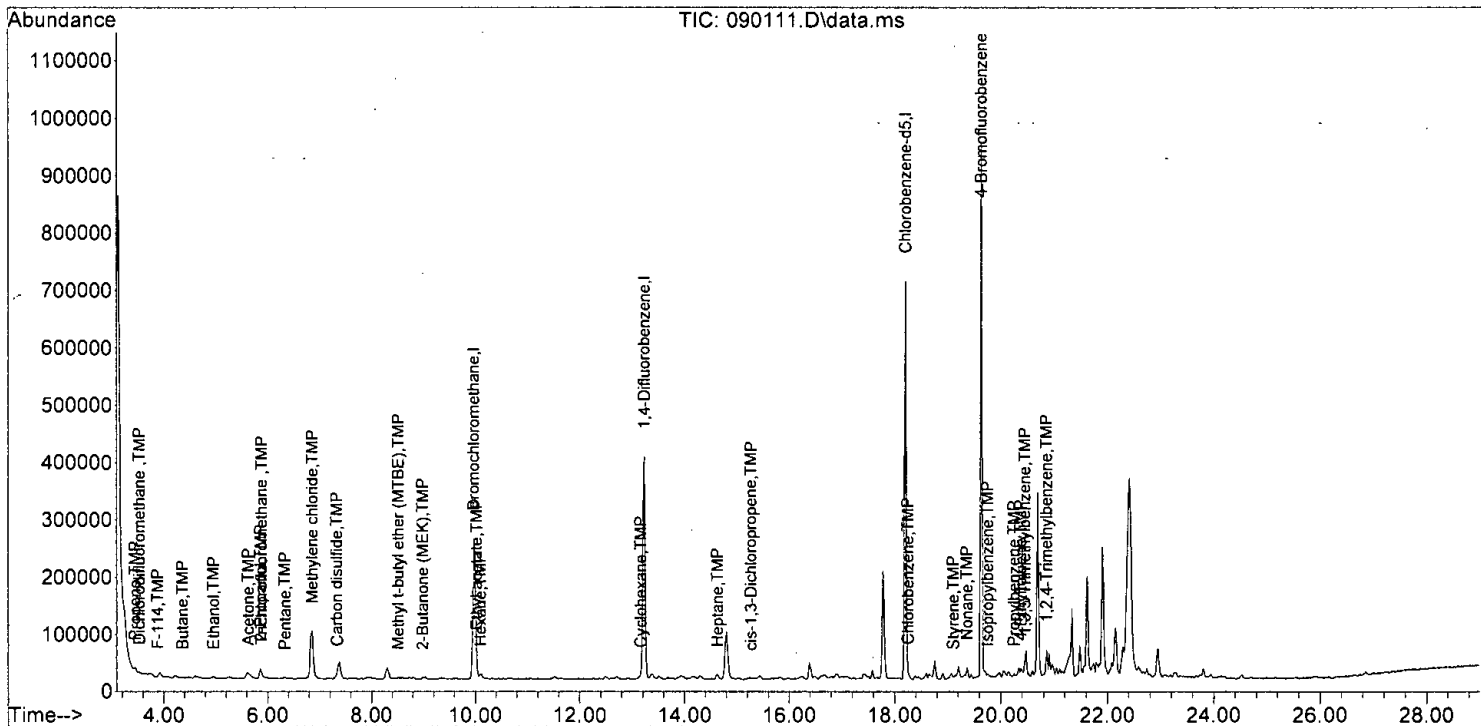
Quant Time: Sep 02 11:28:01 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

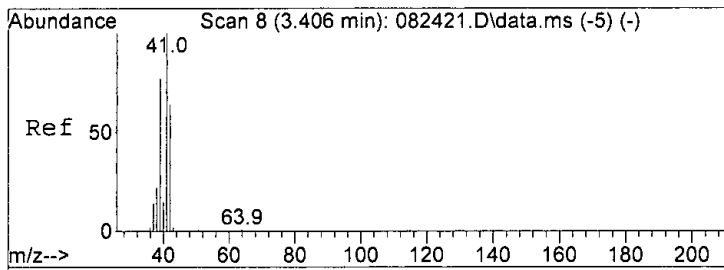
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
66] o-Xylene	19.21	106	3786	0.133	ppbv	91
67] Styrene	19.11	104	1015	0.024	ppbv	69
70] Benzyl chloride	21.01	91	358	0.012	ppbv	90
71] 1,3,5-Trimethylbenzene	20.45	105	11359	0.172	ppbv	87
72] 1,2,4-Trimethylbenzene	20.86	105	20948	0.307	ppbv	99
73] 1,3-Dichlorobenzene	21.04	146	3458	0.074	ppbv	86
74] 1,4-Dichlorobenzene	21.11	146	1436	0.023	ppbv	90
75] 1,2-Dichlorobenzene	21.47	146	1294	0.029	ppbv	92
77] Naphthalene	23.95	128	6329	0.053	ppbv	98
78] Hexachlorobutadiene	24.52	225	1284	0.016	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

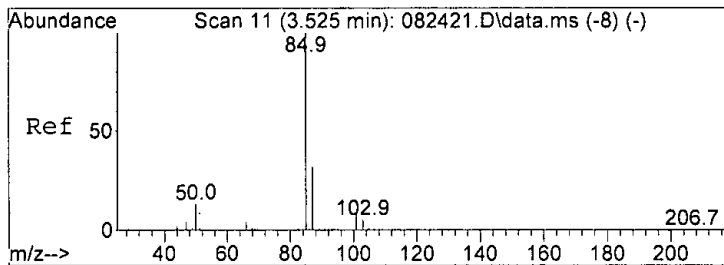
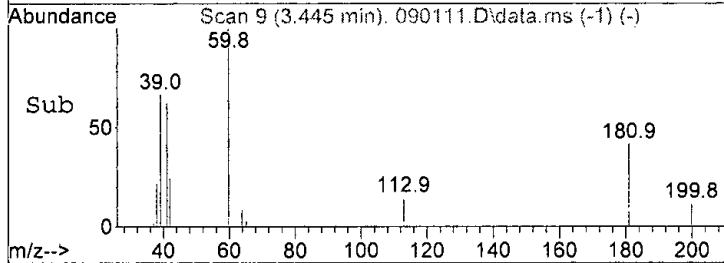
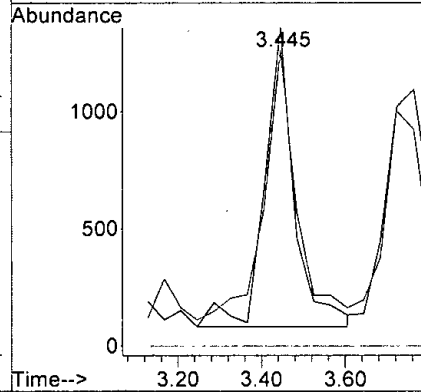
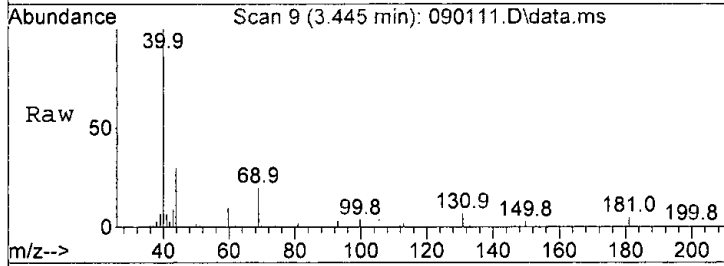
Quant Time: Sep 02 11:28:01 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





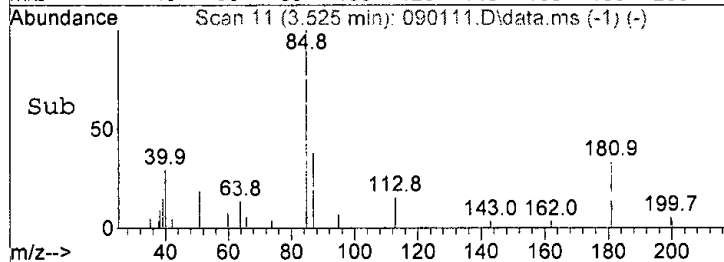
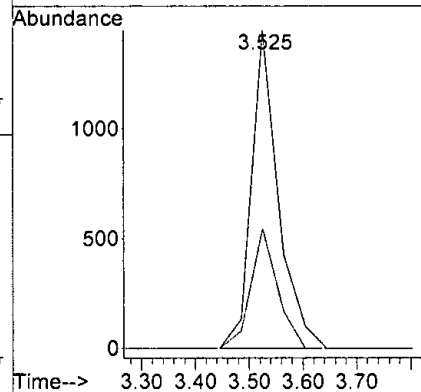
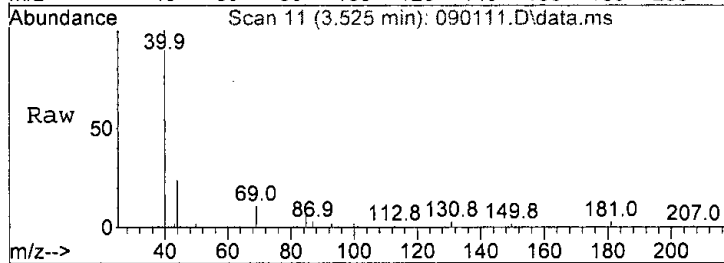
#2  
 Propene  
 Concen: 0.386 ppbv  
 RT: 3.45 min Scan# 9  
 Delta R.T. 0.039 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

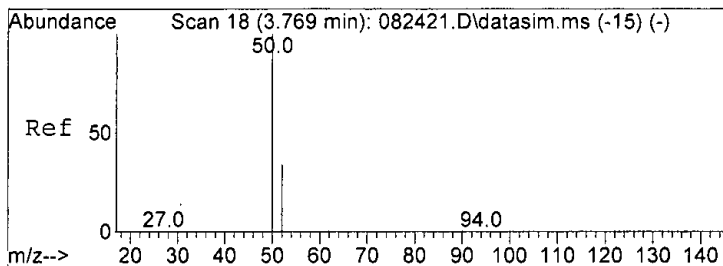
Tgt Ion: 41 Resp: 6311  
 Ion Ratio Lower Upper  
 41 100  
 39 90.1 45.6 105.6  
 27 0.0 0.0 30.0



#3  
 Dichlorodifluoromethane  
 Concen: 0.119 ppbv  
 RT: 3.52 min Scan# 11  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

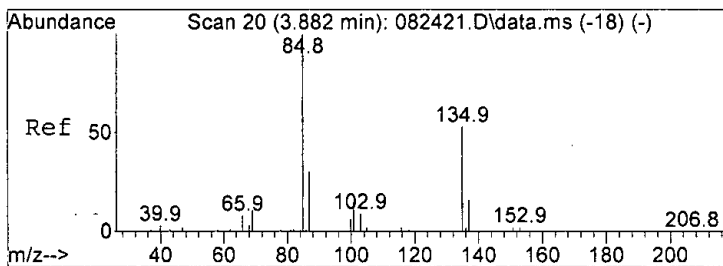
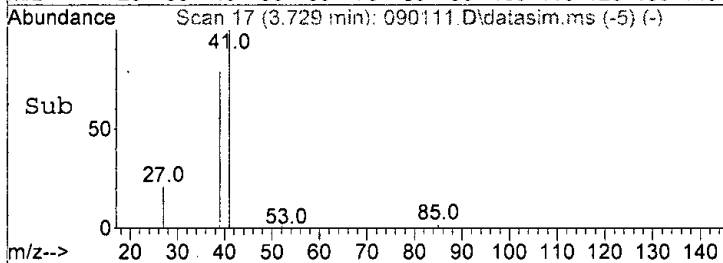
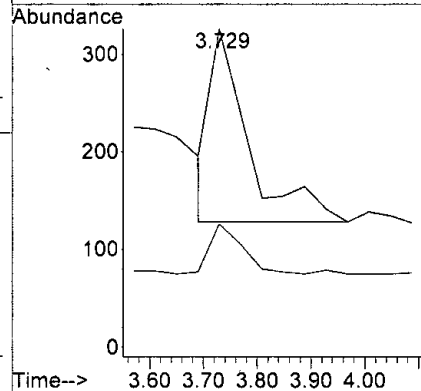
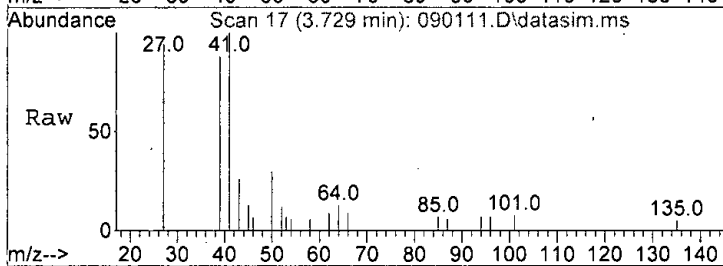
Tgt Ion: 85 Resp: 5024  
 Ion Ratio Lower Upper  
 85 100  
 87 37.8 2.2 62.2





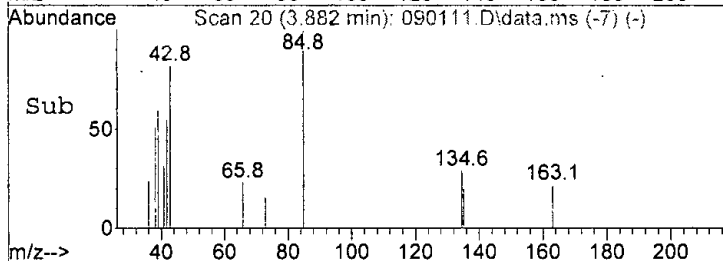
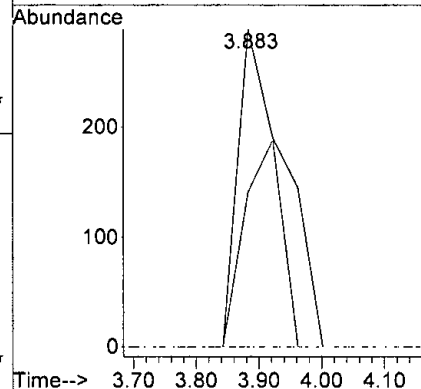
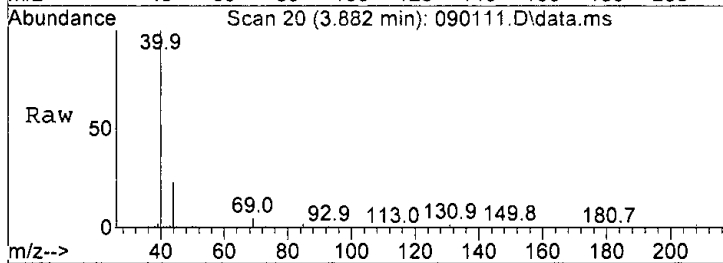
#4  
 Chloromethane  
 Concen: 0.049 ppbv  
 RT: 3.73 min Scan# 17  
 Delta R.T. -0.040 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

Tgt Ion: 50 Resp: 973  
 Ion Ratio Lower Upper  
 50 100  
 52 25.8 0.0 55.3

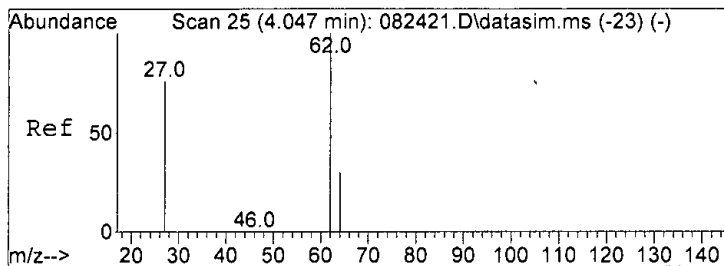


#5  
 F-114  
 Concen: 0.035 ppbv  
 RT: 3.88 min Scan# 20  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

Tgt Ion: 85 Resp: 1488  
 Ion Ratio Lower Upper  
 85 100  
 135 48.8 36.8 96.8  
 101 0.0 0.0 46.3

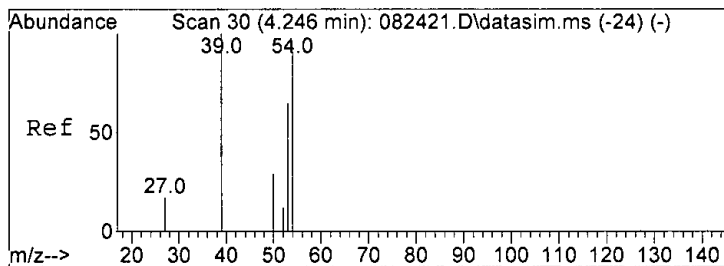
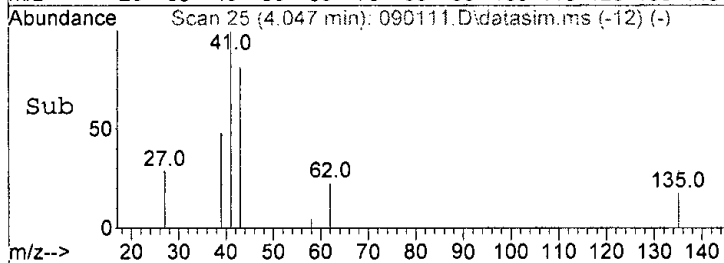
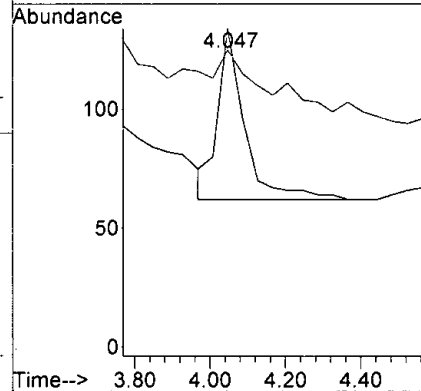
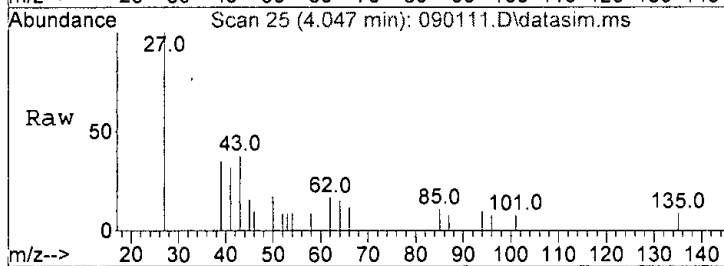






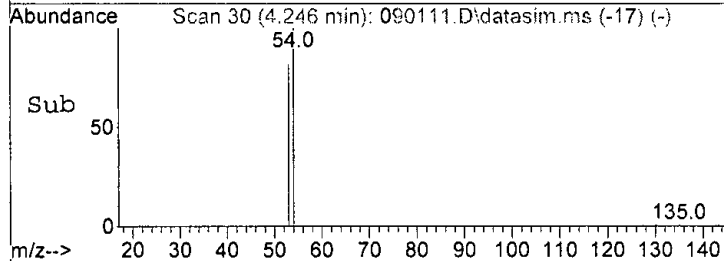
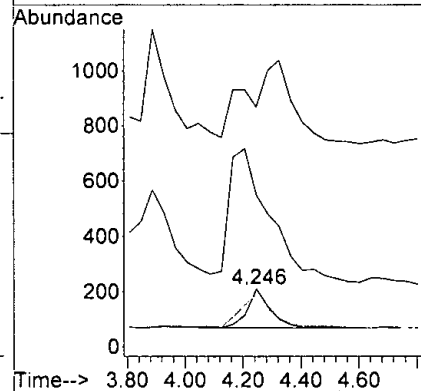
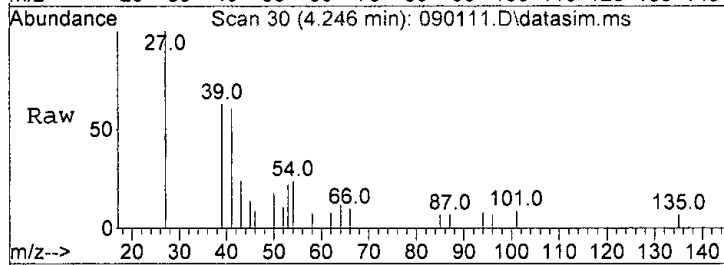
#6  
 Vinyl chloride  
 Concen: 0.017 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

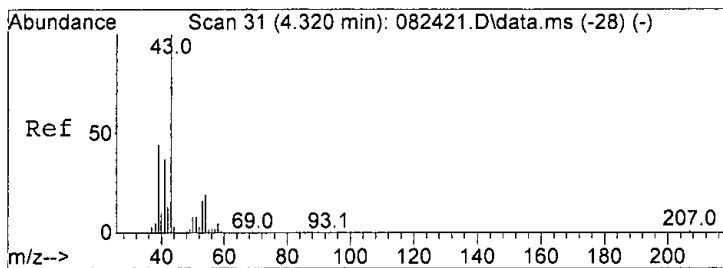
Tgt Ion: 62 Resp: 355  
 Ion Ratio Lower Upper  
 62 100  
 64 30.6 1.5 61.5



#7  
 1,3-Butadiene  
 Concen: 0.056 ppbv  
 RT: 4.25 min Scan# 30  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

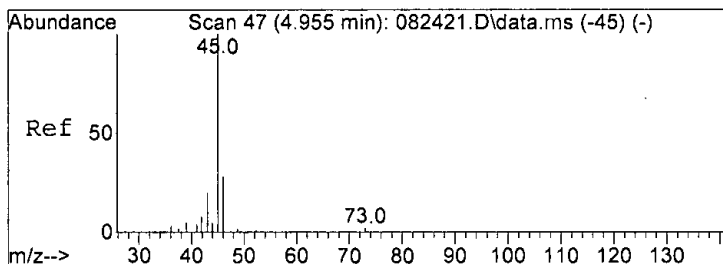
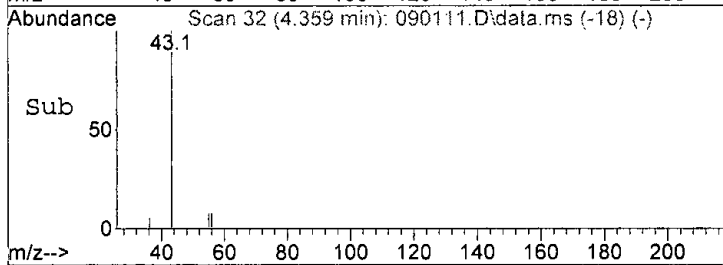
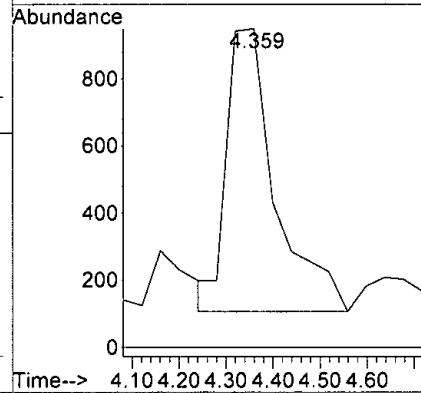
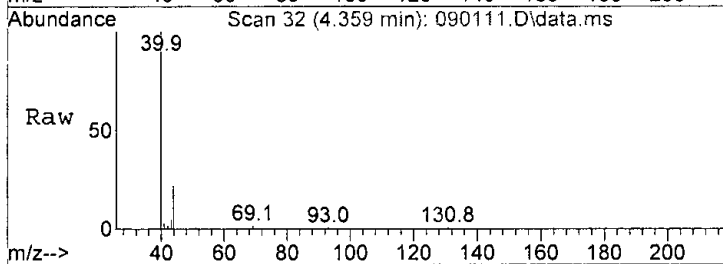
Tgt Ion: 54 Resp: 820  
 Ion Ratio Lower Upper  
 54 100  
 39 220.6 97.6 157.6#  
 53 83.7 42.4 102.4  
 27 89.4 0.0 20.0#





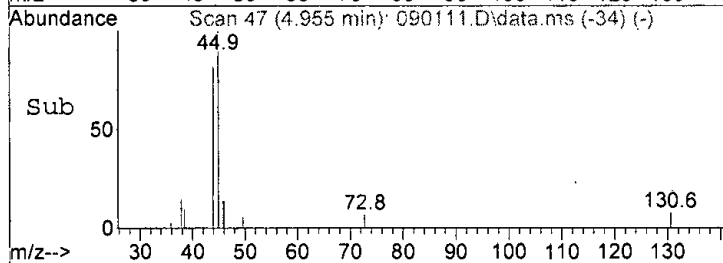
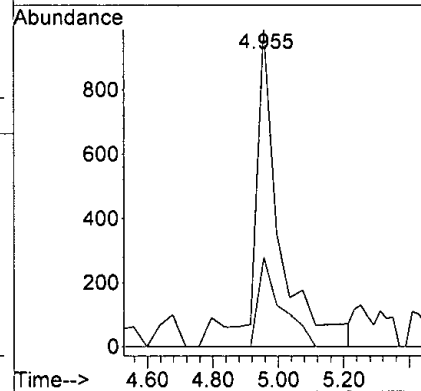
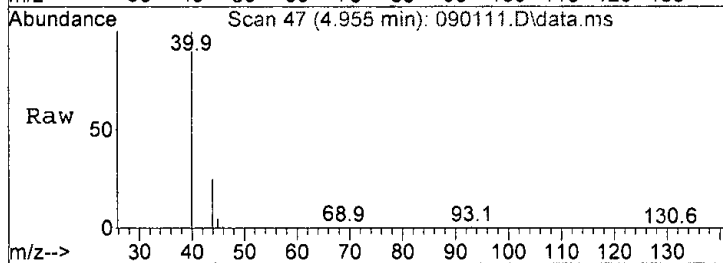
#8  
 Butane  
 Concen: 0.195 ppbv  
 RT: 4.36 min Scan# 32  
 Delta R.T. 0.039 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

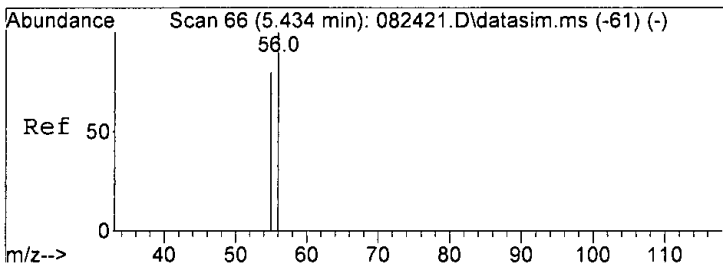
Tgt Ion	Ratio	Lower	Upper
43	100		
58	0.0	0.0	36.9



#12  
 Ethanol  
 Concen: 1.070 ppbv  
 RT: 4.96 min Scan# 47  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

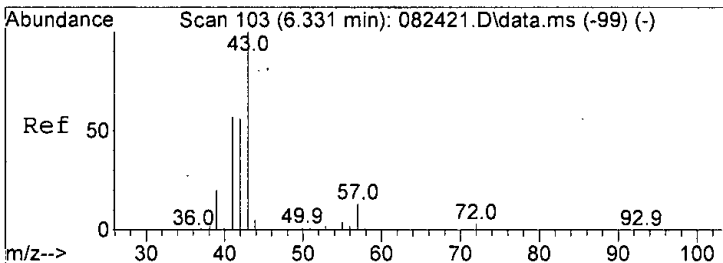
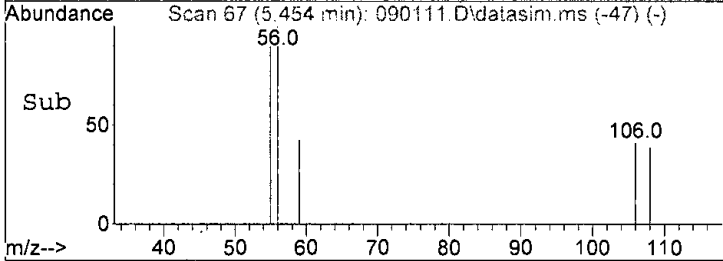
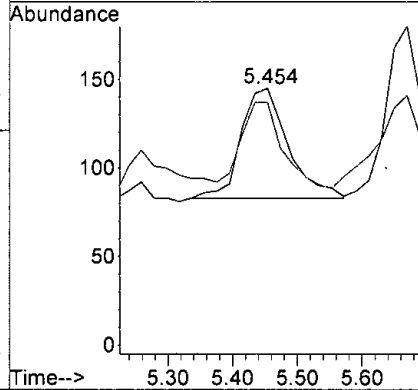
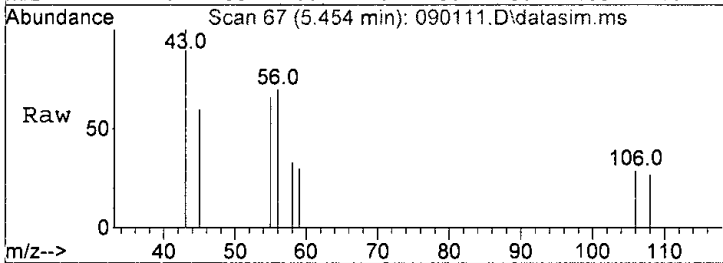
Tgt Ion	Ratio	Lower	Upper
45	100		
46	29.1	0.0	55.5





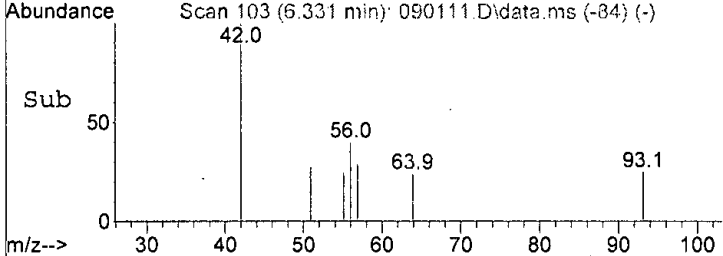
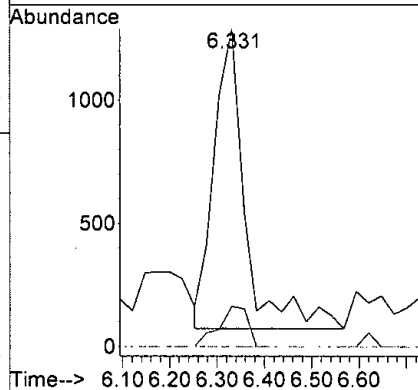
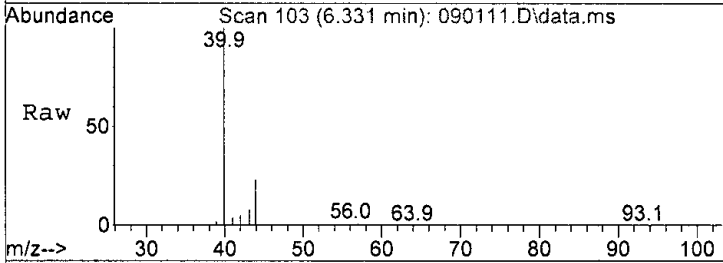
#13  
 Acrolein  
 Concen: 0.045 ppbv m  
 RT: 5.45 min Scan# 67  
 Delta R.T. 0.020 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

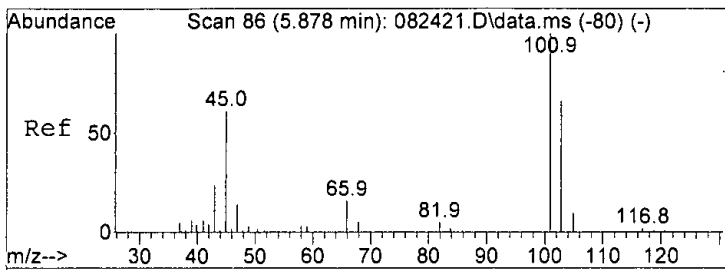
Tgt Ion: 56 Resp: 312  
 Ion Ratio Lower Upper  
 56 100  
 55 59.3 51.0 111.0



#14  
 Pentane  
 Concen: 0.149 ppbv  
 RT: 6.33 min Scan# 103  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

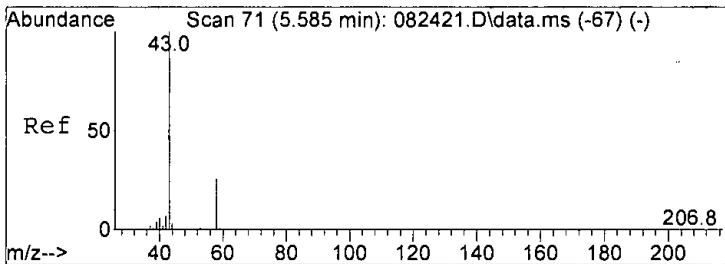
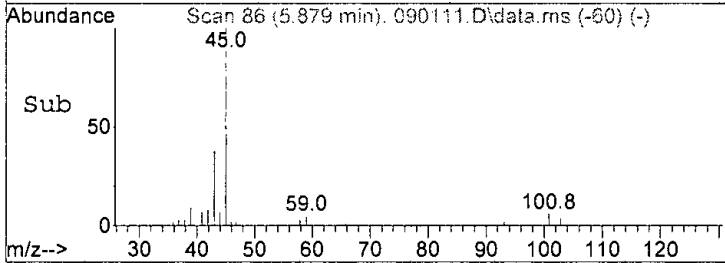
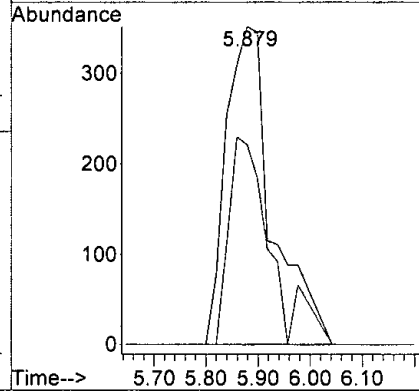
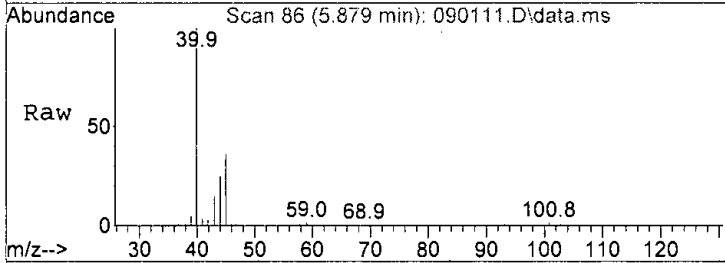
Tgt Ion: 43 Resp: 5557  
 Ion Ratio Lower Upper  
 43 100  
 57 13.5 0.0 43.5  
 72 0.0 0.0 34.2





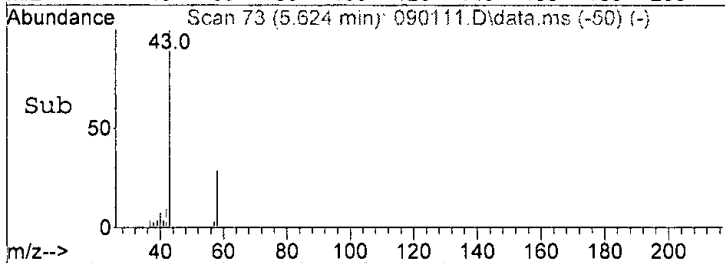
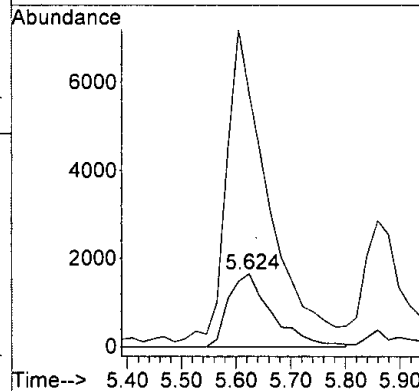
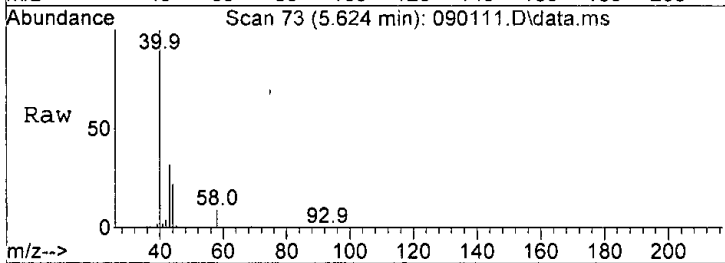
#15  
 Trichlorofluoromethane  
 Concen: 0.053 ppbv  
 RT: 5.88 min Scan# 86  
 Delta R.T. 0.001 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

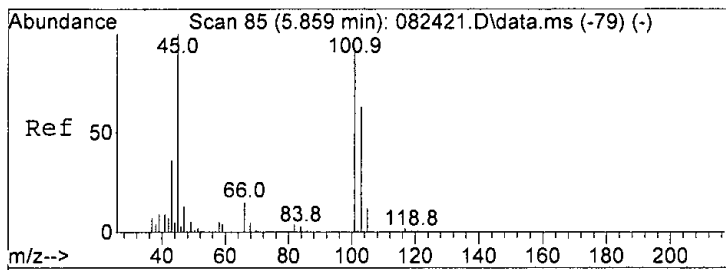
Tgt Ion	Resp	Lower	Upper
101	2497		
103	63.0	34.5	94.5



#16  
 Acetone  
 Concen: 1.087 ppbv  
 RT: 5.62 min Scan# 73  
 Delta R.T. 0.039 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

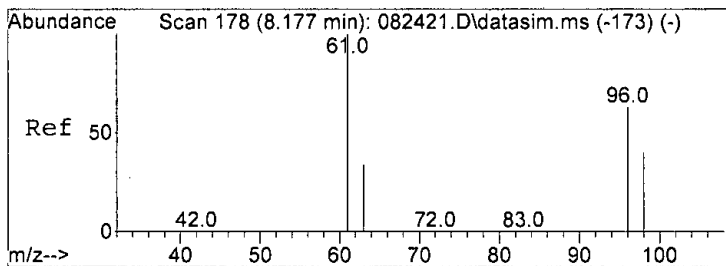
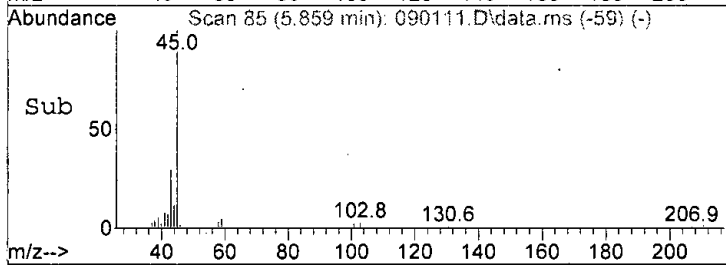
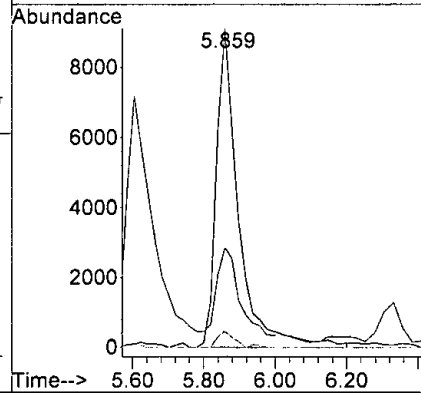
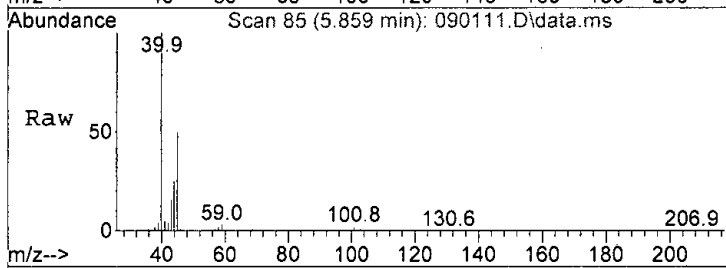
Tgt Ion	Resp	Lower	Upper
58	9149		
43	326.2	329.3	389.3#





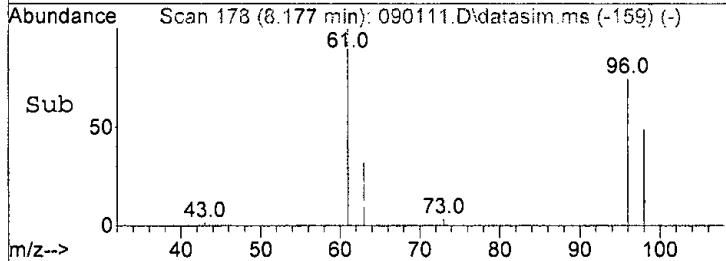
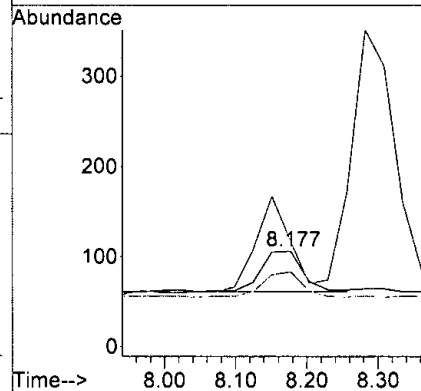
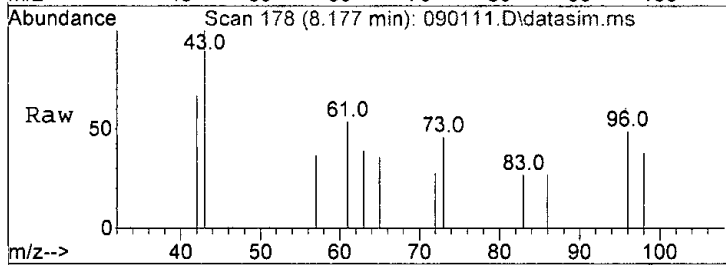
#17  
 2-Propanol  
 Concen: 1.397 ppbv  
 RT: 5.86 min Scan# 85  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

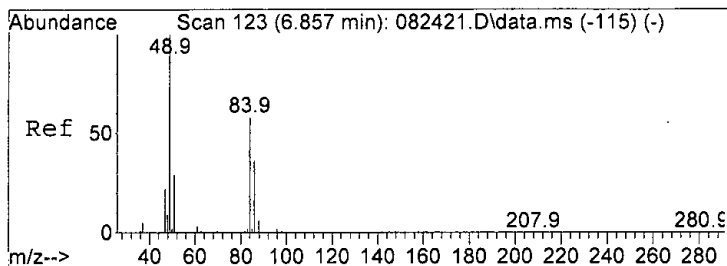
Tgt Ion:	45	Resp:	47541
Ion Ratio	Lower	Upper	
45	100		
43	28.0	0.0	30.0
59	5.1	0.0	33.6



#19  
 trans-1,2-Dichloroethene  
 Concen: 0.012 ppbv  
 RT: 8.18 min Scan# 178  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

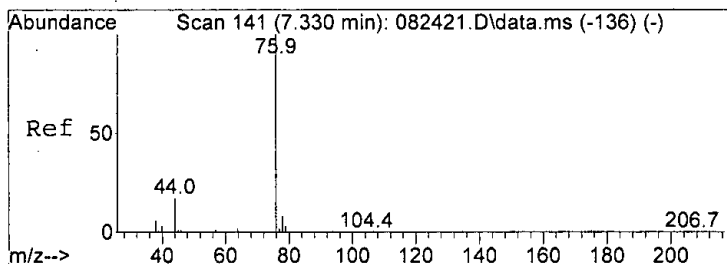
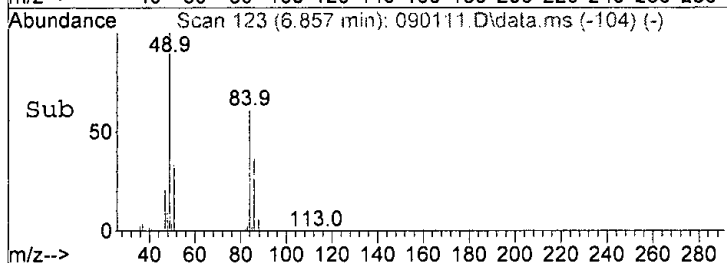
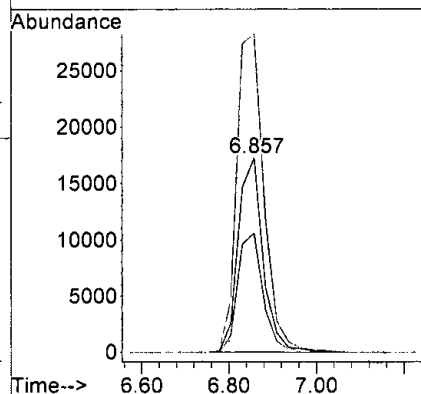
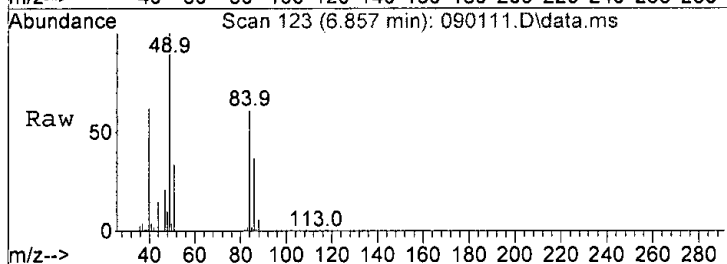
Tgt Ion:	96	Resp:	183
Ion Ratio	Lower	Upper	
96	100		
61	126.7	147.9	207.9#
98	62.2	34.2	94.2





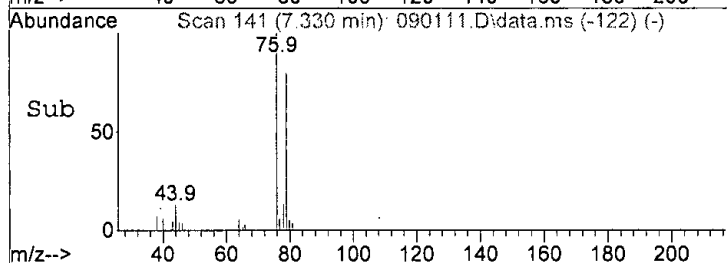
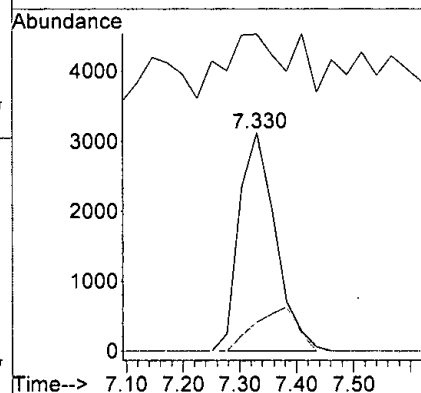
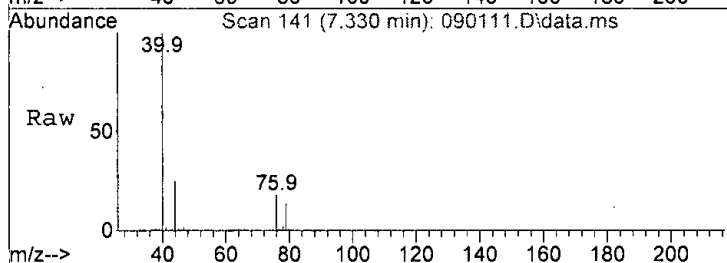
#20  
 Methylene chloride  
 Concen: 4.056 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

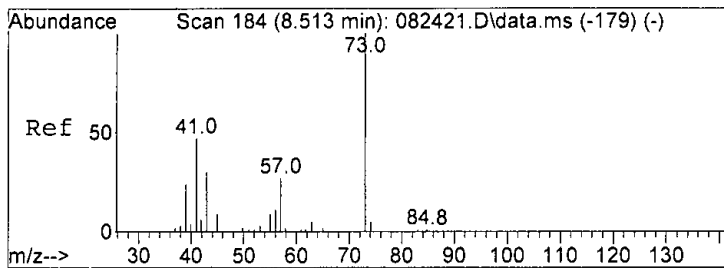
Tgt Ion: 84 Resp: 67929  
 Ion Ratio Lower Upper  
 84 100  
 86 61.4 33.9 93.9  
 49 164.0 116.6 176.6



#24  
 Carbon disulfide  
 Concen: 0.252 ppbv  
 RT: 7.33 min Scan# 141  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

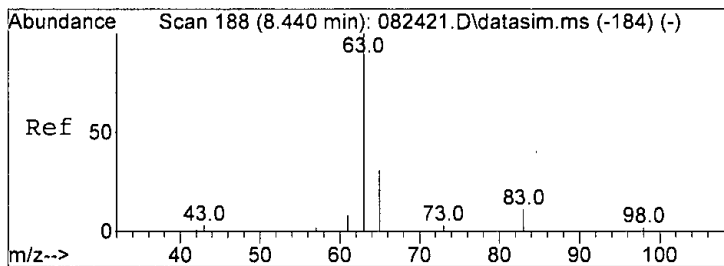
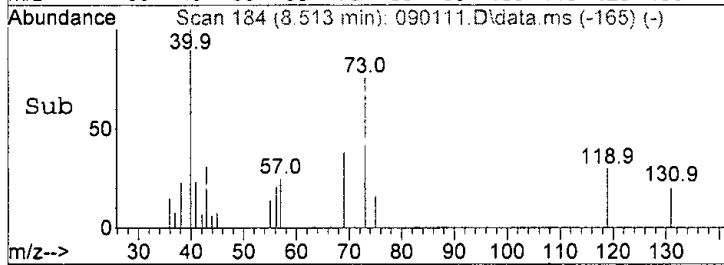
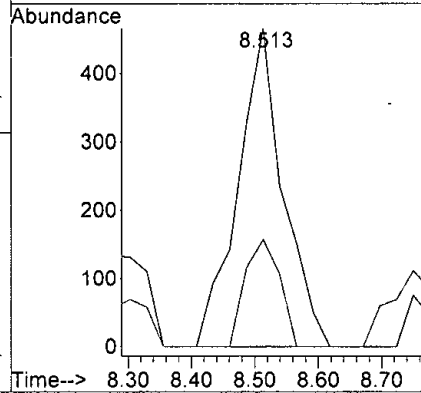
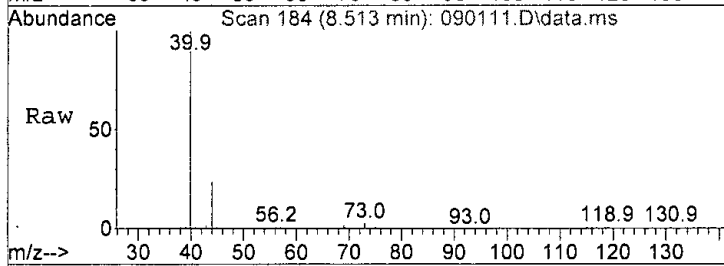
Tgt Ion: 76 Resp: 13853  
 Ion Ratio Lower Upper  
 76 100  
 44 29.3 0.0 44.3  
 78 13.3 0.0 39.2





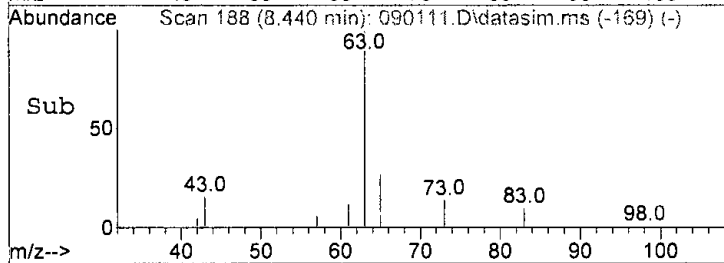
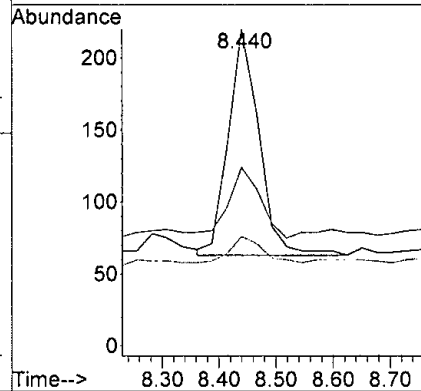
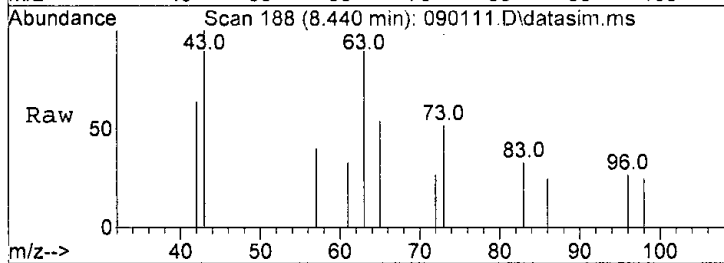
#25  
 Methyl t-butyl ether (MTBE)  
 Concen: 0.063 ppbv  
 RT: 8.51 min Scan# 184  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

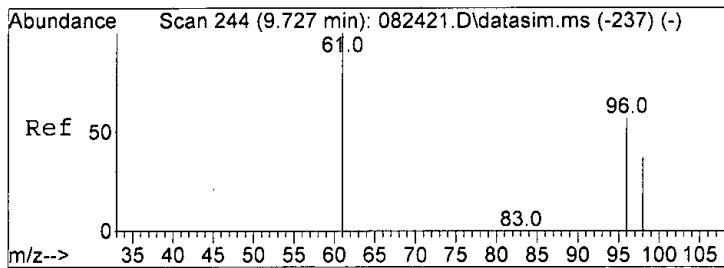
Tgt Ion: 73 Resp: 2309  
 Ion Ratio Lower Upper  
 73 100  
 57 33.7 0.0 54.5



#27  
 1,1-Dichloroethane  
 Concen: 0.016 ppbv  
 RT: 8.44 min Scan# 188  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

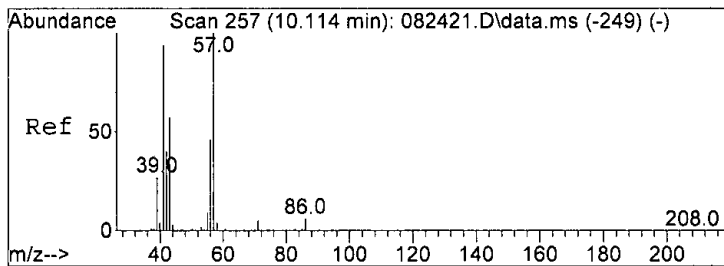
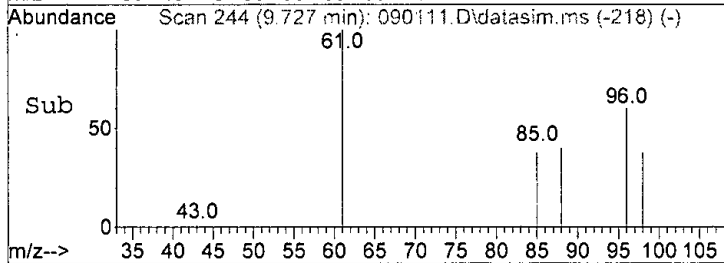
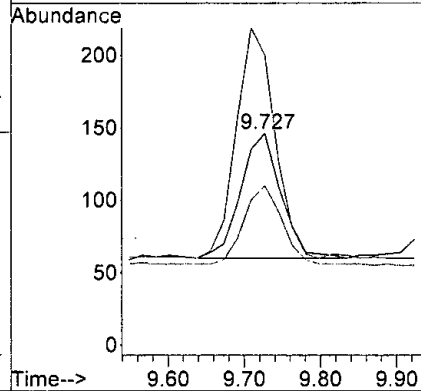
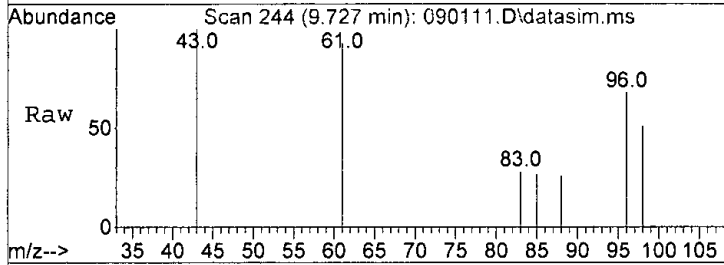
Tgt Ion: 63 Resp: 585  
 Ion Ratio Lower Upper  
 63 100  
 65 28.7 2.5 62.5  
 83 11.5 0.0 43.2





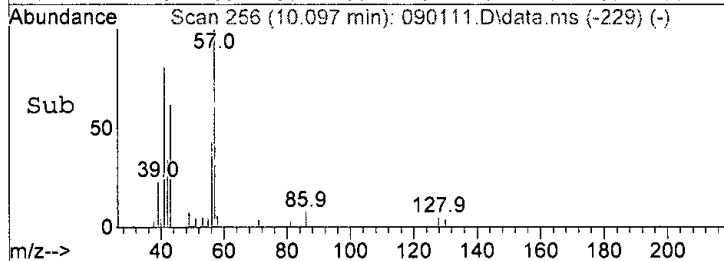
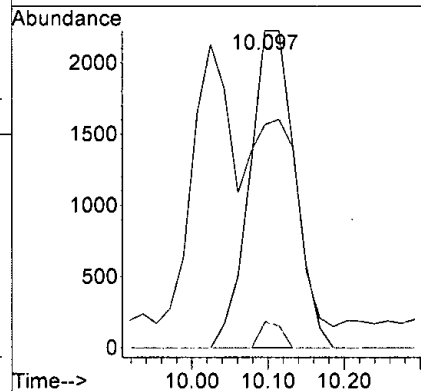
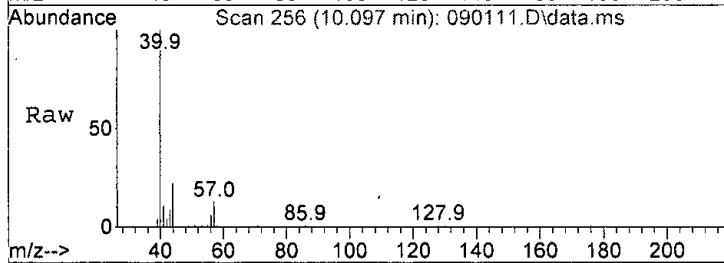
#28  
 cis-1,2-Dichloroethene  
 Concen: 0.018 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

Tgt Ion: 96 Resp: 314  
 Ion Ratio Lower Upper  
 96 100  
 61 162.8 116.0 176.0  
 98 62.8 35.2 95.2

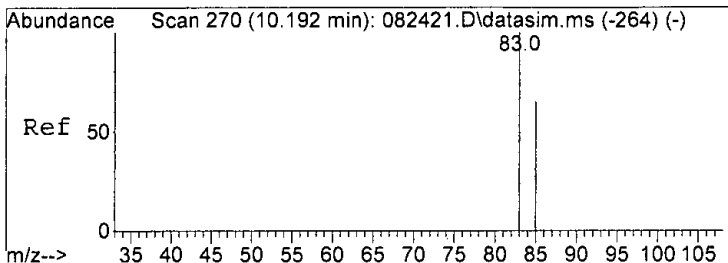


#29  
 Hexane  
 Concen: 0.325 ppbv  
 RT: 10.10 min Scan# 256  
 Delta R.T. -0.017 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

Tgt Ion: 57 Resp: 9205  
 Ion Ratio Lower Upper  
 57 100  
 43 61.7 43.6 103.6  
 86 8.3 0.0 35.9

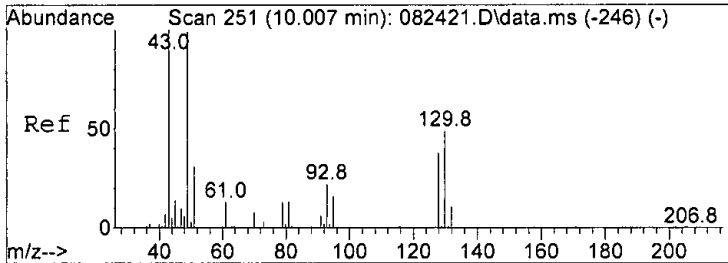
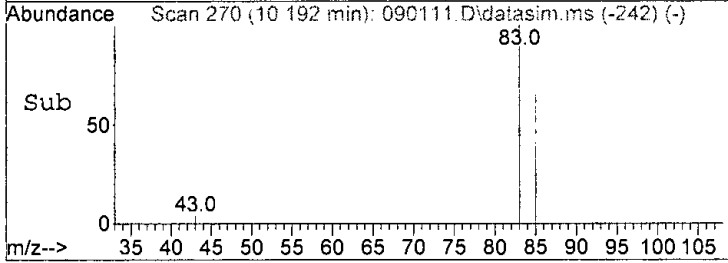
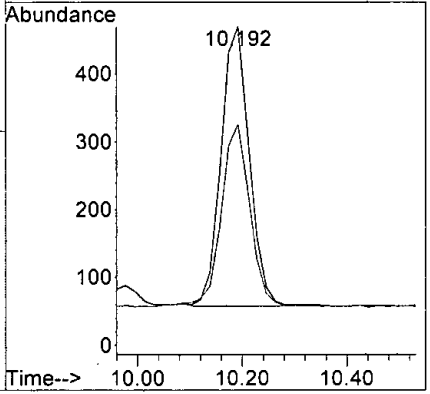
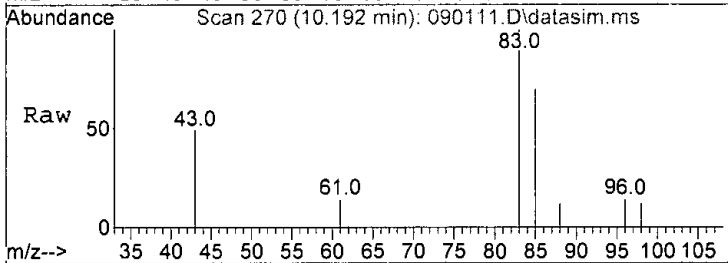






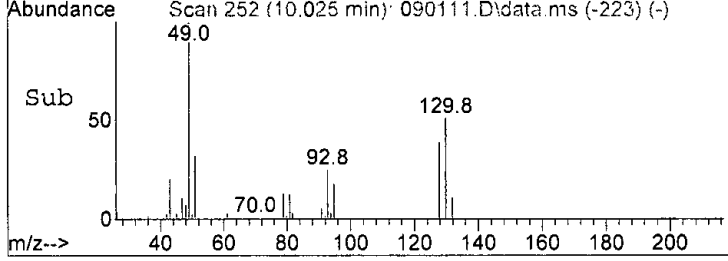
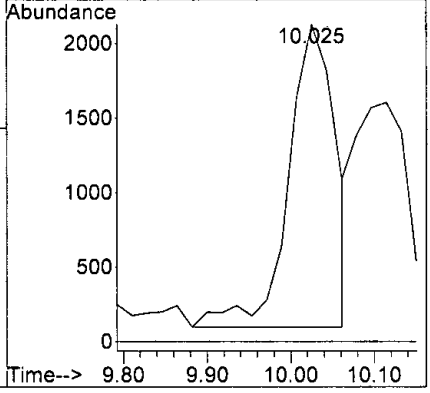
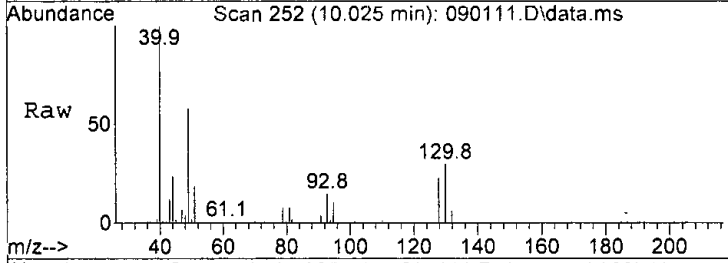
#30  
 Chloroform  
 Concen: 0.037 ppbv  
 RT: 10.19 min Scan# 270  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

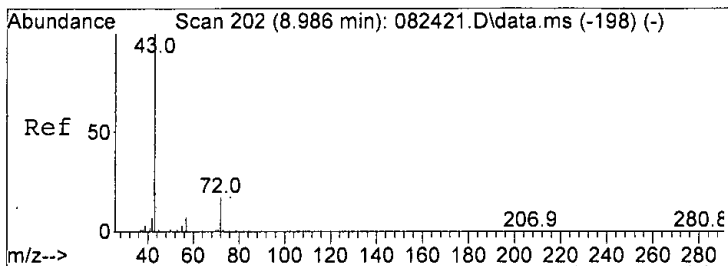
Tgt Ion	Resp	Lower	Upper
83	100		
85	65.2	36.3	96.3



#31  
 Ethyl acetate  
 Concen: 0.134 ppbv  
 RT: 10.03 min Scan# 252  
 Delta R.T. 0.018 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

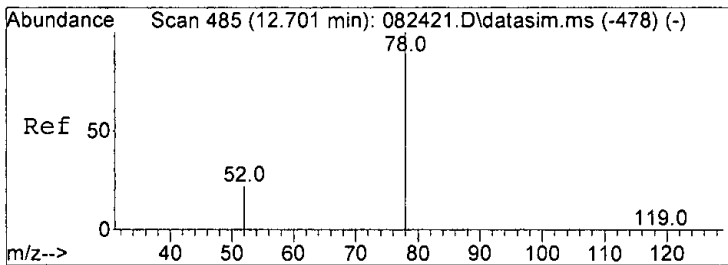
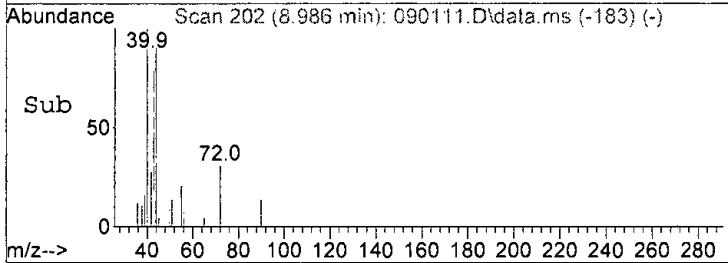
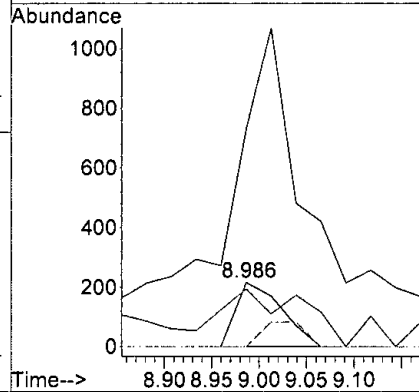
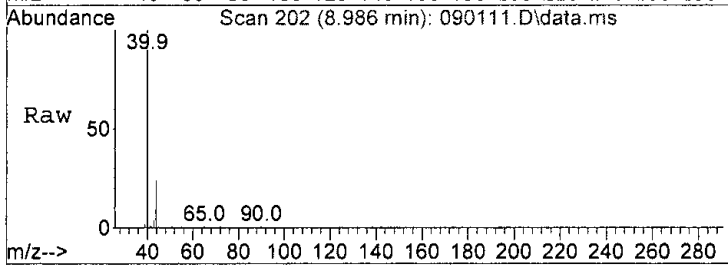
Tgt Ion	Resp	Lower	Upper
43	100		
88	0.0	1.4	2.0#





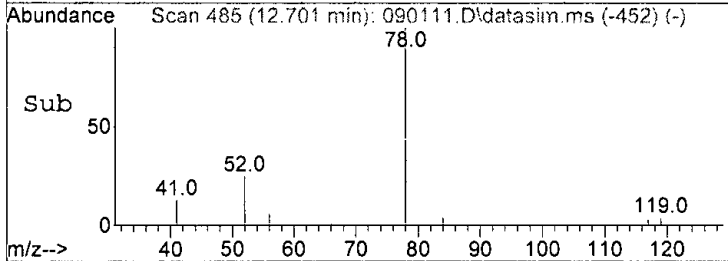
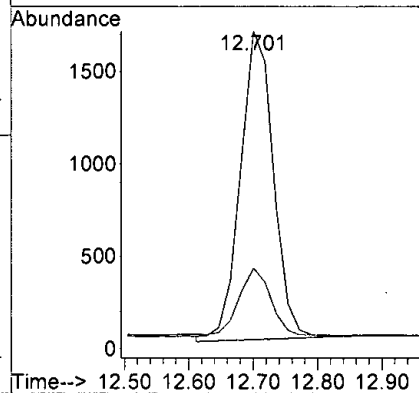
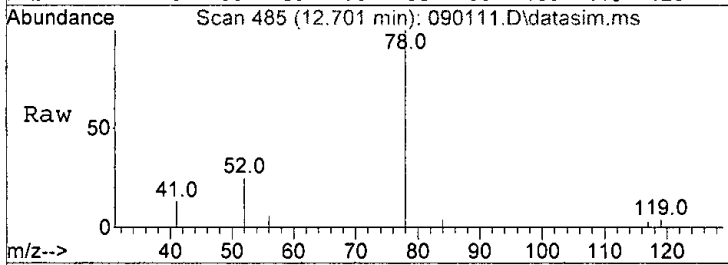
#33  
 2-Butanone (MEK)  
 Concen: 0.106 ppbv  
 RT: 8.99 min Scan# 202  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

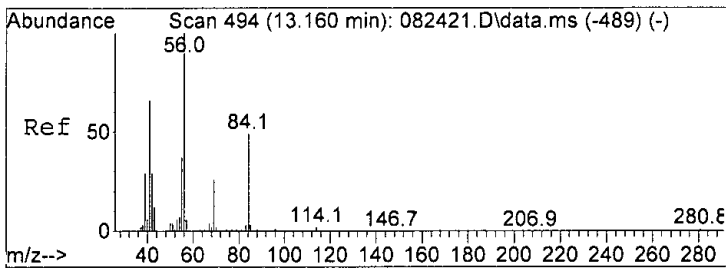
Tgt Ion	Ratio	Lower	Upper
72	100		
42	89.8	0.0	59.9#
57	0.0	14.2	74.2#
43	238.9	501.6	541.6#



#37  
 Benzene  
 Concen: 0.102 ppbv  
 RT: 12.70 min Scan# 485  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

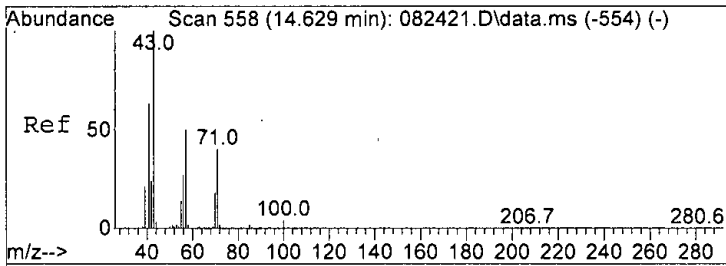
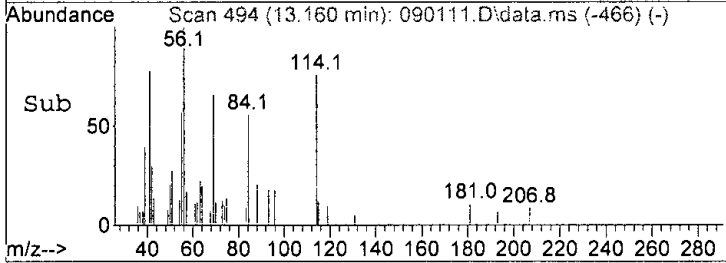
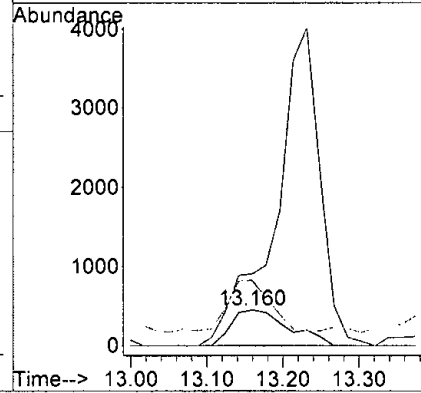
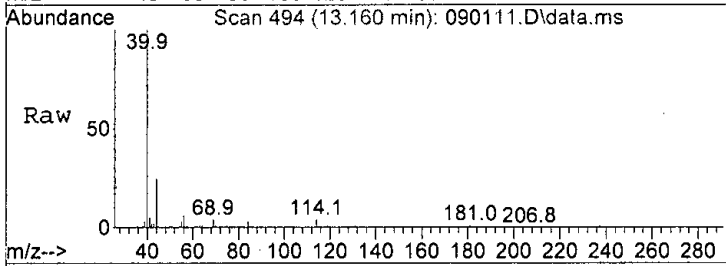
Tgt Ion	Ratio	Lower	Upper
78	100		
52	22.1	0.0	49.7





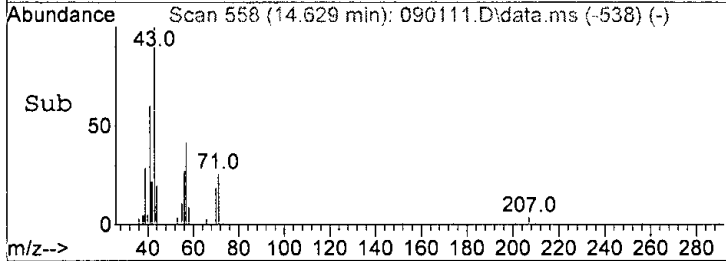
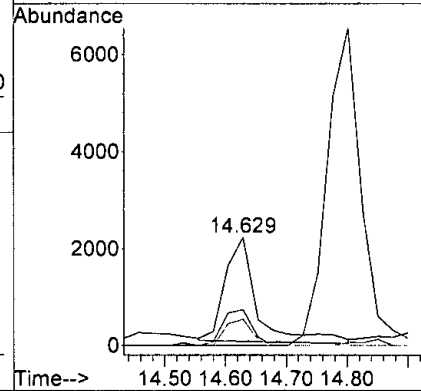
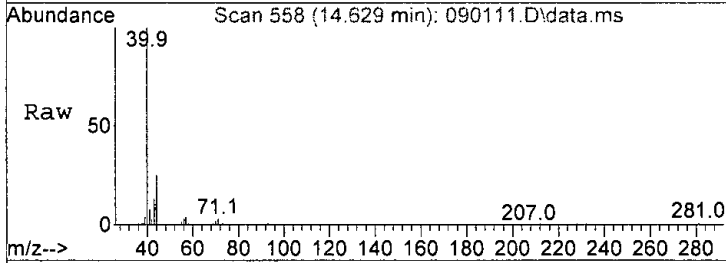
#38  
 Cyclohexane  
 Concen: 0.149 ppbv  
 RT: 13.16 min Scan# 494  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

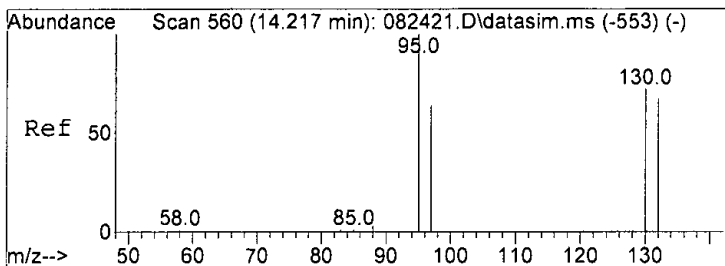
Tgt Ion	Resp	Lower	Upper
84	100		
56	201.1	144.4	204.4
41	140.4	77.2	137.2#



#44  
 Heptane  
 Concen: 0.180 ppbv  
 RT: 14.63 min Scan# 558  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

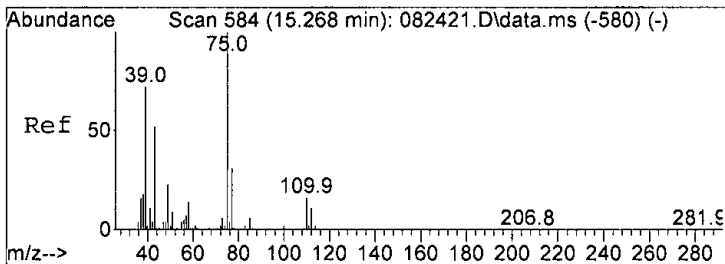
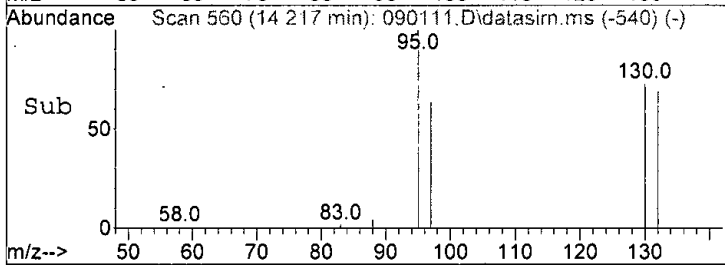
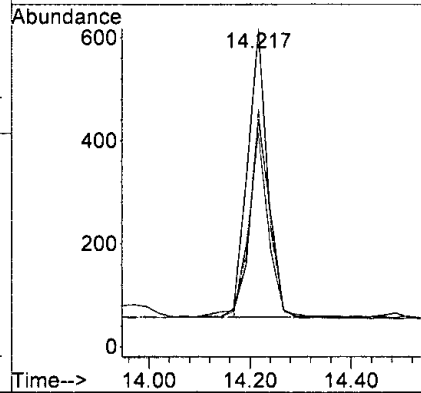
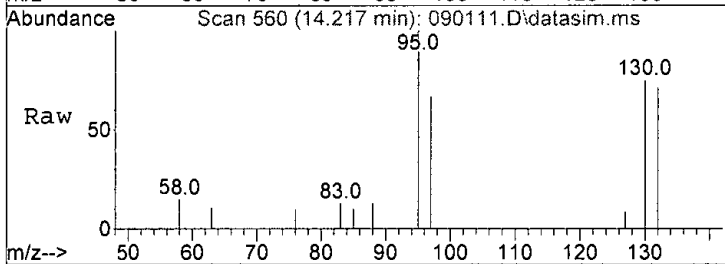
Tgt Ion	Resp	Lower	Upper
43	100		
57	32.1	16.9	76.9
71	20.8	12.9	72.9
100	0.0	0.0	24.8





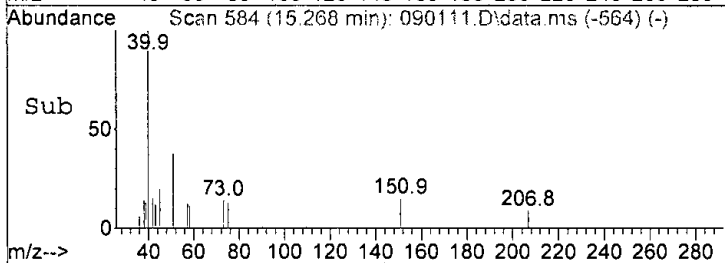
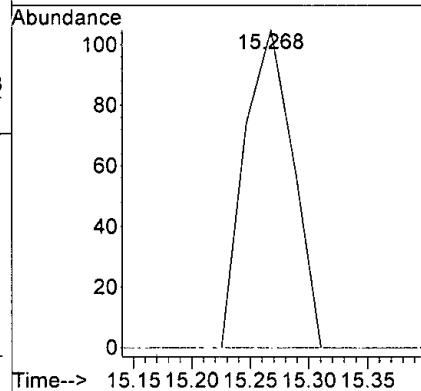
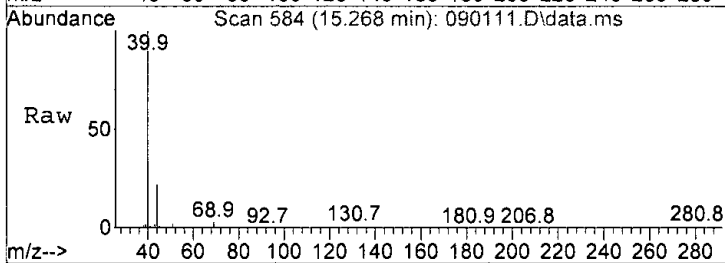
#46  
 Trichloroethene  
 Concen: 0.054 ppbv  
 RT: 14.22 min Scan# 560  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

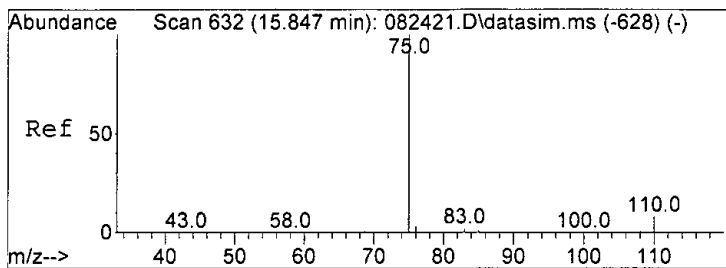
Tgt Ion	Resp	Lower	Upper
95	1519		
97	63.7	37.1	97.1
130	73.0	56.1	116.1
132	68.9	54.3	114.3



#47  
 cis-1,3-Dichloropropene  
 Concen: 0.010 ppbv  
 RT: 15.27 min Scan# 584  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

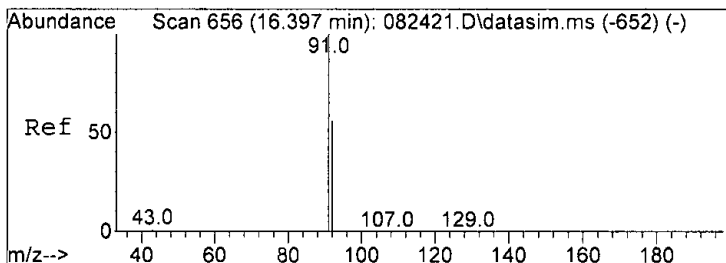
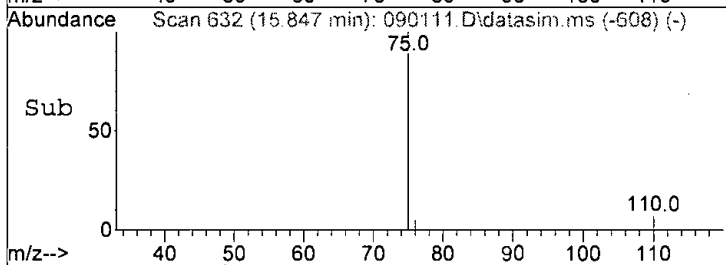
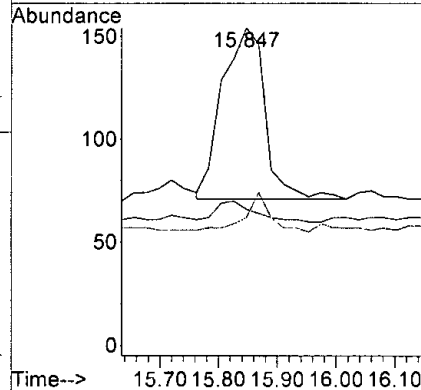
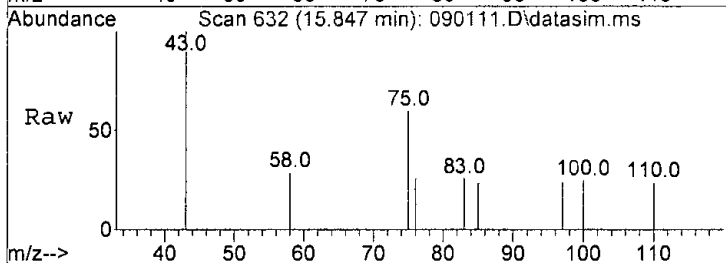
Tgt Ion	Resp	Lower	Upper
75	301		
76	0.0	0.0	33.7
110	0.0	0.0	48.9





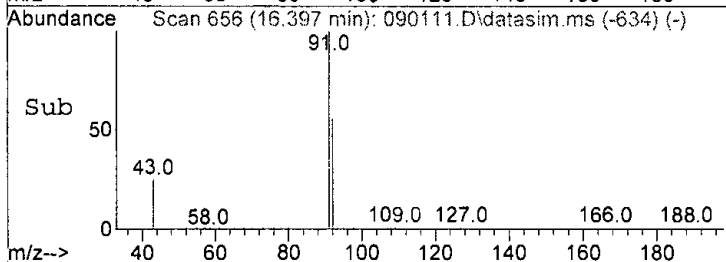
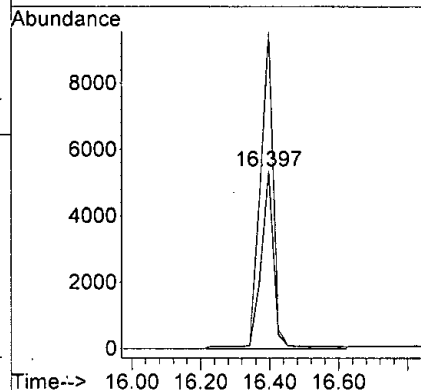
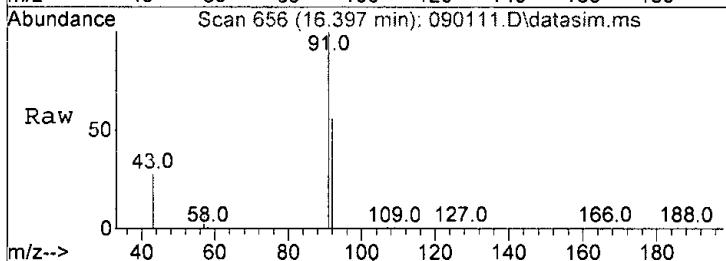
#49  
 trans-1,3-Dichloropropene  
 Concen: 0.017 ppbv  
 RT: 15.85 min Scan# 632  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

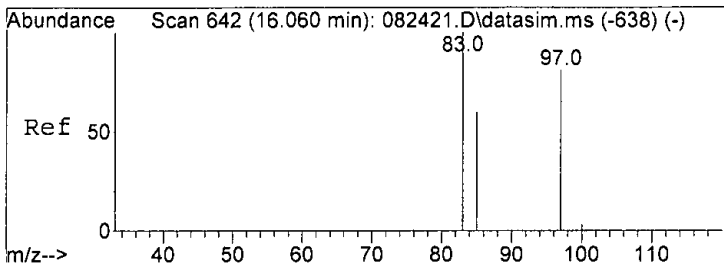
Tgt Ion: 75 Resp: 421  
 Ion Ratio Lower Upper  
 75 100  
 76 6.0 0.0 33.5  
 110 7.2 0.0 51.1



#50  
 Toluene  
 Concen: 0.406 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

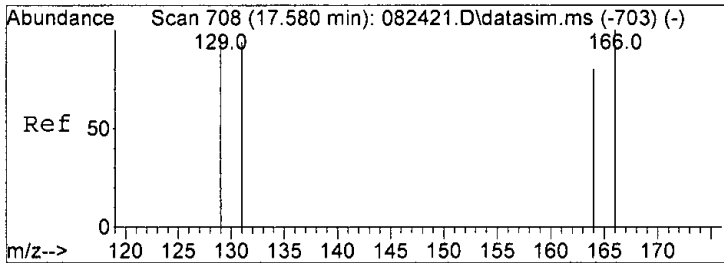
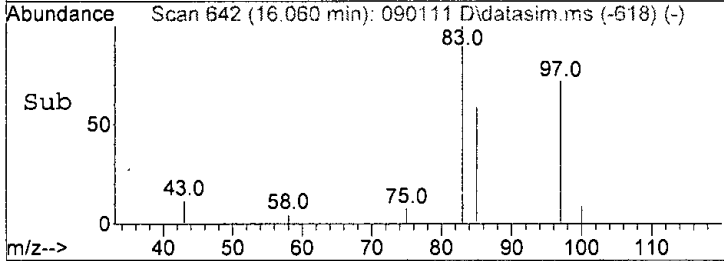
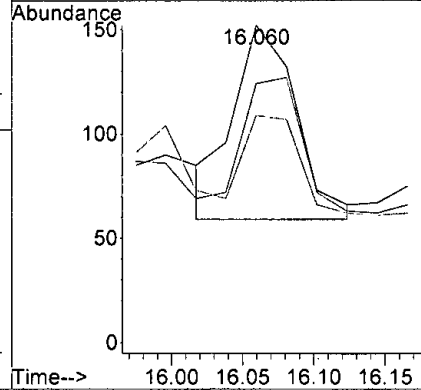
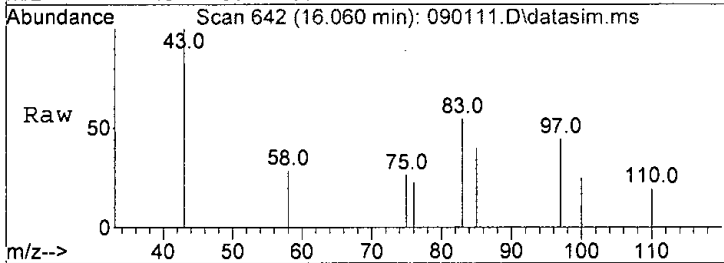
Tgt Ion: 92 Resp: 13945  
 Ion Ratio Lower Upper  
 92 100  
 91 179.1 174.6 234.6





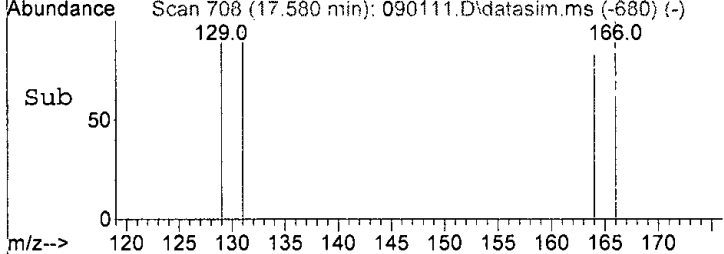
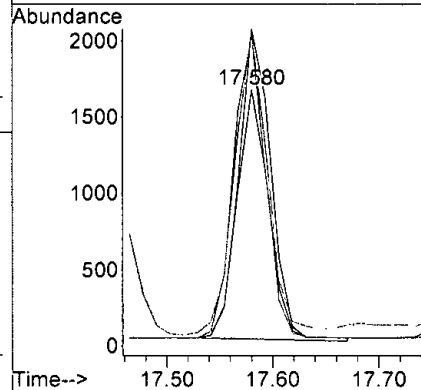
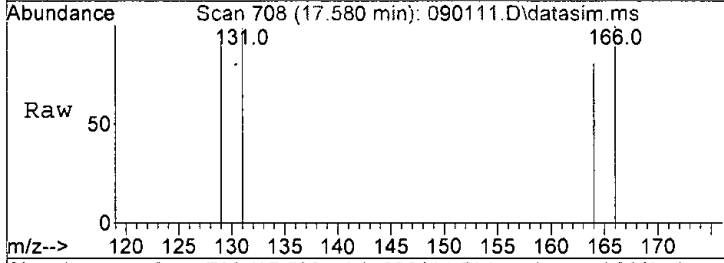
#51  
 1,1,2-Trichloroethane  
 Concen: 0.011 ppbv m  
 RT: 16.06 min Scan# 642  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

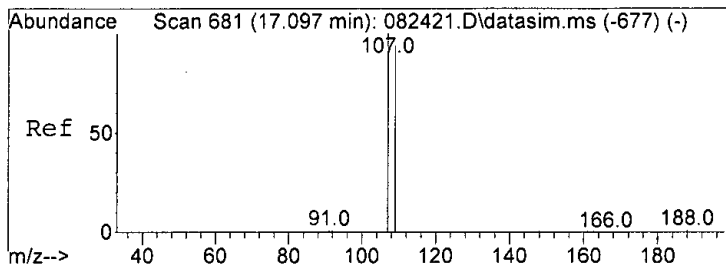
Tgt Ion:	83	Resp:	286
Ion Ratio	Lower	Upper	
83	100		
97	81.6	51.8	111.8
85	71.7	30.5	90.5



#53  
 Tetrachloroethene  
 Concen: 0.196 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

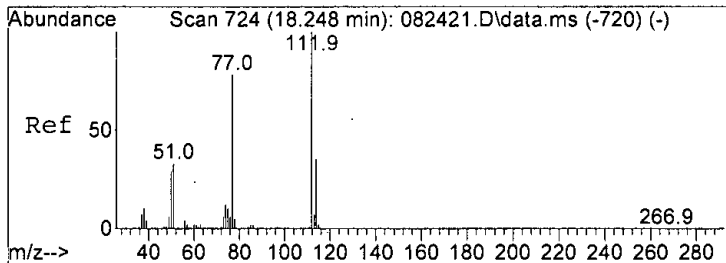
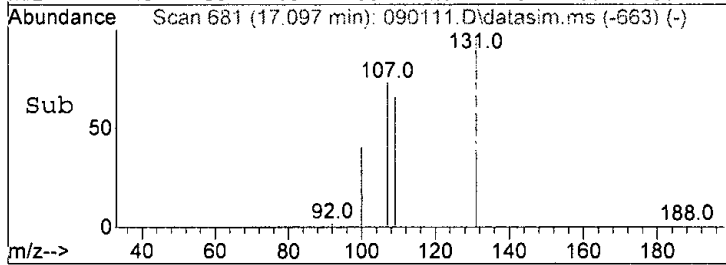
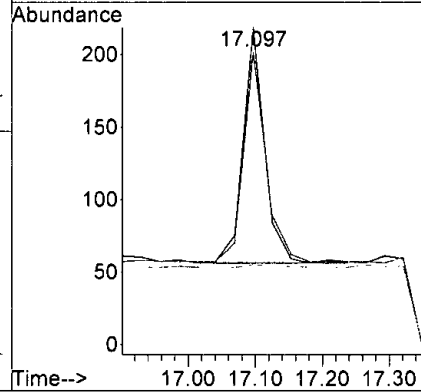
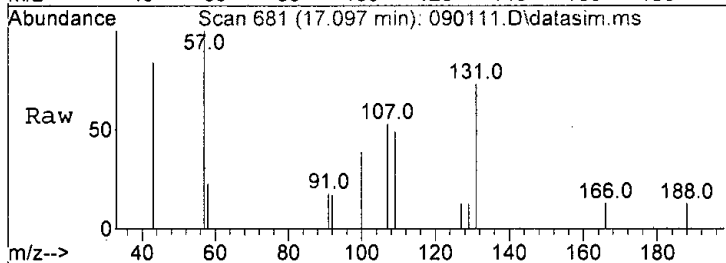
Tgt Ion:	164	Resp:	3414
Ion Ratio	Lower	Upper	
164	100		
129	122.1	63.2	123.2
131	121.7	70.7	130.7
166	124.6	107.5	167.5





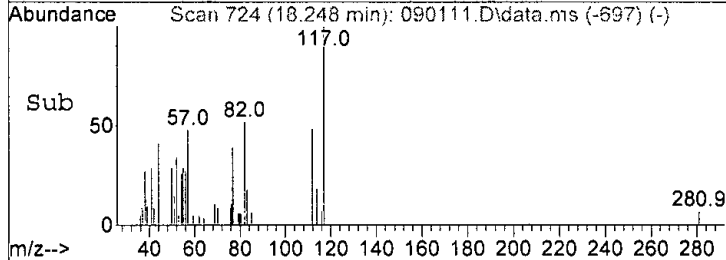
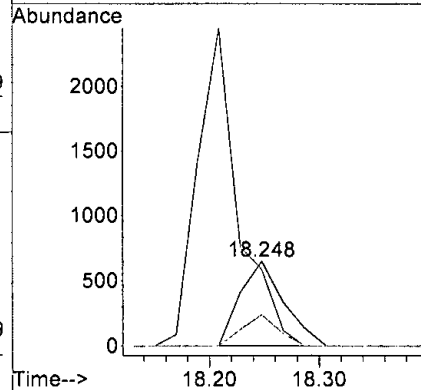
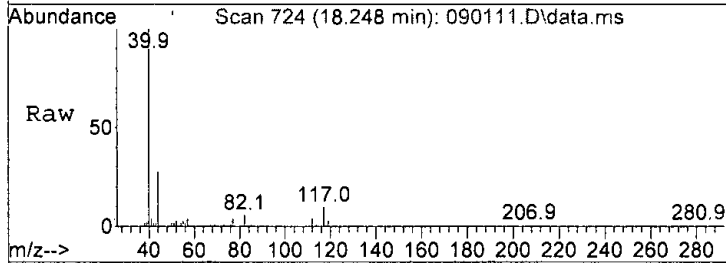
#55  
 1,2-Dibromoethane (EDB)  
 Concen: 0.010 ppbv  
 RT: 17.10 min Scan# 681  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

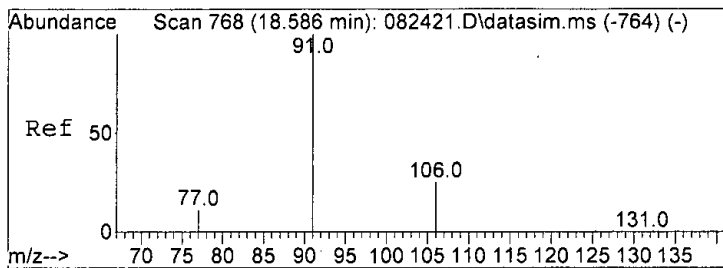
Tgt Ion	Resp	Lower	Upper
107	100		
109	89.6	74.6	134.6
188	1.2	0.0	32.7



#57  
 Chlorobenzene  
 Concen: 0.041 ppbv  
 RT: 18.25 min Scan# 724  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

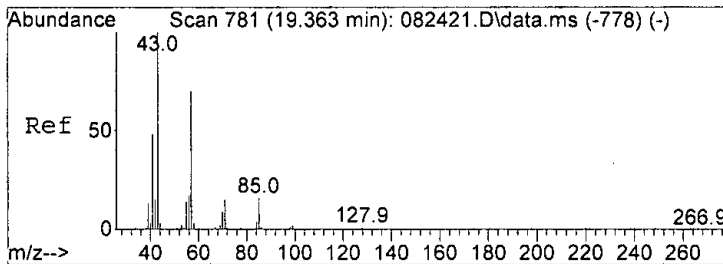
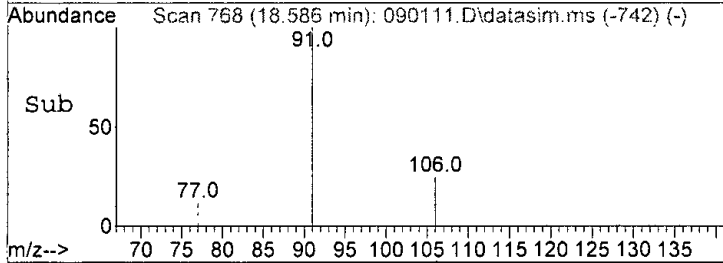
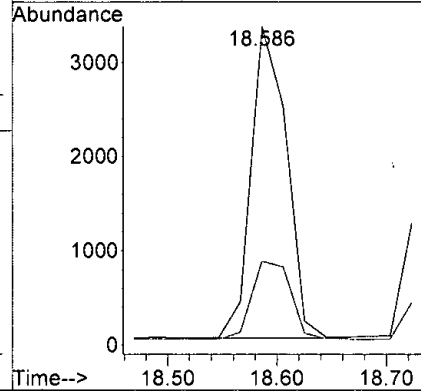
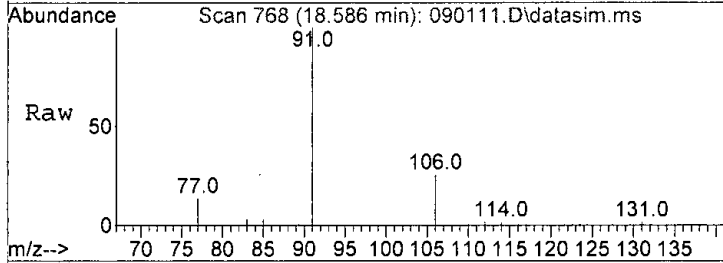
Tgt Ion	Resp	Lower	Upper
112	100		
77	90.8	33.9	93.9
114	36.9	2.4	62.4





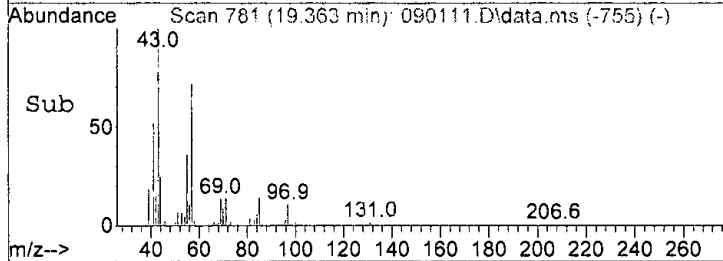
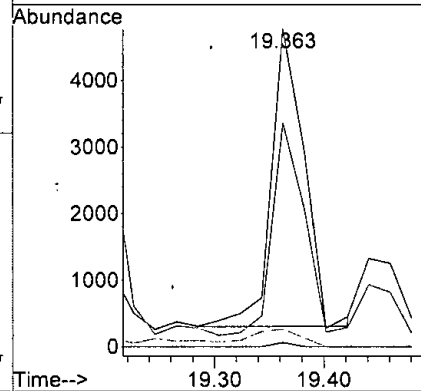
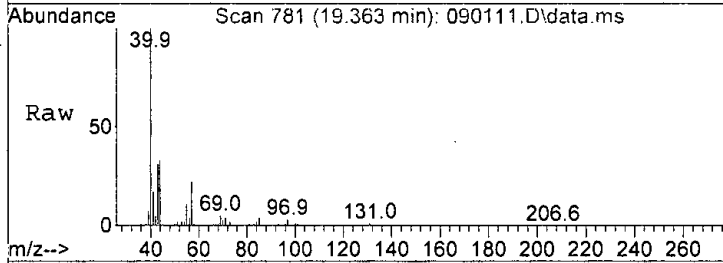
#58  
Ethylbenzene  
Concen: 0.083 ppbv  
RT: 18.59 min Scan# 768  
Delta R.T. 0.000 min  
Lab File: 090111.D  
Acq: 1 Sep 2021 4:37 pm

Tgt Ion: 91 Resp: 7455  
Ion Ratio Lower Upper  
91 100  
106 25.1 0.0 57.0

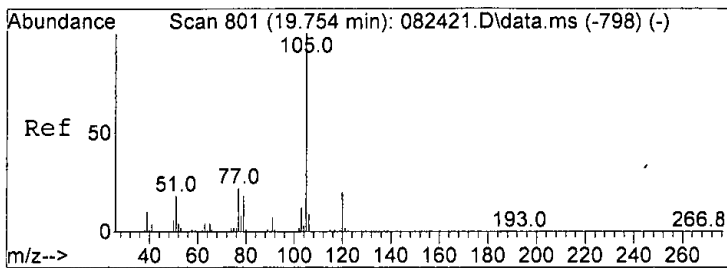


#60  
Nonane  
Concen: 0.136 ppbv  
RT: 19.36 min Scan# 781  
Delta R.T. -0.000 min  
Lab File: 090111.D  
Acq: 1 Sep 2021 4:37 pm

Tgt Ion: 43 Resp: 9305  
Ion Ratio Lower Upper  
43 100  
57 70.4 48.8 108.8  
84 9.1 0.0 34.7  
99 0.0 0.0 32.7

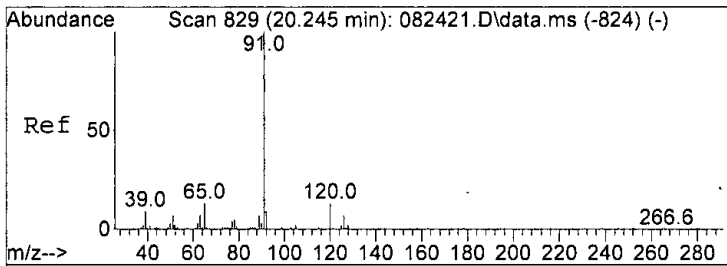
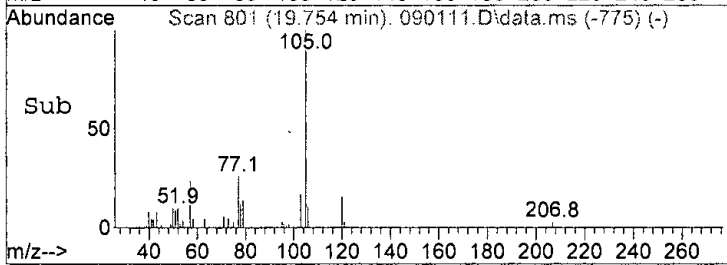
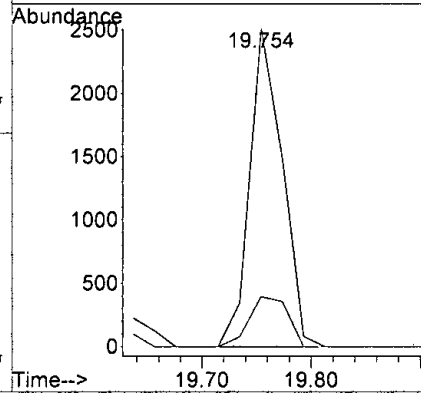
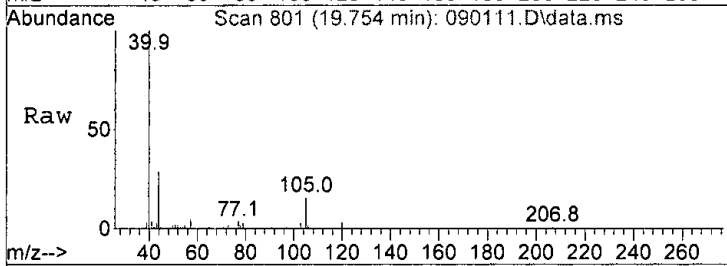






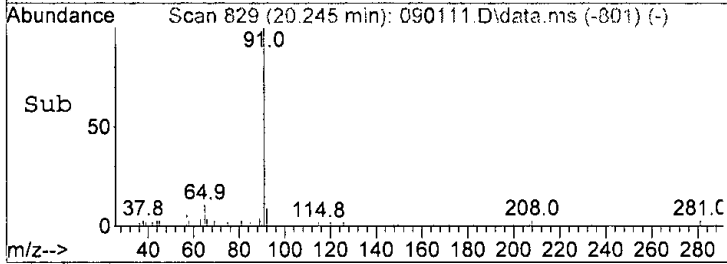
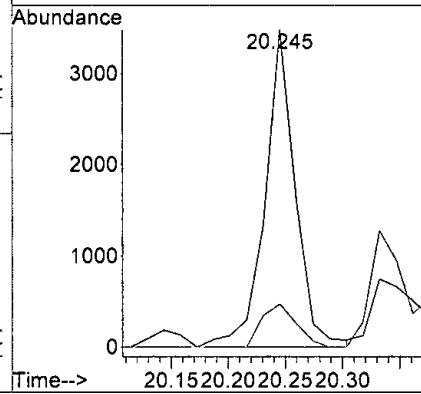
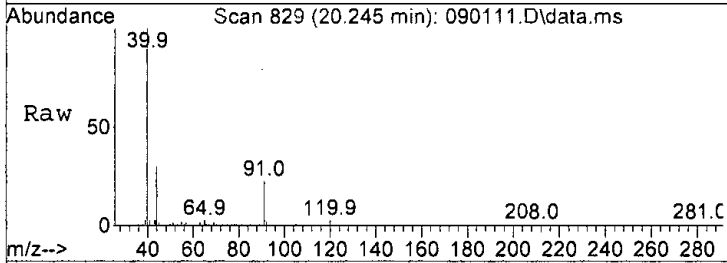
#61  
 Isopropylbenzene  
 Concen: 0.066 ppbv  
 RT: 19.75 min Scan# 801  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

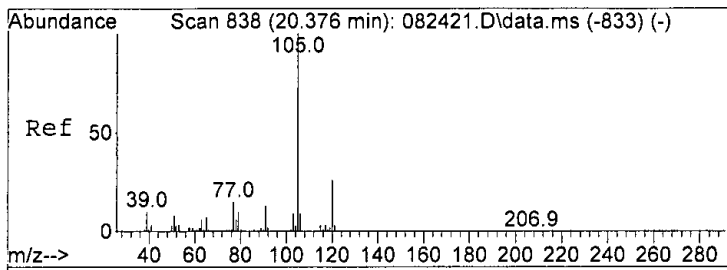
Tgt Ion	Ratio	Lower	Upper
105	100		
120	18.7	18.0	27.0



#63  
 Propylbenzene  
 Concen: 0.036 ppbv  
 RT: 20.25 min Scan# 829  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

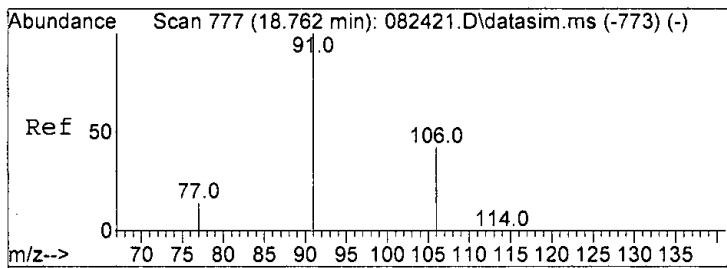
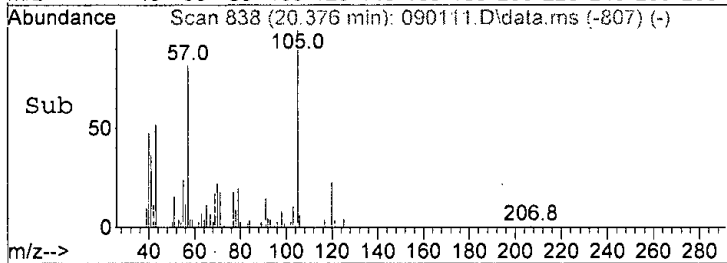
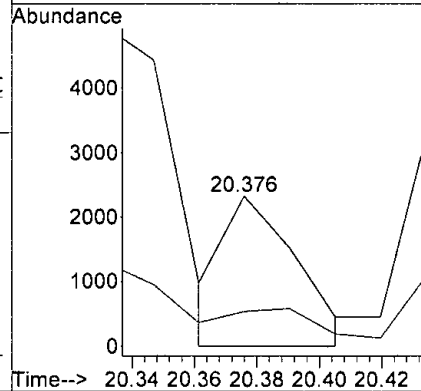
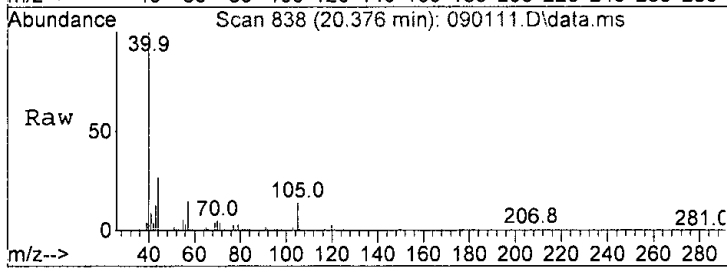
Tgt Ion	Ratio	Lower	Upper
91	100		
120	15.6	0.0	42.5





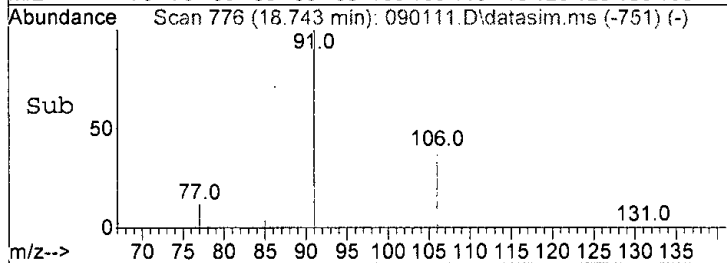
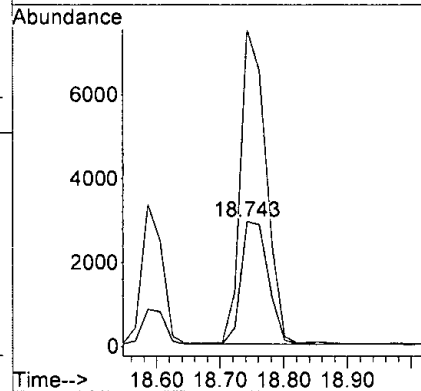
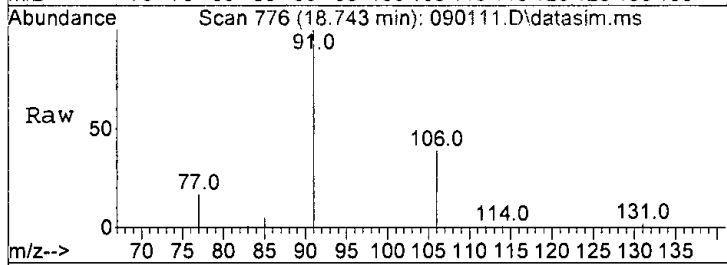
#64  
 4-Ethyltoluene  
 Concen: 0.045 ppbv m  
 RT: 20.38 min Scan# 838  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

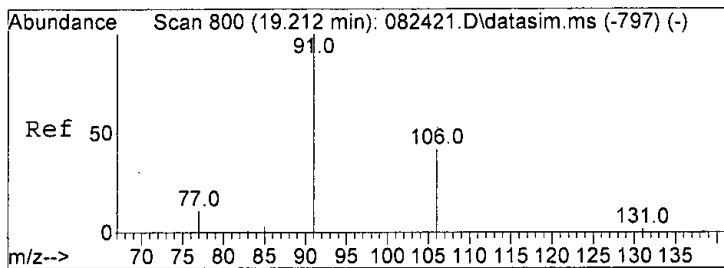
Tgt Ion:105 Resp: 3738  
 Ion Ratio Lower Upper  
 105 100  
 120 100.6 23.0 34.4#



#65  
 m,p-Xylene  
 Concen: 0.300 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.019 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

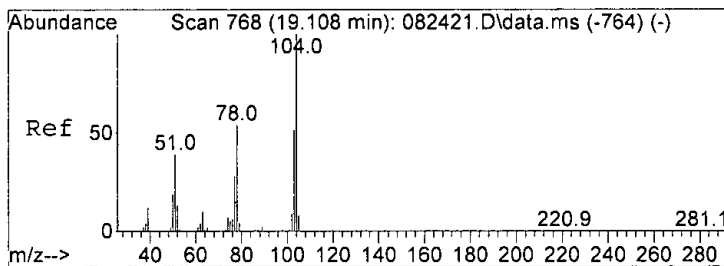
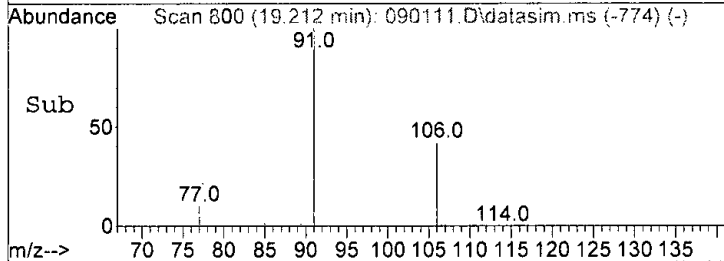
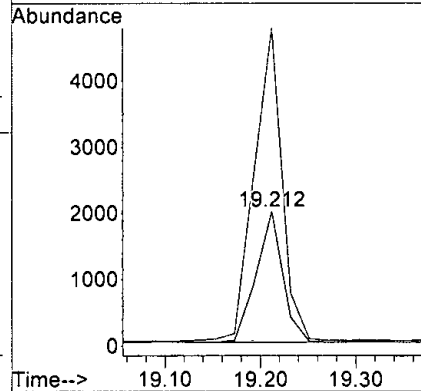
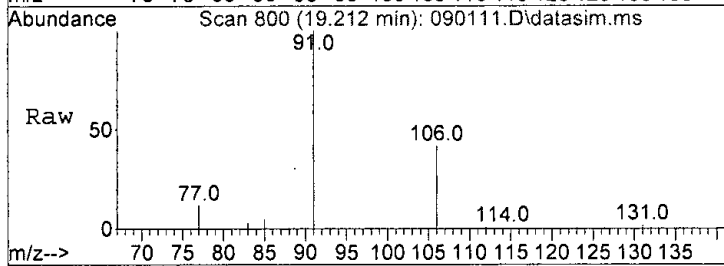
Tgt Ion:106 Resp: 8684  
 Ion Ratio Lower Upper  
 106 100  
 91 256.7 193.0 253.0#





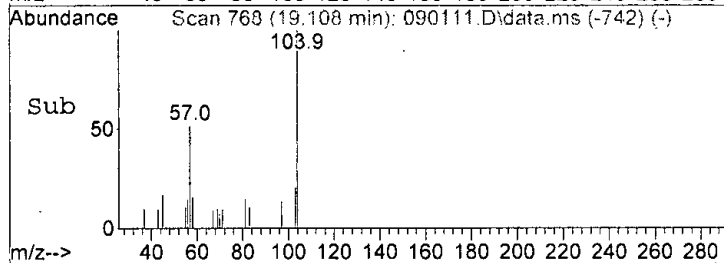
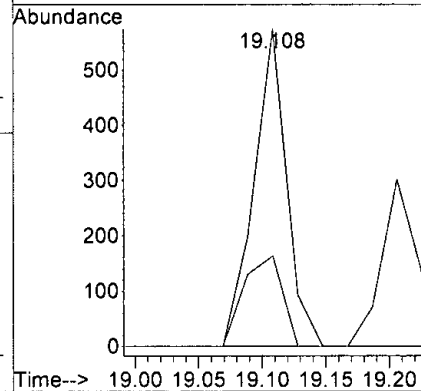
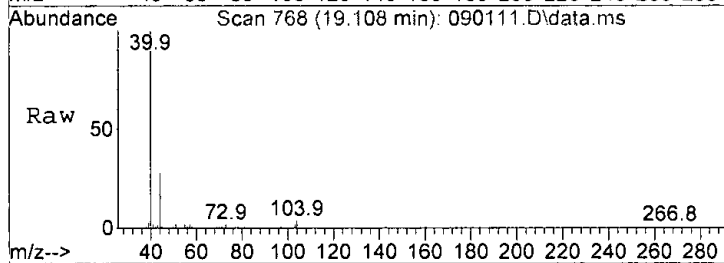
#66  
 o-Xylene  
 Concen: 0.133 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

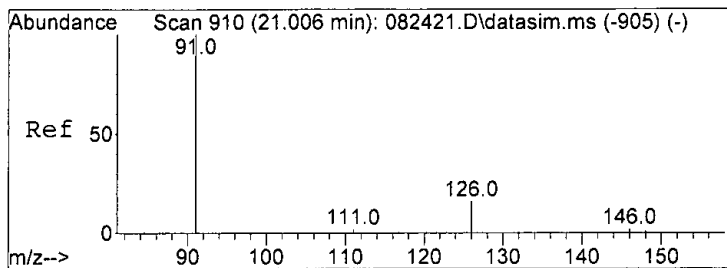
Tgt Ion:106 Resp: 3786  
 Ion Ratio Lower Upper  
 106 100  
 91 238.7 194.4 254.4



#67  
 Styrene  
 Concen: 0.024 ppbv  
 RT: 19.11 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

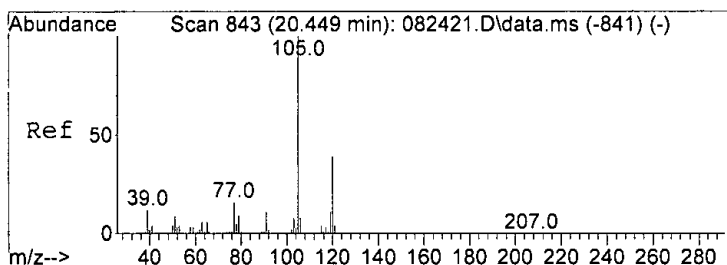
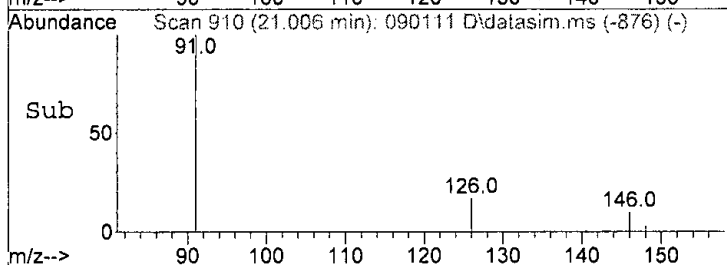
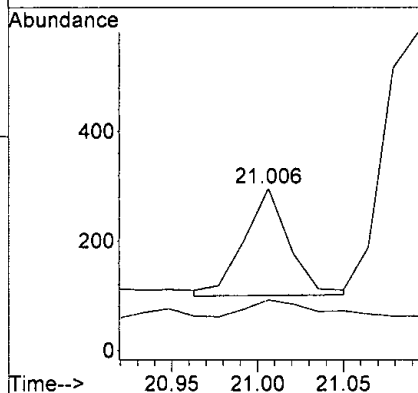
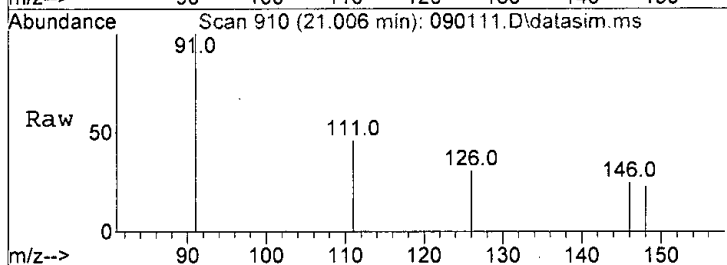
Tgt Ion:104 Resp: 1015  
 Ion Ratio Lower Upper  
 104 100  
 78 28.4 19.6 79.6





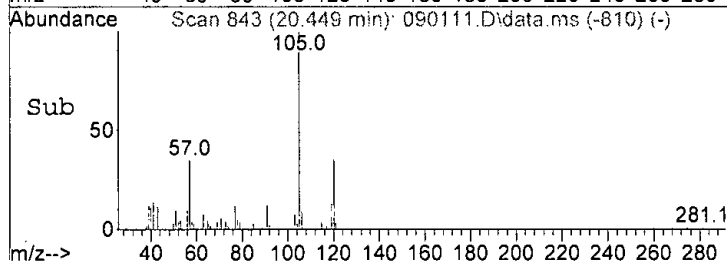
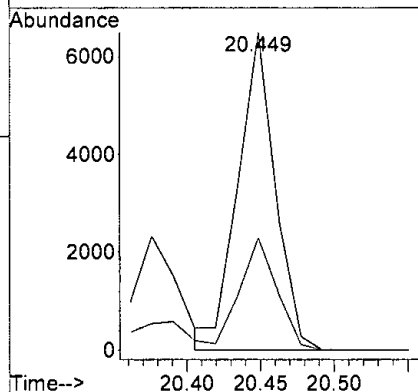
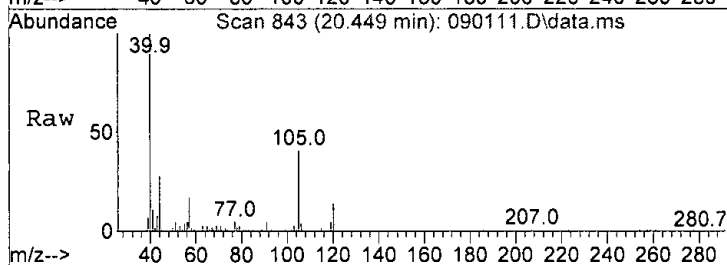
#70  
 Benzyl chloride  
 Concen: 0.012 ppbv  
 RT: 21.01 min Scan# 910  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

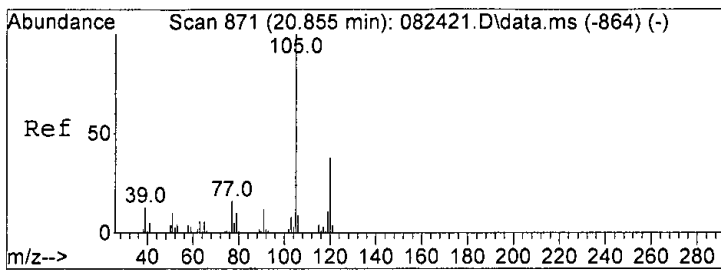
Tgt Ion: 91 Resp: 358  
 Ion Ratio Lower Upper  
 91 100  
 126 15.5 0.0 50.0



#71  
 1,3,5-Trimethylbenzene  
 Concen: 0.172 ppbv  
 RT: 20.45 min Scan# 843  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

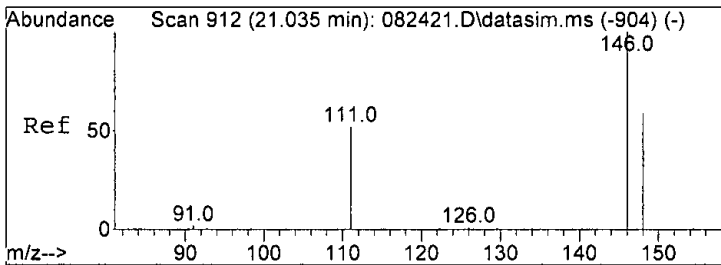
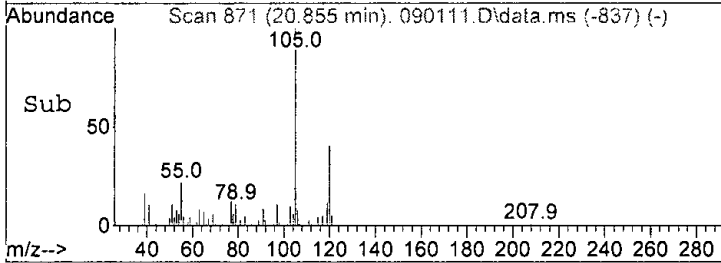
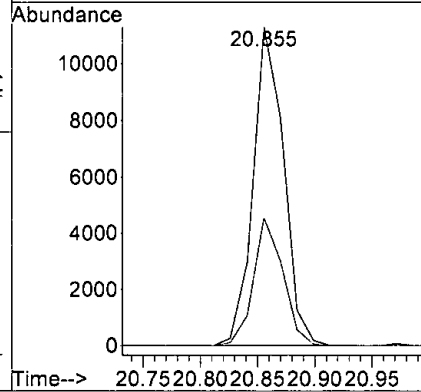
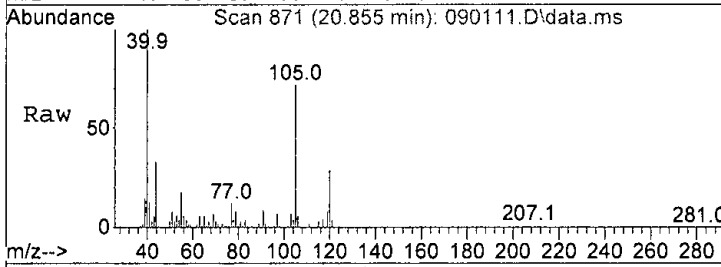
Tgt Ion: 105 Resp: 11359  
 Ion Ratio Lower Upper  
 105 100  
 120 35.2 13.4 73.4





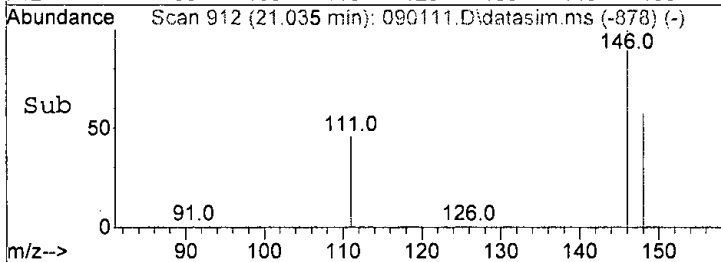
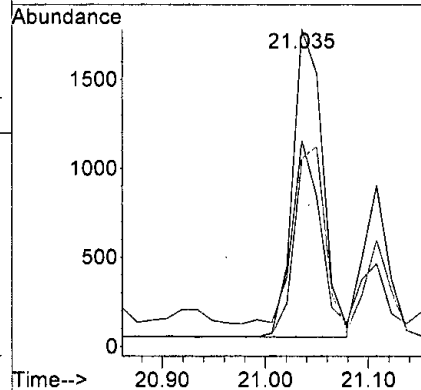
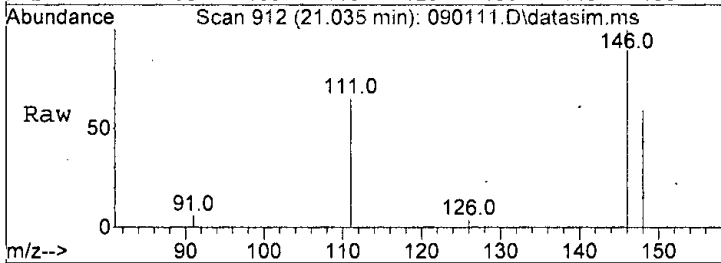
#72  
 1,2,4-Trimethylbenzene  
 Concen: 0.307 ppbv  
 RT: 20.86 min Scan# 871  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

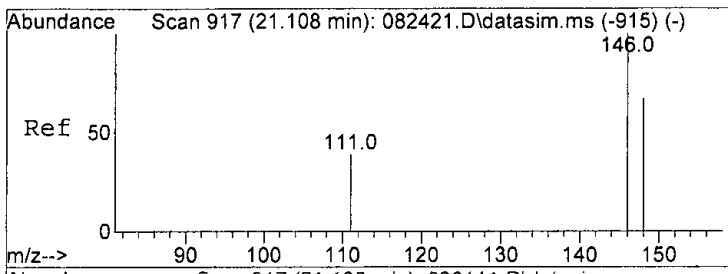
Tgt Ion: 105 Resp: 20948  
 Ion Ratio Lower Upper  
 105 100  
 120 40.4 11.0 71.0



#73  
 1,3-Dichlorobenzene  
 Concen: 0.074 ppbv  
 RT: 21.04 min Scan# 912  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

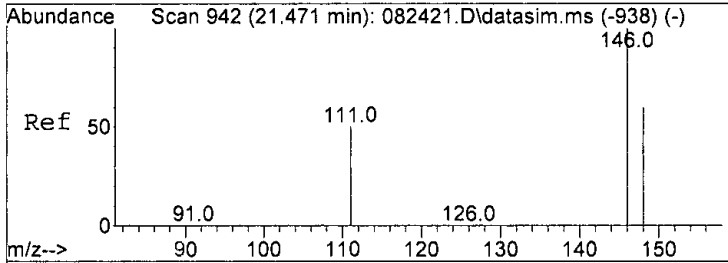
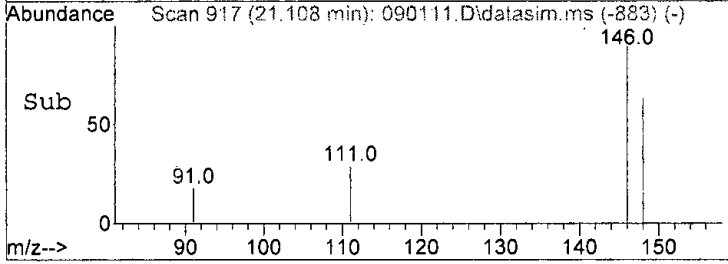
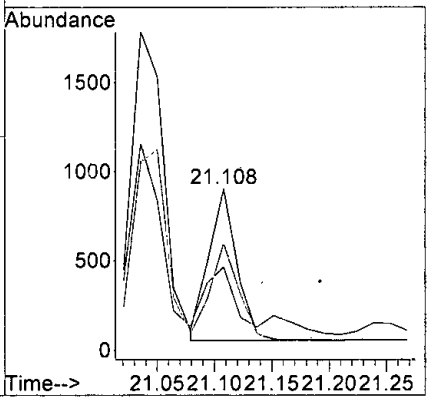
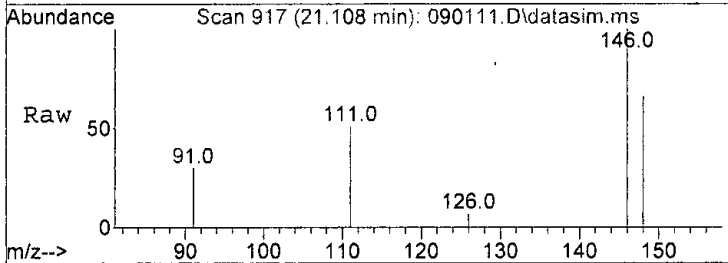
Tgt Ion: 146 Resp: 3458  
 Ion Ratio Lower Upper  
 146 100  
 111 59.2 13.6 73.6  
 148 57.8 32.6 92.6





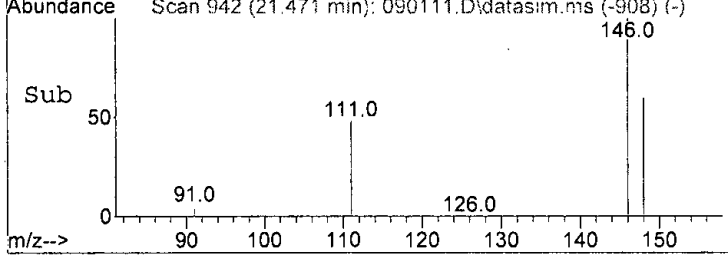
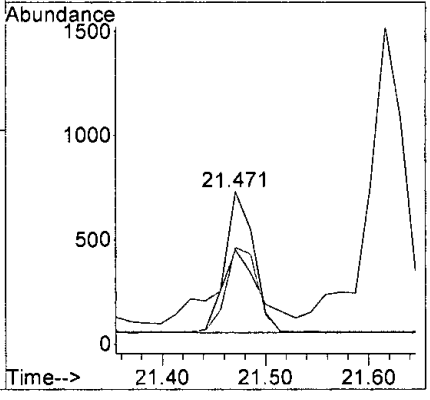
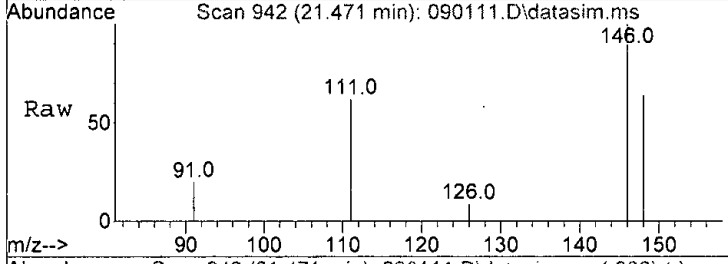
#74  
 1,4-Dichlorobenzene  
 Concen: 0.023 ppbv  
 RT: 21.11 min Scan# 917  
 Delta R.T. -0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

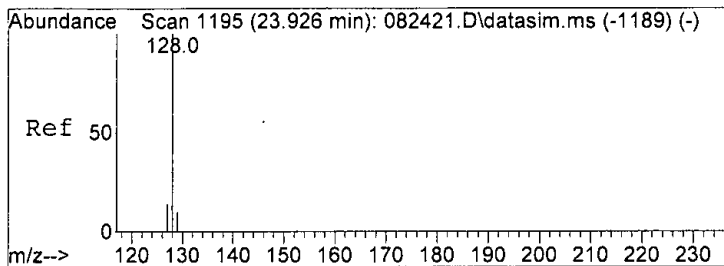
Tgt Ion	Ratio	Lower	Upper
146	100		
111	44.5	5.5	65.5
148	63.2	38.8	98.8



#75  
 1,2-Dichlorobenzene  
 Concen: 0.029 ppbv  
 RT: 21.47 min Scan# 942  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

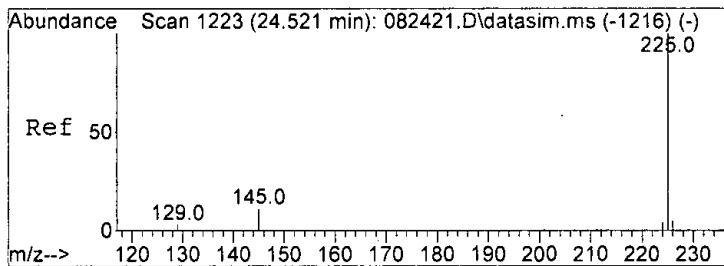
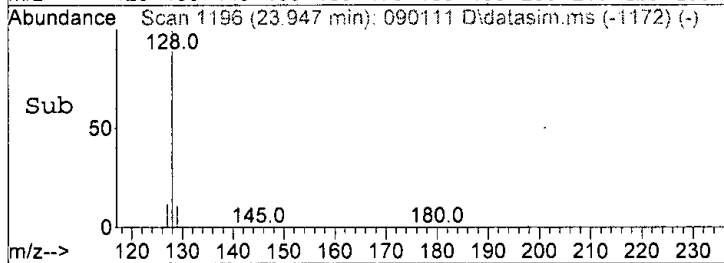
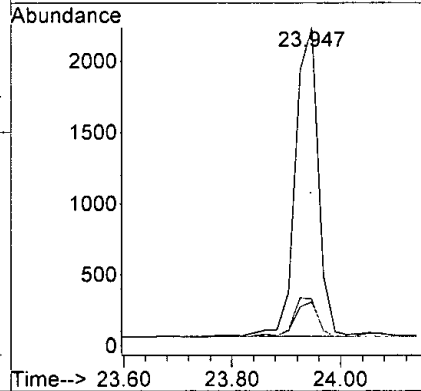
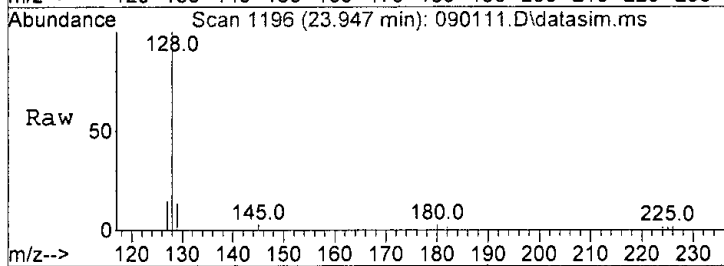
Tgt Ion	Ratio	Lower	Upper
146	100		
111	34.9	12.9	72.9
148	59.9	33.2	93.2





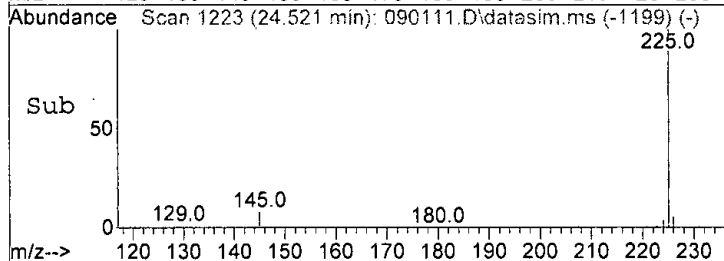
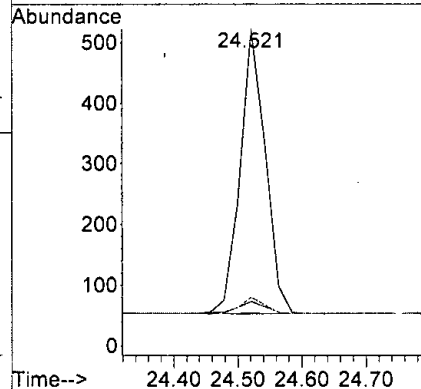
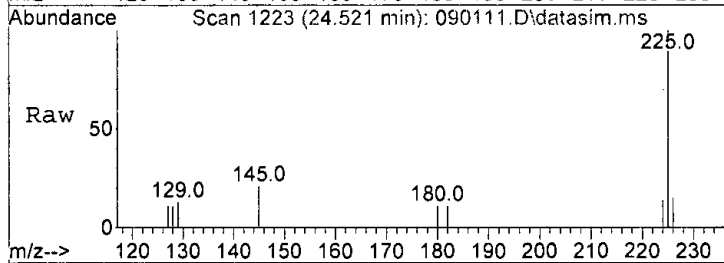
#77  
 Naphthalene  
 Concen: 0.053 ppbv  
 RT: 23.95 min Scan# 1196  
 Delta R.T. 0.021 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

Tgt Ion	Resp	Lower	Upper
128	6329		
129	11.3	0.0	41.0
127	12.4	0.0	43.2



#78  
 Hexachlorobutadiene  
 Concen: 0.016 ppbv  
 RT: 24.52 min Scan# 1223  
 Delta R.T. 0.000 min  
 Lab File: 090111.D  
 Acq: 1 Sep 2021 4:37 pm

Tgt Ion	Resp	Lower	Upper
225	1284		
224	4.0	0.0	33.7
226	5.7	0.0	35.2



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:28:01 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	95676	10.000	ppbv	#-0.02
39) 1,4-Difluorobenzene	13.23	114	457951	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	406061	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	356920	9.702	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.45	41	6311	0.386	ppbv	83
3) Dichlorodifluoromethane	3.52	85	5024	0.119	ppbv	90
4] Chloromethane	3.73	50	973	0.049	ppbv	99
5) F-114	3.88	85	1488	0.035	ppbv	74
6] Vinyl chloride	4.05	62	355	0.017	ppbv	98
7] 1,3-Butadiene	4.25	54	820	0.056	ppbv #	44
8) Butane	4.36	43	6066	0.195	ppbv #	80
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	4.96	45	5724	1.070	ppbv	93
13] Acrolein	5.45	56	312m	0.045	ppbv	
14) Pentane	6.33	43	5557	0.149	ppbv	97
15) Trichlorofluoromethane	5.88	101	2497	0.053	ppbv	98
16) Acetone	5.62	58	9149	1.087	ppbv #	85
17) 2-Propanol	5.86	45	47541	1.397	ppbv	95
18) 1,1-Dichloroethene	6.70	96	148	N.D.		
19] trans-1,2-Dichloroethene	8.18	96	183	0.012	ppbv #	73
20) Methylene chloride	6.86	84	67929	4.056	ppbv	89
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	7.33	76	13853	0.252	ppbv	73
25) Methyl t-butyl ether (...)	8.51	73	2309	0.063	ppbv	82
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.44	63	585	0.016	ppbv	94
28] cis-1,2-Dichloroethene	9.73	96	314	0.018	ppbv	90
29) Hexane	10.10	57	9205	0.325	ppbv	86
30] Chloroform	10.19	83	1540	0.037	ppbv	99
31) Ethyl acetate	10.03	43	7964	0.134	ppbv #	95
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	8.99	72	722	0.106	ppbv #	2
34) 1,2-Dichloroethane (EDC)	11.45	62	300	N.D.		
35) 1,1,1-Trichloroethane	11.93	97	250	N.D.		
36) Carbon tetrachloride	12.95	117	256	N.D.		
37] Benzene	12.70	78	5981	0.102	ppbv	95
38) Cyclohexane	13.16	84	2373	0.149	ppbv #	76
40) 1,2-Dichloropropane	13.90	63	219	N.D.		
41) 1,4-Dioxane	14.19	88	123	N.D.		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

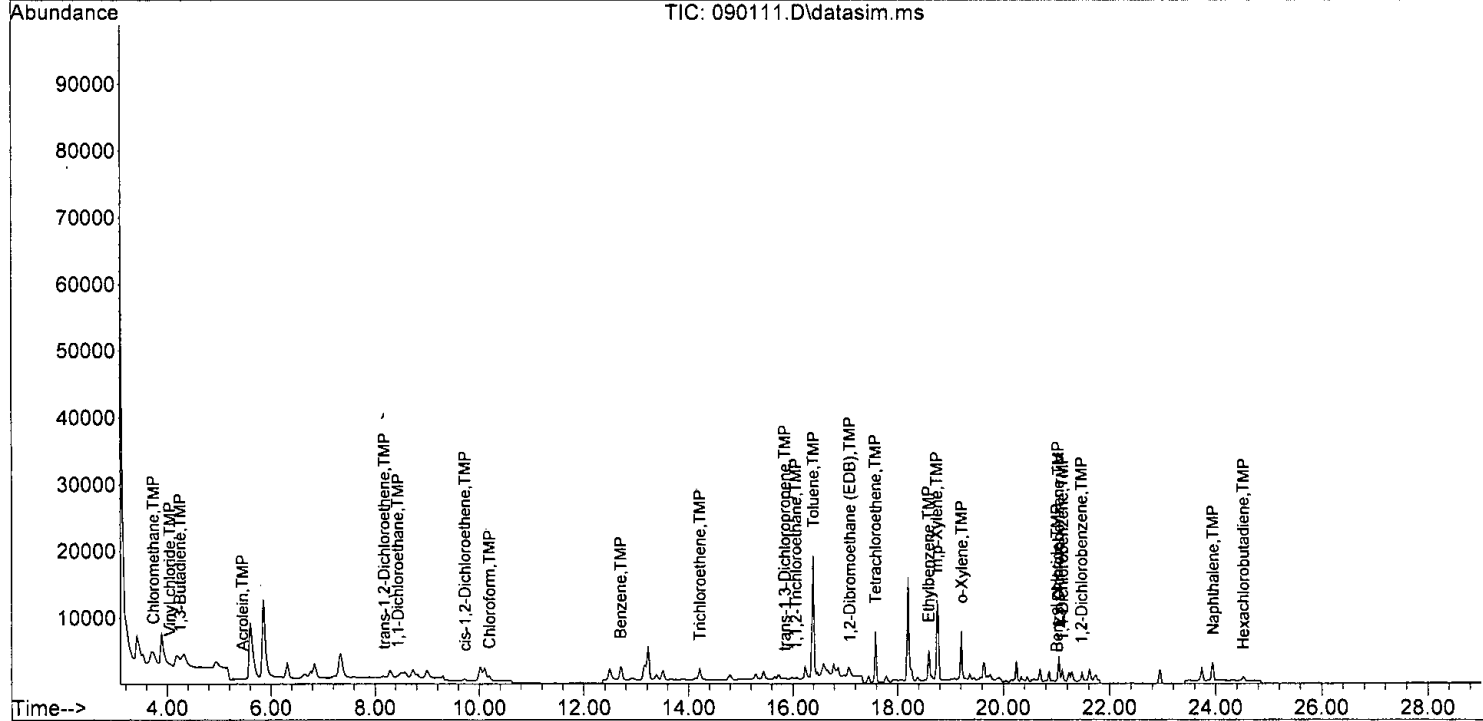
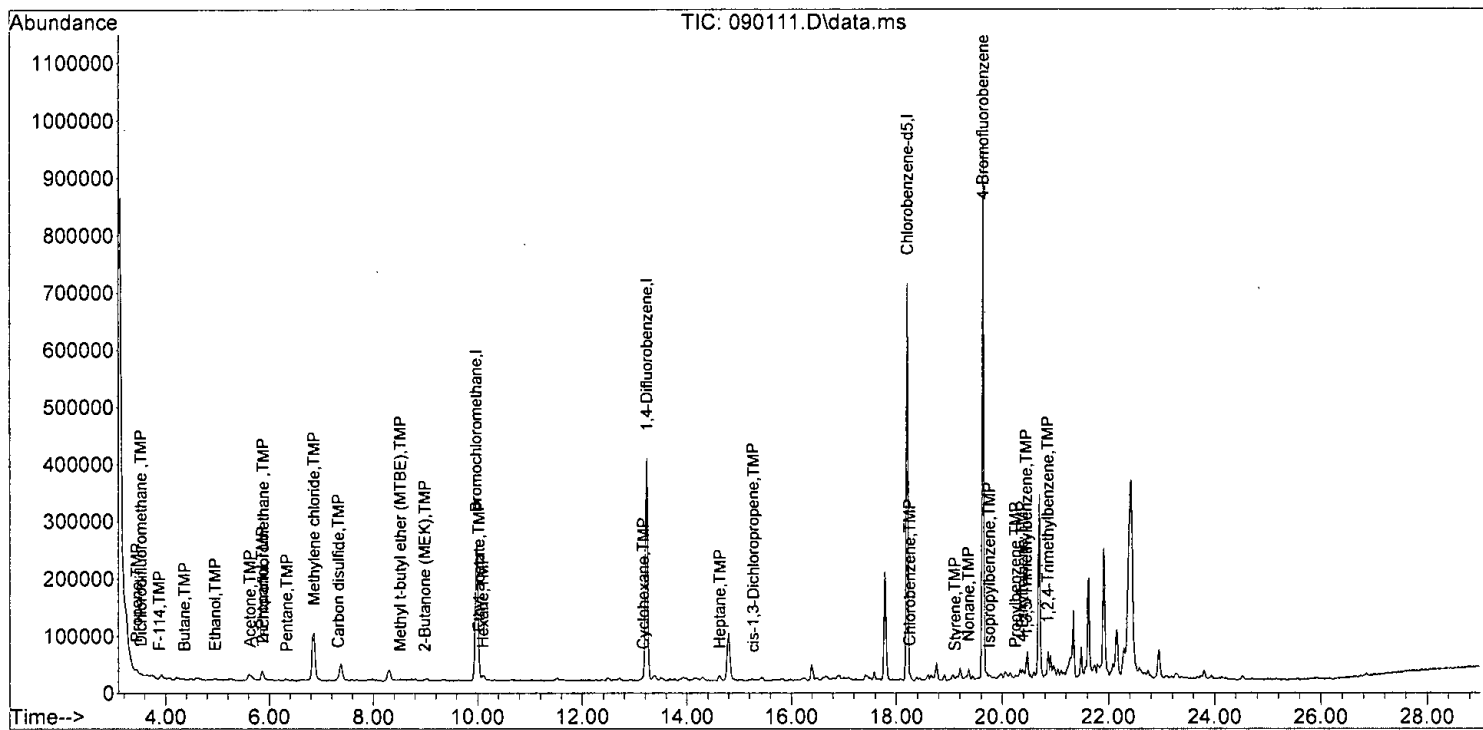
Quant Time: Sep 02 11:28:01 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	14.63	43	7908	0.180	ppbv #	73
45) Bromodichloromethane	14.14	83	424	N.D.		
46) Trichloroethene	14.22	95	1519	0.054	ppbv	88
47) cis-1,3-Dichloropropene	15.27	75	301	0.010	ppbv	63
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	15.85	75	421	0.017	ppbv	74
50] Toluene	16.40	92	13945	0.406	ppbv	83
51] 1,1,2-Trichloroethane	16.06	83	286m	0.011	ppbv	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	3414	0.196	ppbv	81
54) Dibromochloromethane	16.85	129	309	N.D.		
55] 1,2-Dibromoethane (EDB)	17.10	107	364	0.010	ppbv	86
57) Chlorobenzene	18.25	112	1805	0.041	ppbv	74
58] Ethylbenzene	18.59	91	7455	0.083	ppbv	96
59) 1,1,2,2-Tetrachloroethane	19.02	83	498	N.D.		
60) Nonane	19.36	43	9305	0.136	ppbv #	90
61) Isopropylbenzene	19.75	105	5195	0.066	ppbv	92
62) 2-Chlorotoluene	20.23	126	157	N.D.		
63] Propylbenzene	20.25	91	6376	0.036	ppbv	92
64) 4-Ethyltoluene	20.38	105	3738m	0.045	ppbv	
65] m,p-Xylene	18.74	106	8684	0.300	ppbv #	79
66] o-Xylene	19.21	106	3786	0.133	ppbv	91
67) Styrene	19.11	104	1015	0.024	ppbv	69
68) Bromoform	18.85	173	164	N.D.		
70] Benzyl chloride	21.01	91	358	0.012	ppbv	90
71) 1,3,5-Trimethylbenzene	20.45	105	11359	0.172	ppbv	87
72) 1,2,4-Trimethylbenzene	20.86	105	20948	0.307	ppbv	99
73] 1,3-Dichlorobenzene	21.04	146	3458	0.074	ppbv	86
74] 1,4-Dichlorobenzene	21.11	146	1436	0.023	ppbv	90
75] 1,2-Dichlorobenzene	21.47	146	1294	0.029	ppbv	92
76) 1,2,4-Trichlorobenzene	23.73	180	1942	N.D.		
77] Naphthalene	23.95	128	6329	0.053	ppbv	98
78] Hexachlorobutadiene	24.52	225	1284	0.016	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

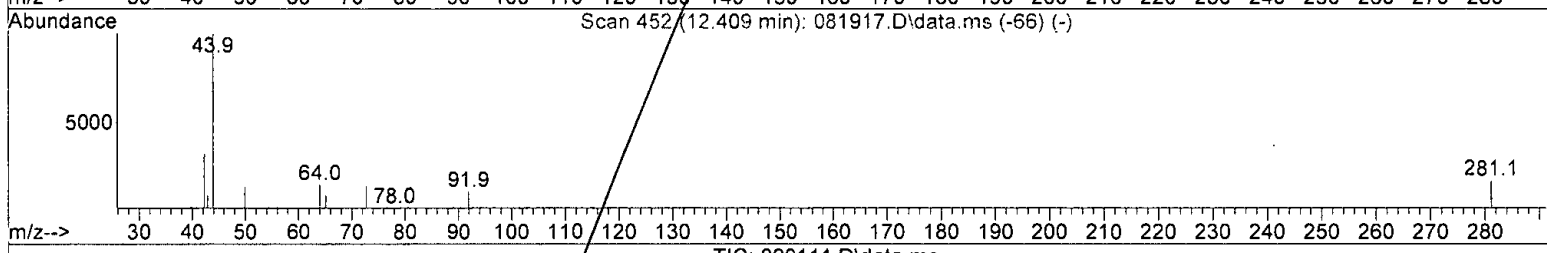
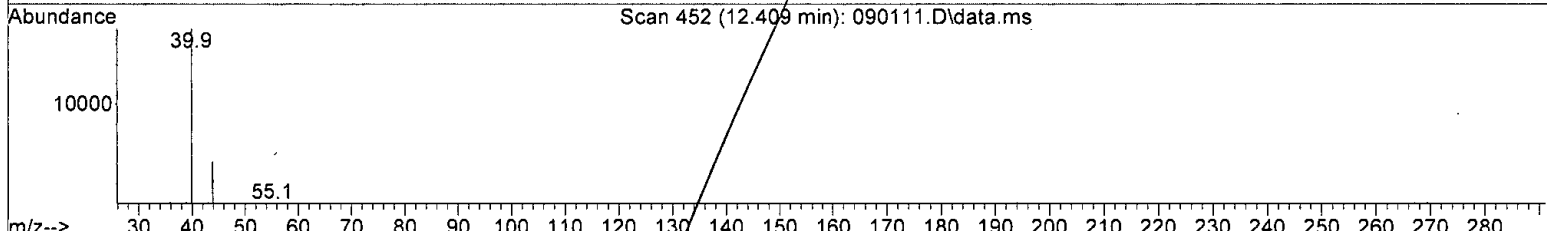
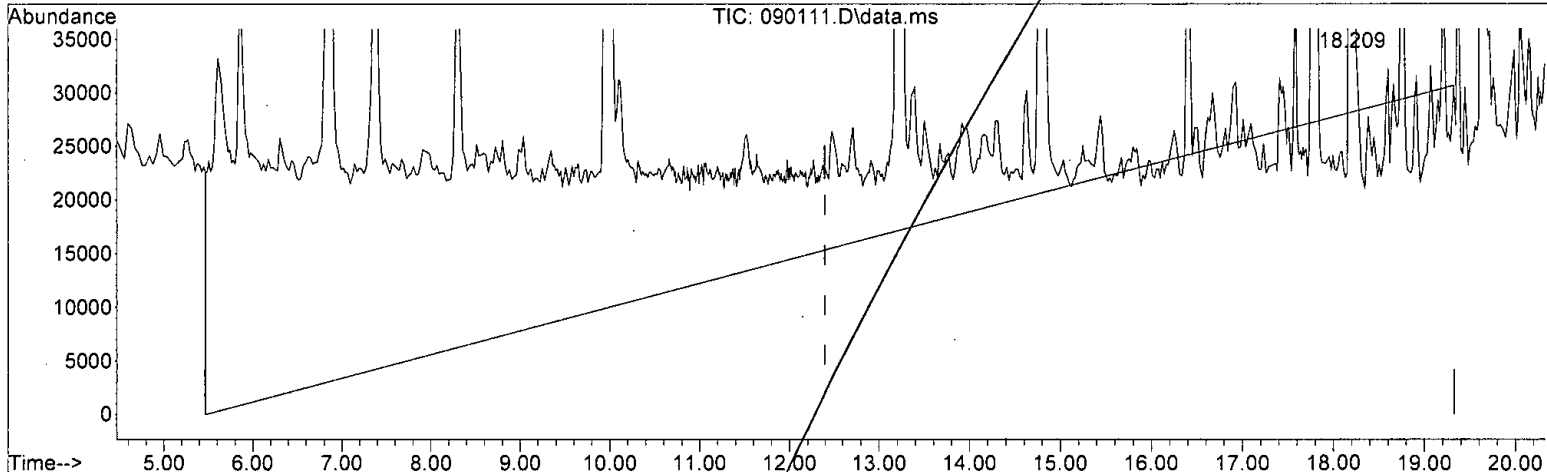
Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:28:01 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 57.288 ug/m3 m

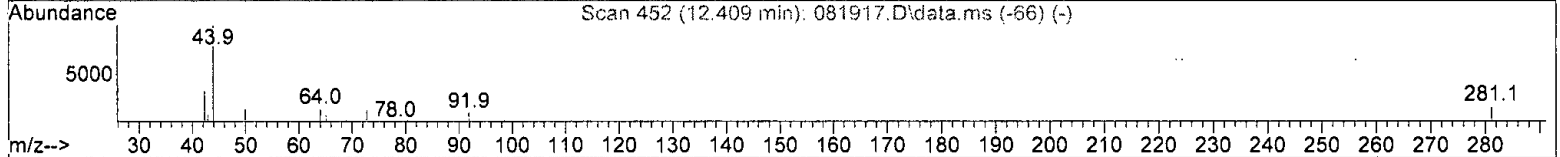
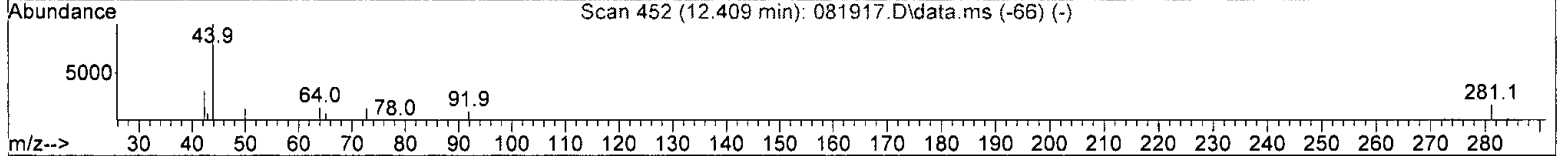
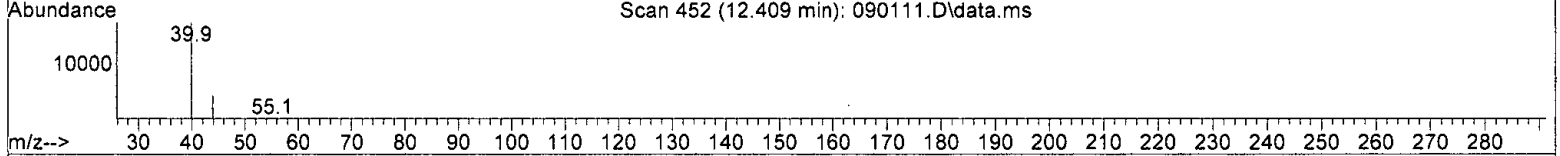
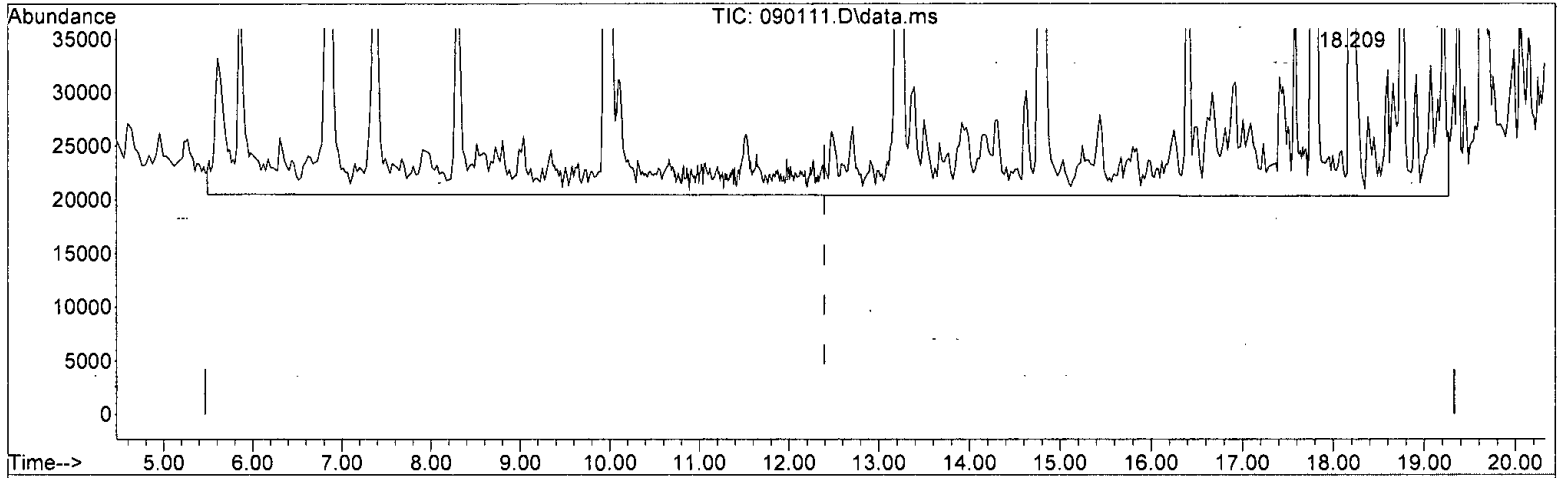
response	Exp%	Act%
2081616		
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090111.D\data.ms

(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 224.337 ug/m3 m

response 8151528

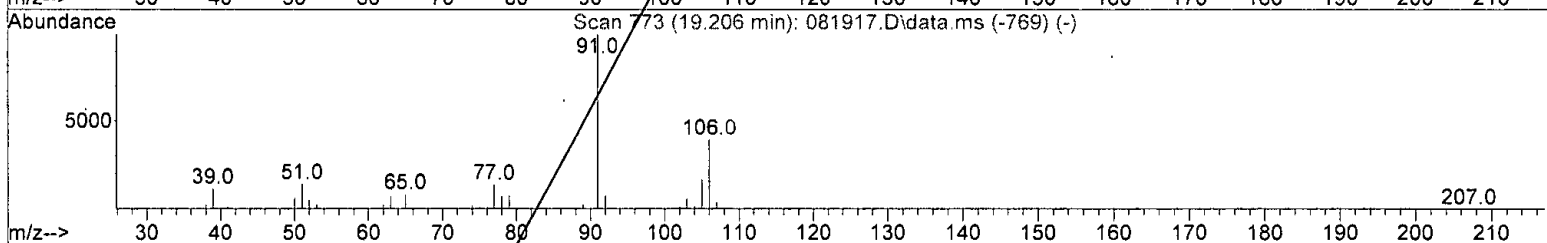
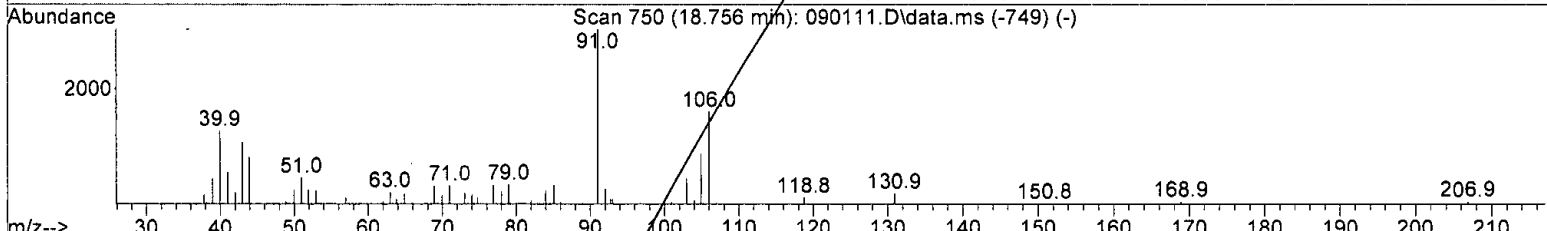
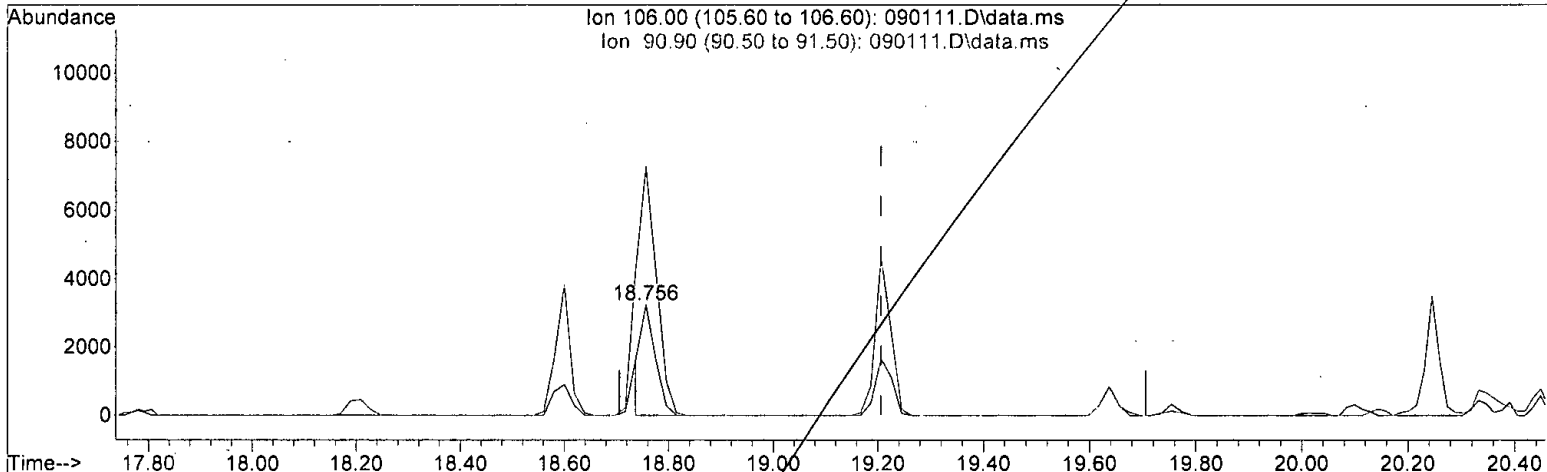
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*0.00/0.00*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

18.756min (-0.450) 1.048 ug/m3

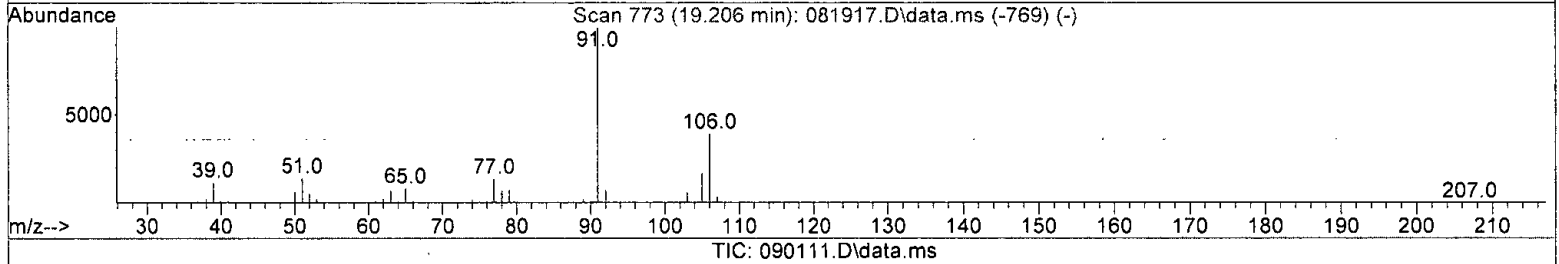
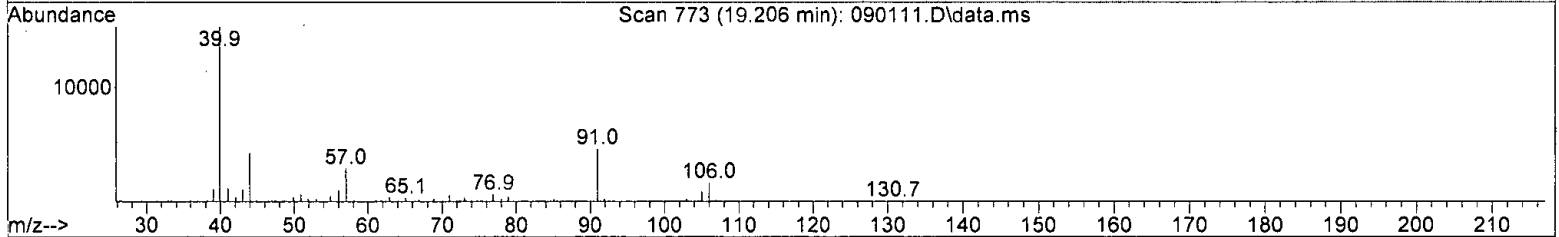
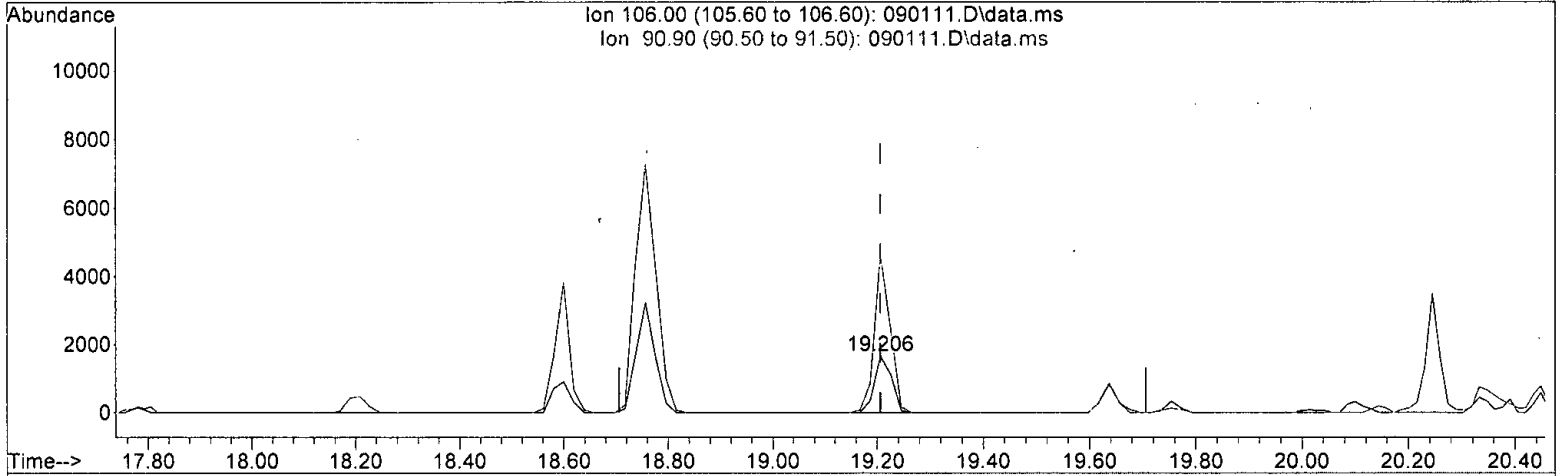
response 5997

Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	225.46
0.00	0.00	0.00
0.00	0.00	0.00

*h  
08/02/21*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

19.206min (-0.000) 0.650 ug/m3 m

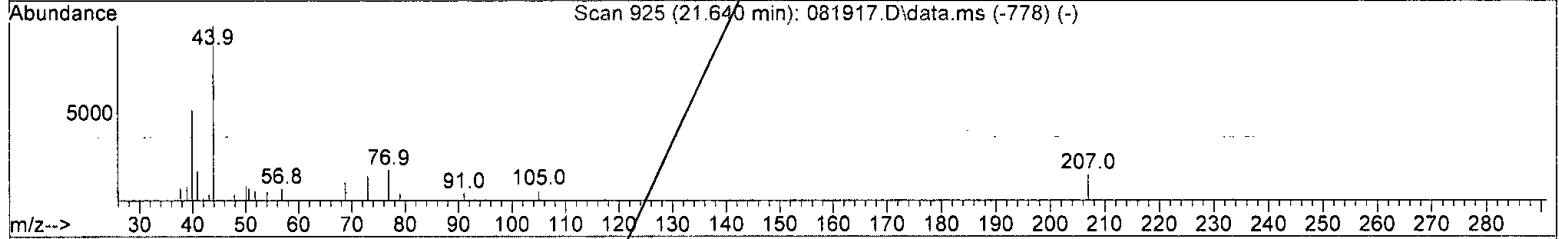
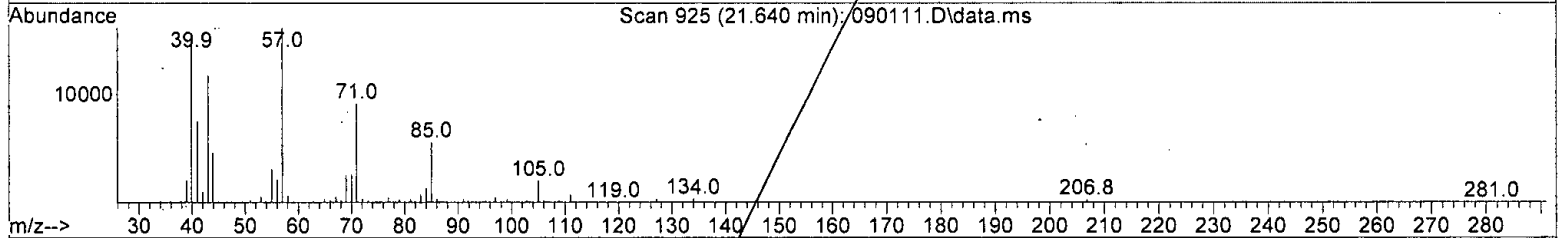
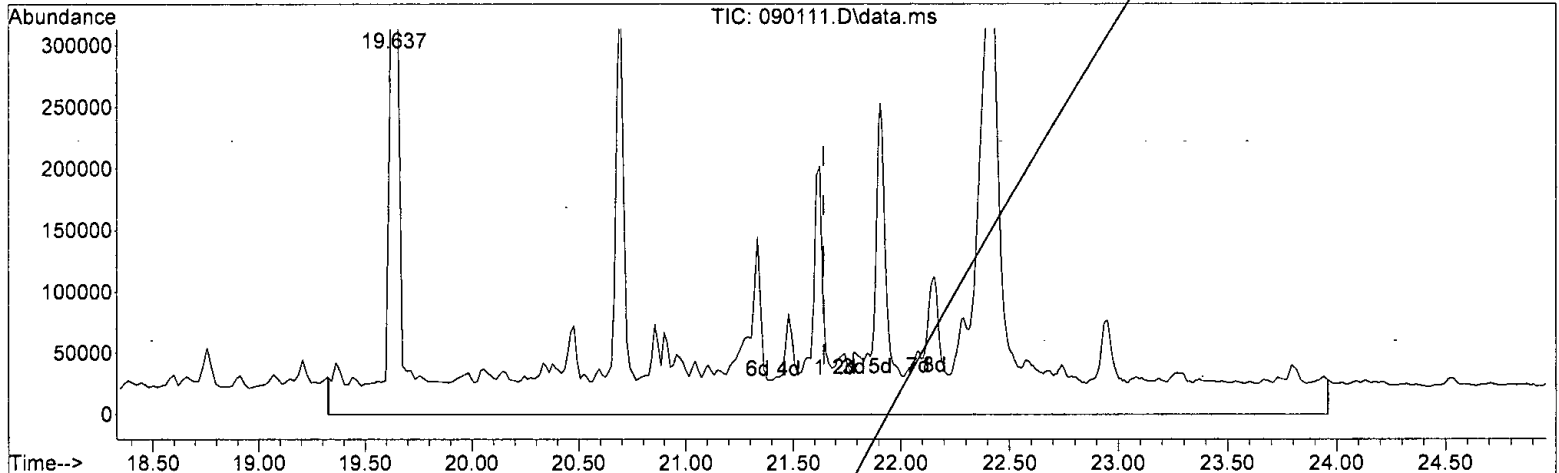
response 3721

Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	278.99#
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: W. Orlady*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 132.737 ug/m3 m

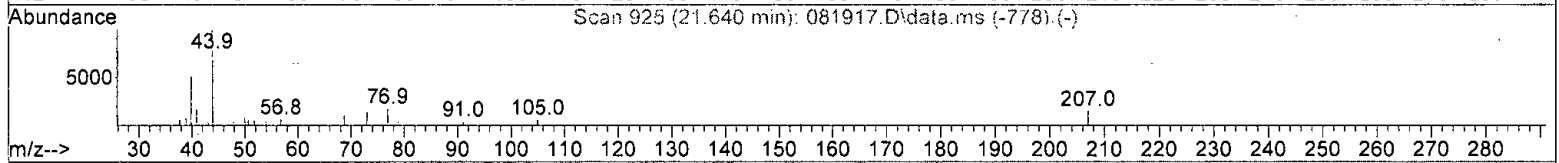
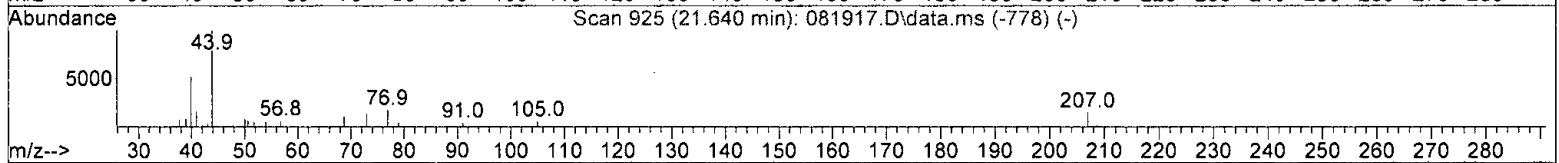
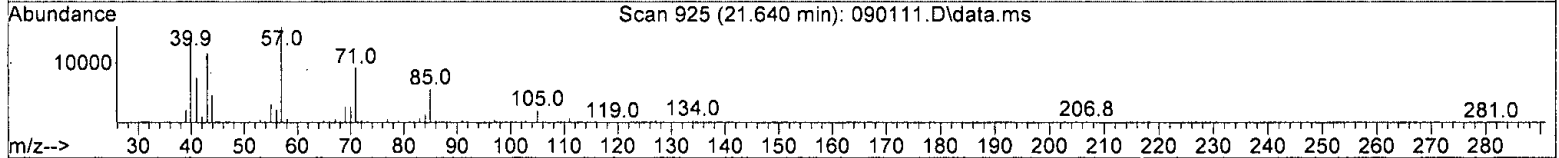
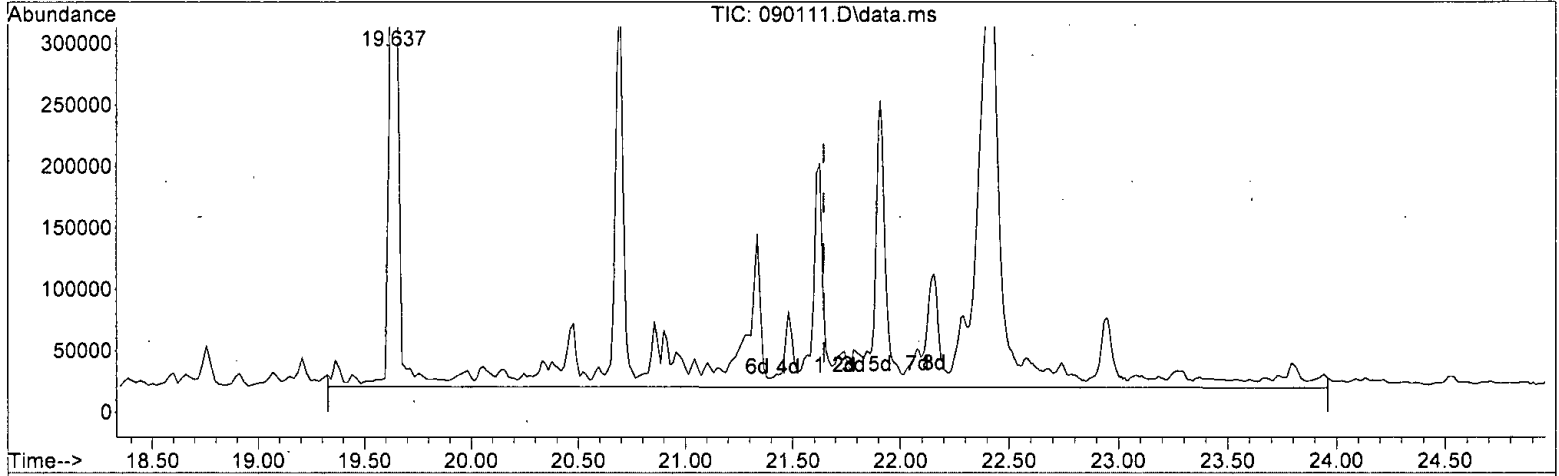
response 5514634

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten note:* 4/10/21

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090111.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 253.797 ug/m3 m

response 10544142

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

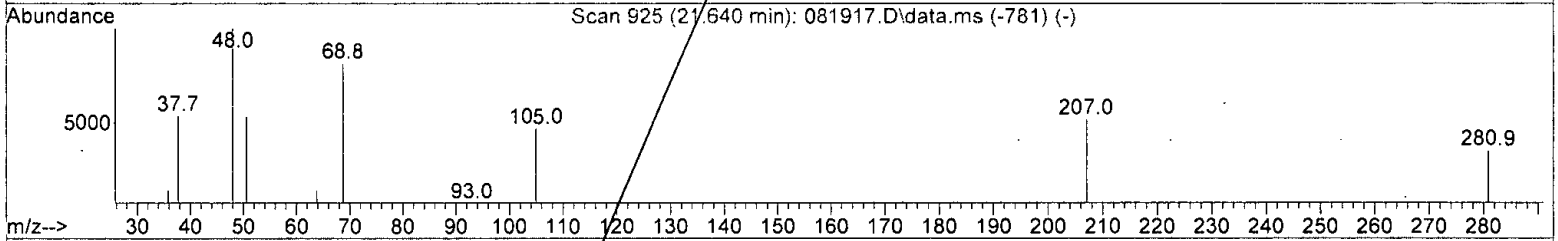
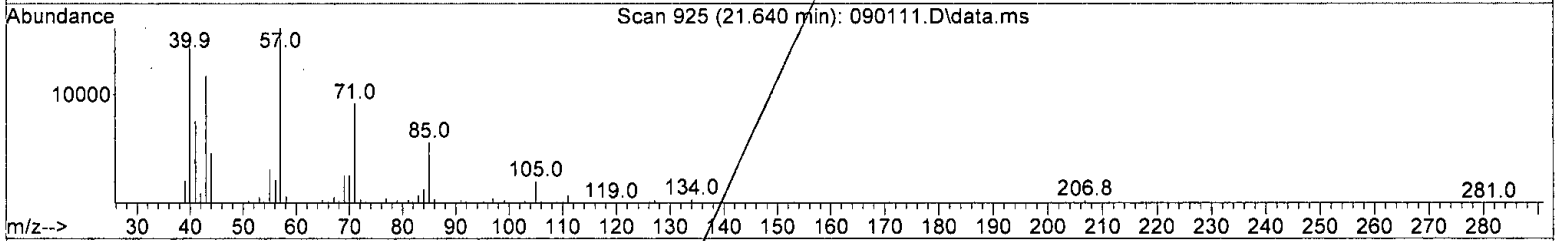
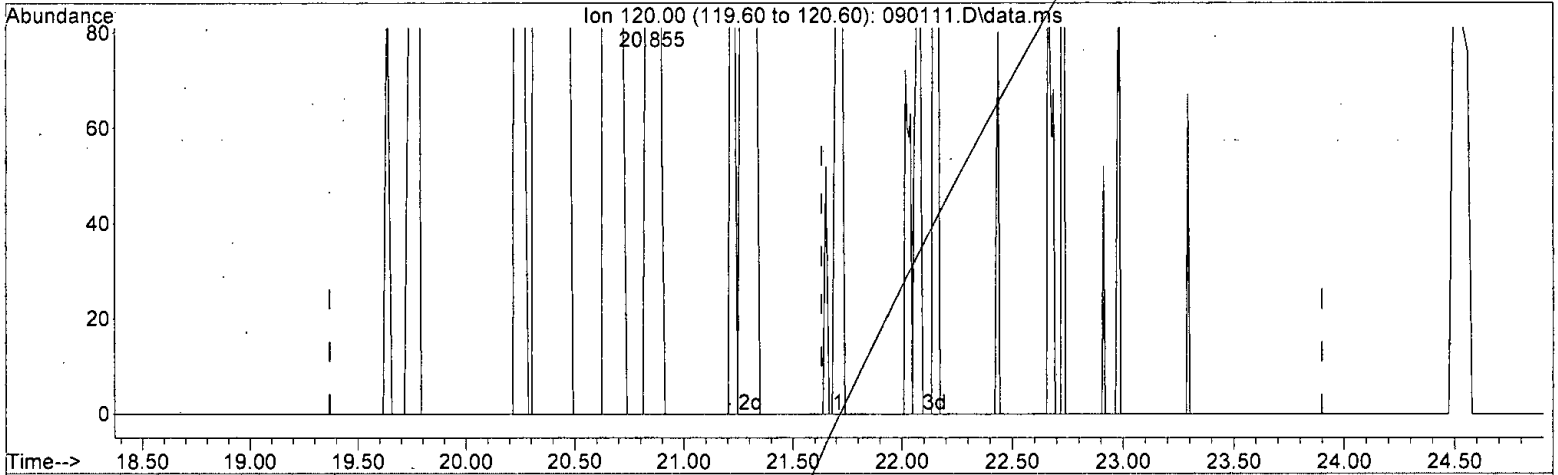
*h/only*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)  
 21.635min ( 0.000) -10.017 ug/m3/m  
 response -48453

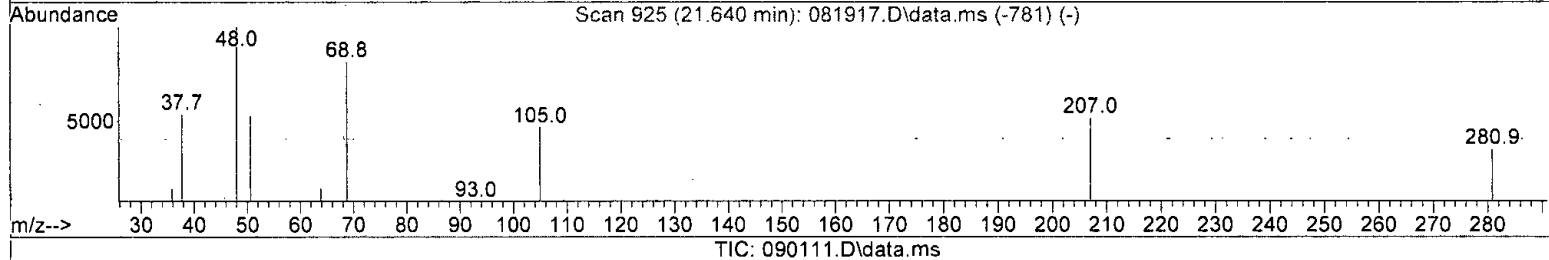
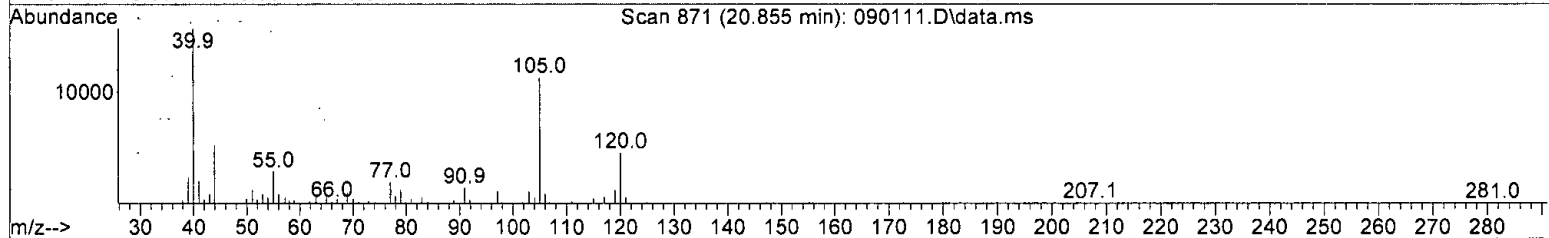
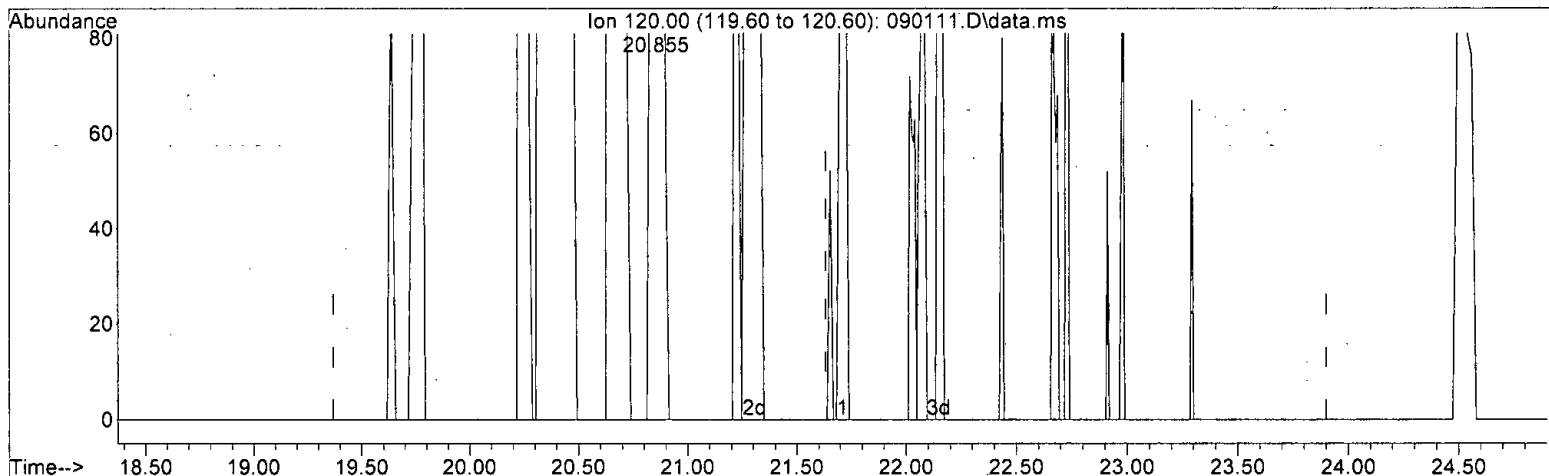
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 4.566 ug/m3 m

response 22084

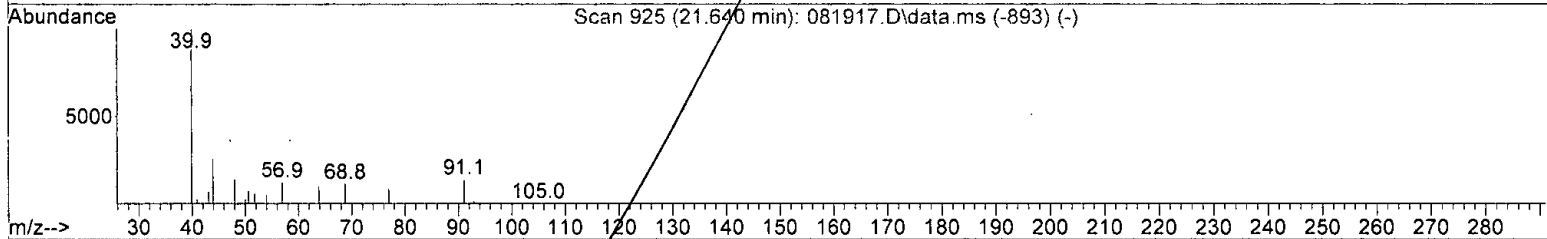
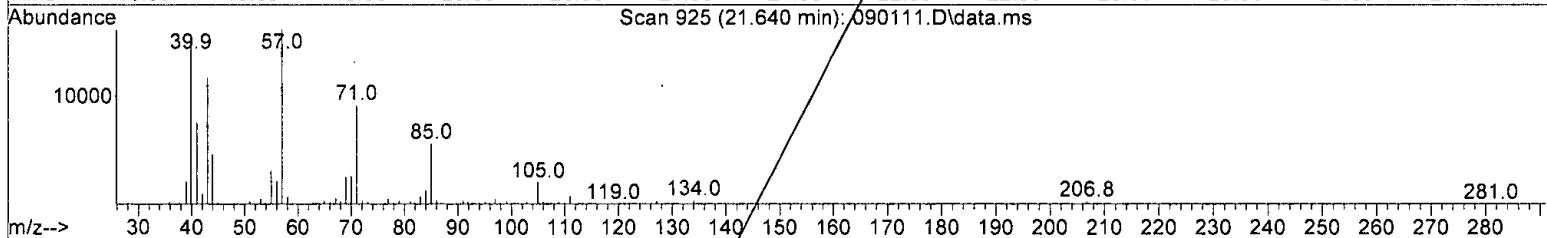
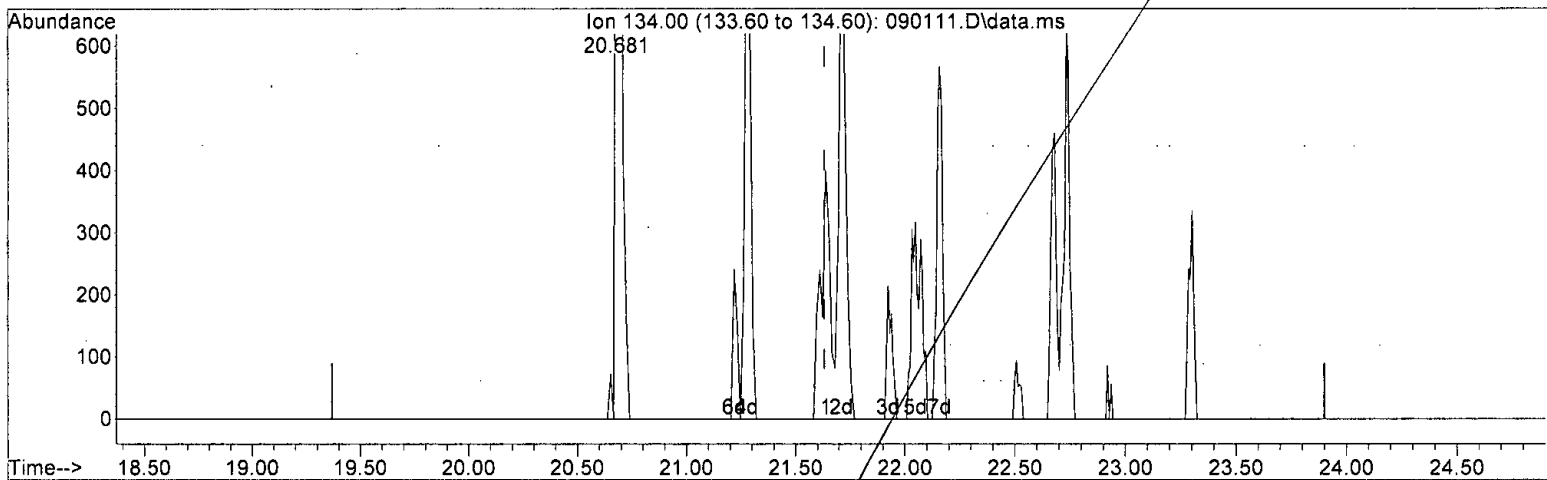
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090111.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) -21.789 ug/m3 m

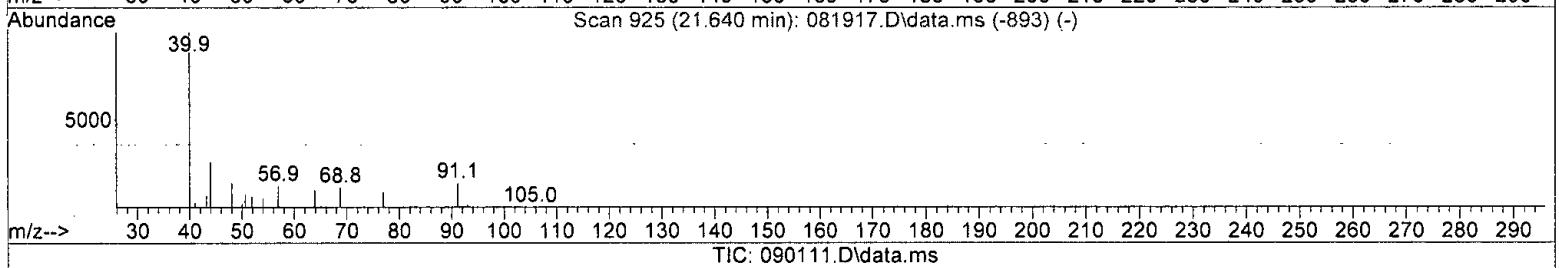
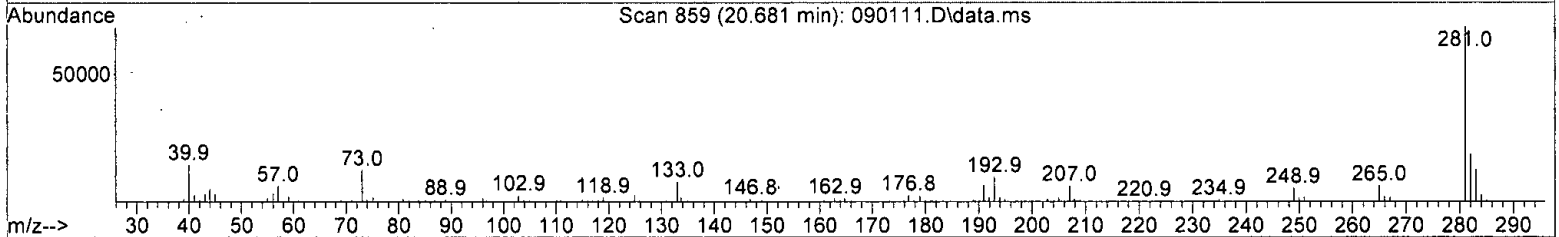
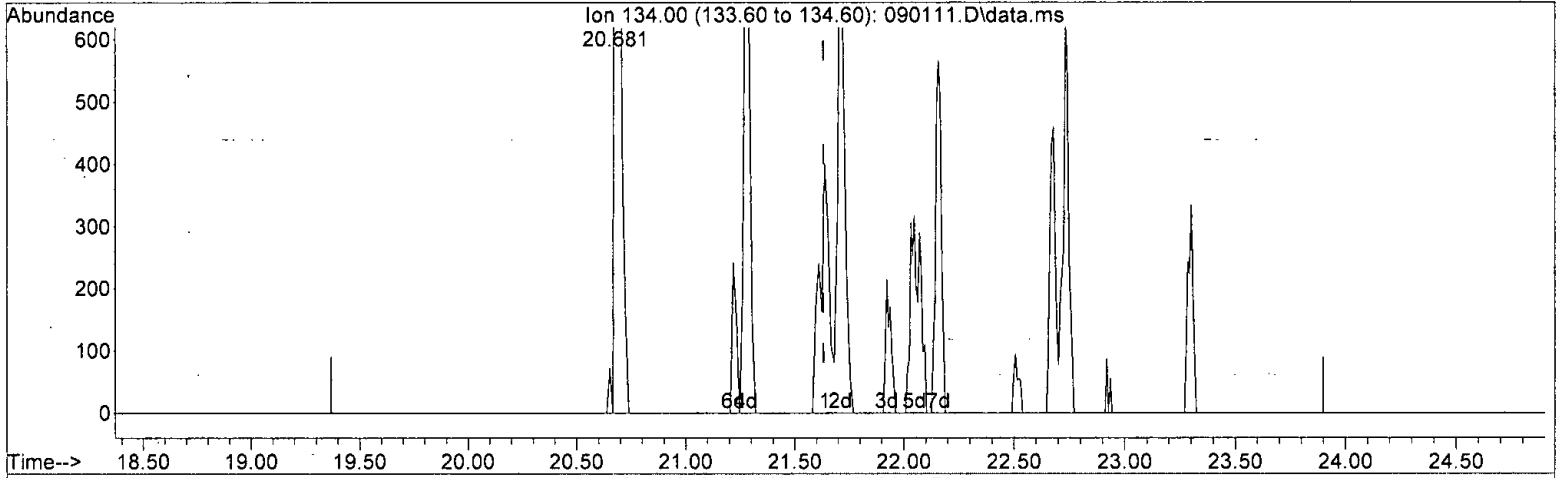
response -60032

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature and date: 09/02/21*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:22:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 5.422 ug/m3 m

response 14938

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:24:46 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	95676	50.000	ug/m3	#-0.02
10) 1,4-Difluorobenzene	13.23	114	457951	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	406061	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	356920	70.158	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	98.82%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.97	TIC	906334	53.651	ug/m3	84
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1273479	53.112	ug/m3	92
4) IS-3 Chlorobenzene-d5	18.21	TIC	1547511	53.211	ug/m3	91
5) Methylene chloride	6.86	TIC	379442	443.648	ug/m3	93
6) Acetone	5.60	TIC	71983	1.595	ppbv	100
7) 2-Propanol	5.86	TIC	89533	341.540	ppbv	100
8) 1,3-Butadiene	4.28	54	701	0.124	ug/m3	84
9) Methyl t-butyl ether	8.51	73	2309	0.313	ug/m3	72
11) Benzene	12.71	78	5206	0.334	ug/m3	79
12) Isopentane	5.60	TIC	71983	2.328	ug/m3	60
13) Hexane	10.10	TIC	43989	1.234	ug/m3	97
14) Cyclohexane	13.23	TIC	1271548	40.000	ug/m3	93
15) 2,3-Dimethylpentane	13.23	TIC	1261891	31.106	ug/m3	64
16) Heptane	14.63	TIC	26862	0.810	ug/m3	92
17) Octane	17.41	TIC	61689	1.357	ug/m3	74
18) APH EC5-8 aliphatics T...	0.00	TIC	2737962m	75.351	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	8151528m	224.337	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1758051	51.285	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	641558	75.983	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	747390	70.924	ppbv	100
24) Toluene	16.39	92	12544	1.440	ug/m3	96
25) Ethylbenzene	18.60	91	7413	0.412	ug/m3	88
26) m,p-Xylene	18.76	106	8024	1.326	ug/m3	95
27) o-Xylene	19.21	106	3721m	0.650	ug/m3	
28) Naphthalene	23.94	128	5512	0.377	ug/m3	95
29) 2,3-Dimethylheptane	18.66	TIC	34019	0.834	ug/m3#	86
30) Nonane	19.21	TIC	63676	1.494	ug/m3	74
31) Decane	20.90	TIC	71820	1.697	ug/m3	88
32) Butylcyclohexane	21.78	TIC	59561	1.239	ug/m3	65
33) Undecane	22.29	TIC	144806	3.449	ug/m3	86
34) Dodecane	23.79	TIC	60544	1.757	ug/m3	94
35) APH EC9-12 aliphatics ...	21.63	TIC	434426m	10.457	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	10544142m	253.797	ug/m3	
38) Isopropylbenzene	19.75	120	973	0.306	ug/m3#	52
39) 1-Methyl-3-ethylbenzene	20.33	120	3761	0.844	ug/m3#	78
40) 1,3,5-Trimethylbenzene	20.45	120	3982	0.707	ug/m3#	64
41) p-Isopropyltoluene	21.28	134	1643	0.593	ug/m3#	67
42) 1,2,3-Trimethylbenzene	21.31	120	4460	0.674	ug/m3	99
43) APH EC9-10 aromatics T...	21.63	TIC	14819m	3.383	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	22084m	4.566	ug/m3	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

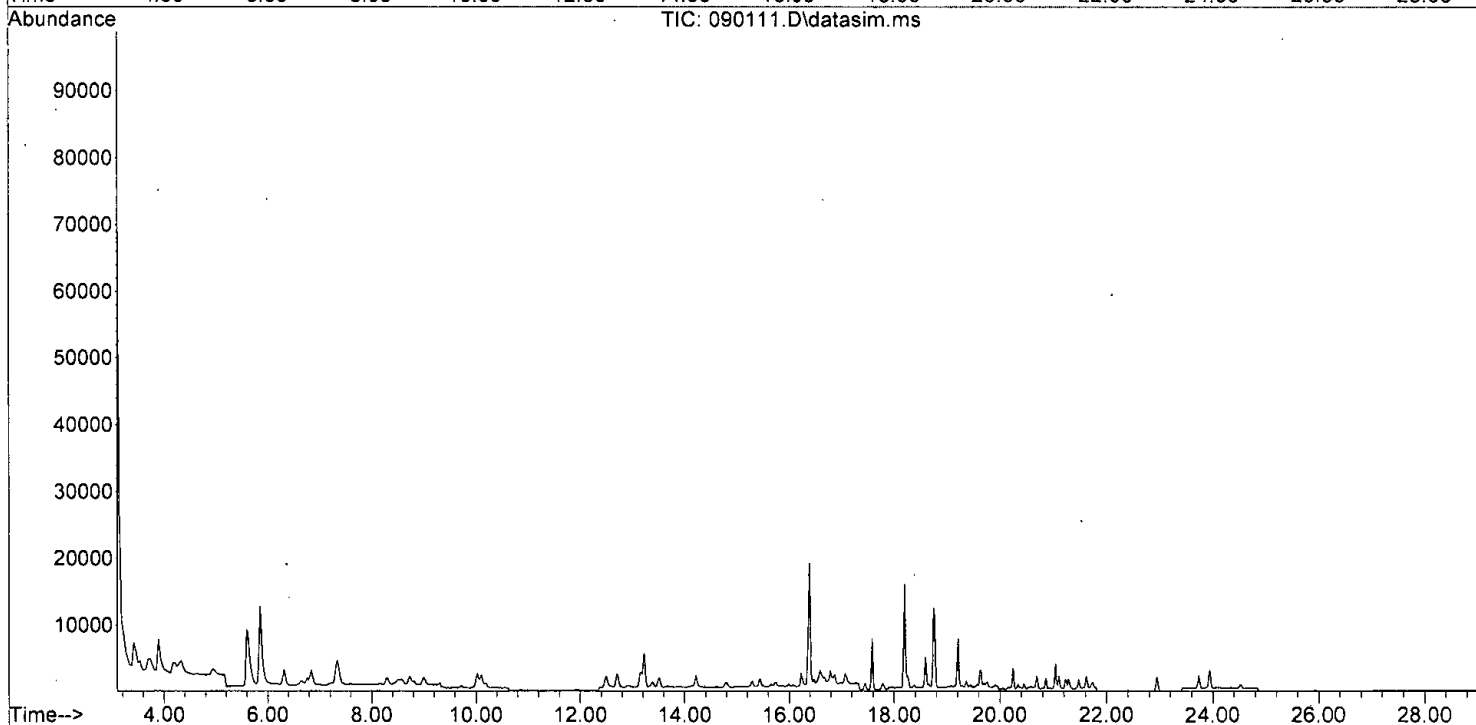
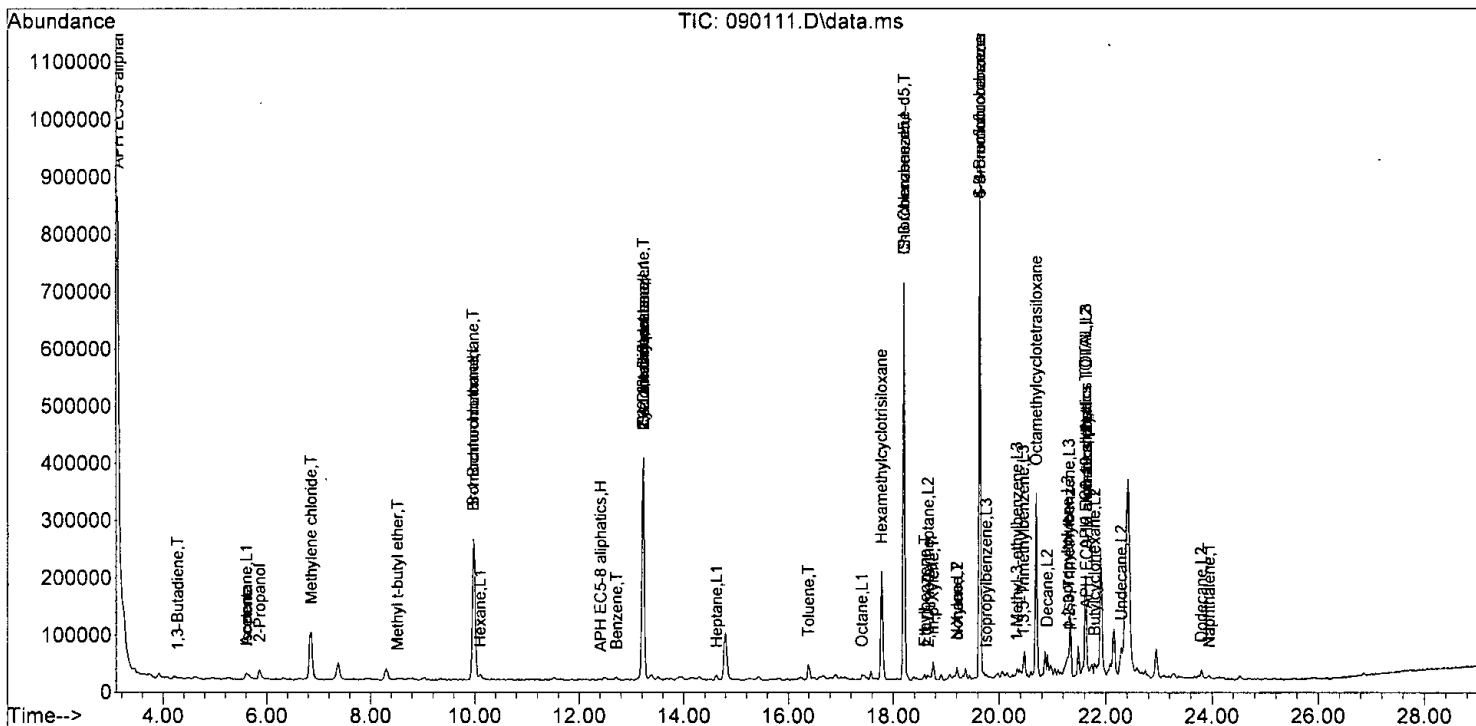
Quant Time: Sep 02 11:24:46 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	14938m	5.422	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

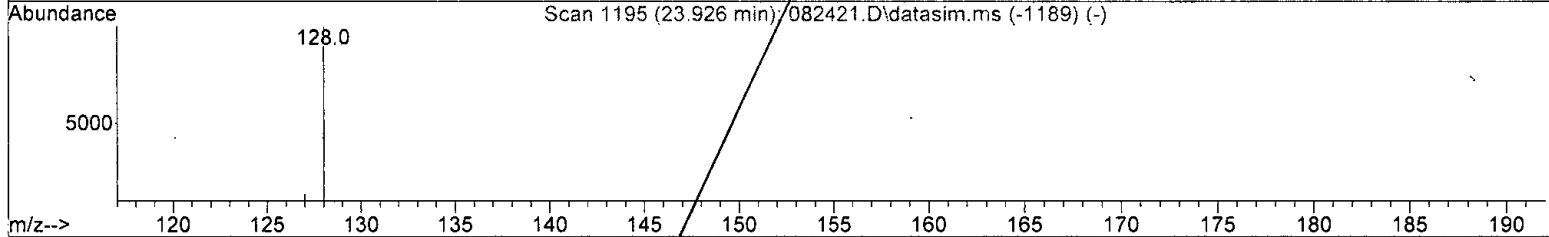
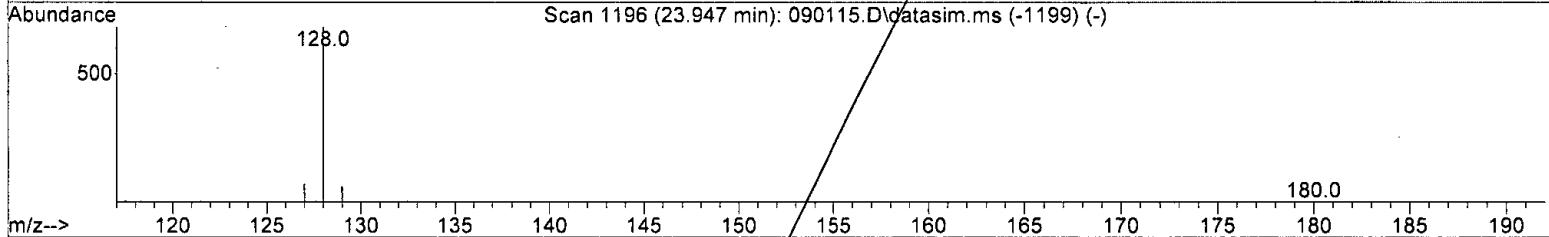
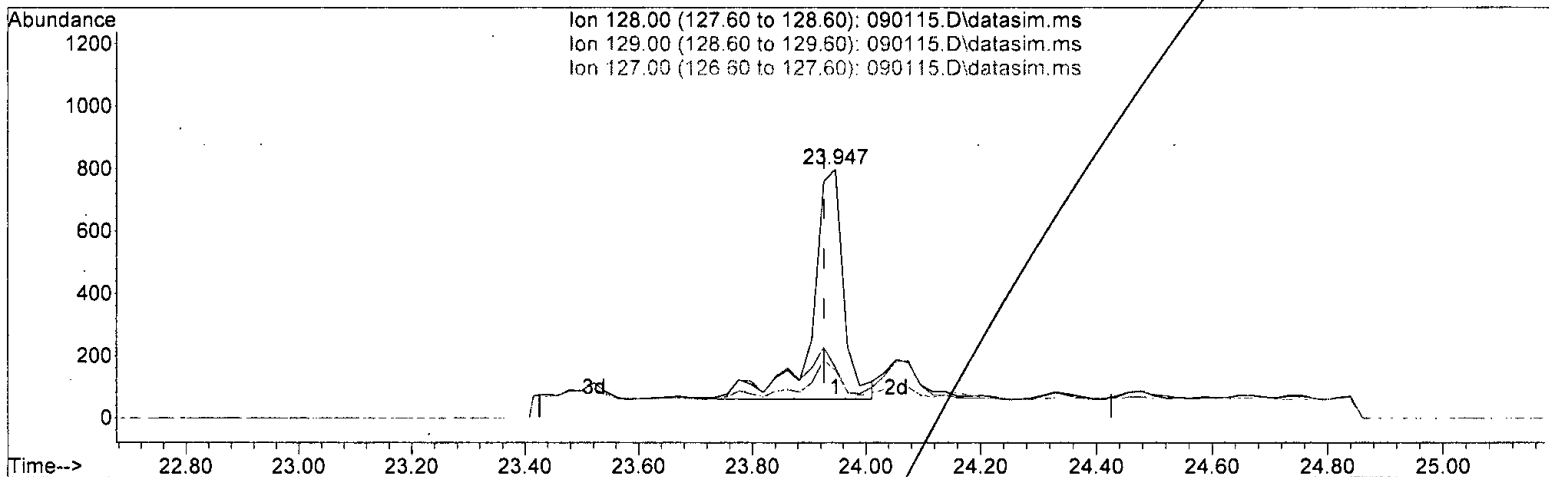
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 Data File : 090111.D  
 Acq On : 1 Sep 2021 4:37 pm  
 Operator : bat  
 Sample : 108515-11 1/6.0  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:24:46 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:42 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(77) Naphthalene (TMP)

23.947min (+ 0.021) 0.013 ppbv

response 2892

Ion	Exp%	Act%
128.00	100.00	100.00
129.00	11.00	13.64
127.00	13.20	12.82
0.00	0.00	0.00

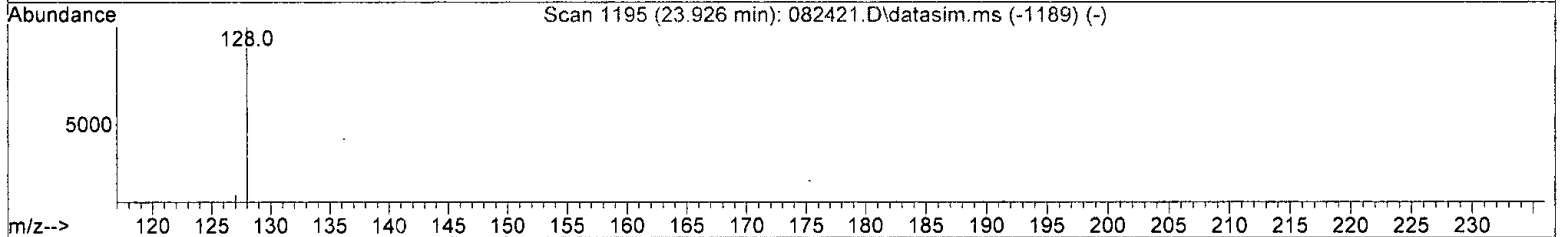
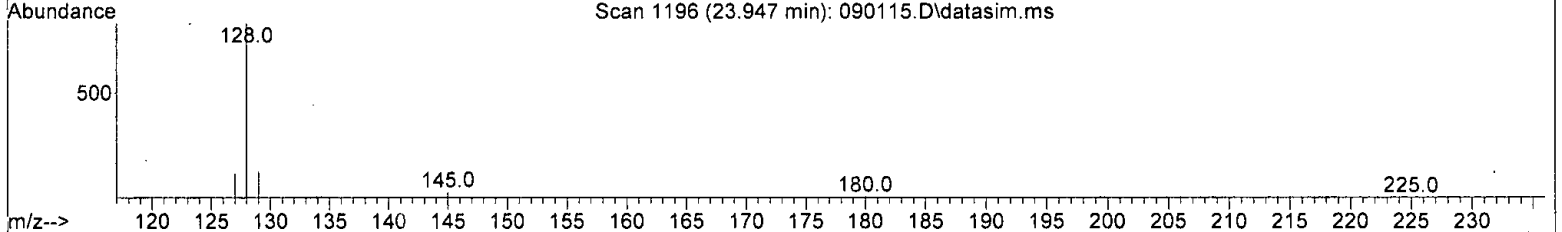
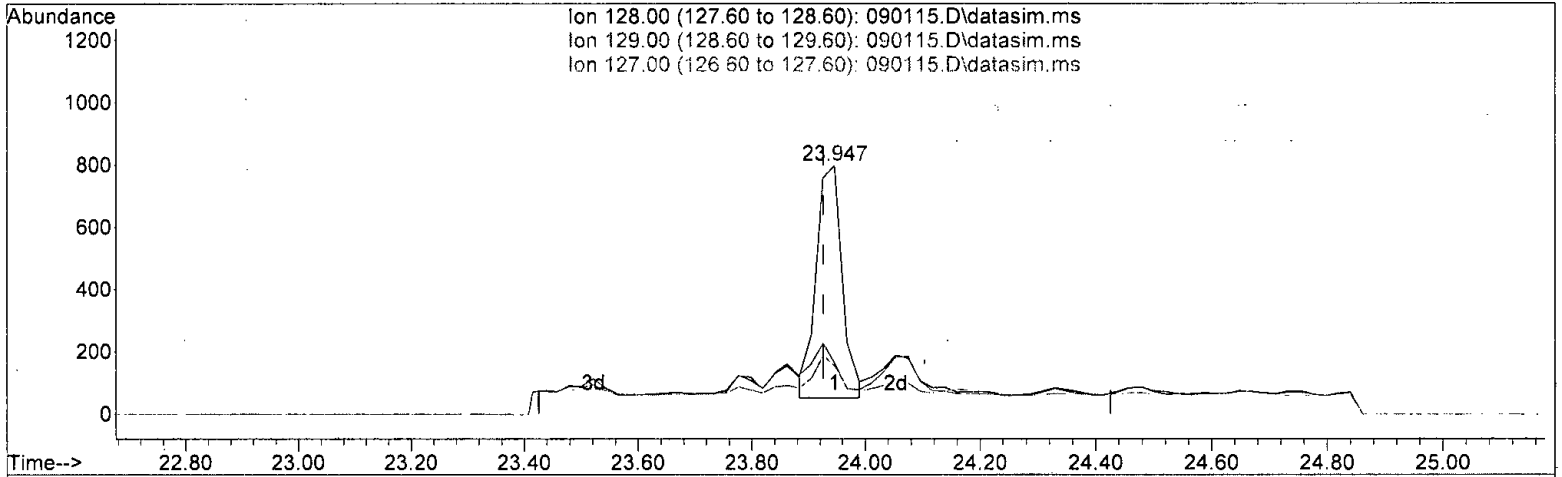
*Handwritten signature/initials*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 10:37:42 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090115.D\data.ms

(77) Naphthalene (TMP)

23.947min (+ 0.021) 0.008 ppbv m

response 2401

Ion	Exp%	Act%
128.00	100.00	100.00
129.00	11.00	20.43
127.00	13.20	19.42
0.00	0.00	0.00

*Handwritten signature*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

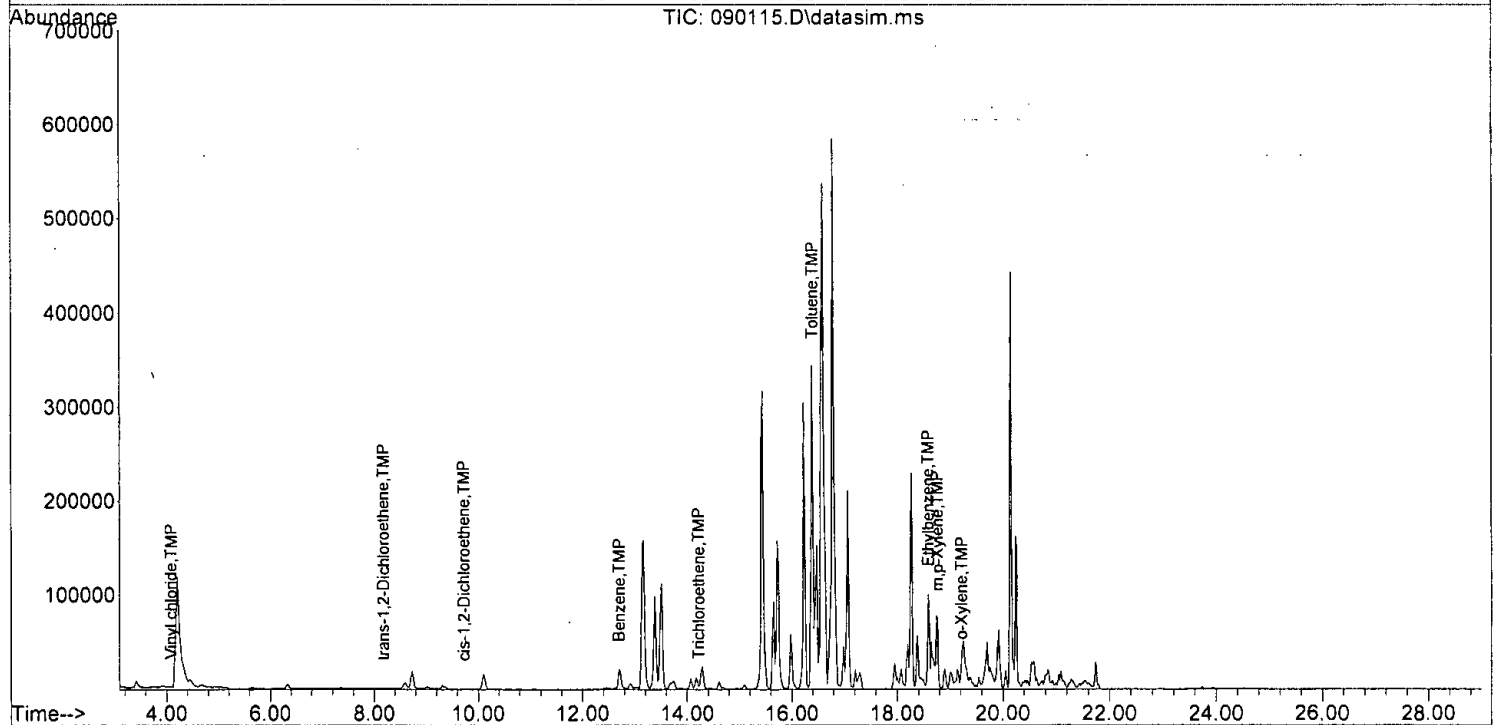
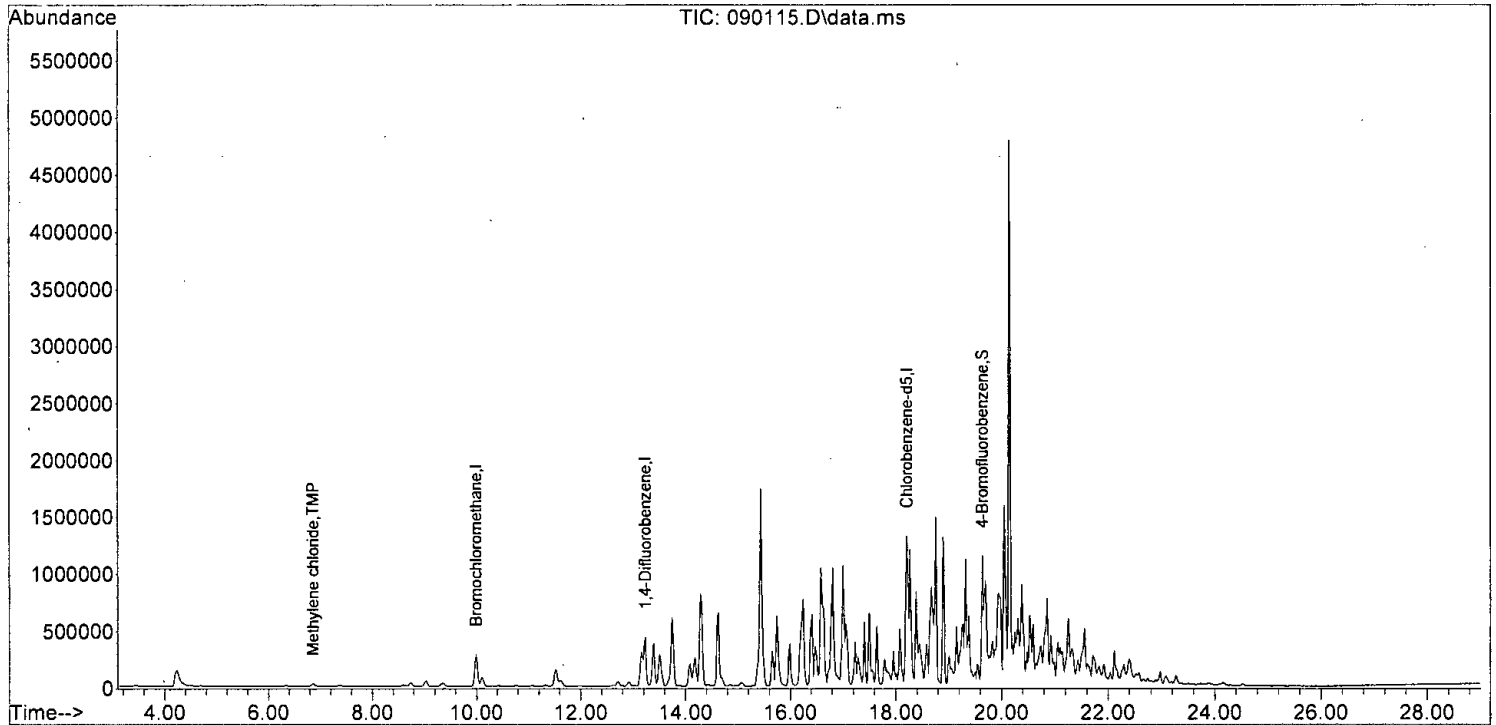
Quant Time: Sep 02 12:27:37 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

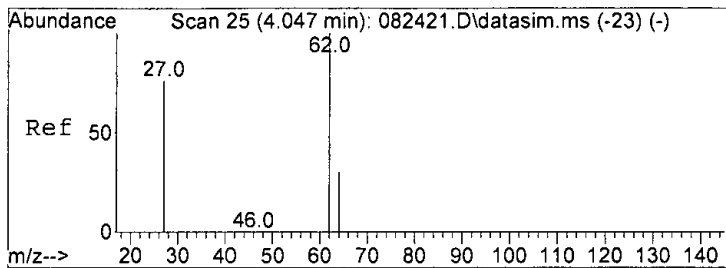
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	103496	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	491770	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	436816	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	433248	10.948	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	109.50%
Target Compounds						
						Qvalue
6] Vinyl chloride	4.09	62	1018	0.045	ppbv	93
19] trans-1,2-Dichloroethene	8.18	96	453	0.027	ppbv	86
20] Methylene chloride	6.86	84	18711	1.033	ppbv	85
28] cis-1,2-Dichloroethene	9.73	96	261	0.014	ppbv	82
37] Benzene	12.70	78	59802	0.944	ppbv	95
46] Trichloroethene	14.22	95	410	0.013	ppbv #	73
50] Toluene	16.40	92	7109	0.193	ppbv	89
58] Ethylbenzene	18.59	91	148185	1.527	ppbv	97
65] m,p-Xylene	18.76	106	6752	0.217	ppbv #	81
66] o-Xylene	19.21	106	4611	0.151	ppbv	83
-----						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

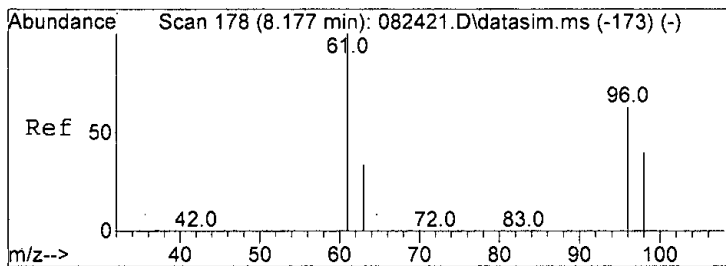
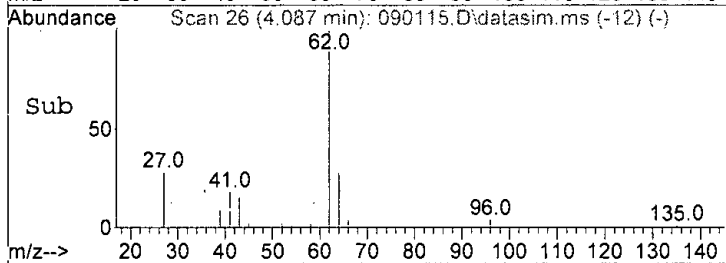
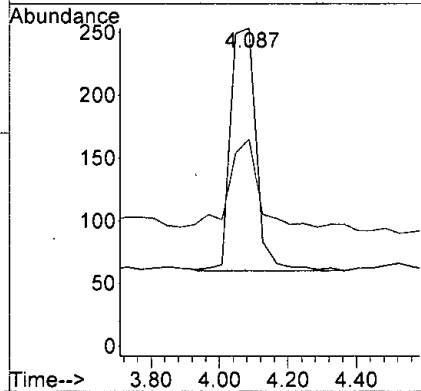
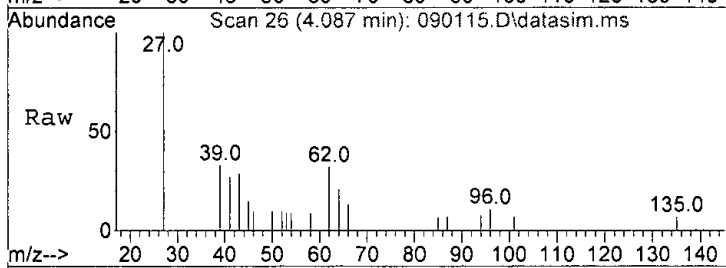
Quant Time: Sep 02 12:27:37 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





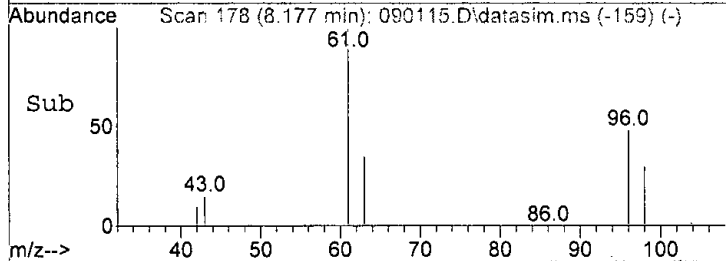
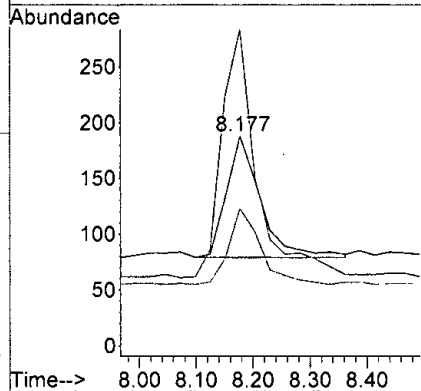
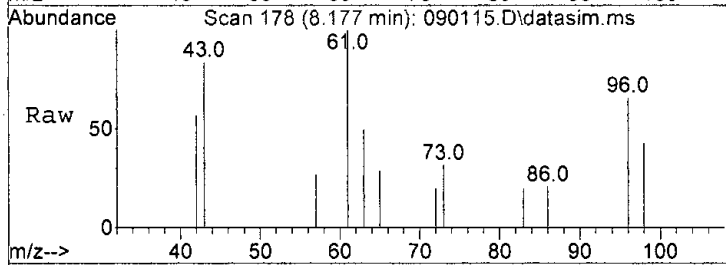
#6  
 Vinyl chloride  
 Concen: 0.045 ppbv  
 RT: 4.09 min Scan# 26  
 Delta R.T. 0.040 min  
 Lab File: 090115.D  
 Acq: 1 Sep 2021 7:06 pm

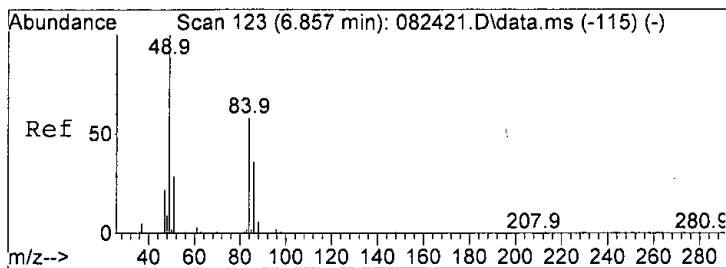
Tgt Ion: 62 Resp: 1018  
 Ion Ratio Lower Upper  
 62 100  
 64 35.2 1.5 61.5



#19  
 trans-1,2-Dichloroethene  
 Concen: 0.027 ppbv  
 RT: 8.18 min Scan# 178  
 Delta R.T. 0.000 min  
 Lab File: 090115.D  
 Acq: 1 Sep 2021 7:06 pm

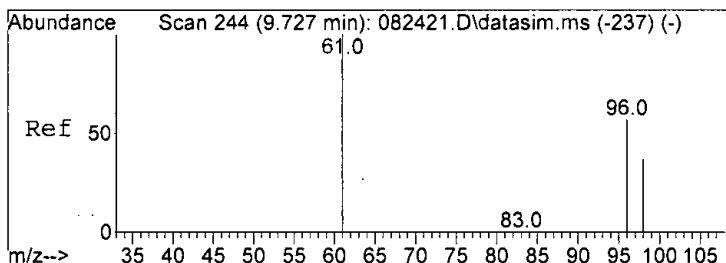
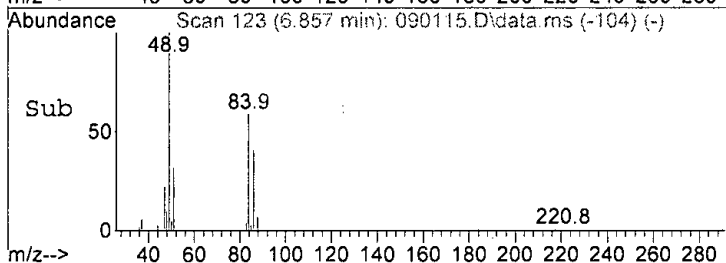
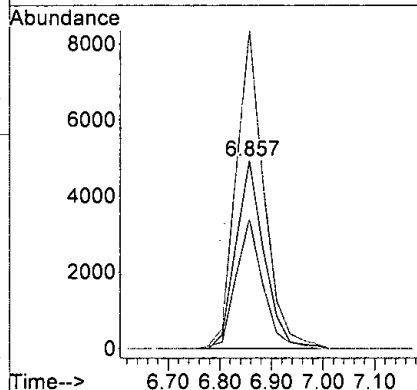
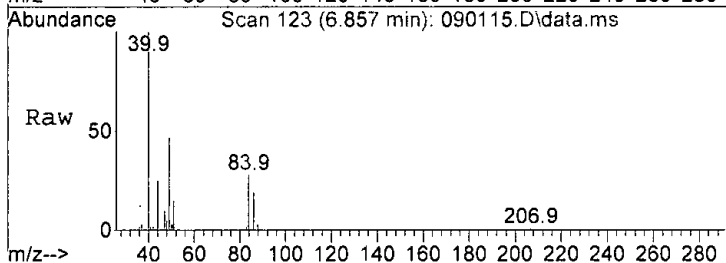
Tgt Ion: 96 Resp: 453  
 Ion Ratio Lower Upper  
 96 100  
 61 203.7 147.9 207.9  
 98 62.4 34.2 94.2





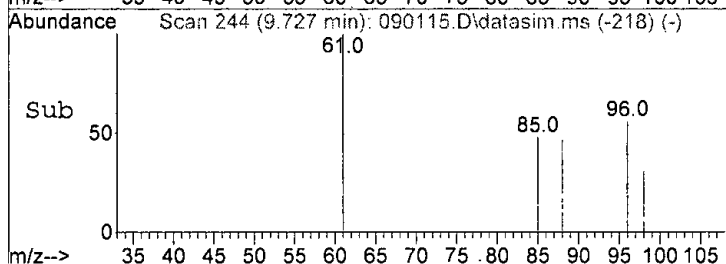
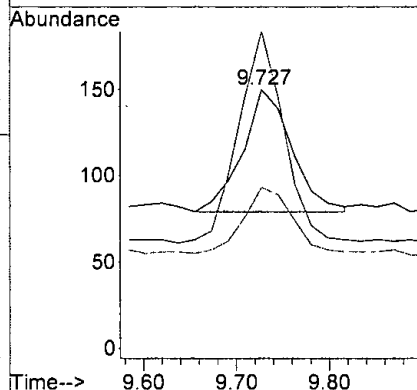
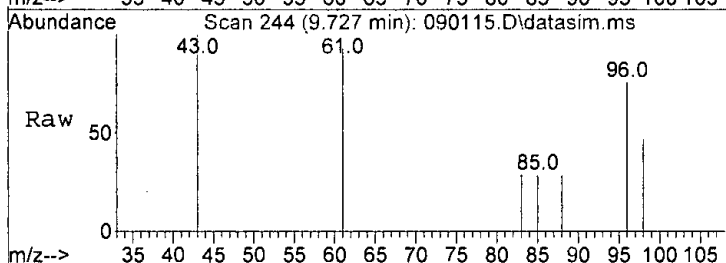
#20  
Methylene chloride  
Concen: 1.033 ppbv  
RT: 6.86 min Scan# 123  
Delta R.T. -0.000 min  
Lab File: 090115.D  
Acq: 1 Sep 2021 7:06 pm

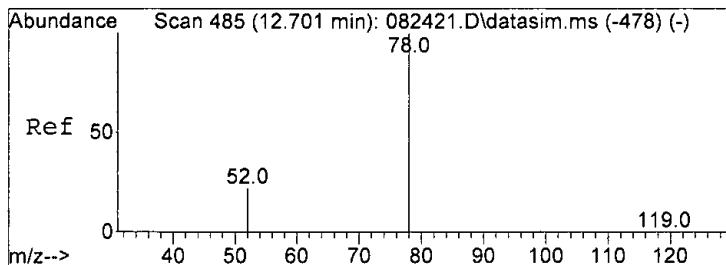
Tgt Ion	84	Resp	18711
Ion Ratio	Lower	Upper	
84	100		
86	68.8	33.9	93.9
49	169.5	116.6	176.6



#28  
cis-1,2-Dichloroethene  
Concen: 0.014 ppbv  
RT: 9.73 min Scan# 244  
Delta R.T. -0.000 min  
Lab File: 090115.D  
Acq: 1 Sep 2021 7:06 pm

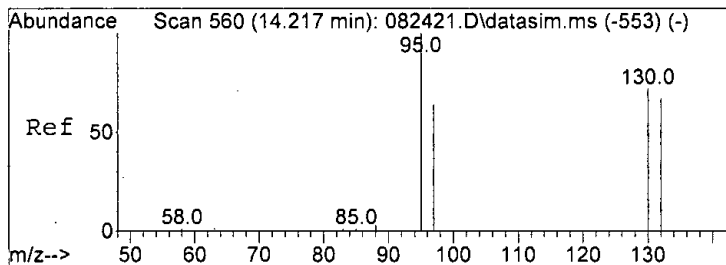
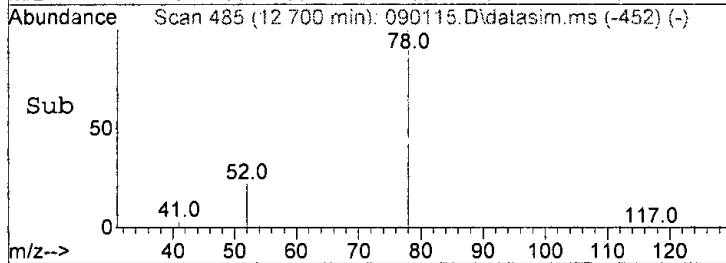
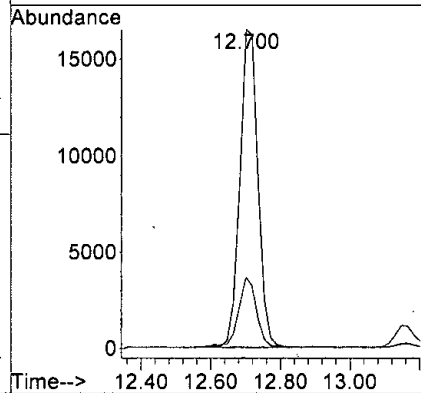
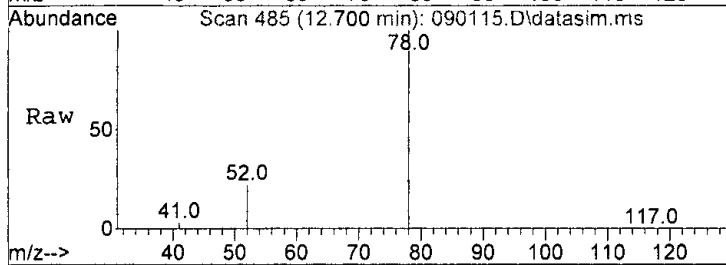
Tgt Ion	96	Resp	261
Ion Ratio	Lower	Upper	
96	100		
61	170.4	116.0	176.0
98	53.5	35.2	95.2





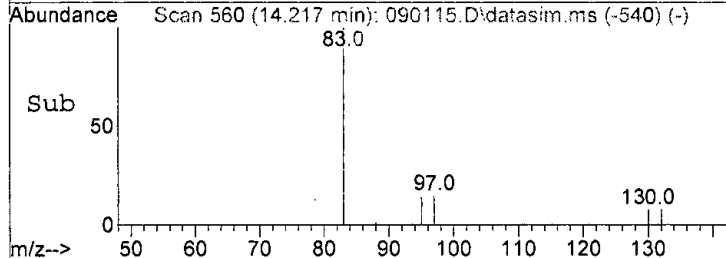
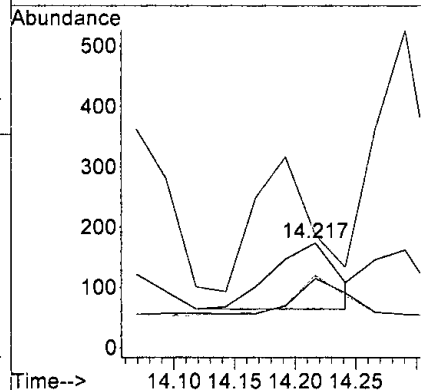
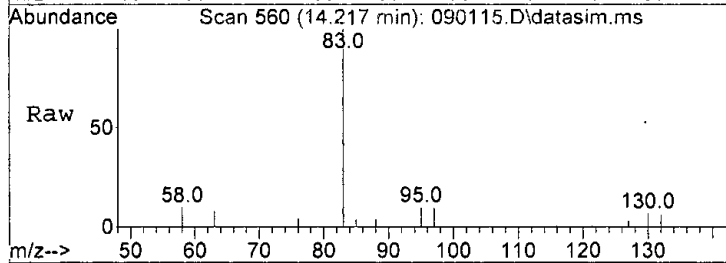
#37  
Benzene  
Concen: 0.944 ppbv  
RT: 12.70 min Scan# 485  
Delta R.T. -0.001 min  
Lab File: 090115.D  
Acq: 1 Sep 2021 7:06 pm

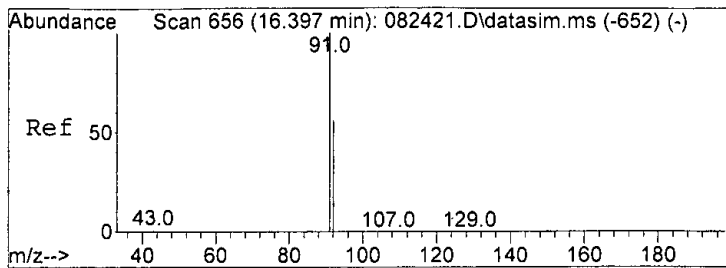
Tgt Ion: 78 Resp: 59802  
Ion Ratio Lower Upper  
78 100  
52 22.0 0.0 49.7



#46  
Trichloroethene  
Concen: 0.013 ppbv  
RT: 14.22 min Scan# 560  
Delta R.T. -0.000 min  
Lab File: 090115.D  
Acq: 1 Sep 2021 7:06 pm

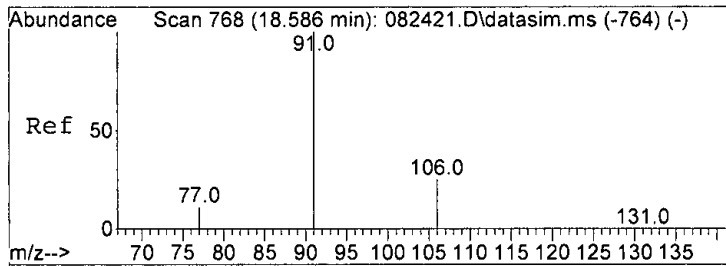
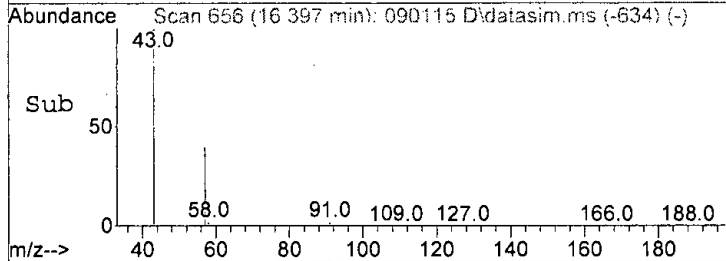
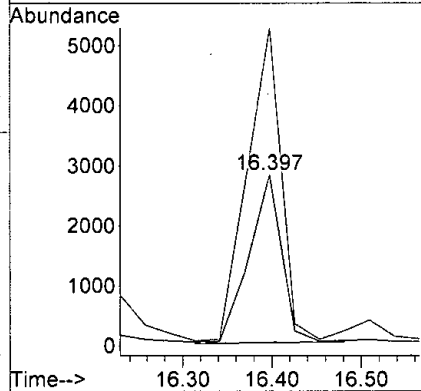
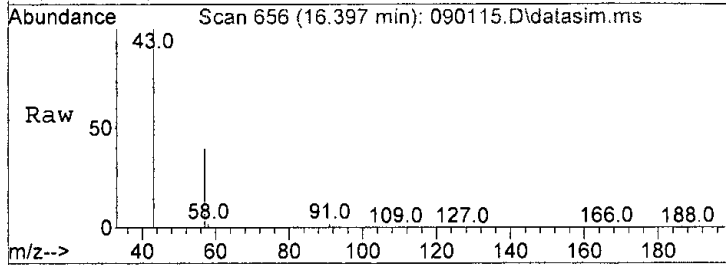
Tgt Ion: 95 Resp: 410  
Ion Ratio Lower Upper  
95 100  
97 78.2 37.1 97.1  
130 60.0 56.1 116.1  
132 52.7 54.3 114.3#





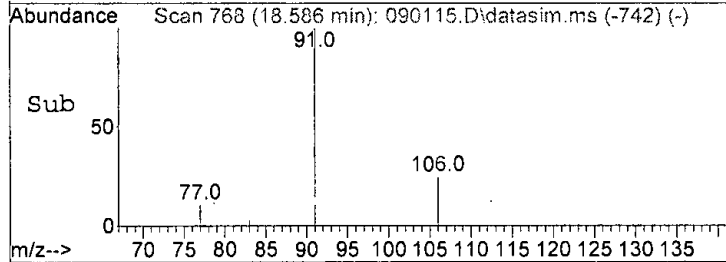
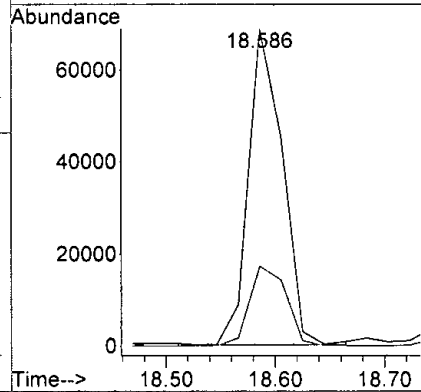
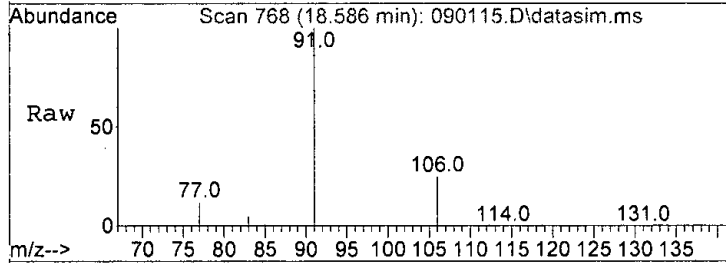
#50  
 Toluene  
 Concen: 0.193 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090115.D  
 Acq: 1 Sep 2021 7:06 pm

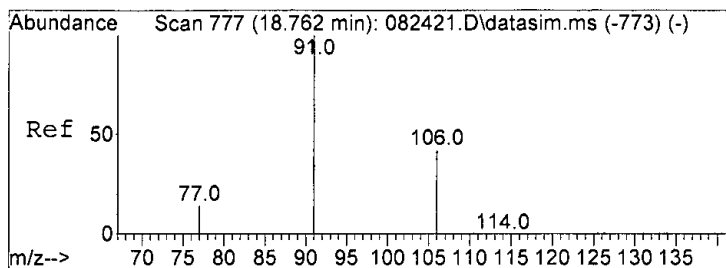
Tgt Ion: 92 Resp: 7109  
 Ion Ratio Lower Upper  
 92 100  
 91 187.1 174.6 234.6



#58  
 Ethylbenzene  
 Concen: 1.527 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. -0.000 min  
 Lab File: 090115.D  
 Acq: 1 Sep 2021 7:06 pm

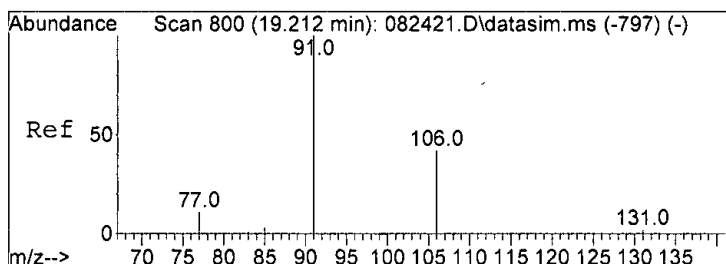
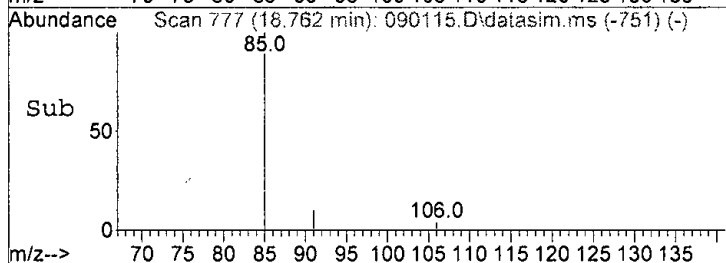
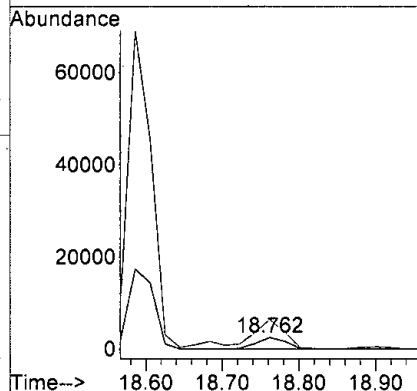
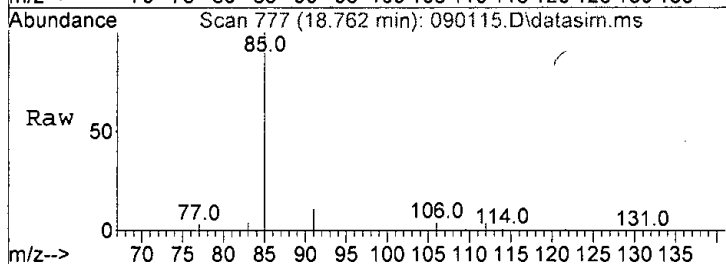
Tgt Ion: 91 Resp: 148185  
 Ion Ratio Lower Upper  
 91 100  
 106 25.2 0.0 57.0





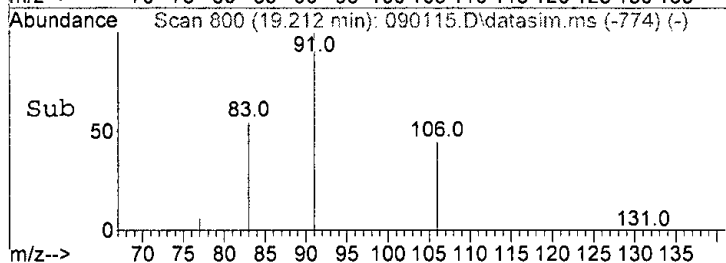
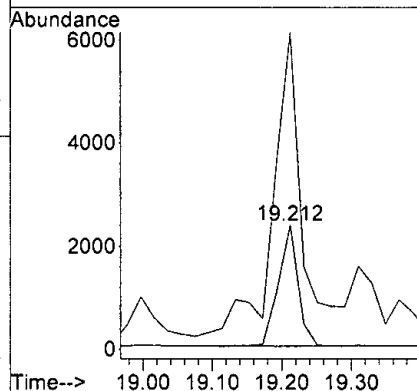
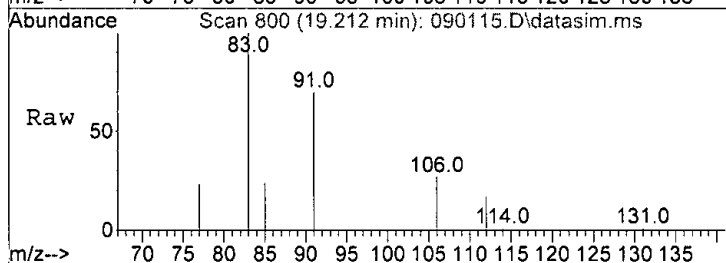
#65  
 m,p-Xylene  
 Concen: 0.217 ppbv  
 RT: 18.76 min Scan# 777  
 Delta R.T. 0.000 min  
 Lab File: 090115.D  
 Acq: 1 Sep 2021 7:06 pm

Tgt Ion:106 Resp: 6752  
 Ion Ratio Lower Upper  
 106 100  
 91 253.7 193.0 253.0#



#66  
 o-Xylene  
 Concen: 0.151 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. -0.000 min  
 Lab File: 090115.D  
 Acq: 1 Sep 2021 7:06 pm

Tgt Ion:106 Resp: 4611  
 Ion Ratio Lower Upper  
 106 100  
 91 251.9 194.4 254.4





Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:27:37 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	103496	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	491770	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	436816	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	433248	10.948	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	109.50%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.		
6] Vinyl chloride	4.09	62	1018	0.045	ppbv	93
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.		
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.		
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	6.73	96	151	N.D.		
19] trans-1,2-Dichloroethene	8.18	96	453	0.027	ppbv	86
20) Methylene chloride	6.86	84	18711	1.033	ppbv	85
21) t-Butyl alcohol (TBA)	0.00		0	N.D.		
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.		
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	8.47	63	214	N.D.		
28] cis-1,2-Dichloroethene	9.73	96	261	0.014	ppbv	82
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	0.00		0	N.D.	d	
35) 1,1,1-Trichloroethane	11.93	97	128	N.D.		
36) Carbon tetrachloride	0.00		0	N.D.	d	
37] Benzene	12.70	78	59802	0.944	ppbv	95
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

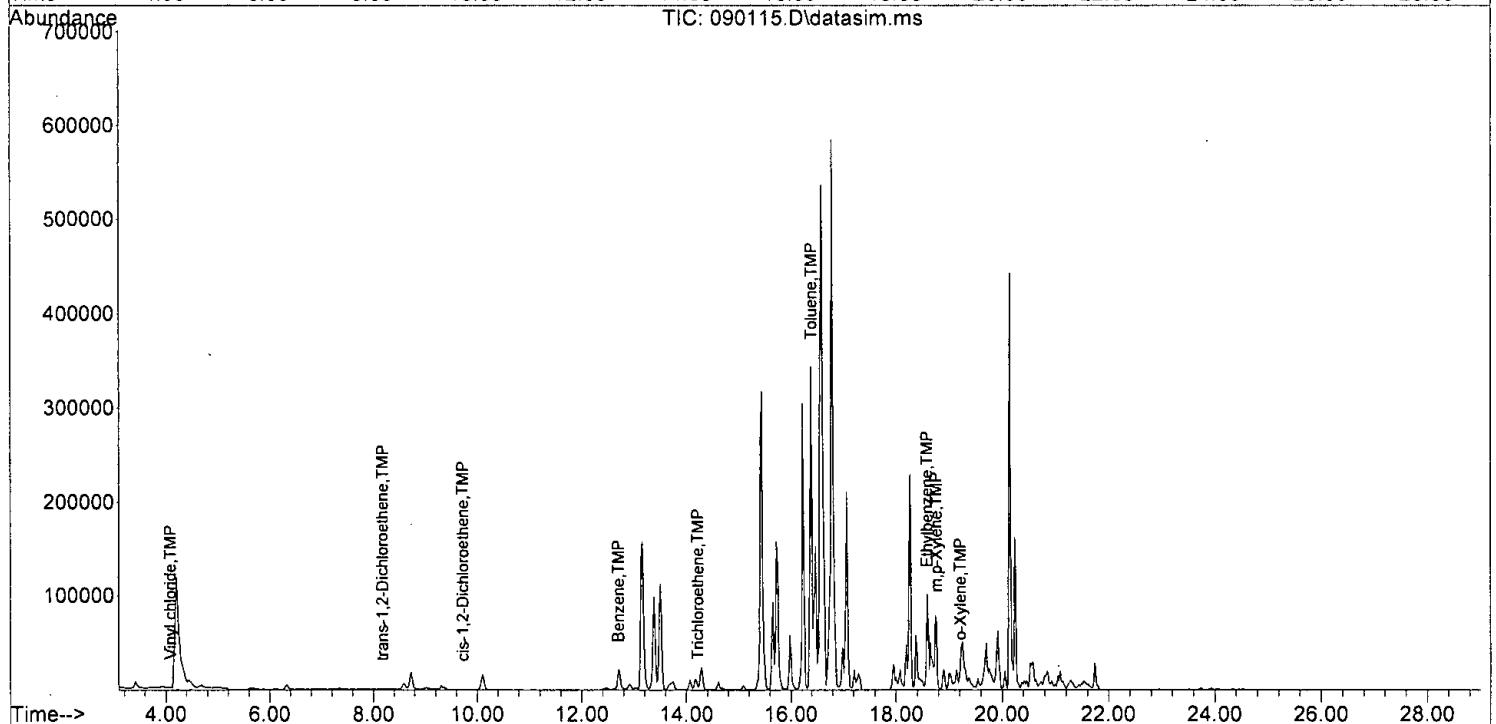
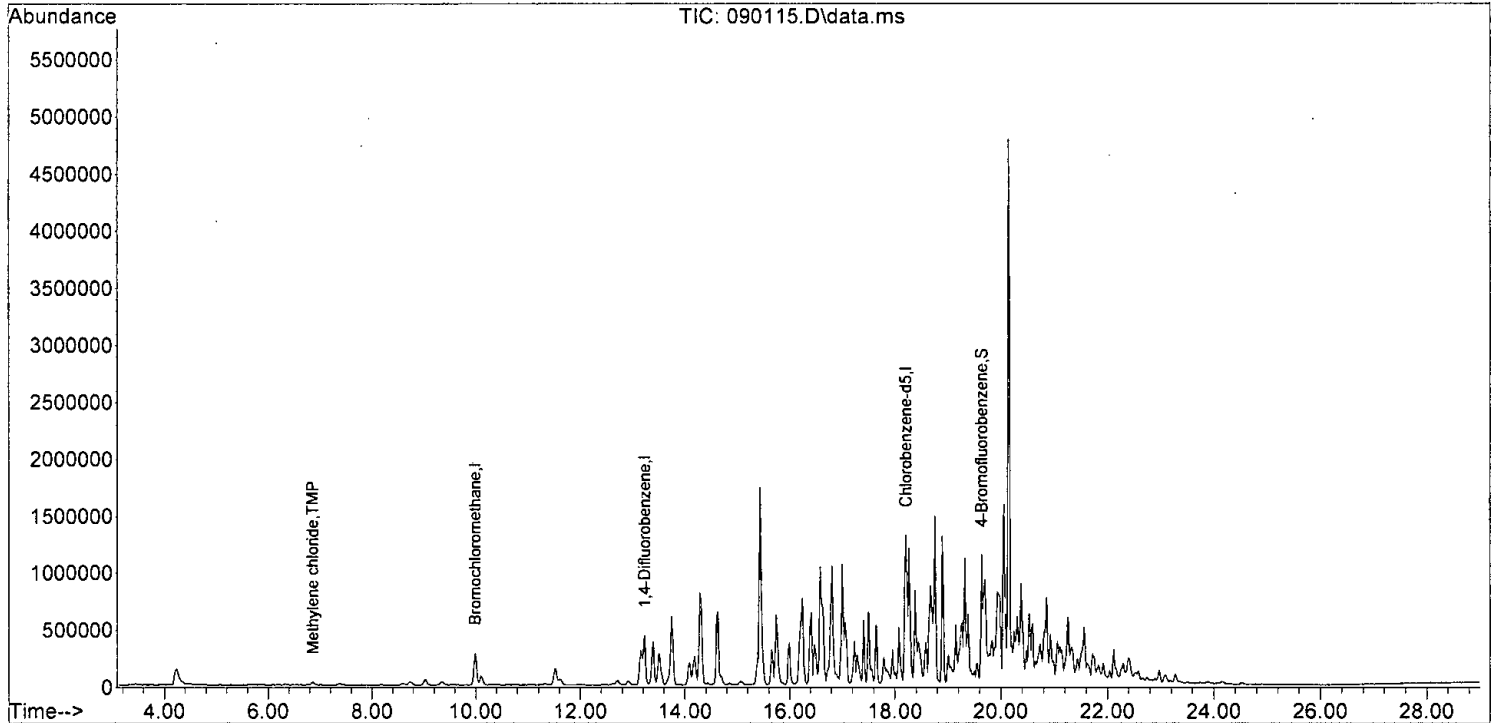
Quant Time: Sep 02 12:27:37 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	410	0.013	ppbv #	73
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	7109	0.193	ppbv	89
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53) Tetrachloroethene	17.58	164	139	N.D.		
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	148185	1.527	ppbv	97
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.76	106	6752	0.217	ppbv #	81
66] o-Xylene	19.21	106	4611	0.151	ppbv	83
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.		
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77) Naphthalene	23.95	128	2401	N.D.		
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

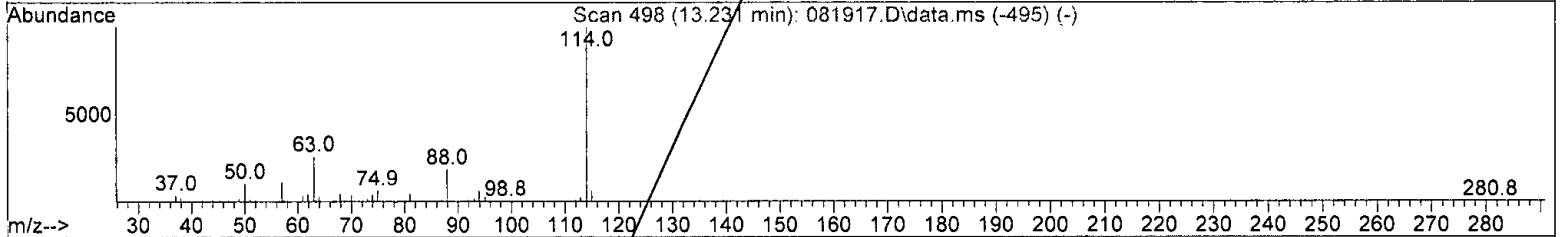
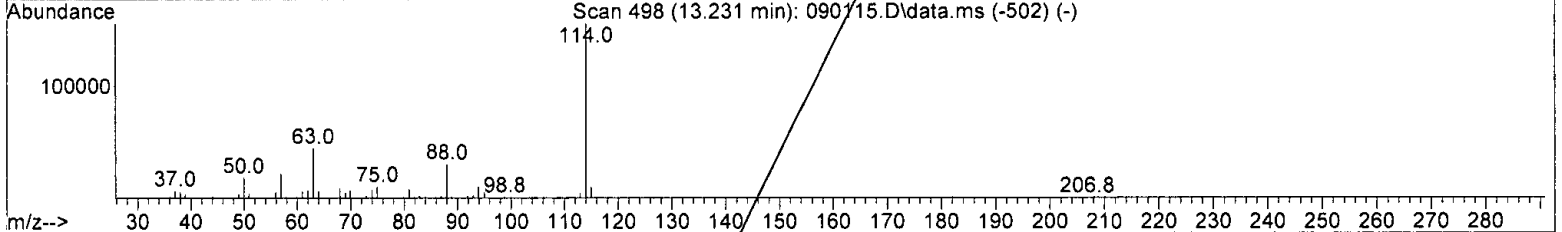
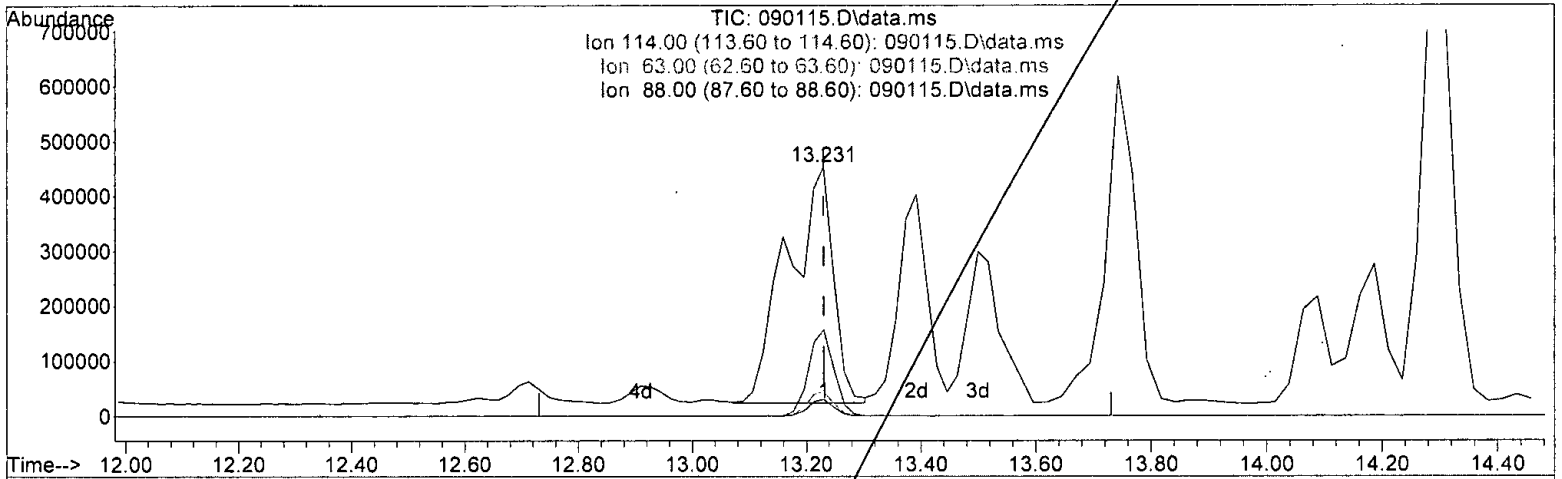
Quant Time: Sep 02 12:27:37 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000) 92.200 ug/m3

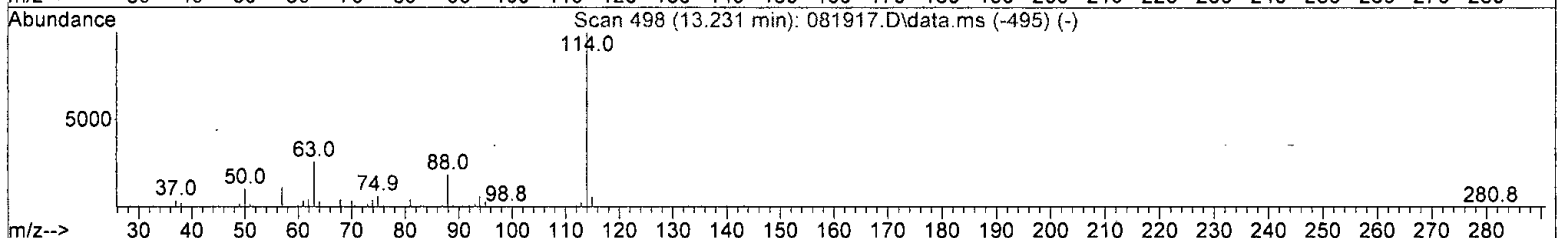
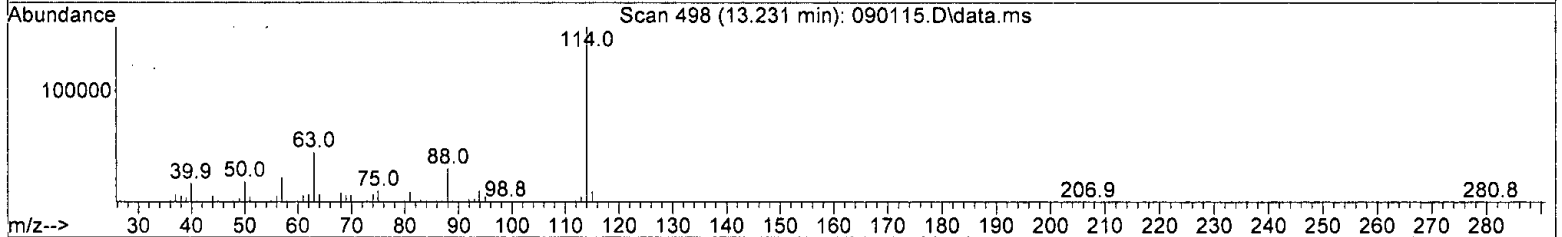
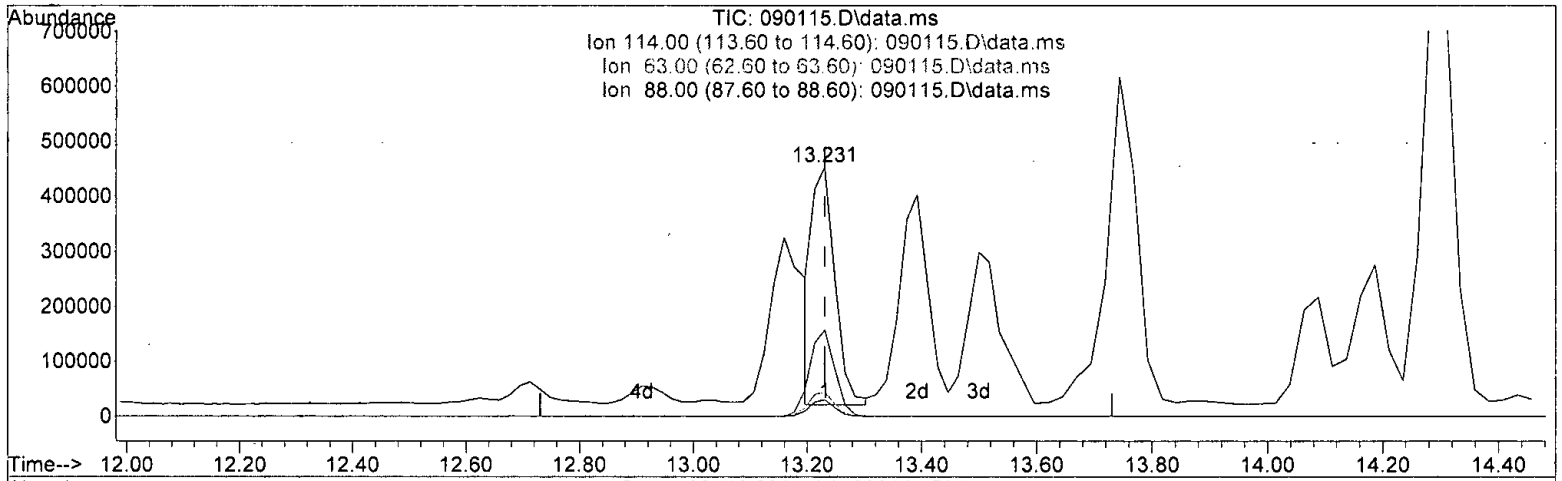
response 2391393

Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	36.81
63.00	8.40	10.47
88.00	7.60	7.10

*Handwritten signature: H. Oaloku*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000) 46.888 ug/m3 m

response 1216131

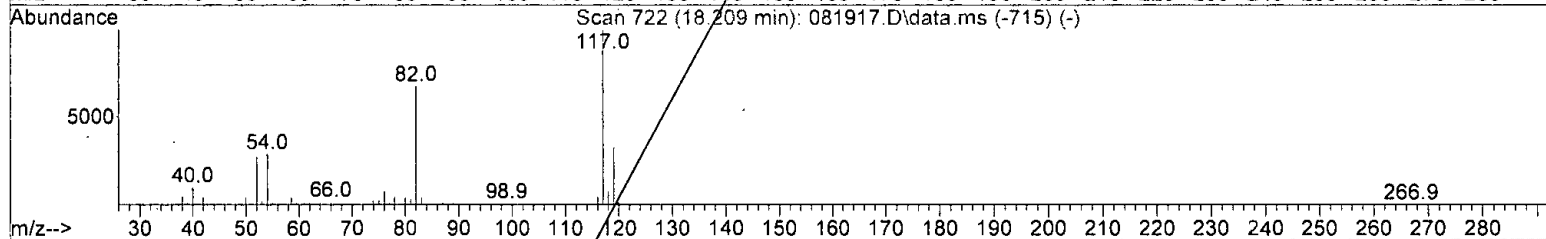
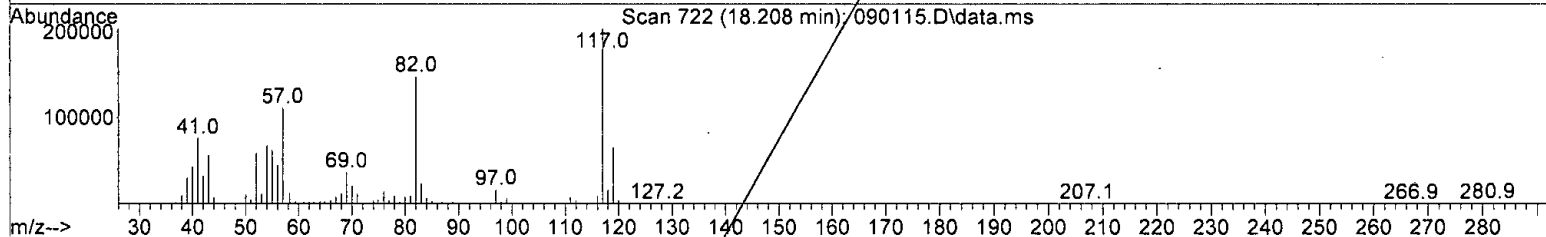
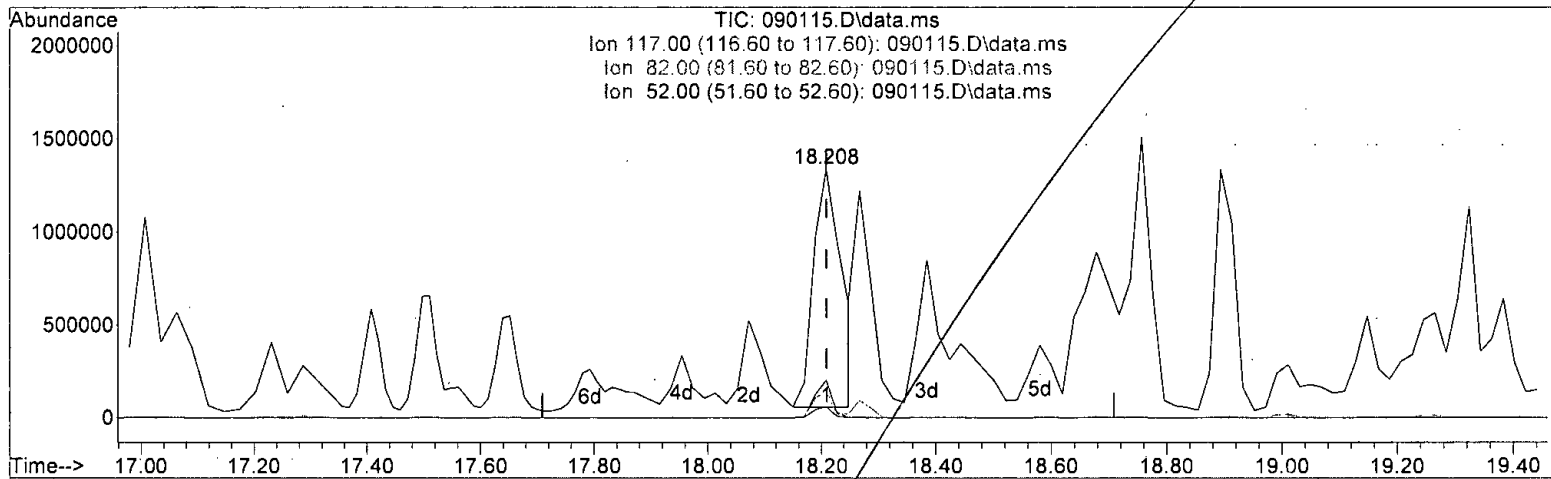
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	72.38
63.00	8.40	20.58
88.00	7.60	13.96

*B*  
*09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



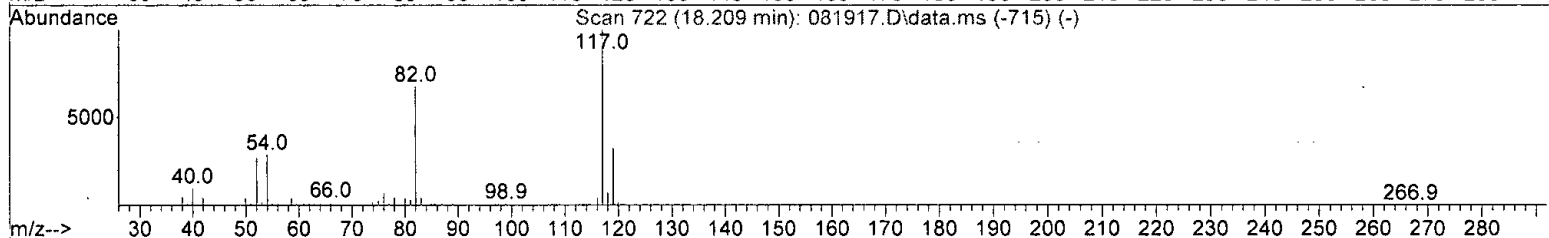
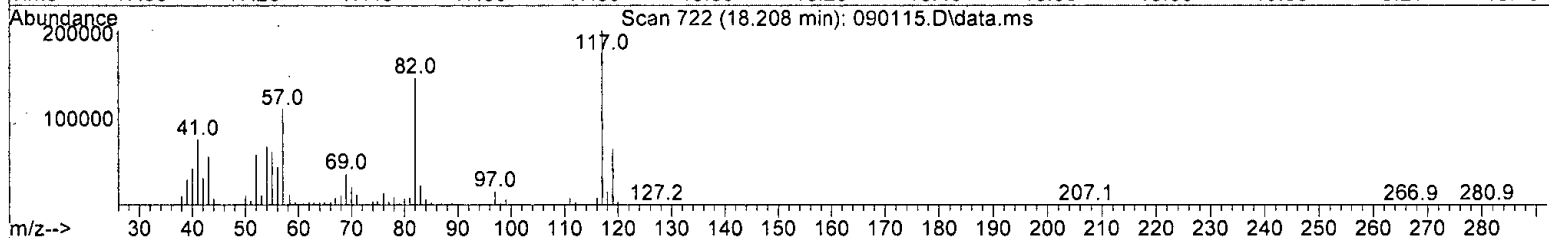
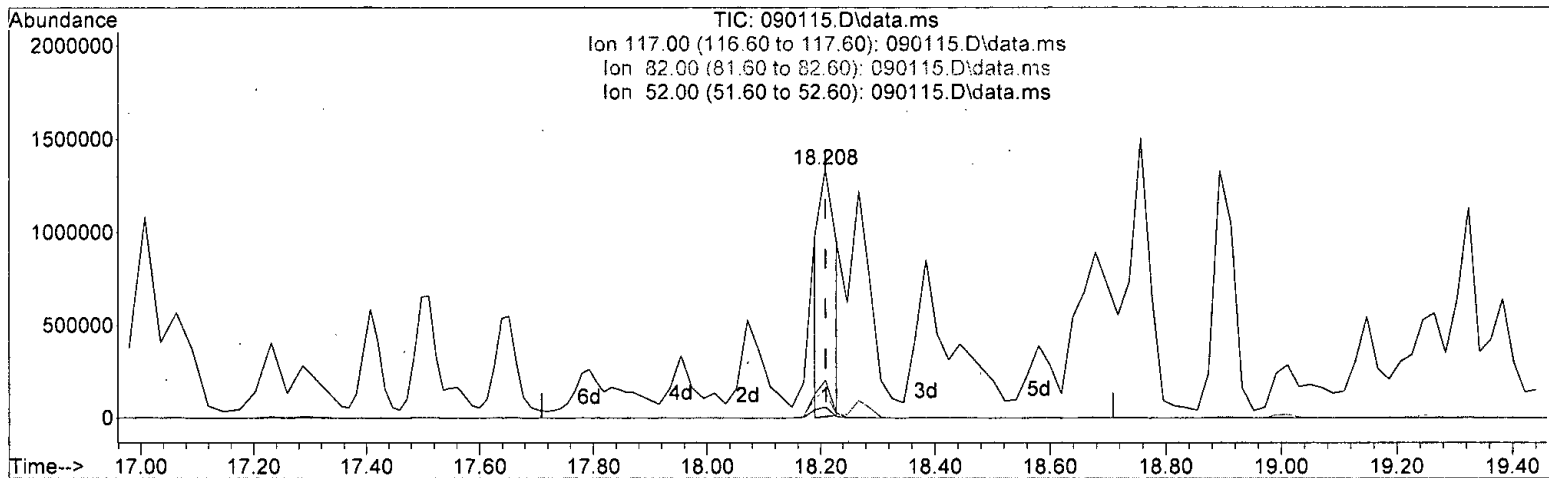
(4) IS-3 Chlorobenzene-d5 (T)  
 18.208min (-0.001) 141.135 ug/m3  
 response 4440075

Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	9.84#
82.00	18.10	8.00
52.00	6.90	3.21

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o  
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y*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.208min (-0.001) 84.767 ug/m3 m

response 2666750

Signal Exp% Act%

TIC 100.00 100.00

117.00 34.80 16.38

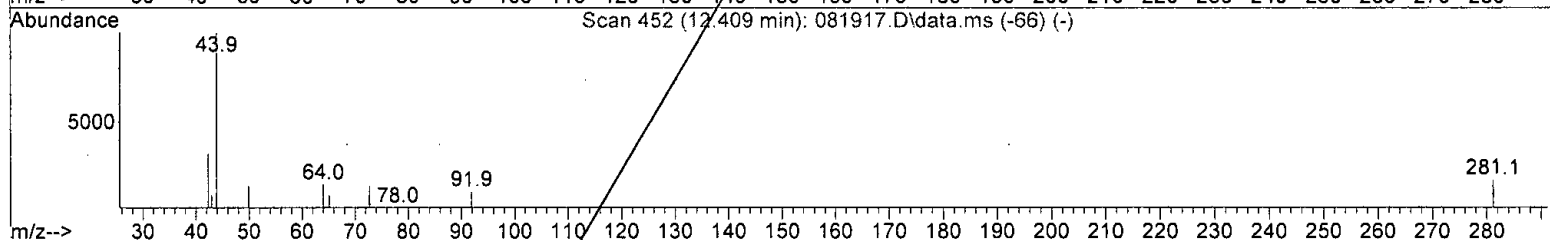
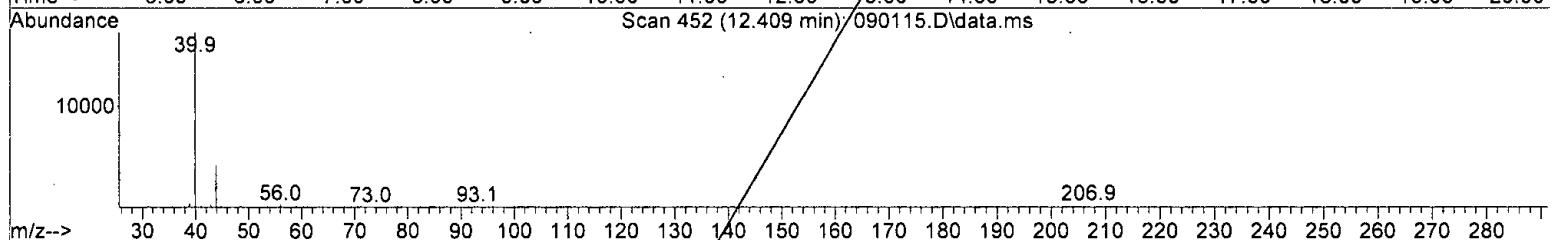
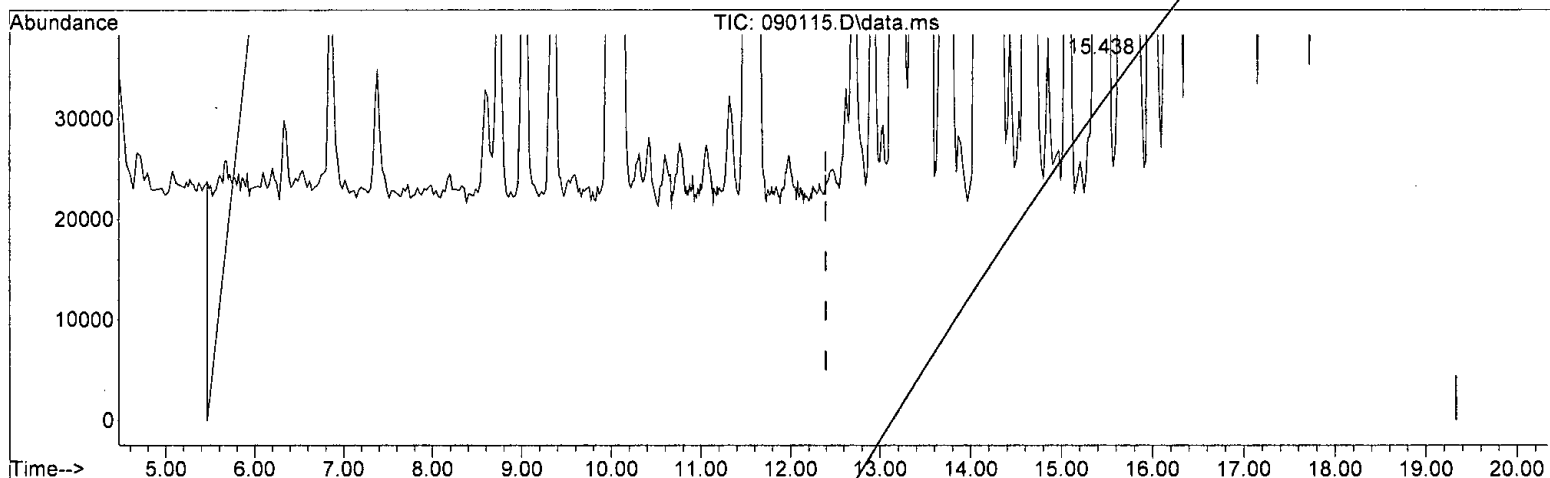
82.00 18.10 13.33

52.00 6.90 5.34

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 1746.430 ug/m3 m

response 68144713

Signal Exp% Act%

TIC 100.00 100.00

0.00 0.00 0.00

0.00 0.00 0.00

0.00 0.00 0.00

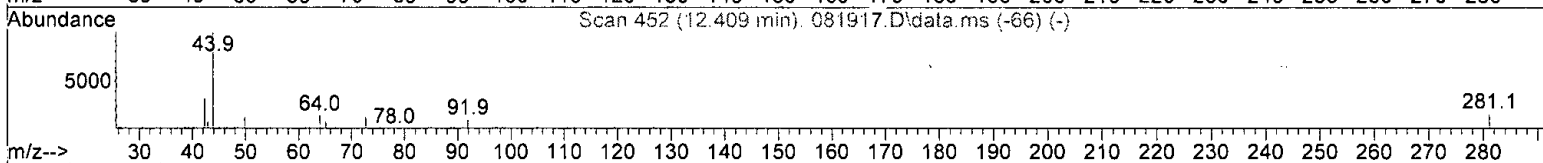
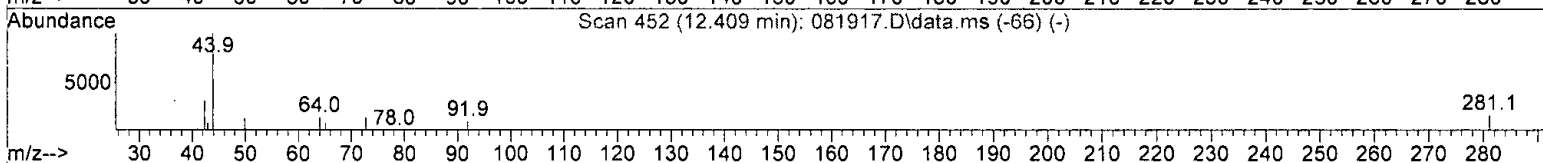
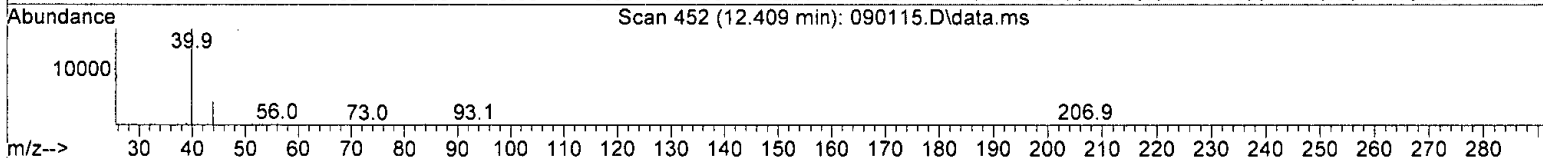
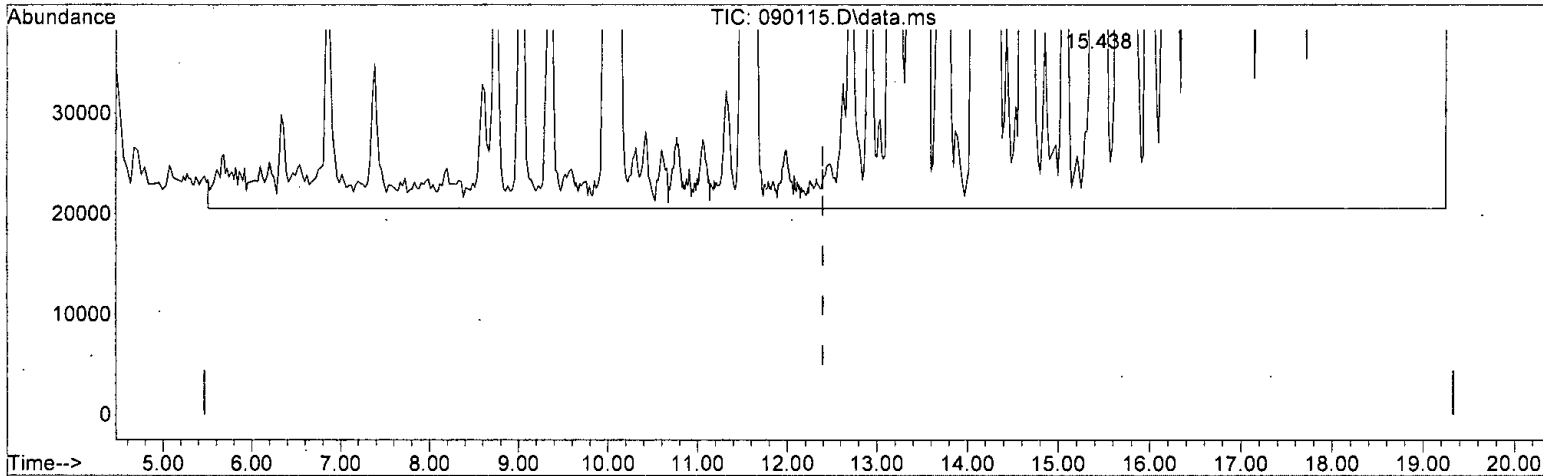
*W  
09/02/21*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 2038.641 ug/m3 m

response 79546593

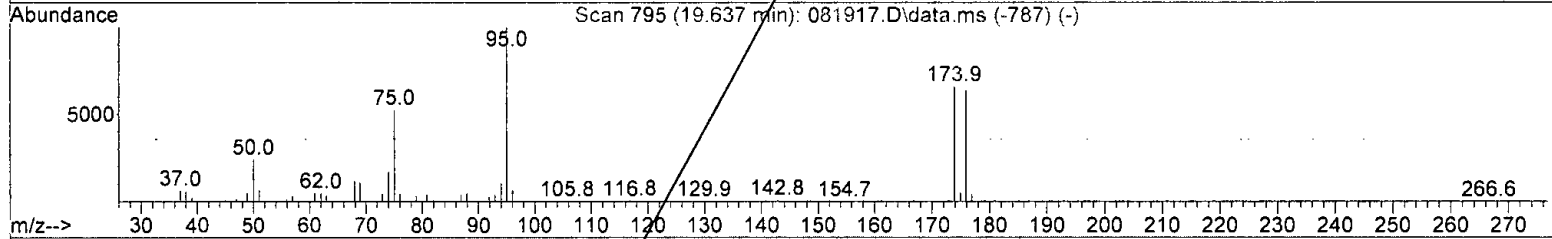
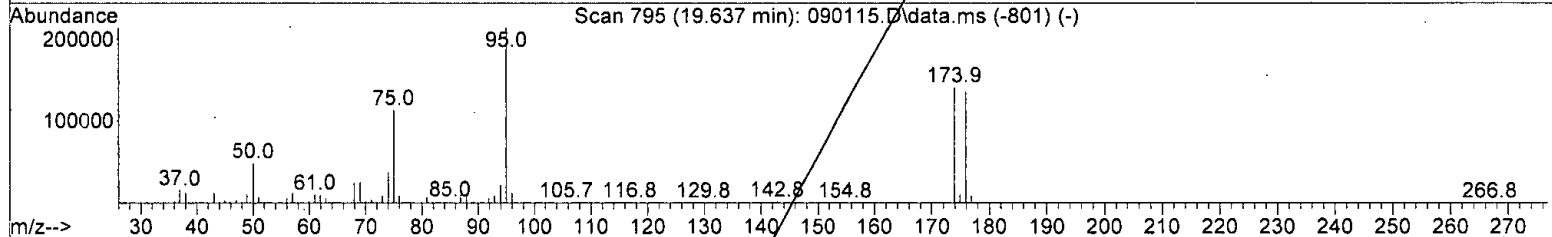
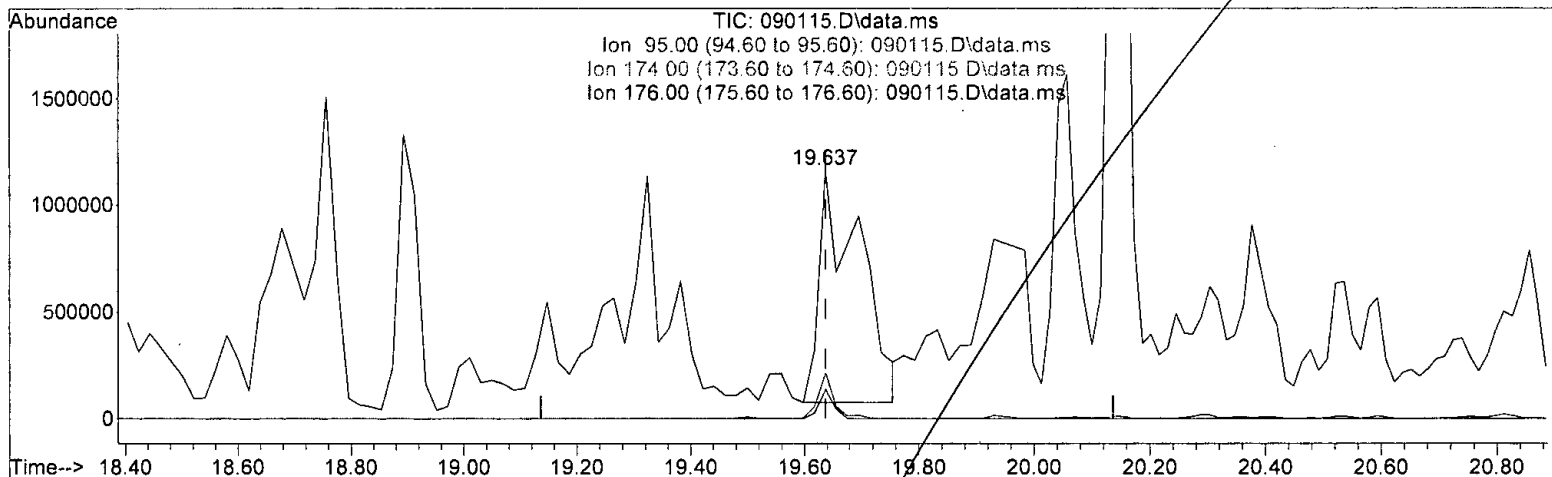
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* bat/2/14

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 146.760 ug/m3

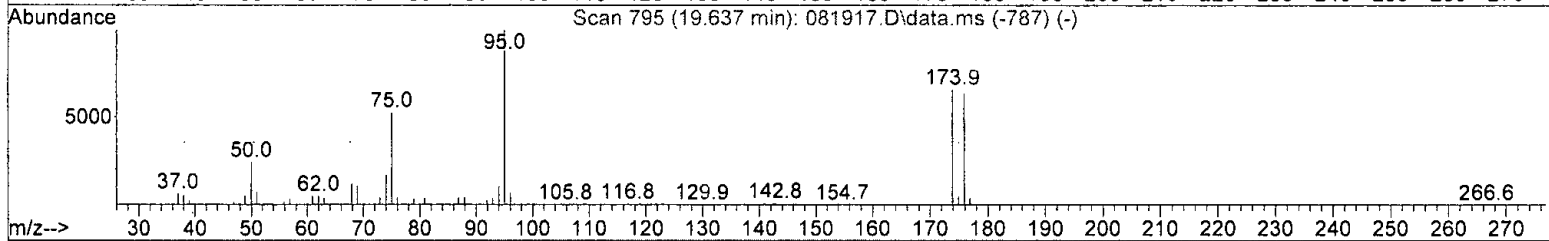
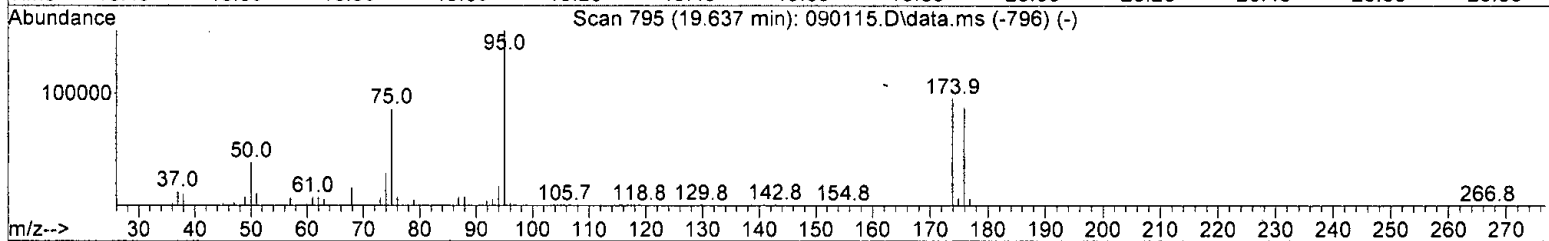
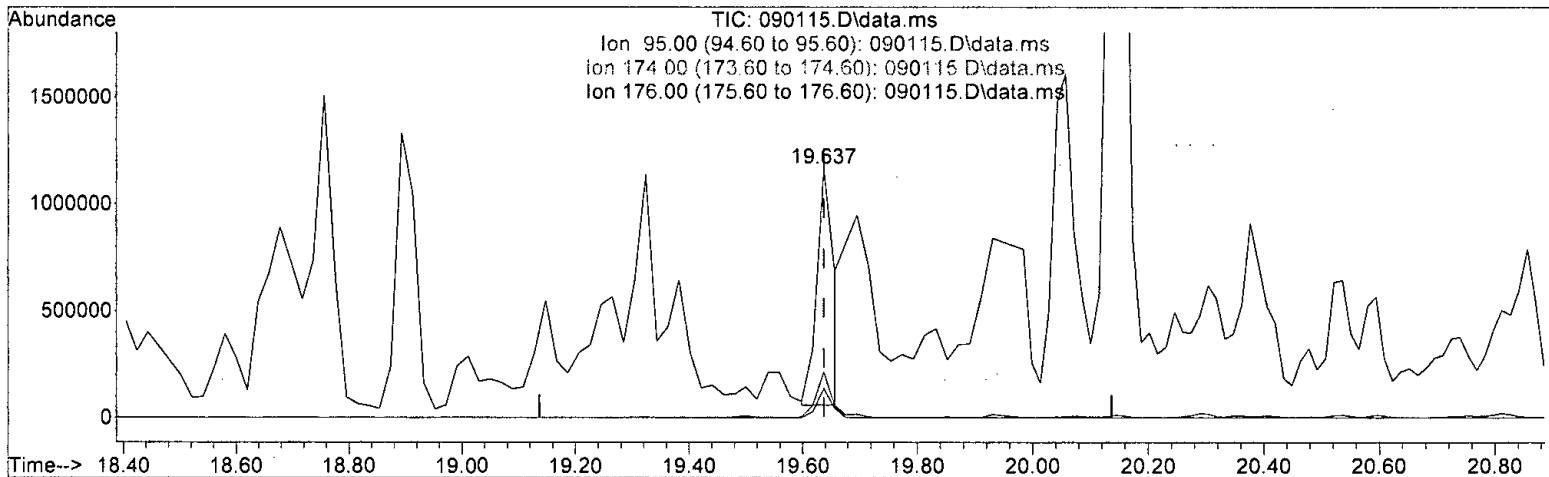
response 5411949

Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	19.63
174.00	19.20	12.93
176.00	18.70	12.40

*Bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)  
 19.637min (-0.000) 63.316 ug/m3 m  
 response 2334854

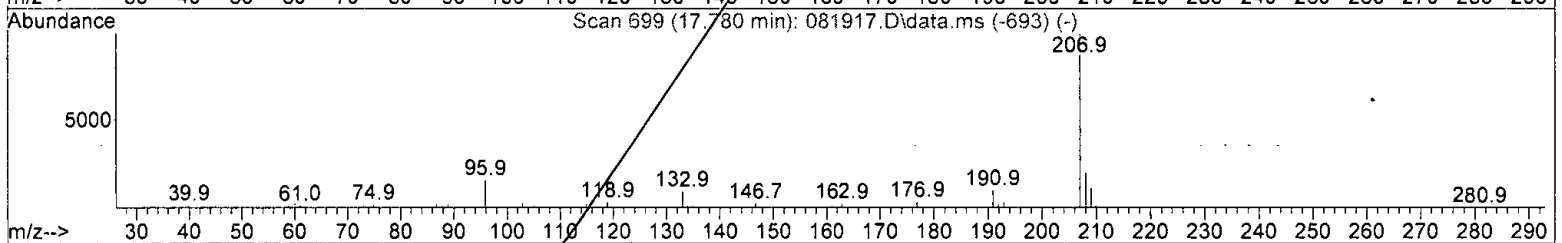
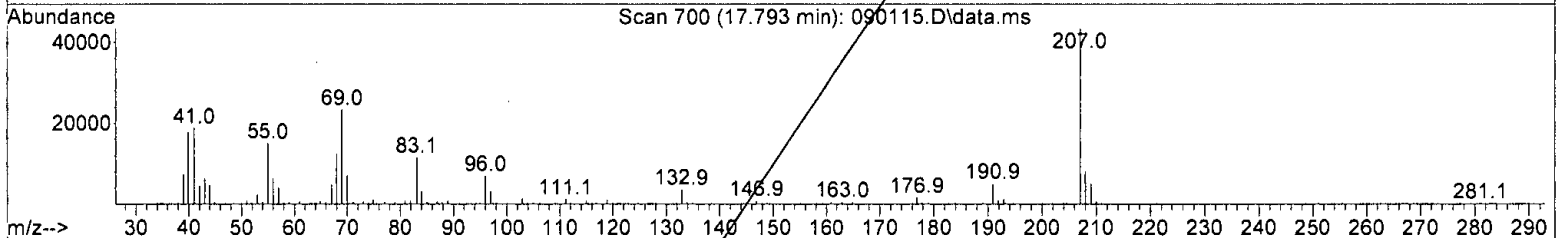
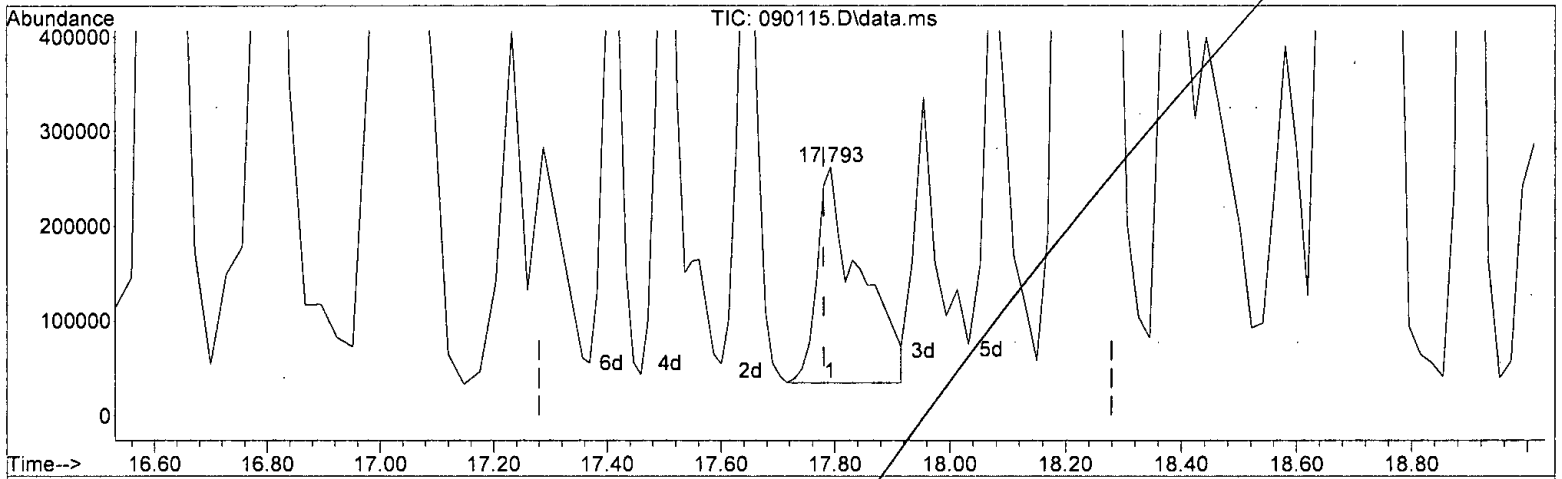
Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	45.50
174.00	19.20	29.97
176.00	18.70	28.75

*B*  
*09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(22) Hexamethylcyclotrisiloxane  
 17.793min (+ 0.013) 137.362 ppbv  
 response 1247646

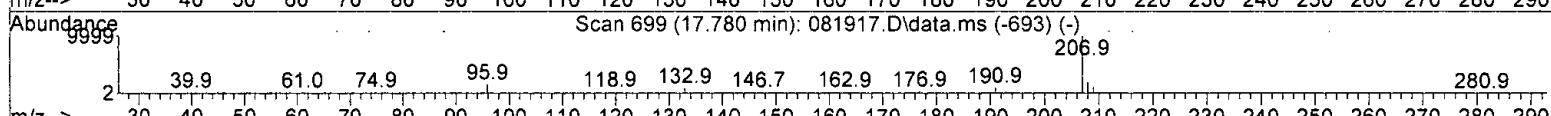
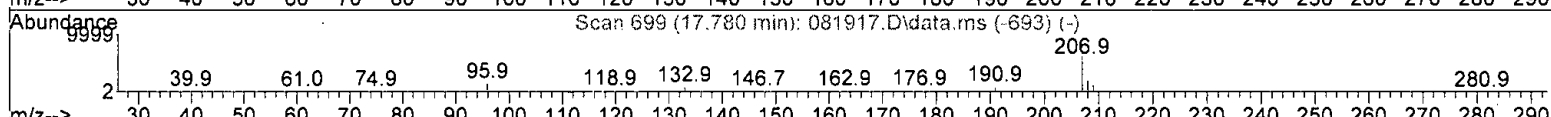
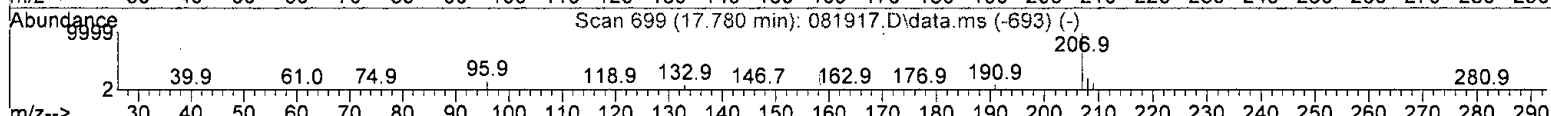
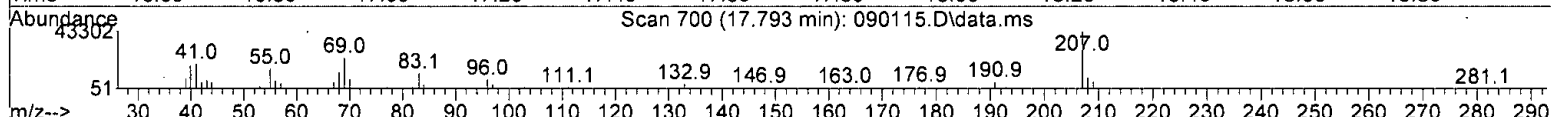
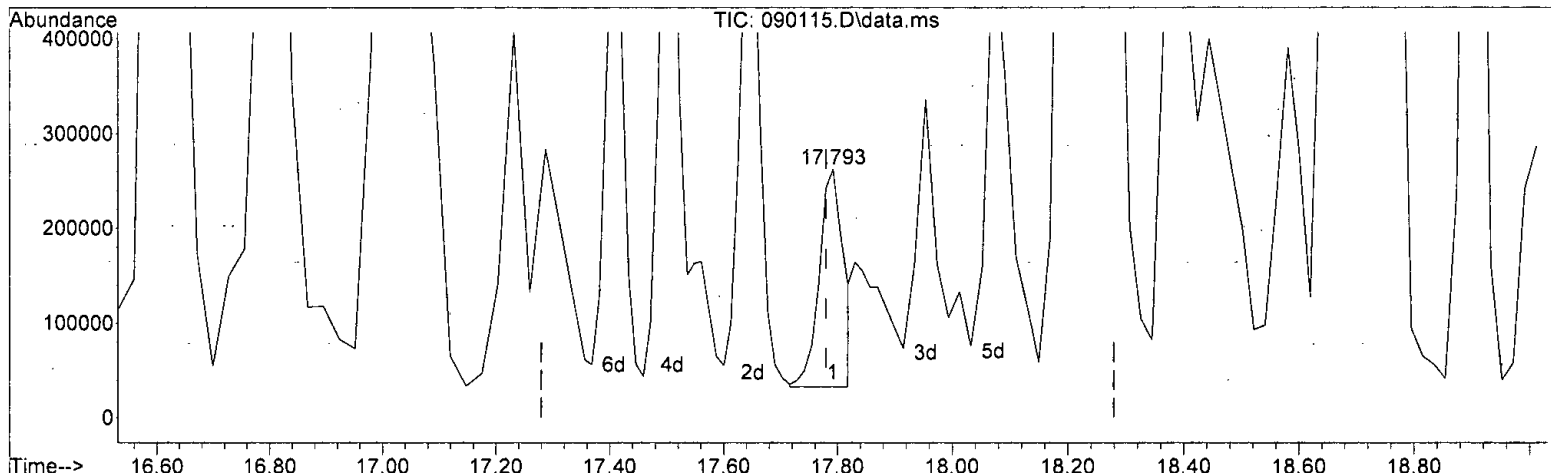
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090115.D\data.ms

(22) Hexamethylcyclotrisiloxane

17.793min (+ 0.013) 75.089 ppbv m

response 682026

Signal Exp% Act%

TIC 100.00 100.00

0.00 0.00 0.00

0.00 0.00 0.00

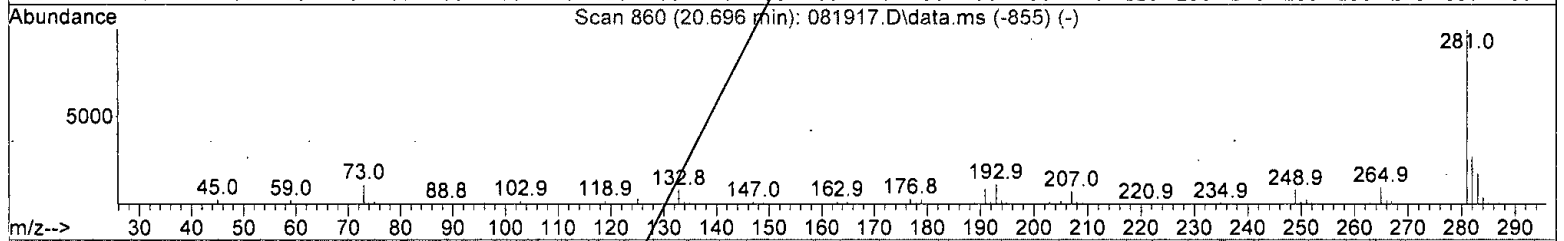
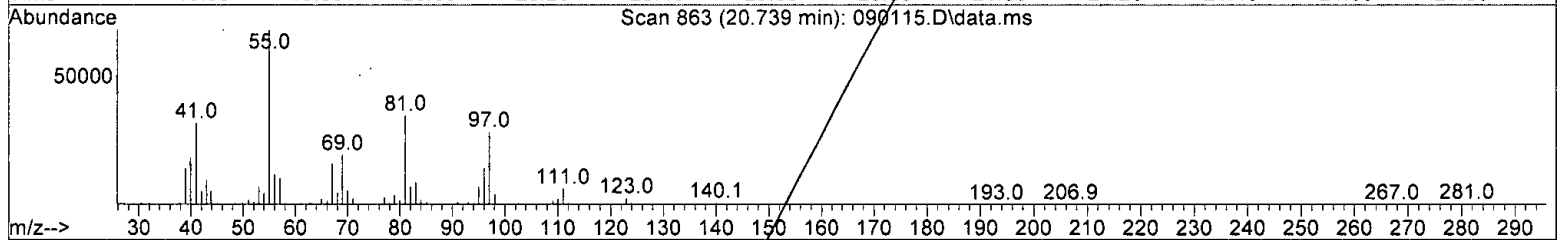
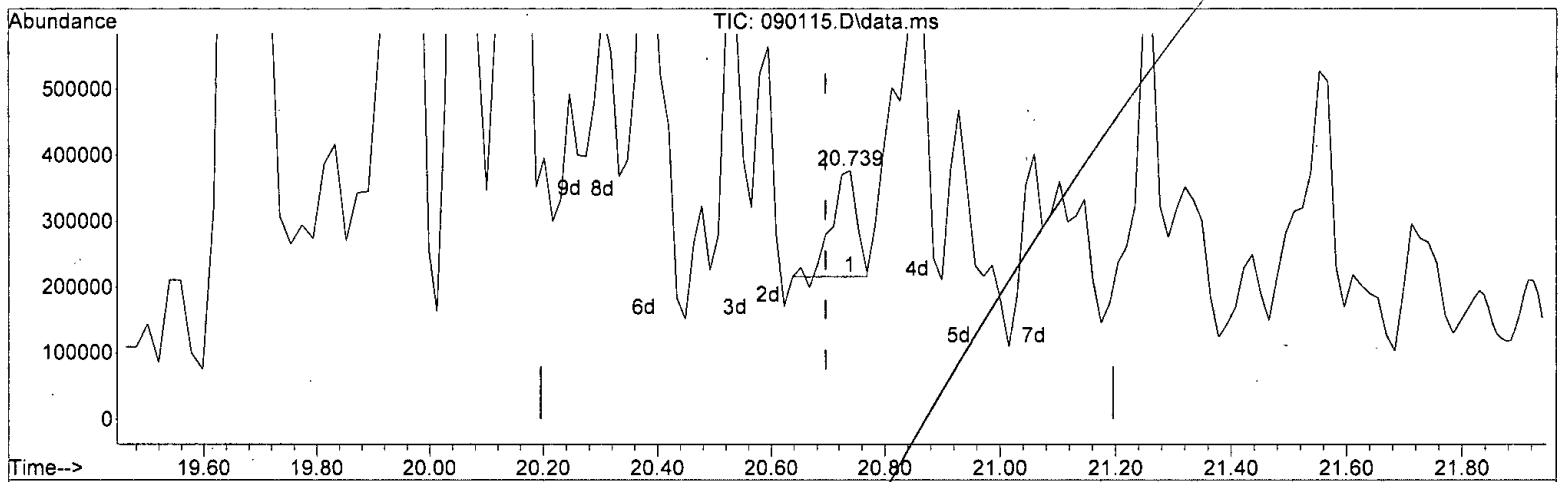
0.00 0.00 0.00

*Bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.739min (+ 0.043) 42.073 ppbv

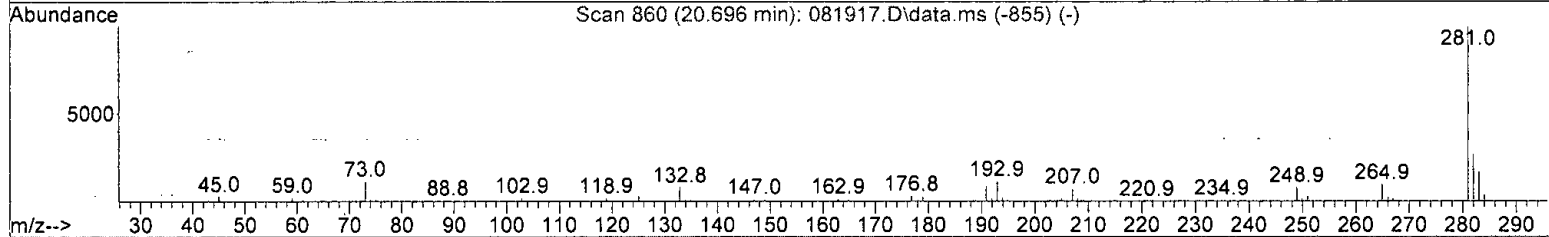
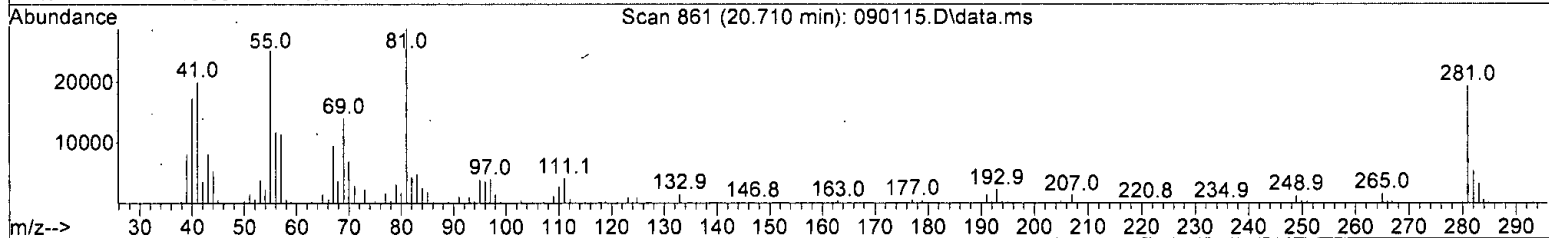
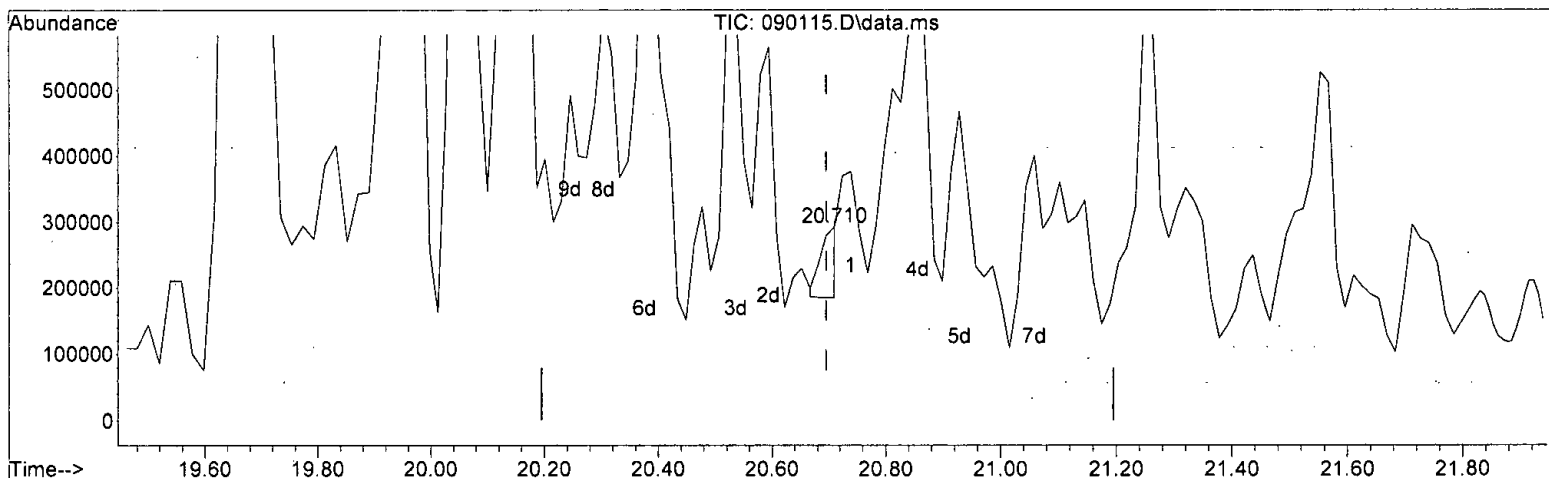
response 476947

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Balaku*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.710min (+ 0.014) 19.137 ppbv m

response 216937

Signal Exp% Act%

TIC 100.00 100.00

0.00 0.00 0.00

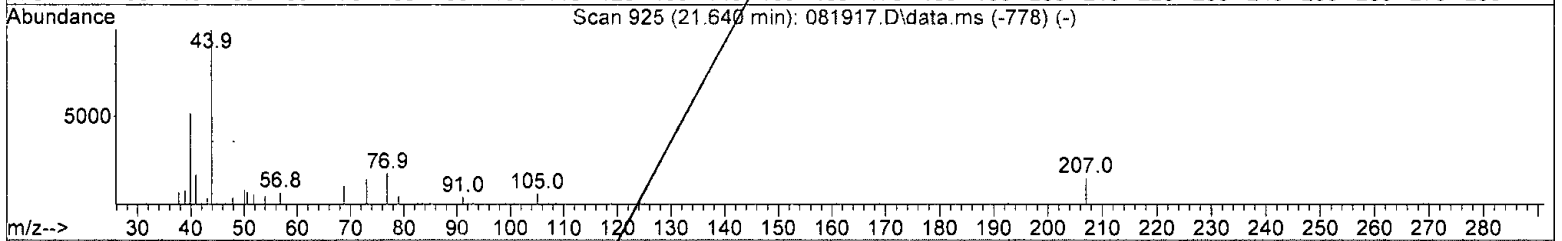
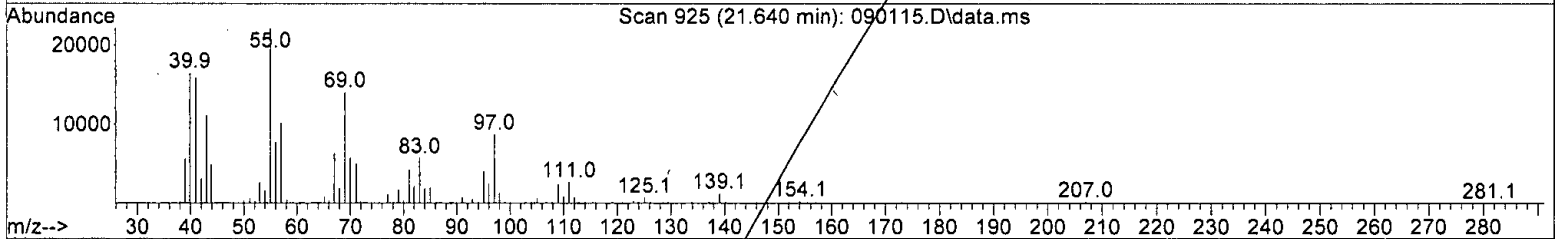
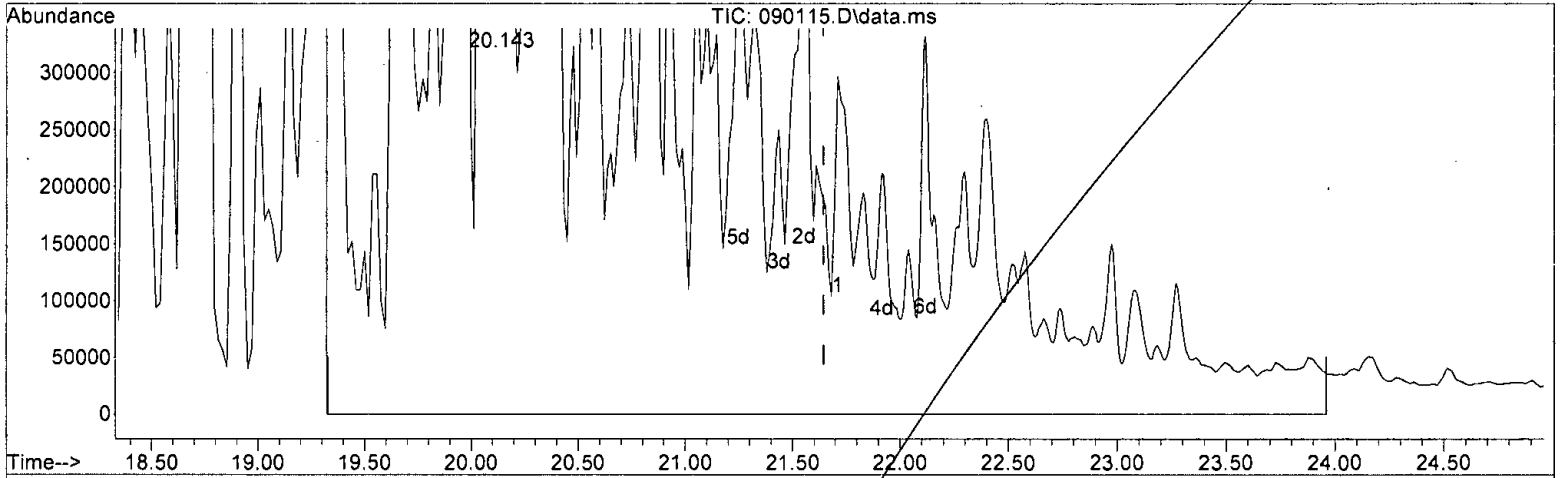
0.00 0.00 0.00

0.00 0.00 0.00

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 12/08/21

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 874.820 ug/m3 m

response 39097622

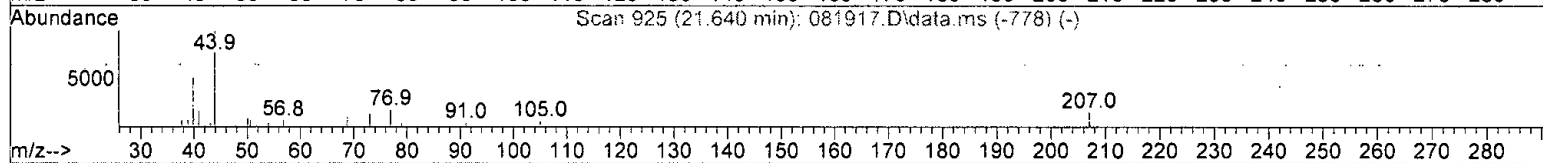
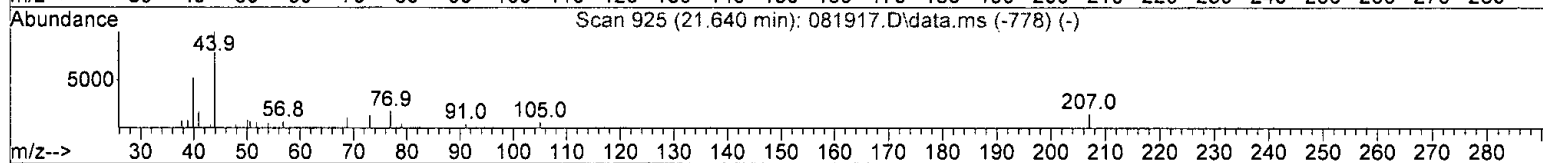
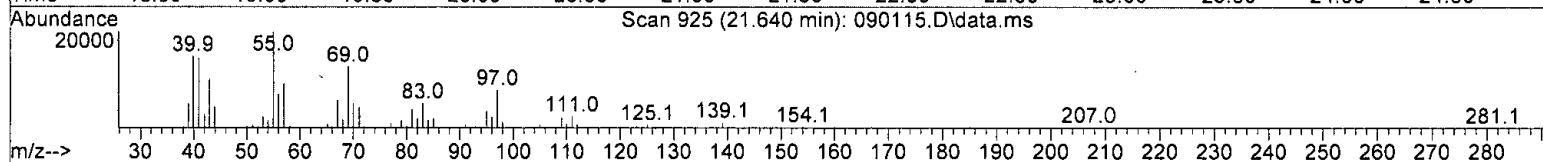
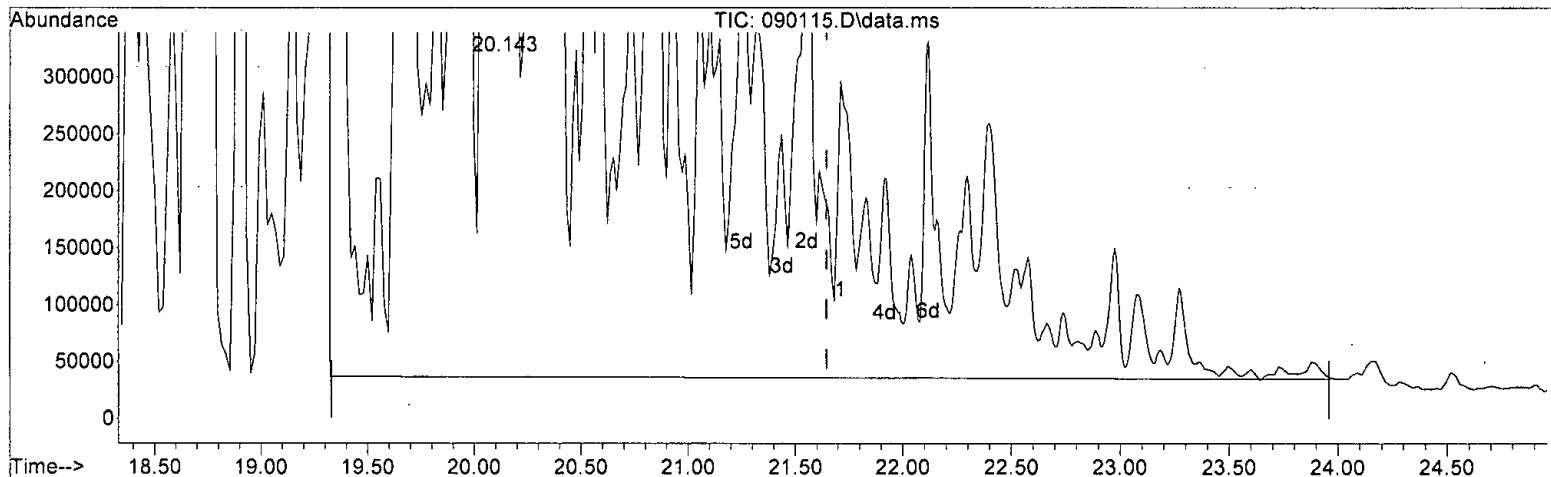
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* B. 09/02/21



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 1240.663 ug/m3 m

response 55447976

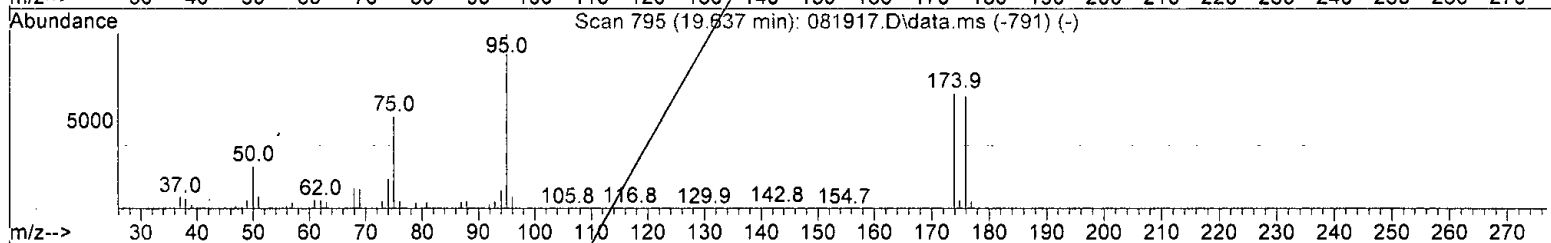
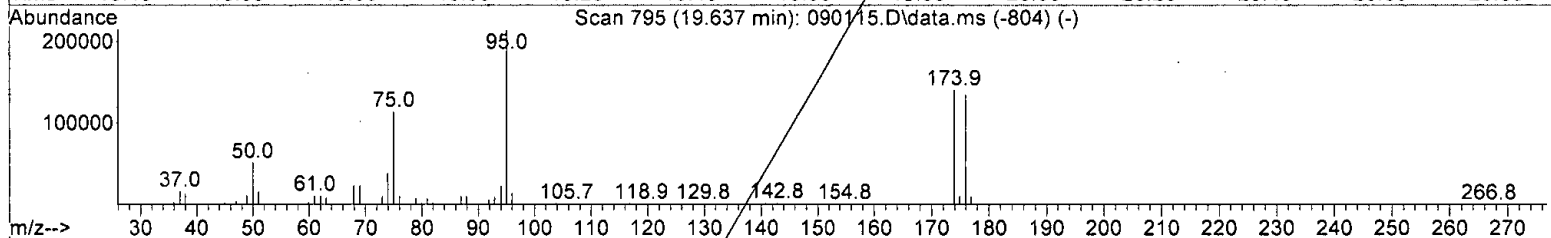
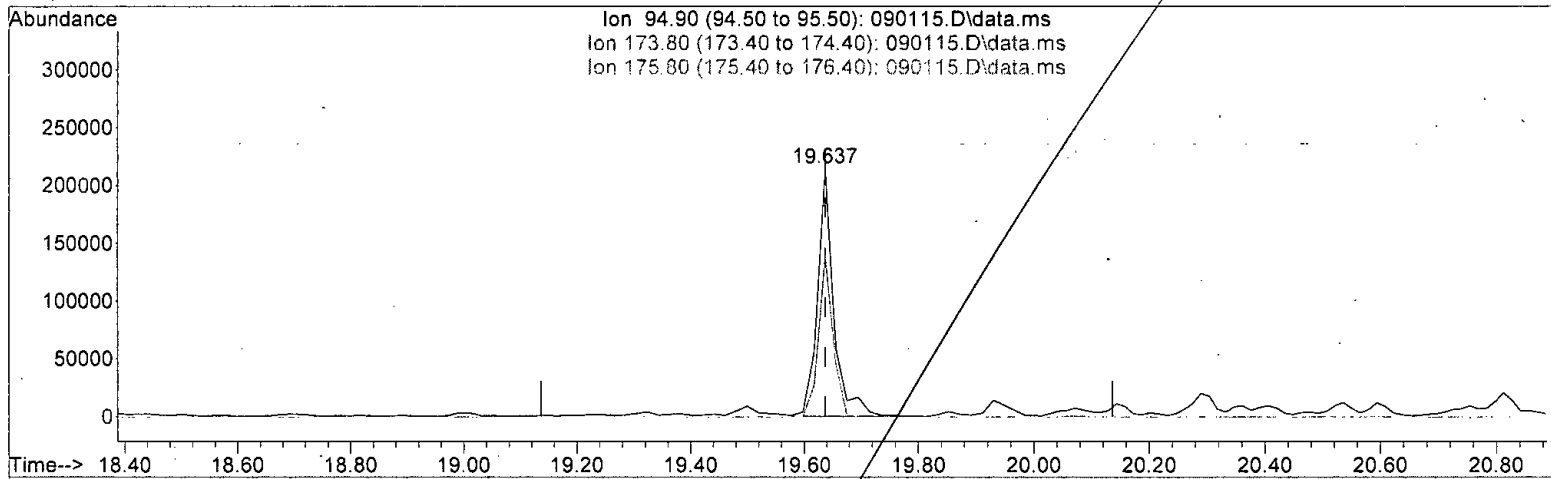
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B. B. B.*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 79.165 ug/m3

response 433248

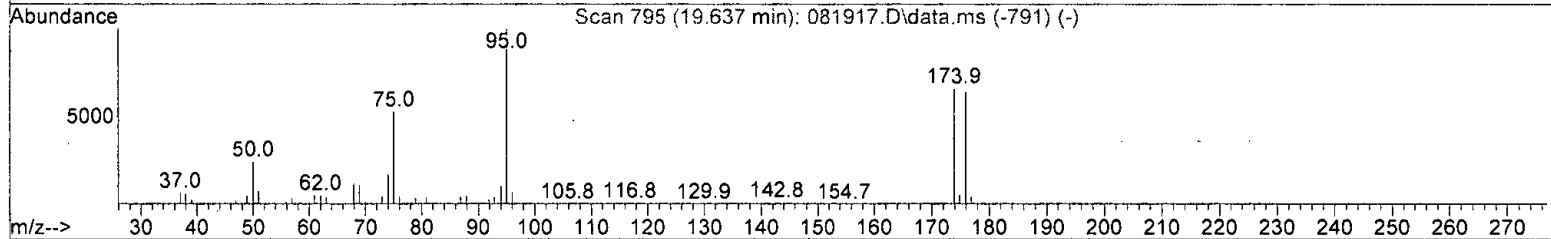
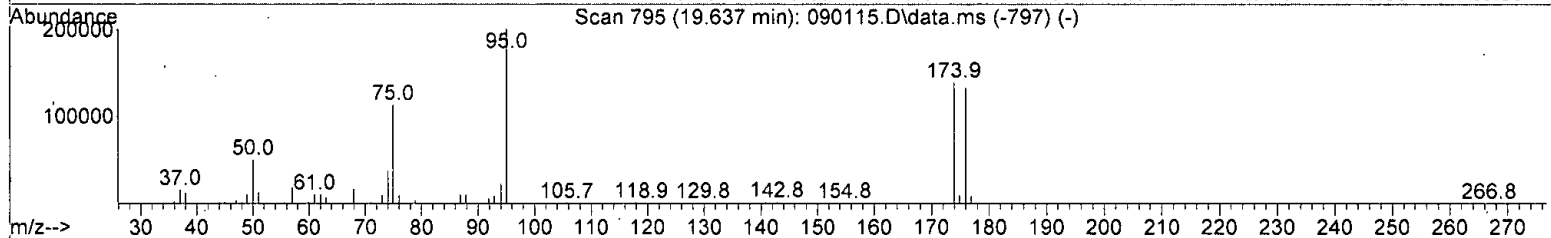
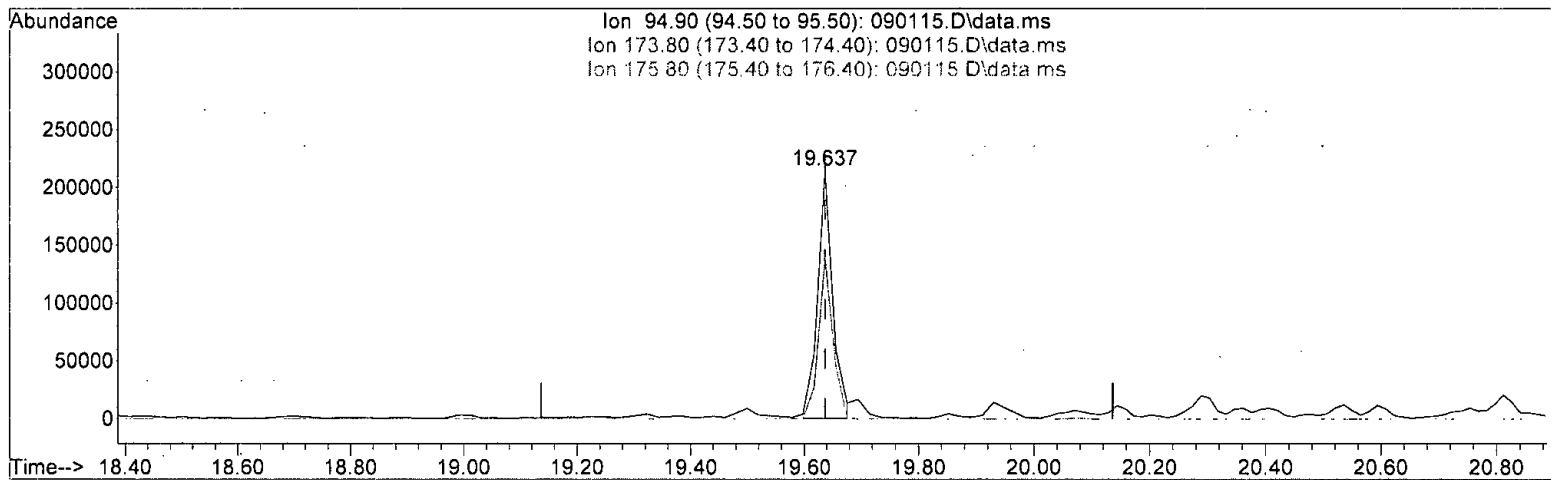
Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	65.62#
175.80	93.50	62.94#
0.00	0.00	0.00

*Bat*  
*09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090115.D\data.ms

(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 74.404 ug/m3 m

response 407190

Ion	Exp%	Act%
-----	------	------

94.90	100.00	100.00
-------	--------	--------

173.80	96.00	65.53#
--------	-------	--------

175.80	93.50	62.85#
--------	-------	--------

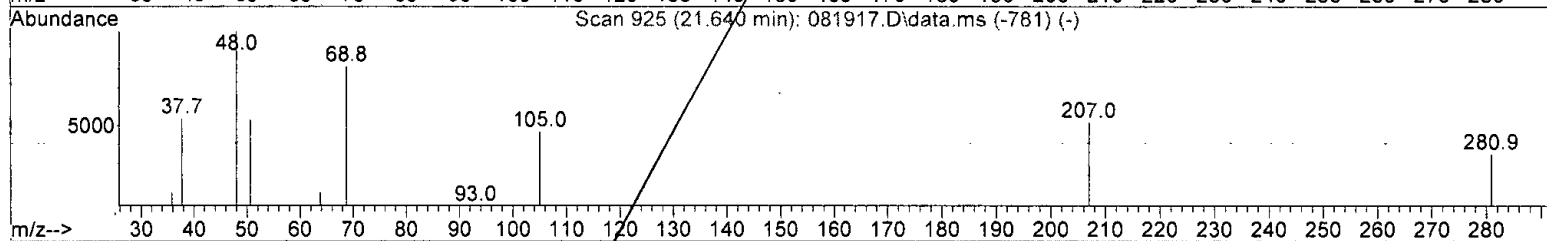
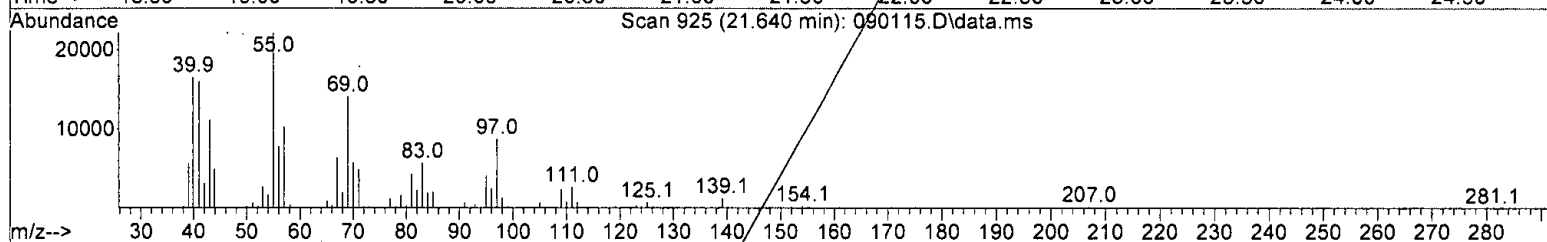
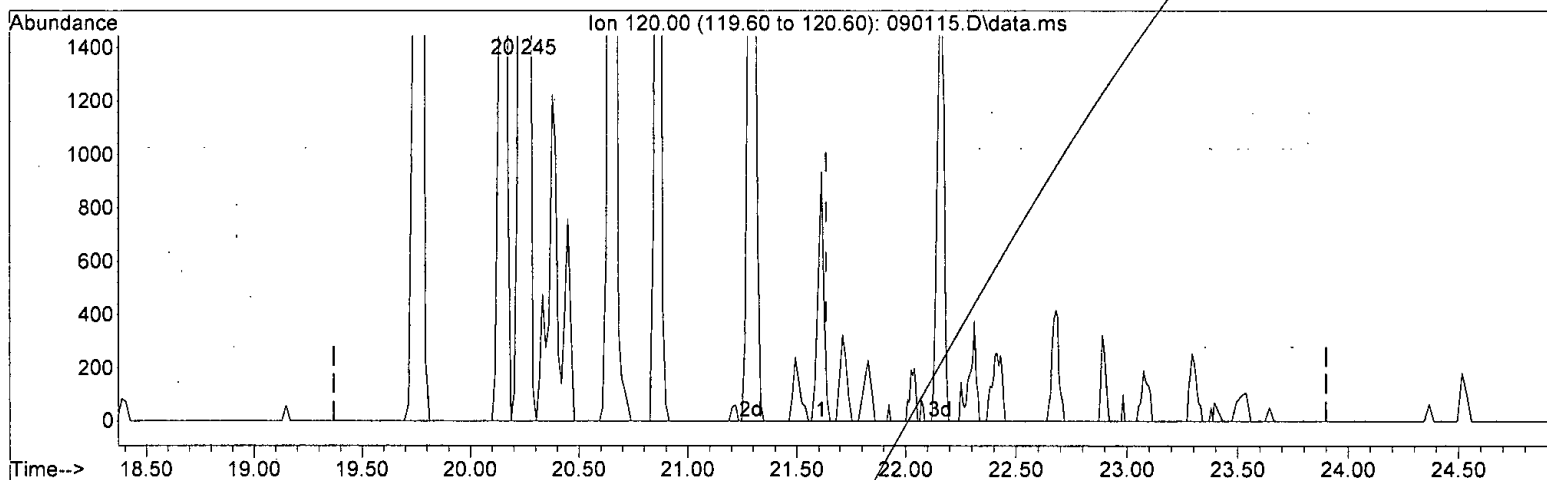
0.00	0.00	0.00
------	------	------

*B. Blawie*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 7.643 ug/m3 m

response 39772

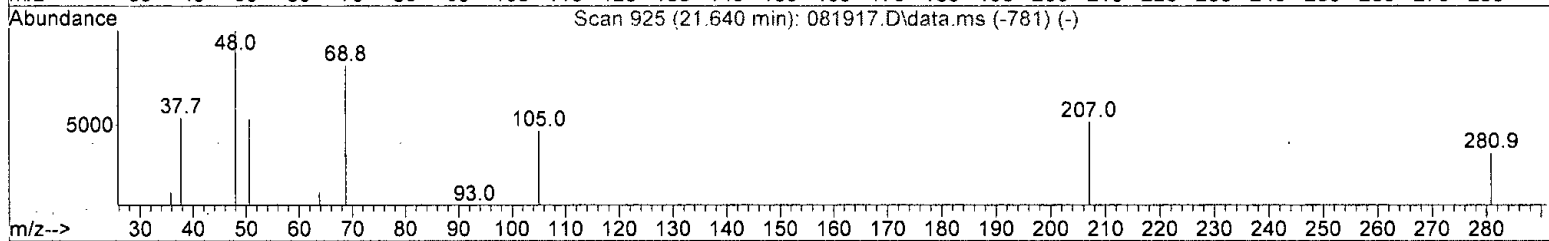
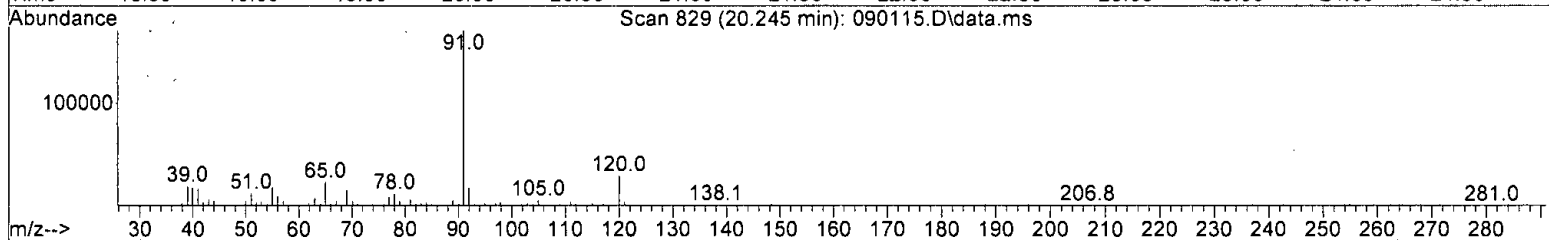
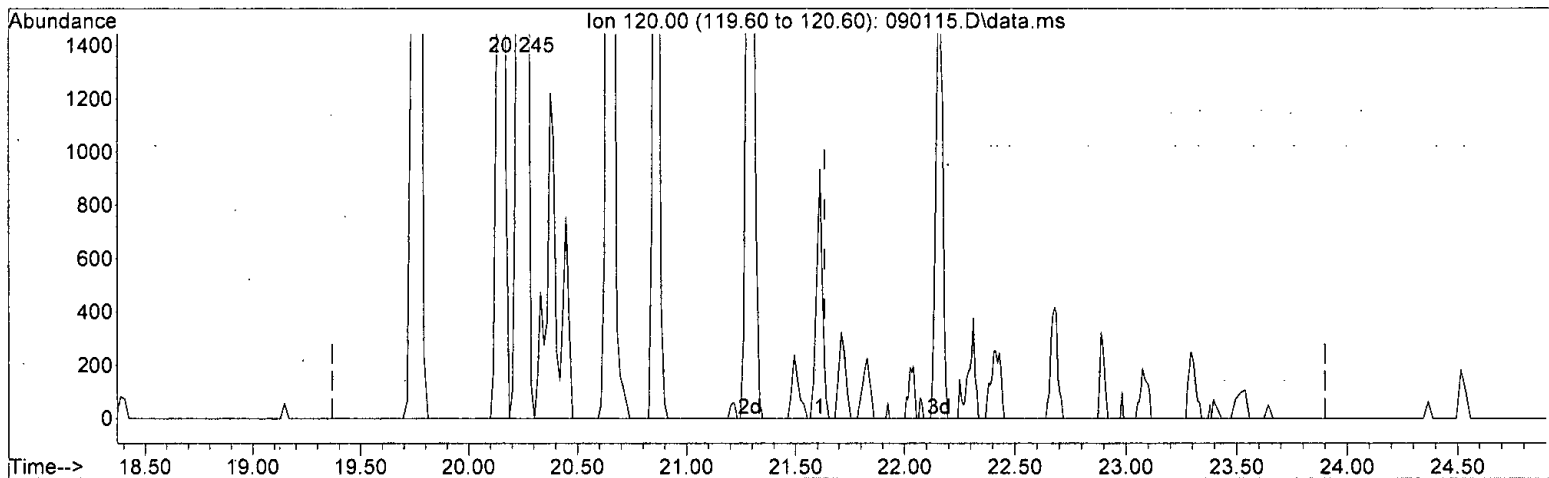
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Batoh*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090115.D\data.ms

(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 20.482 ug/m3 m

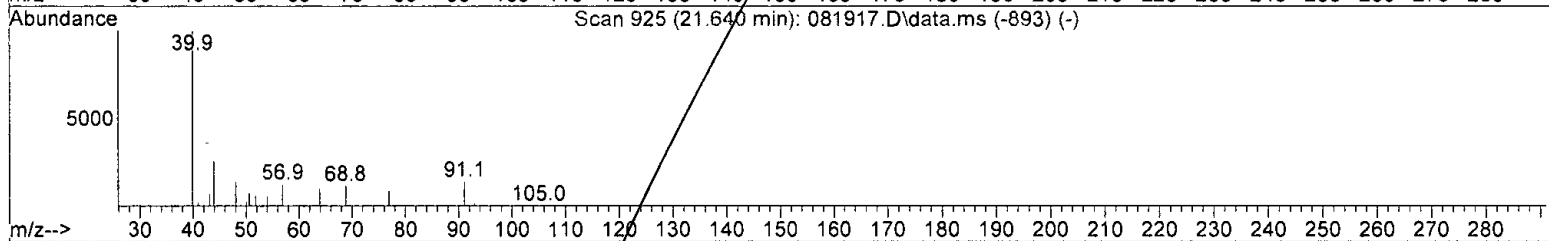
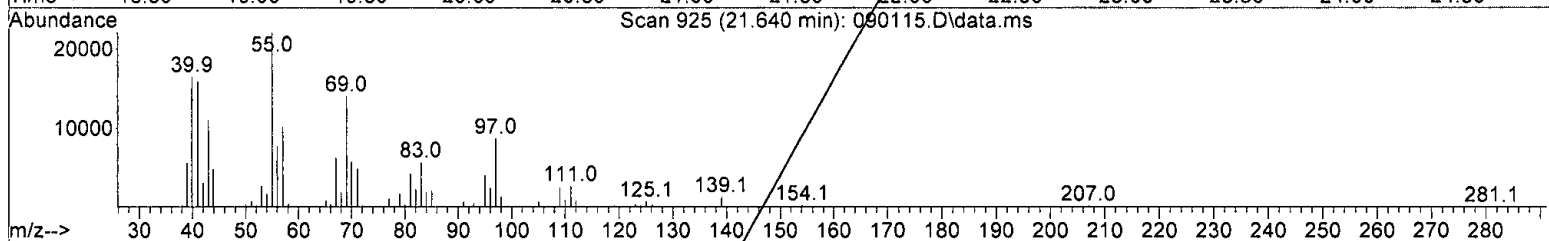
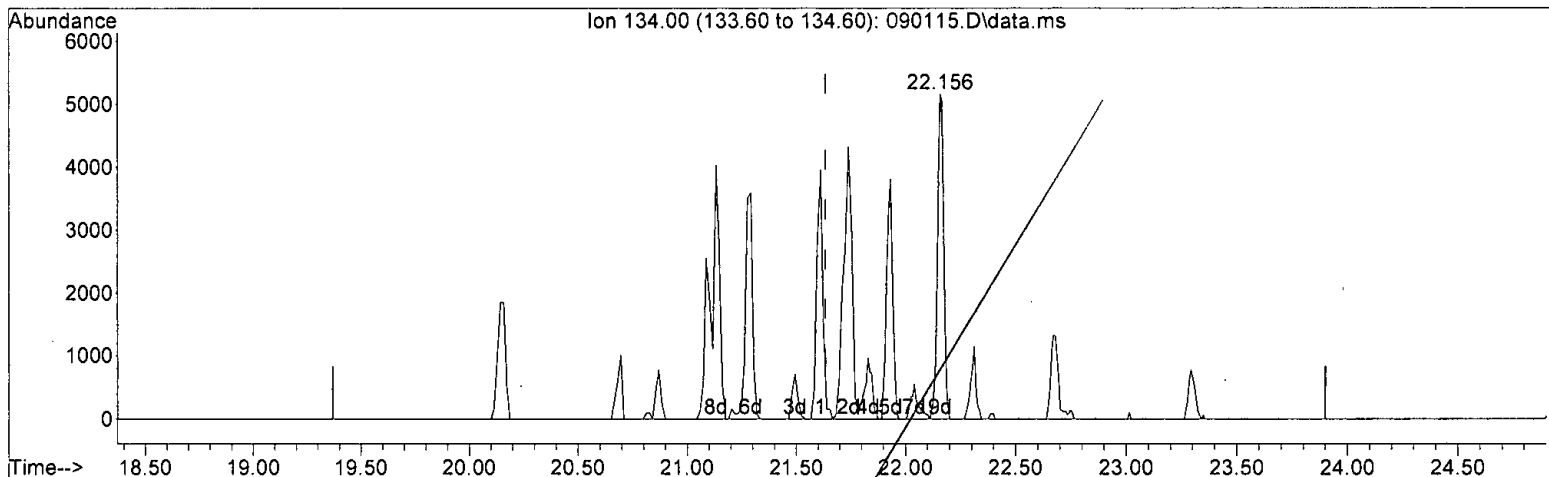
response 106576

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*h/bat/21*

(45) APH EC9-10 aromatics (2) (H)

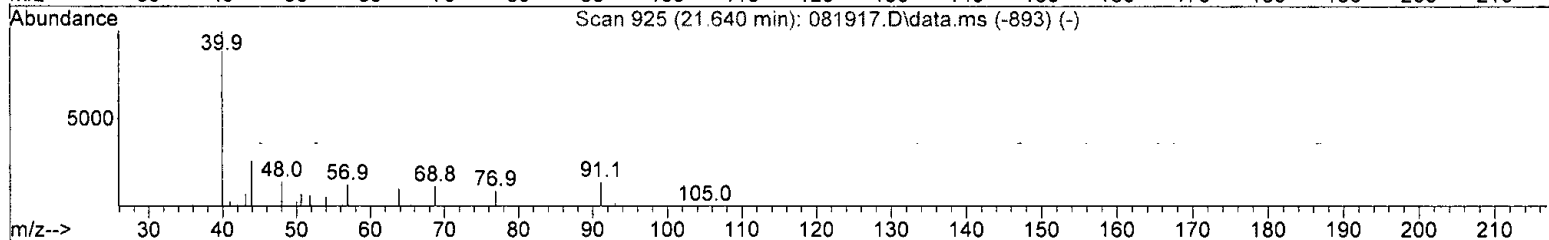
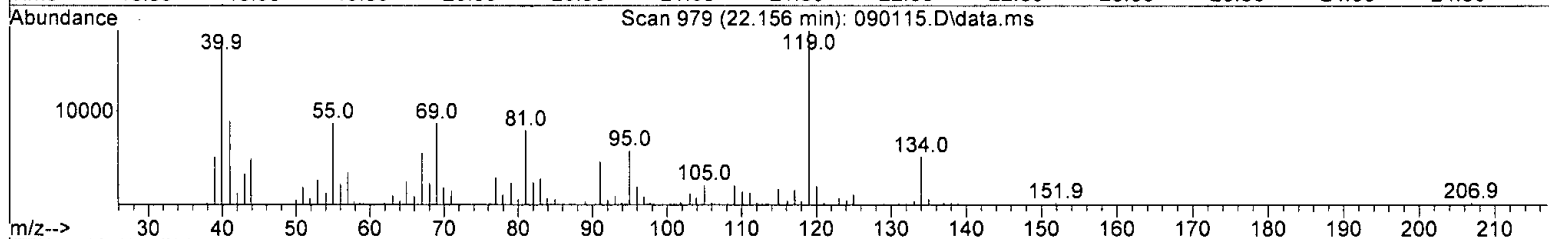
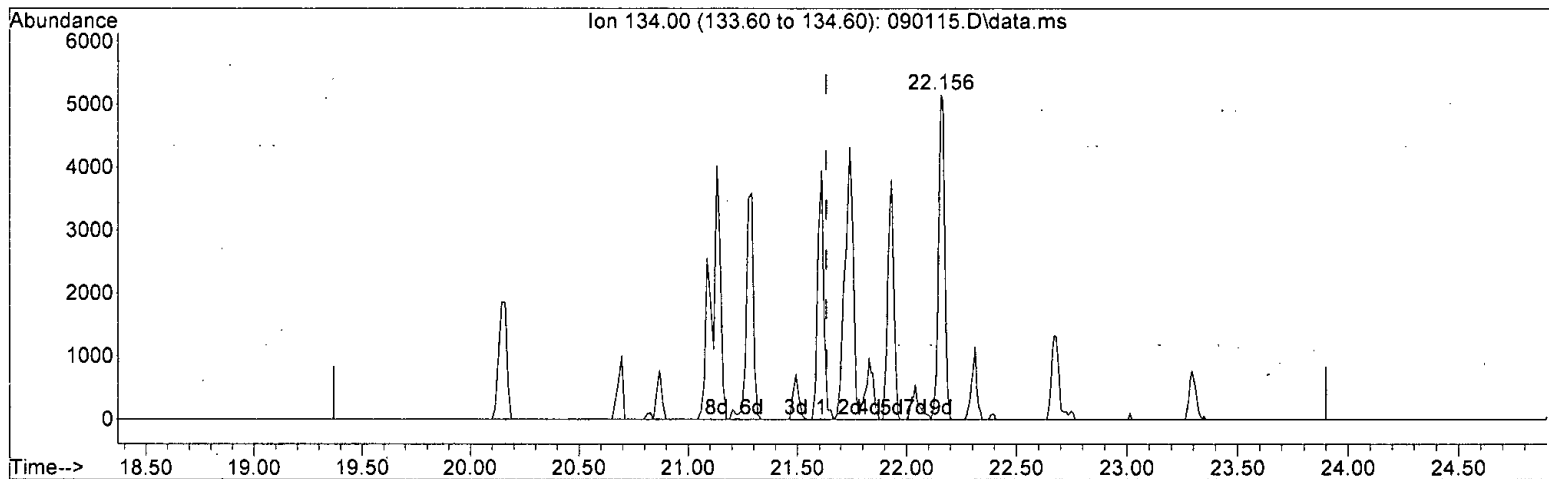
21.635min ( 0.000) -1.282 ug/m3 m

response -3800

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:18:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090115.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 27.542 ug/m3 m

response 81627

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B. B. / bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:22:31 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	103496	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	491770	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	436816	50.000	ug/m3	# 0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	407190m	74.404	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	104.79%

Target Compounds						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1006895	55.100	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1216131m	46.888	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	2666750m	84.767	ug/m3	
5) Methylene chloride	6.86	TIC	104918	113.402	ug/m3	92
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.24	54	8031	1.318	ug/m3#	1
9) Methyl t-butyl ether	8.51	73	382	0.048	ug/m3	56
11) Benzene	12.71	78	56526	3.381	ug/m3	86
12) Isopentane	5.68	TIC	25636	0.772	ug/m3	79
13) Hexane	10.10	TIC	301261	9.087	ug/m3	95
14) Cyclohexane	13.23	TIC	2367803	69.364	ug/m3	94
15) 2,3-Dimethylpentane	13.50	TIC	1284848	29.494	ug/m3	94
16) Heptane	14.63	TIC	2368457	66.529	ug/m3	93
17) Octane	17.41	TIC	1107488	22.687	ug/m3	93
18) APH EC5-8 aliphatics T...	12.71	TIC	7455493m	191.071	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	79546593m	2038.641	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2334854m	63.316	ug/m3	
22) Hexamethylcyclotrisilo...	17.79	TIC	682026m	75.089	ppbv	
23) Octamethylcyclotetrasil...	20.71	TIC	216937m	19.137	ppbv	
24) Toluene	16.39	92	6751	0.720	ug/m3	83
25) Ethylbenzene	18.60	91	139087	7.187	ug/m3	92
26) m,p-Xylene	18.78	106	6083	0.935	ug/m3#	74
27) o-Xylene	19.21	106	4380	0.711	ug/m3	90
28) Naphthalene	23.94	128	2544	0.162	ug/m3	85
29) 2,3-Dimethylheptane	18.68	TIC	3280010	74.715	ug/m3#	77
30) Nonane	19.15	TIC	1183544	25.819	ug/m3	70
31) Decane	20.86	TIC	1897189	41.661	ug/m3	65
32) Butylcyclohexane	21.55	TIC	1424051	27.528	ug/m3	83
33) Undecane	22.51	TIC	123942	2.744	ug/m3	71
34) Dodecane	23.49	TIC	26843	0.724	ug/m3	80
35) APH EC9-12 aliphatics ...	21.55	TIC	7935579m	177.561	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	55447976m	1240.663	ug/m3	
38) Isopropylbenzene	19.75	120	20725	6.049	ug/m3#	72
39) 1-Methyl-3-ethylbenzene	20.38	120	3424	0.715	ug/m3#	12
40) 1,3,5-Trimethylbenzene	20.38	120	3424	0.565	ug/m3#	1
41) p-Isopropyltoluene	21.29	134	8181	2.747	ug/m3#	48
42) 1,2,3-Trimethylbenzene	21.29	120	6550	0.921	ug/m3#	85
43) APH EC9-10 aromatics T...	21.55	TIC	42304m	8.977	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	106576m	20.482	ug/m3	



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

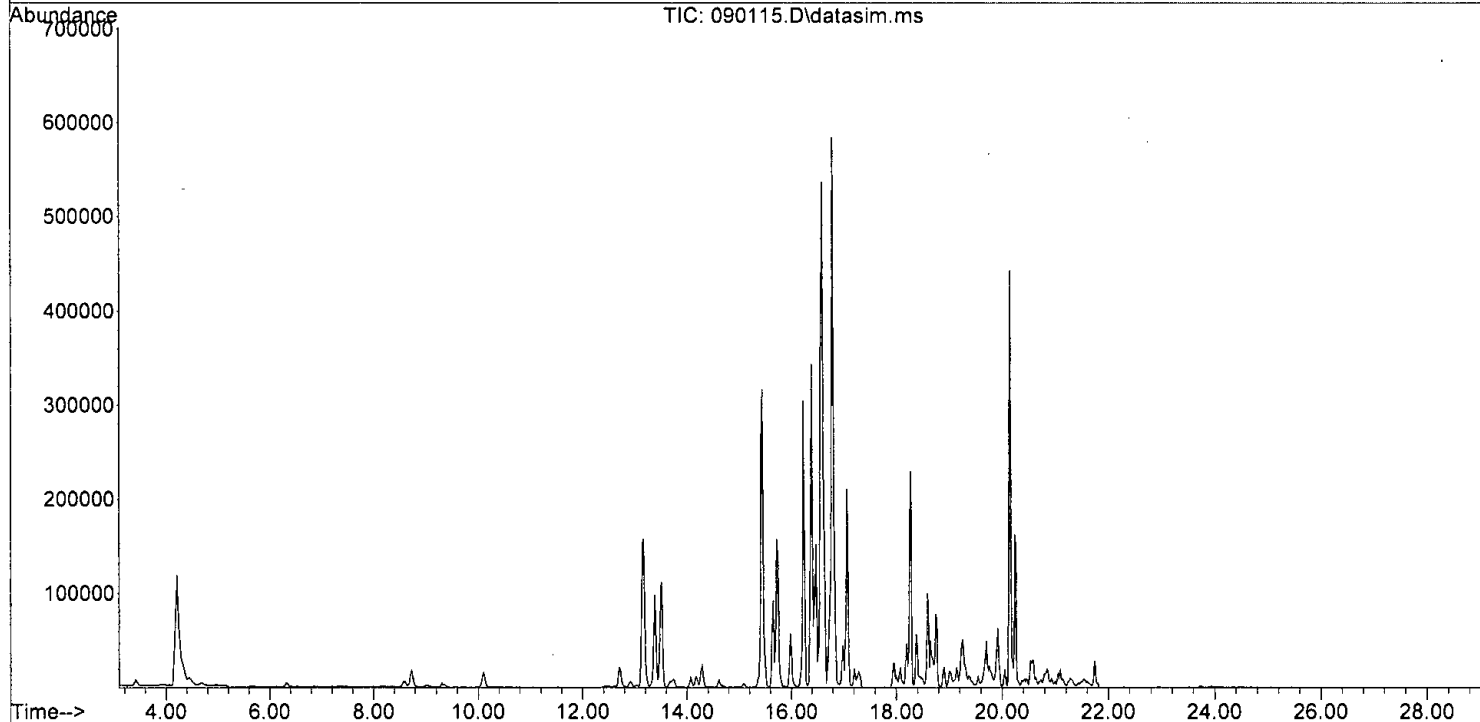
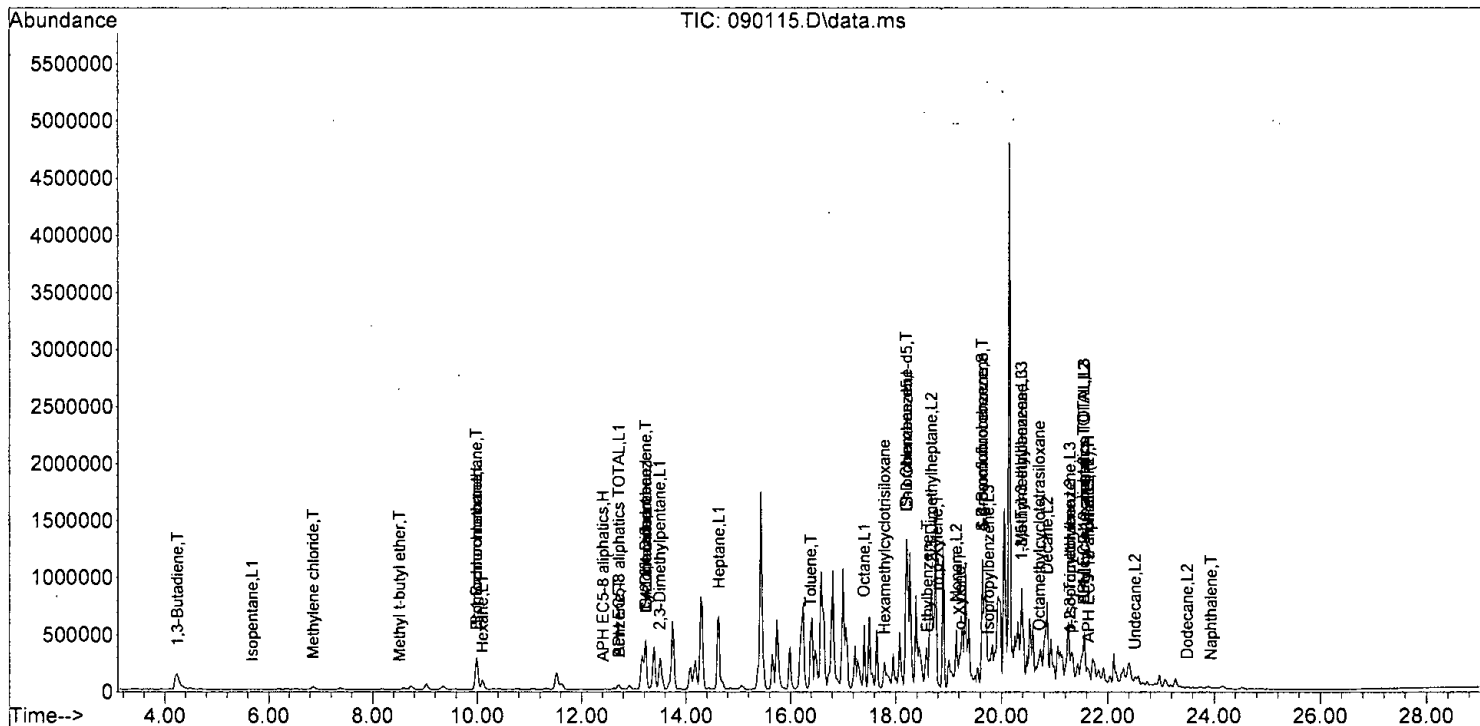
Quant Time: Sep 02 12:22:31 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	81627m	27.542	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090115.D  
 Acq On : 1 Sep 2021 7:06 pm  
 Operator : bat  
 Sample : 108515-12 1/1000  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:22:31 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090113.D  
 Acq On : 1 Sep 2021 5:51 pm  
 Operator : bat  
 Sample : 108515-13 1/5.8  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

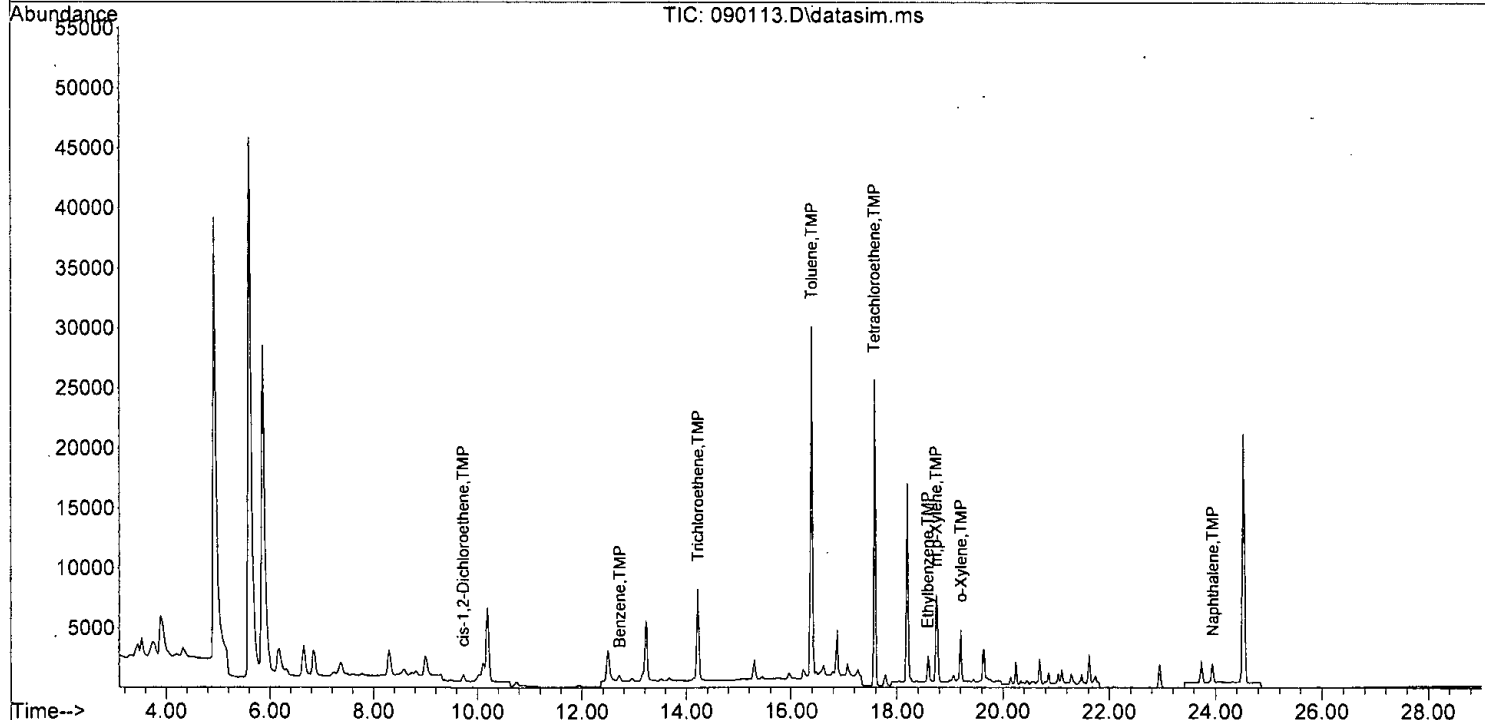
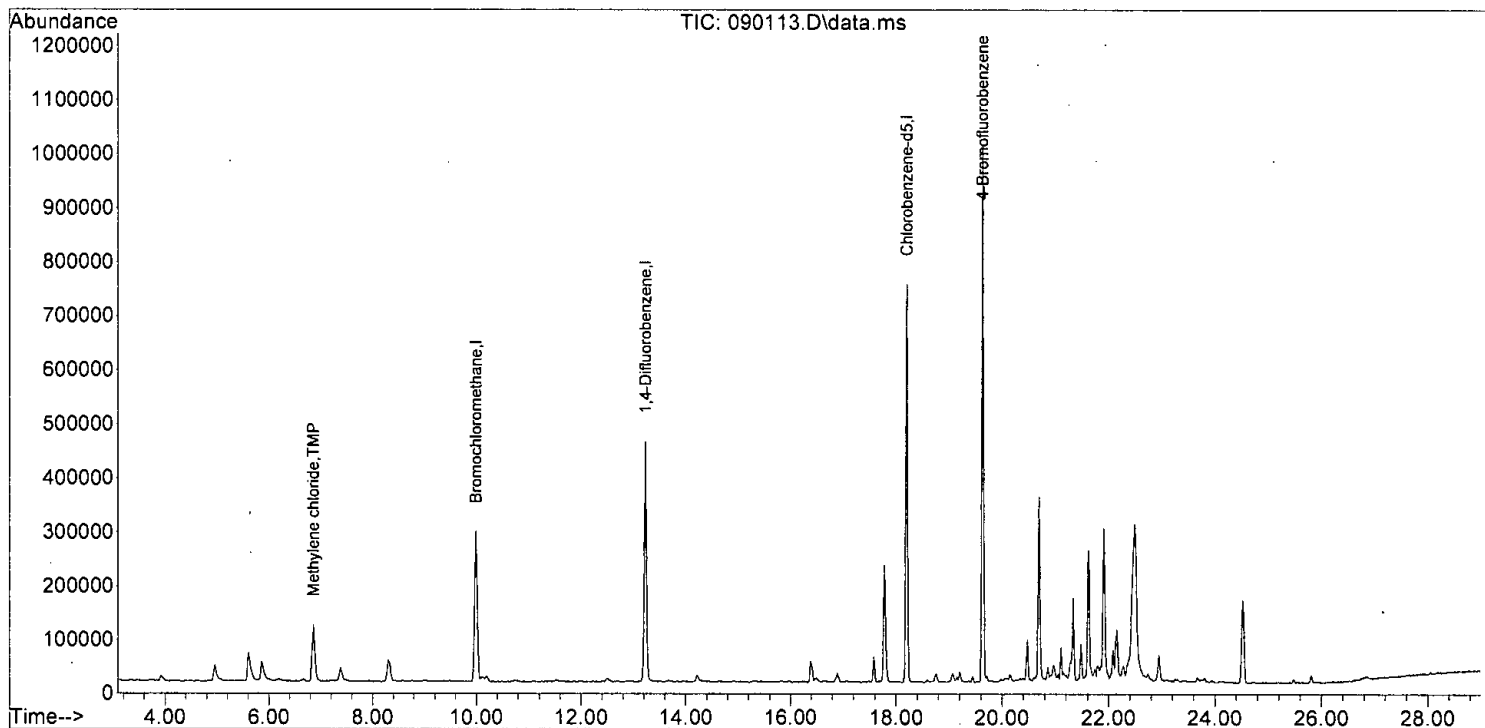
Quant Time: Sep 02 12:01:02 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

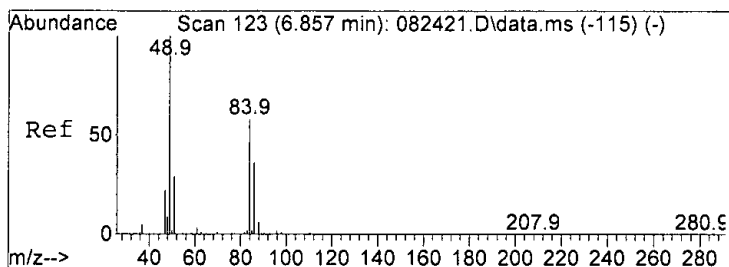
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	101534	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	489651	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	426483	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	381563	9.876	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	98.80%
Target Compounds						
						Qvalue
20) Methylene chloride	6.86	84	77573	4.365	ppbv	87
28] cis-1,2-Dichloroethene	9.73	96	614	0.034	ppbv	# 70
37] Benzene	12.72	78	1331	0.021	ppbv	98
46] Trichloroethene	14.22	95	6841	0.226	ppbv	81
50] Toluene	16.40	92	23479	0.640	ppbv	86
53] Tetrachloroethene	17.58	164	11170	0.599	ppbv	# 79
58] Ethylbenzene	18.59	91	3745	0.040	ppbv	95
65] m,p-Xylene	18.74	106	5303	0.174	ppbv	# 79
66] o-Xylene	19.21	106	2128	0.071	ppbv	89
77] Naphthalene	23.95	128	3644	0.022	ppbv	98
-----						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090113.D  
 Acq On : 1 Sep 2021 5:51 pm  
 Operator : bat  
 Sample : 108515-13 1/5.8  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

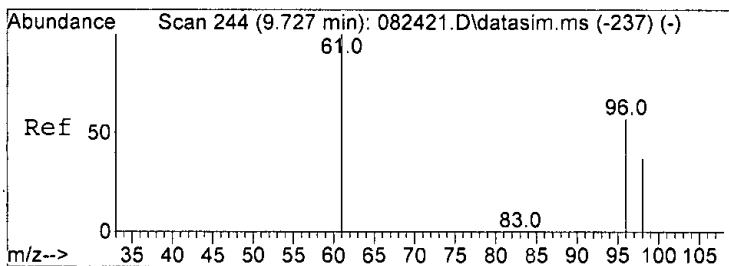
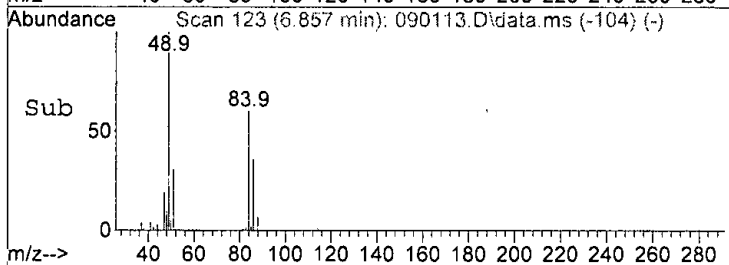
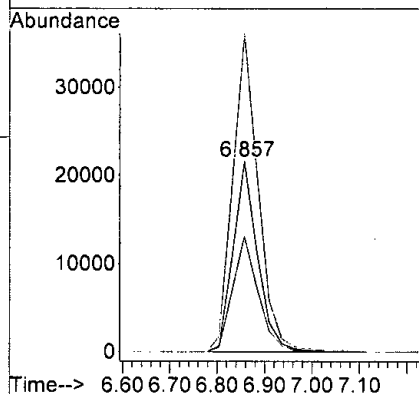
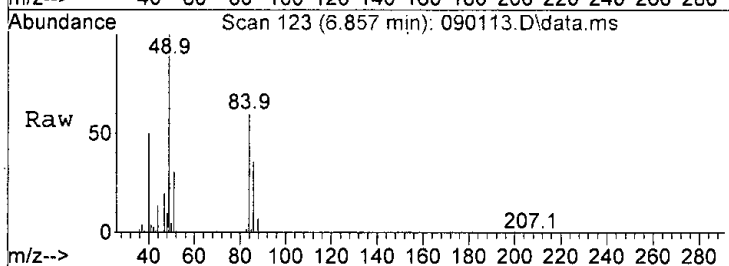
Quant Time: Sep 02 12:01:02 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





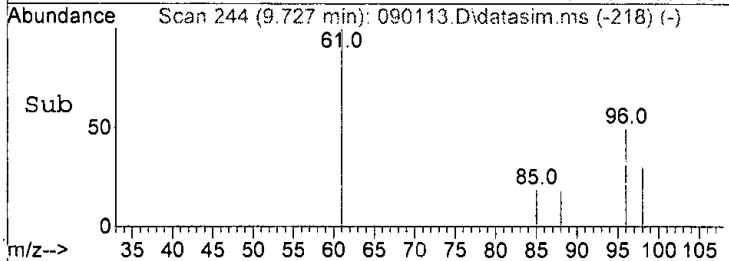
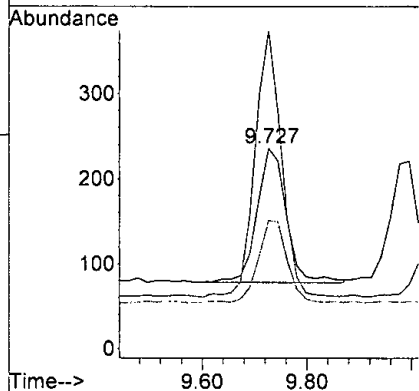
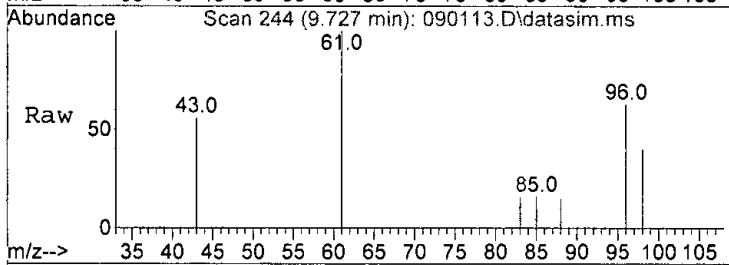
#20  
Methylene chloride  
Concen: 4.365 ppbv  
RT: 6.86 min Scan# 123  
Delta R.T. -0.000 min  
Lab File: 090113.D  
Acq: 1 Sep 2021 5:51 pm

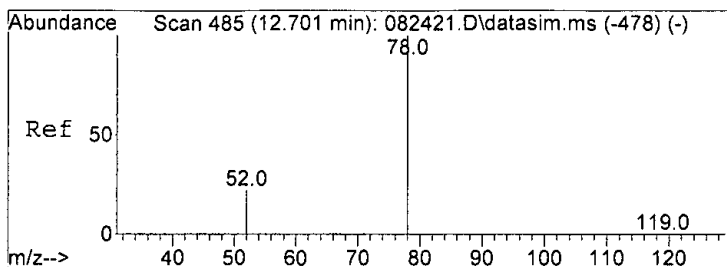
Tgt Ion	84	Resp:	77573
Ion Ratio	Lower	Upper	
84	100		
86	60.7	33.9	93.9
49	167.5	116.6	176.6



#28  
cis-1,2-Dichloroethene  
Concen: 0.034 ppbv  
RT: 9.73 min Scan# 244  
Delta R.T. -0.000 min  
Lab File: 090113.D  
Acq: 1 Sep 2021 5:51 pm

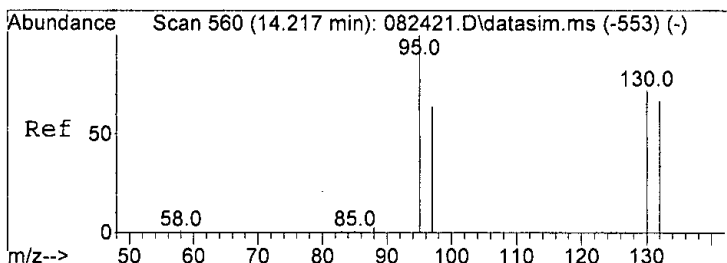
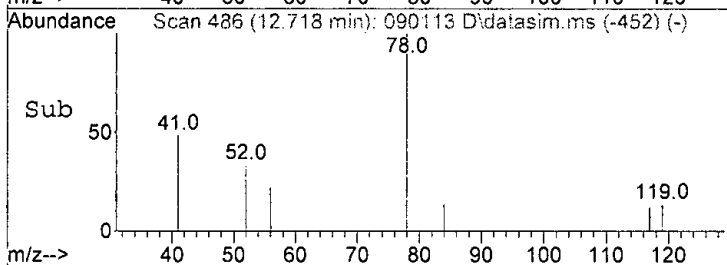
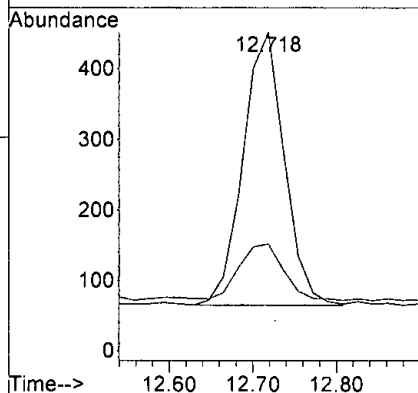
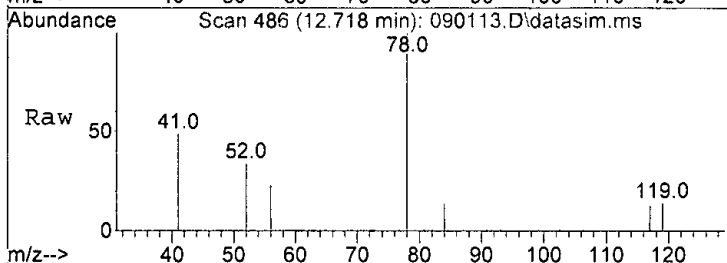
Tgt Ion	96	Resp:	614
Ion Ratio	Lower	Upper	
96	100		
61	197.5	116.0	176.0#
98	60.8	35.2	95.2





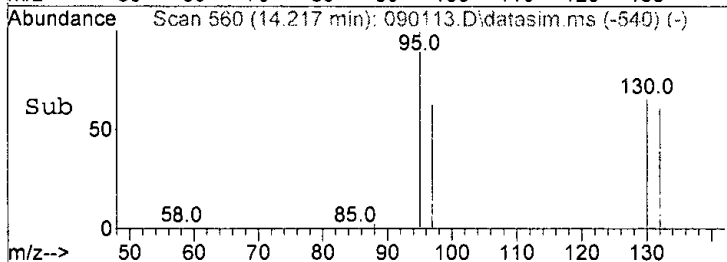
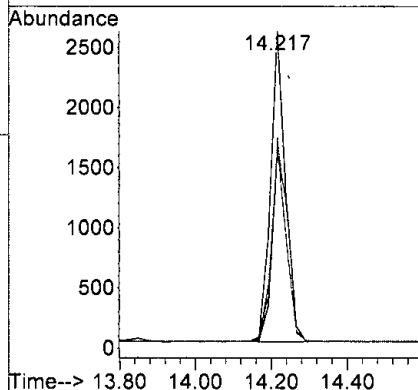
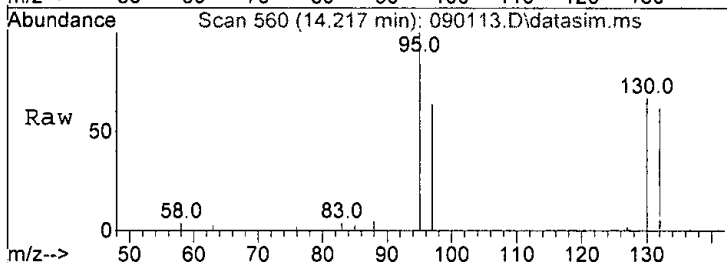
#37  
Benzene  
Concen: 0.021 ppbv  
RT: 12.72 min Scan# 486  
Delta R.T. 0.017 min  
Lab File: 090113.D  
Acq: 1 Sep 2021 5:51 pm

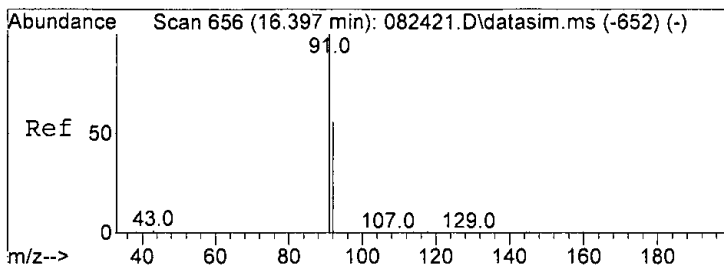
Tgt Ion	Ratio	Lower	Upper
78	100		
52	20.7	0.0	49.7



#46  
Trichloroethene  
Concen: 0.226 ppbv  
RT: 14.22 min Scan# 560  
Delta R.T. -0.000 min  
Lab File: 090113.D  
Acq: 1 Sep 2021 5:51 pm

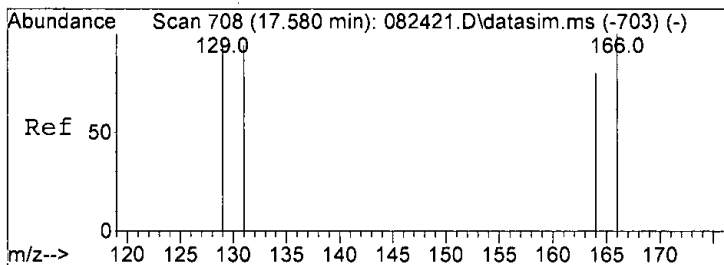
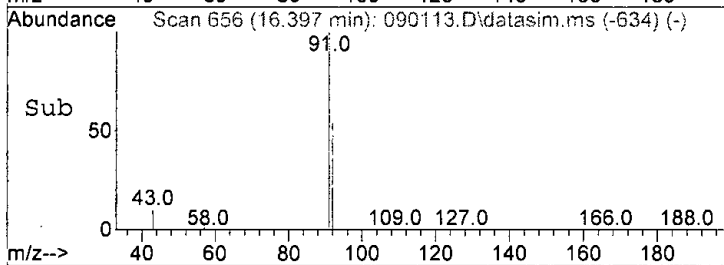
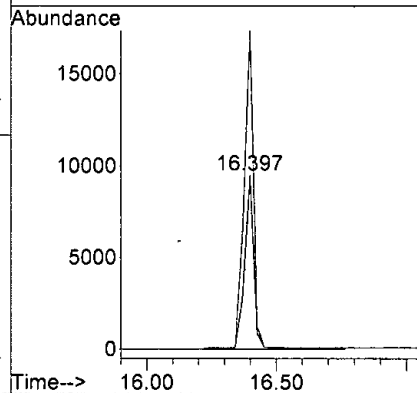
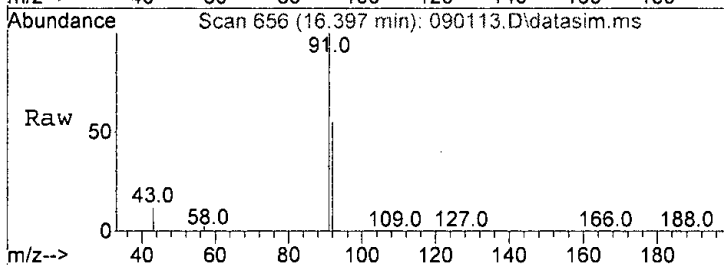
Tgt Ion	Ratio	Lower	Upper
95	100		
97	63.1	37.1	97.1
130	66.0	56.1	116.1
132	60.7	54.3	114.3





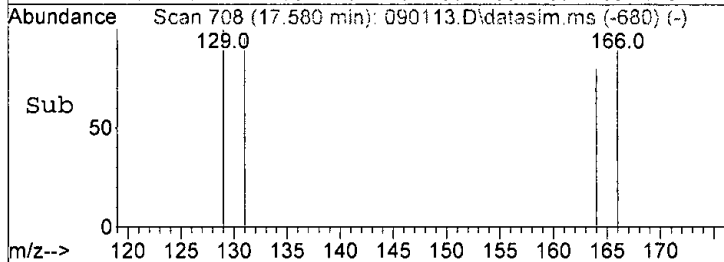
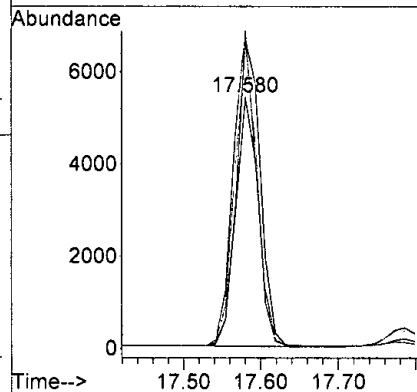
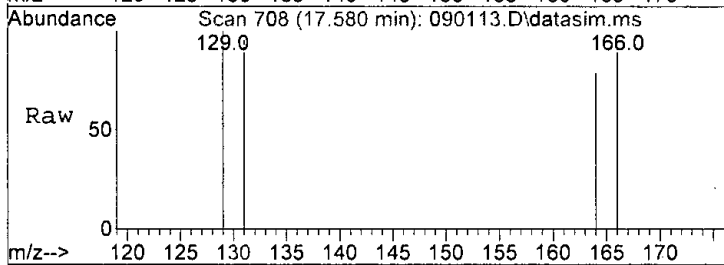
#50  
 Toluene  
 Concen: 0.640 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090113.D  
 Acq: 1 Sep 2021 5:51 pm

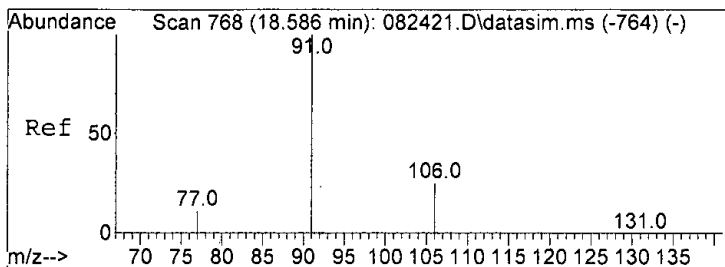
Tgt Ion: 92 Resp: 23479  
 Ion Ratio Lower Upper  
 92 100  
 91 183.1 174.6 234.6



#53  
 Tetrachloroethene  
 Concen: 0.599 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090113.D  
 Acq: 1 Sep 2021 5:51 pm

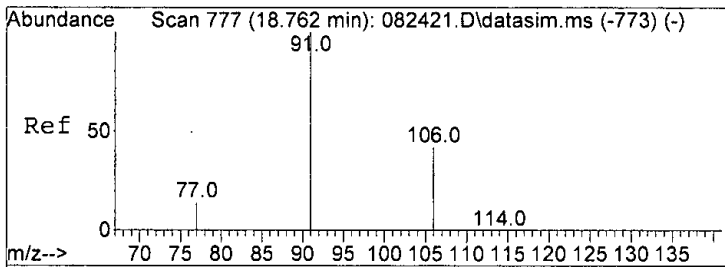
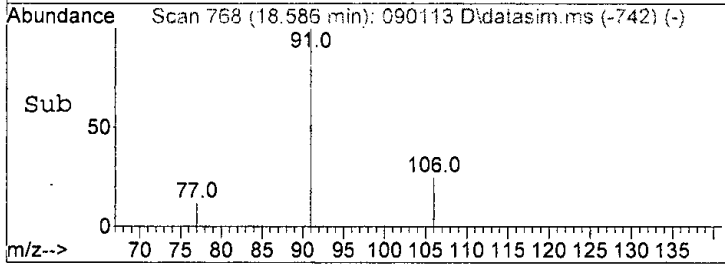
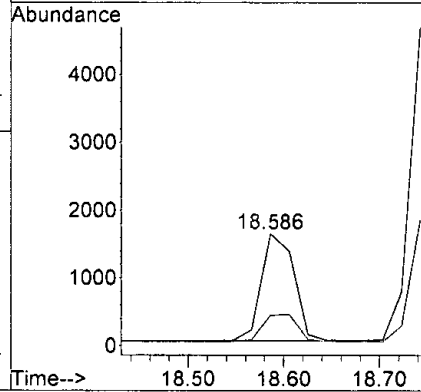
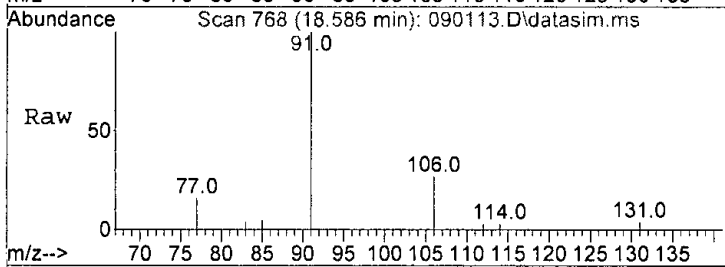
Tgt Ion: 164 Resp: 11170  
 Ion Ratio Lower Upper  
 164 100  
 129 126.5 63.2 123.2#  
 131 121.2 70.7 130.7  
 166 123.1 107.5 167.5





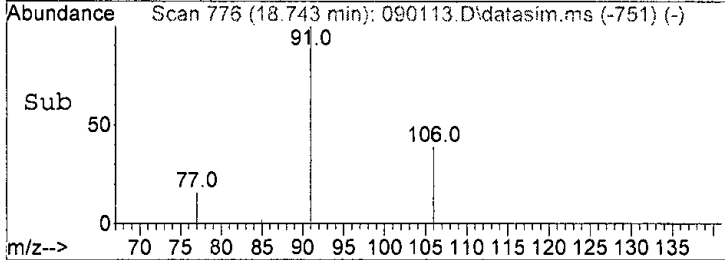
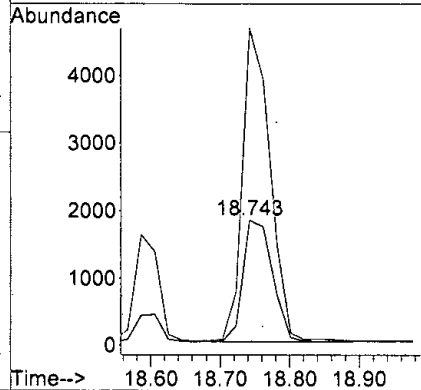
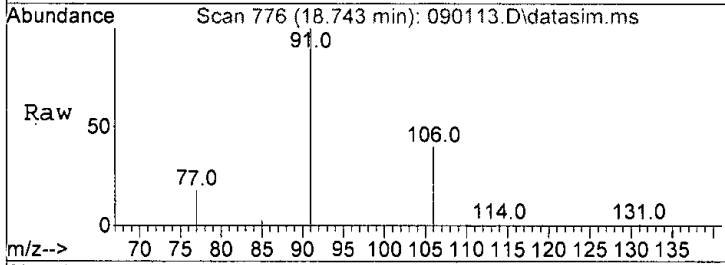
#58  
 Ethylbenzene  
 Concen: 0.040 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090113.D  
 Acq: 1 Sep 2021 5:51 pm

Tgt Ion: 91 Resp: 3745  
 Ion Ratio Lower Upper  
 91 100  
 106 24.6 0.0 57.0

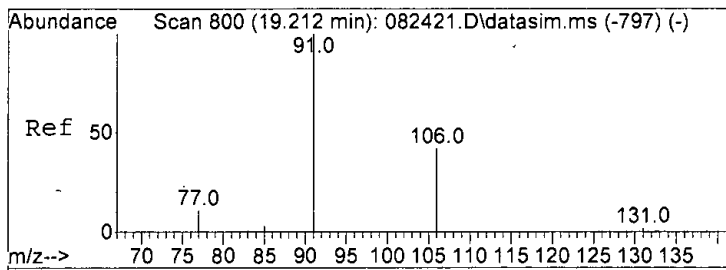


#65  
 m,p-Xylene  
 Concen: 0.174 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.019 min  
 Lab File: 090113.D  
 Acq: 1 Sep 2021 5:51 pm

Tgt Ion: 106 Resp: 5303  
 Ion Ratio Lower Upper  
 106 100  
 91 256.5 193.0 253.0#

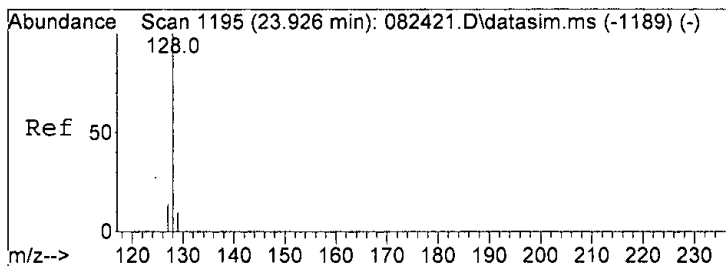
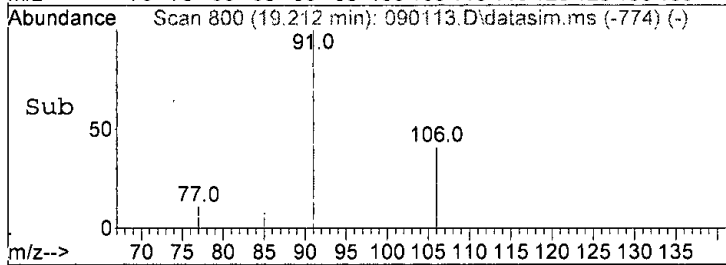
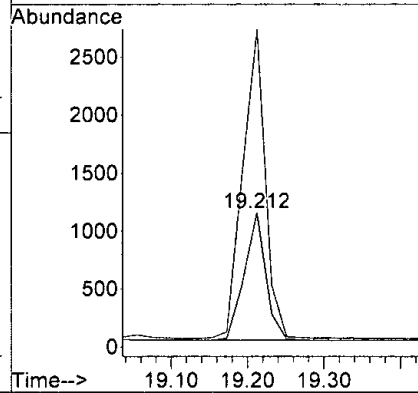
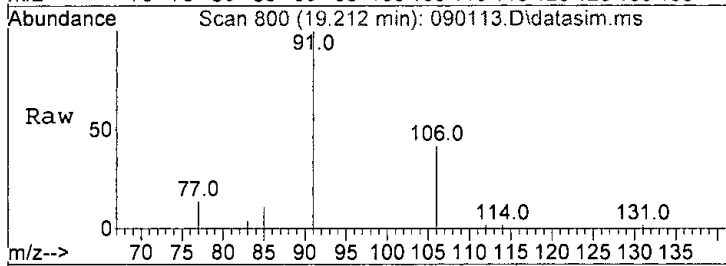






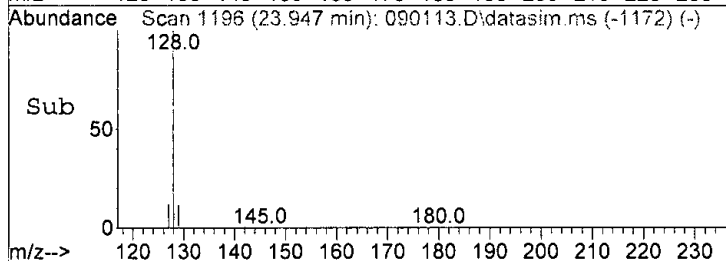
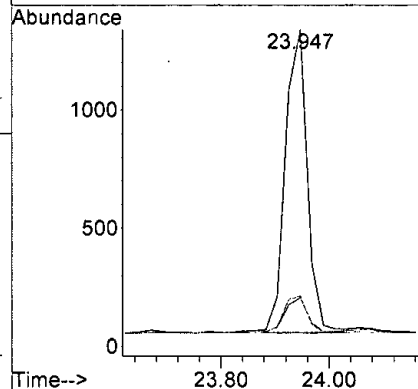
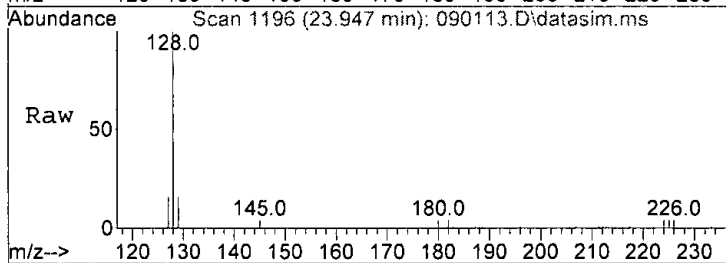
#66  
 o-Xylene  
 Concen: 0.071 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090113.D  
 Acq: 1 Sep 2021 5:51 pm

Tgt Ion:106 Resp: 2128  
 Ion Ratio Lower Upper  
 106 100  
 91 242.9 194.4 254.4



#77  
 Naphthalene  
 Concen: 0.022 ppbv  
 RT: 23.95 min Scan# 1196  
 Delta R.T. 0.021 min  
 Lab File: 090113.D  
 Acq: 1 Sep 2021 5:51 pm

Tgt Ion:128 Resp: 3644  
 Ion Ratio Lower Upper  
 128 100  
 129 11.6 0.0 41.0  
 127 12.3 0.0 43.2



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090113.D  
 Acq On : 1 Sep 2021 5:51 pm  
 Operator : bat  
 Sample : 108515-13 1/5.8  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:01:02 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	101534	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	489651	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	426483	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	381563	9.876	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	98.80%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.		
6) Vinyl chloride	0.00		0	N.D.		
7) 1,3-Butadiene	0.00		0	N.D.		
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.	d	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	6.73	96	155	N.D.		
19) trans-1,2-Dichloroethene	0.00		0	N.D.		
20) Methylene chloride	6.86	84	77573	4.365	ppbv	87
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	8.44	63	155	N.D.		
28) cis-1,2-Dichloroethene	9.73	96	614	0.034	ppbv	# 70
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	11.45	62	140	N.D.		
35) 1,1,1-Trichloroethane	11.94	97	144	N.D.		
36) Carbon tetrachloride	0.00		0	N.D.	d	
37] Benzene	12.72	78	1331	0.021	ppbv	98
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.	d	
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090113.D  
 Acq On : 1 Sep 2021 5:51 pm  
 Operator : bat  
 Sample : 108515-13 1/5.8  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

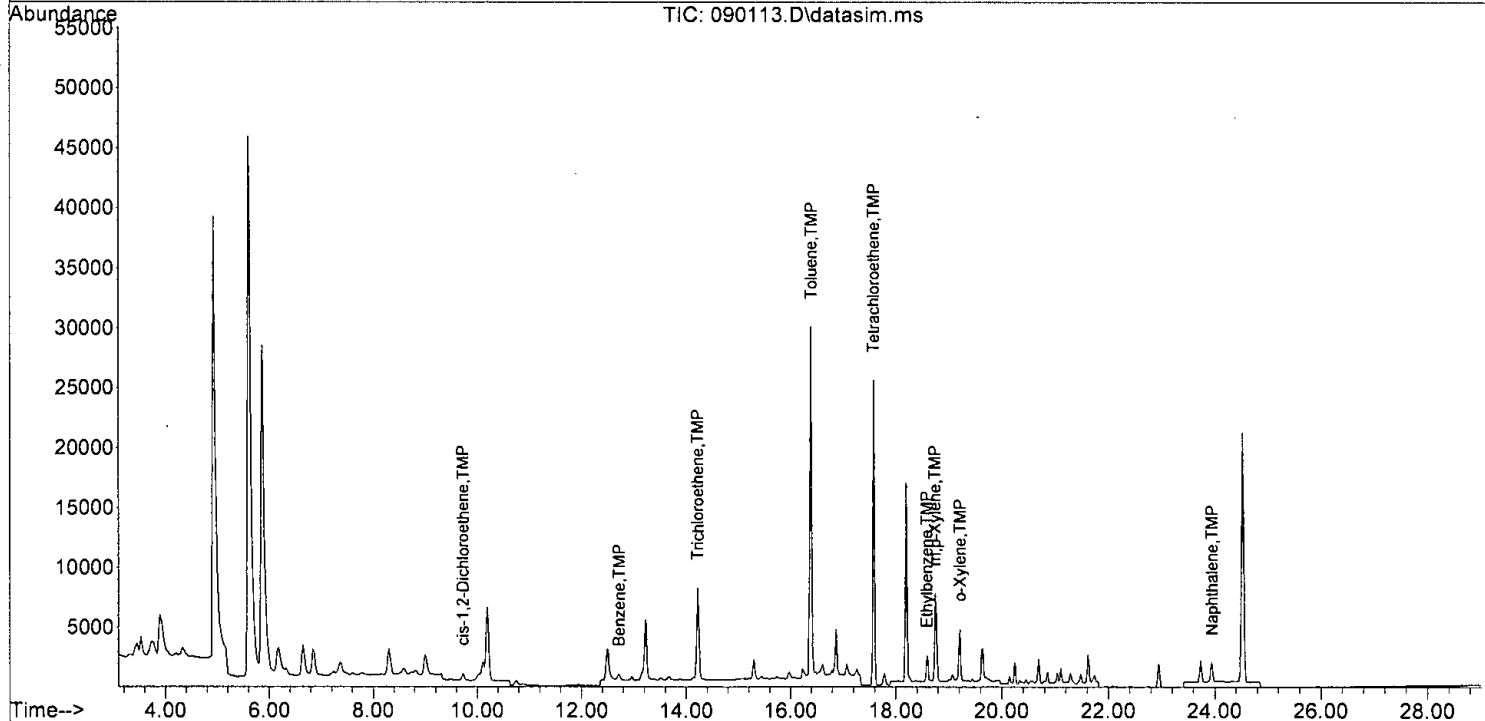
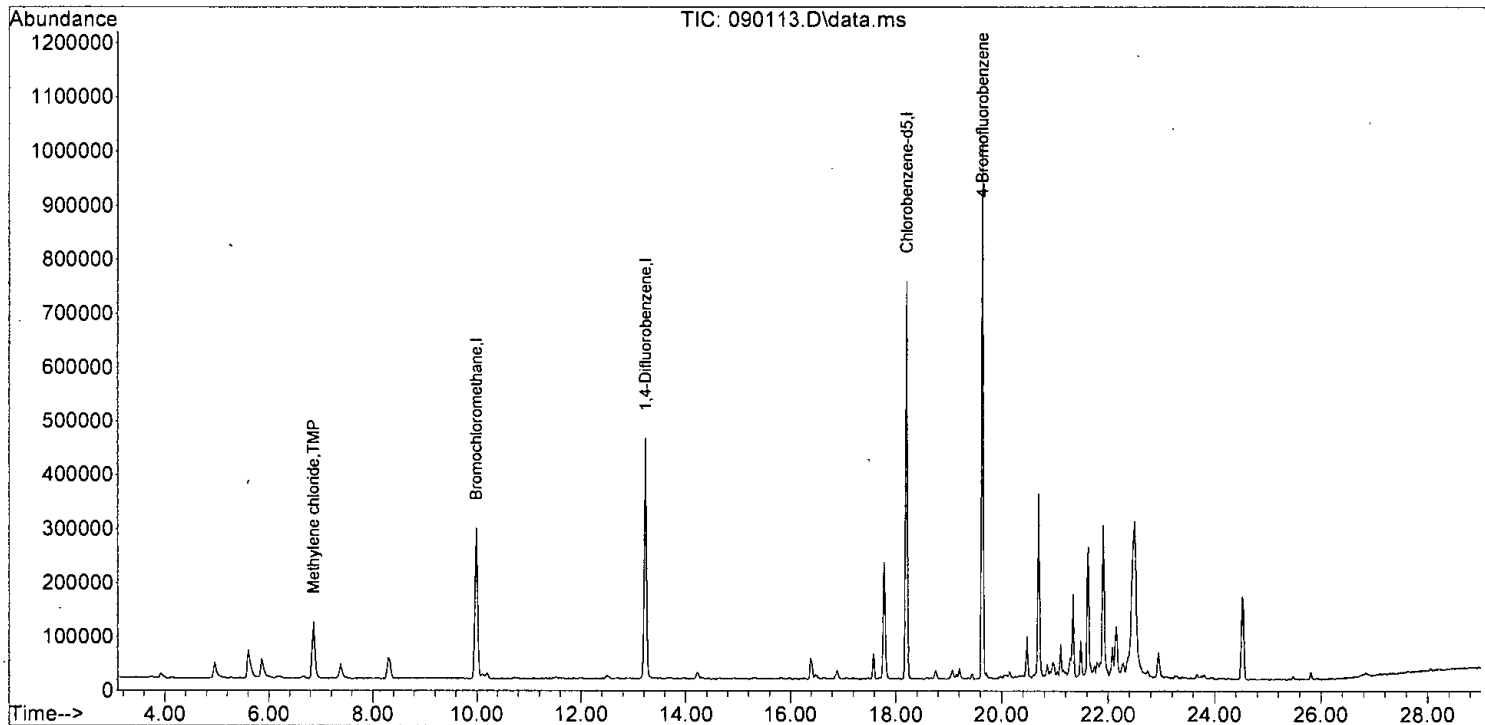
Quant Time: Sep 02 12:01:02 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	6841	0.226	ppbv	81
47) cis-1,3-Dichloropropene	0.00		0	N.D.		
48) 4-Methyl-2-pentanone	0.00		0	N.D.		
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	23479	0.640	ppbv	86
51) 1,1,2-Trichloroethane	16.00	83	110	N.D.		
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	11170	0.599	ppbv #	79
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	3745	0.040	ppbv	95
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.74	106	5303	0.174	ppbv #	79
66] o-Xylene	19.21	106	2128	0.071	ppbv	89
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.		
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77] Naphthalene	23.95	128	3644	0.022	ppbv	98
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090113.D  
 Acq On : 1 Sep 2021 5:51 pm  
 Operator : bat  
 Sample : 108515-13 1/5.8  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

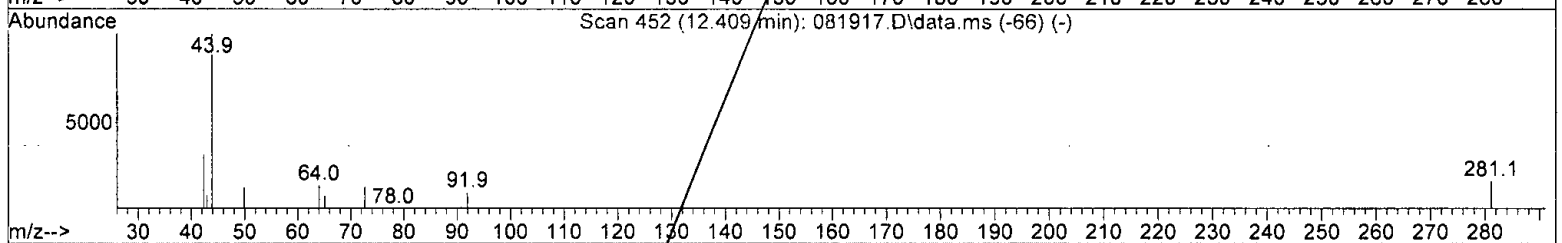
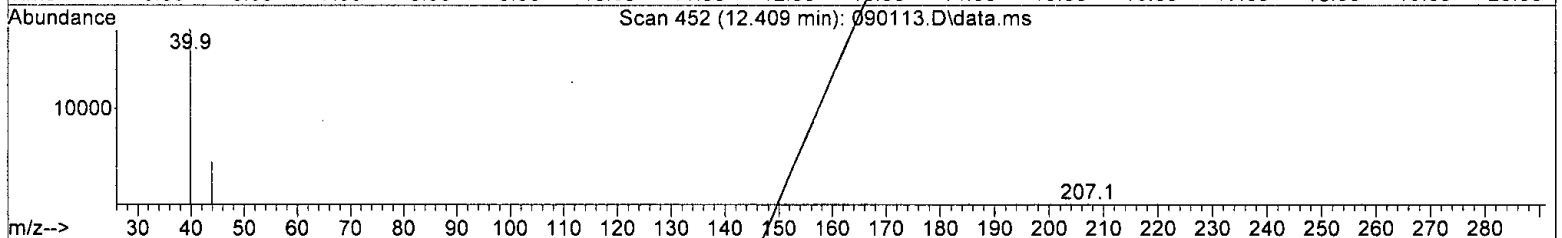
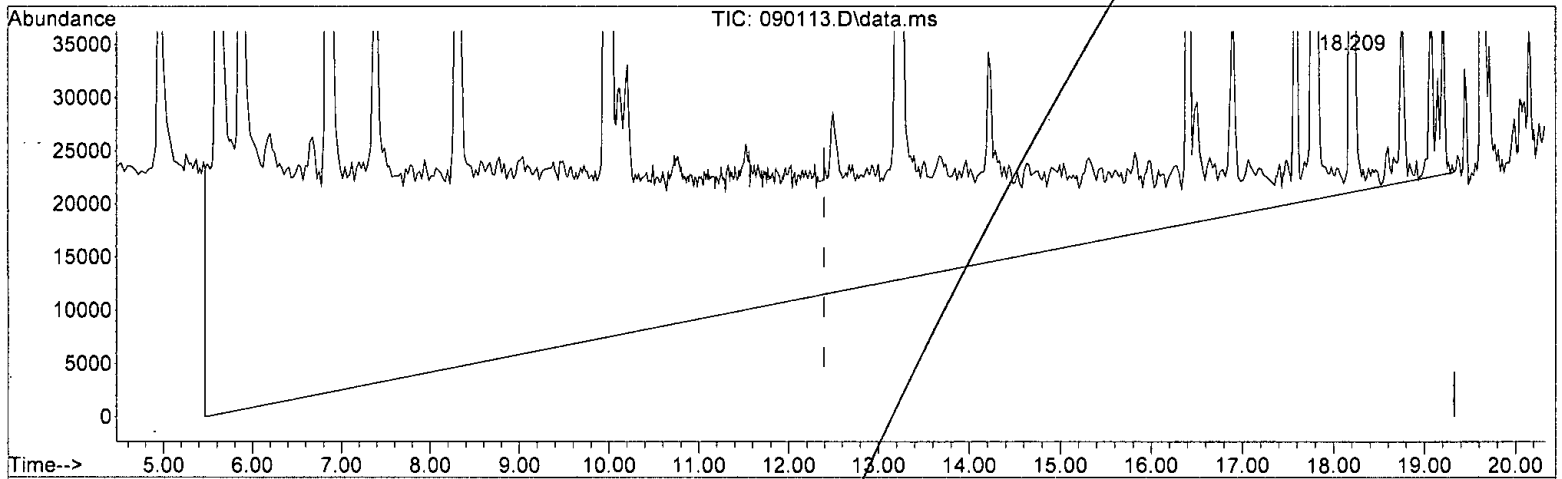
Quant Time: Sep 02 12:01:02 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090113.D  
 Acq On : 1 Sep 2021 5:51 pm  
 Operator : bat  
 Sample : 108515-13 1/5.8  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:57:20 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



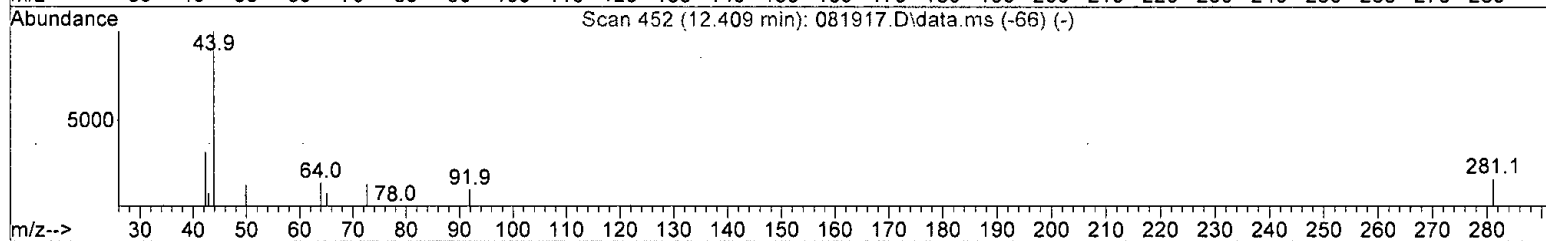
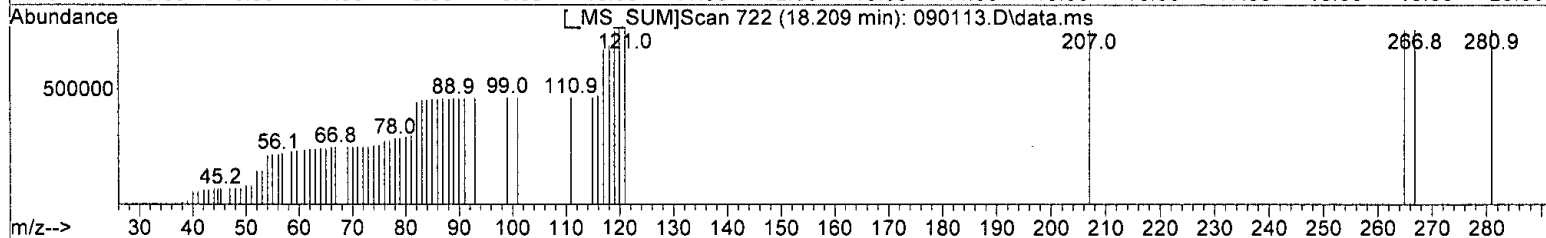
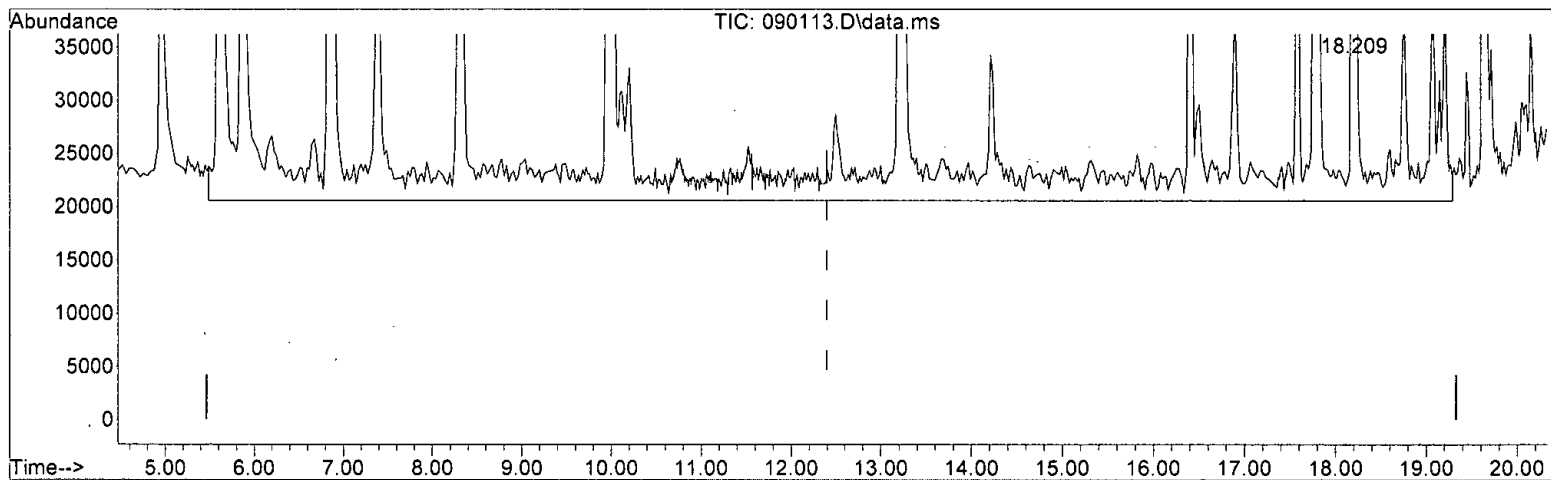
(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 60.732 ug/m3 m  
 response 2359509

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090113.D  
 Acq On : 1 Sep 2021 5:51 pm  
 Operator : bat  
 Sample : 108515-13 1/5.8  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:57:20 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



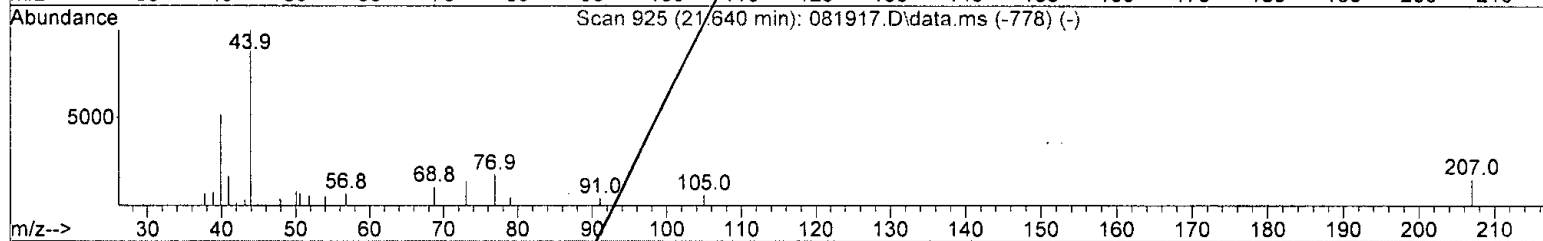
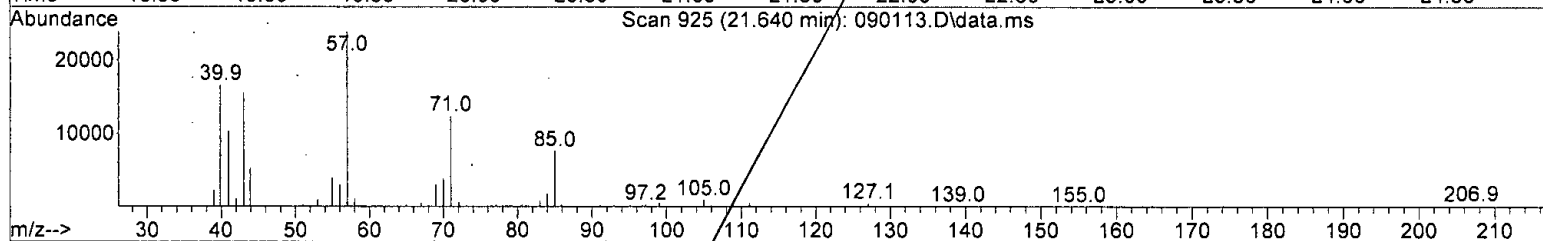
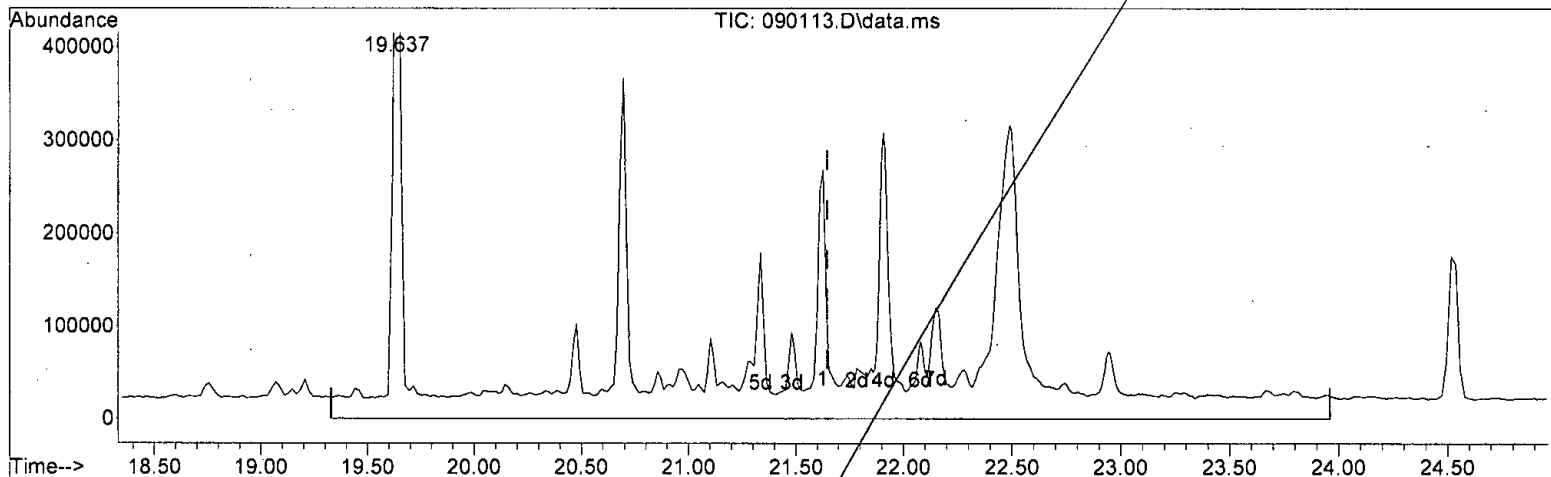
(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 216.298 ug/m3 m  
 response 8403471

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090113.D  
 Acq On : 1 Sep 2021 5:51 pm  
 Operator : bat  
 Sample : 108515-13 1/5.8  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:57:20 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



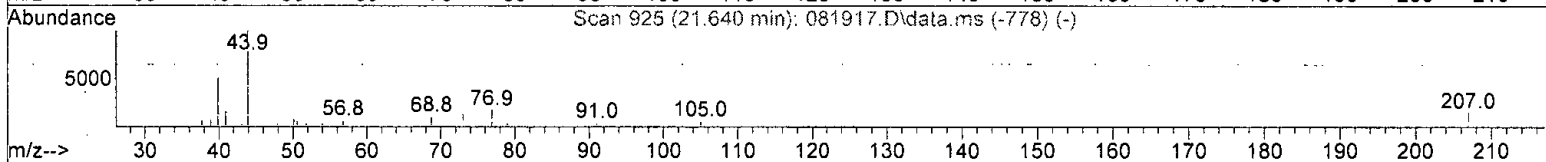
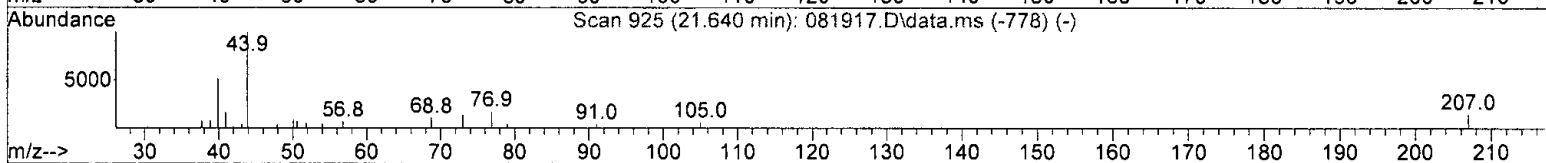
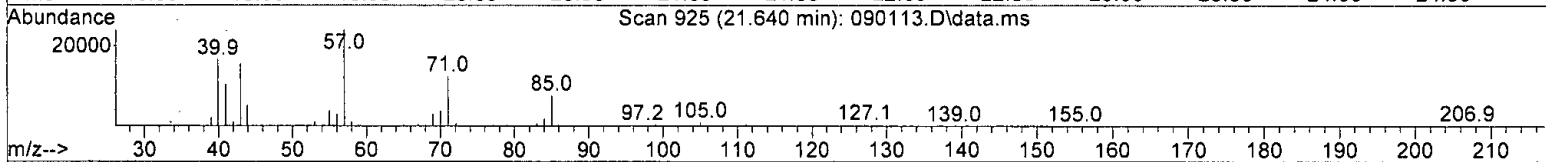
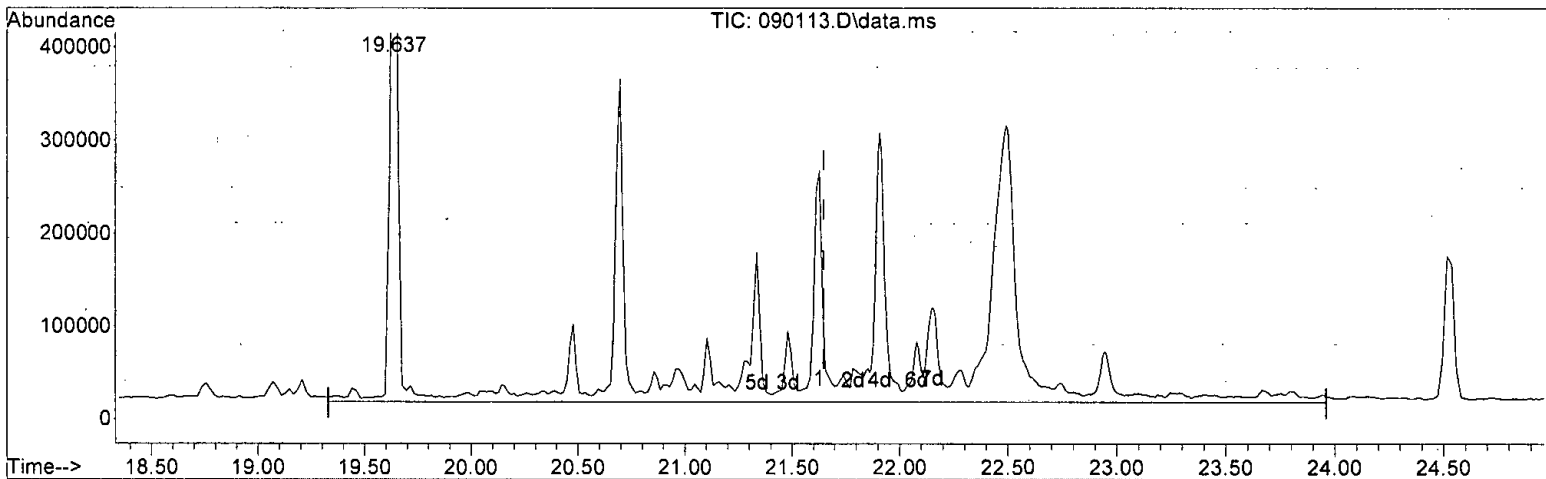
(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 131.047 ug/m3 m  
 response 5718215  

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: N. Olatoye*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090113.D  
 Acq On : 1 Sep 2021 5:51 pm  
 Operator : bat  
 Sample : 108515-13 1/5.8  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:57:20 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090113.D\data.ms

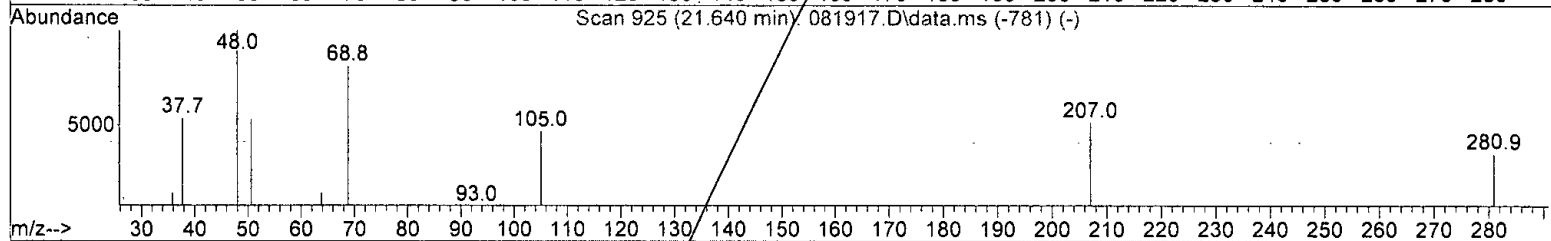
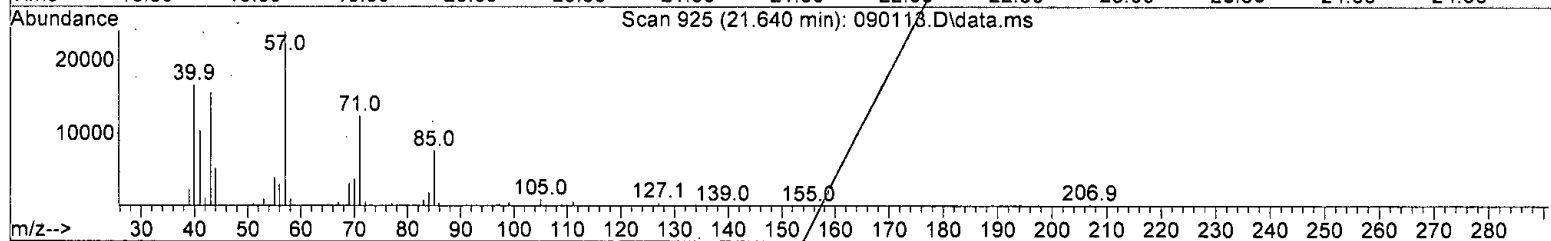
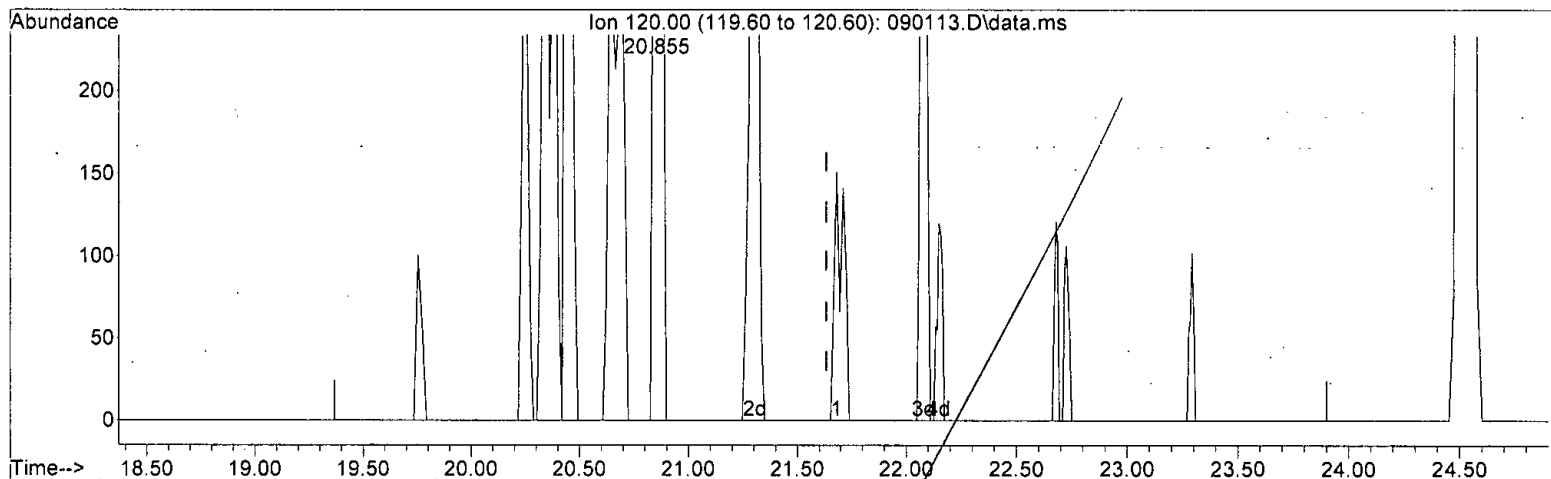
(36) APH EC9-12 aliphatics (H)			
21.645min ( 0.000)		252.009 ug/m3 m	
response	10996422		
Signal	Exp%	Act%	
TIC	100.00	100.00	
0.00	0.00	0.00	
0.00	0.00	0.00	
0.00	0.00	0.00	

*Handwritten note: 11/20/21*



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090113.D  
 Acq On : 1 Sep 2021 5:51 pm  
 Operator : bat  
 Sample : 108515-13 1/5.8  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:57:20 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) -13.120 ug/m3 m

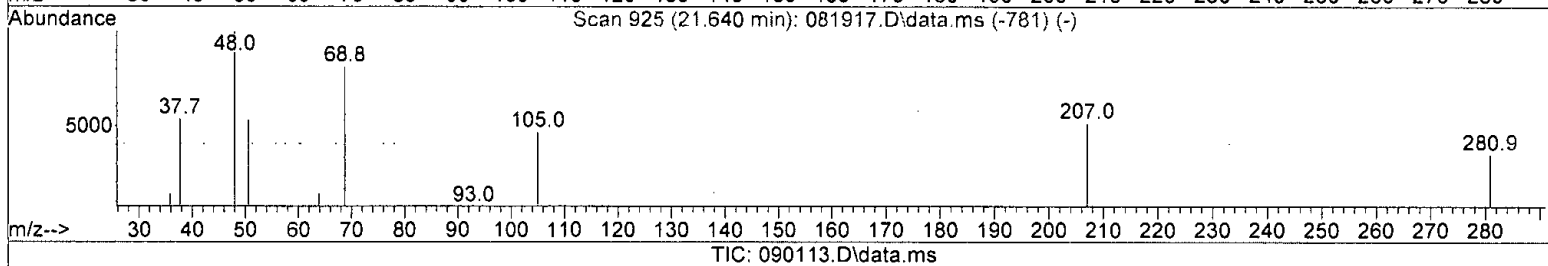
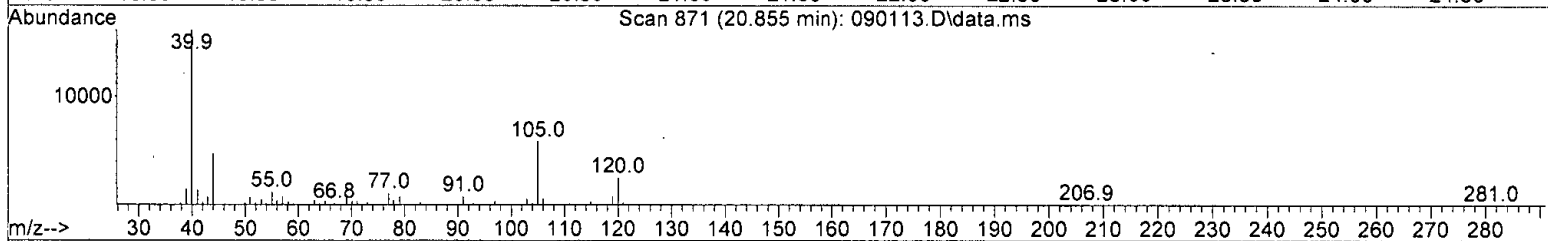
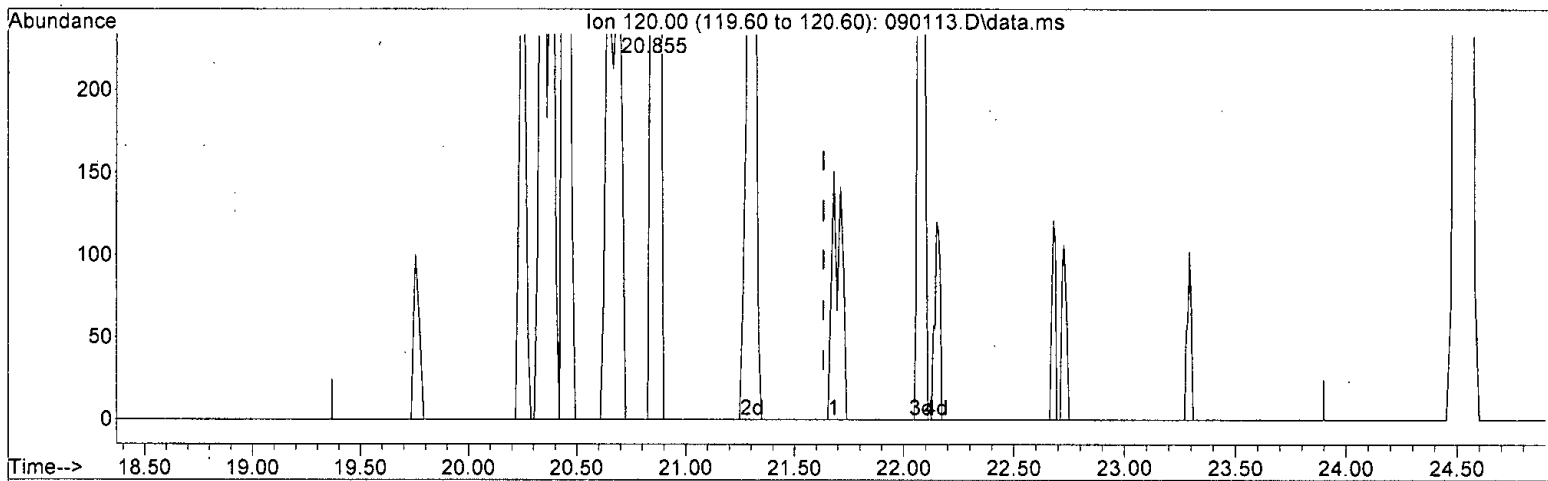
response -66652

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature: M. Orlak*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090113.D  
 Acq On : 1 Sep 2021 5:51 pm  
 Operator : bat  
 Sample : 108515-13 1/5.8  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:57:20 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 2.484 ug/m3 m

response 12620

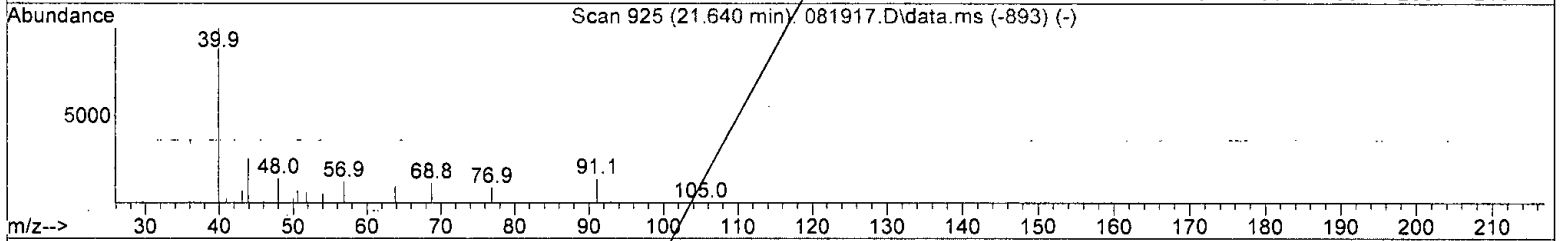
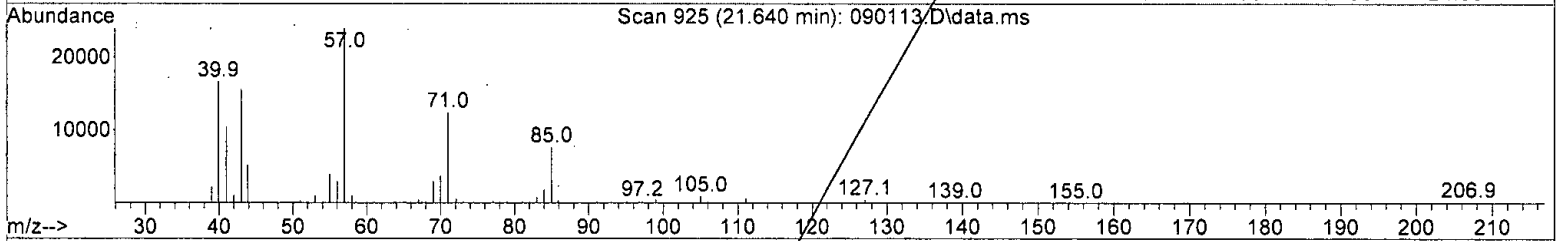
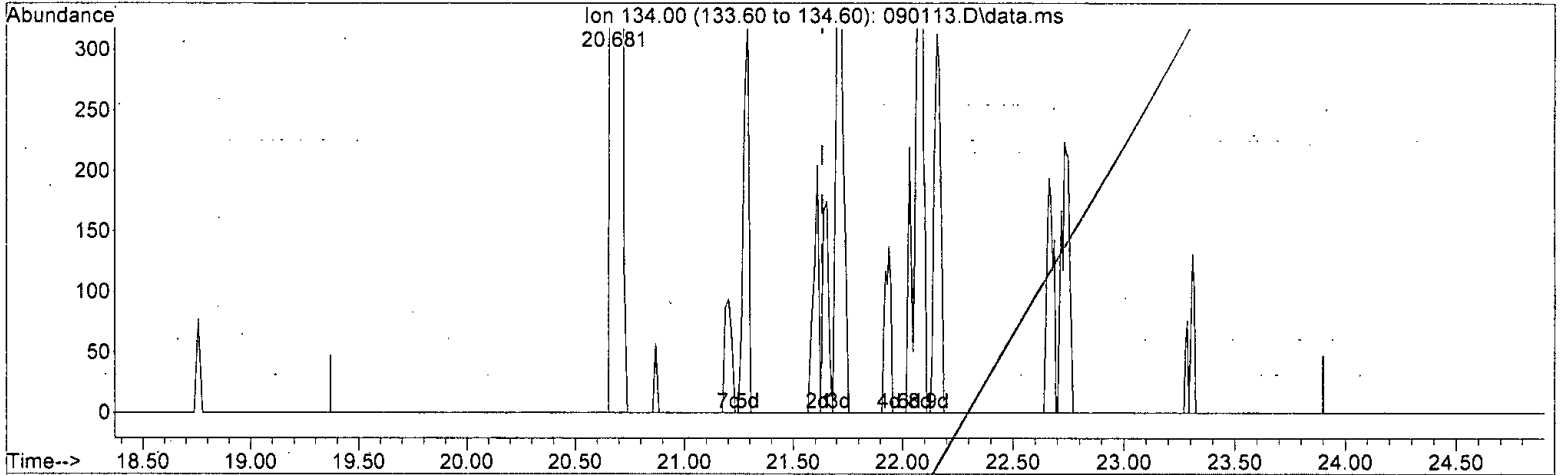
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090113.D  
 Acq On : 1 Sep 2021 5:51 pm  
 Operator : bat  
 Sample : 108515-13 1/5.8  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:57:20 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090113.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) -23.888 ug/m3 m

response -69122

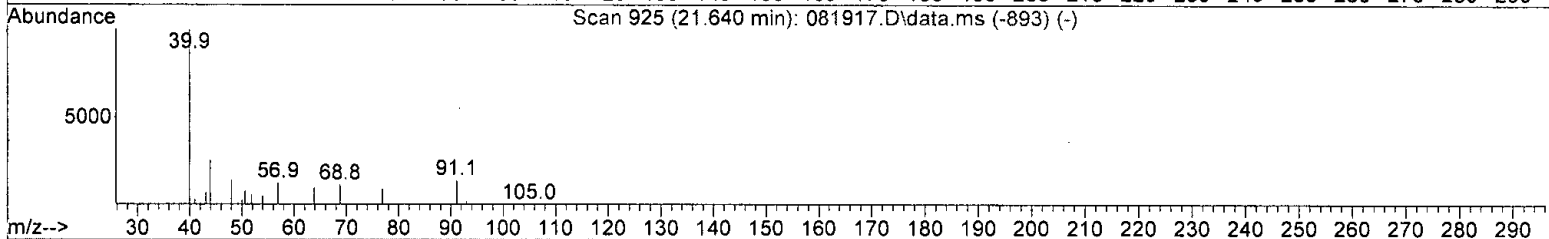
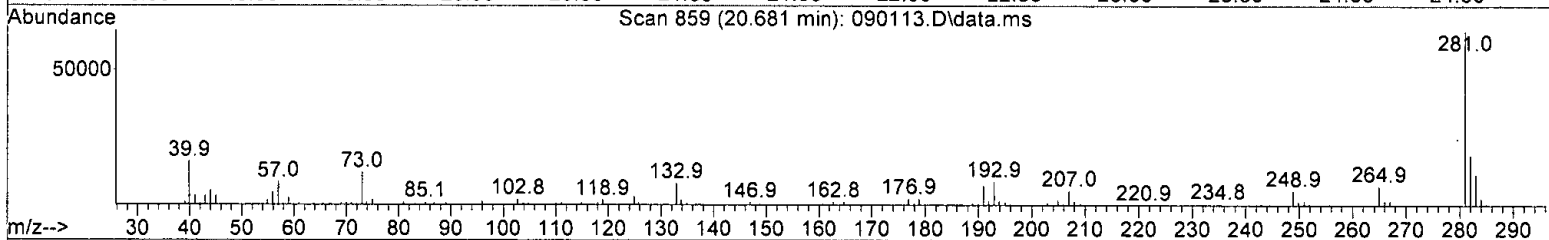
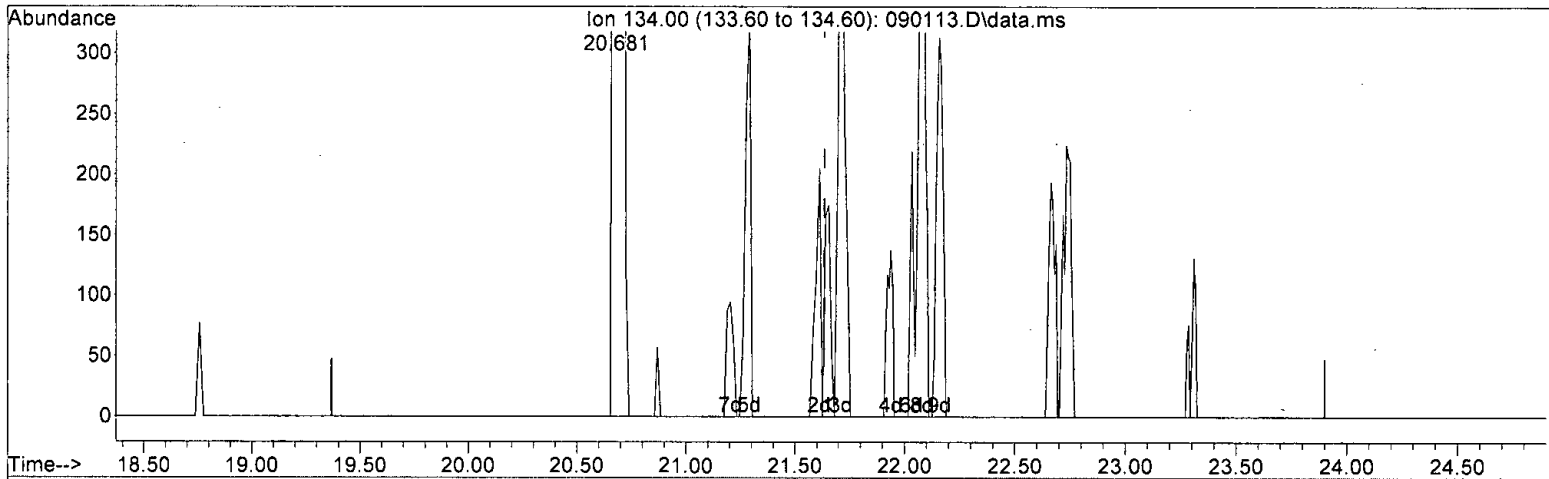
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten note: 11/01/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090113.D  
 Acq On : 1 Sep 2021 5:51 pm  
 Operator : bat  
 Sample : 108515-13 1/5.8  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:57:20 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090113.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 3.989 ug/m3 m

response 11543

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: M. Ortolu*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090113.D  
 Acq On : 1 Sep 2021 5:51 pm  
 Operator : bat  
 Sample : 108515-13 1/5.8  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:58:43 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	101534	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	489651	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	426483	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	381563	71.410	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	100.58%

Target Compounds						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	967440	53.964	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1363628	53.590	ug/m3	92
4) IS-3 Chlorobenzene-d5	18.21	TIC	1600569	51.860	ug/m3	91
5) Methylene chloride	6.86	TIC	403457	444.510	ug/m3	93
6) Acetone	5.60	TIC	243396	5.083	ppbv	100
7) 2-Propanol	5.86	TIC	203922	733.017	ppbv	100
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	8.54	73	552	0.071	ug/m3	56
11) Benzene	12.73	78	1277	0.077	ug/m3	91
12) Isopentane	5.60	TIC	243396	7.361	ug/m3#	45
13) Hexane	10.11	TIC	31910	0.765	ug/m3	74
14) Cyclohexane	13.23	TIC	1363628	40.120	ug/m3	94
15) 2,3-Dimethylpentane	13.23	TIC	1358103	31.310	ug/m3	64
16) Heptane	14.63	TIC	13066	0.369	ug/m3	94
17) Octane	17.57	TIC	106469	2.190	ug/m3	62
18) APH EC5-8 aliphatics T...	0.00	TIC	3116572m	80.218	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	8403471m	216.298	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1850068	51.385	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	715059	80.633	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	822171	74.284	ppbv	100
24) Toluene	16.39	92	19704	2.153	ug/m3	98
25) Ethylbenzene	18.60	91	3583	0.190	ug/m3	88
26) m,p-Xylene	18.76	106	5305	0.835	ug/m3#	78
27) o-Xylene	19.21	106	2068	0.344	ug/m3	95
28) Naphthalene	23.94	128	3407	0.222	ug/m3	94
29) 2,3-Dimethylheptane	18.76	TIC	54245	1.266	ug/m3#	62
30) Nonane	19.21	TIC	56567	1.264	ug/m3	83
31) Decane	20.96	TIC	102023	2.295	ug/m3	92
32) Butylcyclohexane	21.63	TIC	627725	12.428	ug/m3	61
33) Undecane	22.28	TIC	64556	1.464	ug/m3	99
34) Dodecane	23.79	TIC	32614	0.901	ug/m3	91
35) APH EC9-12 aliphatics ...	21.63	TIC	937730m	21.490	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	10996422m	252.009	ug/m3	
38) Isopropylbenzene	20.25	120	644	0.193	ug/m3#	1
39) 1-Methyl-3-ethylbenzene	20.35	120	1564	0.334	ug/m3#	76
40) 1,3,5-Trimethylbenzene	20.45	120	1769	0.299	ug/m3#	78
41) p-Isopropyltoluene	21.29	134	576	0.198	ug/m3#	1
42) 1,2,3-Trimethylbenzene	21.31	120	1992	0.287	ug/m3#	67
43) APH EC9-10 aromatics T...	21.63	TIC	6545m	1.423	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	12620m	2.484	ug/m3	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090113.D  
 Acq On : 1 Sep 2021 5:51 pm  
 Operator : bat  
 Sample : 108515-13 1/5.8  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

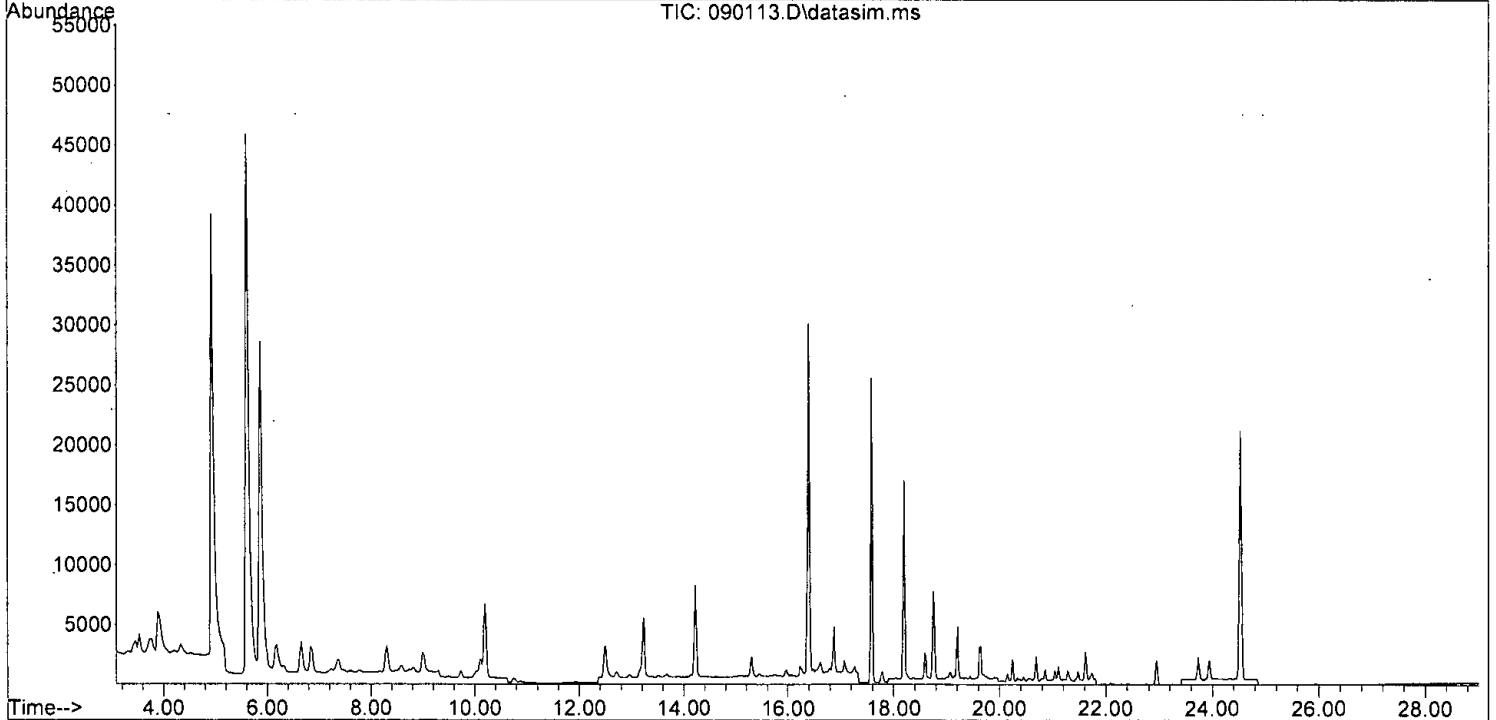
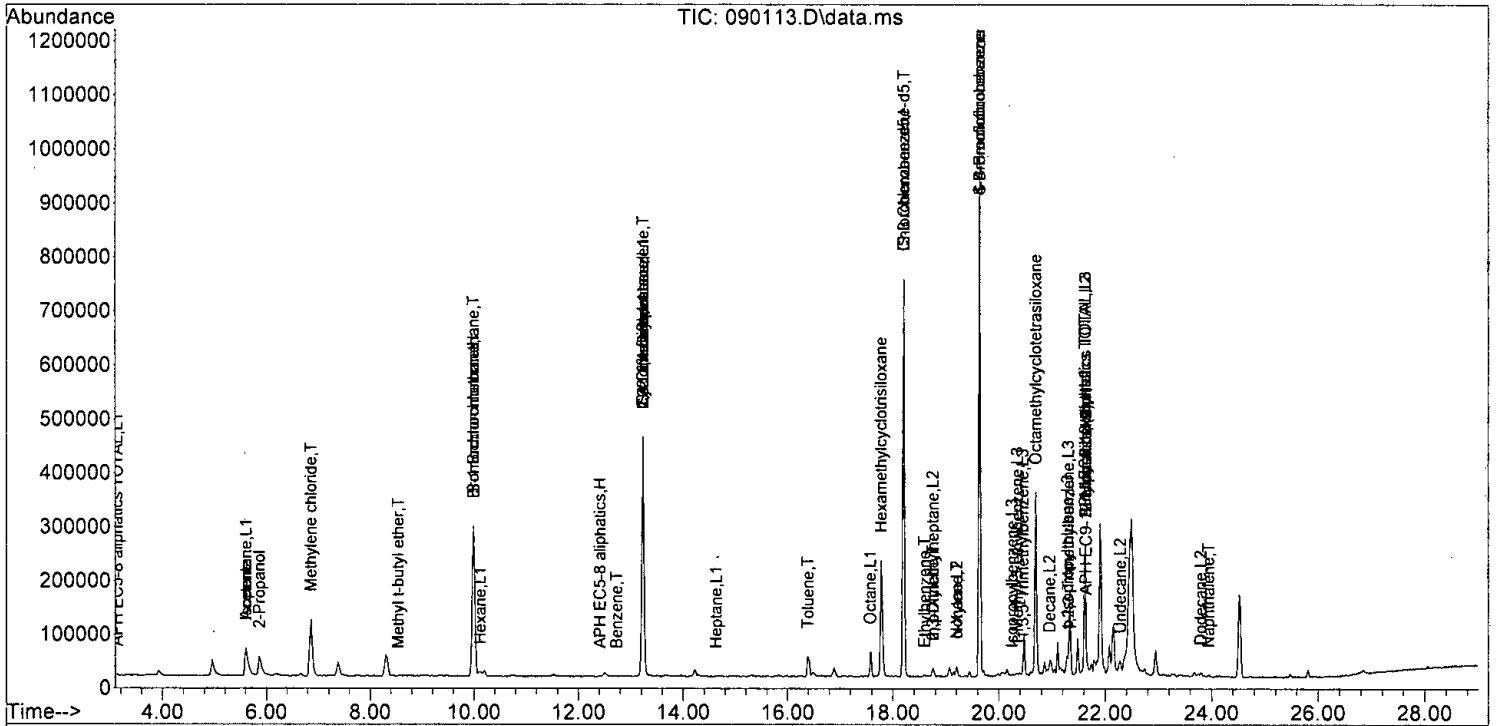
Quant Time: Sep 02 11:58:43 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	11543m	3.989	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090113.D  
 Acq On : 1 Sep 2021 5:51 pm  
 Operator : bat  
 Sample : 108515-13 1/5.8  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 11:58:43 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090114.D  
 Acq On : 1 Sep 2021 6:29 pm  
 Operator : bat  
 Sample : 108515-14 1/5.4  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:15:29 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

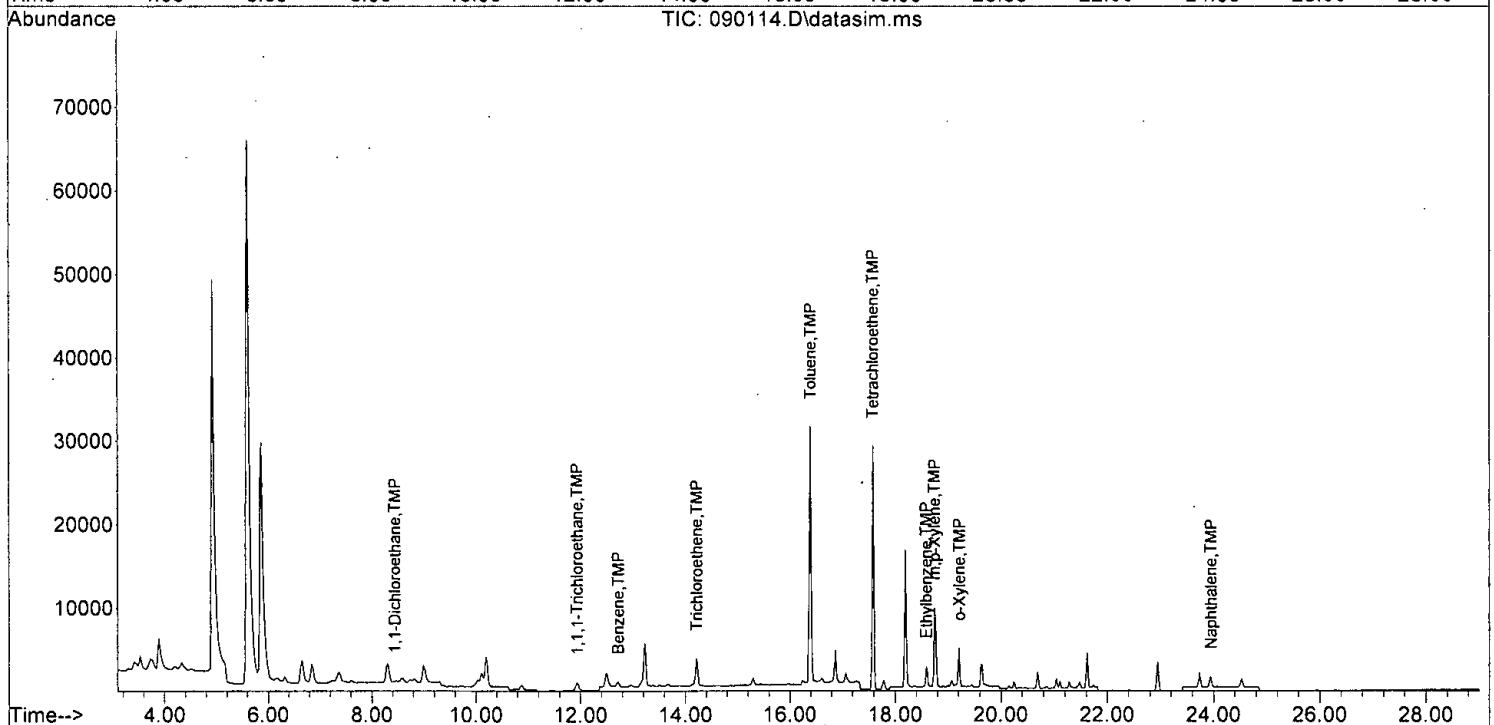
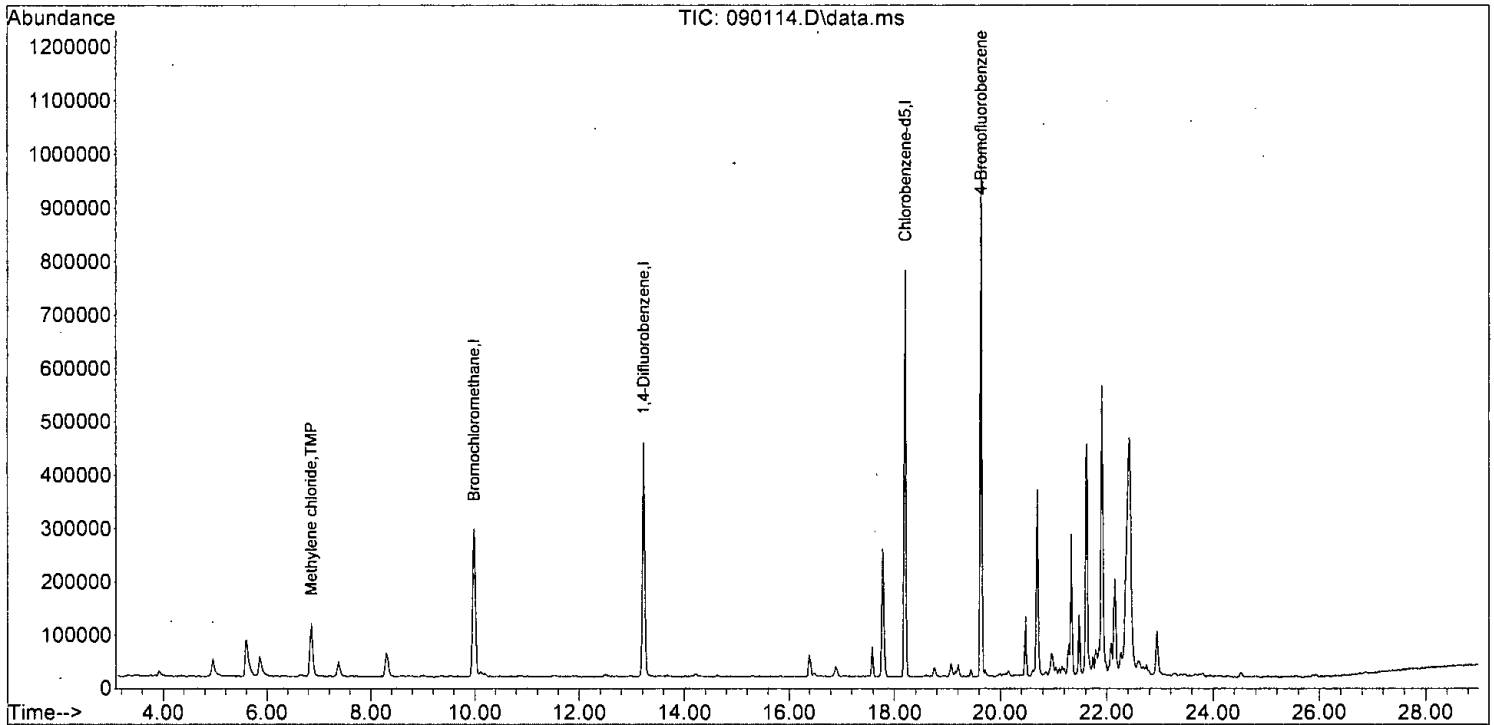
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	104522	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	488509	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	435799	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	390941	9.902	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	99.00%
Target Compounds						
						Qvalue
20) Methylene chloride	6.86	84	73262	4.005	ppbv	# 83
27] 1,1-Dichloroethane	8.44	63	432	0.011	ppbv	94
35] 1,1,1-Trichloroethane	11.94	97	1654	0.049	ppbv	90
37] Benzene	12.72	78	1586	0.025	ppbv	97
46] Trichloroethene	14.22	95	2770	0.092	ppbv	82
50] Toluene	16.40	92	24821	0.678	ppbv	85
53] Tetrachloroethene	17.58	164	12865	0.691	ppbv	# 79
58] Ethylbenzene	18.59	91	4124	0.043	ppbv	97
65] m,p-Xylene	18.74	106	6691	0.215	ppbv	# 78
66] o-Xylene	19.21	106	2237	0.073	ppbv	90
77] Naphthalene	23.95	128	2794	0.012	ppbv	98
-----						

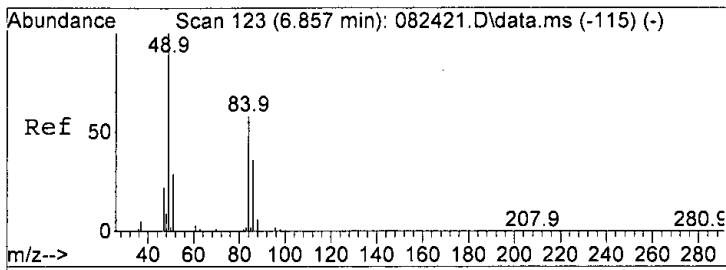
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090114.D  
 Acq On : 1 Sep 2021 6:29 pm  
 Operator : bat  
 Sample : 108515-14 1/5.4  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

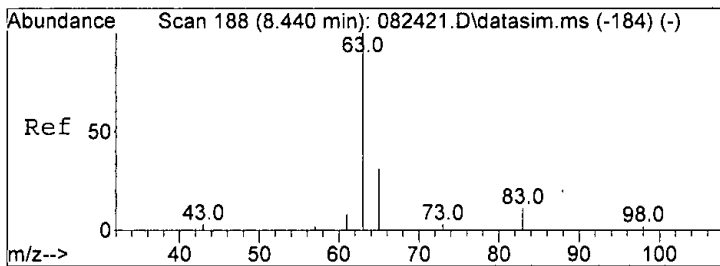
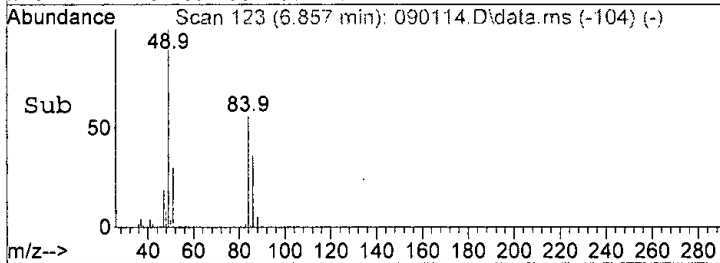
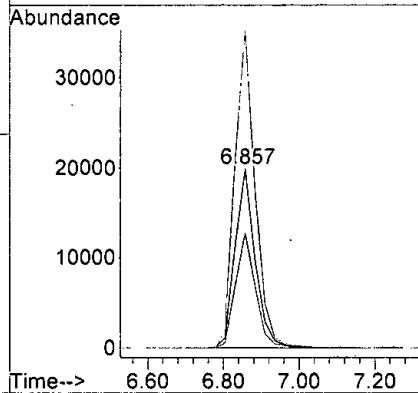
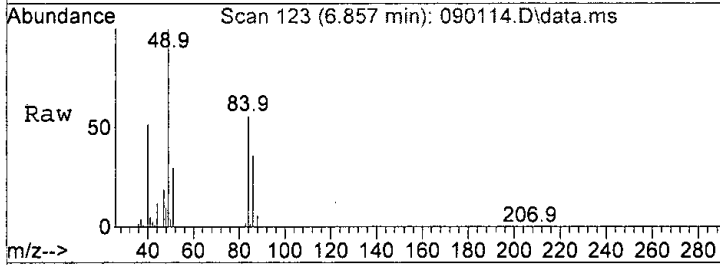
Quant Time: Sep 02 12:15:29 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





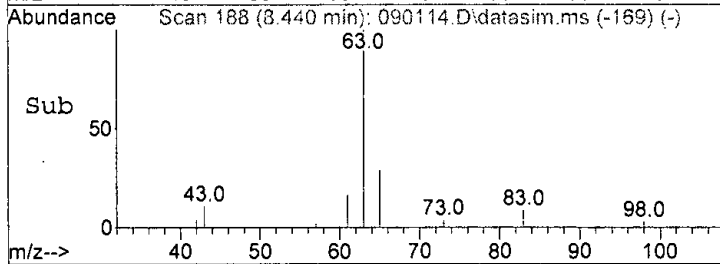
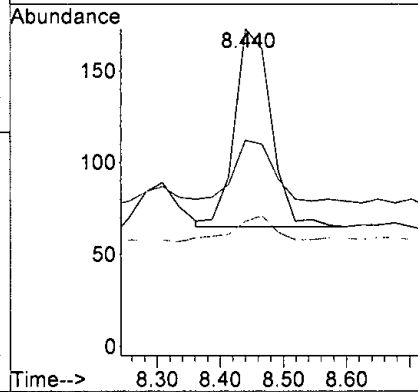
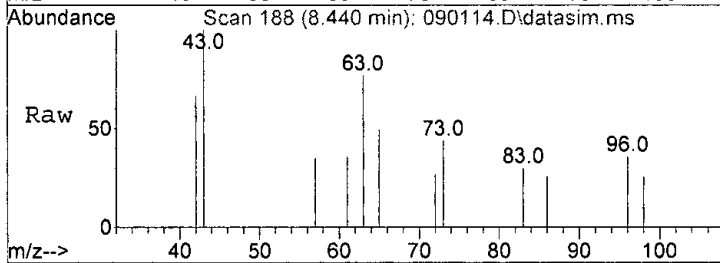
#20  
 Methylene chloride  
 Concen: 4.005 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. -0.000 min  
 Lab File: 090114.D  
 Acq: 1 Sep 2021 6:29 pm

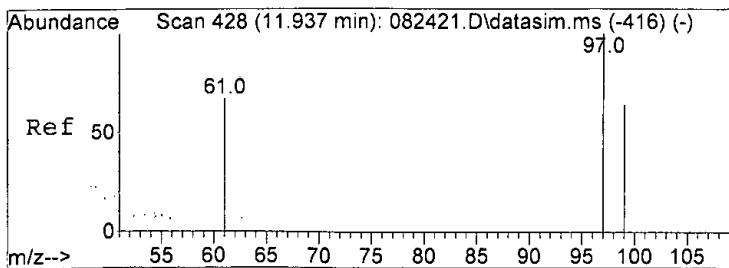
Tgt Ion	Resp	Lower	Upper
84	100		
86	64.0	33.9	93.9
49	177.5	116.6	176.6#



#27  
 1,1-Dichloroethane  
 Concen: 0.011 ppbv  
 RT: 8.44 min Scan# 188  
 Delta R.T. -0.000 min  
 Lab File: 090114.D  
 Acq: 1 Sep 2021 6:29 pm

Tgt Ion	Resp	Lower	Upper
63	100		
65	30.6	2.5	62.5
83	8.3	0.0	43.2

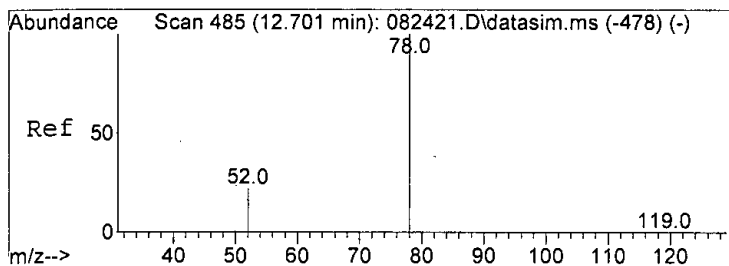
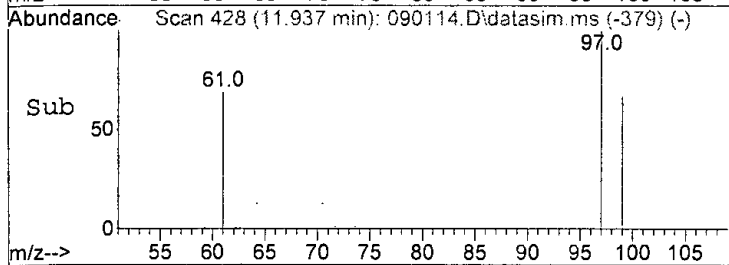
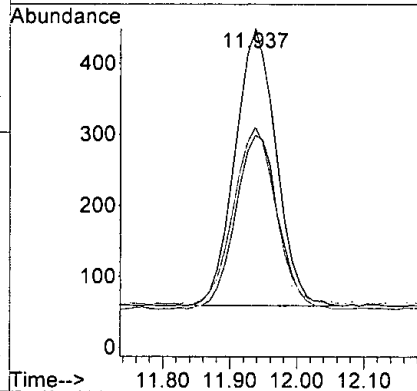
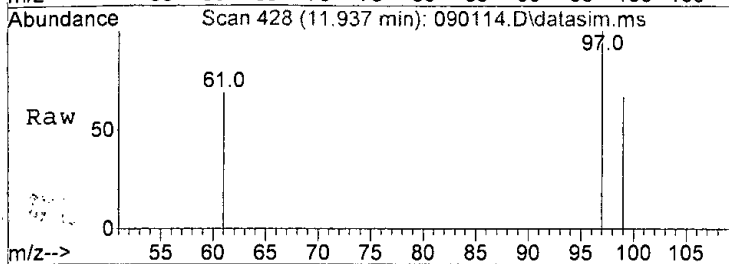




#35  
 1,1,1-Trichloroethane  
 Concen: 0.049 ppbv  
 RT: 11.94 min Scan# 428  
 Delta R.T. -0.000 min  
 Lab File: 090114.D  
 Acq: 1 Sep 2021 6:29 pm

Tgt Ion: 97 Resp: 1654

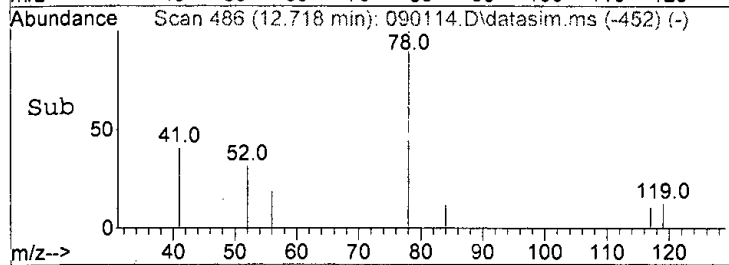
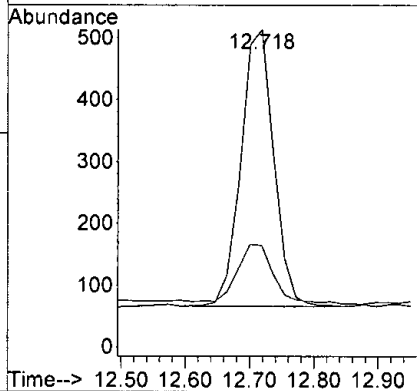
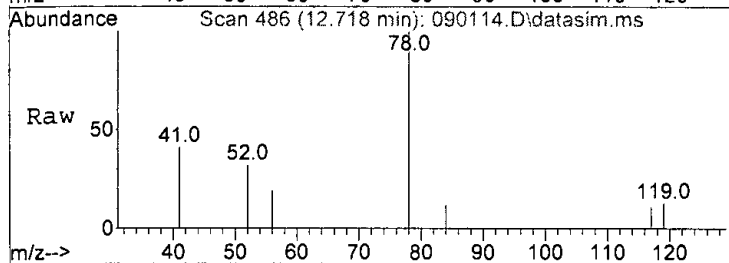
Ion	Ratio	Lower	Upper
97	100		
99	62.6	31.7	91.7
61	63.6	19.3	79.3

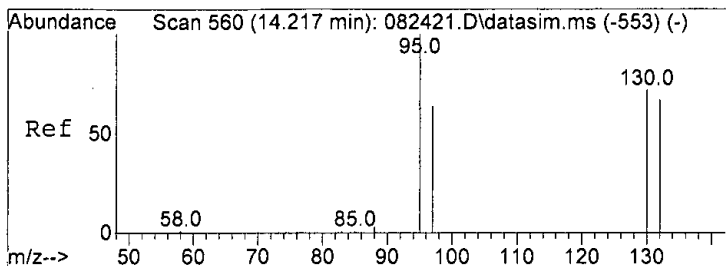


#37  
 Benzene  
 Concen: 0.025 ppbv  
 RT: 12.72 min Scan# 486  
 Delta R.T. 0.017 min  
 Lab File: 090114.D  
 Acq: 1 Sep 2021 6:29 pm

Tgt Ion: 78 Resp: 1586

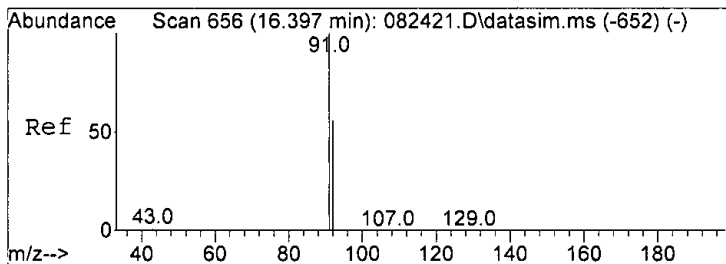
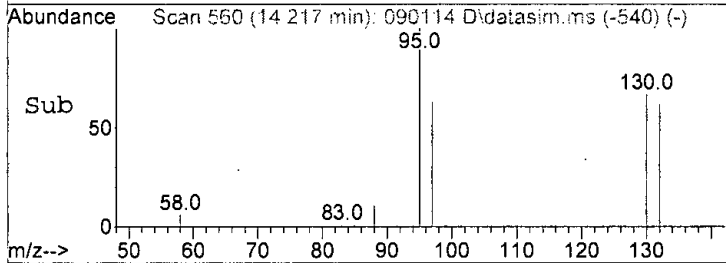
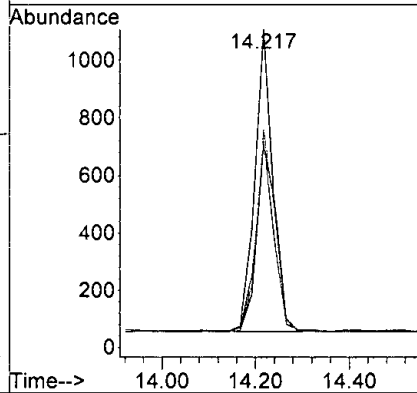
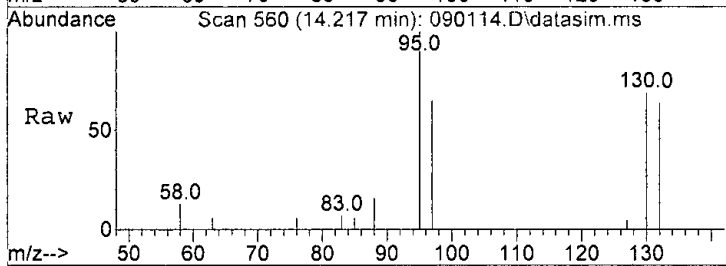
Ion	Ratio	Lower	Upper
78	100		
52	21.0	0.0	49.7





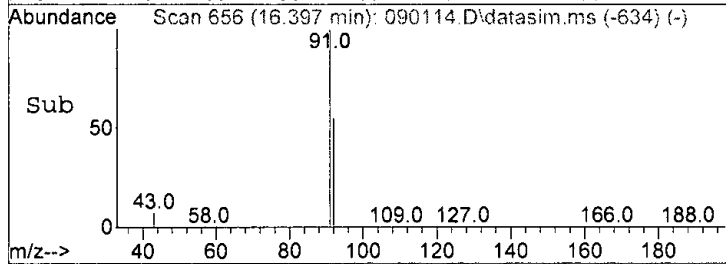
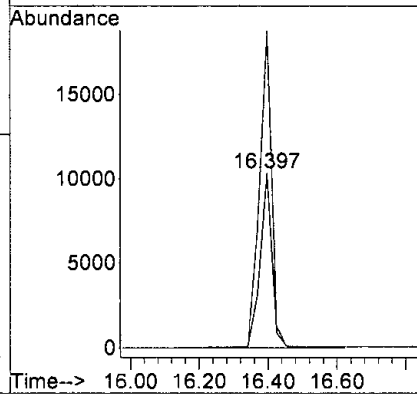
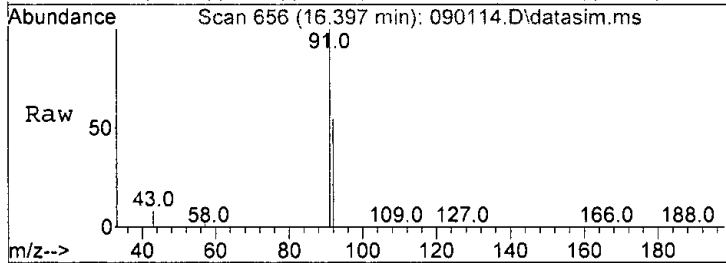
#46  
 Trichloroethene  
 Concen: 0.092 ppbv  
 RT: 14.22 min Scan# 560  
 Delta R.T. -0.000 min  
 Lab File: 090114.D  
 Acq: 1 Sep 2021 6:29 pm

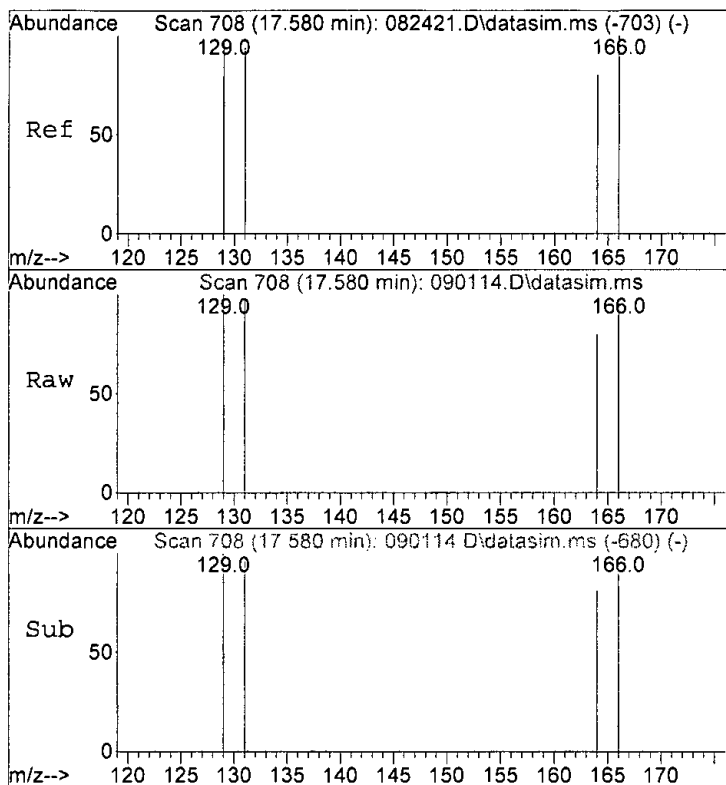
Tgt Ion:	95	Resp:	2770
Ion Ratio	Lower	Upper	
95	100		
97	63.0	37.1	97.1
130	67.1	56.1	116.1
132	62.0	54.3	114.3



#50  
 Toluene  
 Concen: 0.678 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090114.D  
 Acq: 1 Sep 2021 6:29 pm

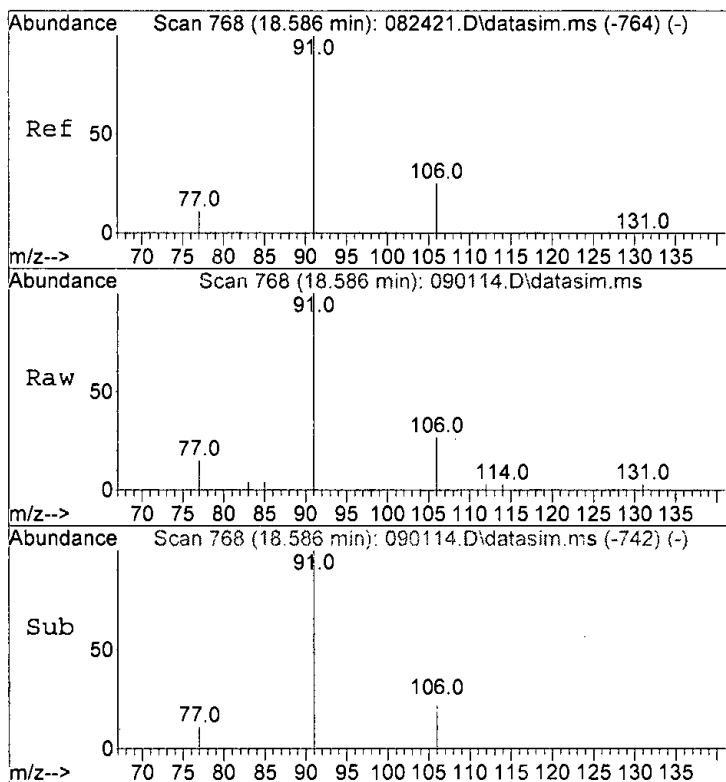
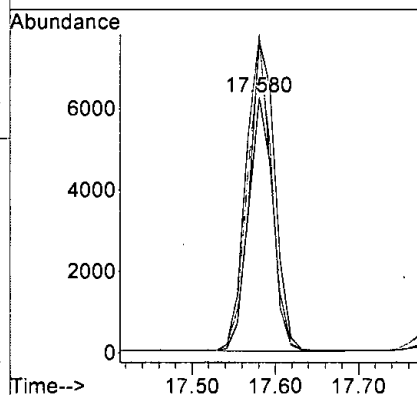
Tgt Ion:	92	Resp:	24821
Ion Ratio	Lower	Upper	
92	100		
91	181.6	174.6	234.6





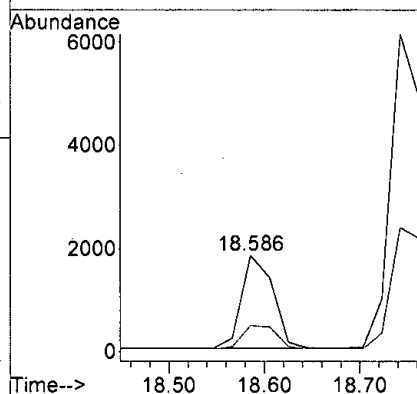
#53  
 Tetrachloroethene  
 Concen: 0.691 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090114.D  
 Acq: 1 Sep 2021 6:29 pm

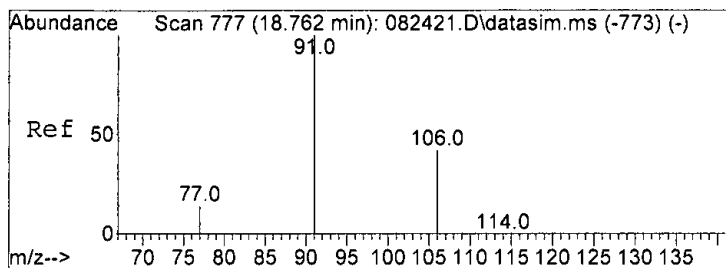
Tgt Ion	Ratio	Lower	Upper
164	100		
129	124.9	63.2	123.2#
131	120.7	70.7	130.7
166	122.2	107.5	167.5



#58  
 Ethylbenzene  
 Concen: 0.043 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. -0.000 min  
 Lab File: 090114.D  
 Acq: 1 Sep 2021 6:29 pm

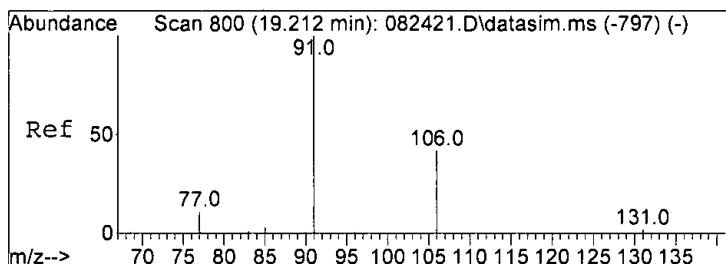
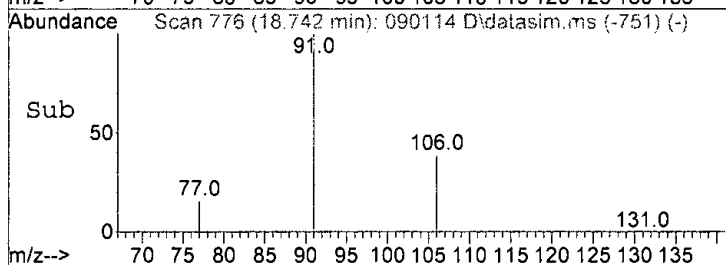
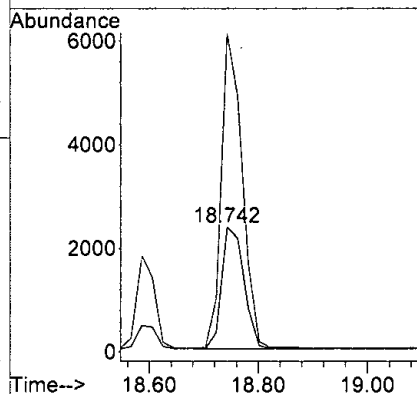
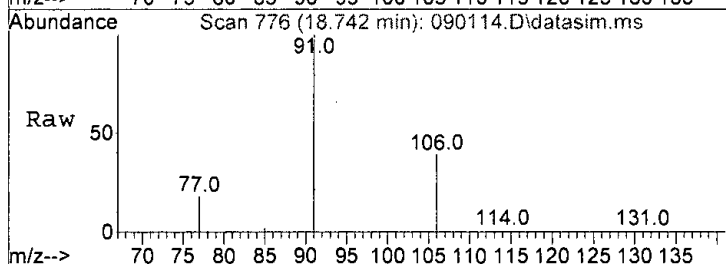
Tgt Ion	Ratio	Lower	Upper
91	100		
106	25.3	0.0	57.0





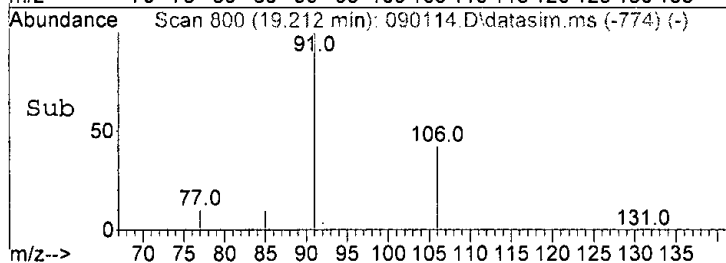
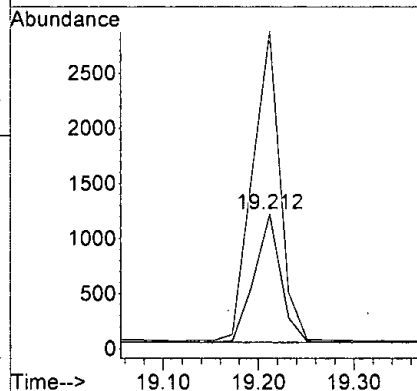
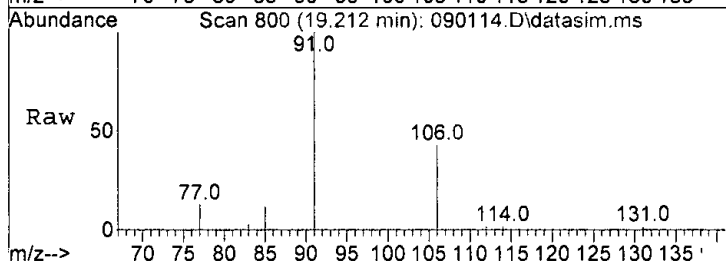
#65  
 m,p-Xylene  
 Concen: 0.215 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.020 min  
 Lab File: 090114.D  
 Acq: 1 Sep 2021 6:29 pm

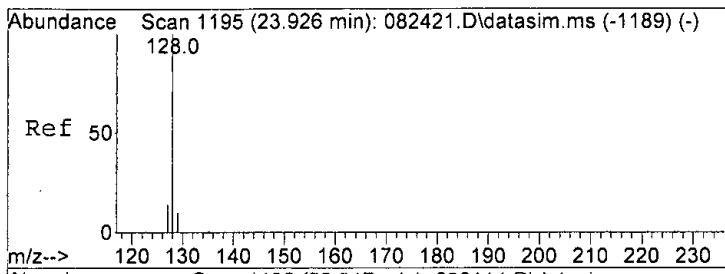
Tgt Ion:106 Resp: 6691  
 Ion Ratio Lower Upper  
 106 100  
 91 258.6 193.0 253.0#



#66  
 o-Xylene  
 Concen: 0.073 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090114.D  
 Acq: 1 Sep 2021 6:29 pm

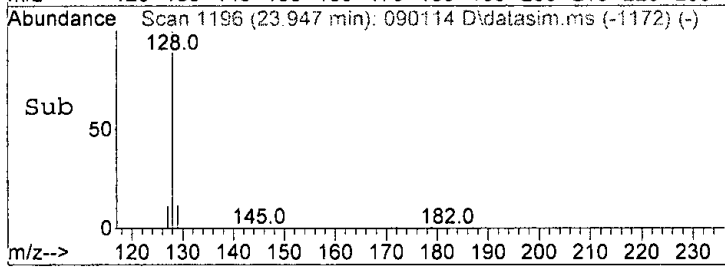
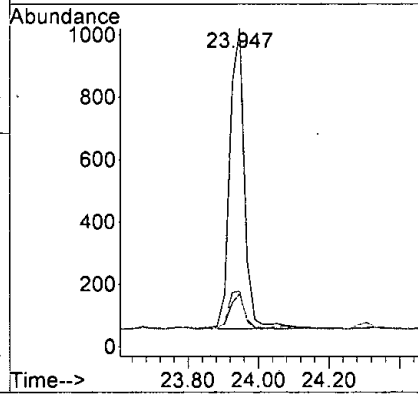
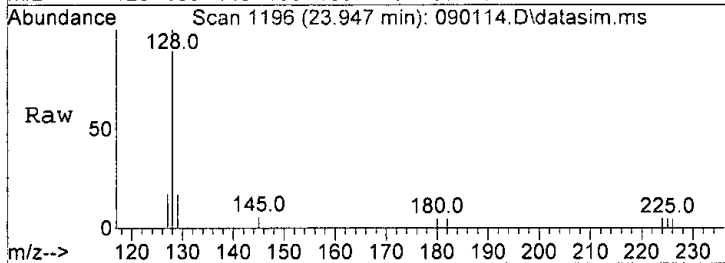
Tgt Ion:106 Resp: 2237  
 Ion Ratio Lower Upper  
 106 100  
 91 240.2 194.4 254.4





#77  
 Naphthalene  
 Concen: 0.012 ppbv  
 RT: 23.95 min Scan# 1196  
 Delta R.T. 0.021 min  
 Lab File: 090114.D  
 Acq: 1 Sep 2021 6:29 pm

Tgt Ion	Resp	Lower	Upper
128	100		
129	11.7	0.0	41.0
127	12.5	0.0	43.2



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090114.D  
 Acq On : 1 Sep 2021 6:29 pm  
 Operator : bat  
 Sample : 108515-14 1/5.4  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:15:29 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	104522	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	488509	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	435799	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	390941	9.902	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	99.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.		
6) Vinyl chloride	0.00		0	N.D.		
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.	d	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	0.00		0	N.D.		
19) trans-1,2-Dichloroethene	0.00		0	N.D.		
20) Methylene chloride	6.86	84	73262	4.005	ppbv	# 83
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	8.44	63	432	0.011	ppbv	94
28) cis-1,2-Dichloroethene	9.73	96	113	N.D.		
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	11.45	62	122	N.D.		
35) 1,1,1-Trichloroethane	11.94	97	1654	0.049	ppbv	90
36) Carbon tetrachloride	0.00		0	N.D.	d	
37) Benzene	12.72	78	1586	0.025	ppbv	97
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.	d	
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090114.D  
 Acq On : 1 Sep 2021 6:29 pm  
 Operator : bat  
 Sample : 108515-14 1/5.4  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

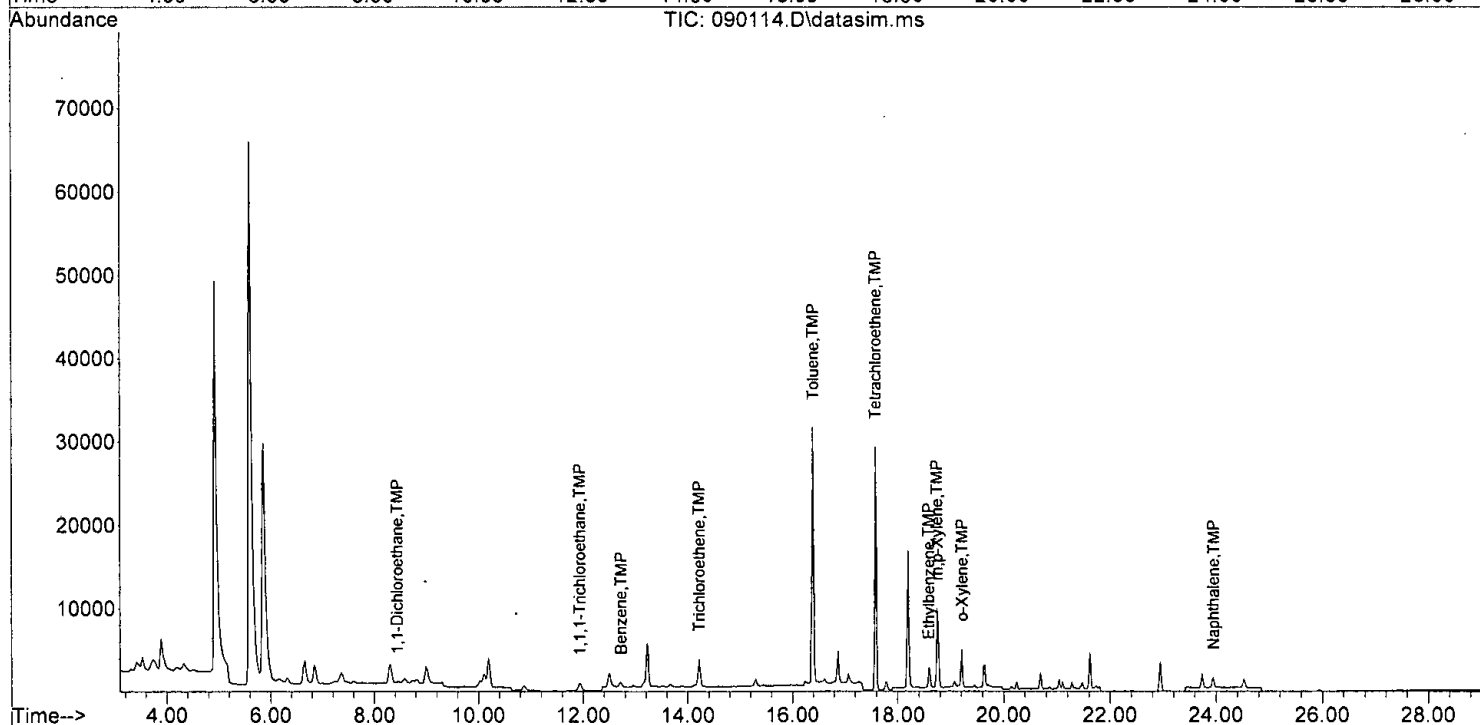
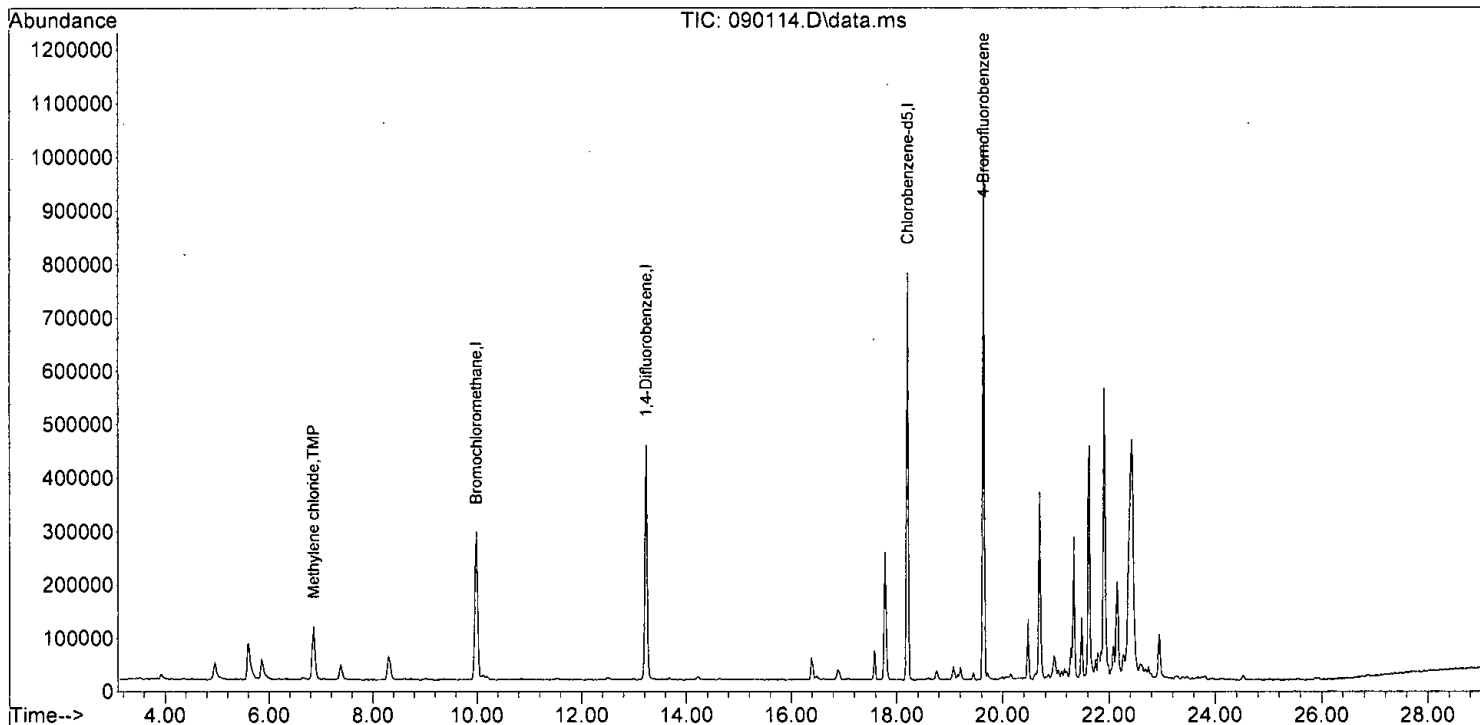
Quant Time: Sep 02 12:15:29 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	2770	0.092	ppbv	82
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	24821	0.678	ppbv	85
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	12865	0.691	ppbv #	79
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	4124	0.043	ppbv	97
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.74	106	6691	0.215	ppbv #	78
66] o-Xylene	19.21	106	2237	0.073	ppbv	90
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77] Naphthalene	23.95	128	2794	0.012	ppbv	98
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

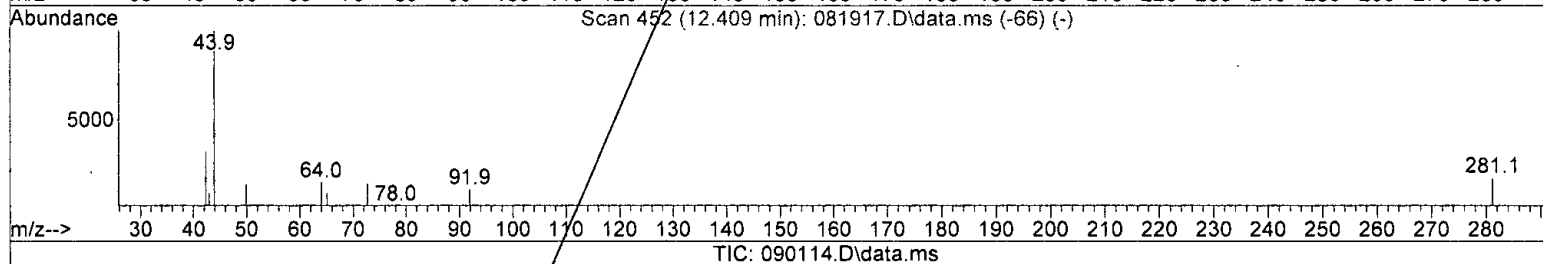
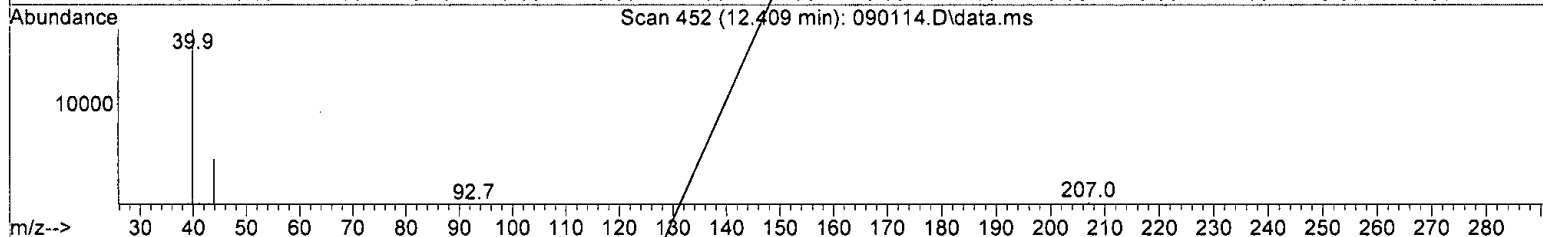
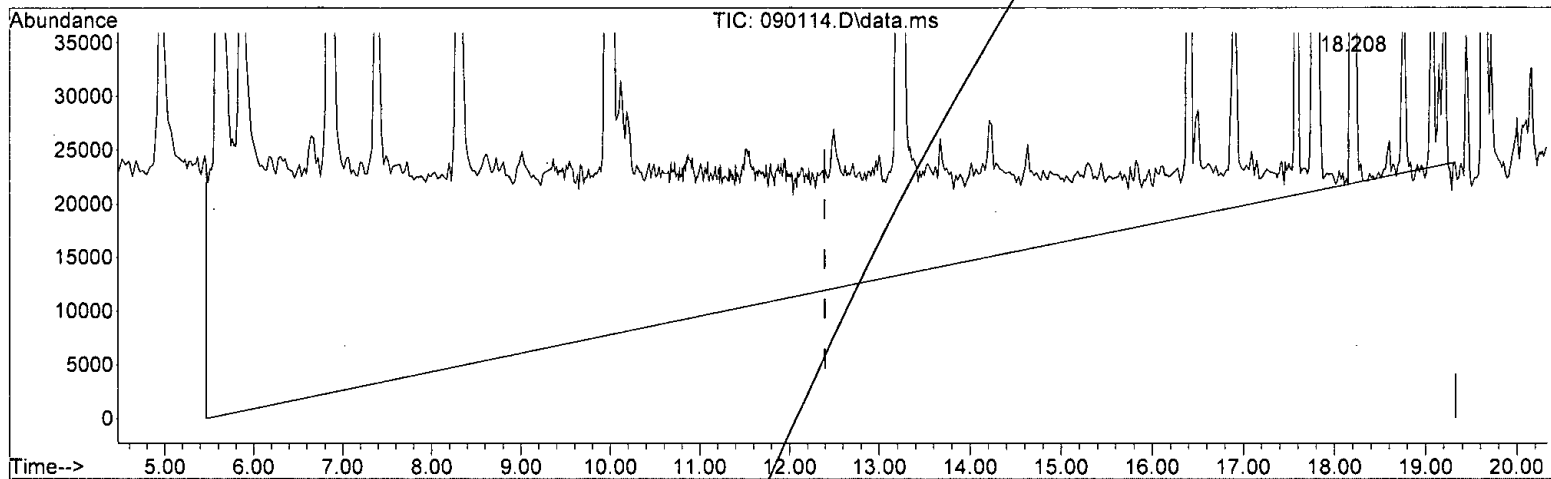
Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090114.D  
 Acq On : 1 Sep 2021 6:29 pm  
 Operator : bat  
 Sample : 108515-14 1/5.4  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:15:29 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090114.D  
 Acq On : 1 Sep 2021 6:29 pm  
 Operator : bat  
 Sample : 108515-14 1/5.4  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:02:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 65.986 ug m3 m

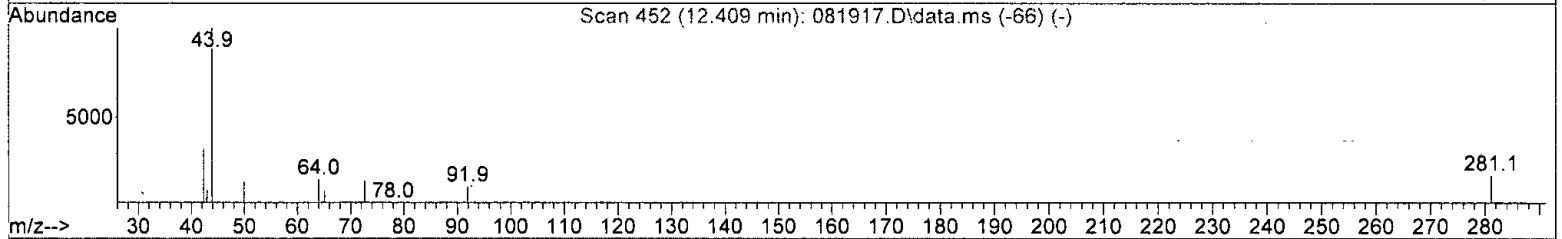
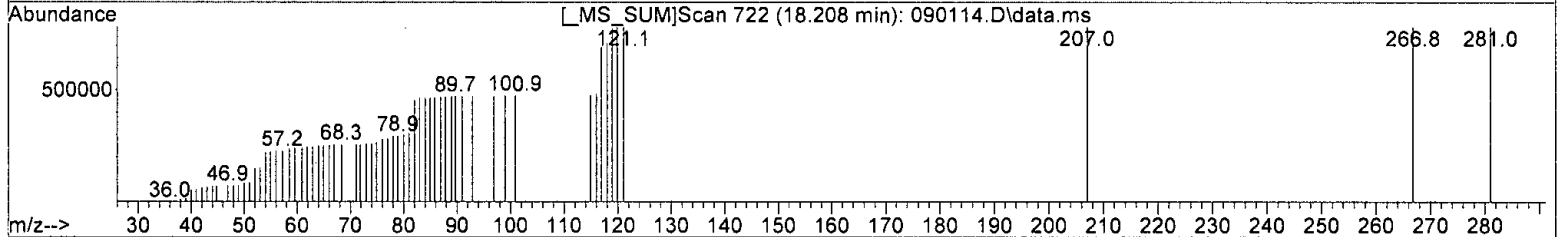
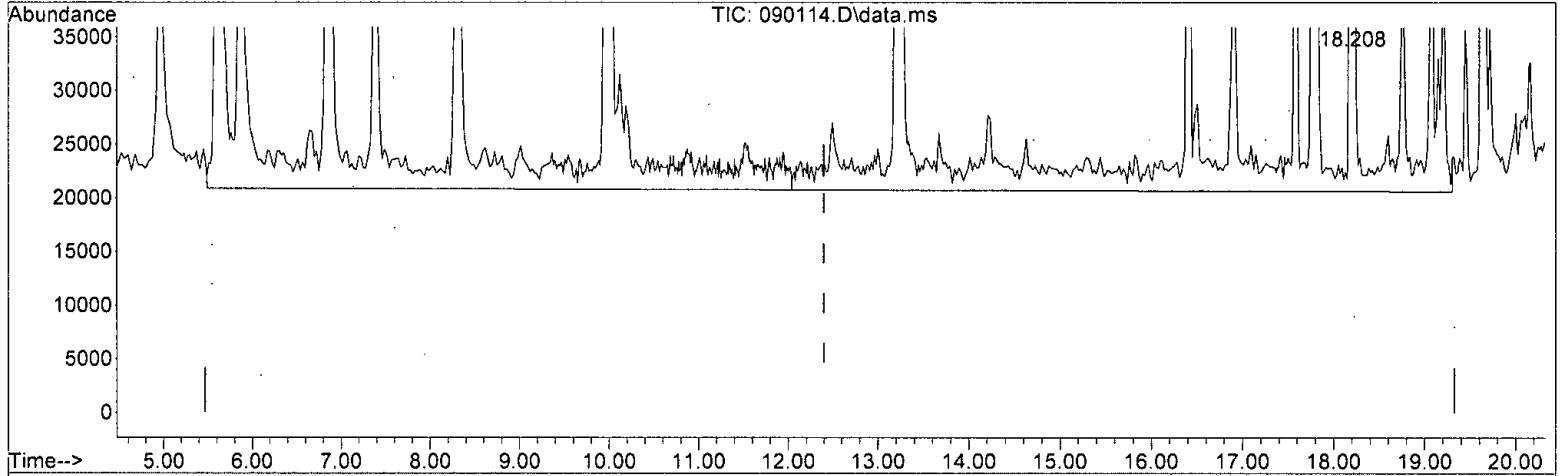
response 2557670

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* H. 09/02/21

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090114.D  
 Acq On : 1 Sep 2021 6:29 pm  
 Operator : bat  
 Sample : 108515-14 1/5.4  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:02:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 219.262 ug/m3 m

response 8498747

Signal Exp% Act%

TIC 100.00 100.00

0.00 0.00 0.00

0.00 0.00 0.00

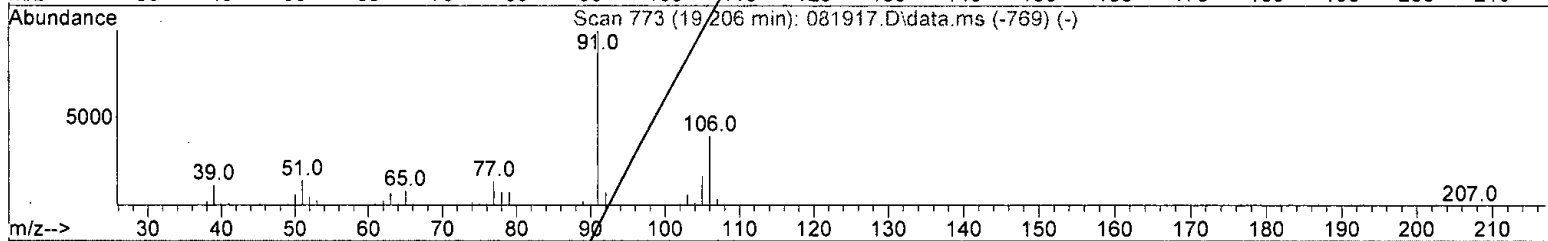
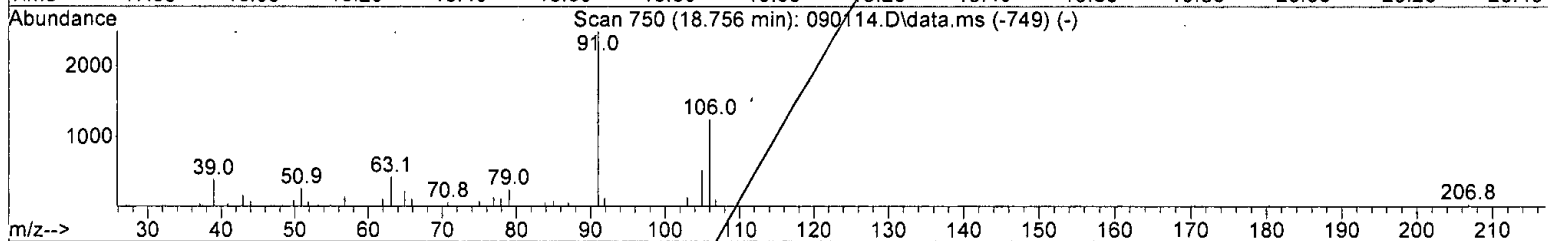
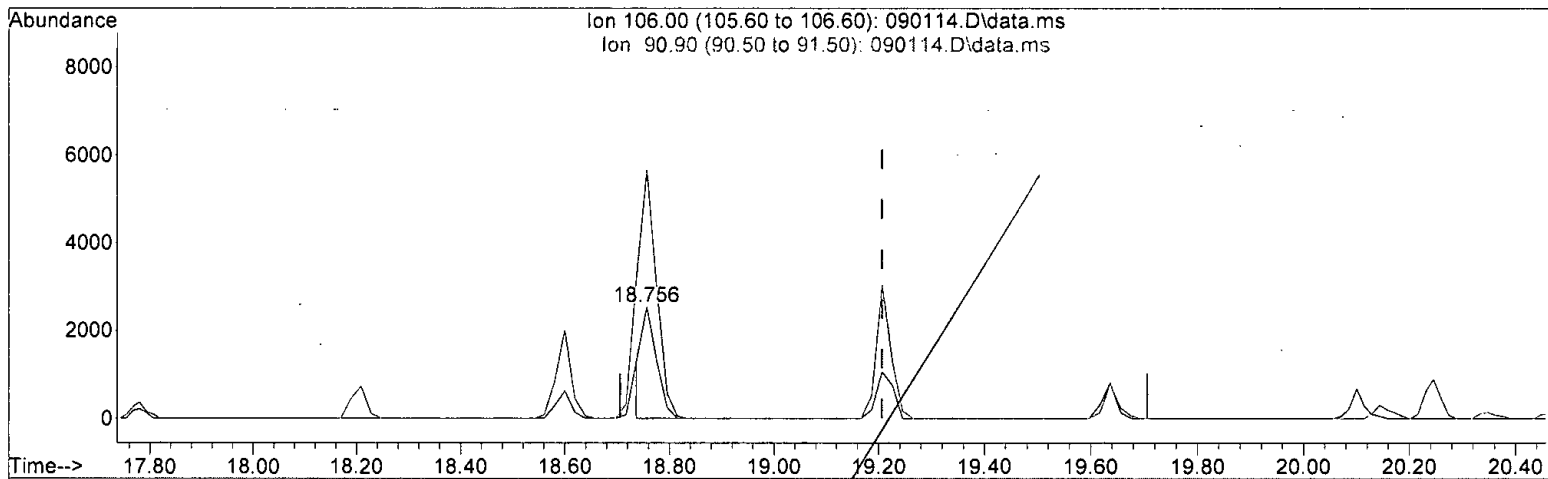
0.00 0.00 0.00

*h  
out/4*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090114.D  
 Acq On : 1 Sep 2021 6:29 pm  
 Operator : bat  
 Sample : 108515-14 1/5.4  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:02:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

18.756min (-0.450) 0.780 ug/m3

response 4791

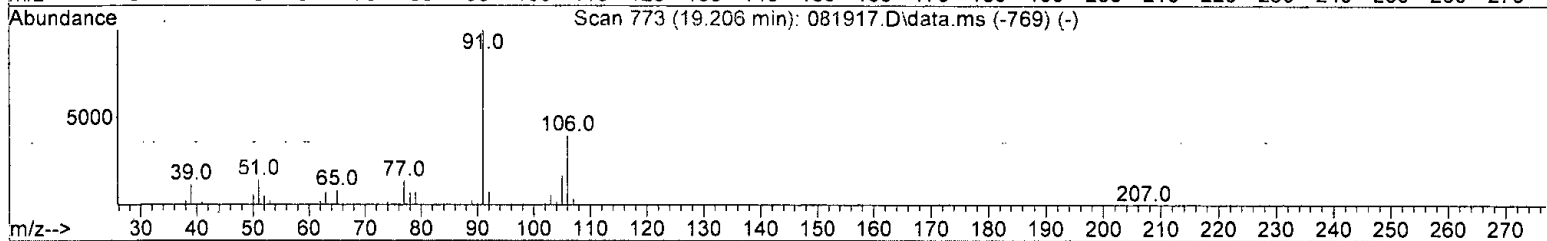
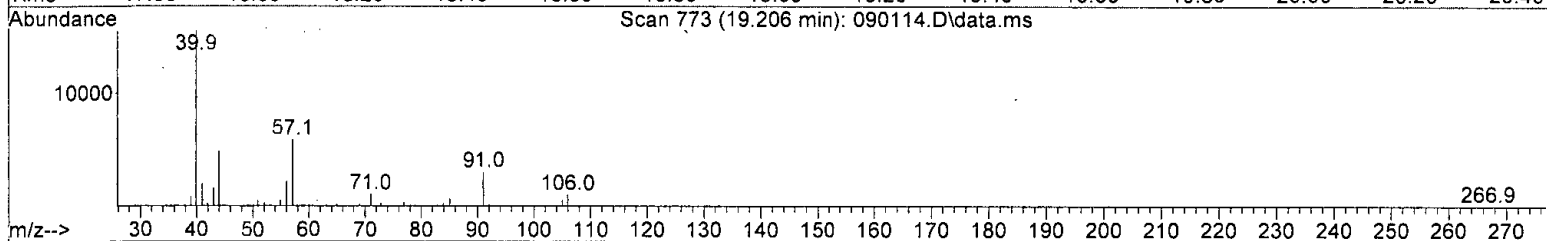
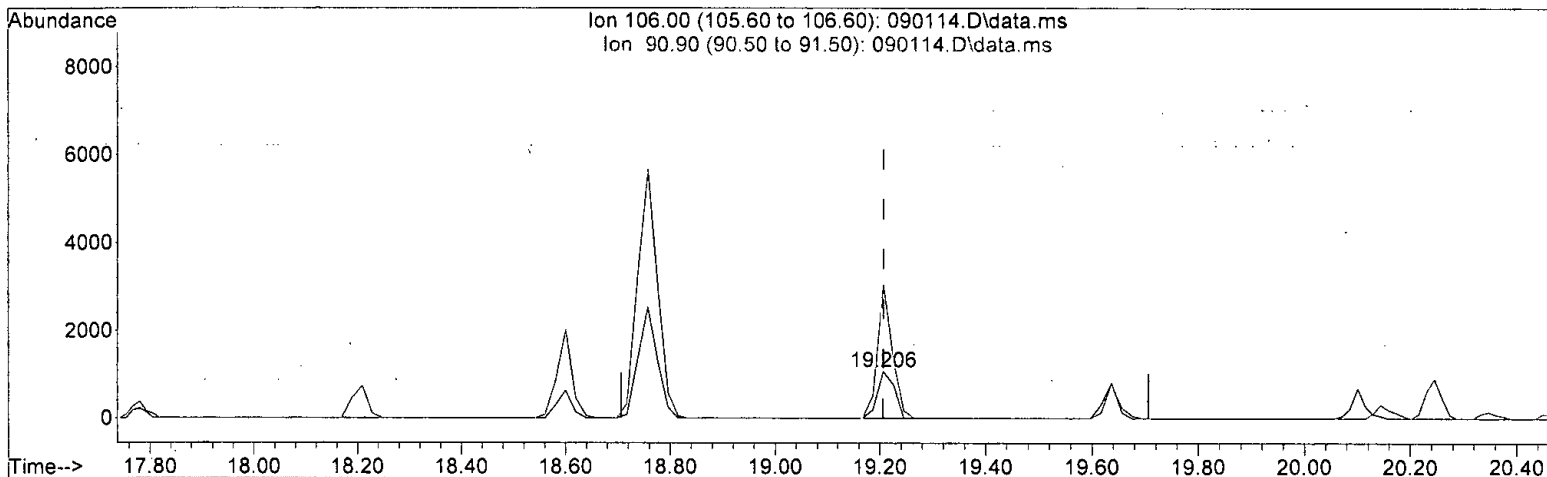
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	223.02
0.00	0.00	0.00
0.00	0.00	0.00

*h  
09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090114.D  
 Acq On : 1 Sep 2021 6:29 pm  
 Operator : bat  
 Sample : 108515-14 1/5.4  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:02:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

19.206min (-0.000) 0.385 ug/m3 m

response 2364

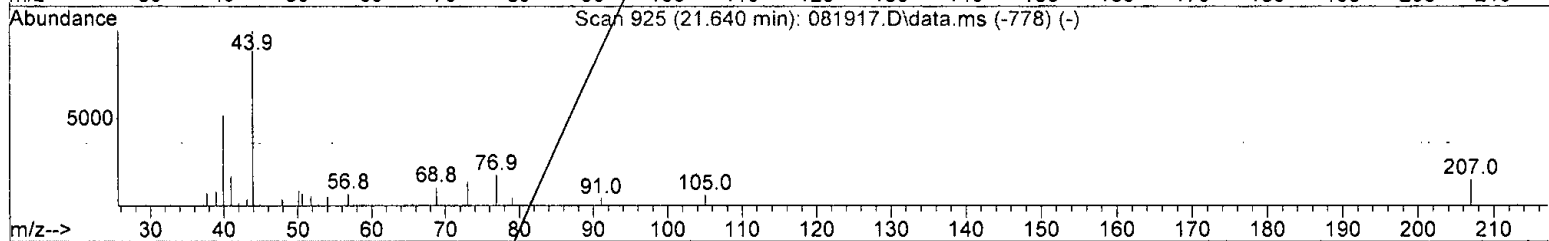
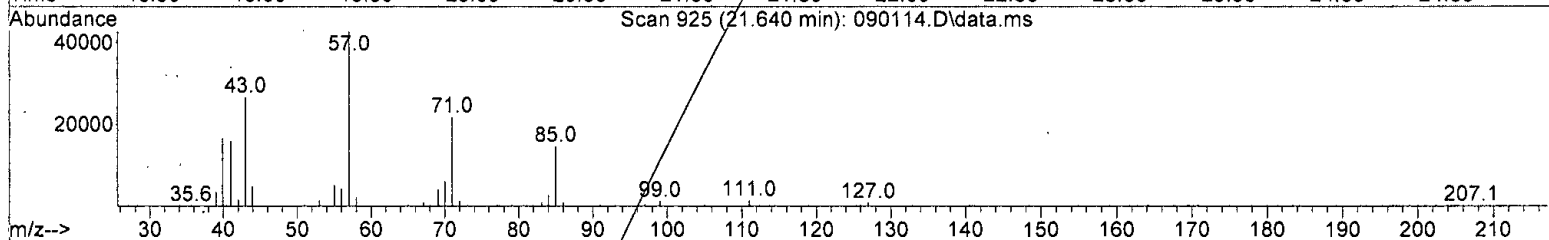
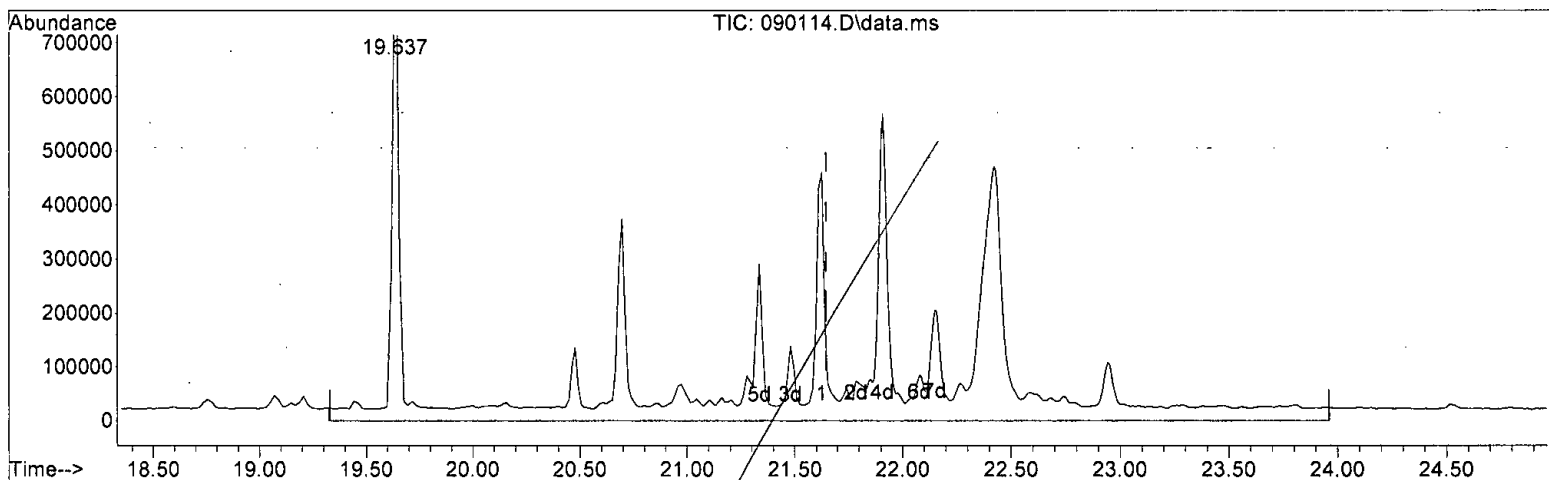
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	286.67#
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090114.D  
 Acq On : 1 Sep 2021 6:29 pm  
 Operator : bat  
 Sample : 108515-14 1/5.4  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:02:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 189.356 ug/m3 m

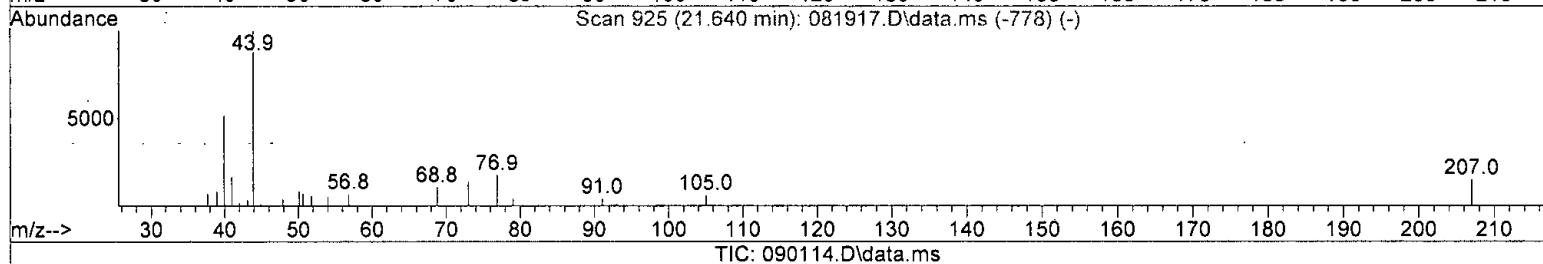
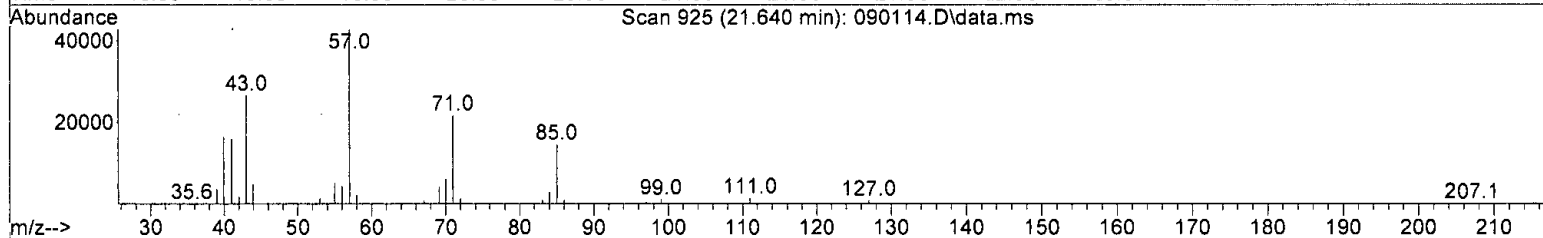
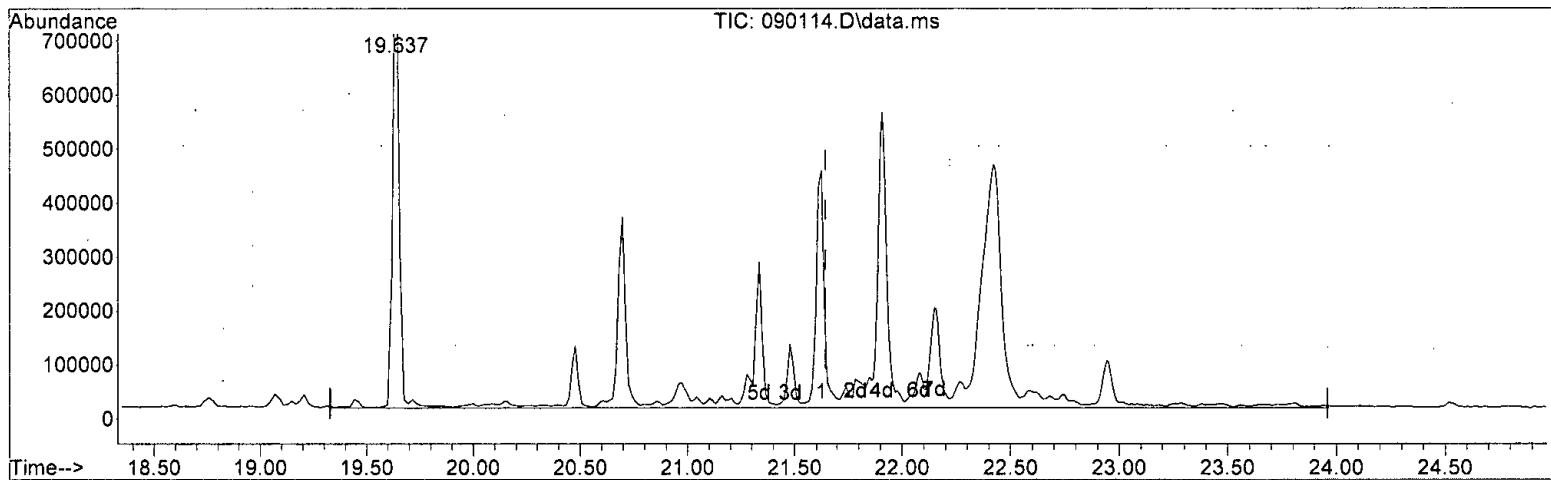
response	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B*  
*09/02/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090114.D  
 Acq On : 1 Sep 2021 6:29 pm  
 Operator : bat  
 Sample : 108515-14 1/5.4  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:02:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 315.920 ug/m3 m

response 14086265

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

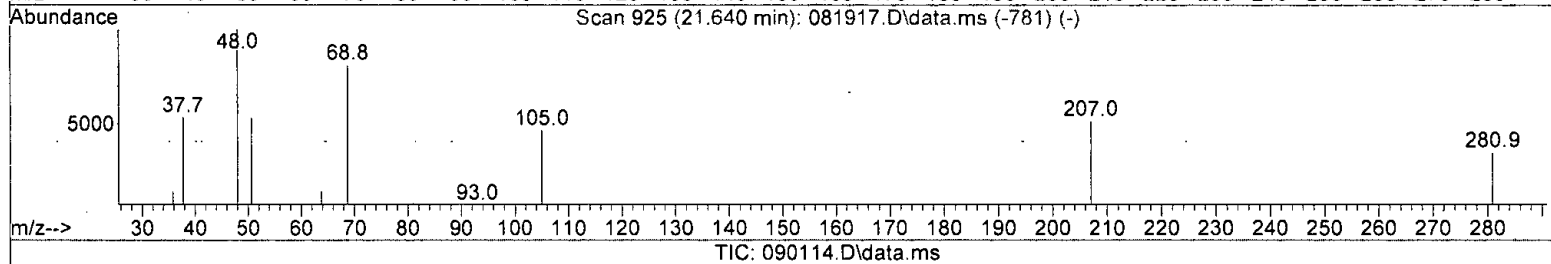
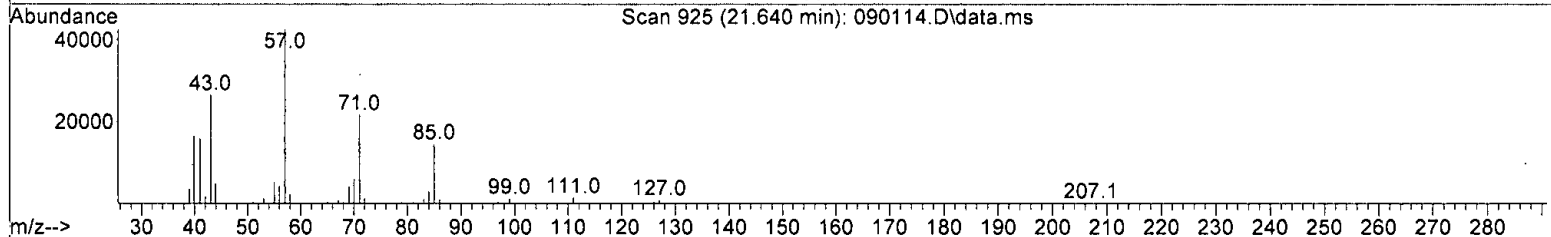
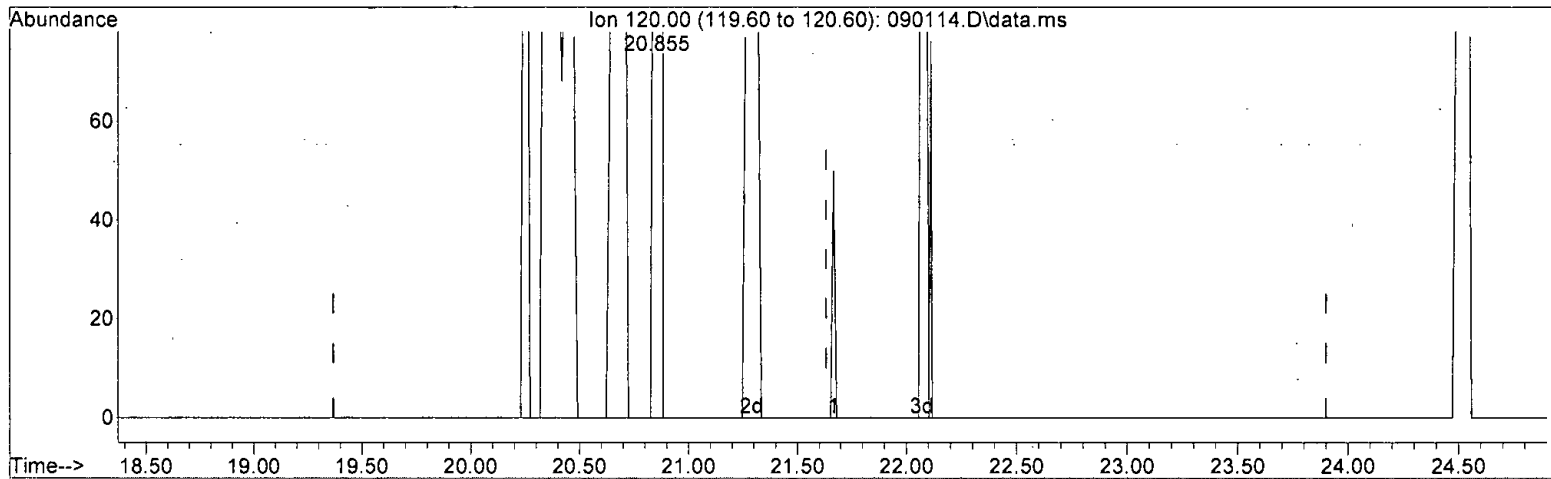
*h or low*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090114.D  
 Acq On : 1 Sep 2021 6:29 pm  
 Operator : bat  
 Sample : 108515-14 1/5.4  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:02:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) -14.933 ug/m3 m

response -77522

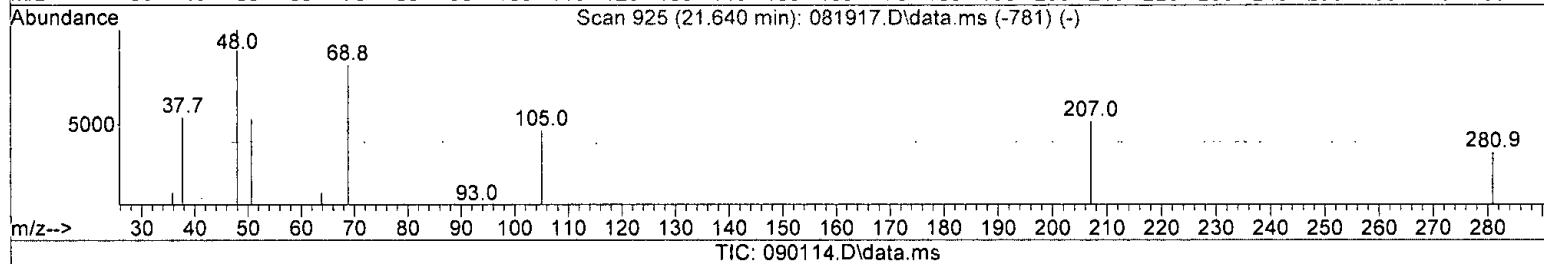
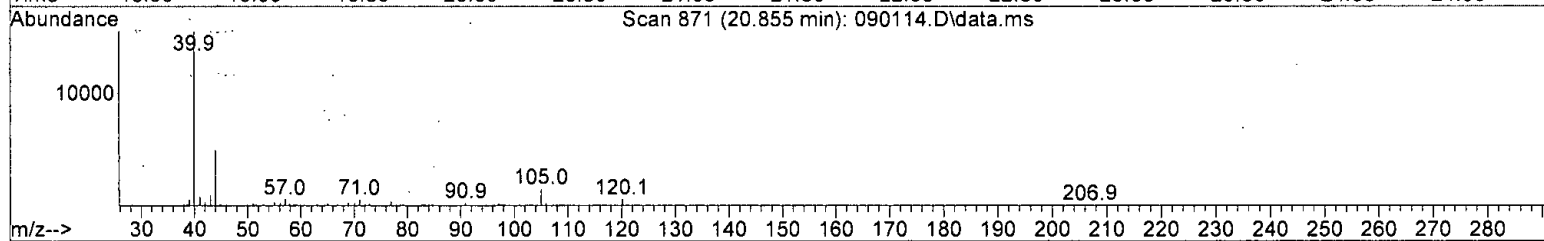
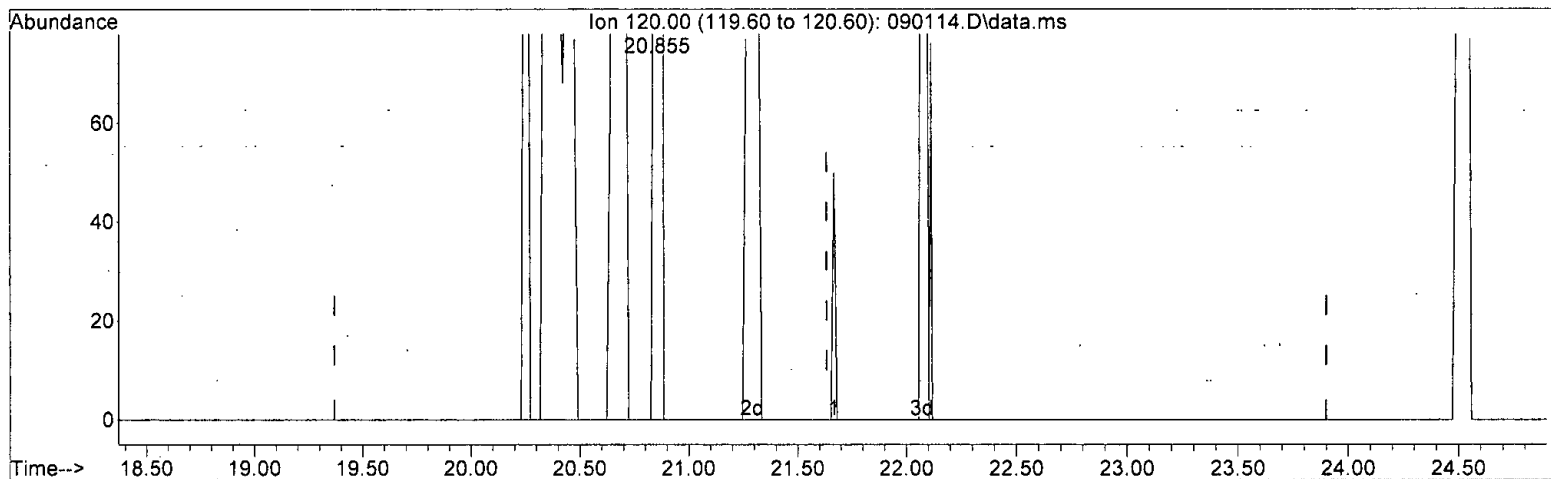
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
Data File : 090114.D  
Acq On : 1 Sep 2021 6:29 pm  
Operator : bat  
Sample : 108515-14 1/5.4  
Misc : T4  
ALS Vial : 14 Sample Multiplier: 1  
InstName : GCMS7

Quant Time: Sep 02 12:02:54 2021  
Quant Method : F:\METHODS\Inst7\0819APH7.M  
Quant Title : APH TO-15 method  
QLast Update : Fri Aug 20 08:33:26 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 0.865 ug/m3 m

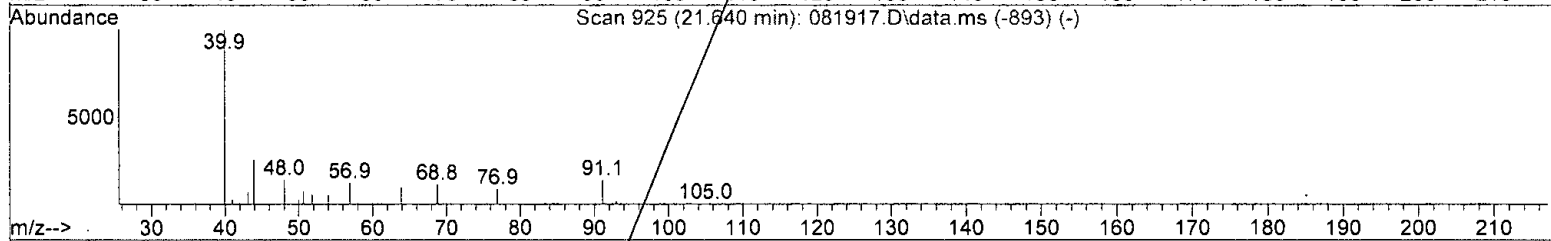
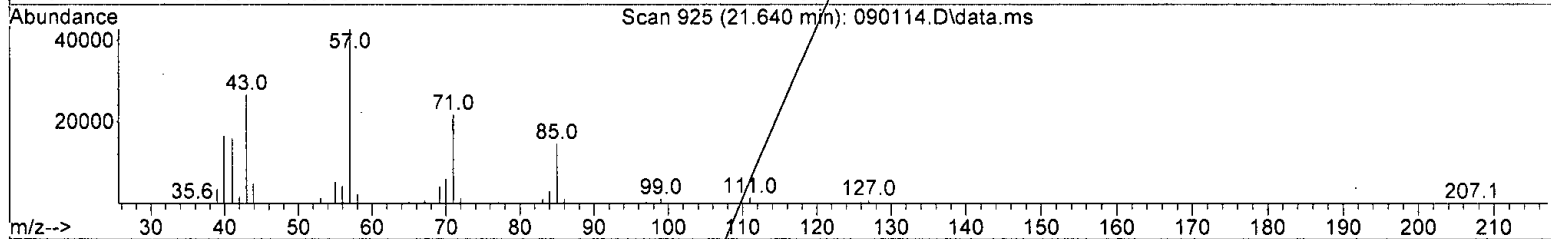
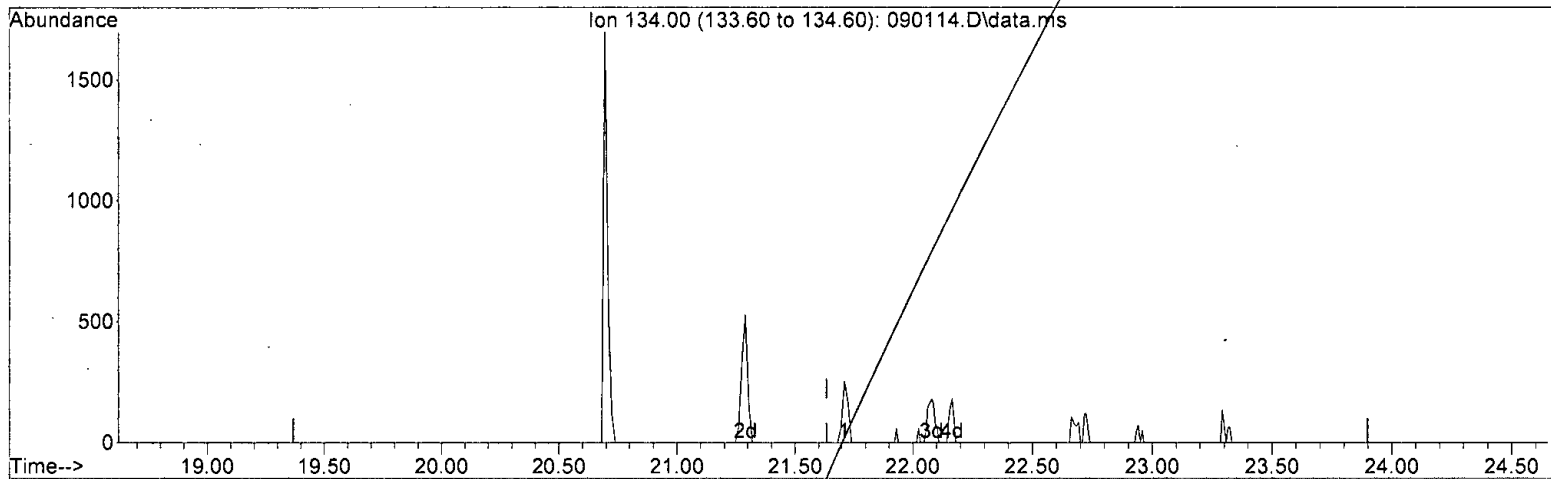
response 4488

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090114.D  
 Acq On : 1 Sep 2021 6:29 pm  
 Operator : bat  
 Sample : 108515-14 1/5.4  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:02:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090114.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) -26.294 ug/m3 m

response -77748

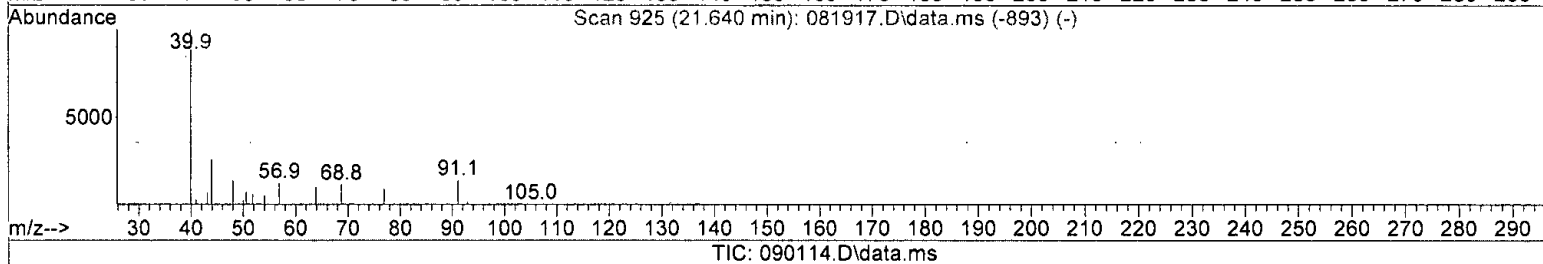
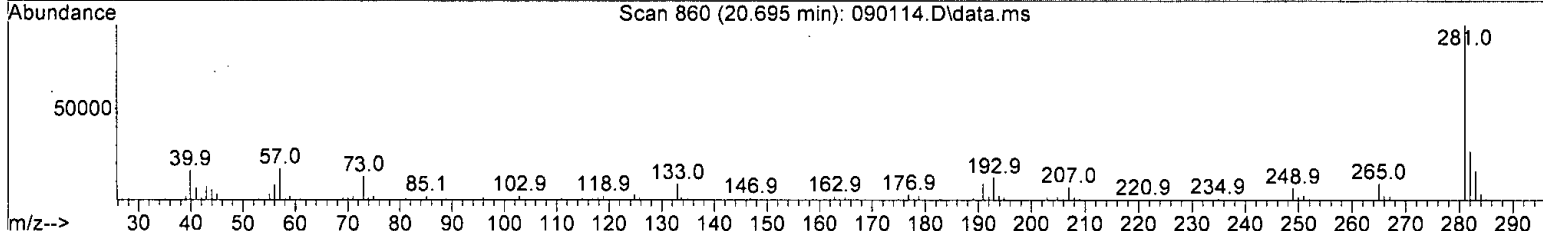
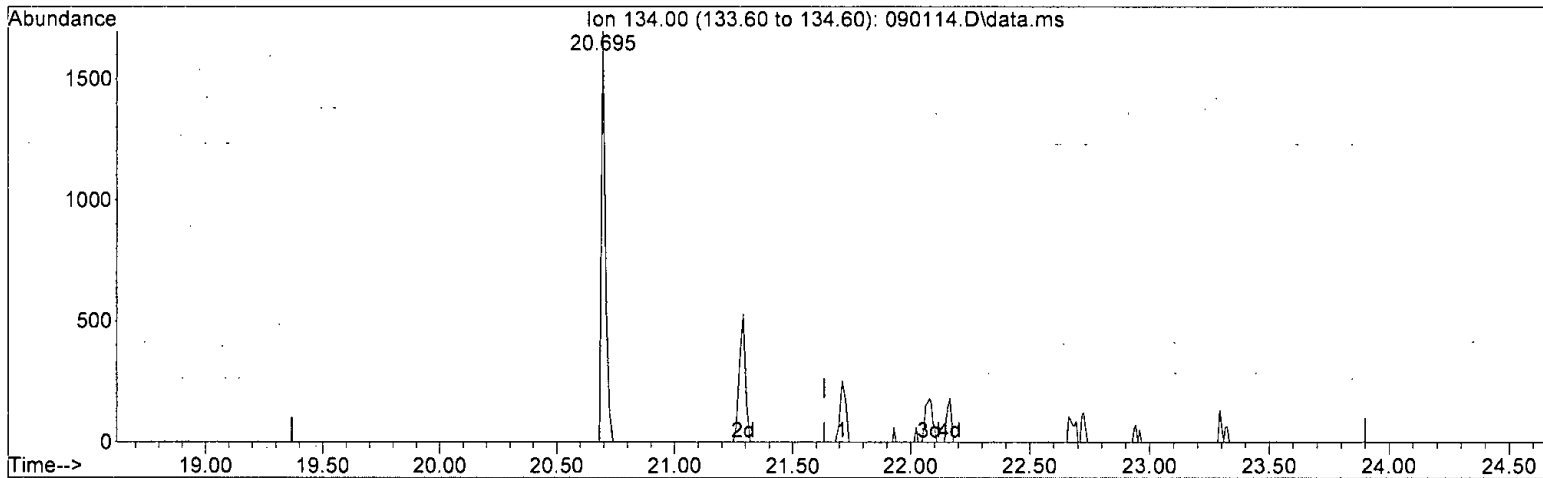
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*h/ol/2/4*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090114.D  
 Acq On : 1 Sep 2021 6:29 pm  
 Operator : bat  
 Sample : 108515-14 1/5.4  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:02:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 1.616 ug/m3 m

response 4779

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*bat*

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090114.D  
 Acq On : 1 Sep 2021 6:29 pm  
 Operator : bat  
 Sample : 108515-14 1/5.4  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:11:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	104522	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	488509	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	435799	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	390941	71.601	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	100.85%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	986203	53.438	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1358693	51.870	ug/m3	92
4) IS-3 Chlorobenzene-d5	18.21	TIC	1624145	51.119	ug/m3	91
5) Methylene chloride	6.86	TIC	379739	406.419	ug/m3	91
6) Acetone	5.60	TIC	353199	7.166	ppbv	100
7) 2-Propanol	5.86	TIC	221288	772.702	ppbv	100
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	8.49	73	263	0.033	ug/m3	56
11) Benzene	12.71	78	1443	0.087	ug/m3	93
12) Isopentane	5.60	TIC	353199	10.707	ug/m3#	48
13) Hexane	9.99	TIC	986203	30.462	ug/m3	61
14) Cyclohexane	13.23	TIC	1358693	40.068	ug/m3	94
15) 2,3-Dimethylpentane	13.23	TIC	1358693	31.397	ug/m3	64
16) Heptane	14.63	TIC	18591	0.526	ug/m3	88
17) Octane	17.78	TIC	638804	13.173	ug/m3	62
18) APH EC5-8 aliphatics T...	0.00	TIC	4714183m	121.623	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	8498747m	219.262	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1876377	51.002	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	792472	87.452	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	875180	77.383	ppbv	100
24) Toluene	16.39	92	21656	2.316	ug/m3	99
25) Ethylbenzene	18.60	91	4045	0.209	ug/m3	99
26) m,p-Xylene	18.76	106	6405	0.986	ug/m3	96
27) o-Xylene	19.21	106	2364m	0.385	ug/m3	
28) Naphthalene	23.94	128	2910	0.186	ug/m3	86
29) 2,3-Dimethylheptane	18.76	TIC	58096	1.326	ug/m3#	59
30) Nonane	19.21	TIC	79666	1.742	ug/m3	83
31) Decane	20.97	TIC	163852	3.606	ug/m3	99
32) Butylcyclohexane	21.63	TIC	1106531	21.440	ug/m3	61
33) Undecane	22.27	TIC	99424	2.206	ug/m3	97
34) Dodecane	23.81	TIC	30088	0.814	ug/m3	92
35) APH EC9-12 aliphatics ...	21.63	TIC	1537657m	34.486	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	14086265m	315.920	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	20.35	120	519	0.109	ug/m3#	64
40) 1,3,5-Trimethylbenzene	20.45	120	621	0.103	ug/m3	93
41) p-Isopropyltoluene	21.29	134	953	0.321	ug/m3#	57
42) 1,2,3-Trimethylbenzene	21.29	120	946	0.133	ug/m3#	81
43) APH EC9-10 aromatics T...	21.63	TIC	3039m	0.646	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	4488m	0.865	ug/m3	

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090114.D  
 Acq On : 1 Sep 2021 6:29 pm  
 Operator : bat  
 Sample : 108515-14 1/5.4  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

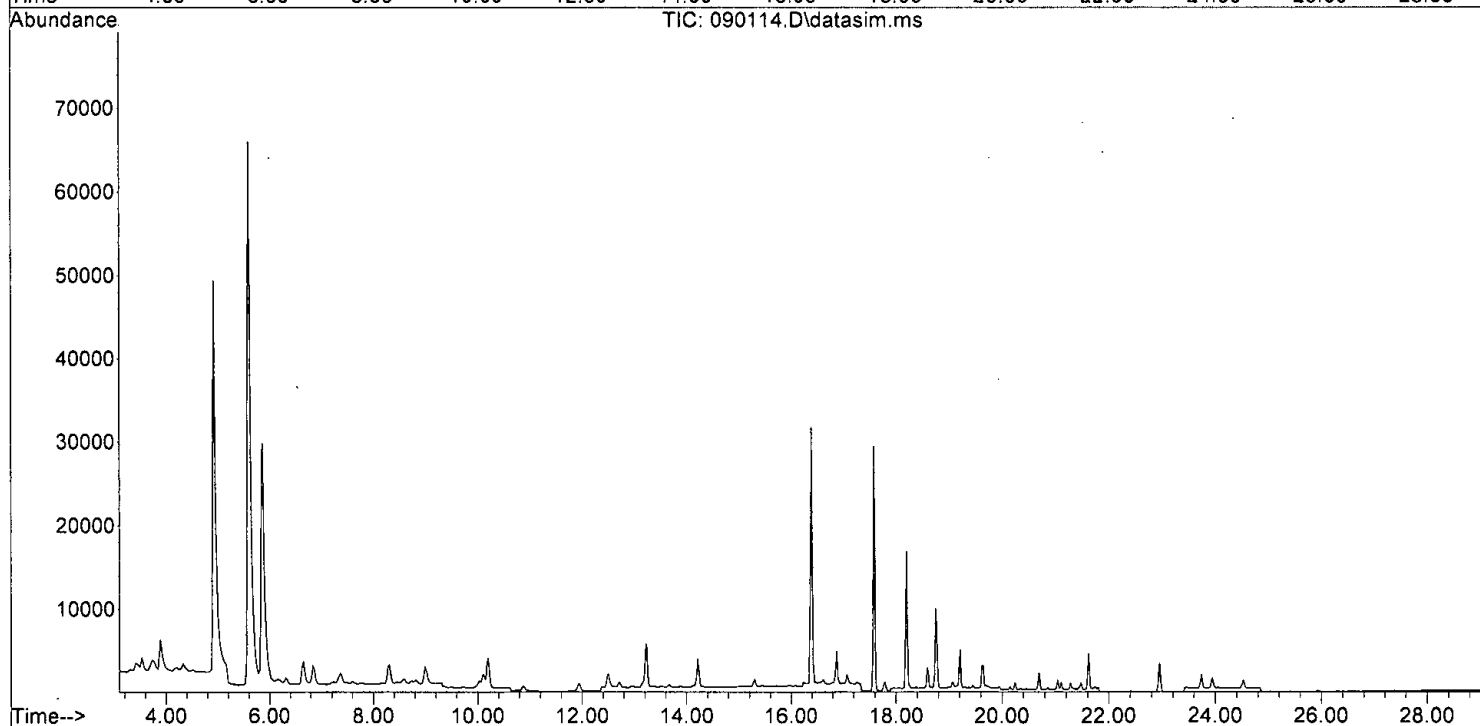
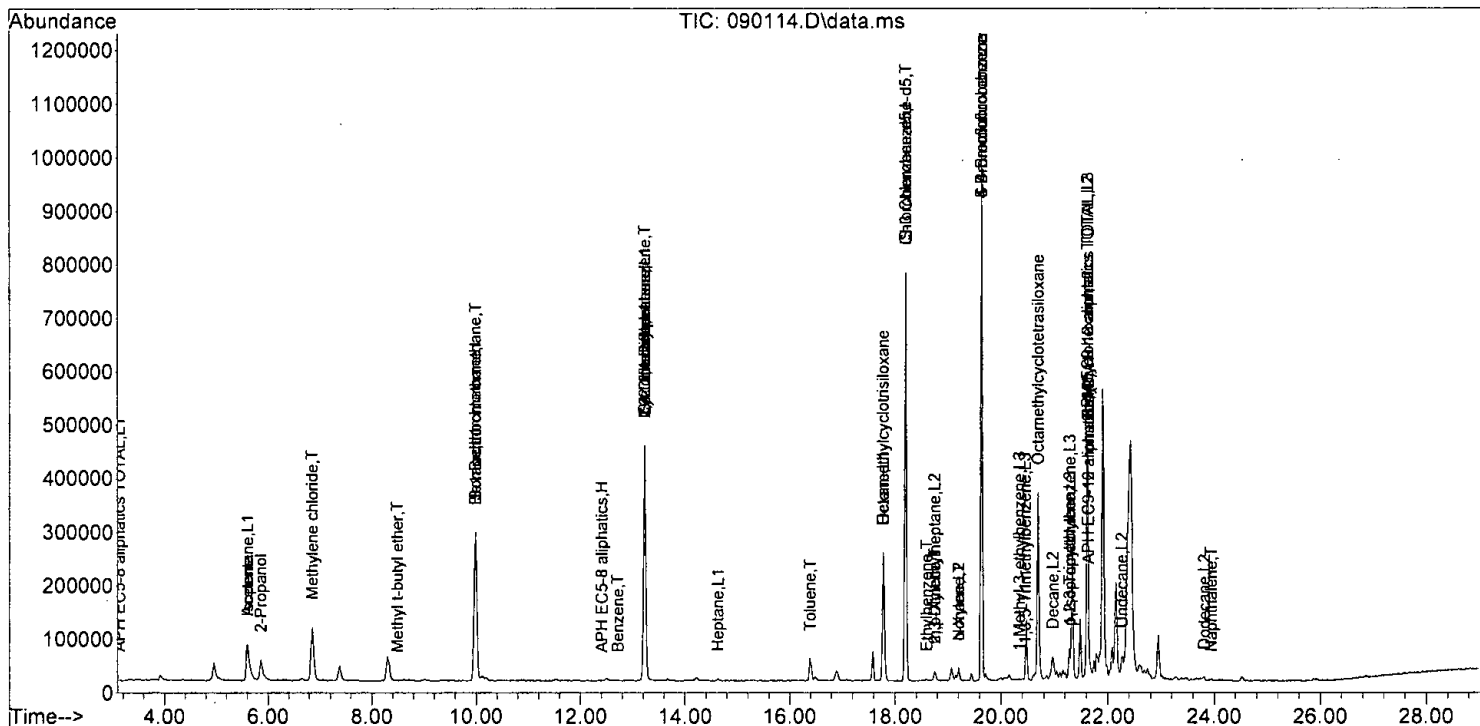
Quant Time: Sep 02 12:11:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	4779m	1.616	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-01-21\  
 Data File : 090114.D  
 Acq On : 1 Sep 2021 6:29 pm  
 Operator : bat  
 Sample : 108515-14 1/5.4  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 02 12:11:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
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September 17, 2021

Trevor Louviere, Project Manager  
Dalton Olmsted Fuglevand  
1001 SW Klickitat Way  
Seattle, WA 98134

Dear Mr Louviere:

Included are the results from the testing of material submitted on September 1, 2021 from the TWAAFA-001, F&BI 109030 project. There are 35 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
DOF0917R.DOC



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 1, 2020 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 109030 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Dalton Olmsted Fuglevand</u>
109030 -01	TWA-SV-7-090121
109030 -02	TWA-SV-8-090121
109030 -03	TWA-SV-15-090121
109030 -04	TWA-SV-17-090121
109030 -05	TWA-SV-18-090121
109030 -06	TWA-SV-19-090121
109030 -07	TWA-SV-20-090121
109030 -08	TWA-SV-21-090121
109030 -09	TWA-SV-22-090121
109030 -10	TWA-SV-23-090121
109030 -11	TWA-SV-26-090121
109030 -12	TWA-SV-25-090121
109030 -13	TWA-SV-24-090121
109030 -14	TWA-SV-27-090121

Individually certified canisters were provided for TO-15 sampling.

Non-petroleum compounds identified in the air phase hydrocarbon (APH) ranges were subtracted per the MA-APH method.

The APH EC5-8 aliphatics concentration in samples TWA-SV-21-090121, TWA-SV-22-090121, TWA-SV-25-090121, and TWA-SV-27-090121 exceeded the calibration range of the instrument. The data were flagged accordingly.

The TO-15 trichloroethene and tetrachloroethene concentration in sample TWA-SV-19-090121 and the toluene concentration in sample TWA-SV-25-090121 exceeded the calibration range of the instrument. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-7-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-01 1/5.8
Date Analyzed:	09/03/21	Data File:	090311.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	99	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<430
APH EC9-12 aliphatics	510
APH EC9-10 aromatics	<140

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-8-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-02 1/5.0
Date Analyzed:	09/03/21	Data File:	090322.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	99	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<370
APH EC9-12 aliphatics	340
APH EC9-10 aromatics	<120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-15-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-03 1/5.4
Date Analyzed:	09/03/21	Data File:	090313.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	100	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<400
APH EC9-12 aliphatics	630
APH EC9-10 aromatics	<130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-17-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-04 1/6.1
Date Analyzed:	09/03/21	Data File:	090314.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<460
APH EC9-12 aliphatics	880
APH EC9-10 aromatics	<150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-18-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-05 1/5.4
Date Analyzed:	09/03/21	Data File:	090317.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<400
APH EC9-12 aliphatics	810
APH EC9-10 aromatics	<130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-19-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-06 1/17
Date Analyzed:	09/03/21	Data File:	090323.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	9,300
APH EC9-12 aliphatics	4,200
APH EC9-10 aromatics	1,100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-20-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-07 1/5.8
Date Analyzed:	09/03/21	Data File:	090318.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	100	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	1,800
APH EC9-12 aliphatics	2,600
APH EC9-10 aromatics	150



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-21-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-08 1/5.5
Date Analyzed:	09/03/21	Data File:	090319.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	101	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	3,500 ve
APH EC9-12 aliphatics	1,200
APH EC9-10 aromatics	<140

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-22-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-09 1/2200
Date Analyzed:	09/04/21	Data File:	090329.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	102	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	3,800,000 ve
APH EC9-12 aliphatics	1,100,000
APH EC9-10 aromatics	<55,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-23-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-10 1/5.7
Date Analyzed:	09/03/21	Data File:	090321.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<430
APH EC9-12 aliphatics	490
APH EC9-10 aromatics	<140

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-26-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-11 1/5.9
Date Analyzed:	09/03/21	Data File:	090315.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	740
APH EC9-12 aliphatics	910
APH EC9-10 aromatics	<150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-25-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-12 1/2100
Date Analyzed:	09/04/21	Data File:	090331.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	95	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	7,300,000 ve
APH EC9-12 aliphatics	530,000
APH EC9-10 aromatics	75,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-24-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-13 1/1100
Date Analyzed:	09/04/21	Data File:	090327.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	101	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	350,000
APH EC9-12 aliphatics	670,000
APH EC9-10 aromatics	<27,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-27-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-14 1/1100
Date Analyzed:	09/03/21	Data File:	090325.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	1,200,000 ve
APH EC9-12 aliphatics	300,000
APH EC9-10 aromatics	<27,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 109030
Date Collected:	Not Applicable	Lab ID:	01-2004 MB
Date Analyzed:	09/03/21	Data File:	090310.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-7-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-01 1/5.8
Date Analyzed:	09/03/21	Data File:	090311.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.5	<0.58
Methylene chloride	<200	<58
cis-1,2-Dichloroethene	<2.3	<0.58
Benzene	<1.9	<0.58
Trichloroethene	<0.62	<0.12
Toluene	<110	<29
Tetrachloroethene	<39	<5.8
Ethylbenzene	<2.5	<0.58
m,p-Xylene	<5	<1.2
o-Xylene	<2.5	<0.58
Naphthalene	<1.5	<0.29

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-8-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-02 1/5.0
Date Analyzed:	09/03/21	Data File:	090322.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.3	<0.5
Methylene chloride	<170	<50
cis-1,2-Dichloroethene	<2	<0.5
Benzene	<1.6	<0.5
Trichloroethene	<0.54	<0.1
Toluene	<94	<25
Tetrachloroethene	<34	<5
Ethylbenzene	<2.2	<0.5
m,p-Xylene	<4.3	<1
o-Xylene	<2.2	<0.5
Naphthalene	<1.3	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-15-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-03 1/5.4
Date Analyzed:	09/03/21	Data File:	090313.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.4	<0.54
Methylene chloride	<190	<54
cis-1,2-Dichloroethene	<2.1	<0.54
Benzene	<1.7	<0.54
Trichloroethene	2.0	0.37
Toluene	<100	<27
Tetrachloroethene	<37	<5.4
Ethylbenzene	<2.3	<0.54
m,p-Xylene	8.0	1.8
o-Xylene	3.0	0.70
Naphthalene	<1.4	<0.27

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-17-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-04 1/6.1
Date Analyzed:	09/03/21	Data File:	090314.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	96	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.6	<0.61
Methylene chloride	<210	<61
cis-1,2-Dichloroethene	<2.4	<0.61
Benzene	<1.9	<0.61
Trichloroethene	27	5.0
Toluene	<110	<30
Tetrachloroethene	<41	<6.1
Ethylbenzene	<2.6	<0.61
m,p-Xylene	<5.3	<1.2
o-Xylene	<2.6	<0.61
Naphthalene	<1.6	<0.3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-18-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-05 1/5.4
Date Analyzed:	09/03/21	Data File:	090317.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	96	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.4	<0.54
Methylene chloride	<190	<54
cis-1,2-Dichloroethene	<2.1	<0.54
Benzene	<1.7	<0.54
Trichloroethene	0.84	0.16
Toluene	<100	<27
Tetrachloroethene	<37	<5.4
Ethylbenzene	2.5	0.58
m,p-Xylene	<4.7	<1.1
o-Xylene	<2.3	<0.54
Naphthalene	<1.4	<0.27

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-19-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-06 1/17
Date Analyzed:	09/03/21	Data File:	090323.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	% Recovery:	Lower Limit:	Upper Limit:
Surrogates:			
4-Bromofluorobenzene	95	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<4.3	<1.7
Methylene chloride	<590	<170
cis-1,2-Dichloroethene	150	38
Benzene	7.7	2.4
Trichloroethene	1,500 ve	270 ve
Toluene	<320	<85
Tetrachloroethene	21,000 ve	3,100 ve
Ethylbenzene	<7.4	<1.7
m,p-Xylene	<15	<3.4
o-Xylene	<7.4	<1.7
Naphthalene	<4.5	<0.85

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-20-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-07 1/5.8
Date Analyzed:	09/03/21	Data File:	090318.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	3.3	1.3
Methylene chloride	<200	<58
cis-1,2-Dichloroethene	3.8	0.96
Benzene	6.0	1.9
Trichloroethene	29	5.4
Toluene	<110	<29
Tetrachloroethene	520	76
Ethylbenzene	10	2.4
m,p-Xylene	15	3.6
o-Xylene	6.6	1.5
Naphthalene	<1.5	<0.29

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-21-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-08 1/5.5
Date Analyzed:	09/03/21	Data File:	090319.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	99	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.4	<0.55
Methylene chloride	<190	<55
cis-1,2-Dichloroethene	3.2	0.82
Benzene	170	54
Trichloroethene	7.0	1.3
Toluene	<100	<27
Tetrachloroethene	<37	<5.5
Ethylbenzene	<2.4	<0.55
m,p-Xylene	<4.8	<1.1
o-Xylene	9.7	2.2
Naphthalene	<1.4	<0.28



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-22-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-09 1/2200
Date Analyzed:	09/04/21	Data File:	090329.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	100	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	1,200	460
Methylene chloride	<76,000	<22,000
cis-1,2-Dichloroethene	<870	<220
Benzene	2,200	690
Trichloroethene	<240	<44
Toluene	<41,000	<11,000
Tetrachloroethene	<15,000	<2,200
Ethylbenzene	15,000	3,300
m,p-Xylene	4,600	1,100
o-Xylene	9,600	2,200
Naphthalene	<580	<110

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-23-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-10 1/5.7
Date Analyzed:	09/03/21	Data File:	090321.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	96	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.5	<0.57
Methylene chloride	<200	<57
cis-1,2-Dichloroethene	<2.3	<0.57
Benzene	<1.8	<0.57
Trichloroethene	1.5	0.28
Toluene	<110	<28
Tetrachloroethene	<39	<5.7
Ethylbenzene	<2.5	<0.57
m,p-Xylene	<5	<1.1
o-Xylene	<2.5	<0.57
Naphthalene	<1.5	<0.28

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-26-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-11 1/5.9
Date Analyzed:	09/03/21	Data File:	090315.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	96	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.5	<0.59
Methylene chloride	<200	<59
cis-1,2-Dichloroethene	<2.3	<0.59
Benzene	<1.9	<0.59
Trichloroethene	3.8	0.71
Toluene	<110	<29
Tetrachloroethene	390	58
Ethylbenzene	<2.6	<0.59
m,p-Xylene	<5.1	<1.2
o-Xylene	<2.6	<0.59
Naphthalene	<1.5	<0.29

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-25-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-12 1/2100
Date Analyzed:	09/04/21	Data File:	090331.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	94	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	18,000	6,900
Methylene chloride	<73,000	<21,000
cis-1,2-Dichloroethene	10,000	2,500
Benzene	45,000	14,000
Trichloroethene	4,500	830
Toluene	120,000 ve	32,000 ve
Tetrachloroethene	79,000	12,000
Ethylbenzene	21,000	4,800
m,p-Xylene	27,000	6,300
o-Xylene	12,000	2,800
Naphthalene	<550	<100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-24-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-13 1/1100
Date Analyzed:	09/04/21	Data File:	090327.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	99	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	3,700	1,400
Methylene chloride	<38,000	<11,000
cis-1,2-Dichloroethene	2,900	730
Benzene	8,200	2,600
Trichloroethene	270	49
Toluene	<21,000	<5,500
Tetrachloroethene	<7,500	<1,100
Ethylbenzene	1,800	400
m,p-Xylene	2,500	570
o-Xylene	1,400	330
Naphthalene	<290	<55

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-27-090121	Client:	Dalton Olmsted Fuglevand
Date Received:	09/01/21	Project:	TWAAFA-001, F&BI 109030
Date Collected:	09/01/21	Lab ID:	109030-14 1/1100
Date Analyzed:	09/03/21	Data File:	090325.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	96	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<280	<110
Methylene chloride	<38,000	<11,000
cis-1,2-Dichloroethene	<440	<110
Benzene	5,400	1,700
Trichloroethene	<120	<22
Toluene	<21,000	<5,500
Tetrachloroethene	<7,500	<1,100
Ethylbenzene	1,700	380
m,p-Xylene	1,800	410
o-Xylene	840	190
Naphthalene	<290	<55

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 109030
Date Collected:	Not Applicable	Lab ID:	01-2004 MB
Date Analyzed:	09/03/21	Data File:	090310.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	97	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Methylene chloride	<35	<10
cis-1,2-Dichloroethene	<0.4	<0.1
Benzene	<0.32	<0.1
Trichloroethene	<0.11	<0.02
Toluene	<19	<5
Tetrachloroethene	<6.8	<1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.26	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/17/21

Date Received: 09/01/21

Project: TWAAFA-001, F&BI 109030

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD MA-APH**

Laboratory Code: 109030-01 1/5.8 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	<430	<430	nm
APH EC9-12 aliphatics	ug/m3	510	590	15
APH EC9-10 aromatics	ug/m3	<140	<140	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	92	70-130
APH EC9-12 aliphatics	ug/m3	67	123	70-130
APH EC9-10 aromatics	ug/m3	67	106	70-130



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/17/21

Date Received: 09/01/21

Project: TWAAFA-001, F&BI 109030

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD TO-15**

Laboratory Code: 109030-01 1/5.8 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<1.5	<1.5	nm
Methylene chloride	ug/m3	<200	<200	nm
cis-1,2-Dichloroethene	ug/m3	<2.3	<2.3	nm
Benzene	ug/m3	<1.9	<1.9	nm
Trichloroethene	ug/m3	<0.62	<0.62	nm
Toluene	ug/m3	<110	<110	nm
Tetrachloroethene	ug/m3	<39	<39	nm
Ethylbenzene	ug/m3	<2.5	<2.5	nm
m,p-Xylene	ug/m3	<5	<5	nm
o-Xylene	ug/m3	<2.5	<2.5	nm
Naphthalene	ug/m3	<1.5	<1.5	nm

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/17/21

Date Received: 09/01/21

Project: TWAAFA-001, F&BI 109030

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD TO-15**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	102	70-130
Methylene chloride	ug/m3	94	96	70-130
cis-1,2-Dichloroethene	ug/m3	54	105	70-130
Benzene	ug/m3	43	103	70-130
Trichloroethene	ug/m3	73	100	70-130
Toluene	ug/m3	51	103	70-130
Tetrachloroethene	ug/m3	92	109	70-130
Ethylbenzene	ug/m3	59	99	70-130
m,p-Xylene	ug/m3	120	102	70-130
o-Xylene	ug/m3	59	102	70-130
Naphthalene	ug/m3	71	84	70-130

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

# Chain of Custody, Shipping & Receiving Documents, Sample Condition Checklist

F&B Project 109030

**SAMPLE CHAIN OF CUSTODY**

109030

ME 09/01/21

Page # 1 of 2

Report To Trevor Louviere  
 Company DOF  
 Address 1001 SW Klickitat Way, Ste 2008  
 City, State, ZIP Seattle, WA 98134  
 Phone 425-785-6322 Email tlouviere@doefnw.com

SAMPLES (Signature) <u>[Signature]</u> PROJECT NAME & ADDRESS <u>TWAAFA</u>		PO # <u>TWAAFA - 001</u>
NOTES: INVOICE TO <u>DOF</u>		SAMPLE DISPOSAL <input checked="" type="checkbox"/> Default: Clean after 3 days <input type="checkbox"/> Archive (Fee may apply)
TURNAROUND TIME <input checked="" type="checkbox"/> Standard <input type="checkbox"/> RUSH Rush charges authorized by:		ANALYSIS REQUESTED <input type="checkbox"/> TO15 Full Scan <input type="checkbox"/> TO15 BTEXN <input type="checkbox"/> TO15 cVOCs <input checked="" type="checkbox"/> APH <input type="checkbox"/> Helium <input checked="" type="checkbox"/> TO-15 Project List

SAMPLE INFORMATION	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. (Hg)	Field Initial Time	Final Vac. (Hg)	Field Final Time	ANALYSIS REQUESTED				Notes
										TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	
TWA-SV-7-090121	01	4177	88	IA / <u>SG</u>	9/1/21	28.5	0742	5	0748	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
TWA-SV-8-090121	02	8537	31	IA / <u>SG</u>	9/1/21	30	0804	5	0812	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
TWA-SV-15-090121	03	8098	03	IA / <u>SG</u>	9/1/21	30	0828	5	0833	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
TWA-SV-17-090121	04	8210	01	IA / <u>SG</u>	9/1/21	29	0846	5	0853	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
TWA-SV-18-090121	05	2439	306	IA / <u>SG</u>	9/1/21	30	0913	5	0919	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
TWA-SV-19-090121	06	3255	362	IA / <u>SG</u>	9/1/21	30	0939	5	0943	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
TWA-SV-20-090121	07	2298	280	IA / <u>SG</u>	9/1/21	29	0953	5	0959	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
TWA-SV-21-090121	08	3387	305	IA / <u>SG</u>	9/1/21	30	1016	5	1020	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-3039  
 Ph. (206) 285-8382  
 Fax (206) 283-5044  
 FORMS\COO\COOCTO-15.DOC

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
Relinquished by: <u>[Signature]</u>		Trevor Louviere		DOF		9/1/21	1535
Received by: <u>[Signature]</u>		VLVH		FBI		9/1/21	1535
Relinquished by:		Received by:		Samples received at		20	00

109030

SAMPLE CHAIN OF CUSTODY

ME 09/01/21 2 of 2

Report To Trevor Louviere

Company DDF

Address 1001 SW & Leifert Way, Ste 200B

City, State, ZIP Seattle, WA 98134

Phone 425-485-6322 Email tlovriere@ddfwn.com

SAMPLES (signature)	
PROJECT NAME & ADDRESS	TWAARA
PO #	TWAARA-001
NOTES:	INVOICE TO DDF

TURNAROUND TIME	Standard
Rush charges authorized by:	
SAMPLE DISPOSAL	Default: Clean after 3 days
	Archive (Fee may apply)

SAMPLE INFORMATION

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. (Hg)	Field Initial Time	Final Vac. (Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	Helium	TO-15 Project List	Notes
TWA-SV-22-090121	09	4175	255	IA / SG	9/1/21	29	1056	5	1101				X		X	
TWA-SV-23-090121	10	3259	304	IA / SG	9/1/21	30	1119	5	1121				X		X	
TWA-SV-26-090121	11	3257	308	IA / SG	9/1/21	29	1133	5	1137				X		X	
TWA-SV-25-090121	12	4181	241	IA / SG	9/1/21	30	1153	5	1157				X		X	
TWA-SV-24-090121	13	7998	204	IA / SG	9/1/21	29	1222	5	1228				X		X	
TWA-SV-27-090121	14	4185	206	IA / SG	9/1/21	29	1356	5	1401				X		X	
				IA / SG												
				IA / SG												

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

FORM 000-0000 11.000

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
	Trevor Louviere	DDF	9/1/21	1535
	VJW/H	FBI	9/1/21	1539
Received by:				
Relinquished by:				
Received by:				

Samples received at 20:00

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT# 109030 CLIENT DOF INITIALS/ DATE: 9/2 B

If custody seals are present on cooler, are they intact?  NA  YES  NO

Cooler/Sample temperature 20 °C

Were samples received on ice/cold packs?  YES  NO

How did samples arrive?  Over the Counter  Picked up by F&BI  FedEx/UPS/GSO

Number of days samples have been sitting prior to receipt at laboratory 0 days

Is there a Chain-of-Custody\* (COC)?  YES  NO  
\*or other representative documents, letters, and/or shipping memos

Are the samples clearly identified? (explain "no" answer below)  YES  NO

Is the following information provided on the COC\* ? (explain "no" answer below)

Sample ID's  Yes  No # of Containers  Yes  No  
Date Sampled  Yes  No Relinquished  Yes  No  
Time Sampled  Yes  No Requested analysis  Yes  No

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below)  YES  NO

Were appropriate sample containers used? (explain "no" answer below)  YES  NO

If custody seals are present on samples, are they intact?  NA  YES  NO

Are samples requiring no headspace, headspace free?  NA  YES  NO

Air Samples: Were any additional canisters received?  NA  YES  NO

If Yes, number of unused 1L canisters \_\_\_\_\_  
number of unused 6L canisters \_\_\_\_\_

Explain "no" items from above (use the back if needed)

# CANISTER ORDER/TRACKING FORM

**PREPARE ON: DATE** 08/31/21 **READY TIME:** NOON

**Company** D.O.F **Contact** Trevor Lorraine

**Project Name** TWAAFA **Sampling Date:** 08/30-9/1

**Analytes:**  eVOCs  BTEXN  Full List  APH  Unknown  Other \_\_\_\_\_

**Ship by:**  Sameday  Ground  F&B Courier **OR**  Lab Pick Up \_\_\_\_\_

**Notes/Delivery Address:** ↳ Vinh

## CANISTERS/FLOW CONTROLLERS REQUESTED

#	Size/Controller	Certification
<u>8</u>	<input checked="" type="checkbox"/> 1L SG	<input checked="" type="checkbox"/> Ind <input type="checkbox"/> Batch <input type="checkbox"/> 150 cc/min (red) <input type="checkbox"/> 200 cc/min (yellow)
_____	<input type="checkbox"/> 6L SG	<input type="checkbox"/> Ind <input type="checkbox"/> Batch <input type="checkbox"/> Batch <input type="checkbox"/> OK to sub for 1L
_____	<input type="checkbox"/> 6L 8hr IA	<input type="checkbox"/> Ind <input type="checkbox"/> Batch
_____	<input type="checkbox"/> 6L 24hr IA	<input type="checkbox"/> Ind <input type="checkbox"/> Batch
_____	<input type="checkbox"/> 6L Purge Can (\$30 each)	

(SG = Soil Gas; IA = Indoor Air)  
~~Soil Gas Manifolds:~~  Y  N How many? 8 (\$40 each) 9/08/30  
 Additional Tubing:  Y  N How long? \_\_\_\_\_ ft (\$4 per foot)  
 Tedlar Bags:  Y  N How many? \_\_\_\_\_ (\$13 each)  
 Additional Ferrules:  Y  N How many? \_\_\_\_\_ (No fee)  
 Other Item: \_\_\_\_\_ How many? \_\_\_\_\_ (\$\_\_\_\_\_ each)

## CHECK OUT

Time can/controllers assembled 9/31 <sup>7:20</sup> <sub>5:40</sub>  Vacuum Check >28" Hg, reset to 0"  
 0" on gauge after 30 min OK  
 Entered Can Controller IDs into Database  
 Nuts/Ferrules Included on Ring  
 Put Canister in Box  
 Included in Box:  COC  ID Tags  
 If requested:  Manifolds  Extra Tubing  Tedlar Bags  Addtl Ferrules  
 Manifold Billing Sheet to Office

## Canisters (# Returned/Date)      Flow Controllers (# Returned/Date)

6L      1L      | IA      SG      |  OK  Damage \_\_\_\_\_  
 6L      1L      | IA      SG      |  OK  Damage \_\_\_\_\_



returned 14 8/31  
13

# CANISTER ORDER/TRACKING FORM

PREPARE ON: DATE 08/30/21 READY TIME: NOON

Company D.O.F. Contact Trevor LOUVIERE

Project Name TWAAFA Sampling Date: 8/30-9/1

Analytes:  cVOCs  BTEXN  Full List  APH  Unknown  Other (Attached List)

Ship by:  Sameday  Ground  F&B Courier OR  Lab Pick Up

Notes/Delivery Address: L -> (EIP)

## CANISTERS/FLOW CONTROLLERS REQUESTED

#	Size/Controller	Certification
<u>20</u>	<input checked="" type="checkbox"/> 1L SG	<input checked="" type="checkbox"/> Ind <input type="checkbox"/> Batch <input type="checkbox"/> 150 cc/min (red) <input type="checkbox"/> 200 cc/min (yellow)
_____	<input type="checkbox"/> 6L SG	<input type="checkbox"/> Ind <input type="checkbox"/> Batch <input type="checkbox"/> Batch <input type="checkbox"/> OK to sub for 1L
_____	<input type="checkbox"/> 6L 8hr IA	<input type="checkbox"/> Ind <input type="checkbox"/> Batch
_____	<input type="checkbox"/> 6L 24hr IA	<input type="checkbox"/> Ind <input type="checkbox"/> Batch
_____	<input type="checkbox"/> 6L Purge Can (\$30 each)	

(SG = Soil Gas; IA = Indoor Air)

Soil Gas Manifolds:  Y  N How many? 28 (\$40 each)

Additional Tubing:  Y  N How long? \_\_\_\_\_ ft (\$4 per foot)

Tedlar Bags:  Y  N How many? \_\_\_\_\_ (\$13 each)

Additional Ferrules:  Y  N How many? \_\_\_\_\_ (No fee)

Other Item: \_\_\_\_\_ How many? \_\_\_\_\_ (\$\_\_\_\_\_ each)

## CHECK OUT

Time can/controllers assembled 8:45 AM  Vacuum Check >28" Hg, reset to 0"

0" on gauge after 30 min OK

Entered Can Controller IDs into Database

Nuts/Ferrules Included on Ring

Put Canister in Box

Included in Box:  COC  ID Tags

If requested:  Manifolds  Extra Tubing  Tedlar Bags  Addtl Ferrules

Manifold Billing Sheet to Office

## Canisters (# Returned/Date) Flow Controllers (# Returned/Date)

6L \_\_\_\_\_ 1L \_\_\_\_\_ | IA \_\_\_\_\_ SG \_\_\_\_\_ |  OK  Damage \_\_\_\_\_

6L \_\_\_\_\_ 1L \_\_\_\_\_ | IA \_\_\_\_\_ SG \_\_\_\_\_ |  OK  Damage \_\_\_\_\_

Date 8/31/2021  
Client Trevor Louviere  
Company DOF

Canister ID	Controller ID
C3259	F304
C3255	F302
C4181	F241
C2439	F306
C3257	F308
C3387	F305
C2298	F280
C4175	F255

Date 8/30/2021  
Client Trevor Louviere  
Company DOF

Canister ID	Controller ID
C8255	F2
C4184	F17
C4177	F88
C8098	F03
C8210	F01
C8537	F31
C7998	F204
C8267	F225
C4185	F206
C8232	F224

Date 8/30/2021  
Client Trevor Louviere  
Company DOF

Canister ID	Controller ID
C3251	F111
C3390	F18
C4179	F231
C4178	F220
C3676	F240
C3675	F230
C2303	F299
C3666	F228
C2297	F203
C3674	F222

Date 9/1/2021

Client

Company DOF

Canister Controller Pressure

C8232 F224 5

Date 9/2/2021  
Client  
Company DOF

Canister	Controller	Pressure
C4177	F88	4
C8537	F31	5
C8210	F01	5
C3255	F302	5
C8098	F03	5
C2298	F280	5
C2439	F306	5
C3259	F304	5
C3387	F305	5
C4175	F255	6
C3257	F308	5
C4181	F241	6
C7998	F204	6

Date 9/2/2021

Client

Company DOF

Canister Controller Pressure

C4185 F206 6

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EPA TO-15  
Laboratory Worksheets

F&B Project 109030



TO-15 EXTRACTION WORKSHEET (AIR)

(1 of 2)

Project #: 109030  
 Client: DOF-TWAFAA  
 QC Batch ID: 01-2004  
 Samples checked against COC AR

Date Received: 9/1/21 HT \_\_\_\_\_  
 Date Extracted: 09/03/21  
 Date Analyzed: \_\_\_\_\_  
 GCMS  7  8, Seq. Date \_\_\_\_\_

<b>Sample Type:</b> <input checked="" type="checkbox"/> Soil Gas <input type="checkbox"/> Indoor Air <input type="checkbox"/> Other _____  Due Date: <u>9/15</u>	<b>Requested Analytes:</b> <input type="checkbox"/> TO-15 Full List (sDF=3.3) <input type="checkbox"/> cVOCs (sDF=10) <input checked="" type="checkbox"/> APH (sDF=39) <input type="checkbox"/> _____ sDF = Acceptable Dilution Factor For Soil Gas iDF = Acceptable Dilution Factor For Indoor Air	<b>Reporting Units:</b> <input checked="" type="checkbox"/> µg/m3 <input type="checkbox"/> Other _____  <input type="checkbox"/> ve's not Acceptable <input type="checkbox"/> Dilutions Not Acceptable for Non-Detects <input checked="" type="checkbox"/> Screen Samples First
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Sample ID	Canister ID	Initial Vacuum (Pi)	Final Vacuum (Pf)	Initial Dilution Factor	Volume Injected (cc)	Final Dilution Factor	Observations		
							Pi2	Pf2	DL2
01	4177	11.56	20.38	1.76	75	1/5.8			
02	8537	13.62	20.85	1.53	75	1/5.0			
03	8098	12.27	20.25	1.65	75	1/5.4			
04	8210	11.12	20.60	1.85	75	1/6.1			
05	2439	12.69	20.72	1.63	75	1/5.4			
06	3256	11.89	20.43	1.72	<del>75</del> <sup>25</sup>	<del>1/4.5</del> <sup>1/4.5</sup>			
07	2298	11.99	20.96	1.75	75	1/5.8			
08	3387	12.24	20.36	1.66	75	1/5.5			
09	4175	10.89	20.28	1.86	25	1/2200	0.25	30	120
10	3259	11.93	20.51	1.72	75	1/5.7			
11	3257	11.53	20.66	1.79	75	1/5.9			

Initials ✓ 09/03/21

	✓	Volume	Conc. (ppm)	Compound(s)	Lot #	Initials	Date
Solvent		NA	NA	NA			
Other							
Internal Standard(s)/ Surrogate(s)	✓	50 cc	50 ppbv	TO-15 IS/Surr Mix	64-95a	k	9/3
Other							

Project Leader Initials: \_\_\_\_\_  
 NOTES: TIER IV DATA PACKAGE  
screened 9/2 AR

Calculated by B 09/07/21 Reviewed by YA 09/08/21

**TO-15 EXTRACTION WORKSHEET (AIR)**

(2 of 2)

Project #: 109030  
 Client: DOF-TWAFAA  
 QC Batch ID: 01-2004  
 Samples checked against COC ✓

Date Received: 9/1/21 HT \_\_\_\_\_  
 Date Extracted: 09/03/21  
 Date Analyzed: \_\_\_\_\_  
 GCMS  7  8, Seq. Date \_\_\_\_\_

<b>Sample Type:</b> <input checked="" type="checkbox"/> Soil Gas <input type="checkbox"/> Indoor Air <input type="checkbox"/> Other _____  Due Date: <u>9/15</u>	<b>Requested Analytes:</b> <input type="checkbox"/> TO-15 Full List (sDF=3.3) <input checked="" type="checkbox"/> BTEX (sDF=3.3) <input type="checkbox"/> cVOCs (sDF=10) <input checked="" type="checkbox"/> Naphthalene (sDF=3.3) <input checked="" type="checkbox"/> APH (sDF=39) <input checked="" type="checkbox"/> cis-1,2-DCE <input type="checkbox"/> _____ <input checked="" type="checkbox"/> PCE, TCE, VC, MeCl2 <small>sDF = Acceptable Dilution Factor For Soil Gas</small> <small>iDF = Acceptable Dilution Factor For Indoor Air</small>	<b>Reporting Units:</b> <input checked="" type="checkbox"/> µg/m3 <input type="checkbox"/> Other _____  <input type="checkbox"/> ve's not Acceptable <input type="checkbox"/> Dilutions Not Acceptable for Non-Detects <input checked="" type="checkbox"/> Screen Samples First
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Sample ID	Canister ID	Initial Vacuum (Pi)	Final Vacuum (Pf)	Initial Dilution Factor	Volume Injected (cc)	Final Dilution Factor	Observations		
							P <sub>i2</sub>	P <sub>f2</sub>	DL <sub>2</sub>
12	4181	11.67	20.94	1.79	25	1/2100	0.25	30	120
13	7998	10.66	20.09	1.88	25	1/1100	0.5	30	60
14	4185	10.88	20.39	1.87	25	1/1100	0.5	30	60
<u>✓</u>	<u>09/03/21</u>	<del>_____</del>							

Initials \_\_\_\_\_

	✓	Volume	Conc. (ppm)	Compound(s)	Lot #	Initials	Date
Solvent		NA	NA	NA			
Other							
Internal Standard(s)/ Surrogate(s)	✓	50 cc	50 ppbv	TO-15 IS/Surr Mix	64-99c	<u>✓</u>	<u>9/3</u>
Other							

Project Leader Initials: \_\_\_\_\_  
 NOTES: TIER IV DATA PACKAGE

Calculated by R 09/07/21 Reviewed by YA 09/08/21

# BATCH ORGANIC EXTRACTION WORKSHEET

Date Extracted: 09-03-21 07:49

Technician: BT

QA Batch: **01-2004**

**Matrix**

- Soil
- Water
- Product
- Wipe
- Other AV

**Solvent**

- Methylene Chloride
- Acetone
- Methanol
- Hexane
- Other

Solvent Lot # \_\_\_\_\_

**Analysis**

- Diesel
- Gas/BTEX
- HClD
- 8270 SIM
- 8270
- 8260
- PCB
- Organic Lead
- Methamphetamine
- Other TO15/AVH

Clean Up:  Florsil (FL)  Copper (Cu)  
 Silica  Filtration  H<sub>2</sub>SO<sub>4</sub>  Other

Sample ID	pH Waters only	Sample Weight/Volume	Extraction Solvent Volume	Final Volume	Dilutions		Clean Up (Circle)			Observations
					Amt. Extract	Amt. Solvent	Silica	FL Filter	Cu H <sub>2</sub> SO <sub>4</sub>	
IMB		250								
LCS (TO15)		25								
LCS/AVH		158								
109030-01		75								
109030-01P46		75								
B-09/03/21										

Initials

**Samples in Batch**

109030-01	109030-05	109030-09	109030-13
02	-06	-10	-14
03	-07	-11	
04	-08	-12	

**Matrix Spikes:**

25cc  $\mu$ L of 25 ppb ppm of TO15 CCV/LCS  
 Amount Concentration Analytes and Solvent

Date/Initials 09/03/21 BT  
 Lot # 64-87A

**Matrix Spikes:**

158cc  $\mu$ L of 112-5ug ppm of AVH LCS  
 Amount Concentration Analytes and Solvent

Lot # 64-81B

**Surrogates:**

\_\_\_\_\_  $\mu$ L of \_\_\_\_\_ ppm of \_\_\_\_\_  
 Amount Concentration Analytes and Solvent

Lot # \_\_\_\_\_

**Internal Standards:**

50cc  $\mu$ L of 50 ppb ppm of TO15 IS/SURR/BFB  
 Amount Concentration Analytes and Solvent

Lot # 64-99A

**Notes:**



Matrix	Collected	Analyzed	Data File	Client ID	Lab ID	Concentration
Air	09/01/21	09/03/21 14:20	090311.D	QQQ-01	109030-01 1/5.8	<1.5
Air	09/01/21	09/03/21 21:31	090322.D	QQQ-02	109030-02 1/5.0	<1.3
Air	09/01/21	09/03/21 15:37	090313.D	QQQ-03	109030-03 1/5.4	<1.4
Air	09/01/21	09/03/21 16:15	090314.D	QQQ-04	109030-04 1/6.1	<1.6
Air	09/01/21	09/03/21 18:17	090317.D	QQQ-05	109030-05 1/5.4	<1.4
Air	09/01/21	09/03/21 22:08	090323.D	QQQ-06	109030-06 1/17	<4.3
Air	09/01/21	09/03/21 18:55	090318.D	QQQ-07	109030-07 1/5.8	3.3
Air	09/01/21	09/03/21 19:32	090319.D	QQQ-08	109030-08 1/5.5	<1.4
Air	09/01/21	09/04/21 02:08	090329.D	QQQ-09	109030-09 1/2200	1,200
Air	09/01/21	09/03/21 20:54	090321.D	QQQ-10	109030-10 1/5.7	<1.5
Air	09/01/21	09/03/21 16:53	090315.D	QQQ-11	109030-11 1/5.9	<1.5
Air	09/01/21	09/04/21 03:27	090331.D	QQQ-12	109030-12 1/2100	18,000
Air	09/01/21	09/04/21 00:48	090327.D	QQQ-13	109030-13 1/1100	3,700
Air	09/01/21	09/03/21 23:28	090325.D	QQQ-14	109030-14 1/1100	<280
Air	09/03/21	09/03/21 13:43	090310.D	Method Blank	01-2004 MB	<0.26

Sample Extracted and Analyzed

9/03/21 07:49      9/03/21 14:20

Duplicate Sample Extracted and Analyzed

09/03/21 07:49      09/03/21 14:58

LCS Extracted and Analyzed

09/03/21 07:49      09/03/21 08:55

LCSD Extracted and Analyzed

LCSD Not Analyzed

ata File	Lab ID	Matrix	Dil Factor	Calc Factor	Init	Cal Limit	Position	Cleaning Procedure
090311.D	109030-01	1/5.8	Air	5.8	1	87	11	**STANDARD**
090322.D	109030-02	1/5.0	Air	5	1	75	22	**STANDARD**
090313.D	109030-03	1/5.4	Air	5.4	1	81	13	**STANDARD**
090314.D	109030-04	1/6.1	Air	6.1	1	91.5	14	**STANDARD**
090317.D	109030-05	1/5.4	Air	5.4	1	81	17	**STANDARD**
090323.D	109030-06	1/17	Air	17	1	255	23	**PRE-CLEAN**
090318.D	109030-07	1/5.8	Air	5.8	1	87	18	**STANDARD**
090319.D	109030-08	1/5.5	Air	5.5	1	82.5	19	**STANDARD**
090329.D	109030-09	1/2200	Air	2200	1	33000	29	**PRE-CLEAN**
090321.D	109030-10	1/5.7	Air	5.7	1	85.5	21	**STANDARD**
090315.D	109030-11	1/5.9	Air	5.9	1	88.5	15	**STANDARD**
090331.D	109030-12	1/2100	Air	2100	1	31500	31	**PRE-CLEAN**
090327.D	109030-13	1/1100	Air	1100	1	16500	27	**PRE-CLEAN**
090325.D	109030-14	1/1100	Air	1100	1	16500	25	**PRE-CLEAN**
090310.D	01-2004 MB	Air	1	1	15		10	**STANDARD**

Matrix	Collected	Analyzed	Data File	Client ID	Lab ID	Concentration
Air	09/01/21	09/03/21 21:31	090322.D	QQQ-02	109030-02 1/5.0	<370

Sample Extracted and Analyzed  
9/03/21 07:49      9/03/21 14:20

Duplicate Sample Extracted and Analyzed  
09/03/21 07:49      09/03/21 14:58

LCS Extracted and Analyzed  
09/03/21 07:49      09/03/21 10:15

LCSD Extracted and Analyzed  
09/03/21 07:49      DateLCSDAnalyzed

ata File	Lab ID	Matrix	Dil Factor	Calc Factor	Init Cal	Limit	Position	Cleaning Procedure
090311.D	109030-01	1/5.8	Air	5.8	1	3335	*****	*****
090322.D	109030-02	1/5.0	Air	5	1	2875	*****	*****
090313.D	109030-03	1/5.4	Air	5.4	1	3105	*****	*****
090314.D	109030-04	1/6.1	Air	6.1	1	3507.5	*****	*****
090317.D	109030-05	1/5.4	Air	5.4	1	3105	*****	*****
090323.D	109030-06	1/17	Air	17	1	9775	*****	*****
090318.D	109030-07	1/5.8	Air	5.8	1	3335	*****	*****
090319.D	109030-08	1/5.5	Air	5.5	1	3162.5	*****	*****
090329.D	109030-09	1/2200	Air	2200	1	1265000	*****	*****
090321.D	109030-10	1/5.7	Air	5.7	1	3277.5	*****	*****
090315.D	109030-11	1/5.9	Air	5.9	1	3392.5	*****	*****
090331.D	109030-12	1/2100	Air	2100	1	1207500	*****	*****
090327.D	109030-13	1/1100	Air	1100	1	632500	*****	*****
090325.D	109030-14	1/1100	Air	1100	1	632500	*****	*****
090310.D	01-2004 MB	Air	1	1	575	*****	*****	*****



EPA TO-15  
MDLs

F&B Project 109030

Reported MDL Data and Calculations

Converted from Reported Air MDLs ppb

Analysis: TO-15  
 Matrix: Air  
 Instrument ID: GCMS #7  
 Reporting Units: ug/m3

Standard(s) spiked:  
 Volume spiked:  
 Date(s) Extracted:  
 Date(s) Analyzed:  
 Date Calculated:  
 Calculation Analyst:

Analyte	(StdDev*2.998) MDL	(2*MDL) PQL	(5*MDL) PQL	Std Dev	Mean	Spike Level	% Rec.
Propene	0.2076	0.4153	1.0382	0.0693	0.2741	0.1721	159
Dichlorodifluoromethane	0.1843	0.3686	0.9214	0.0615	0.5254	0.4945	106
Chloromethane	0.3534	0.7068	1.7671	0.1179	0.2607	0.2065	126
F-114	0.4876	0.9752	2.4379	0.1626	0.8520	0.6991	122
Vinyl chloride	0.0718	0.1435	0.3588	0.0239	0.2694	0.2556	105
1,3-Butadiene	0.0207	0.0413	0.1034	0.0069	0.0597	0.0442	135
Butane	0.9806	1.9612	4.9030	0.3271	5.3752	4.7542	113
Bromomethane	1.9932	3.9865	9.9661	0.6649	9.0945	7.7661	117
Chloroethane	0.0645	0.1291	0.3227	0.0215	0.3166	0.2638	120
Vinyl Bromide	0.0436	0.0873	0.2182	0.0146	0.4298	0.4375	98
Ethanol	1.4628	2.9256	7.3139	0.4879	4.7490	3.7685	126
Acrolein	0.0249	0.0498	0.1245	0.0083	0.0633	0.0459	138
Pentane	1.2873	2.5745	6.4363	0.4294	6.4898	5.9018	110
Trichlorofluoromethane	0.1282	0.2564	0.6410	0.0428	0.6082	0.5618	108
Acetone	1.0166	2.0331	5.0828	0.3391	5.1984	4.7509	109
2-Propanol	0.9926	1.9852	4.9631	0.3311	4.9069	4.9162	100
1,1-Dichloroethene	0.0250	0.0499	0.1248	0.0083	0.0917	0.0793	116
trans-1,2-Dichloroethene	0.0324	0.0648	0.1620	0.0108	0.0892	0.0793	113
Methylene chloride	1.8037	3.6074	9.0185	0.6016	7.9854	6.9472	115
t-Butyl alcohol (TBA)	1.1670	2.3340	5.8351	0.3893	6.6117	6.0630	109
3-Chloropropene	1.2985	2.5969	6.4923	0.4331	6.9483	6.2601	111
CFC-113	0.2973	0.5946	1.4864	0.0992	0.8382	0.7664	109
Carbon disulfide	0.1575	0.3150	0.7875	0.0525	0.4126	0.3114	133
Methyl t-butyl ether (...)	0.2554	0.5107	1.2768	0.0852	0.3898	0.3605	108
Vinyl acetate	1.5317	3.0634	7.6586	0.5109	7.1944	7.0421	102
1,1-Dichloroethane	0.0137	0.0273	0.0683	0.0046	0.0885	0.0809	109
cis-1,2-Dichloroethene	0.0141	0.0282	0.0706	0.0047	0.0808	0.0793	102
Hexane	1.3331	2.6662	6.6655	0.4447	7.1777	7.0495	102
Chloroform	0.0111	0.0221	0.0553	0.0037	0.1025	0.0977	105
Ethyl acetate	1.8660	3.7319	9.3298	0.6224	8.0200	7.2074	111
Tetrahydrofuran	0.2951	0.5901	1.4753	0.0984	0.3152	0.2949	107
2-Butanone (MEK)	1.2899	2.5798	6.4494	0.4302	6.2399	5.8986	106
1,2-Dichloroethane (EDC)	0.0090	0.0181	0.0451	0.0030	0.0835	0.0809	103
1,1,1-Trichloroethane	0.0105	0.0210	0.0524	0.0035	0.1098	0.1091	101
Carbon tetrachloride	0.0121	0.0242	0.0604	0.0040	0.1266	0.1258	101
Benzene	0.0089	0.0177	0.0443	0.0030	0.0703	0.0639	110
Cyclohexane	0.7457	1.4914	3.7285	0.2487	6.8662	6.8843	100
1,2-Dichloropropane	0.0209	0.0419	0.1047	0.0070	0.1202	0.0924	130
1,4-Dioxane	0.1284	0.2568	0.6421	0.0428	0.4293	0.3604	119
2,2,4-Trimethylpentane	1.8877	3.7754	9.4385	0.5629	10.3128	9.3440	110
Methyl methacrylate	1.1190	2.2380	5.5951	0.3733	9.3087	8.1898	114
Heptane	2.0434	4.0868	10.2170	0.6816	8.9866	8.1971	110
Bromodichloromethane	0.0330	0.0660	0.1649	0.0110	0.1617	0.1340	121
Trichloroethene	0.0271	0.0543	0.1357	0.0091	0.1310	0.1075	122
cis-1,3-Dichloropropene	0.2220	0.4440	1.1101	0.0741	0.6184	0.4539	136
4-Methyl-2-pentanone	3.1185	6.2370	15.5924	1.0402	7.7373	8.1930	94
trans-1,3-Dichloropropene	0.2321	0.4641	1.1603	0.0774	0.5917	0.4539	130
Toluene	0.1619	0.3237	0.8093	0.0540	0.5007	0.3769	133
1,1,2-Trichloroethane	0.0137	0.0273	0.0683	0.0046	0.1248	0.1091	114
2-Hexanone	1.3178	2.6357	6.5892	0.4396	9.2310	8.1930	113
Tetrachloroethene	0.3508	0.7017	1.7542	0.1170	0.8639	0.6782	127
Dibromochloromethane	0.0181	0.0361	0.0903	0.0060	0.1768	0.1704	104
1,2-Dibromoethane (EDB)	0.0320	0.0640	0.1599	0.0107	0.1825	0.1537	119
Chlorobenzene	0.1294	0.2588	0.6471	0.0432	0.5099	0.4604	111
Ethylbenzene	0.0269	0.0538	0.1345	0.0090	0.4011	0.4342	92
1,1,2,2-Tetrachloroethane	0.0156	0.0311	0.0778	0.0052	0.1545	0.1373	113
Nonane	1.9662	3.9324	9.8309	0.6558	10.9205	10.4916	104
Isopropylbenzene	1.4037	2.8073	7.0183	0.4682	10.3188	9.8315	105
2-Chlorotoluene	1.6996	3.3992	8.4980	0.5669	10.6456	10.3550	103
Propylbenzene	1.3501	2.7003	6.7507	0.4503	10.2530	9.8315	104
4-Ethyltoluene	1.4291	2.8582	7.1454	0.4767	10.1135	9.8315	103
m,p-Xylene	0.0295	0.0590	0.1476	0.0098	0.7751	0.8685	89
o-Xylene	0.0214	0.0428	0.1069	0.0071	0.3729	0.4342	86
Styrene	0.5502	1.1003	2.7508	0.1835	0.4941	0.4260	116
Bromoform	0.6428	1.2857	3.2142	0.2144	0.9623	1.0337	93
Benzyl chloride	0.0080	0.0161	0.0402	0.0027	0.0900	0.1035	87
1,3,5-Trimethylbenzene	1.2339	2.4678	6.1695	0.4116	9.6226	9.8315	98
1,2,4-Trimethylbenzene	1.1681	2.3363	5.8407	0.3896	9.6834	9.8315	98
1,3-Dichlorobenzene	0.0911	0.1822	0.4556	0.0304	0.5599	0.6012	93
1,4-Dichlorobenzene	0.0911	0.1822	0.4556	0.0304	0.5298	0.6012	88
1,2-Dichlorobenzene	0.0684	0.1368	0.3421	0.0228	0.5644	0.6012	94
1,2,4-Trichlorobenzene	0.1748	0.3496	0.8739	0.0583	0.8126	0.7421	110
Naphthalene	0.0319	0.0638	0.1596	0.0106	0.0989	0.1048	94
Hexachlorobutadiene	0.0165	0.0331	0.0827	0.0055	0.2280	0.2133	107

Reported MDL Data and Calculations

Analyst fill in all below (attach extraction

Analysis: TO-15  
 Matrix: Air  
 Instrument ID: GCMS #7  
 Reporting Units: ppbv

Standard(s) spiked:  
 Volume spiked:  
 Date(s) Extracted:  
 Date(s) Analyzed:  
 Date Calculated:  
 Calculation Analyst:

Analyte	(StdDev*2.998) MDL	(2*MDL) PQL	(5*MDL) PQL	Std Dev	Mean	Spike Level	% Rec.
Propene	0.1206	0.2413	0.6032	0.0402	0.1593	0.1000	159
Dichlorodifluoromethane	0.0373	0.0745	0.1863	0.0124	0.1063	0.1000	106
Chloromethane	0.1711	0.3423	0.8557	0.0571	0.1263	0.1000	126
F-114	0.0697	0.1395	0.3487	0.0233	0.1219	0.1000	122
Vinyl chloride	0.0281	0.0562	0.1404	0.0094	0.1054	0.1000	105
1,3-Butadiene	0.0093	0.0187	0.0467	0.0031	0.0270	0.0200	135
Butane	0.4125	0.8250	2.0626	0.1376	2.2613	2.0000	113
Bromomethane	0.5133	1.0266	2.5666	0.1712	2.3421	2.0000	117
Chloroethane	0.0245	0.0489	0.1223	0.0082	0.1200	0.1000	120
Vinyl Bromide	0.0100	0.0200	0.0499	0.0033	0.0983	0.1000	98
Ethanol	0.7763	1.5526	3.8816	0.2589	2.5204	2.0000	126
Acrolein	0.0109	0.0217	0.0543	0.0036	0.0276	0.0200	138
Pentane	0.4362	0.8724	2.1811	0.1455	2.1993	2.0000	110
Trichlorofluoromethane	0.0228	0.0456	0.1141	0.0076	0.1083	0.1000	108
Acetone	0.4279	0.8559	2.1397	0.1427	2.1884	2.0000	109
2-Propanol	0.4038	0.8076	2.0191	0.1347	1.9963	2.0000	100
1,1-Dichloroethene	0.0063	0.0126	0.0315	0.0021	0.0231	0.0200	116
trans-1,2-Dichloroethene	0.0082	0.0163	0.0409	0.0027	0.0225	0.0200	113
Methylene chloride	0.5193	1.0385	2.5963	0.1732	2.2989	2.0000	115
t-Butyl alcohol (TBA)	0.3850	0.7699	1.9248	0.1284	2.1810	2.0000	109
3-Chloropropene	0.4148	0.8297	2.0742	0.1384	2.2199	2.0000	111
CFC-113	0.0388	0.0776	0.1940	0.0129	0.1094	0.1000	109
Carbon disulfide	0.0506	0.1011	0.2529	0.0169	0.1325	0.1000	133
Methyl t-butyl ether (...)	0.0708	0.1417	0.3541	0.0236	0.1081	0.1000	108
Vinyl acetate	0.4350	0.8700	2.1751	0.1451	2.0433	2.0000	102
1,1-Dichloroethane	0.0034	0.0068	0.0169	0.0011	0.0219	0.0200	109
cis-1,2-Dichloroethene	0.0036	0.0071	0.0178	0.0012	0.0204	0.0200	102
Hexane	0.3782	0.7564	1.8911	0.1262	2.0364	2.0000	102
Chloroform	0.0023	0.0045	0.0113	0.0008	0.0210	0.0200	105
Ethyl acetate	0.5178	1.0356	2.5890	0.1727	2.2255	2.0000	111
Tetrahydrofuran	0.1000	0.2001	0.5002	0.0334	0.1069	0.1000	107
2-Butanone (MEK)	0.4374	0.8747	2.1868	0.1459	2.1158	2.0000	106
1,2-Dichloroethane (EDC)	0.0022	0.0045	0.0112	0.0007	0.0206	0.0200	103
1,1,1-Trichloroethane	0.0019	0.0038	0.0096	0.0006	0.0201	0.0200	101
Carbon tetrachloride	0.0019	0.0038	0.0096	0.0006	0.0201	0.0200	101
Benzene	0.0028	0.0056	0.0139	0.0009	0.0220	0.0200	110
Cyclohexane	0.2166	0.4333	1.0832	0.0723	1.9948	2.0000	100
1,2-Dichloropropane	0.0045	0.0091	0.0227	0.0015	0.0260	0.0200	130
1,4-Dioxane	0.0356	0.0713	0.1782	0.0119	0.1191	0.1000	119
2,2,4-Trimethylpentane	0.3612	0.7225	1.8062	0.1205	2.2074	2.0000	110
Methyl methacrylate	0.2733	0.5465	1.3664	0.0912	2.2733	2.0000	114
Heptane	0.4986	0.9971	2.4928	0.1663	2.1926	2.0000	110
Bromodichloromethane	0.0049	0.0098	0.0246	0.0016	0.0241	0.0200	121
Trichloroethene	0.0051	0.0101	0.0253	0.0017	0.0244	0.0200	122
cis-1,3-Dichloropropene	0.0489	0.0978	0.2446	0.0163	0.1363	0.1000	136
4-Methyl-2-pentanone	0.7613	1.5225	3.8063	0.2539	1.8888	2.0000	94
trans-1,3-Dichloropropene	0.0511	0.1023	0.2556	0.0171	0.1304	0.1000	130
Toluene	0.0430	0.0859	0.2148	0.0143	0.1329	0.1000	133
1,1,2-Trichloroethane	0.0025	0.0050	0.0125	0.0008	0.0229	0.0200	114
2-Hexanone	0.3217	0.6434	1.6085	0.1073	2.2534	2.0000	113
Tetrachloroethene	0.0517	0.1035	0.2586	0.0173	0.1274	0.1000	127
Dibromochloromethane	0.0021	0.0042	0.0106	0.0007	0.0208	0.0200	104
1,2-Dibromoethane (EDB)	0.0042	0.0083	0.0208	0.0014	0.0238	0.0200	119
Chlorobenzene	0.0281	0.0562	0.1406	0.0094	0.1108	0.1000	111
Ethylbenzene	0.0062	0.0124	0.0310	0.0021	0.0924	0.1000	92
1,1,2,2-Tetrachloroethane	0.0023	0.0045	0.0113	0.0008	0.0225	0.0200	113
Nonane	0.3748	0.7496	1.8740	0.1250	2.0818	2.0000	104
Isopropylbenzene	0.2855	0.5711	1.4277	0.0952	2.0991	2.0000	105
2-Chlorotoluene	0.3283	0.6565	1.6413	0.1095	2.0561	2.0000	103
Propylbenzene	0.2747	0.5493	1.3733	0.0916	2.0858	2.0000	104
4-Ethyltoluene	0.2907	0.5814	1.4536	0.0970	2.0574	2.0000	103
m,p-Xylene	0.0068	0.0136	0.0340	0.0023	0.1785	0.2000	89
o-Xylene	0.0049	0.0098	0.0246	0.0016	0.0859	0.1000	86
Styrene	0.1292	0.2583	0.6458	0.0431	0.1160	0.1000	116
Bromoform	0.0622	0.1244	0.3110	0.0207	0.0931	0.1000	93
Benzyl chloride	0.0016	0.0031	0.0078	0.0005	0.0174	0.0200	87
1,3,5-Trimethylbenzene	0.2510	0.5020	1.2550	0.0837	1.9575	2.0000	98
1,2,4-Trimethylbenzene	0.2376	0.4753	1.1882	0.0793	1.9699	2.0000	98
1,3-Dichlorobenzene	0.0152	0.0303	0.0758	0.0051	0.0931	0.1000	93
1,4-Dichlorobenzene	0.0152	0.0303	0.0758	0.0051	0.0881	0.1000	88
1,2-Dichlorobenzene	0.0114	0.0228	0.0569	0.0038	0.0939	0.1000	94
1,2,4-Trichlorobenzene	0.0236	0.0471	0.1178	0.0079	0.1095	0.1000	110
Naphthalene	0.0061	0.0122	0.0304	0.0020	0.0189	0.0200	94
Hexachlorobutadiene	0.0016	0.0031	0.0078	0.0005	0.0214	0.0200	107

EPA TO-15  
Sequence Tables

F&B Project 109030

Sample	1	rinse	TO15DC	82401	
Sample	2	BFB 64-63a	TO15DC	82402	T1
Sample	3	25ppbv prime	TO15DC	82403	Cal Line
Sample	4	1 ppbv prime	TO15DC	82404	T3
Sample	5	0.1 ppbv prime	TO15DC	82405	T2
Sample	6	SCV prime	TO15DC	82406	T4
Sample	7	rinse	SRINSE	82407	T1
Sample	8	rinse	SRINSE	82408	T1
Sample	9	rinse	SRINSE	82409	T1
Sample	10	rinse	TO15DC	82410	T1
Sample	11	rinse	TO15DC	82411	T1
Sample	12	rinse	TO15DC	82412	T1
Sample	13	0.01 ppbv 64-87c	TO15DC	82413	T2, 25cc of 0.1ppbv
Sample	14	0.01 ppbv 64-87c	TO15DC	82414	T2, 25cc of 0.1ppbv
Sample	15	0.02 ppbv 64-87c	TO15DC	82415	T2, 50cc of 0.1ppbv
Sample	16	0.05 ppbv 64-87c	TO15DC	82416	T2, 125cc of 0.1ppbv
Sample	17	0.1 ppbv 64-87c	TO15DC	82417	T2, 250cc of 0.1ppbv
Sample	18	0.2 ppbv 64-87b	TO15DC	82418	T3, 50cc of 1ppbv
Sample	19	0.5 ppbv 64-87b	TO15DC	82419	T3, 125cc of 1ppbv
Sample	20	1.0 ppbv 64-87b	TO15DC	82420	T3, 250cc of 1ppbv
Sample	21	2.5 ppbv 64-87a	TO15DC	82421	cal line, 25cc of 25ppbv
Sample	22	4.0 ppbv 64-87a	TO15DC	82422	cal line, 40cc of 25ppbv
Sample	23	5.0 ppbv 64-87a	TO15DC	82423	cal line, 50cc of 25ppbv
Sample	24	8.0 ppbv 64-87a	TO15DC	82424	cal line, 80cc of 25ppbv
Sample	25	10 ppbv 64-87a	TO15DC	82425	cal line, 100cc of 25ppbv
Sample	26	15 ppbv 64-87a	TO15DC	82426	cal line, 150cc of 25ppbv
Sample	27	rinse	SRINSE	82427	T1
Sample	28	rinse	TO15DC	82428	T1
Sample	29	scv 2.5ppbv 64-64a	TO15DC	82429	T4, 25cc of 25ppbv
Sample	30	rinse	SRINSE	82430	T1
Sample	31	rinse	TO15DC	82431	T1

✓  
 ↙  
 8/24

Sequence Name: C:\msdchem\1\sequence\08-24-21.s ✓AS8/25/24

Comment:

Operator: bat

Data Path: D:\GCMS7\DATA\08-24-21\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run            On A Barcode Mismatch  
(X) Full Method                    (X) Inject Anyway  
( ) Reprocessing Only            ( ) Don't Inject

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Line	Sample		Sample Name/Misc Info
1)	Sample	1	082401 TO15DC rinse
2)	Sample	2	082402 TO15DC BFB 64-63a
3)	Sample	3	082403 TO15DC 25ppbv prime
4)	Sample	4	082404 TO15DC 1 ppbv prime
5)	Sample	5	082405 TO15DC 0.1 ppbv prime
6)	Sample	6	082406 TO15DC SCV prime
7)	Sample	7	082407 SRINSE rinse
8)	Sample	8	082408 SRINSE rinse
9)	Sample	9	082409 SRINSE rinse
10)	Sample	10	082410 TO15DC rinse
11)	Sample	11	082411 TO15DC rinse
12)	Sample	12	082412 TO15DC rinse
13)	Sample	13	082413 TO15DC 0.01 ppbv 64-87c
14)	Sample	14	082414 TO15DC 0.01 ppbv 64-87c
15)	Sample	15	082415 TO15DC 0.02 ppbv 64-87c
16)	Sample	16	082416 TO15DC 0.05 ppbv 64-87c
17)	Sample	17	082417 TO15DC 0.1 ppbv 64-87c
18)	Sample	18	082418 TO15DC 0.2 ppbv 64-87b
19)	Sample	19	082419 TO15DC 0.5 ppbv 64-87b
20)	Sample	20	082420 TO15DC 1.0 ppbv 64-87b
21)	Sample	21	082421 TO15DC 2.5 ppbv 64-87a
22)	Sample	22	082422 TO15DC 4.0 ppbv 64-87a
23)	Sample	23	082423 TO15DC 5.0 ppbv 64-87a
24)	Sample	24	082424 TO15DC 8.0 ppbv 64-87a
25)	Sample	25	082425 TO15DC 10 ppbv 64-87a
26)	Sample	26	082426 TO15DC 15 ppbv 64-87a
27)	Sample	27	082427 SRINSE rinse
28)	Sample	28	082428 TO15DC rinse
29)	Sample	29	082429 TO15DC scv 2.5ppbv 64-64a
30)	Sample	30	082430 SRINSE rinse
31)	Sample	31	082431 TO15DC rinse

## Injection Log

Data Directory: I:\08-24-21\

SampleName	MiscInfo	Vial	Multiplier	Injection Time
1) 082401.D rinse		AS 1	1.000	24 Aug 2021 7:34 am
2) 082402.D BFB 64-63a	T1	2	1.000	24 Aug 2021 8:10 am
3) 082403.D 25ppbv prime	Cal Line	3	1.000	24 Aug 2021 8:45 am
4) 082404.D 1 ppbv prime	T3	4	1.000	24 Aug 2021 9:21 am
5) 082405.D 0.1 ppbv prime	T2	5	1.000	24 Aug 2021 9:58 am
6) 082406.D SCV prime	T4	6	1.000	24 Aug 2021 10:34 am
7) 082407.D rinse	T1	7	1.000	24 Aug 2021 11:12 am
8) 082408.D rinse	T1	8	1.000	24 Aug 2021 11:48 am
9) 082409.D rinse	T1	9	1.000	24 Aug 2021 12:24 pm
10) 082410.D rinse	T1	10	1.000	24 Aug 2021 1:05 pm
11) 082411.D rinse	T1	11	1.000	24 Aug 2021 1:49 pm
12) 082412.D rinse	T1	12	1.000	24 Aug 2021 2:32 pm
13) 082413.D 0.01 ppbv 64-87c	T2, 25cc of 0.1ppbv	13	1.000	24 Aug 2021 3:10 pm
14) 082414.D 0.01 ppbv 64-87c	T2, 25cc of 0.1ppbv	14	1.000	24 Aug 2021 3:48 pm
15) 082415.D 0.02 ppbv 64-87c	T2, 50cc of 0.1ppbv	15	1.000	24 Aug 2021 4:25 pm
16) 082416.D 0.05 ppbv 64-87c	T2, 125cc of 0.1ppbv	16	1.000	24 Aug 2021 5:04 pm
17) 082417.D 0.1 ppbv 64-87c	T2, 250cc of 0.1ppbv	17	1.000	24 Aug 2021 5:47 pm
18) 082418.D 0.2 ppbv 64-87b	T3, 50cc of 1ppbv	18	1.000	24 Aug 2021 6:25 pm
19) 082419.D 0.5 ppbv 64-87b	T3, 125cc of 1ppbv	19	1.000	24 Aug 2021 7:03 pm
20) 082420.D 1.0 ppbv 64-87b	T3, 250cc of 1ppbv	20	1.000	24 Aug 2021 7:47 pm
21) 082421.D				

2.5 ppbv 64-87a	cal line, 25cc of 25	21	1.000	24 Aug 2021	8:24 pm
22) 082422.D					
4.0 ppbv 64-87a	cal line, 40cc of 25	22	1.000	24 Aug 2021	9:01 pm
23) 082423.D					
5.0 ppbv 64-87a	cal line, 50cc of 25	23	1.000	24 Aug 2021	9:38 pm
24) 082424.D					
8.0 ppbv 64-87a	cal line, 80cc of 25	24	1.000	24 Aug 2021	10:14 pm
25) 082425.D					
10 ppbv 64-87a	cal line, 100cc of 2	25	1.000	24 Aug 2021	10:51 pm
26) 082426.D					
15 ppbv 64-87a	cal line, 150cc of 2	26	1.000	24 Aug 2021	11:29 pm
27) 082427.D					
rinse	T1	27	1.000	25 Aug 2021	12:15 am
28) 082428.D					
rinse	T1	28	1.000	25 Aug 2021	12:56 am
29) 082429.D					
scv 2.5ppbv 64-64a	T4, 25cc of 25ppbv	29	1.000	25 Aug 2021	1:32 am
30) 082430.D					
rinse	T1	30	1.000	25 Aug 2021	2:17 am
31) 082431.D					
rinse	T1	31	1.000	25 Aug 2021	2:58 am



Sample	1	rinse	TO15DC	81901	
Sample	2	BFB 63-15a	TO15DC	81902	T1
Sample	3	25ppbv aph prime	TO15DC	81903	line 2
Sample	4	2.5ppbv aph prime	TO15DC	81904	T2
Sample	5	112.5 ug/ml lcs prime	TO15DC	81905	line 3
Sample	6	short rinse	SRINSE	81906	T1
Sample	7	short rinse	SRINSE	81907	T1
Sample	8	short rinse	SRINSE	81908	T1
Sample	9	rinse	TO15DC	81909	T1
Sample	10	rinse	TO15DC	81910	T1
Sample	11	rinse	TO15DC	81911	T1
Sample	12	0.2 ppbv, 64-38c	TO15DC	81912	T2, 20cc
Sample	13	0.2 ppbv, 64-38c	TO15DC	81913	T2, 20cc
Sample	14	0.5 ppbv, 64-38c	TO15DC	81914	T2, 50cc
Sample	15	1 ppbv, 64-38c	TO15DC	81915	T2, 100cc
Sample	16	2.5 ppbv, 64-38c	TO15DC	81916	T2, 250cc
Sample	17	5 ppbv, 64-38a	TO15DC	81917	line 2, 50cc
Sample	18	10 ppbv, 64-38a	TO15DC	81918	line 2, 100cc
Sample	19	25 ppbv, 64-38a	TO15DC	81919	line 2, 250cc
Sample	20	rinse	TO15DC	81920	T1
Sample	21	rinse	TO15DC	81921	T1
Sample	22	SCV 64-81b	TO15DC	81922	Line 3, 150cc
Sample	23	rinse	TO15DC	81923	T1
Sample	24	rinse	TO15DC	81924	T1
Sample	25	BFB	TO15DC	81925	T1
Sample	26	TO15 CCV 2.5ppbv	TO15DC	81926	T1
Sample	27	rinse	TO15DC	81927	T1
Sample	28	rinse	TO15DC	81928	T1
Sample	29	mb	TO15DC	81929	T1
Sample	30	2299	TO15DC	81930	T3
Sample	31	4180	TO15DC	81931	T4
Sample	32	8267	TO15DC	81932	T5
Sample	33	4183	TO15DC	81933	T6
Sample	34	rinse	TO15DC	81934	T1

Sequence Name: C:\msdchem\1\sequence\08-19-21.s ✓AS 8/20/21

Comment:

Operator: bat

Data Path: D:\GCMS7\DATA\08-19-21\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run            On A Barcode Mismatch  
(X) Full Method                    (X) Inject Anyway  
( ) Reprocessing Only            ( ) Don't Inject

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Line	Sample Name/Misc Info
1) Sample	1 081901 TO15DC rinse
2) Sample	2 081902 TO15DC BFB 63-15a
3) Sample	3 081903 TO15DC 25ppbv aph prime
4) Sample	4 081904 TO15DC 2.5ppbv aph prime
5) Sample	5 081905 TO15DC 112.5 ug/ml lcs prime
6) Sample	6 081906 SRINSE short rinse
7) Sample	7 081907 SRINSE short rinse
8) Sample	8 081908 SRINSE short rinse
9) Sample	9 081909 TO15DC rinse
10) Sample	10 081910 TO15DC rinse
11) Sample	11 081911 TO15DC rinse
12) Sample	12 081912 TO15DC 0.2 ppbv, 64-38c
13) Sample	13 081913 TO15DC 0.2 ppbv, 64-38c
14) Sample	14 081914 TO15DC 0.5 ppbv, 64-38c
15) Sample	15 081915 TO15DC 1 ppbv, 64-38c
16) Sample	16 081916 TO15DC 2.5 ppbv, 64-38c
17) Sample	17 081917 TO15DC 5 ppbv, 64-38a
18) Sample	18 081918 TO15DC 10 ppbv, 64-38a
19) Sample	19 081919 TO15DC 25 ppbv, 64-38a
20) Sample	20 081920 TO15DC rinse
21) Sample	21 081921 TO15DC rinse
22) Sample	22 081922 TO15DC SCV 64-81b
23) Sample	23 081923 TO15DC rinse
24) Sample	24 081924 TO15DC rinse
25) Sample	25 081925 TO15DC BFB
26) Sample	26 081926 TO15DC TO15 CCV 2.5ppbv
27) Sample	27 081927 TO15DC rinse
28) Sample	28 081928 TO15DC rinse
29) Sample	29 081929 TO15DC mb
30) Sample	30 081930 TO15DC 2299
31) Sample	31 081931 TO15DC 4180
32) Sample	32 081932 TO15DC 8267
33) Sample	33 081933 TO15DC 4183
34) Sample	34 081934 TO15DC rinse

## Injection Log

Data Directory: I:\08-19-21\

SampleName	MiscInfo	Vial	Multiplier	Injection Time
1) 081933.D No data found			0.000	N/A
2) 081901.D rinse		1	1.000	19 Aug 2021 9:42 am
3) 081902.D BFB 63-15a	T1	2	1.000	19 Aug 2021 10:18 am
4) 081903.D 25ppbv aph prime	line 2	3	1.000	19 Aug 2021 10:54 am
5) 081904.D 2.5ppbv aph prime	T2	4	1.000	19 Aug 2021 11:31 am
6) 081905.D 112.5 ug/ml lcs prim line 3		5	1.000	19 Aug 2021 12:08 pm
7) 081906.D short rinse	T1	6	1.000	19 Aug 2021 12:46 pm
8) 081907.D short rinse	T1	7	1.000	19 Aug 2021 1:22 pm
9) 081908.D short rinse	T1	8	1.000	19 Aug 2021 1:58 pm
10) 081909.D rinse	T1	9	1.000	19 Aug 2021 2:40 pm
11) 081910.D rinse	T1	10	1.000	19 Aug 2021 3:23 pm
12) 081911.D rinse	T1	11	1.000	19 Aug 2021 4:07 pm
13) 081912.D 0.2 ppbv, 64-38c	T2, 20cc	12	1.000	19 Aug 2021 4:44 pm
14) 081913.D 0.2 ppbv, 64-38c	T2, 20cc	13	1.000	19 Aug 2021 5:22 pm
15) 081914.D 0.5 ppbv, 64-38c	T2, 50cc	14	1.000	19 Aug 2021 6:00 pm
16) 081915.D 1 ppbv, 64-38c	T2, 100cc	15	1.000	19 Aug 2021 6:38 pm
17) 081916.D 2.5 ppbv, 64-38c	T2, 250cc	16	1.000	19 Aug 2021 7:21 pm
18) 081917.D 5 ppbv, 64-38a	line 2, 50cc	17	1.000	19 Aug 2021 7:59 pm
19) 081918.D 10 ppbv, 64-38a	line 2, 100cc	18	1.000	19 Aug 2021 8:36 pm
20) 081919.D 25 ppbv, 64-38a	line 2, 250cc	19	1.000	19 Aug 2021 9:20 pm
21) 081920.D				

rinse	T1	20	1.000	19 Aug 2021	10:03 pm
22) 081921.D					
rinse	T1	21	1.000	19 Aug 2021	10:47 pm
23) 081922.D					
SCV 64-81b	Line 3, 150cc	22	1.000	19 Aug 2021	11:26 pm
24) 081923.D					
rinse	T1	23	1.000	20 Aug 2021	12:09 am
25) 081924.D					
rinse	T1	24	1.000	20 Aug 2021	12:52 am
26) 081925.D					
BFB	T1	25	1.000	20 Aug 2021	1:29 am
27) 081926.D					
TO15 CCV 2.5ppbv	T1	26	1.000	20 Aug 2021	2:05 am
28) 081927.D					
rinse	T1	27	1.000	20 Aug 2021	2:48 am
29) 081928.D					
rinse	T1	28	1.000	20 Aug 2021	3:31 am
30) 081929.D					
mb	T1	29	1.000	20 Aug 2021	4:15 am
31) 081930.D					
2299	T3	30	1.000	20 Aug 2021	4:58 am
32) 081931.D					
4180	T4	31	1.000	20 Aug 2021	5:41 am
33) 081932.D					
8267	T5	32	1.000	20 Aug 2021	6:24 am

Sequence Name: C:\msdchem\1\sequence\09-03-21.s ✓AS9/7/21

Comment:

Operator: bat

Data Path: D:\GCMS7\DATA\09-03-21\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run            On A Barcode Mismatch  
(X) Full Method                    (X) Inject Anyway  
( ) Reprocessing Only            ( ) Don't Inject

-----

Line	Sample		Sample Name/Misc Info
1)	Sample	1	090301 TO15DC rinse
2)	Sample	2	090302 TO15DC BFB 64-99a
3)	Sample	3	090303 TO15DC 01-2004 lcs/ 2.5ppbv 64-87a
4)	Sample	4	090304 TO15DC 5 ppbv APH 64-91a
5)	Sample	5	090305 TO15DC 01-2004 lcs/ 67 ug/m3 64-81b
6)	Sample	6	090306 SRINSE tree rinse
7)	Sample	7	090307 SRINSE tree rinse
8)	Sample	8	090308 TO15DC rinse
9)	Sample	9	090309 TO15DC rinse
10)	Sample	10	090310 TO15DC 01-2004 MB
11)	Sample	11	090311 TO15DC 109030-01 1/5.8
12)	Sample	12	090312 TO15DC 109030-01 dup 1/5.8
13)	Sample	13	090313 TO15DC 109030-03 1/5.4
14)	Sample	14	090314 TO15DC 109030-04 1/6.1
15)	Sample	15	090315 TO15DC 109030-11 1/5.9
16)	Sample	16	090316 TO15DC rinse
17)	Sample	17	090317 TO15DC 109030-05 1/5.4
18)	Sample	18	090318 TO15DC 109030-07 1/5.8
19)	Sample	19	090319 TO15DC 109030-08 1/5.5
20)	Sample	20	090320 TO15DC rinse
21)	Sample	21	090321 TO15DC 109030-10 1/5.7
22)	Sample	22	090322 TO15DC 109030-02 1/5.0
23)	Sample	23	090323 TO15DC 109030-06 1/17
24)	Sample	24	090324 TO15DC rinse
25)	Sample	25	090325 TO15DC 109030-14 1/1100
26)	Sample	26	090326 TO15DC rinse
27)	Sample	27	090327 TO15DC 109030-13 1/1100
28)	Sample	28	090328 TO15DC rinse
29)	Sample	29	090329 TO15DC 109030-09 1/2200
30)	Sample	30	090330 TO15DC rinse
31)	Sample	31	090331 TO15DC 109030-12 1/2100
32)	Sample	32	090332 TO15DC rinse
33)	Sample	33	090333 TO15DC rinse
34)	Sample	34	090334 TO15DC rinse

Sample	1	rinse	TO15DC	90301	
Sample	2	BFB 64-99a	TO15DC	90302	T1
Sample	3	01-2004 lcs/ 2.5ppbv 64-87a	TO15DC	90303	cal line
Sample	4	5 ppbv APH 64-91a	TO15DC	90304	line 2
Sample	5	01-2004 lcs/ 67 ug/m3 64-81b	TO15DC	90305	line 3
Sample	6	tree rinse	SRINSE	90306	T1
Sample	7	tree rinse	SRINSE	90307	T1
Sample	8	rinse	TO15DC	90308	T1
Sample	9	rinse	TO15DC	90309	T1
Sample	10	01-2004 MB	TO15DC	90310	T1
Sample	11	109030-01 1/5.8	TO15DC	90311	T2
Sample	12	109030-01 dup 1/5.8	TO15DC	90312	T2
Sample	13	109030-03 1/5.4	TO15DC	90313	T3
Sample	14	109030-04 1/6.1	TO15DC	90314	T4
Sample	15	109030-11 1/5.9	TO15DC	90315	T5
Sample	16	rinse	TO15DC	90316	T1
Sample	17	109030-05 1/5.4	TO15DC	90317	T6
Sample	18	109030-07 1/5.8	TO15DC	90318	T7
Sample	19	109030-08 1/5.5	TO15DC	90319	T8
Sample	20	rinse	TO15DC	90320	T1
Sample	21	109030-10 1/5.7	TO15DC	90321	T9
Sample	22	109030-02 1/5.0	TO15DC	90322	T10
Sample	23	109030-06 1/17	TO15DC	90323	T11
Sample	24	rinse	TO15DC	90324	T1
Sample	25	109030-14 1/1100	TO15DC	90325	T12
Sample	26	rinse	TO15DC	90326	T1
Sample	27	109030-13 1/1100	TO15DC	90327	T13
Sample	28	rinse	TO15DC	90328	T1
Sample	29	109030-09 1/2200	TO15DC	90329	T14
Sample	30	rinse	TO15DC	90330	T1
Sample	31	109030-12 1/2100	TO15DC	90331	T15
Sample	32	rinse	TO15DC	90332	T1
Sample	33	rinse	TO15DC	90333	T1
Sample	34	rinse	TO15DC	90334	T1

09/3/21

Injection Log

Data Directory: F:\Proc\_GCMS7\09-03-21\

SampleName	MiscInfo	Vial	Multiplier	Injection Time
1) 090301.D rinse		1	1.000	3 Sep 2021 7:44 am
2) 090302.D BFB 64-99a	T1	2	1.000	3 Sep 2021 8:19 am
3) 090303.D 01-2004 lcs/ 2.5ppbv cal line		3	1.000	3 Sep 2021 8:55 am
4) 090304.D 5 ppbv APH 64-91a	line 2	4	1.000	3 Sep 2021 9:36 am
5) 090305.D 01-2004 lcs/ 67 ug/m line 3		5	1.000	3 Sep 2021 10:15 am
6) 090306.D tree rinse	T1	6	1.000	3 Sep 2021 10:54 am
7) 090307.D tree rinse	T1	7	1.000	3 Sep 2021 11:31 am
8) 090308.D rinse	T1	8	1.000	3 Sep 2021 12:13 pm
9) 090309.D rinse	T1	9	1.000	3 Sep 2021 12:58 pm
10) 090310.D 01-2004 MB	T1	10	1.000	3 Sep 2021 1:43 pm
11) 090311.D 109030-01 1/5.8	T2	11	1.000	3 Sep 2021 2:20 pm
12) 090312.D 109030-01 dup 1/5.8	T2	12	1.000	3 Sep 2021 2:58 pm
13) 090313.D 109030-03 1/5.4	T3	13	1.000	3 Sep 2021 3:37 pm
14) 090314.D 109030-04 1/6.1	T4	14	1.000	3 Sep 2021 4:15 pm
15) 090315.D 109030-11 1/5.9	T5	15	1.000	3 Sep 2021 4:53 pm
16) 090316.D rinse	T1	16	1.000	3 Sep 2021 5:39 pm
17) 090317.D 109030-05 1/5.4	T6	17	1.000	3 Sep 2021 6:17 pm
18) 090318.D 109030-07 1/5.8	T7	18	1.000	3 Sep 2021 6:55 pm
19) 090319.D 109030-08 1/5.5	T8	19	1.000	3 Sep 2021 7:32 pm
20) 090320.D rinse	T1	20	1.000	3 Sep 2021 8:17 pm
21) 090321.D				

*k*  
*09/03/21*

*AWH*  
*STEX-N*  
*QC*  
*PEE, DCE*  
*TCE, VC, Met*  
*APL*  
*9030*  
*Sample*

109030-10 1/5.7	T9	21	1.000	3 Sep 2021	8:54 pm
22) 090322.D					
109030-02 1/5.0	T10	22	1.000	3 Sep 2021	9:31 pm
23) 090323.D					
109030-06 1/17	T11	23	1.000	3 Sep 2021	10:08 pm
24) 090324.D					
rinse	T1	24	1.000	3 Sep 2021	10:52 pm
25) 090325.D					
109030-14 1/1100	T12	25	1.000	3 Sep 2021	11:28 pm
26) 090326.D					
rinse	T1	26	1.000	4 Sep 2021	12:12 am
27) 090327.D					
109030-13 1/1100	T13	27	1.000	4 Sep 2021	12:48 am
28) 090328.D					
rinse	T1	28	1.000	4 Sep 2021	1:32 am
29) 090329.D					
109030-09 1/2200	T14	29	1.000	4 Sep 2021	2:08 am
30) 090330.D					
rinse	T1	30	1.000	4 Sep 2021	2:52 am
31) 090331.D					
109030-12 1/2100	T15	31	1.000	4 Sep 2021	3:27 am
32) 090332.D					
rinse	T1	32	1.000	4 Sep 2021	4:11 am
33) 090333.D					
rinse	T1	33	1.000	4 Sep 2021	4:55 am
34) 090334.D					
rinse	T1	34	1.000	4 Sep 2021	5:39 am

u  
 09/21



EPA TO-15  
Checklists

F&B Project 109030

## GC/MS ICAL Checklist

Instrument: GC/MS 7Sequence Date: 08/24/21Shift # 1

Item	Initial	Date
Shift and Batch		
Initial Calibration Analyzed, Evaluated and Passed	✓ AS	8/25/21
2 <sup>nd</sup> source passed	✓	
Analyte retention time checked	✓	
Tune passed	✓	
Non-Conformance Report filled out (if needed)	NA	

Notes: \_\_\_\_\_

Attach this sheet to raw data package.

YA 08/25/21  
Supervisor Initials and Date

**TO-15/TO-17  
Daily Checklist**

Instrument: GC/MS 7

Sequence Date: 08/24/21

Shift # 1

Item	Initial	Date
Shift and Batch		
All samples analyzed within 24 hour shift	✓	AS 8/25/21
Internal Standards within limits 60%-140% of the CCV	✓	
Surrogate recoveries within limits (TO-15 only)	✓	
Laboratory control sample (LCS) recoveries within limits	NA	
Tune Analyzed and Passed	✓	
Continuing Calibration Analyzed, Evaluated and Passed	✓	
Non-Conformance Report filled out (if needed)	NA	

Notes: \_\_\_\_\_

Attach this sheet to raw data package.

\_\_\_\_\_  
Supervisor Initials and Date

## GC/MS ICAL Checklist

Instrument: GC/MS 7

Sequence Date: 08/19/21

Shift # 1

Item	Initial	Date
Shift and Batch		
Initial Calibration Analyzed, Evaluated and Passed	✓	AS 8/20/21
2 <sup>nd</sup> source passed	✓	
Analyte retention time checked	✓	
Tune passed	✓	
Non-Conformance Report filled out (if needed)	NA	

Notes: \_\_\_\_\_

Attach this sheet to raw data package.

YA 08/23/21  
Supervisor Initials and Date

# TO15 Sequence Procedure

## 7016D Previous Run

<input checked="" type="checkbox"/>	Print sequence from Chemstation (colored and white paper).
<input checked="" type="checkbox"/>	Compare Entech and Chemstation sequences
<input checked="" type="checkbox"/>	Check Entech position and canister #: Position <u>  2  </u> to <u>  6  </u> Position _____ to _____

## TO15 Tear Down (previous day samples done running)

<input checked="" type="checkbox"/>	Close all canisters (blue valves)
<input checked="" type="checkbox"/>	Remove canisters on tree- EXCEPT Rinse (Position 1) loosten nut closest to tree. <b>If hissing occurs. List cans below under "Canisters Vented".</b>
<input checked="" type="checkbox"/>	Handtighten caps onto canisters
<input checked="" type="checkbox"/>	Place canisters on floor next to tree
<input checked="" type="checkbox"/>	If certified canisters, check starting pressure. Record any less than 20 PSI below

## TO15 Start Up

<input checked="" type="checkbox"/>	Check all canisters closed: Rinse, Cal, IS, and lines 2,3, 4
<input checked="" type="checkbox"/>	Cleaning System ~1hr Flush x2: (O) <u>  ✓  </u> (C) <u>  ✓  </u> (If only can cert was ran x1, closed) Leak check : <u>  ✓  </u>
<input checked="" type="checkbox"/>	Clean Lines ~35min _____ Entech: Load Morning System Condition
<input checked="" type="checkbox"/>	Entech: Load sequence: TO15MorningSTARTUP Change name to month, day, and sample: (080501) Chemstation: Load TO15Morning sequence Change name, data path, and batch number Run Sequence
<input checked="" type="checkbox"/>	Open all cans attached: Rinse, Cal, IS, and lines 2,3, 4 Run sequence on Entech

<p><b>Certified Canisters with starting pressure below 20 PSI</b></p> <p style="text-align: center;"><input type="checkbox"/> Check if none</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">_____</p>	<p><b>Canisters Vented</b></p> <p style="text-align: center;"><input type="checkbox"/> Check if none</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">_____</p>
<p><b>Notes:</b> _____</p> <p style="text-align: center;">_____</p>	
<p><b>Initials/Date:</b> _____</p>	

## TO-15/TO-17 Daily Checklist

Instrument: GC/MS 7

Sequence Date: 09-03-21

Shift # 1

Item	Initial	Date
Shift and Batch		
All samples analyzed within 24 hour shift	✓ <u>BA</u>	<u>09-03-21</u>
Internal Standards within limits 60%-140% of the CCV	✓	
Surrogate recoveries within limits (TO-15 only)	✓	
Laboratory control sample (LCS) recoveries within limits	✓	
Tune Analyzed and Passed	✓	
Continuing Calibration Analyzed, Evaluated and Passed	✓	
Non-Conformance Report filled out (if needed)	<u>NA</u>	

Notes: \_\_\_\_\_

Attach this sheet to raw data package.

YA 03/03/21  
Supervisor Initials and Date

## TO15 Sequence Procedure

### 7016D Previous Run

<input checked="" type="checkbox"/>	Print sequence from Chemstation (colored and white paper).
<input checked="" type="checkbox"/>	Compare Entech and Chemstation sequences
<input checked="" type="checkbox"/>	Check Entech position and canister #: Position <u>  2  </u> to <u>  15  </u> Position _____ to _____

### TO15 Tear Down (previous day samples done running)

<input checked="" type="checkbox"/>	Close all canisters (blue valves)
<input checked="" type="checkbox"/>	Remove canisters on tree- EXCEPT Rinse (Position 1) loosten nut closest to tree.
<b>If hissing occurs. List cans below under "Canisters Vented".</b>	
<input checked="" type="checkbox"/>	Handtighten caps onto canisters
<input checked="" type="checkbox"/>	Place canisters on floor next to tree
<input type="checkbox"/>	If certified canisters, check starting pressure. Record any less than 20 PSI below

### TO15 Start Up

<input checked="" type="checkbox"/>	Check all canisters closed: Rinse, Cal, IS, and lines 2,3, 4
<input checked="" type="checkbox"/>	Cleaning System ~1hr Flush x2: (O) <u>  4:50  </u> (C) <u>  15:20  </u> (If only can cert was ran x1, closed) Leak check : <u>  5:45  </u>
<input checked="" type="checkbox"/>	Clean Lines ~35min <u>  0:10  </u> Entech: Load Morning System Condition
<input checked="" type="checkbox"/>	Entech: Load sequence: TO15MorningSTARTUP Change name to month, day, and sample: (080501) Chemstation: Load TO15Morning sequence Change name, data path, and batch number Run Sequence
<input checked="" type="checkbox"/>	Open all cans attached: Rinse, Cal, IS, and lines 2,3, 4 Run sequence on Entech

<p><b>Certified Canisters with starting pressure below 20 PSI</b></p> <p style="text-align: center;"><input type="checkbox"/> Check if none</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">_____</p>	<p><b>Canisters Vented</b></p> <p style="text-align: center;"><input type="checkbox"/> Check if none</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">_____</p>
<p><b>Notes:</b> _____</p> <p style="text-align: center;">_____</p>	
<p><b>Initials/Date:</b> _____</p>	

EPA TO-15  
Internal Standard/Surrogate Summaries

F&B Project 109030



## GC/MS QA-QC Check Report

Tune File : I:\08-24-21\082402.D  
 Tune Time : 24 Aug 2021 8:10 am

Daily Calibration File : I:\08-24-21\082421.D

(BFB)

115065 562076 489363

File	Sample	Surrogate Recovery %	Internal Standard Responses
082412.D	rinse	98	116538 568103 498327
082413.D	0.01 ppbv	99	115567 558032 493420
082414.D	0.01 ppbv	98	116099 553684 491349
082415.D	0.02 ppbv	100	114914 562536 491774
082416.D	0.05 ppbv	100	118766 561168 488496
082417.D	0.1 ppbv 6	100	119517 567176 494412
082418.D	0.2 ppbv 6	100	115938 563785 487035
082419.D	0.5 ppbv 6	99	115414 554707 487886
082420.D	1.0 ppbv 6	100	119489 570054 495165
082421.D	2.5 ppbv 6	101	115065 562076 489363
082422.D	4.0 ppbv 6	101	117039 562321 490750
082423.D	5.0 ppbv 6	100	115886 567250 503966
082424.D	8.0 ppbv 6	101	117340 560061 491505
082425.D	10 ppbv 64	101	119230 575285 505882
082426.D	15 ppbv 64	100	116041 572424 508460
082428.D	rinse	97	117539 565282 488472
082429.D	scv 2.5ppb	97	110485 541551 484092
082431.D	rinse	98	110155 532438 457406

(fails) - fails 24hr time check \* - fails criteria

GC/MS QA-QC Check Report

Tune File : F:\Proc\_GCMS7\08-19-21\081902.D  
 Tune Time : 19 Aug 2021 10:18 am

Daily Calibration File : F:\Proc\_GCMS7\08-19-21\081917.D

(BFB)

126790 602586 527015

File	Sample	Surrogate	Recovery %	Internal	Standard	Responses
081913.D	0.2 ppbv,	99		125069	603050	522210
081914.D	0.5 ppbv,	100		124186	596531	521481
081915.D	1 ppbv, 64	100		125230	604762	528441
081916.D	2.5 ppbv,	99		126939	610241	535599
081917.D	5 ppbv, 64	100		126790	602586	527015
081918.D	10 ppbv, 6	99		125914	603448	536705
081919.D	25 ppbv, 6	103		127775	606081	536029
081922.D	SCV 64-81b	98		127010	599277	538456

(fails) - fails 24hr time check \* - fails criteria

Created: Mon Sep 13 13:25:17 2021 GCMS7

GC/MS QA-QC Check Report

Tune File : F:\Proc\_GCMS7\09-03-21\090302.D

Tune Time : 3 Sep 2021 8:19 am

Daily Calibration File : F:\Proc\_GCMS7\09-03-21\090303.D

(BFB)

100564 482048 422768

File	Sample	Surrogate Recovery %	Internal Standard Responses
090308.D	rinse	97	102859 471007 421641
090309.D	rinse	96	100101 469635 414610
090310.D	01-2004 MB	97	99860 471726 414230
090311.D	109030-01	97	101138 464533 409944
090312.D	109030-01	98	97025 458135 402258
090313.D	109030-03	98	102889 472104 413599
090314.D	109030-04	96	99416 463537 413143
090315.D	109030-11	96	99707 469630 412149
090316.D	rinse	97	100134 469924 408241
090317.D	109030-05	96	100037 462498 407152
090318.D	109030-07	98	96153 449252 399878
090319.D	109030-08	99	98707 459721 402212
090320.D	rinse	97	98809 464891 400608
090321.D	109030-10	96	97405 457925 400566
090322.D	109030-02	97	97408 448691 394288
090323.D	109030-06	95	98950 462276 421250
090324.D	rinse	95	97950 458730 403265
090325.D	109030-14	96	96266 459419 398095
090326.D	rinse	94	97375 452553 396173

T015  
 page 10/2  
 ↳  
 09/07/21

090327.D	109030-13	99	99394	463500	395698
090328.D	rinse	95	94419	446853	389500
090329.D	109030-09	100	92132	438856	383606
090330.D	rinse	96	87410	416184	363088
090331.D	109030-12	94	102600	488346	434571
090332.D	rinse	95	99773	473003	413232
090333.D	rinse	94	99510	470396	406756
090334.D	rinse	94	99035	468746	402435

(fails) - fails 24hr time check \* - fails criteria

Created: Tue Sep 07 17:37:22 2021 GCMS7

T015  
 page 2 of 2  
 09/07/21 1/2  
 09/07/21

GC/MS QA-QC Check Report

Tune File : F:\Proc\_GCMS7\09-03-21\090302.D  
 Tune Time : 3 Sep 2021 8:19 am

APIH

Daily Calibration File : F:\Proc\_GCMS7\09-03-21\090304.D

V2  
09/07/21

(BFB)

100650 473288 420732

File	Sample	Surrogate Recovery %	Internal Standard Responses
090305.D	01-2004 lc	98	102789 491847 431389
090310.D	01-2004 MB	98	99860 471726 414230
090311.D	109030-01	99	101138 464533 409944
090312.D	109030-01	99	97025 458135 402258
090313.D	109030-03	100	102889 472104 413599
090314.D	109030-04	98	99416 463537 413143
090315.D	109030-11	97	99707 469630 412149
090317.D	109030-05	97	100037 462498 407152
090318.D	109030-07	100	96153 449252 399878
090319.D	109030-08	101	98707 459721 402212
090321.D	109030-10	98	97405 457925 400566
090322.D	109030-02	99	97408 448691 394288
090323.D	109030-06	97	98950 462276 421250
090325.D	109030-14	98	96266 459419 398095
090327.D	109030-13	101	99394 463500 395698
090329.D	109030-09	102	92132 438856 383606
090331.D	109030-12	95	102600 488346 434571

(fails) - fails 24hr time check \* - fails criteria

Created: Tue Sep 07 17:40:00 2021 GCMS7

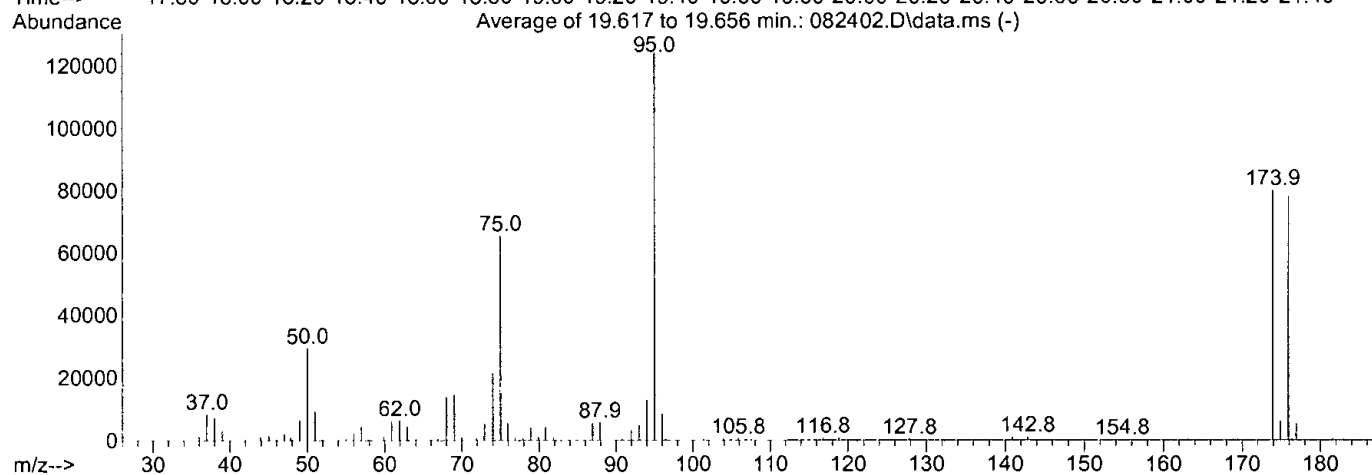
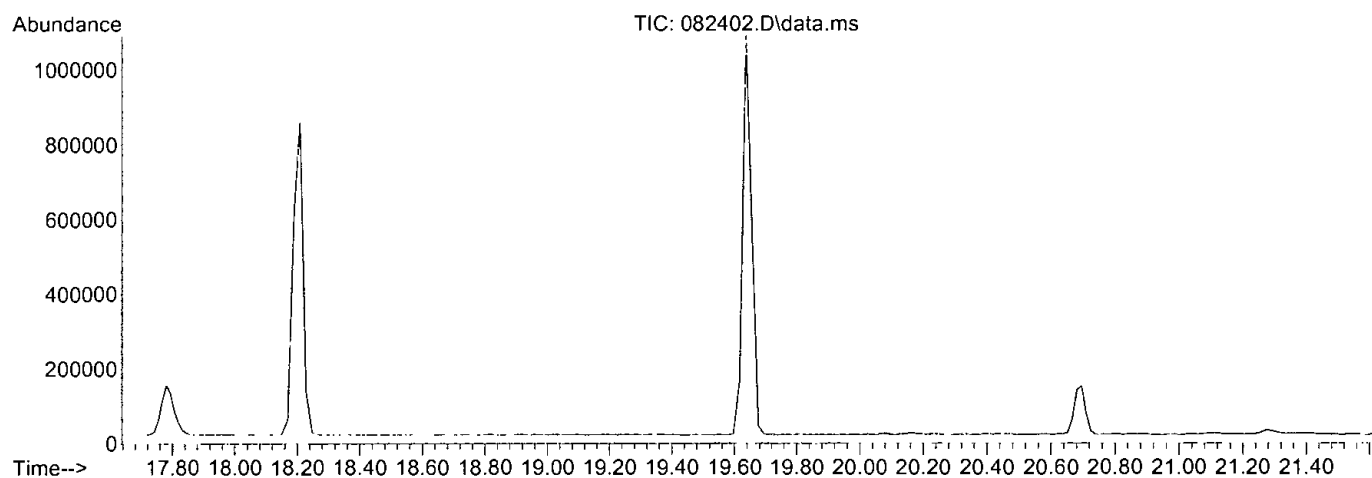
EPA TO-15  
Tune Summaries

F&B Project 109030

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082402.D  
 Acq On : 24 Aug 2021 8:10 am  
 Operator : bat  
 Sample : BFB 64-63a  
 Misc : T1  
 ALS Vial : 2 Sample Multiplier: 1

Integration File signal 1: rteint.p  
 Integration File signal 2: rteint2.p

Method : Z:\METHODS\Inst7\0818TO15ss7.M  
 Title : TO-15 SS method  
 Last Update : Thu Aug 19 11:41:18 2021



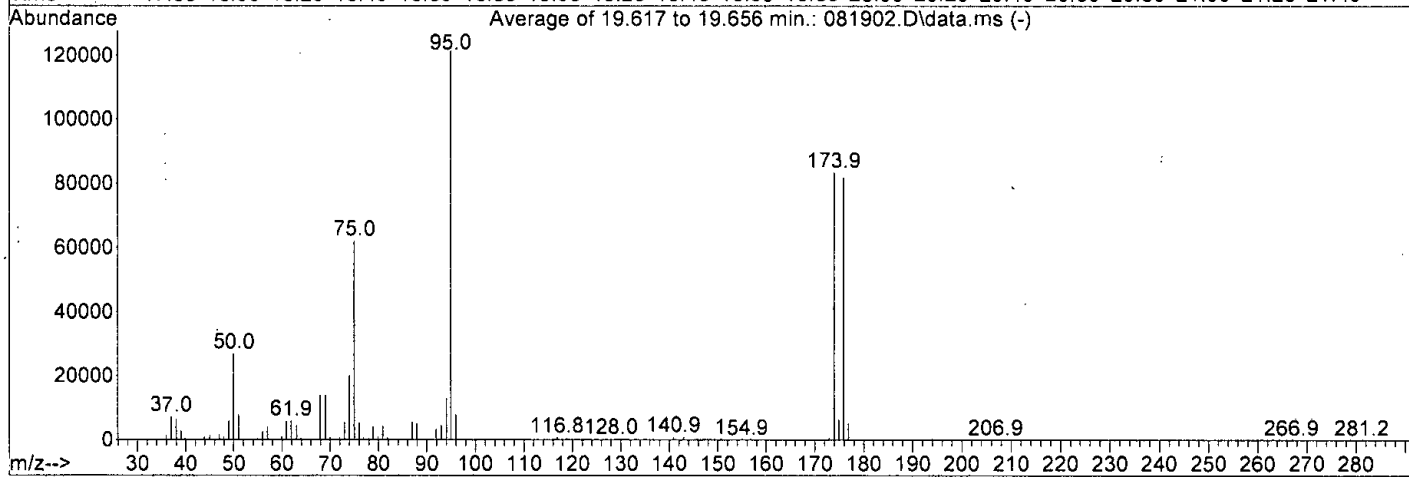
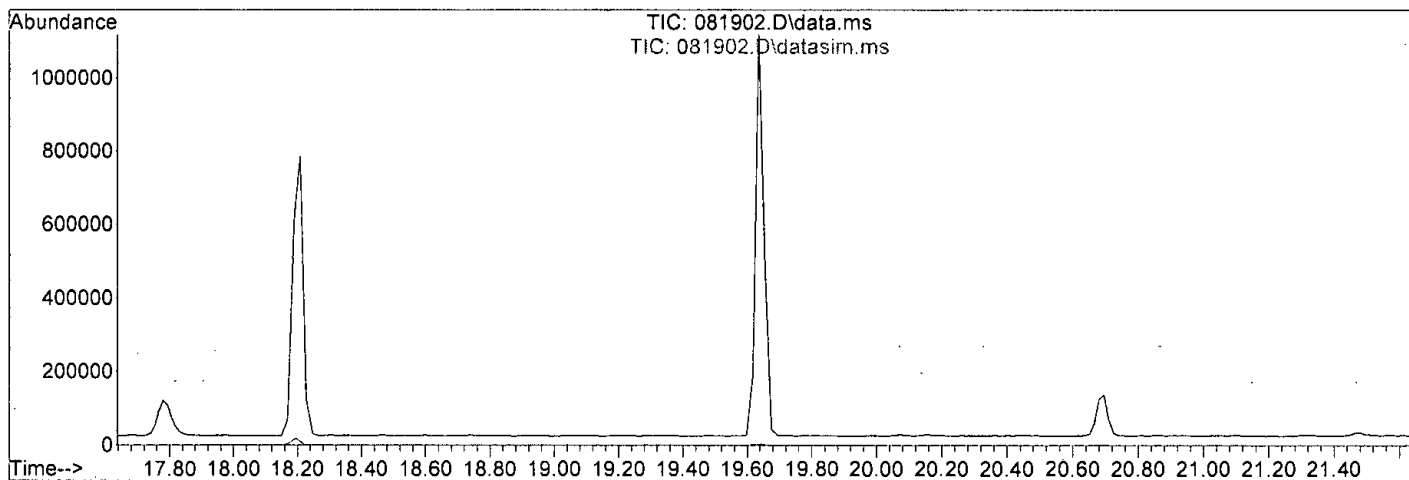
AutoFind: Scans 794, 795, 796; Background Corrected with Scan 790

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	23.7	29460	PASS
75	95	30	66	52.6	65360	PASS
95	95	100	100	100.0	124211	PASS
96	95	5	9	6.7	8357	PASS
173	174	0.00	2	0.1	85	PASS
174	95	50	120	64.3	79909	PASS
175	174	4	9	7.6	6057	PASS
176	174	93	101	97.6	78008	PASS
177	176	5	9	6.7	5228	PASS

Data Path : F:\Proc\_GCMS7\08-19-21\  
 Data File : 081902.D  
 Acq On : 19 Aug 2021 10:18 am  
 Operator : bat  
 Sample : BFB 63-15a  
 Misc : T1  
 ALS Vial : 2 Sample Multiplier: 1

Integration File signal 1: rteint.p  
 Integration File signal 2: rteint2.p

Method : F:\METHODS\Inst7\0818TO15ss7.M  
 Title : TO-15 SS method  
 Last Update : Thu Aug 19 11:41:18 2021



AutoFind: Scans 794, 795, 796; Background Corrected with Scan 790

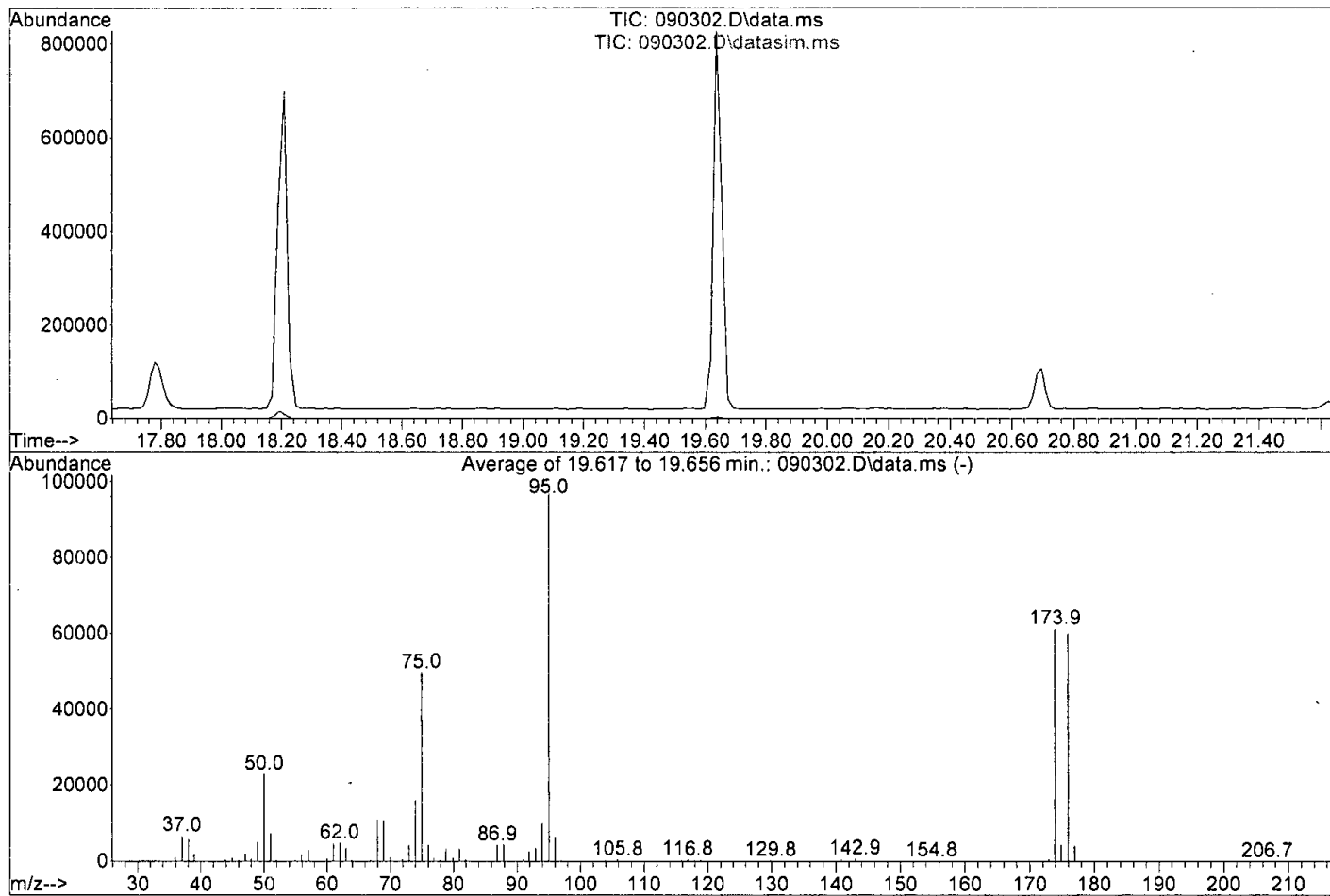
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	22.2	27022	PASS
75	95	30	66	51.1	62195	PASS
95	95	100	100	100.0	121725	PASS
96	95	5	9	6.5	7900	PASS
173	174	0.00	2	0.8	685	PASS
174	95	50	120	68.6	83472	PASS
175	174	4	9	7.7	6416	PASS
176	174	93	101	98.2	81936	PASS
177	176	5	9	6.5	5301	PASS



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090302.D  
 Acq On : 3 Sep 2021 8:19 am  
 Operator : bat  
 Sample : BFB 64-99a  
 Misc : T1  
 ALS Vial : 2 Sample Multiplier: 1

Integration File signal 1: rteint.p  
 Integration File signal 2: rteint2.p

Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Title : TO-15 SS method  
 Last Update : Wed Aug 25 09:28:09 2021



AutoFind: Scans 794, 795, 796; Background Corrected with Scan 790

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	23.6	22831	PASS
75	95	30	66	51.3	49665	PASS
95	95	100	100	100.0	96829	PASS
96	95	5	9	6.6	6415	PASS
173	174	0.00	2	0.9	529	PASS
174	95	50	120	63.2	61240	PASS
175	174	4	9	7.3	4442	PASS
176	174	93	101	98.1	60052	PASS
177	176	5	9	7.2	4297	PASS

EPA TO-15  
Initial Calibrations

F&B Project 109030

Method Path : Z:\METHODS\Inst7\  
 Method File : 0824TO15ss7.M  
 Title : TO-15 SS method  
 Last Update : Wed Aug 25 09:28:09 2021  
 Response Via : Initial Calibration

Calibration Files

0.01=082414.D 0.02=082415.D 0.05=082416.D 0.1=082417.D 0.2=082418.D 0.5=082419.D 1=082420.D 2.5=082421.D  
 4=082422.D 5=082423.D 8=082424.D 10=082425.D 15=082426.D

Compound	0.01	0.02	0.05	0.1	0.2	0.5	1	2.5	4	5	8	10	15	Avg	%RSD
1) I Bromochloromethane															
2) TMP Propene				1.712	1.836	1.682	1.456	1.894	1.808	1.659	1.706	1.611	1.733	1.710	7.23
3) TMP Dichlorodifluo...			4.609	4.076	4.898	4.583	4.561	4.867	4.403	4.337	4.089	4.157	4.093	4.425	6.86
4) TMP Chloromethane				2.456	2.248	2.248	2.041	2.165	2.101	1.933	1.799	1.840	1.920	2.075	10.03
5) TMP F-114				4.673	4.271	4.743	4.717	4.499	4.822	4.407	4.314	4.195	4.106	4.450	5.71
6) TMP Vinyl chloride			2.689	2.187	2.114	2.251	2.179	1.982	2.390	2.214	2.175	2.120	2.071	2.209	8.20
7) TMP 1,3-Butadiene			1.723	1.622	1.506	1.582	1.482	1.485	1.653	1.525	1.505	1.425	1.409	1.429	6.38
8) TMP Butane						4.064	3.128	3.371	3.229	3.175	3.003	2.993	3.017	3.248	10.92
9) TMP Bromomethane						1.407	1.410	1.824	1.615	1.575	1.503	1.478	1.512	1.540	8.79
10) TMP Chloroethane				0.786	0.799	0.765	0.736	0.838	0.759	0.761	0.718	0.717	0.712	0.759	5.34
11) TMP Vinyl bromide			1.783	1.704	1.829	1.712	1.648	1.886	1.911	1.870	1.777	1.749	1.769	1.785	4.60
12) TMP Ethanol						0.567	0.654	0.679	0.531	0.498	0.489	0.512	0.545	0.559	12.68
13) TMP Acrolein			0.827	0.815	0.710	0.725	0.740	0.643	0.786	0.701	0.665	0.658	0.723	0.726	8.09
14) TMP Pentane						4.202	3.873	4.330	3.896	3.894	3.645	3.631	3.659	3.891	6.68
15) TMP Trichlorofluor...				4.916	5.007	5.017	4.801	5.453	5.128	4.944	4.736	4.615	4.718	4.934	4.90
16) TMP Acetone						1.096	0.970	0.916	0.823	0.871	0.795	0.770	0.800	0.880	12.54
17) TMP 2-Propanol						3.809	3.430	3.767	3.447	3.600	3.472	3.421	3.500	3.556	4.34
18) TMP 1,1-Dichloroet...			2.023	1.711	1.613	1.698	1.591	1.544	1.773	1.638	1.602	1.532	1.514	1.539	8.65
19) TMP trans-1,2-Dich...			1.975	1.649	1.583	1.676	1.571	1.525	1.752	1.624	1.599	1.519	1.509	1.529	8.11
20) TMP Methylene chlo...						2.251	2.041	1.834	1.652	1.617	1.484	1.541	1.582	1.750	15.46
21) TMP t-Butyl alcoho...						3.021	2.680	3.093	2.817	2.897	2.778	2.867	2.898	2.881	4.55
22) TMP 3-Chloropropene						3.212	2.863	3.182	2.947	2.841	2.760	2.737	2.795	2.910	5.99
23) TMP CFC-113				3.321	3.313	3.665	3.360	3.329	3.686	3.510	3.426	3.257	3.261	3.396	4.70
24) TMP Carbon disulfide						5.684	5.151	6.479	5.999	5.858	5.542	5.589	5.601	5.738	6.78
25) TMP Methyl t-butyl...					4.172	3.834	3.770	4.059	3.821	3.773	3.639	3.596	3.715	3.820	4.90
26) TMP Vinyl acetate						2.457	2.598	2.673	2.647	2.593	2.524	2.464	2.541	2.562	3.11
27) TMP 1,1-Dichloroet...			4.438	3.797	3.657	3.938	3.762	3.635	4.185	3.915	3.841	3.673	3.651	3.705	6.34
28) TMP cis-1,2-Dichlo...			2.162	1.782	1.708	1.835	1.733	1.682	1.917	1.785	1.751	1.671	1.659	1.679	7.99
29) TMP Hexane						3.109	2.879	3.239	3.039	2.932	2.798	2.840	2.836	2.959	5.26
30) TMP Chloroform			5.762	4.812	4.232	4.359	4.189	4.042	4.622	4.313	4.226	4.058	4.017	4.072	11.05
31) TMP Ethyl acetate						6.162	5.730	6.900	6.533	6.484	5.921	5.922	6.177	6.229	6.22
32) TMP Tetrahydrofuran						2.725	2.598	2.891	2.715	2.701	2.545	2.545	2.581	2.703	5.24
33) TMP 2-Butanone (MEK)				2.953	2.780	0.756	0.702	0.784	0.720	0.697	0.665	0.685	0.684	0.712	5.62
34) TMP 1,2-Dichloroet...			4.298	3.585	3.152	3.030	3.261	3.131	3.128	3.518	3.270	3.198	3.049	3.021	10.71
35) TMP 1,1,1-Trichlor...			3.855	3.137	3.019	3.260	3.128	3.033	3.502	3.253	3.222	3.098	3.106	3.176	7.25
36) TMP Carbon tetrach...			3.620	3.075	2.990	3.219	3.084	2.981	3.461	3.236	3.194	3.071	3.068	3.140	6.00
37) TMP Benzene			7.745	6.423	5.944	6.249	5.916	5.693	6.546	6.053	5.934	5.659	5.616	5.700	9.68

Method Path : Z:\METHODS\Inst7\  
 Method File : 0824T015ss7.M  
 Title : T0-15 SS method  
 38) TMP Cyclohexane

39) I	1,4-Difluorobenzene	-----ISTD-----										1.822	1.653	1.783	1.674	1.696	1.577	1.571	1.578	1.669	5.72
40) TMP	1,2-Dichloropr...	0.807	0.685	0.606	0.610	0.618	0.581	0.572	0.643	0.607	0.589	0.577	0.570	0.568	0.618	10.68					
41) TMP	1,4-Dioxane			0.294	0.268	0.284	0.274	0.269	0.287	0.272	0.261	0.255	0.251	0.250	0.270	5.41					
42) TMP	2,2,4-Trimethy...						2.104	2.088	2.272	2.120	2.045	2.008	1.980	1.992	2.076	4.57					
43) TMP	Methyl methacr...						0.557	0.530	0.620	0.591	0.559	0.557	0.553	0.567	0.567	4.82					
44) TMP	Heptane						0.969	0.980	1.026	0.983	0.958	0.919	0.921	0.918	0.959	4.02					
45) TMP	Bromodichlorom...	1.237	1.014	0.926	0.894	0.947	0.911	0.892	1.005	0.954	0.920	0.906	0.890	0.892	0.953	9.95					
46) TMP	Trichloroethene	0.923	0.711	0.627	0.584	0.604	0.578	0.564	0.627	0.591	0.574	0.560	0.552	0.542	0.618	16.44					
47) TMP	cis-1,3-Dichlo...						0.600	0.611	0.675	0.651	0.634	0.631	0.632	0.627	0.636	5.59					
48) TMP	4-Methyl-2-pen...						0.034	0.041	0.047	0.038	0.044	0.040	0.039	0.040	0.040	9.39					
49) TMP	trans-1,3-Dich...						0.573	0.534	0.534	0.512	0.505	0.585	0.547	0.534	0.538	0.545	0.540				
50) TMP	Toluene						0.818	0.776	0.781	0.748	0.735	0.808	0.754	0.725	0.705	0.694	0.698	0.749			
51) TMP	1,1,2-Trichlor...	0.728	0.608	0.581	0.552	0.542	0.524	0.513	0.595	0.560	0.541	0.531	0.520	0.519	0.563	10.32					
52) TMP	2-Hexanone						1.001	1.030	1.114	1.049	1.042	1.071	1.057	1.076	1.055	3.19					
53) TMP	Tetrachloroethene						0.381	0.404	0.383	0.370	0.415	0.390	0.375	0.370	0.362	0.381	4.64				
54) TMP	Dibromochlorom...	0.986	0.849	0.748	0.719	0.777	0.754	0.737	0.837	0.790	0.770	0.758	0.749	0.761	0.787	8.91					
55) TMP	1,2-Dibromoeth...	1.046	0.852	0.774	0.727	0.765	0.746	0.737	0.797	0.763	0.737	0.730	0.721	0.733	0.779	11.27					

56) I	Chlorobenzene-d5	-----ISTD-----										1.087	1.159	1.121	1.025	1.151	1.108	1.030	1.034	1.001	0.995	1.071	5.75
57) TMP	Chlorobenzene	3.124	2.569	2.223	2.120	2.201	2.084	2.054	2.300	2.169	2.054	2.035	1.975	1.965	2.221	14.19							
58) TMP	Ethylbenzene						1.447	1.439	1.610	1.531	1.451	1.457	1.422	1.418	1.549	12.42							
59) TMP	1,1,2,2-Tetrac...	2.108	1.756	1.533	1.451	1.518	1.651	1.635	1.859	1.749	1.657	1.664	1.615	1.604	1.679	5.05							
60) TMP	Nonane						1.898	1.871	2.114	1.998	1.874	2.139	1.866	1.820	1.948	6.24							
61) TMP	Isopropylbenzene						0.450	0.455	0.508	0.477	0.450	0.464	0.450	0.450	0.463	4.43							
62) TMP	2-Chlorotoluene						4.320	4.286	4.705	4.460	4.239	4.230	4.191	4.141	4.322	4.21							
63) TMP	Propylbenzene						2.032	1.944	2.227	2.085	1.986	2.006	1.973	1.965	2.027	4.54							
64) TMP	4-Ethyltoluene						0.686	0.676	0.758	0.718	0.677	0.678	0.662	0.654	0.713	8.67							
65) TMP	m,p-Xylene						0.880	0.746	0.701	0.723	0.686	0.676	0.718	0.677	0.678	0.662	0.654	0.713					
66) TMP	o-Xylene						0.852	0.737	0.687	0.708	0.673	0.660	0.748	0.707	0.669	0.671	0.654	0.646	0.701				
67) TMP	Styrene						0.988	1.062	1.100	0.984	1.118	1.072	0.990	1.021	0.989	0.997	1.032	4.96					
68) TMP	Bromoform						0.667	0.845	0.743	0.776	0.871	0.853	0.811	0.821	0.809	0.815	0.801	7.47					
69) S	4-Bromofluorob...	0.889	0.904	0.909	0.903	0.908	0.893	0.907	0.912	0.918	0.902	0.915	0.911	0.906	0.906	0.90							
70) TMP	Benzyl chloride	0.853	0.712	0.667	0.644	0.692	0.684	0.699	0.795	0.785	0.767	0.805	0.813	0.846	0.751	9.44							
71) TMP	1,3,5-Trimethy...						1.551	1.556	1.798	1.724	1.630	1.605	1.584	1.555	1.625	5.54							
72) TMP	1,2,4-Trimethy...						1.643	1.645	1.844	1.735	1.665	1.642	1.635	1.624	1.679	4.46							
73) TMP	1,3-Dichlorobe...						1.342	1.197	1.185	1.129	1.114	1.227	1.163	1.110	1.120	1.055	1.051	1.154	7.22				
74) TMP	1,4-Dichlorobe...						1.707	1.294	1.132	1.123	1.056	1.046	1.153	1.092	1.041	1.045	1.070	1.064	1.152	16.38			
75) TMP	1,2-Dichlorobe...						1.308	1.140	1.132	1.061	1.046	1.147	1.083	1.030	1.034	1.012	1.006	1.091	8.09				
76) TMP	1,2,4-Trichlor...						1.304	1.105	0.926	0.899	0.947	0.882	0.865	0.855	0.857	0.863	0.950	15.29					
77) TMP	Naphthalene						4.153	2.964	2.586	2.472	2.330	2.301	2.373	2.304	2.224	2.270	2.236	2.246	2.538	21.66			
78) TMP	Hexachlorobuta...						1.803	1.123	0.876	0.814	0.715	0.692	0.761	0.721	0.685	0.689	0.679	0.662	0.852	38.30			

(#) = Out of Range

## Compound List Report GCMS7

Method Path : Z:\METHODS\Inst7\  
 Method File : 0824T015ss7.M  
 Title : TO-15 SS method  
 Last Update : Wed Aug 25 09:28:09 2021  
 Response Via : Initial Calibration

Total Cpnds : 78

PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I Bromochloromethane	128	9.99	1.000	A	2	A	B
2	T Propene	41	3.41	0.341	A	2	A	B
3	T Dichlorodifluoromethane	85	3.52	0.353	A	1	A	B
4	T Chloromethane	-50	3.77	0.377	A	1	A	B
5	T F-114	85	3.88	0.389	A	2	A	B
6	T Vinyl chloride	-62	4.05	0.405	A	1	A	B
7	T 1,3-Butadiene	-54	4.25	0.425	A	3	A	B
8	T Butane	43	4.32	0.432	A	1	A	B
9	T Bromomethane	94	4.64	0.464	A	1	A	B
10	T Chloroethane	-64	4.84	0.485	A	1	A	B
11	T Vinyl bromide	-106	5.32	0.532	A	1	A	B
12	T Ethanol	45	4.96	0.496	A	1	A	B
13	T Acrolein	-56	5.43	0.544	A	1	A	B
14	T Pentane	43	6.33	0.634	A	2	A	B
15	T Trichlorofluoromethane	101	5.88	0.588	A	1	A	B
16	T Acetone	58	5.59	0.559	A	1	A	B
17	T 2-Propanol	45	5.86	0.587	A	2	A	B
18	T 1,1-Dichloroethene	-96	6.73	0.674	A	2	A	B
19	T trans-1,2-Dichloroethene	-96	8.18	0.819	A	2	A	B
20	T Methylene chloride	84	6.86	0.686	A	2	A	B
21	T t-Butyl alcohol (TBA)	59	6.65	0.665	A	1	A	B
22	T 3-Chloropropene	41	7.01	0.702	A	1	A	B
23	T CFC-113	101	7.22	0.723	A	2	A	B
24	T Carbon disulfide	76	7.33	0.734	A	2	A	B
25	T Methyl t-butyl ether (MTBE)	73	8.51	0.852	A	1	A	B
26	T Vinyl acetate	43	8.62	0.863	A	1	A	B
27	T 1,1-Dichloroethane	-63	8.44	0.845	A	2	A	B
28	T cis-1,2-Dichloroethene	-96	9.73	0.974	A	2	A	B
29	T Hexane	57	10.11	1.013	A	2	A	B
30	T Chloroform	-83	10.19	1.020	A	1	A	B
31	T Ethyl acetate	43	10.01	1.002	A	1	A	B
32	T Tetrahydrofuran	42	10.84	1.085	A	1	A	B
33	T 2-Butanone (MEK)	72	8.99	0.900	A	3	A	B
34	T 1,2-Dichloroethane (EDC)	-62	11.44	1.146	A	1	A	B
35	T 1,1,1-Trichloroethane	-97	11.94	1.195	A	2	A	B
36	T Carbon tetrachloride	-117	12.95	1.297	A	1	A	B
37	T Benzene	-78	12.70	1.271	A	1	A	B
38	T Cyclohexane	84	13.16	1.317	A	2	A	B
39	I 1,4-Difluorobenzene	114	13.23	1.000	A	2	A	B
40	T 1,2-Dichloropropane	-63	13.90	1.050	A	1	A	B
41	T 1,4-Dioxane	-88	14.17	1.071	A	1	A	B
42	T 2,2,4-Trimethylpentane	57	14.31	1.081	A	2	A	B
43	T Methyl methacrylate	41	14.43	1.091	A	2	A	B
44	T Heptane	43	14.63	1.106	A	3	A	B
45	T Bromodichloromethane	-83	14.14	1.069	A	2	A	B
46	T Trichloroethene	-95	14.22	1.075	A	3	A	B
47	T cis-1,3-Dichloropropene	75	15.27	1.154	A	2	A	B
48	T 4-Methyl-2-pentanone	100	15.29	1.156	A	3	A	B
49	T trans-1,3-Dichloropropene	-75	15.85	1.198	A	2	A	B
50	T Toluene	-92	16.40	1.239	A	1	A	B
51	T 1,1,2-Trichloroethane	-83	16.06	1.214	A	2	A	B

52	T	2-Hexanone	43	16.62	1.256	A	3	A	B
53	T	Tetrachloroethene	-164	17.58	1.329	A	3	A	B
54	T	Dibromochloromethane	-129	16.84	1.273	A	2	A	B
55	T	1,2-Dibromoethane (EDB)	-107	17.10	1.292	A	2	A	B
56	I	Chlorobenzene-d5	117	18.21	1.000	A	2	A	B
57	T	Chlorobenzene	112	18.25	1.002	A	2	A	B
58	T	Ethylbenzene	-91	18.59	1.021	A	1	A	B
59	T	1,1,2,2-Tetrachloroethane	-83	19.19	1.054	A	2	A	B
60	T	Nonane	43	19.36	1.063	A	3	A	B
61	T	Isopropylbenzene	105	19.75	1.085	A	1	A	B
62	T	2-Chlorotoluene	126	20.23	1.111	A	1	A	B
63	T	Propylbenzene	91	20.25	1.112	A	1	A	B
64	T	4-Ethyltoluene	105	20.38	1.119	A	1	A	B
65	T	m,p-Xylene	-106	18.76	1.030	A	1	A	B
66	T	o-Xylene	-106	19.21	1.055	A	1	A	B
67	T	Styrene	104	19.11	1.049	A	1	A	B
68	T	Bromoform	173	18.85	1.035	A	2	A	B
69	S	4-Bromofluorobenzene	95	19.64	1.078	A	2	A	B
70	T	Benzyl chloride	-91	21.01	1.154	A	1	A	B
71	T	1,3,5-Trimethylbenzene	105	20.45	1.123	A	1	A	B
72	T	1,2,4-Trimethylbenzene	105	20.86	1.145	A	1	A	B
73	T	1,3-Dichlorobenzene	-146	21.04	1.155	A	2	A	B
74	T	1,4-Dichlorobenzene	-146	21.11	1.159	Q	2	A	B
75	T	1,2-Dichlorobenzene	-146	21.47	1.179	A	2	A	B
76	T	1,2,4-Trichlorobenzene	180	23.73	1.303	Q	2	A	B
77	T	Naphthalene	-128	23.93	1.314	Q	2	A	B
78	T	Hexachlorobutadiene	-225	24.52	1.347	Q	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin  
 #Qual = number of qualifiers  
 A/H = Area or Height  
 ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

Calibration Status Report GCMS7

Method Path : Z:\METHODS\Inst7\  
 Method File : 0824T015ss7.M  
 Title : TO-15 SS method  
 Last Update : Wed Aug 25 09:28:09 2021  
 Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.01	-1	10	I:\08-24-21\082414.D
2	0.02	0	10	I:\08-24-21\082415.D
3	0.05	0	10	I:\08-24-21\082416.D
4	0.1	0	10	I:\08-24-21\082417.D
5	0.2	0	10	I:\08-24-21\082418.D
6	0.5	1	10	I:\08-24-21\082419.D
7	1	1	10	I:\08-24-21\082420.D
8	2.5	3	10	I:\08-24-21\082421.D
9	4	4	10	I:\08-24-21\082422.D
10	5	5	10	I:\08-24-21\082423.D
11	8	8	10	I:\08-24-21\082424.D
12	10	10	10	I:\08-24-21\082425.D
13	15	15	10	I:\08-24-21\082426.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.01	Aug 25 08:19 2021	Aug 25 09:08 2021	24 Aug 2021 3:48 pm
2	0.02	Aug 25 08:19 2021	Aug 25 09:10 2021	24 Aug 2021 4:25 pm
3	0.05	Aug 25 08:19 2021	Aug 25 09:10 2021	24 Aug 2021 5:04 pm
4	0.1	Aug 25 08:19 2021	Aug 25 09:11 2021	24 Aug 2021 5:47 pm
5	0.2	Aug 25 08:19 2021	Aug 25 09:13 2021	24 Aug 2021 6:25 pm
6	0.5	Aug 25 08:19 2021	Aug 25 09:14 2021	24 Aug 2021 7:03 pm
7	1	Aug 25 08:19 2021	Aug 25 09:15 2021	24 Aug 2021 7:47 pm
8	2.5	Aug 25 08:19 2021	Aug 25 09:15 2021	24 Aug 2021 8:24 pm
9	4	Aug 25 08:19 2021	Aug 25 09:16 2021	24 Aug 2021 9:01 pm
10	5	Aug 25 08:19 2021	Aug 25 09:17 2021	24 Aug 2021 9:38 pm
11	8	Aug 25 08:19 2021	Aug 25 09:17 2021	24 Aug 2021 10:14 pm
12	10	Aug 25 08:19 2021	Aug 25 09:18 2021	24 Aug 2021 10:51 pm
13	15	Aug 25 08:19 2021	Aug 25 09:07 2021	24 Aug 2021 11:29 pm

0824T015ss7.M Wed Aug 25 10:56:55 2021

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082414.D  
 Acq On : 24 Aug 2021 3:48 pm  
 Operator : bat  
 Sample : 0.01 ppbv 64-87c  
 Misc : T2, 25cc of 0.1ppbv  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:01:29 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	116099	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	553684	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	491349	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	436803	9.813	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	98.10%
Target Compounds						
						Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.		
6) Vinyl chloride	0.00		0	N.D.	d	
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.	d	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	0.00		0	N.D.	d	
19) trans-1,2-Dichloroethene	0.00		0	N.D.	d	
20) Methylene chloride	0.00		0	N.D.	d	
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	0.00		0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00		0	N.D.	d	
29) Hexane	0.00		0	N.D.	d	
30] Chloroform	10.19	83	669	0.013	ppbv	95
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.		
34] 1,2-Dichloroethane (EDC)	11.44	62	499	0.013	ppbv	95
35) 1,1,1-Trichloroethane	0.00		0	N.D.	d	
36) Carbon tetrachloride	0.00		0	N.D.	d	
37) Benzene	0.00		0	N.D.	d	
38) Cyclohexane	0.00		0	N.D.	d	
40] 1,2-Dichloropropane	13.90	63	447	0.013	ppbv	98
41) 1,4-Dioxane	0.00		0	N.D.	d	
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082414.D  
 Acq On : 24 Aug 2021 3:48 pm  
 Operator : bat  
 Sample : 0.01 ppbv 64-87c  
 Misc : T2, 25cc of 0.1ppbv  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

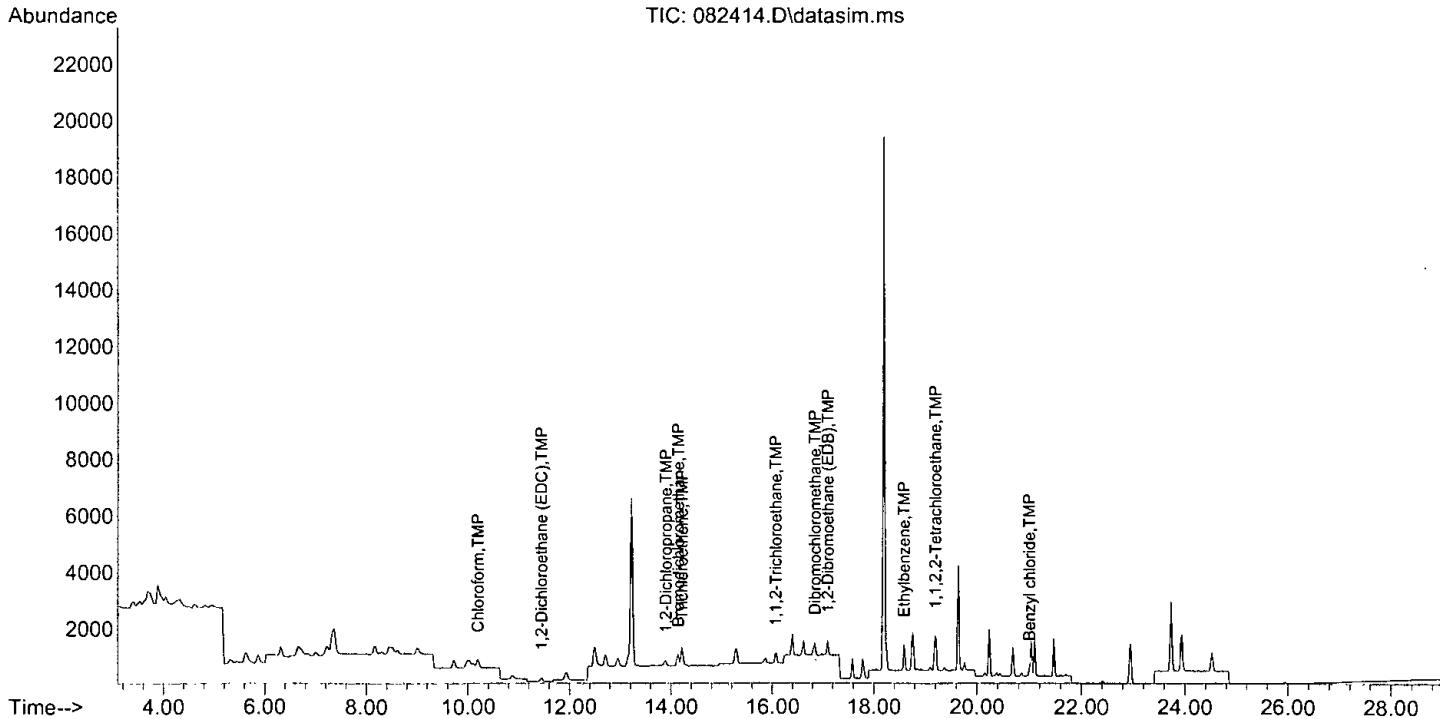
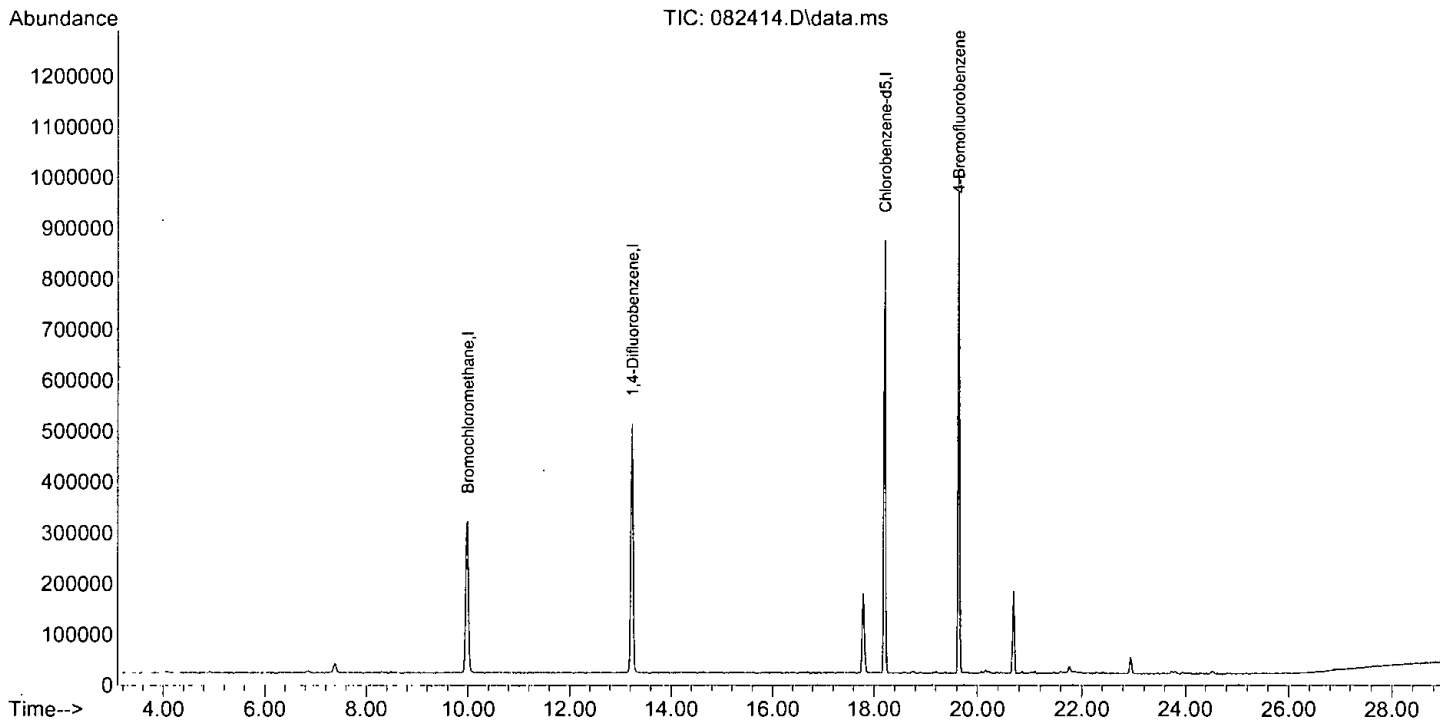
Quant Time: Aug 25 11:01:29 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	14.14	83	685	0.013	ppbv	90
46) Trichloroethene	14.22	95	508	0.015	ppbv	89
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50) Toluene	0.00		0	N.D.	d	
51) 1,1,2-Trichloroethane	16.06	83	414	0.013	ppbv	93
52) 2-Hexanone	0.00		0	N.D.	d	
53) Tetrachloroethene	0.00		0	N.D.	d	
54) Dibromochloromethane	16.85	129	546	0.013	ppbv	87
55) 1,2-Dibromoethane (EDB)	17.10	107	579	0.013	ppbv	88
57) Chlorobenzene	0.00		0	N.D.	d	
58) Ethylbenzene	18.59	91	1554	0.014	ppbv	98
59) 1,1,2,2-Tetrachloroethane	19.19	83	1044	0.014	ppbv	98
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65) m,p-Xylene	0.00		0	N.D.	d	
66) o-Xylene	0.00		0	N.D.	d	
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	21.01	91	419	0.011	ppbv	93
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77) Naphthalene	0.00		0	N.D.	d	
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082414.D  
 Acq On : 24 Aug 2021 3:48 pm  
 Operator : bat  
 Sample : 0.01 ppbv 64-87c  
 Misc : T2, 25cc of 0.1ppbv  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:01:29 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082414.D  
 Acq On : 24 Aug 2021 3:48 pm  
 Operator : bat  
 Sample : 0.01 ppbv 64-87c  
 Misc : T2, 25cc of 0.1ppbv  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:01:29 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	-1.000	0.000	0.0	0	-3.41#
3 TMP	Dichlorodifluoromethane	-1.000	0.000	0.0	0	-3.52#
4 TMP	Chloromethane	-1.000	0.000	0.0	0	-3.77#
5 TMP	F-114	-1.000	0.000	0.0	0	-3.88#
6 TMP	Vinyl chloride	-1.000	0.000	0.0	0	-4.05#
7 TMP	1,3-Butadiene	-1.000	0.000	0.0	0	-4.25#
8 TMP	Butane	-1.000	0.000	0.0	0	-4.32#
9 TMP	Bromomethane	-1.000	0.000	0.0	0	-4.64#
10 TMP	Chloroethane	-1.000	0.000	0.0	0	-4.84#
11 TMP	Vinyl bromide	-1.000	0.000	0.0	0	-5.32#
12 TMP	Ethanol	-1.000	0.000	0.0	0	-4.96#
13 TMP	Acrolein	-1.000	0.000	0.0	0	-5.43#
14 TMP	Pentane	-1.000	0.000	0.0	0	-6.33#
15 TMP	Trichlorofluoromethane	-1.000	0.000	0.0	0	-5.88#
16 TMP	Acetone	-1.000	0.000	0.0	0	-5.59#
17 TMP	2-Propanol	-1.000	0.000	0.0	0	-5.86#
18 TMP	1,1-Dichloroethene	-1.000	0.000	0.0	0	-6.73#
19 TMP	trans-1,2-Dichloroethene	-1.000	0.000	0.0	0	-8.18#
20 TMP	Methylene chloride	-1.000	0.000	0.0	0	-6.86#
21 TMP	t-Butyl alcohol (TBA)	-1.000	0.000	0.0	0	-6.65#
22 TMP	3-Chloropropene	-1.000	0.000	0.0	0	-7.01#
23 TMP	CFC-113	-1.000	0.000	0.0	0	-7.22#
24 TMP	Carbon disulfide	-1.000	0.000	0.0	0	-7.33#
25 TMP	Methyl t-butyl ether (MTBE)	-1.000	0.000	0.0	0	-8.51#
26 TMP	Vinyl acetate	-1.000	0.000	0.0	0	-8.62#
27 TMP	1,1-Dichloroethane	-1.000	0.000	0.0	0	-8.44#
28 TMP	cis-1,2-Dichloroethene	-1.000	0.000	0.0	0	-9.73#
29 TMP	Hexane	-1.000	0.000	0.0	0	-10.11#
30 TMP	Chloroform	0.010	0.013	-30.0	100	0.00
31 TMP	Ethyl acetate	-1.000	0.000	0.0	0	-10.01#
32 TMP	Tetrahydrofuran	-1.000	0.000	0.0	0	-10.84#
33 TMP	2-Butanone (MEK)	-1.000	0.000	0.0	0	-8.99#
34 TMP	1,2-Dichloroethane (EDC)	0.010	0.013	-30.0	100	0.00
35 TMP	1,1,1-Trichloroethane	-1.000	0.000	0.0	0	-11.94#
36 TMP	Carbon tetrachloride	-1.000	0.000	0.0	0	-12.95#
37 TMP	Benzene	-1.000	0.000	0.0	0	-12.70#
38 TMP	Cyclohexane	-1.000	0.000	0.0	0	-13.16#
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.010	0.013	-30.0	100	0.00
41 TMP	1,4-Dioxane	-1.000	0.000	0.0	0	-14.17#
42 TMP	2,2,4-Trimethylpentane	-1.000	0.000	0.0	0	-14.31#
43 TMP	Methyl methacrylate	-1.000	0.000	0.0	0	-14.43#
44 TMP	Heptane	-1.000	0.000	0.0	0	-14.63#
45 TMP	Bromodichloromethane	0.010	0.013	-30.0	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082414.D  
 Acq On : 24 Aug 2021 3:48 pm  
 Operator : bat  
 Sample : 0.01 ppbv 64-87c  
 Misc : T2, 25cc of 0.1ppbv  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:01:29 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev (min)
46 TMP Trichloroethene	0.010	0.015	-50.0#	99	0.00
47 TMP cis-1,3-Dichloropropene	-1.000	0.000	0.0	0	-15.27#
48 TMP 4-Methyl-2-pentanone	-1.000	0.000	0.0	0	-15.29#
49 TMP trans-1,3-Dichloropropene	-1.000	0.000	0.0	0	-15.85#
50 TMP Toluene	-1.000	0.000	0.0	0	-16.40#
51 TMP 1,1,2-Trichloroethane	0.010	0.013	-30.0	103	0.00
52 TMP 2-Hexanone	-1.000	0.000	0.0	0	-16.62#
53 TMP Tetrachloroethene	-1.000	0.000	0.0	0	-17.58#
54 TMP Dibromochloromethane	0.010	0.013	-30.0	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.010	0.013	-30.0	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	-1.000	0.000	0.0	0	-18.25#
58 TMP Ethylbenzene	0.010	0.014	-40.0#	101	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.010	0.014	-40.0#	101	0.00
60 TMP Nonane	-1.000	0.000	0.0	0	-19.36#
61 TMP Isopropylbenzene	-1.000	0.000	0.0	0	-19.75#
62 TMP 2-Chlorotoluene	-1.000	0.000	0.0	0	-20.23#
63 TMP Propylbenzene	-1.000	0.000	0.0	0	-20.25#
64 TMP 4-Ethyltoluene	-1.000	0.000	0.0	0	-20.38#
65 TMP m,p-Xylene	-1.000	0.000	0.0	0	-18.76#
66 TMP o-Xylene	-1.000	0.000	0.0	0	-19.21#
67 TMP Styrene	-1.000	0.000	0.0	0	-19.11#
68 TMP Bromoform	-1.000	0.000	0.0	0	-18.85#
69 S 4-Bromofluorobenzene	10.000	9.813	1.9	100	0.00
70 TMP Benzyl chloride	0.010	0.011	-10.0	100	0.00
71 TMP 1,3,5-Trimethylbenzene	-1.000	0.000	0.0	0	-20.45#
72 TMP 1,2,4-Trimethylbenzene	-1.000	0.000	0.0	0	-20.86#
73 TMP 1,3-Dichlorobenzene	-1.000	0.000	0.0	0	-21.04#
74 TMP 1,4-Dichlorobenzene	-1.000	0.000	0.0	0	-21.11#
75 TMP 1,2-Dichlorobenzene	-1.000	0.000	0.0	0	-21.47#
76 TMP 1,2,4-Trichlorobenzene	-1.000	0.000	0.0	0	-23.73#
77 TMP Naphthalene	-1.000	0.000	0.0	0	-23.93#
78 TMP Hexachlorobutadiene	-1.000	0.000	0.0	0	-24.52#

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082414.D  
 Acq On : 24 Aug 2021 3:48 pm  
 Operator : bat  
 Sample : 0.01 ppbv 64-87c  
 Misc : T2, 25cc of 0.1ppbv  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:01:29 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	1.710	0.000	100.0#	0#	-3.41#
3 TMP	Dichlorodifluoromethane	4.425	0.000#	100.0#	0#	-3.52#
4 TMP	Chloromethane	2.075	0.000#	100.0#	0#	-3.77#
5 TMP	F-114	4.450	0.000	100.0#	0#	-3.88#
6 TMP	Vinyl chloride	2.209	0.000#	100.0#	0#	-4.05#
7 TMP	1,3-Butadiene	1.529	0.000	100.0#	0#	-4.25#
8 TMP	Butane	3.248	0.000	100.0#	0#	-4.32#
9 TMP	Bromomethane	1.540	0.000#	100.0#	0#	-4.64#
10 TMP	Chloroethane	0.759	0.000#	100.0#	0#	-4.84#
11 TMP	Vinyl bromide	1.785	0.000	100.0#	0#	-5.32#
12 TMP	Ethanol	0.559	0.000	100.0#	0#	-4.96#
13 TMP	Acrolein	0.726	0.000	100.0#	0#	-5.43#
14 TMP	Pentane	3.891	0.000#	100.0#	0#	-6.33#
15 TMP	Trichlorofluoromethane	4.934	0.000#	100.0#	0#	-5.88#
16 TMP	Acetone	0.880	0.000#	100.0#	0#	-5.59#
17 TMP	2-Propanol	3.556	0.000	100.0#	0#	-5.86#
18 TMP	1,1-Dichloroethene	1.648	0.000#	100.0#	0#	-6.73#
19 TMP	trans-1,2-Dichloroethene	1.626	0.000	100.0#	0#	-8.18#
20 TMP	Methylene chloride	1.750	0.000#	100.0#	0#	-6.86#
21 TMP	t-Butyl alcohol (TBA)	2.881	0.000	100.0#	0#	-6.65#
22 TMP	3-Chloropropene	2.910	0.000	100.0#	0#	-7.01#
23 TMP	CFC-113	3.396	0.000	100.0#	0#	-7.22#
24 TMP	Carbon disulfide	5.738	0.000	100.0#	0#	-7.33#
25 TMP	Methyl t-butyl ether (MTBE)	3.820	0.000#	100.0#	0#	-8.51#
26 TMP	Vinyl acetate	2.562	0.000#	100.0#	0#	-8.62#
27 TMP	1,1-Dichloroethane	3.850	0.000#	100.0#	0#	-8.44#
28 TMP	cis-1,2-Dichloroethene	1.780	0.000#	100.0#	0#	-9.73#
29 TMP	Hexane	2.959	0.000	100.0#	0#	-10.11#
30 TMP	Chloroform	4.366	5.762	-32.0#	100	0.00
31 TMP	Ethyl acetate	6.229	0.000	100.0#	0#	-10.01#
32 TMP	Tetrahydrofuran	2.703	0.000	100.0#	0#	-10.84#
33 TMP	2-Butanone (MEK)	0.712	0.000	100.0#	0#	-8.99#
34 TMP	1,2-Dichloroethane (EDC)	3.285	4.298	-30.8#	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	0.000#	100.0#	0#	-11.94#
36 TMP	Carbon tetrachloride	3.178	0.000#	100.0#	0#	-12.95#
37 TMP	Benzene	6.123	0.000#	100.0#	0#	-12.70#
38 TMP	Cyclohexane	1.669	0.000	100.0#	0#	-13.16#
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.618	0.807	-30.6#	100	0.00
41 TMP	1,4-Dioxane	0.270	0.000	100.0#	0#	-14.17#
42 TMP	2,2,4-Trimethylpentane	2.076	0.000	100.0#	0#	-14.31#
43 TMP	Methyl methacrylate	0.567	0.000	100.0#	0#	-14.43#
44 TMP	Heptane	0.959	0.000	100.0#	0#	-14.63#
45 TMP	Bromodichloromethane	0.953	1.237	-29.8	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082414.D  
 Acq On : 24 Aug 2021 3:48 pm  
 Operator : bat  
 Sample : 0.01 ppbv 64-87c  
 Misc : T2, 25cc of 0.1ppbv  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:01:29 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev (min)
46 TMP Trichloroethene	0.618	0.917	-48.4#	99	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.000	100.0#	0#	-15.27#
48 TMP 4-Methyl-2-pentanone	0.040	0.000	100.0#	0#	-15.29#
49 TMP trans-1,3-Dichloropropene	0.540	0.000	100.0#	0#	-15.85#
50 TMP Toluene	0.749	0.000	100.0#	0#	-16.40#
51 TMP 1,1,2-Trichloroethane	0.563	0.748	-32.9#	103	0.00
52 TMP 2-Hexanone	1.055	0.000#	100.0#	0#	-16.62#
53 TMP Tetrachloroethene	0.381	0.000#	100.0#	0#	-17.58#
54 TMP Dibromochloromethane	0.787	0.986	-25.3	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	1.046	-34.3#	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	0.000#	100.0#	0#	-18.25#
58 TMP Ethylbenzene	2.221	3.163	-42.4#	101	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	2.125	-37.2#	101	0.00
60 TMP Nonane	1.679	0.000	100.0#	0#	-19.36#
61 TMP Isopropylbenzene	1.948	0.000	100.0#	0#	-19.75#
62 TMP 2-Chlorotoluene	0.463	0.000	100.0#	0#	-20.23#
63 TMP Propylbenzene	4.322	0.000	100.0#	0#	-20.25#
64 TMP 4-Ethyltoluene	2.027	0.000	100.0#	0#	-20.38#
65 TMP m,p-Xylene	0.713	0.000#	100.0#	0#	-18.76#
66 TMP o-Xylene	0.701	0.000#	100.0#	0#	-19.21#
67 TMP Styrene	1.032	0.000#	100.0#	0#	-19.11#
68 TMP Bromoform	0.801	0.000#	100.0#	0#	-18.85#
69 S 4-Bromofluorobenzene	0.906	0.889	1.9	100	0.00
70 TMP Benzyl chloride	0.751	0.853	-13.6	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	0.000	100.0#	0#	-20.45#
72 TMP 1,2,4-Trimethylbenzene	1.679	0.000	100.0#	0#	-20.86#
73 TMP 1,3-Dichlorobenzene	1.154	0.000	100.0#	0#	-21.04#
74 TMP 1,4-Dichlorobenzene	1.152	0.000	100.0#	0#	-21.11#
75 TMP 1,2-Dichlorobenzene	1.091	0.000	100.0#	0#	-21.47#
76 TMP 1,2,4-Trichlorobenzene	0.950	0.000	100.0#	0#	-23.73#
77 TMP Naphthalene	2.538	0.000	100.0#	0#	-23.93#
78 TMP Hexachlorobutadiene	0.852	0.000	100.0#	0#	-24.52#

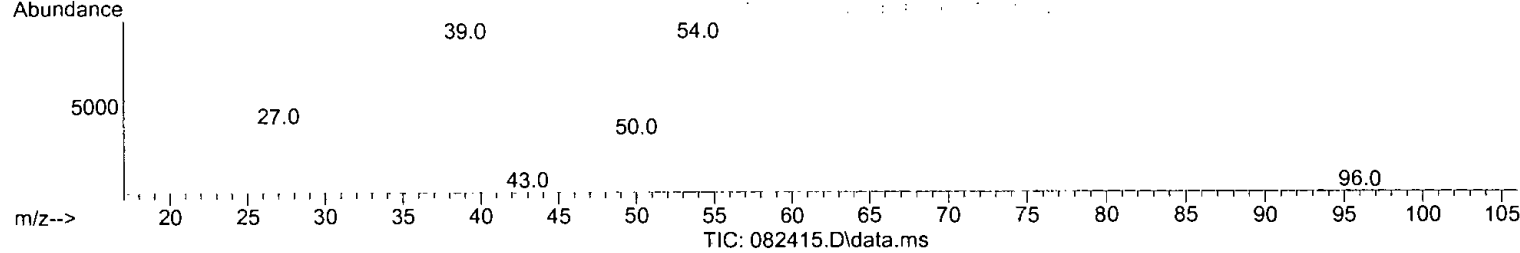
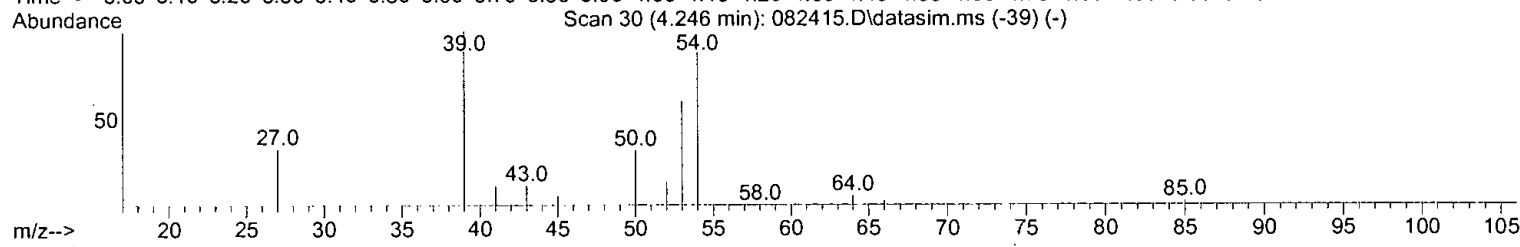
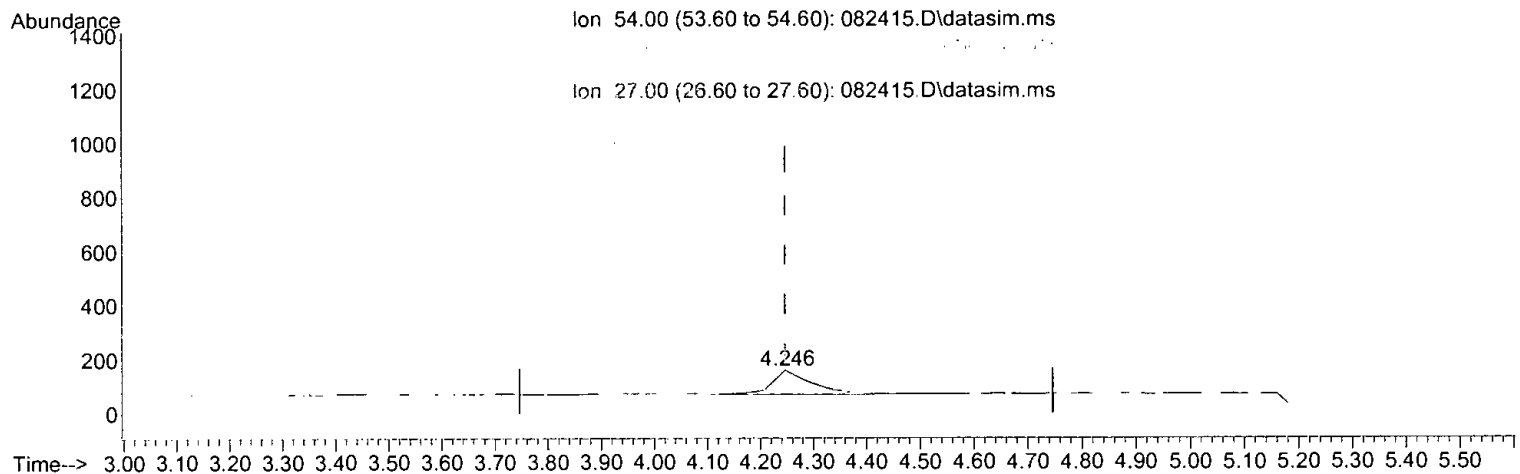
(#) = Out of Range

SPCC's out = 24 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(7) 1,3-Butadiene (TMP)

4.246min (+ 0.000) 0.027 ppbv

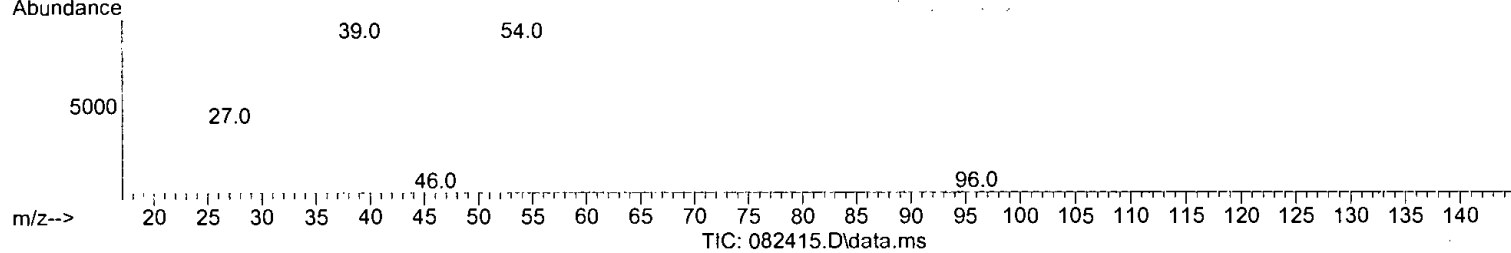
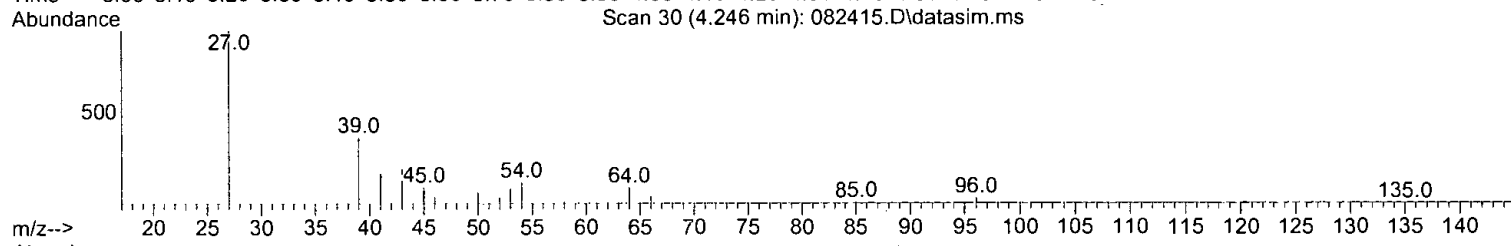
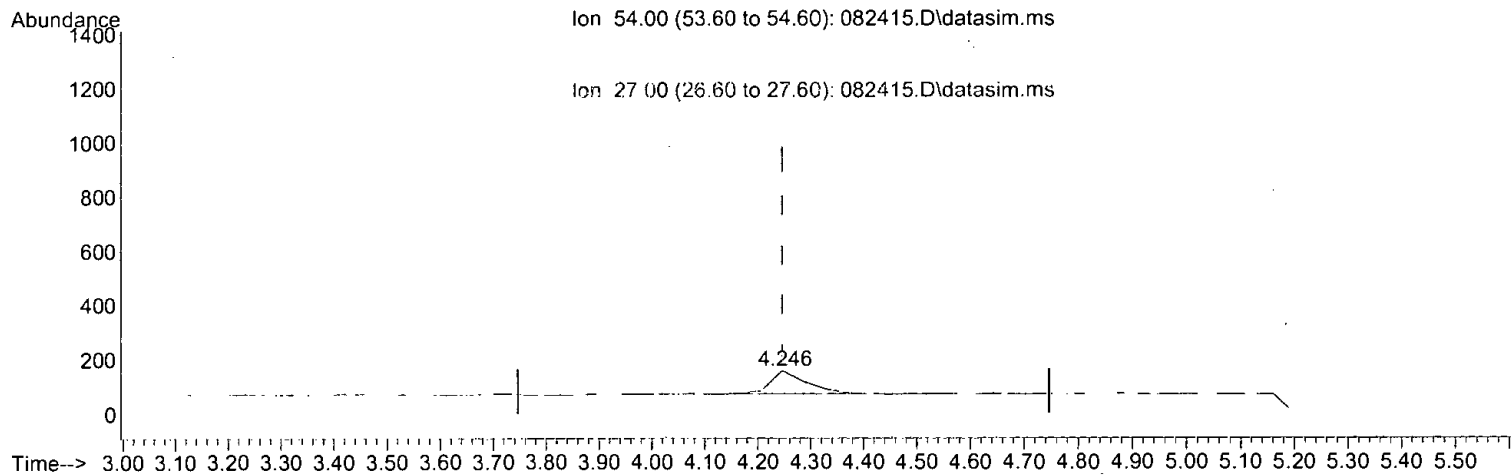
response	470
Ion	Exp% Act%
54.00	100.00 100.00
39.00	127.60 113.64
53.00	72.40 68.18
27.00	0.00 37.50#

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(7) 1,3-Butadiene (TMP)

4.246min (+ 0.000) 0.022 ppbv m

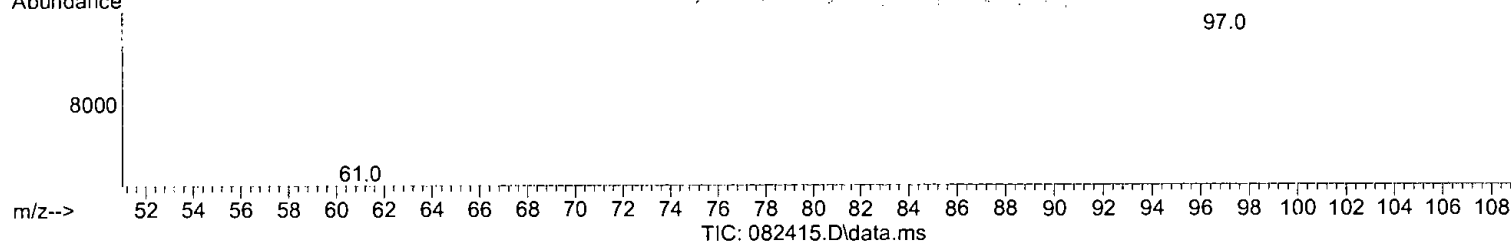
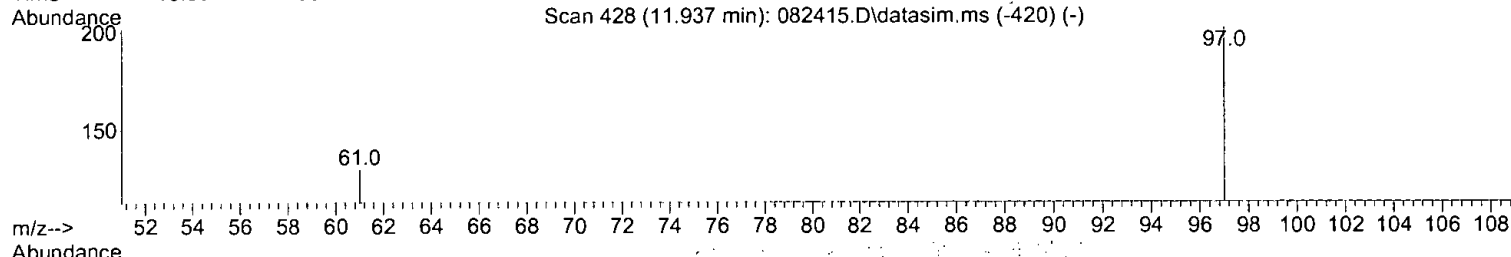
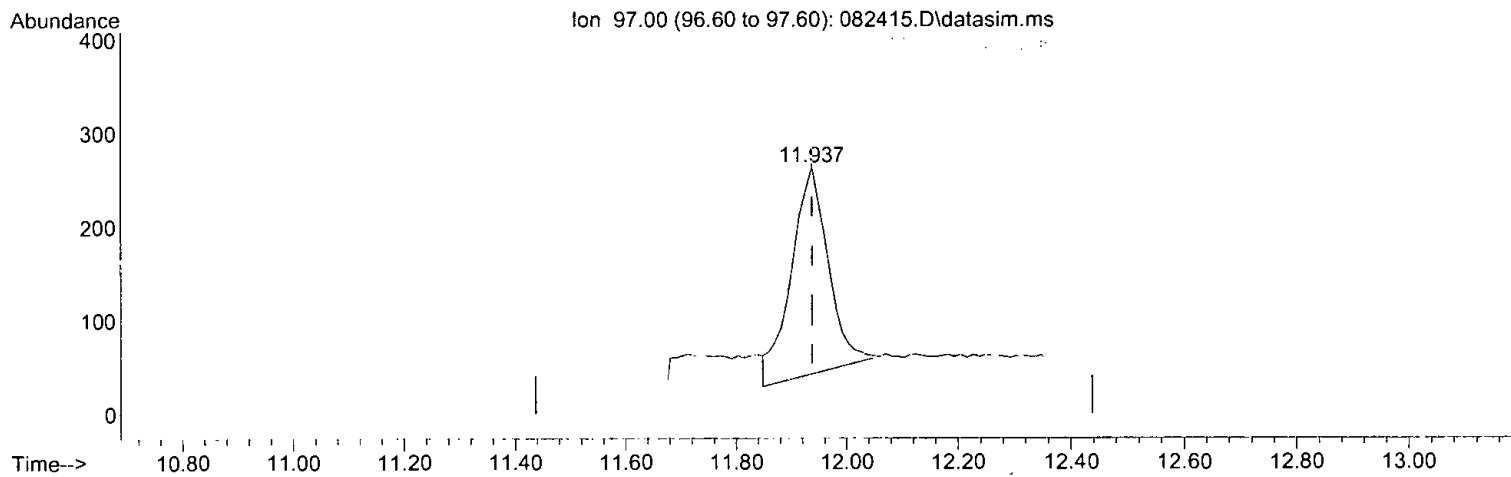
response	393
Ion	Exp% Act%
54.00	100.00 100.00
39.00	127.60 236.08#
53.00	72.40 82.28
27.00	0.00 562.66#

AS 8/25/21



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(35) 1,1,1-Trichloroethane (TMP)

11.937min (+ 0.000) 0.028 ppbv

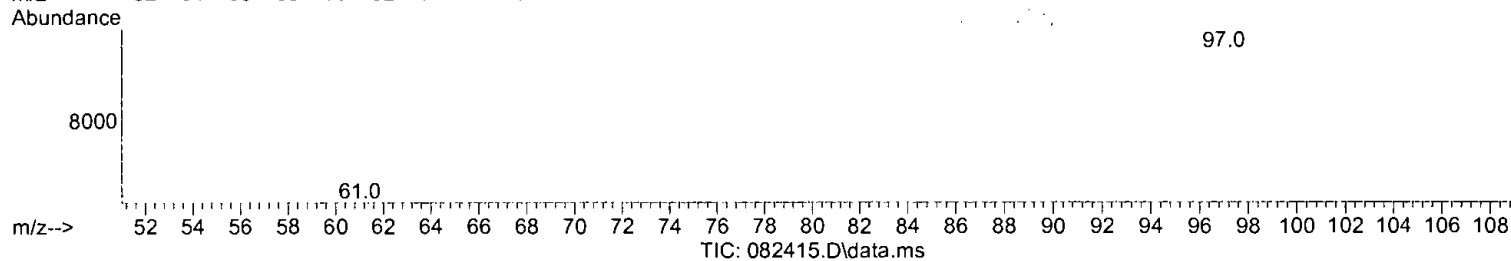
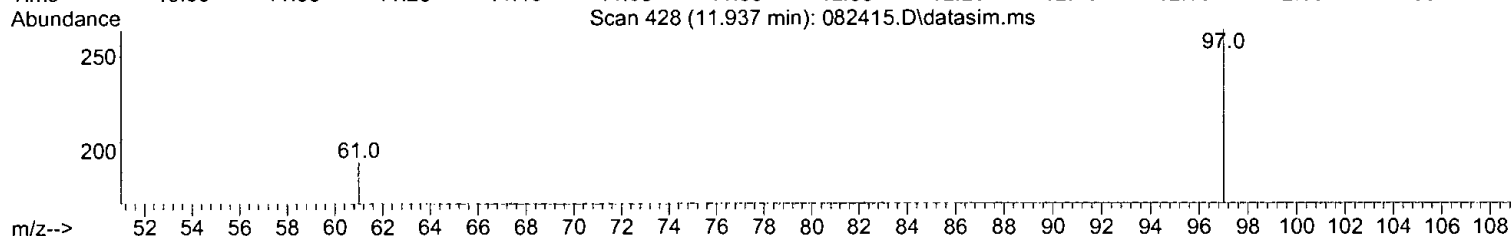
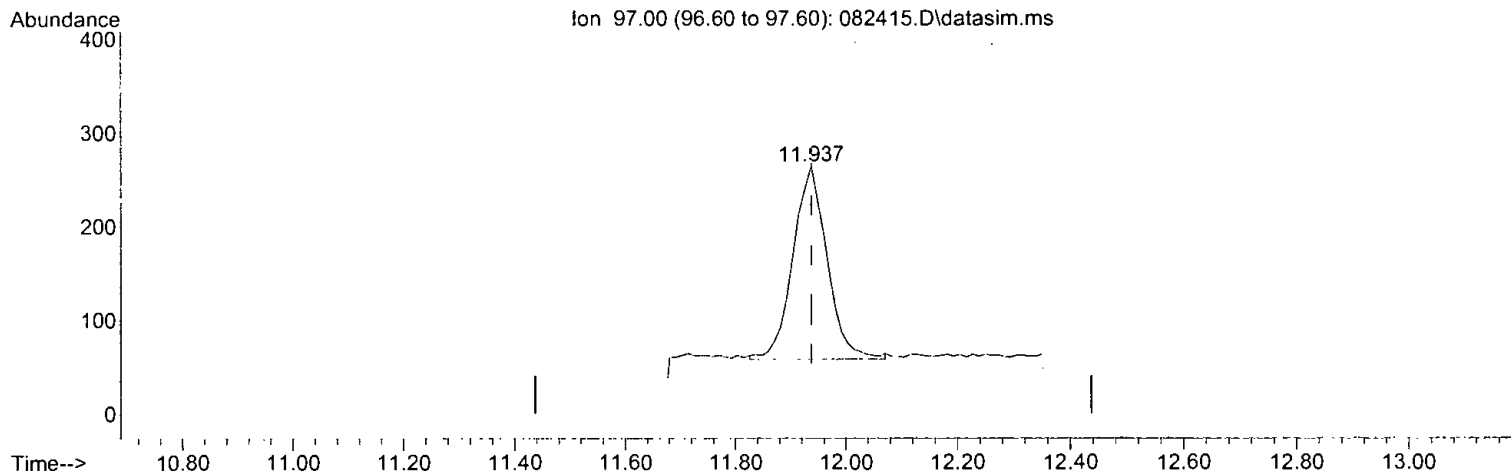
response 1034

Ion	Exp%	Act%
97.00	100.00	100.00
99.00	61.70	56.65
61.00	49.30	65.02
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(35) 1,1,1-Trichloroethane (TMP)

11.937min (+ 0.000) 0.024 ppbv m

response 879

Ion	Exp%	Act%
97.00	100.00	100.00
99.00	61.70	65.15
61.00	49.30	73.48
0.00	0.00	0.00

AS8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:06:30 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	114914	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	562536	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	491774	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	444754	9.983	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	99.80%
Target Compounds						
						Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.	d	
6] Vinyl chloride	4.05	62	618	0.024	ppbv	88
7] 1,3-Butadiene	4.25	54	393m	0.022	ppbv	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.	d	
10) Chloroethane	0.00		0	N.D.	d	
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13] Acrolein	5.45	56	501	0.060	ppbv	# 53
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18] 1,1-Dichloroethene	6.73	96	465	0.025	ppbv	90
19] trans-1,2-Dichloroethene	8.18	96	454	0.024	ppbv	90
20) Methylene chloride	0.00		0	N.D.	d	
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.44	63	1020	0.023	ppbv	97
28] cis-1,2-Dichloroethene	9.73	96	497	0.024	ppbv	# 80
29) Hexane	0.00		0	N.D.	d	
30] Chloroform	10.19	83	1106	0.022	ppbv	100
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34] 1,2-Dichloroethane (EDC)	11.44	62	824	0.022	ppbv	96
35] 1,1,1-Trichloroethane	11.94	97	879m	0.024	ppbv	
36] Carbon tetrachloride	12.95	117	832	0.023	ppbv	98
37] Benzene	12.72	78	1780	0.025	ppbv	97
38) Cyclohexane	0.00		0	N.D.	d	
40] 1,2-Dichloropropane	13.90	63	771	0.022	ppbv	100
41) 1,4-Dioxane	0.00		0	N.D.	d	
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

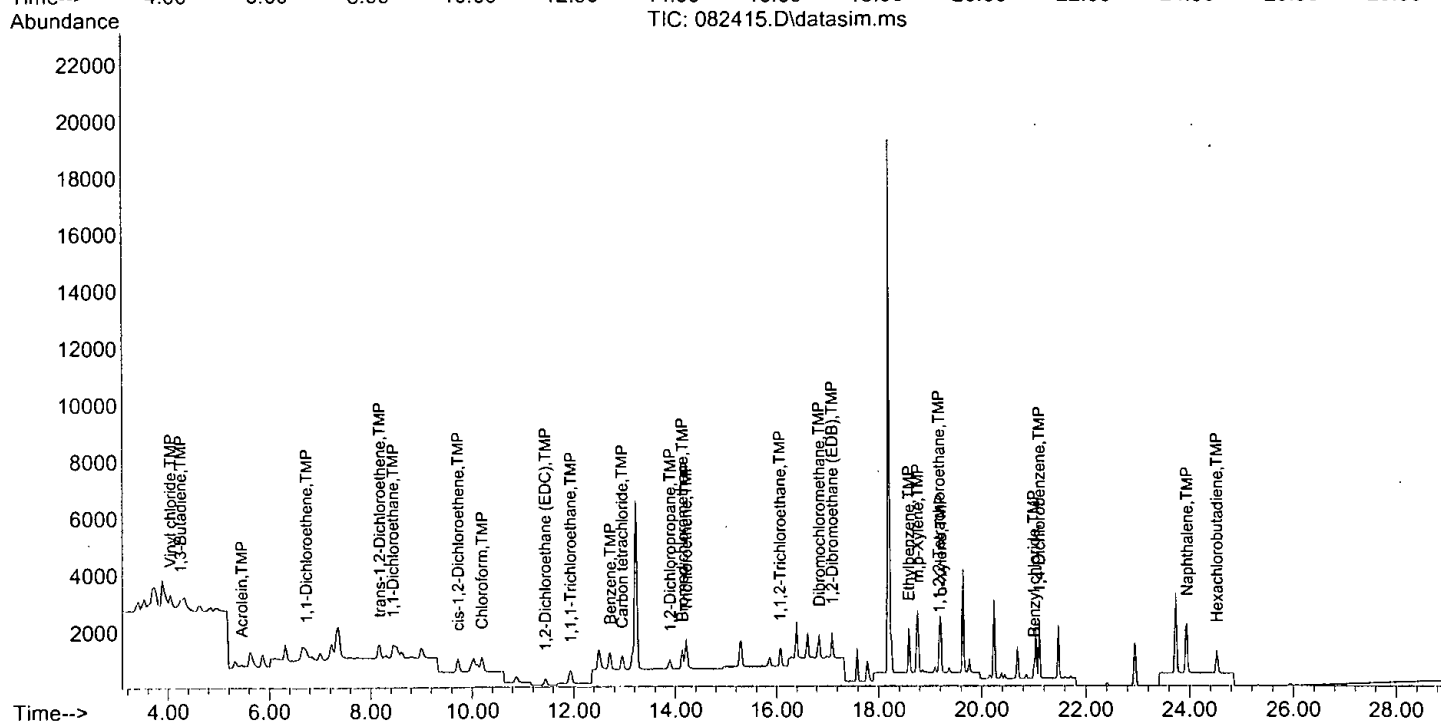
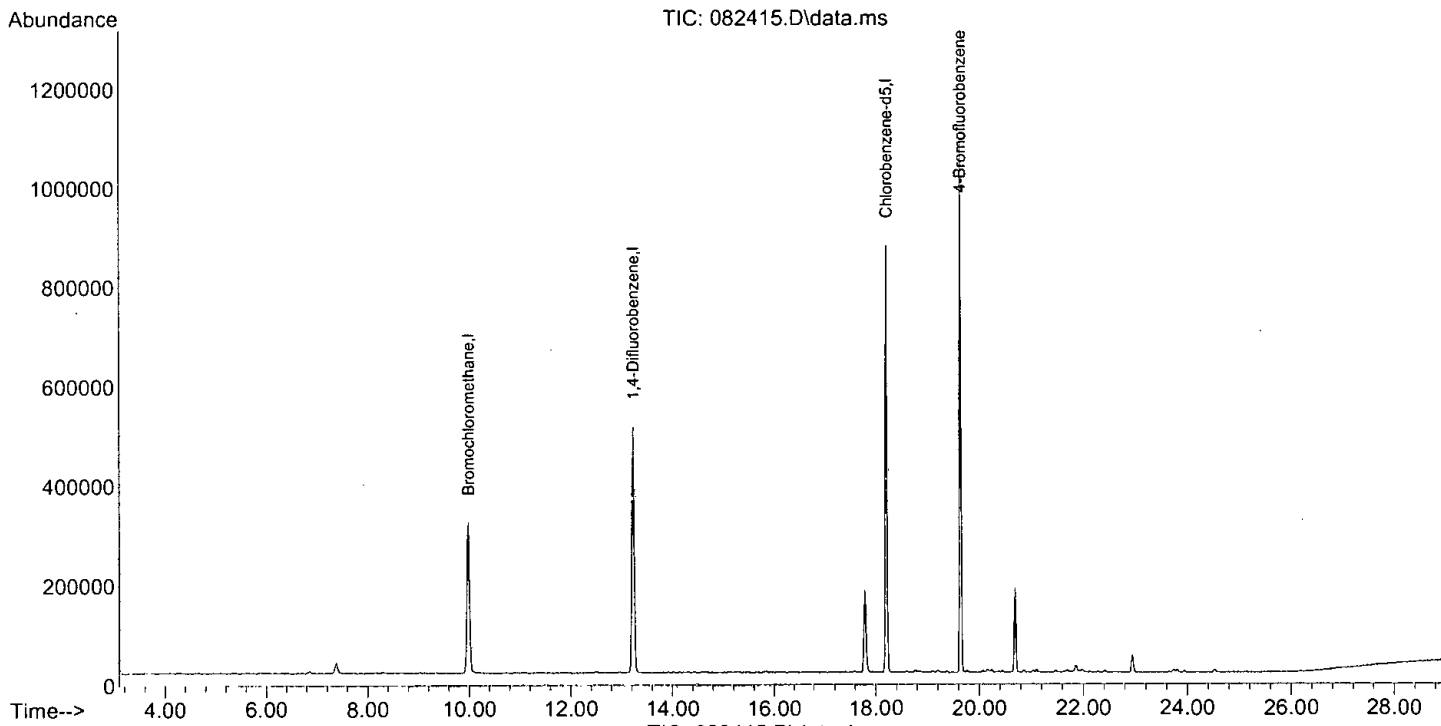
Quant Time: Aug 25 11:06:30 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	14.14	83	1141	0.021	ppbv	91
46) Trichloroethene	14.22	95	806	0.023	ppbv	86
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.		
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50) Toluene	0.00		0	N.D.	d	
51) 1,1,2-Trichloroethane	16.06	83	684	0.022	ppbv	95
52) 2-Hexanone	0.00		0	N.D.	d	
53) Tetrachloroethene	0.00		0	N.D.	d	
54) Dibromochloromethane	16.85	129	955	0.022	ppbv	89
55) 1,2-Dibromoethane (EDB)	17.10	107	959	0.022	ppbv	88
57) Chlorobenzene	0.00		0	N.D.	d	
58) Ethylbenzene	18.59	91	2527	0.023	ppbv	95
59) 1,1,2,2-Tetrachloroethane	19.17	83	1727	0.023	ppbv	90
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65) m,p-Xylene	18.76	106	1731	0.049	ppbv	94
66) o-Xylene	19.21	106	838	0.024	ppbv	91
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	21.01	91	700	0.019	ppbv	93
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	21.11	146	1673m	0.021	ppbv	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	23.73	180	2513	N.D.		
77) Naphthalene	23.95	128	4145	0.021	ppbv	98
78) Hexachlorobutadiene	24.52	225	1775	0.022	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:06:30 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:06:30 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP Propene	-1.000	0.000	0.0	0	-3.41#
3 TMP Dichlorodifluoromethane	-1.000	0.000	0.0	0	-3.52#
4 TMP Chloromethane	-1.000	0.000	0.0	0	-3.77#
5 TMP F-114	-1.000	0.000	0.0	0	-3.88#
6 TMP Vinyl chloride	0.020	0.024	-20.0	100	0.00
7 TMP 1,3-Butadiene	0.020	0.022	-10.0	99	0.00
8 TMP Butane	-1.000	0.000	0.0	0	-4.32#
9 TMP Bromomethane	-1.000	0.000	0.0	0	-4.64#
10 TMP Chloroethane	-1.000	0.000	0.0	0	-4.84#
11 TMP Vinyl bromide	-1.000	0.000	0.0	0	-5.32#
12 TMP Ethanol	-1.000	0.000	0.0	0	-4.96#
13 TMP Acrolein	0.020	0.060	-200.0#	264	0.02
14 TMP Pentane	-1.000	0.000	0.0	0	-6.33#
15 TMP Trichlorofluoromethane	-1.000	0.000	0.0	0	-5.88#
16 TMP Acetone	-1.000	0.000	0.0	0	-5.59#
17 TMP 2-Propanol	-1.000	0.000	0.0	0	-5.86#
18 TMP 1,1-Dichloroethene	0.020	0.025	-25.0	100	0.00
19 TMP trans-1,2-Dichloroethene	0.020	0.024	-20.0	100	0.00
20 TMP Methylene chloride	-1.000	0.000	0.0	0	-6.86#
21 TMP t-Butyl alcohol (TBA)	-1.000	0.000	0.0	0	-6.65#
22 TMP 3-Chloropropene	-1.000	0.000	0.0	0	-7.01#
23 TMP CFC-113	-1.000	0.000	0.0	0	-7.22#
24 TMP Carbon disulfide	-1.000	0.000	0.0	0	-7.33#
25 TMP Methyl t-butyl ether (MTBE)	-1.000	0.000	0.0	0	-8.51#
26 TMP Vinyl acetate	-1.000	0.000	0.0	0	-8.62#
27 TMP 1,1-Dichloroethane	0.020	0.023	-15.0	100	0.00
28 TMP cis-1,2-Dichloroethene	0.020	0.024	-20.0	100	0.00
29 TMP Hexane	-1.000	0.000	0.0	0	-10.11#
30 TMP Chloroform	0.020	0.022	-10.0	100	0.00
31 TMP Ethyl acetate	-1.000	0.000	0.0	0	-10.01#
32 TMP Tetrahydrofuran	-1.000	0.000	0.0	0	-10.84#
33 TMP 2-Butanone (MEK)	-1.000	0.000	0.0	0	-8.99#
34 TMP 1,2-Dichloroethane (EDC)	0.020	0.022	-10.0	100	0.00
35 TMP 1,1,1-Trichloroethane	0.020	0.024	-20.0	99	0.00
36 TMP Carbon tetrachloride	0.020	0.023	-15.0	100	0.00
37 TMP Benzene	0.020	0.025	-25.0	100	0.02
38 TMP Cyclohexane	-1.000	0.000	0.0	0	-13.16#
39 I 1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP 1,2-Dichloropropane	0.020	0.022	-10.0	100	0.00
41 TMP 1,4-Dioxane	-1.000	0.000	0.0	0	-14.17#
42 TMP 2,2,4-Trimethylpentane	-1.000	0.000	0.0	0	-14.31#
43 TMP Methyl methacrylate	-1.000	0.000	0.0	0	-14.43#
44 TMP Heptane	-1.000	0.000	0.0	0	-14.63#
45 TMP Bromodichloromethane	0.020	0.021	-5.0	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:06:30 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.020	0.023	-15.0	101	0.00
47 TMP cis-1,3-Dichloropropene	-1.000	0.000	0.0	0	-15.27#
48 TMP 4-Methyl-2-pentanone	-1.000	0.000	0.0	0	-15.29#
49 TMP trans-1,3-Dichloropropene	-1.000	0.000	0.0	0	-15.85#
50 TMP Toluene	-1.000	0.000	0.0	0	-16.40#
51 TMP 1,1,2-Trichloroethane	0.020	0.022	-10.0	100	0.00
52 TMP 2-Hexanone	-1.000	0.000	0.0	0	-16.62#
53 TMP Tetrachloroethene	-1.000	0.000	0.0	0	-17.58#
54 TMP Dibromochloromethane	0.020	0.022	-10.0	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.020	0.022	-10.0	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	-1.000	0.000	0.0	0	-18.25#
58 TMP Ethylbenzene	0.020	0.023	-15.0	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.020	0.023	-15.0	100	-0.02
60 TMP Nonane	-1.000	0.000	0.0	0	-19.36#
61 TMP Isopropylbenzene	-1.000	0.000	0.0	0	-19.75#
62 TMP 2-Chlorotoluene	-1.000	0.000	0.0	0	-20.23#
63 TMP Propylbenzene	-1.000	0.000	0.0	0	-20.25#
64 TMP 4-Ethyltoluene	-1.000	0.000	0.0	0	-20.38#
65 TMP m,p-Xylene	0.040	0.049	-22.5	100	0.00
66 TMP o-Xylene	0.020	0.024	-20.0	100	0.00
67 TMP Styrene	-1.000	0.000	0.0	0	-19.11#
68 TMP Bromoform	-1.000	0.000	0.0	0	-18.85#
69 S 4-Bromofluorobenzene	10.000	9.983	0.2	100	0.00
70 TMP Benzyl chloride	0.020	0.019	5.0	100	0.00
71 TMP 1,3,5-Trimethylbenzene	-1.000	0.000	0.0	0	-20.45#
72 TMP 1,2,4-Trimethylbenzene	-1.000	0.000	0.0	0	-20.86#
73 TMP 1,3-Dichlorobenzene	-1.000	0.000	0.0	0	-21.04#
74 TMP 1,4-Dichlorobenzene	0.020	0.021	-5.0	100	0.00
75 TMP 1,2-Dichlorobenzene	-1.000	0.000	0.0	0	-21.47#
76 TMP 1,2,4-Trichlorobenzene	-1.000	0.009	0.0	0	0.00
77 TMP Naphthalene	0.020	0.021	-5.0	101	0.02
78 TMP Hexachlorobutadiene	0.020	0.022	-10.0	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:06:30 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP Propene	1.710	0.000	100.0#	0#	-3.41#
3 TMP Dichlorodifluoromethane	4.425	0.000#	100.0#	0#	-3.52#
4 TMP Chloromethane	2.075	0.000#	100.0#	0#	-3.77#
5 TMP F-114	4.450	0.000	100.0#	0#	-3.88#
6 TMP Vinyl chloride	2.209	2.689	-21.7	100	0.00
7 TMP 1,3-Butadiene	1.529	1.710	-11.8	99	0.00
8 TMP Butane	3.248	0.000	100.0#	0#	-4.32#
9 TMP Bromomethane	1.540	0.000#	100.0#	0#	-4.64#
10 TMP Chloroethane	0.759	0.000#	100.0#	0#	-4.84#
11 TMP Vinyl bromide	1.785	0.000	100.0#	0#	-5.32#
12 TMP Ethanol	0.559	0.000	100.0#	0#	-4.96#
13 TMP Acrolein	0.726	2.180	-200.3#	264#	0.02
14 TMP Pentane	3.891	0.000#	100.0#	0#	-6.33#
15 TMP Trichlorofluoromethane	4.934	0.000#	100.0#	0#	-5.88#
16 TMP Acetone	0.880	0.000#	100.0#	0#	-5.59#
17 TMP 2-Propanol	3.556	0.000	100.0#	0#	-5.86#
18 TMP 1,1-Dichloroethene	1.648	2.023	-22.8	100	0.00
19 TMP trans-1,2-Dichloroethene	1.626	1.975	-21.5	100	0.00
20 TMP Methylene chloride	1.750	0.000#	100.0#	0#	-6.86#
21 TMP t-Butyl alcohol (TBA)	2.881	0.000	100.0#	0#	-6.65#
22 TMP 3-Chloropropene	2.910	0.000	100.0#	0#	-7.01#
23 TMP CFC-113	3.396	0.000	100.0#	0#	-7.22#
24 TMP Carbon disulfide	5.738	0.000	100.0#	0#	-7.33#
25 TMP Methyl t-butyl ether (MTBE)	3.820	0.000#	100.0#	0#	-8.51#
26 TMP Vinyl acetate	2.562	0.000#	100.0#	0#	-8.62#
27 TMP 1,1-Dichloroethane	3.850	4.438	-15.3	100	0.00
28 TMP cis-1,2-Dichloroethene	1.780	2.162	-21.5	100	0.00
29 TMP Hexane	2.959	0.000	100.0#	0#	-10.11#
30 TMP Chloroform	4.366	4.812	-10.2	100	0.00
31 TMP Ethyl acetate	6.229	0.000	100.0#	0#	-10.01#
32 TMP Tetrahydrofuran	2.703	0.000	100.0#	0#	-10.84#
33 TMP 2-Butanone (MEK)	0.712	0.000	100.0#	0#	-8.99#
34 TMP 1,2-Dichloroethane (EDC)	3.285	3.585	-9.1	100	0.00
35 TMP 1,1,1-Trichloroethane	3.232	3.825	-18.3	99	0.00
36 TMP Carbon tetrachloride	3.178	3.620	-13.9	100	0.00
37 TMP Benzene	6.123	7.745	-26.5	100	0.02
38 TMP Cyclohexane	1.669	0.000	100.0#	0#	-13.16#
39 I 1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP 1,2-Dichloropropane	0.618	0.685	-10.8	100	0.00
41 TMP 1,4-Dioxane	0.270	0.000	100.0#	0#	-14.17#
42 TMP 2,2,4-Trimethylpentane	2.076	0.000	100.0#	0#	-14.31#
43 TMP Methyl methacrylate	0.567	0.000	100.0#	0#	-14.43#
44 TMP Heptane	0.959	0.000	100.0#	0#	-14.63#
45 TMP Bromodichloromethane	0.953	1.014	-6.4	100	0.00



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082415.D  
 Acq On : 24 Aug 2021 4:25 pm  
 Operator : bat  
 Sample : 0.02 ppbv 64-87c  
 Misc : T2, 50cc of 0.1ppbv  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:06:30 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.716	-15.9	101	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.000	100.0#	0#	-15.27#
48 TMP 4-Methyl-2-pentanone	0.040	0.000	100.0#	0#	-15.29#
49 TMP trans-1,3-Dichloropropene	0.540	0.000	100.0#	0#	-15.85#
50 TMP Toluene	0.749	0.000	100.0#	0#	-16.40#
51 TMP 1,1,2-Trichloroethane	0.563	0.608	-8.0	100	0.00
52 TMP 2-Hexanone	1.055	0.000#	100.0#	0#	-16.62#
53 TMP Tetrachloroethene	0.381	0.000#	100.0#	0#	-17.58#
54 TMP Dibromochloromethane	0.787	0.849	-7.9	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.852	-9.4	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	0.000#	100.0#	0#	-18.25#
58 TMP Ethylbenzene	2.221	2.569	-15.7	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.756	-13.4	100	-0.02
60 TMP Nonane	1.679	0.000	100.0#	0#	-19.36#
61 TMP Isopropylbenzene	1.948	0.000	100.0#	0#	-19.75#
62 TMP 2-Chlorotoluene	0.463	0.000	100.0#	0#	-20.23#
63 TMP Propylbenzene	4.322	0.000	100.0#	0#	-20.25#
64 TMP 4-Ethyltoluene	2.027	0.000	100.0#	0#	-20.38#
65 TMP m,p-Xylene	0.713	0.880	-23.4	100	0.00
66 TMP o-Xylene	0.701	0.852	-21.5	100	0.00
67 TMP Styrene	1.032	0.000#	100.0#	0#	-19.11#
68 TMP Bromoform	0.801	0.000#	100.0#	0#	-18.85#
69 S 4-Bromofluorobenzene	0.906	0.904	0.2	100	0.00
70 TMP Benzyl chloride	0.751	0.712	5.2	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	0.000	100.0#	0#	-20.45#
72 TMP 1,2,4-Trimethylbenzene	1.679	0.000	100.0#	0#	-20.86#
73 TMP 1,3-Dichlorobenzene	1.154	0.000	100.0#	0#	-21.04#
74 TMP 1,4-Dichlorobenzene	1.152	1.701	-47.7#	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	0.000	100.0#	0#	-21.47#
76 TMP 1,2,4-Trichlorobenzene	0.950	0.000	100.0#	0#	0.00
77 TMP Naphthalene	2.538	4.214	-66.0#	101	0.02
78 TMP Hexachlorobutadiene	0.852	1.805	-111.9#	100	0.00

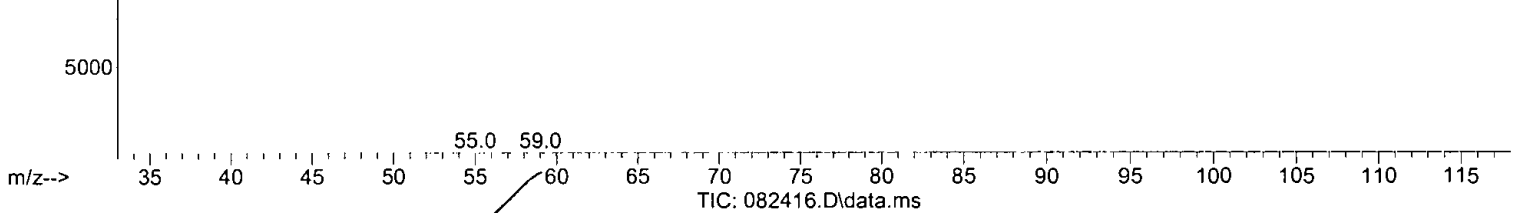
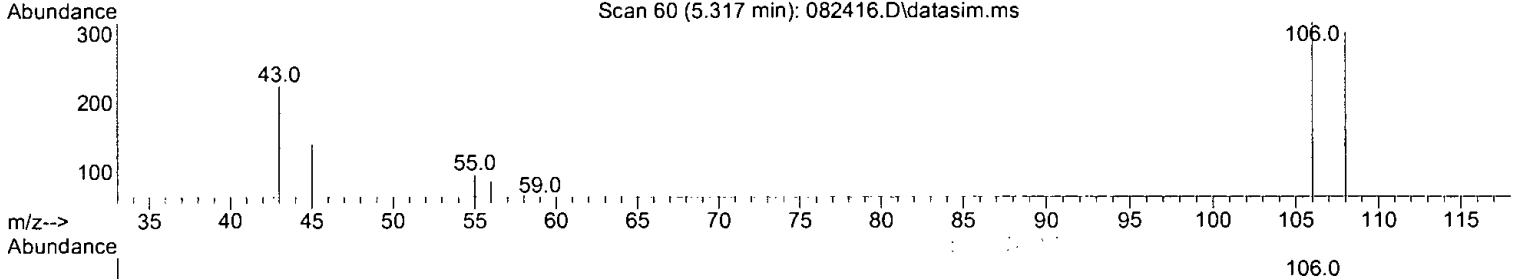
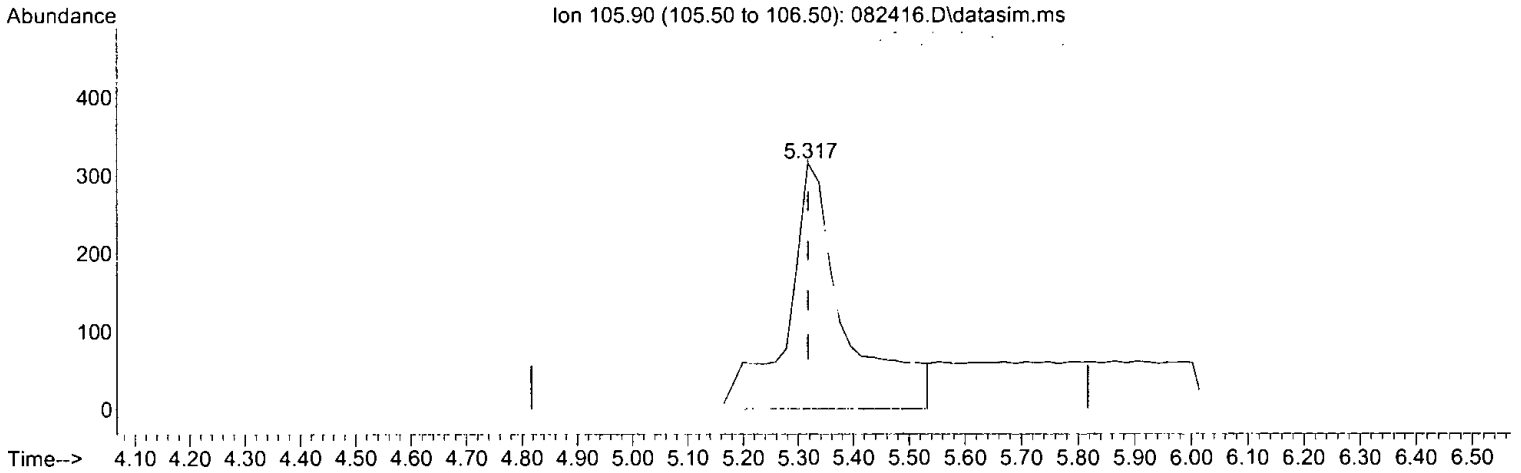
(#) = Out of Range

SPCC's out = 15 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (+ 0.000) 0.117 ppbv

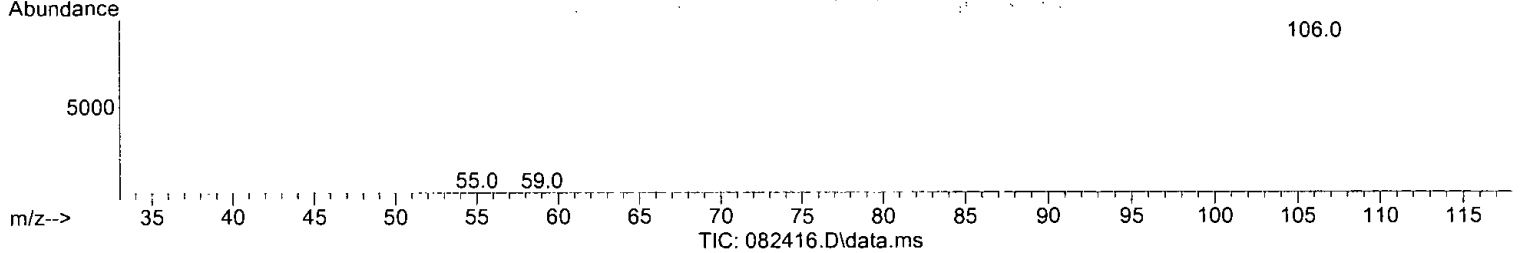
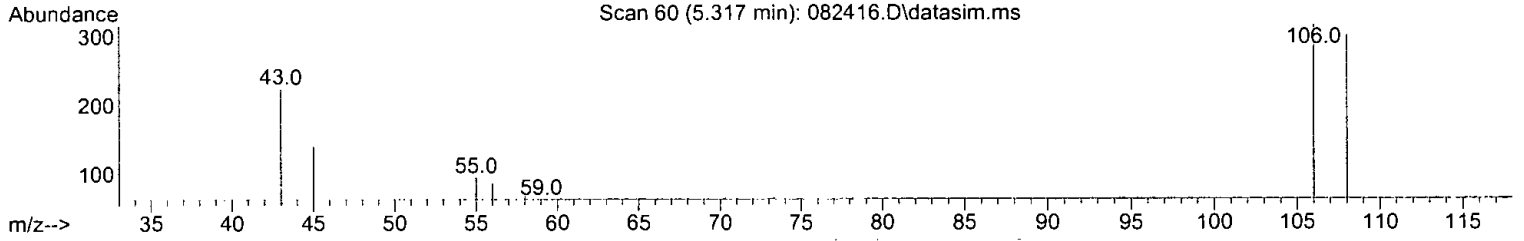
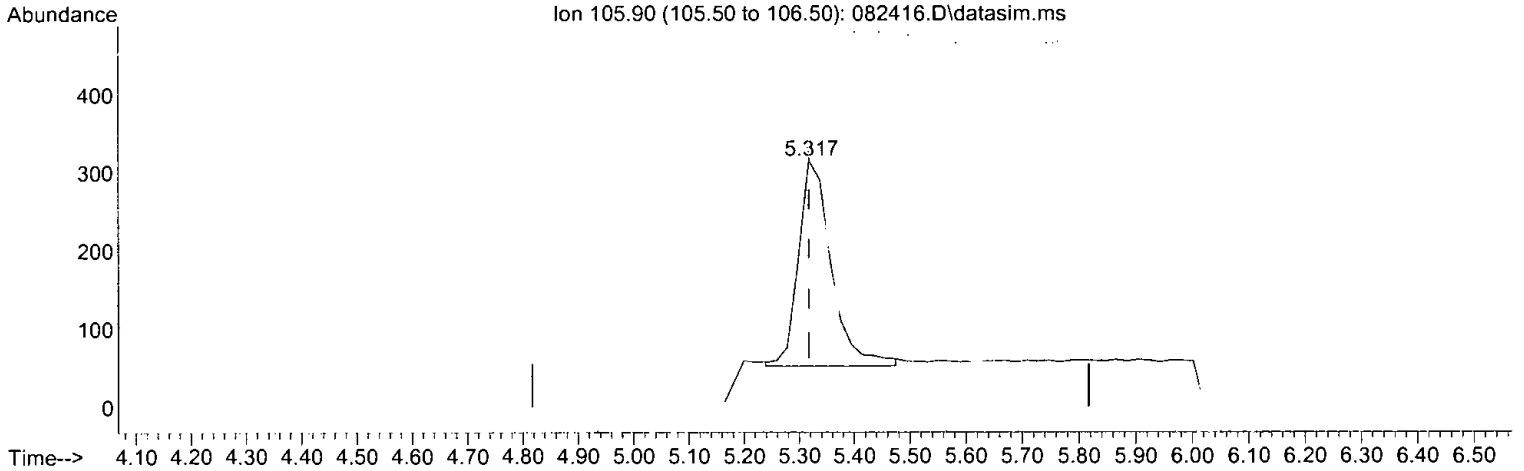
response	2490	
Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	103.73
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (+ 0.000) 0.051 ppbv m

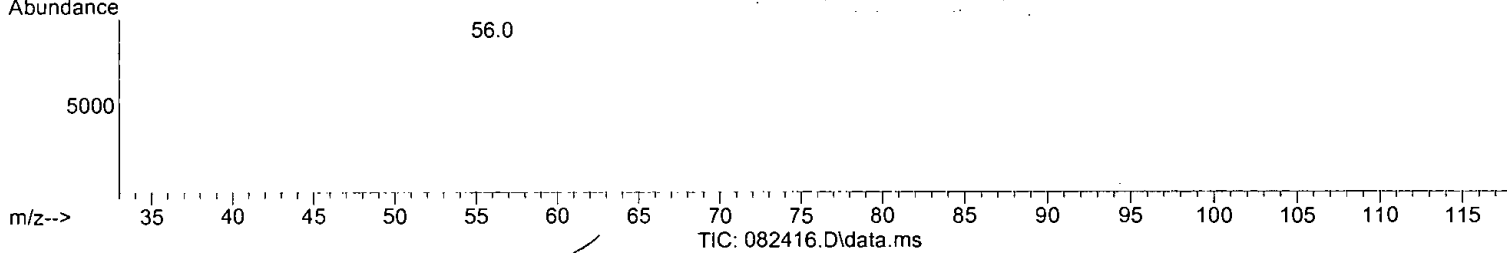
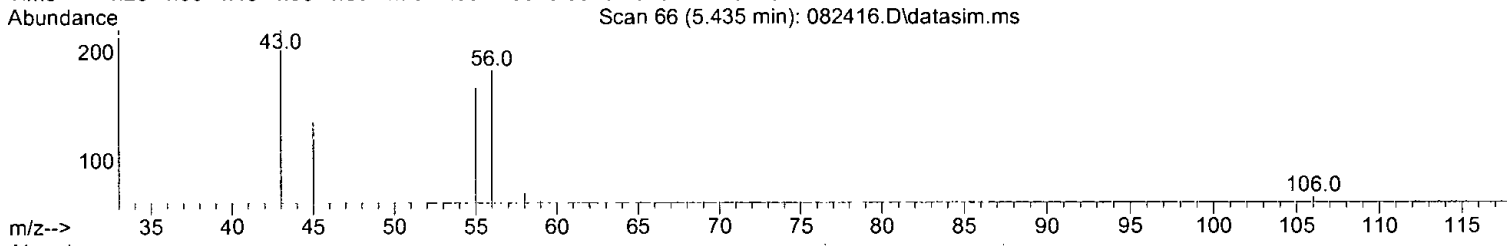
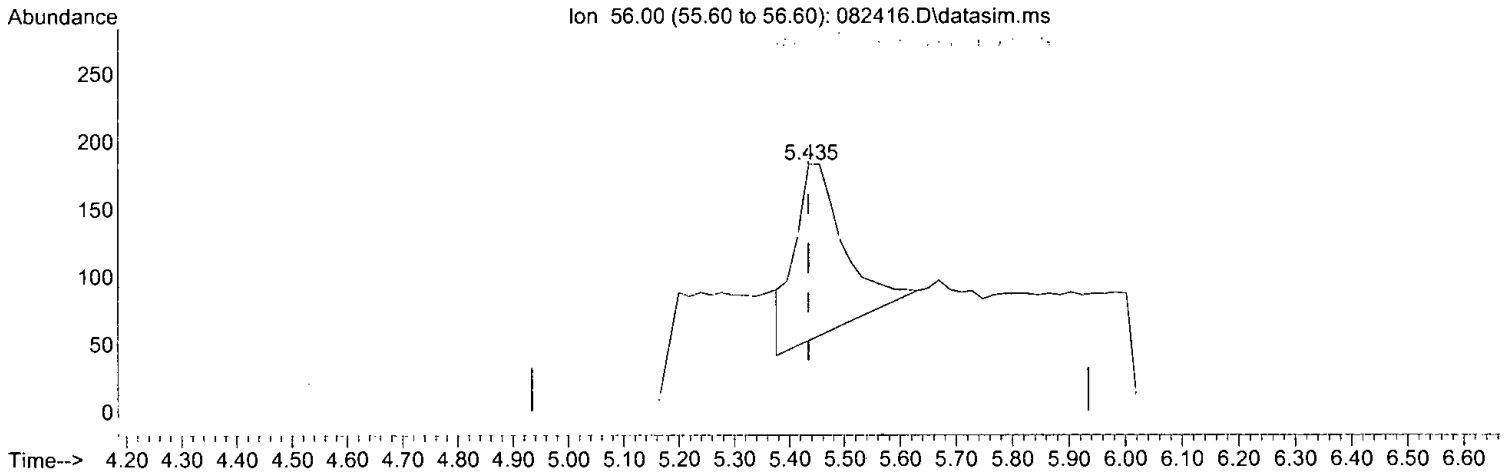
response	1087	
Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	237.63#
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.435min (+ 0.001) 0.094 ppbv

response 815

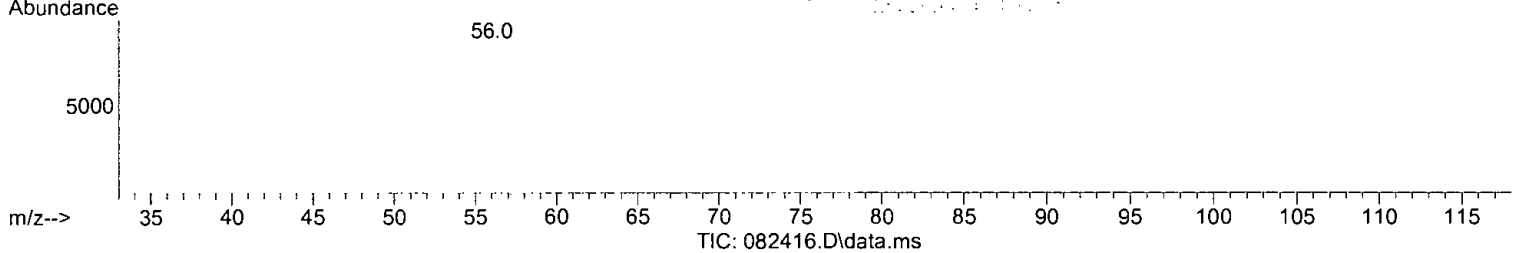
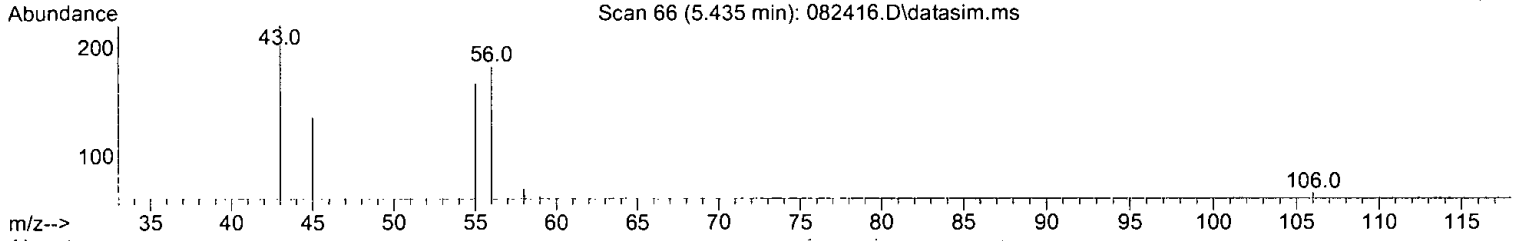
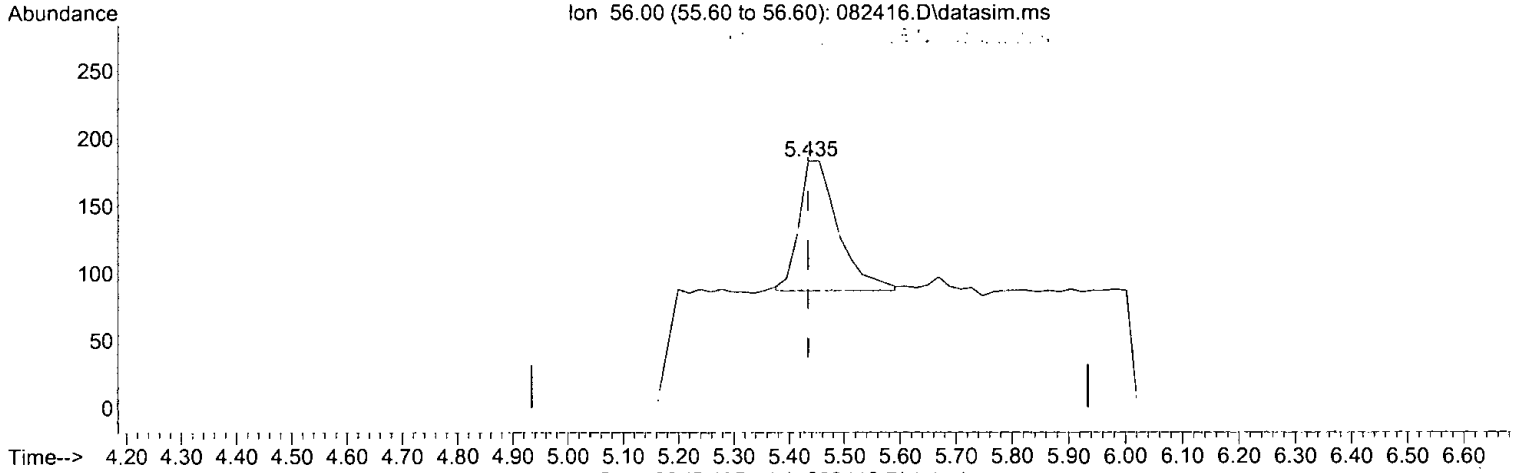
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	361.35#
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.435min (+ 0.001) 0.055 ppbv m

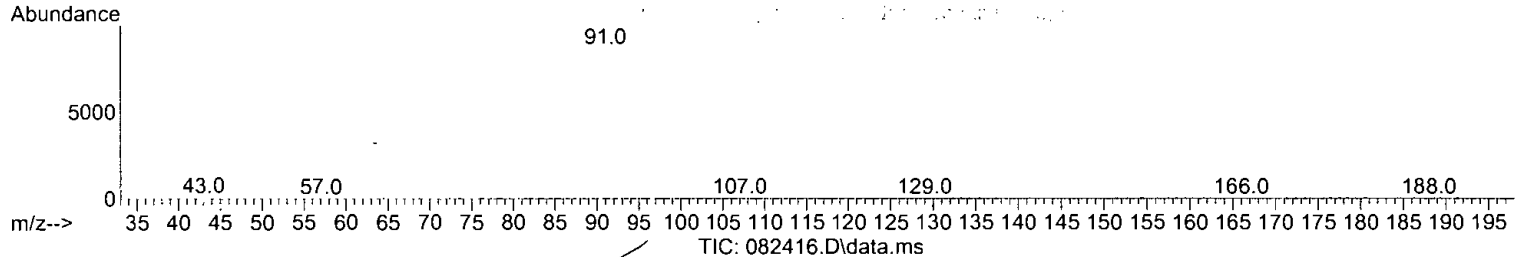
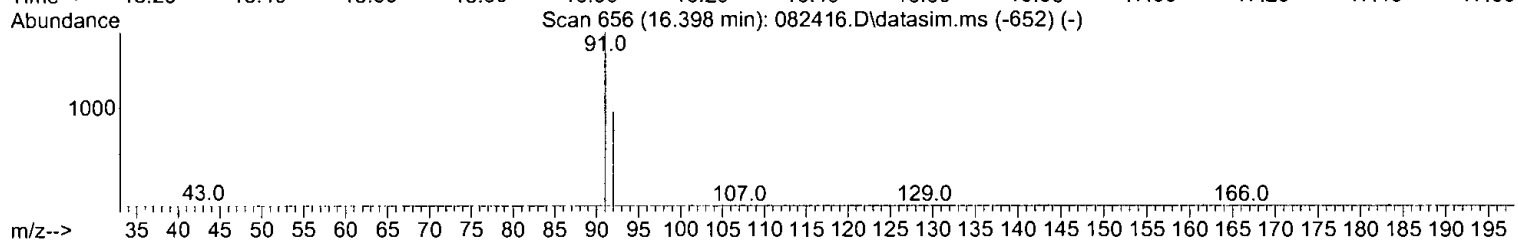
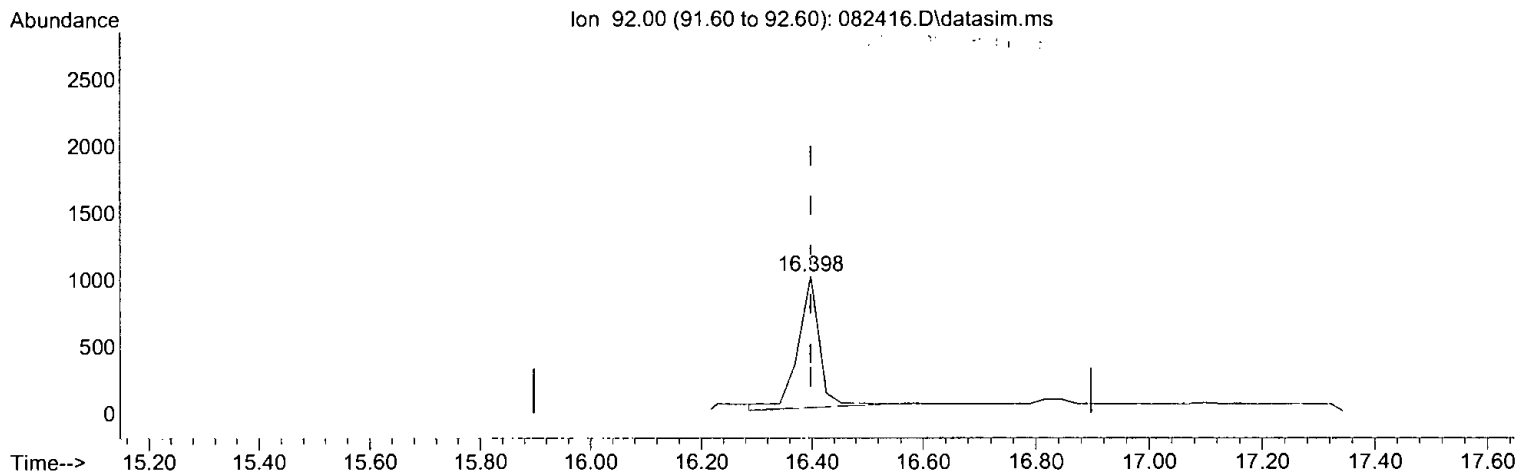
response	473	
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	622.62#
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(50) Toluene (TMP)

16.398min (+ 0.001) 0.063 ppbv

response 2631

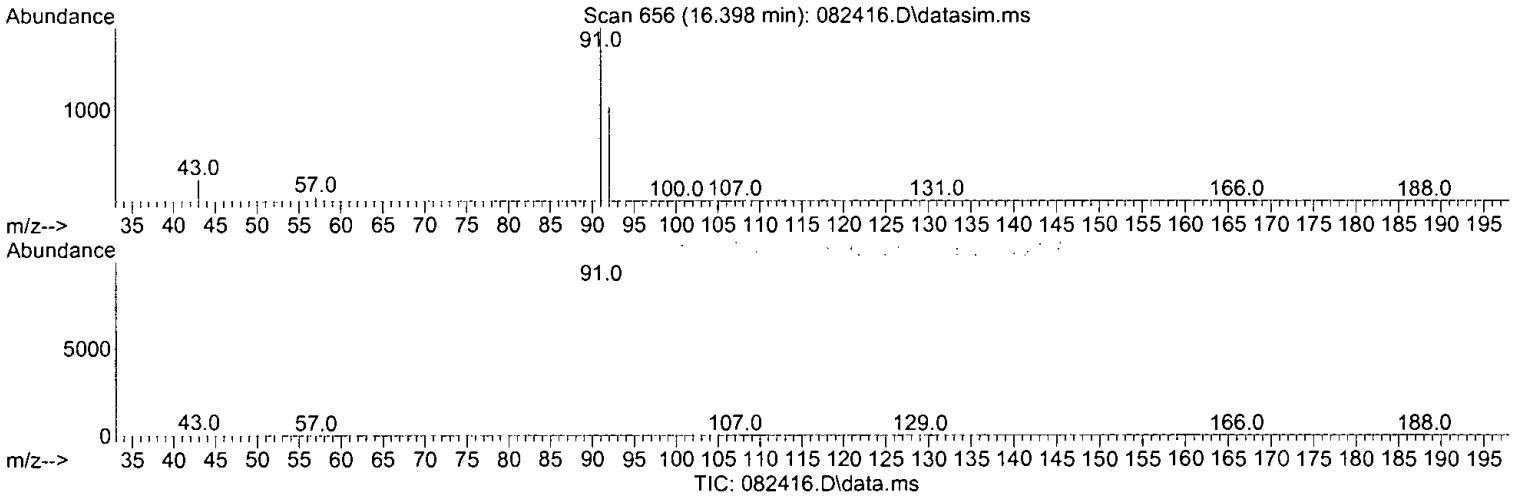
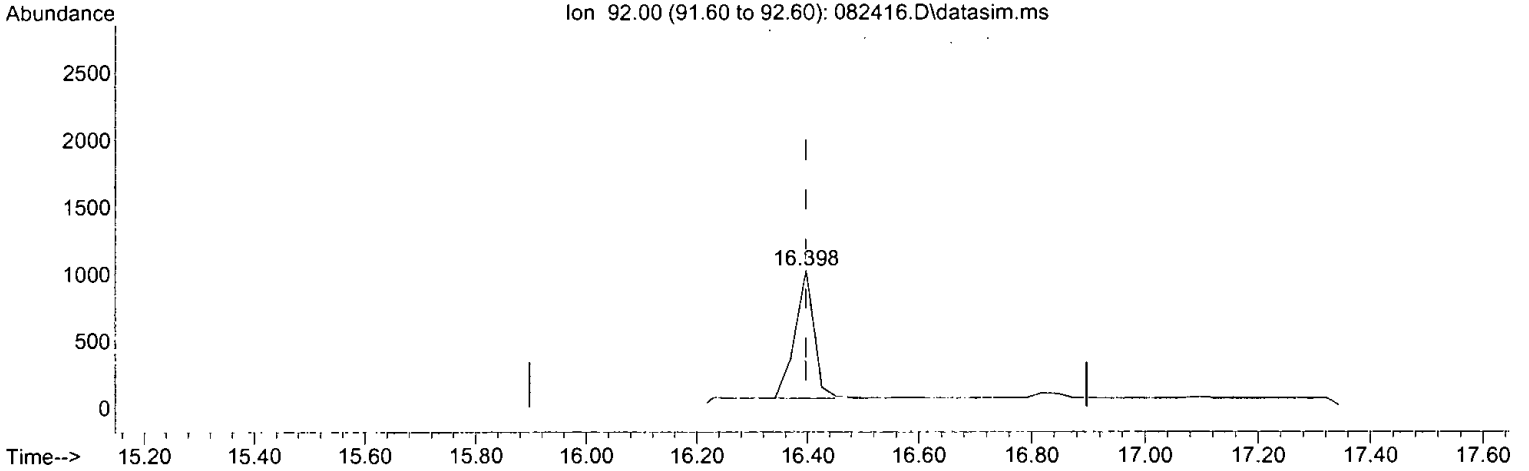
Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	184.66
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(50) Toluene (TMP)

16.398min (+ 0.001) 0.055 ppbv m

response 2307

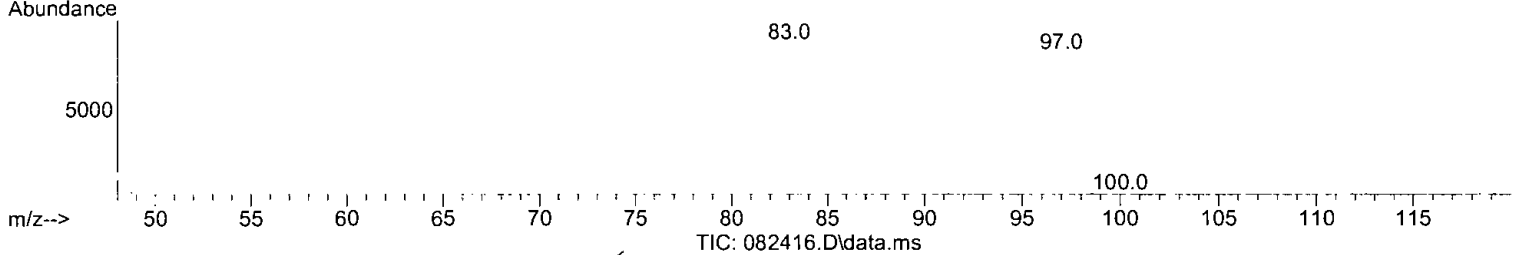
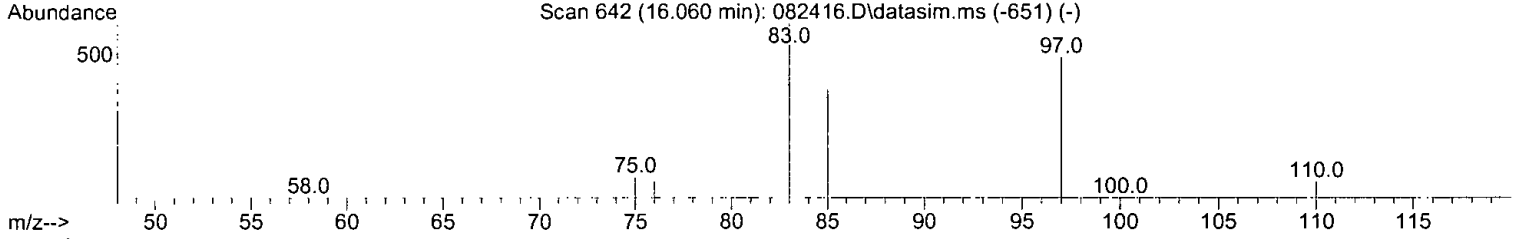
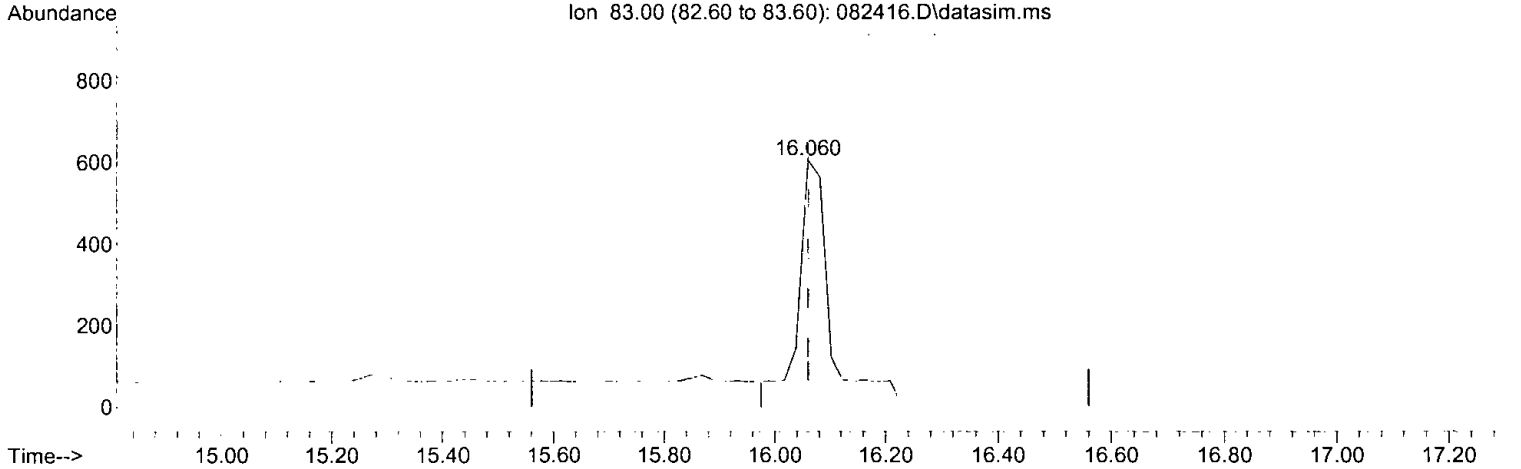
Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	179.92
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(51) 1,1,2-Trichloroethane (TME)

16.060min (-0.000) 0.078 ppbv

response 2457

Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	80.50
85.00	60.50	62.15
0.00	0.00	0.00

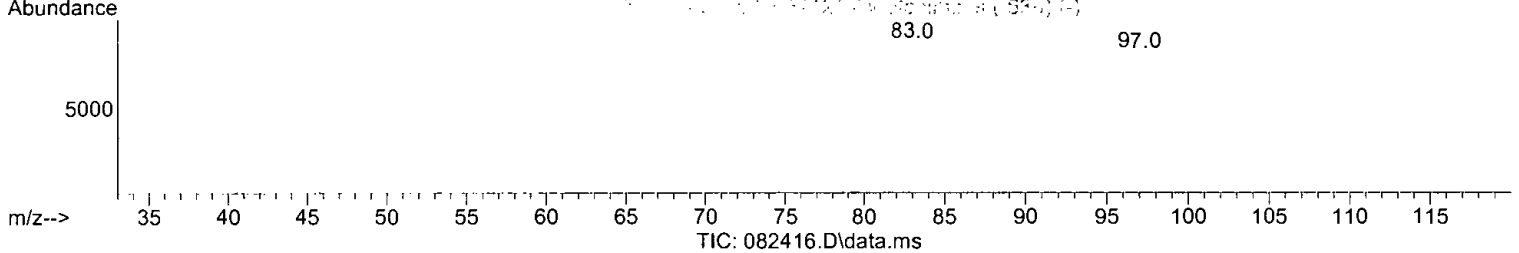
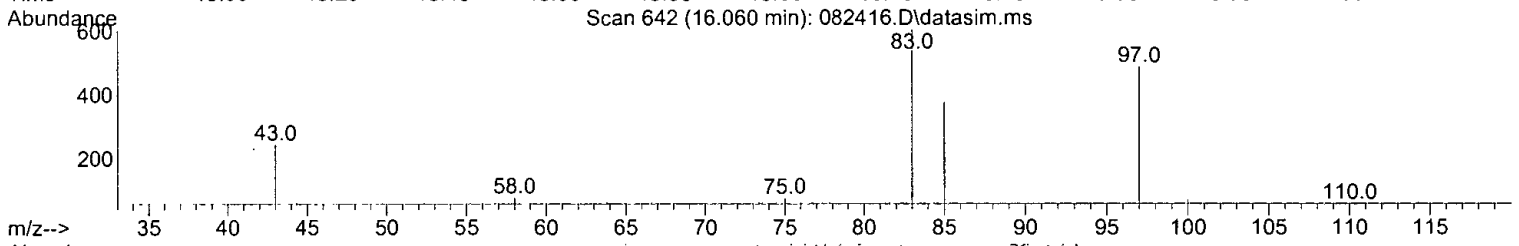
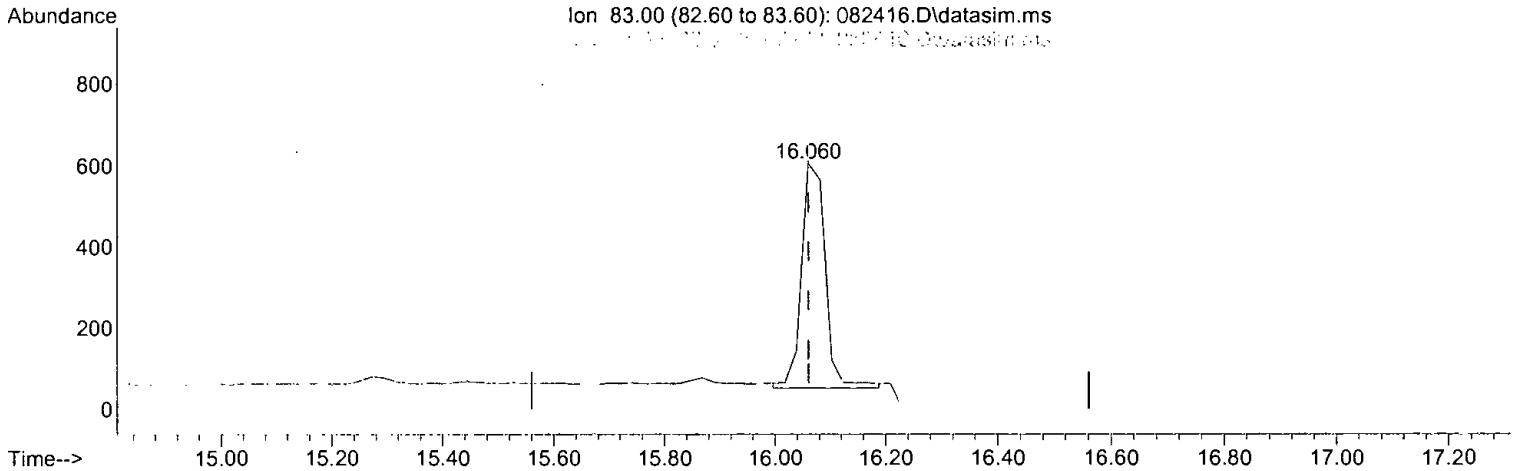
AS 8/25/21



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(51) 1,1,2-Trichloroethane (TMP)

16.060min (-0.000) 0.052 ppbv m

response 1640

Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	80.50
85.00	60.50	62.15
0.00	0.00	0.00

*Handwritten signature: AS/25/24*

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:11:27 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	118766	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	561168	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	488496	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	444067	10.034	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	100.30%
Target Compounds						
						Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	3.53	85	2737	0.052	ppbv	99
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	3.88	85	2775	0.053	ppbv	78
6) Vinyl chloride	4.05	62	1299	0.050	ppbv	99
7) 1,3-Butadiene	4.25	54	963	0.053	ppbv	# 89
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.	d	
10) Chloroethane	0.00		0	N.D.	d	
11) Vinyl bromide	5.32	106	1087m	0.051	ppbv	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	5.43	56	473m	0.055	ppbv	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	6.73	96	1016	0.052	ppbv	87
19) trans-1,2-Dichloroethene	8.18	96	979	0.051	ppbv	85
20) Methylene chloride	0.00		0	N.D.	d	
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	7.23	101	1972	0.049	ppbv	82
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	8.44	63	2255	0.049	ppbv	95
28) cis-1,2-Dichloroethene	9.73	96	1058	0.050	ppbv	# 80
29) Hexane	0.00		0	N.D.	d	
30] Chloroform	10.19	83	2513	0.048	ppbv	95
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34] 1,2-Dichloroethane (EDC)	11.45	62	1872	0.048	ppbv	94
35] 1,1,1-Trichloroethane	11.94	97	1863	0.049	ppbv	85
36] Carbon tetrachloride	12.95	117	1826	0.048	ppbv	98
37] Benzene	12.72	78	3814	0.052	ppbv	97
38) Cyclohexane	0.00		0	N.D.	d	
40] 1,2-Dichloropropane	13.90	63	1700	0.049	ppbv	99
41] 1,4-Dioxane	14.19	88	824	0.054	ppbv	96
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

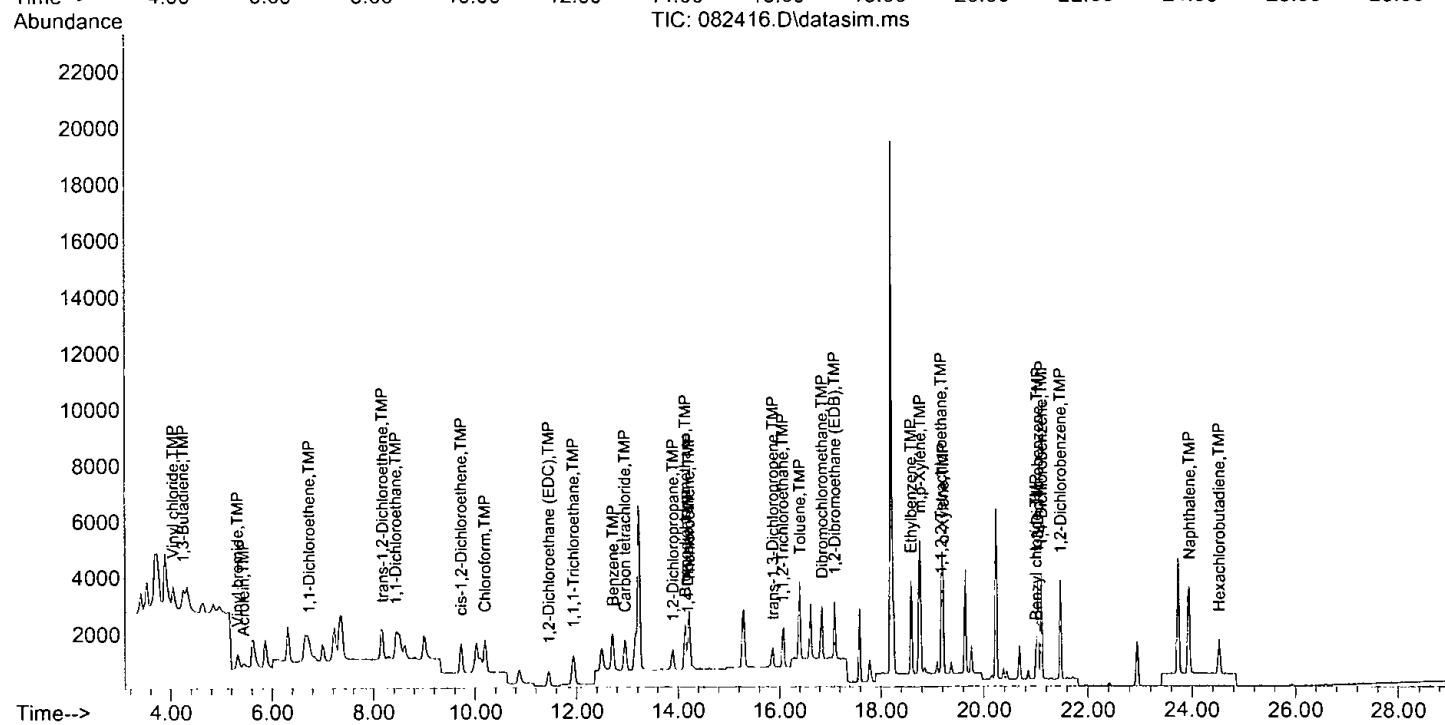
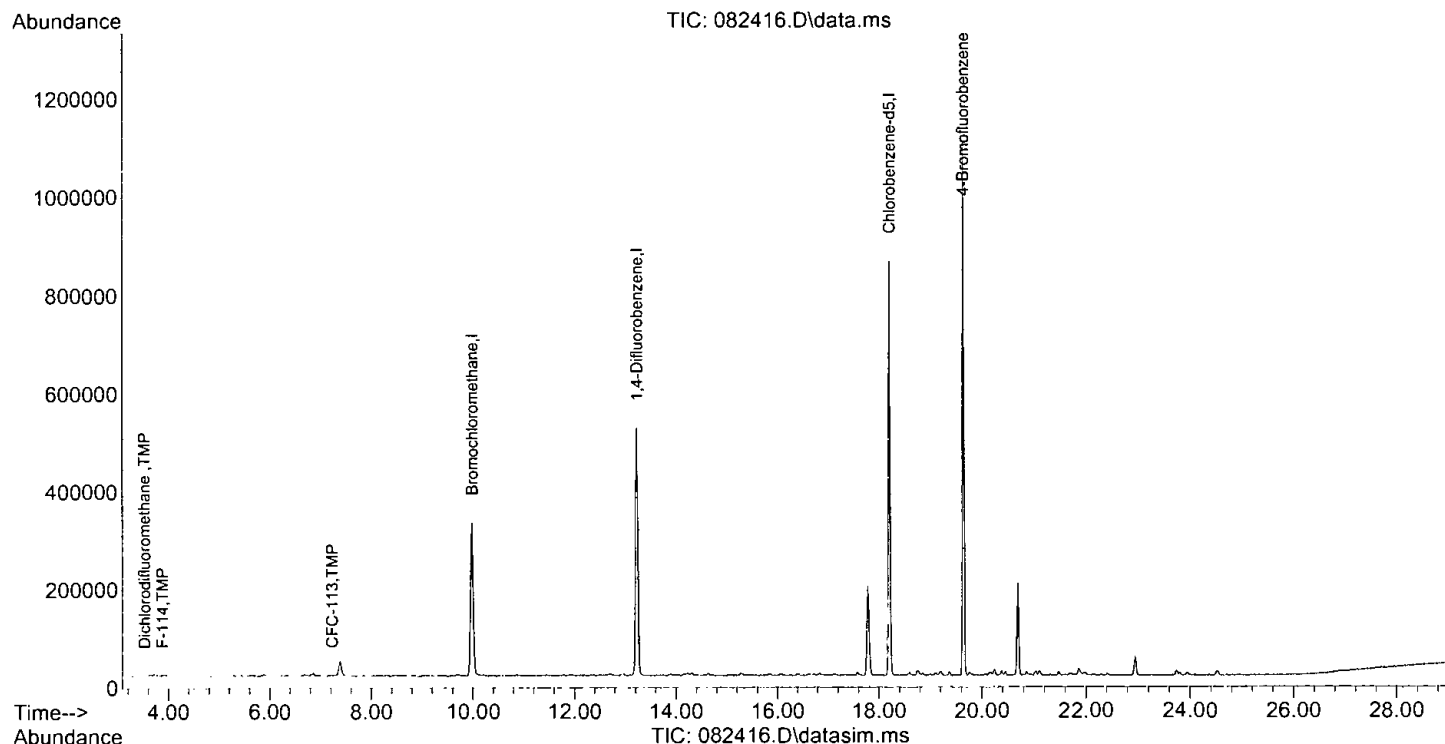
Quant Time: Aug 25 11:11:27 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	14.14	83	2599	0.049	ppbv	91
46) Trichloroethene	14.22	95	1759	0.051	ppbv	82
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	15.87	75	1608	0.053	ppbv	97
50) Toluene	16.40	92	2307m	0.055	ppbv	
51) 1,1,2-Trichloroethane	16.06	83	1640m	0.052	ppbv	
52) 2-Hexanone	0.00		0	N.D.	d	
53) Tetrachloroethene	0.00		0	N.D.	d	
54) Dibromochloromethane	16.85	129	2099	0.048	ppbv	91
55) 1,2-Dibromoethane (EDB)	17.10	107	2171	0.050	ppbv	86
57) Chlorobenzene	0.00		0	N.D.	d	
58) Ethylbenzene	18.59	91	5429	0.050	ppbv	96
59) 1,1,2,2-Tetrachloroethane	19.17	83	3745	0.049	ppbv	89
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65) m,p-Xylene	18.76	106	3645	0.105	ppbv	89
66) o-Xylene	19.21	106	1801	0.053	ppbv	92
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	21.01	91	1629	0.044	ppbv	95
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	21.04	146	3277	0.058	ppbv	92
74) 1,4-Dichlorobenzene	21.11	146	3160	0.050	ppbv	93
75) 1,2-Dichlorobenzene	21.47	146	3195	0.060	ppbv	94
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77) Naphthalene	23.95	128	7330	0.050	ppbv	98
78) Hexachlorobutadiene	24.52	225	2742	0.050	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:11:27 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:11:27 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I Bromochloromethane	10.000	10.000	0.0	100	0.00
2	TMP Propene	-1.000	0.000	0.0	0	-3.41#
3	TMP Dichlorodifluoromethane	0.050	0.052	-4.0	100	0.00
4	TMP Chloromethane	-1.000	0.000	0.0	0	-3.77#
5	TMP F-114	0.050	0.053	-6.0	100	0.00
6	TMP Vinyl chloride	0.050	0.050	0.0	100	0.00
7	TMP 1,3-Butadiene	0.050	0.053	-6.0	100	0.00
8	TMP Butane	-1.000	0.000	0.0	0	-4.32#
9	TMP Bromomethane	-1.000	0.000	0.0	0	-4.64#
10	TMP Chloroethane	-1.000	0.000	0.0	0	-4.84#
11	TMP Vinyl bromide	0.050	0.051	-2.0	103	0.00
12	TMP Ethanol	-1.000	0.000	0.0	0	-4.96#
13	TMP Acrolein	0.050	0.055	-10.0	98	0.00
14	TMP Pentane	-1.000	0.000	0.0	0	-6.33#
15	TMP Trichlorofluoromethane	-1.000	0.000	0.0	0	-5.88#
16	TMP Acetone	-1.000	0.000	0.0	0	-5.59#
17	TMP 2-Propanol	-1.000	0.000	0.0	0	-5.86#
18	TMP 1,1-Dichloroethene	0.050	0.052	-4.0	100	0.00
19	TMP trans-1,2-Dichloroethene	0.050	0.051	-2.0	100	0.00
20	TMP Methylene chloride	-1.000	0.000	0.0	0	-6.86#
21	TMP t-Butyl alcohol (TBA)	-1.000	0.000	0.0	0	-6.65#
22	TMP 3-Chloropropene	-1.000	0.000	0.0	0	-7.01#
23	TMP CFC-113	0.050	0.049	2.0	100	0.00
24	TMP Carbon disulfide	-1.000	0.000	0.0	0	-7.33#
25	TMP Methyl t-butyl ether (MTBE)	-1.000	0.000	0.0	0	-8.51#
26	TMP Vinyl acetate	-1.000	0.000	0.0	0	-8.62#
27	TMP 1,1-Dichloroethane	0.050	0.049	2.0	100	0.00
28	TMP cis-1,2-Dichloroethene	0.050	0.050	0.0	100	0.00
29	TMP Hexane	-1.000	0.000	0.0	0	-10.11#
30	TMP Chloroform	0.050	0.048	4.0	100	0.00
31	TMP Ethyl acetate	-1.000	0.000	0.0	0	-10.01#
32	TMP Tetrahydrofuran	-1.000	0.000	0.0	0	-10.84#
33	TMP 2-Butanone (MEK)	-1.000	0.000	0.0	0	-8.99#
34	TMP 1,2-Dichloroethane (EDC)	0.050	0.048	4.0	100	0.00
35	TMP 1,1,1-Trichloroethane	0.050	0.049	2.0	100	0.00
36	TMP Carbon tetrachloride	0.050	0.048	4.0	100	0.00
37	TMP Benzene	0.050	0.052	-4.0	100	0.02
38	TMP Cyclohexane	-1.000	0.000	0.0	0	-13.16#
39	I 1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40	TMP 1,2-Dichloropropane	0.050	0.049	2.0	100	0.00
41	TMP 1,4-Dioxane	0.050	0.054	-8.0	100	0.03
42	TMP 2,2,4-Trimethylpentane	-1.000	0.000	0.0	0	-14.31#
43	TMP Methyl methacrylate	-1.000	0.000	0.0	0	-14.43#
44	TMP Heptane	-1.000	0.000	0.0	0	-14.63#
45	TMP Bromodichloromethane	0.050	0.049	2.0	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:11:27 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	0.050	0.051	-2.0	100	0.00
47	TMP cis-1,3-Dichloropropene	-1.000	0.000	0.0	0	-15.27#
48	TMP 4-Methyl-2-pentanone	-1.000	0.000	0.0	0	-15.29#
49	TMP trans-1,3-Dichloropropene	0.050	0.053	-6.0	100	0.02
50	TMP Toluene	0.050	0.055	-10.0	100	0.00
51	TMP 1,1,2-Trichloroethane	0.050	0.052	-4.0	101	0.00
52	TMP 2-Hexanone	-1.000	0.000	0.0	0	-16.62#
53	TMP Tetrachloroethene	-1.000	0.000	0.0	0	-17.58#
54	TMP Dibromochloromethane	0.050	0.048	4.0	100	0.00
55	TMP 1,2-Dibromoethane (EDB)	0.050	0.050	0.0	100	0.00
56	I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57	TMP Chlorobenzene	-1.000	0.000	0.0	0	-18.25#
58	TMP Ethylbenzene	0.050	0.050	0.0	100	0.00
59	TMP 1,1,2,2-Tetrachloroethane	0.050	0.049	2.0	100	-0.02
60	TMP Nonane	-1.000	0.000	0.0	0	-19.36#
61	TMP Isopropylbenzene	-1.000	0.000	0.0	0	-19.75#
62	TMP 2-Chlorotoluene	-1.000	0.000	0.0	0	-20.23#
63	TMP Propylbenzene	-1.000	0.000	0.0	0	-20.25#
64	TMP 4-Ethyltoluene	-1.000	0.000	0.0	0	-20.38#
65	TMP m,p-Xylene	0.100	0.105	-5.0	100	0.00
66	TMP o-Xylene	0.050	0.053	-6.0	100	0.00
67	TMP Styrene	-1.000	0.000	0.0	0	-19.11#
68	TMP Bromoform	-1.000	0.000	0.0	0	-18.85#
69	S 4-Bromofluorobenzene	10.000	10.034	-0.3	100	0.00
70	TMP Benzyl chloride	0.050	0.044	12.0	100	0.00
71	TMP 1,3,5-Trimethylbenzene	-1.000	0.000	0.0	0	-20.45#
72	TMP 1,2,4-Trimethylbenzene	-1.000	0.000	0.0	0	-20.86#
73	TMP 1,3-Dichlorobenzene	0.050	0.058	-16.0	100	0.00
74	TMP 1,4-Dichlorobenzene	0.050	0.050	0.0	100	0.00
75	TMP 1,2-Dichlorobenzene	0.050	0.060	-20.0	100	0.00
76	TMP 1,2,4-Trichlorobenzene	-1.000	0.000	0.0	0	-23.73#
77	TMP Naphthalene	0.050	0.050	0.0	101	0.02
78	TMP Hexachlorobutadiene	0.050	0.050	0.0	100	0.00

(#) = Out of Range.

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:11:27 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	1.710	0.000	100.0#	0#	-3.41#
3 TMP	Dichlorodifluoromethane	4.425	4.609	-4.2	100	0.00
4 TMP	Chloromethane	2.075	0.000#	100.0#	0#	-3.77#
5 TMP	F-114	4.450	4.673	-5.0	100	0.00
6 TMP	Vinyl chloride	2.209	2.187	1.0	100	0.00
7 TMP	1,3-Butadiene	1.529	1.622	-6.1	100	0.00
8 TMP	Butane	3.248	0.000	100.0#	0#	-4.32#
9 TMP	Bromomethane	1.540	0.000#	100.0#	0#	-4.64#
10 TMP	Chloroethane	0.759	0.000#	100.0#	0#	-4.84#
11 TMP	Vinyl bromide	1.785	1.830	-2.5	103	0.00
12 TMP	Ethanol	0.559	0.000	100.0#	0#	-4.96#
13 TMP	Acrolein	0.726	0.797	-9.8	98	0.00
14 TMP	Pentane	3.891	0.000#	100.0#	0#	-6.33#
15 TMP	Trichlorofluoromethane	4.934	0.000#	100.0#	0#	-5.88#
16 TMP	Acetone	0.880	0.000#	100.0#	0#	-5.59#
17 TMP	2-Propanol	3.556	0.000	100.0#	0#	-5.86#
18 TMP	1,1-Dichloroethene	1.648	1.711	-3.8	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.626	1.649	-1.4	100	0.00
20 TMP	Methylene chloride	1.750	0.000#	100.0#	0#	-6.86#
21 TMP	t-Butyl alcohol (TBA)	2.881	0.000	100.0#	0#	-6.65#
22 TMP	3-Chloropropene	2.910	0.000	100.0#	0#	-7.01#
23 TMP	CFC-113	3.396	3.321	2.2	100	0.00
24 TMP	Carbon disulfide	5.738	0.000	100.0#	0#	-7.33#
25 TMP	Methyl t-butyl ether (MTBE)	3.820	0.000#	100.0#	0#	-8.51#
26 TMP	Vinyl acetate	2.562	0.000#	100.0#	0#	-8.62#
27 TMP	1,1-Dichloroethane	3.850	3.797	1.4	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.782	-0.1	100	0.00
29 TMP	Hexane	2.959	0.000	100.0#	0#	-10.11#
30 TMP	Chloroform	4.366	4.232	3.1	100	0.00
31 TMP	Ethyl acetate	6.229	0.000	100.0#	0#	-10.01#
32 TMP	Tetrahydrofuran	2.703	0.000	100.0#	0#	-10.84#
33 TMP	2-Butanone (MEK)	0.712	0.000	100.0#	0#	-8.99#
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.152	4.0	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.137	2.9	100	0.00
36 TMP	Carbon tetrachloride	3.178	3.075	3.2	100	0.00
37 TMP	Benzene	6.123	6.423	-4.9	100	0.02
38 TMP	Cyclohexane	1.669	0.000	100.0#	0#	-13.16#
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.618	0.606	1.9	100	0.00
41 TMP	1,4-Dioxane	0.270	0.294	-8.9	100	0.03
42 TMP	2,2,4-Trimethylpentane	2.076	0.000	100.0#	0#	-14.31#
43 TMP	Methyl methacrylate	0.567	0.000	100.0#	0#	-14.43#
44 TMP	Heptane	0.959	0.000	100.0#	0#	-14.63#
45 TMP	Bromodichloromethane	0.953	0.926	2.8	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082416.D  
 Acq On : 24 Aug 2021 5:04 pm  
 Operator : bat  
 Sample : 0.05 ppbv 64-87c  
 Misc : T2, 125cc of 0.1ppbv  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:11:27 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.627	-1.5	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.000	100.0#	0#	-15.27#
48 TMP 4-Methyl-2-pentanone	0.040	0.000	100.0#	0#	-15.29#
49 TMP trans-1,3-Dichloropropene	0.540	0.573	-6.1	100	0.02
50 TMP Toluene	0.749	0.822	-9.7	100	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.584	-3.7	101	0.00
52 TMP 2-Hexanone	1.055	0.000#	100.0#	0#	-16.62#
53 TMP Tetrachloroethene	0.381	0.000#	100.0#	0#	-17.58#
54 TMP Dibromochloromethane	0.787	0.748	5.0	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.774	0.6	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	0.000#	100.0#	0#	-18.25#
58 TMP Ethylbenzene	2.221	2.223	-0.1	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.533	1.0	100	-0.02
60 TMP Nonane	1.679	0.000	100.0#	0#	-19.36#
61 TMP Isopropylbenzene	1.948	0.000	100.0#	0#	-19.75#
62 TMP 2-Chlorotoluene	0.463	0.000	100.0#	0#	-20.23#
63 TMP Propylbenzene	4.322	0.000	100.0#	0#	-20.25#
64 TMP 4-Ethyltoluene	2.027	0.000	100.0#	0#	-20.38#
65 TMP m,p-Xylene	0.713	0.746	-4.6	100	0.00
66 TMP o-Xylene	0.701	0.737	-5.1	100	0.00
67 TMP Styrene	1.032	0.000#	100.0#	0#	-19.11#
68 TMP Bromoform	0.801	0.000#	100.0#	0#	-18.85#
69 S 4-Bromofluorobenzene	0.906	0.909	-0.3	100	0.00
70 TMP Benzyl chloride	0.751	0.667	11.2	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	0.000	100.0#	0#	-20.45#
72 TMP 1,2,4-Trimethylbenzene	1.679	0.000	100.0#	0#	-20.86#
73 TMP 1,3-Dichlorobenzene	1.154	1.342	-16.3	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.294	-12.3	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.308	-19.9	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.000	100.0#	0#	-23.73#
77 TMP Naphthalene	2.538	3.001	-18.2	101	0.02
78 TMP Hexachlorobutadiene	0.852	1.123	-31.8#	100	0.00

(#) = Out of Range

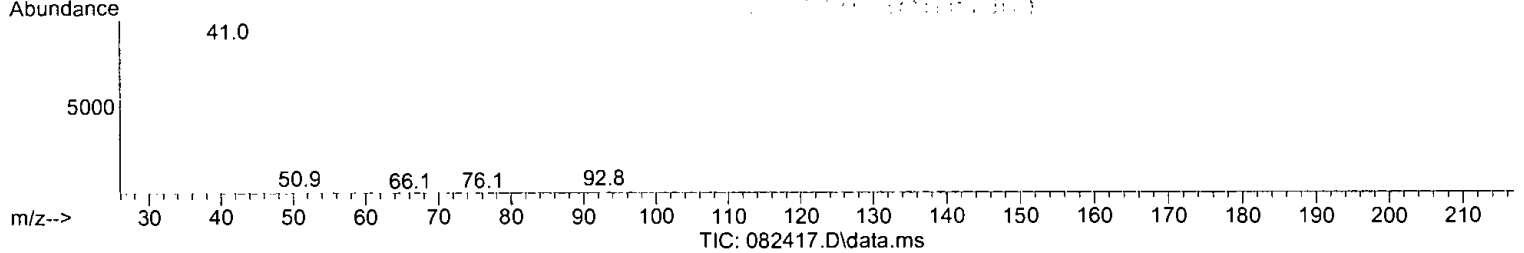
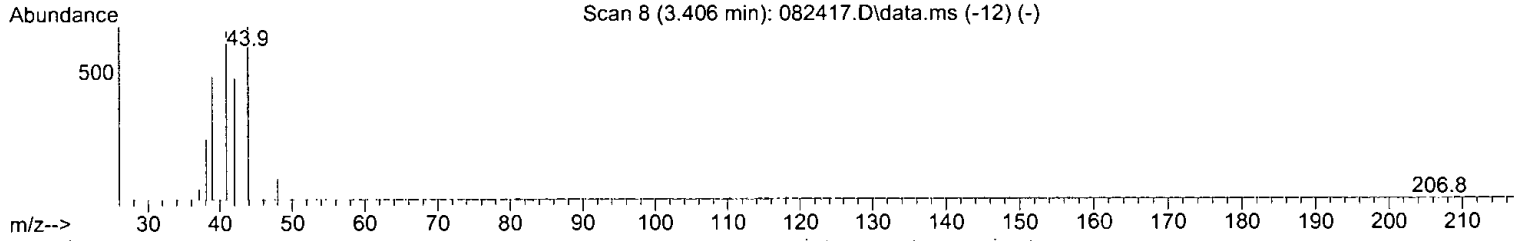
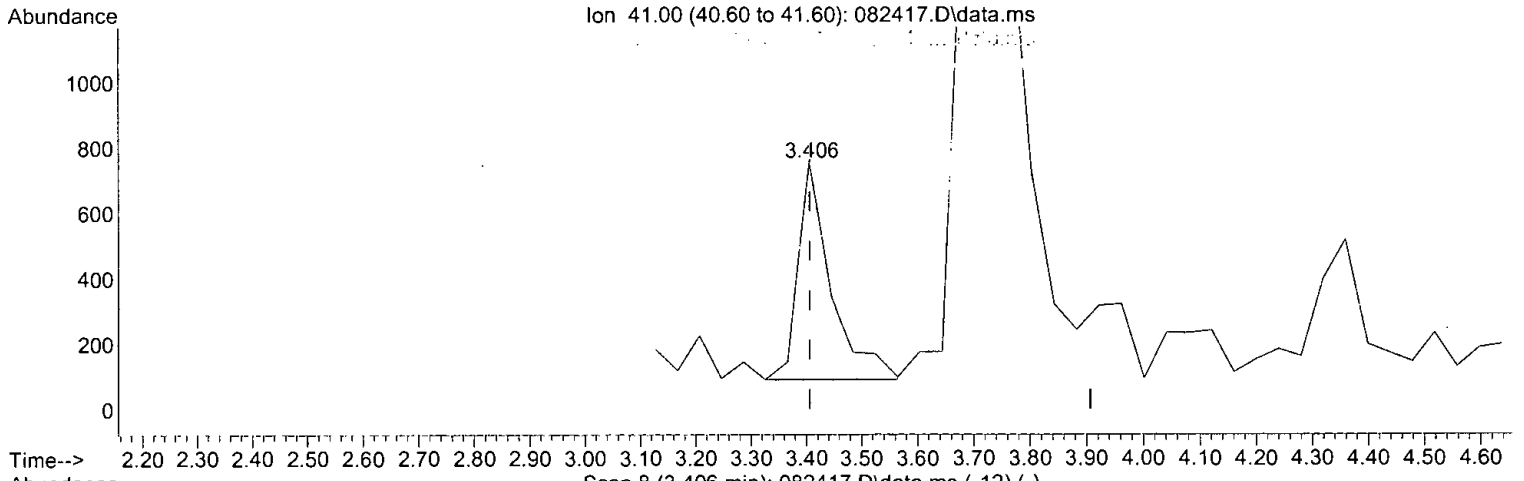
SPCC's out = 14 CCC's out = 0



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(2) Propene (TMP)

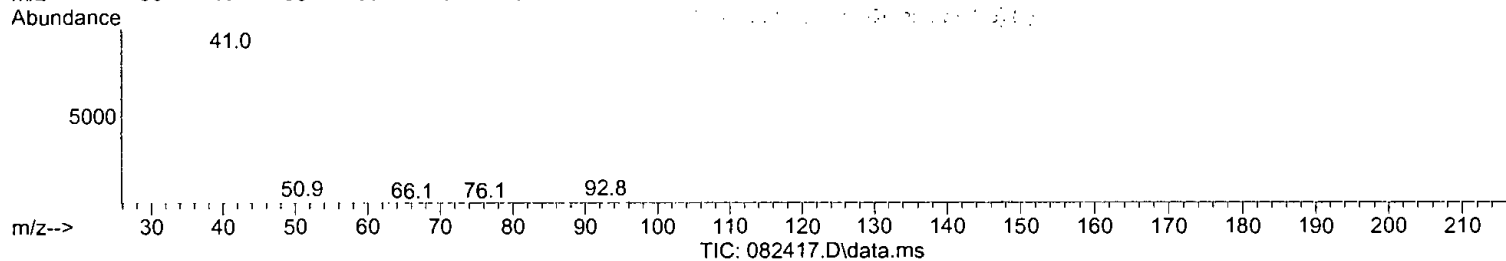
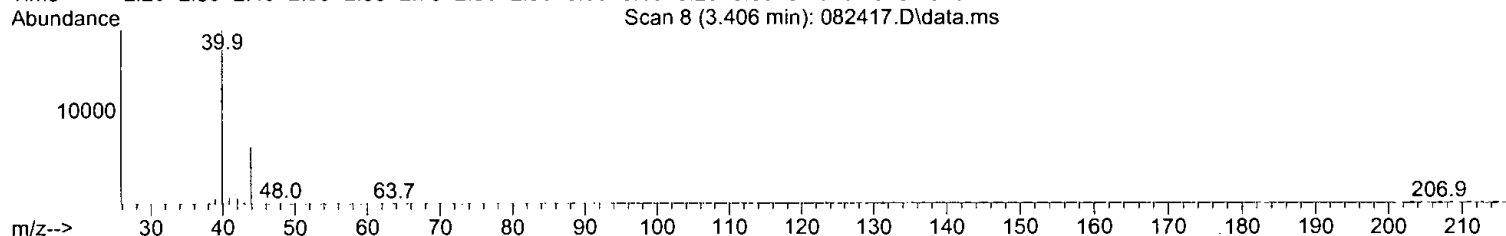
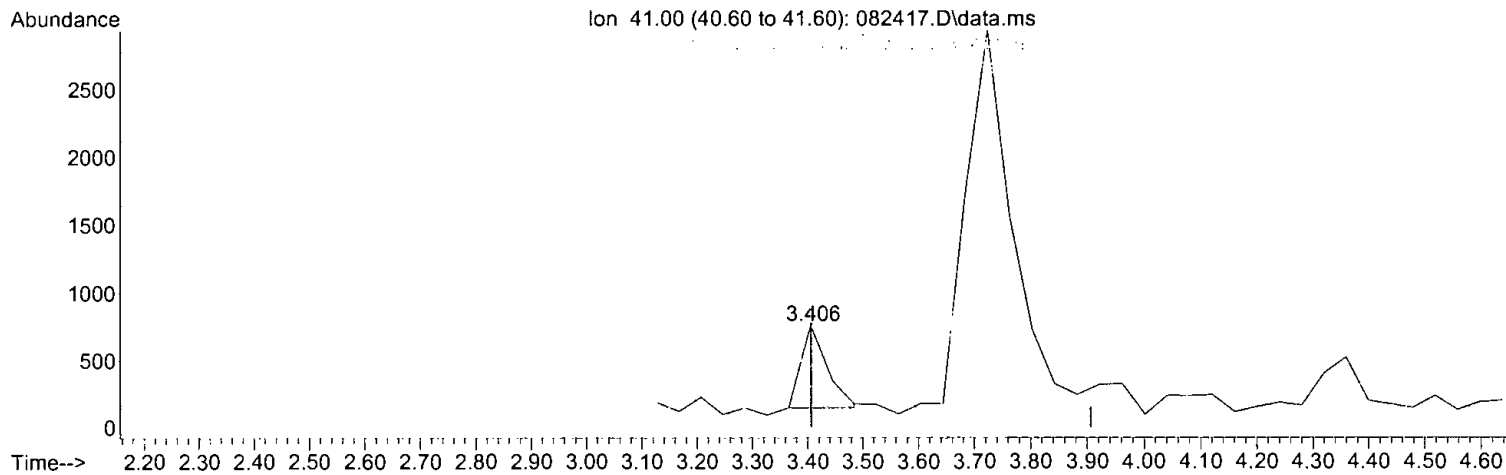
3.406min (-0.000) 0.133 ppbv

response	2725	
Ion	Exp%	Act%
41.00	100.00	100.00
39.00	75.60	72.89
27.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



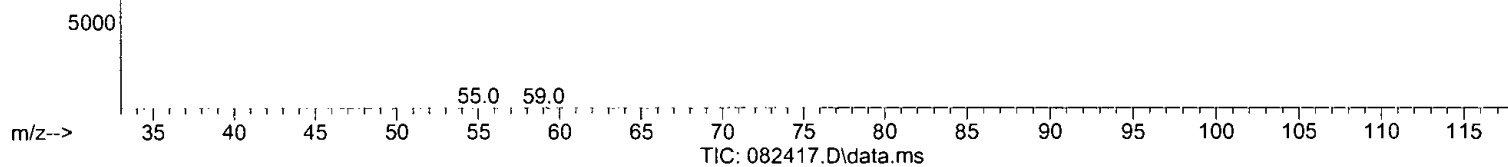
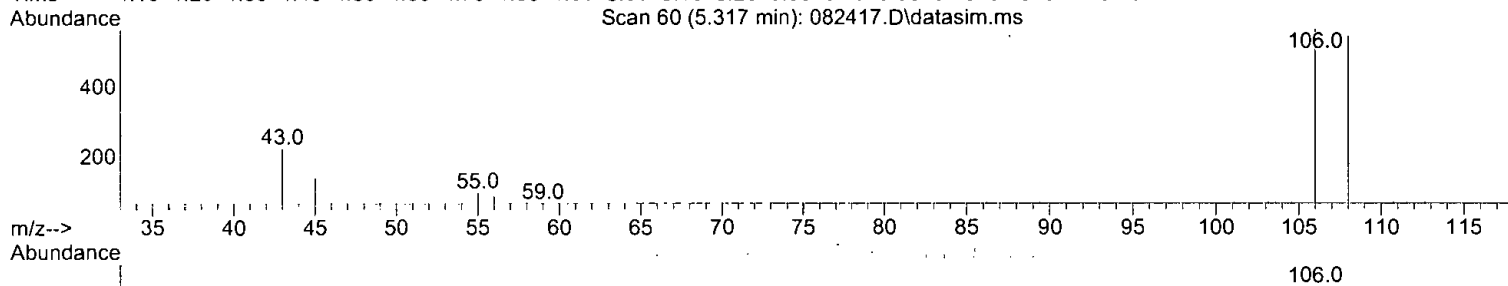
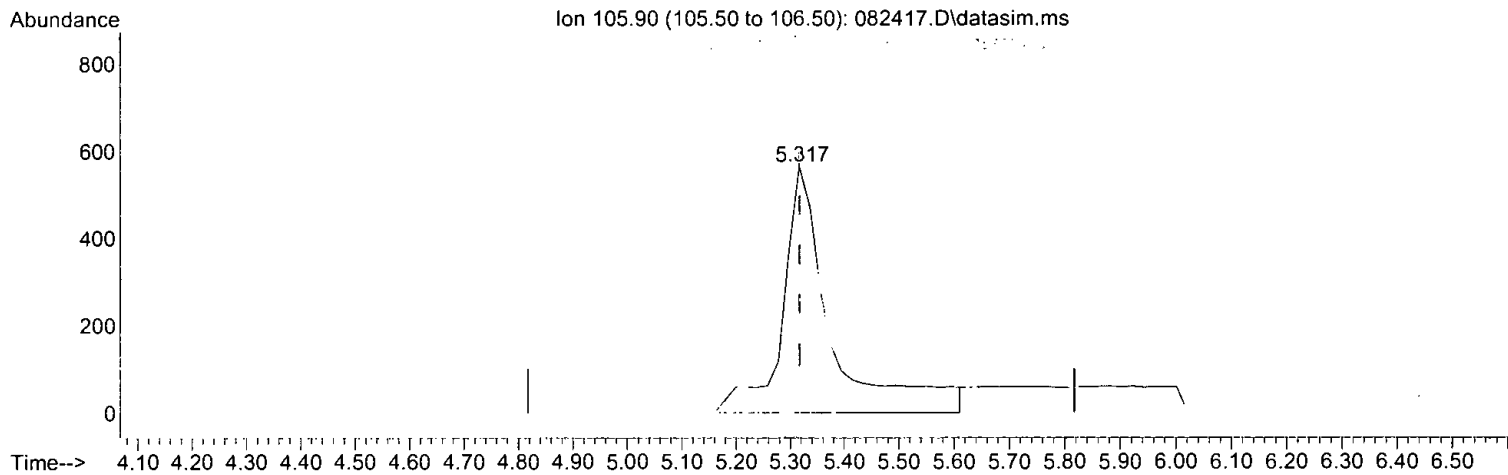
(2) Propene (TMP)

3.406min (-0.000) 0.098 ppbv m

response	1999	
Ion	Exp%	Act%
41.00	100.00	100.00
39.00	75.60	83.44
27.00	0.00	0.00
0.00	0.00	0.00

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (-0.000) 0.177 ppbv

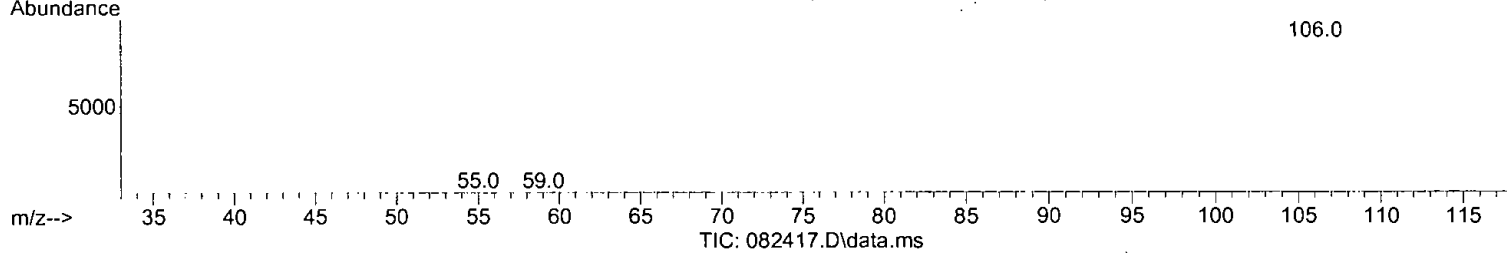
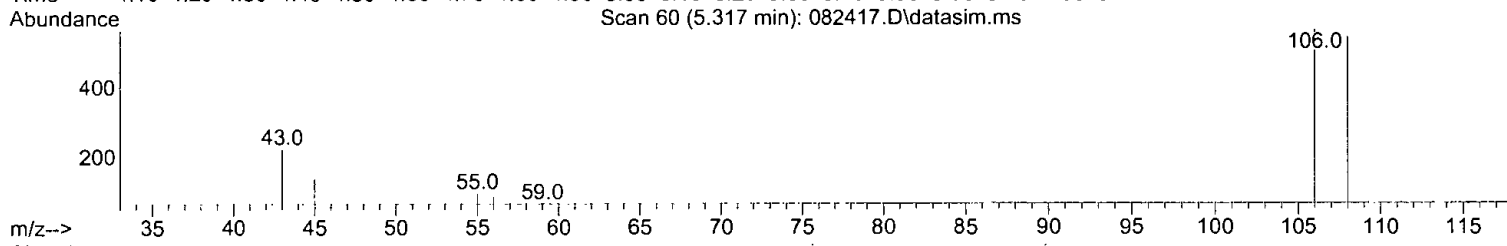
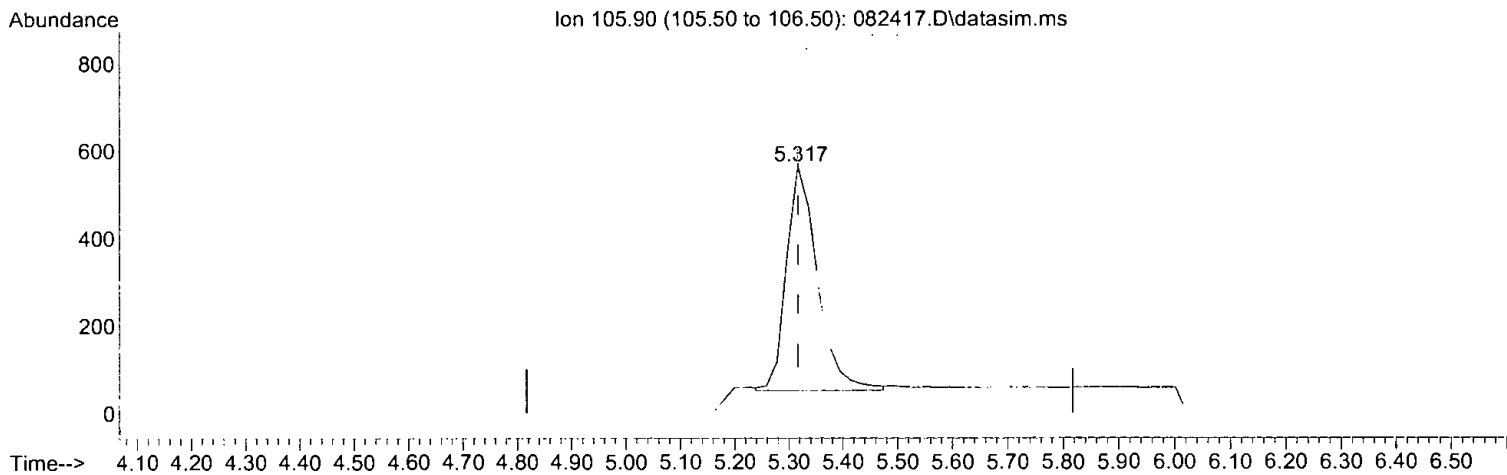
response 3782

Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	90.69
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (-0.000) 0.096 ppbv m

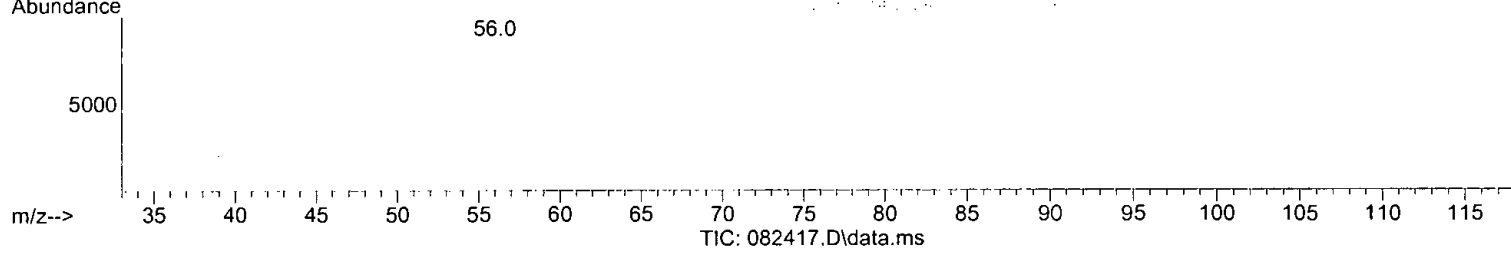
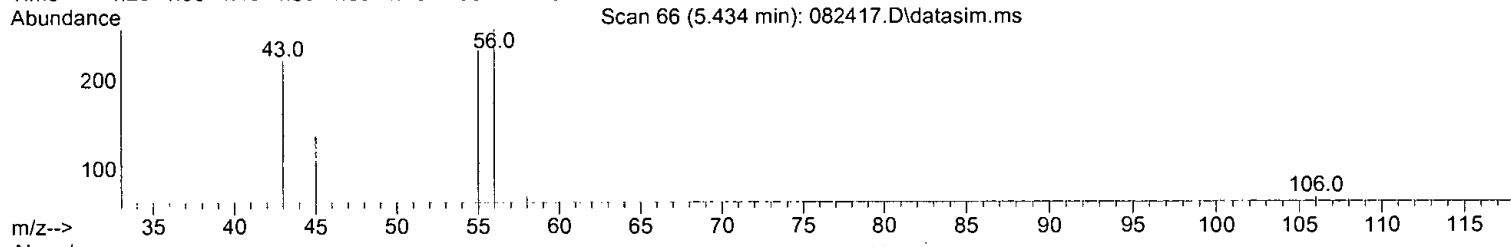
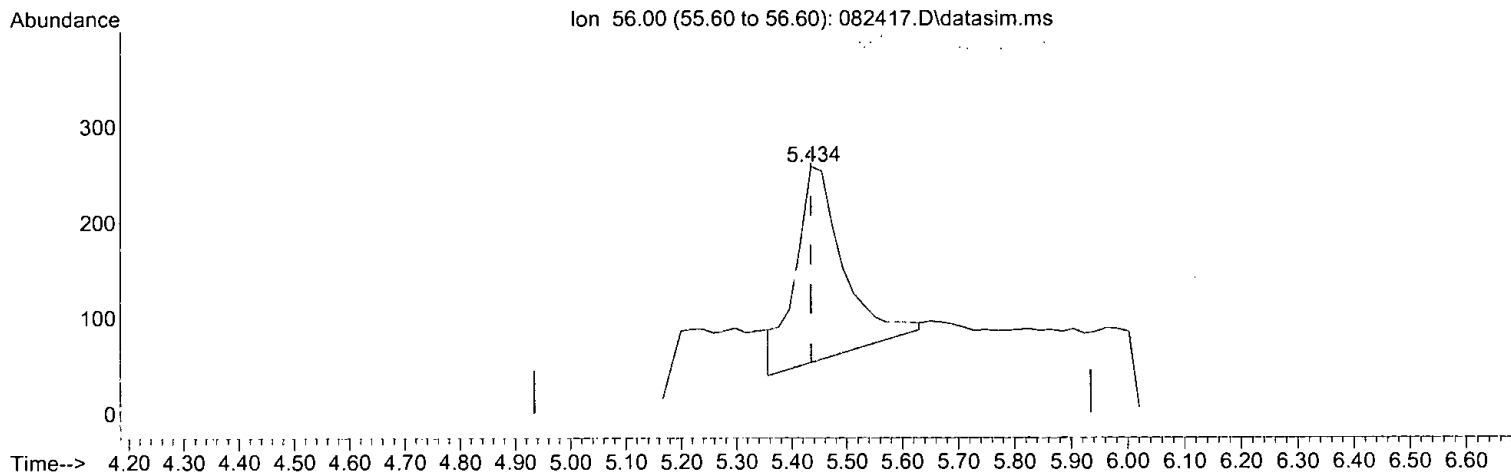
response	2043	
Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	167.89#
0.00	0.00	0.00
0.00	0.00	0.00

AS 812514

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.434min (+ 0.000) 0.144 ppbv

response 1250

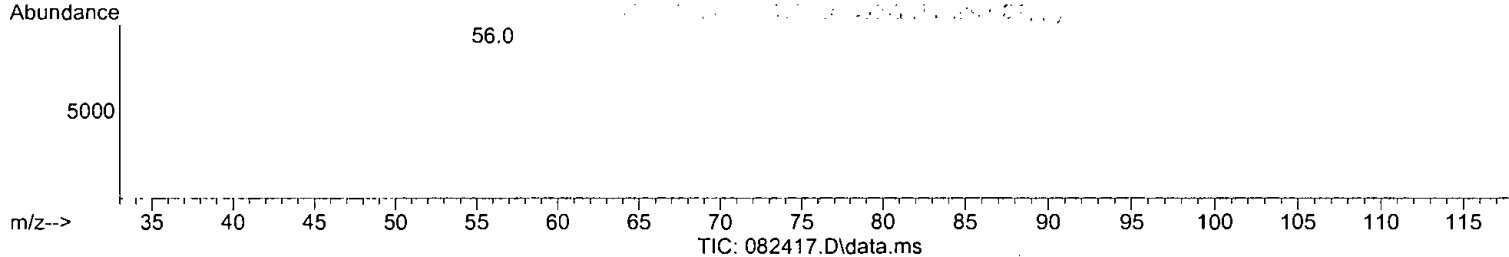
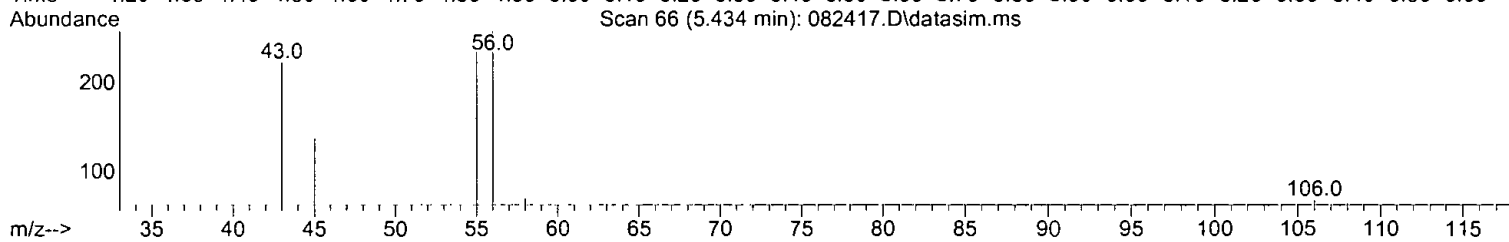
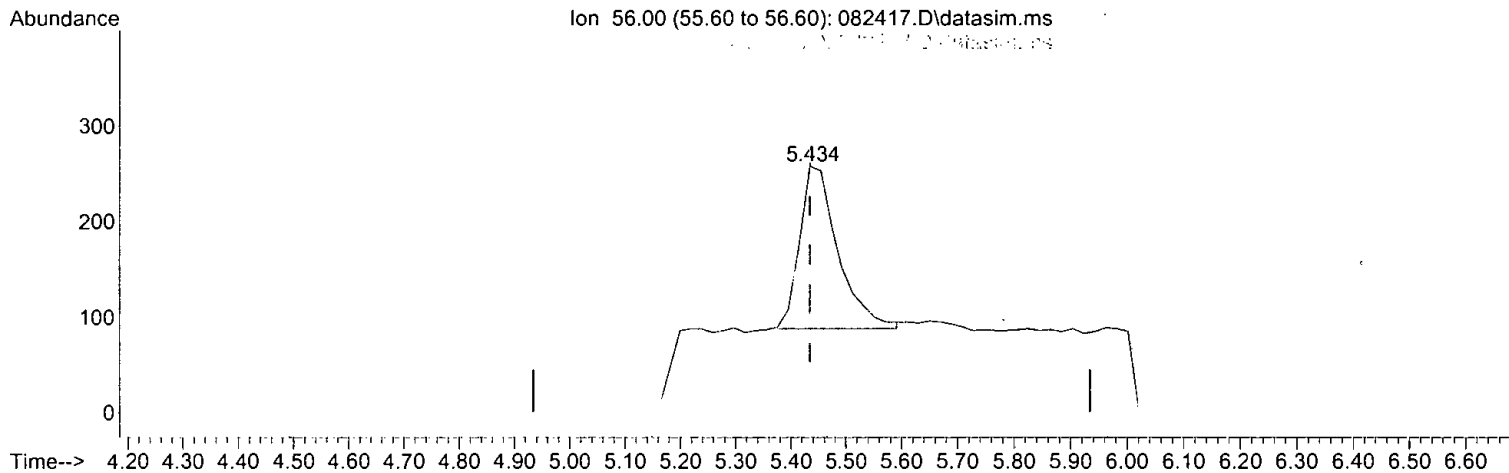
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	74.48
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.434min (+ 0.000) 0.095 ppbv m

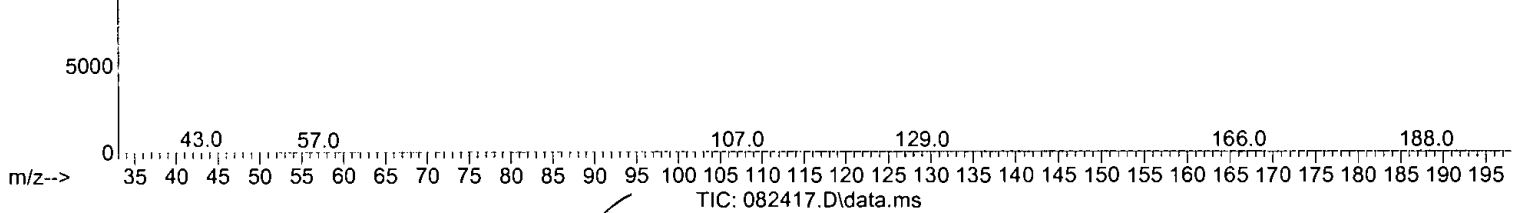
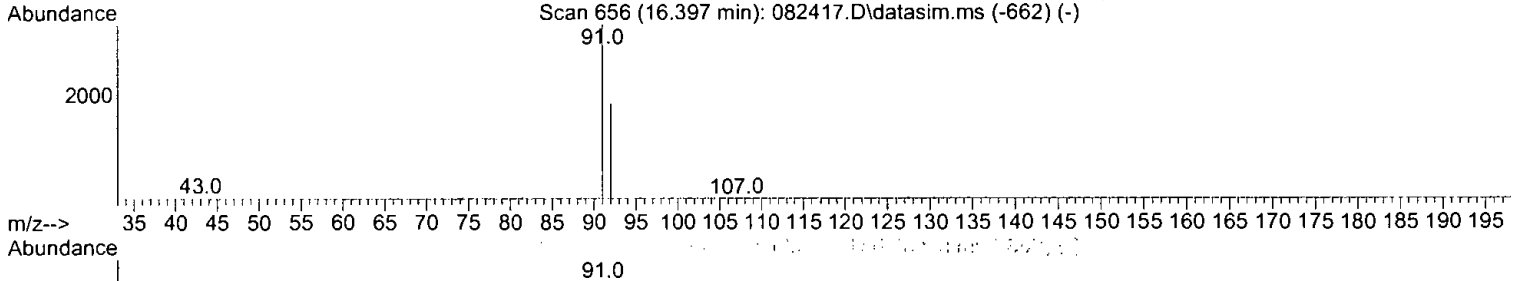
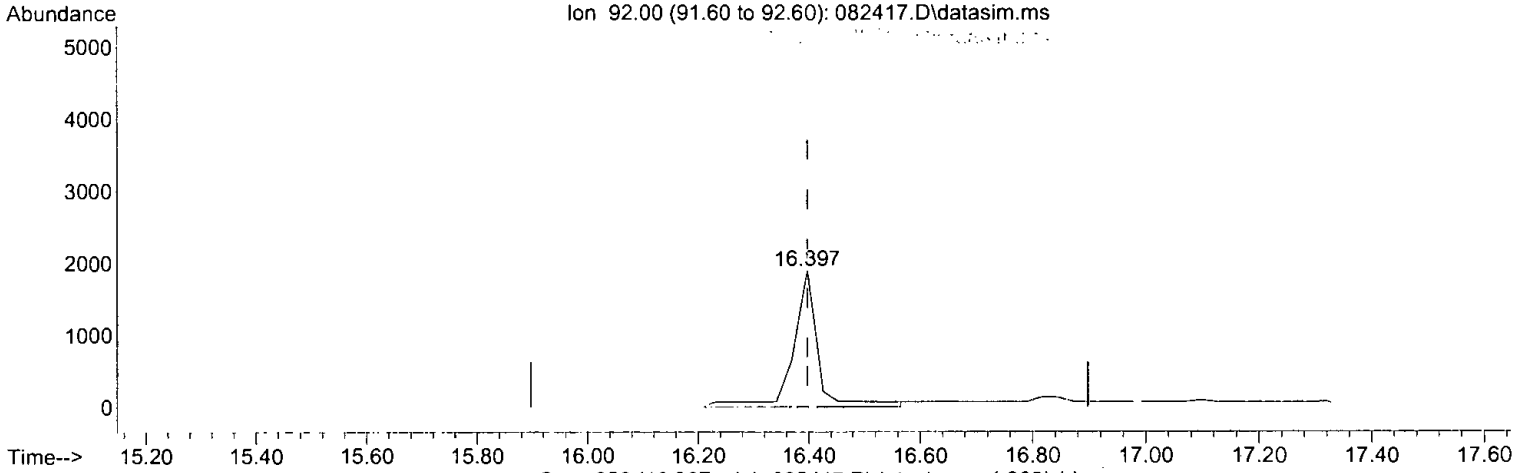
response 822

Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	113.26#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
Data File : 082417.D  
Acq On : 24 Aug 2021 5:47 pm  
Operator : bat  
Sample : 0.1 ppbv 64-87c  
Misc : T2, 250cc of 0.1ppbv  
ALS Vial : 17 Sample Multiplier: 1  
InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
Quant Title : TO-15 SS method  
QLast Update : Wed Aug 25 09:28:09 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M



(50) Toluene (TMP)

16.397min (+ 0.000) 0.132 ppbv

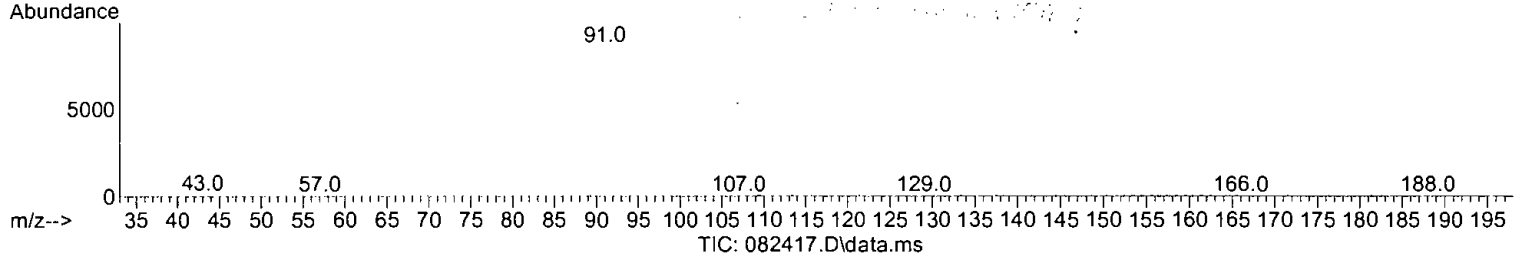
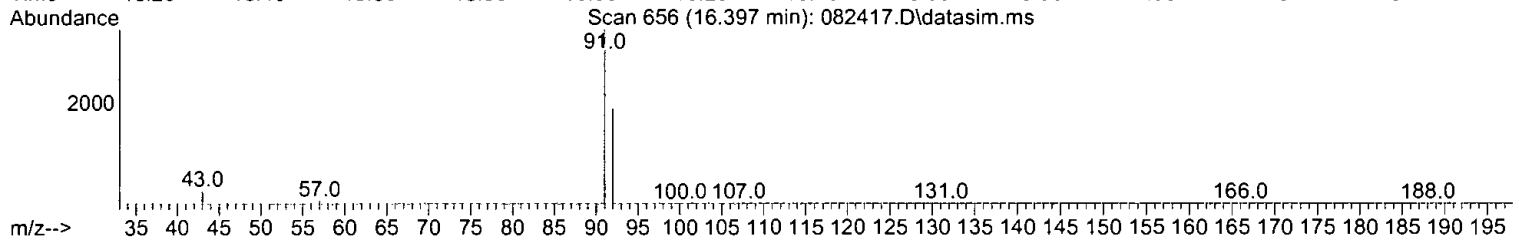
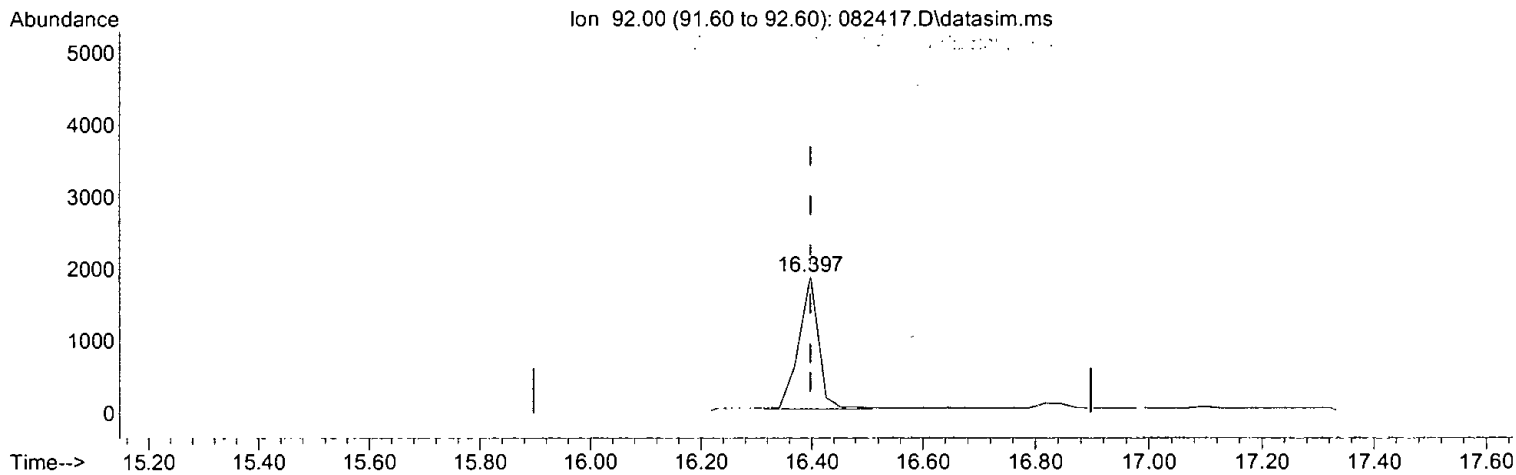
response 5607

Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	181.06
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(50) Toluene (TMP)

16.397min (+ 0.000) 0.104 ppbv m

response 4437

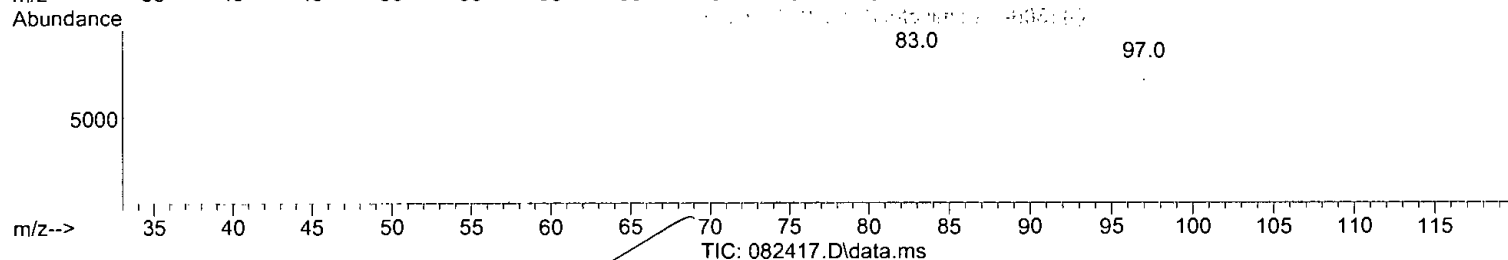
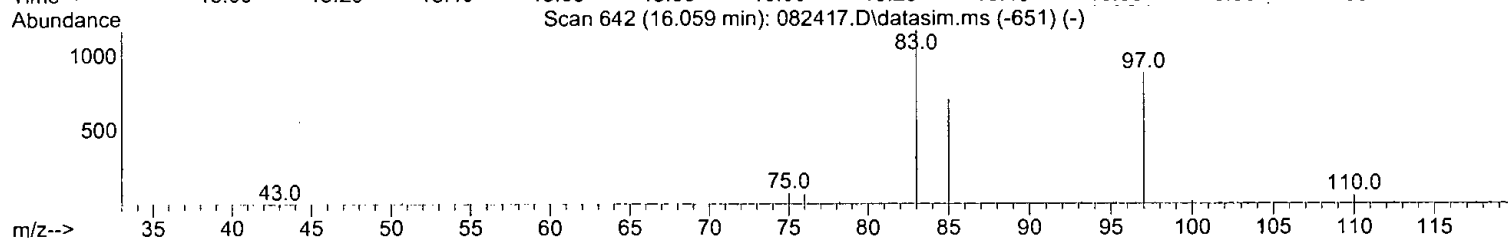
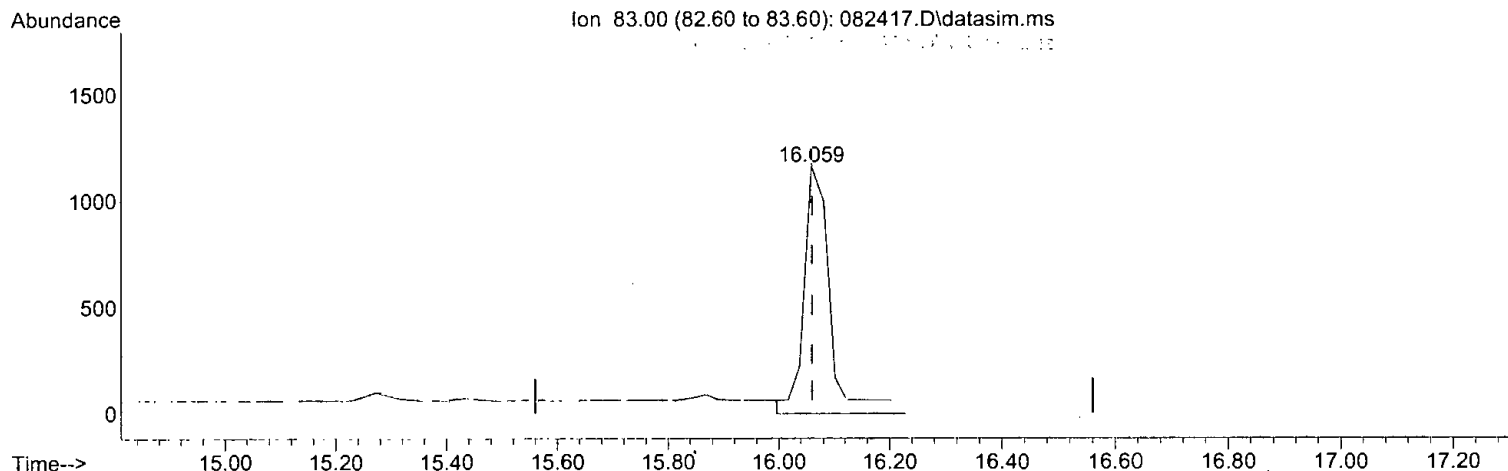
Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	181.06
0.00	0.00	0.00
0.00	0.00	0.00



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(51) 1,1,2-Trichloroethane (TMP)

16.059min (-0.001) 0.120 ppbv

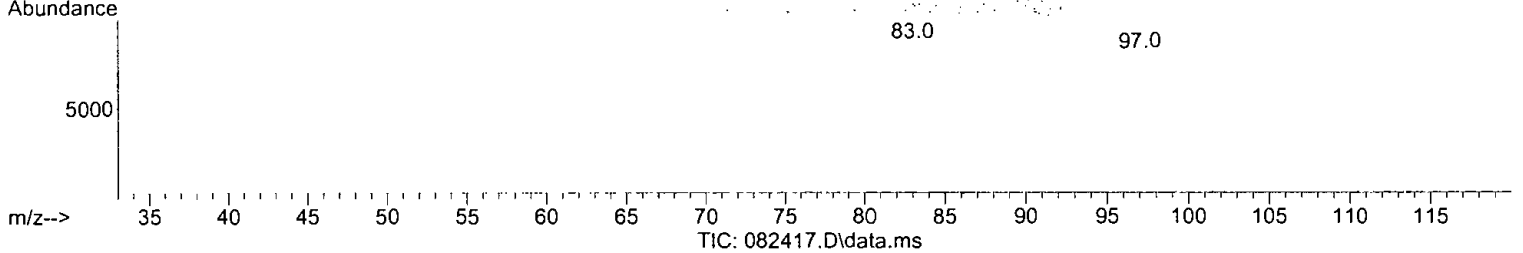
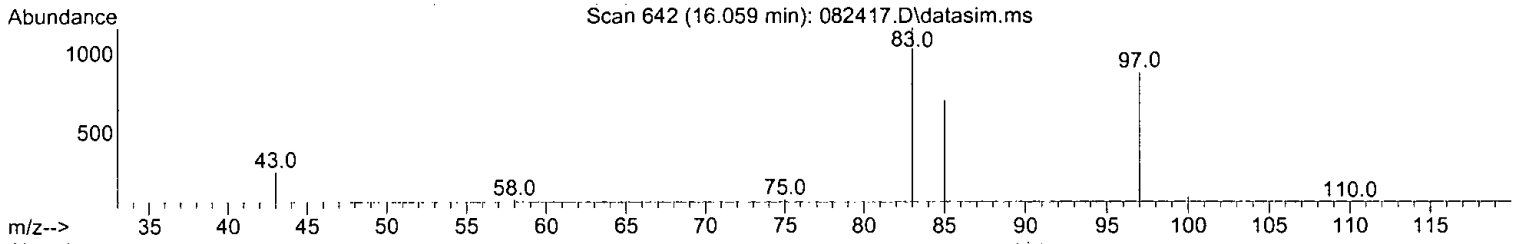
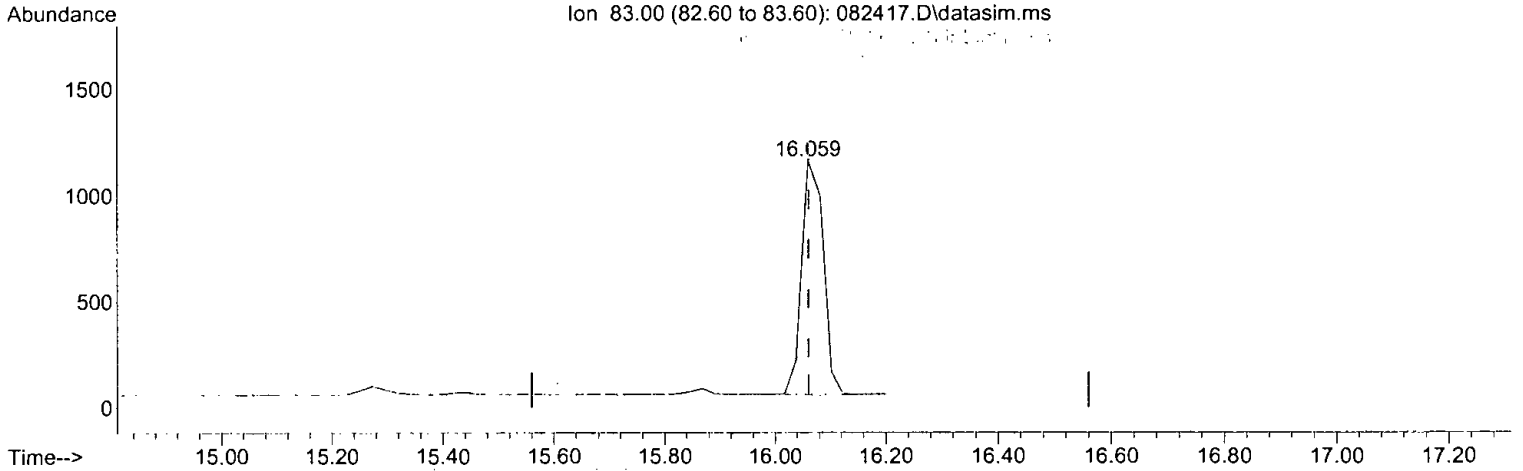
response	3840		
Ion	Exp%	Act%	
83.00	100.00	100.00	
97.00	81.80	75.45	
85.00	60.50	60.29	
0.00	0.00	0.00	

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:53:54 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(51) 1,1,2-Trichloroethane (TMP)

16.059min (-0.001) 0.093 ppbv m

response 2957

Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	75.45
85.00	60.50	60.29
0.00	0.00	0.00

*AS/25/21*

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:17:09 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	119517	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	567176	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	494412	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	446208	9.962	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	99.60%
Target Compounds						
						Qvalue
2) Propene	3.41	41	1999m	0.098	ppbv	
3) Dichlorodifluoromethane	3.52	85	4871	0.092	ppbv	88
4) Chloromethane	3.73	50	2935	0.118	ppbv	96
5) F-114	3.88	85	5105	0.096	ppbv	89
6) Vinyl chloride	4.05	62	2527	0.096	ppbv	95
7) 1,3-Butadiene	4.25	54	1800	0.099	ppbv	# 91
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.	d	
10) Chloroethane	4.84	64	939	0.104	ppbv	96
11) Vinyl bromide	5.32	106	2043m	0.096	ppbv	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	5.43	56	822m	0.095	ppbv	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	5.86	101	5876	0.100	ppbv	80
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	6.73	96	1928	0.098	ppbv	97
19) trans-1,2-Dichloroethene	8.18	96	1892	0.097	ppbv	# 80
20) Methylene chloride	0.00		0	N.D.	d	
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	7.22	101	3960	0.098	ppbv	98
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	8.44	63	4371	0.095	ppbv	97
28) cis-1,2-Dichloroethene	9.73	96	2041	0.096	ppbv	86
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	10.19	83	4844	0.093	ppbv	97
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	10.85	42	3529	0.109	ppbv	84
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	11.44	62	3621	0.092	ppbv	96
35) 1,1,1-Trichloroethane	11.94	97	3608	0.093	ppbv	85
36) Carbon tetrachloride	12.95	117	3574	0.094	ppbv	98
37) Benzene	12.70	78	7104	0.097	ppbv	95
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	13.90	63	3662	0.104	ppbv	99
41) 1,4-Dioxane	14.19	88	1522	0.100	ppbv	94
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

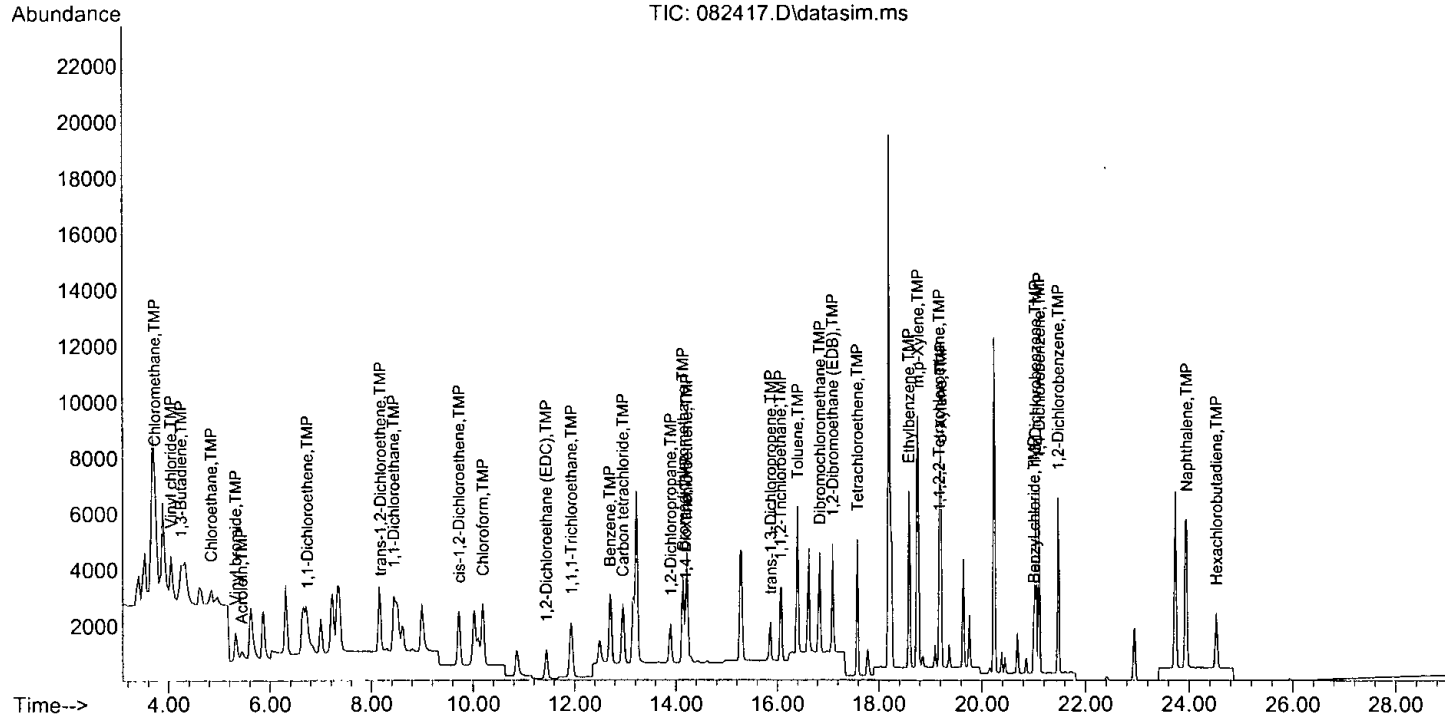
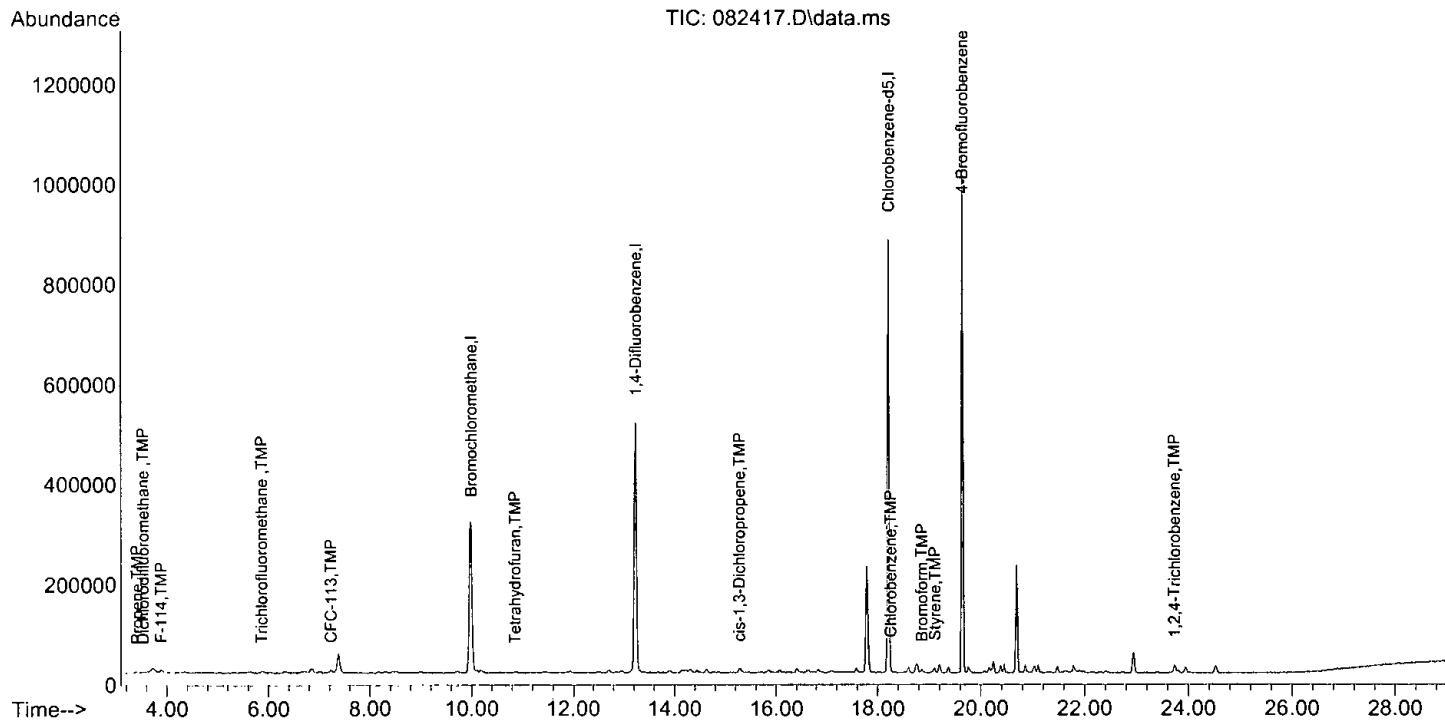
Quant Time: Aug 25 11:17:09 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	14.14	83	5070	0.094	ppbv	94
46) Trichloroethene	14.22	95	3310	0.094	ppbv	82
47) cis-1,3-Dichloropropene	15.27	75	4025	0.112	ppbv	91
48) 4-Methyl-2-pentanone	0.00		0	N.D.		
49) trans-1,3-Dichloropropene	15.87	75	3026	0.099	ppbv	98
50) Toluene	16.40	92	4437m	0.104	ppbv	
51] 1,1,2-Trichloroethane	16.06	83	2957m	0.093	ppbv	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	2232	0.103	ppbv #	79
54] Dibromochloromethane	16.85	129	4079	0.091	ppbv	91
55] 1,2-Dibromoethane (EDB)	17.10	107	4124	0.093	ppbv	89
57) Chlorobenzene	18.25	112	5373	0.101	ppbv	90
58] Ethylbenzene	18.59	91	10482	0.095	ppbv	96
59] 1,1,2,2-Tetrachloroethane	19.17	83	7172	0.094	ppbv	89
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.76	106	6935	0.197	ppbv	90
66] o-Xylene	19.21	106	3395	0.098	ppbv	92
67) Styrene	19.11	104	4884	0.096	ppbv #	53
68) Bromoform	18.85	173	3296	0.083	ppbv	93
70] Benzyl chloride	21.01	91	3183	0.086	ppbv	93
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73] 1,3-Dichlorobenzene	21.04	146	5918	0.104	ppbv	92
74] 1,4-Dichlorobenzene	21.11	146	5597	0.095	ppbv	93
75] 1,2-Dichlorobenzene	21.47	146	5637	0.105	ppbv	94
76) 1,2,4-Trichlorobenzene	23.73	180	6449	0.100	ppbv	92
77] Naphthalene	23.95	128	12787	0.098	ppbv	98
78] Hexachlorobutadiene	24.52	225	4329	0.094	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:17:09 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:17:09 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	0.100	0.098	2.0	98	0.00
3 TMP	Dichlorodifluoromethane	0.100	0.092	8.0	100	0.00
4 TMP	Chloromethane	0.100	0.118	-18.0	100	-0.04
5 TMP	F-114	0.100	0.096	4.0	100	0.00
6 TMP	Vinyl chloride	0.100	0.096	4.0	100	0.00
7 TMP	1,3-Butadiene	0.100	0.099	1.0	100	0.00
8 TMP	Butane	-1.000	0.000	0.0	0	-4.32#
9 TMP	Bromomethane	-1.000	0.000	0.0	0	-4.64#
10 TMP	Chloroethane	0.100	0.104	-4.0	100	0.00
11 TMP	Vinyl bromide	0.100	0.096	4.0	100	0.00
12 TMP	Ethanol	-1.000	0.000	0.0	0	-4.96#
13 TMP	Acrolein	0.100	0.095	5.0	97	0.00
14 TMP	Pentane	-1.000	0.000	0.0	0	-6.33#
15 TMP	Trichlorofluoromethane	0.100	0.100	0.0	100	-0.02
16 TMP	Acetone	-1.000	0.000	0.0	0	-5.59#
17 TMP	2-Propanol	-1.000	0.000	0.0	0	-5.86#
18 TMP	1,1-Dichloroethene	0.100	0.098	2.0	100	0.00
19 TMP	trans-1,2-Dichloroethene	0.100	0.097	3.0	100	0.00
20 TMP	Methylene chloride	-1.000	0.000	0.0	0	-6.86#
21 TMP	t-Butyl alcohol (TBA)	-1.000	0.000	0.0	0	-6.65#
22 TMP	3-Chloropropene	-1.000	0.000	0.0	0	-7.01#
23 TMP	CFC-113	0.100	0.098	2.0	100	0.00
24 TMP	Carbon disulfide	-1.000	0.000	0.0	0	-7.33#
25 TMP	Methyl t-butyl ether (MTBE)	-1.000	0.000	0.0	0	-8.51#
26 TMP	Vinyl acetate	-1.000	0.000	0.0	0	-8.62#
27 TMP	1,1-Dichloroethane	0.100	0.095	5.0	100	0.00
28 TMP	cis-1,2-Dichloroethene	0.100	0.096	4.0	100	0.00
29 TMP	Hexane	-1.000	0.000	0.0	0	-10.11#
30 TMP	Chloroform	0.100	0.093	7.0	100	0.00
31 TMP	Ethyl acetate	-1.000	0.000	0.0	0	-10.01#
32 TMP	Tetrahydrofuran	0.100	0.109	-9.0	100	0.00
33 TMP	2-Butanone (MEK)	-1.000	0.000	0.0	0	-8.99#
34 TMP	1,2-Dichloroethane (EDC)	0.100	0.092	8.0	100	0.00
35 TMP	1,1,1-Trichloroethane	0.100	0.093	7.0	100	0.00
36 TMP	Carbon tetrachloride	0.100	0.094	6.0	100	0.00
37 TMP	Benzene	0.100	0.097	3.0	100	0.00
38 TMP	Cyclohexane	-1.000	0.000	0.0	0	-13.16#
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.100	0.104	-4.0	106	0.00
41 TMP	1,4-Dioxane	0.100	0.100	0.0	100	0.03
42 TMP	2,2,4-Trimethylpentane	-1.000	0.000	0.0	0	-14.31#
43 TMP	Methyl methacrylate	-1.000	0.000	0.0	0	-14.43#
44 TMP	Heptane	-1.000	0.000	0.0	0	-14.63#
45 TMP	Bromodichloromethane	0.100	0.094	6.0	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:17:09 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.100	0.094	6.0	100	0.00
47 TMP cis-1,3-Dichloropropene	0.100	0.112	-12.0	100	0.00
48 TMP 4-Methyl-2-pentanone	-1.000	0.000	0.0	0	-15.29#
49 TMP trans-1,3-Dichloropropene	0.100	0.099	1.0	100	0.02
50 TMP Toluene	0.100	0.104	-4.0	101	0.00
51 TMP 1,1,2-Trichloroethane	0.100	0.093	7.0	94	0.00
52 TMP 2-Hexanone	-1.000	0.000	0.0	0	-16.62#
53 TMP Tetrachloroethene	0.100	0.103	-3.0	103	0.00
54 TMP Dibromochloromethane	0.100	0.091	9.0	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.100	0.093	7.0	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	0.100	0.101	-1.0	100	0.00
58 TMP Ethylbenzene	0.100	0.095	5.0	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.100	0.094	6.0	100	-0.02
60 TMP Nonane	-1.000	0.000	0.0	0	-19.36#
61 TMP Isopropylbenzene	-1.000	0.000	0.0	0	-19.75#
62 TMP 2-Chlorotoluene	-1.000	0.000	0.0	0	-20.23#
63 TMP Propylbenzene	-1.000	0.000	0.0	0	-20.25#
64 TMP 4-Ethyltoluene	-1.000	0.000	0.0	0	-20.38#
65 TMP m,p-Xylene	0.200	0.197	1.5	100	0.00
66 TMP o-Xylene	0.100	0.098	2.0	100	0.00
67 TMP Styrene	0.100	0.096	4.0	100	0.00
68 TMP Bromoform	0.100	0.083	17.0	100	0.00
69 S 4-Bromofluorobenzene	10.000	9.962	0.4	100	0.00
70 TMP Benzyl chloride	0.100	0.086	14.0	100	0.00
71 TMP 1,3,5-Trimethylbenzene	-1.000	0.000	0.0	0	-20.45#
72 TMP 1,2,4-Trimethylbenzene	-1.000	0.000	0.0	0	-20.86#
73 TMP 1,3-Dichlorobenzene	0.100	0.104	-4.0	100	0.00
74 TMP 1,4-Dichlorobenzene	0.100	0.095	5.0	100	0.00
75 TMP 1,2-Dichlorobenzene	0.100	0.105	-5.0	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.100	0.100	0.0	100	0.00
77 TMP Naphthalene	0.100	0.098	2.0	100	0.02
78 TMP Hexachlorobutadiene	0.100	0.094	6.0	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:17:09 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP Propene	1.710	1.673	2.2	98	0.00
3 TMP Dichlorodifluoromethane	4.425	4.076	7.9	100	0.00
4 TMP Chloromethane	2.075	2.456	-18.4	100	-0.04
5 TMP F-114	4.450	4.271	4.0	100	0.00
6 TMP Vinyl chloride	2.209	2.114	4.3	100	0.00
7 TMP 1,3-Butadiene	1.529	1.506	1.5	100	0.00
8 TMP Butane	3.248	0.000	100.0#	0#	-4.32#
9 TMP Bromomethane	1.540	0.000#	100.0#	0#	-4.64#
10 TMP Chloroethane	0.759	0.786	-3.6	100	0.00
11 TMP Vinyl bromide	1.785	1.709	4.3	100	0.00
12 TMP Ethanol	0.559	0.000	100.0#	0#	-4.96#
13 TMP Acrolein	0.726	0.688	5.2	97	0.00
14 TMP Pentane	3.891	0.000#	100.0#	0#	-6.33#
15 TMP Trichlorofluoromethane	4.934	4.916	0.4	100	-0.02
16 TMP Acetone	0.880	0.000#	100.0#	0#	-5.59#
17 TMP 2-Propanol	3.556	0.000	100.0#	0#	-5.86#
18 TMP 1,1-Dichloroethene	1.648	1.613	2.1	100	0.00
19 TMP trans-1,2-Dichloroethene	1.626	1.583	2.6	100	0.00
20 TMP Methylene chloride	1.750	0.000#	100.0#	0#	-6.86#
21 TMP t-Butyl alcohol (TBA)	2.881	0.000	100.0#	0#	-6.65#
22 TMP 3-Chloropropene	2.910	0.000	100.0#	0#	-7.01#
23 TMP CFC-113	3.396	3.313	2.4	100	0.00
24 TMP Carbon disulfide	5.738	0.000	100.0#	0#	-7.33#
25 TMP Methyl t-butyl ether (MTBE)	3.820	0.000#	100.0#	0#	-8.51#
26 TMP Vinyl acetate	2.562	0.000#	100.0#	0#	-8.62#
27 TMP 1,1-Dichloroethane	3.850	3.657	5.0	100	0.00
28 TMP cis-1,2-Dichloroethene	1.780	1.708	4.0	100	0.00
29 TMP Hexane	2.959	0.000	100.0#	0#	-10.11#
30 TMP Chloroform	4.366	4.053	7.2	100	0.00
31 TMP Ethyl acetate	6.229	0.000	100.0#	0#	-10.01#
32 TMP Tetrahydrofuran	2.703	2.953	-9.2	100	0.00
33 TMP 2-Butanone (MEK)	0.712	0.000	100.0#	0#	-8.99#
34 TMP 1,2-Dichloroethane (EDC)	3.285	3.030	7.8	100	0.00
35 TMP 1,1,1-Trichloroethane	3.232	3.019	6.6	100	0.00
36 TMP Carbon tetrachloride	3.178	2.990	5.9	100	0.00
37 TMP Benzene	6.123	5.944	2.9	100	0.00
38 TMP Cyclohexane	1.669	0.000	100.0#	0#	-13.16#
39 I 1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP 1,2-Dichloropropane	0.618	0.646	-4.5	106	0.00
41 TMP 1,4-Dioxane	0.270	0.268	0.7	100	0.03
42 TMP 2,2,4-Trimethylpentane	2.076	0.000	100.0#	0#	-14.31#
43 TMP Methyl methacrylate	0.567	0.000	100.0#	0#	-14.43#
44 TMP Heptane	0.959	0.000	100.0#	0#	-14.63#
45 TMP Bromodichloromethane	0.953	0.894	6.2	100	0.00



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082417.D  
 Acq On : 24 Aug 2021 5:47 pm  
 Operator : bat  
 Sample : 0.1 ppbv 64-87c  
 Misc : T2, 250cc of 0.1ppbv  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:17:09 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.584	5.5	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.710	-11.6	100	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.000	100.0#	0#	-15.29#
49 TMP trans-1,3-Dichloropropene	0.540	0.534	1.1	100	0.02
50 TMP Toluene	0.749	0.782	-4.4	101	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.521	7.5	94	0.00
52 TMP 2-Hexanone	1.055	0.000#	100.0#	0#	-16.62#
53 TMP Tetrachloroethene	0.381	0.394	-3.4	103	0.00
54 TMP Dibromochloromethane	0.787	0.719	8.6	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.727	6.7	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	1.087	-1.5	100	0.00
58 TMP Ethylbenzene	2.221	2.120	4.5	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.451	6.3	100	-0.02
60 TMP Nonane	1.679	0.000	100.0#	0#	-19.36#
61 TMP Isopropylbenzene	1.948	0.000	100.0#	0#	-19.75#
62 TMP 2-Chlorotoluene	0.463	0.000	100.0#	0#	-20.23#
63 TMP Propylbenzene	4.322	0.000	100.0#	0#	-20.25#
64 TMP 4-Ethyltoluene	2.027	0.000	100.0#	0#	-20.38#
65 TMP m,p-Xylene	0.713	0.701	1.7	100	0.00
66 TMP o-Xylene	0.701	0.687	2.0	100	0.00
67 TMP Styrene	1.032	0.988	4.3	100	0.00
68 TMP Bromoform	0.801	0.667	16.7	100	0.00
69 S 4-Bromofluorobenzene	0.906	0.903	0.3	100	0.00
70 TMP Benzyl chloride	0.751	0.644	14.2	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	0.000	100.0#	0#	-20.45#
72 TMP 1,2,4-Trimethylbenzene	1.679	0.000	100.0#	0#	-20.86#
73 TMP 1,3-Dichlorobenzene	1.154	1.197	-3.7	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.132	1.7	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.140	-4.5	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	1.304	-37.3#	100	0.00
77 TMP Naphthalene	2.538	2.586	-1.9	100	0.02
78 TMP Hexachlorobutadiene	0.852	0.876	-2.8	100	0.00

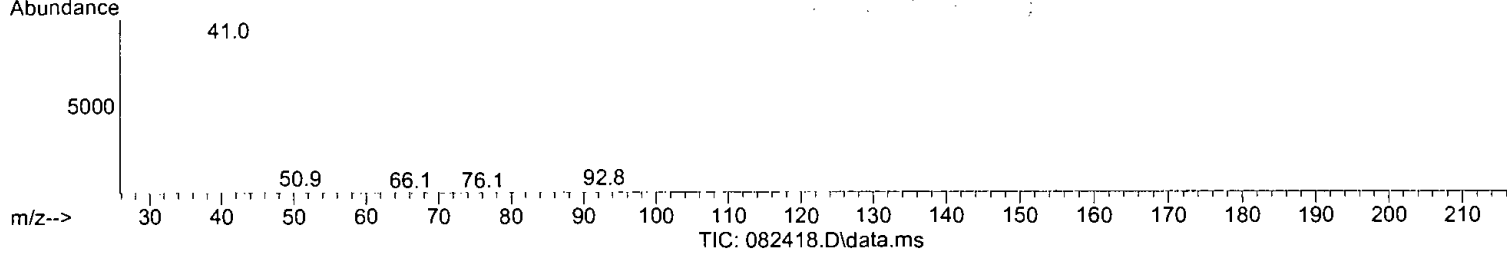
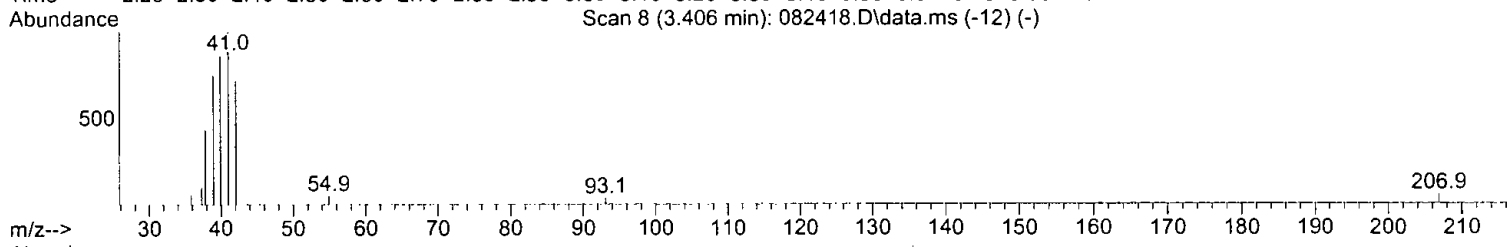
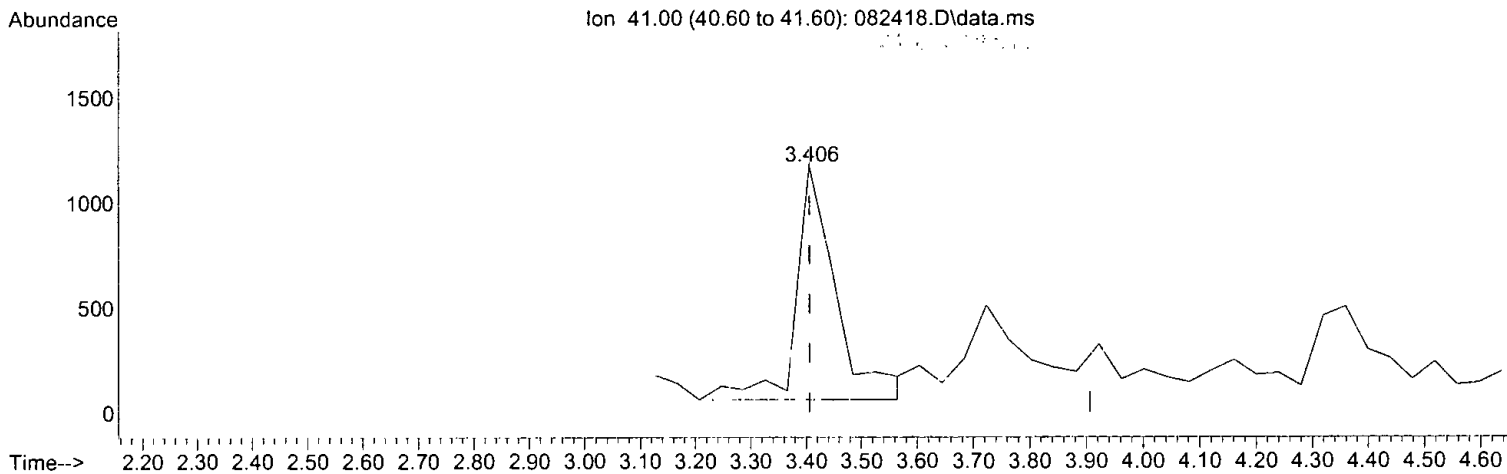
(#) = Out of Range

SPCC's out = 7 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(2) Propene (TMP)

3.406min (-0.000) 0.284 ppbv

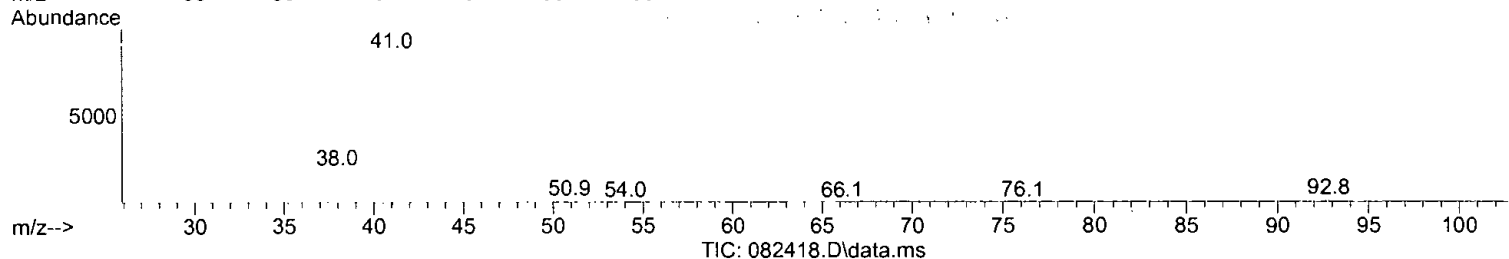
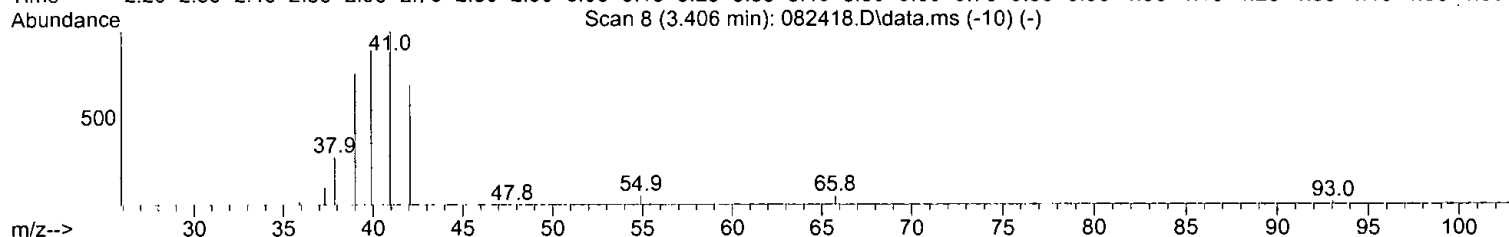
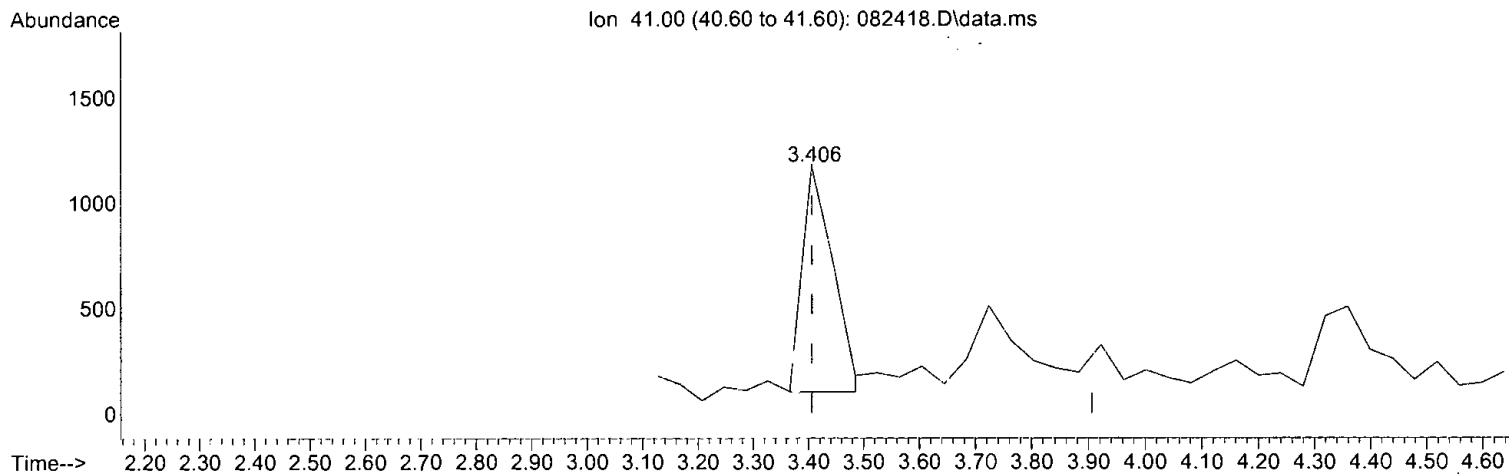
response	5634		
Ion	Exp%	Act%	
41.00	100.00	100.00	
39.00	75.60	68.05	
27.00	0.00	0.00	
0.00	0.00	0.00	

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Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(2) Propene (TMP)

3.406min (-0.000) 0.211 ppbv m

response 4173

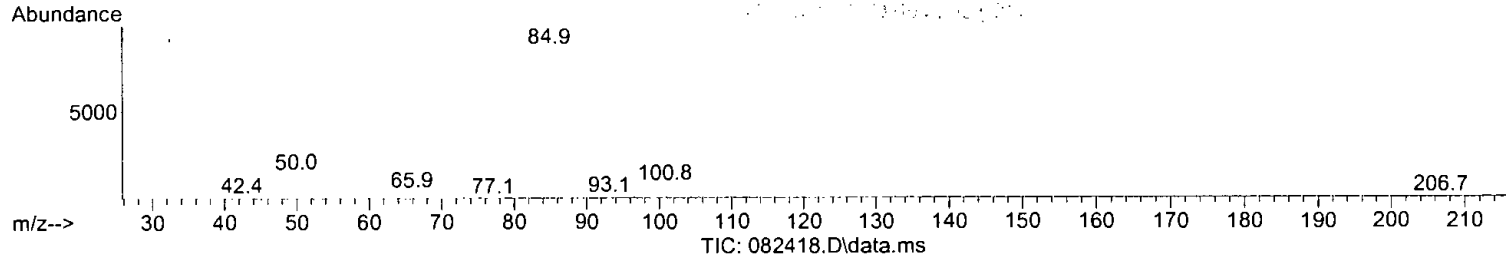
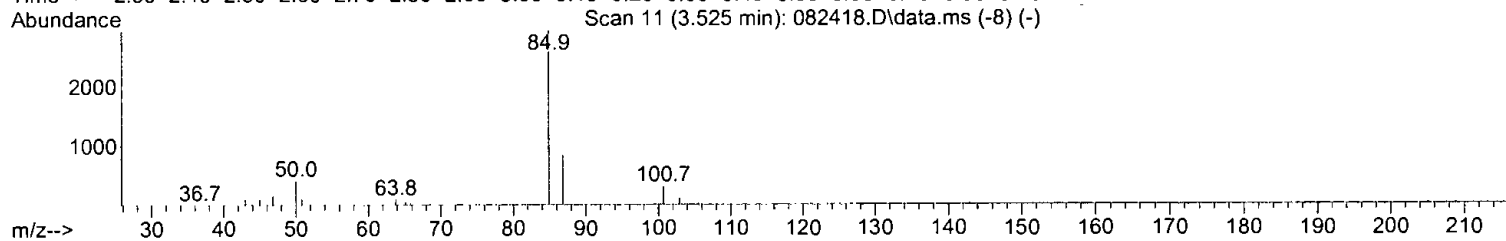
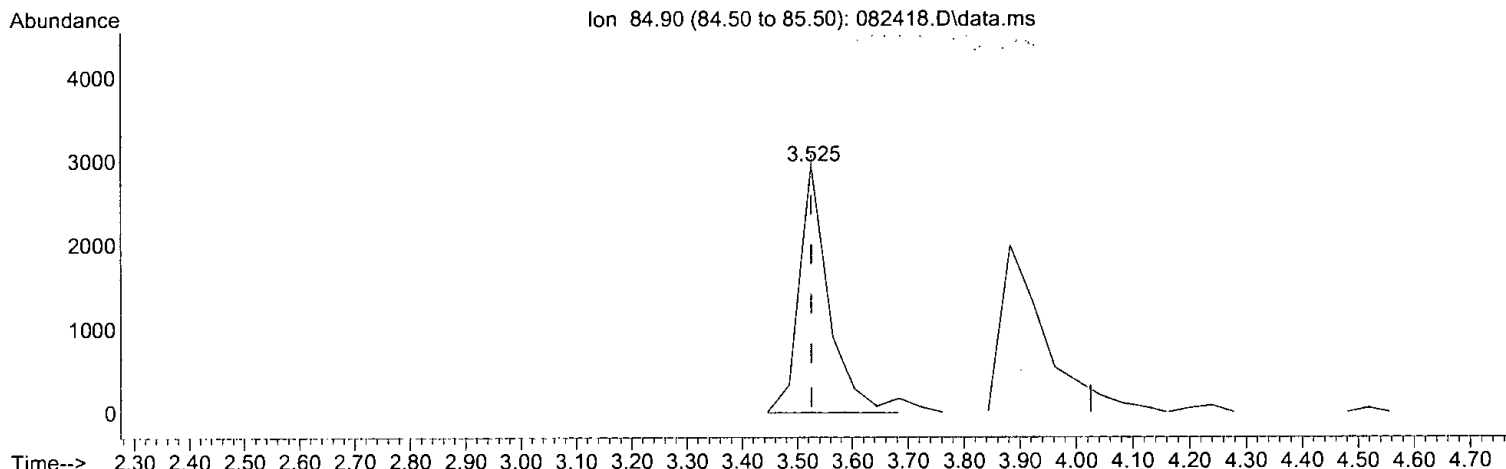
Ion	Exp%	Act%
41.00	100.00	100.00
39.00	75.60	84.98
27.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



~~(3) Dichlorodifluoromethane (TMP)~~

~~3.525min (-0.000) 0.221 ppbv~~

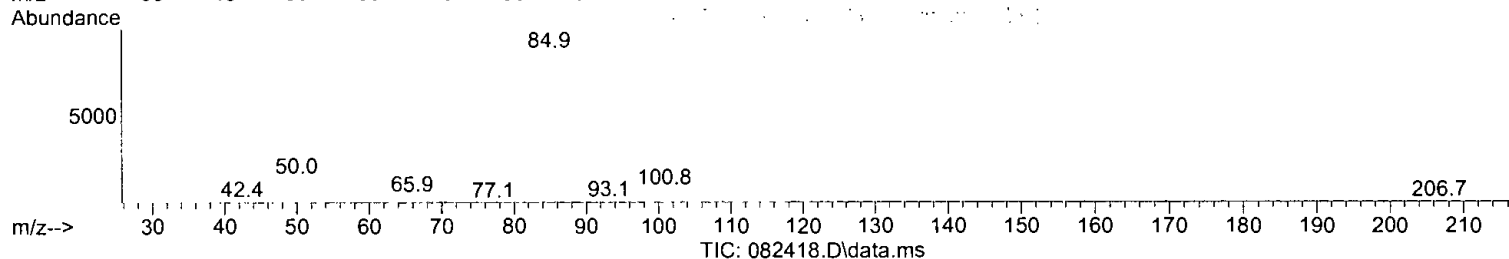
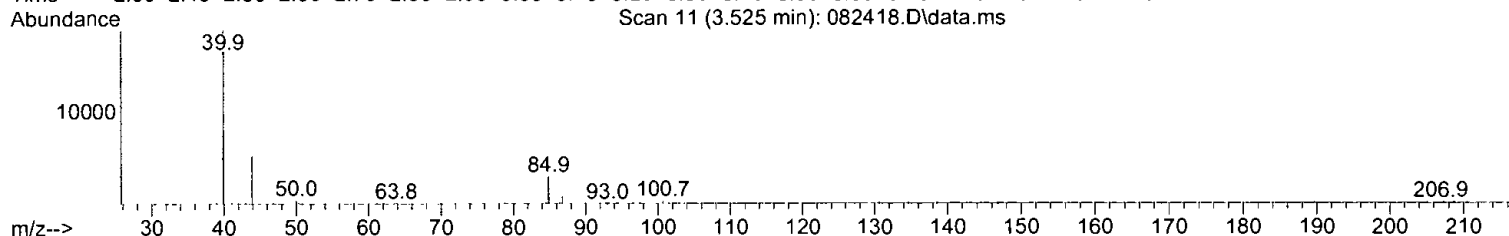
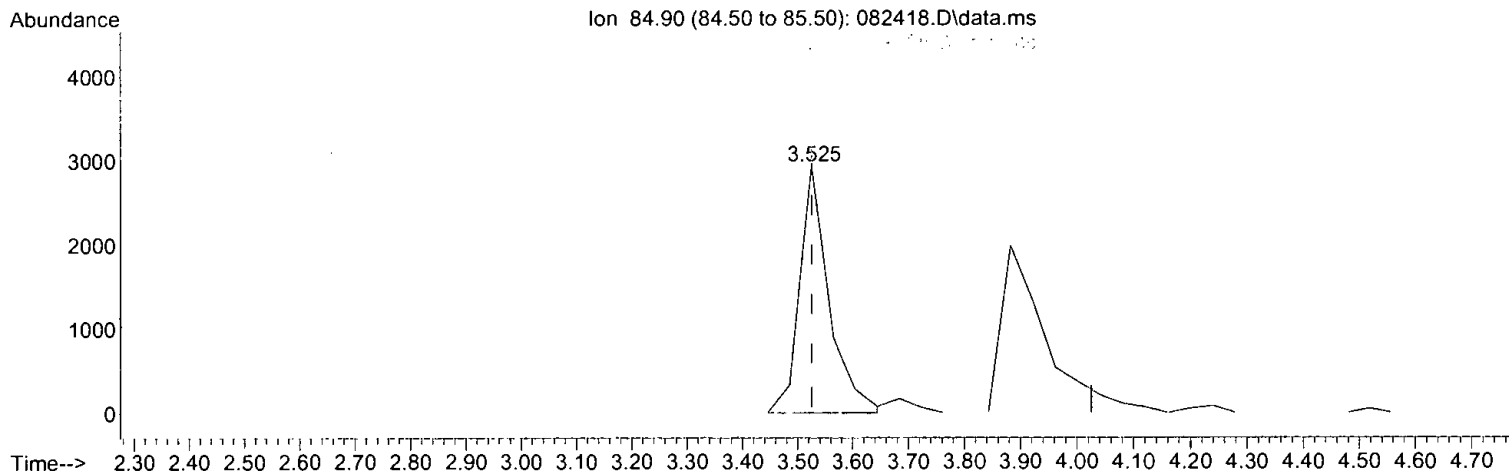
response	11357		
Ion	Exp%	Act%	
84.90	100.00	100.00	
86.90	32.20	28.58	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS8125ku

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) Dichlorodifluoromethane (TMP)

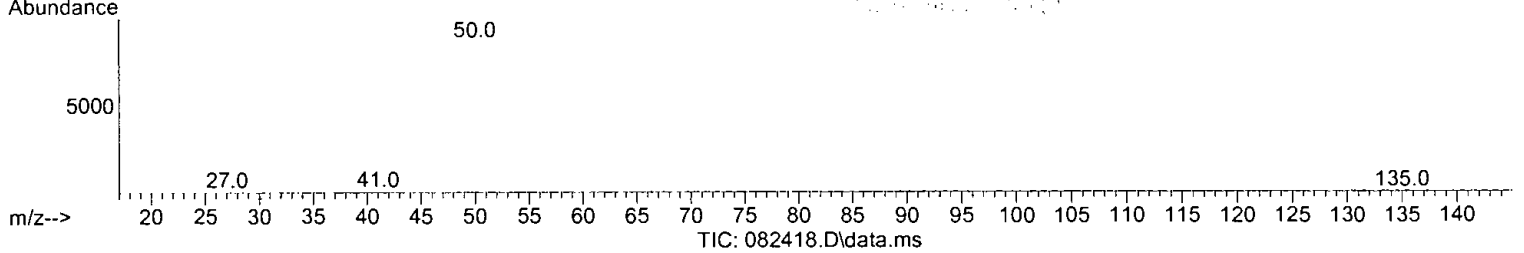
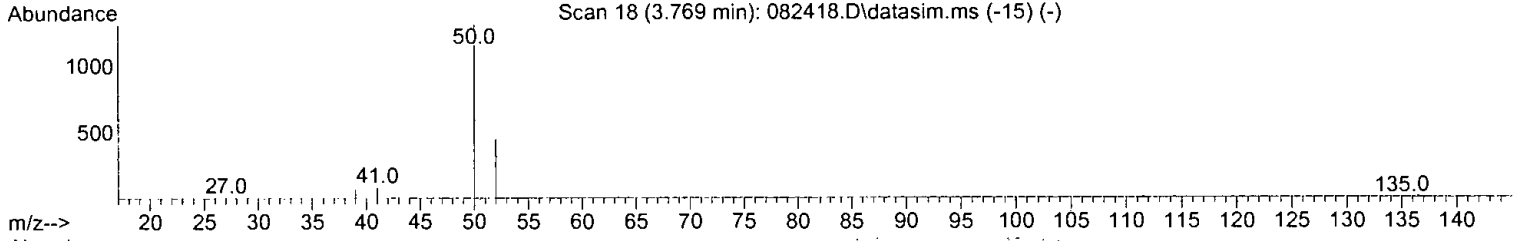
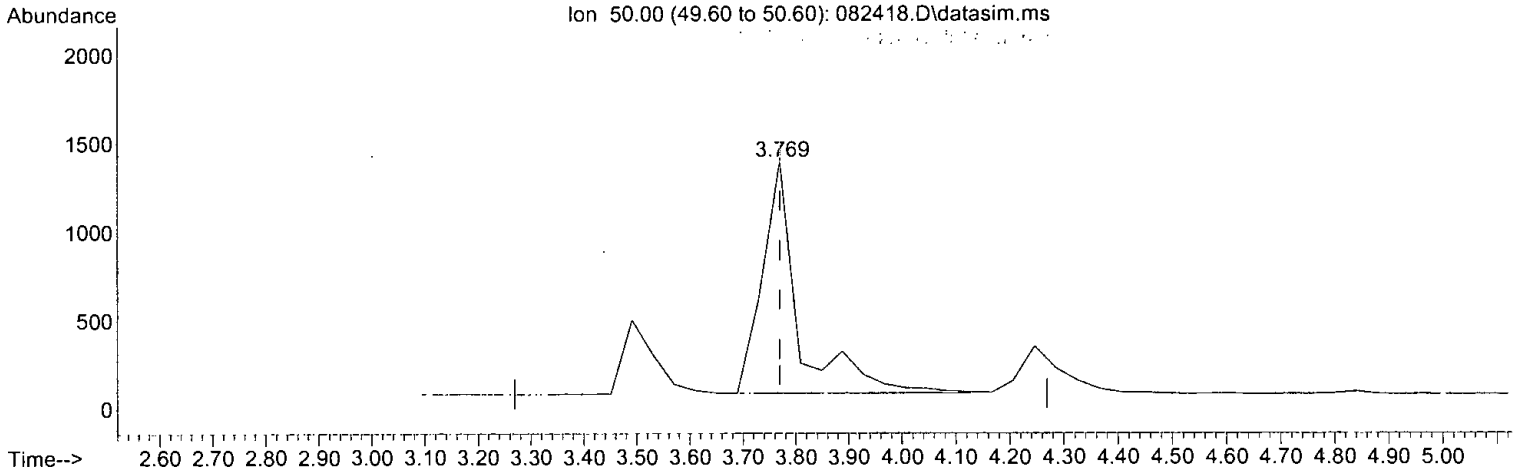
3.525min (-0.000) 0.211 ppbv m

response	10801	
Ion	Exp%	Act%
84.90	100.00	100.00
86.90	32.20	28.58
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (+ 0.000) 0.258 ppbv

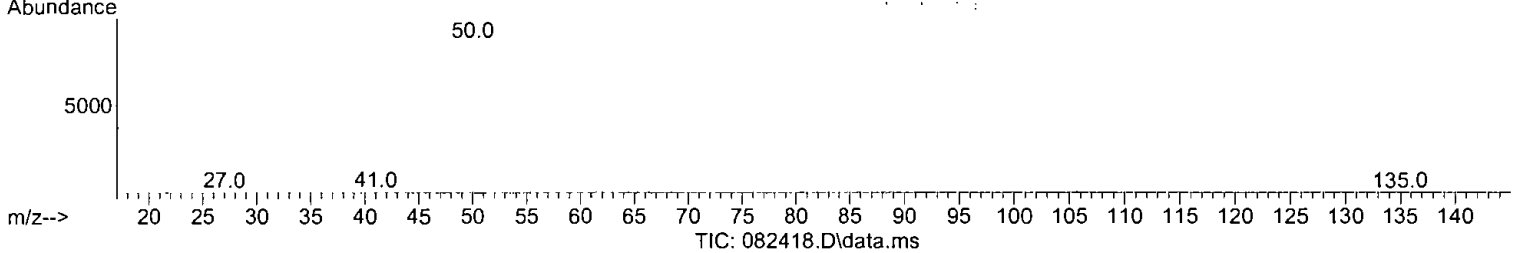
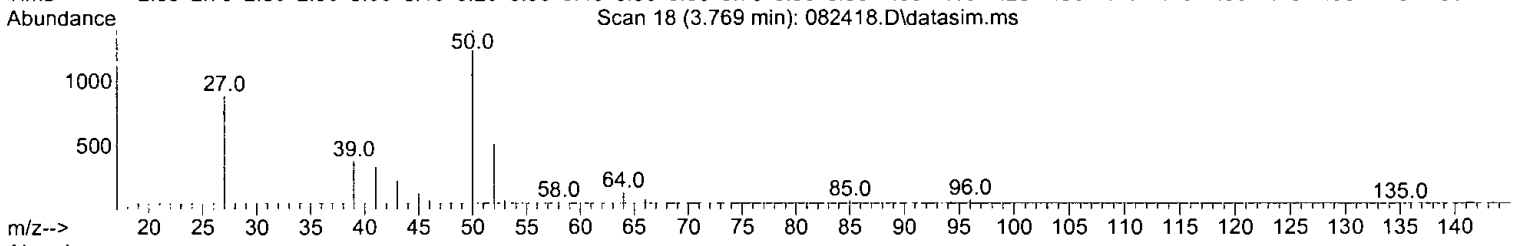
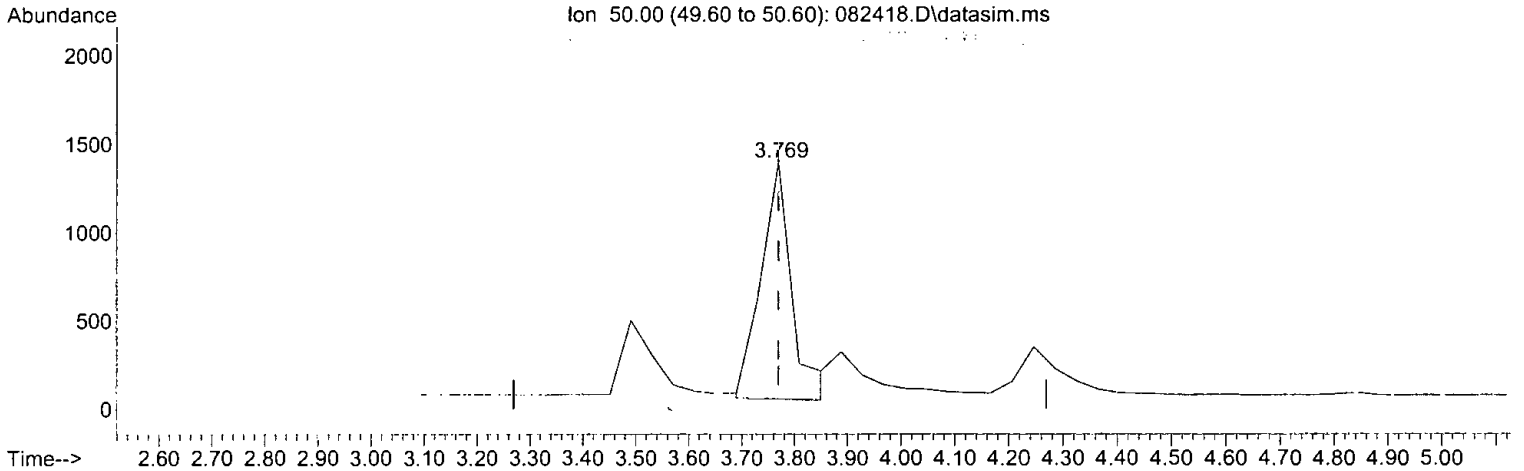
response	6218		
Ion	Exp%	Act%	
50.00	100.00	100.00	
51.90	25.30	33.92	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (+ 0.000) 0.223 ppbv m

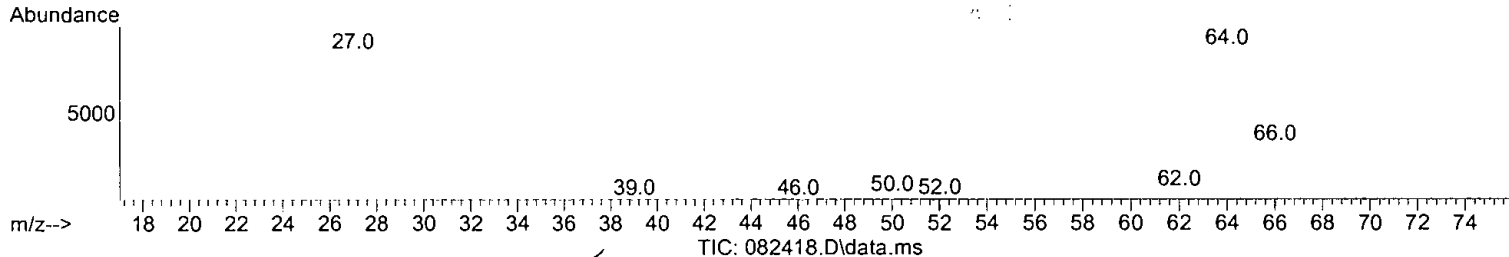
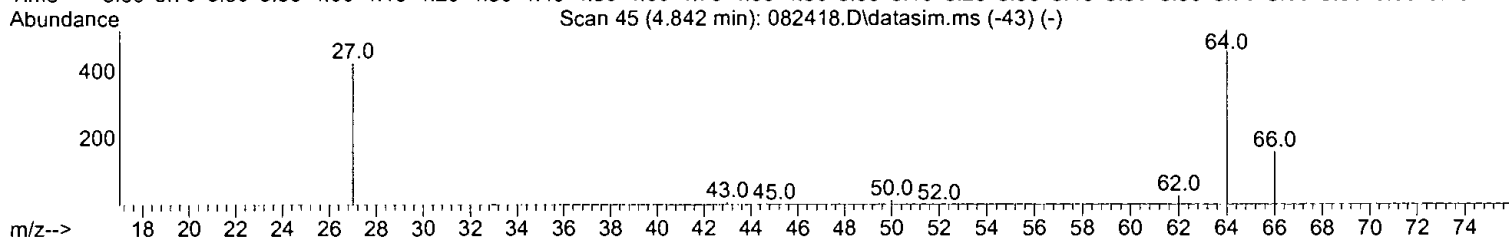
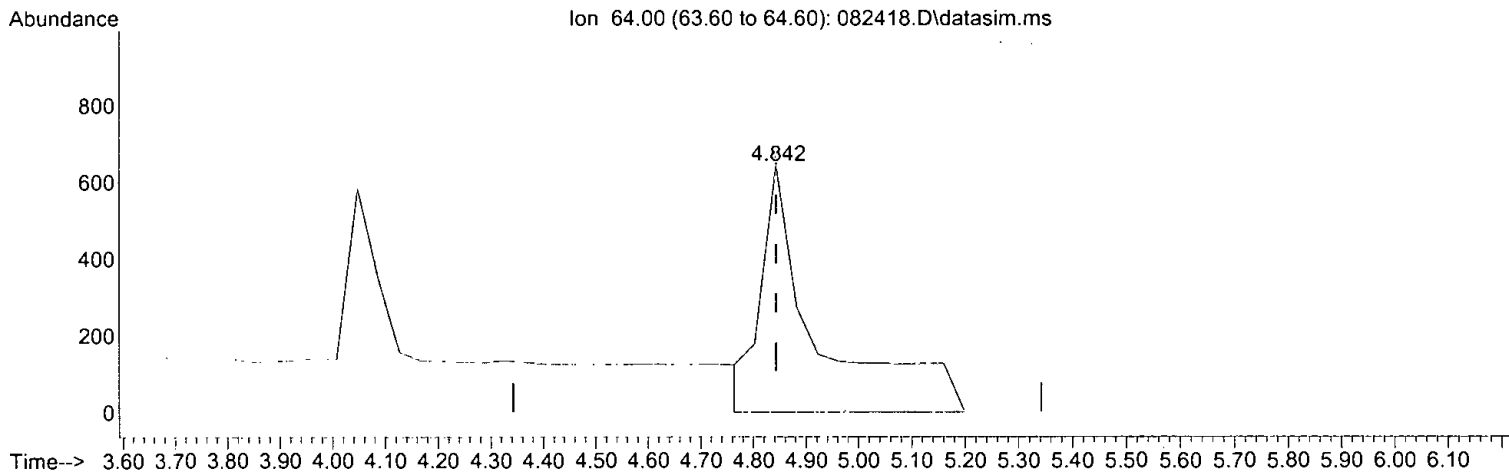
response	5374
Ion	Exp% Act%
50.00	100.00 100.00
51.90	25.30 37.15
0.00	0.00 0.00
0.00	0.00 0.00

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Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 0.523 ppbv

response	4603		
Ion	Exp%	Act%	
64.00	100.00	100.00	
66.00	31.80	37.89	
0.00	0.00	0.00	
0.00	0.00	0.00	

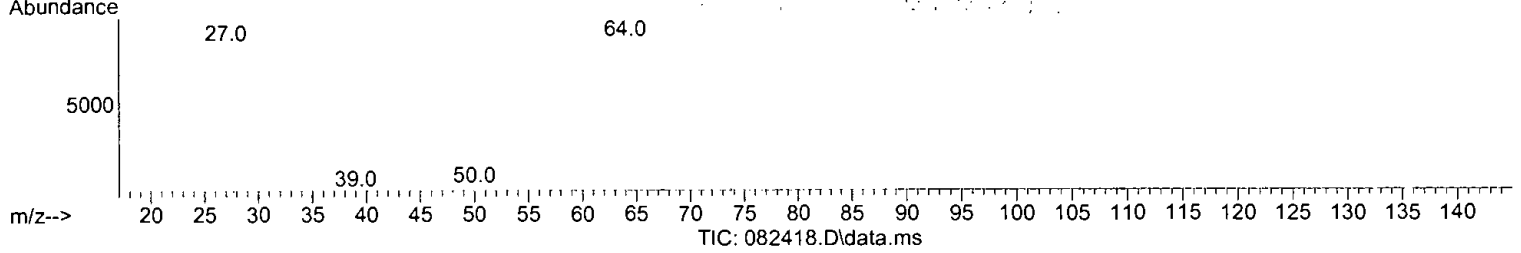
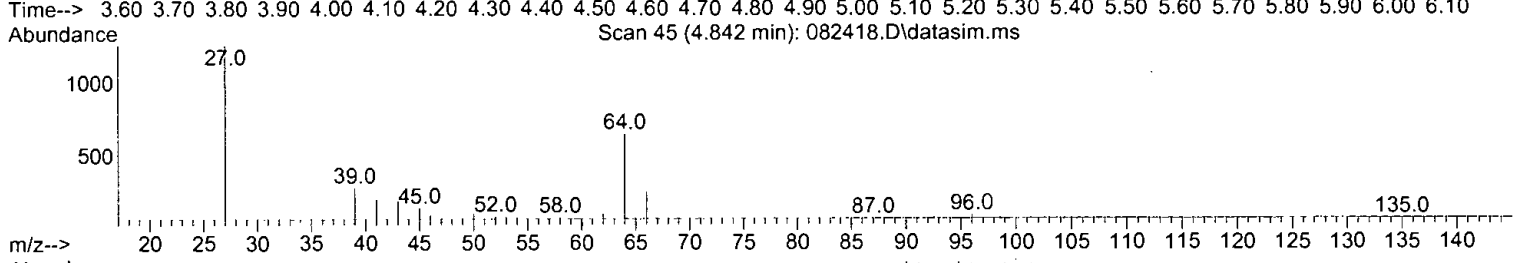
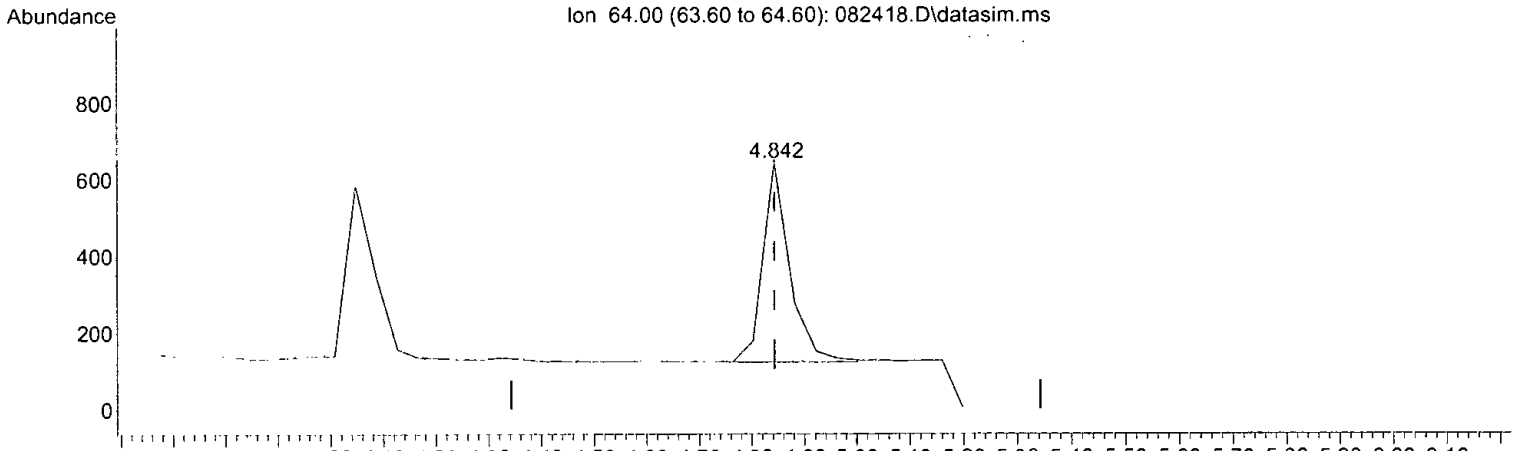
AS8/25/21



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 0.209 ppbv m

response 1838

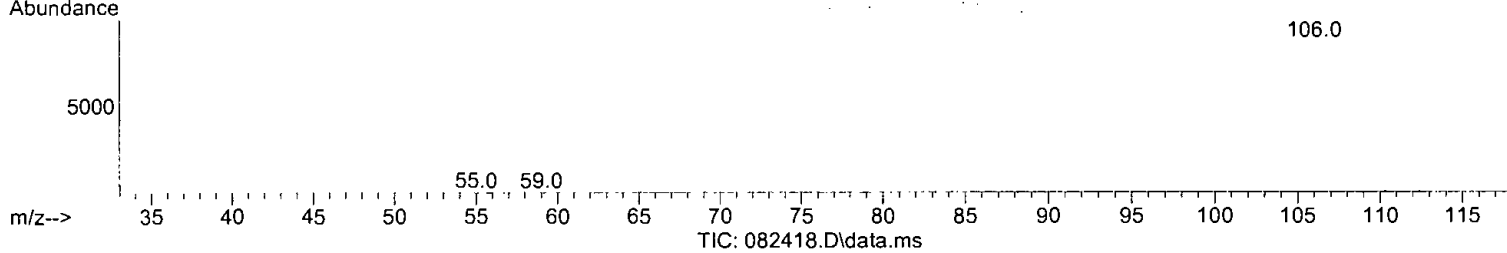
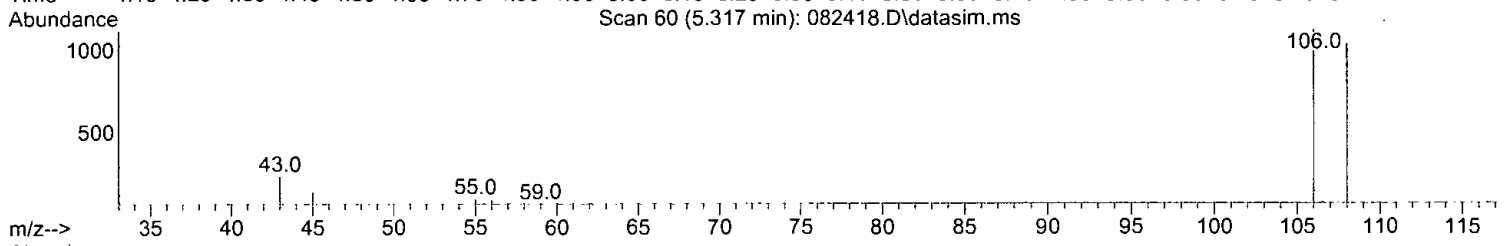
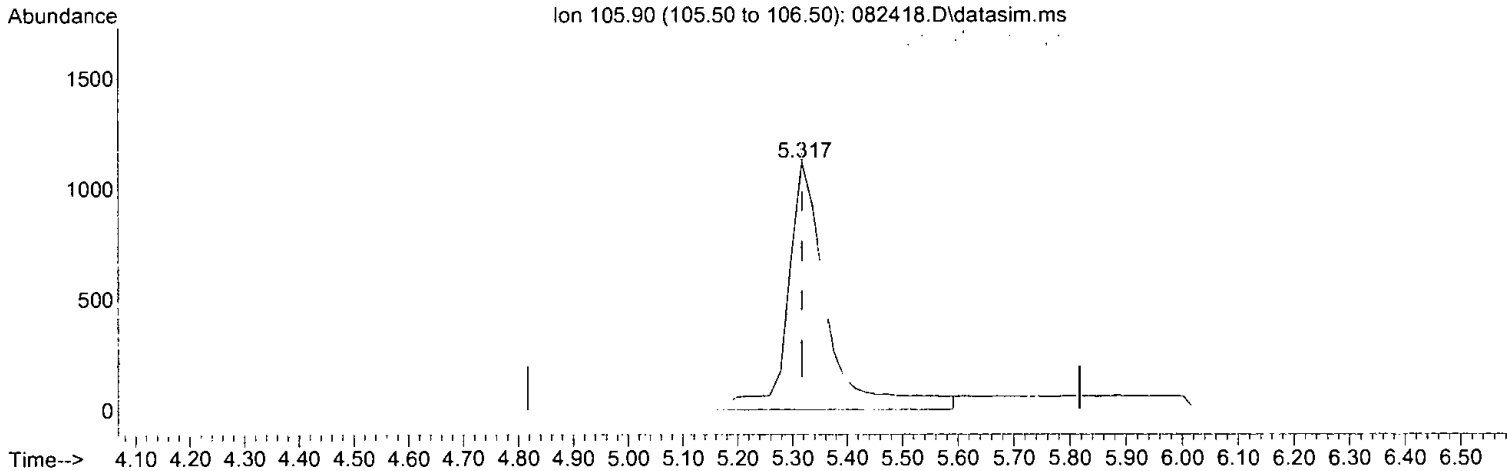
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	37.89
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (+ 0.000) 0.293 ppbv

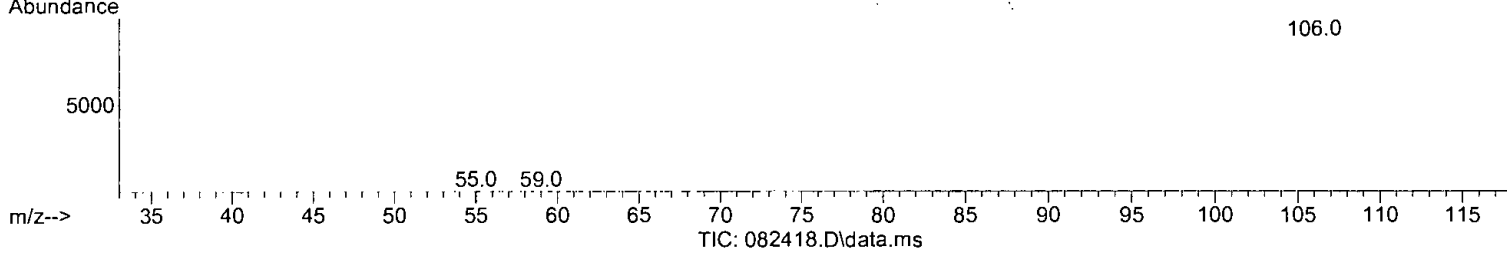
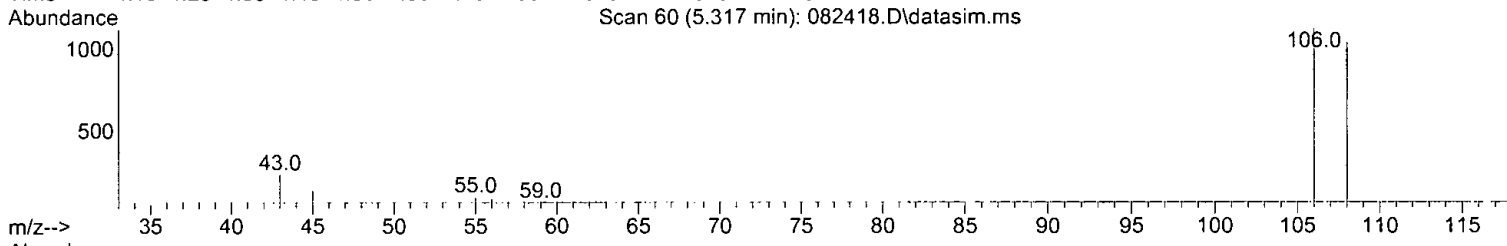
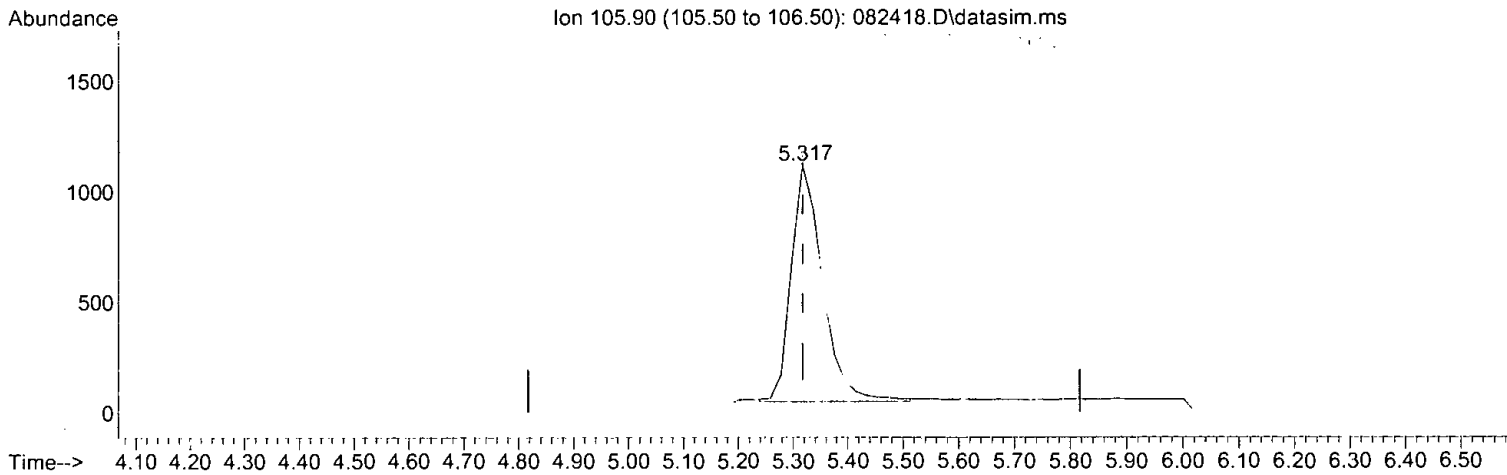
response	6075
Ion	Exp% Act%
105.90	100.00 100.00
107.90	94.10 97.38
0.00	0.00 0.00
0.00	0.00 0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
Data File : 082418.D  
Acq On : 24 Aug 2021 6:25 pm  
Operator : bat  
Sample : 0.2 ppbv 64-87b  
Misc : T3, 50cc of 1ppbv  
ALS Vial : 18 Sample Multiplier: 1  
InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
Quant Title : TO-15 SS method  
QLast Update : Wed Aug 25 09:28:09 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (+ 0.000) 0.205 ppbv m

response 4242

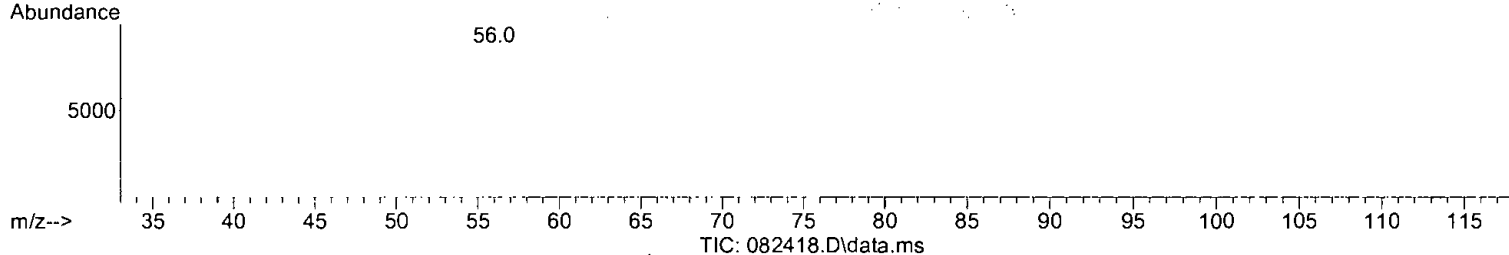
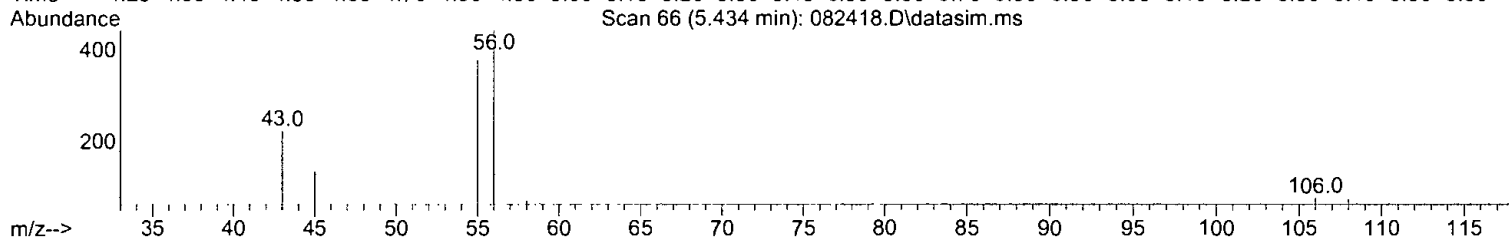
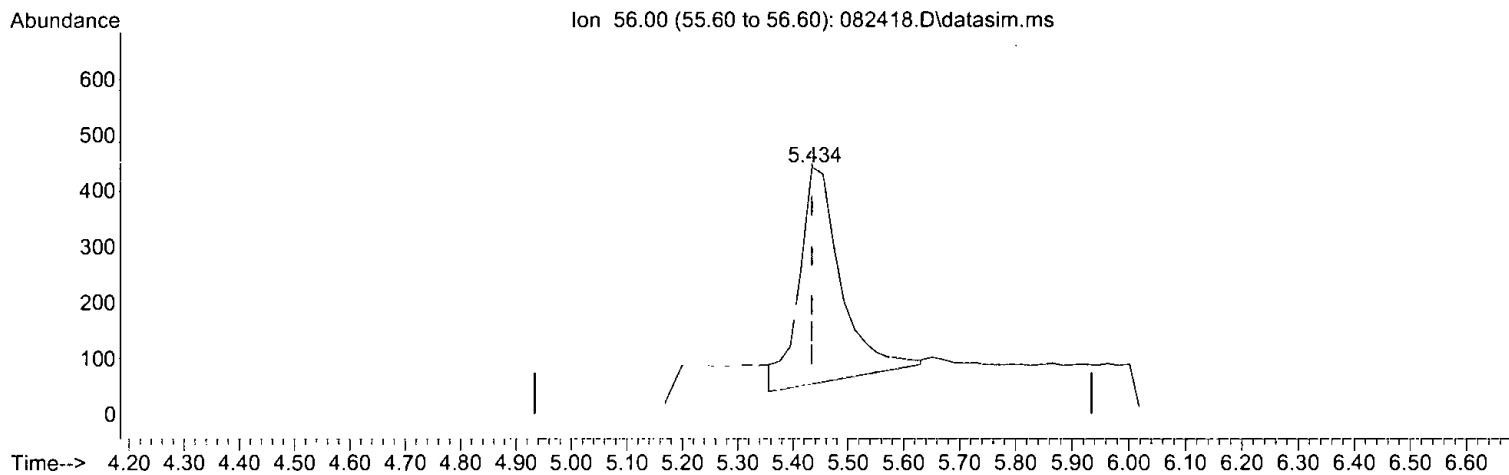
Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	139.46#
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of lppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.434min (+ 0.000) 0.242 ppbv

response 2041

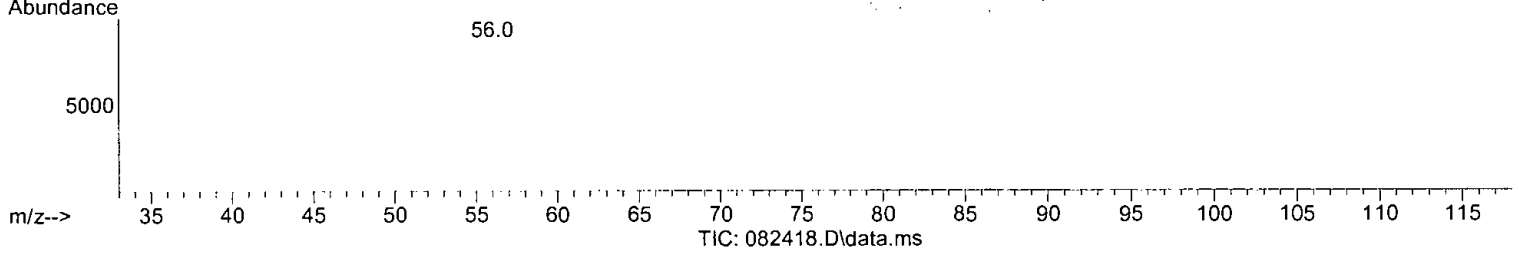
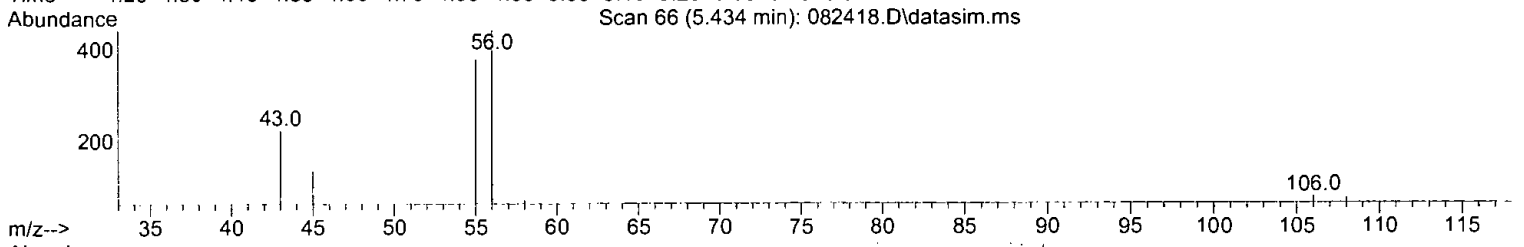
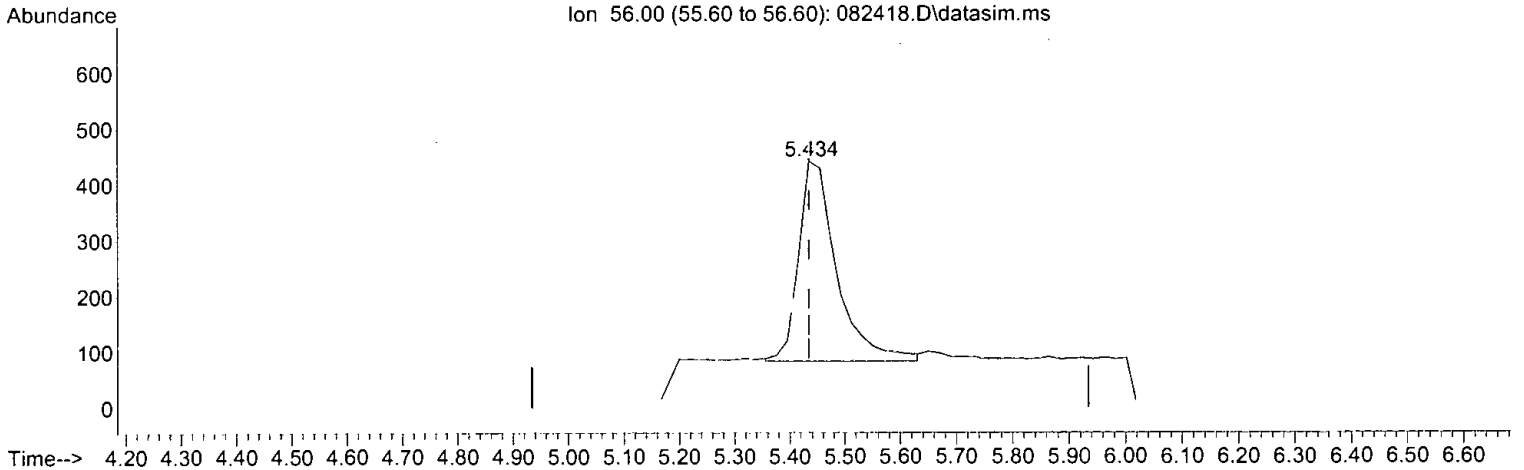
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	187.46#
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of lppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.434min (+ 0.000) 0.203 ppbv m

response 1712

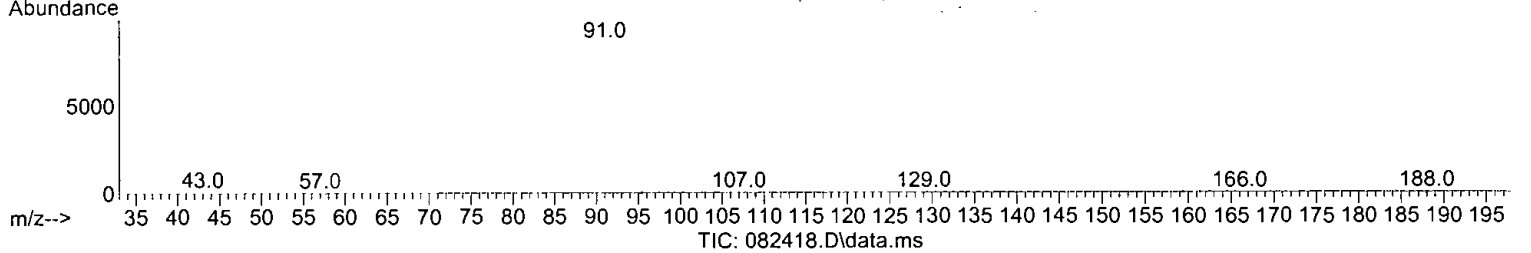
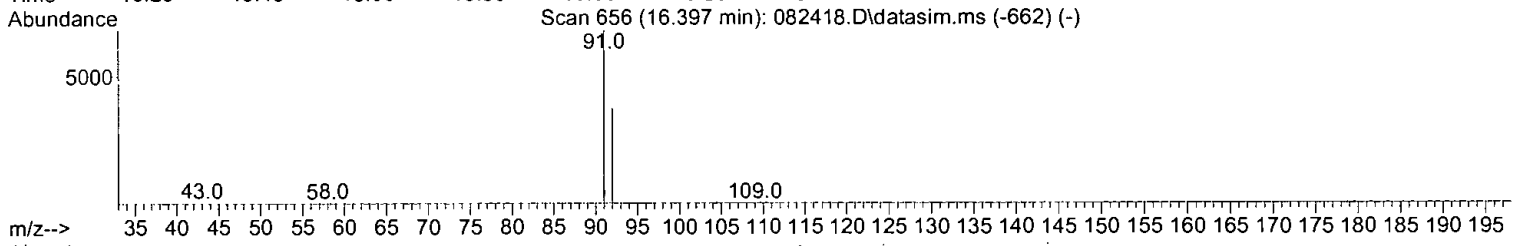
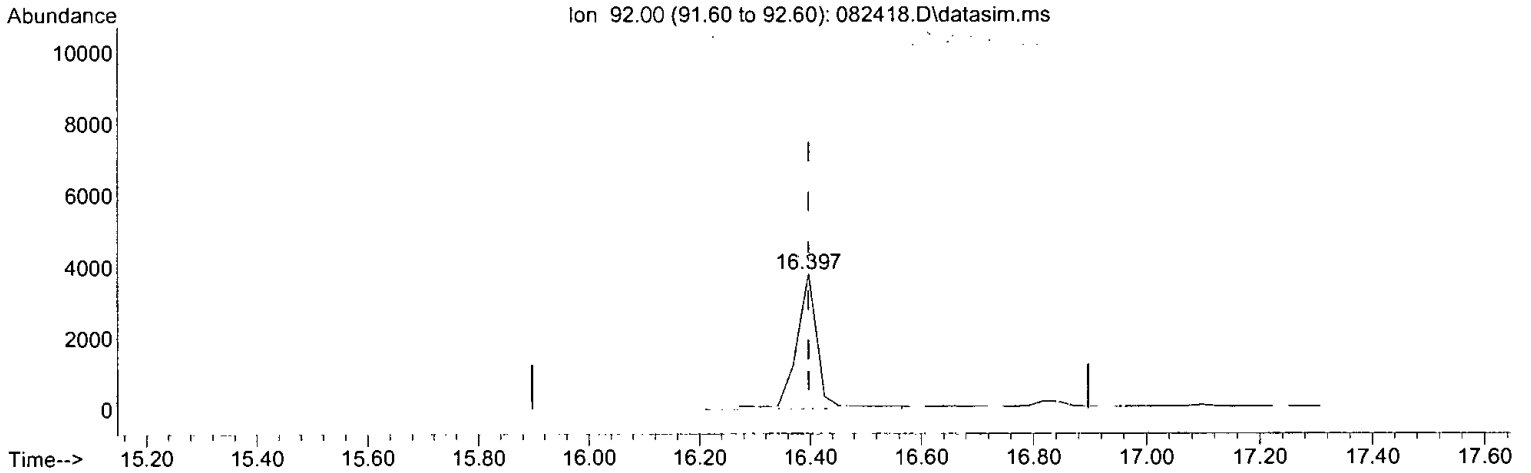
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	223.48#
0.00	0.00	0.00
0.00	0.00	0.00

*AS 8/25/21*

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(50) Toluene (TMP)

16.397min (+ 0.000) 0.234 ppbv

response 9883

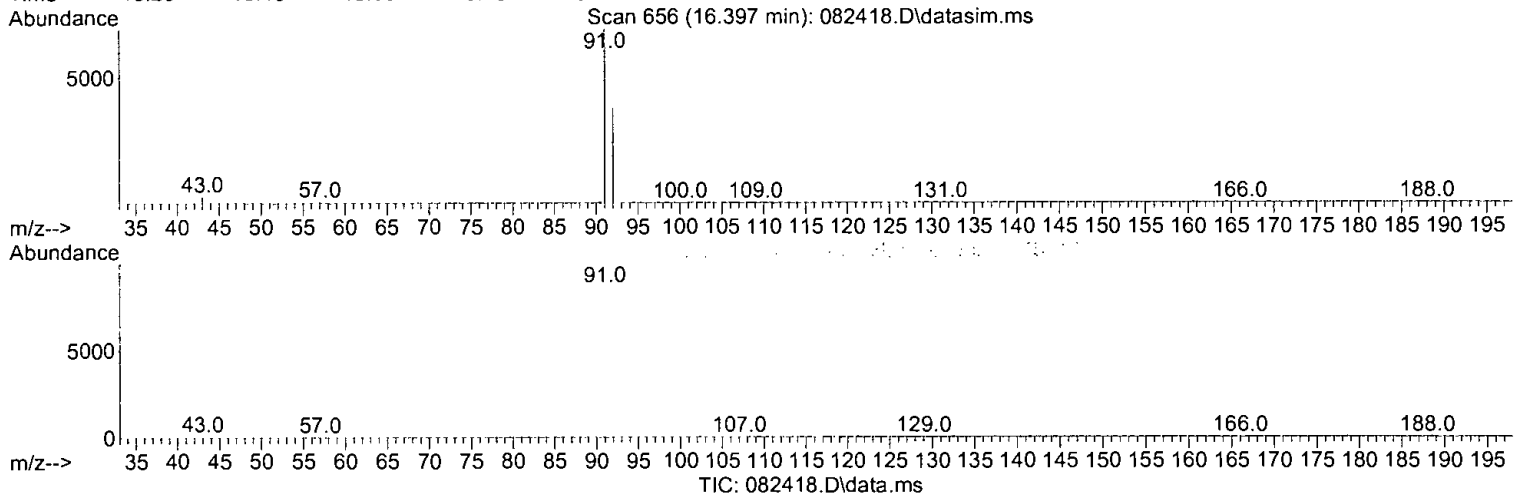
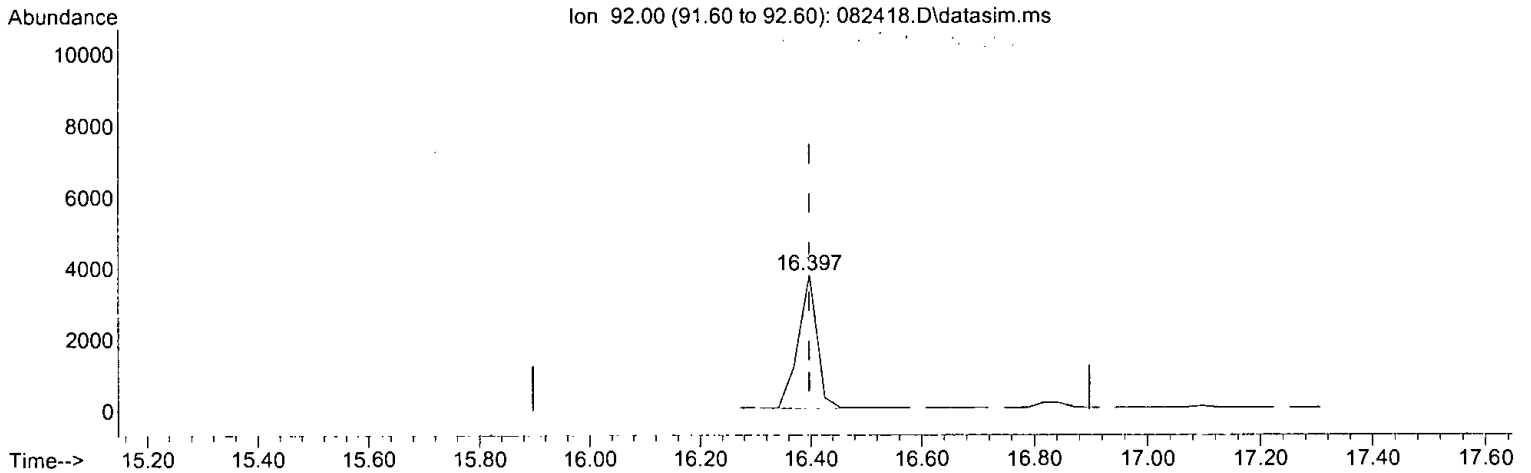
Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	182.01
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(50) Toluene (TMP)

16.397min (+ 0.000) 0.208 ppbv m

response 8773

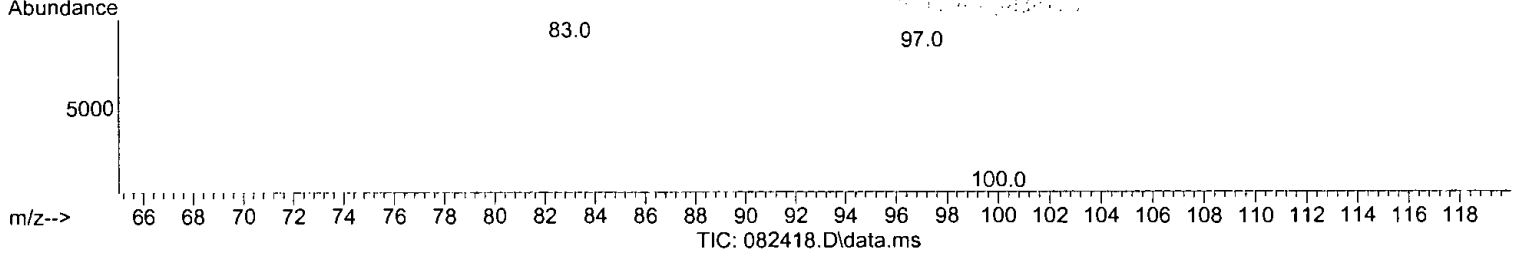
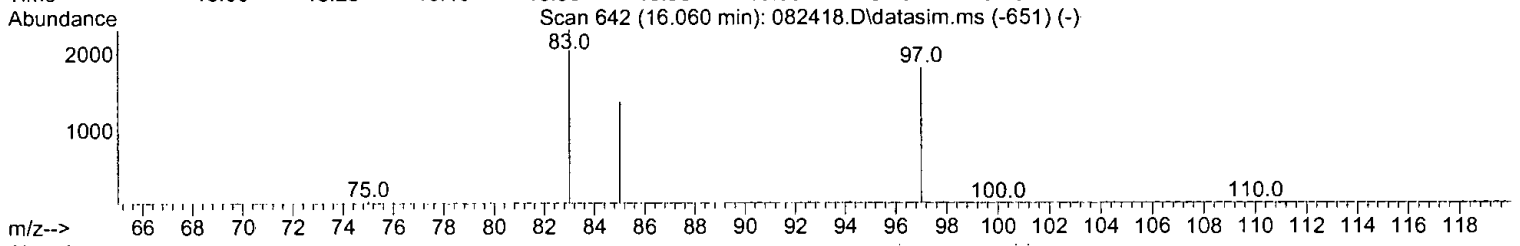
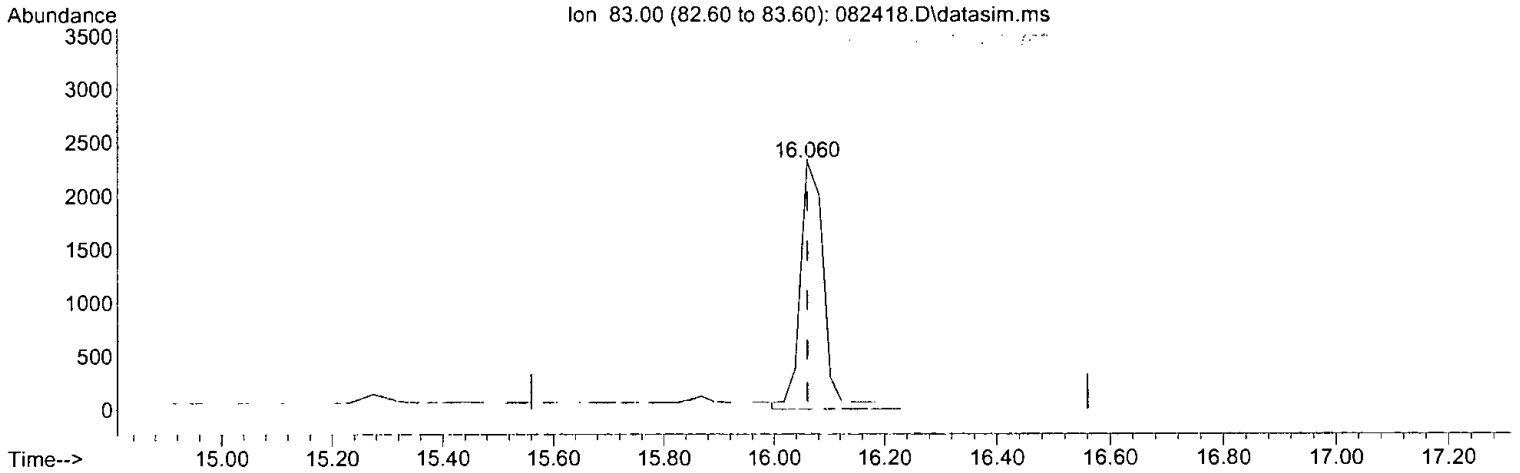
Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	182.01
0.00	0.00	0.00
0.00	0.00	0.00

*AS 8/25/21*

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(51) 1,1,2-Trichloroethane (TME)

16.060min (-0.000) 0.223 ppbv

response 7065

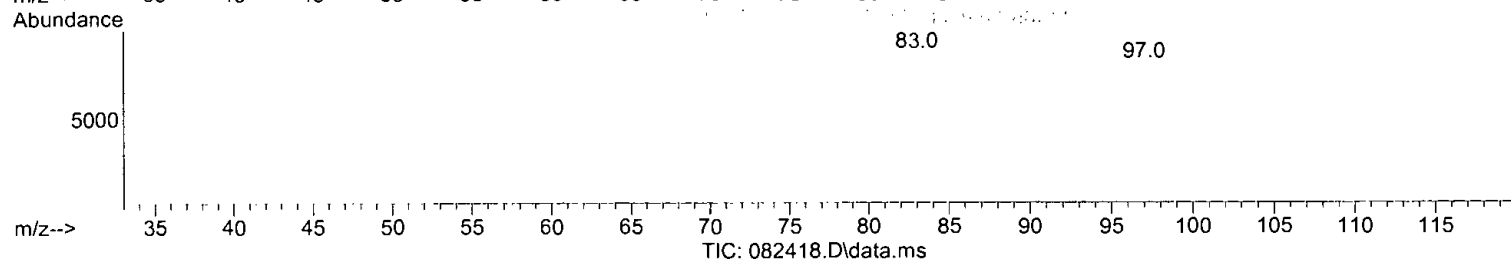
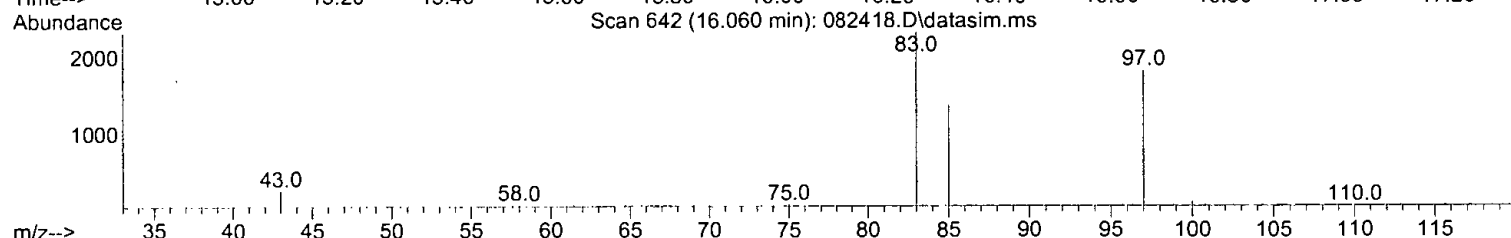
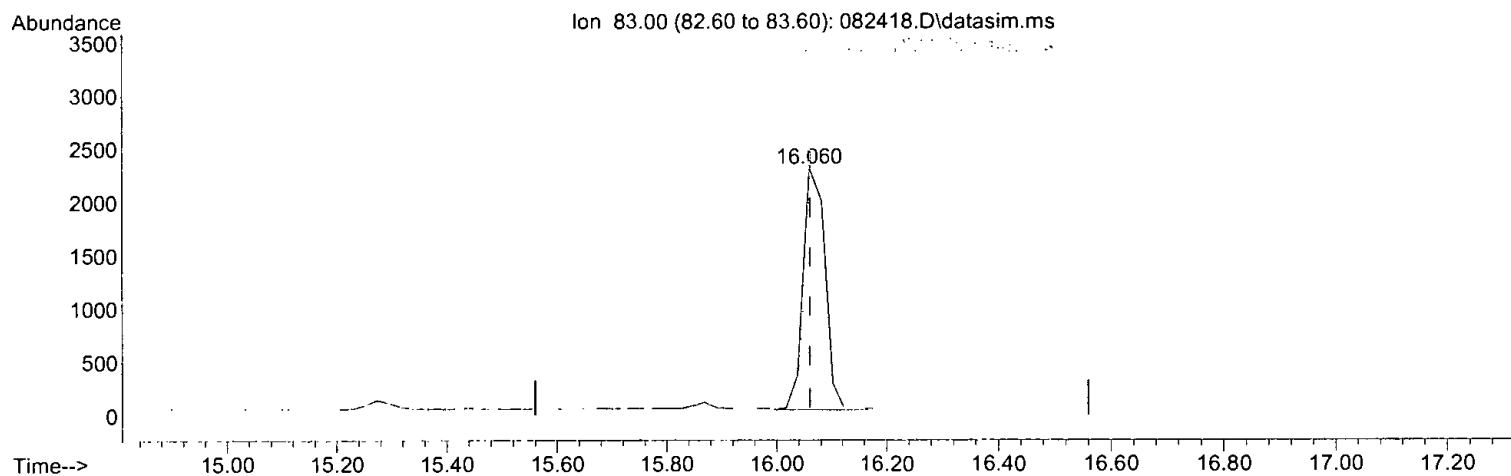
Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	78.45
85.00	60.50	59.46
0.00	0.00	0.00

AS 8/25/21



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(51) 1,1,2-Trichloroethane (TMP)

16.060min (-0.000) 0.195 ppbv m

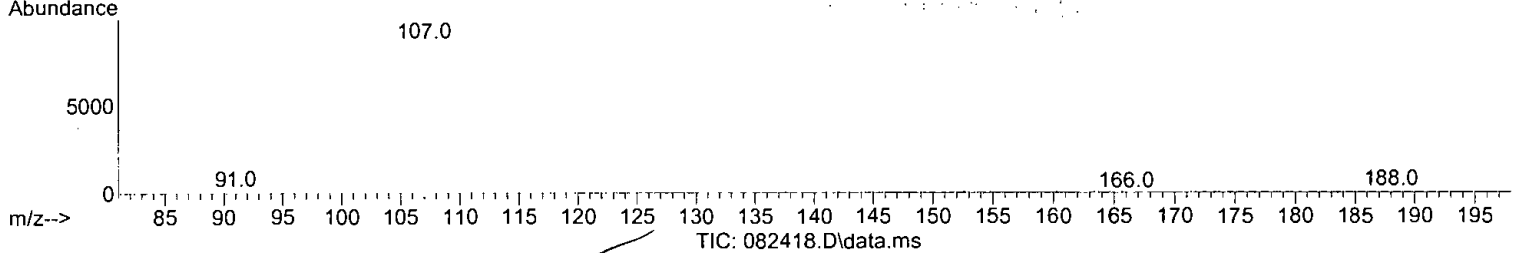
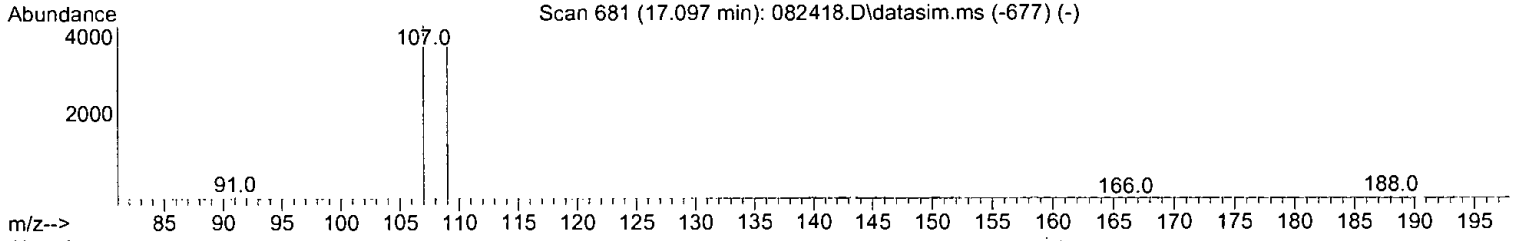
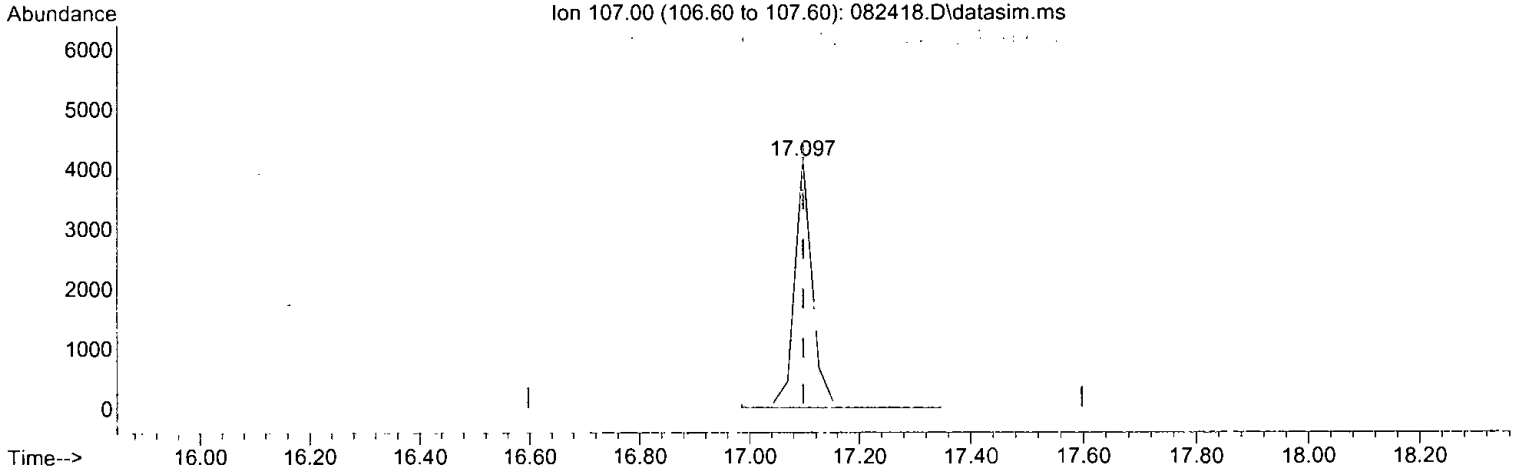
response	6195	
Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	78.45
85.00	60.50	59.46
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(55) 1,2-Dibromoethane (EDB) (TMP)

17.097min (+ 0.000) 0.212 ppbv

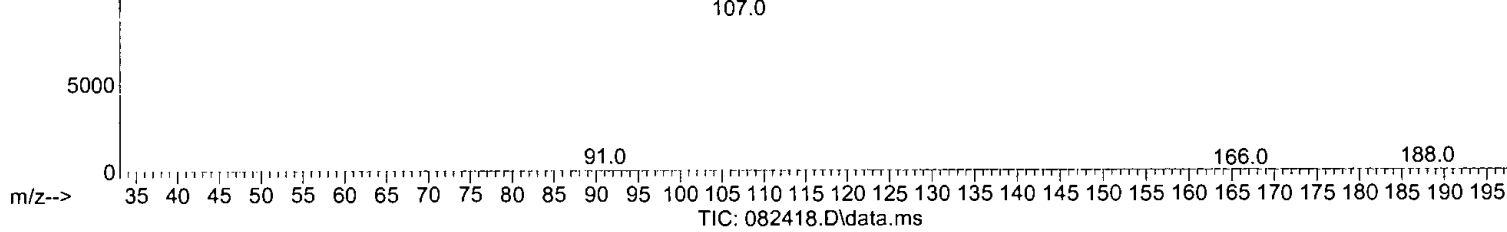
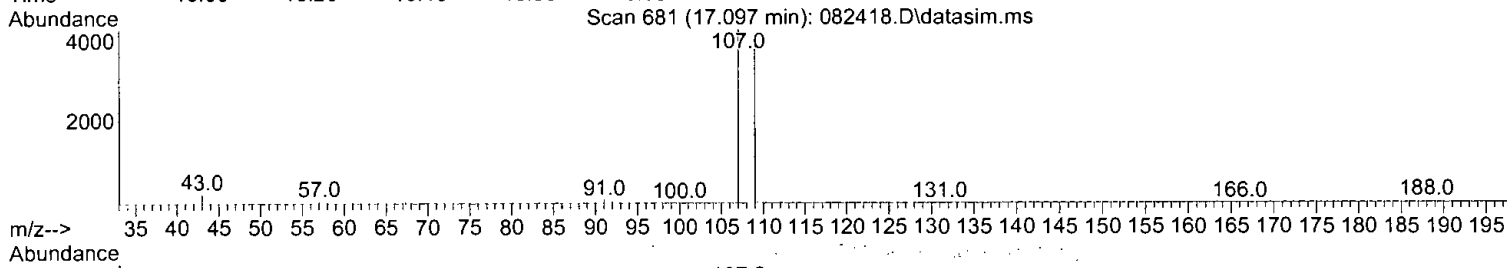
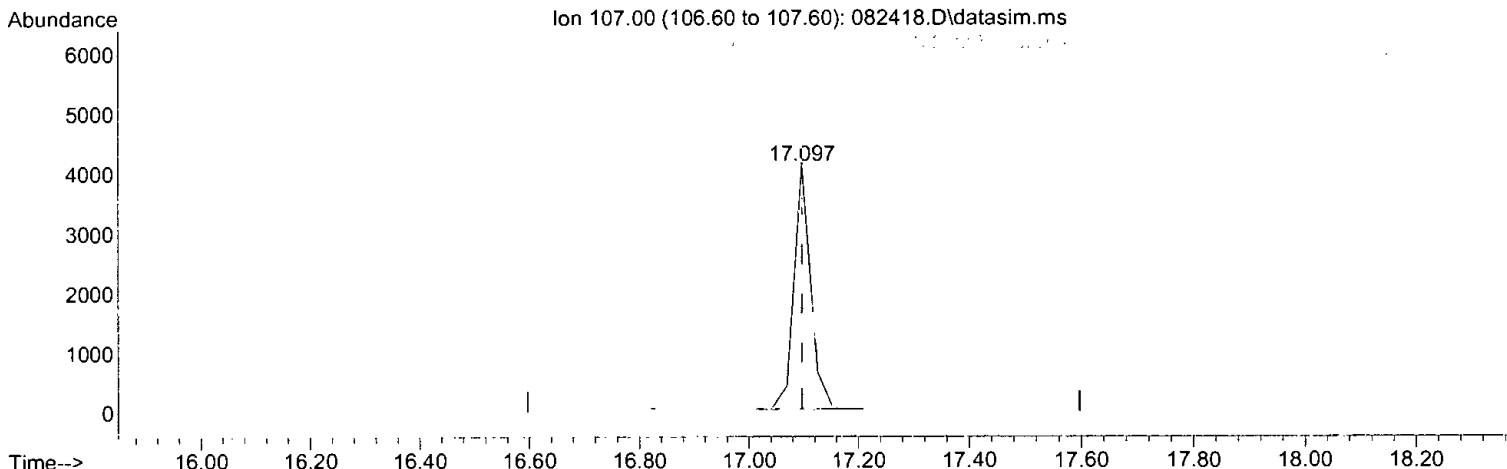
response	9320	
Ion	Exp%	Act%
107.00	100.00	100.00
109.00	104.60	91.21
188.00	2.70	2.20
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of lppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(55) 1,2-Dibromoethane (EDB) (TMP)

17.097min (+ 0.000) 0.197 ppbv m

response 8637

Ion	Exp%	Act%
107.00	100.00	100.00
109.00	104.60	91.21
188.00	2.70	2.20
0.00	0.00	0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:21:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	115938	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	563785	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	487035	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	442182	10.022	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	100.20%
Target Compounds						
						Qvalue
2) Propene	3.41	41	4173m	0.211	ppbv	
3) Dichlorodifluoromethane	3.52	85	10801m	0.211	ppbv	
4) Chloromethane	3.77	50	5374m	0.223	ppbv	
5) F-114	3.88	85	10999	0.213	ppbv	85
6) Vinyl chloride	4.05	62	5219	0.204	ppbv	98
7) 1,3-Butadiene	4.25	54	3669	0.207	ppbv	# 92
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.	d	
10) Chloroethane	4.84	64	1838m	0.209	ppbv	
11) Vinyl bromide	5.32	106	4242m	0.205	ppbv	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	5.43	56	1712m	0.203	ppbv	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	5.86	101	11609	0.203	ppbv	86
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	6.73	96	3938	0.206	ppbv	87
19) trans-1,2-Dichloroethene	8.18	96	3887	0.206	ppbv	89
20) Methylene chloride	0.00		0	N.D.	d	
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	7.01	41	7449	0.221	ppbv	98
23) CFC-113	7.23	101	8498	0.216	ppbv	83
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	8.51	73	9674	0.218	ppbv	88
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	8.44	63	9131	0.205	ppbv	95
28) cis-1,2-Dichloroethene	9.73	96	4256	0.206	ppbv	# 82
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	10.19	83	10108	0.200	ppbv	97
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	10.86	42	6447	0.206	ppbv	93
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	11.44	62	7561	0.199	ppbv	96
35) 1,1,1-Trichloroethane	11.94	97	7559	0.202	ppbv	85
36) Carbon tetrachloride	12.95	117	7465	0.203	ppbv	98
37) Benzene	12.72	78	14490	0.204	ppbv	100
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	13.90	63	7115	0.204	ppbv	98
41) 1,4-Dioxane	14.19	88	3201	0.211	ppbv	86
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

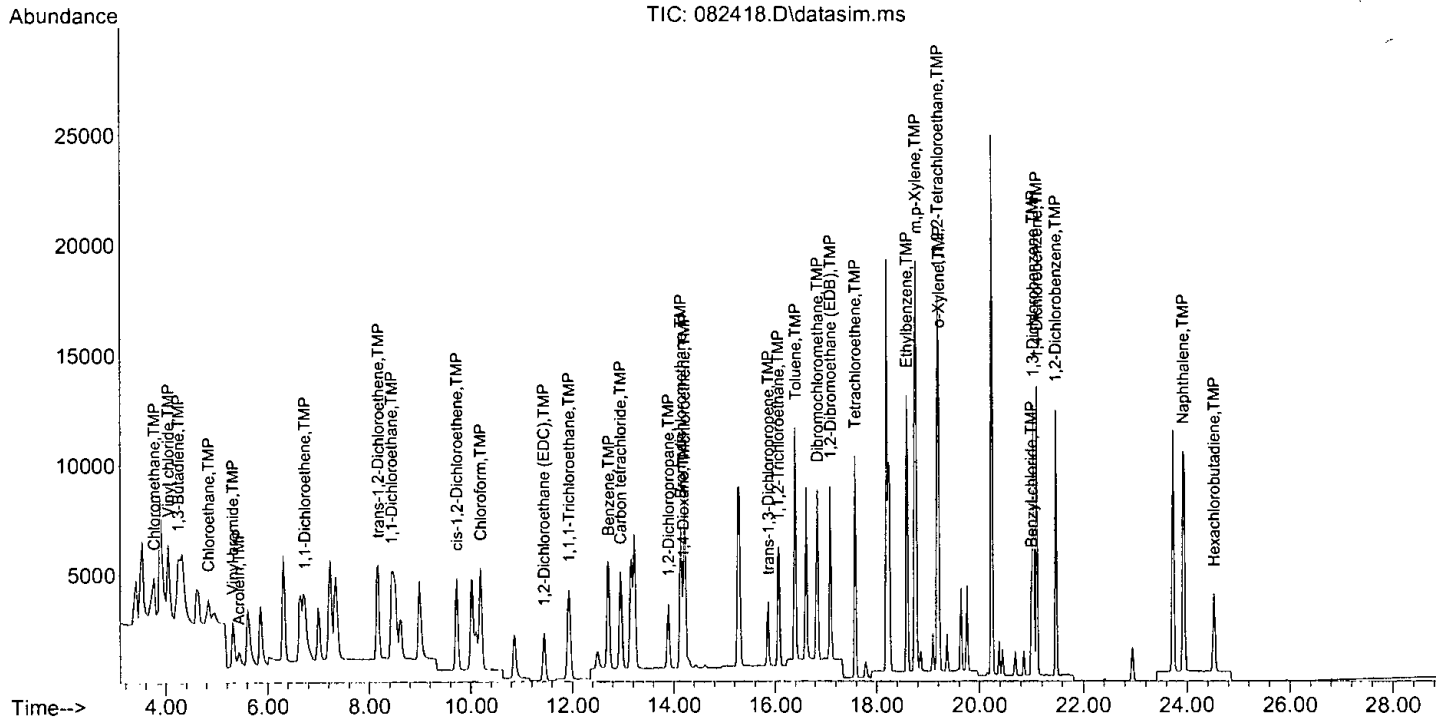
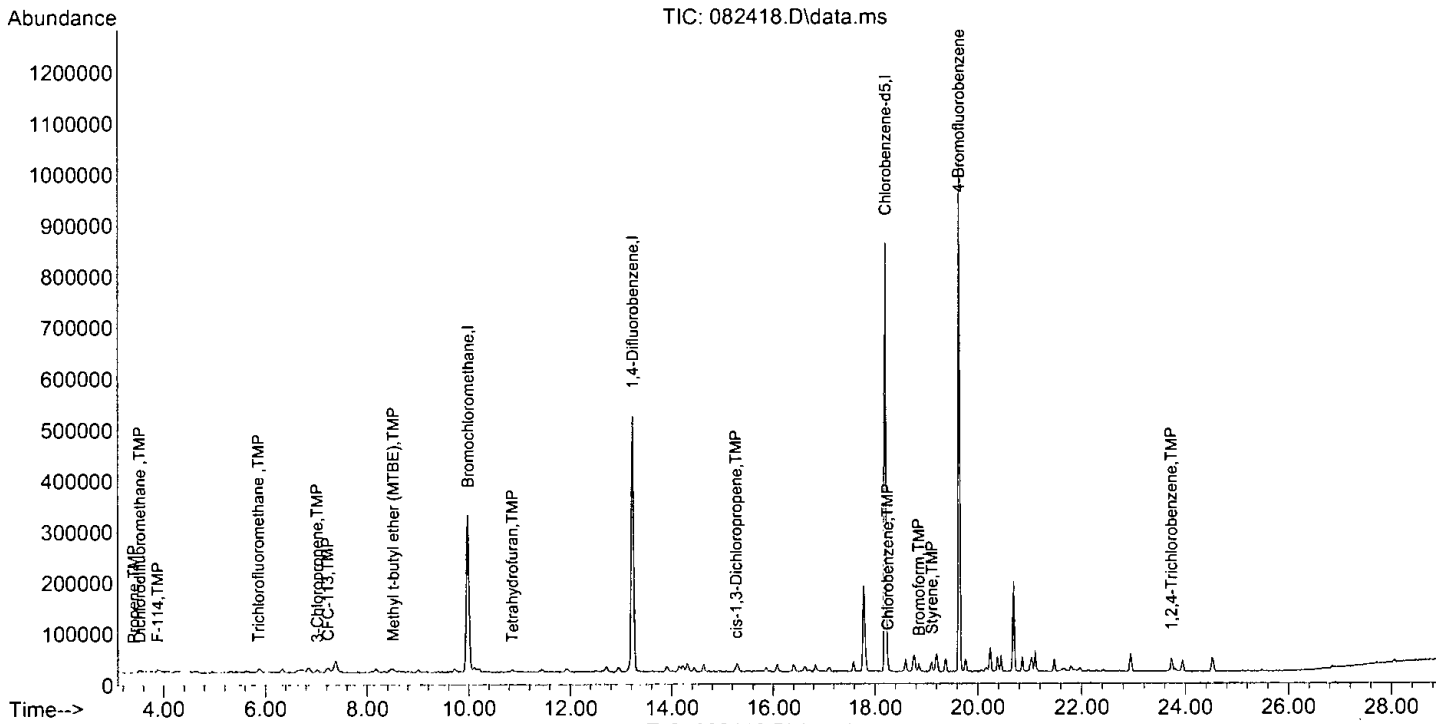
Quant Time: Aug 25 11:21:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45] Bromodichloromethane	14.14	83	10674	0.199	ppbv	94
46] Trichloroethene	14.22	95	6808	0.195	ppbv	83
47) cis-1,3-Dichloropropene	15.27	75	6644	0.185	ppbv	86
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49] trans-1,3-Dichloropropene	15.87	75	6023	0.198	ppbv	100
50] Toluene	16.40	92	8773m	0.208	ppbv	
51] 1,1,2-Trichloroethane	16.06	83	6195m	0.195	ppbv	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	4555	0.212	ppbv #	79
54] Dibromochloromethane	16.85	129	8758	0.197	ppbv	91
55] 1,2-Dibromoethane (EDB)	17.10	107	8637m	0.197	ppbv	
57) Chlorobenzene	18.25	112	11291	0.216	ppbv	89
58] Ethylbenzene	18.59	91	21440	0.198	ppbv	96
59] 1,1,2,2-Tetrachloroethane	19.19	83	14783	0.196	ppbv	93
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.76	106	14086	0.406	ppbv	90
66] o-Xylene	19.21	106	6896	0.202	ppbv	89
67) Styrene	19.11	104	10342	0.206	ppbv	90
68) Bromoform	18.85	173	8228	0.211	ppbv	96
70] Benzyl chloride	21.01	91	6745	0.184	ppbv	93
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73] 1,3-Dichlorobenzene	21.04	146	11539	0.205	ppbv	92
74] 1,4-Dichlorobenzene	21.11	146	10936	0.199	ppbv	93
75] 1,2-Dichlorobenzene	21.47	146	11026	0.208	ppbv	94
76) 1,2,4-Trichlorobenzene	23.73	180	10763	0.203	ppbv	93
77] Naphthalene	23.93	128	24075	0.201	ppbv	98
78] Hexachlorobutadiene	24.52	225	7926	0.199	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:21:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:21:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	0.200	0.211	-5.5	98	0.00
3 TMP	Dichlorodifluoromethane	0.200	0.211	-5.5	95	0.00
4 TMP	Chloromethane	0.200	0.223	-11.5	103	0.00
5 TMP	F-114	0.200	0.213	-6.5	100	0.00
6 TMP	Vinyl chloride	0.200	0.204	-2.0	100	0.00
7 TMP	1,3-Butadiene	0.200	0.207	-3.5	100	0.00
8 TMP	Butane	-1.000	0.000	0.0	0	-4.32#
9 TMP	Bromomethane	-1.000	0.000	0.0	0	-4.64#
10 TMP	Chloroethane	0.200	0.209	-4.5	99	0.00
11 TMP	Vinyl bromide	0.200	0.205	-2.5	100	0.00
12 TMP	Ethanol	-1.000	0.000	0.0	0	-4.96#
13 TMP	Acrolein	0.200	0.203	-1.5	102	0.00
14 TMP	Pentane	-1.000	0.000	0.0	0	-6.33#
15 TMP	Trichlorofluoromethane	0.200	0.203	-1.5	100	-0.02
16 TMP	Acetone	-1.000	0.000	0.0	0	-5.59#
17 TMP	2-Propanol	-1.000	0.000	0.0	0	-5.86#
18 TMP	1,1-Dichloroethene	0.200	0.206	-3.0	100	0.00
19 TMP	trans-1,2-Dichloroethene	0.200	0.206	-3.0	100	0.00
20 TMP	Methylene chloride	-1.000	0.000	0.0	0	-6.86#
21 TMP	t-Butyl alcohol (TBA)	-1.000	0.000	0.0	0	-6.65#
22 TMP	3-Chloropropene	0.200	0.221	-10.5	100	0.00
23 TMP	CFC-113	0.200	0.216	-8.0	100	0.00
24 TMP	Carbon disulfide	-1.000	0.000	0.0	0	-7.33#
25 TMP	Methyl t-butyl ether (MTBE)	0.200	0.218	-9.0	100	0.00
26 TMP	Vinyl acetate	-1.000	0.000	0.0	0	-8.62#
27 TMP	1,1-Dichloroethane	0.200	0.205	-2.5	100	0.00
28 TMP	cis-1,2-Dichloroethene	0.200	0.206	-3.0	100	0.00
29 TMP	Hexane	-1.000	0.000	0.0	0	-10.11#
30 TMP	Chloroform	0.200	0.200	0.0	100	0.00
31 TMP	Ethyl acetate	-1.000	0.000	0.0	0	-10.01#
32 TMP	Tetrahydrofuran	0.200	0.206	-3.0	100	0.02
33 TMP	2-Butanone (MEK)	-1.000	0.000	0.0	0	-8.99#
34 TMP	1,2-Dichloroethane (EDC)	0.200	0.199	0.5	100	0.00
35 TMP	1,1,1-Trichloroethane	0.200	0.202	-1.0	100	0.00
36 TMP	Carbon tetrachloride	0.200	0.203	-1.5	100	0.00
37 TMP	Benzene	0.200	0.204	-2.0	100	0.02
38 TMP	Cyclohexane	-1.000	0.000	0.0	0	-13.16#
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.200	0.204	-2.0	102	0.00
41 TMP	1,4-Dioxane	0.200	0.211	-5.5	100	0.03
42 TMP	2,2,4-Trimethylpentane	-1.000	0.000	0.0	0	-14.31#
43 TMP	Methyl methacrylate	-1.000	0.000	0.0	0	-14.43#
44 TMP	Heptane	-1.000	0.000	0.0	0	-14.63#
45 TMP	Bromodichloromethane	0.200	0.199	0.5	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:21:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.200	0.195	2.5	100	0.00
47 TMP cis-1,3-Dichloropropene	0.200	0.185	7.5	100	0.00
48 TMP 4-Methyl-2-pentanone	-1.000	0.000	0.0	0	-15.29#
49 TMP trans-1,3-Dichloropropene	0.200	0.198	1.0	100	0.02
50 TMP Toluene	0.200	0.208	-4.0	100	0.00
51 TMP 1,1,2-Trichloroethane	0.200	0.195	2.5	101	0.00
52 TMP 2-Hexanone	-1.000	0.000	0.0	0	-16.62#
53 TMP Tetrachloroethene	0.200	0.212	-6.0	100	0.00
54 TMP Dibromochloromethane	0.200	0.197	1.5	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.200	0.197	1.5	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	0.200	0.216	-8.0	100	0.00
58 TMP Ethylbenzene	0.200	0.198	1.0	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.200	0.196	2.0	100	0.00
60 TMP Nonane	-1.000	0.000	0.0	0	-19.36#
61 TMP Isopropylbenzene	-1.000	0.000	0.0	0	-19.75#
62 TMP 2-Chlorotoluene	-1.000	0.000	0.0	0	-20.23#
63 TMP Propylbenzene	-1.000	0.000	0.0	0	-20.25#
64 TMP 4-Ethyltoluene	-1.000	0.000	0.0	0	-20.38#
65 TMP m,p-Xylene	0.400	0.406	-1.5	100	0.00
66 TMP o-Xylene	0.200	0.202	-1.0	100	0.00
67 TMP Styrene	0.200	0.206	-3.0	100	0.00
68 TMP Bromoform	0.200	0.211	-5.5	100	0.00
69 S 4-Bromofluorobenzene	10.000	10.022	-0.2	100	0.00
70 TMP Benzyl chloride	0.200	0.184	8.0	100	0.00
71 TMP 1,3,5-Trimethylbenzene	-1.000	0.000	0.0	0	-20.45#
72 TMP 1,2,4-Trimethylbenzene	-1.000	0.000	0.0	0	-20.86#
73 TMP 1,3-Dichlorobenzene	0.200	0.205	-2.5	100	0.00
74 TMP 1,4-Dichlorobenzene	0.200	0.199	0.5	100	0.00
75 TMP 1,2-Dichlorobenzene	0.200	0.208	-4.0	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.200	0.203	-1.5	100	0.00
77 TMP Naphthalene	0.200	0.201	-0.5	100	0.00
78 TMP Hexachlorobutadiene	0.200	0.199	0.5	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:21:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP Propene	1.710	1.800	-5.3	98	0.00
3 TMP Dichlorodifluoromethane	4.425	4.658	-5.3	95	0.00
4 TMP Chloromethane	2.075	2.318	-11.7	103	0.00
5 TMP F-114	4.450	4.743	-6.6	100	0.00
6 TMP Vinyl chloride	2.209	2.251	-1.9	100	0.00
7 TMP 1,3-Butadiene	1.529	1.582	-3.5	100	0.00
8 TMP Butane	3.248	0.000	100.0#	0#	-4.32#
9 TMP Bromomethane	1.540	0.000#	100.0#	0#	-4.64#
10 TMP Chloroethane	0.759	0.793	-4.5	99	0.00
11 TMP Vinyl bromide	1.785	1.829	-2.5	100	0.00
12 TMP Ethanol	0.559	0.000	100.0#	0#	-4.96#
13 TMP Acrolein	0.726	0.738	-1.7	102	0.00
14 TMP Pentane	3.891	0.000#	100.0#	0#	-6.33#
15 TMP Trichlorofluoromethane	4.934	5.007	-1.5	100	-0.02
16 TMP Acetone	0.880	0.000#	100.0#	0#	-5.59#
17 TMP 2-Propanol	3.556	0.000	100.0#	0#	-5.86#
18 TMP 1,1-Dichloroethene	1.648	1.698	-3.0	100	0.00
19 TMP trans-1,2-Dichloroethene	1.626	1.676	-3.1	100	0.00
20 TMP Methylene chloride	1.750	0.000#	100.0#	0#	-6.86#
21 TMP t-Butyl alcohol (TBA)	2.881	0.000	100.0#	0#	-6.65#
22 TMP 3-Chloropropene	2.910	3.212	-10.4	100	0.00
23 TMP CFC-113	3.396	3.665	-7.9	100	0.00
24 TMP Carbon disulfide	5.738	0.000	100.0#	0#	-7.33#
25 TMP Methyl t-butyl ether (MTBE)	3.820	4.172	-9.2	100	0.00
26 TMP Vinyl acetate	2.562	0.000#	100.0#	0#	-8.62#
27 TMP 1,1-Dichloroethane	3.850	3.938	-2.3	100	0.00
28 TMP cis-1,2-Dichloroethene	1.780	1.835	-3.1	100	0.00
29 TMP Hexane	2.959	0.000	100.0#	0#	-10.11#
30 TMP Chloroform	4.366	4.359	0.2	100	0.00
31 TMP Ethyl acetate	6.229	0.000	100.0#	0#	-10.01#
32 TMP Tetrahydrofuran	2.703	2.780	-2.8	100	0.02
33 TMP 2-Butanone (MEK)	0.712	0.000	100.0#	0#	-8.99#
34 TMP 1,2-Dichloroethane (EDC)	3.285	3.261	0.7	100	0.00
35 TMP 1,1,1-Trichloroethane	3.232	3.260	-0.9	100	0.00
36 TMP Carbon tetrachloride	3.178	3.219	-1.3	100	0.00
37 TMP Benzene	6.123	6.249	-2.1	100	0.02
38 TMP Cyclohexane	1.669	0.000	100.0#	0#	-13.16#
39 I 1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP 1,2-Dichloropropane	0.618	0.631	-2.1	102	0.00
41 TMP 1,4-Dioxane	0.270	0.284	-5.2	100	0.03
42 TMP 2,2,4-Trimethylpentane	2.076	0.000	100.0#	0#	-14.31#
43 TMP Methyl methacrylate	0.567	0.000	100.0#	0#	-14.43#
44 TMP Heptane	0.959	0.000	100.0#	0#	-14.63#
45 TMP Bromodichloromethane	0.953	0.947	0.6	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082418.D  
 Acq On : 24 Aug 2021 6:25 pm  
 Operator : bat  
 Sample : 0.2 ppbv 64-87b  
 Misc : T3, 50cc of 1ppbv  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:21:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.604	2.3	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.589	7.4	100	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.000	100.0#	0#	-15.29#
49 TMP trans-1,3-Dichloropropene	0.540	0.534	1.1	100	0.02
50 TMP Toluene	0.749	0.778	-3.9	100	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.549	2.5	101	0.00
52 TMP 2-Hexanone	1.055	0.000#	100.0#	0#	-16.62#
53 TMP Tetrachloroethene	0.381	0.404	-6.0	100	0.00
54 TMP Dibromochloromethane	0.787	0.777	1.3	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.766	1.7	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	1.159	-8.2	100	0.00
58 TMP Ethylbenzene	2.221	2.201	0.9	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.518	2.0	100	0.00
60 TMP Nonane	1.679	0.000	100.0#	0#	-19.36#
61 TMP Isopropylbenzene	1.948	0.000	100.0#	0#	-19.75#
62 TMP 2-Chlorotoluene	0.463	0.000	100.0#	0#	-20.23#
63 TMP Propylbenzene	4.322	0.000	100.0#	0#	-20.25#
64 TMP 4-Ethyltoluene	2.027	0.000	100.0#	0#	-20.38#
65 TMP m,p-Xylene	0.713	0.723	-1.4	100	0.00
66 TMP o-Xylene	0.701	0.708	-1.0	100	0.00
67 TMP Styrene	1.032	1.062	-2.9	100	0.00
68 TMP Bromoform	0.801	0.845	-5.5	100	0.00
69 S 4-Bromofluorobenzene	0.906	0.908	-0.2	100	0.00
70 TMP Benzyl chloride	0.751	0.692	7.9	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	0.000	100.0#	0#	-20.45#
72 TMP 1,2,4-Trimethylbenzene	1.679	0.000	100.0#	0#	-20.86#
73 TMP 1,3-Dichlorobenzene	1.154	1.185	-2.7	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.123	2.5	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.132	-3.8	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	1.105	-16.3	100	0.00
77 TMP Naphthalene	2.538	2.472	2.6	100	0.00
78 TMP Hexachlorobutadiene	0.852	0.814	4.5	100	0.00

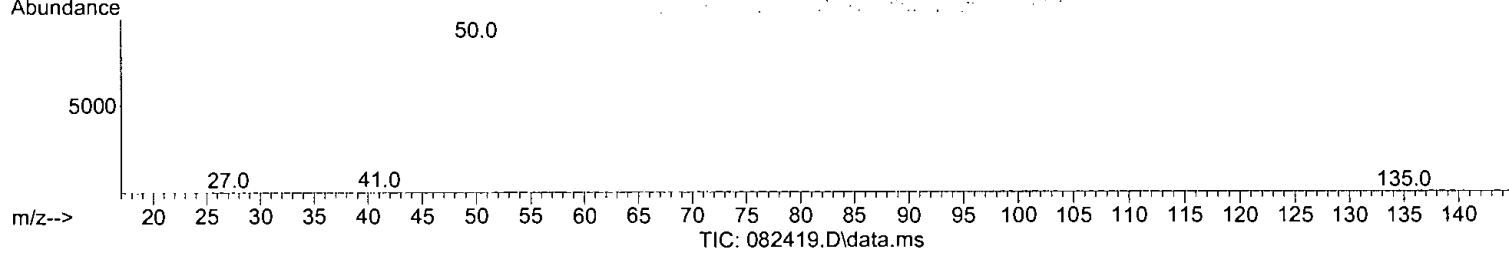
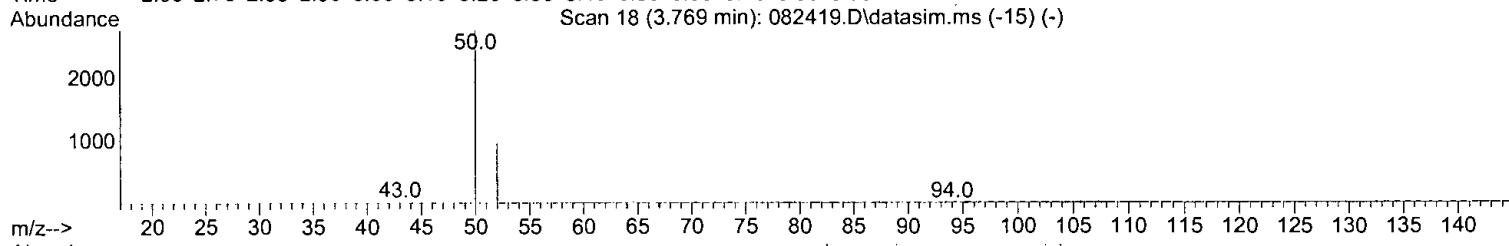
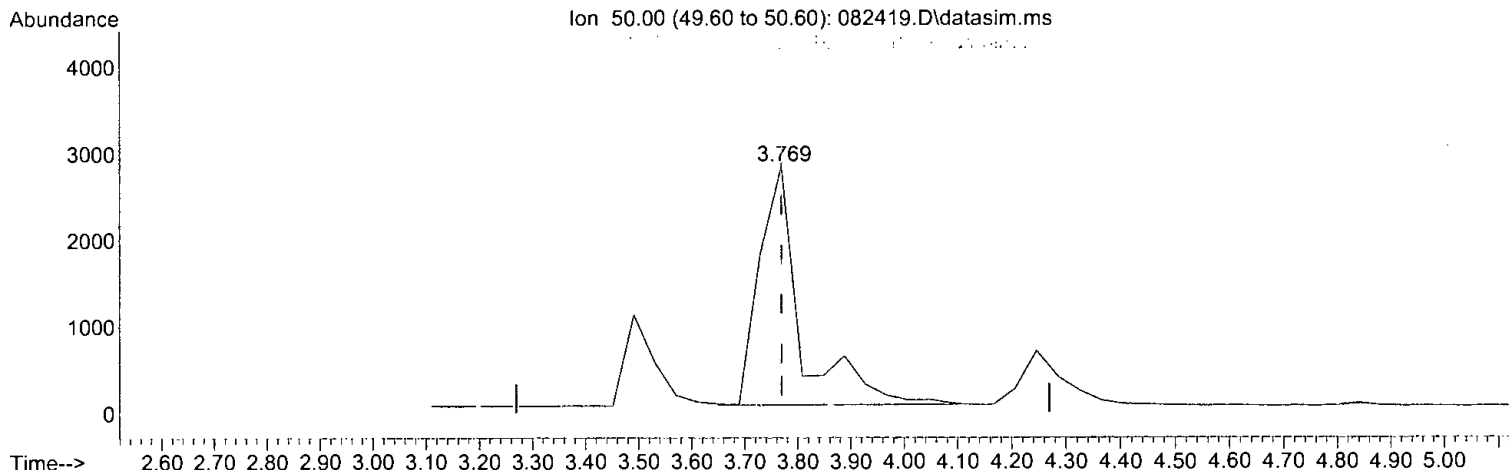
(#) = Out of Range

SPCC's out = 6 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (+ 0.000) 0.621 ppbv

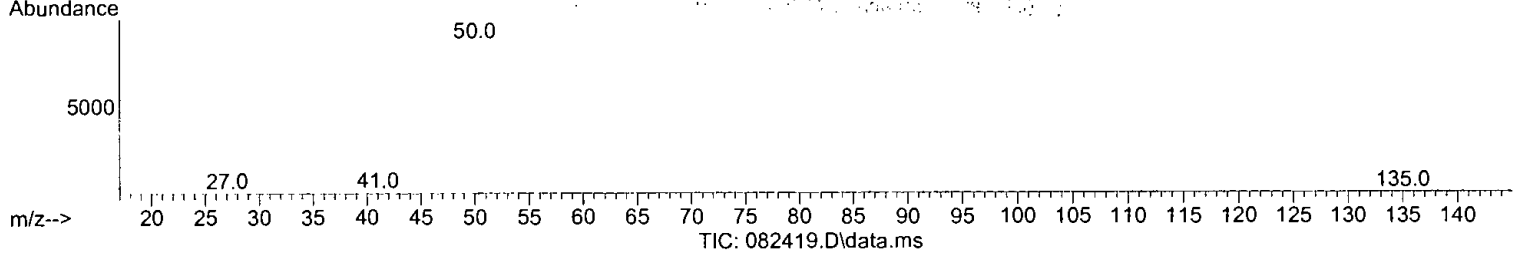
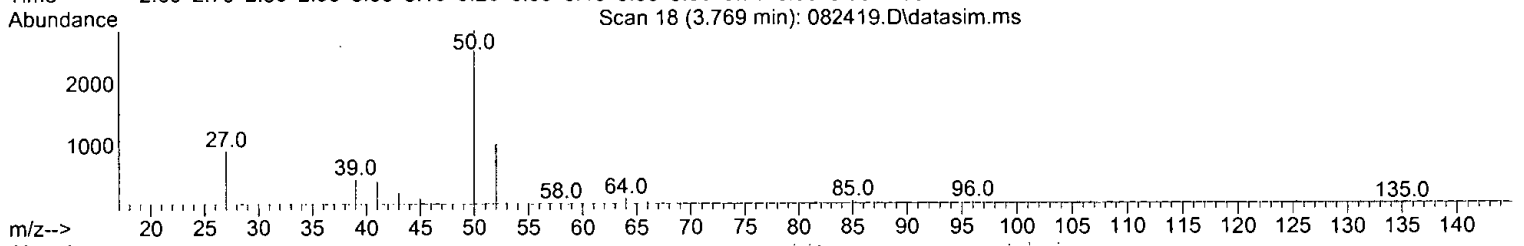
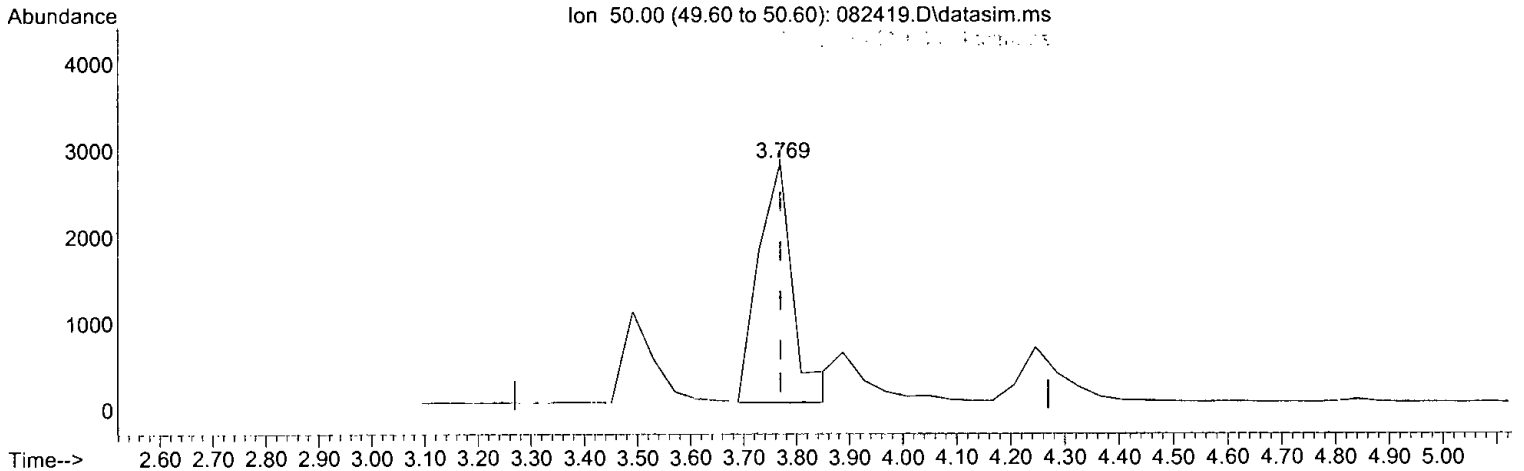
response	14883		
Ion	Exp%	Act%	
50.00	100.00	100.00	
51.90	25.30	34.65	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (+ 0.000) 0.523 ppbv m

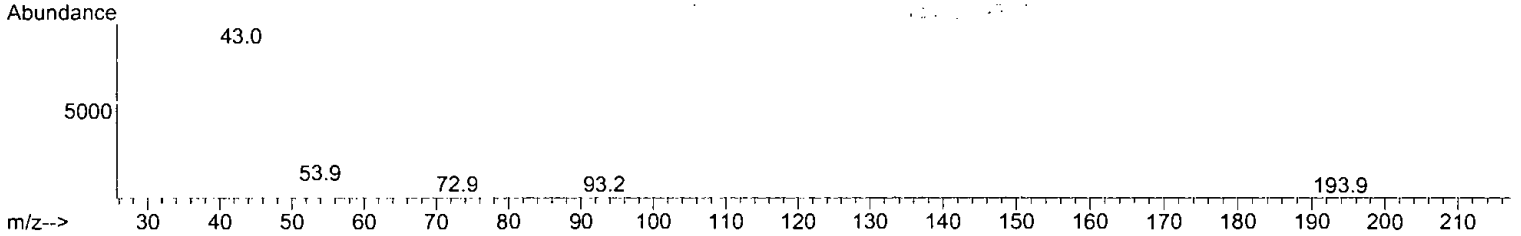
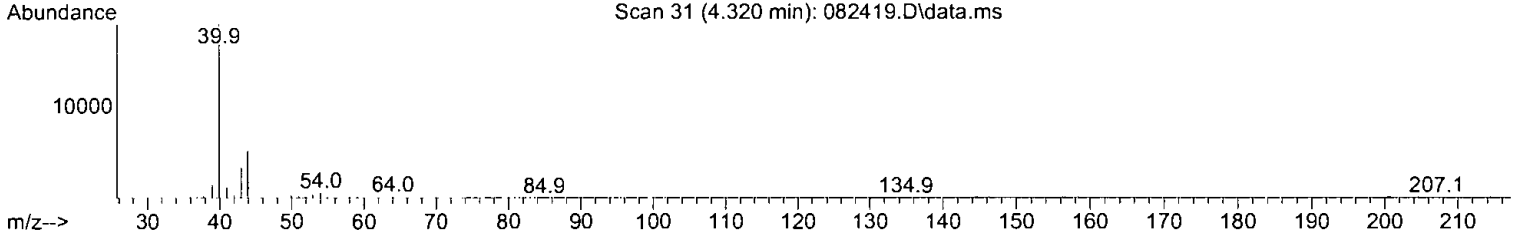
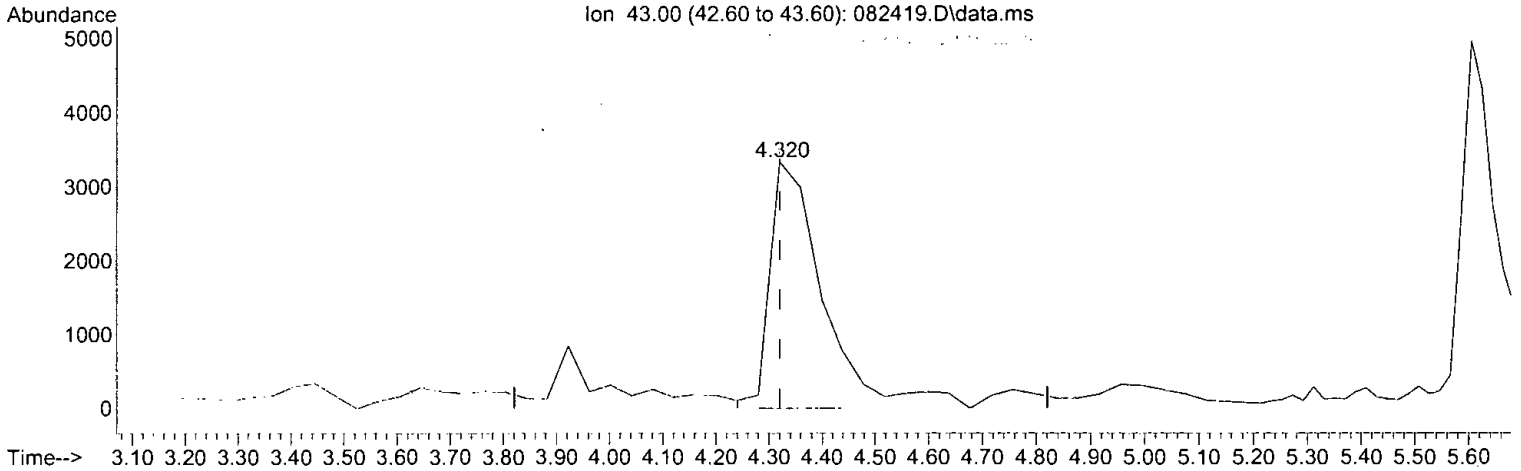
response	12529		
Ion	Exp%	Act%	
50.00	100.00	100.00	
51.90	25.30	36.09	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(8) Butane (TMP)

4.320min (-0.000) 0.626 ppbv

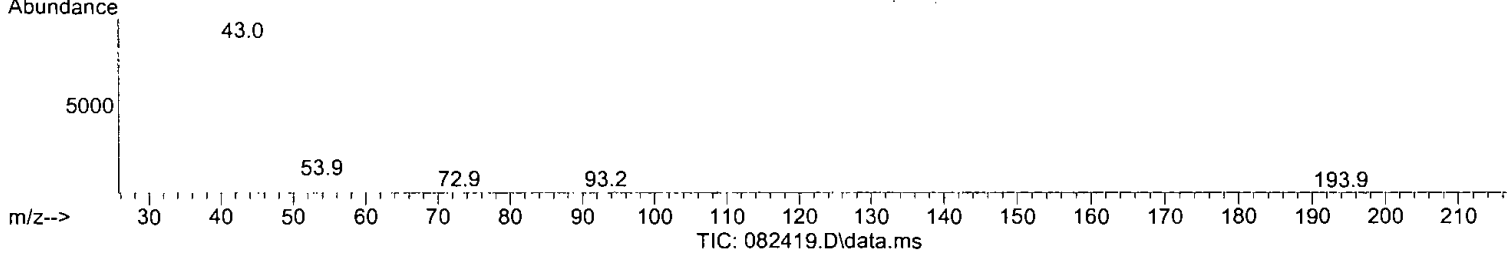
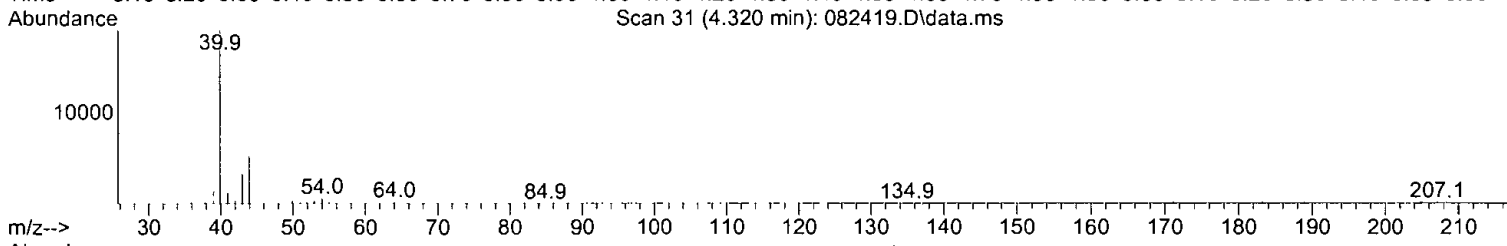
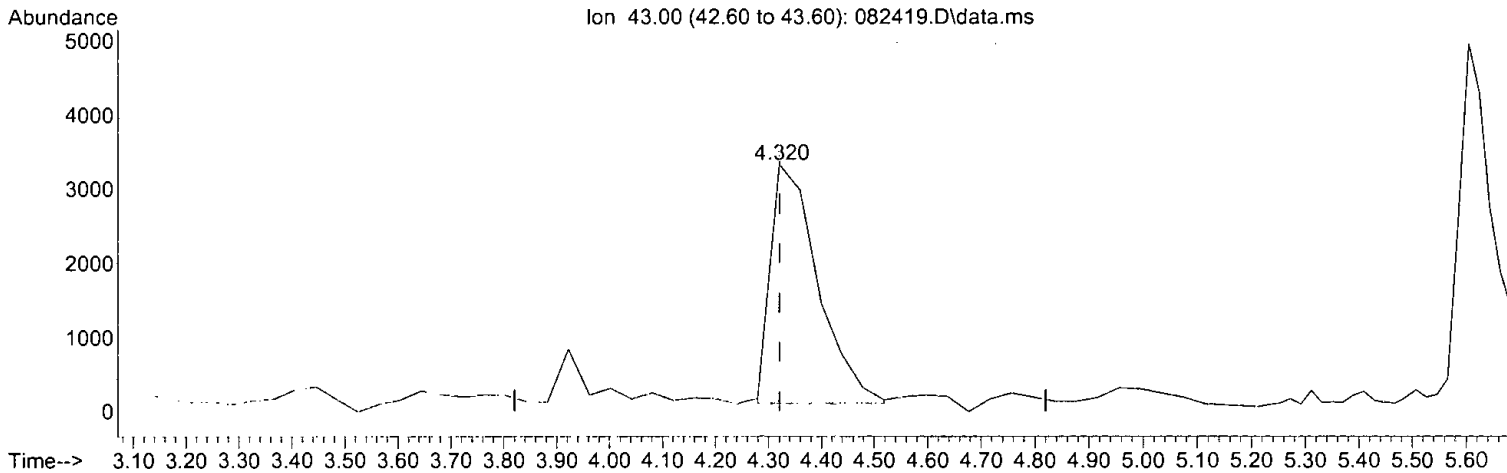
response	23455		
Ion	Exp%	Act%	
43.00	100.00	100.00	
58.00	6.90	4.85	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(8) Butane (TMP)

4.320min (-0.000) 0.532 ppbv m

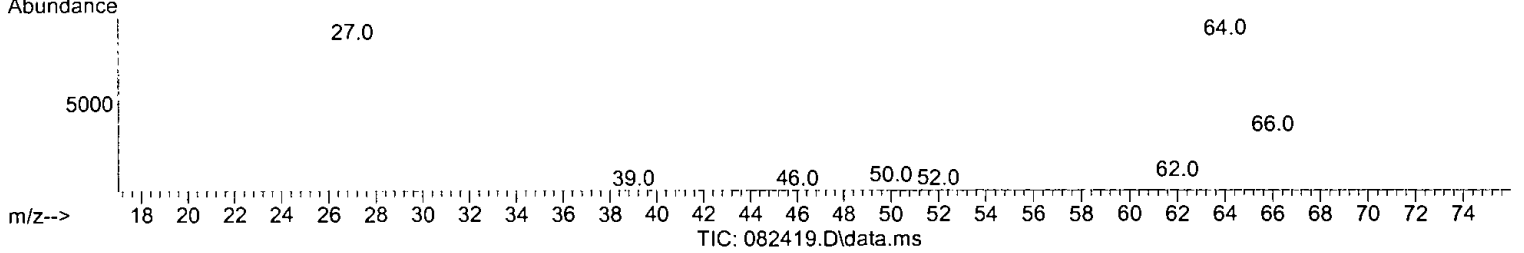
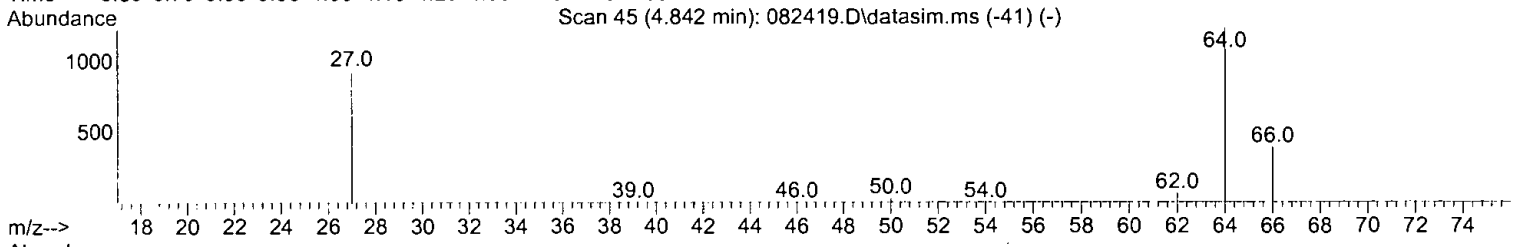
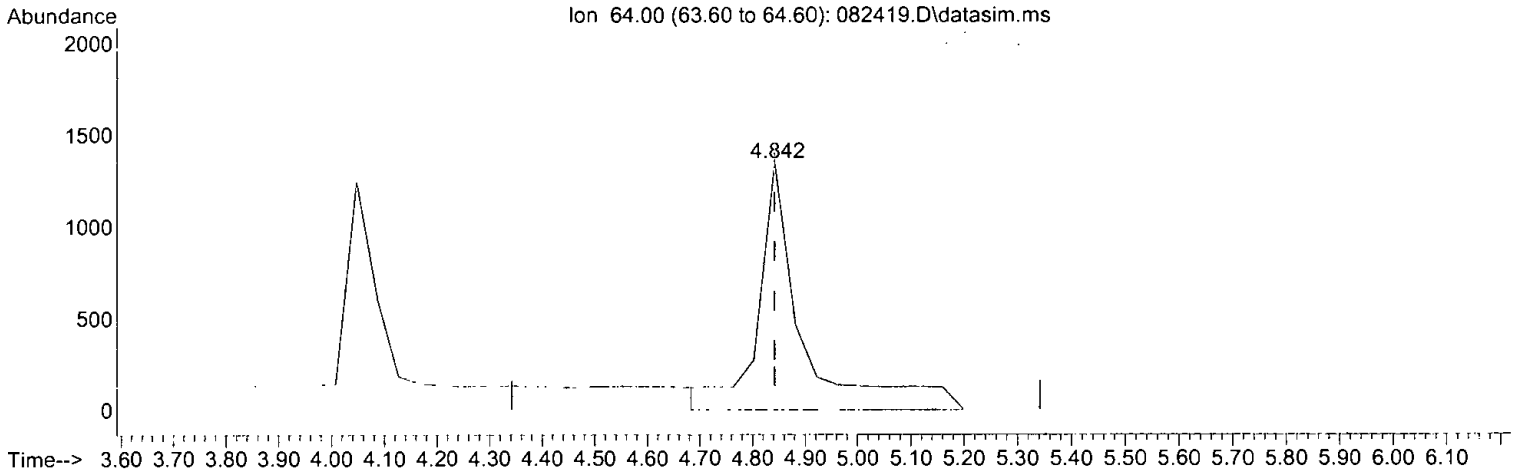
response	19927	
Ion	Exp%	Act%
43.00	100.00	100.00
58.00	6.90	5.71
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 0.858 ppbv

response 7514

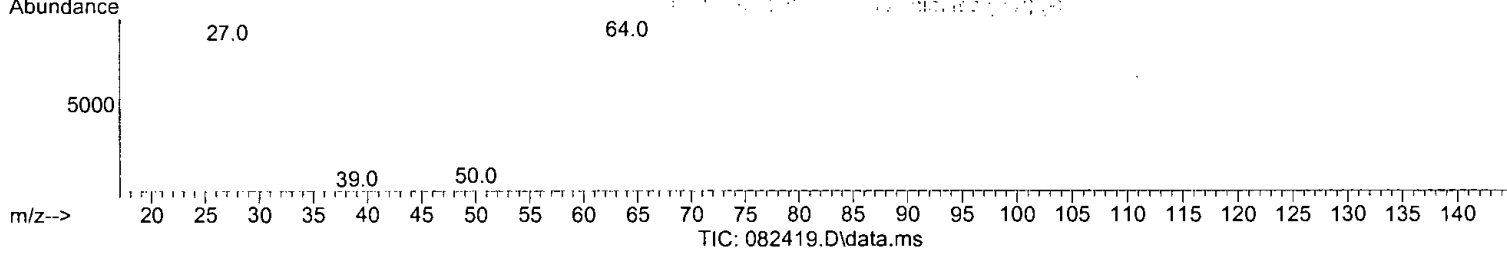
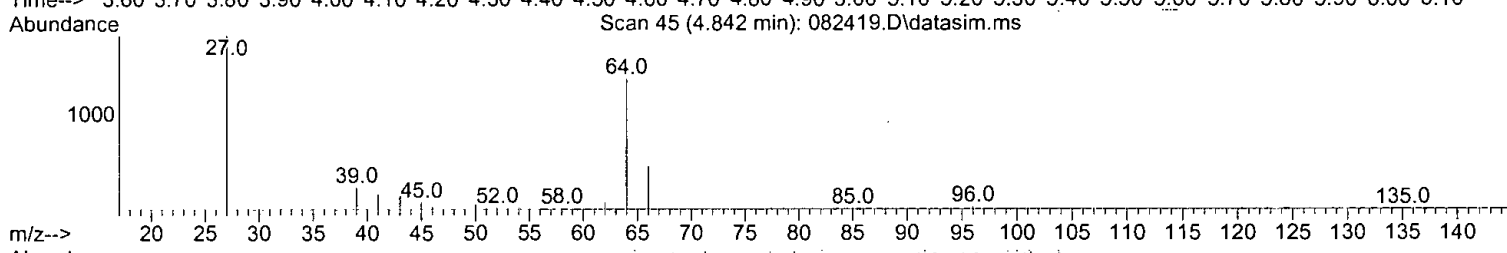
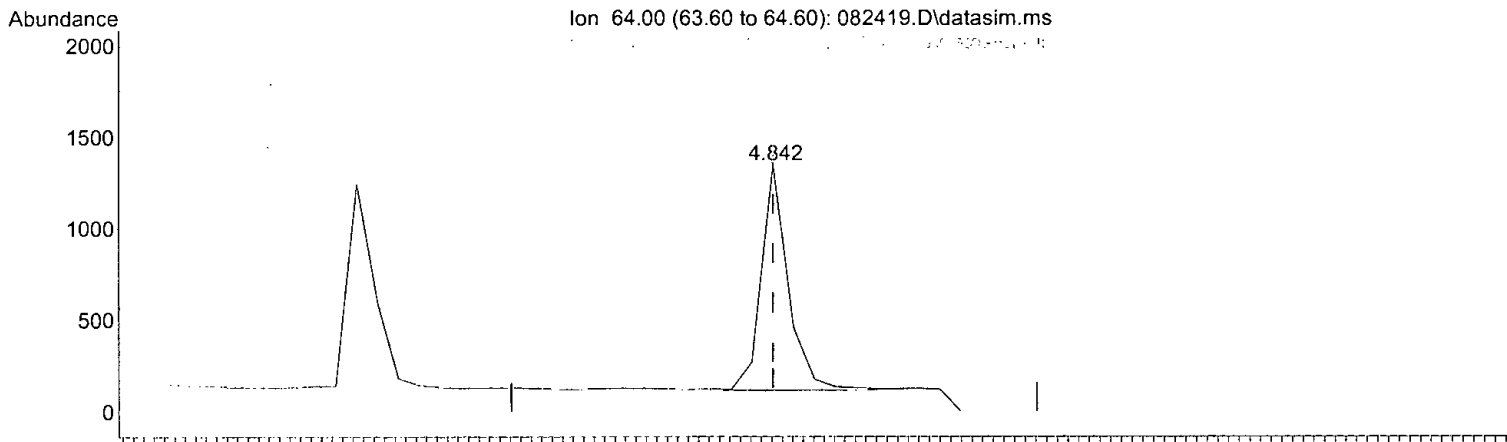
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	35.44
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 0.497 ppbv m

response	4356	
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	35.44
0.00	0.00	0.00
0.00	0.00	0.00

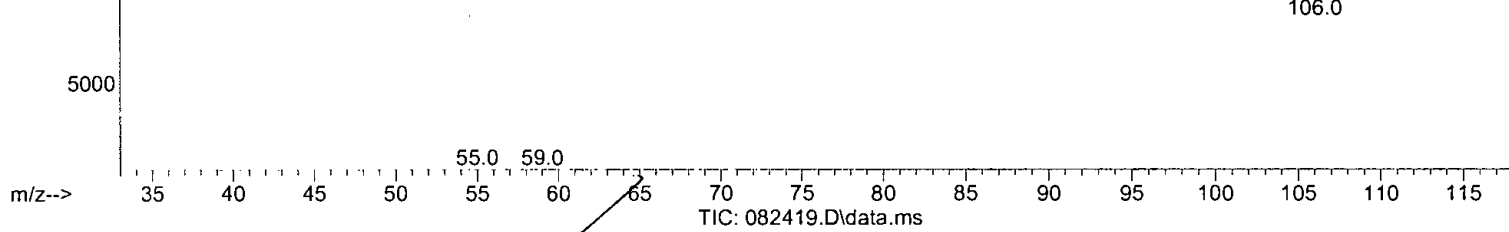
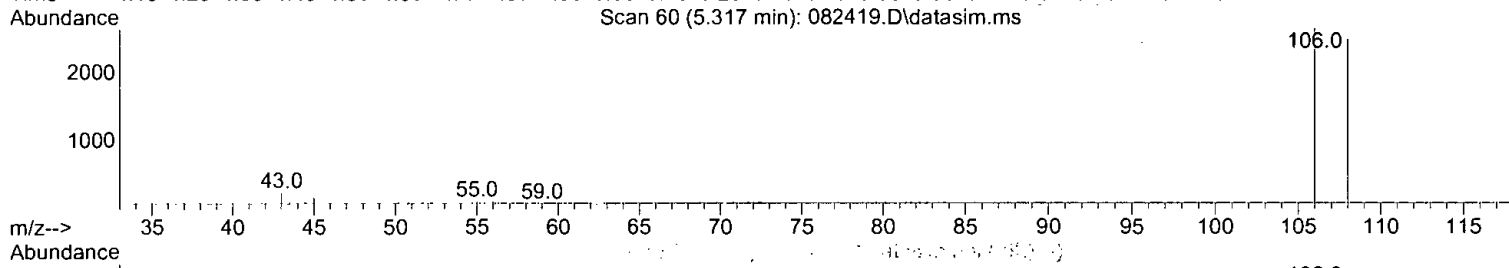
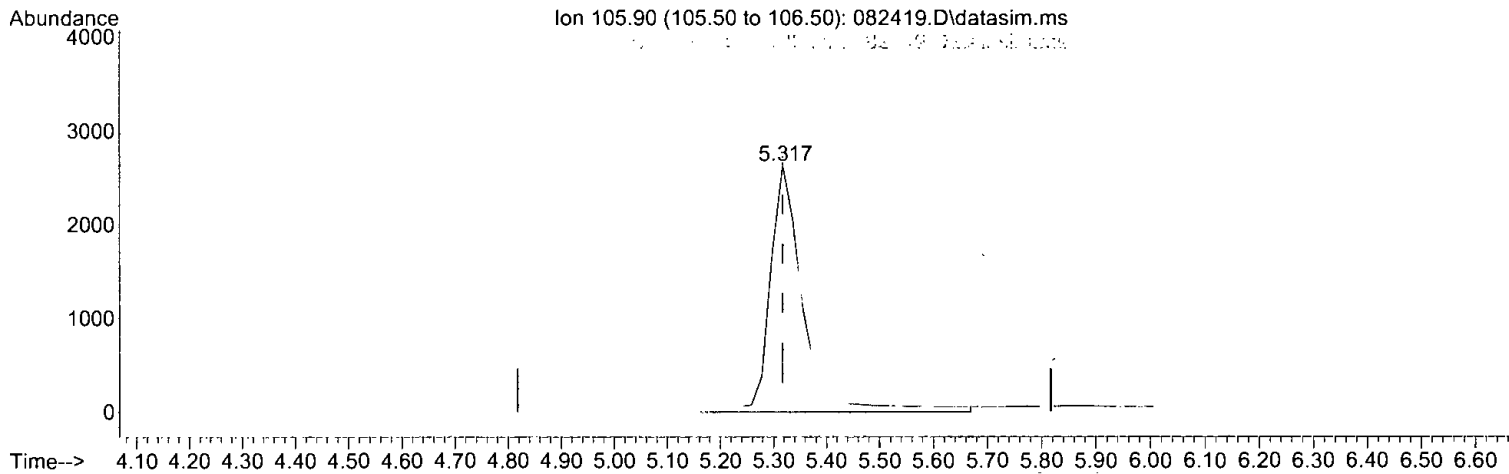
AS 8/25/21



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (+ 0.000) 0.602 ppbv

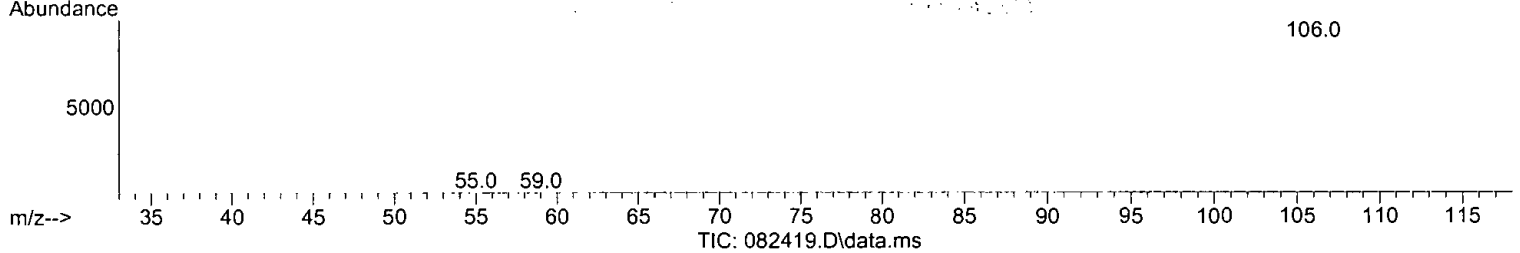
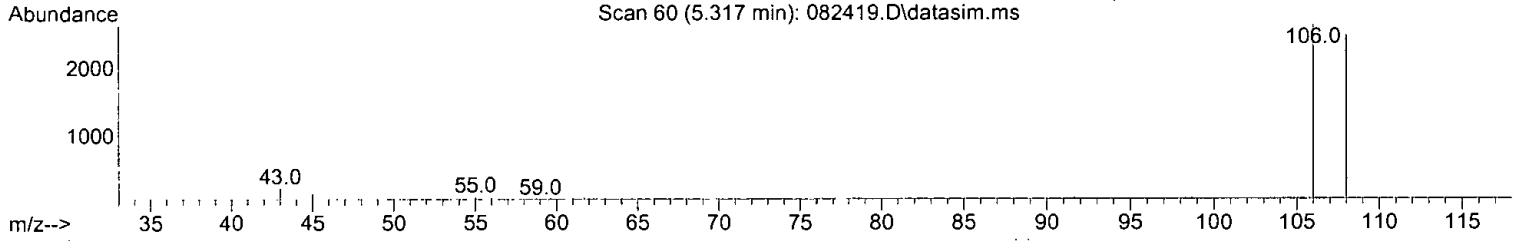
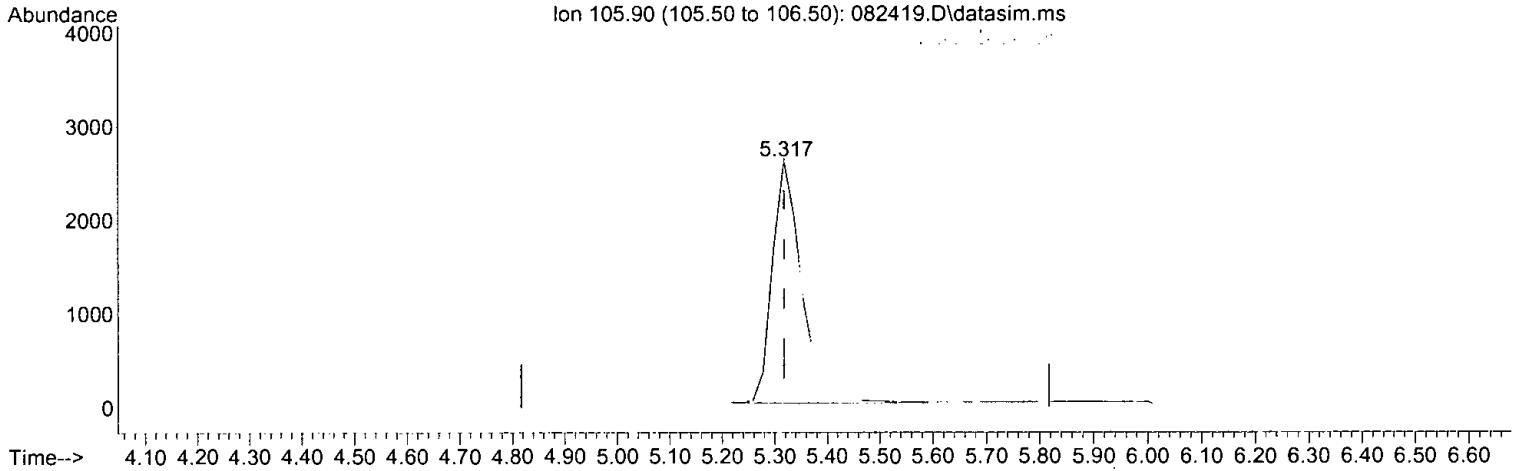
response	12411	
Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	94.10
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (+ 0.000) 0.482 ppbv m

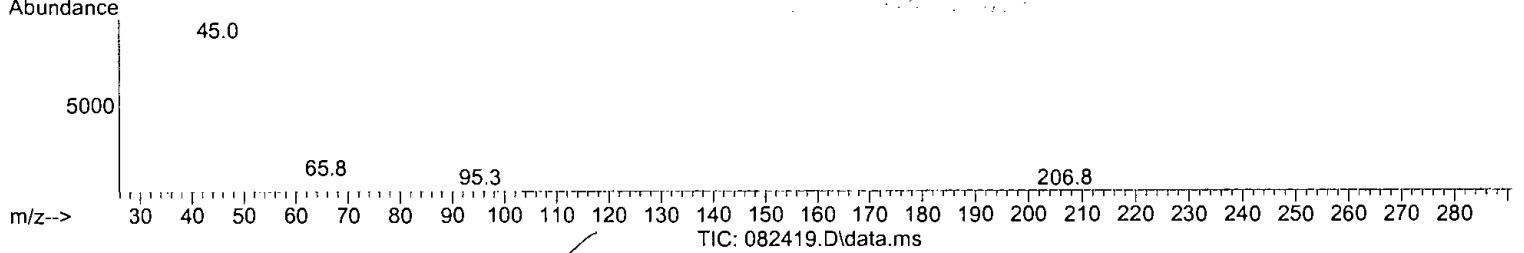
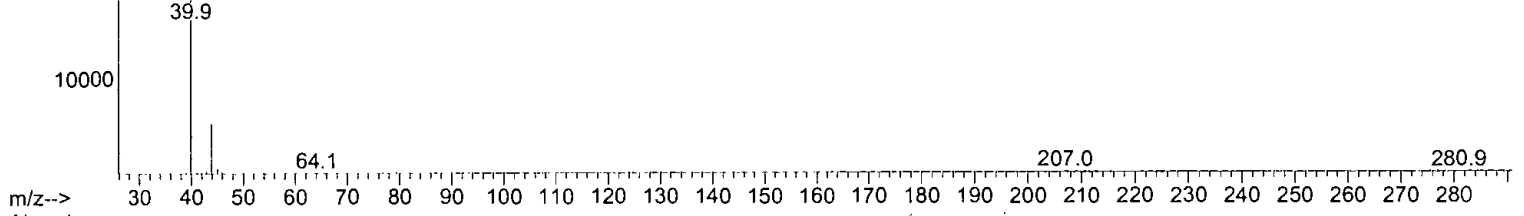
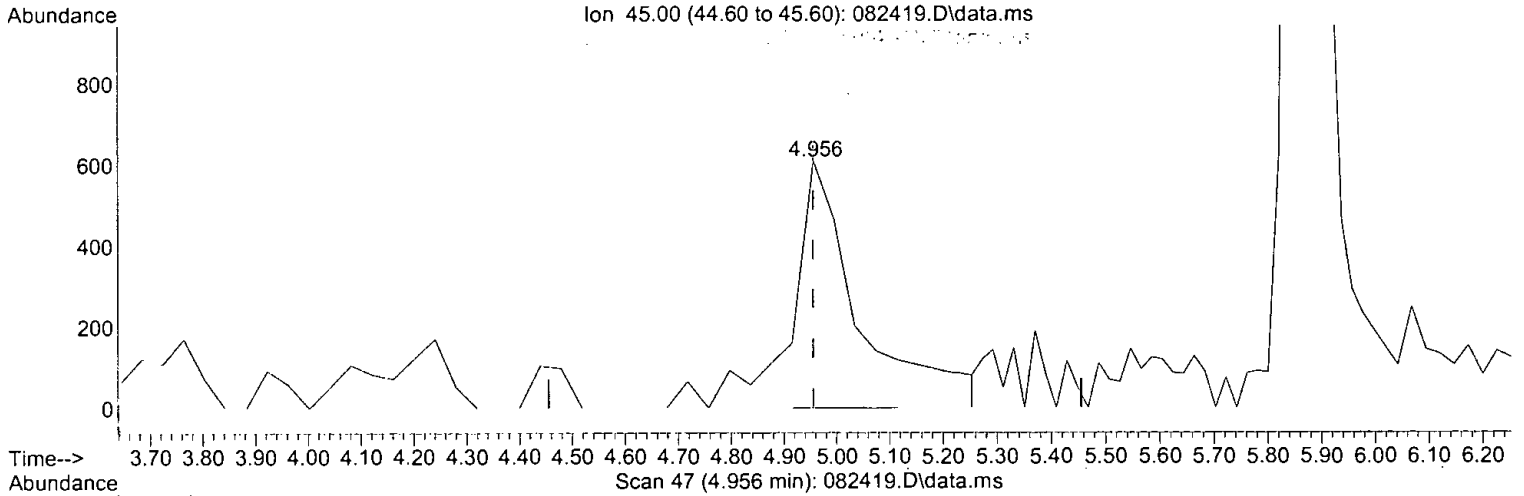
response 9924

Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	117.68#
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(12) Ethanol (TMP)

4.956min (+ 0.001) 0.865 ppbv

response 5582

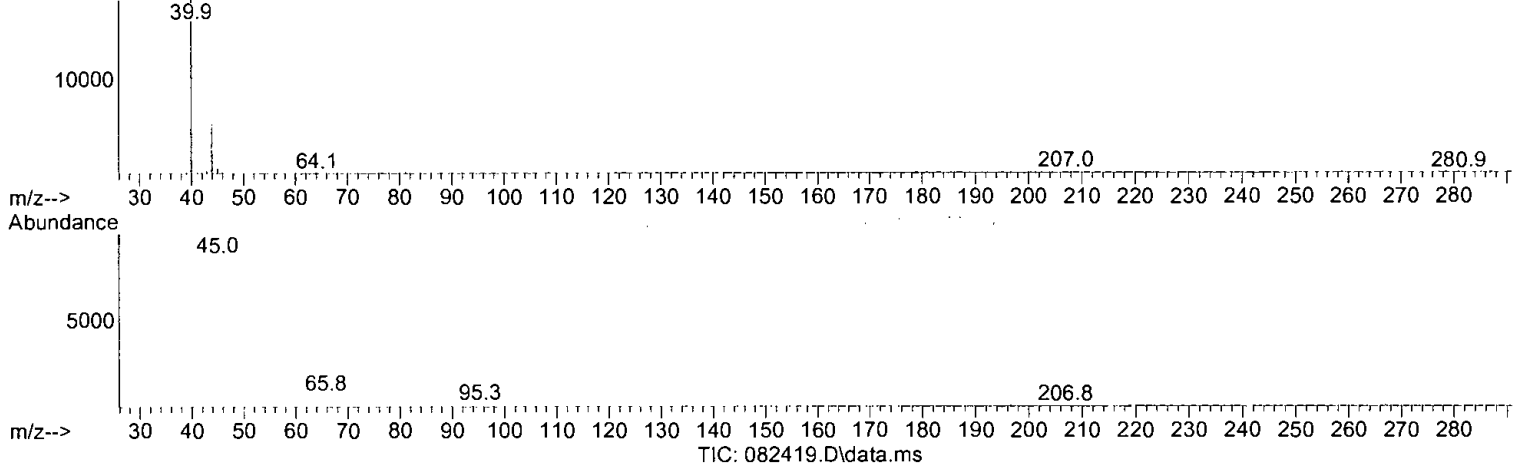
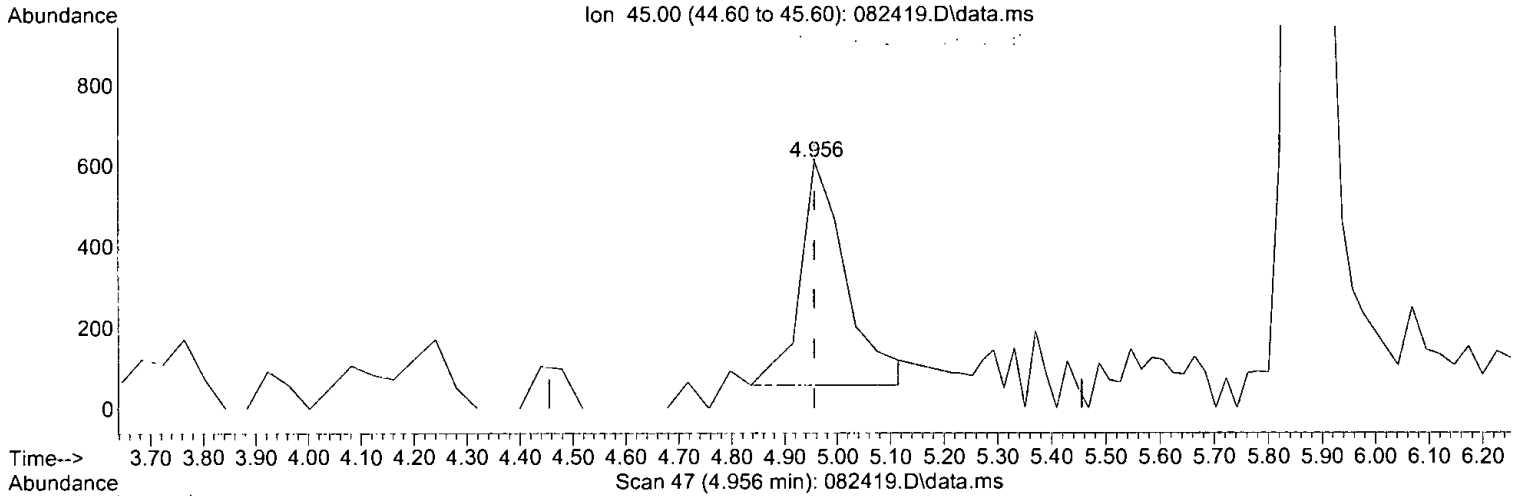
Ion	Exp%	Act%
45.00	100.00	100.00
45.90	25.50	29.95
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(12) Ethanol (TMP)

4.956min (+ 0.001) 0.519 ppbv m

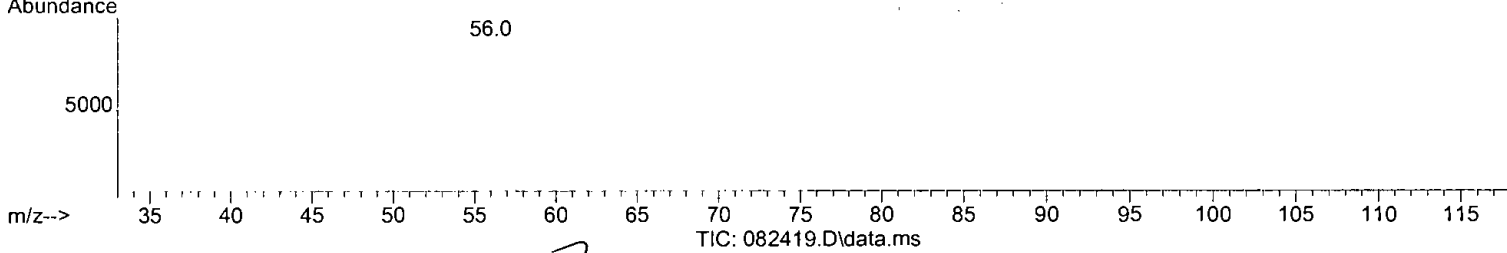
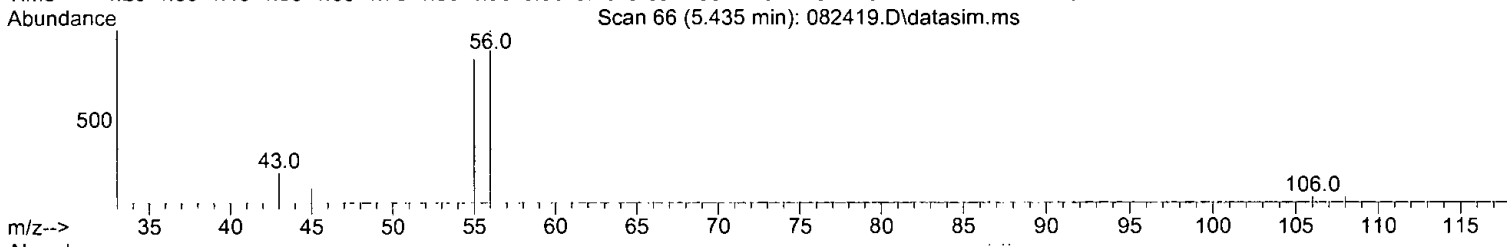
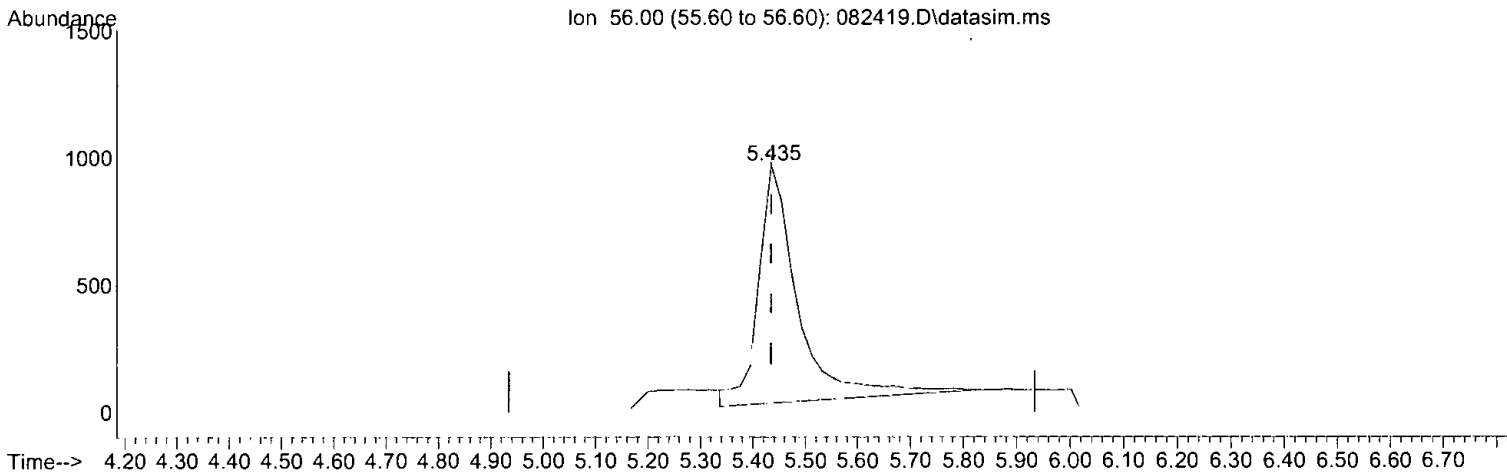
response	3348
Ion	Exp% Act%
45.00	100.00 100.00
45.90	25.50 49.94
0.00	0.00 0.00
0.00	0.00 0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.435min (+ 0.001) 0.585 ppbv

response 4905

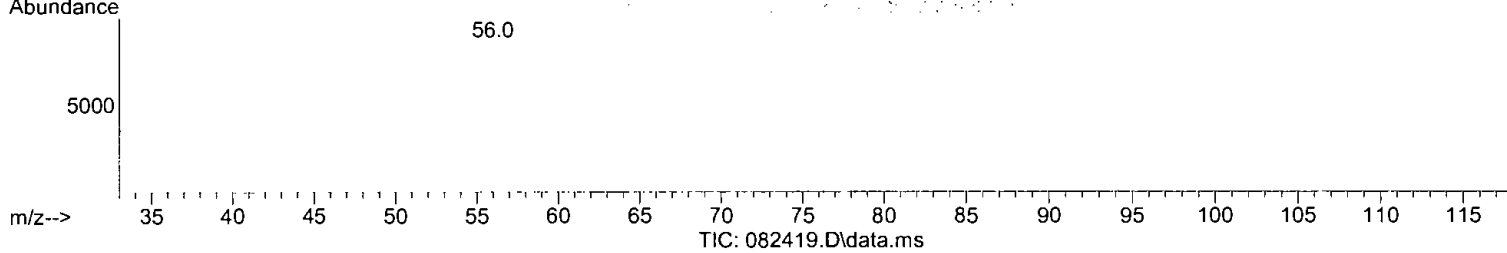
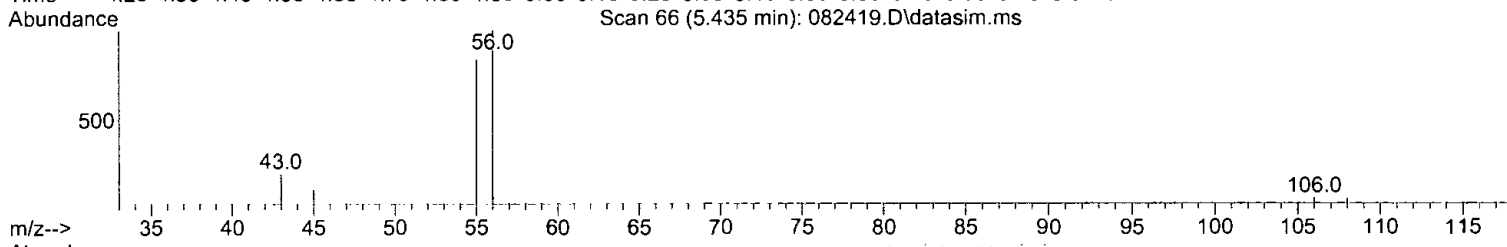
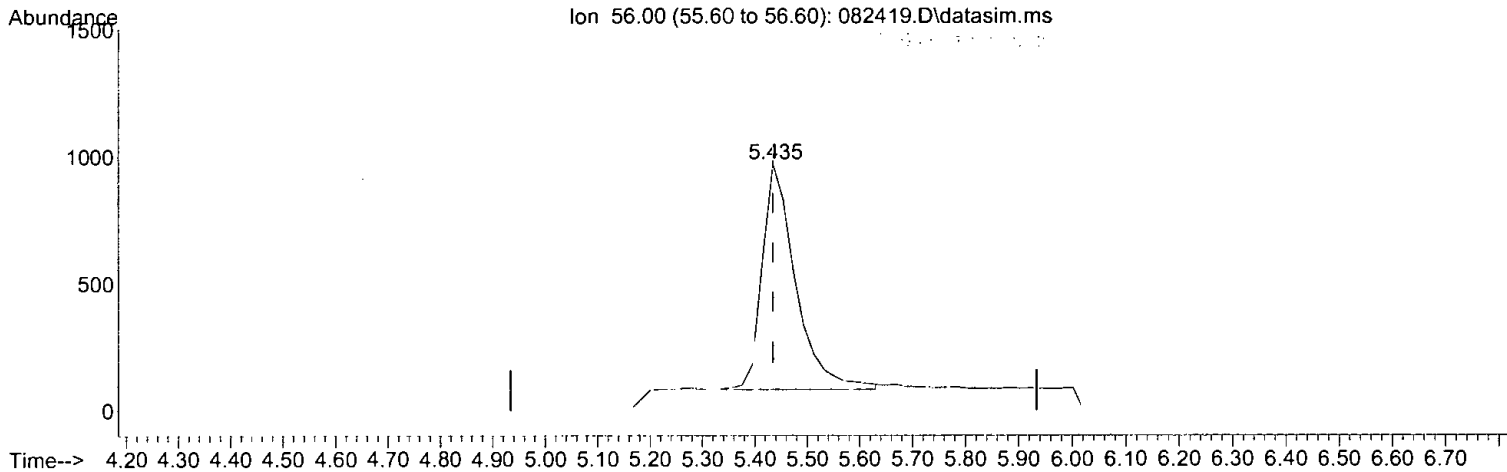
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	83.38
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of lppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.435min (+ 0.001) 0.470 ppbv m

response 3940

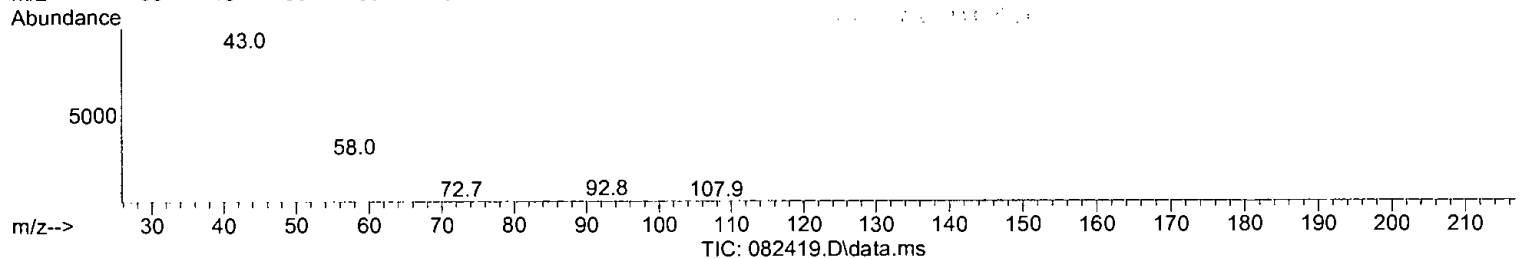
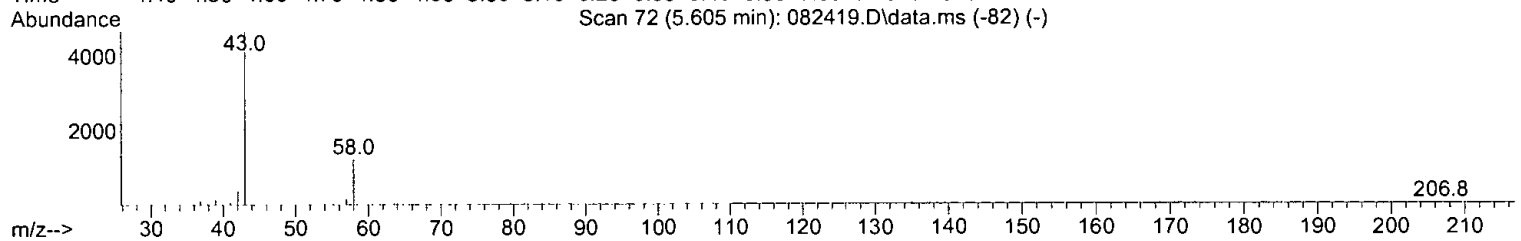
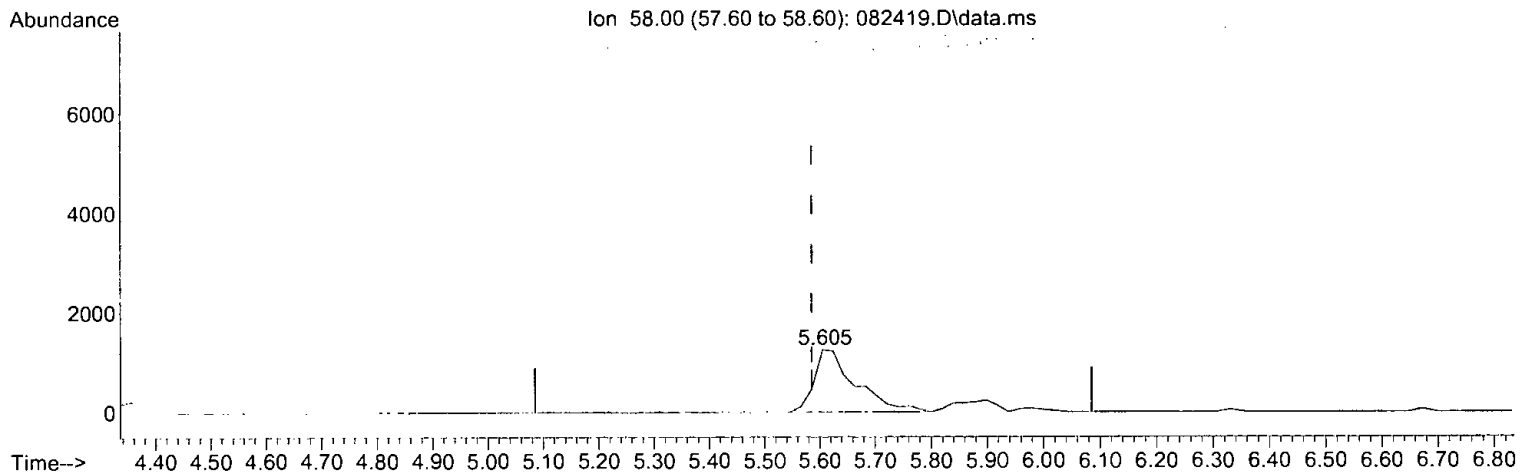
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	103.81
0.00	0.00	0.00
0.00	0.00	0.00

*AS 8/25/21*

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(16) Acetone (TMP)

5.605min (+ 0.020) 0.643 ppbv

response 6527

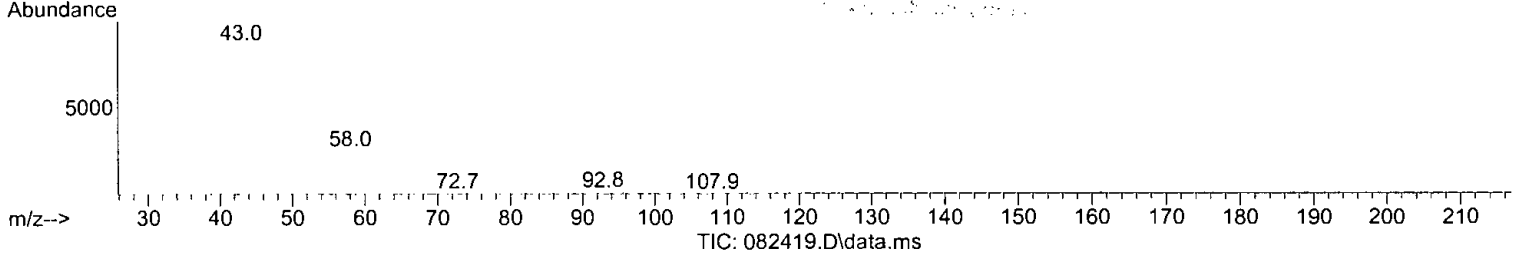
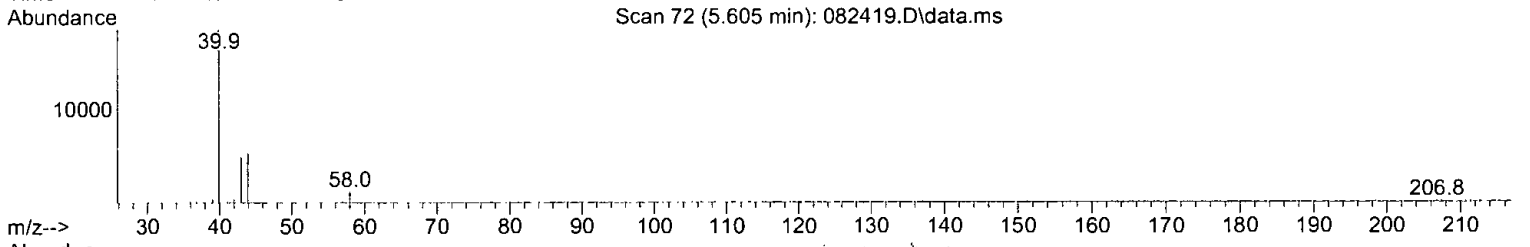
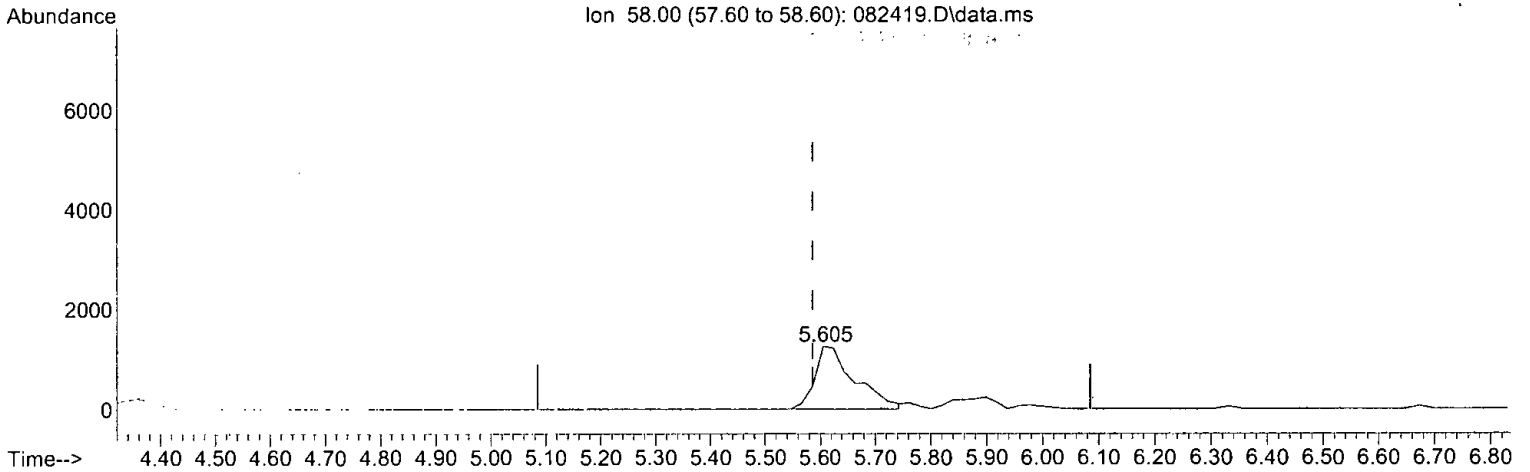
Ion	Exp%	Act%
58.00	100.00	100.00
43.00	359.30	380.18
0.00	0.00	0.00
0.00	0.00	0.00

AS8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:06 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(16) Acetone (TMP)

5.605min (+ 0.020) 0.623 ppbv m

response 6325

Ion	Exp%	Act%
58.00	100.00	100.00
43.00	359.30	395.60#
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:24:37 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	115414	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	554707	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	487886	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	435713	9.858	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	98.60%
Target Compounds						
						Qvalue
2) Propene	3.41	41	10415	0.528	ppbv	95
3) Dichlorodifluoromethane	3.52	85	26449	0.518	ppbv	97
4) Chloromethane	3.77	50	12529m	0.523	ppbv	
5) F-114	3.88	85	27219	0.530	ppbv	84
6) Vinyl chloride	4.05	62	12575	0.493	ppbv	97
7) 1,3-Butadiene	4.25	54	8552	0.485	ppbv	# 89
8) Butane	4.32	43	19927m	0.532	ppbv	
9) Bromomethane	4.64	94	8119	0.457	ppbv	73
10) Chloroethane	4.84	64	4356m	0.497	ppbv	
11) Vinyl bromide	5.32	106	9924m	0.482	ppbv	
12) Ethanol	4.96	45	3348m	0.519	ppbv	
13) Acrolein	5.43	56	3940m	0.470	ppbv	
14) Pentane	6.33	43	24250	0.540	ppbv	99
15) Trichlorofluoromethane	5.88	101	28954	0.508	ppbv	97
16) Acetone	5.60	58	6325m	0.623	ppbv	
17) 2-Propanol	5.86	45	21983	0.536	ppbv	# 100
18) 1,1-Dichloroethene	6.73	96	9184	0.483	ppbv	91
19) trans-1,2-Dichloroethene	8.18	96	9068	0.483	ppbv	# 81
20) Methylene chloride	6.83	84	12988	0.643	ppbv	92
21) t-Butyl alcohol (TBA)	6.65	59	17436	0.524	ppbv	# 48
22) 3-Chloropropene	7.01	41	16523	0.492	ppbv	95
23) CFC-113	7.23	101	19389	0.495	ppbv	85
24) Carbon disulfide	7.33	76	32802	0.495	ppbv	98
25) Methyl t-butyl ether (...)	8.51	73	22124	0.502	ppbv	86
26) Vinyl acetate	8.62	43	14176	0.479	ppbv	100
27) 1,1-Dichloroethane	8.44	63	21708	0.489	ppbv	96
28) cis-1,2-Dichloroethene	9.73	96	10001	0.487	ppbv	84
29) Hexane	10.11	57	17942	0.525	ppbv	97
30) Chloroform	10.19	83	24173	0.480	ppbv	98
31) Ethyl acetate	10.03	43	35561	0.495	ppbv	# 95
32) Tetrahydrofuran	10.85	42	15727	0.504	ppbv	94
33) 2-Butanone (MEK)	8.99	72	4363	0.531	ppbv	# 51
34] 1,2-Dichloroethane (EDC)	11.44	62	18067	0.477	ppbv	95
35] 1,1,1-Trichloroethane	11.94	97	18049	0.484	ppbv	86
36] Carbon tetrachloride	12.95	117	17794	0.485	ppbv	100
37] Benzene	12.70	78	34137	0.483	ppbv	95
38) Cyclohexane	13.16	84	10515	0.546	ppbv	# 70
40] 1,2-Dichloropropane	13.90	63	16121	0.470	ppbv	99
41] 1,4-Dioxane	14.17	88	7613	0.509	ppbv	87
42) 2,2,4-Trimethylpentane	14.31	57	58351	0.507	ppbv	# 93

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

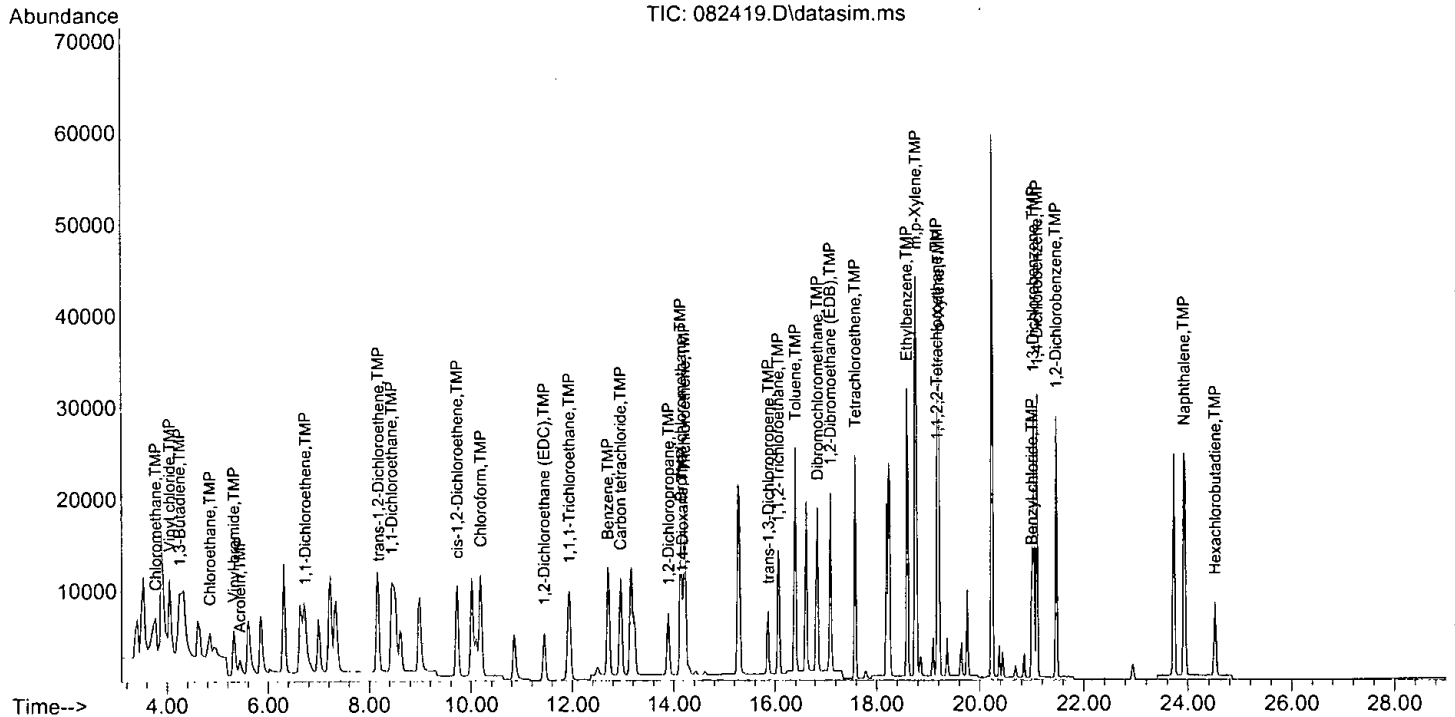
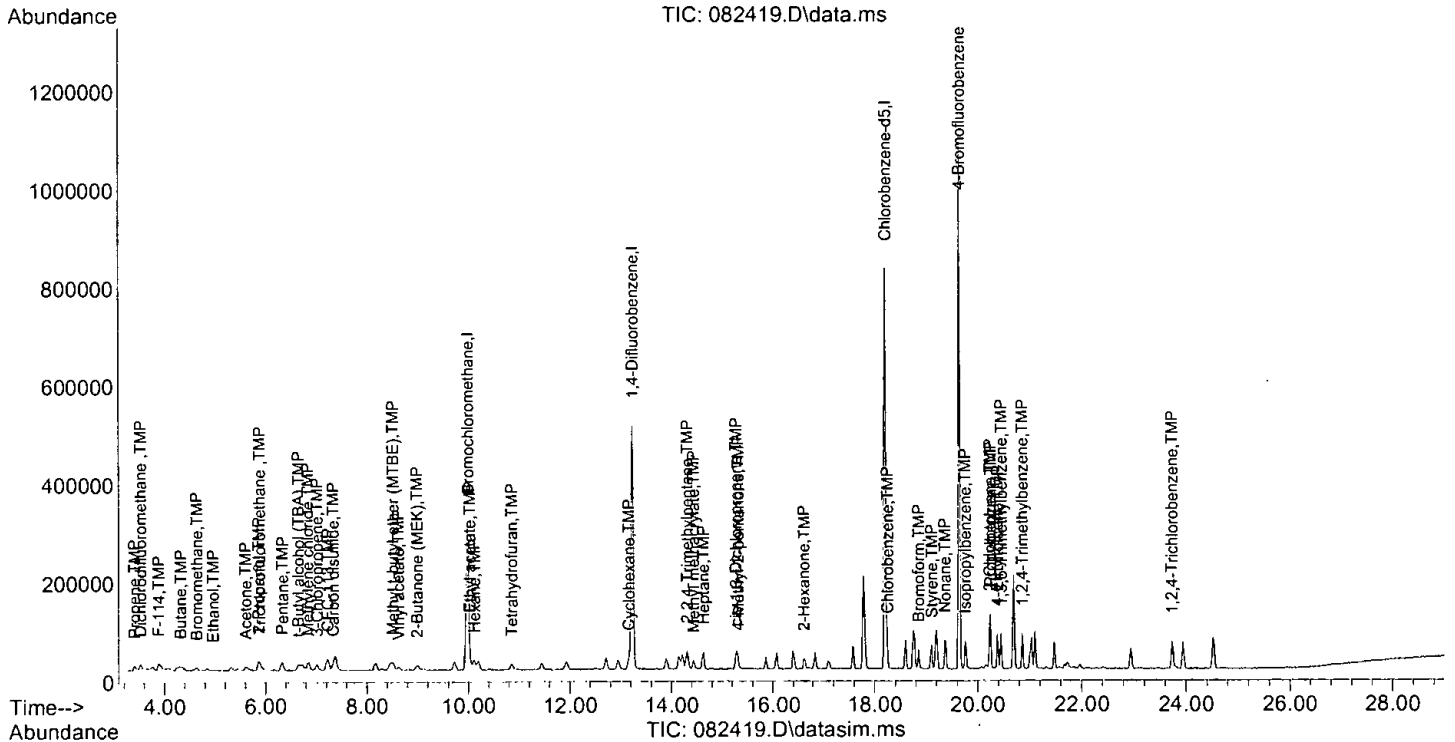
Quant Time: Aug 25 11:24:37 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
43) Methyl methacrylate	14.43	41	15450	0.491	ppbv	#	88
44) Heptane	14.63	43	26869	0.505	ppbv		94
45] Bromodichloromethane	14.14	83	25267	0.478	ppbv		94
46] Trichloroethene	14.22	95	16032	0.468	ppbv		85
47) cis-1,3-Dichloropropene	15.27	75	16651	0.472	ppbv		99
48) 4-Methyl-2-pentanone	15.31	100	948	0.422	ppbv	#	1
49] trans-1,3-Dichloropropene	15.87	75	14187	0.473	ppbv		96
50] Toluene	16.40	92	21277	0.512	ppbv		83
51] 1,1,2-Trichloroethane	16.06	83	15663	0.502	ppbv		97
52) 2-Hexanone	16.62	43	27761	0.474	ppbv		91
53] Tetrachloroethene	17.58	164	10635	0.503	ppbv	#	80
54] Dibromochloromethane	16.85	129	20905	0.479	ppbv		90
55] 1,2-Dibromoethane (EDB)	17.10	107	20974	0.485	ppbv		88
57) Chlorobenzene	18.25	112	27357	0.523	ppbv		94
58] Ethylbenzene	18.59	91	50846	0.469	ppbv		96
59] 1,1,2,2-Tetrachloroethane	19.17	83	35307	0.467	ppbv		89
60) Nonane	19.36	43	40287	0.492	ppbv		94
61) Isopropylbenzene	19.75	105	46301	0.487	ppbv		96
62) 2-Chlorotoluene	20.23	126	10975	0.486	ppbv		62
63] Propylbenzene	20.25	91	105381	0.500	ppbv		95
64) 4-Ethyltoluene	20.38	105	49571	0.501	ppbv		96
65] m,p-Xylene	18.76	106	33453	0.961	ppbv		91
66] o-Xylene	19.21	106	16416	0.480	ppbv		91
67) Styrene	19.11	104	26833	0.533	ppbv		91
68) Bromoform	18.85	173	18126	0.464	ppbv		95
70] Benzyl chloride	21.01	91	16675	0.455	ppbv		94
71) 1,3,5-Trimethylbenzene	20.45	105	37828	0.477	ppbv		99
72) 1,2,4-Trimethylbenzene	20.86	105	40076	0.489	ppbv		99
73] 1,3-Dichlorobenzene	21.04	146	27543	0.489	ppbv		93
74] 1,4-Dichlorobenzene	21.11	146	25769	0.482	ppbv		94
75] 1,2-Dichlorobenzene	21.47	146	25871	0.486	ppbv		94
76) 1,2,4-Trichlorobenzene	23.73	180	22589	0.481	ppbv		91
77] Naphthalene	23.93	128	56850	0.495	ppbv		98
78] Hexachlorobutadiene	24.52	225	17447	0.471	ppbv		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:24:37 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:24:37 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	0.500	0.528	-5.6	107	0.00
3 TMP	Dichlorodifluoromethane	0.500	0.518	-3.6	100	0.00
4 TMP	Chloromethane	0.500	0.523	-4.6	97	0.00
5 TMP	F-114	0.500	0.530	-6.0	100	0.00
6 TMP	Vinyl chloride	0.500	0.493	1.4	100	0.00
7 TMP	1,3-Butadiene	0.500	0.485	3.0	100	0.00
8 TMP	Butane	0.500	0.532	-6.4	85	0.00
9 TMP	Bromomethane	0.500	0.457	8.6	100	0.00
10 TMP	Chloroethane	0.500	0.497	0.6	99	0.00
11 TMP	Vinyl bromide	0.500	0.482	3.6	100	0.00
12 TMP	Ethanol	0.500	0.519	-3.8	102	0.00
13 TMP	Acrolein	0.500	0.470	6.0	92	0.00
14 TMP	Pentane	0.500	0.540	-8.0	100	0.00
15 TMP	Trichlorofluoromethane	0.500	0.508	-1.6	100	0.00
16 TMP	Acetone	0.500	0.623	-24.6	100	0.02
17 TMP	2-Propanol	0.500	0.536	-7.2	100	0.00
18 TMP	1,1-Dichloroethene	0.500	0.483	3.4	100	0.00
19 TMP	trans-1,2-Dichloroethene	0.500	0.483	3.4	100	0.00
20 TMP	Methylene chloride	0.500	0.643	-28.6	100	-0.03
21 TMP	t-Butyl alcohol (TBA)	0.500	0.524	-4.8	100	0.00
22 TMP	3-Chloropropene	0.500	0.492	1.6	100	0.00
23 TMP	CFC-113	0.500	0.495	1.0	100	0.00
24 TMP	Carbon disulfide	0.500	0.495	1.0	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	0.500	0.502	-0.4	100	0.00
26 TMP	Vinyl acetate	0.500	0.479	4.2	100	0.00
27 TMP	1,1-Dichloroethane	0.500	0.489	2.2	100	0.00
28 TMP	cis-1,2-Dichloroethene	0.500	0.487	2.6	100	0.00
29 TMP	Hexane	0.500	0.525	-5.0	100	0.00
30 TMP	Chloroform	0.500	0.480	4.0	100	0.00
31 TMP	Ethyl acetate	0.500	0.495	1.0	100	0.02
32 TMP	Tetrahydrofuran	0.500	0.504	-0.8	100	0.00
33 TMP	2-Butanone (MEK)	0.500	0.531	-6.2	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	0.500	0.477	4.6	100	0.00
35 TMP	1,1,1-Trichloroethane	0.500	0.484	3.2	100	0.00
36 TMP	Carbon tetrachloride	0.500	0.485	3.0	100	0.00
37 TMP	Benzene	0.500	0.483	3.4	100	0.00
38 TMP	Cyclohexane	0.500	0.546	-9.2	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.500	0.470	6.0	100	0.00
41 TMP	1,4-Dioxane	0.500	0.509	-1.8	100	0.00
42 TMP	2,2,4-Trimethylpentane	0.500	0.507	-1.4	100	0.00
43 TMP	Methyl methacrylate	0.500	0.491	1.8	100	0.00
44 TMP	Heptane	0.500	0.505	-1.0	100	0.00
45 TMP	Bromodichloromethane	0.500	0.478	4.4	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:24:37 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.500	0.468	6.4	100	0.00
47 TMP cis-1,3-Dichloropropene	0.500	0.472	5.6	100	0.00
48 TMP 4-Methyl-2-pentanone	0.500	0.422	15.6	100	0.02
49 TMP trans-1,3-Dichloropropene	0.500	0.473	5.4	100	0.02
50 TMP Toluene	0.500	0.512	-2.4	103	0.00
51 TMP 1,1,2-Trichloroethane	0.500	0.502	-0.4	108	0.00
52 TMP 2-Hexanone	0.500	0.474	5.2	100	0.00
53 TMP Tetrachloroethene	0.500	0.503	-0.6	100	0.00
54 TMP Dibromochloromethane	0.500	0.479	4.2	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.500	0.485	3.0	101	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	0.500	0.523	-4.6	100	0.00
58 TMP Ethylbenzene	0.500	0.469	6.2	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.500	0.467	6.6	100	-0.02
60 TMP Nonane	0.500	0.492	1.6	100	0.00
61 TMP Isopropylbenzene	0.500	0.487	2.6	100	0.00
62 TMP 2-Chlorotoluene	0.500	0.486	2.8	100	0.00
63 TMP Propylbenzene	0.500	0.500	0.0	100	0.00
64 TMP 4-Ethyltoluene	0.500	0.501	-0.2	100	0.00
65 TMP m,p-Xylene	1.000	0.961	3.9	100	0.00
66 TMP o-Xylene	0.500	0.480	4.0	100	0.00
67 TMP Styrene	0.500	0.533	-6.6	100	0.00
68 TMP Bromoform	0.500	0.464	7.2	100	0.00
69 S 4-Bromofluorobenzene	10.000	9.858	1.4	100	0.00
70 TMP Benzyl chloride	0.500	0.455	9.0	100	0.00
71 TMP 1,3,5-Trimethylbenzene	0.500	0.477	4.6	100	0.00
72 TMP 1,2,4-Trimethylbenzene	0.500	0.489	2.2	100	0.00
73 TMP 1,3-Dichlorobenzene	0.500	0.489	2.2	100	0.00
74 TMP 1,4-Dichlorobenzene	0.500	0.482	3.6	100	0.00
75 TMP 1,2-Dichlorobenzene	0.500	0.486	2.8	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.500	0.481	3.8	100	0.00
77 TMP Naphthalene	0.500	0.495	1.0	100	0.00
78 TMP Hexachlorobutadiene	0.500	0.471	5.8	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:24:37 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	1.710	1.805	-5.6	107	0.00
3 TMP	Dichlorodifluoromethane	4.425	4.583	-3.6	100	0.00
4 TMP	Chloromethane	2.075	2.171	-4.6	97	0.00
5 TMP	F-114	4.450	4.717	-6.0	100	0.00
6 TMP	Vinyl chloride	2.209	2.179	1.4	100	0.00
7 TMP	1,3-Butadiene	1.529	1.482	3.1	100	0.00
8 TMP	Butane	3.248	3.453	-6.3	85	0.00
9 TMP	Bromomethane	1.540	1.407	8.6	100	0.00
10 TMP	Chloroethane	0.759	0.755	0.5	99	0.00
11 TMP	Vinyl bromide	1.785	1.720	3.6	100	0.00
12 TMP	Ethanol	0.559	0.580	-3.8	102	0.00
13 TMP	Acrolein	0.726	0.683	5.9	92	0.00
14 TMP	Pentane	3.891	4.202	-8.0	100	0.00
15 TMP	Trichlorofluoromethane	4.934	5.017	-1.7	100	0.00
16 TMP	Acetone	0.880	1.096	-24.5	100	0.02
17 TMP	2-Propanol	3.556	3.809	-7.1	100	0.00
18 TMP	1,1-Dichloroethene	1.648	1.591	3.5	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.626	1.571	3.4	100	0.00
20 TMP	Methylene chloride	1.750	2.251	-28.6	100	-0.03
21 TMP	t-Butyl alcohol (TBA)	2.881	3.021	-4.9	100	0.00
22 TMP	3-Chloropropene	2.910	2.863	1.6	100	0.00
23 TMP	CFC-113	3.396	3.360	1.1	100	0.00
24 TMP	Carbon disulfide	5.738	5.684	0.9	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	3.834	-0.4	100	0.00
26 TMP	Vinyl acetate	2.562	2.457	4.1	100	0.00
27 TMP	1,1-Dichloroethane	3.850	3.762	2.3	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.733	2.6	100	0.00
29 TMP	Hexane	2.959	3.109	-5.1	100	0.00
30 TMP	Chloroform	4.366	4.189	4.1	100	0.00
31 TMP	Ethyl acetate	6.229	6.162	1.1	100	0.02
32 TMP	Tetrahydrofuran	2.703	2.725	-0.8	100	0.00
33 TMP	2-Butanone (MEK)	0.712	0.756	-6.2	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.131	4.7	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.128	3.2	100	0.00
36 TMP	Carbon tetrachloride	3.178	3.084	3.0	100	0.00
37 TMP	Benzene	6.123	5.916	3.4	100	0.00
38 TMP	Cyclohexane	1.669	1.822	-9.2	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.618	0.581	6.0	100	0.00
41 TMP	1,4-Dioxane	0.270	0.274	-1.5	100	0.00
42 TMP	2,2,4-Trimethylpentane	2.076	2.104	-1.3	100	0.00
43 TMP	Methyl methacrylate	0.567	0.557	1.8	100	0.00
44 TMP	Heptane	0.959	0.969	-1.0	100	0.00
45 TMP	Bromodichloromethane	0.953	0.911	4.4	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082419.D  
 Acq On : 24 Aug 2021 7:03 pm  
 Operator : bat  
 Sample : 0.5 ppbv 64-87b  
 Misc : T3, 125cc of 1ppbv  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:24:37 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.578	6.5	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.600	5.7	100	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.034	15.0	100	0.02
49 TMP trans-1,3-Dichloropropene	0.540	0.512	5.2	100	0.02
50 TMP Toluene	0.749	0.767	-2.4	103	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.565	-0.4	108	0.00
52 TMP 2-Hexanone	1.055	1.001	5.1	100	0.00
53 TMP Tetrachloroethene	0.381	0.383	-0.5	100	0.00
54 TMP Dibromochloromethane	0.787	0.754	4.2	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.756	3.0	101	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	1.121	-4.7	100	0.00
58 TMP Ethylbenzene	2.221	2.084	6.2	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.447	6.6	100	-0.02
60 TMP Nonane	1.679	1.651	1.7	100	0.00
61 TMP Isopropylbenzene	1.948	1.898	2.6	100	0.00
62 TMP 2-Chlorotoluene	0.463	0.450	2.8	100	0.00
63 TMP Propylbenzene	4.322	4.320	0.0	100	0.00
64 TMP 4-Ethyltoluene	2.027	2.032	-0.2	100	0.00
65 TMP m,p-Xylene	0.713	0.686	3.8	100	0.00
66 TMP o-Xylene	0.701	0.673	4.0	100	0.00
67 TMP Styrene	1.032	1.100	-6.6	100	0.00
68 TMP Bromoform	0.801	0.743	7.2	100	0.00
69 S 4-Bromofluorobenzene	0.906	0.893	1.4	100	0.00
70 TMP Benzyl chloride	0.751	0.684	8.9	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	1.551	4.6	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.679	1.643	2.1	100	0.00
73 TMP 1,3-Dichlorobenzene	1.154	1.129	2.2	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.056	8.3	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.061	2.7	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.926	2.5	100	0.00
77 TMP Naphthalene	2.538	2.330	8.2	100	0.00
78 TMP Hexachlorobutadiene	0.852	0.715	16.1	100	0.00

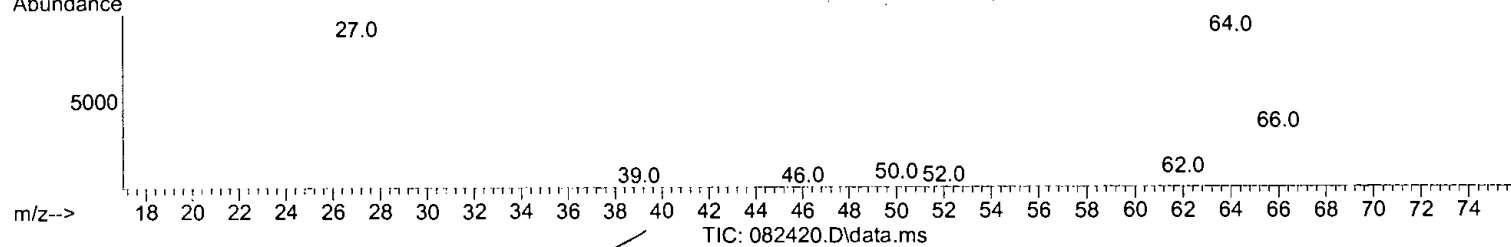
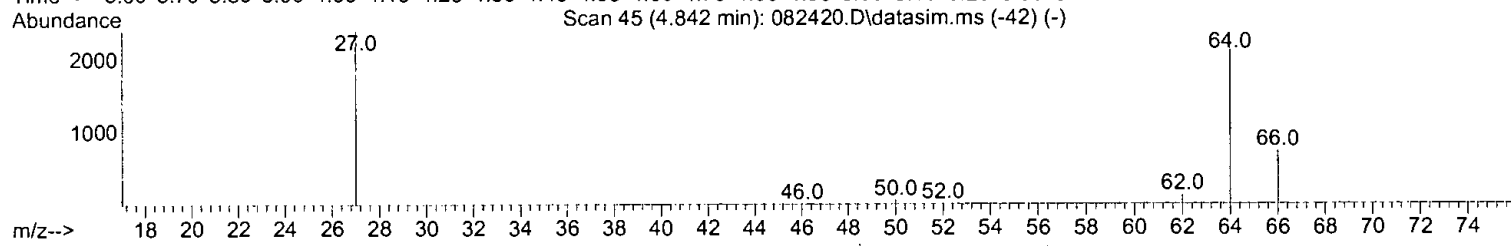
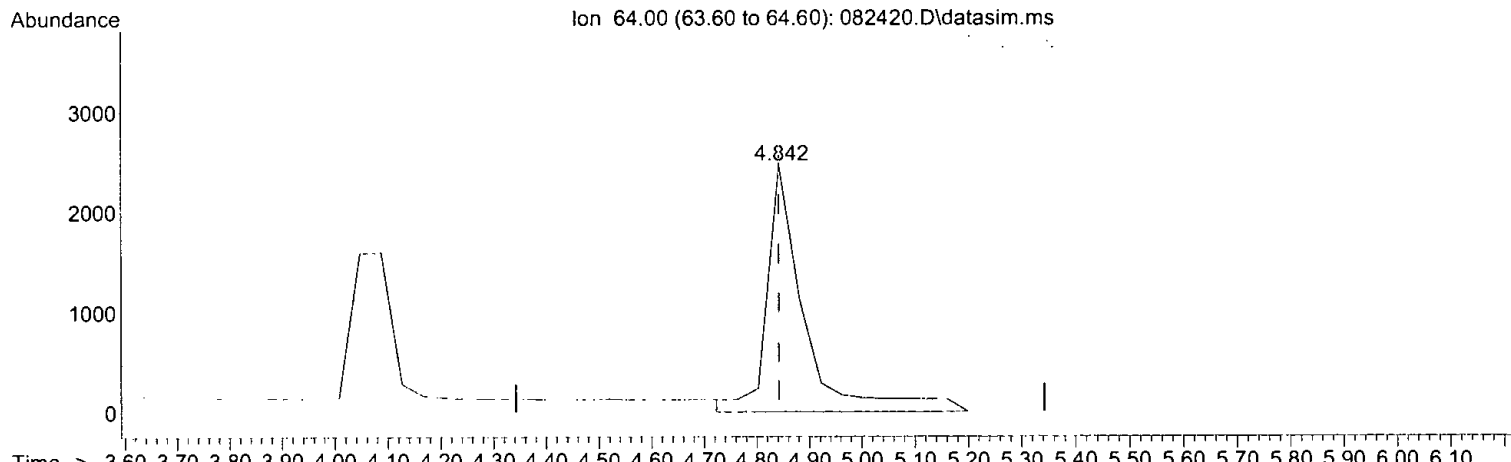
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:12 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 1.273 ppbv

response 11543

Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	32.77
0.00	0.00	0.00
0.00	0.00	0.00

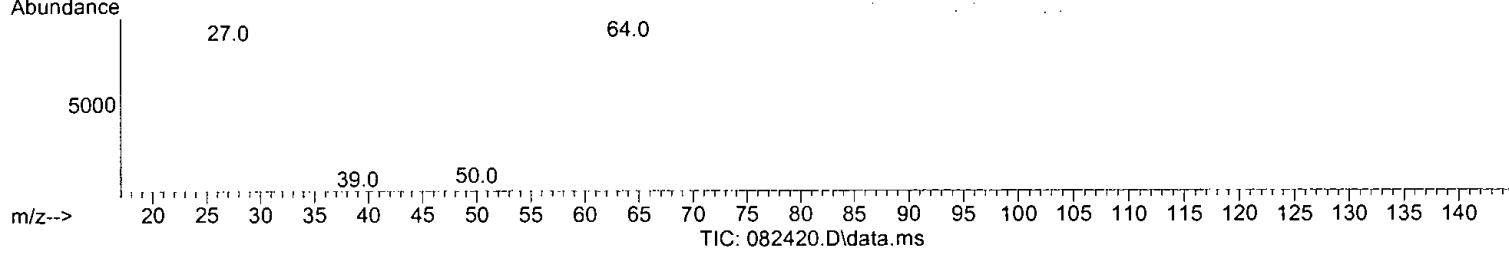
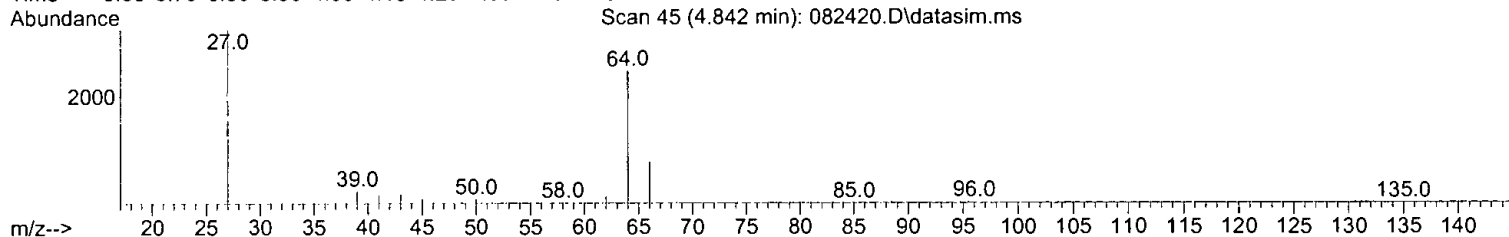
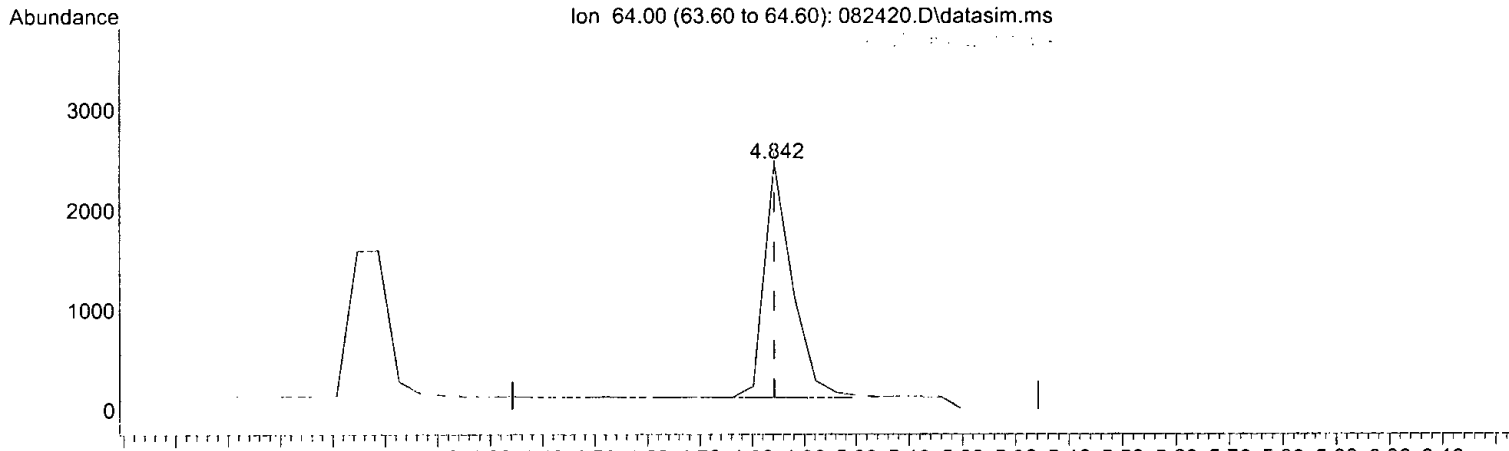
AS 8/25/21



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:12 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 0.972 ppbv m

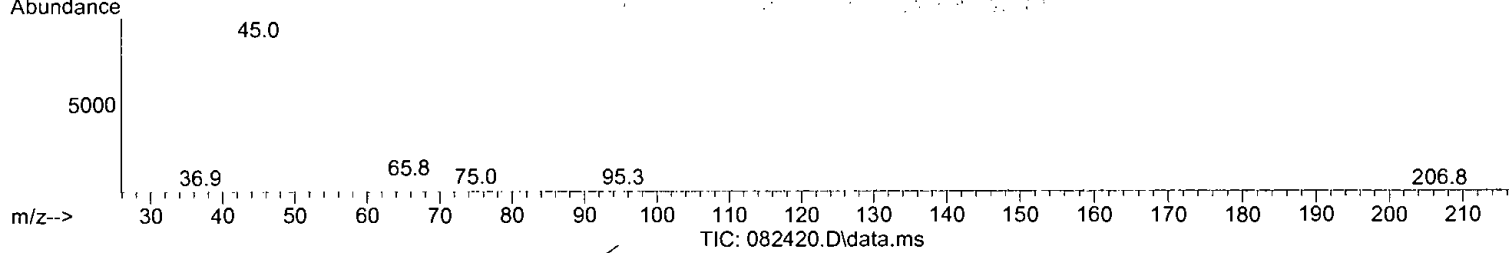
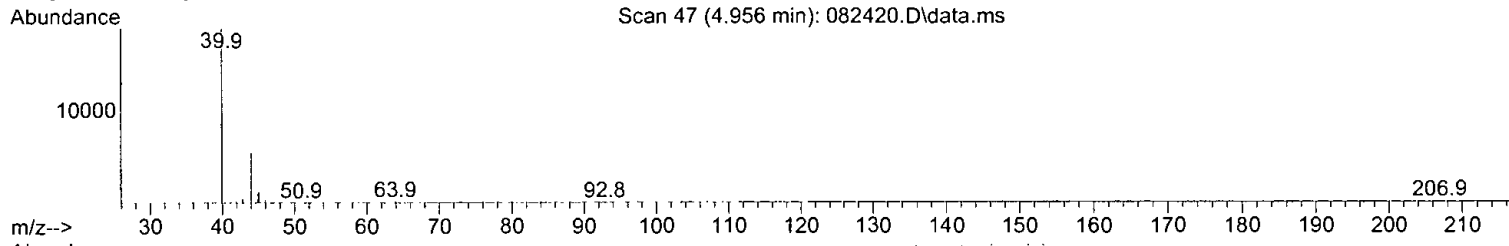
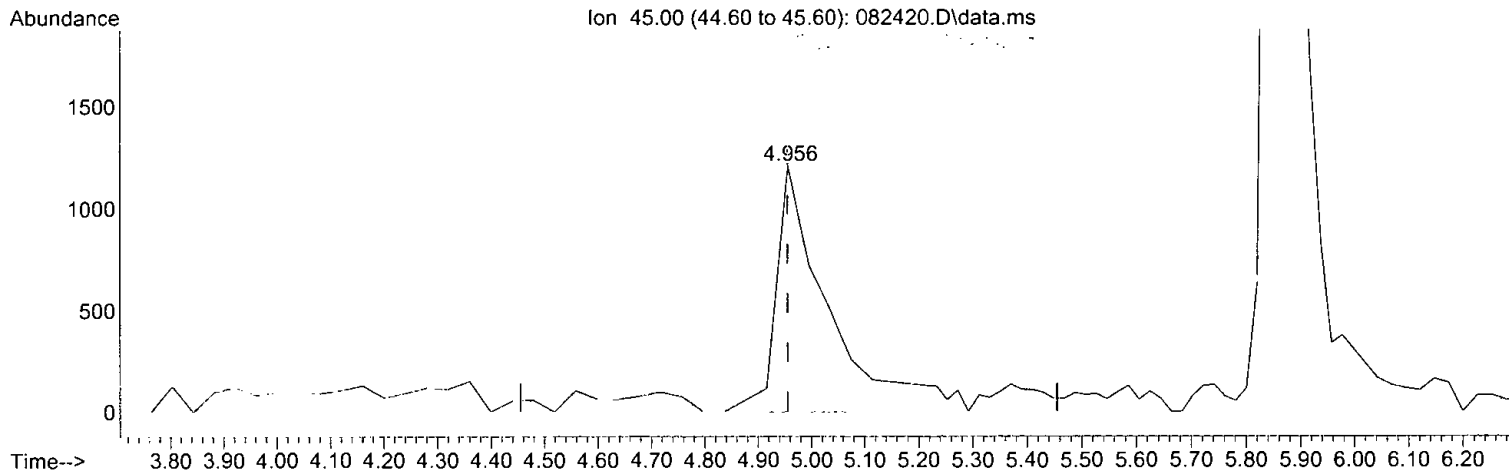
response 8817

Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	32.77
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:12 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(12) Ethanol (TMP)

4.956min (+ 0.001) 1.169 ppbv

response 7811

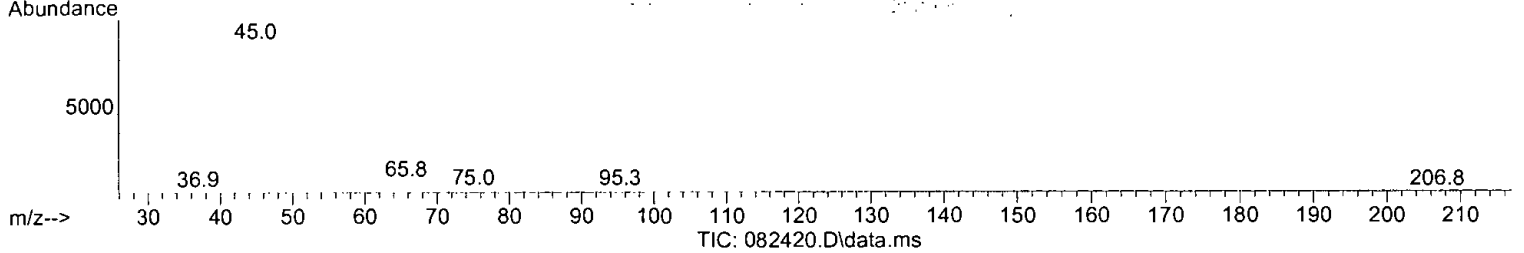
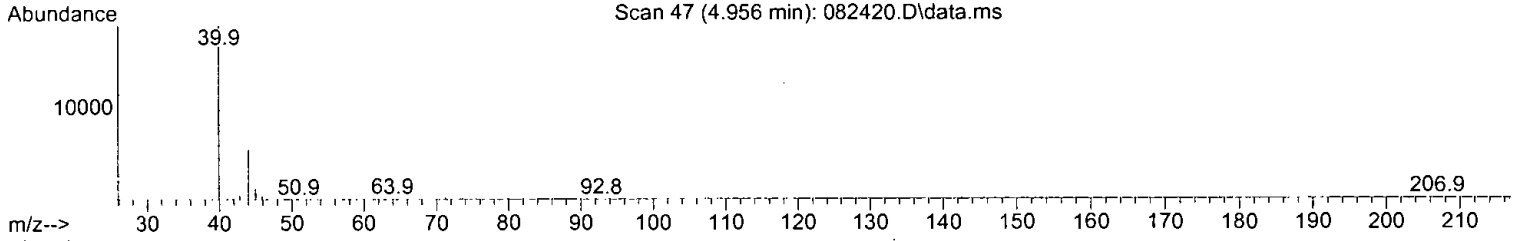
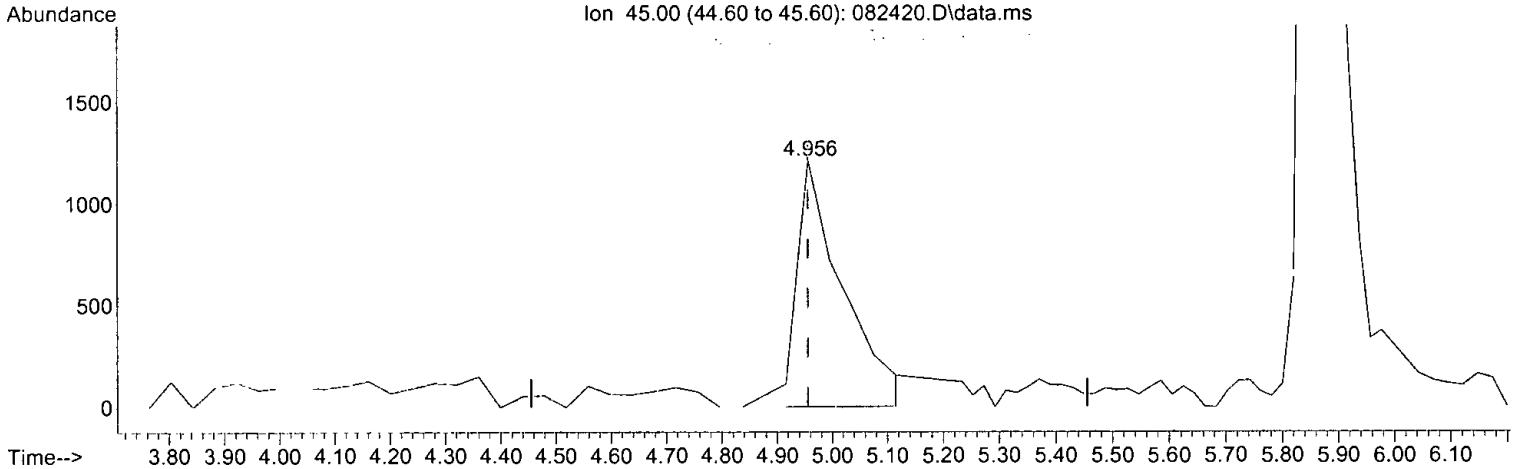
Ion	Exp%	Act%
45.00	100.00	100.00
45.90	25.50	35.48
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:12 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(12) Ethanol (TMP)

4.956min (+ 0.001) 1.070 ppbv m

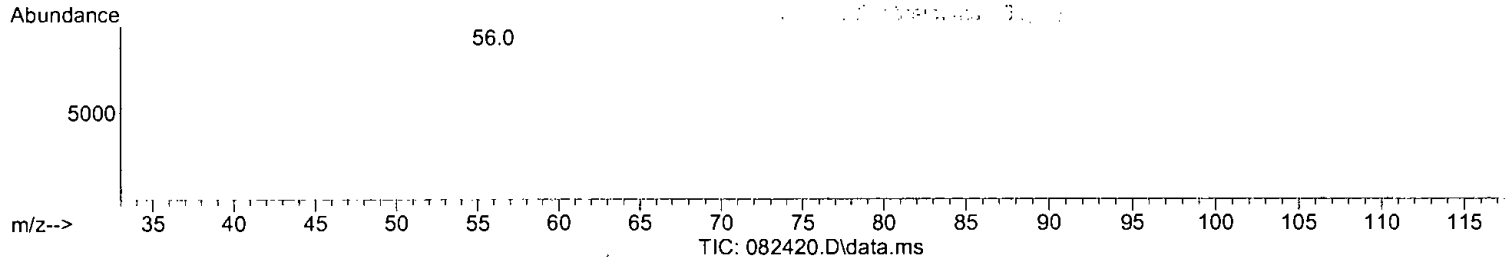
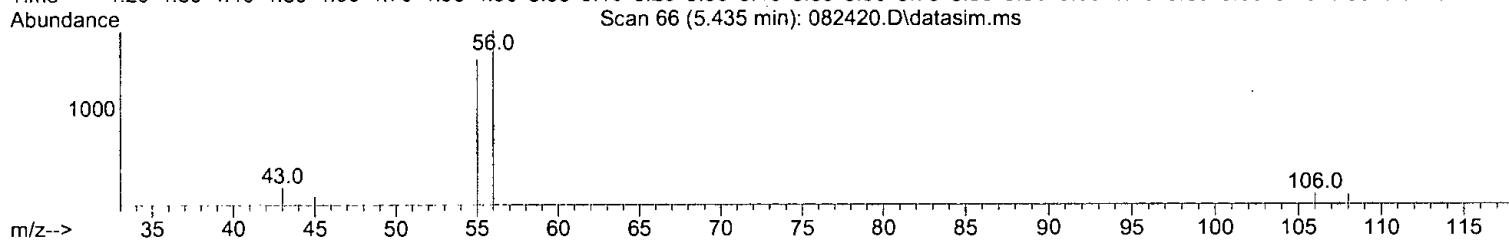
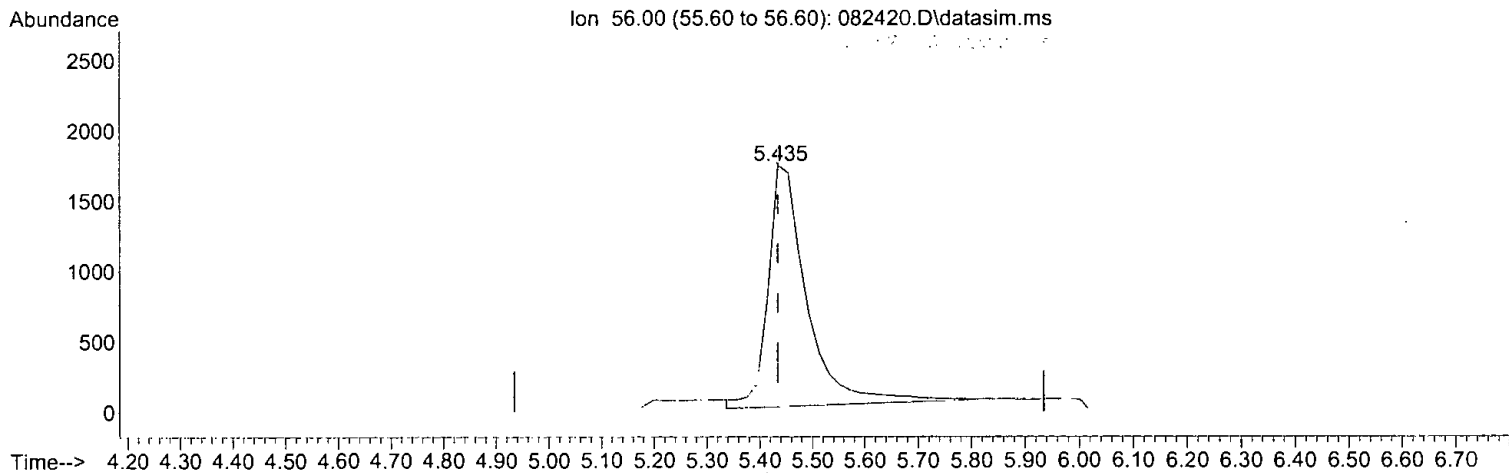
response	7153	
Ion	Exp%	Act%
45.00	100.00	100.00
45.90	25.50	38.74
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:12 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.435min (+ 0.001) 1.011 ppbv

response 8770

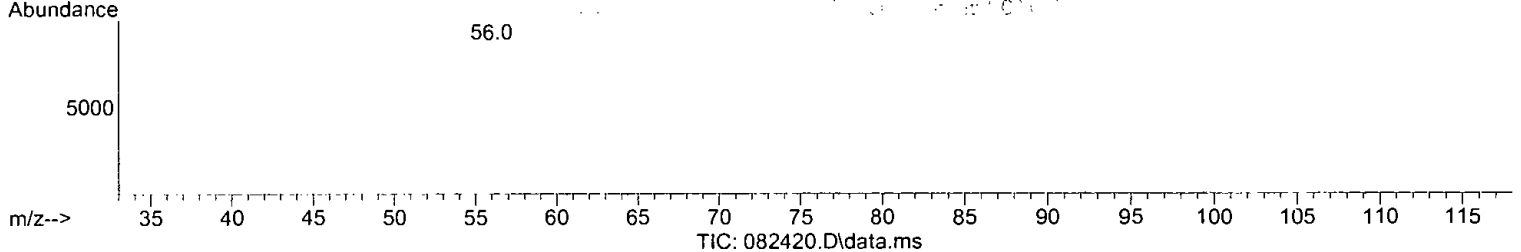
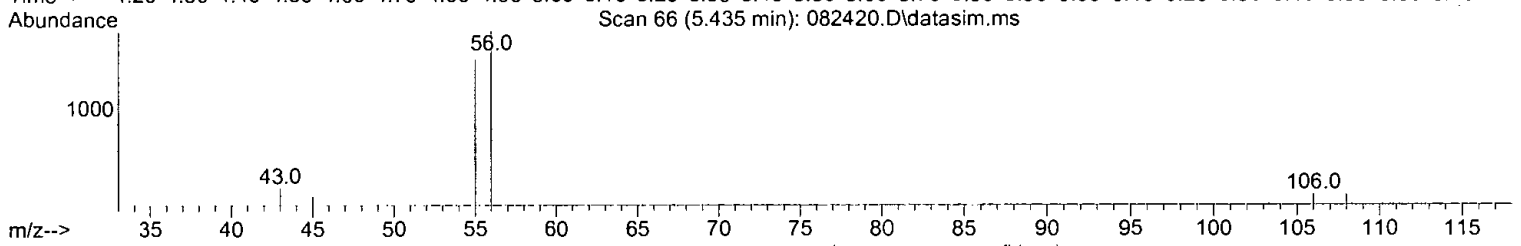
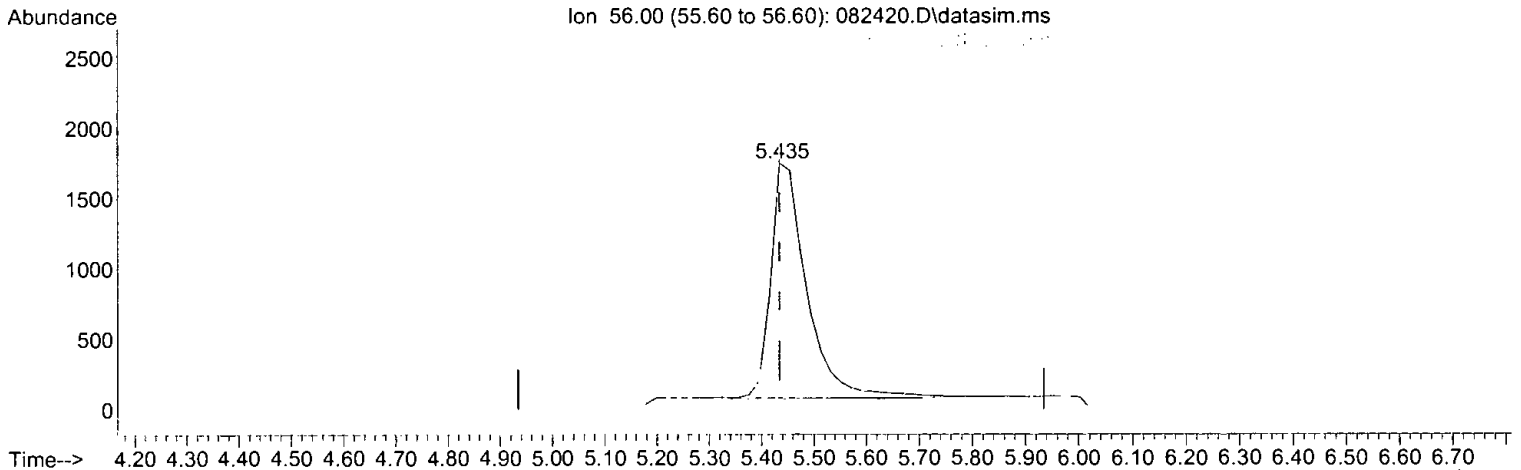
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	83.02
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:12 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.435min (+ 0.001) 0.923 ppbv m

response	8011	
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	90.89
0.00	0.00	0.00
0.00	0.00	0.00

*AS 8/25/21*

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:27:13 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	119489	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	570054	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	495165	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	449065	10.011	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	100.10%
Target Compounds						
						Qvalue
2) Propene	3.45	41	17403	0.852	ppbv	97
3) Dichlorodifluoromethane	3.53	85	54500	1.031	ppbv	97
4) Chloromethane	3.77	50	24390	0.984	ppbv	81
5) F-114	3.92	85	53754	1.011	ppbv	87
6) Vinyl chloride	4.05	62	23681	0.897	ppbv	94
7) 1,3-Butadiene	4.25	54	17749	0.972	ppbv	# 96
8) Butane	4.36	43	37376	0.963	ppbv	98
9) Bromomethane	4.64	94	16847	0.915	ppbv	97
10) Chloroethane	4.84	64	8817m	0.972	ppbv	
11) Vinyl bromide	5.32	106	23033	1.080	ppbv	100
12) Ethanol	4.96	45	7153m	1.070	ppbv	
13) Acrolein	5.43	56	8011m	0.923	ppbv	
14) Pentane	6.33	43	46273	0.995	ppbv	98
15) Trichlorofluoromethane	5.88	101	57368	0.973	ppbv	96
16) Acetone	5.60	58	11589	1.102	ppbv	88
17) 2-Propanol	5.86	45	40987	0.965	ppbv	# 99
18) 1,1-Dichloroethene	6.73	96	18448	0.937	ppbv	91
19) trans-1,2-Dichloroethene	8.18	96	18217	0.938	ppbv	87
20) Methylene chloride	6.86	84	24389	1.166	ppbv	95
21) t-Butyl alcohol (TBA)	6.65	59	32020	0.930	ppbv	# 35
22) 3-Chloropropene	7.01	41	34105	0.981	ppbv	90
23) CFC-113	7.23	101	39779	0.980	ppbv	87
24) Carbon disulfide	7.33	76	61550	0.898	ppbv	89
25) Methyl t-butyl ether (...)	8.51	73	45052	0.987	ppbv	98
26) Vinyl acetate	8.62	43	31042	1.014	ppbv	95
27) 1,1-Dichloroethane	8.44	63	43437	0.944	ppbv	95
28) cis-1,2-Dichloroethene	9.73	96	20093	0.944	ppbv	# 81
29) Hexane	10.11	57	34406	0.973	ppbv	96
30) Chloroform	10.19	83	48299	0.926	ppbv	97
31) Ethyl acetate	10.03	43	68467	0.920	ppbv	# 98
32) Tetrahydrofuran	10.85	42	31039	0.961	ppbv	89
33) 2-Butanone (MEK)	8.99	72	8393	0.987	ppbv	# 74
34) 1,2-Dichloroethane (EDC)	11.44	62	37373	0.952	ppbv	97
35) 1,1,1-Trichloroethane	11.94	97	36236	0.938	ppbv	86
36) Carbon tetrachloride	12.95	117	35620	0.938	ppbv	98
37) Benzene	12.72	78	68021	0.930	ppbv	100
38) Cyclohexane	13.16	84	19754	0.990	ppbv	86
40) 1,2-Dichloropropane	13.90	63	32588	0.925	ppbv	99
41) 1,4-Dioxane	14.17	88	15339	0.998	ppbv	96
42) 2,2,4-Trimethylpentane	14.31	57	119029	1.006	ppbv	92

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

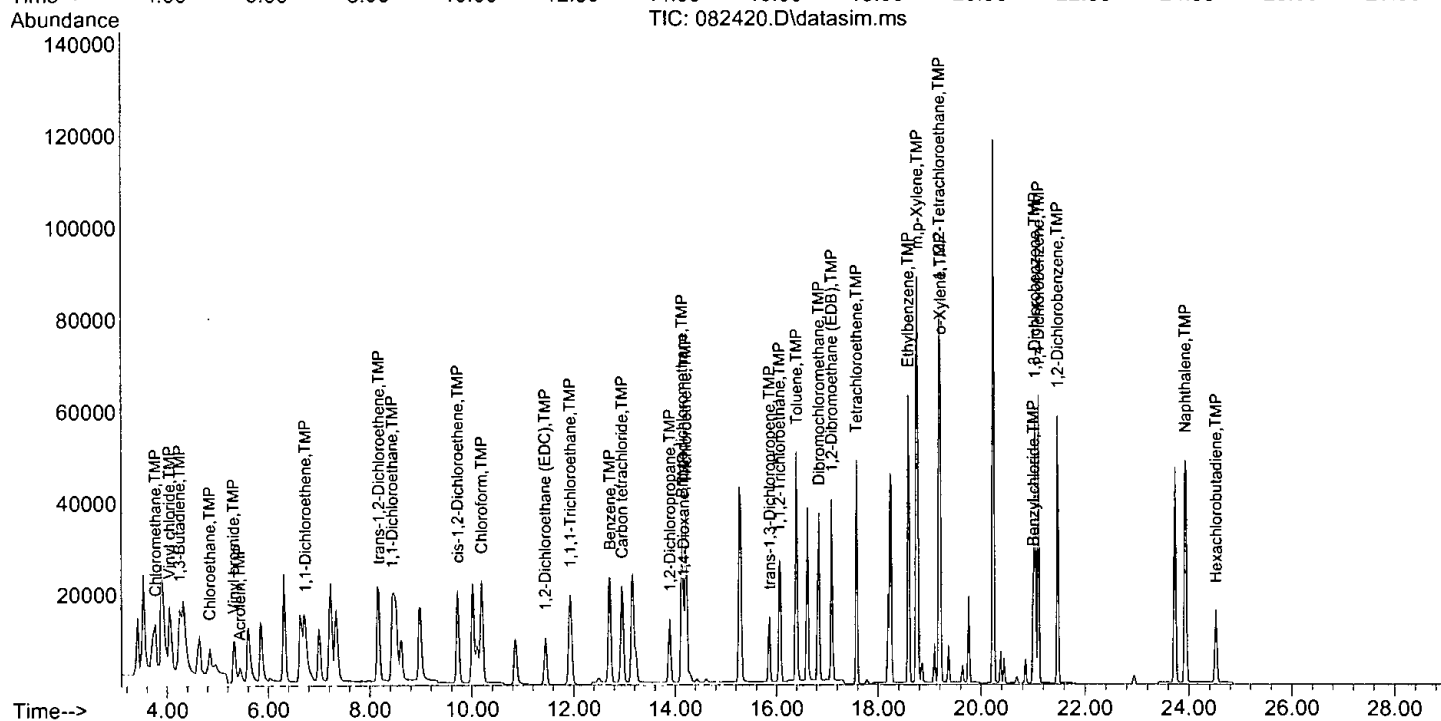
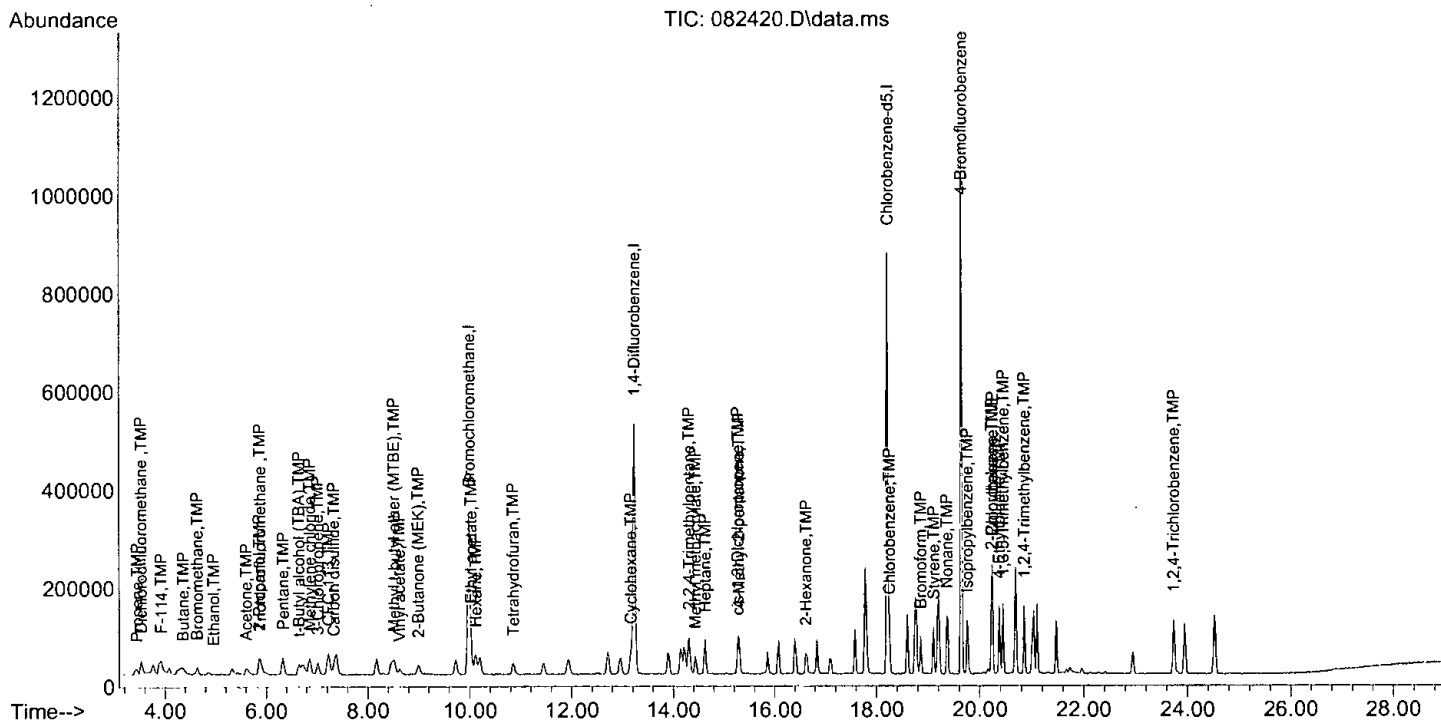
Quant Time: Aug 25 11:27:13 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
43) Methyl methacrylate	14.43	41	30190	0.934	ppbv	#	91
44) Heptane	14.63	43	55844	1.021	ppbv		86
45) Bromodichloromethane	14.14	83	50857	0.936	ppbv		94
46) Trichloroethene	14.22	95	32130	0.912	ppbv		83
47) cis-1,3-Dichloropropene	15.27	75	34830	0.961	ppbv		92
48) 4-Methyl-2-pentanone	15.29	100	2348	1.017	ppbv	#	1
49) trans-1,3-Dichloropropene	15.87	75	28804	0.935	ppbv		98
50) Toluene	16.40	92	43051	1.008	ppbv		84
51) 1,1,2-Trichloroethane	16.06	83	30819	0.961	ppbv		96
52) 2-Hexanone	16.62	43	58719	0.976	ppbv		92
53) Tetrachloroethene	17.58	164	21073	0.970	ppbv	#	80
54) Dibromochloromethane	16.85	129	41990	0.936	ppbv		90
55) 1,2-Dibromoethane (EDB)	17.10	107	41063	0.925	ppbv		89
57) Chlorobenzene	18.25	112	50738	0.957	ppbv		87
58) Ethylbenzene	18.59	91	101724	0.925	ppbv		96
59) 1,1,2,2-Tetrachloroethane	19.19	83	71252	0.929	ppbv		94
60) Nonane	19.36	43	80936	0.973	ppbv		94
61) Isopropylbenzene	19.75	105	92663	0.961	ppbv		99
62) 2-Chlorotoluene	20.23	126	22508	0.982	ppbv		66
63) Propylbenzene	20.25	91	212239	0.992	ppbv		94
64) 4-Ethyltoluene	20.38	105	96242	0.959	ppbv		98
65) m,p-Xylene	18.76	106	66904	1.895	ppbv		90
66) o-Xylene	19.21	106	32692	0.942	ppbv		90
67) Styrene	19.11	104	48723	0.953	ppbv		91
68) Bromoform	18.85	173	38445	0.969	ppbv		98
70) Benzyl chloride	21.01	91	34619	0.931	ppbv		93
71) 1,3,5-Trimethylbenzene	20.45	105	77061	0.958	ppbv		99
72) 1,2,4-Trimethylbenzene	20.86	105	81460	0.980	ppbv		95
73) 1,3-Dichlorobenzene	21.04	146	55138	0.965	ppbv		92
74) 1,4-Dichlorobenzene	21.11	146	51815	0.966	ppbv		94
75) 1,2-Dichlorobenzene	21.47	146	51785	0.959	ppbv		94
76) 1,2,4-Trichlorobenzene	23.73	180	44500	0.981	ppbv		97
77) Naphthalene	23.93	128	113943	0.993	ppbv		98
78) Hexachlorobutadiene	24.52	225	34253	0.940	ppbv		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of lppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:27:13 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:27:13 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	1.000	0.852	14.8	100	0.04
3 TMP	Dichlorodifluoromethane	1.000	1.031	-3.1	100	0.00
4 TMP	Chloromethane	1.000	0.984	1.6	100	0.00
5 TMP	F-114	1.000	1.011	-1.1	100	0.04
6 TMP	Vinyl chloride	1.000	0.897	10.3	100	0.00
7 TMP	1,3-Butadiene	1.000	0.972	2.8	100	0.00
8 TMP	Butane	1.000	0.963	3.7	100	0.04
9 TMP	Bromomethane	1.000	0.915	8.5	100	0.00
10 TMP	Chloroethane	1.000	0.972	2.8	100	0.00
11 TMP	Vinyl bromide	1.000	1.080	-8.0	117	0.00
12 TMP	Ethanol	1.000	1.070	-7.0	92	0.00
13 TMP	Acrolein	1.000	0.923	7.7	104	0.00
14 TMP	Pentane	1.000	0.995	0.5	100	0.00
15 TMP	Trichlorofluoromethane	1.000	0.973	2.7	100	0.00
16 TMP	Acetone	1.000	1.102	-10.2	100	0.02
17 TMP	2-Propanol	1.000	0.965	3.5	100	0.00
18 TMP	1,1-Dichloroethene	1.000	0.937	6.3	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.000	0.938	6.2	100	0.00
20 TMP	Methylene chloride	1.000	1.166	-16.6	100	0.00
21 TMP	t-Butyl alcohol (TBA)	1.000	0.930	7.0	100	0.00
22 TMP	3-Chloropropene	1.000	0.981	1.9	100	0.00
23 TMP	CFC-113	1.000	0.980	2.0	100	0.00
24 TMP	Carbon disulfide	1.000	0.898	10.2	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	1.000	0.987	1.3	100	0.00
26 TMP	Vinyl acetate	1.000	1.014	-1.4	100	0.00
27 TMP	1,1-Dichloroethane	1.000	0.944	5.6	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.000	0.944	5.6	100	0.00
29 TMP	Hexane	1.000	0.973	2.7	100	0.00
30 TMP	Chloroform	1.000	0.926	7.4	100	0.00
31 TMP	Ethyl acetate	1.000	0.920	8.0	100	0.02
32 TMP	Tetrahydrofuran	1.000	0.961	3.9	100	0.00
33 TMP	2-Butanone (MEK)	1.000	0.987	1.3	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	1.000	0.952	4.8	100	0.00
35 TMP	1,1,1-Trichloroethane	1.000	0.938	6.2	100	0.00
36 TMP	Carbon tetrachloride	1.000	0.938	6.2	100	0.00
37 TMP	Benzene	1.000	0.930	7.0	100	0.02
38 TMP	Cyclohexane	1.000	0.990	1.0	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	1.000	0.925	7.5	100	0.00
41 TMP	1,4-Dioxane	1.000	0.998	0.2	100	0.00
42 TMP	2,2,4-Trimethylpentane	1.000	1.006	-0.6	100	0.00
43 TMP	Methyl methacrylate	1.000	0.934	6.6	100	0.00
44 TMP	Heptane	1.000	1.021	-2.1	100	0.00
45 TMP	Bromodichloromethane	1.000	0.936	6.4	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:27:13 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	1.000	0.912	8.8	100	0.00
47	TMP cis-1,3-Dichloropropene	1.000	0.961	3.9	100	0.00
48	TMP 4-Methyl-2-pentanone	1.000	1.017	-1.7	100	0.00
49	TMP trans-1,3-Dichloropropene	1.000	0.935	6.5	100	0.02
50	TMP Toluene	1.000	1.008	-0.8	103	0.00
51	TMP 1,1,2-Trichloroethane	1.000	0.961	3.9	105	0.00
52	TMP 2-Hexanone	1.000	0.976	2.4	100	0.00
53	TMP Tetrachloroethene	1.000	0.970	3.0	100	0.00
54	TMP Dibromochloromethane	1.000	0.936	6.4	100	0.00
55	TMP 1,2-Dibromoethane (EDB)	1.000	0.925	7.5	98	0.00
56	I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57	TMP Chlorobenzene	1.000	0.957	4.3	100	0.00
58	TMP Ethylbenzene	1.000	0.925	7.5	100	0.00
59	TMP 1,1,2,2-Tetrachloroethane	1.000	0.929	7.1	100	0.00
60	TMP Nonane	1.000	0.973	2.7	100	0.00
61	TMP Isopropylbenzene	1.000	0.961	3.9	100	0.00
62	TMP 2-Chlorotoluene	1.000	0.982	1.8	100	0.00
63	TMP Propylbenzene	1.000	0.992	0.8	100	0.00
64	TMP 4-Ethyltoluene	1.000	0.959	4.1	100	0.00
65	TMP m,p-Xylene	2.000	1.895	5.2	100	0.00
66	TMP o-Xylene	1.000	0.942	5.8	100	0.00
67	TMP Styrene	1.000	0.953	4.7	100	0.00
68	TMP Bromoform	1.000	0.969	3.1	100	0.00
69	S 4-Bromofluorobenzene	10.000	10.011	-0.1	100	0.00
70	TMP Benzyl chloride	1.000	0.931	6.9	100	0.00
71	TMP 1,3,5-Trimethylbenzene	1.000	0.958	4.2	100	0.00
72	TMP 1,2,4-Trimethylbenzene	1.000	0.980	2.0	100	0.00
73	TMP 1,3-Dichlorobenzene	1.000	0.965	3.5	100	0.00
74	TMP 1,4-Dichlorobenzene	1.000	0.966	3.4	100	0.00
75	TMP 1,2-Dichlorobenzene	1.000	0.959	4.1	100	0.00
76	TMP 1,2,4-Trichlorobenzene	1.000	0.981	1.9	100	0.00
77	TMP Naphthalene	1.000	0.993	0.7	100	0.00
78	TMP Hexachlorobutadiene	1.000	0.940	6.0	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:27:13 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	1.710	1.456	14.9	100	0.04
3 TMP	Dichlorodifluoromethane	4.425	4.561	-3.1	100	0.00
4 TMP	Chloromethane	2.075	2.041	1.6	100	0.00
5 TMP	F-114	4.450	4.499	-1.1	100	0.04
6 TMP	Vinyl chloride	2.209	1.982	10.3	100	0.00
7 TMP	1,3-Butadiene	1.529	1.485	2.9	100	0.00
8 TMP	Butane	3.248	3.128	3.7	100	0.04
9 TMP	Bromomethane	1.540	1.410	8.4	100	0.00
10 TMP	Chloroethane	0.759	0.738	2.8	100	0.00
11 TMP	Vinyl bromide	1.785	1.928	-8.0	117	0.00
12 TMP	Ethanol	0.559	0.599	-7.2	92	0.00
13 TMP	Acrolein	0.726	0.670	7.7	104	0.00
14 TMP	Pentane	3.891	3.873	0.5	100	0.00
15 TMP	Trichlorofluoromethane	4.934	4.801	2.7	100	0.00
16 TMP	Acetone	0.880	0.970	-10.2	100	0.02
17 TMP	2-Propanol	3.556	3.430	3.5	100	0.00
18 TMP	1,1-Dichloroethene	1.648	1.544	6.3	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.626	1.525	6.2	100	0.00
20 TMP	Methylene chloride	1.750	2.041	-16.6	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.881	2.680	7.0	100	0.00
22 TMP	3-Chloropropene	2.910	2.854	1.9	100	0.00
23 TMP	CFC-113	3.396	3.329	2.0	100	0.00
24 TMP	Carbon disulfide	5.738	5.151	10.2	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	3.770	1.3	100	0.00
26 TMP	Vinyl acetate	2.562	2.598	-1.4	100	0.00
27 TMP	1,1-Dichloroethane	3.850	3.635	5.6	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.682	5.5	100	0.00
29 TMP	Hexane	2.959	2.879	2.7	100	0.00
30 TMP	Chloroform	4.366	4.042	7.4	100	0.00
31 TMP	Ethyl acetate	6.229	5.730	8.0	100	0.02
32 TMP	Tetrahydrofuran	2.703	2.598	3.9	100	0.00
33 TMP	2-Butanone (MEK)	0.712	0.702	1.4	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.128	4.8	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.033	6.2	100	0.00
36 TMP	Carbon tetrachloride	3.178	2.981	6.2	100	0.00
37 TMP	Benzene	6.123	5.693	7.0	100	0.02
38 TMP	Cyclohexane	1.669	1.653	1.0	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.618	0.572	7.4	100	0.00
41 TMP	1,4-Dioxane	0.270	0.269	0.4	100	0.00
42 TMP	2,2,4-Trimethylpentane	2.076	2.088	-0.6	100	0.00
43 TMP	Methyl methacrylate	0.567	0.530	6.5	100	0.00
44 TMP	Heptane	0.959	0.980	-2.2	100	0.00
45 TMP	Bromodichloromethane	0.953	0.892	6.4	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc GCMS7\08-24-21\  
 Data File : 082420.D  
 Acq On : 24 Aug 2021 7:47 pm  
 Operator : bat  
 Sample : 1.0 ppbv 64-87b  
 Misc : T3, 250cc of 1ppbv  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:27:13 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

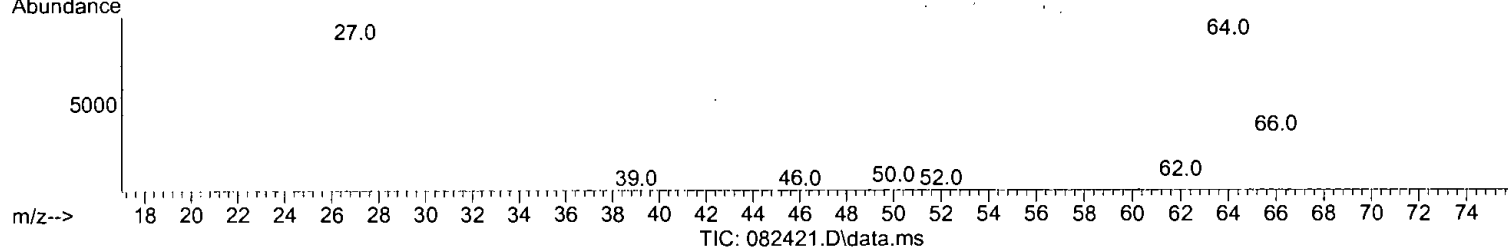
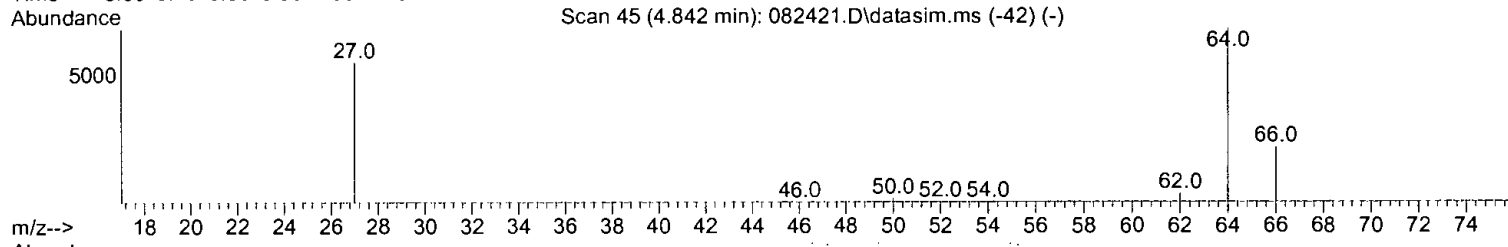
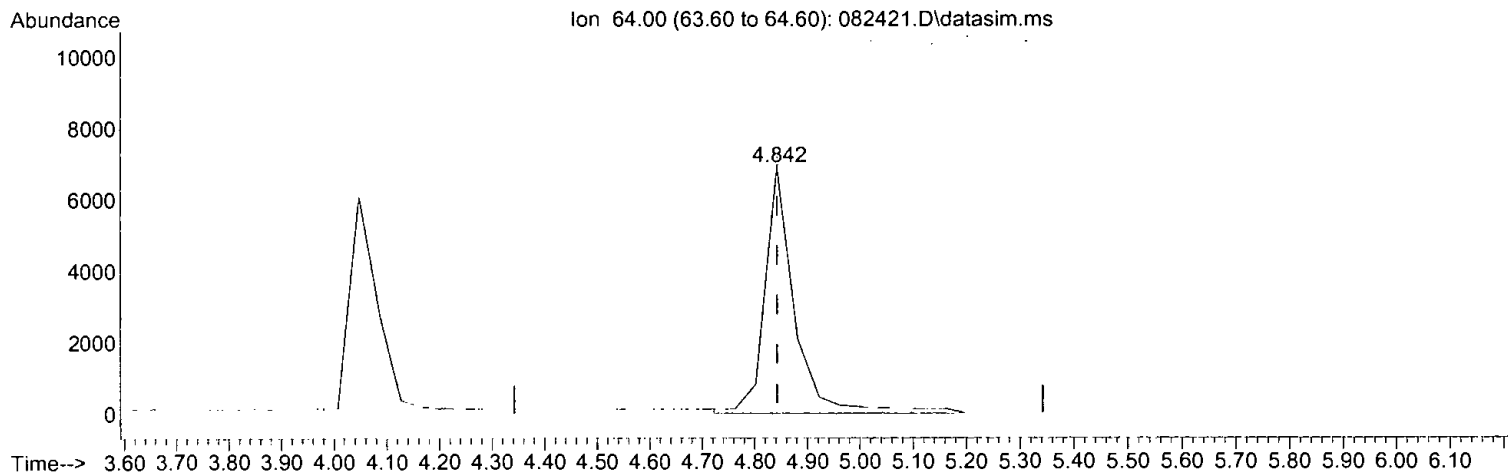
Compound	AvgRF	CCRF	%Dev	Area%	Dev (min)
46 TMP Trichloroethene	0.618	0.564	8.7	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.611	3.9	100	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.041	-2.5	100	0.00
49 TMP trans-1,3-Dichloropropene	0.540	0.505	6.5	100	0.02
50 TMP Toluene	0.749	0.755	-0.8	103	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.541	3.9	105	0.00
52 TMP 2-Hexanone	1.055	1.030	2.4	100	0.00
53 TMP Tetrachloroethene	0.381	0.370	2.9	100	0.00
54 TMP Dibromochloromethane	0.787	0.737	6.4	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.720	7.6	98	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	1.025	4.3	100	0.00
58 TMP Ethylbenzene	2.221	2.054	7.5	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.439	7.1	100	0.00
60 TMP Nonane	1.679	1.635	2.6	100	0.00
61 TMP Isopropylbenzene	1.948	1.871	4.0	100	0.00
62 TMP 2-Chlorotoluene	0.463	0.455	1.7	100	0.00
63 TMP Propylbenzene	4.322	4.286	0.8	100	0.00
64 TMP 4-Ethyltoluene	2.027	1.944	4.1	100	0.00
65 TMP m,p-Xylene	0.713	0.676	5.2	100	0.00
66 TMP o-Xylene	0.701	0.660	5.8	100	0.00
67 TMP Styrene	1.032	0.984	4.7	100	0.00
68 TMP Bromoform	0.801	0.776	3.1	100	0.00
69 S 4-Bromofluorobenzene	0.906	0.907	-0.1	100	0.00
70 TMP Benzyl chloride	0.751	0.699	6.9	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	1.556	4.2	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.679	1.645	2.0	100	0.00
73 TMP 1,3-Dichlorobenzene	1.154	1.114	3.5	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.046	9.2	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.046	4.1	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.899	5.4	100	0.00
77 TMP Naphthalene	2.538	2.301	9.3	100	0.00
78 TMP Hexachlorobutadiene	0.852	0.692	18.8	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (-0.000) 2.991 ppbv

response 26128

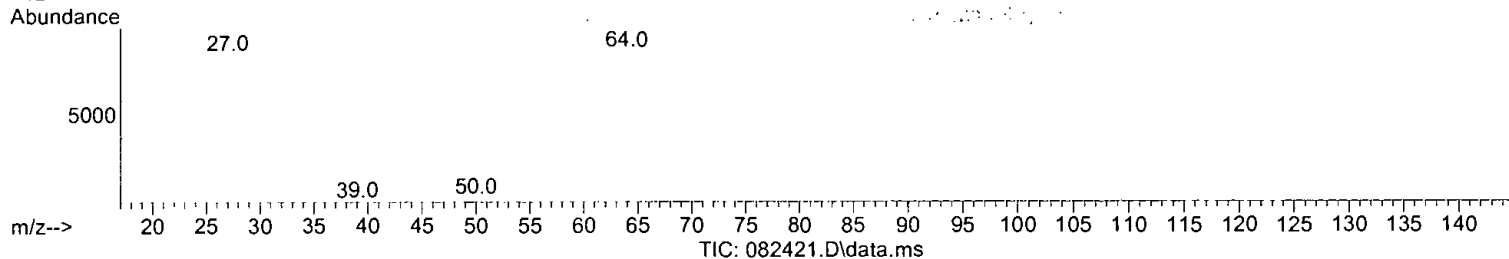
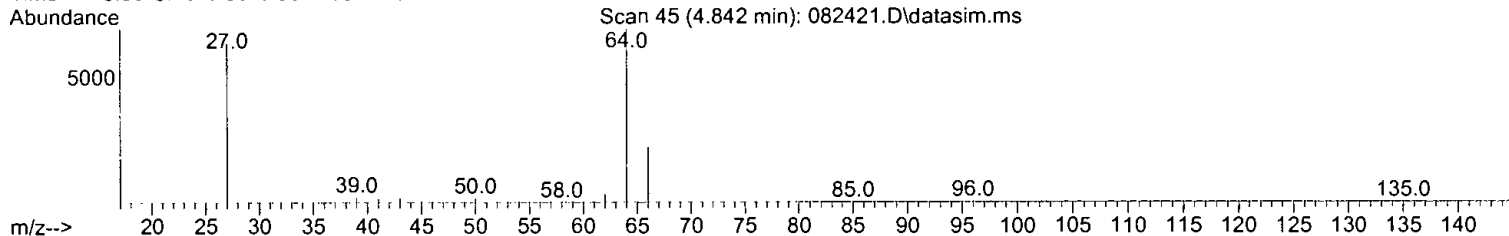
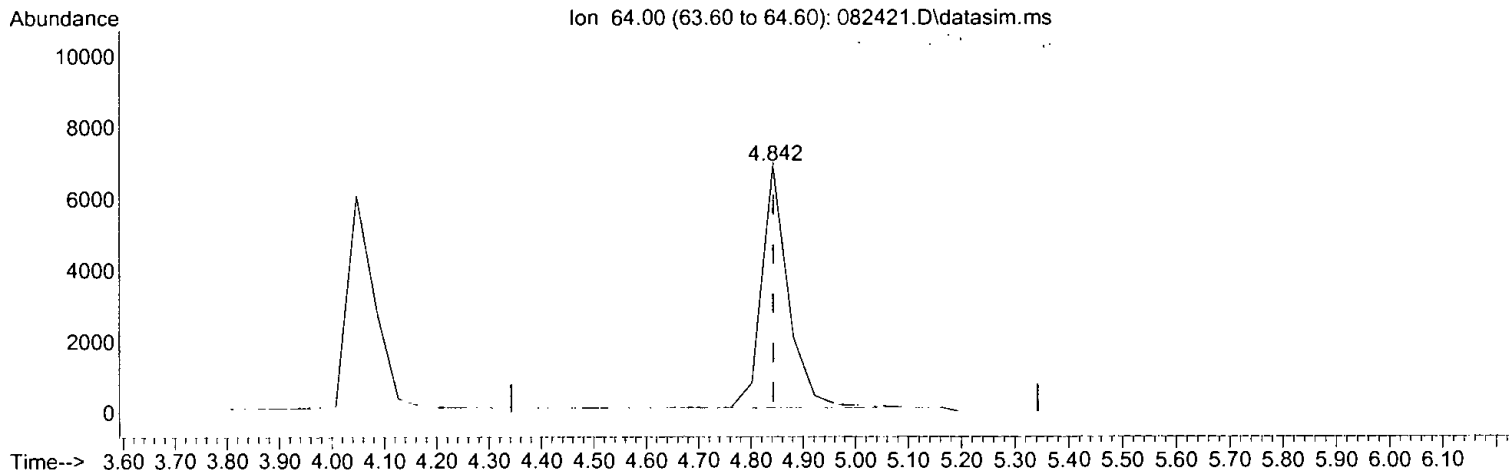
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	32.14
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

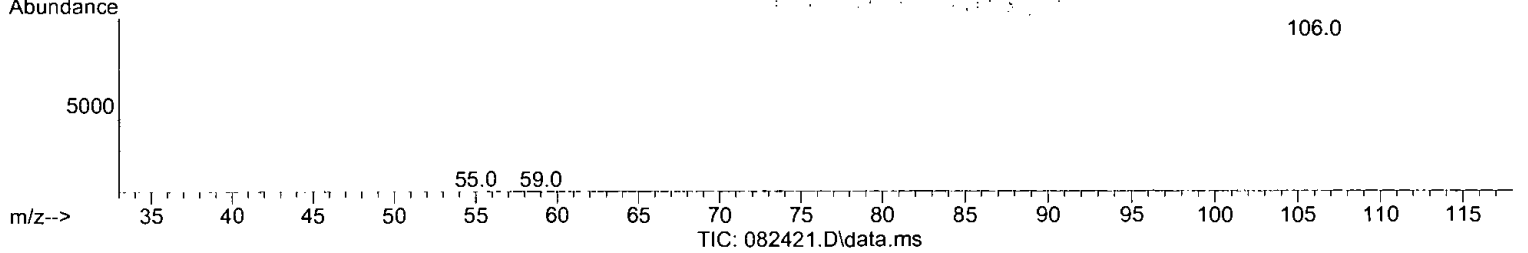
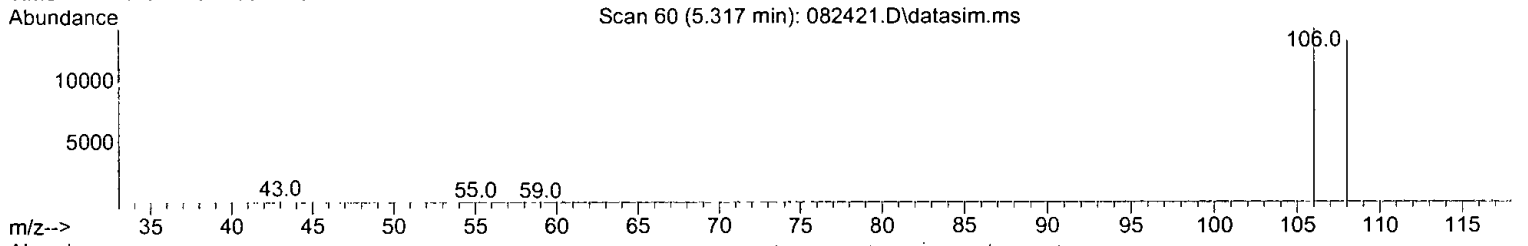
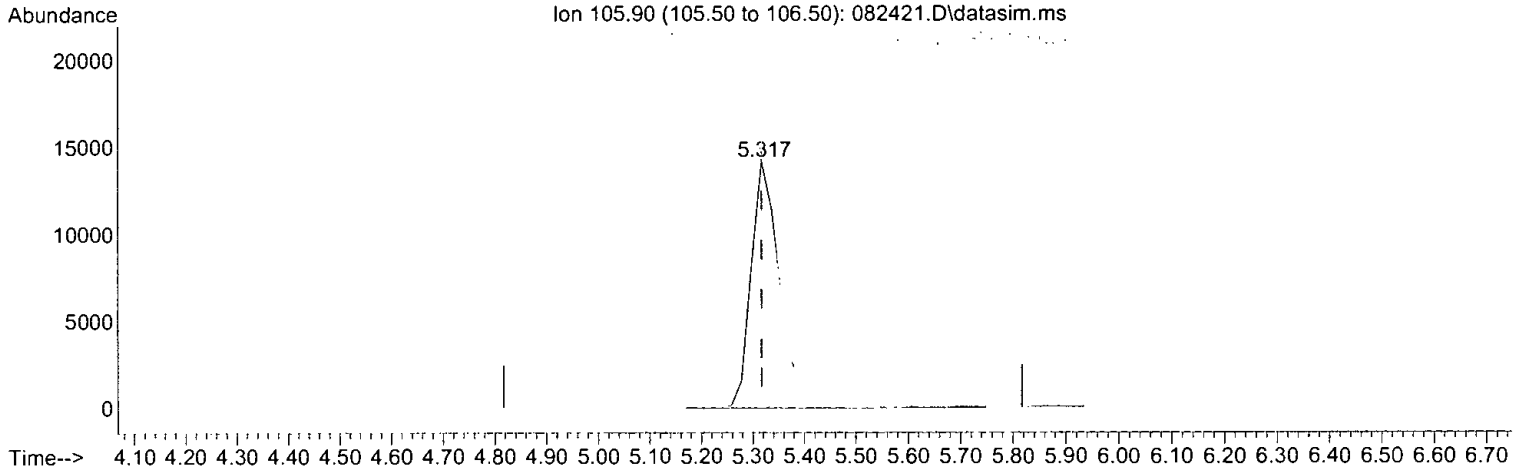
4.842min (-0.000) 2.740 ppbv m

response	23933	
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	32.14
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (-0.000) 2.929 ppbv

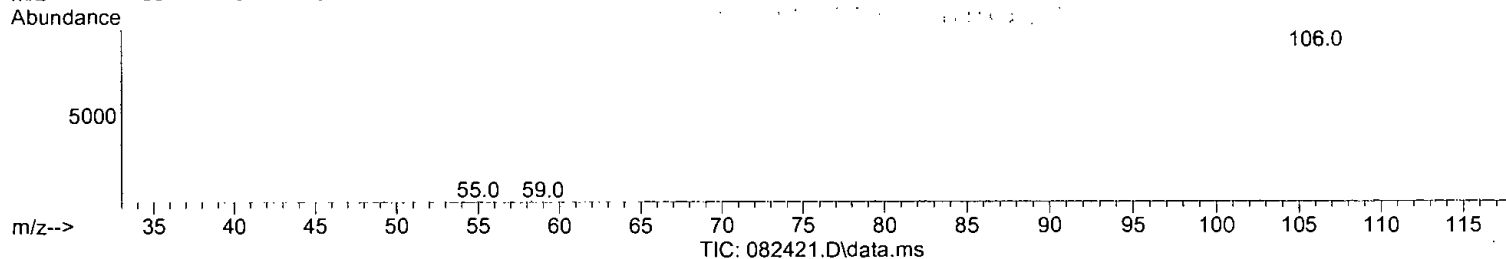
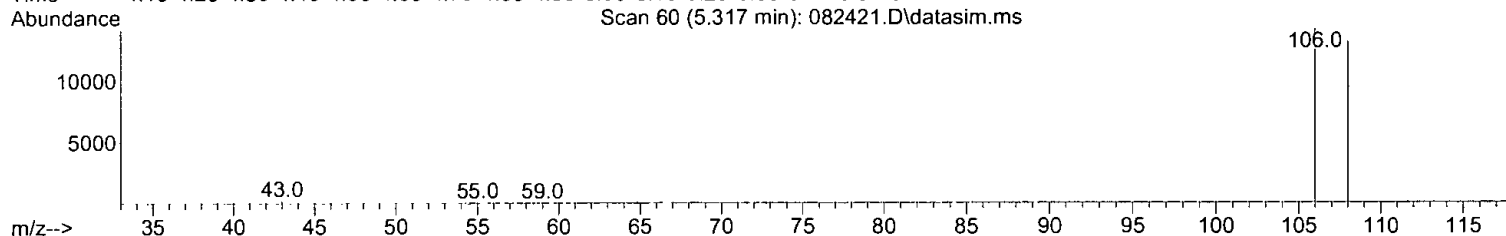
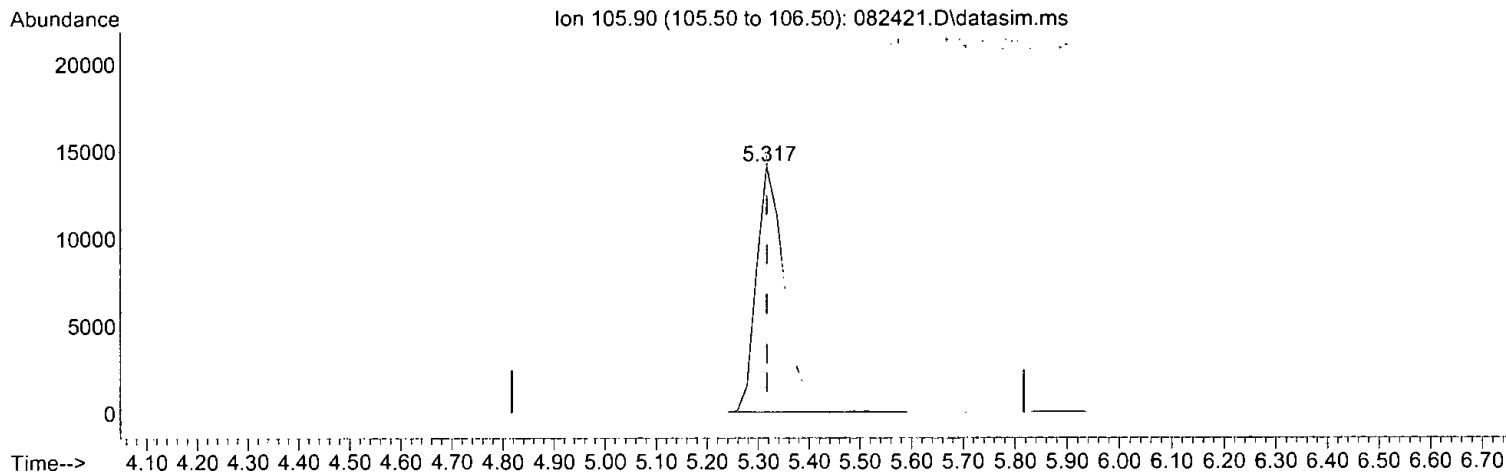
response	60167		
Ion	Exp%	Act%	
105.90	100.00	100.00	
107.90	94.10	94.09	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(11) Vinyl bromide (TMP)

5.317min (-0.000) 2.640 ppbv m

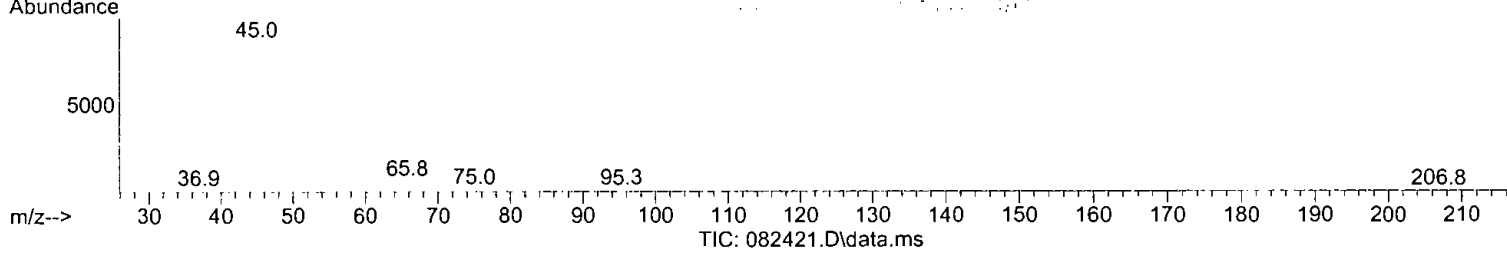
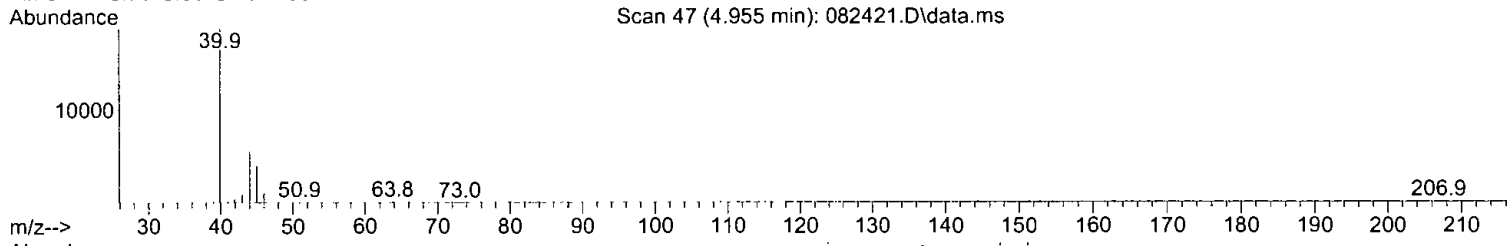
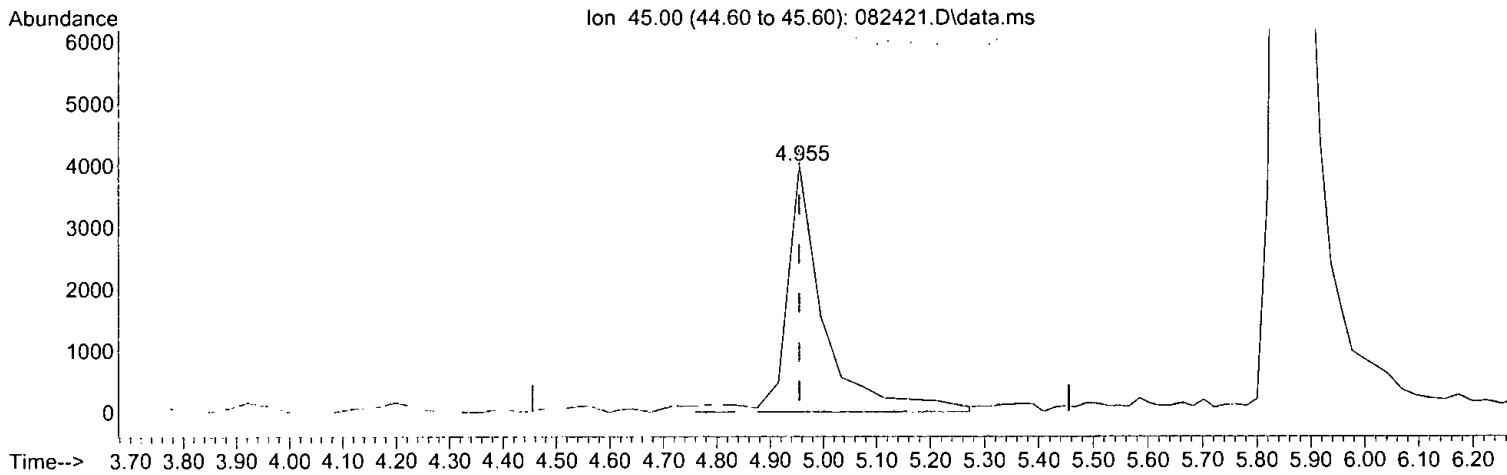
response	54225		
Ion	Exp%	Act%	
105.90	100.00	100.00	
107.90	94.10	104.40	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(12) Ethanol (TMP)

4.955min (+ 0.000) 3.034 ppbv

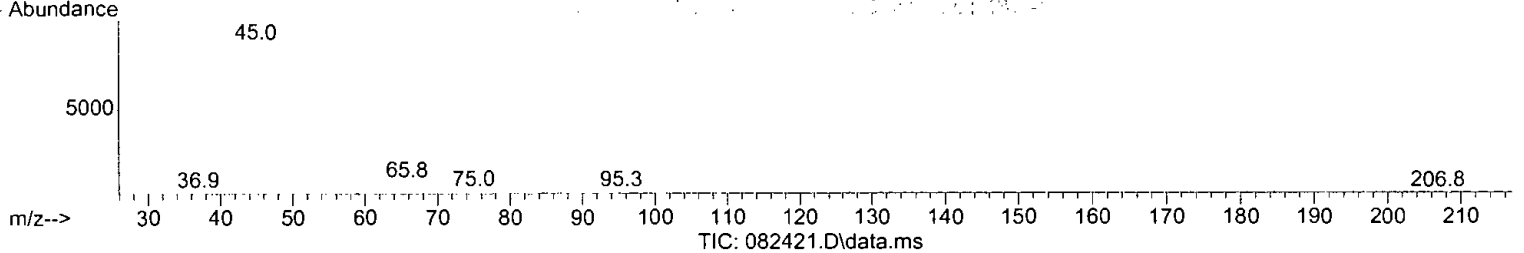
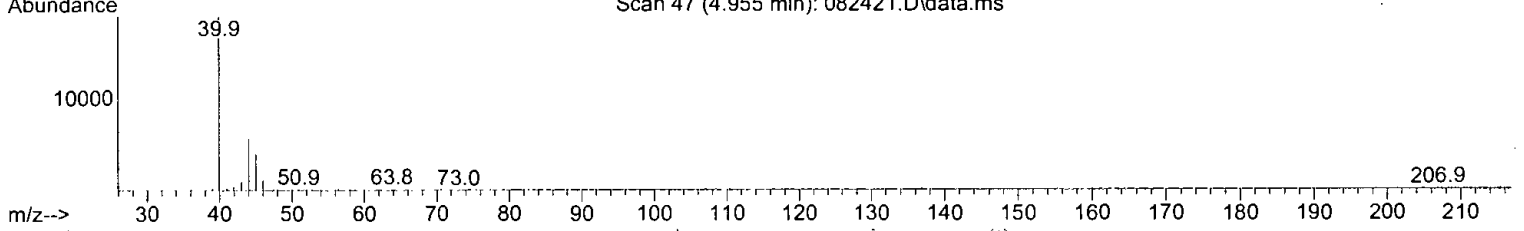
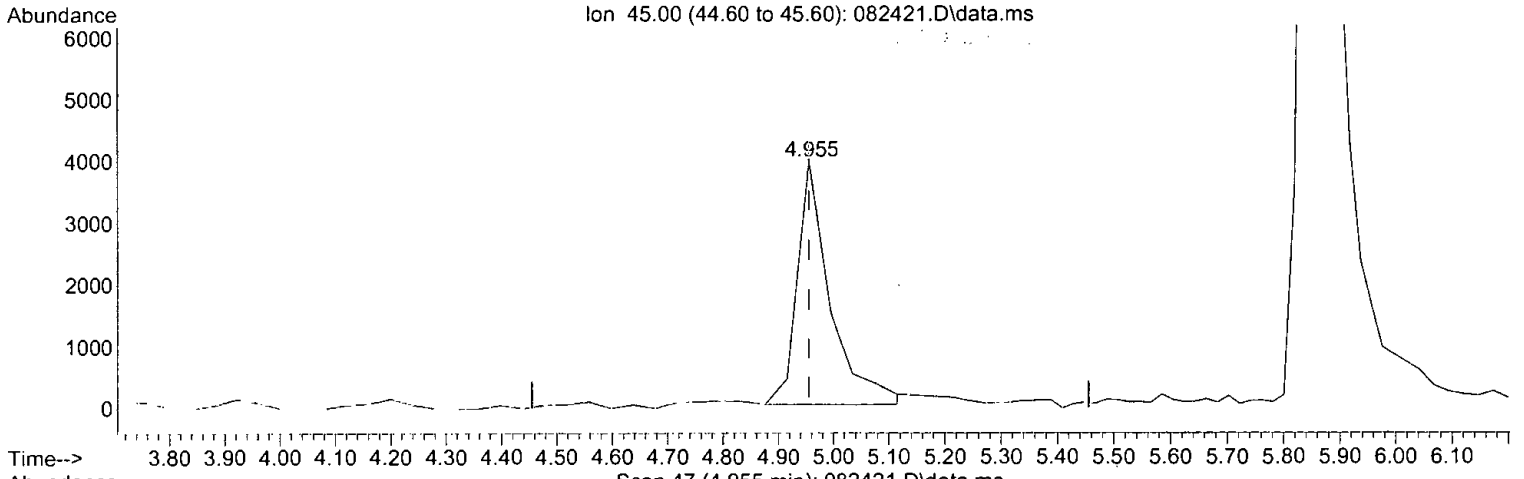
response	19530	
Ion	Exp%	Act%
45.00	100.00	100.00
45.90	25.50	28.89
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(12) Ethanol (TMP)

4.955min (+ 0.000) 2.528 ppbv m

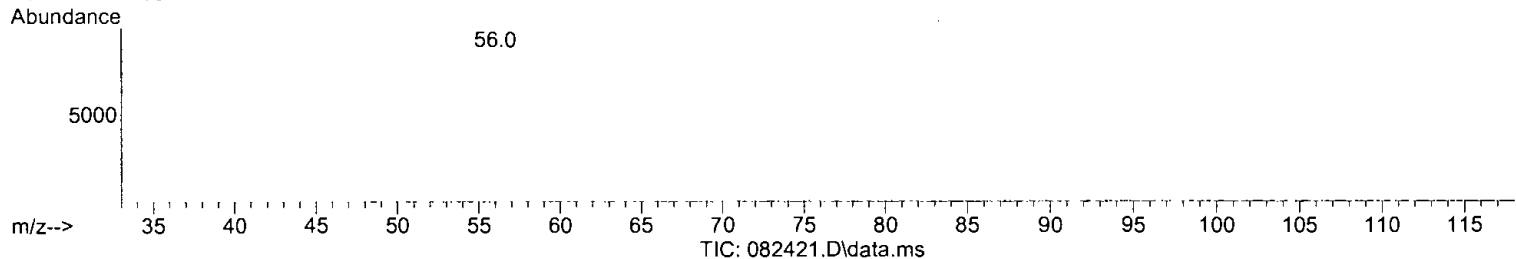
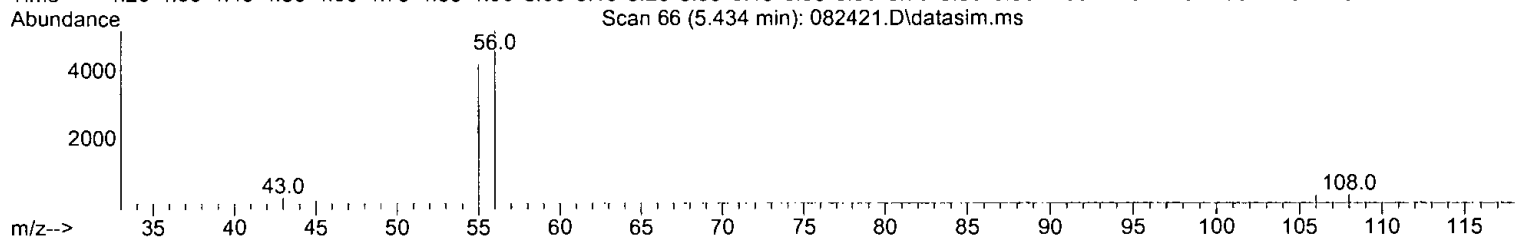
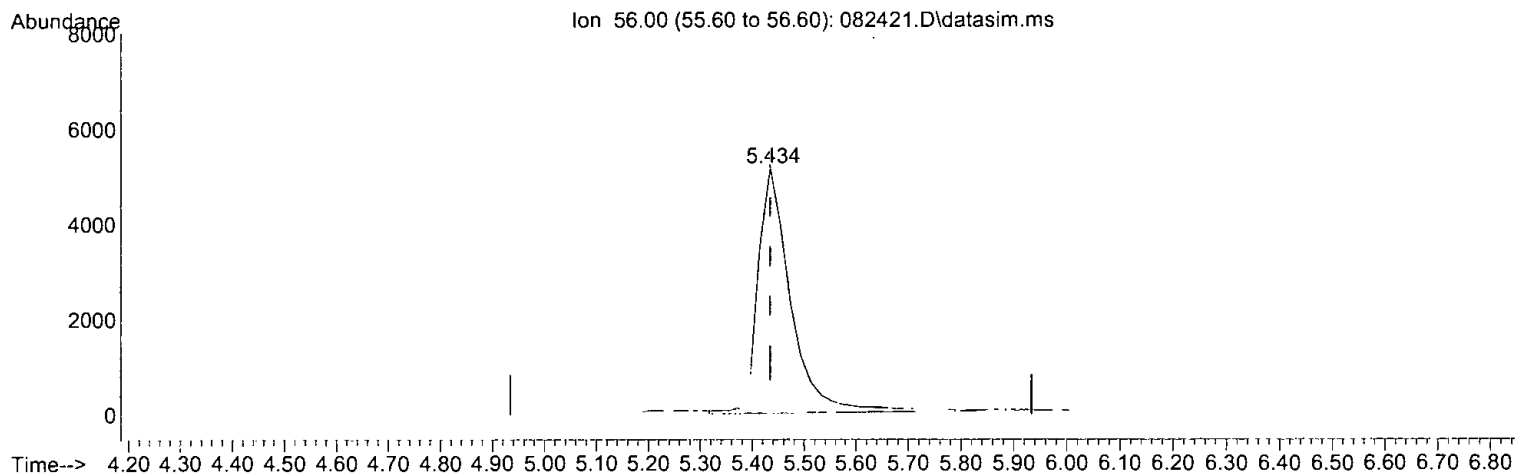
response	16272
Ion	Exp% Act%
45.00	100.00 100.00
45.90	25.50 34.67
0.00	0.00 0.00
0.00	0.00 0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.434min (+ 0.000) 2.704 ppbv

response 22596

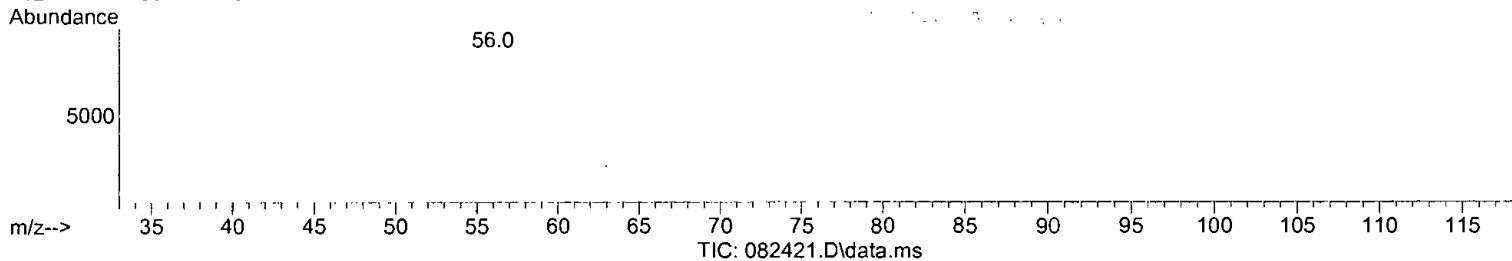
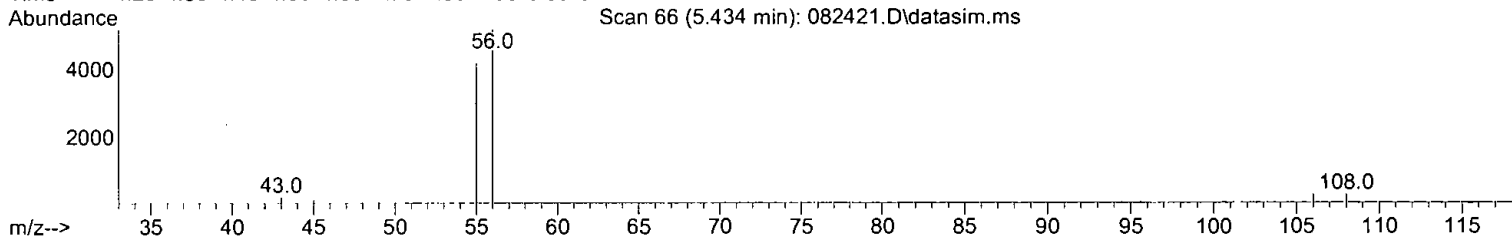
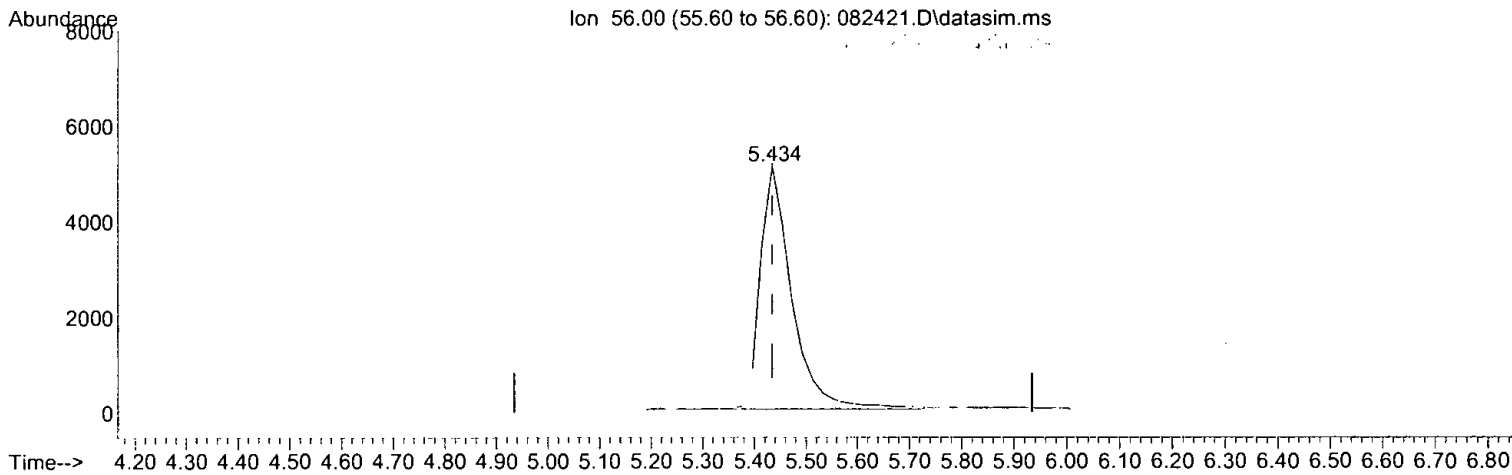
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	81.20
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
Data File : 082421.D  
Acq On : 24 Aug 2021 8:24 pm  
Operator : bat  
Sample : 2.5 ppbv 64-87a  
Misc : cal line, 25cc of 25ppbv  
ALS Vial : 21 Sample Multiplier: 1  
InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
Quant Title : TO-15 SS method  
QLast Update : Wed Aug 25 09:28:09 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.434min (+ 0.000) 2.581 ppbv m

response 21568

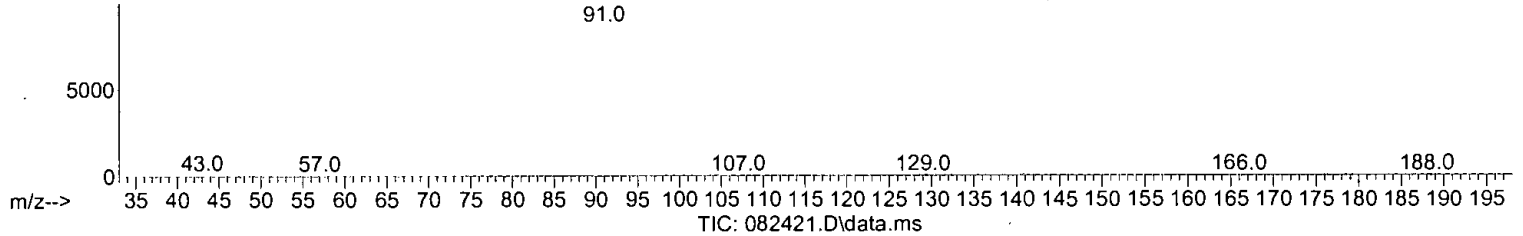
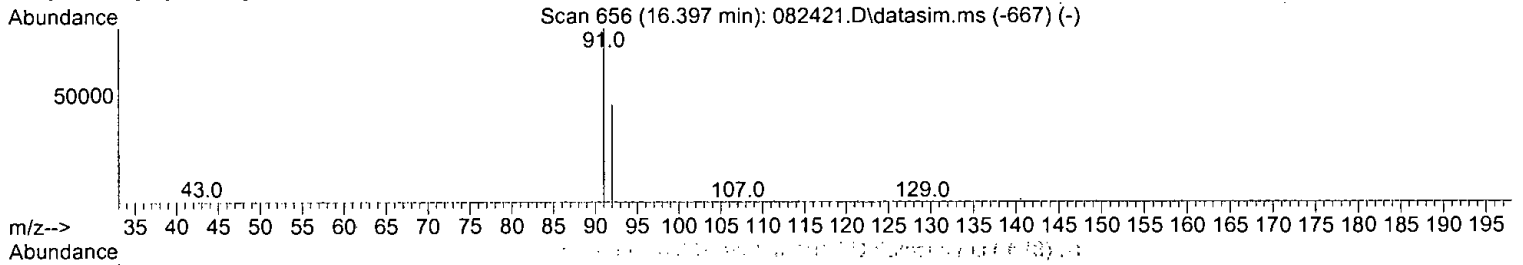
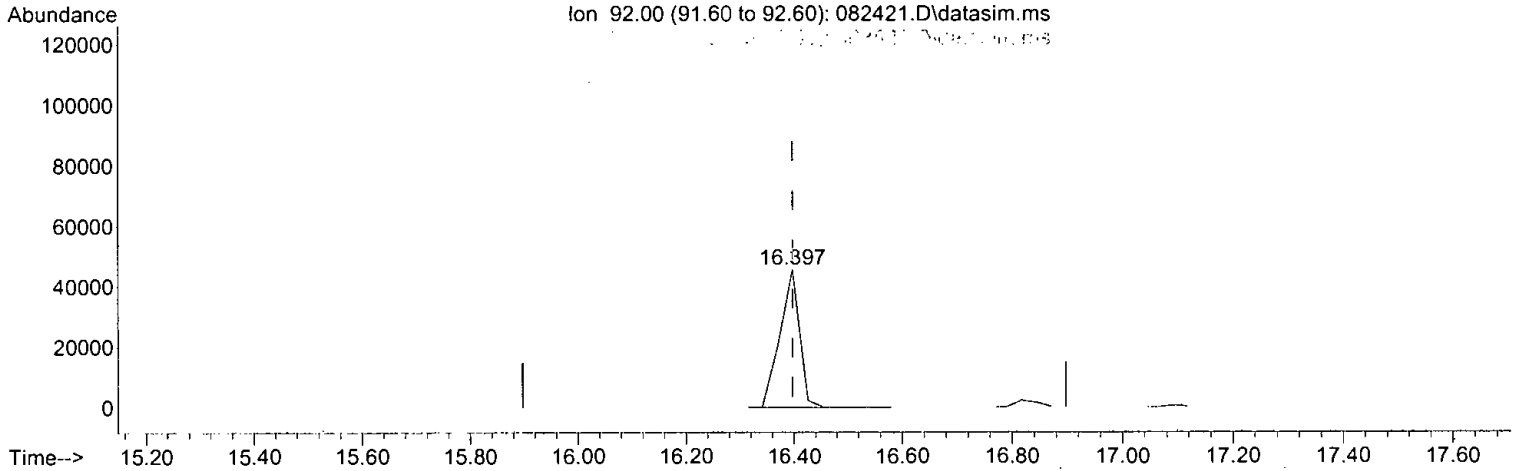
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	85.07
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(50) Toluene (TMP)

16.397min (+ 0.000) 2.694 ppbv

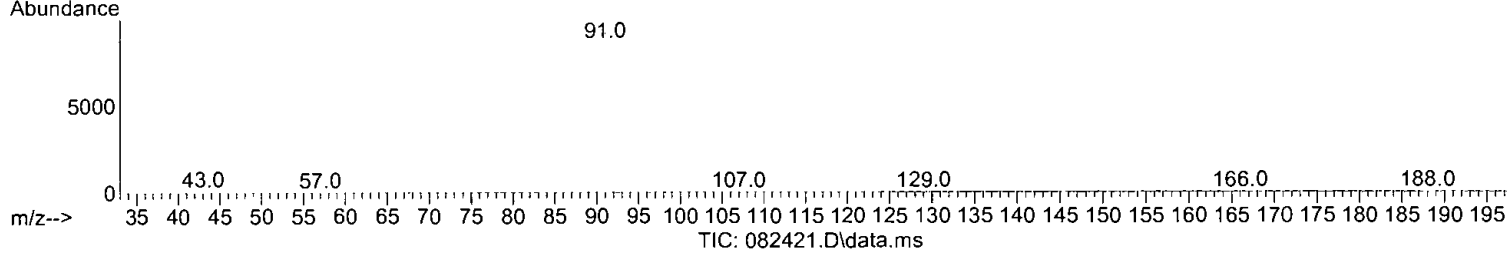
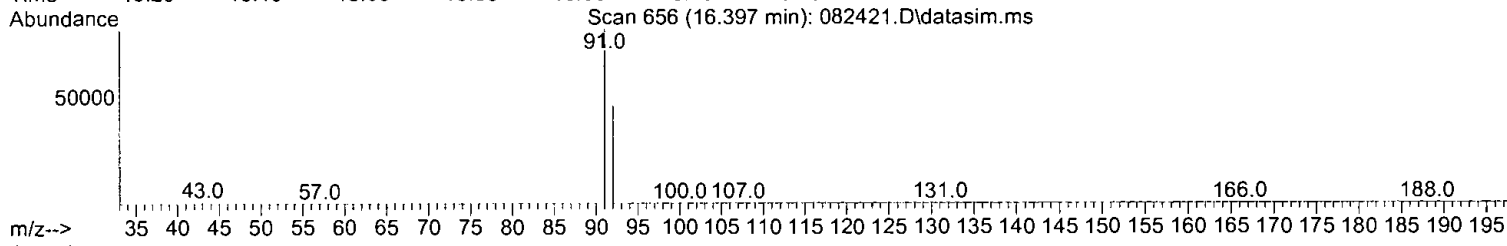
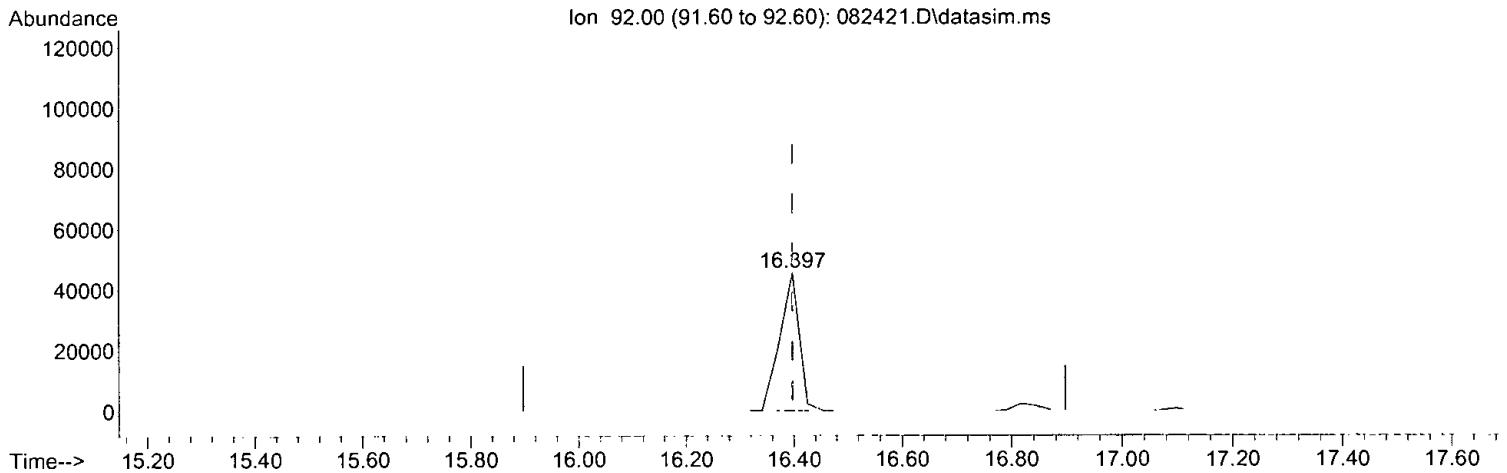
response 113472

Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	178.48
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:18 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(50) Toluene (TMP)

16.397min (+ 0.000) 2.715 ppbv m

response 114332

Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	178.48
0.00	0.00	0.00
0.00	0.00	0.00

*AS 8/25/21*

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:29:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	115065	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	562076	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	489363	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	446215	10.065	ppbv	0.00
Spiked Amount	10.000	Range 70 - 130	Recovery	=	100.60%	
Target Compounds						
						Qvalue
2) Propene	3.41	41	54489	2.770	ppbv	98
3) Dichlorodifluoromethane	3.52	85	140001	2.750	ppbv	100
4) Chloromethane	3.77	50	62271	2.608	ppbv	82
5) F-114	3.88	85	138699	2.709	ppbv	85
6) Vinyl chloride	4.05	62	68764	2.706	ppbv	97
7) 1,3-Butadiene	4.25	54	47542	2.702	ppbv	# 90
8) Butane	4.32	43	96976	2.595	ppbv	99
9) Bromomethane	4.64	94	52475	2.961	ppbv	97
10) Chloroethane	4.84	64	23933m	2.740	ppbv	
11) Vinyl bromide	5.32	106	54225m	2.640	ppbv	
12) Ethanol	4.96	45	16272m	2.528	ppbv	
13) Acrolein	5.43	56	21568m	2.581	ppbv	
14) Pentane	6.33	43	124571	2.782	ppbv	99
15) Trichlorofluoromethane	5.88	101	156872	2.763	ppbv	99
16) Acetone	5.59	58	26336	2.601	ppbv	# 85
17) 2-Propanol	5.86	45	108369	2.649	ppbv	# 100
18) 1,1-Dichloroethene	6.73	96	50991	2.689	ppbv	90
19) trans-1,2-Dichloroethene	8.18	96	50412	2.694	ppbv	90
20) Methylene chloride	6.86	84	52760	2.620	ppbv	85
21) t-Butyl alcohol (TBA)	6.65	59	88967	2.683	ppbv	# 37
22) 3-Chloropropene	7.01	41	91538	2.734	ppbv	90
23) CFC-113	7.23	101	106039	2.714	ppbv	86
24) Carbon disulfide	7.33	76	186375	2.823	ppbv	96
25) Methyl t-butyl ether (...)	8.51	73	116764	2.657	ppbv	95
26) Vinyl acetate	8.62	43	76892	2.608	ppbv	97
27) 1,1-Dichloroethane	8.44	63	120388	2.718	ppbv	96
28) cis-1,2-Dichloroethene	9.73	96	55150	2.692	ppbv	84
29) Hexane	10.11	57	93175	2.737	ppbv	90
30) Chloroform	10.19	83	132955	2.647	ppbv	98
31) Ethyl acetate	10.01	43	198481	2.769	ppbv	# 99
32) Tetrahydrofuran	10.84	42	83162	2.673	ppbv	89
33) 2-Butanone (MEK)	8.99	72	22555	2.754	ppbv	# 74
34) 1,2-Dichloroethane (EDC)	11.44	62	101195	2.677	ppbv	96
35) 1,1,1-Trichloroethane	11.94	97	100730	2.708	ppbv	87
36) Carbon tetrachloride	12.95	117	99567	2.723	ppbv	99
37) Benzene	12.70	78	188309	2.673	ppbv	95
38) Cyclohexane	13.16	84	51299	2.671	ppbv	# 76
40) 1,2-Dichloropropane	13.90	63	90422	2.603	ppbv	100
41) 1,4-Dioxane	14.17	88	40379	2.664	ppbv	89
42) 2,2,4-Trimethylpentane	14.31	57	319221	2.736	ppbv	# 93

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:29:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

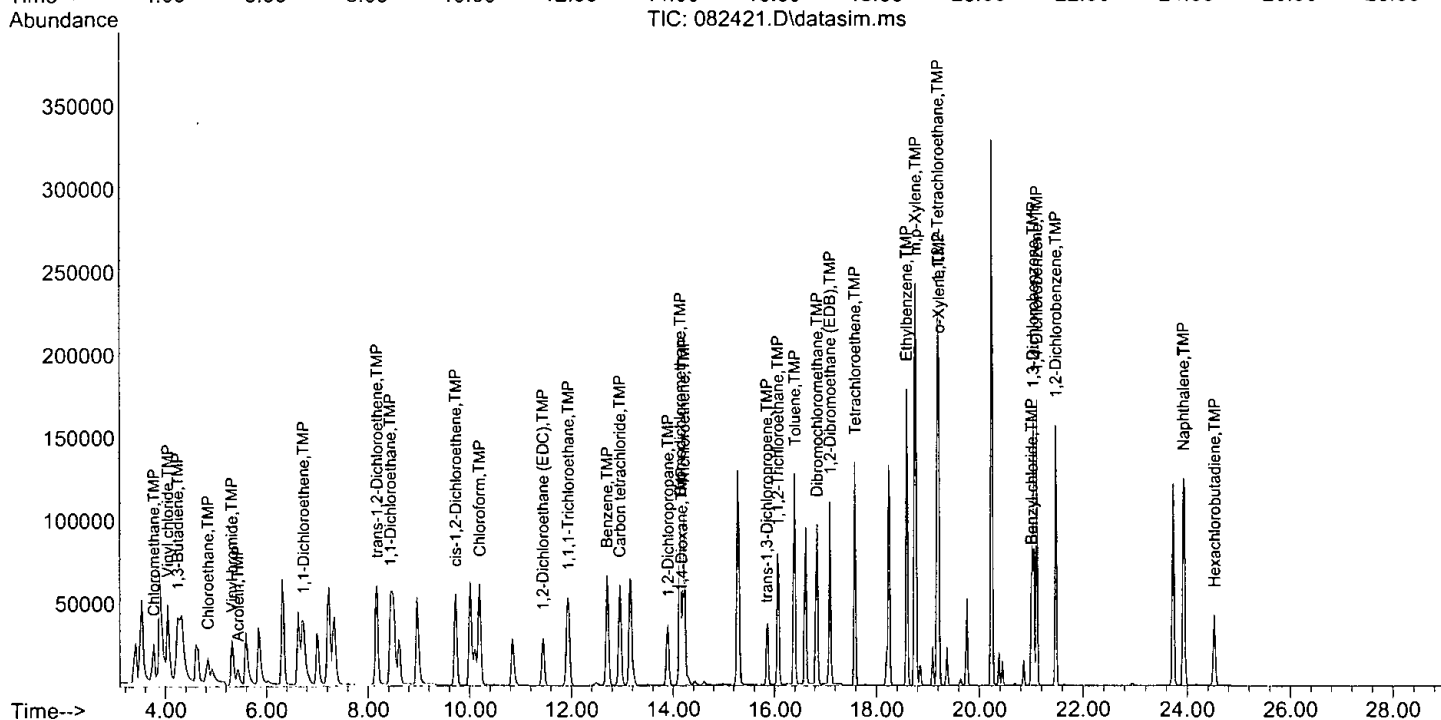
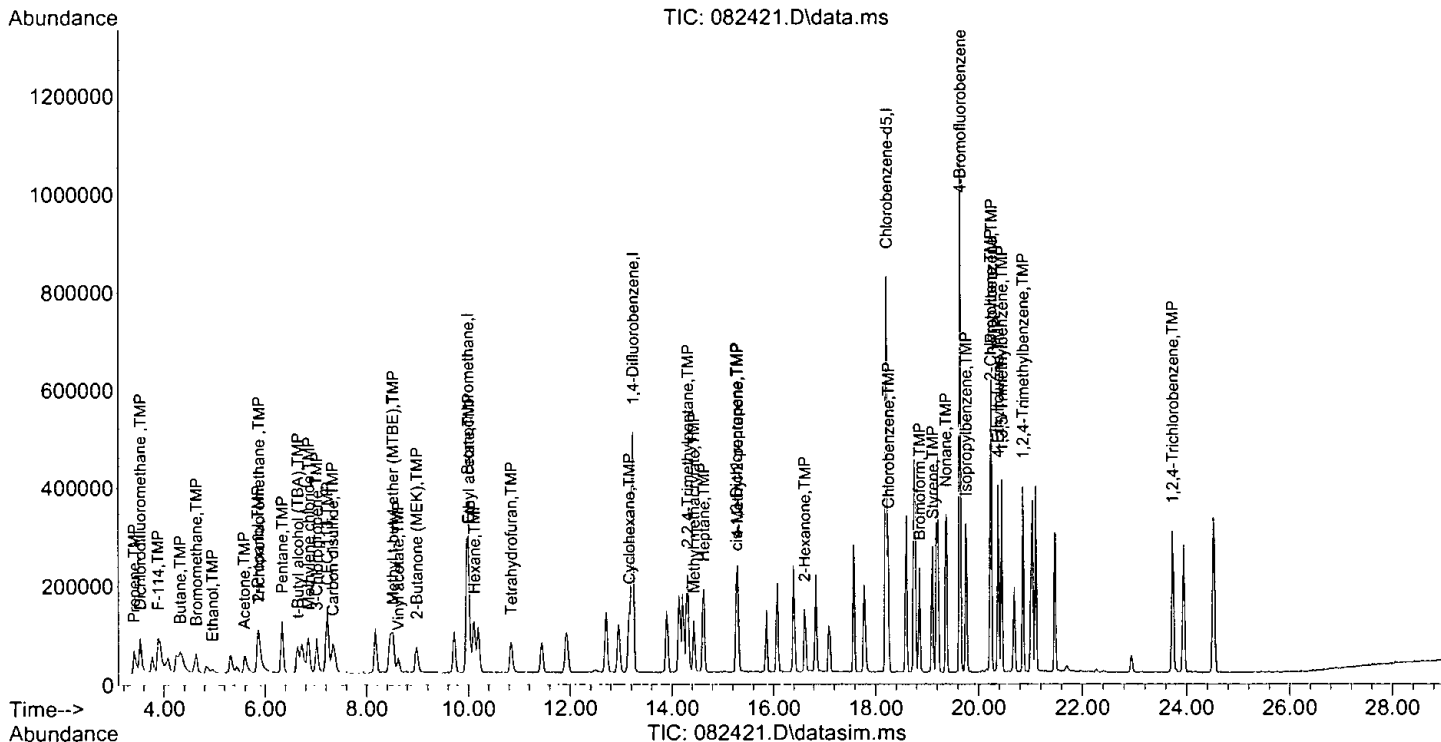
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.43	41	87102	2.734	ppbv #	87
44) Heptane	14.63	43	144178	2.675	ppbv	95
45) Bromodichloromethane	14.14	83	141240	2.637	ppbv	92
46) Trichloroethene	14.22	95	88154	2.537	ppbv	87
47) cis-1,3-Dichloropropene	15.27	75	94828	2.653	ppbv	94
48) 4-Methyl-2-pentanone	15.29	100	6591	2.896	ppbv #	1
49) trans-1,3-Dichloropropene	15.85	75	82151	2.705	ppbv	76
50) Toluene	16.40	92	114332m	2.715	ppbv	
51) 1,1,2-Trichloroethane	16.06	83	83656	2.645	ppbv	99
52) 2-Hexanone	16.62	43	156527	2.640	ppbv	93
53) Tetrachloroethene	17.58	164	58280	2.722	ppbv	83
54) Dibromochloromethane	16.85	129	117608	2.658	ppbv	89
55) 1,2-Dibromoethane (EDB)	17.10	107	112032	2.558	ppbv	89
57) Chlorobenzene	18.25	112	140832	2.687	ppbv	87
58) Ethylbenzene	18.59	91	281367	2.589	ppbv	97
59) 1,1,2,2-Tetrachloroethane	19.19	83	196929	2.597	ppbv	94
60) Nonane	19.36	43	227392	2.767	ppbv	91
61) Isopropylbenzene	19.75	105	258662	2.714	ppbv	96
62) 2-Chlorotoluene	20.23	126	62130	2.742	ppbv	70
63) Propylbenzene	20.25	91	575591	2.722	ppbv	95
64) 4-Ethyltoluene	20.38	105	272419	2.746	ppbv	97
65) m,p-Xylene	18.76	106	185443	5.314	ppbv	91
66) o-Xylene	19.21	106	91556	2.669	ppbv	90
67) Styrene	19.11	104	136766	2.708	ppbv	94
68) Bromoform	18.85	173	106531	2.718	ppbv	99
70) Benzyl chloride	21.01	91	97269	2.647	ppbv	92
71) 1,3,5-Trimethylbenzene	20.45	105	219915	2.765	ppbv	93
72) 1,2,4-Trimethylbenzene	20.86	105	225539	2.745	ppbv	95
73) 1,3-Dichlorobenzene	21.04	146	150164	2.660	ppbv	92
74) 1,4-Dichlorobenzene	21.11	146	141101	2.683	ppbv	93
75) 1,2-Dichlorobenzene	21.47	146	140282	2.628	ppbv	93
76) 1,2,4-Trichlorobenzene	23.73	180	115848	2.673	ppbv	96
77) Naphthalene	23.93	128	290349	2.591	ppbv	98
78) Hexachlorobutadiene	24.52	225	93072	2.658	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:29:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:29:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	2.500	2.770	-10.8	100	0.00
3 TMP	Dichlorodifluoromethane	2.500	2.750	-10.0	100	0.00
4 TMP	Chloromethane	2.500	2.608	-4.3	100	0.00
5 TMP	F-114	2.500	2.709	-8.4	100	0.00
6 TMP	Vinyl chloride	2.500	2.706	-8.2	100	0.00
7 TMP	1,3-Butadiene	2.500	2.702	-8.1	100	0.00
8 TMP	Butane	2.500	2.595	-3.8	100	0.00
9 TMP	Bromomethane	2.500	2.961	-18.4	100	0.00
10 TMP	Chloroethane	2.500	2.740	-9.6	99	0.00
11 TMP	Vinyl bromide	2.500	2.640	-5.6	100	0.00
12 TMP	Ethanol	2.500	2.528	-1.1	83	0.00
13 TMP	Acrolein	2.500	2.581	-3.2	95	0.00
14 TMP	Pentane	2.500	2.782	-11.3	100	0.00
15 TMP	Trichlorofluoromethane	2.500	2.763	-10.5	100	0.00
16 TMP	Acetone	2.500	2.601	-4.0	100	0.00
17 TMP	2-Propanol	2.500	2.649	-6.0	100	0.00
18 TMP	1,1-Dichloroethene	2.500	2.689	-7.6	100	0.00
19 TMP	trans-1,2-Dichloroethene	2.500	2.694	-7.8	100	0.00
20 TMP	Methylene chloride	2.500	2.620	-4.8	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.500	2.683	-7.3	100	0.00
22 TMP	3-Chloropropene	2.500	2.734	-9.4	100	0.00
23 TMP	CFC-113	2.500	2.714	-8.6	100	0.00
24 TMP	Carbon disulfide	2.500	2.823	-12.9	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	2.500	2.657	-6.3	100	0.00
26 TMP	Vinyl acetate	2.500	2.608	-4.3	100	0.00
27 TMP	1,1-Dichloroethane	2.500	2.718	-8.7	100	0.00
28 TMP	cis-1,2-Dichloroethene	2.500	2.692	-7.7	100	0.00
29 TMP	Hexane	2.500	2.737	-9.5	100	0.00
30 TMP	Chloroform	2.500	2.647	-5.9	100	0.00
31 TMP	Ethyl acetate	2.500	2.769	-10.8	100	0.00
32 TMP	Tetrahydrofuran	2.500	2.673	-6.9	100	0.00
33 TMP	2-Butanone (MEK)	2.500	2.754	-10.2	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	2.500	2.677	-7.1	100	0.00
35 TMP	1,1,1-Trichloroethane	2.500	2.708	-8.3	100	0.00
36 TMP	Carbon tetrachloride	2.500	2.723	-8.9	100	0.00
37 TMP	Benzene	2.500	2.673	-6.9	100	0.00
38 TMP	Cyclohexane	2.500	2.671	-6.8	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	2.500	2.603	-4.1	100	0.00
41 TMP	1,4-Dioxane	2.500	2.664	-6.6	100	0.00
42 TMP	2,2,4-Trimethylpentane	2.500	2.736	-9.4	100	0.00
43 TMP	Methyl methacrylate	2.500	2.734	-9.4	100	0.00
44 TMP	Heptane	2.500	2.675	-7.0	100	0.00
45 TMP	Bromodichloromethane	2.500	2.637	-5.5	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:29:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	2.500	2.537	-1.5	100	0.00
47 TMP cis-1,3-Dichloropropene	2.500	2.653	-6.1	100	0.00
48 TMP 4-Methyl-2-pentanone	2.500	2.896	-15.8	100	0.00
49 TMP trans-1,3-Dichloropropene	2.500	2.705	-8.2	100	0.00
50 TMP Toluene	2.500	2.715	-8.6	101	0.00
51 TMP 1,1,2-Trichloroethane	2.500	2.645	-5.8	100	0.00
52 TMP 2-Hexanone	2.500	2.640	-5.6	100	0.00
53 TMP Tetrachloroethene	2.500	2.722	-8.9	100	0.00
54 TMP Dibromochloromethane	2.500	2.658	-6.3	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	2.500	2.558	-2.3	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	2.500	2.687	-7.5	100	0.00
58 TMP Ethylbenzene	2.500	2.589	-3.6	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	2.500	2.597	-3.9	100	0.00
60 TMP Nonane	2.500	2.767	-10.7	100	0.00
61 TMP Isopropylbenzene	2.500	2.714	-8.6	100	0.00
62 TMP 2-Chlorotoluene	2.500	2.742	-9.7	100	0.00
63 TMP Propylbenzene	2.500	2.722	-8.9	100	0.00
64 TMP 4-Ethyltoluene	2.500	2.746	-9.8	100	0.00
65 TMP m,p-Xylene	5.000	5.314	-6.3	100	0.00
66 TMP o-Xylene	2.500	2.669	-6.8	100	0.00
67 TMP Styrene	2.500	2.708	-8.3	100	0.00
68 TMP Bromoform	2.500	2.718	-8.7	100	0.00
69 S 4-Bromofluorobenzene	10.000	10.065	-0.6	100	0.00
70 TMP Benzyl chloride	2.500	2.647	-5.9	100	0.00
71 TMP 1,3,5-Trimethylbenzene	2.500	2.765	-10.6	100	0.00
72 TMP 1,2,4-Trimethylbenzene	2.500	2.745	-9.8	100	0.00
73 TMP 1,3-Dichlorobenzene	2.500	2.660	-6.4	100	0.00
74 TMP 1,4-Dichlorobenzene	2.500	2.683	-7.3	100	0.00
75 TMP 1,2-Dichlorobenzene	2.500	2.628	-5.1	100	0.00
76 TMP 1,2,4-Trichlorobenzene	2.500	2.673	-6.9	100	0.00
77 TMP Naphthalene	2.500	2.591	-3.6	100	0.00
78 TMP Hexachlorobutadiene	2.500	2.658	-6.3	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:29:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	1.710	1.894	-10.8	100	0.00
3 TMP	Dichlorodifluoromethane	4.425	4.867	-10.0	100	0.00
4 TMP	Chloromethane	2.075	2.165	-4.3	100	0.00
5 TMP	F-114	4.450	4.822	-8.4	100	0.00
6 TMP	Vinyl chloride	2.209	2.390	-8.2	100	0.00
7 TMP	1,3-Butadiene	1.529	1.653	-8.1	100	0.00
8 TMP	Butane	3.248	3.371	-3.8	100	0.00
9 TMP	Bromomethane	1.540	1.824	-18.4	100	0.00
10 TMP	Chloroethane	0.759	0.832	-9.6	99	0.00
11 TMP	Vinyl bromide	1.785	1.885	-5.6	100	0.00
12 TMP	Ethanol	0.559	0.566	-1.3	83	0.00
13 TMP	Acrolein	0.726	0.750	-3.3	95	0.00
14 TMP	Pentane	3.891	4.330	-11.3	100	0.00
15 TMP	Trichlorofluoromethane	4.934	5.453	-10.5	100	0.00
16 TMP	Acetone	0.880	0.916	-4.1	100	0.00
17 TMP	2-Propanol	3.556	3.767	-5.9	100	0.00
18 TMP	1,1-Dichloroethene	1.648	1.773	-7.6	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.626	1.752	-7.7	100	0.00
20 TMP	Methylene chloride	1.750	1.834	-4.8	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.881	3.093	-7.4	100	0.00
22 TMP	3-Chloropropene	2.910	3.182	-9.3	100	0.00
23 TMP	CFC-113	3.396	3.686	-8.5	100	0.00
24 TMP	Carbon disulfide	5.738	6.479	-12.9	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	4.059	-6.3	100	0.00
26 TMP	Vinyl acetate	2.562	2.673	-4.3	100	0.00
27 TMP	1,1-Dichloroethane	3.850	4.185	-8.7	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.917	-7.7	100	0.00
29 TMP	Hexane	2.959	3.239	-9.5	100	0.00
30 TMP	Chloroform	4.366	4.622	-5.9	100	0.00
31 TMP	Ethyl acetate	6.229	6.900	-10.8	100	0.00
32 TMP	Tetrahydrofuran	2.703	2.891	-7.0	100	0.00
33 TMP	2-Butanone (MEK)	0.712	0.784	-10.1	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.518	-7.1	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.502	-8.4	100	0.00
36 TMP	Carbon tetrachloride	3.178	3.461	-8.9	100	0.00
37 TMP	Benzene	6.123	6.546	-6.9	100	0.00
38 TMP	Cyclohexane	1.669	1.783	-6.8	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.618	0.643	-4.0	100	0.00
41 TMP	1,4-Dioxane	0.270	0.287	-6.3	100	0.00
42 TMP	2,2,4-Trimethylpentane	2.076	2.272	-9.4	100	0.00
43 TMP	Methyl methacrylate	0.567	0.620	-9.3	100	0.00
44 TMP	Heptane	0.959	1.026	-7.0	100	0.00
45 TMP	Bromodichloromethane	0.953	1.005	-5.5	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082421.D  
 Acq On : 24 Aug 2021 8:24 pm  
 Operator : bat  
 Sample : 2.5 ppbv 64-87a  
 Misc : cal line, 25cc of 25ppbv  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:29:41 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.627	-1.5	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.675	-6.1	100	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.047	-17.5	100	0.00
49 TMP trans-1,3-Dichloropropene	0.540	0.585	-8.3	100	0.00
50 TMP Toluene	0.749	0.814	-8.7	101	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.595	-5.7	100	0.00
52 TMP 2-Hexanone	1.055	1.114	-5.6	100	0.00
53 TMP Tetrachloroethene	0.381	0.415	-8.9	100	0.00
54 TMP Dibromochloromethane	0.787	0.837	-6.4	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.797	-2.3	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	1.151	-7.5	100	0.00
58 TMP Ethylbenzene	2.221	2.300	-3.6	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.610	-3.9	100	0.00
60 TMP Nonane	1.679	1.859	-10.7	100	0.00
61 TMP Isopropylbenzene	1.948	2.114	-8.5	100	0.00
62 TMP 2-Chlorotoluene	0.463	0.508	-9.7	100	0.00
63 TMP Propylbenzene	4.322	4.705	-8.9	100	0.00
64 TMP 4-Ethyltoluene	2.027	2.227	-9.9	100	0.00
65 TMP m,p-Xylene	0.713	0.758	-6.3	100	0.00
66 TMP o-Xylene	0.701	0.748	-6.7	100	0.00
67 TMP Styrene	1.032	1.118	-8.3	100	0.00
68 TMP Bromoform	0.801	0.871	-8.7	100	0.00
69 S 4-Bromofluorobenzene	0.906	0.912	-0.7	100	0.00
70 TMP Benzyl chloride	0.751	0.795	-5.9	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	1.798	-10.6	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.679	1.844	-9.8	100	0.00
73 TMP 1,3-Dichlorobenzene	1.154	1.227	-6.3	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.153	-0.1	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.147	-5.1	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.947	0.3	100	0.00
77 TMP Naphthalene	2.538	2.373	6.5	100	0.00
78 TMP Hexachlorobutadiene	0.852	0.761	10.7	100	0.00

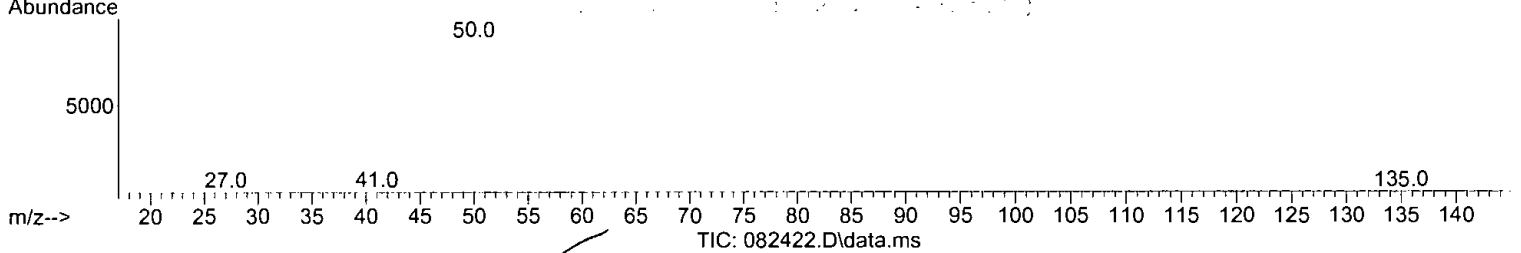
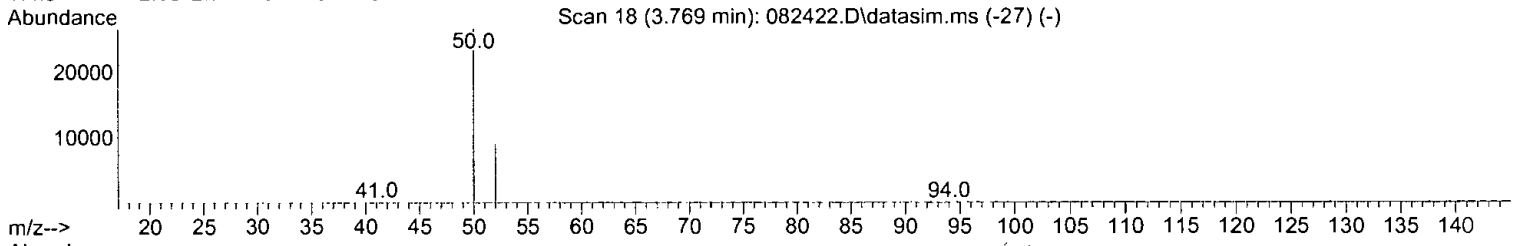
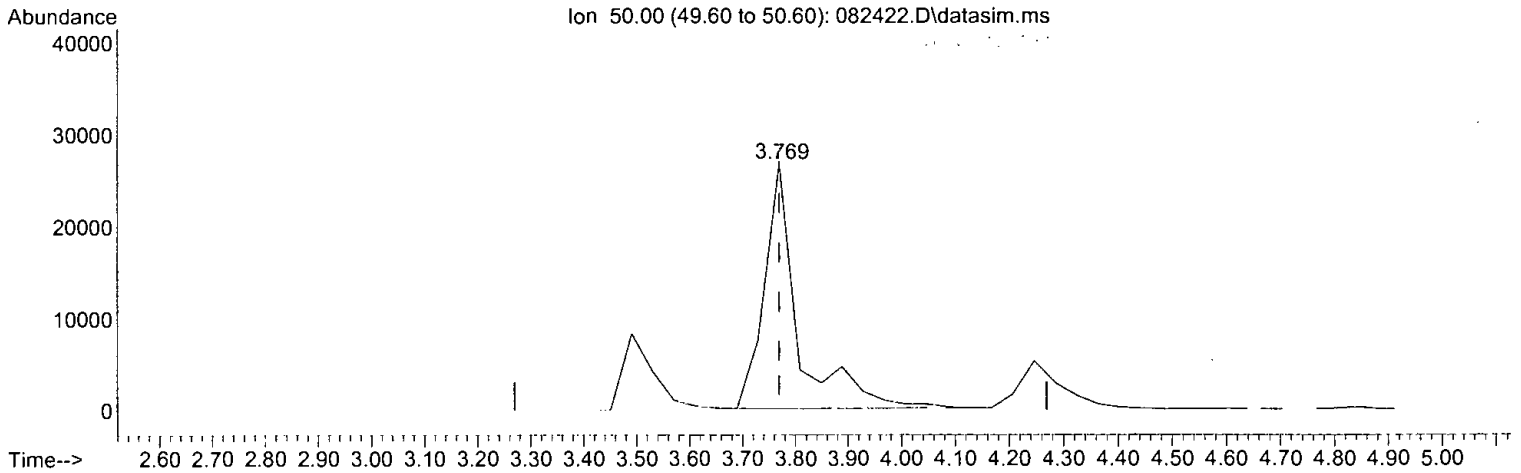
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:24 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (-0.000) 4.861 ppbv

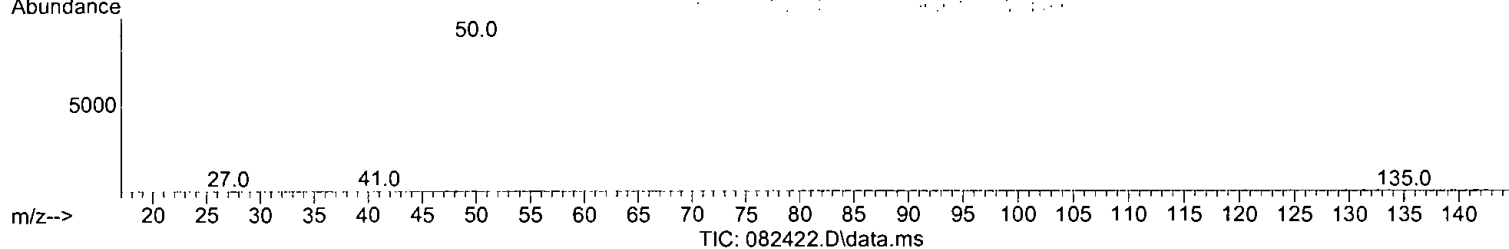
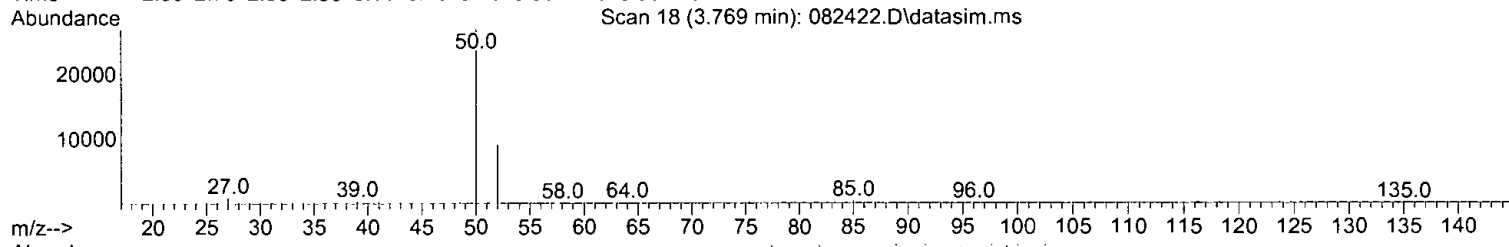
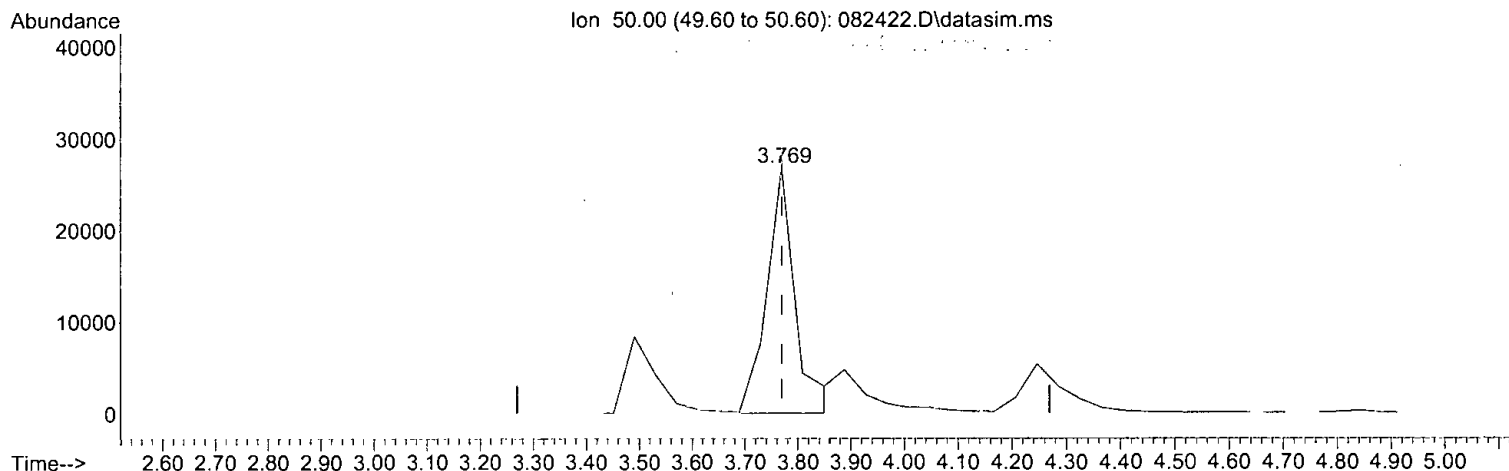
response	118056		
Ion	Exp%	Act%	
50.00	100.00	100.00	
51.90	25.30	33.80	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:24 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (-0.000) 4.080 ppbv m

response 99097

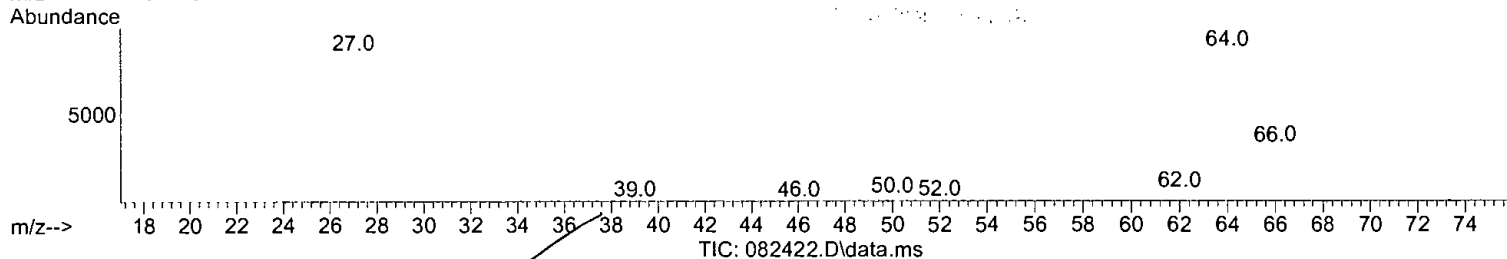
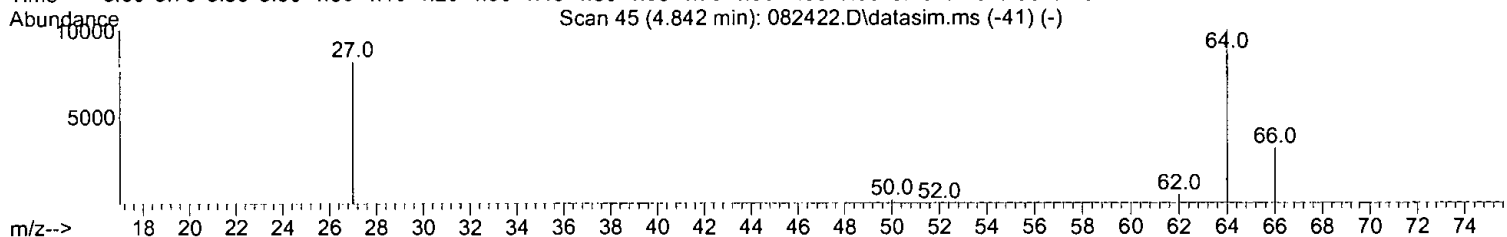
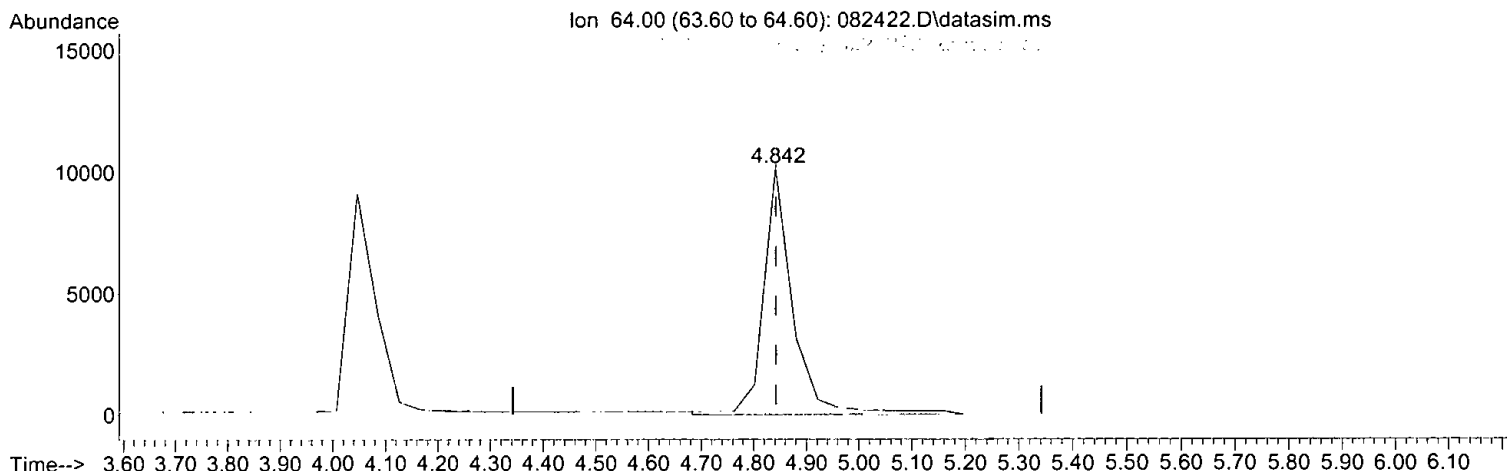
Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	33.75
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:24 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (-0.000) 4.252 ppbv

response 37177

Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	32.16
0.00	0.00	0.00
0.00	0.00	0.00

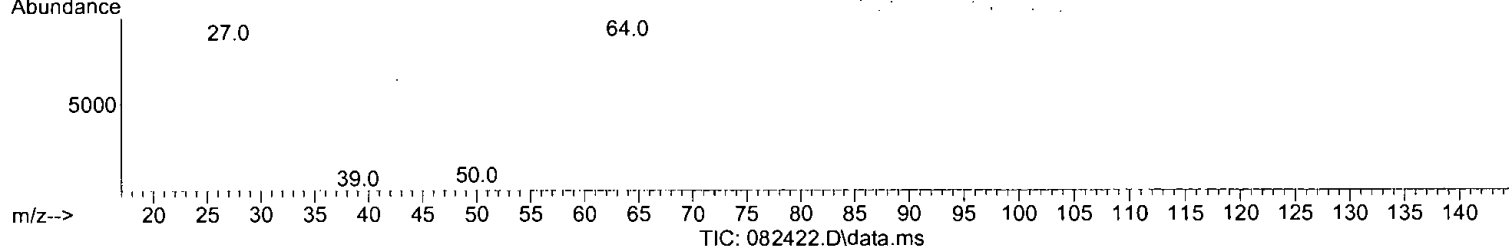
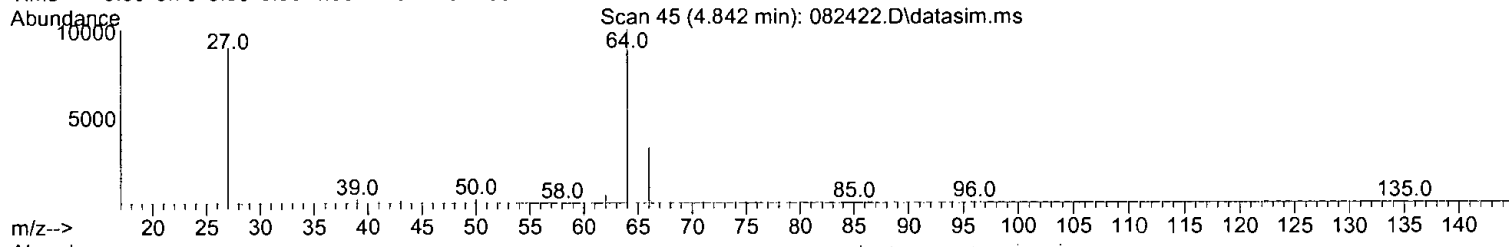
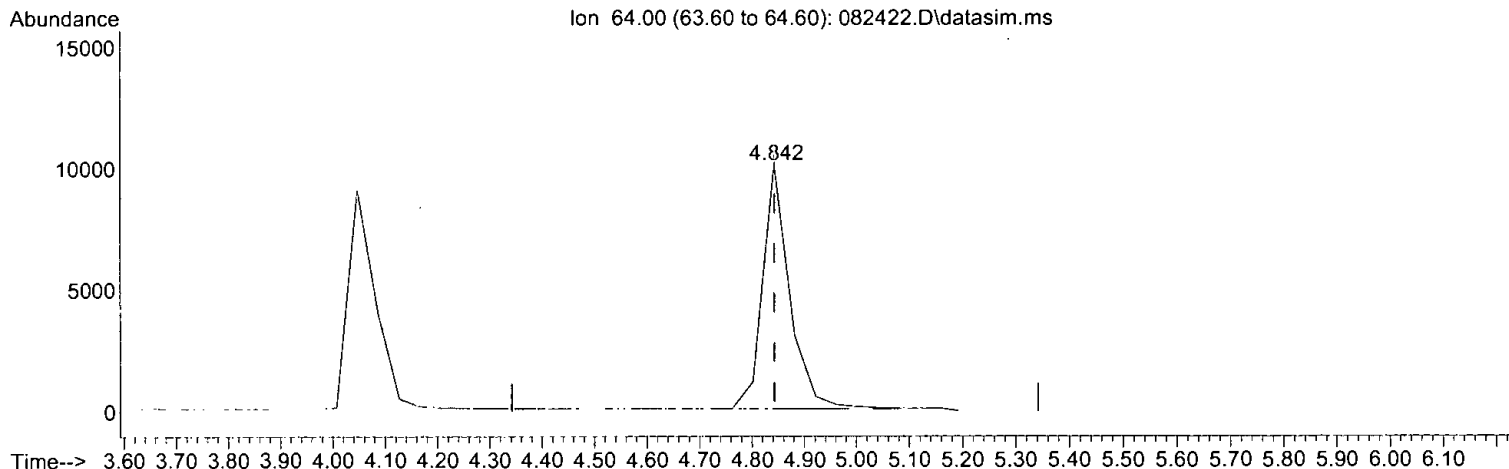
AS 8/25/24



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:24 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (-0.000) 4.043 ppbv m

response 35921

Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	32.16
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:33:02 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	117039	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	562321	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	490750	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	450722	10.138	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	101.40%
Target Compounds						
						Qvalue
2) Propene	3.41	41	84651	4.230	ppbv	99
3) Dichlorodifluoromethane	3.52	85	206107	3.980	ppbv	98
4) Chloromethane	3.77	50	99097m	4.080	ppbv	
5) F-114	3.88	85	206309	3.962	ppbv	86
6) Vinyl chloride	4.05	62	103648	4.010	ppbv	97
7) 1,3-Butadiene	4.25	54	71412	3.991	ppbv	# 89
8) Butane	4.32	43	151174	3.977	ppbv	97
9) Bromomethane	4.64	94	75628	4.195	ppbv	100
10) Chloroethane	4.84	64	35921m	4.043	ppbv	
11) Vinyl bromide	5.32	106	89446	4.281	ppbv	100
12) Ethanol	4.96	45	24869	3.799	ppbv	90
13) Acrolein	5.43	56	33807	3.978	ppbv	100
14) Pentane	6.33	43	182407	4.005	ppbv	98
15) Trichlorofluoromethane	5.88	101	240087	4.158	ppbv	100
16) Acetone	5.58	58	38511	3.739	ppbv	# 68
17) 2-Propanol	5.86	45	161364	3.877	ppbv	# 99
18) 1,1-Dichloroethene	6.73	96	76677	3.975	ppbv	90
19) trans-1,2-Dichloroethene	8.18	96	76022	3.995	ppbv	91
20) Methylene chloride	6.86	84	77355	3.776	ppbv	88
21) t-Butyl alcohol (TBA)	6.65	59	131895	3.911	ppbv	# 42
22) 3-Chloropropene	7.01	41	137977	4.051	ppbv	92
23) CFC-113	7.22	101	164303	4.134	ppbv	87
24) Carbon disulfide	7.33	76	280864	4.182	ppbv	96
25) Methyl t-butyl ether (...)	8.51	73	178866	4.001	ppbv	96
26) Vinyl acetate	8.62	43	123941	4.133	ppbv	98
27) 1,1-Dichloroethane	8.44	63	183269	4.067	ppbv	96
28) cis-1,2-Dichloroethene	9.73	96	83571	4.011	ppbv	84
29) Hexane	10.10	57	142273	4.108	ppbv	91
30) Chloroform	10.19	83	201893	3.951	ppbv	98
31) Ethyl acetate	10.01	43	305826	4.195	ppbv	# 98
32) Tetrahydrofuran	10.83	42	127098	4.017	ppbv	90
33) 2-Butanone (MEK)	8.99	72	33687	4.044	ppbv	# 64
34) 1,2-Dichloroethane (EDC)	11.44	62	153081	3.982	ppbv	96
35) 1,1,1-Trichloroethane	11.93	97	152303	4.026	ppbv	87
36) Carbon tetrachloride	12.95	117	151476	4.072	ppbv	99
37) Benzene	12.70	78	283360	3.954	ppbv	96
38) Cyclohexane	13.16	84	78389	4.012	ppbv	# 72
40) 1,2-Dichloropropane	13.90	63	136523	3.929	ppbv	100
41) 1,4-Dioxane	14.17	88	61073	4.028	ppbv	84
42) 2,2,4-Trimethylpentane	14.31	57	476887	4.085	ppbv	94

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

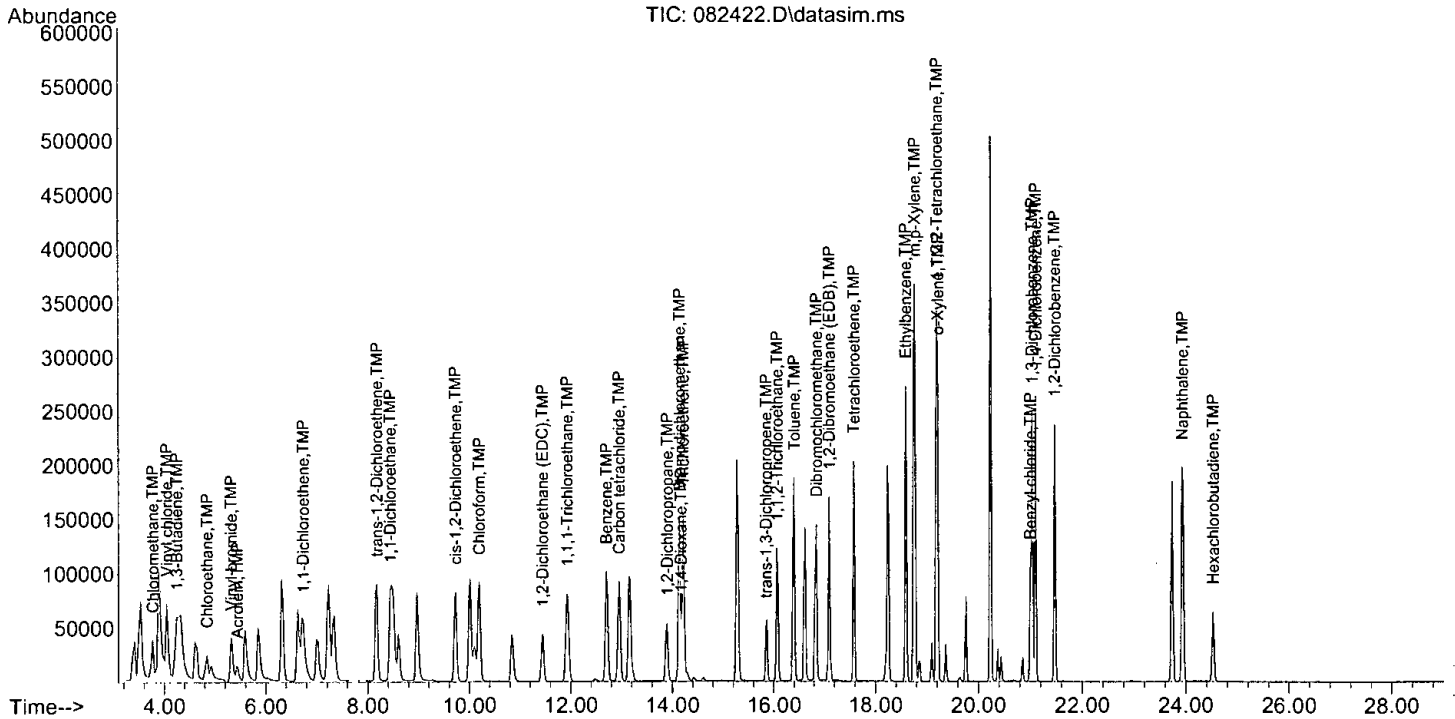
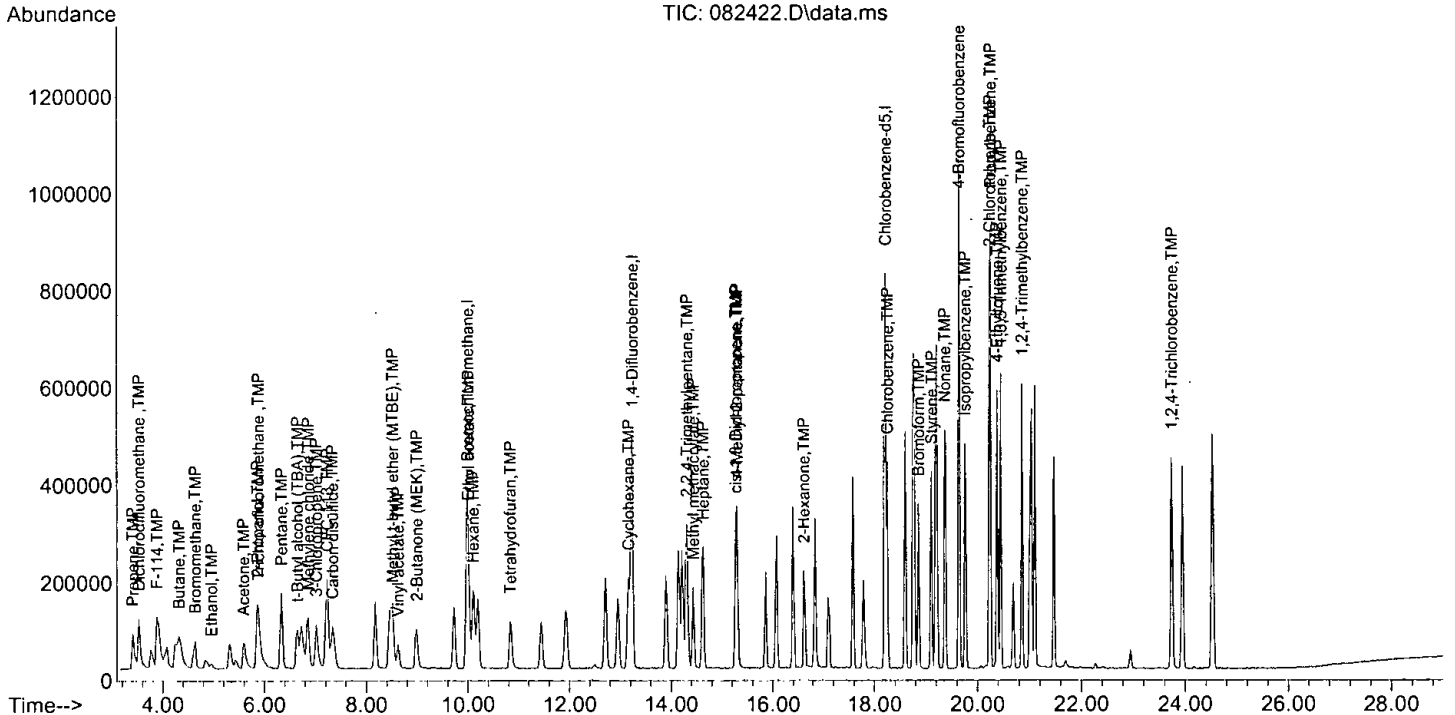
Quant Time: Aug 25 11:33:02 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.43	41	132947	4.171	ppbv #	85
44) Heptane	14.63	43	221214	4.102	ppbv	92
45) Bromodichloromethane	14.14	83	214620	4.005	ppbv	92
46) Trichloroethene	14.22	95	132847	3.822	ppbv	87
47) cis-1,3-Dichloropropene	15.27	75	146463	4.095	ppbv	95
48) 4-Methyl-2-pentanone	15.29	100	8652	3.800	ppbv #	1
49) trans-1,3-Dichloropropene	15.85	75	123105	4.051	ppbv	76
50) Toluene	16.40	92	169657	4.027	ppbv	82
51) 1,1,2-Trichloroethane	16.06	83	125949	3.981	ppbv	98
52) 2-Hexanone	16.62	43	235892	3.976	ppbv	91
53) Tetrachloroethene	17.58	164	87702	4.094	ppbv	83
54) Dibromochloromethane	16.85	129	177772	4.015	ppbv	89
55) 1,2-Dibromoethane (EDB)	17.10	107	171548	3.916	ppbv	89
57) Chlorobenzene	18.25	112	217481	4.137	ppbv	88
58) Ethylbenzene	18.59	91	425797	3.906	ppbv	97
59) 1,1,2,2-Tetrachloroethane	19.19	83	300487	3.952	ppbv	94
60) Nonane	19.36	43	343275	4.165	ppbv	93
61) Isopropylbenzene	19.75	105	392202	4.103	ppbv	98
62) 2-Chlorotoluene	20.23	126	93644	4.121	ppbv	68
63) Propylbenzene	20.25	91	875508	4.128	ppbv	96
64) 4-Ethyltoluene	20.38	105	409293	4.114	ppbv	97
65) m,p-Xylene	18.76	106	281760	8.051	ppbv	92
66) o-Xylene	19.21	106	138692	4.031	ppbv	91
67) Styrene	19.11	104	210336	4.153	ppbv	95
68) Bromoform	18.85	173	167407	4.258	ppbv	97
70) Benzyl chloride	21.01	91	154169	4.183	ppbv	92
71) 1,3,5-Trimethylbenzene	20.45	105	338393	4.243	ppbv	95
72) 1,2,4-Trimethylbenzene	20.86	105	340632	4.134	ppbv	96
73) 1,3-Dichlorobenzene	21.04	146	228226	4.031	ppbv	92
74) 1,4-Dichlorobenzene	21.11	146	214415	4.076	ppbv	94
75) 1,2-Dichlorobenzene	21.47	146	212558	3.971	ppbv	94
76) 1,2,4-Trichlorobenzene	23.73	180	173066	4.015	ppbv	97
77) Naphthalene	23.93	128	452287	4.042	ppbv	98
78) Hexachlorobutadiene	24.52	225	141529	4.077	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:33:02 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
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Quant Time: Aug 25 11:33:02 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	4.000	4.230	-5.8	100	0.00
3 TMP	Dichlorodifluoromethane	4.000	3.980	0.5	100	0.00
4 TMP	Chloromethane	4.000	4.080	-2.0	101	0.00
5 TMP	F-114	4.000	3.962	0.9	100	0.00
6 TMP	Vinyl chloride	4.000	4.010	-0.2	100	0.00
7 TMP	1,3-Butadiene	4.000	3.991	0.2	100	0.00
8 TMP	Butane	4.000	3.977	0.6	100	0.00
9 TMP	Bromomethane	4.000	4.195	-4.9	100	0.00
10 TMP	Chloroethane	4.000	4.043	-1.1	101	0.00
11 TMP	Vinyl bromide	4.000	4.281	-7.0	100	0.00
12 TMP	Ethanol	4.000	3.799	5.0	100	0.00
13 TMP	Acrolein	4.000	3.978	0.5	100	0.00
14 TMP	Pentane	4.000	4.005	-0.1	100	0.00
15 TMP	Trichlorofluoromethane	4.000	4.158	-4.0	100	0.00
16 TMP	Acetone	4.000	3.739	6.5	100	0.00
17 TMP	2-Propanol	4.000	3.877	3.1	100	0.00
18 TMP	1,1-Dichloroethene	4.000	3.975	0.6	100	0.00
19 TMP	trans-1,2-Dichloroethene	4.000	3.995	0.1	100	0.00
20 TMP	Methylene chloride	4.000	3.776	5.6	100	0.00
21 TMP	t-Butyl alcohol (TBA)	4.000	3.911	2.2	100	0.00
22 TMP	3-Chloropropene	4.000	4.051	-1.3	100	0.00
23 TMP	CFC-113	4.000	4.134	-3.4	100	0.00
24 TMP	Carbon disulfide	4.000	4.182	-4.6	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	4.000	4.001	-0.0	100	0.00
26 TMP	Vinyl acetate	4.000	4.133	-3.3	100	0.00
27 TMP	1,1-Dichloroethane	4.000	4.067	-1.7	100	0.00
28 TMP	cis-1,2-Dichloroethene	4.000	4.011	-0.3	100	0.00
29 TMP	Hexane	4.000	4.108	-2.7	100	-0.02
30 TMP	Chloroform	4.000	3.951	1.2	100	0.00
31 TMP	Ethyl acetate	4.000	4.195	-4.9	100	0.00
32 TMP	Tetrahydrofuran	4.000	4.017	-0.4	100	0.00
33 TMP	2-Butanone (MEK)	4.000	4.044	-1.1	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	4.000	3.982	0.4	100	0.00
35 TMP	1,1,1-Trichloroethane	4.000	4.026	-0.6	100	-0.01
36 TMP	Carbon tetrachloride	4.000	4.072	-1.8	100	0.00
37 TMP	Benzene	4.000	3.954	1.1	100	0.00
38 TMP	Cyclohexane	4.000	4.012	-0.3	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	4.000	3.929	1.8	100	0.00
41 TMP	1,4-Dioxane	4.000	4.028	-0.7	100	0.00
42 TMP	2,2,4-Trimethylpentane	4.000	4.085	-2.1	100	0.00
43 TMP	Methyl methacrylate	4.000	4.171	-4.3	100	0.00
44 TMP	Heptane	4.000	4.102	-2.6	100	0.00
45 TMP	Bromodichloromethane	4.000	4.005	-0.1	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:33:02 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	4.000	3.822	4.4	100	0.00
47 TMP cis-1,3-Dichloropropene	4.000	4.095	-2.4	100	0.00
48 TMP 4-Methyl-2-pentanone	4.000	3.800	5.0	100	0.00
49 TMP trans-1,3-Dichloropropene	4.000	4.051	-1.3	100	0.00
50 TMP Toluene	4.000	4.027	-0.7	100	0.00
51 TMP 1,1,2-Trichloroethane	4.000	3.981	0.5	100	0.00
52 TMP 2-Hexanone	4.000	3.976	0.6	100	0.00
53 TMP Tetrachloroethene	4.000	4.094	-2.4	100	0.00
54 TMP Dibromochloromethane	4.000	4.015	-0.4	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	4.000	3.916	2.1	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	4.000	4.137	-3.4	100	0.00
58 TMP Ethylbenzene	4.000	3.906	2.3	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	4.000	3.952	1.2	100	0.00
60 TMP Nonane	4.000	4.165	-4.1	100	0.00
61 TMP Isopropylbenzene	4.000	4.103	-2.6	100	0.00
62 TMP 2-Chlorotoluene	4.000	4.121	-3.0	100	0.00
63 TMP Propylbenzene	4.000	4.128	-3.2	100	0.00
64 TMP 4-Ethyltoluene	4.000	4.114	-2.8	100	0.00
65 TMP m,p-Xylene	8.000	8.051	-0.6	100	0.00
66 TMP o-Xylene	4.000	4.031	-0.8	100	0.00
67 TMP Styrene	4.000	4.153	-3.8	100	0.00
68 TMP Bromoform	4.000	4.258	-6.5	100	0.00
69 S 4-Bromofluorobenzene	10.000	10.138	-1.4	100	0.00
70 TMP Benzyl chloride	4.000	4.183	-4.6	100	0.00
71 TMP 1,3,5-Trimethylbenzene	4.000	4.243	-6.1	100	0.00
72 TMP 1,2,4-Trimethylbenzene	4.000	4.134	-3.4	100	0.00
73 TMP 1,3-Dichlorobenzene	4.000	4.031	-0.8	100	0.00
74 TMP 1,4-Dichlorobenzene	4.000	4.076	-1.9	100	0.00
75 TMP 1,2-Dichlorobenzene	4.000	3.971	0.7	100	0.00
76 TMP 1,2,4-Trichlorobenzene	4.000	4.015	-0.4	100	0.00
77 TMP Naphthalene	4.000	4.042	-1.0	100	0.00
78 TMP Hexachlorobutadiene	4.000	4.077	-1.9	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:33:02 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	1.710	1.808	-5.7	100	0.00
3 TMP	Dichlorodifluoromethane	4.425	4.403	0.5	100	0.00
4 TMP	Chloromethane	2.075	2.117	-2.0	101	0.00
5 TMP	F-114	4.450	4.407	1.0	100	0.00
6 TMP	Vinyl chloride	2.209	2.214	-0.2	100	0.00
7 TMP	1,3-Butadiene	1.529	1.525	0.3	100	0.00
8 TMP	Butane	3.248	3.229	0.6	100	0.00
9 TMP	Bromomethane	1.540	1.615	-4.9	100	0.00
10 TMP	Chloroethane	0.759	0.767	-1.1	101	0.00
11 TMP	Vinyl bromide	1.785	1.911	-7.1	100	0.00
12 TMP	Ethanol	0.559	0.531	5.0	100	0.00
13 TMP	Acrolein	0.726	0.722	0.6	100	0.00
14 TMP	Pentane	3.891	3.896	-0.1	100	0.00
15 TMP	Trichlorofluoromethane	4.934	5.128	-3.9	100	0.00
16 TMP	Acetone	0.880	0.823	6.5	100	0.00
17 TMP	2-Propanol	3.556	3.447	3.1	100	0.00
18 TMP	1,1-Dichloroethene	1.648	1.638	0.6	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.626	1.624	0.1	100	0.00
20 TMP	Methylene chloride	1.750	1.652	5.6	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.881	2.817	2.2	100	0.00
22 TMP	3-Chloropropene	2.910	2.947	-1.3	100	0.00
23 TMP	CFC-113	3.396	3.510	-3.4	100	0.00
24 TMP	Carbon disulfide	5.738	5.999	-4.5	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	3.821	-0.0	100	0.00
26 TMP	Vinyl acetate	2.562	2.647	-3.3	100	0.00
27 TMP	1,1-Dichloroethane	3.850	3.915	-1.7	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.785	-0.3	100	0.00
29 TMP	Hexane	2.959	3.039	-2.7	100	-0.02
30 TMP	Chloroform	4.366	4.313	1.2	100	0.00
31 TMP	Ethyl acetate	6.229	6.533	-4.9	100	0.00
32 TMP	Tetrahydrofuran	2.703	2.715	-0.4	100	0.00
33 TMP	2-Butanone (MEK)	0.712	0.720	-1.1	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.270	0.5	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.253	-0.6	100	-0.01
36 TMP	Carbon tetrachloride	3.178	3.236	-1.8	100	0.00
37 TMP	Benzene	6.123	6.053	1.1	100	0.00
38 TMP	Cyclohexane	1.669	1.674	-0.3	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.618	0.607	1.8	100	0.00
41 TMP	1,4-Dioxane	0.270	0.272	-0.7	100	0.00
42 TMP	2,2,4-Trimethylpentane	2.076	2.120	-2.1	100	0.00
43 TMP	Methyl methacrylate	0.567	0.591	-4.2	100	0.00
44 TMP	Heptane	0.959	0.983	-2.5	100	0.00
45 TMP	Bromodichloromethane	0.953	0.954	-0.1	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082422.D  
 Acq On : 24 Aug 2021 9:01 pm  
 Operator : bat  
 Sample : 4.0 ppbv 64-87a  
 Misc : cal line, 40cc of 25ppbv  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:33:02 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.591	4.4	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.651	-2.4	100	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.038	5.0	100	0.00
49 TMP trans-1,3-Dichloropropene	0.540	0.547	-1.3	100	0.00
50 TMP Toluene	0.749	0.754	-0.7	100	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.560	0.5	100	0.00
52 TMP 2-Hexanone	1.055	1.049	0.6	100	0.00
53 TMP Tetrachloroethene	0.381	0.390	-2.4	100	0.00
54 TMP Dibromochloromethane	0.787	0.790	-0.4	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.763	2.1	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	1.108	-3.5	100	0.00
58 TMP Ethylbenzene	2.221	2.169	2.3	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.531	1.2	100	0.00
60 TMP Nonane	1.679	1.749	-4.2	100	0.00
61 TMP Isopropylbenzene	1.948	1.998	-2.6	100	0.00
62 TMP 2-Chlorotoluene	0.463	0.477	-3.0	100	0.00
63 TMP Propylbenzene	4.322	4.460	-3.2	100	0.00
64 TMP 4-Ethyltoluene	2.027	2.085	-2.9	100	0.00
65 TMP m,p-Xylene	0.713	0.718	-0.7	100	0.00
66 TMP o-Xylene	0.701	0.707	-0.9	100	0.00
67 TMP Styrene	1.032	1.072	-3.9	100	0.00
68 TMP Bromoform	0.801	0.853	-6.5	100	0.00
69 S 4-Bromofluorobenzene	0.906	0.918	-1.3	100	0.00
70 TMP Benzyl chloride	0.751	0.785	-4.5	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	1.724	-6.1	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.679	1.735	-3.3	100	0.00
73 TMP 1,3-Dichlorobenzene	1.154	1.163	-0.8	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.092	5.2	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.083	0.7	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.882	7.2	100	0.00
77 TMP Naphthalene	2.538	2.304	9.2	100	0.00
78 TMP Hexachlorobutadiene	0.852	0.721	15.4	100	0.00

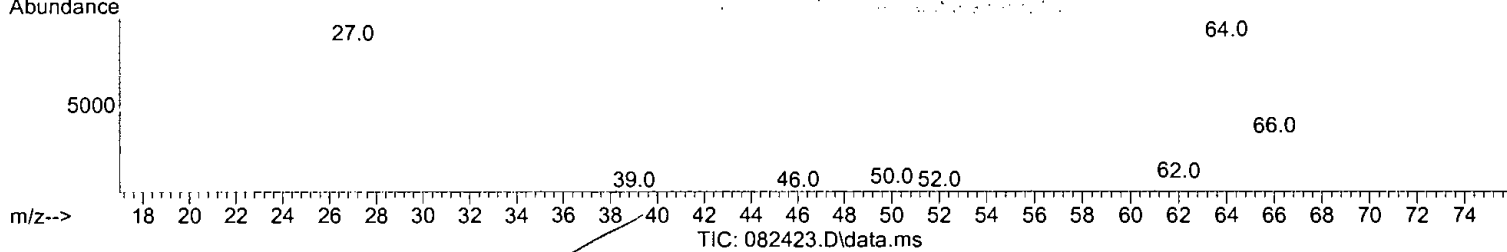
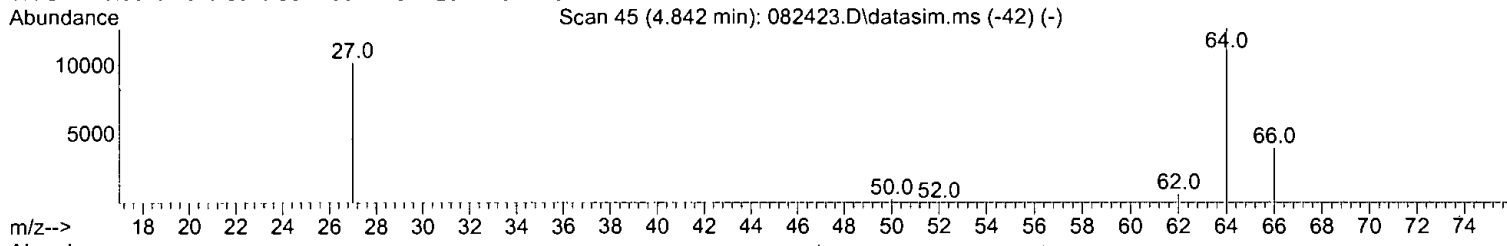
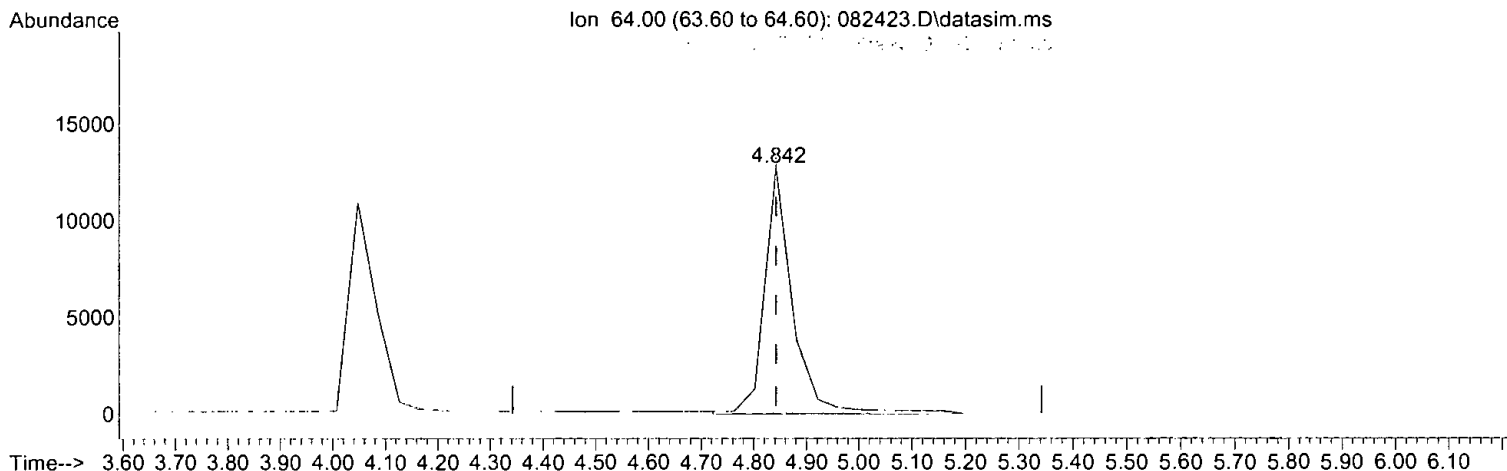
(#) = Out of Range

SPCC's out = 0 CCC's out = 0



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082423.D  
 Acq On : 24 Aug 2021 9:38 pm  
 Operator : bat  
 Sample : 5.0 ppbv 64-87a  
 Misc : cal line, 50cc of 25ppbv  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:30 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 5.158 ppbv

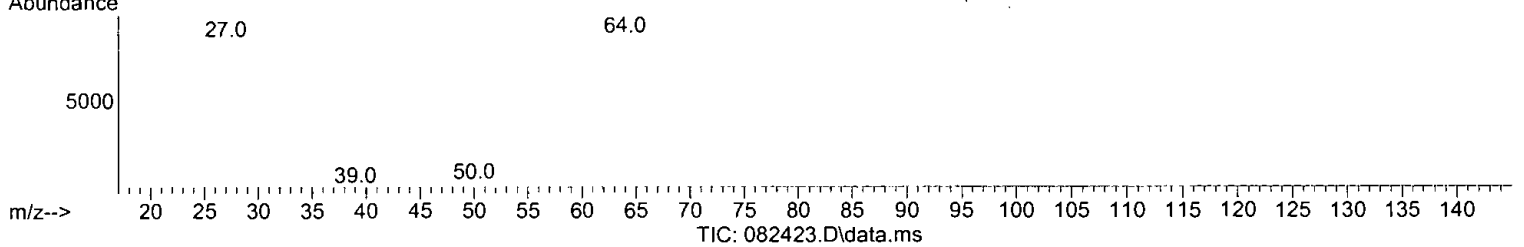
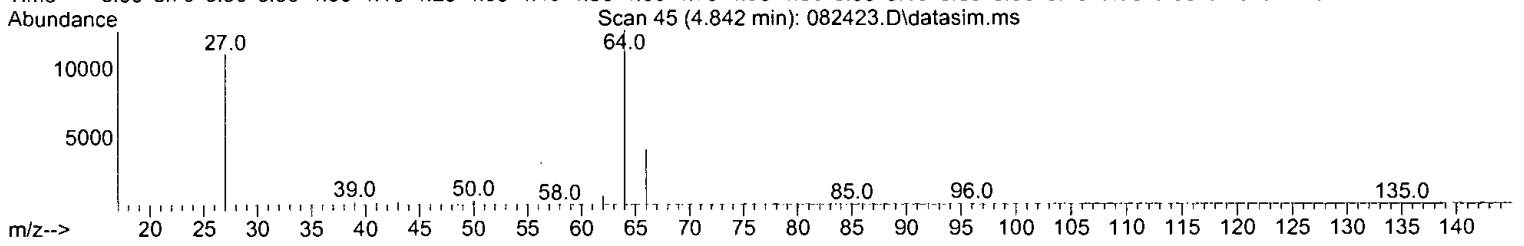
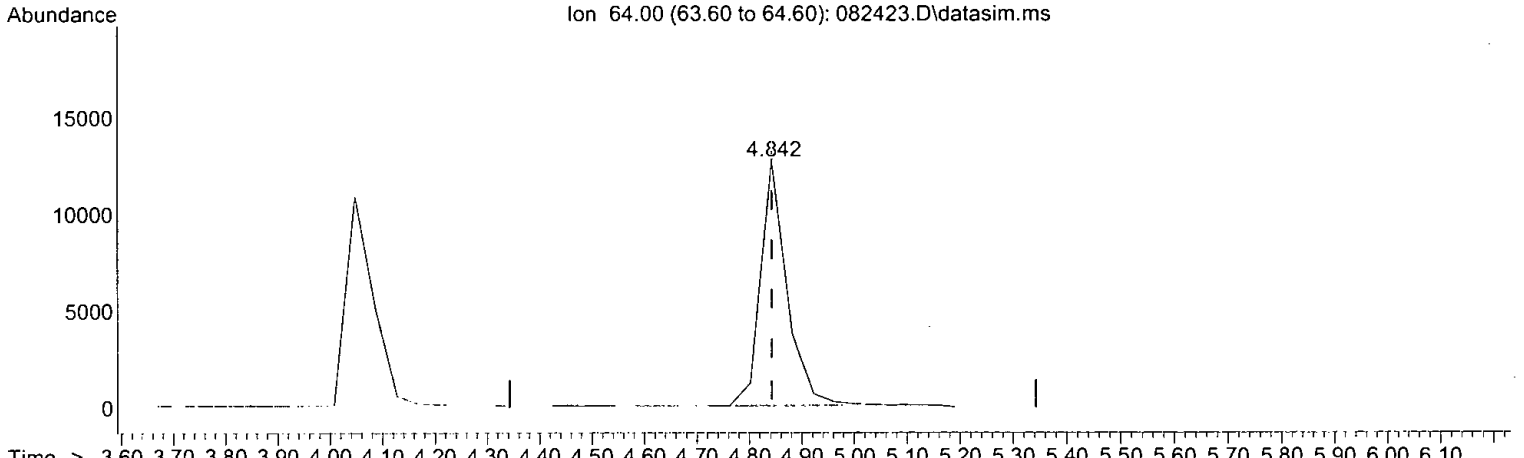
response	45376		
Ion	Exp%	Act%	
64.00	100.00	100.00	
66.00	31.80	31.94	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082423.D  
 Acq On : 24 Aug 2021 9:38 pm  
 Operator : bat  
 Sample : 5.0 ppbv 64-87a  
 Misc : cal line, 50cc of 25ppbv  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:30 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 5.016 ppbv m

response	44120		
Ion	Exp%	Act%	
64.00	100.00	100.00	
66.00	31.80	31.94	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082423.D  
 Acq On : 24 Aug 2021 9:38 pm  
 Operator : bat  
 Sample : 5.0 ppbv 64-87a  
 Misc : cal line, 50cc of 25ppbv  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:34:39 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	115886	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	567250	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	503966	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	454484	9.954	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	99.50%
Target Compounds						
						Qvalue
2) Propene	3.41	41	96107	4.851	ppbv	96
3) Dichlorodifluoromethane	3.52	85	251306	4.901	ppbv	99
4) Chloromethane	3.77	50	112026	4.659	ppbv	81
5) F-114	3.88	85	249991	4.848	ppbv	87
6) Vinyl chloride	4.05	62	125999	4.923	ppbv	96
7) 1,3-Butadiene	4.25	54	87201	4.922	ppbv	# 89
8) Butane	4.32	43	183971	4.888	ppbv	98
9) Bromomethane	4.64	94	91234	5.111	ppbv	99
10) Chloroethane	4.84	64	44120m	5.016	ppbv	
11) Vinyl bromide	5.32	106	108372	5.238	ppbv	100
12) Ethanol	4.96	45	32569	5.024	ppbv	94
13) Acrolein	5.43	56	40637	4.829	ppbv	100
14) Pentane	6.33	43	225637	5.004	ppbv	98
15) Trichlorofluoromethane	5.88	101	286463	5.010	ppbv	99
16) Acetone	5.59	58	50462	4.948	ppbv	94
17) 2-Propanol	5.86	45	208605	5.062	ppbv	# 100
18) 1,1-Dichloroethene	6.73	96	92847	4.861	ppbv	92
19) trans-1,2-Dichloroethene	8.18	96	92640	4.916	ppbv	87
20) Methylene chloride	6.86	84	93720	4.621	ppbv	# 80
21) t-Butyl alcohol (TBA)	6.65	59	167832	5.026	ppbv	# 38
22) 3-Chloropropene	7.01	41	164626	4.881	ppbv	93
23) CFC-113	7.23	101	198520	5.044	ppbv	89
24) Carbon disulfide	7.33	76	339420	5.104	ppbv	95
25) Methyl t-butyl ether (...)	8.51	73	218644	4.939	ppbv	100
26) Vinyl acetate	8.62	43	150220	5.059	ppbv	97
27) 1,1-Dichloroethane	8.44	63	222578	4.989	ppbv	96
28) cis-1,2-Dichloroethene	9.73	96	101475	4.918	ppbv	84
29) Hexane	10.11	57	169914	4.955	ppbv	90
30) Chloroform	10.19	83	244888	4.840	ppbv	98
31) Ethyl acetate	10.01	43	375698	5.205	ppbv	# 98
32) Tetrahydrofuran	10.83	42	156530	4.996	ppbv	90
33) 2-Butanone (MEK)	8.99	72	40384	4.896	ppbv	# 66
34) 1,2-Dichloroethane (EDC)	11.44	62	185314	4.868	ppbv	96
35) 1,1,1-Trichloroethane	11.93	97	186711	4.984	ppbv	87
36) Carbon tetrachloride	12.95	117	185092	5.025	ppbv	99
37) Benzene	12.70	78	343858	4.846	ppbv	96
38) Cyclohexane	13.16	84	98272	5.080	ppbv	85
40) 1,2-Dichloropropane	13.90	63	167020	4.765	ppbv	100
41] 1,4-Dioxane	14.17	88	74032	4.840	ppbv	82
42) 2,2,4-Trimethylpentane	14.31	57	579959	4.925	ppbv	92

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082423.D  
 Acq On : 24 Aug 2021 9:38 pm  
 Operator : bat  
 Sample : 5.0 ppbv 64-87a  
 Misc : cal line, 50cc of 25ppbv  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

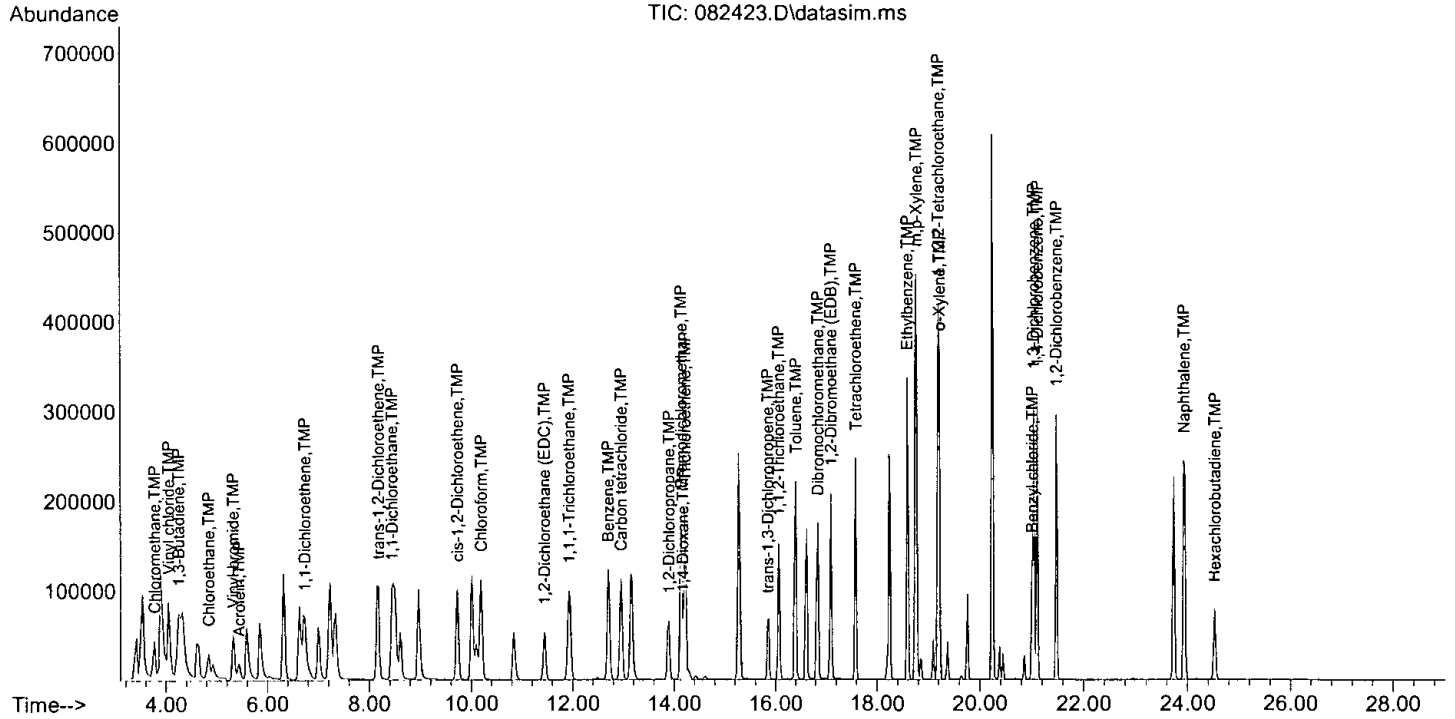
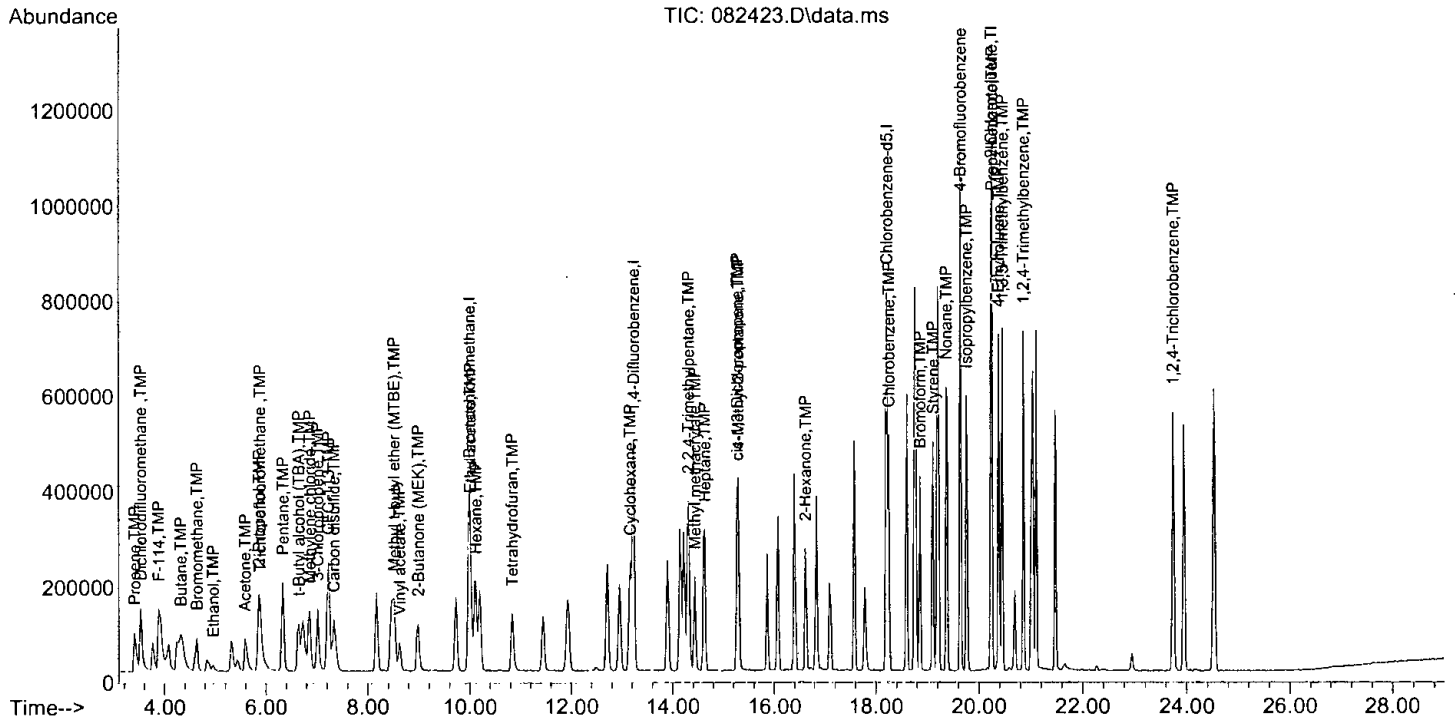
Quant Time: Aug 25 11:34:39 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
43) Methyl methacrylate	14.43	41	158489	4.929	ppbv	#	85
44) Heptane	14.63	43	271613	4.993	ppbv		92
45) Bromodichloromethane	14.14	83	260799	4.824	ppbv		92
46) Trichloroethene	14.22	95	162879	4.645	ppbv		87
47) cis-1,3-Dichloropropene	15.27	75	179828	4.985	ppbv		95
48) 4-Methyl-2-pentanone	15.29	100	12494	5.440	ppbv	#	7
49) trans-1,3-Dichloropropene	15.85	75	151410	4.939	ppbv		77
50) Toluene	16.40	92	205672	4.839	ppbv		82
51) 1,1,2-Trichloroethane	16.06	83	153428	4.808	ppbv		98
52) 2-Hexanone	16.62	43	295635	4.940	ppbv		90
53) Tetrachloroethene	17.58	164	106236	4.916	ppbv		83
54) Dibromochloromethane	16.85	129	218485	4.892	ppbv		89
55) 1,2-Dibromoethane (EDB)	17.10	107	209152	4.733	ppbv		90
57) Chlorobenzene	18.25	112	259539	4.808	ppbv		92
58) Ethylbenzene	18.59	91	517547	4.624	ppbv		97
59) 1,1,2,2-Tetrachloroethane	19.19	83	365745	4.684	ppbv		94
60) Nonane	19.36	43	417660	4.935	ppbv		93
61) Isopropylbenzene	19.75	105	472283	4.812	ppbv		98
62) 2-Chlorotoluene	20.23	126	113505	4.864	ppbv		66
63) Propylbenzene	20.25	91	1068218	4.905	ppbv		96
64) 4-Ethyltoluene	20.38	105	500528	4.900	ppbv		97
65) m,p-Xylene	18.76	106	341195	9.493	ppbv		91
66) o-Xylene	19.21	106	168524	4.770	ppbv		91
67) Styrene	19.11	104	249569	4.798	ppbv		91
68) Bromoform	18.85	173	204472	5.065	ppbv		99
70) Benzyl chloride	21.01	91	193374	5.109	ppbv		93
71) 1,3,5-Trimethylbenzene	20.45	105	410668	5.014	ppbv		95
72) 1,2,4-Trimethylbenzene	20.86	105	419516	4.958	ppbv		96
73) 1,3-Dichlorobenzene	21.04	146	279752	4.811	ppbv		93
74) 1,4-Dichlorobenzene	21.11	146	262220	4.859	ppbv		95
75) 1,2-Dichlorobenzene	21.47	146	259600	4.723	ppbv		95
76) 1,2,4-Trichlorobenzene	23.73	180	217948	4.941	ppbv		96
77) Naphthalene	23.93	128	560402	4.886	ppbv		98
78) Hexachlorobutadiene	24.52	225	172614	4.869	ppbv		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082423.D  
 Acq On : 24 Aug 2021 9:38 pm  
 Operator : bat  
 Sample : 5.0 ppbv 64-87a  
 Misc : cal line, 50cc of 25ppbv  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:34:39 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082423.D  
 Acq On : 24 Aug 2021 9:38 pm  
 Operator : bat  
 Sample : 5.0 ppbv 64-87a  
 Misc : cal line, 50cc of 25ppbv  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:34:39 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I Bromochloromethane	10.000	10.000	0.0	100	0.00
2	TMP Propene	5.000	4.851	3.0	100	0.00
3	TMP Dichlorodifluoromethane	5.000	4.901	2.0	100	0.00
4	TMP Chloromethane	5.000	4.659	6.8	100	0.00
5	TMP F-114	5.000	4.848	3.0	100	0.00
6	TMP Vinyl chloride	5.000	4.923	1.5	100	0.00
7	TMP 1,3-Butadiene	5.000	4.922	1.6	100	0.00
8	TMP Butane	5.000	4.888	2.2	100	0.00
9	TMP Bromomethane	5.000	5.111	-2.2	100	0.00
10	TMP Chloroethane	5.000	5.016	-0.3	100	0.00
11	TMP Vinyl bromide	5.000	5.238	-4.8	100	0.00
12	TMP Ethanol	5.000	5.024	-0.5	113	0.00
13	TMP Acrolein	5.000	4.829	3.4	100	0.00
14	TMP Pentane	5.000	5.004	-0.1	100	0.00
15	TMP Trichlorofluoromethane	5.000	5.010	-0.2	100	0.00
16	TMP Acetone	5.000	4.948	1.0	100	0.00
17	TMP 2-Propanol	5.000	5.062	-1.2	100	0.00
18	TMP 1,1-Dichloroethene	5.000	4.861	2.8	100	0.00
19	TMP trans-1,2-Dichloroethene	5.000	4.916	1.7	100	0.00
20	TMP Methylene chloride	5.000	4.621	7.6	100	0.00
21	TMP t-Butyl alcohol (TBA)	5.000	5.026	-0.5	100	0.00
22	TMP 3-Chloropropene	5.000	4.881	2.4	100	0.00
23	TMP CFC-113	5.000	5.044	-0.9	100	0.00
24	TMP Carbon disulfide	5.000	5.104	-2.1	100	0.00
25	TMP Methyl t-butyl ether (MTBE)	5.000	4.939	1.2	100	0.00
26	TMP Vinyl acetate	5.000	5.059	-1.2	100	0.00
27	TMP 1,1-Dichloroethane	5.000	4.989	0.2	100	0.00
28	TMP cis-1,2-Dichloroethene	5.000	4.918	1.6	100	0.00
29	TMP Hexane	5.000	4.955	0.9	100	0.00
30	TMP Chloroform	5.000	4.840	3.2	100	0.00
31	TMP Ethyl acetate	5.000	5.205	-4.1	100	0.00
32	TMP Tetrahydrofuran	5.000	4.996	0.1	100	0.00
33	TMP 2-Butanone (MEK)	5.000	4.896	2.1	100	0.00
34	TMP 1,2-Dichloroethane (EDC)	5.000	4.868	2.6	100	0.00
35	TMP 1,1,1-Trichloroethane	5.000	4.984	0.3	100	-0.01
36	TMP Carbon tetrachloride	5.000	5.025	-0.5	100	0.00
37	TMP Benzene	5.000	4.846	3.1	100	0.00
38	TMP Cyclohexane	5.000	5.080	-1.6	100	0.00
39	I 1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40	TMP 1,2-Dichloropropane	5.000	4.765	4.7	100	0.00
41	TMP 1,4-Dioxane	5.000	4.840	3.2	100	0.00
42	TMP 2,2,4-Trimethylpentane	5.000	4.925	1.5	100	0.00
43	TMP Methyl methacrylate	5.000	4.929	1.4	100	0.00
44	TMP Heptane	5.000	4.993	0.1	100	0.00
45	TMP Bromodichloromethane	5.000	4.824	3.5	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082423.D  
 Acq On : 24 Aug 2021 9:38 pm  
 Operator : bat  
 Sample : 5.0 ppbv 64-87a  
 Misc : cal line, 50cc of 25ppbv  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:34:39 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	5.000	4.645	7.1	100	0.00
47 TMP cis-1,3-Dichloropropene	5.000	4.985	0.3	100	0.00
48 TMP 4-Methyl-2-pentanone	5.000	5.440	-8.8	100	0.00
49 TMP trans-1,3-Dichloropropene	5.000	4.939	1.2	100	0.00
50 TMP Toluene	5.000	4.839	3.2	100	0.00
51 TMP 1,1,2-Trichloroethane	5.000	4.808	3.8	100	0.00
52 TMP 2-Hexanone	5.000	4.940	1.2	100	0.00
53 TMP Tetrachloroethene	5.000	4.916	1.7	100	0.00
54 TMP Dibromochloromethane	5.000	4.892	2.2	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	5.000	4.733	5.3	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	5.000	4.808	3.8	100	0.00
58 TMP Ethylbenzene	5.000	4.624	7.5	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	5.000	4.684	6.3	100	0.00
60 TMP Nonane	5.000	4.935	1.3	100	0.00
61 TMP Isopropylbenzene	5.000	4.812	3.8	100	0.00
62 TMP 2-Chlorotoluene	5.000	4.864	2.7	100	0.00
63 TMP Propylbenzene	5.000	4.905	1.9	100	0.00
64 TMP 4-Ethyltoluene	5.000	4.900	2.0	100	0.00
65 TMP m,p-Xylene	10.000	9.493	5.1	100	0.00
66 TMP o-Xylene	5.000	4.770	4.6	100	0.00
67 TMP Styrene	5.000	4.798	4.0	100	0.00
68 TMP Bromoform	5.000	5.065	-1.3	100	0.00
69 S 4-Bromofluorobenzene	10.000	9.954	0.5	100	0.00
70 TMP Benzyl chloride	5.000	5.109	-2.2	100	0.00
71 TMP 1,3,5-Trimethylbenzene	5.000	5.014	-0.3	100	0.00
72 TMP 1,2,4-Trimethylbenzene	5.000	4.958	0.8	100	0.00
73 TMP 1,3-Dichlorobenzene	5.000	4.811	3.8	100	0.00
74 TMP 1,4-Dichlorobenzene	5.000	4.859	2.8	100	0.00
75 TMP 1,2-Dichlorobenzene	5.000	4.723	5.5	100	0.00
76 TMP 1,2,4-Trichlorobenzene	5.000	4.941	1.2	100	0.00
77 TMP Naphthalene	5.000	4.886	2.3	100	0.00
78 TMP Hexachlorobutadiene	5.000	4.869	2.6	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082423.D  
 Acq On : 24 Aug 2021 9:38 pm  
 Operator : bat  
 Sample : 5.0 ppbv 64-87a  
 Misc : cal line, 50cc of 25ppbv  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:34:39 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	1.710	1.659	3.0	100	0.00
3 TMP	Dichlorodifluoromethane	4.425	4.337	2.0	100	0.00
4 TMP	Chloromethane	2.075	1.933	6.8	100	0.00
5 TMP	F-114	4.450	4.314	3.1	100	0.00
6 TMP	Vinyl chloride	2.209	2.175	1.5	100	0.00
7 TMP	1,3-Butadiene	1.529	1.505	1.6	100	0.00
8 TMP	Butane	3.248	3.175	2.2	100	0.00
9 TMP	Bromomethane	1.540	1.575	-2.3	100	0.00
10 TMP	Chloroethane	0.759	0.761	-0.3	100	0.00
11 TMP	Vinyl bromide	1.785	1.870	-4.8	100	0.00
12 TMP	Ethanol	0.559	0.562	-0.5	113	0.00
13 TMP	Acrolein	0.726	0.701	3.4	100	0.00
14 TMP	Pentane	3.891	3.894	-0.1	100	0.00
15 TMP	Trichlorofluoromethane	4.934	4.944	-0.2	100	0.00
16 TMP	Acetone	0.880	0.871	1.0	100	0.00
17 TMP	2-Propanol	3.556	3.600	-1.2	100	0.00
18 TMP	1,1-Dichloroethene	1.648	1.602	2.8	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.626	1.599	1.7	100	0.00
20 TMP	Methylene chloride	1.750	1.617	7.6	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.881	2.897	-0.6	100	0.00
22 TMP	3-Chloropropene	2.910	2.841	2.4	100	0.00
23 TMP	CFC-113	3.396	3.426	-0.9	100	0.00
24 TMP	Carbon disulfide	5.738	5.858	-2.1	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	3.773	1.2	100	0.00
26 TMP	Vinyl acetate	2.562	2.593	-1.2	100	0.00
27 TMP	1,1-Dichloroethane	3.850	3.841	0.2	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.751	1.6	100	0.00
29 TMP	Hexane	2.959	2.932	0.9	100	0.00
30 TMP	Chloroform	4.366	4.226	3.2	100	0.00
31 TMP	Ethyl acetate	6.229	6.484	-4.1	100	0.00
32 TMP	Tetrahydrofuran	2.703	2.701	0.1	100	0.00
33 TMP	2-Butanone (MEK)	0.712	0.697	2.1	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.198	2.6	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.222	0.3	100	-0.01
36 TMP	Carbon tetrachloride	3.178	3.194	-0.5	100	0.00
37 TMP	Benzene	6.123	5.934	3.1	100	0.00
38 TMP	Cyclohexane	1.669	1.696	-1.6	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.618	0.589	4.7	100	0.00
41 TMP	1,4-Dioxane	0.270	0.261	3.3	100	0.00
42 TMP	2,2,4-Trimethylpentane	2.076	2.045	1.5	100	0.00
43 TMP	Methyl methacrylate	0.567	0.559	1.4	100	0.00
44 TMP	Heptane	0.959	0.958	0.1	100	0.00
45 TMP	Bromodichloromethane	0.953	0.920	3.5	100	0.00



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082423.D  
 Acq On : 24 Aug 2021 9:38 pm  
 Operator : bat  
 Sample : 5.0 ppbv 64-87a  
 Misc : cal line, 50cc of 25ppbv  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:34:39 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.574	7.1	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.634	0.3	100	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.044	-10.0	100	0.00
49 TMP trans-1,3-Dichloropropene	0.540	0.534	1.1	100	0.00
50 TMP Toluene	0.749	0.725	3.2	100	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.541	3.9	100	0.00
52 TMP 2-Hexanone	1.055	1.042	1.2	100	0.00
53 TMP Tetrachloroethene	0.381	0.375	1.6	100	0.00
54 TMP Dibromochloromethane	0.787	0.770	2.2	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.737	5.4	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	1.030	3.8	100	0.00
58 TMP Ethylbenzene	2.221	2.054	7.5	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.451	6.3	100	0.00
60 TMP Nonane	1.679	1.657	1.3	100	0.00
61 TMP Isopropylbenzene	1.948	1.874	3.8	100	0.00
62 TMP 2-Chlorotoluene	0.463	0.450	2.8	100	0.00
63 TMP Propylbenzene	4.322	4.239	1.9	100	0.00
64 TMP 4-Ethyltoluene	2.027	1.986	2.0	100	0.00
65 TMP m,p-Xylene	0.713	0.677	5.0	100	0.00
66 TMP o-Xylene	0.701	0.669	4.6	100	0.00
67 TMP Styrene	1.032	0.990	4.1	100	0.00
68 TMP Bromoform	0.801	0.811	-1.2	100	0.00
69 S 4-Bromofluorobenzene	0.906	0.902	0.4	100	0.00
70 TMP Benzyl chloride	0.751	0.767	-2.1	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	1.630	-0.3	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.679	1.665	0.8	100	0.00
73 TMP 1,3-Dichlorobenzene	1.154	1.110	3.8	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.041	9.6	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.030	5.6	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.865	8.9	100	0.00
77 TMP Naphthalene	2.538	2.224	12.4	100	0.00
78 TMP Hexachlorobutadiene	0.852	0.685	19.6	100	0.00

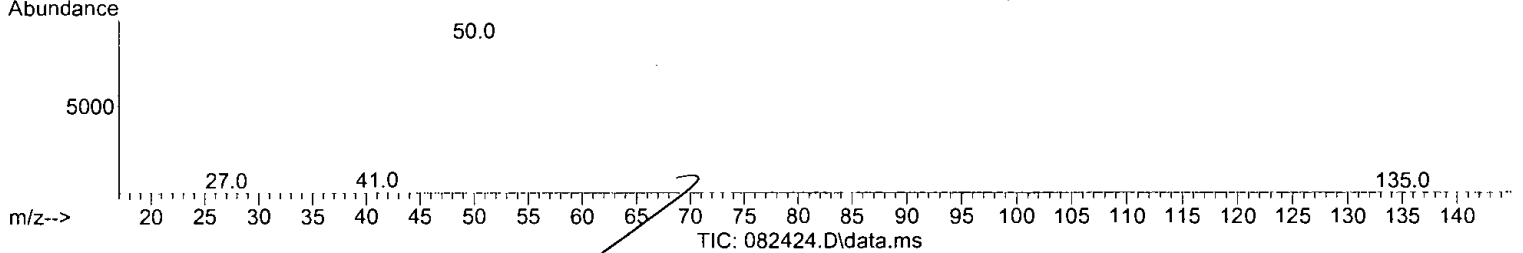
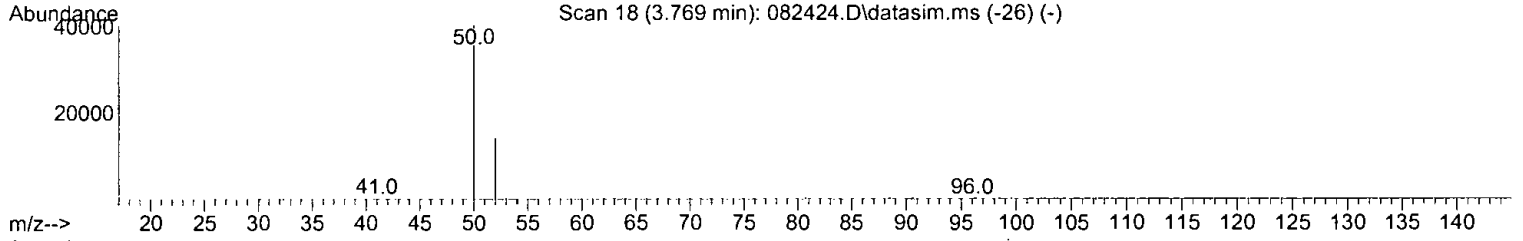
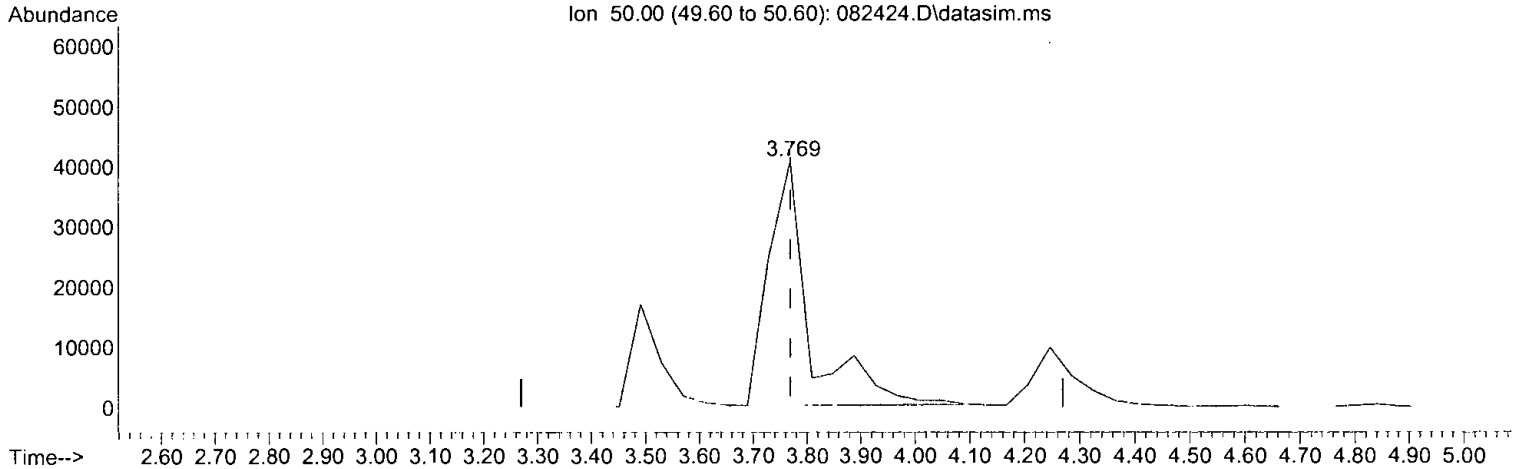
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082424.D  
 Acq On : 24 Aug 2021 10:14 pm  
 Operator : bat  
 Sample : 8.0 ppbv 64-87a  
 Misc : cal line, 80cc of 25ppbv  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:36 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (+ 0.000) 8.808 ppbv

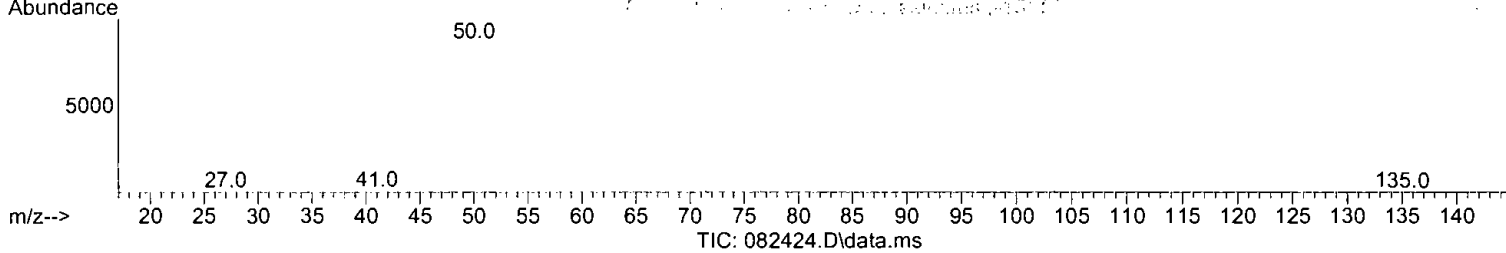
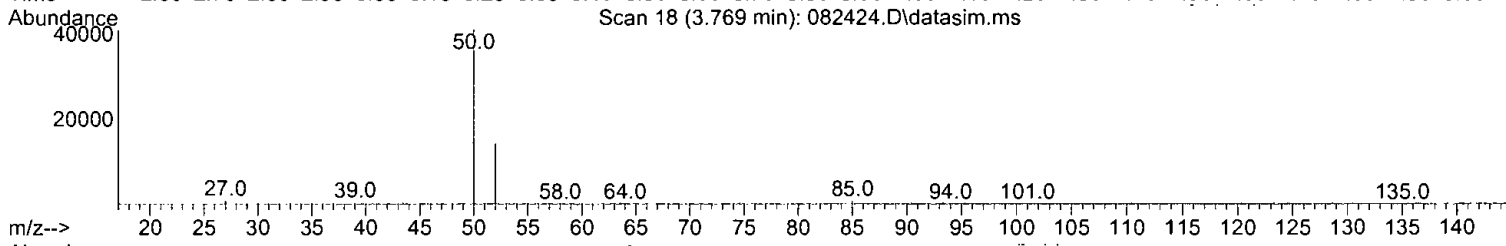
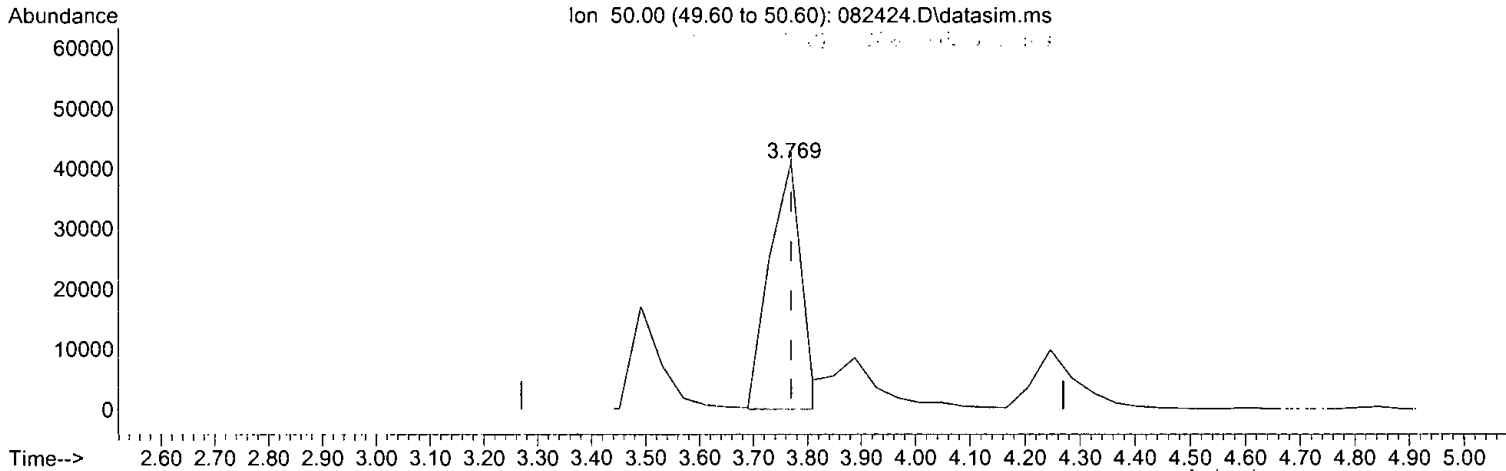
response	214468	
Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	34.89
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082424.D  
 Acq On : 24 Aug 2021 10:14 pm  
 Operator : bat  
 Sample : 8.0 ppbv 64-87a  
 Misc : cal line, 80cc of 25ppbv  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:36 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (+ 0.000) 6.937 ppbv m

response 168920

Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	34.69
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082424.D  
 Acq On : 24 Aug 2021 10:14 pm  
 Operator : bat  
 Sample : 8.0 ppbv 64-87a  
 Misc : cal line, 80cc of 25ppbv  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:36:03 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	117340	10.000	ppbv	#-0.02
39) 1,4-Difluorobenzene	13.23	114	560061	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	491505	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	449859	10.103	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	101.00%
Target Compounds						
						Qvalue
2) Propene	3.41	41	160186	7.984	ppbv	96
3) Dichlorodifluoromethane	3.52	85	383853	7.393	ppbv	98
4) Chloromethane	3.77	50	168920m	6.937	ppbv	
5) F-114	3.88	85	393791	7.542	ppbv	90
6) Vinyl chloride	4.05	62	199034	7.680	ppbv	98
7) 1,3-Butadiene	4.25	54	133723	7.454	ppbv	# 87
8) Butane	4.32	43	281912	7.398	ppbv	98
9) Bromomethane	4.64	94	141047	7.804	ppbv	98
10) Chloroethane	4.84	64	67958	7.630	ppbv	99
11) Vinyl bromide	5.32	106	166856	7.965	ppbv	100
12) Ethanol	4.96	45	45905	6.994	ppbv	100
13) Acrolein	5.43	56	62382	7.321	ppbv	99
14) Pentane	6.33	43	342208	7.495	ppbv	97
15) Trichlorofluoromethane	5.88	101	444616	7.680	ppbv	98
16) Acetone	5.59	58	74590	7.224	ppbv	# 77
17) 2-Propanol	5.84	45	325886	7.811	ppbv	# 100
18) 1,1-Dichloroethene	6.73	96	143843	7.437	ppbv	95
19) trans-1,2-Dichloroethene	8.18	96	142597	7.474	ppbv	# 81
20) Methylene chloride	6.86	84	139277	6.781	ppbv	84
21) t-Butyl alcohol (TBA)	6.62	59	260798	7.714	ppbv	# 41
22) 3-Chloropropene	7.01	41	259084	7.587	ppbv	92
23) CFC-113	7.23	101	305776	7.674	ppbv	85
24) Carbon disulfide	7.33	76	520283	7.727	ppbv	96
25) Methyl t-butyl ether (...)	8.51	73	341582	7.621	ppbv	99
26) Vinyl acetate	8.62	43	236967	7.882	ppbv	98
27) 1,1-Dichloroethane	8.44	63	344830	7.633	ppbv	97
28) cis-1,2-Dichloroethene	9.73	96	156888	7.510	ppbv	87
29) Hexane	10.10	57	262607	7.563	ppbv	90
30) Chloroform	10.19	83	380942	7.436	ppbv	99
31) Ethyl acetate	10.01	43	555862	7.606	ppbv	# 98
32) Tetrahydrofuran	10.83	42	238885	7.531	ppbv	92
33) 2-Butanone (MEK)	8.96	72	62469	7.480	ppbv	# 47
34) 1,2-Dichloroethane (EDC)	11.44	62	286181	7.425	ppbv	96
35) 1,1,1-Trichloroethane	11.93	97	290848	7.668	ppbv	87
36) Carbon tetrachloride	12.95	117	288254	7.729	ppbv	100
37) Benzene	12.70	78	531209	7.393	ppbv	96
38) Cyclohexane	13.16	84	147997	7.555	ppbv	# 77
40) 1,2-Dichloropropane	13.87	63	258315	7.464	ppbv	95
41) 1,4-Dioxane	14.14	88	114452	7.579	ppbv	71
42) 2,2,4-Trimethylpentane	14.31	57	899902	7.740	ppbv	93

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082424.D  
 Acq On : 24 Aug 2021 10:14 pm  
 Operator : bat  
 Sample : 8.0 ppbv 64-87a  
 Misc : cal line, 80cc of 25ppbv  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

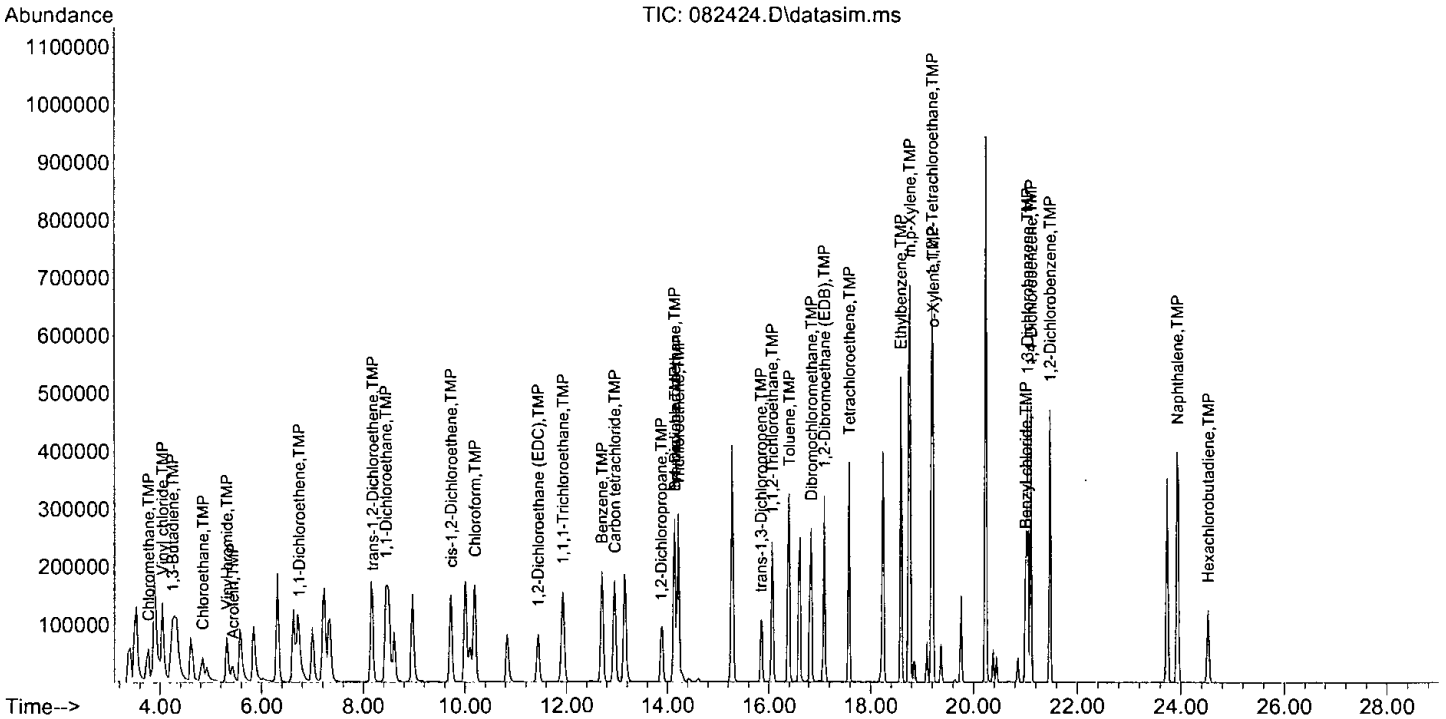
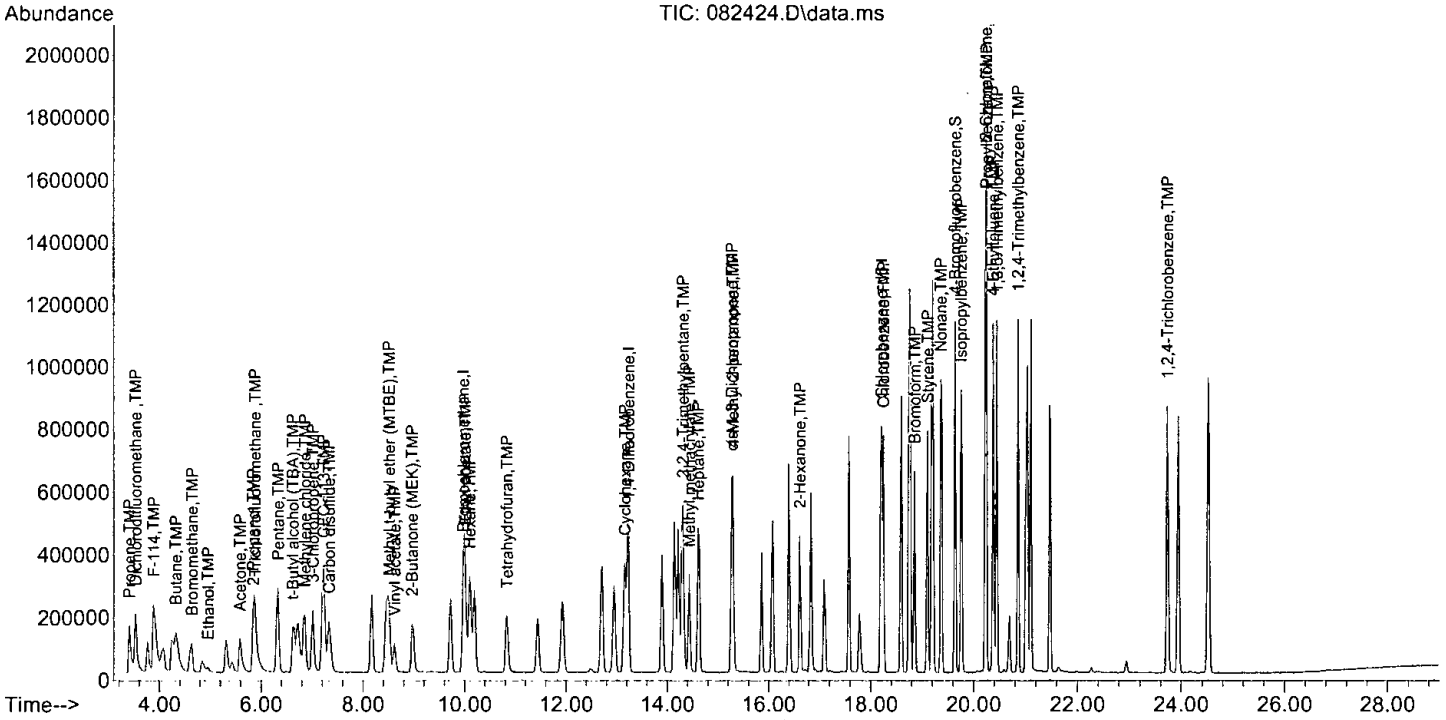
Quant Time: Aug 25 11:36:03 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.43	41	249750	7.867	ppbv #	87
44) Heptane	14.60	43	411672	7.664	ppbv	92
45) Bromodichloromethane	14.14	83	406106	7.609	ppbv	91
46) Trichloroethene	14.22	95	250776	7.244	ppbv	89
47) cis-1,3-Dichloropropene	15.27	75	282694	7.937	ppbv	96
48) 4-Methyl-2-pentanone	15.29	100	17891	7.890	ppbv #	1
49) trans-1,3-Dichloropropene	15.85	75	240849	7.958	ppbv	77
50) Toluene	16.40	92	315883	7.527	ppbv #	80
51) 1,1,2-Trichloroethane	16.06	83	238023	7.554	ppbv	100
52) 2-Hexanone	16.62	43	479888	8.122	ppbv	91
53) Tetrachloroethene	17.58	164	165878	7.774	ppbv	84
54) Dibromochloromethane	16.85	129	339582	7.701	ppbv	89
55) 1,2-Dibromoethane (EDB)	17.10	107	327195	7.499	ppbv	90
57) Chlorobenzene	18.25	112	406657	7.724	ppbv	91
58) Ethylbenzene	18.59	91	800033	7.329	ppbv	98
59) 1,1,2,2-Tetrachloroethane	19.19	83	572829	7.522	ppbv	94
60) Nonane	19.36	43	654404	7.929	ppbv	92
61) Isopropylbenzene	19.75	105	841110	8.787	ppbv	92
62) 2-Chlorotoluene	20.23	126	182607	8.024	ppbv	74
63) Propylbenzene	20.25	91	1663203	7.830	ppbv	96
64) 4-Ethyltoluene	20.38	105	788598	7.915	ppbv	98
65) m,p-Xylene	18.76	106	533037	15.207	ppbv	92
66) o-Xylene	19.21	106	263993	7.661	ppbv	91
67) Styrene	19.11	104	401322	7.912	ppbv	93
68) Bromoform	18.85	173	322770	8.198	ppbv	99
70) Benzyl chloride	21.01	91	316686	8.580	ppbv	93
71) 1,3,5-Trimethylbenzene	20.45	105	630983	7.899	ppbv	96
72) 1,2,4-Trimethylbenzene	20.86	105	645507	7.822	ppbv	99
73) 1,3-Dichlorobenzene	21.04	146	440319	7.765	ppbv	93
74) 1,4-Dichlorobenzene	21.11	146	410907	7.834	ppbv	95
75) 1,2-Dichlorobenzene	21.47	146	406486	7.582	ppbv	94
76) 1,2,4-Trichlorobenzene	23.73	180	336193	7.878	ppbv	97
77) Naphthalene	23.93	128	892536	8.025	ppbv	98
78) Hexachlorobutadiene	24.52	225	271052	7.999	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082424.D  
 Acq On : 24 Aug 2021 10:14 pm  
 Operator : bat  
 Sample : 8.0 ppbv 64-87a  
 Misc : cal line, 80cc of 25ppbv  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:36:03 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082425.D  
 Acq On : 24 Aug 2021 10:51 pm  
 Operator : bat  
 Sample : 10 ppbv 64-87a  
 Misc : cal line, 100cc of 25ppbv  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	119230	10.000	ppbv	#-0.02
39) 1,4-Difluorobenzene	13.23	114	575285	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	505882	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	460965	10.058	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	100.60%
Target Compounds						
						Qvalue
2) Propene	3.41	41	192033	9.420	ppbv	96
3) Dichlorodifluoromethane	3.52	85	495620	9.394	ppbv	99
4) Chloromethane	3.77	50	219358	8.866	ppbv	81
5) F-114	3.88	85	489592	9.228	ppbv	86
6) Vinyl chloride	4.05	62	246925	9.377	ppbv	97
7) 1,3-Butadiene	4.25	54	168053	9.219	ppbv	# 88
8) Butane	4.32	43	356892	9.217	ppbv	97
9) Bromomethane	4.64	94	176462	9.608	ppbv	96
10) Chloroethane	4.84	64	85786	9.479	ppbv	100
11) Vinyl bromide	5.32	106	208574	9.798	ppbv	100
12) Ethanol	4.96	45	61009	9.147	ppbv	96
13) Acrolein	5.43	56	78463	9.062	ppbv	90
14) Pentane	6.33	43	432871	9.330	ppbv	98
15) Trichlorofluoromethane	5.88	101	550291	9.355	ppbv	99
16) Acetone	5.59	58	91793	8.749	ppbv	# 70
17) 2-Propanol	5.84	45	407890	9.621	ppbv	# 98
18) 1,1-Dichloroethene	6.73	96	180529	9.186	ppbv	94
19) trans-1,2-Dichloroethene	8.18	96	179951	9.282	ppbv	84
20) Methylene chloride	6.86	84	183677	8.802	ppbv	86
21) t-Butyl alcohol (TBA)	6.62	59	341800	9.949	ppbv	# 44
22) 3-Chloropropene	7.01	41	326296	9.404	ppbv	92
23) CFC-113	7.23	101	384723	9.502	ppbv	86
24) Carbon disulfide	7.33	76	666389	9.741	ppbv	97
25) Methyl t-butyl ether (...)	8.51	73	428701	9.413	ppbv	98
26) Vinyl acetate	8.62	43	293836	9.619	ppbv	97
27) 1,1-Dichloroethane	8.44	63	435309	9.483	ppbv	97
28) cis-1,2-Dichloroethene	9.73	96	197756	9.316	ppbv	86
29) Hexane	10.10	57	338615	9.598	ppbv	92
30) Chloroform	10.19	83	478906	9.200	ppbv	99
31) Ethyl acetate	10.01	43	706103	9.508	ppbv	# 98
32) Tetrahydrofuran	10.83	42	303417	9.413	ppbv	92
33) 2-Butanone (MEK)	8.96	72	81715	9.630	ppbv	# 58
34) 1,2-Dichloroethane (EDC)	11.44	62	360186	9.197	ppbv	96
35) 1,1,1-Trichloroethane	11.93	97	370308	9.608	ppbv	88
36) Carbon tetrachloride	12.95	117	365813	9.653	ppbv	100
37) Benzene	12.70	78	669648	9.172	ppbv	96
38) Cyclohexane	13.16	84	187366	9.414	ppbv	78
40) 1,2-Dichloropropane	13.87	63	327710	9.218	ppbv	95
41) 1,4-Dioxane	14.14	88	144504	9.316	ppbv	73
42) 2,2,4-Trimethylpentane	14.31	57	1138810	9.535	ppbv	93

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082425.D  
 Acq On : 24 Aug 2021 10:51 pm  
 Operator : bat  
 Sample : 10 ppbv 64-87a  
 Misc : cal line, 100cc of 25ppbv  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

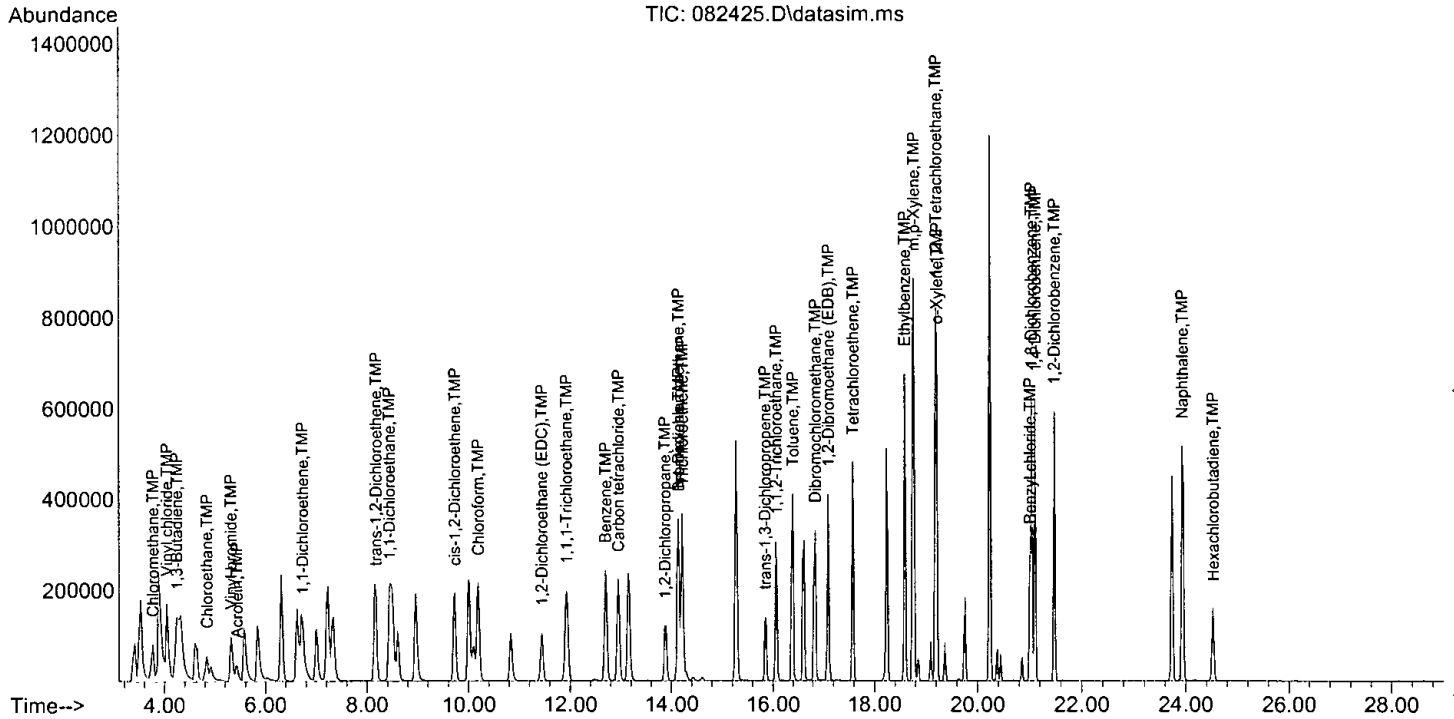
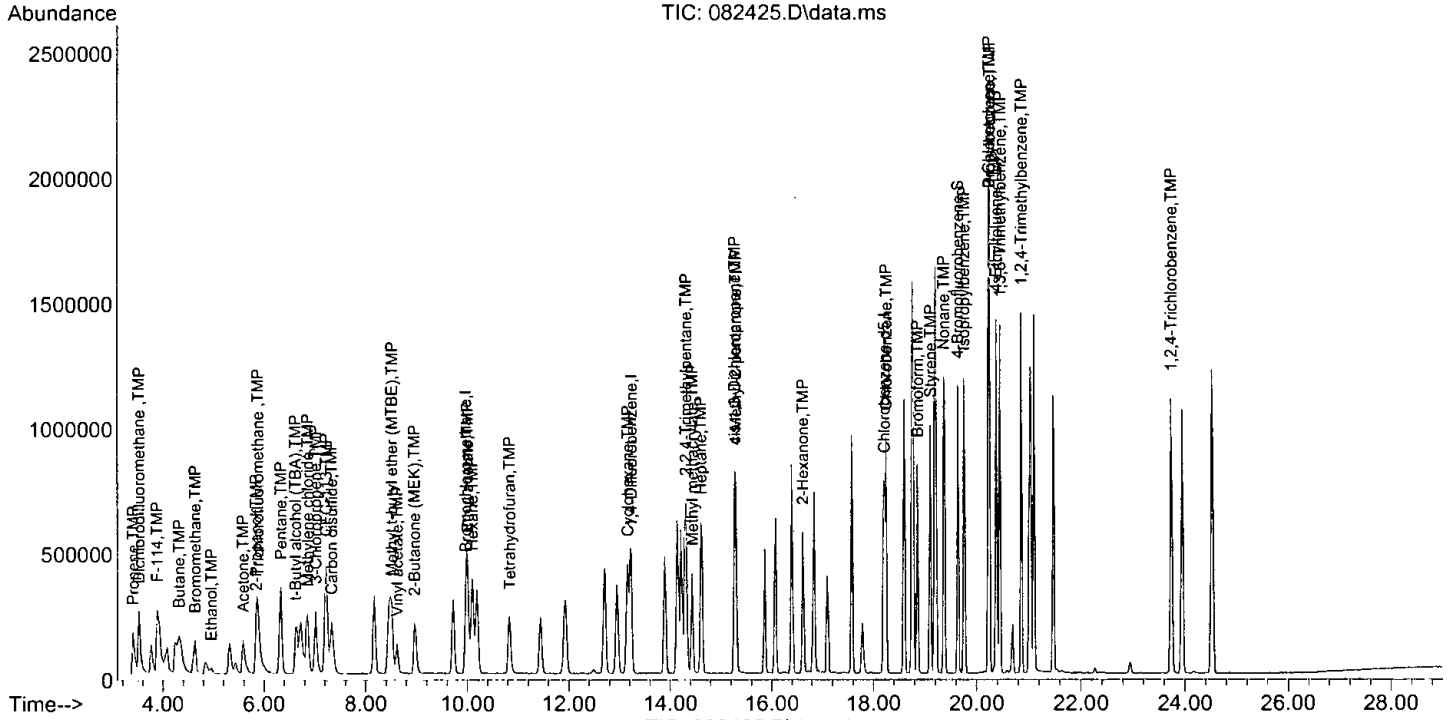
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.43	41	318264	9.760	ppbv #	87
44) Heptane	14.60	43	529580	9.599	ppbv	92
45) Bromodichloromethane	14.14	83	512016	9.339	ppbv	91
46) Trichloroethene	14.22	95	317526	8.929	ppbv	89
47) cis-1,3-Dichloropropene	15.27	75	363541	9.936	ppbv	95
48) 4-Methyl-2-pentanone	15.29	100	22357	9.598	ppbv #	1
49) trans-1,3-Dichloropropene	15.85	75	309608	9.959	ppbv	77
50) Toluene	16.40	92	398976	9.256	ppbv #	80
51) 1,1,2-Trichloroethane	16.06	83	298927	9.236	ppbv	100
52) 2-Hexanone	16.62	43	607875	10.016	ppbv	91
53) Tetrachloroethene	17.58	164	208035	9.492	ppbv	84
54) Dibromochloromethane	16.85	129	430784	9.511	ppbv	89
55) 1,2-Dibromoethane (EDB)	17.10	107	414764	9.254	ppbv	91
57) Chlorobenzene	18.25	112	506337	9.344	ppbv	90
58) Ethylbenzene	18.59	91	999249	8.893	ppbv	98
59) 1,1,2,2-Tetrachloroethane	19.19	83	719415	9.179	ppbv	94
60) Nonane	19.36	43	817219	9.620	ppbv	92
61) Isopropylbenzene	19.75	105	943927	9.580	ppbv	97
62) 2-Chlorotoluene	20.23	126	227396	9.708	ppbv	69
63) Propylbenzene	20.25	91	2120362	9.699	ppbv	96
64) 4-Ethyltoluene	20.38	105	997931	9.732	ppbv	97
65) m,p-Xylene	18.76	106	669712	18.563	ppbv	92
66) o-Xylene	19.21	106	331063	9.335	ppbv	91
67) Styrene	19.11	104	500510	9.587	ppbv	90
68) Bromoform	18.85	173	409375	10.102	ppbv	99
70) Benzyl chloride	21.01	91	411414	10.829	ppbv	93
71) 1,3,5-Trimethylbenzene	20.45	105	801493	9.748	ppbv	95
72) 1,2,4-Trimethylbenzene	20.86	105	827118	9.738	ppbv	96
73) 1,3-Dichlorobenzene	21.04	146	533458	9.140	ppbv	94
74) 1,4-Dichlorobenzene	21.11	146	541411	10.050	ppbv	96
75) 1,2-Dichlorobenzene	21.47	146	512053	9.280	ppbv	96
76) 1,2,4-Trichlorobenzene	23.73	180	433768	9.918	ppbv	97
77) Naphthalene	23.93	128	1131189	9.913	ppbv	98
78) Hexachlorobutadiene	24.52	225	343323	9.963	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed



Data Path : Z:\Proc\_GCMS7\08-24-21\  
Data File : 082425.D  
Acq On : 24 Aug 2021 10:51 pm  
Operator : bat  
Sample : 10 ppbv 64-87a  
Misc : cal line, 100cc of 25ppbv  
ALS Vial : 25 Sample Multiplier: 1  
InstName : GCMS7

Quant Time: Aug 25 10:54:42 2021  
Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
Quant Title : TO-15 SS method  
QLast Update : Wed Aug 25 09:28:09 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082425.D  
 Acq On : 24 Aug 2021 10:51 pm  
 Operator : bat  
 Sample : 10 ppbv 64-87a  
 Misc : cal line, 100cc of 25ppbv  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	-0.02
2 TMP	Propene	10.000	9.420	5.8	100	0.00
3 TMP	Dichlorodifluoromethane	10.000	9.394	6.1	100	0.00
4 TMP	Chloromethane	10.000	8.866	11.3	100	0.00
5 TMP	F-114	10.000	9.228	7.7	100	0.00
6 TMP	Vinyl chloride	10.000	9.377	6.2	100	0.00
7 TMP	1,3-Butadiene	10.000	9.219	7.8	100	0.00
8 TMP	Butane	10.000	9.217	7.8	100	0.00
9 TMP	Bromomethane	10.000	9.608	3.9	100	0.00
10 TMP	Chloroethane	10.000	9.479	5.2	100	0.00
11 TMP	Vinyl bromide	10.000	9.798	2.0	100	0.00
12 TMP	Ethanol	10.000	9.147	8.5	100	0.00
13 TMP	Acrolein	10.000	9.062	9.4	100	0.00
14 TMP	Pentane	10.000	9.330	6.7	100	0.00
15 TMP	Trichlorofluoromethane	10.000	9.355	6.4	100	0.00
16 TMP	Acetone	10.000	8.749	12.5	100	0.00
17 TMP	2-Propanol	10.000	9.621	3.8	100	-0.02
18 TMP	1,1-Dichloroethene	10.000	9.186	8.1	100	0.00
19 TMP	trans-1,2-Dichloroethene	10.000	9.282	7.2	100	0.00
20 TMP	Methylene chloride	10.000	8.802	12.0	100	0.00
21 TMP	t-Butyl alcohol (TBA)	10.000	9.949	0.5	100	-0.03
22 TMP	3-Chloropropene	10.000	9.404	6.0	100	0.00
23 TMP	CFC-113	10.000	9.502	5.0	100	0.00
24 TMP	Carbon disulfide	10.000	9.741	2.6	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	10.000	9.413	5.9	100	0.00
26 TMP	Vinyl acetate	10.000	9.619	3.8	100	0.00
27 TMP	1,1-Dichloroethane	10.000	9.483	5.2	100	0.00
28 TMP	cis-1,2-Dichloroethene	10.000	9.316	6.8	100	0.00
29 TMP	Hexane	10.000	9.598	4.0	100	-0.02
30 TMP	Chloroform	10.000	9.200	8.0	100	0.00
31 TMP	Ethyl acetate	10.000	9.508	4.9	100	0.00
32 TMP	Tetrahydrofuran	10.000	9.413	5.9	100	0.00
33 TMP	2-Butanone (MEK)	10.000	9.630	3.7	100	-0.03
34 TMP	1,2-Dichloroethane (EDC)	10.000	9.197	8.0	100	0.00
35 TMP	1,1,1-Trichloroethane	10.000	9.608	3.9	100	-0.01
36 TMP	Carbon tetrachloride	10.000	9.653	3.5	100	0.00
37 TMP	Benzene	10.000	9.172	8.3	100	0.00
38 TMP	Cyclohexane	10.000	9.414	5.9	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	10.000	9.218	7.8	100	-0.02
41 TMP	1,4-Dioxane	10.000	9.316	6.8	100	-0.02
42 TMP	2,2,4-Trimethylpentane	10.000	9.535	4.6	100	0.00
43 TMP	Methyl methacrylate	10.000	9.760	2.4	100	0.00
44 TMP	Heptane	10.000	9.599	4.0	100	-0.02
45 TMP	Bromodichloromethane	10.000	9.339	6.6	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082425.D  
 Acq On : 24 Aug 2021 10:51 pm  
 Operator : bat  
 Sample : 10 ppbv 64-87a  
 Misc : cal line, 100cc of 25ppbv  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	10.000	8.929	10.7	100	0.00
47 TMP cis-1,3-Dichloropropene	10.000	9.936	0.6	100	0.00
48 TMP 4-Methyl-2-pentanone	10.000	9.598	4.0	100	0.00
49 TMP trans-1,3-Dichloropropene	10.000	9.959	0.4	100	0.00
50 TMP Toluene	10.000	9.256	7.4	100	0.00
51 TMP 1,1,2-Trichloroethane	10.000	9.236	7.6	100	0.00
52 TMP 2-Hexanone	10.000	10.016	-0.2	100	0.00
53 TMP Tetrachloroethene	10.000	9.492	5.1	100	0.00
54 TMP Dibromochloromethane	10.000	9.511	4.9	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	10.000	9.254	7.5	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	10.000	9.344	6.6	100	0.00
58 TMP Ethylbenzene	10.000	8.893	11.1	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	10.000	9.179	8.2	100	0.00
60 TMP Nonane	10.000	9.620	3.8	100	0.00
61 TMP Isopropylbenzene	10.000	9.580	4.2	100	0.00
62 TMP 2-Chlorotoluene	10.000	9.708	2.9	100	0.00
63 TMP Propylbenzene	10.000	9.699	3.0	100	0.00
64 TMP 4-Ethyltoluene	10.000	9.732	2.7	100	0.00
65 TMP m,p-Xylene	20.000	18.563	7.2	100	0.00
66 TMP o-Xylene	10.000	9.335	6.6	100	0.00
67 TMP Styrene	10.000	9.587	4.1	100	0.00
68 TMP Bromoform	10.000	10.102	-1.0	100	0.00
69 S 4-Bromofluorobenzene	10.000	10.058	-0.6	100	0.00
70 TMP Benzyl chloride	10.000	10.829	-8.3	100	0.00
71 TMP 1,3,5-Trimethylbenzene	10.000	9.748	2.5	100	0.00
72 TMP 1,2,4-Trimethylbenzene	10.000	9.738	2.6	100	0.00
73 TMP 1,3-Dichlorobenzene	10.000	9.140	8.6	100	0.00
74 TMP 1,4-Dichlorobenzene	10.000	10.050	-0.5	100	0.00
75 TMP 1,2-Dichlorobenzene	10.000	9.280	7.2	100	0.00
76 TMP 1,2,4-Trichlorobenzene	10.000	9.918	0.8	100	0.00
77 TMP Naphthalene	10.000	9.913	0.9	100	0.00
78 TMP Hexachlorobutadiene	10.000	9.963	0.4	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082425.D  
 Acq On : 24 Aug 2021 10:51 pm  
 Operator : bat  
 Sample : 10 ppbv 64-87a  
 Misc : cal line, 100cc of 25ppbv  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	-0.02
2 TMP	Propene	1.710	1.611	5.8	100	0.00
3 TMP	Dichlorodifluoromethane	4.425	4.157	6.1	100	0.00
4 TMP	Chloromethane	2.075	1.840	11.3	100	0.00
5 TMP	F-114	4.450	4.106	7.7	100	0.00
6 TMP	Vinyl chloride	2.209	2.071	6.2	100	0.00
7 TMP	1,3-Butadiene	1.529	1.409	7.8	100	0.00
8 TMP	Butane	3.248	2.993	7.9	100	0.00
9 TMP	Bromomethane	1.540	1.480	3.9	100	0.00
10 TMP	Chloroethane	0.759	0.720	5.1	100	0.00
11 TMP	Vinyl bromide	1.785	1.749	2.0	100	0.00
12 TMP	Ethanol	0.559	0.512	8.4	100	0.00
13 TMP	Acrolein	0.726	0.658	9.4	100	0.00
14 TMP	Pentane	3.891	3.631	6.7	100	0.00
15 TMP	Trichlorofluoromethane	4.934	4.615	6.5	100	0.00
16 TMP	Acetone	0.880	0.770	12.5	100	0.00
17 TMP	2-Propanol	3.556	3.421	3.8	100	-0.02
18 TMP	1,1-Dichloroethene	1.648	1.514	8.1	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.626	1.509	7.2	100	0.00
20 TMP	Methylene chloride	1.750	1.541	11.9	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.881	2.867	0.5	100	-0.03
22 TMP	3-Chloropropene	2.910	2.737	5.9	100	0.00
23 TMP	CFC-113	3.396	3.227	5.0	100	0.00
24 TMP	Carbon disulfide	5.738	5.589	2.6	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	3.596	5.9	100	0.00
26 TMP	Vinyl acetate	2.562	2.464	3.8	100	0.00
27 TMP	1,1-Dichloroethane	3.850	3.651	5.2	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.659	6.8	100	0.00
29 TMP	Hexane	2.959	2.840	4.0	100	-0.02
30 TMP	Chloroform	4.366	4.017	8.0	100	0.00
31 TMP	Ethyl acetate	6.229	5.922	4.9	100	0.00
32 TMP	Tetrahydrofuran	2.703	2.545	5.8	100	0.00
33 TMP	2-Butanone (MEK)	0.712	0.685	3.8	100	-0.03
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.021	8.0	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.106	3.9	100	-0.01
36 TMP	Carbon tetrachloride	3.178	3.068	3.5	100	0.00
37 TMP	Benzene	6.123	5.616	8.3	100	0.00
38 TMP	Cyclohexane	1.669	1.571	5.9	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.618	0.570	7.8	100	-0.02
41 TMP	1,4-Dioxane	0.270	0.251	7.0	100	-0.02
42 TMP	2,2,4-Trimethylpentane	2.076	1.980	4.6	100	0.00
43 TMP	Methyl methacrylate	0.567	0.553	2.5	100	0.00
44 TMP	Heptane	0.959	0.921	4.0	100	-0.02
45 TMP	Bromodichloromethane	0.953	0.890	6.6	100	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082425.D  
 Acq On : 24 Aug 2021 10:51 pm  
 Operator : bat  
 Sample : 10 ppbv 64-87a  
 Misc : cal line, 100cc of 25ppbv  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:42 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.552	10.7	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.632	0.6	100	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.039	2.5	100	0.00
49 TMP trans-1,3-Dichloropropene	0.540	0.538	0.4	100	0.00
50 TMP Toluene	0.749	0.694	7.3	100	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.520	7.6	100	0.00
52 TMP 2-Hexanone	1.055	1.057	-0.2	100	0.00
53 TMP Tetrachloroethene	0.381	0.362	5.0	100	0.00
54 TMP Dibromochloromethane	0.787	0.749	4.8	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.721	7.4	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	1.001	6.5	100	0.00
58 TMP Ethylbenzene	2.221	1.975	11.1	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.422	8.2	100	0.00
60 TMP Nonane	1.679	1.615	3.8	100	0.00
61 TMP Isopropylbenzene	1.948	1.866	4.2	100	0.00
62 TMP 2-Chlorotoluene	0.463	0.450	2.8	100	0.00
63 TMP Propylbenzene	4.322	4.191	3.0	100	0.00
64 TMP 4-Ethyltoluene	2.027	1.973	2.7	100	0.00
65 TMP m,p-Xylene	0.713	0.662	7.2	100	0.00
66 TMP o-Xylene	0.701	0.654	6.7	100	0.00
67 TMP Styrene	1.032	0.989	4.2	100	0.00
68 TMP Bromoform	0.801	0.809	-1.0	100	0.00
69 S 4-Bromofluorobenzene	0.906	0.911	-0.6	100	0.00
70 TMP Benzyl chloride	0.751	0.813	-8.3	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	1.584	2.5	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.679	1.635	2.6	100	0.00
73 TMP 1,3-Dichlorobenzene	1.154	1.055	8.6	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.070	7.1	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.012	7.2	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.857	9.8	100	0.00
77 TMP Naphthalene	2.538	2.236	11.9	100	0.00
78 TMP Hexachlorobutadiene	0.852	0.679	20.3	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082426.D  
 Acq On : 24 Aug 2021 11:29 pm  
 Operator : bat  
 Sample : 15 ppbv 64-87a  
 Misc : cal line, 150cc of 25ppbv  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	116041	10.000	ppbv	#-0.02
39) 1,4-Difluorobenzene	13.21	114	572424	10.000	ppbv	-0.02
56) Chlorobenzene-d5	18.21	117	508460	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	460638	10.000	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	100.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.41	41	301674	15.205	ppbv	95
3) Dichlorodifluoromethane	3.52	85	712460	13.876	ppbv	98
4) Chloromethane	3.77	50	334236	13.880	ppbv	80
5) F-114	3.88	85	730821	14.154	ppbv	89
6) Vinyl chloride	4.05	62	370902	14.472	ppbv	98
7) 1,3-Butadiene	4.25	54	248742	14.021	ppbv #	86
8) Butane	4.32	43	525093	13.933	ppbv	97
9) Bromomethane	4.64	94	263139	14.721	ppbv	99
10) Chloroethane	4.84	64	123938	14.071	ppbv	100
11) Vinyl bromide	5.32	106	307966	14.865	ppbv	100
12) Ethanol	4.96	45	94932	14.625	ppbv	100
13) Acrolein	5.41	56	125786	14.927	ppbv	93
14) Pentane	6.33	43	636904	14.105	ppbv	98
15) Trichlorofluoromethane	5.88	101	821137	14.343	ppbv	99
16) Acetone	5.59	58	139294	13.641	ppbv #	81
17) 2-Propanol	5.84	45	609194	14.764	ppbv #	100
18) 1,1-Dichloroethene	6.70	96	267811	14.002	ppbv #	67
19) trans-1,2-Dichloroethene	8.18	96	266224	14.109	ppbv #	76
20) Methylene chloride	6.86	84	275449	13.562	ppbv	85
21) t-Butyl alcohol (TBA)	6.62	59	504495	15.088	ppbv #	46
22) 3-Chloropropene	7.01	41	486530	14.407	ppbv	92
23) CFC-113	7.23	101	567658	14.405	ppbv	89
24) Carbon disulfide	7.33	76	974856	14.641	ppbv	97
25) Methyl t-butyl ether (...)	8.51	73	646696	14.589	ppbv	96
26) Vinyl acetate	8.62	43	442289	14.876	ppbv	98
27) 1,1-Dichloroethane	8.44	63	644975	14.437	ppbv	97
28) cis-1,2-Dichloroethene	9.73	96	292336	14.150	ppbv	89
29) Hexane	10.10	57	493595	14.375	ppbv	92
30) Chloroform	10.19	83	708854	13.991	ppbv	100
31) Ethyl acetate	10.01	43	1075107	14.875	ppbv #	98
32) Tetrahydrofuran	10.82	42	449313	14.323	ppbv	90
33) 2-Butanone (MEK)	8.96	72	119020	14.411	ppbv #	56
34) 1,2-Dichloroethane (EDC)	11.44	62	532781	13.978	ppbv	96
35) 1,1,1-Trichloroethane	11.93	97	552806	14.738	ppbv	88
36) Carbon tetrachloride	12.95	117	546526	14.819	ppbv	100
37) Benzene	12.70	78	992177	13.964	ppbv	96
38) Cyclohexane	13.16	84	274617	14.176	ppbv #	78
40) 1,2-Dichloropropane	13.87	63	487511	13.782	ppbv	95
41) 1,4-Dioxane	14.14	88	214668	13.908	ppbv	82
42) 2,2,4-Trimethylpentane	14.31	57	1710197	14.391	ppbv	93

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082426.D  
 Acq On : 24 Aug 2021 11:29 pm  
 Operator : bat  
 Sample : 15 ppbv 64-87a  
 Misc : cal line, 150cc of 25ppbv  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS7

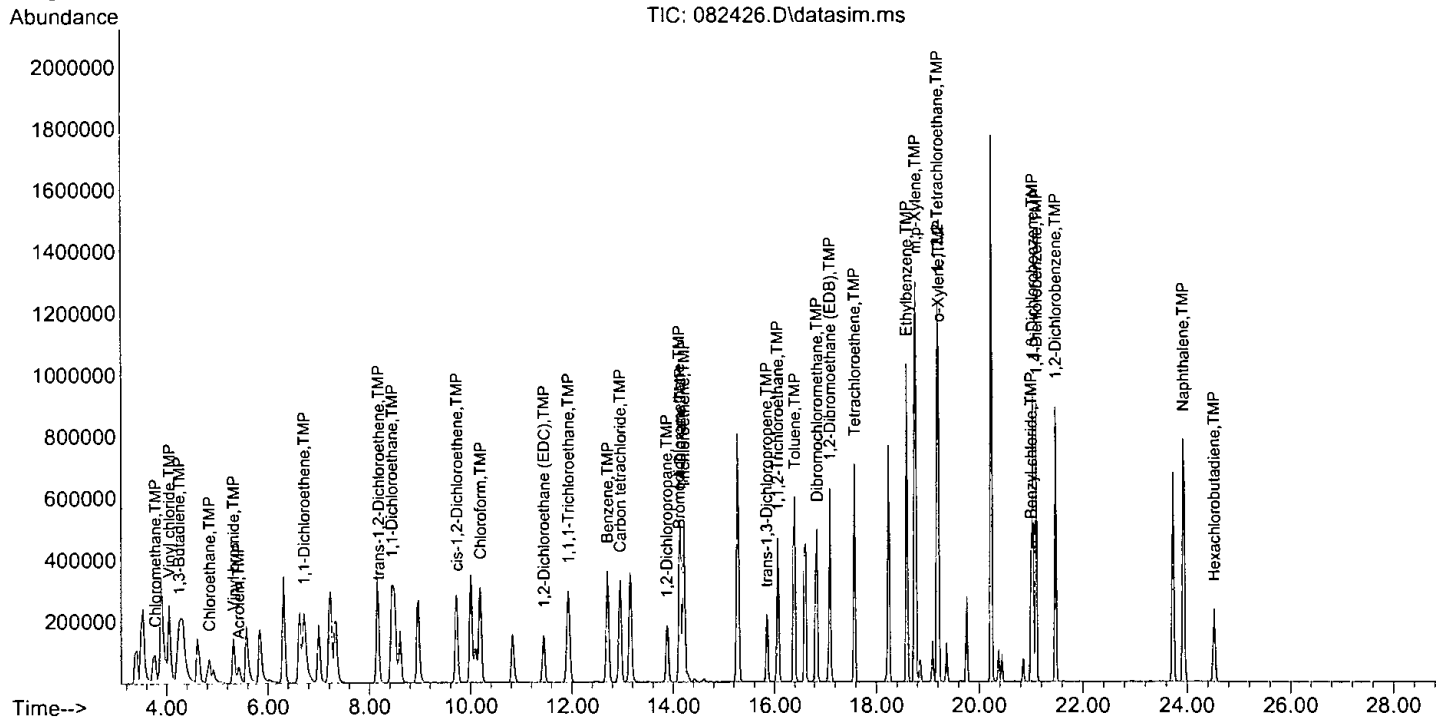
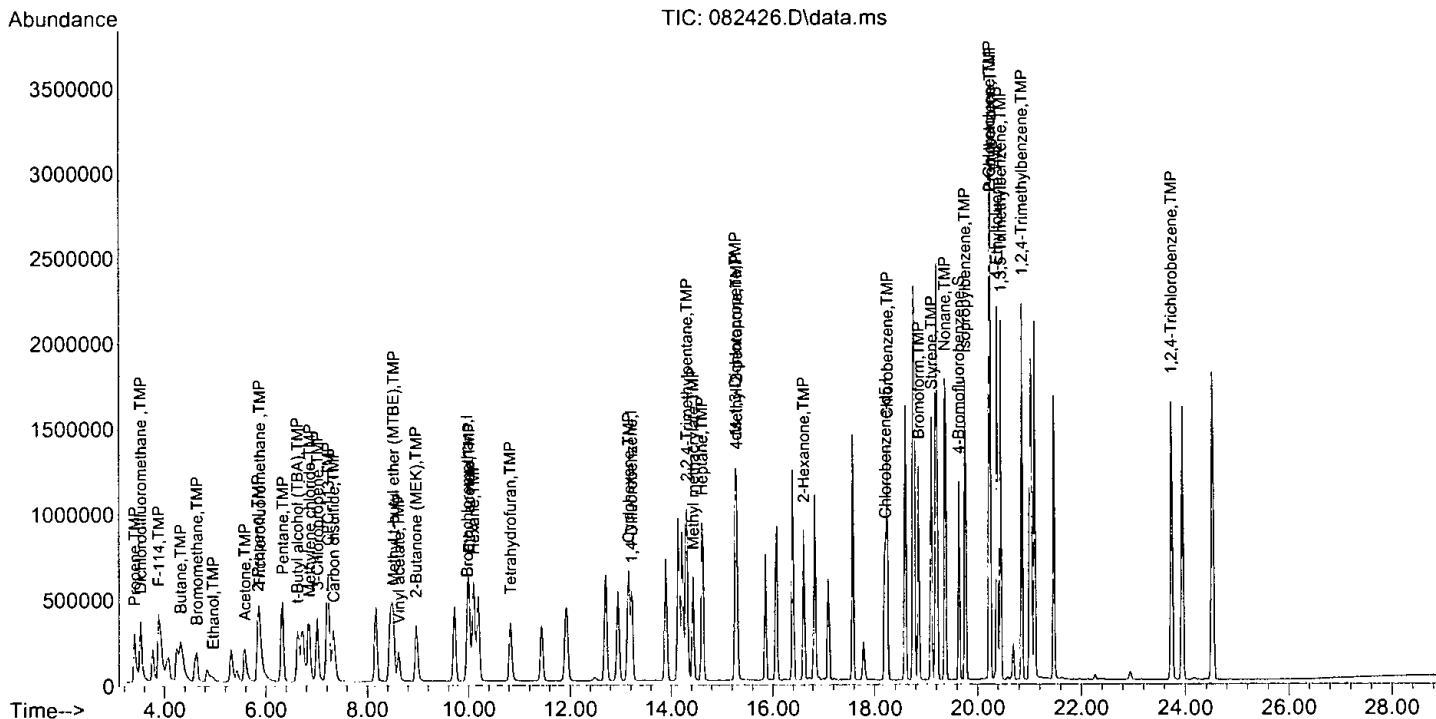
Quant Time: Aug 25 10:54:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.43	41	487264	15.018	ppbv #	87
44) Heptane	14.60	43	787830	14.351	ppbv	91
45) Bromodichloromethane	14.12	83	766180	14.045	ppbv	97
46) Trichloroethene	14.22	95	465384	13.152	ppbv	91
47) cis-1,3-Dichloropropene	15.27	75	538101	14.781	ppbv	96
48) 4-Methyl-2-pentanone	15.29	100	34621	14.938	ppbv #	1
49) trans-1,3-Dichloropropene	15.85	75	468368	15.141	ppbv	78
50) Toluene	16.40	92	599475	13.977	ppbv #	80
51) 1,1,2-Trichloroethane	16.06	83	446044	13.850	ppbv	99
52) 2-Hexanone	16.62	43	923833	15.298	ppbv	91
53) Tetrachloroethene	17.58	164	309932	14.212	ppbv	85
54) Dibromochloromethane	16.85	129	653847	14.508	ppbv	88
55) 1,2-Dibromoethane (EDB)	17.10	107	629394	14.113	ppbv	92
57) Chlorobenzene	18.25	112	759055	13.937	ppbv	92
58) Ethylbenzene	18.59	91	1498836	13.272	ppbv	98
59) 1,1,2,2-Tetrachloroethane	19.19	83	1081506	13.729	ppbv	94
60) Nonane	19.36	43	1223132	14.325	ppbv	92
61) Isopropylbenzene	19.75	105	1388238	14.018	ppbv	98
62) 2-Chlorotoluene	20.23	126	343589	14.594	ppbv	72
63) Propylbenzene	20.25	91	3158511	14.374	ppbv	96
64) 4-Ethyltoluene	20.38	105	1498365	14.538	ppbv	96
65) m,p-Xylene	18.76	106	997454	27.507	ppbv	93
66) o-Xylene	19.21	106	492883	13.827	ppbv	91
67) Styrene	19.11	104	760433	14.491	ppbv	90
68) Bromoform	18.85	173	621342	15.255	ppbv	99
70) Benzyl chloride	21.01	91	645056	16.893	ppbv	94
71) 1,3,5-Trimethylbenzene	20.45	105	1186099	14.353	ppbv	97
72) 1,2,4-Trimethylbenzene	20.86	105	1238787	14.510	ppbv	96
73) 1,3-Dichlorobenzene	21.04	146	801218	13.658	ppbv	94
74) 1,4-Dichlorobenzene	21.11	146	811321	15.055	ppbv	96
75) 1,2-Dichlorobenzene	21.47	146	767057	13.831	ppbv	96
76) 1,2,4-Trichlorobenzene	23.73	180	657956	15.110	ppbv	98
77) Naphthalene	23.93	128	1712935	15.058	ppbv	98
78) Hexachlorobutadiene	24.52	225	504685	15.028	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082426.D  
 Acq On : 24 Aug 2021 11:29 pm  
 Operator : bat  
 Sample : 15 ppbv 64-87a  
 Misc : cal line, 150cc of 25ppbv  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082426.D  
 Acq On : 24 Aug 2021 11:29 pm  
 Operator : bat  
 Sample : 15 ppbv 64-87a  
 Misc : cal line, 150cc of 25ppbv  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	-0.02
2 TMP	Propene	15.000	15.205	-1.4	100	0.00
3 TMP	Dichlorodifluoromethane	15.000	13.876	7.5	100	0.00
4 TMP	Chloromethane	15.000	13.880	7.5	100	0.00
5 TMP	F-114	15.000	14.154	5.6	100	0.00
6 TMP	Vinyl chloride	15.000	14.472	3.5	100	0.00
7 TMP	1,3-Butadiene	15.000	14.021	6.5	100	0.00
8 TMP	Butane	15.000	13.933	7.1	100	0.00
9 TMP	Bromomethane	15.000	14.721	1.9	100	0.00
10 TMP	Chloroethane	15.000	14.071	6.2	100	0.00
11 TMP	Vinyl bromide	15.000	14.865	0.9	100	0.00
12 TMP	Ethanol	15.000	14.625	2.5	100	0.00
13 TMP	Acrolein	15.000	14.927	0.5	100	-0.02
14 TMP	Pentane	15.000	14.105	6.0	100	0.00
15 TMP	Trichlorofluoromethane	15.000	14.343	4.4	100	0.00
16 TMP	Acetone	15.000	13.641	9.1	100	0.00
17 TMP	2-Propanol	15.000	14.764	1.6	100	-0.02
18 TMP	1,1-Dichloroethene	15.000	14.002	6.7	100	-0.03
19 TMP	trans-1,2-Dichloroethene	15.000	14.109	5.9	100	0.00
20 TMP	Methylene chloride	15.000	13.562	9.6	100	0.00
21 TMP	t-Butyl alcohol (TBA)	15.000	15.088	-0.6	100	-0.03
22 TMP	3-Chloropropene	15.000	14.407	4.0	100	0.00
23 TMP	CFC-113	15.000	14.405	4.0	100	0.00
24 TMP	Carbon disulfide	15.000	14.641	2.4	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	15.000	14.589	2.7	100	0.00
26 TMP	Vinyl acetate	15.000	14.876	0.8	100	0.00
27 TMP	1,1-Dichloroethane	15.000	14.437	3.8	100	0.00
28 TMP	cis-1,2-Dichloroethene	15.000	14.150	5.7	100	0.00
29 TMP	Hexane	15.000	14.375	4.2	100	-0.02
30 TMP	Chloroform	15.000	13.991	6.7	100	0.00
31 TMP	Ethyl acetate	15.000	14.875	0.8	100	0.00
32 TMP	Tetrahydrofuran	15.000	14.323	4.5	100	-0.02
33 TMP	2-Butanone (MEK)	15.000	14.411	3.9	100	-0.03
34 TMP	1,2-Dichloroethane (EDC)	15.000	13.978	6.8	100	0.00
35 TMP	1,1,1-Trichloroethane	15.000	14.738	1.7	100	-0.01
36 TMP	Carbon tetrachloride	15.000	14.819	1.2	100	0.00
37 TMP	Benzene	15.000	13.964	6.9	100	0.00
38 TMP	Cyclohexane	15.000	14.176	5.5	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	-0.02
40 TMP	1,2-Dichloropropane	15.000	13.782	8.1	100	-0.02
41 TMP	1,4-Dioxane	15.000	13.908	7.3	100	-0.02
42 TMP	2,2,4-Trimethylpentane	15.000	14.391	4.1	100	0.00
43 TMP	Methyl methacrylate	15.000	15.018	-0.1	100	0.00
44 TMP	Heptane	15.000	14.351	4.3	100	-0.02
45 TMP	Bromodichloromethane	15.000	14.045	6.4	100	-0.02

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082426.D  
 Acq On : 24 Aug 2021 11:29 pm  
 Operator : bat  
 Sample : 15 ppbv 64-87a  
 Misc : cal line, 150cc of 25ppbv  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	15.000	13.152	12.3	100	0.00
47 TMP cis-1,3-Dichloropropene	15.000	14.781	1.5	100	0.00
48 TMP 4-Methyl-2-pentanone	15.000	14.938	0.4	100	0.00
49 TMP trans-1,3-Dichloropropene	15.000	15.141	-0.9	100	0.00
50 TMP Toluene	15.000	13.977	6.8	100	0.00
51 TMP 1,1,2-Trichloroethane	15.000	13.850	7.7	100	0.00
52 TMP 2-Hexanone	15.000	15.298	-2.0	100	0.00
53 TMP Tetrachloroethene	15.000	14.212	5.3	100	0.00
54 TMP Dibromochloromethane	15.000	14.508	3.3	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	15.000	14.113	5.9	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	15.000	13.937	7.1	100	0.00
58 TMP Ethylbenzene	15.000	13.272	11.5	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	15.000	13.729	8.5	100	0.00
60 TMP Nonane	15.000	14.325	4.5	100	0.00
61 TMP Isopropylbenzene	15.000	14.018	6.5	100	0.00
62 TMP 2-Chlorotoluene	15.000	14.594	2.7	100	0.00
63 TMP Propylbenzene	15.000	14.374	4.2	100	0.00
64 TMP 4-Ethyltoluene	15.000	14.538	3.1	100	0.00
65 TMP m,p-Xylene	30.000	27.507	8.3	100	0.00
66 TMP o-Xylene	15.000	13.827	7.8	100	0.00
67 TMP Styrene	15.000	14.491	3.4	100	0.00
68 TMP Bromoform	15.000	15.255	-1.7	100	0.00
69 S 4-Bromofluorobenzene	10.000	10.000	0.0	100	0.00
70 TMP Benzyl chloride	15.000	16.893	-12.6	100	0.00
71 TMP 1,3,5-Trimethylbenzene	15.000	14.353	4.3	100	0.00
72 TMP 1,2,4-Trimethylbenzene	15.000	14.510	3.3	100	0.00
73 TMP 1,3-Dichlorobenzene	15.000	13.658	8.9	100	0.00
74 TMP 1,4-Dichlorobenzene	15.000	15.055	-0.4	100	0.00
75 TMP 1,2-Dichlorobenzene	15.000	13.831	7.8	100	0.00
76 TMP 1,2,4-Trichlorobenzene	15.000	15.110	-0.7	100	0.00
77 TMP Naphthalene	15.000	15.058	-0.4	100	0.00
78 TMP Hexachlorobutadiene	15.000	15.028	-0.2	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082426.D  
 Acq On : 24 Aug 2021 11:29 pm  
 Operator : bat  
 Sample : 15 ppbv 64-87a  
 Misc : cal line, 150cc of 25ppbv  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	-0.02
2 TMP	Propene	1.710	1.733	-1.3	100	0.00
3 TMP	Dichlorodifluoromethane	4.425	4.093	7.5	100	0.00
4 TMP	Chloromethane	2.075	1.920	7.5	100	0.00
5 TMP	F-114	4.450	4.199	5.6	100	0.00
6 TMP	Vinyl chloride	2.209	2.131	3.5	100	0.00
7 TMP	1,3-Butadiene	1.529	1.429	6.5	100	0.00
8 TMP	Butane	3.248	3.017	7.1	100	0.00
9 TMP	Bromomethane	1.540	1.512	1.8	100	0.00
10 TMP	Chloroethane	0.759	0.712	6.2	100	0.00
11 TMP	Vinyl bromide	1.785	1.769	0.9	100	0.00
12 TMP	Ethanol	0.559	0.545	2.5	100	0.00
13 TMP	Acrolein	0.726	0.723	0.4	100	-0.02
14 TMP	Pentane	3.891	3.659	6.0	100	0.00
15 TMP	Trichlorofluoromethane	4.934	4.718	4.4	100	0.00
16 TMP	Acetone	0.880	0.800	9.1	100	0.00
17 TMP	2-Propanol	3.556	3.500	1.6	100	-0.02
18 TMP	1,1-Dichloroethene	1.648	1.539	6.6	100	-0.03
19 TMP	trans-1,2-Dichloroethene	1.626	1.529	6.0	100	0.00
20 TMP	Methylene chloride	1.750	1.582	9.6	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.881	2.898	-0.6	100	-0.03
22 TMP	3-Chloropropene	2.910	2.795	4.0	100	0.00
23 TMP	CFC-113	3.396	3.261	4.0	100	0.00
24 TMP	Carbon disulfide	5.738	5.601	2.4	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	3.715	2.7	100	0.00
26 TMP	Vinyl acetate	2.562	2.541	0.8	100	0.00
27 TMP	1,1-Dichloroethane	3.850	3.705	3.8	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.679	5.7	100	0.00
29 TMP	Hexane	2.959	2.836	4.2	100	-0.02
30 TMP	Chloroform	4.366	4.072	6.7	100	0.00
31 TMP	Ethyl acetate	6.229	6.177	0.8	100	0.00
32 TMP	Tetrahydrofuran	2.703	2.581	4.5	100	-0.02
33 TMP	2-Butanone (MEK)	0.712	0.684	3.9	100	-0.03
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.061	6.8	100	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.176	1.7	100	-0.01
36 TMP	Carbon tetrachloride	3.178	3.140	1.2	100	0.00
37 TMP	Benzene	6.123	5.700	6.9	100	0.00
38 TMP	Cyclohexane	1.669	1.578	5.5	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	-0.02
40 TMP	1,2-Dichloropropane	0.618	0.568	8.1	100	-0.02
41 TMP	1,4-Dioxane	0.270	0.250	7.4	100	-0.02
42 TMP	2,2,4-Trimethylpentane	2.076	1.992	4.0	100	0.00
43 TMP	Methyl methacrylate	0.567	0.567	0.0	100	0.00
44 TMP	Heptane	0.959	0.918	4.3	100	-0.02
45 TMP	Bromodichloromethane	0.953	0.892	6.4	100	-0.02

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082426.D  
 Acq On : 24 Aug 2021 11:29 pm  
 Operator : bat  
 Sample : 15 ppbv 64-87a  
 Misc : cal line, 150cc of 25ppbv  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:54:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.542	12.3	100	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.627	1.4	100	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.040	0.0	100	0.00
49 TMP trans-1,3-Dichloropropene	0.540	0.545	-0.9	100	0.00
50 TMP Toluene	0.749	0.698	6.8	100	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.519	7.8	100	0.00
52 TMP 2-Hexanone	1.055	1.076	-2.0	100	0.00
53 TMP Tetrachloroethene	0.381	0.361	5.2	100	0.00
54 TMP Dibromochloromethane	0.787	0.761	3.3	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.733	5.9	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	1.071	0.995	7.1	100	0.00
58 TMP Ethylbenzene	2.221	1.965	11.5	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.418	8.5	100	0.00
60 TMP Nonane	1.679	1.604	4.5	100	0.00
61 TMP Isopropylbenzene	1.948	1.820	6.6	100	0.00
62 TMP 2-Chlorotoluene	0.463	0.450	2.8	100	0.00
63 TMP Propylbenzene	4.322	4.141	4.2	100	0.00
64 TMP 4-Ethyltoluene	2.027	1.965	3.1	100	0.00
65 TMP m,p-Xylene	0.713	0.654	8.3	100	0.00
66 TMP o-Xylene	0.701	0.646	7.8	100	0.00
67 TMP Styrene	1.032	0.997	3.4	100	0.00
68 TMP Bromoform	0.801	0.815	-1.7	100	0.00
69 S 4-Bromofluorobenzene	0.906	0.906	0.0	100	0.00
70 TMP Benzyl chloride	0.751	0.846	-12.6	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	1.555	4.3	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.679	1.624	3.3	100	0.00
73 TMP 1,3-Dichlorobenzene	1.154	1.051	8.9	100	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.064	7.6	100	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.006	7.8	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.863	9.2	100	0.00
77 TMP Naphthalene	2.538	2.246	11.5	100	0.00
78 TMP Hexachlorobutadiene	0.852	0.662	22.3	100	0.00

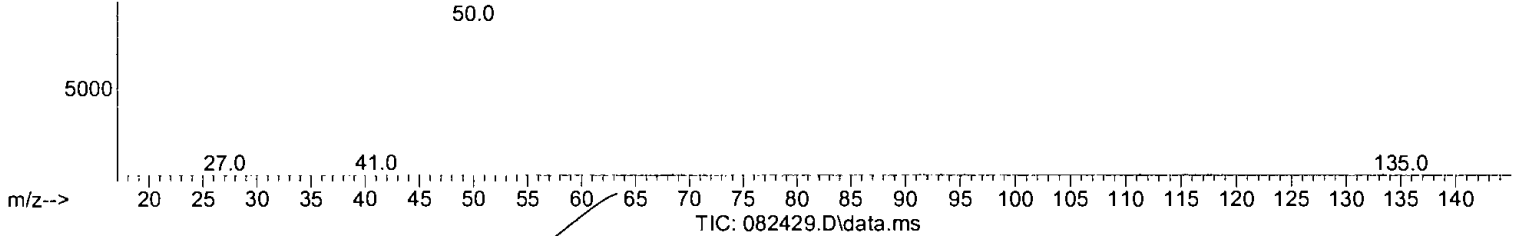
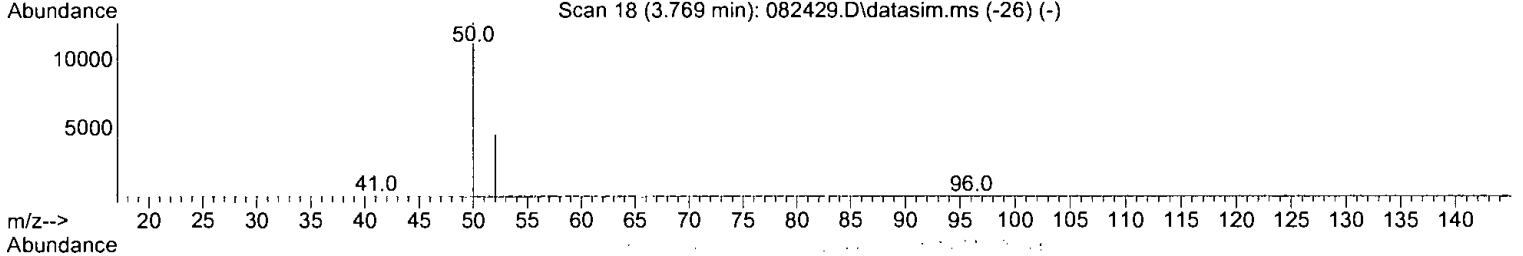
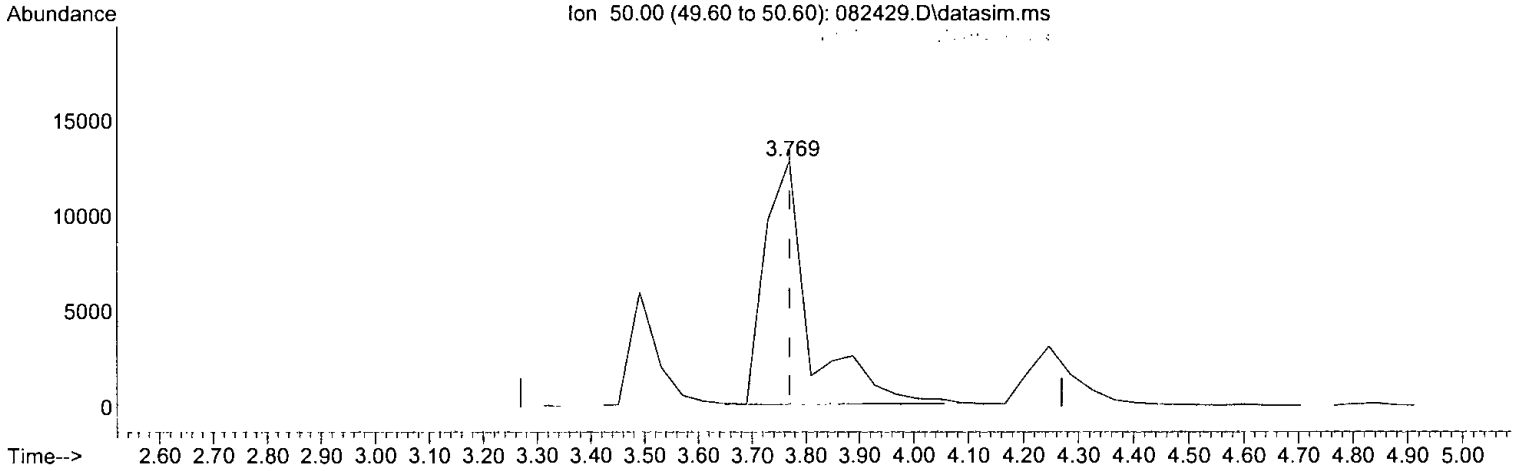
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:55:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (+ 0.000) 3.188 ppbv

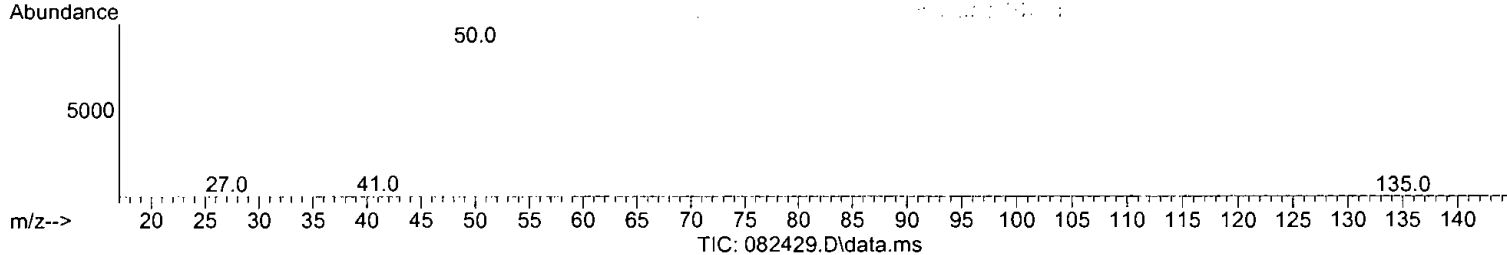
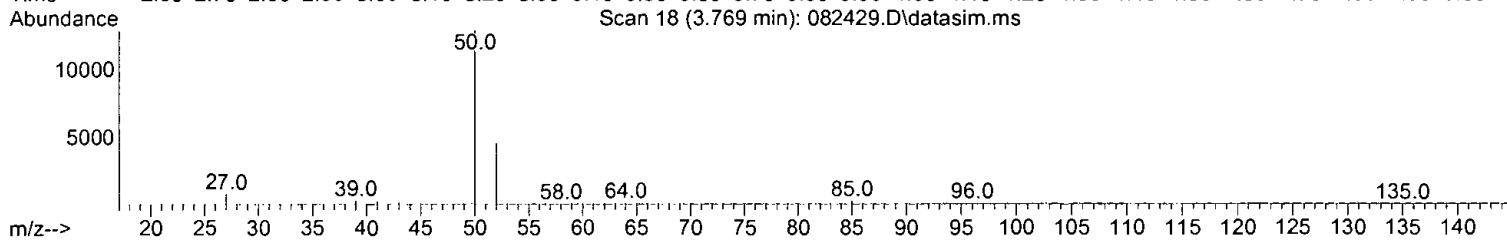
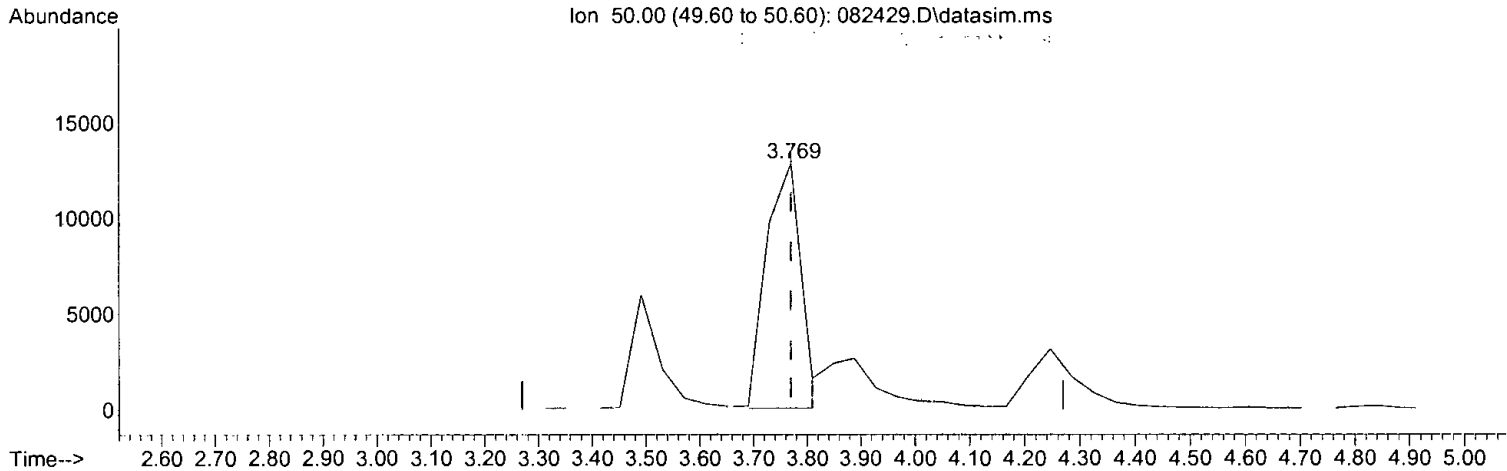
response	73081
Ion	Exp% Act%
50.00	100.00 100.00
51.90	25.30 35.31
0.00	0.00 0.00
0.00	0.00 0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:55:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

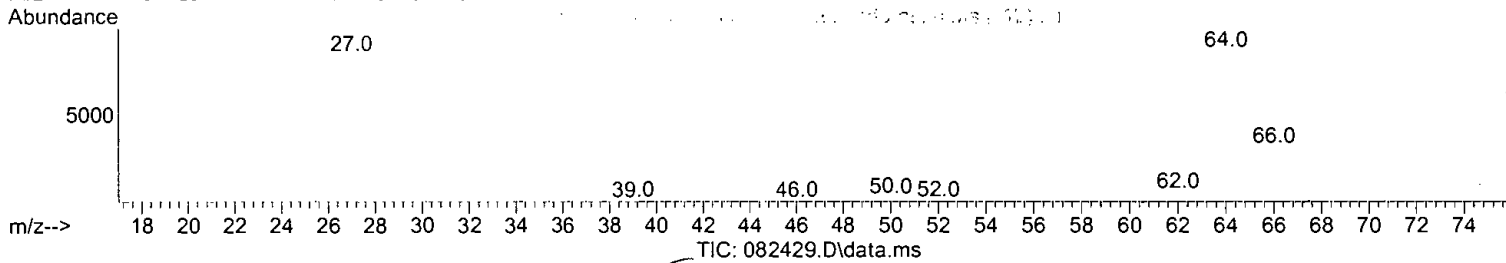
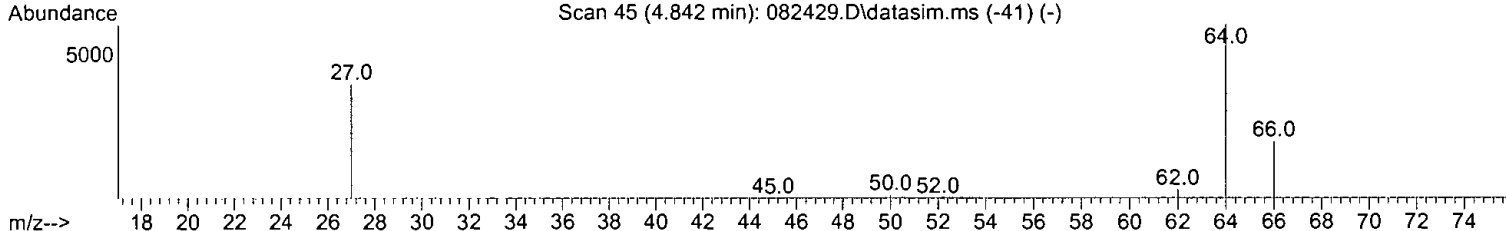
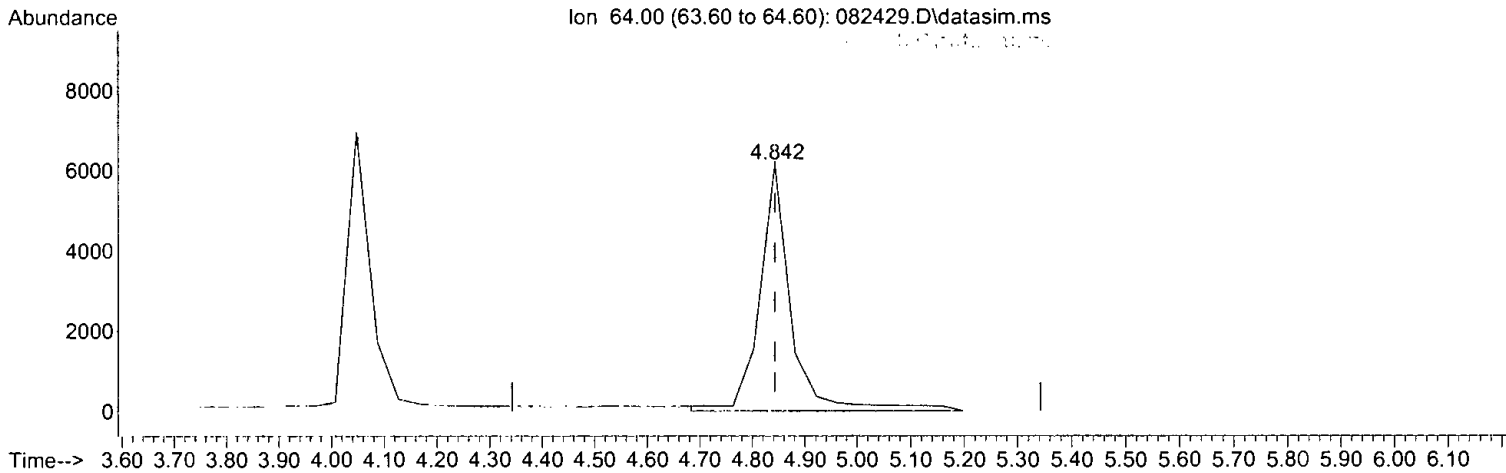
3.769min (+ 0.000) 2.522 ppbv m

response	57831
Ion	Exp% Act%
50.00	100.00 100.00
51.90	25.30 35.33
0.00	0.00 0.00
0.00	0.00 0.00

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:55:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

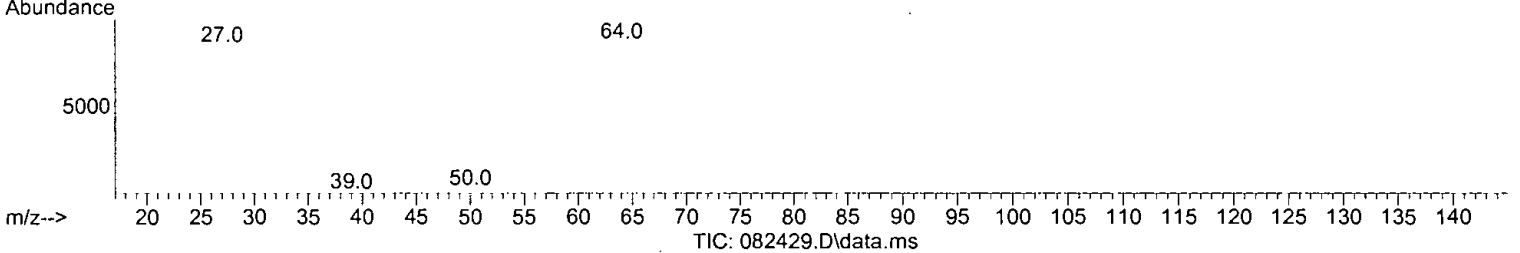
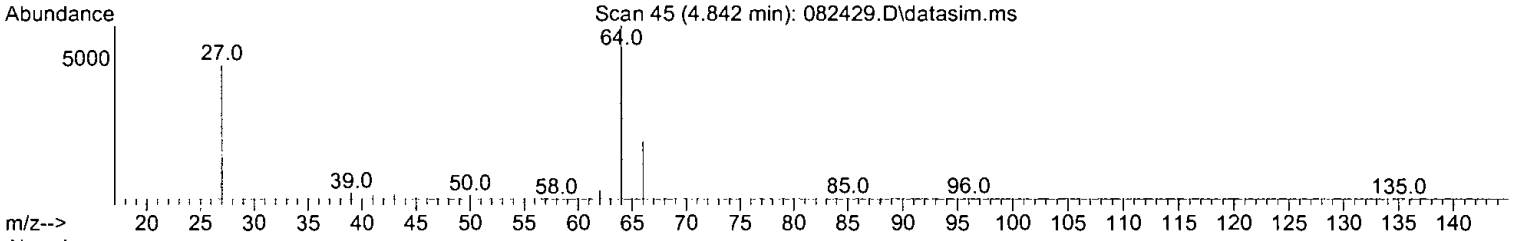
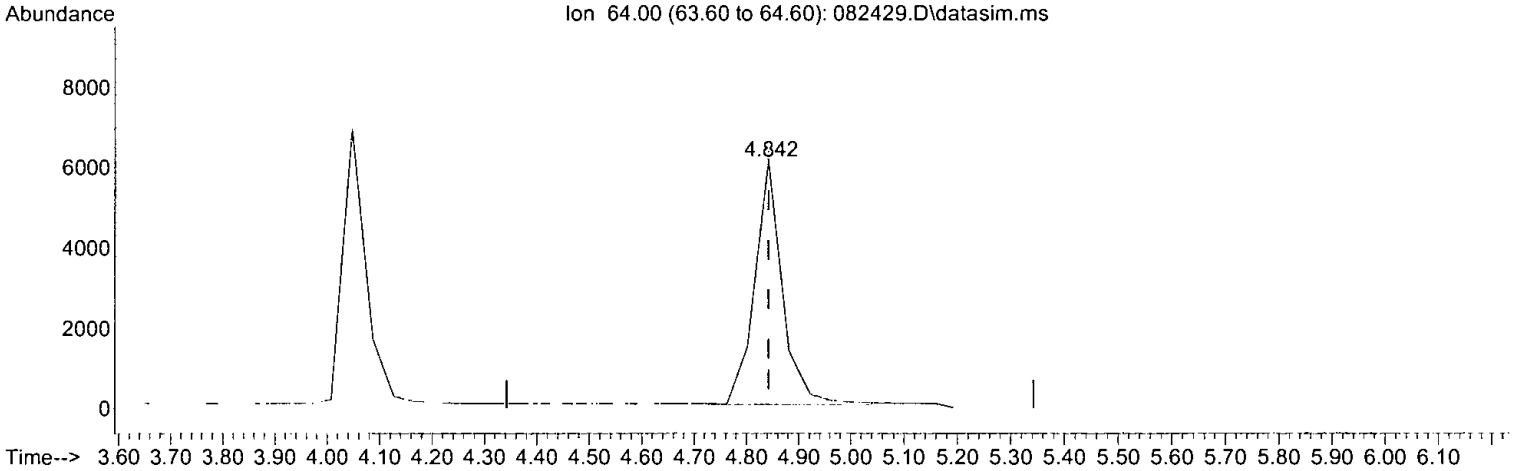
4.842min (+ 0.000) 2.913 ppbv

response	24432		
Ion	Exp%	Act%	
64.00	100.00	100.00	
66.00	31.80	33.54	
0.00	0.00	0.00	
0.00	0.00	0.00	

AS 8/25/21

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:55:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 2.630 ppbv m

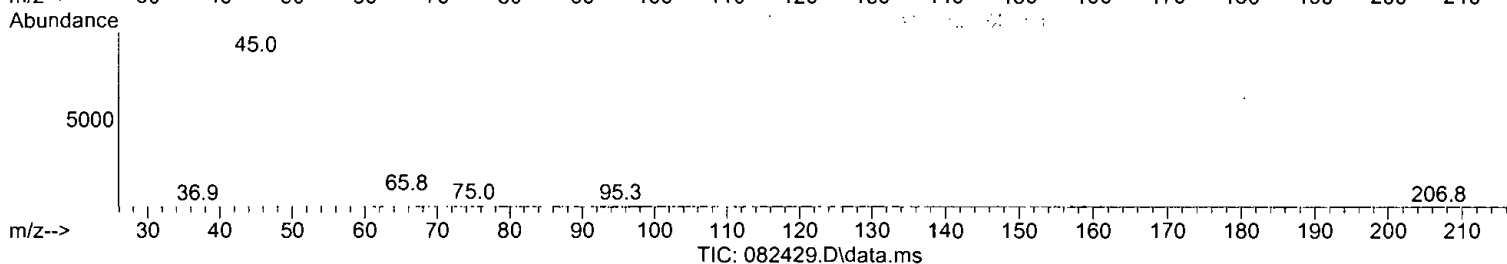
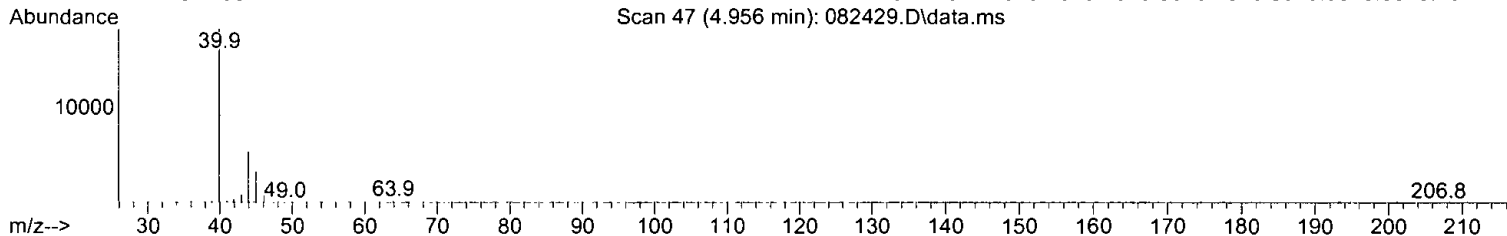
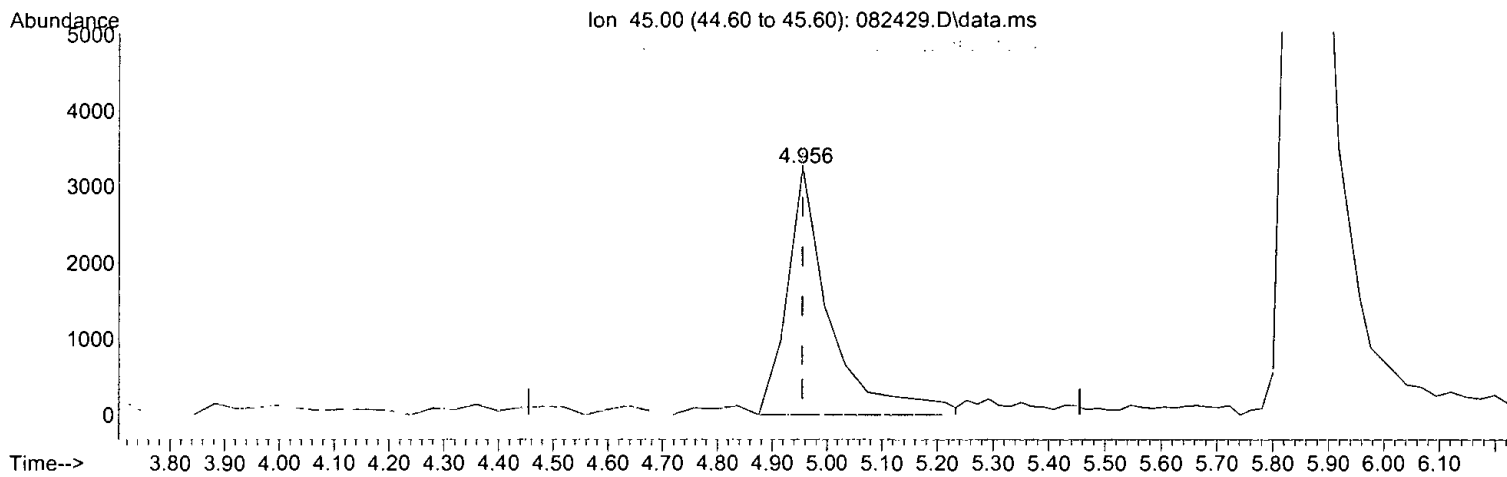
response	22058
Ion	Exp% Act%
64.00	100.00 100.00
66.00	31.80 33.54
0.00	0.00 0.00
0.00	0.00 0.00

AS 8/25/21



Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:55:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(12) Ethanol (TMP)

4.956min (+ 0.001) 3.094 ppbv

response 19122

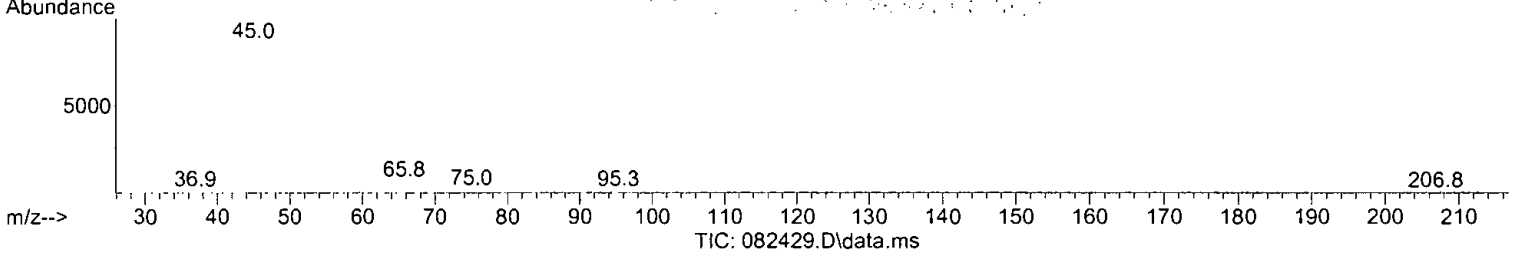
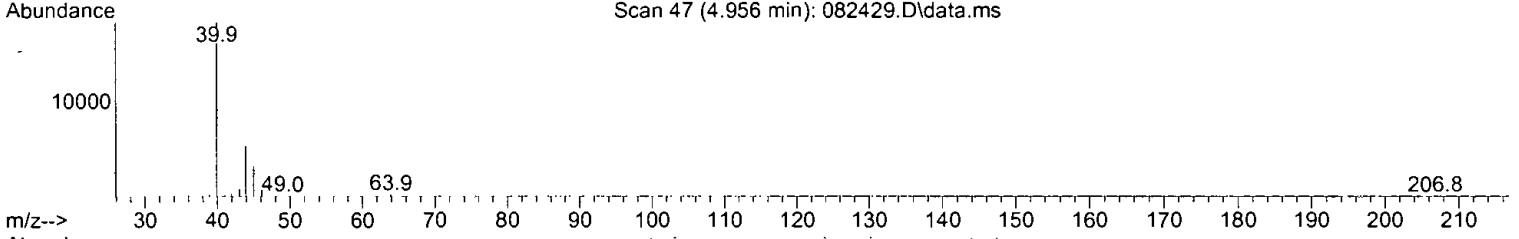
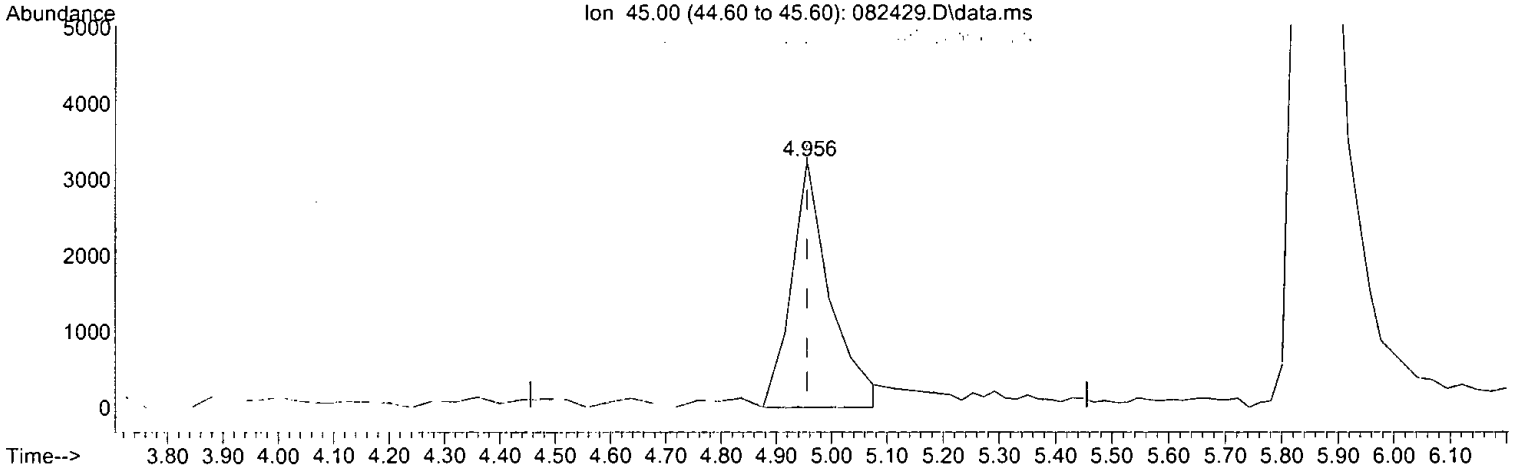
Ion	Exp%	Act%
45.00	100.00	100.00
45.90	25.50	25.22
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/25/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 10:55:00 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(12) Ethanol (TMP)

4.956min (+ 0.001) 2.552 ppbv m

response	15773
Ion	Exp% Act%
45.00	100.00 100.00
45.90	25.50 30.57
0.00	0.00 0.00
0.00	0.00 0.00

*AS 8/25/21*

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:39:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	110485	10.000	ppbv	#-0.02
39) 1,4-Difluorobenzene	13.21	114	541551	10.000	ppbv	-0.02
56) Chlorobenzene-d5	18.21	117	484092	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	425910	9.712	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.10%
Target Compounds						
						Qvalue
2) Propene	3.41	41	58605	3.102	ppbv	95
3) Dichlorodifluoromethane	3.52	85	125989	2.577	ppbv	100
4) Chloromethane	3.77	50	57831m	2.522	ppbv	
5) F-114	3.88	85	127419	2.592	ppbv	87
6) Vinyl chloride	4.05	62	67238	2.755	ppbv	99
7) 1,3-Butadiene	4.25	54	44297	2.622	ppbv	# 86
8) Butane	4.32	43	92628	2.582	ppbv	98
9) Bromomethane	4.60	94	49149	2.888	ppbv	97
10) Chloroethane	4.84	64	22058m	2.630	ppbv	
11) Vinyl bromide	5.32	106	56651	2.872	ppbv	99
12) Ethanol	4.96	45	15773m	2.552	ppbv	
13) Acrolein	5.43	56	21130	2.634	ppbv	99
14) Pentane	6.33	43	113459	2.639	ppbv	97
15) Trichlorofluoromethane	5.86	101	150609	2.763	ppbv	100
16) Acetone	5.59	58	25526	2.626	ppbv	# 76
17) 2-Propanol	5.86	45	109372	2.784	ppbv	# 97
18) 1,1-Dichloroethene	6.71	96	48076	2.640	ppbv	# 65
19) trans-1,2-Dichloroethene	8.18	96	47441	2.641	ppbv	# 78
20) Methylene chloride	6.83	84	47217	2.442	ppbv	# 73
21) t-Butyl alcohol (TBA)	6.62	59	86544	2.719	ppbv	# 47
22) 3-Chloropropene	7.01	41	84068	2.615	ppbv	93
23) CFC-113	7.23	101	103537	2.760	ppbv	87
24) Carbon disulfide	7.33	76	157111	2.478	ppbv	96
25) Methyl t-butyl ether (...)	8.51	73	114686	2.717	ppbv	100
26) Vinyl acetate	8.62	43	78175	2.762	ppbv	97
27) 1,1-Dichloroethane	8.44	63	114817	2.699	ppbv	97
28) cis-1,2-Dichloroethene	9.73	96	52128	2.650	ppbv	91
29) Hexane	10.10	57	88964	2.721	ppbv	91
30) Chloroform	10.17	83	125597	2.604	ppbv	95
31) Ethyl acetate	10.01	43	181847	2.642	ppbv	# 98
32) Tetrahydrofuran	10.83	42	79298	2.655	ppbv	91
33) 2-Butanone (MEK)	8.99	72	20470	2.603	ppbv	# 71
34) 1,2-Dichloroethane (EDC)	11.44	62	95504	2.632	ppbv	96
35) 1,1,1-Trichloroethane	11.93	97	96728	2.708	ppbv	88
36) Carbon tetrachloride	12.95	117	95298	2.714	ppbv	99
37) Benzene	12.70	78	176576	2.610	ppbv	97
38) Cyclohexane	13.16	84	49748	2.697	ppbv	# 76
40) 1,2-Dichloropropane	13.90	63	86277	2.578	ppbv	100
41) 1,4-Dioxane	14.17	88	38127	2.611	ppbv	86
42) 2,2,4-Trimethylpentane	14.31	57	298085	2.651	ppbv	94

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

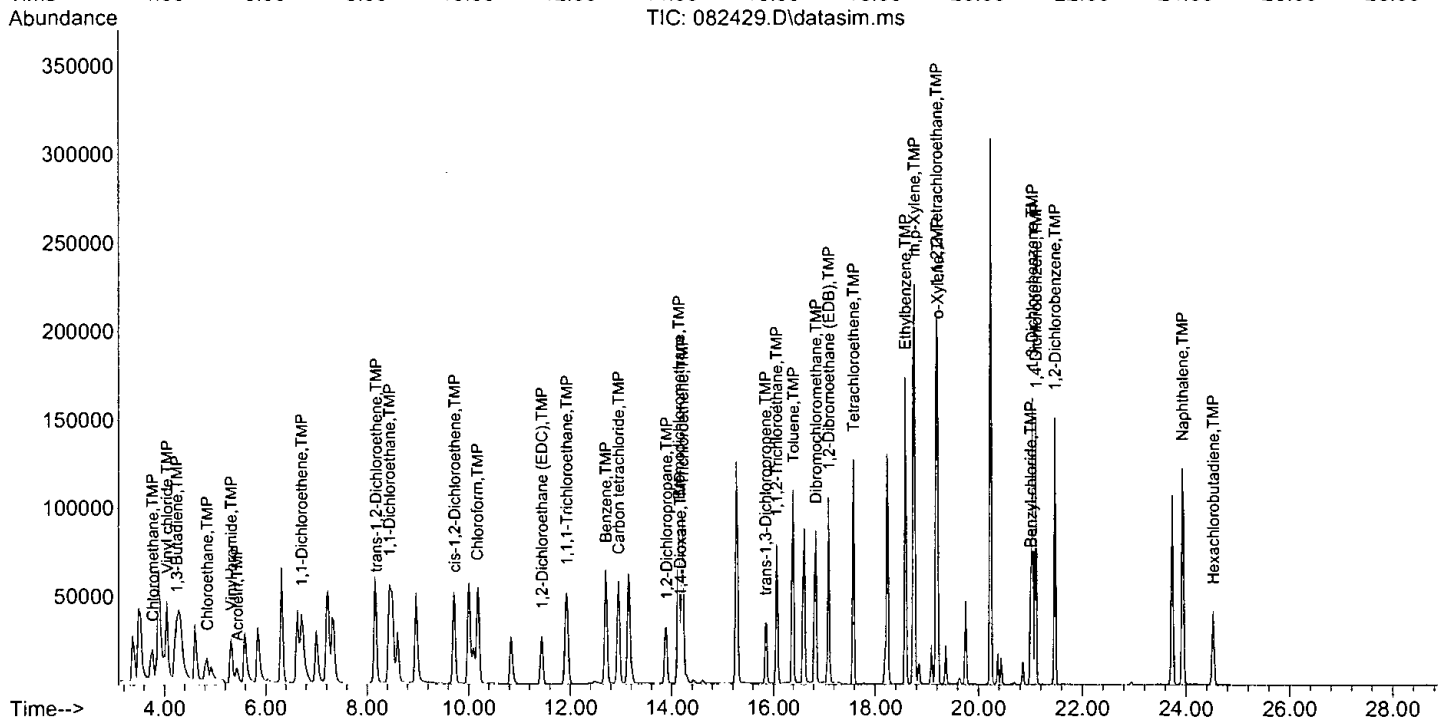
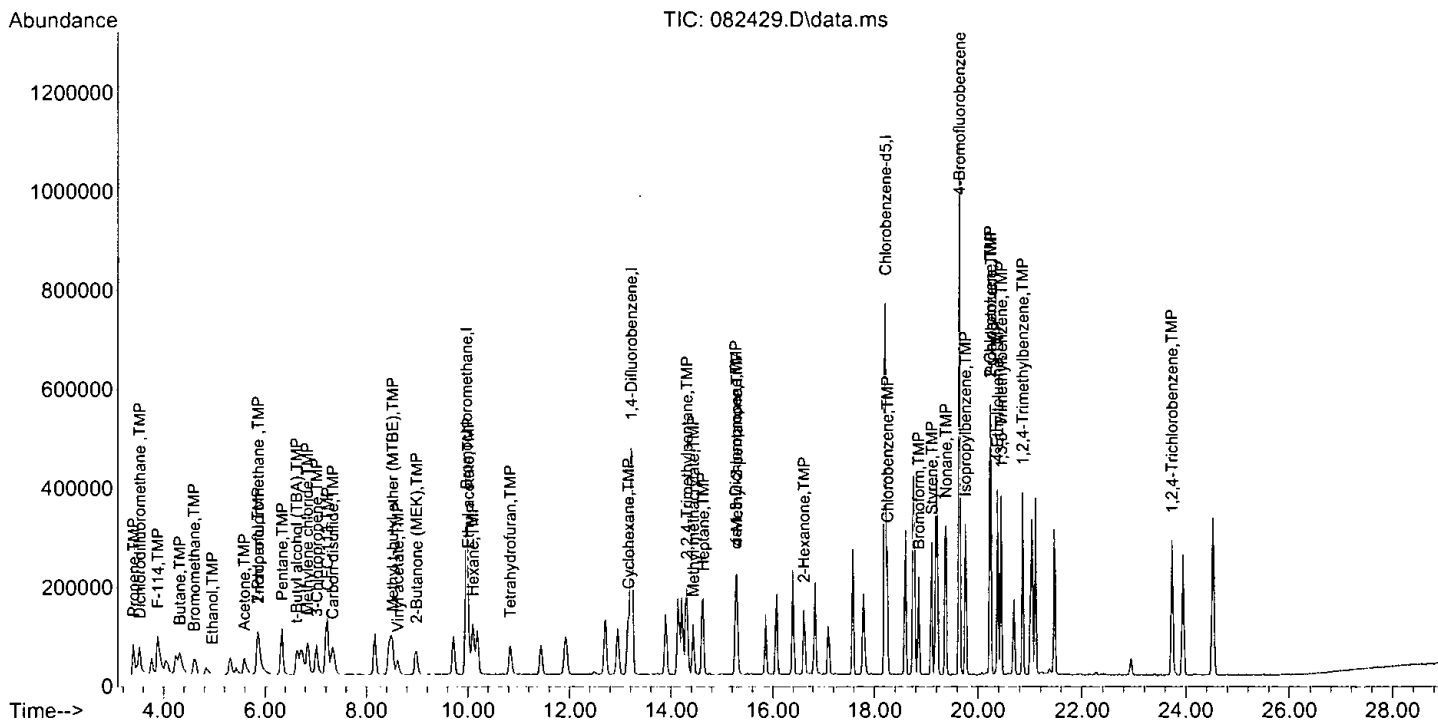
Quant Time: Aug 25 11:39:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.43	41	82725	2.695	ppbv #	85
44) Heptane	14.63	43	141311	2.721	ppbv	90
45) Bromodichloromethane	14.14	83	134422	2.605	ppbv	91
46) Trichloroethene	14.22	95	83227	2.486	ppbv	90
47) cis-1,3-Dichloropropene	15.27	75	91326	2.652	ppbv	96
48) 4-Methyl-2-pentanone	15.29	100	5979	2.727	ppbv #	1
49) trans-1,3-Dichloropropene	15.85	75	77708	2.655	ppbv	77
50) Toluene	16.40	92	104717	2.581	ppbv	82
51) 1,1,2-Trichloroethane	16.06	83	79026	2.594	ppbv	100
52) 2-Hexanone	16.62	43	152773	2.674	ppbv	91
53) Tetrachloroethene	17.58	164	54907	2.661	ppbv	84
54) Dibromochloromethane	16.85	129	110905	2.601	ppbv	89
55) 1,2-Dibromoethane (EDB)	17.10	107	107360	2.545	ppbv	91
57) Chlorobenzene	18.25	112	130769	2.522	ppbv	89
58) Ethylbenzene	18.59	91	263345	2.449	ppbv	98
59) 1,1,2,2-Tetrachloroethane	19.19	83	183432	2.446	ppbv	95
60) Nonane	19.38	43	214224	2.635	ppbv	92
61) Isopropylbenzene	19.75	105	242287	2.570	ppbv	95
62) 2-Chlorotoluene	20.23	126	59463	2.653	ppbv	74
63) Propylbenzene	20.25	91	542017	2.591	ppbv	96
64) 4-Ethyltoluene	20.38	105	255583	2.605	ppbv	95
65) m,p-Xylene	18.76	106	174509	5.055	ppbv	91
66) o-Xylene	19.21	106	85089	2.507	ppbv	88
67) Styrene	19.11	104	126292	2.528	ppbv	87
68) Bromoform	18.85	173	103332	2.665	ppbv	97
70) Benzyl chloride	21.01	91	91139	2.507	ppbv	94
71) 1,3,5-Trimethylbenzene	20.45	105	199230	2.532	ppbv	99
72) 1,2,4-Trimethylbenzene	20.86	105	207330	2.551	ppbv	98
73) 1,3-Dichlorobenzene	21.04	146	135679	2.429	ppbv	94
74) 1,4-Dichlorobenzene	21.11	146	135937	2.613	ppbv	97
75) 1,2-Dichlorobenzene	21.47	146	131213	2.485	ppbv	96
76) 1,2,4-Trichlorobenzene	23.73	180	101963	2.372	ppbv	92
77) Naphthalene	23.93	128	264840	2.387	ppbv	98
78) Hexachlorobutadiene	24.52	225	90383	2.608	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:39:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:39:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	96	-0.02
2 TMP	Propene	2.500	3.102	-24.1	108	0.00
3 TMP	Dichlorodifluoromethane	2.500	2.577	-3.1	90	0.00
4 TMP	Chloromethane	2.500	2.522	-0.9	93	0.00
5 TMP	F-114	2.500	2.592	-3.7	92	0.00
6 TMP	Vinyl chloride	2.500	2.755	-10.2	98	0.00
7 TMP	1,3-Butadiene	2.500	2.622	-4.9	93	0.00
8 TMP	Butane	2.500	2.582	-3.3	96	0.00
9 TMP	Bromomethane	2.500	2.888	-15.5	94	-0.04
10 TMP	Chloroethane	2.500	2.630	-5.2	91	0.00
11 TMP	Vinyl bromide	2.500	2.872	-14.9	104	0.00
12 TMP	Ethanol	2.500	2.552	-2.1	81	0.00
13 TMP	Acrolein	2.500	2.634	-5.4	94	0.00
14 TMP	Pentane	2.500	2.639	-5.6	91	0.00
15 TMP	Trichlorofluoromethane	2.500	2.763	-10.5	96	-0.02
16 TMP	Acetone	2.500	2.626	-5.0	97	0.00
17 TMP	2-Propanol	2.500	2.784	-11.4	101	0.00
18 TMP	1,1-Dichloroethene	2.500	2.640	-5.6	94	-0.03
19 TMP	trans-1,2-Dichloroethene	2.500	2.641	-5.6	94	0.00
20 TMP	Methylene chloride	2.500	2.442	2.3	89	-0.03
21 TMP	t-Butyl alcohol (TBA)	2.500	2.719	-8.8	97	-0.03
22 TMP	3-Chloropropene	2.500	2.615	-4.6	92	0.00
23 TMP	CFC-113	2.500	2.760	-10.4	98	0.00
24 TMP	Carbon disulfide	2.500	2.478	0.9	84	0.00
25 TMP	Methyl t-butyl ether (MTBE)	2.500	2.717	-8.7	98	0.00
26 TMP	Vinyl acetate	2.500	2.762	-10.5	102	0.00
27 TMP	1,1-Dichloroethane	2.500	2.699	-8.0	95	0.00
28 TMP	cis-1,2-Dichloroethene	2.500	2.650	-6.0	95	0.00
29 TMP	Hexane	2.500	2.721	-8.8	95	-0.02
30 TMP	Chloroform	2.500	2.604	-4.2	94	-0.02
31 TMP	Ethyl acetate	2.500	2.642	-5.7	92	0.00
32 TMP	Tetrahydrofuran	2.500	2.655	-6.2	95	0.00
33 TMP	2-Butanone (MEK)	2.500	2.603	-4.1	91	0.00
34 TMP	1,2-Dichloroethane (EDC)	2.500	2.632	-5.3	94	0.00
35 TMP	1,1,1-Trichloroethane	2.500	2.708	-8.3	96	-0.01
36 TMP	Carbon tetrachloride	2.500	2.714	-8.6	96	0.00
37 TMP	Benzene	2.500	2.610	-4.4	94	0.00
38 TMP	Cyclohexane	2.500	2.697	-7.9	97	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	96	-0.02
40 TMP	1,2-Dichloropropane	2.500	2.578	-3.1	95	0.00
41 TMP	1,4-Dioxane	2.500	2.611	-4.4	94	0.00
42 TMP	2,2,4-Trimethylpentane	2.500	2.651	-6.0	93	0.00
43 TMP	Methyl methacrylate	2.500	2.695	-7.8	95	0.00
44 TMP	Heptane	2.500	2.721	-8.8	98	0.00
45 TMP	Bromodichloromethane	2.500	2.605	-4.2	95	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:39:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	2.500	2.486	0.6	94	0.00
47 TMP cis-1,3-Dichloropropene	2.500	2.652	-6.1	96	0.00
48 TMP 4-Methyl-2-pentanone	2.500	2.727	-9.1	91	0.00
49 TMP trans-1,3-Dichloropropene	2.500	2.655	-6.2	95	0.00
50 TMP Toluene	2.500	2.581	-3.2	92	0.00
51 TMP 1,1,2-Trichloroethane	2.500	2.594	-3.8	94	0.00
52 TMP 2-Hexanone	2.500	2.674	-7.0	98	0.00
53 TMP Tetrachloroethene	2.500	2.661	-6.4	94	0.00
54 TMP Dibromochloromethane	2.500	2.601	-4.0	94	0.00
55 TMP 1,2-Dibromoethane (EDB)	2.500	2.545	-1.8	96	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	99	0.00
57 TMP Chlorobenzene	2.500	2.522	-0.9	93	0.00
58 TMP Ethylbenzene	2.500	2.449	2.0	94	0.00
59 TMP 1,1,2,2-Tetrachloroethane	2.500	2.446	2.2	93	0.00
60 TMP Nonane	2.500	2.635	-5.4	94	0.02
61 TMP Isopropylbenzene	2.500	2.570	-2.8	94	0.00
62 TMP 2-Chlorotoluene	2.500	2.653	-6.1	96	0.00
63 TMP Propylbenzene	2.500	2.591	-3.6	94	0.00
64 TMP 4-Ethyltoluene	2.500	2.605	-4.2	94	0.00
65 TMP m,p-Xylene	5.000	5.055	-1.1	94	0.00
66 TMP o-Xylene	2.500	2.507	-0.3	93	0.00
67 TMP Styrene	2.500	2.528	-1.1	92	0.00
68 TMP Bromoform	2.500	2.665	-6.6	97	0.00
69 S 4-Bromofluorobenzene	10.000	9.712	2.9	95	0.00
70 TMP Benzyl chloride	2.500	2.507	-0.3	94	0.00
71 TMP 1,3,5-Trimethylbenzene	2.500	2.532	-1.3	91	0.00
72 TMP 1,2,4-Trimethylbenzene	2.500	2.551	-2.0	92	0.00
73 TMP 1,3-Dichlorobenzene	2.500	2.429	2.8	90	0.00
74 TMP 1,4-Dichlorobenzene	2.500	2.613	-4.5	96	0.00
75 TMP 1,2-Dichlorobenzene	2.500	2.485	0.6	94	0.00
76 TMP 1,2,4-Trichlorobenzene	2.500	2.372	5.1	88	0.00
77 TMP Naphthalene	2.500	2.387	4.5	91	0.00
78 TMP Hexachlorobutadiene	2.500	2.608	-4.3	97	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:39:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	96	-0.02
2 TMP	Propene	1.710	2.122	-24.1	108	0.00
3 TMP	Dichlorodifluoromethane	4.425	4.561	-3.1	90	0.00
4 TMP	Chloromethane	2.075	2.094	-0.9	93	0.00
5 TMP	F-114	4.450	4.613	-3.7	92	0.00
6 TMP	Vinyl chloride	2.209	2.434	-10.2	98	0.00
7 TMP	1,3-Butadiene	1.529	1.604	-4.9	93	0.00
8 TMP	Butane	3.248	3.354	-3.3	96	0.00
9 TMP	Bromomethane	1.540	1.779	-15.5	94	-0.04
10 TMP	Chloroethane	0.759	0.799	-5.3	91	0.00
11 TMP	Vinyl bromide	1.785	2.051	-14.9	104	0.00
12 TMP	Ethanol	0.559	0.571	-2.1	81	0.00
13 TMP	Acrolein	0.726	0.765	-5.4	94	0.00
14 TMP	Pentane	3.891	4.108	-5.6	91	0.00
15 TMP	Trichlorofluoromethane	4.934	5.453	-10.5	96	-0.02
16 TMP	Acetone	0.880	0.924	-5.0	97	0.00
17 TMP	2-Propanol	3.556	3.960	-11.4	101	0.00
18 TMP	1,1-Dichloroethene	1.648	1.741	-5.6	94	-0.03
19 TMP	trans-1,2-Dichloroethene	1.626	1.718	-5.7	94	0.00
20 TMP	Methylene chloride	1.750	1.709	2.3	89	-0.03
21 TMP	t-Butyl alcohol (TBA)	2.881	3.133	-8.7	97	-0.03
22 TMP	3-Chloropropene	2.910	3.044	-4.6	92	0.00
23 TMP	CFC-113	3.396	3.748	-10.4	98	0.00
24 TMP	Carbon disulfide	5.738	5.688	0.9	84	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	4.152	-8.7	98	0.00
26 TMP	Vinyl acetate	2.562	2.830	-10.5	102	0.00
27 TMP	1,1-Dichloroethane	3.850	4.157	-8.0	95	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.887	-6.0	95	0.00
29 TMP	Hexane	2.959	3.221	-8.9	95	-0.02
30 TMP	Chloroform	4.366	4.547	-4.1	94	-0.02
31 TMP	Ethyl acetate	6.229	6.584	-5.7	92	0.00
32 TMP	Tetrahydrofuran	2.703	2.871	-6.2	95	0.00
33 TMP	2-Butanone (MEK)	0.712	0.741	-4.1	91	0.00
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.458	-5.3	94	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.502	-8.4	96	-0.01
36 TMP	Carbon tetrachloride	3.178	3.450	-8.6	96	0.00
37 TMP	Benzene	6.123	6.393	-4.4	94	0.00
38 TMP	Cyclohexane	1.669	1.801	-7.9	97	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	96	-0.02
40 TMP	1,2-Dichloropropane	0.618	0.637	-3.1	95	0.00
41 TMP	1,4-Dioxane	0.270	0.282	-4.4	94	0.00
42 TMP	2,2,4-Trimethylpentane	2.076	2.202	-6.1	93	0.00
43 TMP	Methyl methacrylate	0.567	0.611	-7.8	95	0.00
44 TMP	Heptane	0.959	1.044	-8.9	98	0.00
45 TMP	Bromodichloromethane	0.953	0.993	-4.2	95	0.00



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-24-21\  
 Data File : 082429.D  
 Acq On : 25 Aug 2021 1:32 am  
 Operator : bat  
 Sample : scv 2.5ppbv 64-64a  
 Misc : T4, 25cc of 25ppbv  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 25 11:39:48 2021  
 Quant Method : Z:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.618	0.615	0.5	94	0.00
47 TMP cis-1,3-Dichloropropene	0.636	0.675	-6.1	96	0.00
48 TMP 4-Methyl-2-pentanone	0.040	0.044	-10.0	91	0.00
49 TMP trans-1,3-Dichloropropene	0.540	0.574	-6.3	95	0.00
50 TMP Toluene	0.749	0.773	-3.2	92	0.00
51 TMP 1,1,2-Trichloroethane	0.563	0.584	-3.7	94	0.00
52 TMP 2-Hexanone	1.055	1.128	-6.9	98	0.00
53 TMP Tetrachloroethene	0.381	0.406	-6.6	94	0.00
54 TMP Dibromochloromethane	0.787	0.819	-4.1	94	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.779	0.793	-1.8	96	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	99	0.00
57 TMP Chlorobenzene	1.071	1.081	-0.9	93	0.00
58 TMP Ethylbenzene	2.221	2.176	2.0	94	0.00
59 TMP 1,1,2,2-Tetrachloroethane	1.549	1.516	2.1	93	0.00
60 TMP Nonane	1.679	1.770	-5.4	94	0.02
61 TMP Isopropylbenzene	1.948	2.002	-2.8	94	0.00
62 TMP 2-Chlorotoluene	0.463	0.491	-6.0	96	0.00
63 TMP Propylbenzene	4.322	4.479	-3.6	94	0.00
64 TMP 4-Ethyltoluene	2.027	2.112	-4.2	94	0.00
65 TMP m,p-Xylene	0.713	0.721	-1.1	94	0.00
66 TMP o-Xylene	0.701	0.703	-0.3	93	0.00
67 TMP Styrene	1.032	1.044	-1.2	92	0.00
68 TMP Bromoform	0.801	0.854	-6.6	97	0.00
69 S 4-Bromofluorobenzene	0.906	0.880	2.9	95	0.00
70 TMP Benzyl chloride	0.751	0.753	-0.3	94	0.00
71 TMP 1,3,5-Trimethylbenzene	1.625	1.646	-1.3	91	0.00
72 TMP 1,2,4-Trimethylbenzene	1.679	1.713	-2.0	92	0.00
73 TMP 1,3-Dichlorobenzene	1.154	1.121	2.9	90	0.00
74 TMP 1,4-Dichlorobenzene	1.152	1.123	2.5	96	0.00
75 TMP 1,2-Dichlorobenzene	1.091	1.084	0.6	94	0.00
76 TMP 1,2,4-Trichlorobenzene	0.950	0.843	11.3	88	0.00
77 TMP Naphthalene	2.538	2.188	13.8	91	0.00
78 TMP Hexachlorobutadiene	0.852	0.747	12.3	97	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Method Path : Z:\METHODS\Inst7\  
 Method File : 0819APH7.M  
 Title : APH TO-15 method  
 Last Update : Fri Aug 20 08:33:26 2021  
 Response Via : Initial Calibration

Calibration Files

0.20=081913.D 0.5 =081914.D 1.0 =081915.D 2.5 =081916.D 5 =081917.D 10 =081918.D 25 =081919.D

-----  
 Compound 0.20 0.5 1.0 2.5 5 10 25 Avg %RSD  
 -----

Compound	0.20	0.5	1.0	2.5	5	10	25	Avg	%RSD
1) I Bromochloromethane									
2) T IS-1 Bromochlo...	8.782	8.793	8.852	8.817	8.816	8.966	8.772	8.828	0.75
3) T IS-2 1,4-Diflu...	1.304	1.332	1.391	1.273	1.307	1.088	1.076	1.253	9.76
4) T IS-3 Chloroben...	1.514	1.507	1.520	1.510	1.504	1.544	1.540	1.520	1.06
5) T Methylene chlo...							0.447	0.447	0.00
6) Acetone							2.358	2.358	0.00
7) 2-Propanol		0.137						0.137	0.00
8) T 1,3-Butadiene	3.761	2.918	3.000	2.645	2.760	2.806	2.721	2.944	12.88
9) T Methyl t-butyl...	4.345	3.973	3.865	3.615	3.748	3.724	3.710	3.854	6.37

Compound	0.20	0.5	1.0	2.5	5	10	25	Avg	%RSD
10) I 1,4-Difluorobenzene									
11) T Benzene	1.793	1.714	1.660	1.716	1.675	1.642	1.700	3.20	3.20
12) L1 Isopentane	3.748	3.086	3.158	3.616	3.368	3.281	3.376	7.69	7.69
13) L1 Hexane	3.578	3.532	3.367	3.478	3.297	3.276	3.421	3.69	3.69
14) L1 Cyclohexane	2.784	3.562	3.392	3.309	4.087	3.691	3.471	12.50	12.50
15) L1 2,3-Dimethylpe...	5.055	4.452	4.105	4.565	4.198	4.201	4.429	7.96	7.96
16) L1 Heptane	3.636	3.779	3.581	3.590	3.604	3.527	3.620	2.38	2.38
17) L1 Octane	4.135	3.961	5.352	5.273	5.164	5.895	4.963	15.21	15.21
18) L1 APH EC5-8 alip...	3.853	3.795	3.938	4.071	4.043	4.104	3.967	3.17	3.17
19) H APH EC5-8 alip...	3.853	3.795	3.938	4.071	4.043	4.104	3.967	3.17	3.17

Compound	0.20	0.5	1.0	2.5	5	10	25	Avg	%RSD
20) I Chlorobenzene-d5									
21) T S 4-Bromofluor...	4.193	4.192	4.213	4.168	4.269	4.201	4.310	4.221	1.19
22) Hexamethylcycl...	0.884	0.749	0.983	1.134	1.017	1.171	1.339	1.040	18.77
23) Octamethylcycl...	0.669	0.777	0.823	1.021	1.409	1.678	2.706	1.298	55.47
24) T Toluene	1.187	1.123	0.992	1.146	1.027	1.017	1.017	1.073	7.17
25) T Ethylbenzene	2.579	2.279	2.157	2.075	2.186	2.113	2.119	2.215	7.82
26) T m,p-Xylene	0.873	0.762	0.714	0.702	0.730	0.717	0.718	0.745	8.01
27) T o-Xylene	0.760	0.729	0.665	0.665	0.707	0.697	0.710	0.705	4.79
28) T Naphthalene	2.001	1.784	1.747	1.745	1.685	1.767	1.864	1.799	5.79
29) L2 2,3-Dimethylhe...	5.848	5.084	4.782	4.816	4.969	4.845	4.833	5.025	7.52
30) L2 Nonane	5.745	5.480	5.186	4.904	5.239	5.049	5.126	5.247	5.38
31) L2 Decane	6.281	4.960	5.080	4.901	5.135	5.059	5.073	5.213	9.16
32) L2 Butylcyclohexane	6.722	6.160	5.733	5.528	5.841	5.719	5.747	5.921	6.78
33) L2 Undecane	6.222	5.074	4.994	4.799	5.084	4.987	5.029	5.170	9.16
34) L2 Dodecane	5.088	4.262	4.163	3.861	4.225	4.053	4.050	4.243	9.33
35) L2 APH EC9-12 ali...	6.017	5.175	4.956	4.761	5.046	4.916	4.940	5.116	8.15
36) H APH EC9-12 ali...	6.017	5.175	4.956	4.761	5.046	4.916	4.940	5.116	8.15
37) S 4-Bromofluorob...	0.623	0.625	0.626	0.619	0.628	0.622	0.642	0.626	1.22

Response Factor Report GCMS7

Method Path : Z:\METHODS\Inst7\

Method File : 0819APH7.M

38)	L3	Isopropylbenzene	0.458	0.406	0.362	0.363	0.390	0.386	0.380	0.392	8.36
39)	L3	1-Methyl-3-eth...	0.636	0.525	0.538	0.524	0.540	0.537	0.538	0.548	7.16
40)	L3	1,3,5-Trimethy...	0.826	0.670	0.663	0.651	0.691	0.675	0.682	0.694	8.58
41)	L3	p-Isopropyltol...	0.372	0.341	0.339	0.313	0.337	0.339	0.346	0.341	5.04
42)	L3	1,2,3-Trimethy...	0.948	0.814	0.777	0.748	0.809	0.793	0.813	0.814	7.79
43)	L3	APH EC9-10 aro...	0.550	0.533	0.515	0.549	0.541	0.548	0.539	0.539	2.48
44)	H	APH EC9-10 aro...	0.604	0.585	0.572	0.608	0.602	0.604	0.596	0.596	2.39
45)	H	APH EC9-10 aro...	0.353	0.339	0.314	0.342	0.340	0.347	0.339	0.339	3.94

(#) = Out of Range

## Compound List Report GCMS7

Method Path : Z:\METHODS\Inst7\  
 Method File : 0819APH7.M  
 Title : APH TO-15 method  
 Last Update : Fri Aug 20 08:33:26 2021  
 Response Via : Initial Calibration

Total Cpnds : 45

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Bromochloromethane	128	9.99	1.000	A	2	A	B
2	T	IS-1 Bromochloromethane	TIC	9.99	1.000	A	3	A	B
3	T	IS-2 1,4-Difluorobenzene	TIC	13.23	1.325	A	3	A	B
4	T	IS-3 Chlorobenzene-d5	TIC	18.21	1.823	A	3	A	B
5	T	Methylene chloride	TIC	6.86	0.686	A	3	A	B
6		Acetone	TIC	5.68	0.569	A	0	A	B
7		2-Propanol	TIC	5.84	0.585	A	0	A	B
8	T	1,3-Butadiene	54	4.28	0.428	A	1	A	B
9	T	Methyl t-butyl ether	73	8.51	0.852	A	1	A	B
10	I	1,4-Difluorobenzene	114	13.23	1.000	A	2	A	B
11	T	Benzene	78	12.71	0.961	A	1	A	B
12	L1	Isopentane	TIC	5.68	0.430	A	3	A	B
13	L1	Hexane	TIC	10.12	0.764	L	3	A	B
14	L1	Cyclohexane	TIC	13.16	0.995	A	3	A	B
15	L1	2,3-Dimethylpentane	TIC	13.52	1.022	A	3	A	B
16	L1	Heptane	TIC	14.63	1.106	A	3	A	B
17	L1	Octane	TIC	17.41	1.316	A	3	A	B
18	L1	APH EC5-8 aliphatics TOTAL	TIC	12.71	0.961	A	0	A	B
19	H	APH EC5-8 aliphatics	TIC	12.40	0.937	A	0	A	B
20	I	Chlorobenzene-d5	117	18.21	1.000	A	2	A	B
21	T	S 4-Bromofluorobenzene	TIC	19.64	1.078	A	3	A	B
22		Hexamethylcyclotrisiloxane	TIC	17.78	0.976	A	0	A	B
23		Octamethylcyclotetrasiloxane	TIC	20.70	1.137	A	0	A	B
24	T	Toluene	92	16.39	0.900	A	1	A	B
25	T	Ethylbenzene	91	18.60	1.021	A	1	A	B
26	T	m,p-Xylene	106	18.76	1.030	A	1	A	B
27	T	o-Xylene	106	19.21	1.055	A	1	A	B
28	T	Naphthalene	128	23.94	1.315	A	2	A	B
29	L2	2,3-Dimethylheptane	TIC	18.66	1.025	A	3	A	B
30	L2	Nonane	TIC	19.36	1.063	A	3	A	B
31	L2	Decane	TIC	20.90	1.148	A	3	A	B
32	L2	Butylcyclohexane	TIC	21.57	1.184	A	3	A	B
33	L2	Undecane	TIC	22.28	1.224	A	3	A	B
34	L2	Dodecane	TIC	23.79	1.307	A	3	A	B
35	L2	APH EC9-12 aliphatics TOTAL	TIC	21.57	1.184	A	0	A	B
36	H	APH EC9-12 aliphatics	TIC	21.65	1.189	A	0	A	B
37	S	4-Bromofluorobenzene	95	19.64	1.078	A	2	A	B
38	L3	Isopropylbenzene	120	19.75	1.085	A	1	A	B
39	L3	1-Methyl-3-ethylbenzene	120	20.33	1.117	A	1	A	B
40	L3	1,3,5-Trimethylbenzene	120	20.45	1.123	A	1	A	B
41	L3	p-Isopropyltoluene	134	21.28	1.169	A	2	A	B
42	L3	1,2,3-Trimethylbenzene	120	21.31	1.170	A	1	A	B
43	L3	APH EC9-10 aromatics TOTAL	TIC	21.57	1.184	A	0	A	B
44	H	APH EC9-10 aromatics (1)	120	21.64	1.188	A	0	A	B
45	H	APH EC9-10 aromatics (2)	134	21.64	1.188	A	0	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin  
 #Qual = number of qualifiers  
 A/H = Area or Height

ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

---

0819APH7.M Fri Aug 20 09:42:05 2021

Calibration Status Report GCMS7

Method Path : Z:\METHODS\Inst7\  
 Method File : 0819APH7.M  
 Title : APH TO-15 method  
 Last Update : Fri Aug 20 08:33:26 2021  
 Response Via : Initial Calibration

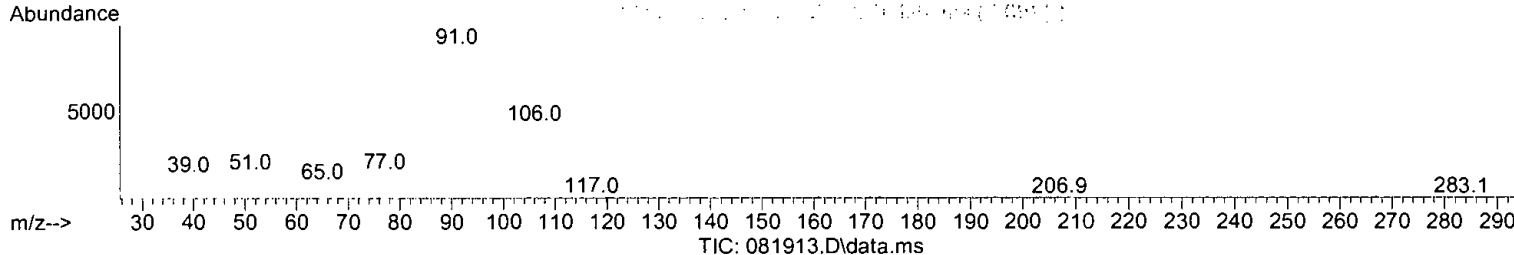
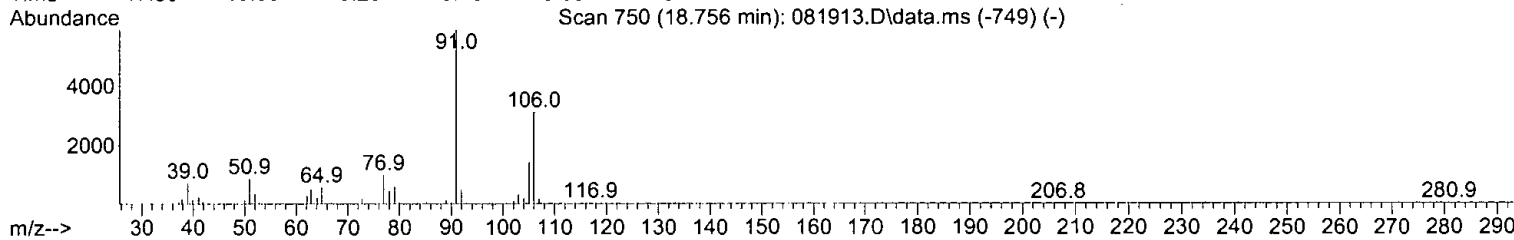
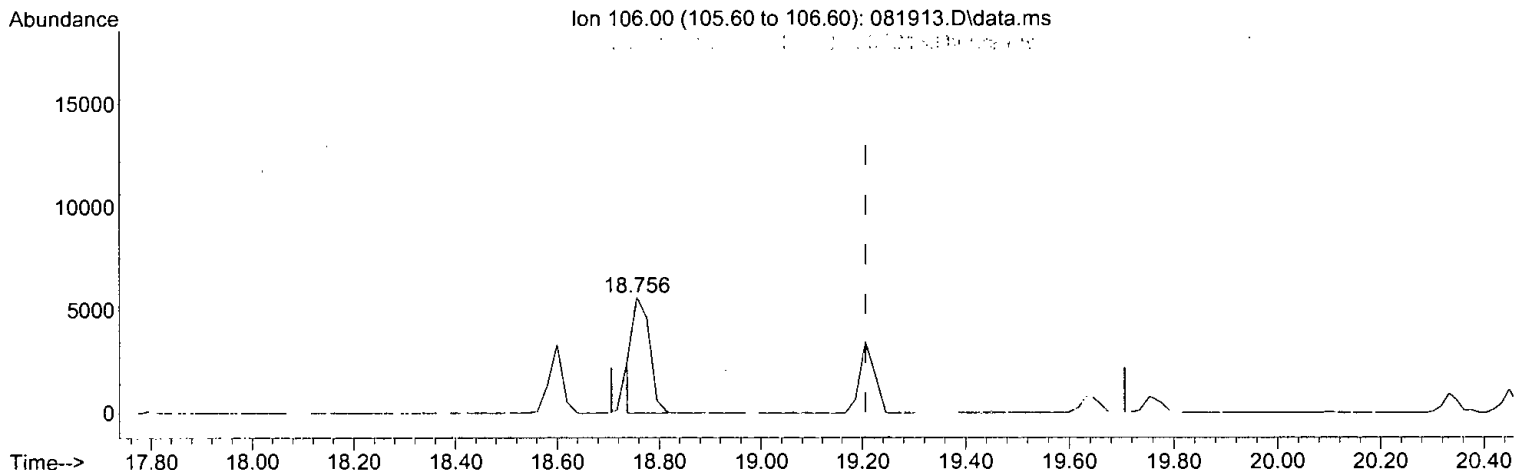
#	ID	Conc	ISTD Conc	Path\File
1	0.20	0	50	I:\08-19-21\081913.D
2	0.5	1	50	I:\08-19-21\081914.D
3	1.0	2	50	I:\08-19-21\081915.D
4	2.5	6	50	I:\08-19-21\081916.D
5	5	11	50	I:\08-19-21\081917.D
6	10	22	50	I:\08-19-21\081918.D
7	25	55	50	I:\08-19-21\081919.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.20	Aug 20 07:39 2021	Aug 20 08:31 2021	19 Aug 2021 5:22 pm
2	0.5	Aug 20 07:39 2021	Aug 20 08:33 2021	19 Aug 2021 6:00 pm
3	1.0	Aug 20 07:39 2021	Aug 20 08:35 2021	19 Aug 2021 6:38 pm
4	2.5	Aug 20 07:39 2021	Aug 20 08:36 2021	19 Aug 2021 7:21 pm
5	5	Aug 20 07:39 2021	Aug 20 08:37 2021	19 Aug 2021 7:59 pm
6	10	Aug 20 07:39 2021	Aug 20 08:37 2021	19 Aug 2021 8:36 pm
7	25	Aug 20 07:39 2021	Aug 20 08:39 2021	19 Aug 2021 9:20 pm

0819APH7.M Fri Aug 20 09:42:11 2021

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:22 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

18.756min (-0.450) 1.736 ug/m3

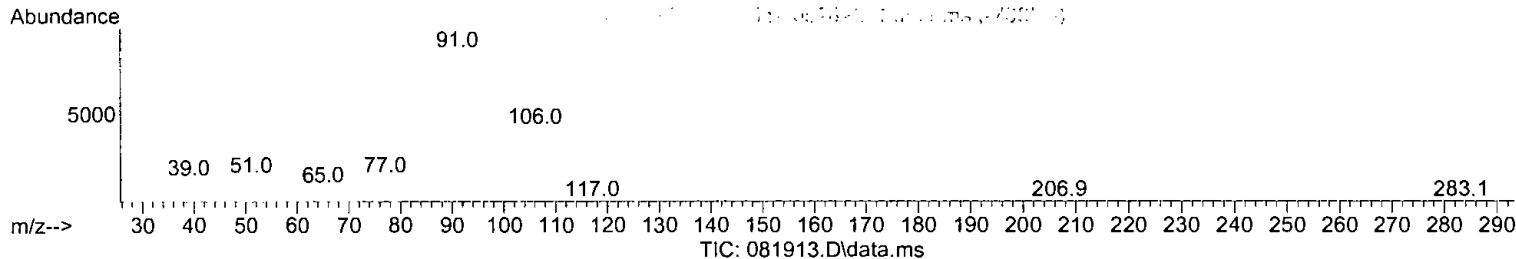
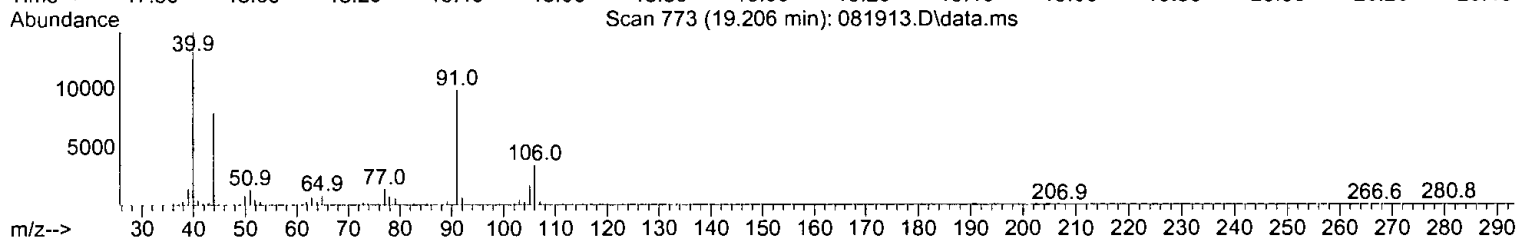
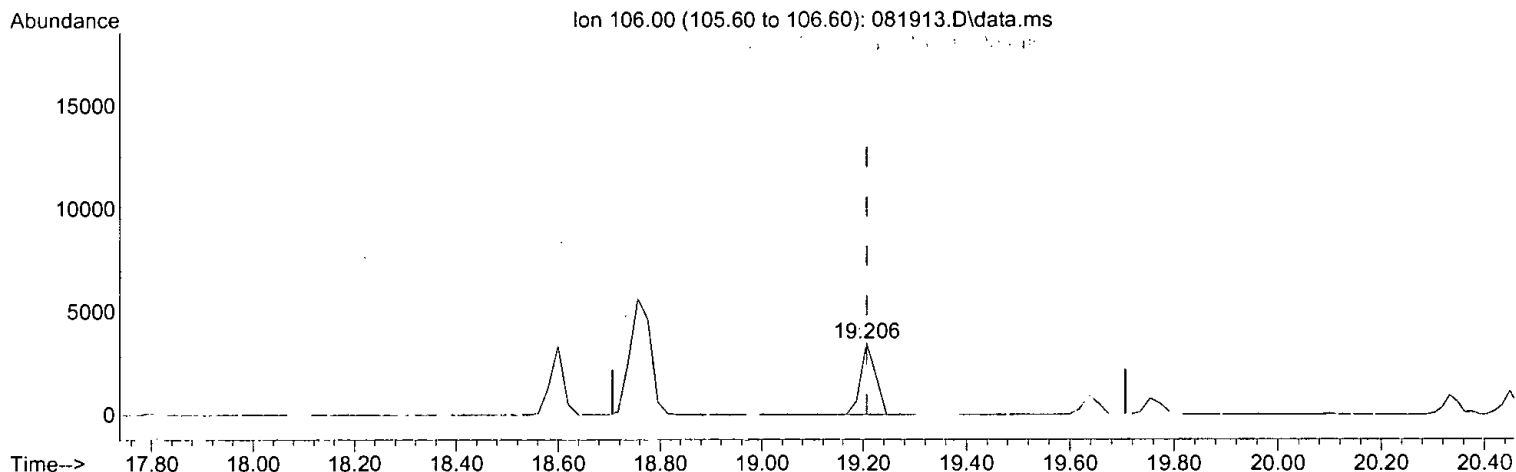
response 12780

Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	212.40
0.00	0.00	0.00
0.00	0.00	0.00

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:22 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

19.206min (-0.000) 0.938 ug/m3 m

response 6903

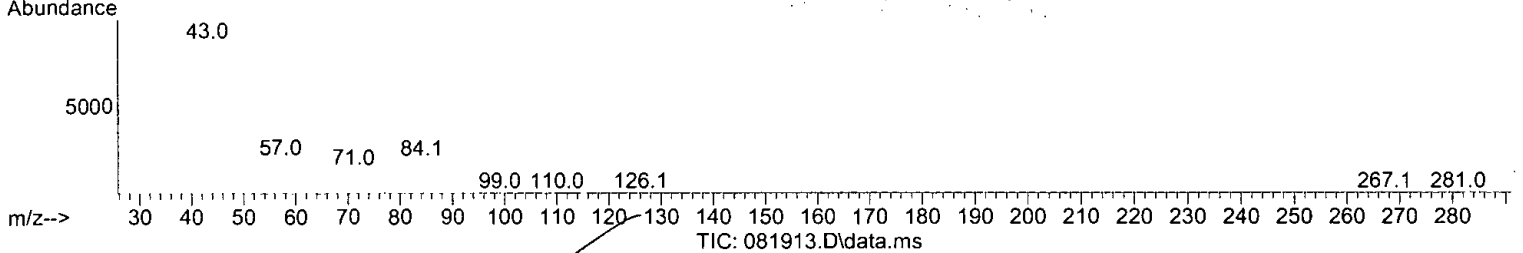
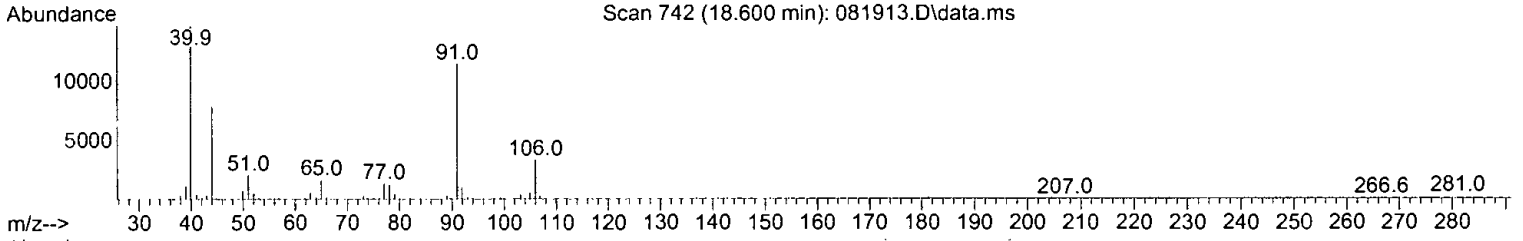
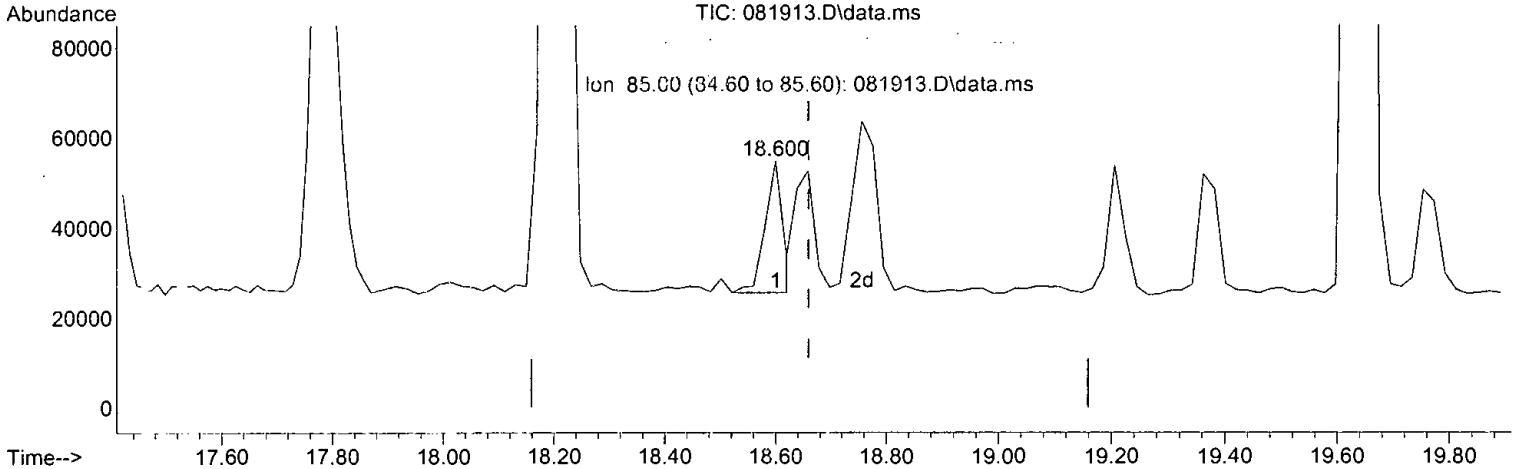
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	284.28#
0.00	0.00	0.00
0.00	0.00	0.00

*AS 8/20/21*



Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:22 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

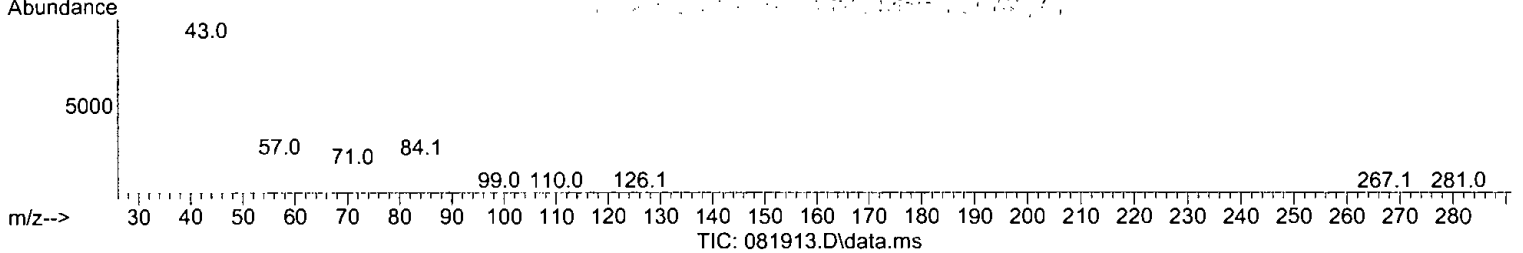
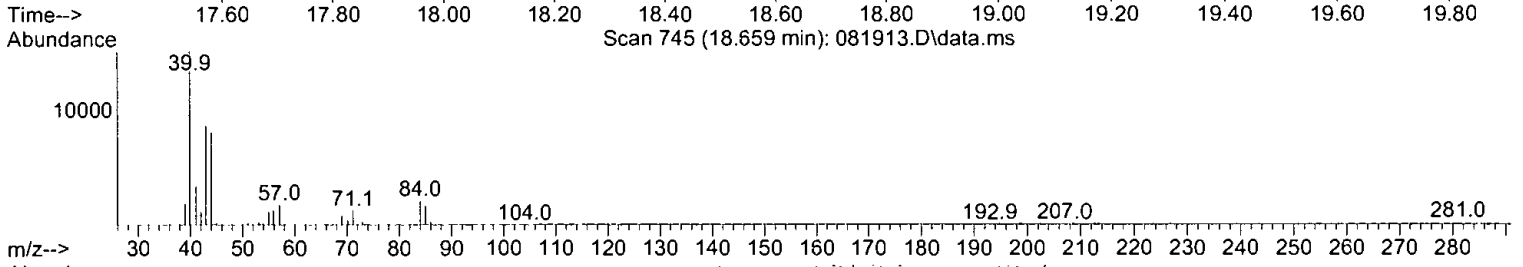
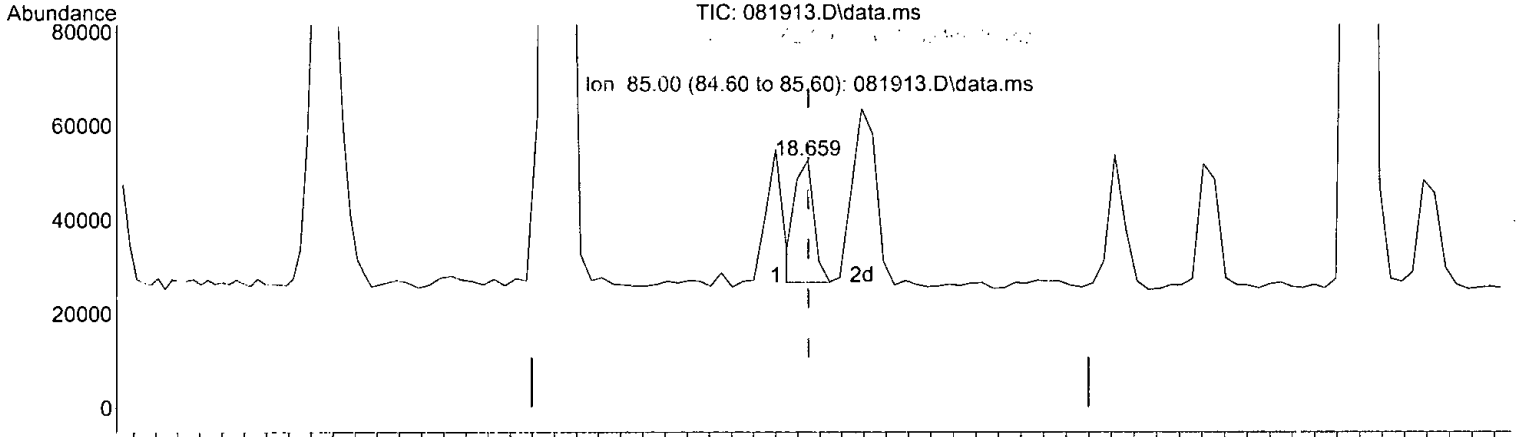
18.600min (-0.059) 1.215 ug/m3

response	Exp%	Act%
Signal		
TIC	100.00	100.00
43.00	28.20	38.69#
84.00	9.90	8.46
85.00	9.20	6.91#

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:22 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

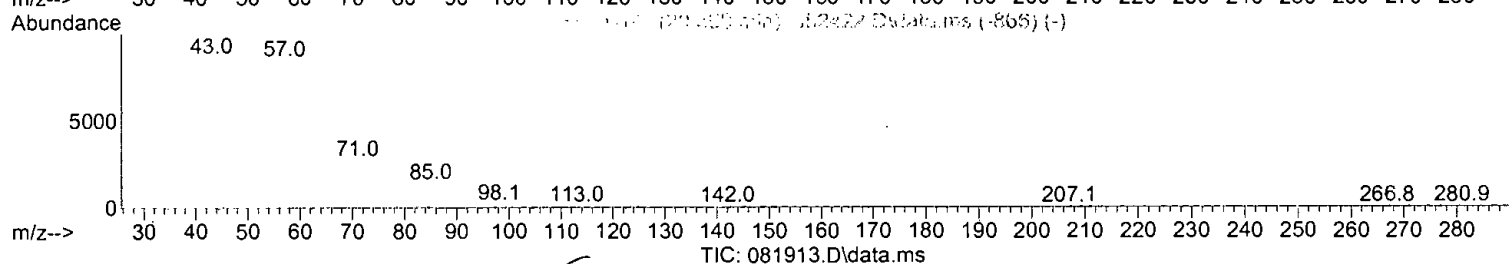
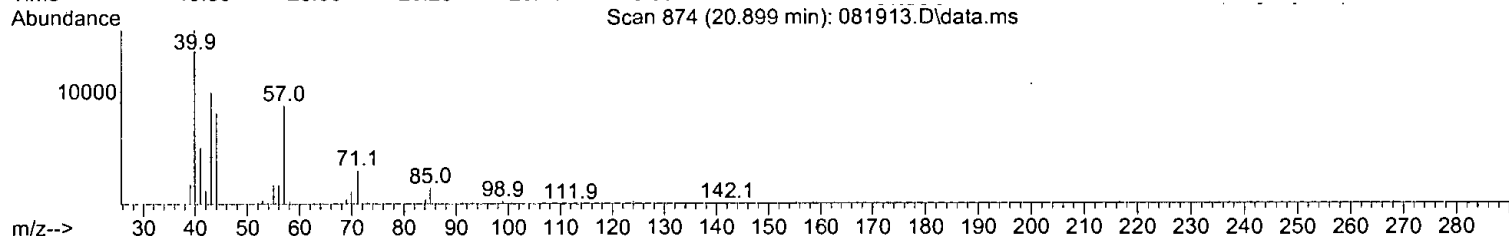
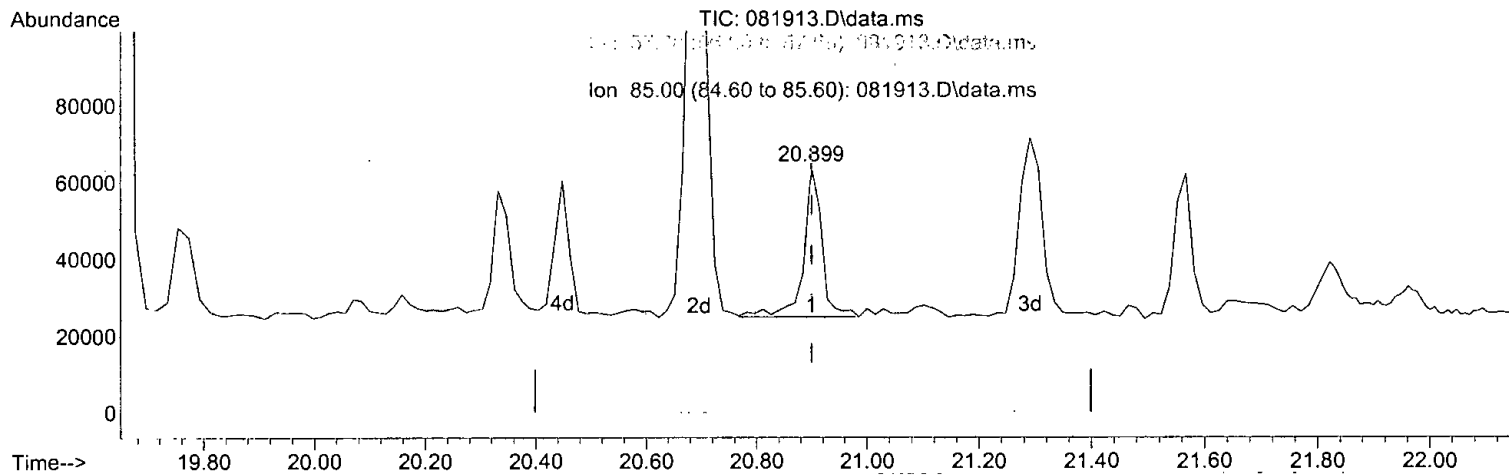
18.659min (-0.000) 1.176 ug/m3 m

response	61695		
Signal	Exp%	Act%	
TIC	100.00	100.00	
43.00	28.20	39.98#	
84.00	9.90	8.74	
85.00	9.20	7.14#	

*AS 8/20/21*

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:06 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(31) Decane (L2)

20.899min (-0.000) 1.638 ug/m3

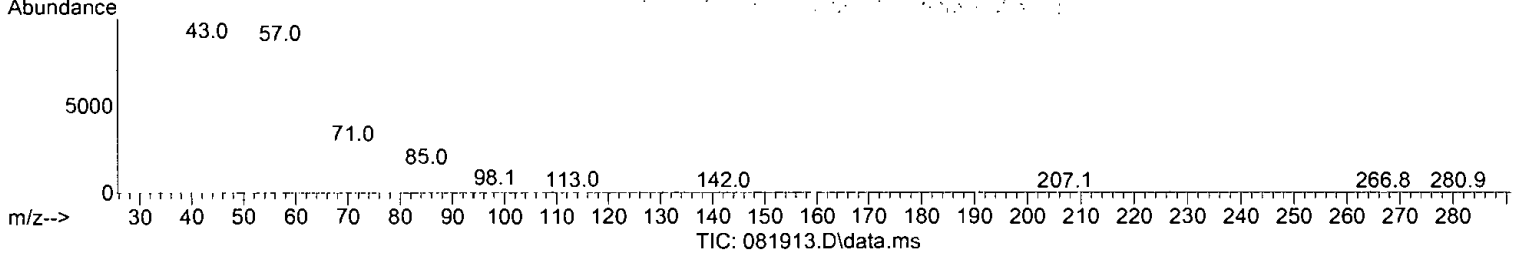
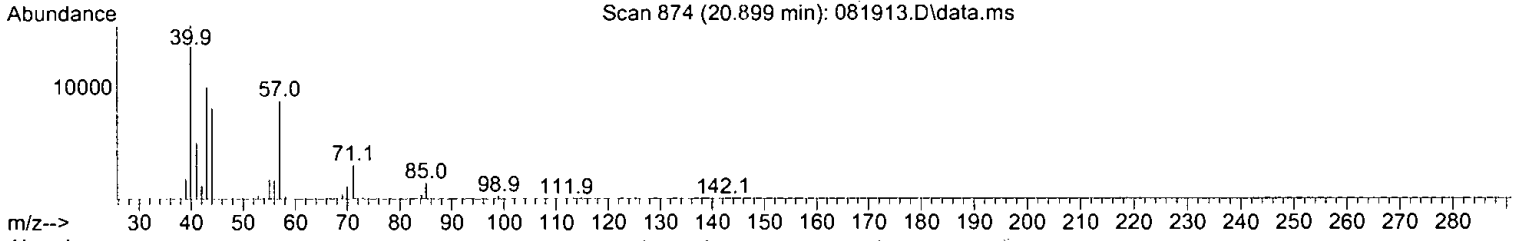
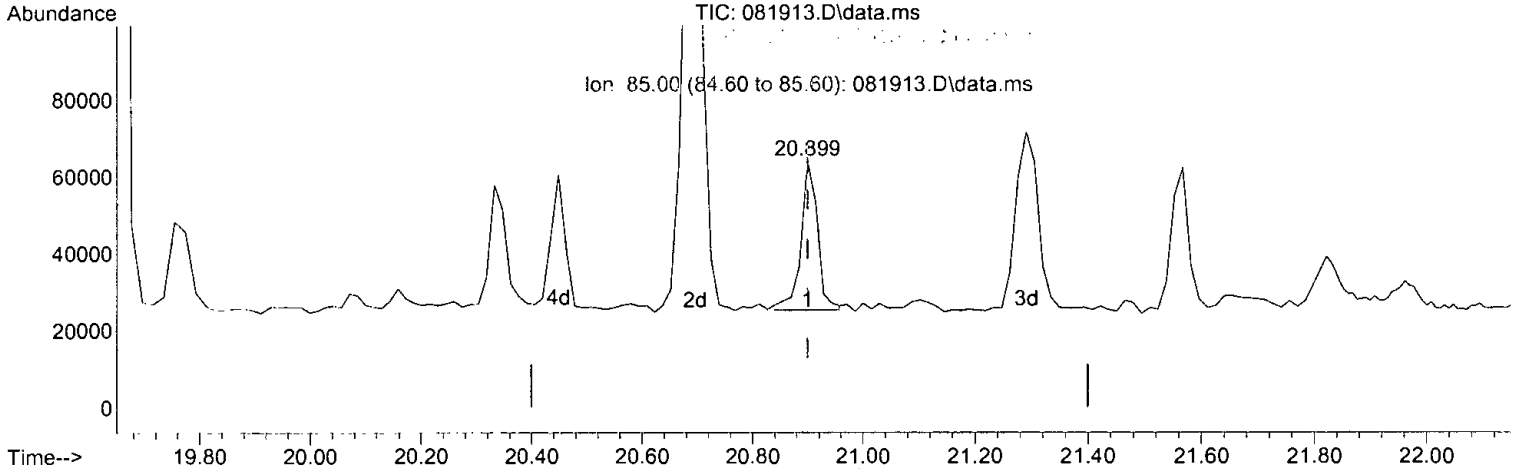
response	Exp%	Act%
89152		
Signal	Exp%	Act%
TIC	100.00	100.00
57.00	21.30	18.57
43.00	19.70	21.43
85.00	4.90	3.70

AS8/2024

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:06 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(31) Decane (I2)

20.899min (-0.000) 1.476 ug/m3 m

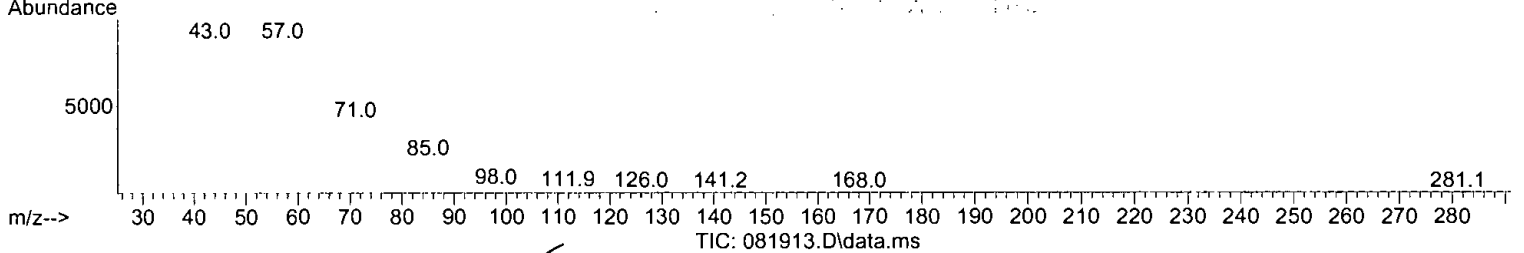
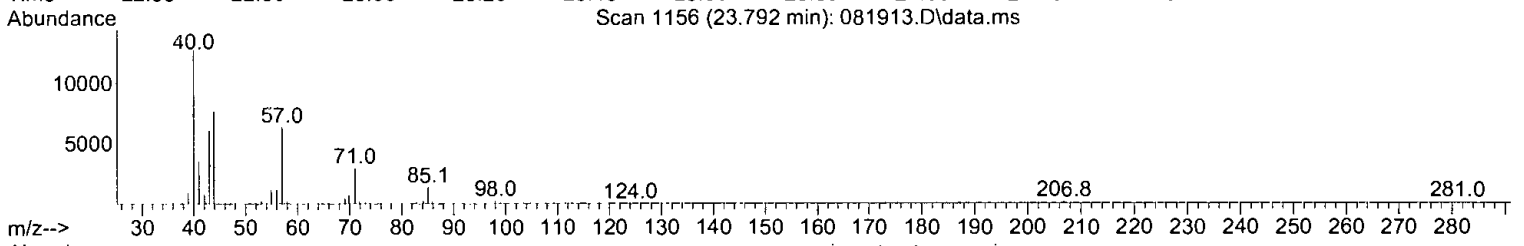
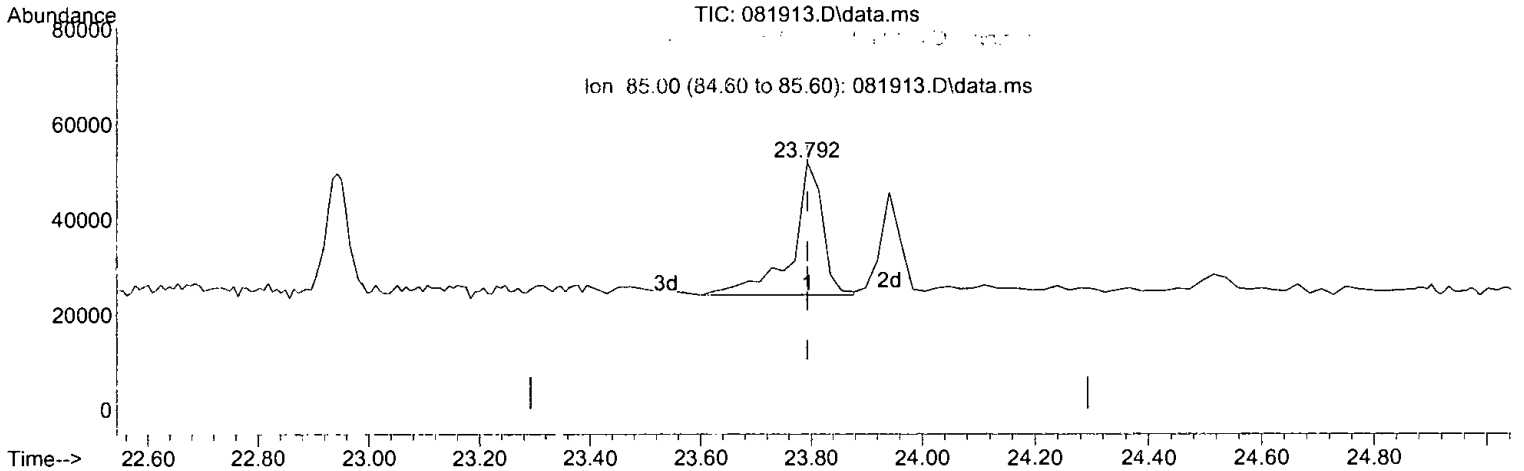
response	80365
Signal	Exp% Act%
TIC	100.00 100.00
57.00	21.30 20.60
43.00	19.70 23.77
85.00	4.90 4.10

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:06 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(34) Dodecane (L2)

23.792min (-0.000) 2.395 ug/m3

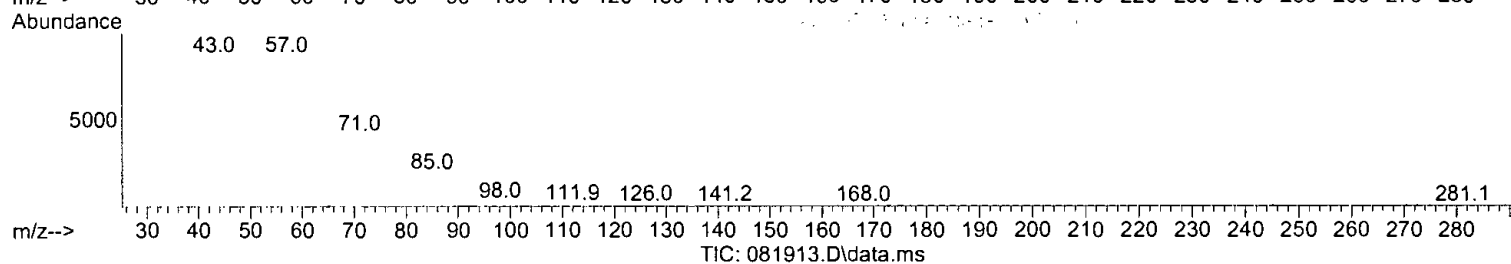
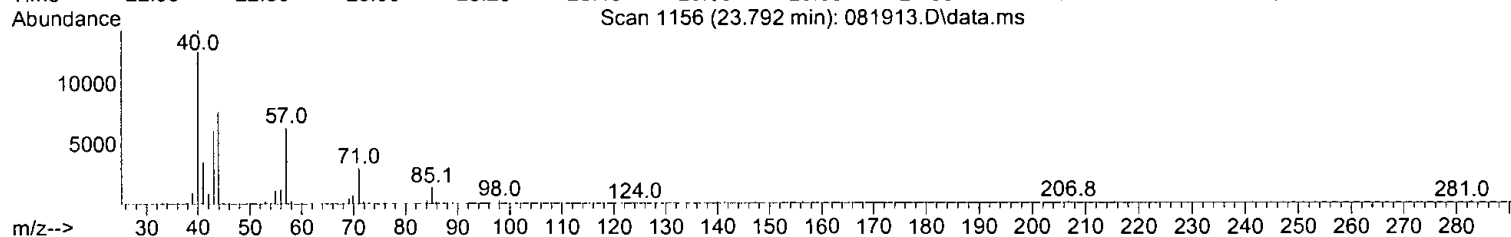
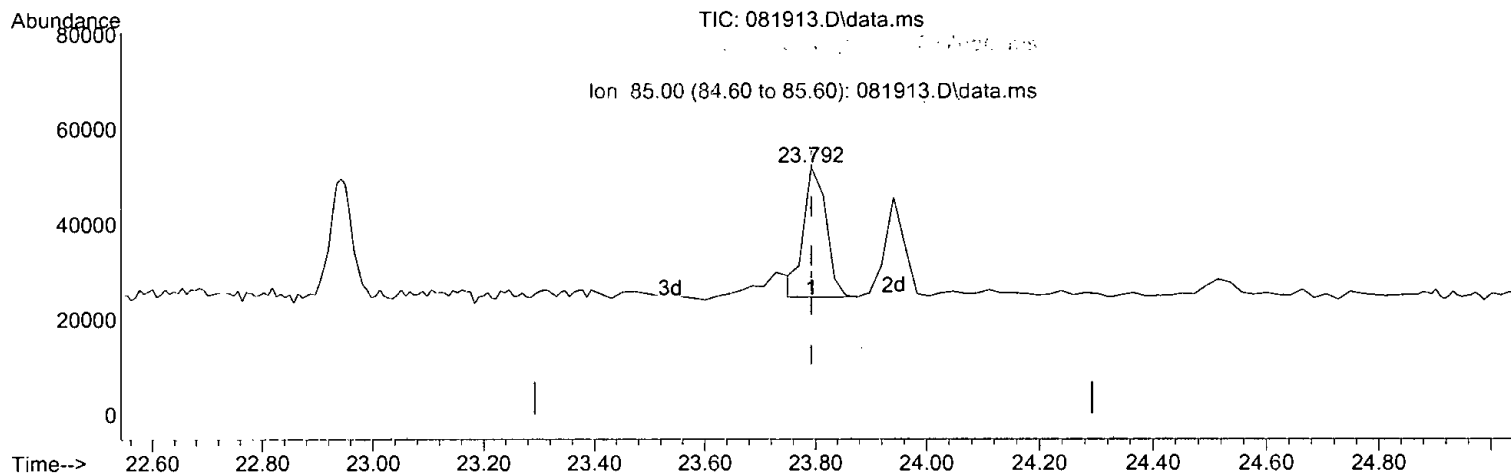
response	Signal	Exp%	Act%
106125	TIC	100.00	100.00
	57.00	21.40	15.97
	43.00	17.70	16.08
	85.00	6.40	3.29

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:06 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(34) Dodecane (L2)

23.792min (-0.000) 1.711 ug/m3 m

response 75821

Signal	Exp%	Act%
TIC	100.00	100.00
57.00	21.40	22.35
43.00	17.70	22.50
85.00	6.40	4.60

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:54 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	125069	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	603050	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	522210	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	461705	70.569	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	99.39%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1098354	49.738	ug/m3	88
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1631283	52.045	ug/m3	93
4) IS-3 Chlorobenzene-d5	18.21	TIC	1893522	49.807	ug/m3	92
5) Methylene chloride	0.00		0	N.D.	d	
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.	d	
8) 1,3-Butadiene	4.28	54	4139	0.562	ug/m3	98
9) Methyl t-butyl ether	8.51	73	7826	0.812	ug/m3	84
11) Benzene	0.00		0	N.D.	d	
12) Isopentane	0.00		0	N.D.	d	
13) Hexane	0.00		0	N.D.	d	
14) Cyclohexane	0.00		0	N.D.	d	
15) 2,3-Dimethylpentane	0.00		0	N.D.	d	
16) Heptane	0.00		0	N.D.	d	
17) Octane	0.00		0	N.D.	d	
18) APH EC5-8 aliphatics T...	0.00		0	N.D.		
19) APH EC5-8 aliphatics	0.00		0	N.D.	d	
21) S 4-Bromofluorobenzene	19.64	TIC	2189970	49.676	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	461477	42.499	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	349329	25.777	ppbv	100
24) Toluene	16.39	92	9295	0.830	ug/m3	96
25) Ethylbenzene	18.60	91	23431	1.013	ug/m3	98
26) m,p-Xylene	18.76	106	15869	2.040	ug/m3	97
27) o-Xylene	19.21	106	6903m	0.938	ug/m3	
28) Naphthalene	23.94	128	20904	1.113	ug/m3	92
29) 2,3-Dimethylheptane	18.66	TIC	61695m	1.176	ug/m3	
30) Nonane	19.36	TIC	68182	1.244	ug/m3	95
31) Decane	20.90	TIC	80365m	1.476	ug/m3	
32) Butylcyclohexane	21.57	TIC	84469	1.366	ug/m3	95
33) Undecane	22.28	TIC	84484	1.565	ug/m3	95
34) Dodecane	23.79	TIC	75821m	1.711	ug/m3	
35) APH EC9-12 aliphatics ...	21.57	TIC	455016m	8.516	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	3250021m	60.829	ug/m3	
38) Isopropylbenzene	19.75	120	4685	1.144	ug/m3#	85
39) 1-Methyl-3-ethylbenzene	20.33	120	6512	1.137	ug/m3#	82
40) 1,3,5-Trimethylbenzene	20.45	120	8451	1.166	ug/m3	96
41) p-Isopropyltoluene	21.28	134	4270	1.199	ug/m3#	71
42) 1,2,3-Trimethylbenzene	21.31	120	9704	1.141	ug/m3	97
43) APH EC9-10 aromatics T...	0.00	TIC	33622	N.D.		
44) APH EC9-10 aromatics (1)	0.00		0	N.D.	d	

Data Path : Z:\Proc\_GCMS7\08-19-21\  
Data File : 081913.D  
Acq On : 19 Aug 2021 5:22 pm  
Operator : bat  
Sample : 0.2 ppbv, 64-38c  
Misc : T2, 20cc  
ALS Vial : 13 Sample Multiplier: 1  
InstName : GCMS7

Quant Time: Aug 20 10:34:54 2021  
Quant Method : Z:\METHODS\Inst7\0819APH7.M  
Quant Title : APH TO-15 method  
QLast Update : Fri Aug 20 08:33:26 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M

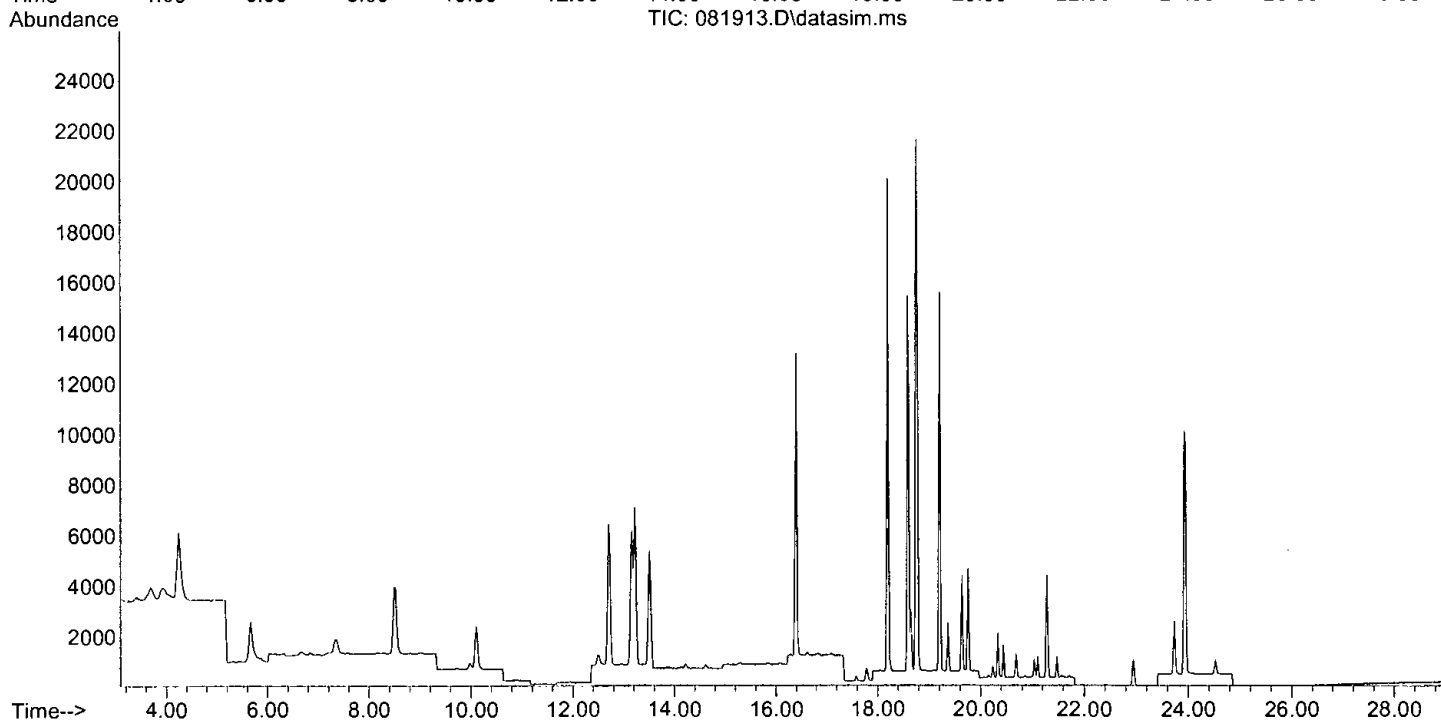
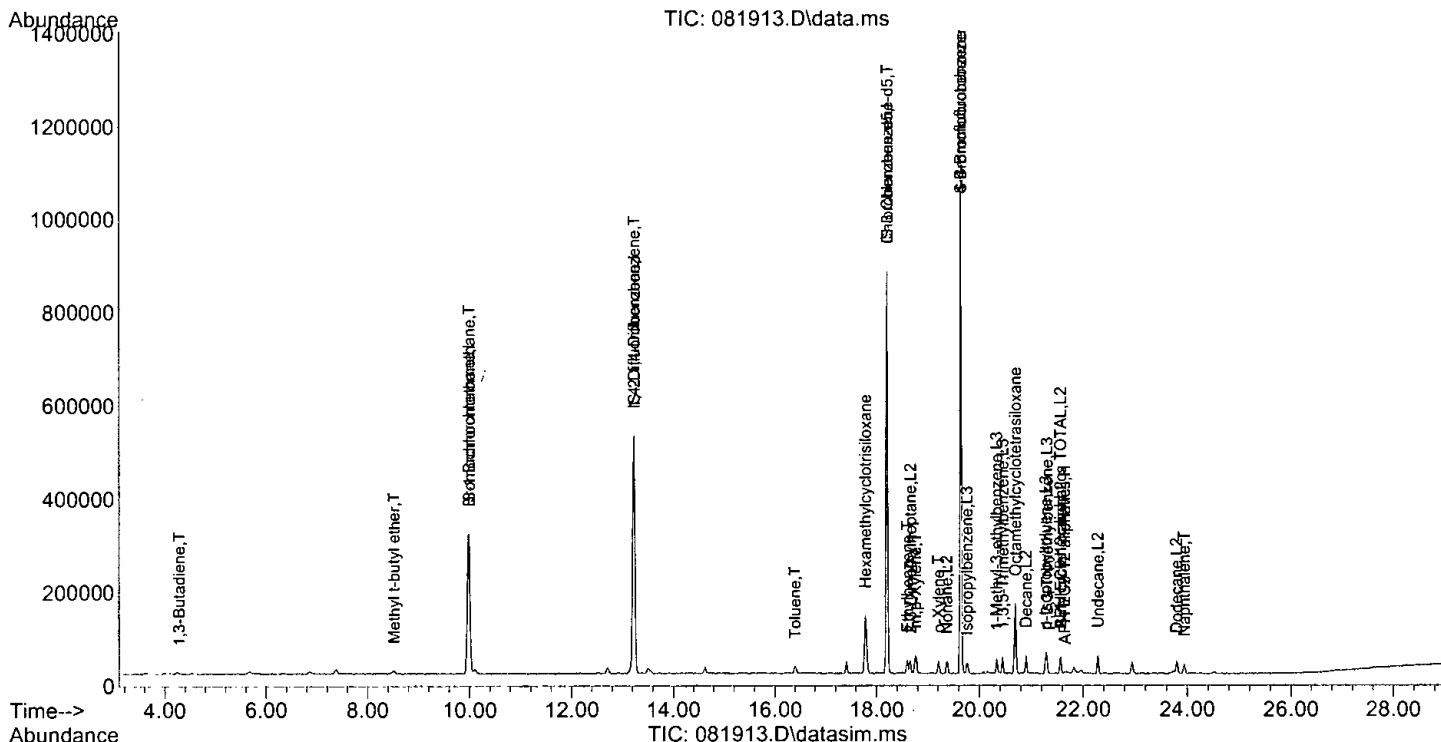
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----	-----	-----	-----	-----	-----	-----
45) APH EC9-10 aromatics (2)	0.00		0	N.D.	d	
-----	-----	-----	-----	-----	-----	-----

(#) = qualifier out of range (m) = manual integration (+) = signals summed



Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:54 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:54 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	50.000	49.738	0.5	100	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	52.045	-4.1	100	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	49.807	0.4	100	0.00
5 T	Methylene chloride	50.000	0.000	100.0#	0	-6.86#
6	Acetone	50.000	0.000	100.0#	0	-5.68#
7	2-Propanol	50.000	0.000	100.0#	0	-5.84#
8 T	1,3-Butadiene	0.440	0.562	-27.7	100	0.00
9 T	Methyl t-butyl ether	0.720	0.812	-12.8	100	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.00
11 T	Benzene	-1.000	0.000	0.0	0	-12.71#
12 L1	Isopentane	-1.000	0.000	0.0	0	-5.68#
13 L1	Hexane	-1.000	0.000	0.0	0	-10.12#
14 L1	Cyclohexane	-1.000	0.000	0.0	0	-13.16#
15 L1	2,3-Dimethylpentane	-1.000	0.000	0.0	0	-13.52#
16 L1	Heptane	-1.000	0.000	0.0	0	-14.63#
17 L1	Octane	-1.000	0.000	0.0	0	-17.41#
18 L1	APH EC5-8 aliphatics TOTAL	-1.000	0.000	0.0	0	-12.71#
19 H	APH EC5-8 aliphatics	-1.000	0.000	0.0	0	-12.40#
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	49.676	0.6	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	42.499	15.0	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	25.777	48.4#	100	0.00
24 T	Toluene	0.750	0.830	-10.7	100	0.00
25 T	Ethylbenzene	0.870	1.013	-16.4	100	0.00
26 T	m,p-Xylene	1.740	2.040	-17.2	100	0.00
27 T	o-Xylene	0.870	0.938	-7.8	100	0.00
28 T	Naphthalene	1.000	1.113	-11.3	100	0.00
29 L2	2,3-Dimethylheptane	1.000	1.176	-17.6	101	0.00
30 L2	Nonane	1.000	1.244	-24.4	114	0.00
31 L2	Decane	1.200	1.476	-23.0	102	0.00
32 L2	Butylcyclohexane	1.100	1.366	-24.2	109	0.00
33 L2	Undecane	1.300	1.565	-20.4	100	0.00
34 L2	Dodecane	1.400	1.711	-22.2	102	0.00
35 L2	APH EC9-12 aliphatics TOTAL	7.000	8.516	-21.7	103	0.00
36 H	APH EC9-12 aliphatics	7.000	60.829	-769.0#	739	0.00
37 S	4-Bromofluorobenzene	71.000	70.569	0.6	100	0.00
38 L3	Isopropylbenzene	0.980	1.144	-16.7	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.980	1.137	-16.0	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.980	1.166	-19.0	100	0.00
41 L3	p-Isopropyltoluene	1.100	1.199	-9.0	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.980	1.141	-16.4	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	-1.000	5.968	0.0	0	-21.57#
44 H	APH EC9-10 aromatics (1)	-1.000	0.000	0.0	0	-21.64#

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:54 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	-1.000	0.000	0.0	0	-21.64#

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:54 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I Bromochloromethane	1.000	1.000	0.0	100	0.00
2 T IS-1 Bromochloromethane	8.828	8.782	0.5	100	0.00
3 T IS-2 1,4-Difluorobenzene	12.530	13.043	-4.1	100	0.00
4 T IS-3 Chlorobenzene-d5	15.199	15.140	0.4	100	0.00
5 T Methylene chloride	0.447	0.000	100.0#	0#	-6.86#
6 Acetone	23.578	0.000	100.0#	0#	-5.68#
7 2-Propanol	0.137	0.000	100.0#	0#	-5.84#
8 T 1,3-Butadiene	2.944	3.761	-27.8	100	0.00
9 T Methyl t-butyl ether	3.854	4.345	-12.7	100	0.00
10 I 1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
11 T Benzene	1.700	0.000	100.0#	0#	-12.71#
12 L1 Isopentane	3.376	0.000	100.0#	0#	-5.68#
13 L1 Hexane	3.421	0.000	100.0#	0#	-10.12#
14 L1 Cyclohexane	3.471	0.000	100.0#	0#	-13.16#
15 L1 2,3-Dimethylpentane	4.429	0.000	100.0#	0#	-13.52#
16 L1 Heptane	3.620	0.000	100.0#	0#	-14.63#
17 L1 Octane	4.963	0.000	100.0#	0#	-17.41#
18 L1 APH EC5-8 aliphatics TOTAL	3.967	0.000	100.0#	0#	-12.71#
19 H APH EC5-8 aliphatics	3.967	0.000	100.0#	0#	-12.40#
20 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T S 4-Bromofluorobenzene	4.221	4.194	0.6	100	0.00
22 Hexamethylcyclotrisiloxane	1.040	0.884	15.0	100	0.00
23 Octamethylcyclotetrasiloxan	1.298	0.669	48.5#	100	0.00
24 T Toluene	1.073	1.187	-10.6	100	0.00
25 T Ethylbenzene	2.215	2.579	-16.4	100	0.00
26 T m,p-Xylene	0.745	0.873	-17.2	100	0.00
27 T o-Xylene	0.705	0.760	-7.8	100	0.00
28 T Naphthalene	1.799	2.001	-11.2	100	0.00
29 L2 2,3-Dimethylheptane	5.025	5.907	-17.6	101	0.00
30 L2 Nonane	5.247	6.528	-24.4	114	0.00
31 L2 Decane	5.213	6.412	-23.0	102	0.00
32 L2 Butylcyclohexane	5.921	7.352	-24.2	109	0.00
33 L2 Undecane	5.170	6.222	-20.3	100	0.00
34 L2 Dodecane	4.243	5.185	-22.2	102	0.00
35 L2 APH EC9-12 aliphatics TOTAL	5.116	6.224	-21.7	103	0.00
36 H APH EC9-12 aliphatics	5.116	44.454	-768.9#	739#	0.00
37 S 4-Bromofluorobenzene	0.626	0.623	0.5	100	0.00
38 L3 Isopropylbenzene	0.392	0.458	-16.8	100	0.00
39 L3 1-Methyl-3-ethylbenzene	0.548	0.636	-16.1	100	0.00
40 L3 1,3,5-Trimethylbenzene	0.694	0.826	-19.0	100	0.00
41 L3 p-Isopropyltoluene	0.341	0.372	-9.1	100	0.00
42 L3 1,2,3-Trimethylbenzene	0.814	0.948	-16.5	100	0.00
43 L3 APH EC9-10 aromatics TOTAL	0.539	0.000	100.0#	0#	-21.57#
44 H APH EC9-10 aromatics (1)	0.596	0.000	100.0#	0#	-21.64#

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081913.D  
 Acq On : 19 Aug 2021 5:22 pm  
 Operator : bat  
 Sample : 0.2 ppbv, 64-38c  
 Misc : T2, 20cc  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:34:54 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.339	0.000	100.0#	0#	-21.64#

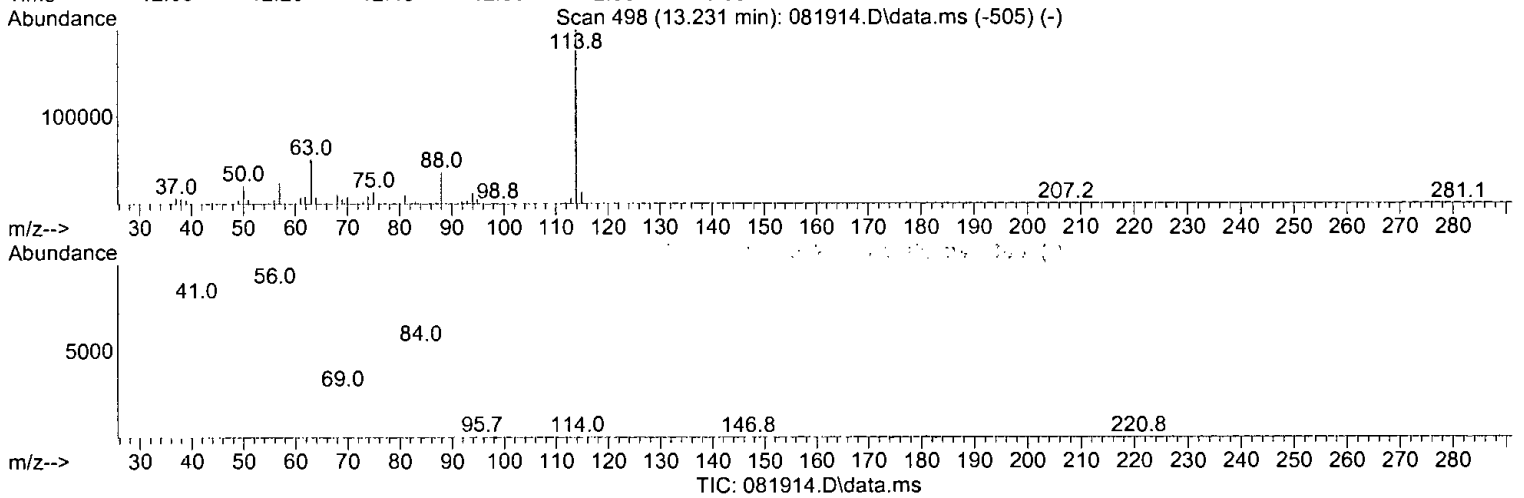
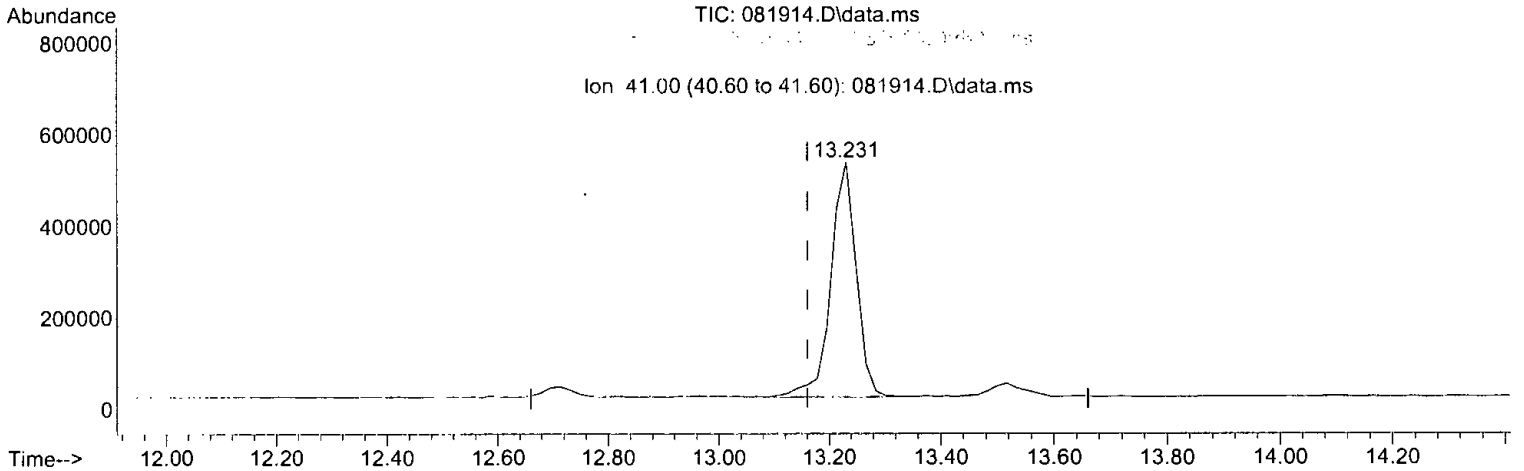
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:26 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.231min (+ 0.071) 39.959 ug/m3

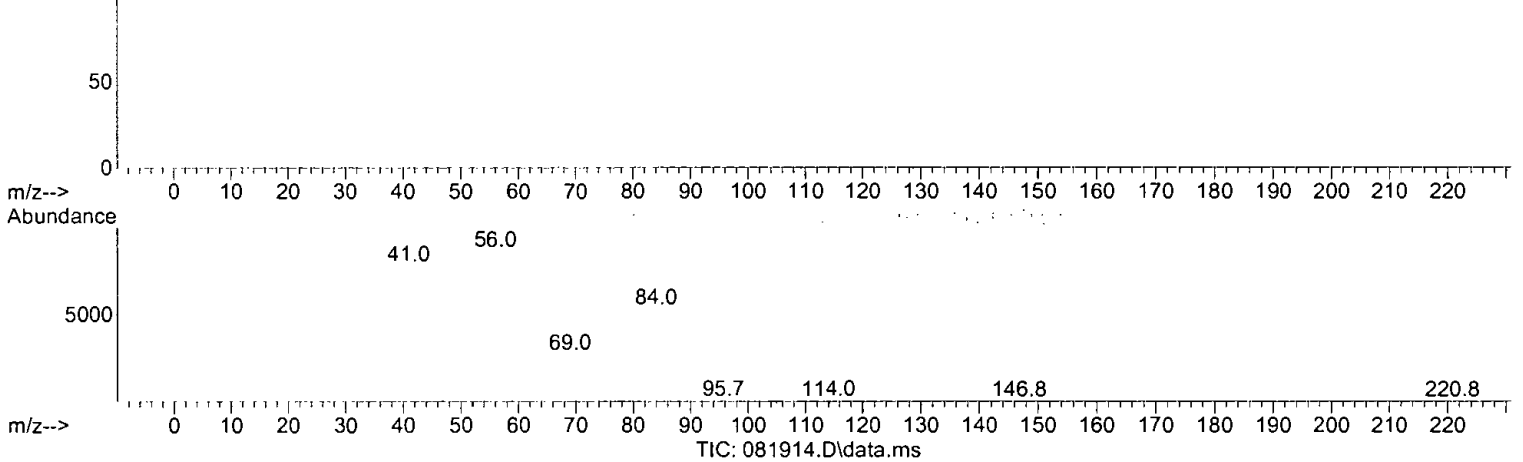
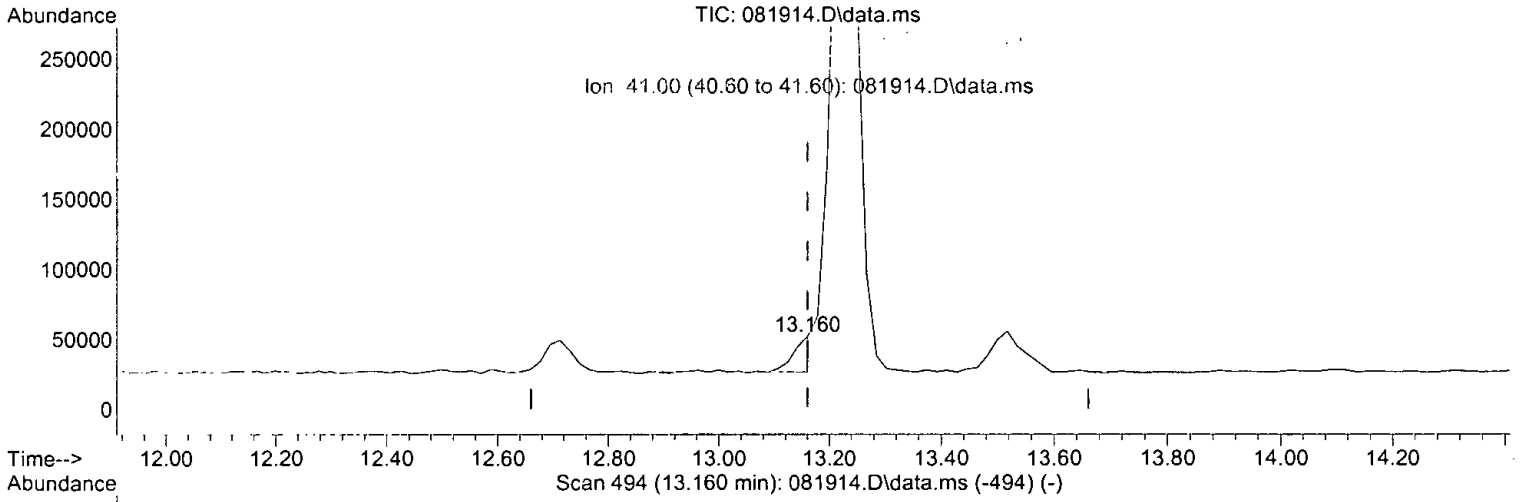
response 1654619

Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.80	0.99
84.00	1.00	0.05
41.00	0.50	0.03

*AS/20/21*

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:26 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.160min (-0.000) 1.364 ug/m3 m

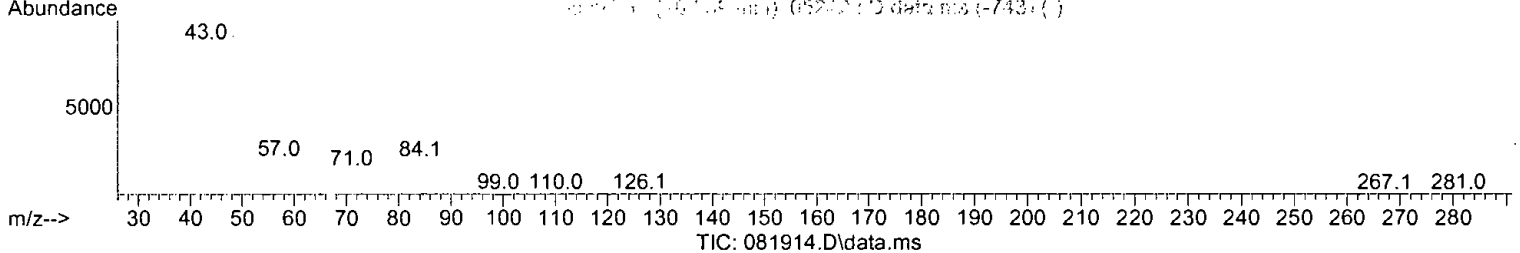
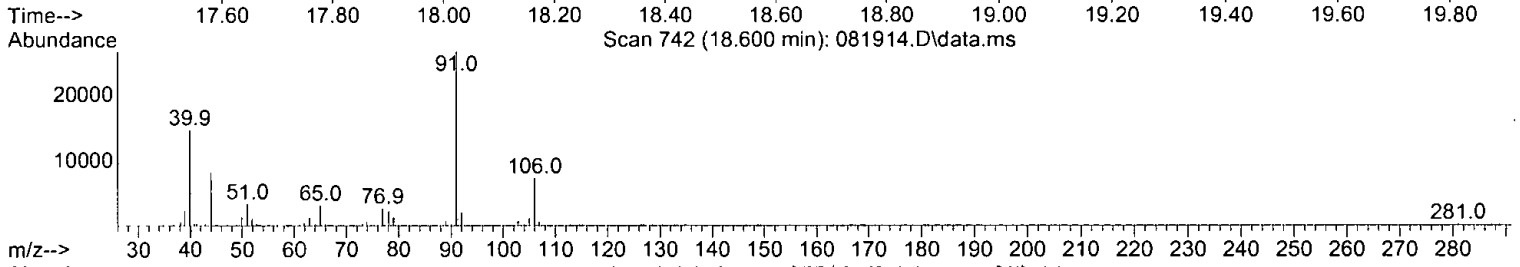
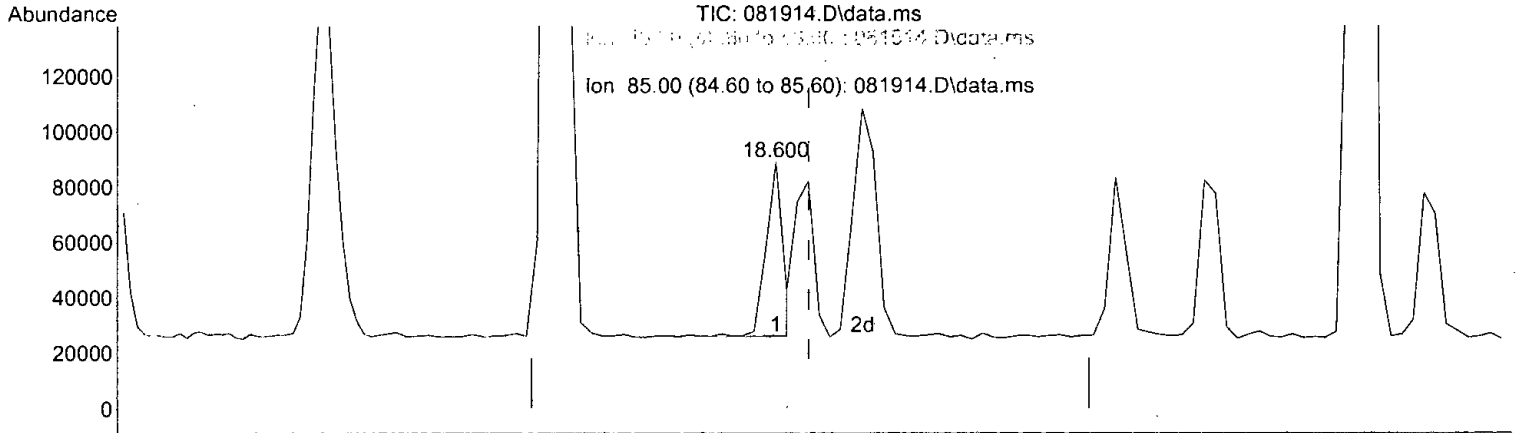
response	56490		
Signal	Exp%	Act%	
TIC	100.00	100.00	
56.00	3.80	29.14	
84.00	1.00	1.41	
41.00	0.50	0.77	

*AS 8/20/21*

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:26 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.600min (-0.059) 2.510 ug/m3

response	Exp%	Act%
131542		
TIC	100.00	100.00
43.00	28.20	35.79#
84.00	9.90	8.08
85.00	9.20	8.16

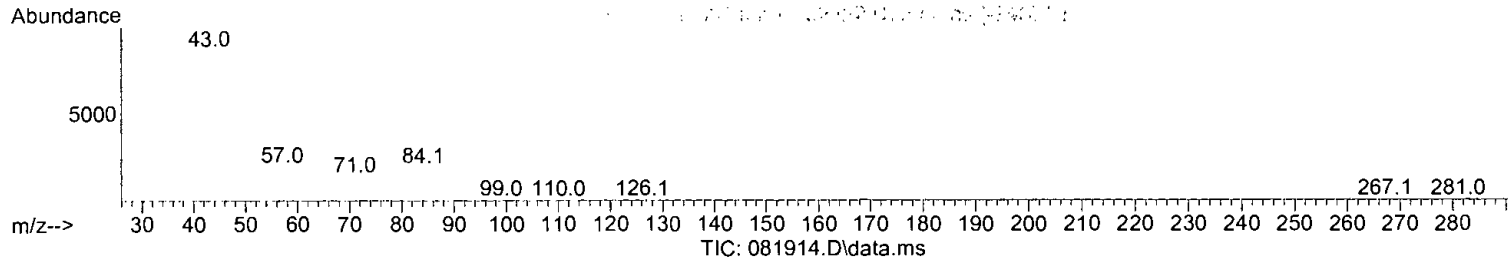
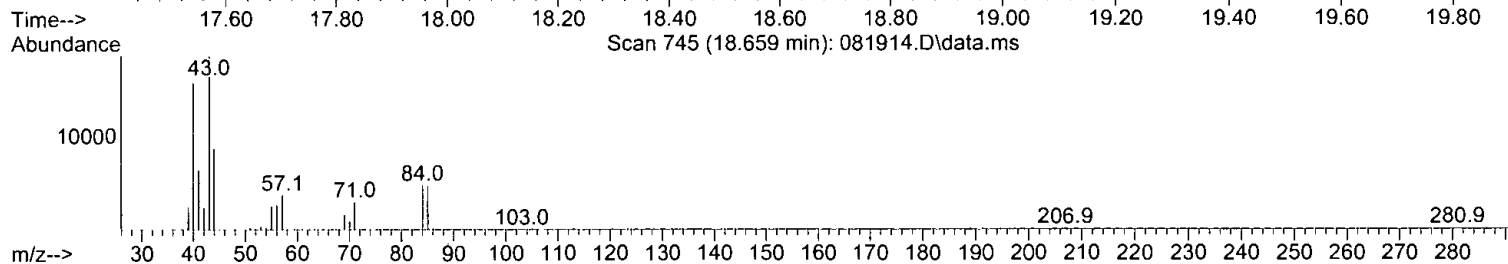
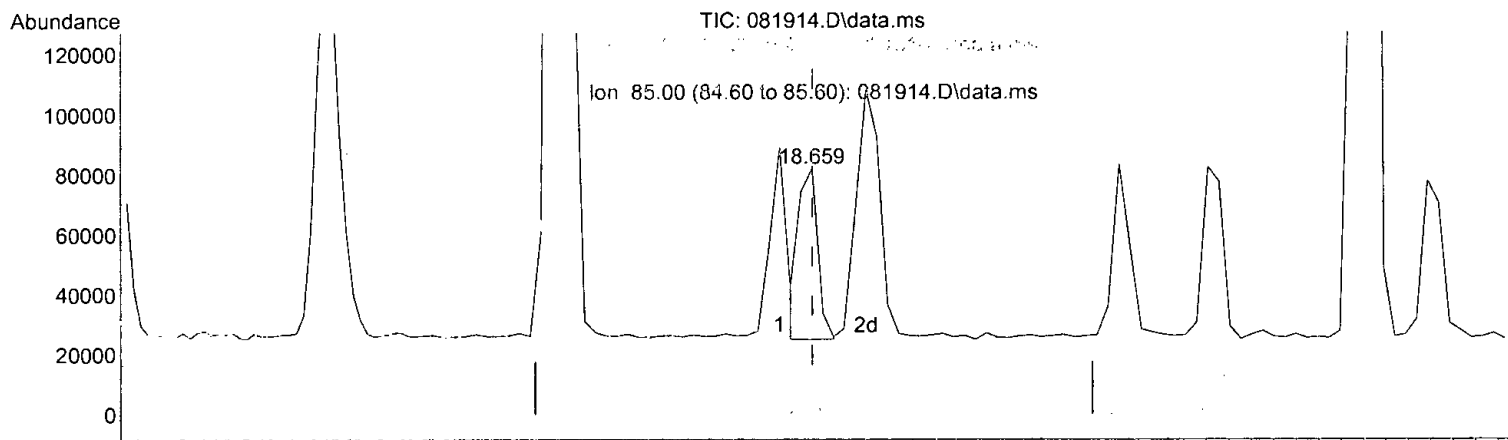
AS8/20/21



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:26 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.659min (-0.000) 2.595 ug/m3 m

response 135997

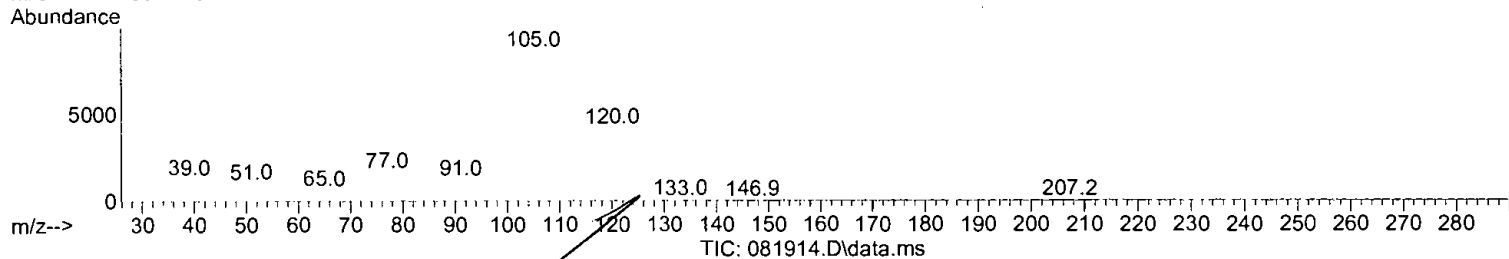
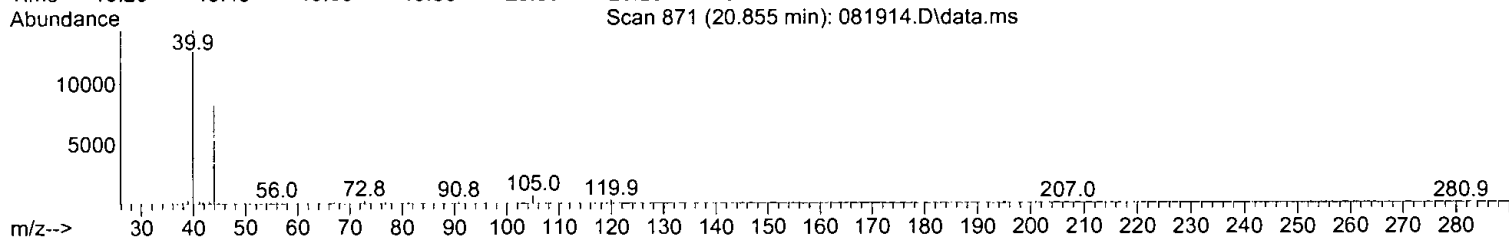
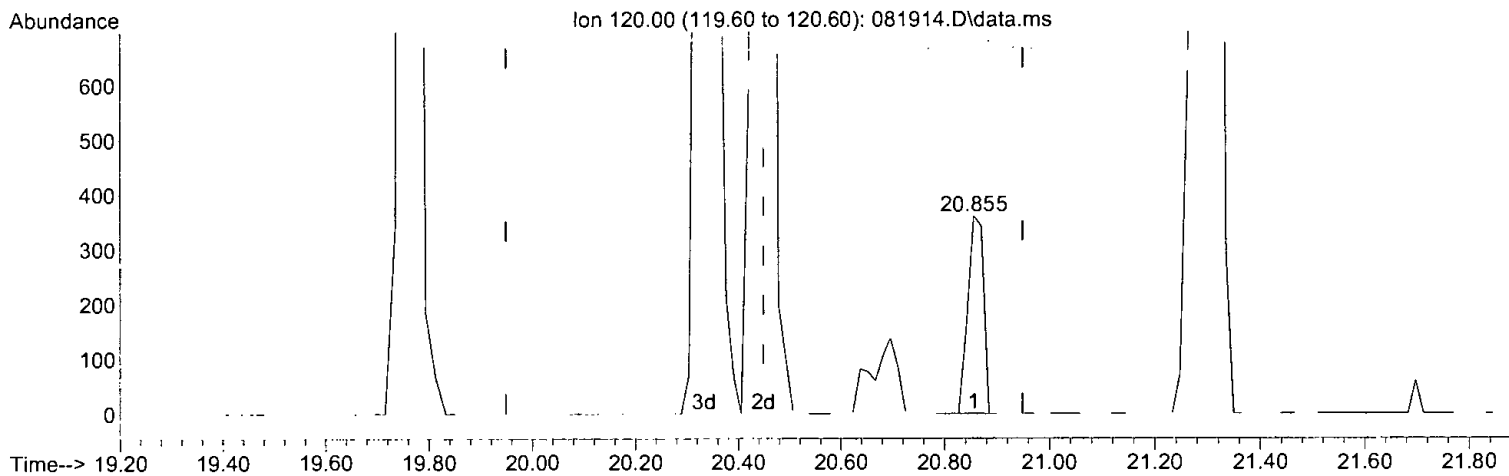
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	34.62#
84.00	9.90	7.82#
85.00	9.20	7.89

*AS 8/20/21*

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:26 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(40) 1,3,5-Trimethylbenzene (L3)

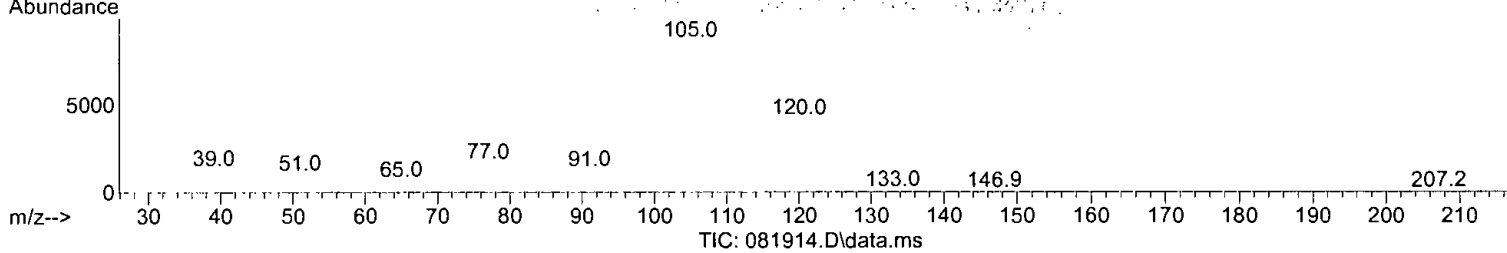
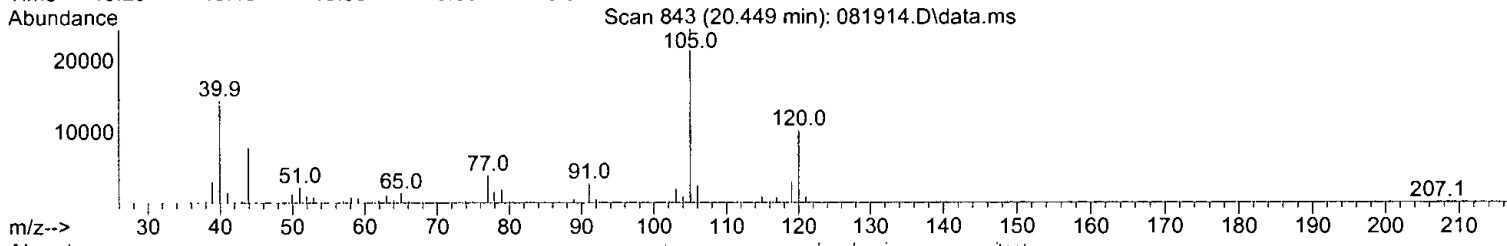
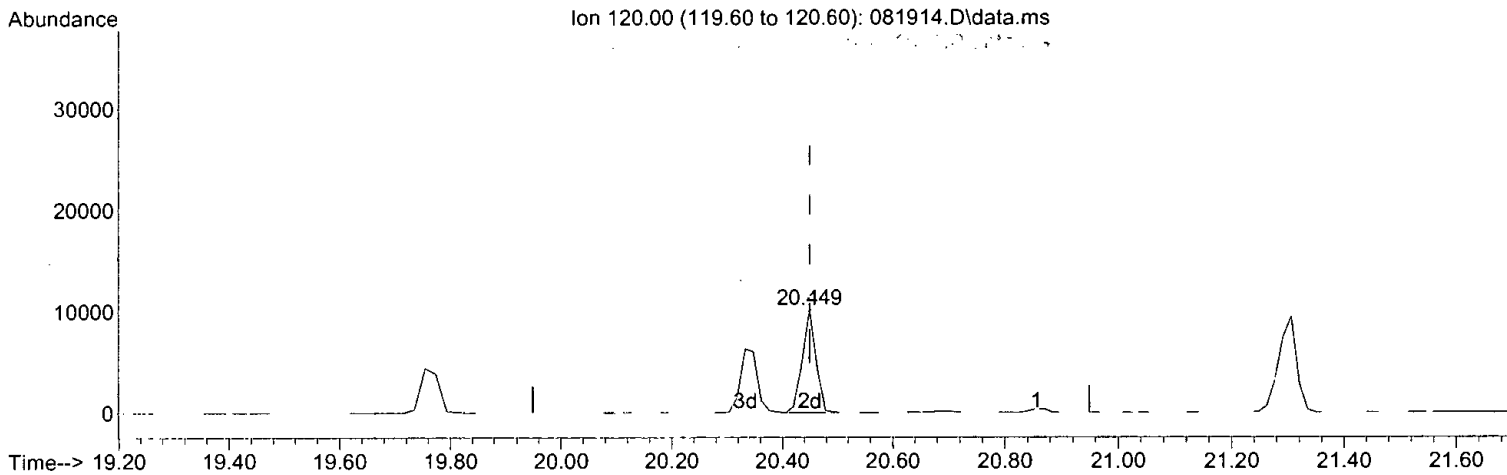
20.855min (+ 0.407) 0.103 ug/m3

response	744	
Ion	Exp%	Act%
120.00	100.00	100.00
104.90	225.90	230.51
0.00	0.00	0.00
0.00	0.00	0.00

AS8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:26 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(40) 1,3,5-Trimethylbenzene (L3)

20.449min (+ 0.000) 2.366 ug/m3 m

response 17125

Ion	Exp%	Act%
120.00	100.00	100.00
104.90	225.90	10.01#
0.00	0.00	0.00
0.00	0.00	0.00

*AS 8/20/21*

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:36:56 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	124186	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	596531	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	521481	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	462850	70.843	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	99.77%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1091963	49.800	ug/m3	89
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1654619	53.165	ug/m3	94
4) IS-3 Chlorobenzene-d5	18.21	TIC	1871091	49.567	ug/m3	92
5) Methylene chloride	0.00		0	N.D.	d	
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	5.80	TIC	17013	50.000	ppbv	100
8) 1,3-Butadiene	4.24	54	7971	1.090	ug/m3	74
9) Methyl t-butyl ether	8.51	73	17762	1.855	ug/m3	87
11) Benzene	12.71	78	34234	1.688	ug/m3	85
12) Isopentane	5.66	TIC	67069	1.665	ug/m3	97
13) Hexane	10.11	TIC	74705	1.678	ug/m3	98
14) Cyclohexane	13.16	TIC	56490m	1.364	ug/m3	
15) 2,3-Dimethylpentane	13.52	TIC	126657	2.397	ug/m3	97
16) Heptane	14.63	TIC	105701	2.448	ug/m3	95
17) Octane	17.41	TIC	160697	2.714	ug/m3	85
18) APH EC5-8 aliphatics T...	12.71	TIC	591319m	12.493	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	9837378m	207.839	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2186035	49.656	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	390529	36.015	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	405241	29.944	ppbv	100
24) Toluene	16.39	92	21955	1.962	ug/m3	99
25) Ethylbenzene	18.60	91	52299	2.264	ug/m3	94
26) m,p-Xylene	18.76	106	34949	4.498	ug/m3	84
27) o-Xylene	19.21	106	16723	2.275	ug/m3	95
28) Naphthalene	23.94	128	46509	2.479	ug/m3	99
29) 2,3-Dimethylheptane	18.66	TIC	135997m	2.595	ug/m3	
30) Nonane	19.36	TIC	135453	2.475	ug/m3	91
31) Decane	20.90	TIC	177790	3.270	ug/m3	96
32) Butylcyclohexane	21.57	TIC	179896	2.913	ug/m3	96
33) Undecane	22.28	TIC	174631	3.239	ug/m3	97
34) Dodecane	23.79	TIC	168252	3.802	ug/m3	97
35) APH EC9-12 aliphatics ...	21.57	TIC	972019m	18.218	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	3918248m	73.438	ug/m3	
38) Isopropylbenzene	19.75	120	10375	2.537	ug/m3	91
39) 1-Methyl-3-ethylbenzene	20.33	120	13426	2.347	ug/m3#	76
40) 1,3,5-Trimethylbenzene	20.45	120	17125m	2.366	ug/m3	
41) p-Isopropyltoluene	21.29	134	9944	2.796	ug/m3#	78
42) 1,2,3-Trimethylbenzene	21.31	120	20790	2.447	ug/m3	91
43) APH EC9-10 aromatics T...	21.57	TIC	71660m	12.738	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	49650	N.D.		

Data Path : Z:\Proc\_GCMS7\08-19-21\  
Data File : 081914.D  
Acq On : 19 Aug 2021 6:00 pm  
Operator : bat  
Sample : 0.5 ppbv, 64-38c  
Misc : T2, 50cc  
ALS Vial : 14 Sample Multiplier: 1  
InstName : GCMS7

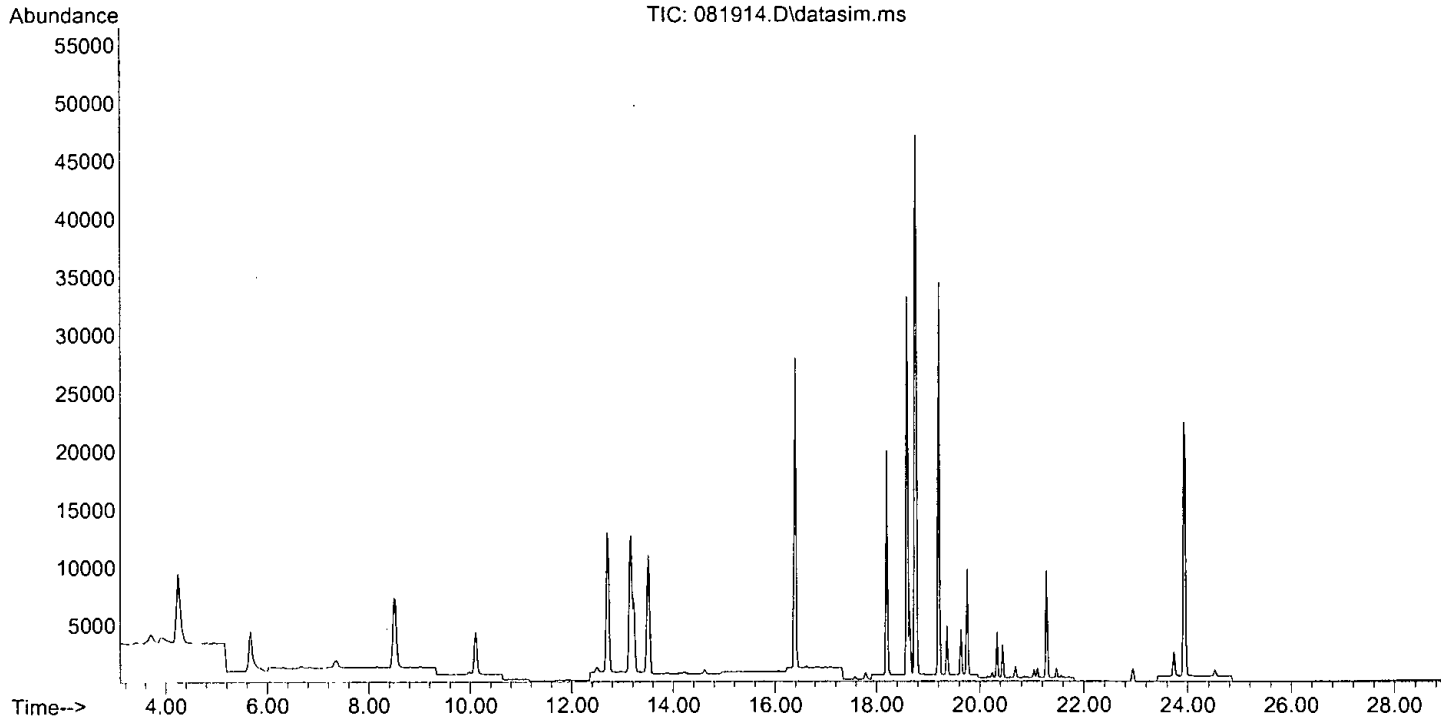
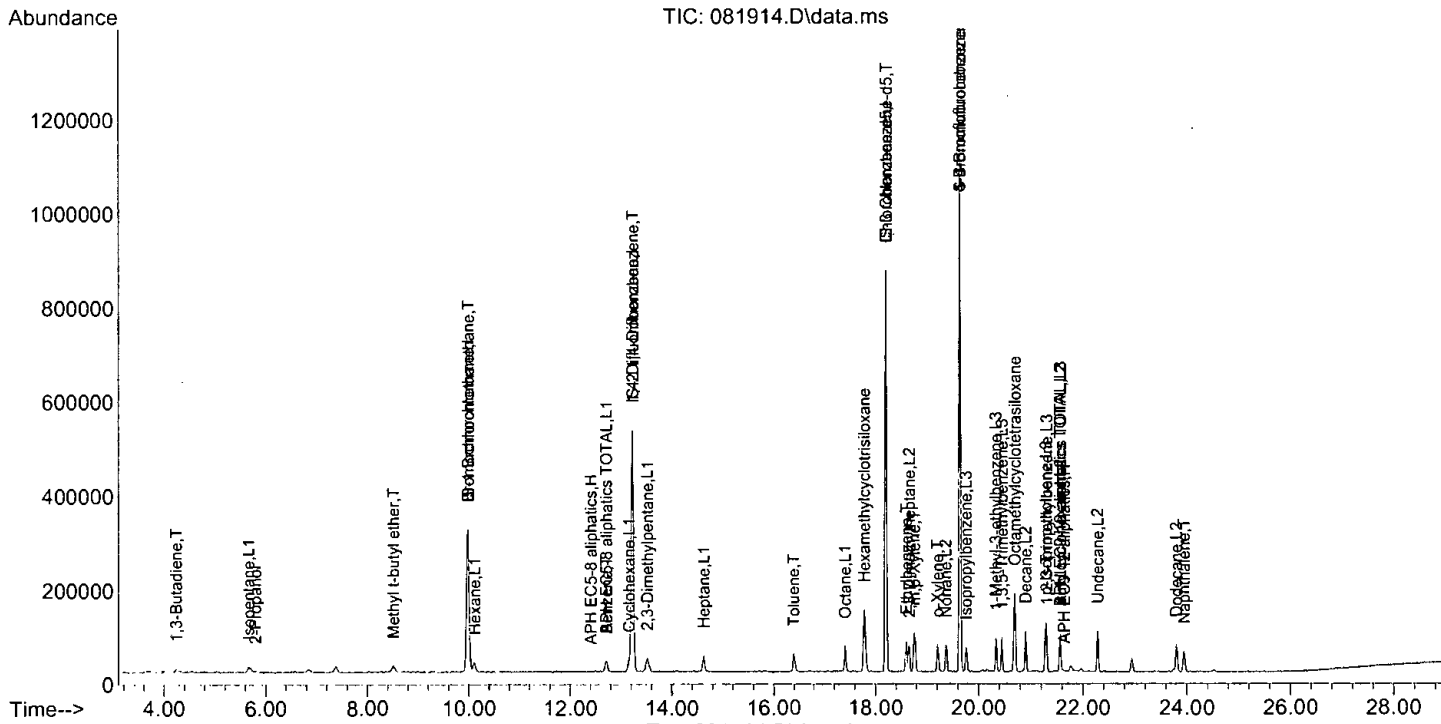
Quant Time: Aug 20 10:36:56 2021  
Quant Method : Z:\METHODS\Inst7\0819APH7.M  
Quant Title : APH TO-15 method  
QLast Update : Fri Aug 20 08:33:26 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----	-----	-----	-----	-----	-----	-----
45) APH EC9-10 aromatics (2)	21.64	134	10053		N.D.	
-----	-----	-----	-----	-----	-----	-----

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:36:56 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:36:56 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	50.000	49.800	0.4	100	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	53.165	-6.3	100	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	49.567	0.9	100	0.00
5 T	Methylene chloride	50.000	0.000	100.0#	0	-6.86#
6	Acetone	50.000	0.000	100.0#	0	-5.68#
7	2-Propanol	50.000	50.000	0.0	100	-0.04
8 T	1,3-Butadiene	1.100	1.090	0.9	100	-0.04
9 T	Methyl t-butyl ether	1.800	1.855	-3.1	100	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.00
11 T	Benzene	1.600	1.688	-5.5	100	0.00
12 L1	Isopentane	1.500	1.665	-11.0	100	-0.02
13 L1	Hexane	1.750	1.678	4.1	100	0.00
14 L1	Cyclohexane	1.750	1.364	22.1	97	0.00
15 L1	2,3-Dimethylpentane	2.100	2.397	-14.1	100	0.00
16 L1	Heptane	2.100	2.448	-16.6	116	0.00
17 L1	Octane	2.300	2.714	-18.0	142	0.00
18 L1	APH EC5-8 aliphatics TOTAL	11.500	12.493	-8.6	112	0.00
19 H	APH EC5-8 aliphatics	11.500	207.839	-1707.3#	1861	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	49.656	0.7	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	36.015	28.0	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	29.944	40.1#	100	0.00
24 T	Toluene	1.875	1.962	-4.6	100	0.00
25 T	Ethylbenzene	2.200	2.264	-2.9	100	0.00
26 T	m,p-Xylene	4.400	4.498	-2.2	100	0.00
27 T	o-Xylene	2.200	2.275	-3.4	100	0.00
28 T	Naphthalene	2.500	2.479	0.8	100	0.00
29 L2	2,3-Dimethylheptane	2.500	2.595	-3.8	103	0.00
30 L2	Nonane	2.500	2.475	1.0	95	0.00
31 L2	Decane	3.000	3.270	-9.0	115	0.00
32 L2	Butylcyclohexane	2.800	2.913	-4.0	100	0.00
33 L2	Undecane	3.300	3.239	1.8	100	0.00
34 L2	Dodecane	3.500	3.802	-8.6	108	0.00
35 L2	APH EC9-12 aliphatics TOTAL	17.500	18.218	-4.1	103	0.00
36 H	APH EC9-12 aliphatics	17.500	73.438	-319.6#	415	0.00
37 S	4-Bromofluorobenzene	71.000	70.843	0.2	100	0.00
38 L3	Isopropylbenzene	2.450	2.537	-3.6	100	0.00
39 L3	1-Methyl-3-ethylbenzene	2.450	2.347	4.2	100	0.00
40 L3	1,3,5-Trimethylbenzene	2.450	2.366	3.4	100	0.00
41 L3	p-Isopropyltoluene	2.800	2.796	0.1	100	0.01
42 L3	1,2,3-Trimethylbenzene	2.450	2.447	0.1	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	12.500	12.738	-1.9	100	0.00
44 H	APH EC9-10 aromatics (1)	9.800	7.993	18.4	80	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:36:56 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	2.700	2.841	-5.2	101	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:36:56 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	8.828	8.793	0.4	100	0.00
3 T	IS-2 1,4-Difluorobenzene	12.530	13.324	-6.3	100	0.00
4 T	IS-3 Chlorobenzene-d5	15.199	15.067	0.9	100	0.00
5 T	Methylene chloride	0.447	0.000	100.0#	0#	-6.86#
6	Acetone	23.578	0.000	100.0#	0#	-5.68#
7	2-Propanol	0.137	0.137	0.0	100	-0.04
8 T	1,3-Butadiene	2.944	2.918	0.9	100	-0.04
9 T	Methyl t-butyl ether	3.854	3.973	-3.1	100	0.00
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
11 T	Benzene	1.700	1.793	-5.5	100	0.00
12 L1	Isopentane	3.376	3.748	-11.0	100	-0.02
13 L1	Hexane	3.421	3.578	-4.6	100	0.00
14 L1	Cyclohexane	3.471	2.706	22.0	97	0.00
15 L1	2,3-Dimethylpentane	4.429	5.055	-14.1	100	0.00
16 L1	Heptane	3.620	4.219	-16.5	116	0.00
17 L1	Octane	4.963	5.856	-18.0	142	0.00
18 L1	APH EC5-8 aliphatics TOTAL	3.967	4.310	-8.6	112	0.00
19 H	APH EC5-8 aliphatics	3.967	71.700	-1707.4#	1861#	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	4.221	4.192	0.7	100	0.00
22	Hexamethylcyclotrisiloxane	1.040	0.749	28.0	100	0.00
23	Octamethylcyclotetrasiloxan	1.298	0.777	40.1#	100	0.00
24 T	Toluene	1.073	1.123	-4.7	100	0.00
25 T	Ethylbenzene	2.215	2.279	-2.9	100	0.00
26 T	m,p-Xylene	0.745	0.762	-2.3	100	0.00
27 T	o-Xylene	0.705	0.729	-3.4	100	0.00
28 T	Naphthalene	1.799	1.784	0.8	100	0.00
29 L2	2,3-Dimethylheptane	5.025	5.216	-3.8	103	0.00
30 L2	Nonane	5.247	5.195	1.0	95	0.00
31 L2	Decane	5.213	5.682	-9.0	115	0.00
32 L2	Butylcyclohexane	5.921	6.160	-4.0	100	0.00
33 L2	Undecane	5.170	5.074	1.9	100	0.00
34 L2	Dodecane	4.243	4.609	-8.6	108	0.00
35 L2	APH EC9-12 aliphatics TOTAL	5.116	5.326	-4.1	103	0.00
36 H	APH EC9-12 aliphatics	5.116	21.468	-319.6#	415#	0.00
37 S	4-Bromofluorobenzene	0.626	0.625	0.2	100	0.00
38 L3	Isopropylbenzene	0.392	0.406	-3.6	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.548	0.525	4.2	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.694	0.670	3.5	100	0.00
41 L3	p-Isopropyltoluene	0.341	0.341	0.0	100	0.01
42 L3	1,2,3-Trimethylbenzene	0.814	0.814	0.0	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.539	0.550	-2.0	100	0.00
44 H	APH EC9-10 aromatics (1)	0.596	0.486	18.5	80	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081914.D  
 Acq On : 19 Aug 2021 6:00 pm  
 Operator : bat  
 Sample : 0.5 ppbv, 64-38c  
 Misc : T2, 50cc  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:36:56 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.339	0.357	-5.3	101	0.00

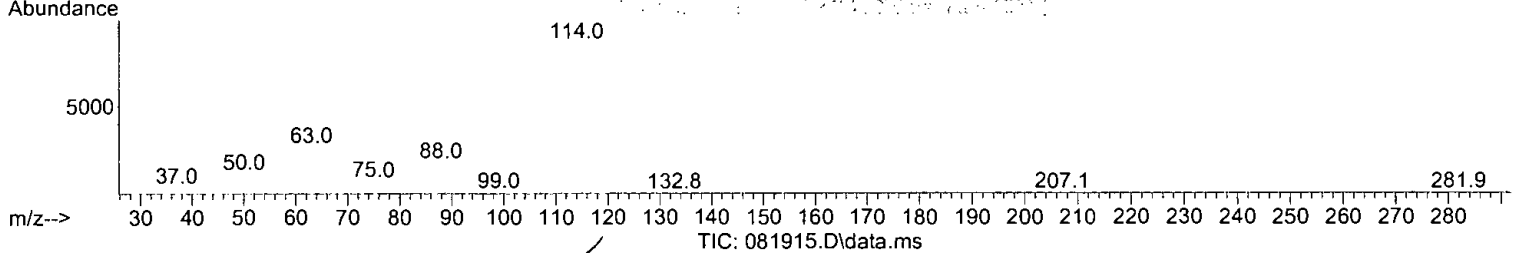
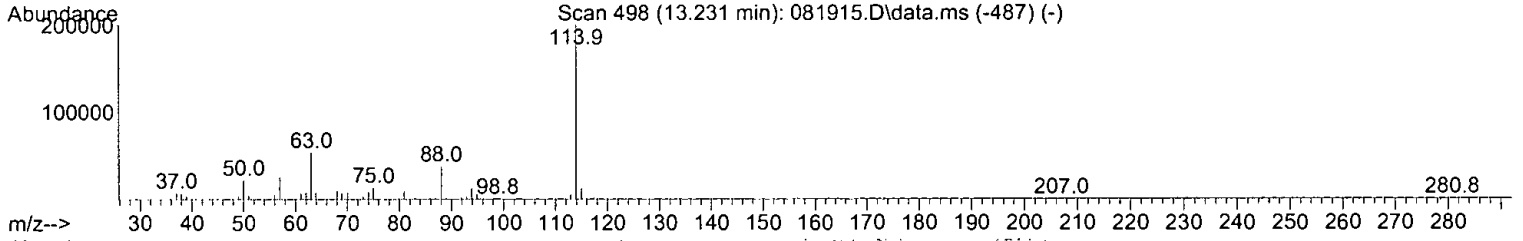
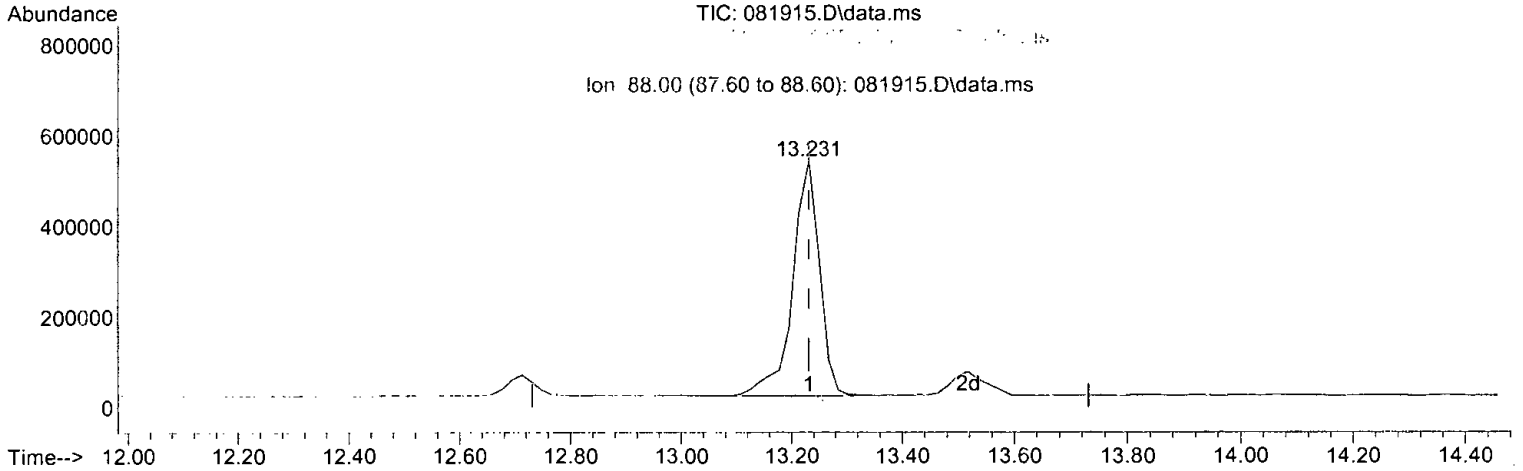
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:30 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (F)

13.231min (+ 0.000) 55.493 ug/m3

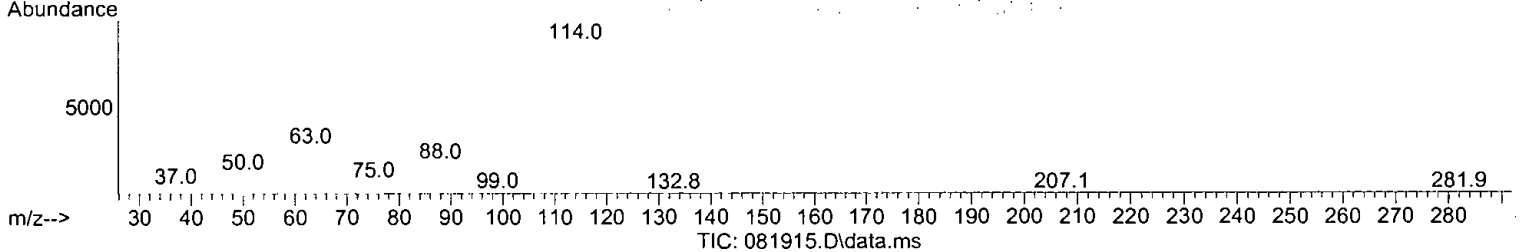
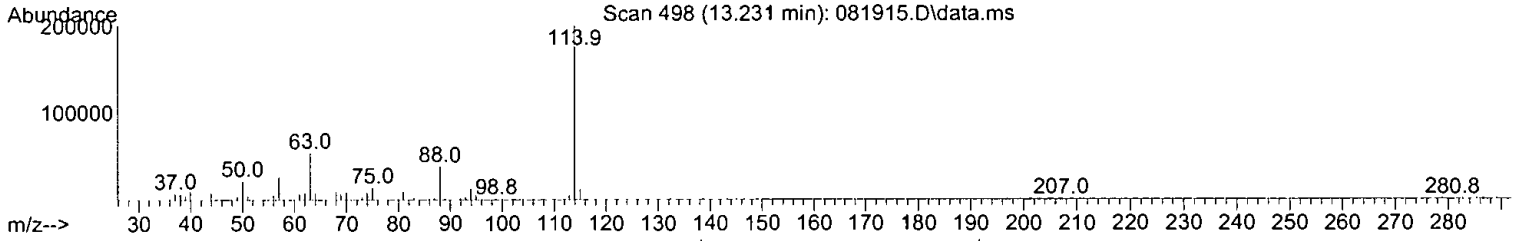
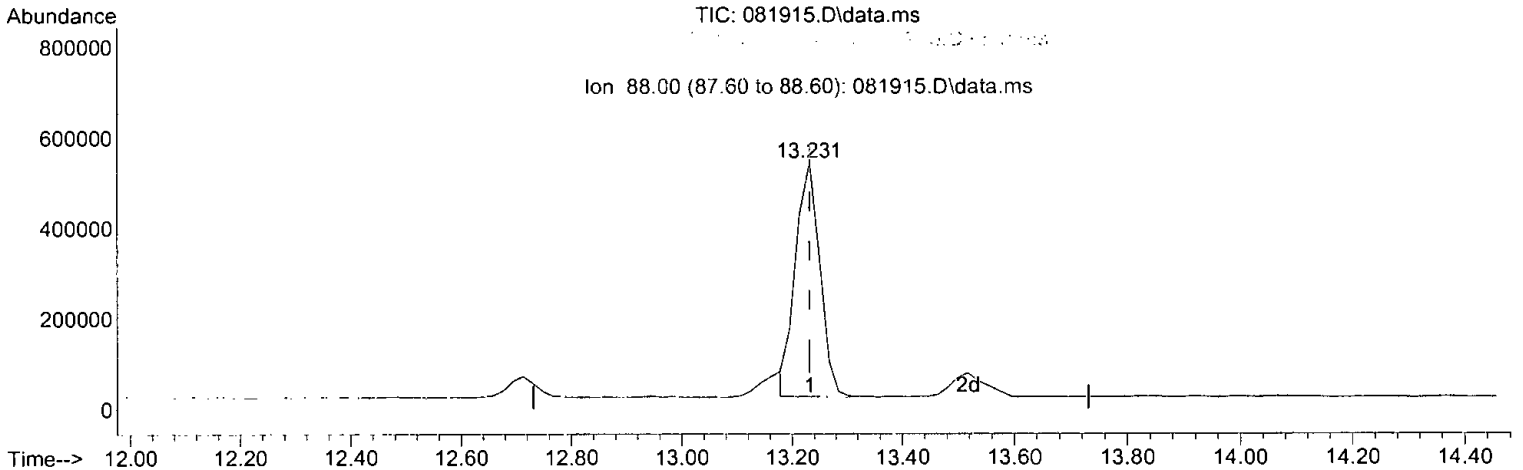
response 1741578

Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	38.57
63.00	8.40	10.35
88.00	7.60	7.37

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:30 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000) 50.015 ug/m3 m

response 1569676

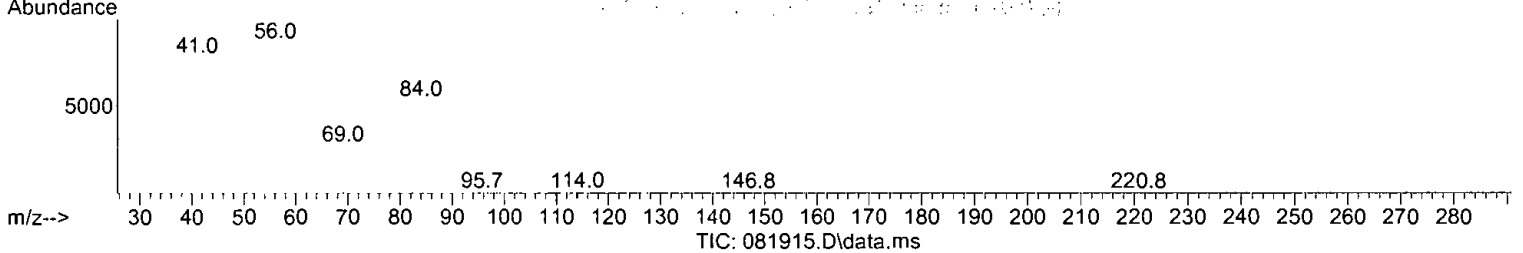
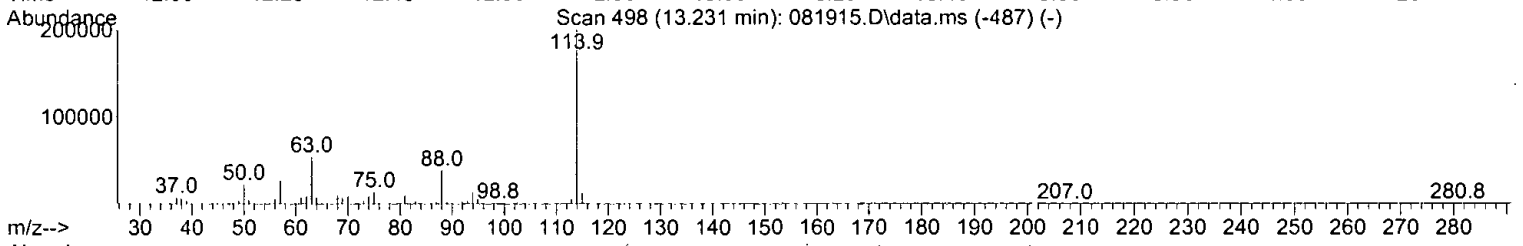
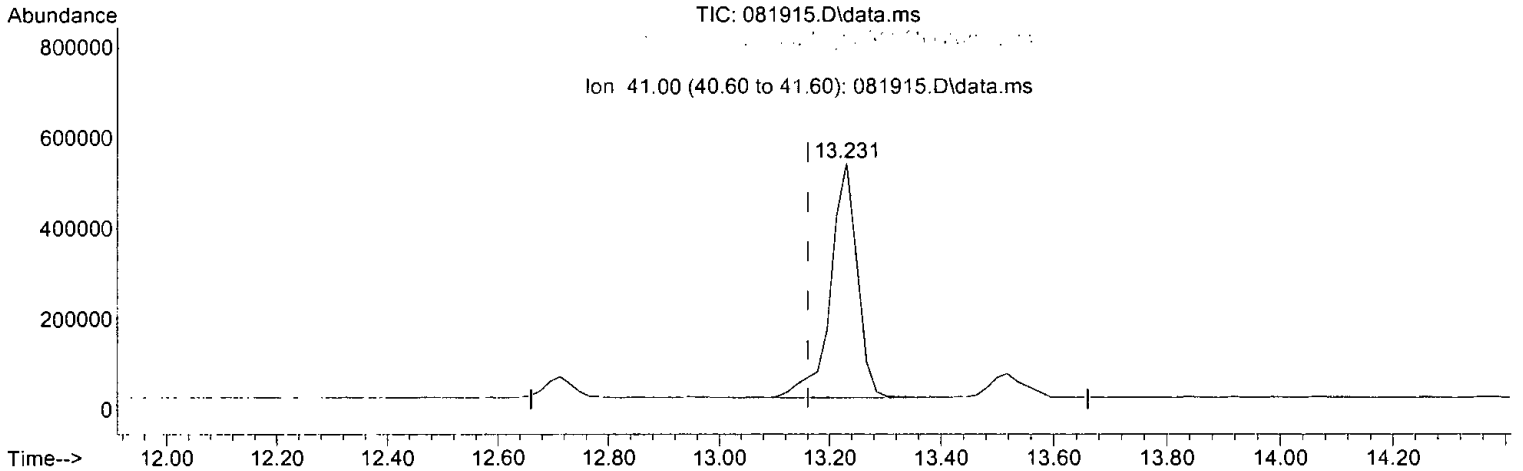
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	42.79
63.00	8.40	11.48
88.00	7.60	8.18

*AS 8/20/21*

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:30 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.231min (+ 0.071) 41.487 ug/m3

response 1741578

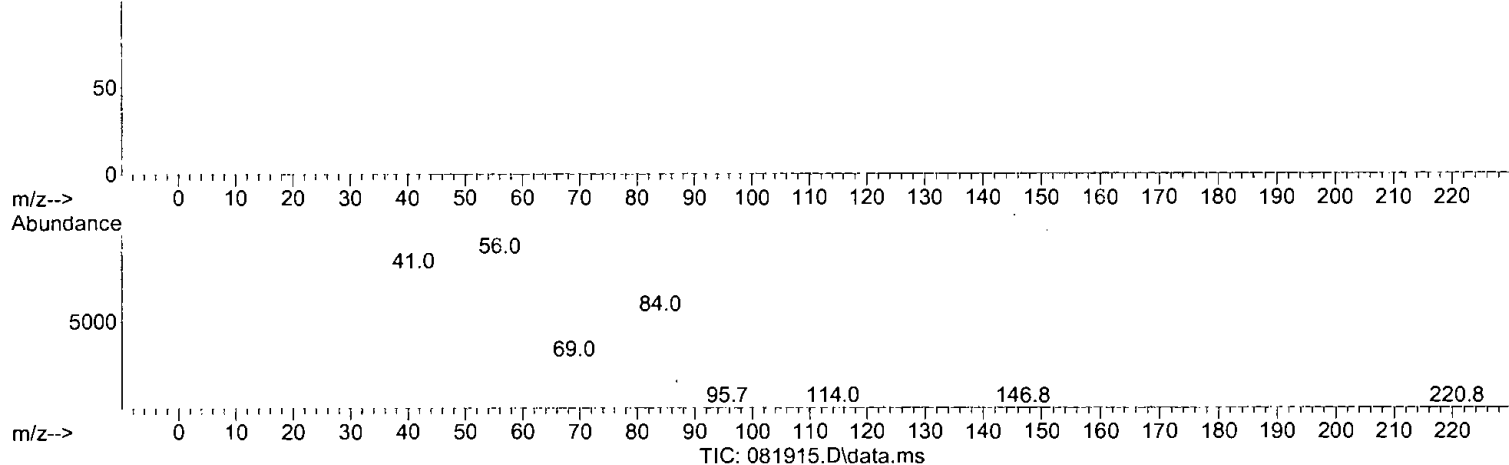
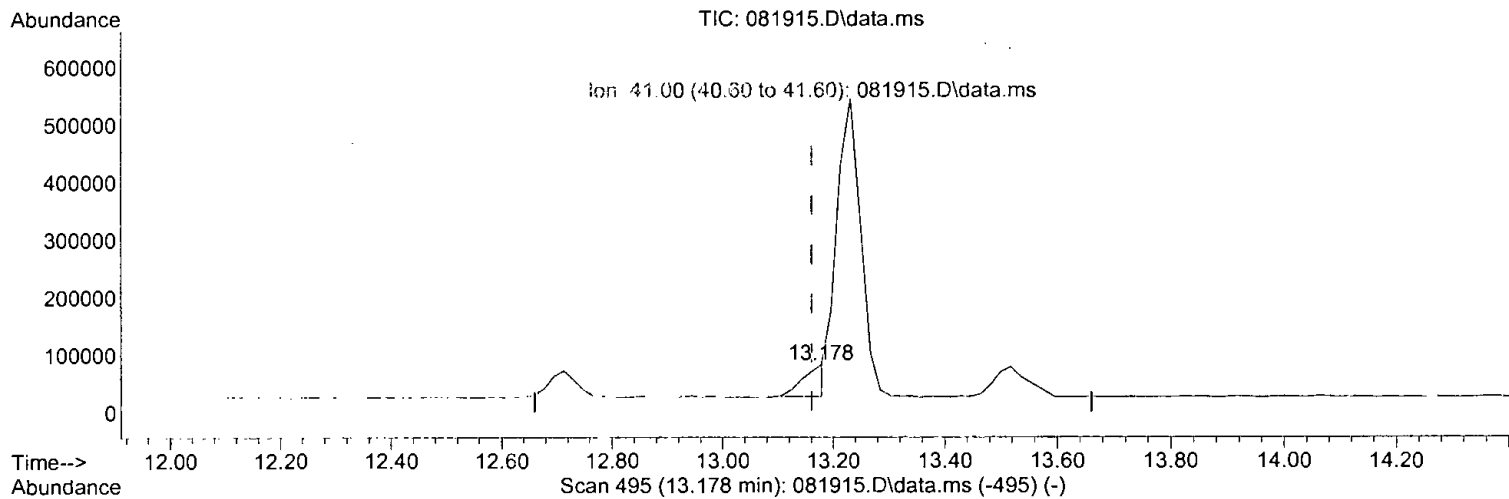
Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.80	1.06
84.00	1.00	0.05
41.00	0.50	0.02

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:30 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.178min (+ 0.018) 3.550 ug/m3 m

response 149029

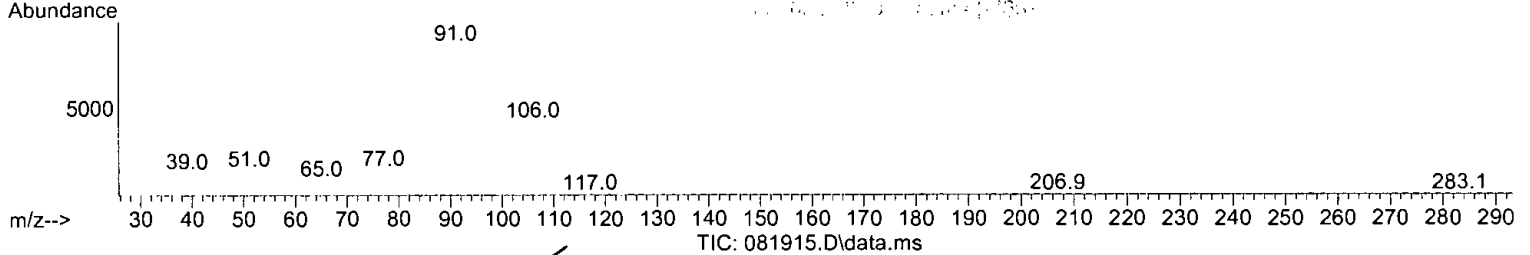
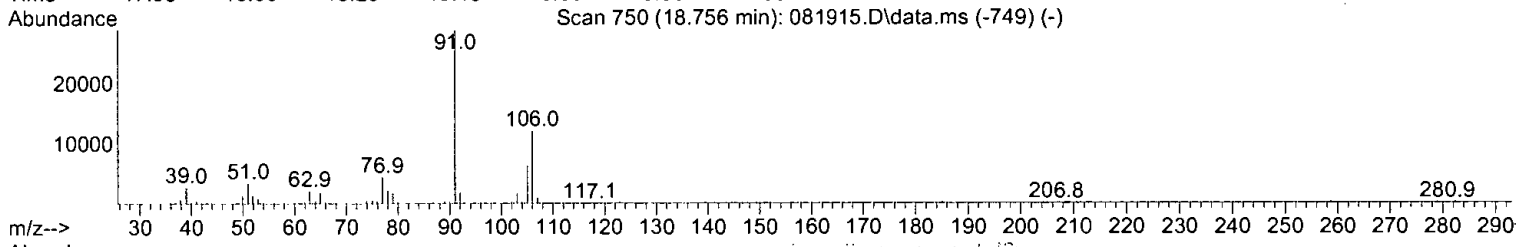
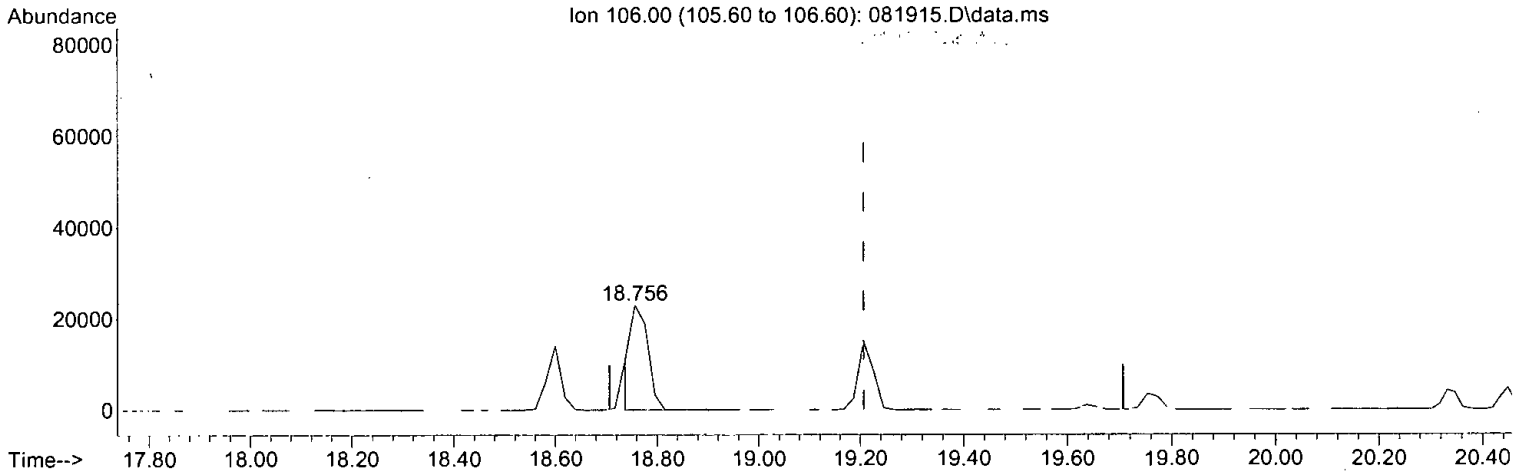
Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.80	12.35
84.00	1.00	0.61
41.00	0.50	0.18

*AS 8/20/21*

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:30 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

18.756min (-0.450) 7.136 ug/m3

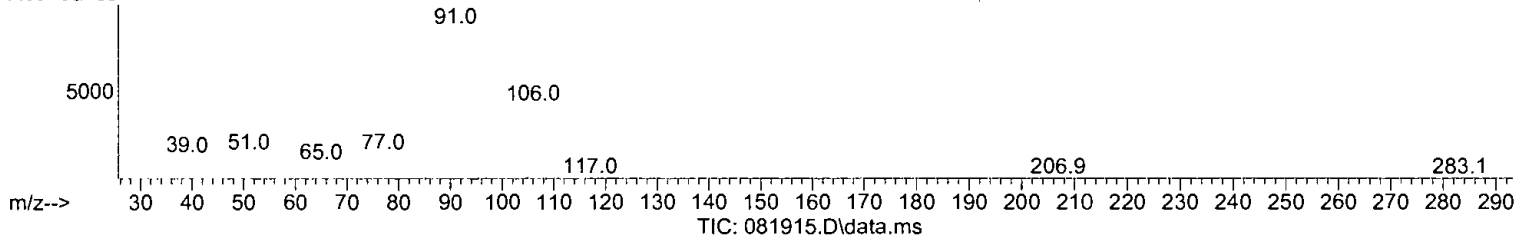
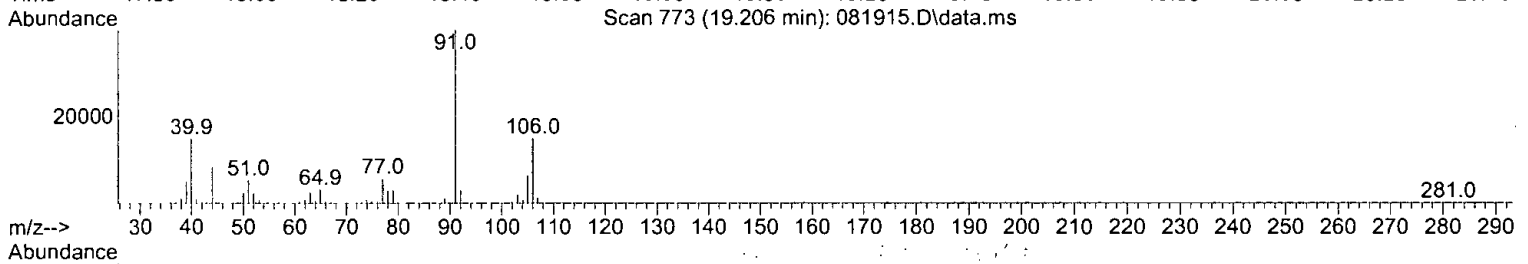
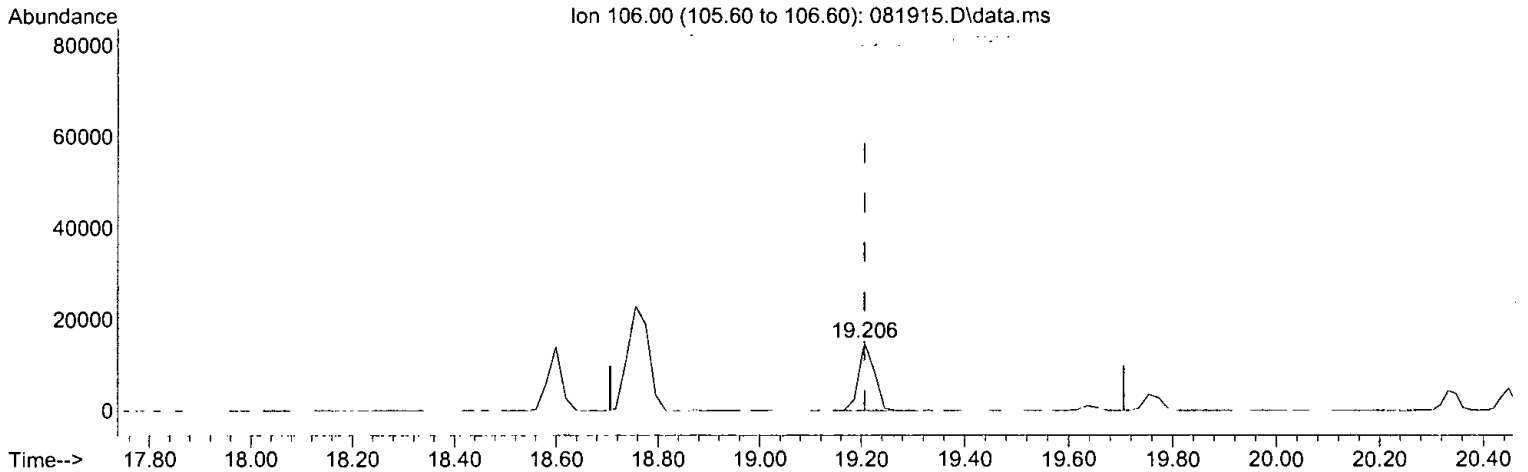
response	53152		
Ion	Exp%	Act%	
106.00	100.00	100.00	
90.90	226.40	234.82	
0.00	0.00	0.00	
0.00	0.00	0.00	

*AS8/20/21*

Quantitation Report (Qedit)

Data Path : Z:\Proc GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:30 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

19.206min (-0.000) 4.154 ug/m3 m

response 30938

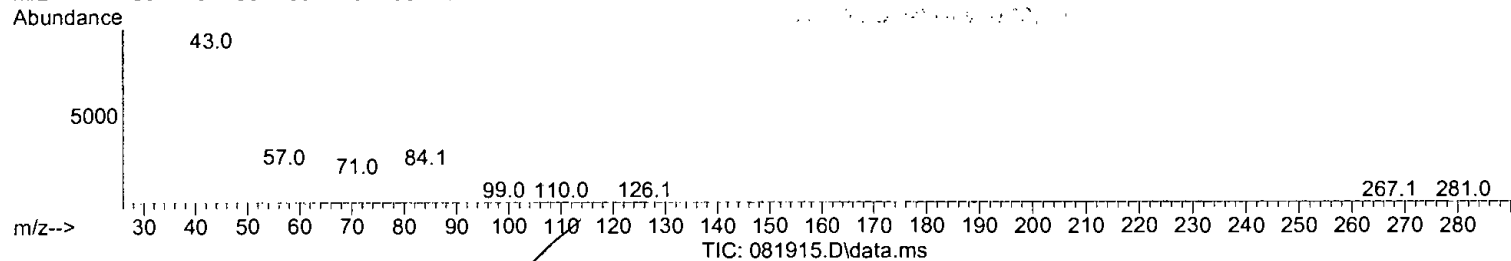
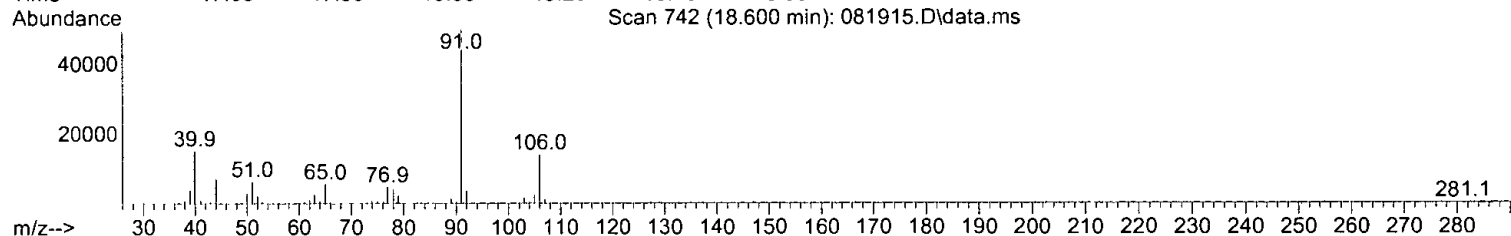
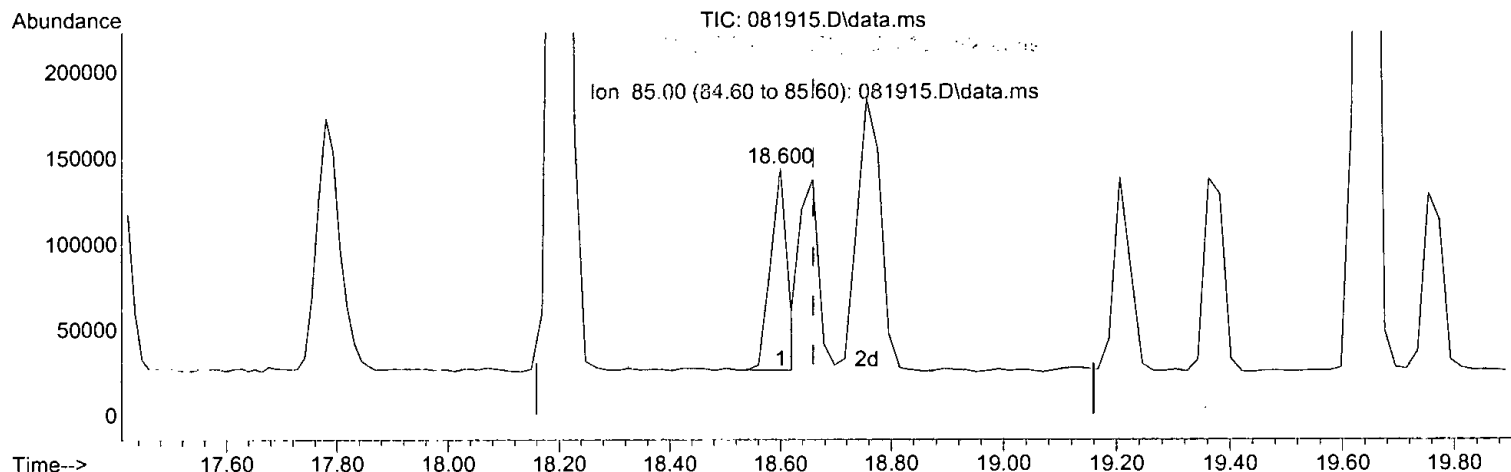
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	266.13#
0.00	0.00	0.00
0.00	0.00	0.00

*AS8120/4*



Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:30 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



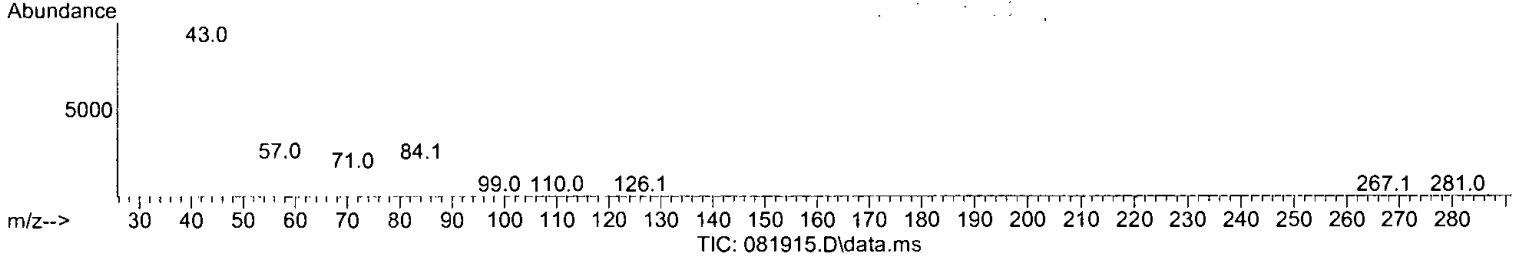
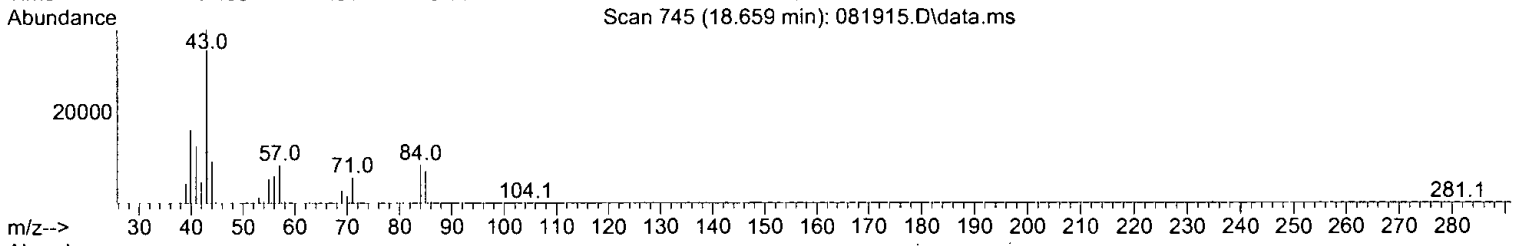
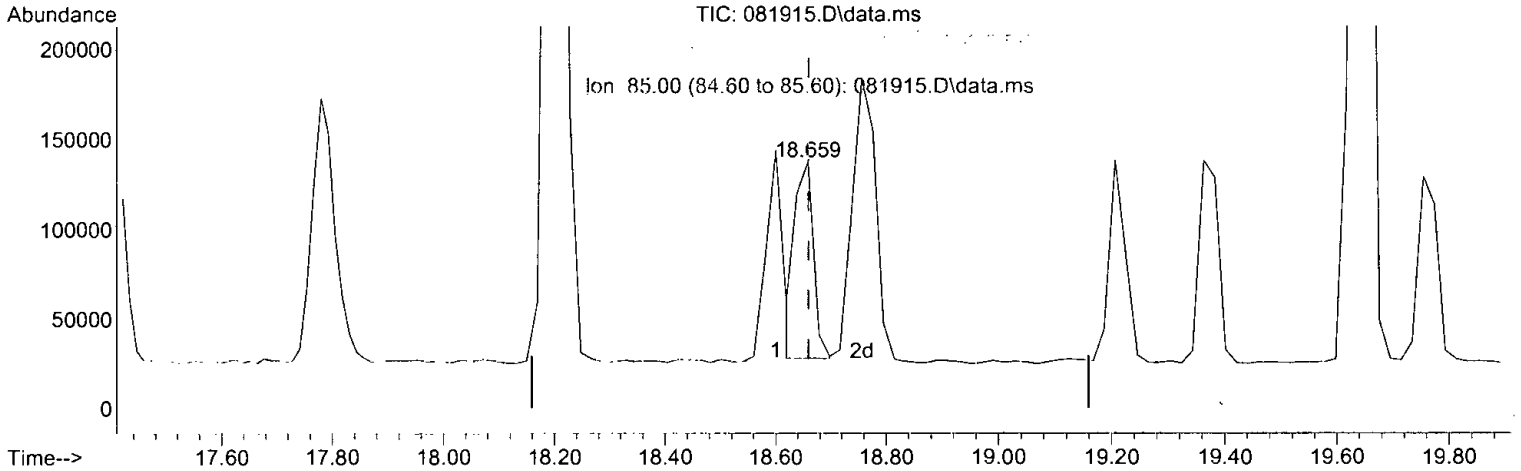
(29) 2,3-Dimethylheptane (L2)  
 18.600min (-0.059) 4.652 ug/m3

response	Exp%	Act%
247078		
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	37.69#
84.00	9.90	8.33
85.00	9.20	7.44

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:30 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.659min (-0.000) 4.765 ug/m3 m

response 253079

Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	36.79#
84.00	9.90	8.14
85.00	9.20	7.26#

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:39:00 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	125230	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	604762	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	528441	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	469371	70.895	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	99.86%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1108581	50.136	ug/m3	88
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1569676m	50.015	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1902954	49.990	ug/m3	92
5) Methylene chloride	0.00		0	N.D.	d	
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.28	54	16530	2.242	ug/m3	83
9) Methyl t-butyl ether	8.51	73	34847	3.610	ug/m3	91
11) Benzene	12.71	78	66341	3.226	ug/m3	88
12) Isopentane	5.68	TIC	117607	2.880	ug/m3	93
13) Hexane	10.11	TIC	149538	3.533	ug/m3	94
14) Cyclohexane	13.18	TIC	149029m	3.550	ug/m3	
15) 2,3-Dimethylpentane	13.52	TIC	226171	4.222	ug/m3	96
16) Heptane	14.63	TIC	191997	4.385	ug/m3	92
17) Octane	17.41	TIC	225161	3.751	ug/m3	74
18) APH EC5-8 aliphatics T...	12.71	TIC	1059503m	22.080	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	11172713m	232.839	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2224521	49.865	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	519449	47.274	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	434649	31.694	ppbv	100
24) Toluene	16.39	92	39309	3.467	ug/m3	87
25) Ethylbenzene	18.60	91	99159	4.235	ug/m3	96
26) m,p-Xylene	18.76	106	66388	8.432	ug/m3	89
27) o-Xylene	19.21	106	30938m	4.154	ug/m3	
28) Naphthalene	23.94	128	92309	4.855	ug/m3	99
29) 2,3-Dimethylheptane	18.66	TIC	253079m	4.765	ug/m3	
30) Nonane	19.36	TIC	274027	4.941	ug/m3	93
31) Decane	20.90	TIC	322135	5.847	ug/m3	96
32) Butylcyclohexane	21.57	TIC	333260	5.325	ug/m3	97
33) Undecane	22.29	TIC	343053	6.279	ug/m3	96
34) Dodecane	23.79	TIC	308022	6.868	ug/m3	95
35) APH EC9-12 aliphatics ...	21.57	TIC	1833576m	33.913	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	5201006m	96.196	ug/m3	
38) Isopropylbenzene	19.75	120	18734	4.520	ug/m3#	71
39) 1-Methyl-3-ethylbenzene	20.33	120	27871	4.808	ug/m3#	89
40) 1,3,5-Trimethylbenzene	20.45	120	34320	4.679	ug/m3	88
41) p-Isopropyltoluene	21.28	134	19714	5.471	ug/m3#	78
42) 1,2,3-Trimethylbenzene	21.31	120	40220	4.672	ug/m3	88
43) APH EC9-10 aromatics T...	21.57	TIC	140859m	24.708	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	97043m	15.416	ug/m3	

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

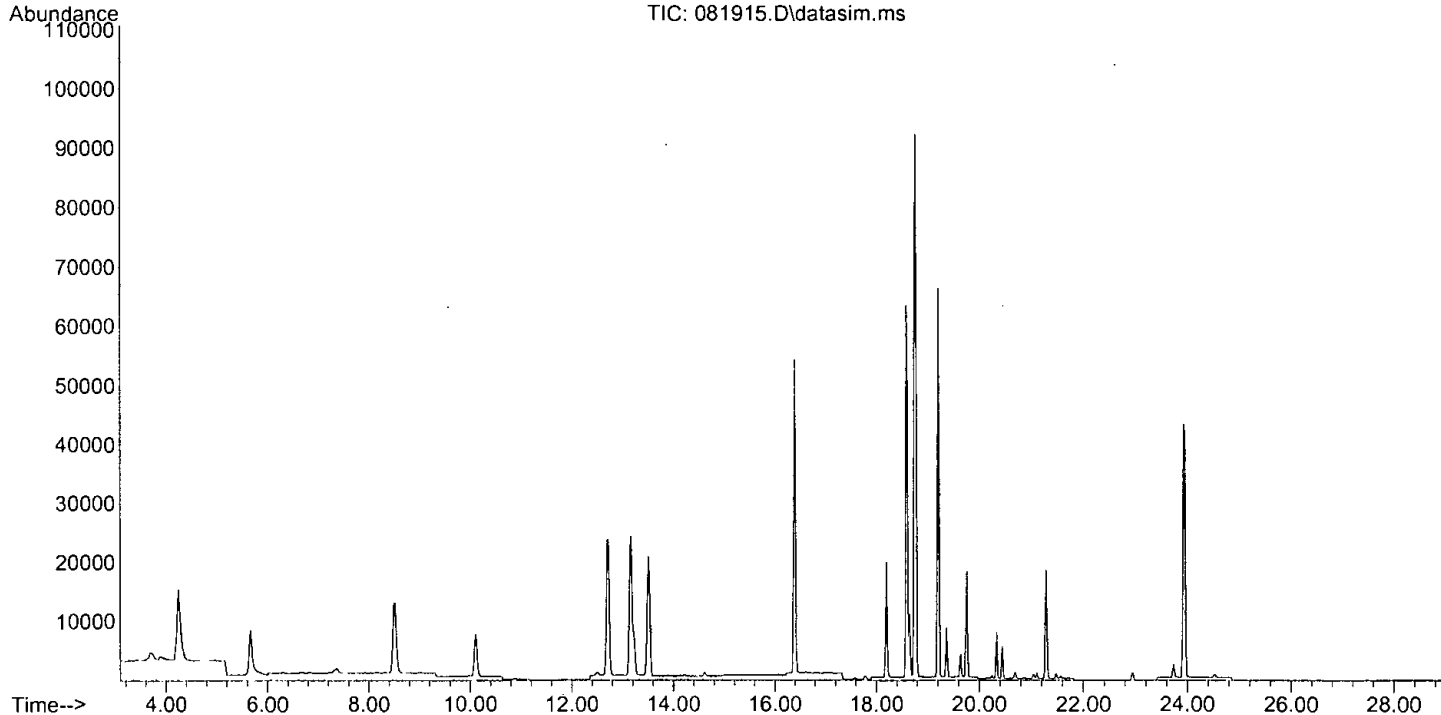
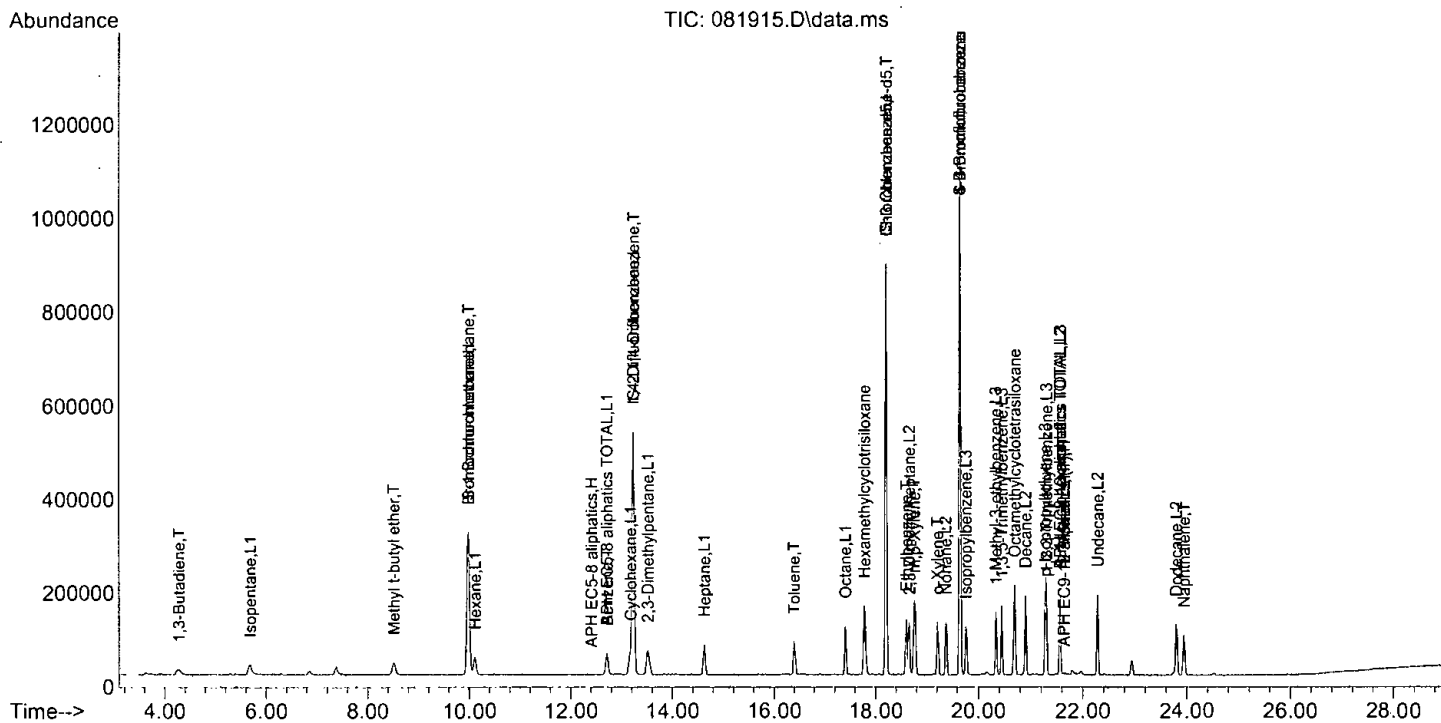
Quant Time: Aug 20 10:39:00 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	18794		N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:39:00 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:39:00 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	50.000	50.136	-0.3	100	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	50.015	-0.0	90	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	49.990	0.0	100	0.00
5 T	Methylene chloride	50.000	0.000	100.0#	0	-6.86#
6	Acetone	50.000	0.000	100.0#	0	-5.68#
7	2-Propanol	50.000	0.000	100.0#	0	-5.84#
8 T	1,3-Butadiene	2.200	2.242	-1.9	100	0.00
9 T	Methyl t-butyl ether	3.600	3.610	-0.3	100	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.00
11 T	Benzene	3.200	3.226	-0.8	100	0.00
12 L1	Isopentane	3.000	2.880	4.0	105	0.00
13 L1	Hexane	3.500	3.533	-0.9	100	0.00
14 L1	Cyclohexane	3.500	3.550	-1.4	99	0.02
15 L1	2,3-Dimethylpentane	4.200	4.222	-0.5	100	0.00
16 L1	Heptane	4.200	4.385	-4.4	100	0.00
17 L1	Octane	4.700	3.751	20.2	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	23.000	22.080	4.0	100	0.00
19 H	APH EC5-8 aliphatics	23.000	232.839	-912.3#	1058	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	49.865	0.3	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	47.274	5.5	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	31.694	36.6#	100	0.00
24 T	Toluene	3.750	3.467	7.5	100	0.00
25 T	Ethylbenzene	4.350	4.235	2.6	100	0.00
26 T	m,p-Xylene	8.800	8.432	4.2	100	0.00
27 T	o-Xylene	4.400	4.154	5.6	100	0.00
28 T	Naphthalene	5.000	4.855	2.9	100	0.00
29 L2	2,3-Dimethylheptane	5.000	4.765	4.7	100	0.00
30 L2	Nonane	5.000	4.941	1.2	100	0.00
31 L2	Decane	6.000	5.847	2.5	100	0.00
32 L2	Butylcyclohexane	5.500	5.325	3.2	100	0.00
33 L2	Undecane	6.500	6.279	3.4	100	0.00
34 L2	Dodecane	7.000	6.868	1.9	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	35.000	33.913	3.1	100	0.00
36 H	APH EC9-12 aliphatics	35.000	96.196	-174.8#	284	0.00
37 S	4-Bromofluorobenzene	71.000	70.895	0.1	100	0.00
38 L3	Isopropylbenzene	4.900	4.520	7.8	100	0.00
39 L3	1-Methyl-3-ethylbenzene	4.900	4.808	1.9	100	0.00
40 L3	1,3,5-Trimethylbenzene	4.900	4.679	4.5	100	0.00
41 L3	p-Isopropyltoluene	5.500	5.471	0.5	100	0.00
42 L3	1,2,3-Trimethylbenzene	4.900	4.672	4.7	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	25.000	24.708	1.2	100	0.00
44 H	APH EC9-10 aromatics (1)	19.600	15.416	21.3	80	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:39:00 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	5.500	5.242	4.7	95	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:39:00 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	8.828	8.852	-0.3	100	0.00
3 T	IS-2 1,4-Difluorobenzene	12.530	12.534	-0.0	90	0.00
4 T	IS-3 Chlorobenzene-d5	15.199	15.196	0.0	100	0.00
5 T	Methylene chloride	0.447	0.000	100.0#	0#	-6.86#
6	Acetone	23.578	0.000	100.0#	0#	-5.68#
7	2-Propanol	0.137	0.000	100.0#	0#	-5.84#
8 T	1,3-Butadiene	2.944	3.000	-1.9	100	0.00
9 T	Methyl t-butyl ether	3.854	3.865	-0.3	100	0.00
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
11 T	Benzene	1.700	1.714	-0.8	100	0.00
12 L1	Isopentane	3.376	3.241	4.0	105	0.00
13 L1	Hexane	3.421	3.532	-3.2	100	0.00
14 L1	Cyclohexane	3.471	3.520	-1.4	99	0.02
15 L1	2,3-Dimethylpentane	4.429	4.452	-0.5	100	0.00
16 L1	Heptane	3.620	3.779	-4.4	100	0.00
17 L1	Octane	4.963	3.961	20.2	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	3.967	3.809	4.0	100	0.00
19 H	APH EC5-8 aliphatics	3.967	40.162	-912.4#	1058#	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	4.221	4.210	0.3	100	0.00
22	Hexamethylcyclotrisiloxane	1.040	0.983	5.5	100	0.00
23	Octamethylcyclotetrasiloxan	1.298	0.823	36.6#	100	0.00
24 T	Toluene	1.073	0.992	7.5	100	0.00
25 T	Ethylbenzene	2.215	2.157	2.6	100	0.00
26 T	m,p-Xylene	0.745	0.714	4.2	100	0.00
27 T	o-Xylene	0.705	0.665	5.7	100	0.00
28 T	Naphthalene	1.799	1.747	2.9	100	0.00
29 L2	2,3-Dimethylheptane	5.025	4.789	4.7	100	0.00
30 L2	Nonane	5.247	5.186	1.2	100	0.00
31 L2	Decane	5.213	5.080	2.6	100	0.00
32 L2	Butylcyclohexane	5.921	5.733	3.2	100	0.00
33 L2	Undecane	5.170	4.994	3.4	100	0.00
34 L2	Dodecane	4.243	4.163	1.9	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	5.116	4.957	3.1	100	0.00
36 H	APH EC9-12 aliphatics	5.116	14.060	-174.8#	284#	0.00
37 S	4-Bromofluorobenzene	0.626	0.626	0.0	100	0.00
38 L3	Isopropylbenzene	0.392	0.362	7.7	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.548	0.538	1.8	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.694	0.663	4.5	100	0.00
41 L3	p-Isopropyltoluene	0.341	0.339	0.6	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.814	0.777	4.5	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.539	0.533	1.1	100	0.00
44 H	APH EC9-10 aromatics (1)	0.596	0.468	21.5	80	0.00



Evaluate Continuing Calibration Report

Data Path : Z:\Proc GCMS7\08-19-21\  
 Data File : 081915.D  
 Acq On : 19 Aug 2021 6:38 pm  
 Operator : bat  
 Sample : 1 ppbv, 64-38c  
 Misc : T2, 100cc  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:39:00 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.339	0.323	4.7	95	0.00

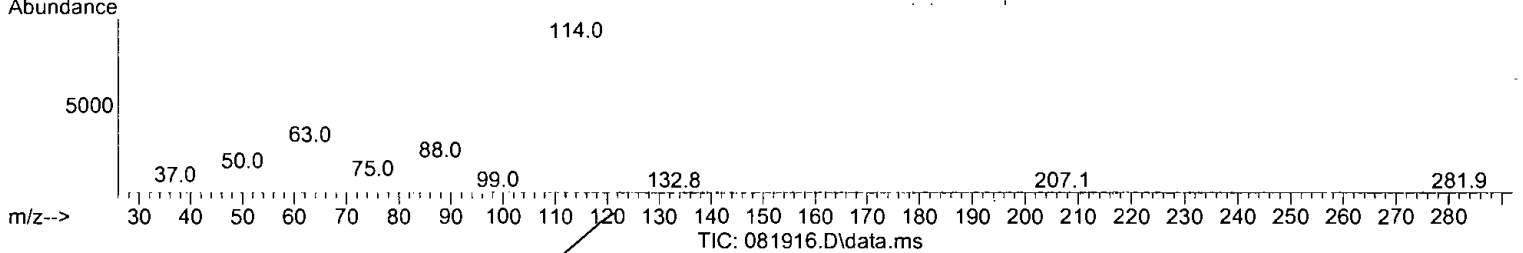
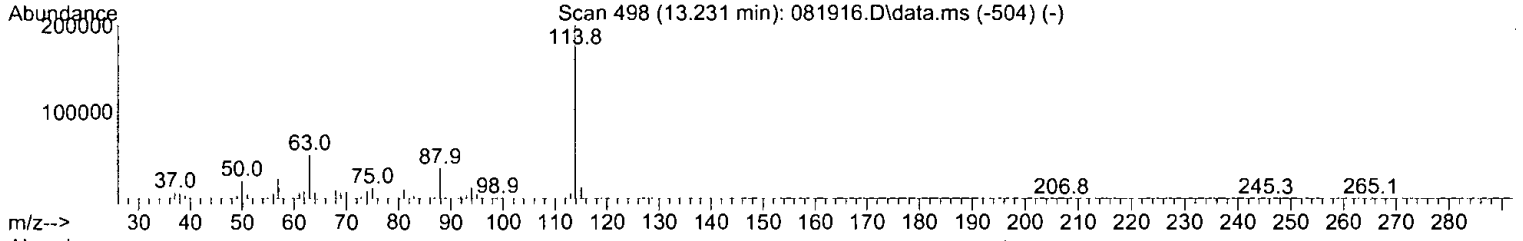
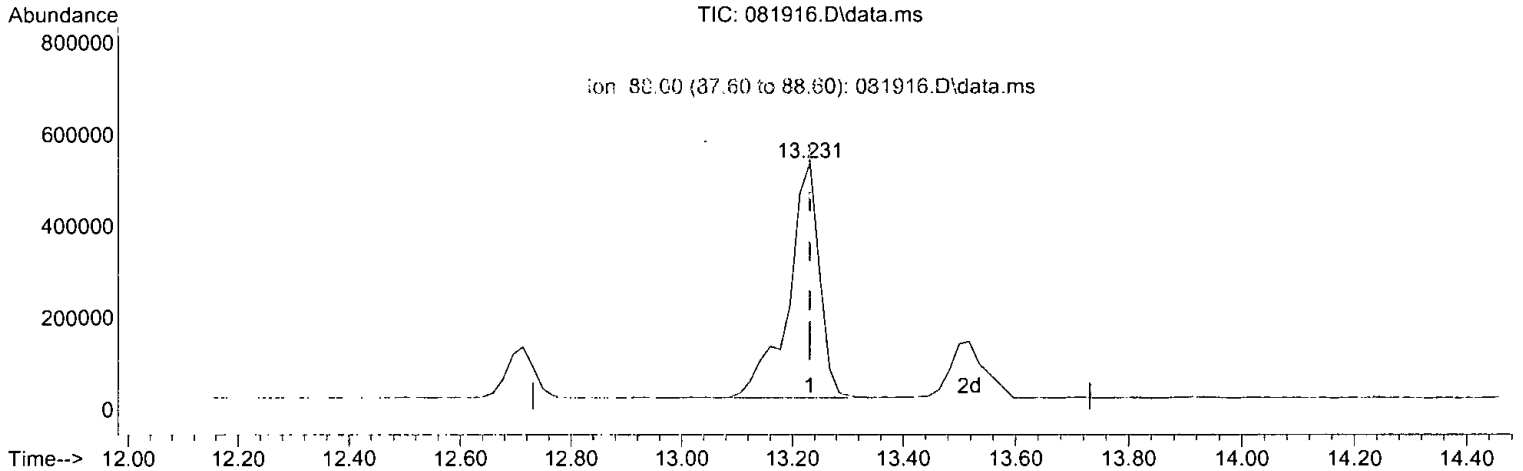
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:34 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000) 62.137 ug/m3

response 1976718

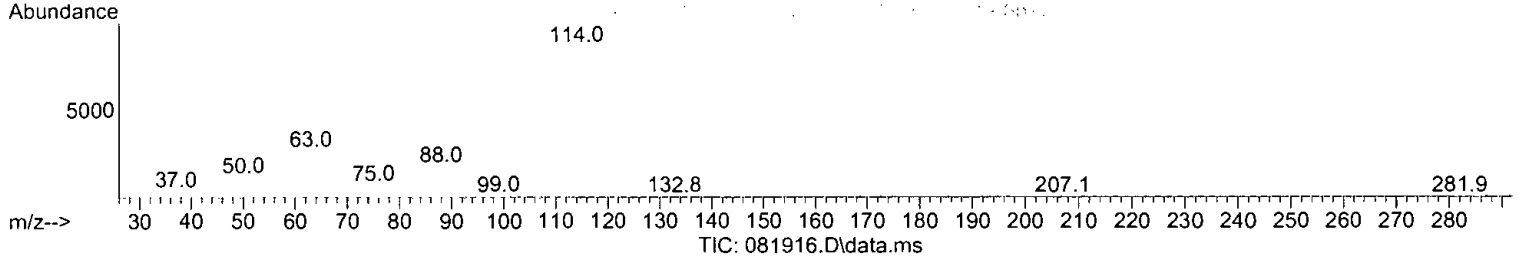
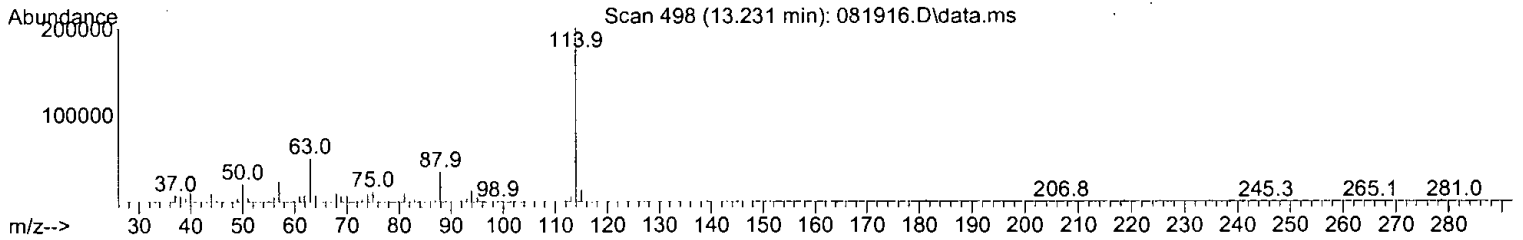
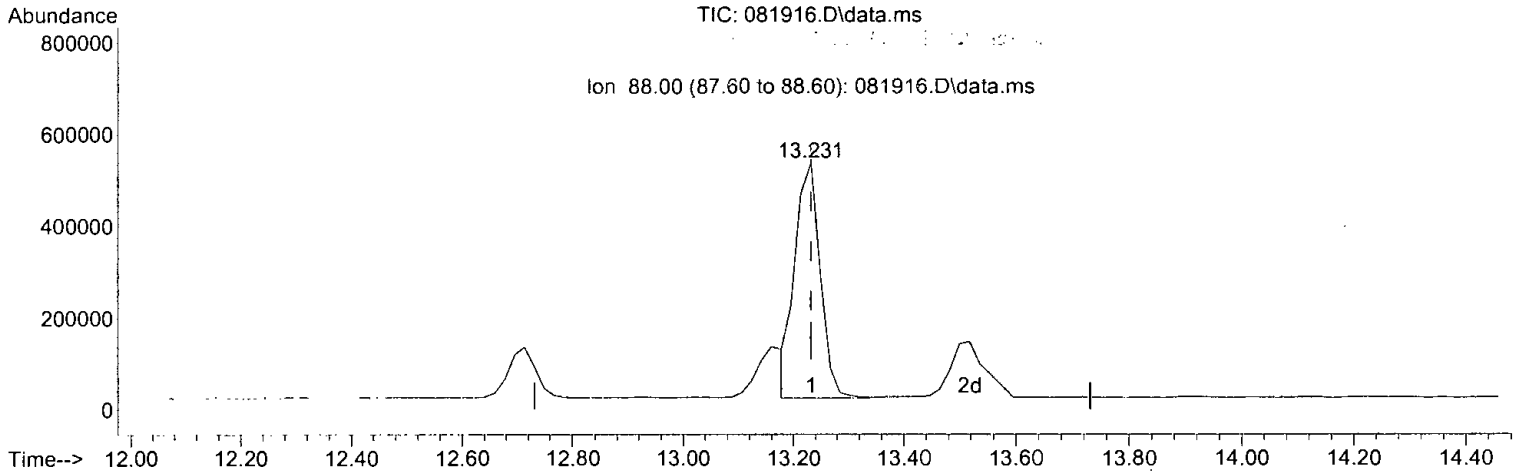
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	39.23
63.00	8.40	9.87
88.00	7.60	6.80

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:34 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000) 50.990 ug/m3 m

response 1622089

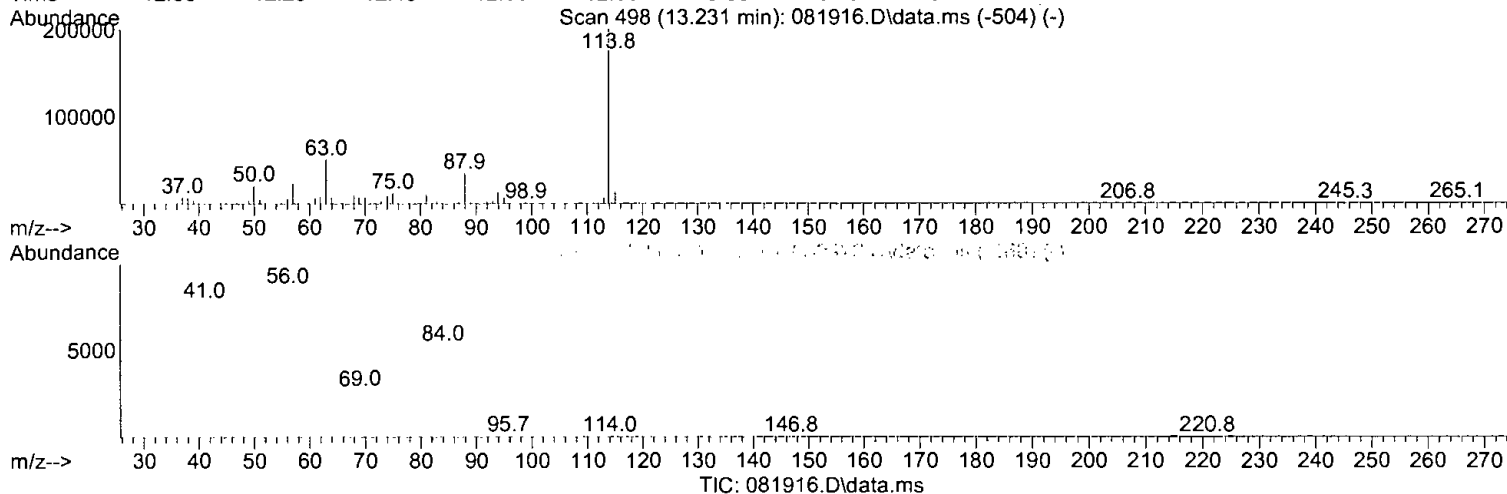
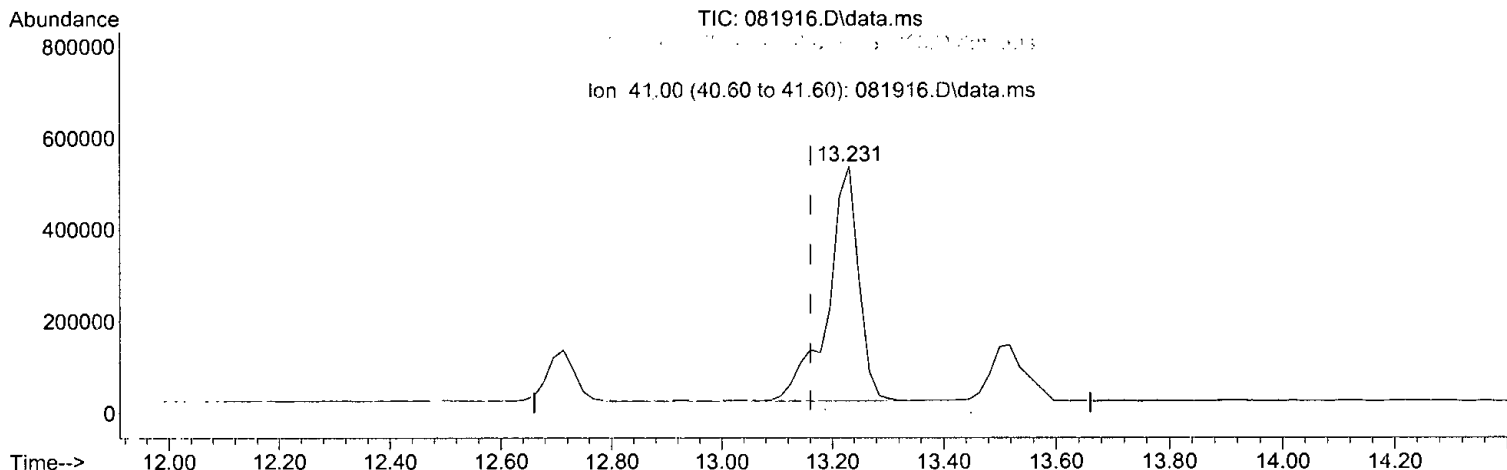
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	47.80
63.00	8.40	12.03
88.00	7.60	8.29

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:34 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.231min (+ 0.071) 46.665 ug/m3

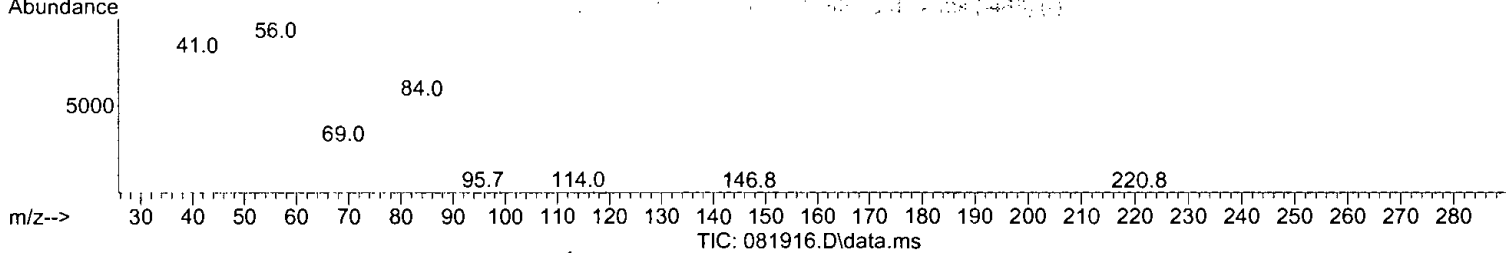
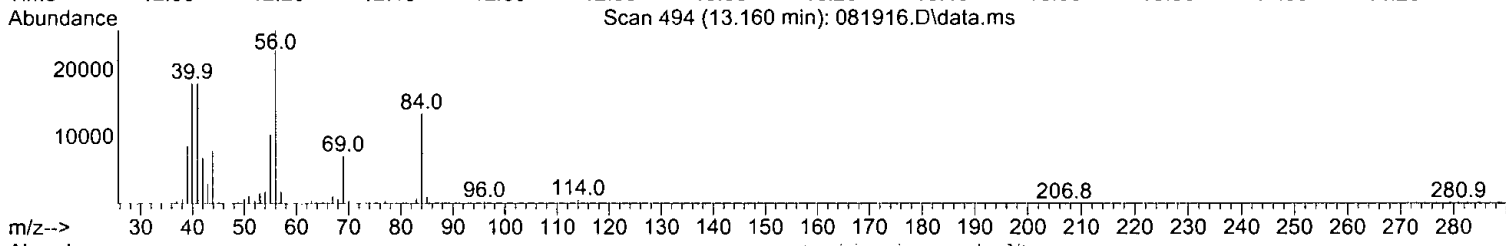
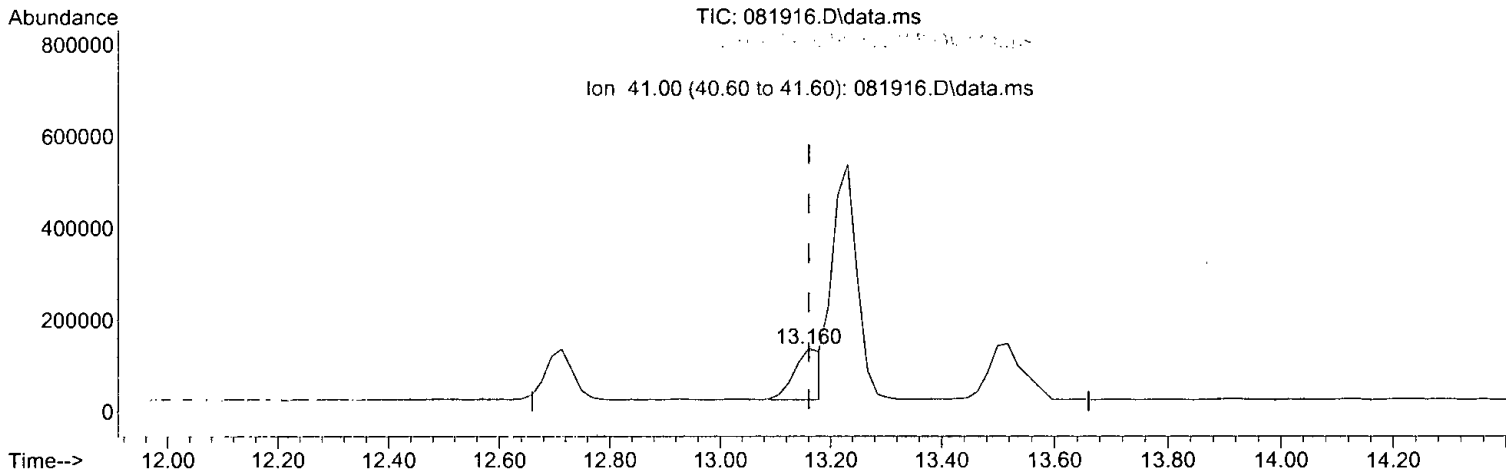
response 1976718

Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.80	1.17
84.00	1.00	0.07
41.00	0.50	0.05

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:34 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.160min (-0.000) 8.719 ug/m3 m

response 369320

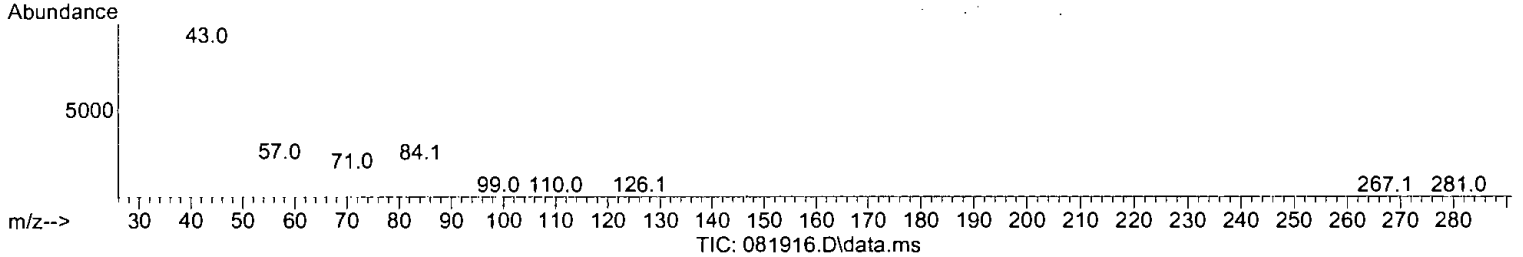
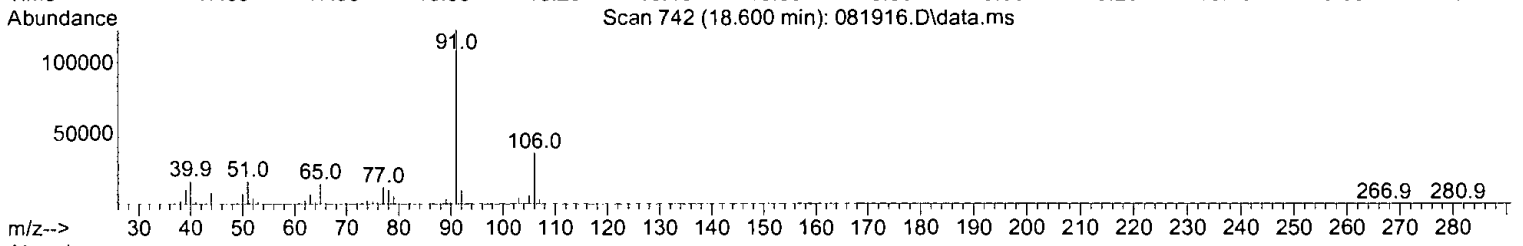
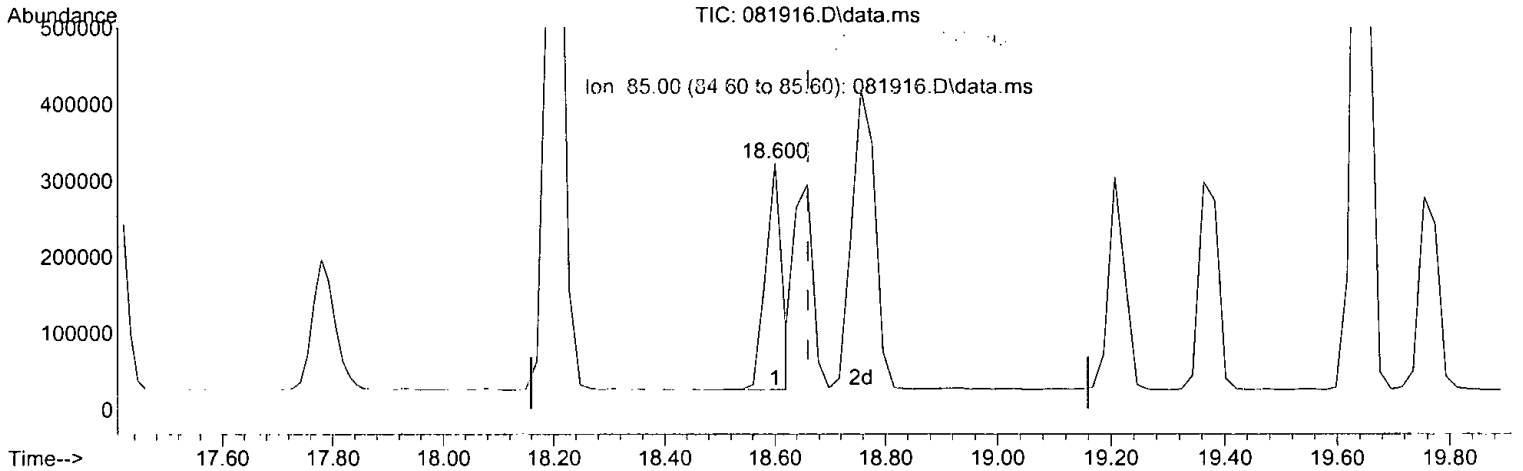
Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.80	6.28
84.00	1.00	0.36
41.00	0.50	0.25

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:34 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.600min (-0.059) 11.300 ug/m3

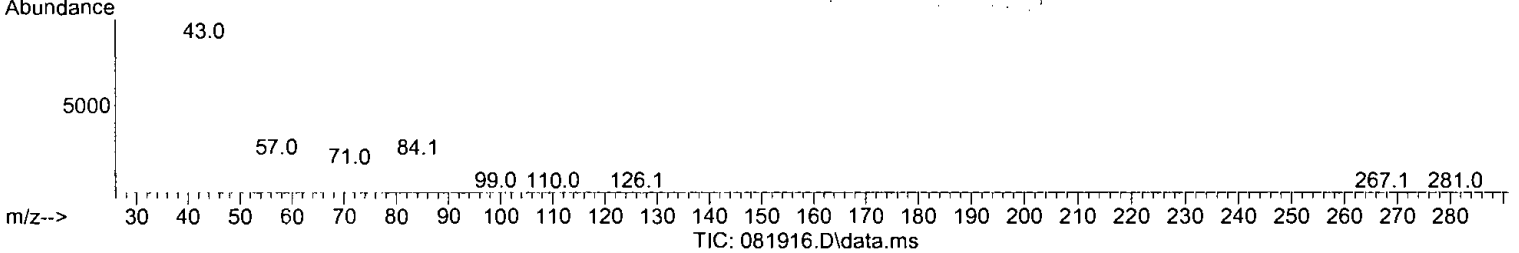
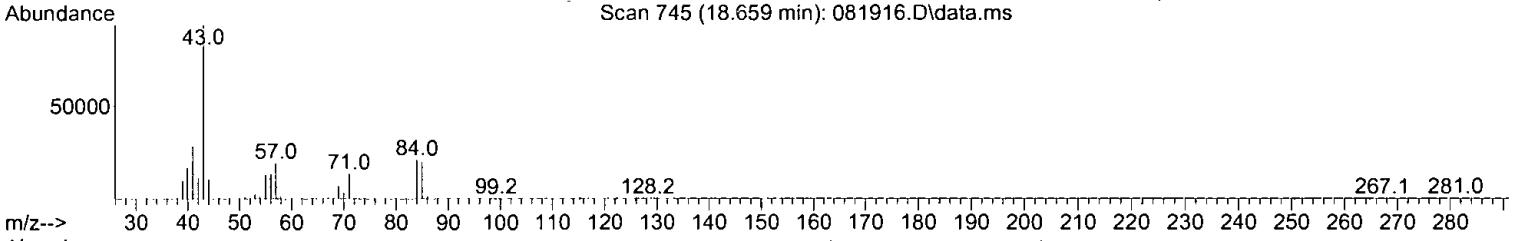
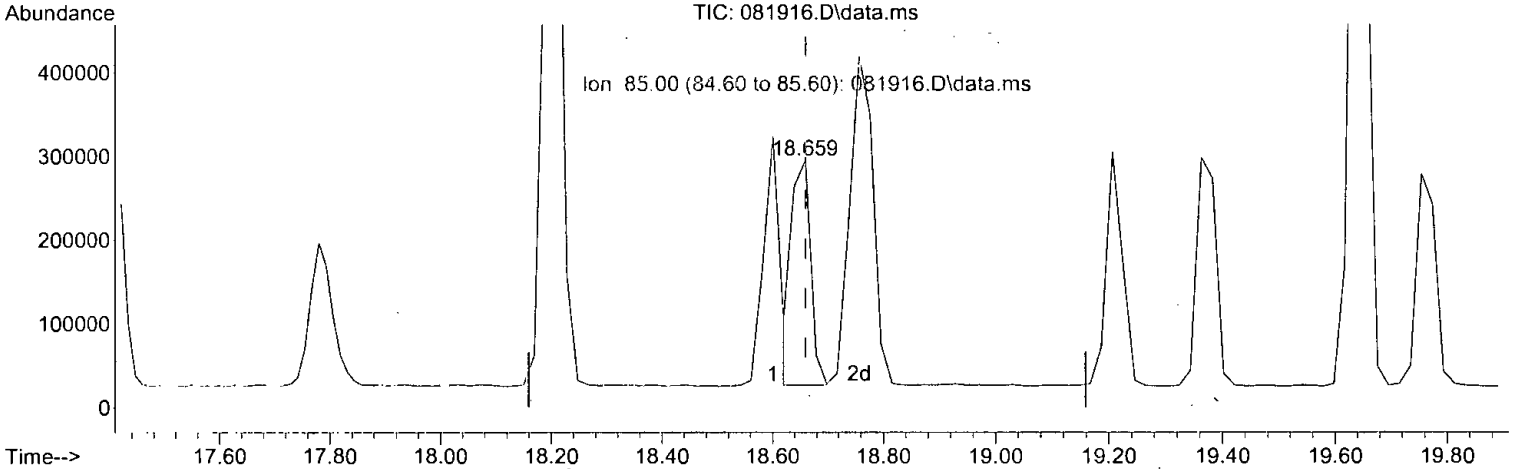
response 608252

Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	38.16#
84.00	9.90	8.23
85.00	9.20	7.91

*AS 8/20/21*

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:34 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.659min (-0.000) 11.823 ug/m3 m

response	Exp%	Act%
Signal		
TIC	100.00	100.00
43.00	28.20	36.47#
84.00	9.90	7.86#
85.00	9.20	7.56

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:40:50 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	126939	50.000	ug/m3	#-0.02
10) 1,4-Difluorobenzene	13.23	114	610241	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	535599	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	470952	70.183	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	98.85%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.97	TIC	1119240	49.937	ug/m3	88
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1622089m	50.990	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1917348	49.691	ug/m3	92
5) Methylene chloride	0.00		0	N.D.	d	
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.28	54	36938	4.942	ug/m3	80
9) Methyl t-butyl ether	8.51	73	82604	8.442	ug/m3	95
11) Benzene	12.71	78	162080	7.812	ug/m3	94
12) Isopentane	5.66	TIC	289043	7.014	ug/m3	95
13) Hexane	10.11	TIC	359600	8.732	ug/m3	92
14) Cyclohexane	13.16	TIC	369320m	8.719	ug/m3	
15) 2,3-Dimethylpentane	13.52	TIC	526007	9.730	ug/m3	93
16) Heptane	14.63	TIC	458926	10.388	ug/m3	94
17) Octane	17.41	TIC	767547	12.671	ug/m3	91
18) APH EC5-8 aliphatics T...	12.71	TIC	2770443m	57.218	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	14888356m	307.487	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2232521	49.375	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	607511	54.549	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	546883	39.345	ppbv	100
24) Toluene	16.39	92	115056	10.013	ug/m3	98
25) Ethylbenzene	18.60	91	241714	10.186	ug/m3	98
26) m,p-Xylene	18.76	106	165323	20.718	ug/m3	87
27) o-Xylene	19.21	106	78348	10.379	ug/m3	85
28) Naphthalene	23.94	128	233590	12.122	ug/m3	100
29) 2,3-Dimethylheptane	18.66	TIC	636405m	11.823	ug/m3	
30) Nonane	19.36	TIC	656616	11.682	ug/m3	92
31) Decane	20.90	TIC	787418	14.102	ug/m3	95
32) Butylcyclohexane	21.57	TIC	814192	12.836	ug/m3	97
33) Undecane	22.28	TIC	835330	15.084	ug/m3	97
34) Dodecane	23.79	TIC	723865	15.925	ug/m3	95
35) APH EC9-12 aliphatics ...	21.57	TIC	4453826m	81.276	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	9145616m	166.894	ug/m3	
38) Isopropylbenzene	19.75	120	47636	11.339	ug/m3#	79
39) 1-Methyl-3-ethylbenzene	20.33	120	68765	11.705	ug/m3#	89
40) 1,3,5-Trimethylbenzene	20.45	120	85413	11.490	ug/m3	91
41) p-Isopropyltoluene	21.28	134	46097	12.622	ug/m3#	70
42) 1,2,3-Trimethylbenzene	21.31	120	98194	11.255	ug/m3	87
43) APH EC9-10 aromatics T...	21.57	TIC	346105m	59.899	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	238914m	37.446	ug/m3	



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 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

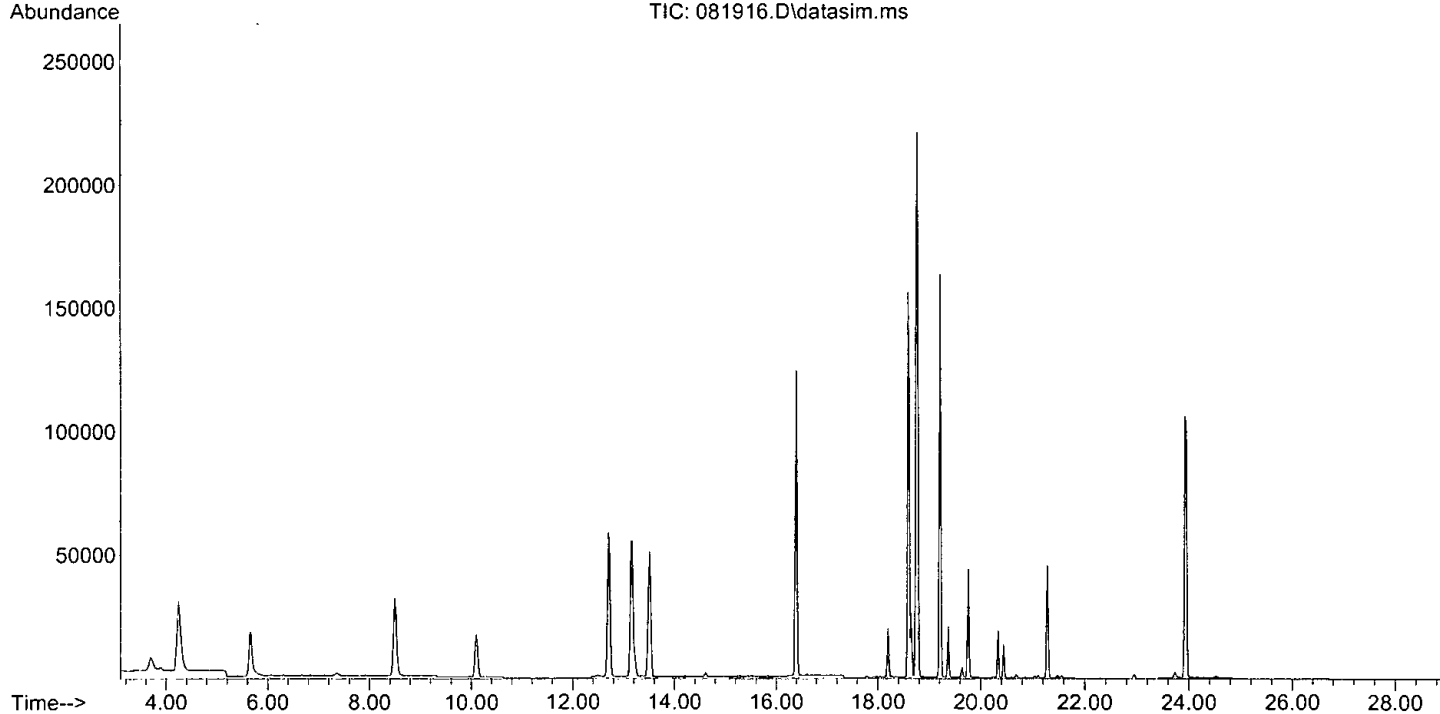
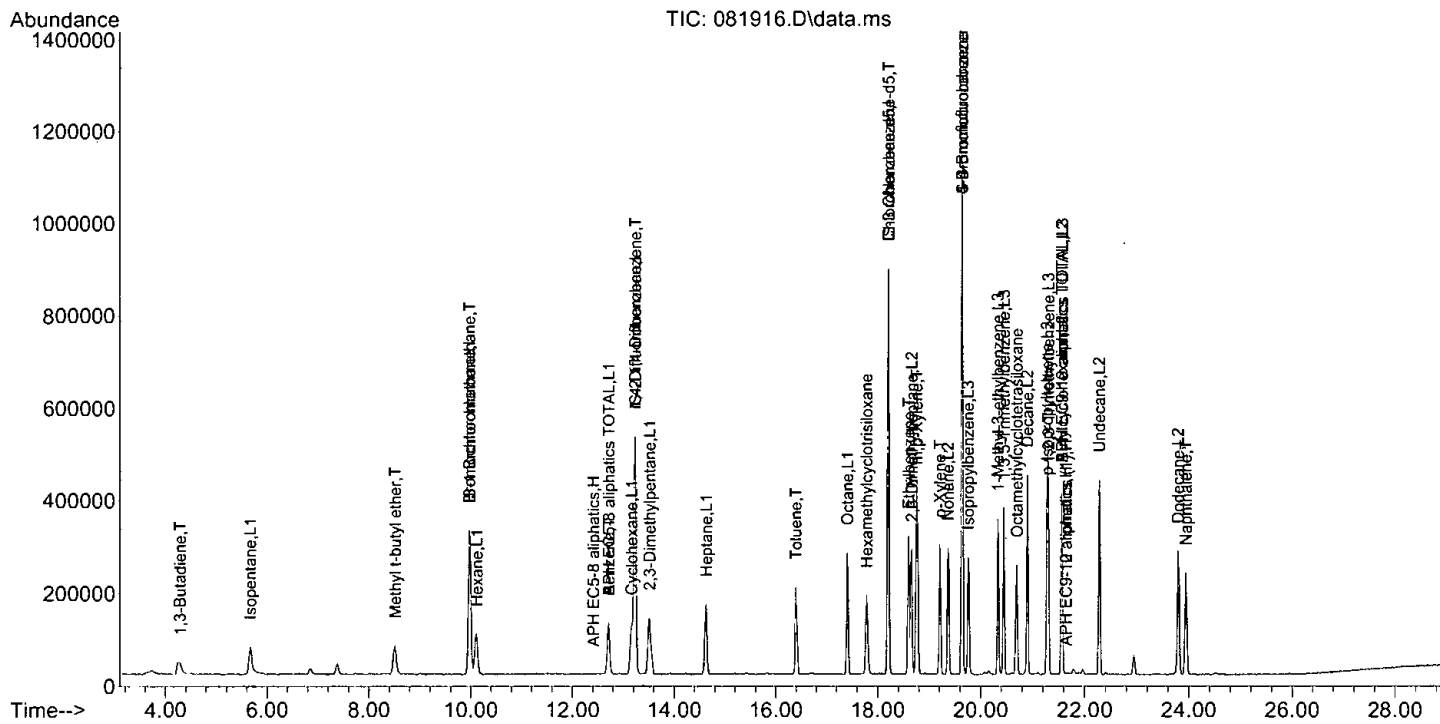
Quant Time: Aug 20 10:40:50 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	39551	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:40:50 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:40:50 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	-0.02
2 T	IS-1 Bromochloromethane	50.000	49.937	0.1	100	-0.02
3 T	IS-2 1,4-Difluorobenzene	50.000	50.990	-2.0	100	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	49.691	0.6	100	0.00
5 T	Methylene chloride	50.000	0.000	100.0#	0	-6.86#
6	Acetone	50.000	0.000	100.0#	0	-5.68#
7	2-Propanol	50.000	0.000	100.0#	0	-5.84#
8 T	1,3-Butadiene	5.500	4.942	10.1	100	0.00
9 T	Methyl t-butyl ether	9.000	8.442	6.2	100	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.00
11 T	Benzene	8.000	7.812	2.3	100	0.00
12 L1	Isopentane	7.500	7.014	6.5	100	-0.02
13 L1	Hexane	8.750	8.732	0.2	100	0.00
14 L1	Cyclohexane	8.750	8.719	0.4	102	0.00
15 L1	2,3-Dimethylpentane	10.500	9.730	7.3	100	0.00
16 L1	Heptane	10.500	10.388	1.1	100	0.00
17 L1	Octane	11.750	12.671	-7.8	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	57.500	57.218	0.5	100	0.00
19 H	APH EC5-8 aliphatics	57.500	307.487	-434.8#	539	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	49.375	1.3	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	54.549	-9.1	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	39.345	21.3	100	0.00
24 T	Toluene	9.375	10.013	-6.8	100	0.00
25 T	Ethylbenzene	10.875	10.186	6.3	100	0.00
26 T	m,p-Xylene	22.000	20.718	5.8	100	0.00
27 T	o-Xylene	11.000	10.379	5.6	100	0.00
28 T	Naphthalene	12.500	12.122	3.0	100	0.00
29 L2	2,3-Dimethylheptane	12.500	11.823	5.4	99	0.00
30 L2	Nonane	12.500	11.682	6.5	100	0.00
31 L2	Decane	15.000	14.102	6.0	100	0.00
32 L2	Butylcyclohexane	13.750	12.836	6.6	100	0.00
33 L2	Undecane	16.250	15.084	7.2	100	0.00
34 L2	Dodecane	17.500	15.925	9.0	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	87.500	81.276	7.1	100	0.00
36 H	APH EC9-12 aliphatics	87.500	166.894	-90.7#	205	0.00
37 S	4-Bromofluorobenzene	71.000	70.183	1.2	100	0.00
38 L3	Isopropylbenzene	12.250	11.339	7.4	100	0.00
39 L3	1-Methyl-3-ethylbenzene	12.250	11.705	4.4	100	0.00
40 L3	1,3,5-Trimethylbenzene	12.250	11.490	6.2	100	0.00
41 L3	p-Isopropyltoluene	13.750	12.622	8.2	100	0.00
42 L3	1,2,3-Trimethylbenzene	12.250	11.255	8.1	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	62.700	59.899	4.5	100	0.00
44 H	APH EC9-10 aromatics (1)	49.000	37.446	23.6	80	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:40:50 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	13.700	10.884	20.6	86	0.00

(#) = Out of Range                      SPCC's out = 0    CCC's out = 0

## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
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 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:40:50 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	-0.02
2 T	IS-1 Bromochloromethane	8.828	8.817	0.1	100	-0.02
3 T	IS-2 1,4-Difluorobenzene	12.530	12.778	-2.0	100	0.00
4 T	IS-3 Chlorobenzene-d5	15.199	15.104	0.6	100	0.00
5 T	Methylene chloride	0.447	0.000	100.0#	0#	-6.86#
6	Acetone	23.578	0.000	100.0#	0#	-5.68#
7	2-Propanol	0.137	0.000	100.0#	0#	-5.84#
8 T	1,3-Butadiene	2.944	2.645	10.2	100	0.00
9 T	Methyl t-butyl ether	3.854	3.615	6.2	100	0.00
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
11 T	Benzene	1.700	1.660	2.4	100	0.00
12 L1	Isopentane	3.376	3.158	6.5	100	-0.02
13 L1	Hexane	3.421	3.367	1.6	100	0.00
14 L1	Cyclohexane	3.471	3.458	0.4	102	0.00
15 L1	2,3-Dimethylpentane	4.429	4.105	7.3	100	0.00
16 L1	Heptane	3.620	3.581	1.1	100	0.00
17 L1	Octane	4.963	5.352	-7.8	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	3.967	3.948	0.5	100	0.00
19 H	APH EC5-8 aliphatics	3.967	21.215	-434.8#	539#	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	4.221	4.168	1.3	100	0.00
22	Hexamethylcyclotrisiloxane	1.040	1.134	-9.0	100	0.00
23	Octamethylcyclotetrasiloxan	1.298	1.021	21.3	100	0.00
24 T	Toluene	1.073	1.146	-6.8	100	0.00
25 T	Ethylbenzene	2.215	2.075	6.3	100	0.00
26 T	m,p-Xylene	0.745	0.702	5.8	100	0.00
27 T	o-Xylene	0.705	0.665	5.7	100	0.00
28 T	Naphthalene	1.799	1.745	3.0	100	0.00
29 L2	2,3-Dimethylheptane	5.025	4.753	5.4	99	0.00
30 L2	Nonane	5.247	4.904	6.5	100	0.00
31 L2	Decane	5.213	4.901	6.0	100	0.00
32 L2	Butylcyclohexane	5.921	5.528	6.6	100	0.00
33 L2	Undecane	5.170	4.799	7.2	100	0.00
34 L2	Dodecane	4.243	3.861	9.0	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	5.116	4.752	7.1	100	0.00
36 H	APH EC9-12 aliphatics	5.116	9.757	-90.7#	205#	0.00
37 S	4-Bromofluorobenzene	0.626	0.619	1.1	100	0.00
38 L3	Isopropylbenzene	0.392	0.363	7.4	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.548	0.524	4.4	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.694	0.651	6.2	100	0.00
41 L3	p-Isopropyltoluene	0.341	0.313	8.2	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.814	0.748	8.1	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.539	0.515	4.5	100	0.00
44 H	APH EC9-10 aromatics (1)	0.596	0.455	23.7	80	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081916.D  
 Acq On : 19 Aug 2021 7:21 pm  
 Operator : bat  
 Sample : 2.5 ppbv, 64-38c  
 Misc : T2, 250cc  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:40:50 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.339	0.270	20.4	86	0.00

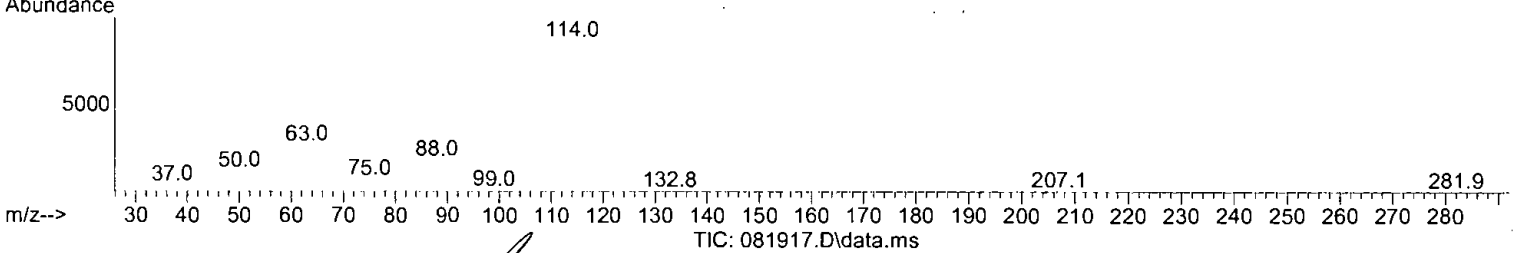
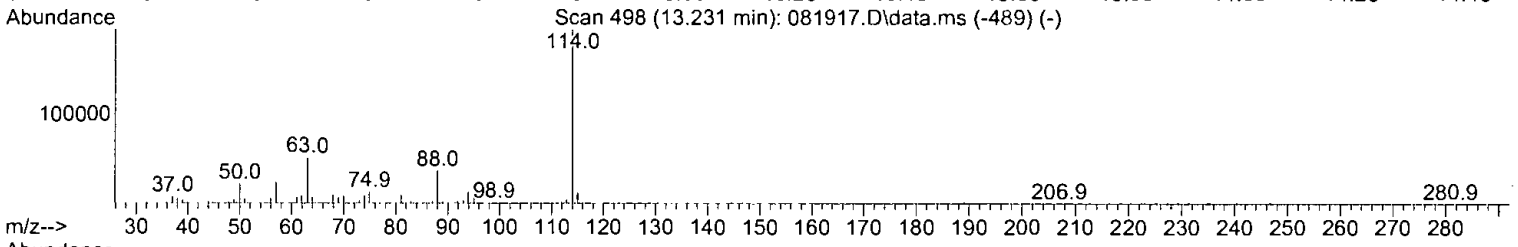
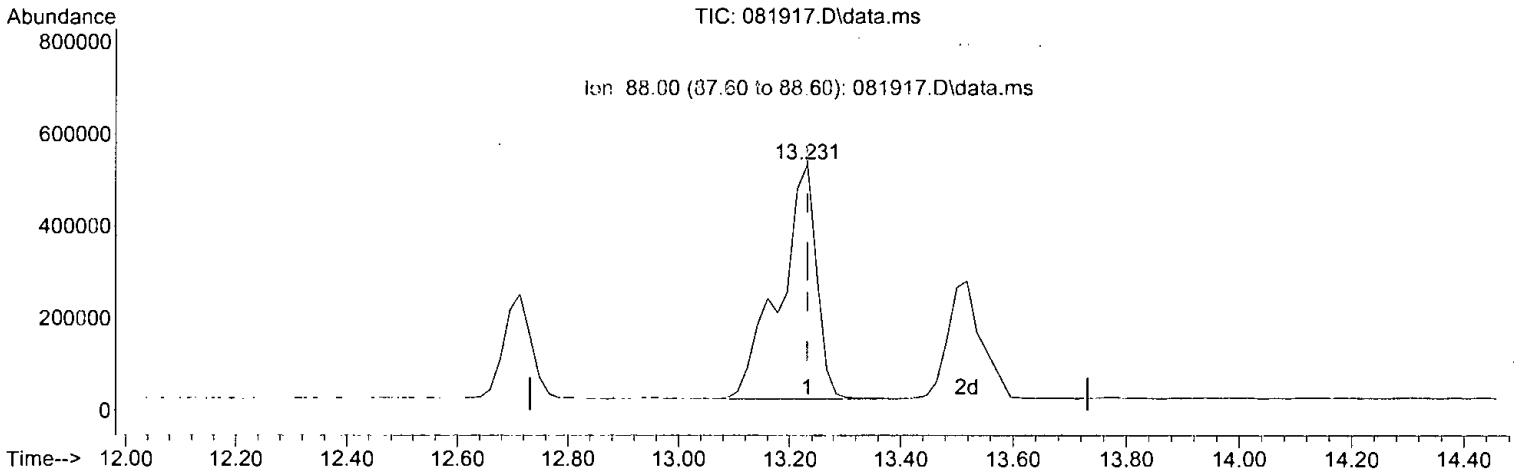
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:38 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000) 73.996 ug/m3

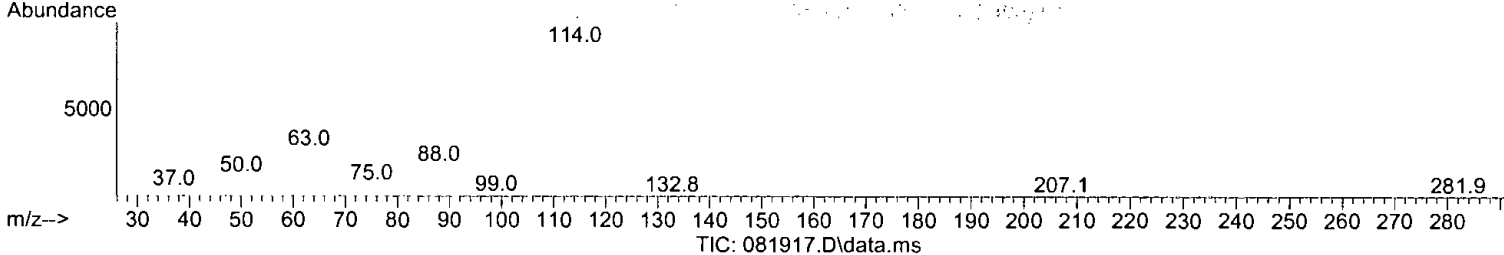
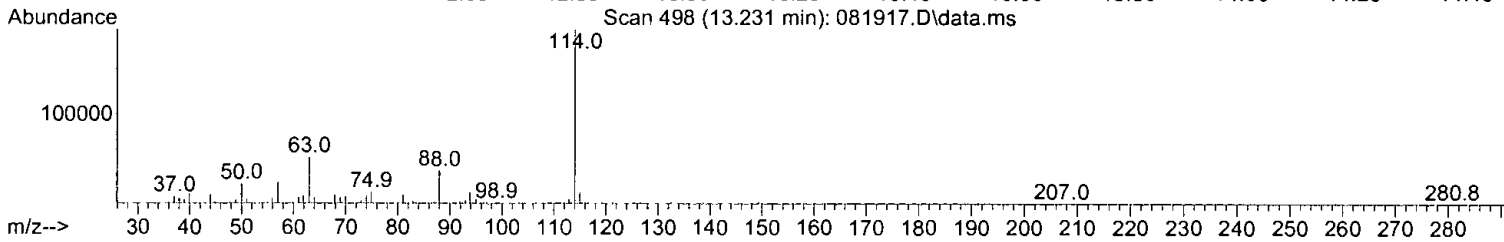
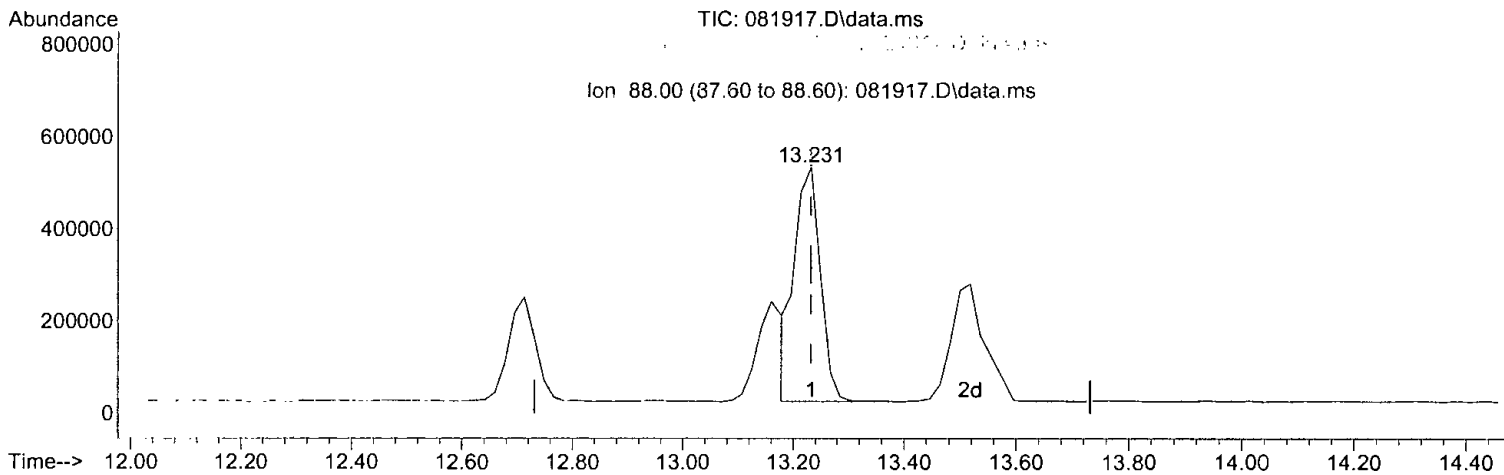
response 2351213

Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	38.38
63.00	8.40	10.09
88.00	7.60	7.18

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:38 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000) 51.711 ug/m3 m

response 1643117

Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	54.91
63.00	8.40	14.44
88.00	7.60	10.28

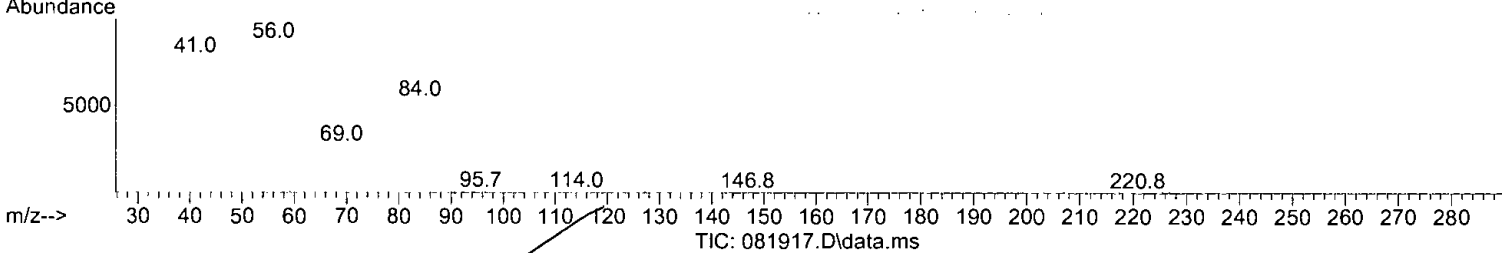
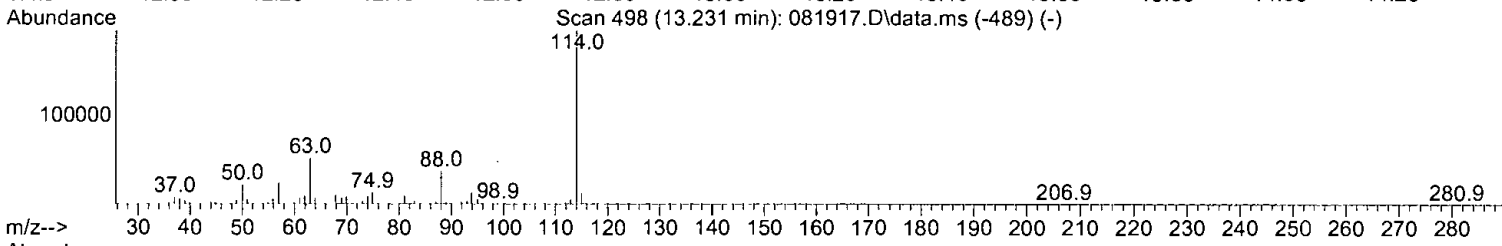
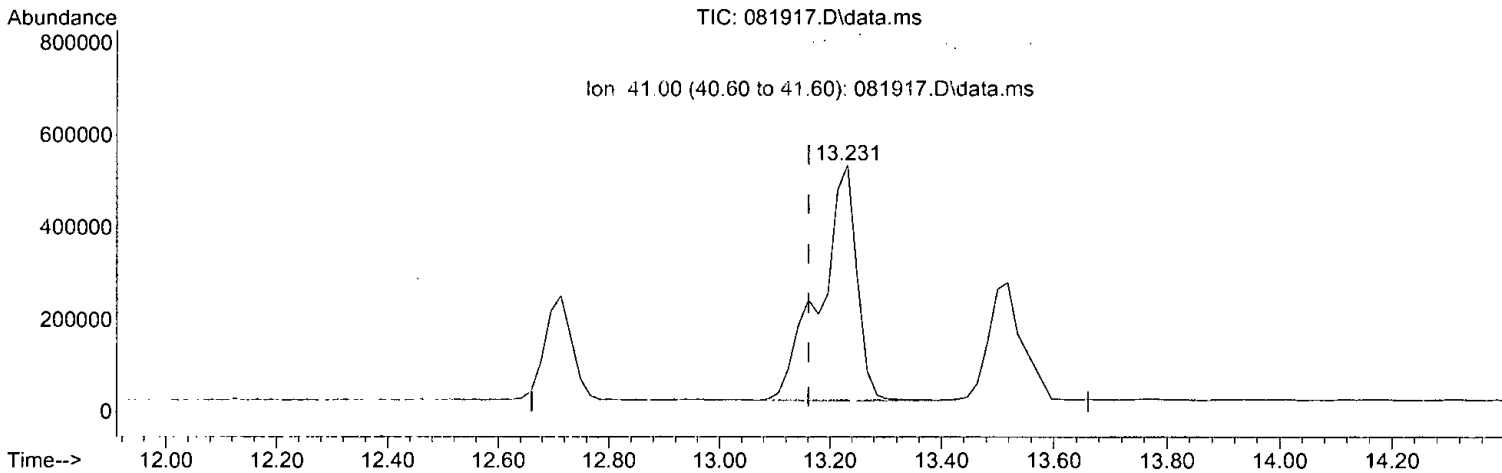
AS 8/20/21



Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:38 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.231min (+ 0.071) 56.211 ug/m3

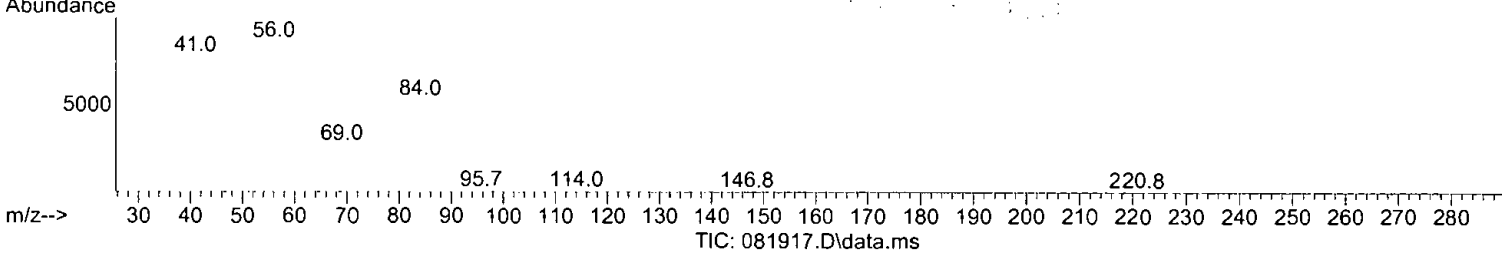
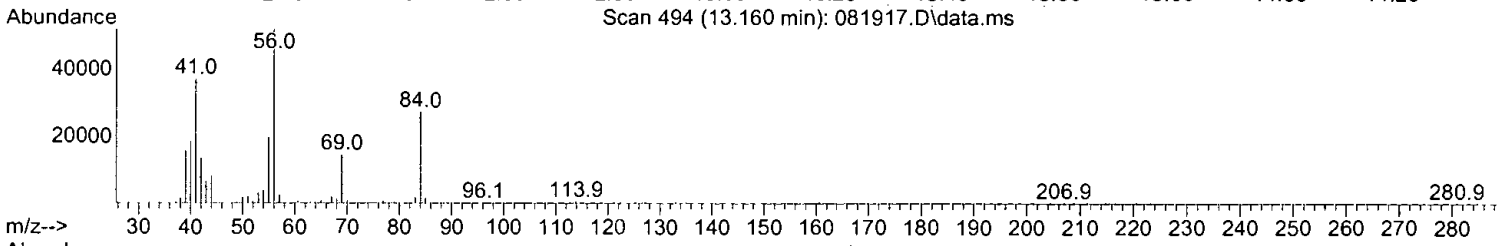
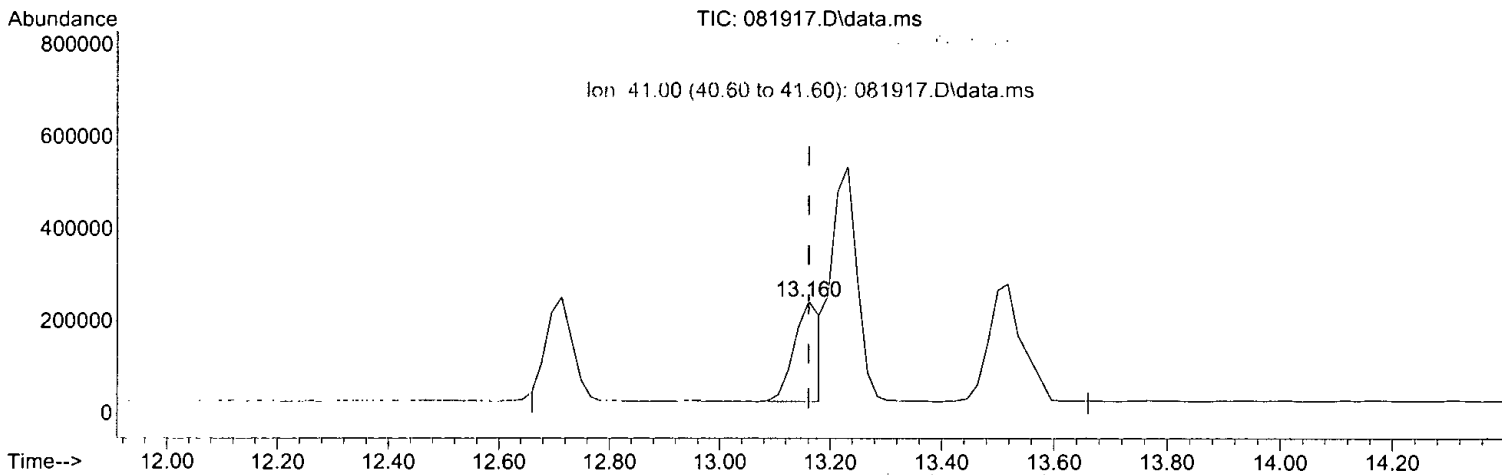
response 2351213

Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.80	1.18
84.00	1.00	0.15
41.00	0.50	0.06

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:38 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.160min (-0.000) 16.594 ug/m3 m

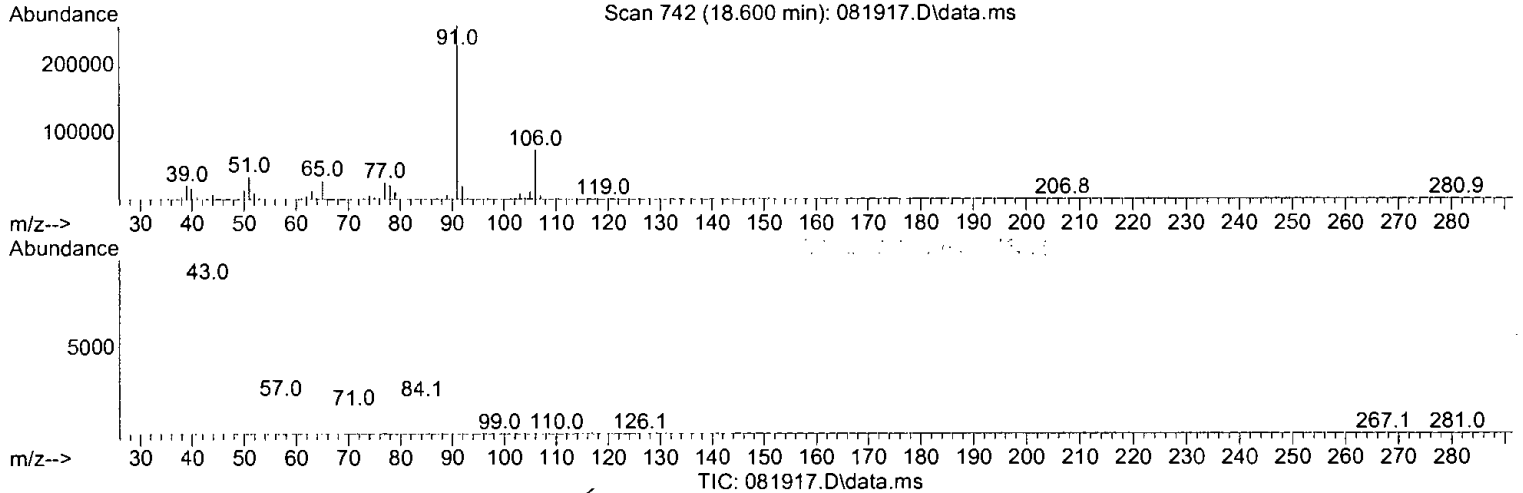
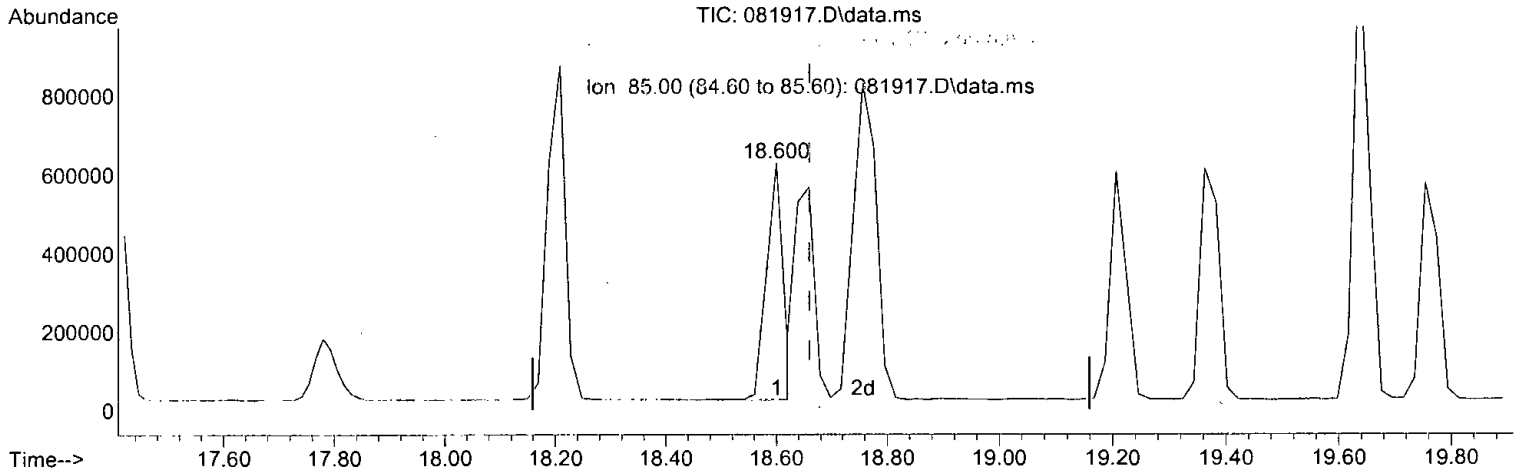
response	Signal	Exp%	Act%
694098	TIC	100.00	100.00
	56.00	3.80	4.01
	84.00	1.00	0.51
	41.00	0.50	0.21

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:38 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.600min (-0.059) 23.928 ug/m3

response 1267359

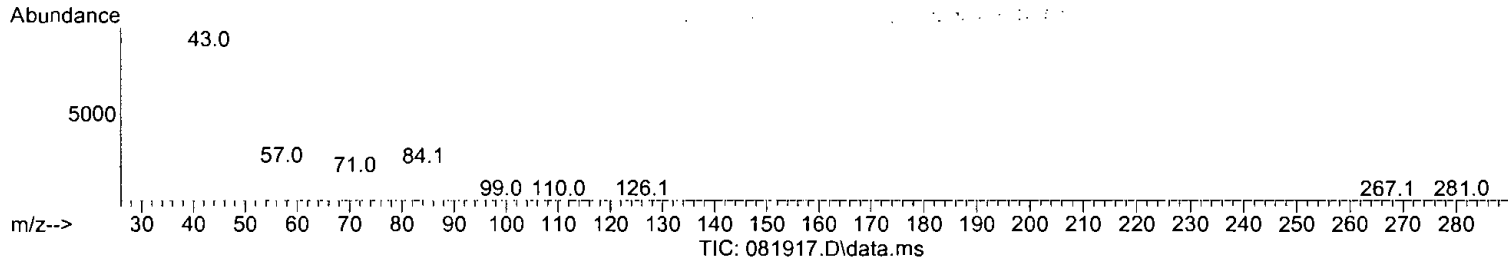
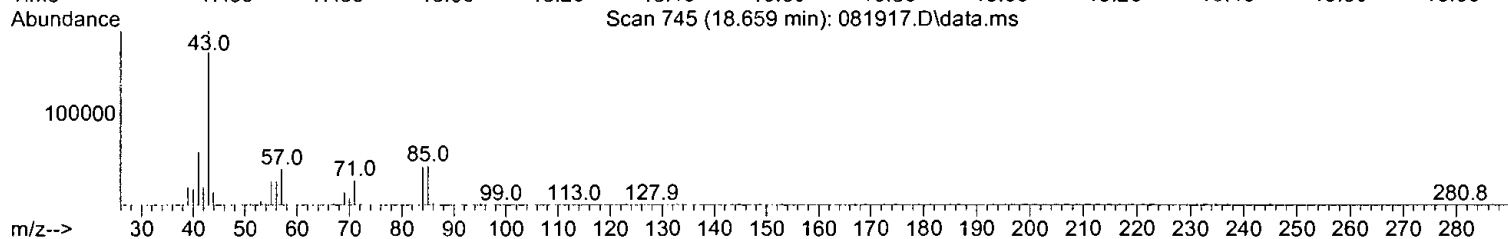
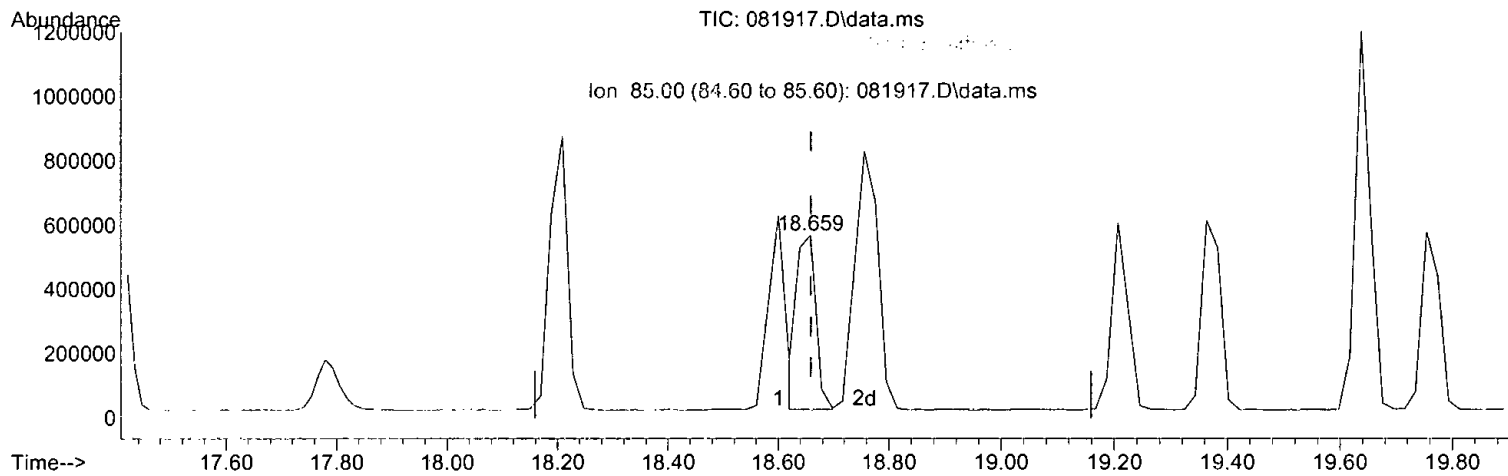
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	37.98#
84.00	9.90	8.00
85.00	9.20	8.17

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:38 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.659min (-0.000) 24.592 ug/m3 m

response 1302509

Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	36.95#
84.00	9.90	7.79#
85.00	9.20	7.95

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:43:11 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	126790	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	602586	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	527015	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	470123	71.201	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	100.28%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1116797	49.887	ug/m3	89
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1643117m	51.711	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1906696	49.473	ug/m3	92
5) Methylene chloride	0.00		0	N.D.	d	
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.28	54	76976	10.310	ug/m3	76
9) Methyl t-butyl ether	8.51	73	171084	17.504	ug/m3	89
11) Benzene	12.71	78	330937	16.153	ug/m3	91
12) Isopentane	5.68	TIC	653767	16.067	ug/m3	96
13) Hexane	10.11	TIC	733552	18.279	ug/m3	93
14) Cyclohexane	13.16	TIC	694098m	16.594	ug/m3	
15) 2,3-Dimethylpentane	13.52	TIC	1155278	21.643	ug/m3	97
16) Heptane	14.63	TIC	908569	20.828	ug/m3	93
17) Octane	17.41	TIC	1493322	24.965	ug/m3	87
18) APH EC5-8 aliphatics T...	12.71	TIC	5638586m	117.932	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	21451038m	448.653	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2250031	50.573	ug/m3	92
22) Hexamethylcyclotrisilo...	17.78	TIC	536187	48.929	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	742718	54.305	ppbv	100
24) Toluene	16.39	92	203030	17.956	ug/m3	99
25) Ethylbenzene	18.60	91	501128	21.461	ug/m3	96
26) m,p-Xylene	18.76	106	338431	43.102	ug/m3	88
27) o-Xylene	19.21	106	163974	22.076	ug/m3	83
28) Naphthalene	23.94	128	443989	23.416	ug/m3	99
29) 2,3-Dimethylheptane	18.66	TIC	1302509m	24.592	ug/m3	
30) Nonane	19.36	TIC	1380595	24.963	ug/m3	92
31) Decane	20.90	TIC	1623627	29.551	ug/m3	94
32) Butylcyclohexane	21.57	TIC	1693071	27.127	ug/m3	97
33) Undecane	22.28	TIC	1741622	31.961	ug/m3	97
34) Dodecane	23.79	TIC	1558724	34.850	ug/m3	94
35) APH EC9-12 aliphatics ...	21.57	TIC	9300148m	172.478	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	16586255m	307.604	ug/m3	
38) Isopropylbenzene	19.75	120	100783	24.381	ug/m3#	82
39) 1-Methyl-3-ethylbenzene	20.33	120	139321	24.101	ug/m3#	87
40) 1,3,5-Trimethylbenzene	20.45	120	178557	24.411	ug/m3	91
41) p-Isopropyltoluene	21.28	134	98707	27.467	ug/m3#	75
42) 1,2,3-Trimethylbenzene	21.31	120	208865	24.330	ug/m3	90
43) APH EC9-10 aromatics T...	21.57	TIC	726233m	127.733	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	499360m	79.542	ug/m3	

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
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 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

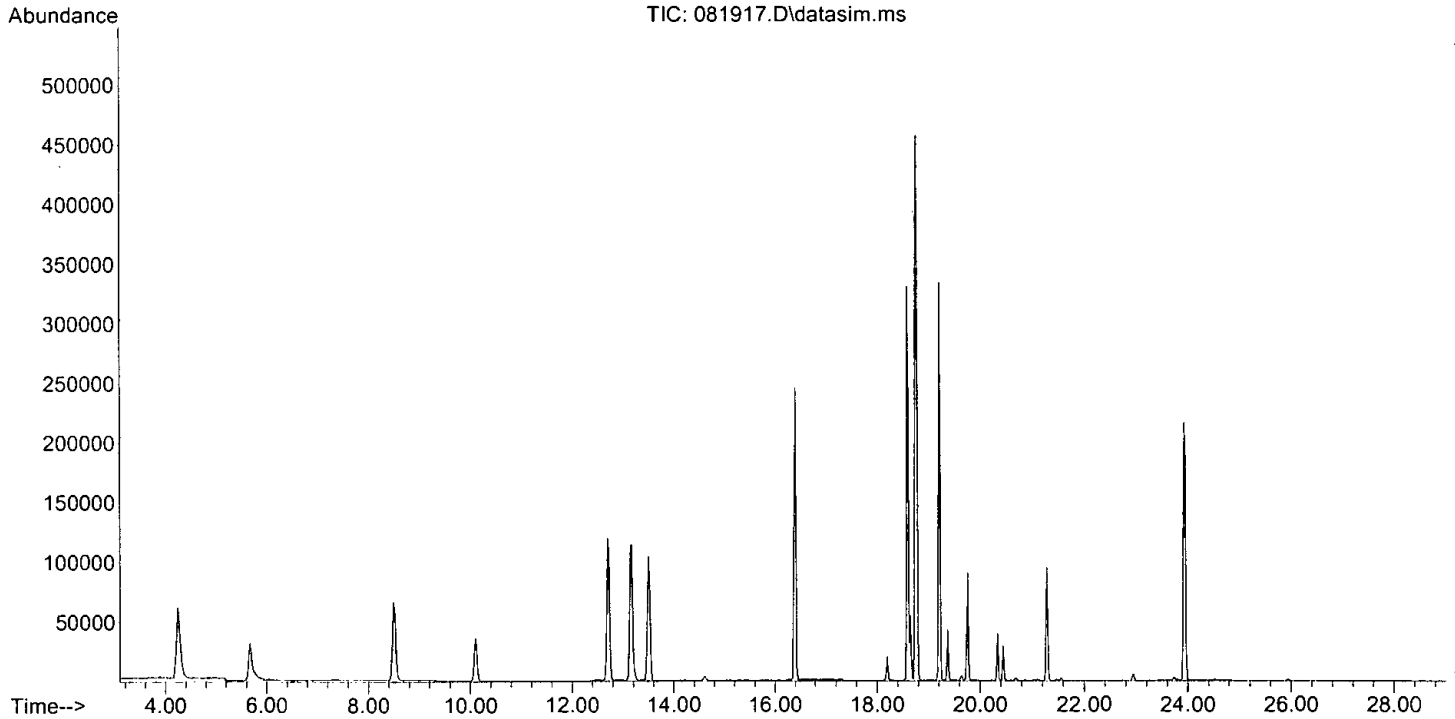
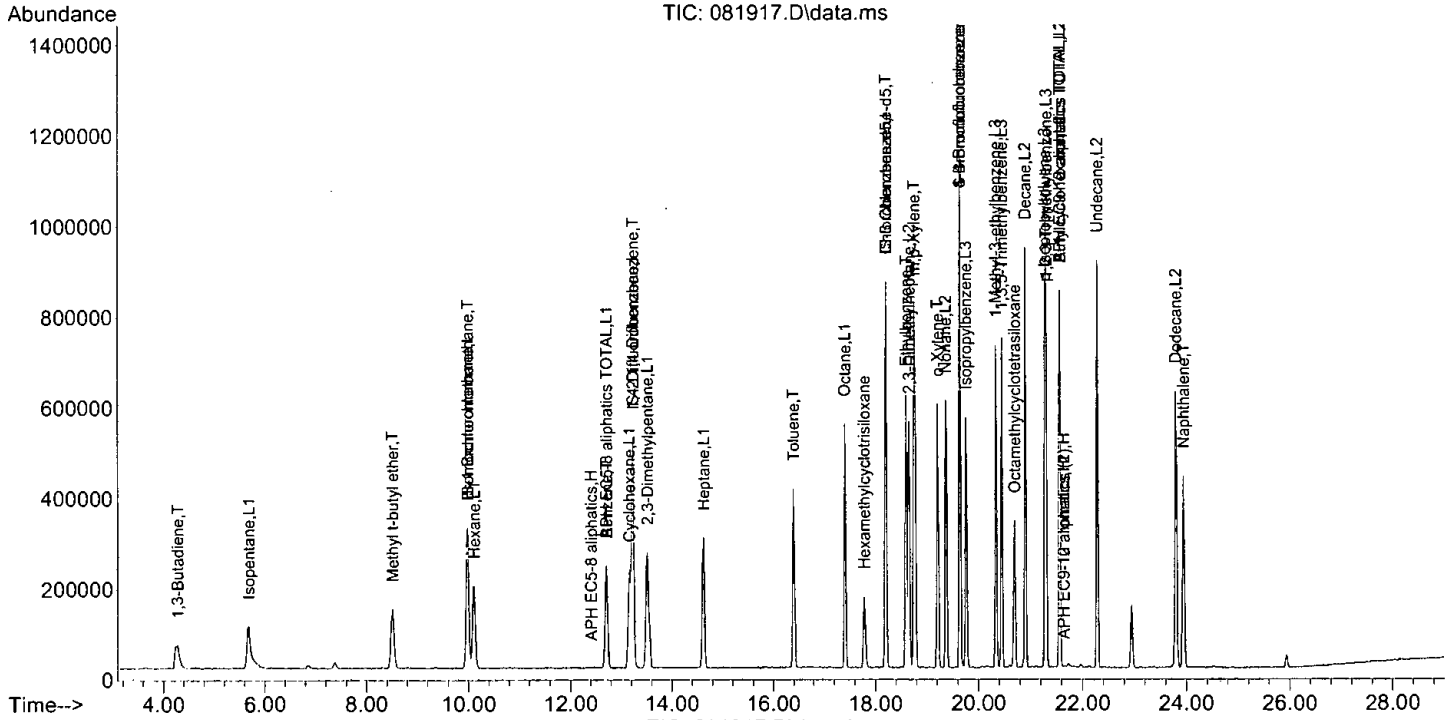
Quant Time: Aug 20 10:43:11 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	98711m	27.606	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
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 InstName : GCMS7

Quant Time: Aug 20 10:43:11 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
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 DataAcq Meth:TO15DC.M



## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:43:11 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	50.000	49.887	0.2	100	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	51.711	-3.4	99	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	49.473	1.1	100	0.00
5 T	Methylene chloride	50.000	0.000	100.0#	0	-6.86#
6	Acetone	50.000	0.000	100.0#	0	-5.68#
7	2-Propanol	50.000	0.000	100.0#	0	-5.84#
8 T	1,3-Butadiene	11.000	10.310	6.3	100	0.00
9 T	Methyl t-butyl ether	18.000	17.504	2.8	100	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.00
11 T	Benzene	16.000	16.153	-1.0	100	0.00
12 L1	Isopentane	15.000	16.067	-7.1	100	0.00
13 L1	Hexane	17.500	18.279	-4.5	100	0.00
14 L1	Cyclohexane	17.500	16.594	5.2	99	0.00
15 L1	2,3-Dimethylpentane	21.000	21.643	-3.1	100	0.00
16 L1	Heptane	21.000	20.828	0.8	100	0.00
17 L1	Octane	23.500	24.965	-6.2	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	115.000	117.932	-2.5	100	0.00
19 H	APH EC5-8 aliphatics	115.000	448.653	-290.1#	380	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	50.573	-1.1	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	48.929	2.1	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	54.305	-8.6	100	0.00
24 T	Toluene	18.750	17.956	4.2	100	0.00
25 T	Ethylbenzene	21.750	21.461	1.3	100	0.00
26 T	m,p-Xylene	44.000	43.102	2.0	100	0.00
27 T	o-Xylene	22.000	22.076	-0.3	100	0.00
28 T	Naphthalene	25.000	23.416	6.3	100	0.00
29 L2	2,3-Dimethylheptane	25.000	24.592	1.6	99	0.00
30 L2	Nonane	25.000	24.963	0.1	100	0.00
31 L2	Decane	30.000	29.551	1.5	100	0.00
32 L2	Butylcyclohexane	27.500	27.127	1.4	100	0.00
33 L2	Undecane	32.500	31.961	1.7	100	0.00
34 L2	Dodecane	35.000	34.850	0.4	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	175.000	172.478	1.4	100	0.00
36 H	APH EC9-12 aliphatics	175.000	307.604	-75.8#	178	0.00
37 S	4-Bromofluorobenzene	71.000	71.201	-0.3	100	0.00
38 L3	Isopropylbenzene	24.500	24.381	0.5	100	0.00
39 L3	1-Methyl-3-ethylbenzene	24.500	24.101	1.6	100	0.00
40 L3	1,3,5-Trimethylbenzene	24.500	24.411	0.4	100	0.00
41 L3	p-Isopropyltoluene	27.750	27.467	1.0	100	0.00
42 L3	1,2,3-Trimethylbenzene	24.500	24.330	0.7	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	125.400	127.733	-1.9	100	0.00
44 H	APH EC9-10 aromatics (1)	98.000	79.542	18.8	80	0.00



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:43:11 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	27.400	27.606	-0.8	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
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 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	8.828	8.808	0.2	100	0.00
3 T	IS-2 1,4-Difluorobenzene	12.530	12.959	-3.4	99	0.00
4 T	IS-3 Chlorobenzene-d5	15.199	15.038	1.1	100	0.00
5 T	Methylene chloride	0.447	0.000	100.0#	0#	-6.86#
6	Acetone	23.578	0.000	100.0#	0#	-5.68#
7	2-Propanol	0.137	0.000	100.0#	0#	-5.84#
8 T	1,3-Butadiene	2.944	2.760	6.3	100	0.00
9 T	Methyl t-butyl ether	3.854	3.748	2.8	100	0.00
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
11 T	Benzene	1.700	1.716	-0.9	100	0.00
12 L1	Isopentane	3.376	3.616	-7.1	100	0.00
13 L1	Hexane	3.421	3.478	-1.7	100	0.00
14 L1	Cyclohexane	3.471	3.291	5.2	99	0.00
15 L1	2,3-Dimethylpentane	4.429	4.565	-3.1	100	0.00
16 L1	Heptane	3.620	3.590	0.8	100	0.00
17 L1	Octane	4.963	5.273	-6.2	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	3.967	4.068	-2.5	100	0.00
19 H	APH EC5-8 aliphatics	3.967	15.478	-290.2#	380#	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	4.221	4.269	-1.1	100	0.00
22	Hexamethylcyclotrisiloxane	1.040	1.017	2.2	100	0.00
23	Octamethylcyclotetrasiloxan	1.298	1.409	-8.6	100	0.00
24 T	Toluene	1.073	1.027	4.3	100	0.00
25 T	Ethylbenzene	2.215	2.186	1.3	100	0.00
26 T	m,p-Xylene	0.745	0.730	2.0	100	0.00
27 T	o-Xylene	0.705	0.707	-0.3	100	0.00
28 T	Naphthalene	1.799	1.685	6.3	100	0.00
29 L2	2,3-Dimethylheptane	5.025	4.943	1.6	99	0.00
30 L2	Nonane	5.247	5.239	0.2	100	0.00
31 L2	Decane	5.213	5.135	1.5	100	0.00
32 L2	Butylcyclohexane	5.921	5.841	1.4	100	0.00
33 L2	Undecane	5.170	5.084	1.7	100	0.00
34 L2	Dodecane	4.243	4.225	0.4	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	5.116	5.042	1.4	100	0.00
36 H	APH EC9-12 aliphatics	5.116	8.992	-75.8#	178	0.00
37 S	4-Bromofluorobenzene	0.626	0.628	-0.3	100	0.00
38 L3	Isopropylbenzene	0.392	0.390	0.5	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.548	0.540	1.5	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.694	0.691	0.4	100	0.00
41 L3	p-Isopropyltoluene	0.341	0.337	1.2	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.814	0.809	0.6	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.539	0.549	-1.9	100	0.00
44 H	APH EC9-10 aromatics (1)	0.596	0.483	19.0	80	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081917.D  
 Acq On : 19 Aug 2021 7:59 pm  
 Operator : bat  
 Sample : 5 ppbv, 64-38a  
 Misc : line 2, 50cc  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:43:11 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.339	0.342	-0.9	100	0.00

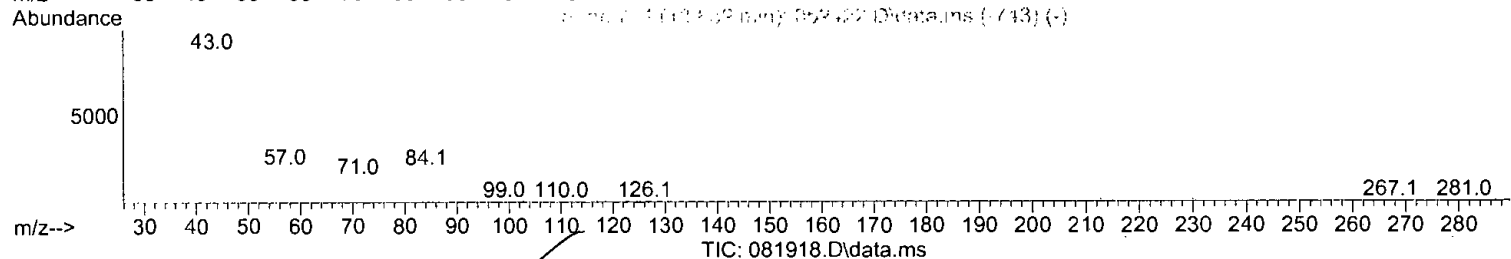
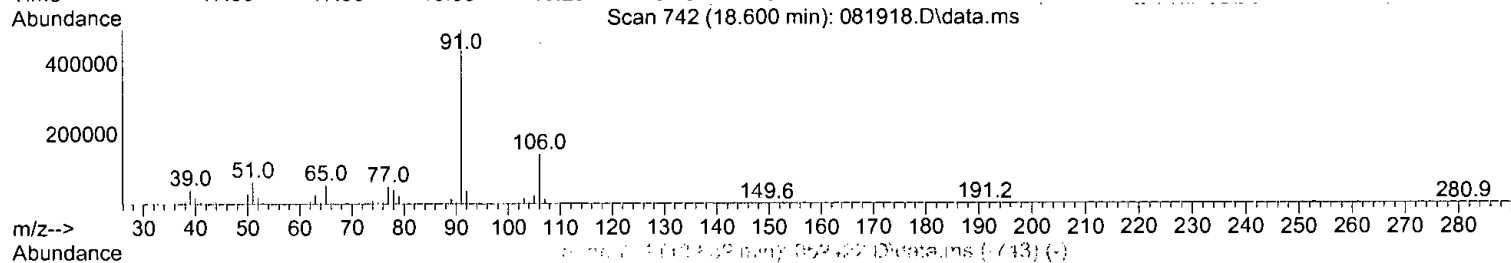
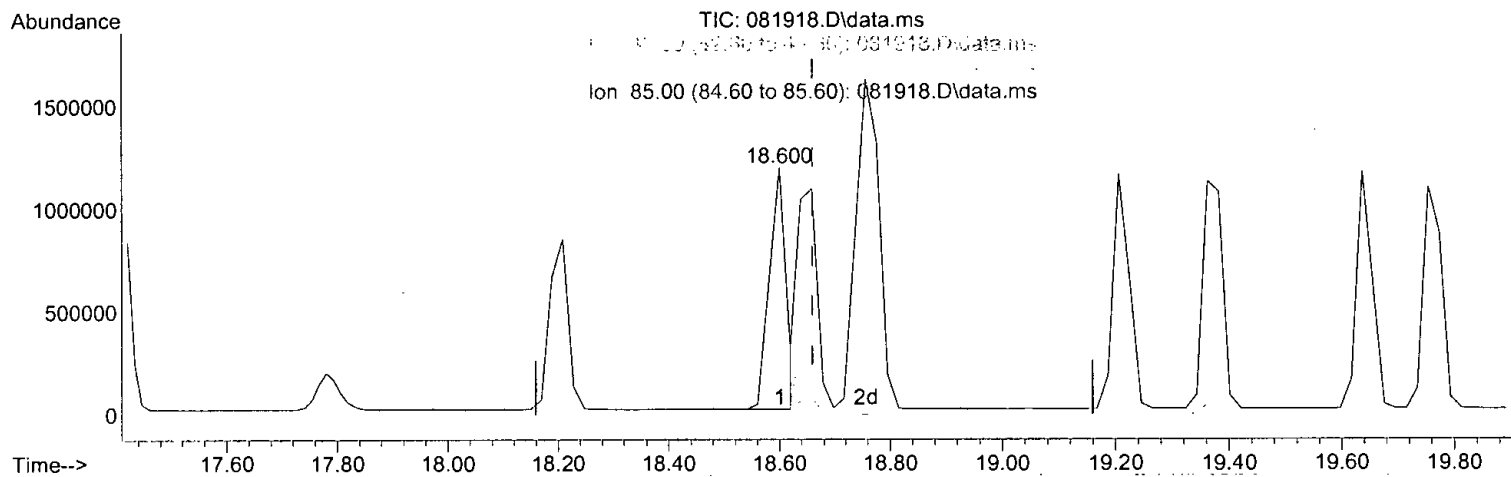
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081918.D  
 Acq On : 19 Aug 2021 8:36 pm  
 Operator : bat  
 Sample : 10 ppbv, 64-38a  
 Misc : line 2, 100cc  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:42 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.600min (-0.059) 45.639 ug/m3

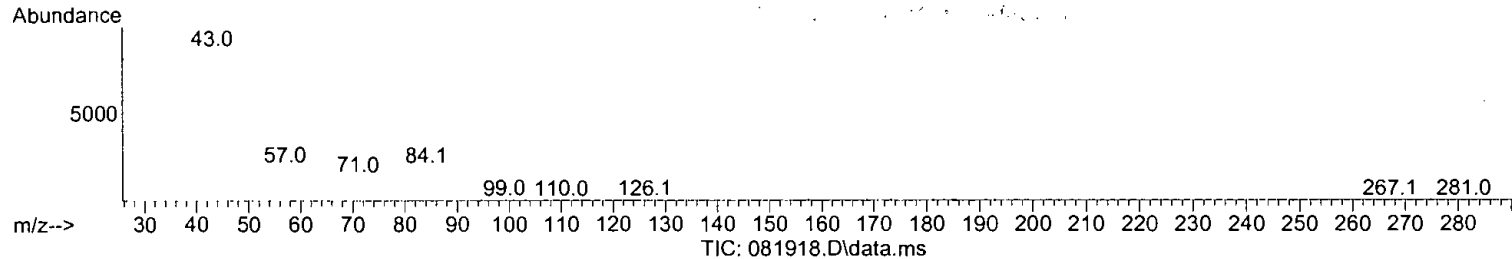
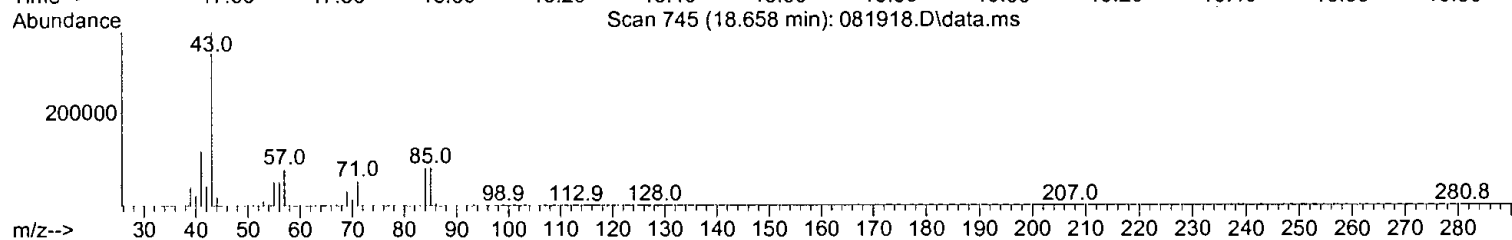
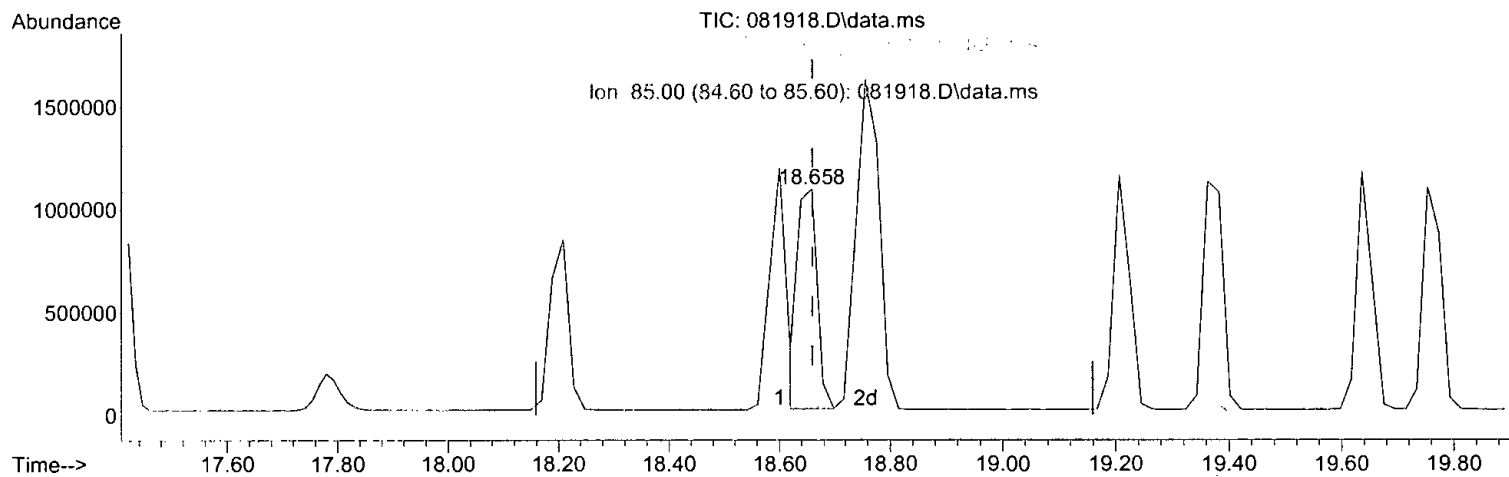
response 2461722

Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	39.03#
84.00	9.90	8.13
85.00	9.20	8.15

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081918.D  
 Acq On : 19 Aug 2021 8:36 pm  
 Operator : bat  
 Sample : 10 ppbv, 64-38a  
 Misc : line 2, 100cc  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:42 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.658min (-0.001) 48.090 ug/m3 m

response 2593963

Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	37.04#
84.00	9.90	7.71#
85.00	9.20	7.73

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081918.D  
 Acq On : 19 Aug 2021 8:36 pm  
 Operator : bat  
 Sample : 10 ppbv, 64-38a  
 Misc : line 2, 100cc  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:44:42 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	125914	50.000	ug/m3	#-0.02
10) 1,4-Difluorobenzene	13.23	114	603448	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	536705	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	473978	70.489	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	99.28%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.97	TIC	1128925	50.779	ug/m3	87
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1368359	43.364	ug/m3	93
4) IS-3 Chlorobenzene-d5	18.21	TIC	1944315	50.800	ug/m3	92
5) Methylene chloride	0.00		0	N.D.	d	
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.24	54	155465	20.968	ug/m3	81
9) Methyl t-butyl ether	8.51	73	337567	34.778	ug/m3	90
11) Benzene	12.71	78	646762	31.523	ug/m3	92
12) Isopentane	5.66	TIC	1233754	30.277	ug/m3	97
13) Hexane	10.10	TIC	1392611	34.855	ug/m3	94
14) Cyclohexane	13.16	TIC	1726325	41.213	ug/m3	49
15) 2,3-Dimethylpentane	13.50	TIC	2127731	39.803	ug/m3	94
16) Heptane	14.60	TIC	1826958	41.821	ug/m3	93
17) Octane	17.41	TIC	2929013	48.898	ug/m3	86
18) APH EC5-8 aliphatics T...	12.71	TIC	11236392m	234.676	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	37597885m	785.244	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2253032	49.726	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	628585	56.325	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	900747	64.670	ppbv	100
24) Toluene	16.39	92	409537	35.566	ug/m3	100
25) Ethylbenzene	18.60	91	986533	41.487	ug/m3	96
26) m,p-Xylene	18.76	106	676903	84.653	ug/m3	88
27) o-Xylene	19.21	106	329101	43.507	ug/m3	88
28) Naphthalene	23.94	128	948496	49.120	ug/m3	100
29) 2,3-Dimethylheptane	18.66	TIC	2593963m	48.090	ug/m3	
30) Nonane	19.36	TIC	2710077	48.117	ug/m3	92
31) Decane	20.90	TIC	3258199	58.231	ug/m3	94
32) Butylcyclohexane	21.57	TIC	3376173	53.117	ug/m3	97
33) Undecane	22.28	TIC	3479336	62.698	ug/m3	97
34) Dodecane	23.79	TIC	3045103	66.854	ug/m3	94
35) APH EC9-12 aliphatics ...	21.57	TIC	18462851m	336.225	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	29242734m	532.536	ug/m3	
38) Isopropylbenzene	19.75	120	203037	48.232	ug/m3#	85
39) 1-Methyl-3-ethylbenzene	20.33	120	282597	48.003	ug/m3#	88
40) 1,3,5-Trimethylbenzene	20.45	120	354783	47.627	ug/m3	90
41) p-Isopropyltoluene	21.28	134	200117	54.681	ug/m3#	77
42) 1,2,3-Trimethylbenzene	21.31	120	416898	47.686	ug/m3	90
43) APH EC9-10 aromatics T...	21.57	TIC	1457432m	251.712	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	993205m	155.349	ug/m3	

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081918.D  
 Acq On : 19 Aug 2021 8:36 pm  
 Operator : bat  
 Sample : 10 ppbv, 64-38a  
 Misc : line 2, 100cc  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

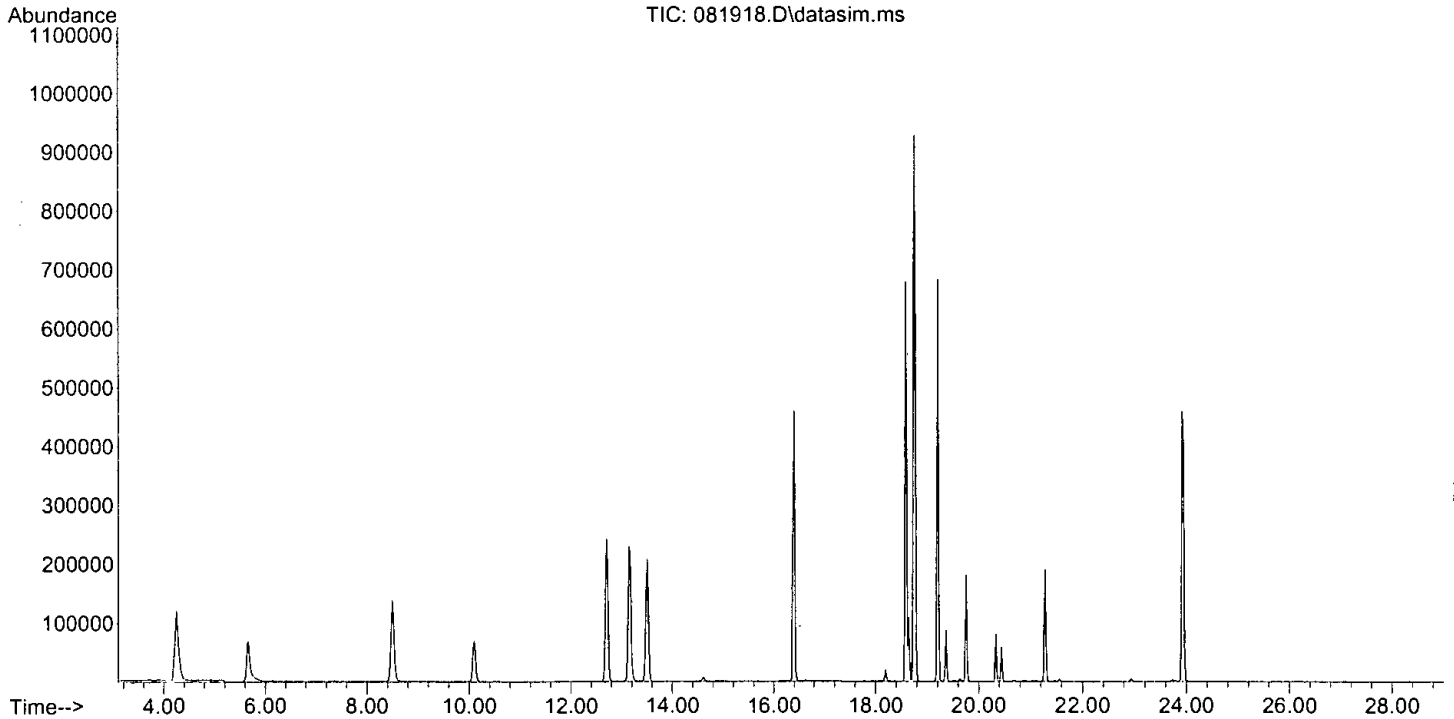
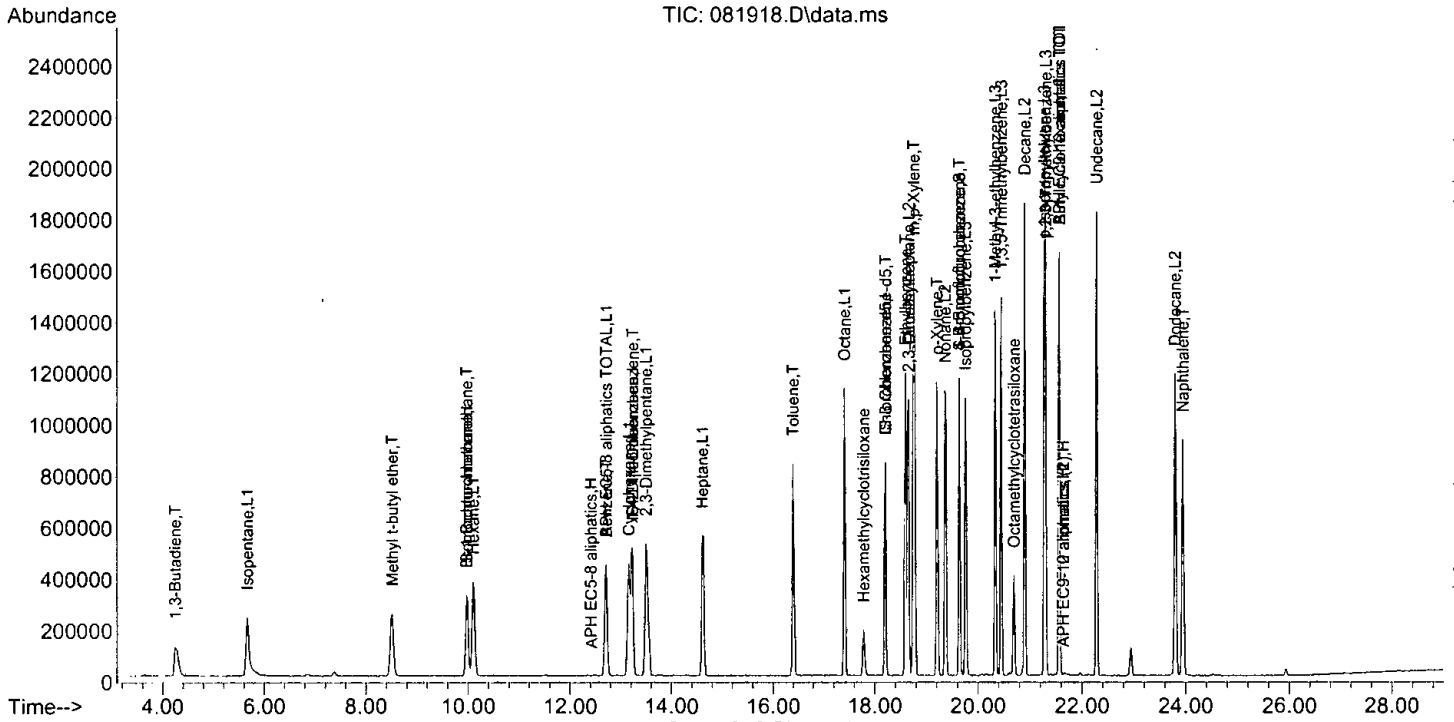
Quant Time: Aug 20 10:44:42 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	200104m	54.951	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081918.D  
 Acq On : 19 Aug 2021 8:36 pm  
 Operator : bat  
 Sample : 10 ppbv, 64-38a  
 Misc : line 2, 100cc  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:44:42 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





## Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081918.D  
 Acq On : 19 Aug 2021 8:36 pm  
 Operator : bat  
 Sample : 10 ppbv, 64-38a  
 Misc : line 2, 100cc  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:44:42 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	-0.02
2 T	IS-1 Bromochloromethane	50.000	50.779	-1.6	100	-0.02
3 T	IS-2 1,4-Difluorobenzene	50.000	43.364	13.3	100	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	50.800	-1.6	100	0.00
5 T	Methylene chloride	50.000	0.000	100.0#	0	-6.86#
6	Acetone	50.000	0.000	100.0#	0	-5.68#
7	2-Propanol	50.000	0.000	100.0#	0	-5.84#
8 T	1,3-Butadiene	22.000	20.968	4.7	100	-0.04
9 T	Methyl t-butyl ether	36.000	34.778	3.4	100	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.00
11 T	Benzene	32.000	31.523	1.5	100	0.00
12 L1	Isopentane	30.000	30.277	-0.9	101	-0.02
13 L1	Hexane	35.000	34.855	0.4	100	-0.02
14 L1	Cyclohexane	35.000	41.213	-17.8	100	0.00
15 L1	2,3-Dimethylpentane	42.000	39.803	5.2	100	-0.02
16 L1	Heptane	42.000	41.821	0.4	100	-0.02
17 L1	Octane	47.000	48.898	-4.0	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	230.000	234.676	-2.0	100	0.00
19 H	APH EC5-8 aliphatics	230.000	785.244	-241.4#	335	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	49.726	0.5	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	56.325	-12.7	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	64.670	-29.3	100	0.00
24 T	Toluene	37.500	35.566	5.2	100	0.00
25 T	Ethylbenzene	43.500	41.487	4.6	100	0.00
26 T	m,p-Xylene	88.000	84.653	3.8	100	0.00
27 T	o-Xylene	44.000	43.507	1.1	100	0.00
28 T	Naphthalene	50.000	49.120	1.8	100	0.00
29 L2	2,3-Dimethylheptane	50.000	48.090	3.8	100	0.00
30 L2	Nonane	50.000	48.117	3.8	100	0.00
31 L2	Decane	60.000	58.231	2.9	100	0.00
32 L2	Butylcyclohexane	55.000	53.117	3.4	100	0.00
33 L2	Undecane	65.000	62.698	3.5	100	0.00
34 L2	Dodecane	70.000	66.854	4.5	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	350.000	336.225	3.9	100	0.00
36 H	APH EC9-12 aliphatics	350.000	532.536	-52.2#	158	0.00
37 S	4-Bromofluorobenzene	71.000	70.489	0.7	100	0.00
38 L3	Isopropylbenzene	49.000	48.232	1.6	100	0.00
39 L3	1-Methyl-3-ethylbenzene	49.000	48.003	2.0	100	0.00
40 L3	1,3,5-Trimethylbenzene	49.000	47.627	2.8	100	0.00
41 L3	p-Isopropyltoluene	55.000	54.681	0.6	100	0.00
42 L3	1,2,3-Trimethylbenzene	49.000	47.686	2.7	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	250.800	251.712	-0.4	100	0.00
44 H	APH EC9-10 aromatics (1)	196.000	155.349	20.7	78	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081918.D  
 Acq On : 19 Aug 2021 8:36 pm  
 Operator : bat  
 Sample : 10 ppbv, 64-38a  
 Misc : line 2, 100cc  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:44:42 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	54.800	54.951	-0.3	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081918.D  
 Acq On : 19 Aug 2021 8:36 pm  
 Operator : bat  
 Sample : 10 ppbv, 64-38a  
 Misc : line 2, 100cc  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:44:42 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	-0.02
2 T	IS-1 Bromochloromethane	8.828	8.966	-1.6	100	-0.02
3 T	IS-2 1,4-Difluorobenzene	12.530	10.867	13.3	100	0.00
4 T	IS-3 Chlorobenzene-d5	15.199	15.442	-1.6	100	0.00
5 T	Methylene chloride	0.447	0.000	100.0#	0#	-6.86#
6	Acetone	23.578	0.000	100.0#	0#	-5.68#
7	2-Propanol	0.137	0.000	100.0#	0#	-5.84#
8 T	1,3-Butadiene	2.944	2.806	4.7	100	-0.04
9 T	Methyl t-butyl ether	3.854	3.724	3.4	100	0.00
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
11 T	Benzene	1.700	1.675	1.5	100	0.00
12 L1	Isopentane	3.376	3.408	-0.9	101	-0.02
13 L1	Hexane	3.421	3.297	3.6	100	-0.02
14 L1	Cyclohexane	3.471	4.087	-17.7	100	0.00
15 L1	2,3-Dimethylpentane	4.429	4.198	5.2	100	-0.02
16 L1	Heptane	3.620	3.604	0.4	100	-0.02
17 L1	Octane	4.963	5.164	-4.0	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	3.967	4.048	-2.0	100	0.00
19 H	APH EC5-8 aliphatics	3.967	13.545	-241.4#	335#	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	4.221	4.198	0.5	100	0.00
22	Hexamethylcyclotrisiloxane	1.040	1.171	-12.6	100	0.00
23	Octamethylcyclotetrasiloxan	1.298	1.678	-29.3	100	0.00
24 T	Toluene	1.073	1.017	5.2	100	0.00
25 T	Ethylbenzene	2.215	2.113	4.6	100	0.00
26 T	m,p-Xylene	0.745	0.717	3.8	100	0.00
27 T	o-Xylene	0.705	0.697	1.1	100	0.00
28 T	Naphthalene	1.799	1.767	1.8	100	0.00
29 L2	2,3-Dimethylheptane	5.025	4.833	3.8	100	0.00
30 L2	Nonane	5.247	5.049	3.8	100	0.00
31 L2	Decane	5.213	5.059	3.0	100	0.00
32 L2	Butylcyclohexane	5.921	5.719	3.4	100	0.00
33 L2	Undecane	5.170	4.987	3.5	100	0.00
34 L2	Dodecane	4.243	4.053	4.5	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	5.116	4.914	3.9	100	0.00
36 H	APH EC9-12 aliphatics	5.116	7.784	-52.2#	158	0.00
37 S	4-Bromofluorobenzene	0.626	0.622	0.6	100	0.00
38 L3	Isopropylbenzene	0.392	0.386	1.5	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.548	0.537	2.0	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.694	0.675	2.7	100	0.00
41 L3	p-Isopropyltoluene	0.341	0.339	0.6	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.814	0.793	2.6	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.539	0.541	-0.4	100	0.00
44 H	APH EC9-10 aromatics (1)	0.596	0.472	20.8	78	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081918.D  
 Acq On : 19 Aug 2021 8:36 pm  
 Operator : bat  
 Sample : 10 ppbv, 64-38a  
 Misc : line 2, 100cc  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:44:42 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.339	0.340	-0.3	100	0.00

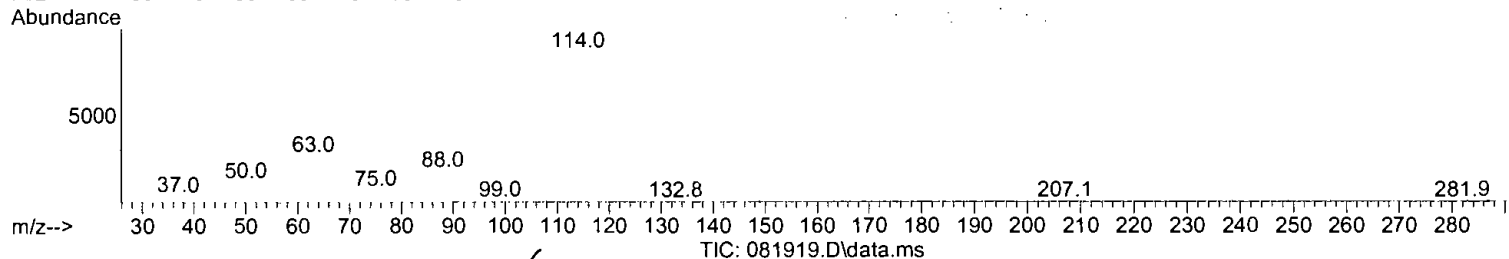
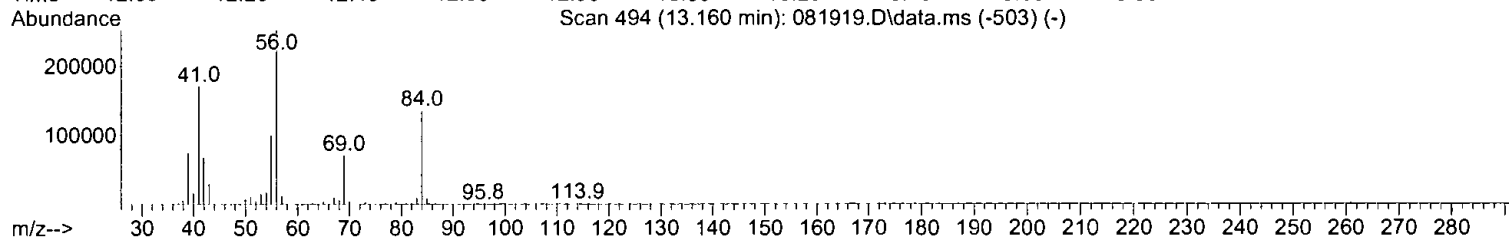
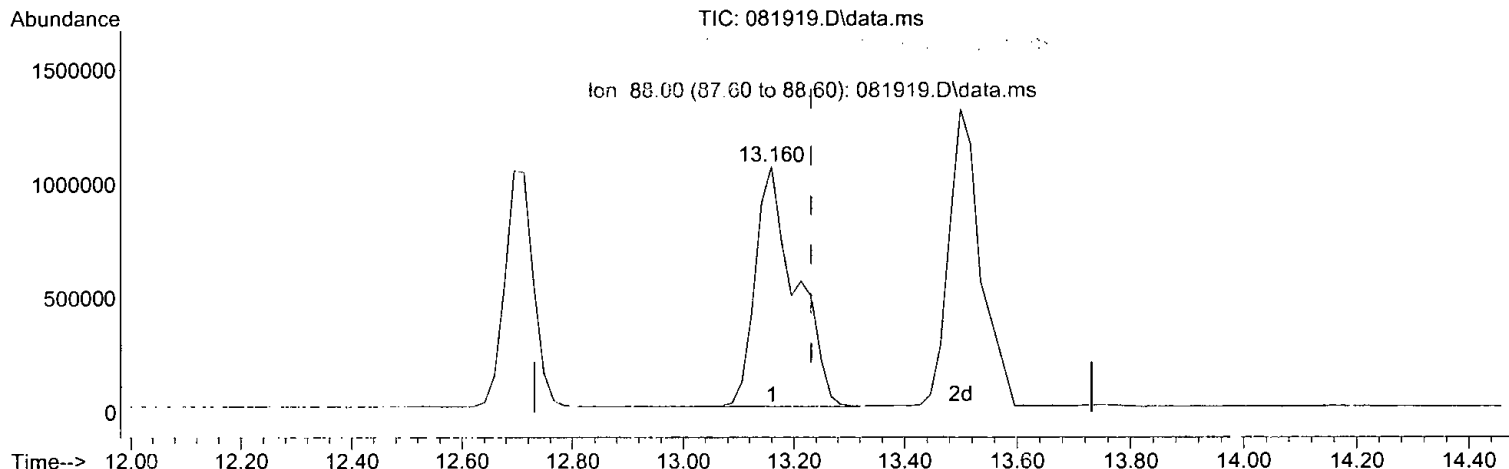
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.160min (-0.071) 166.486 ug/m3

response 5331143

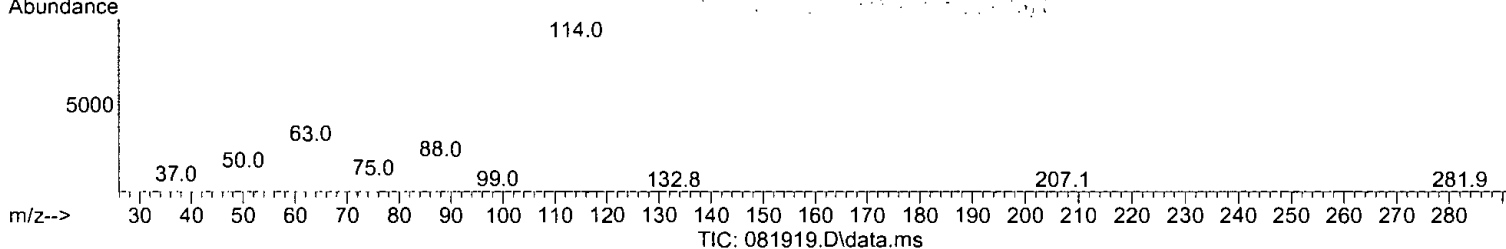
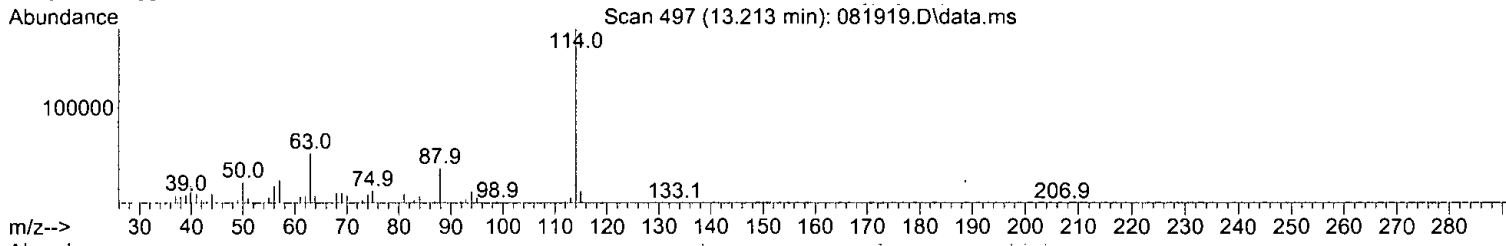
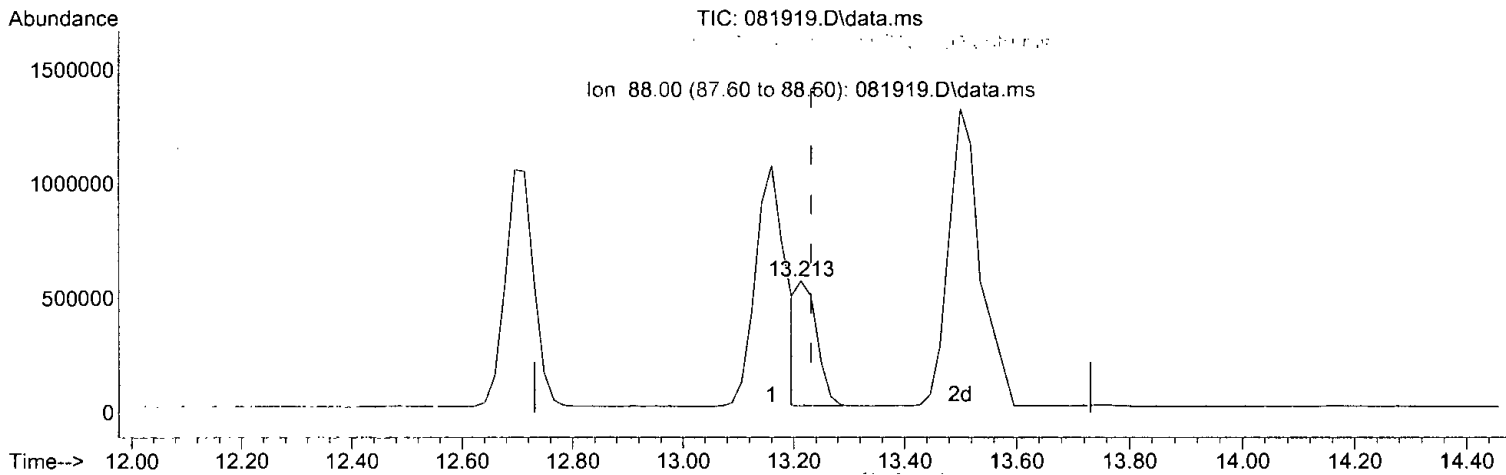
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	0.13#
63.00	8.40	0.22
88.00	7.60	0.03

AS 8/20/21

Quantitation Report (Qedit)

Data Path : Z:\Proc GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.213min (-0.018) 42.236 ug/m3 m

response 1352476

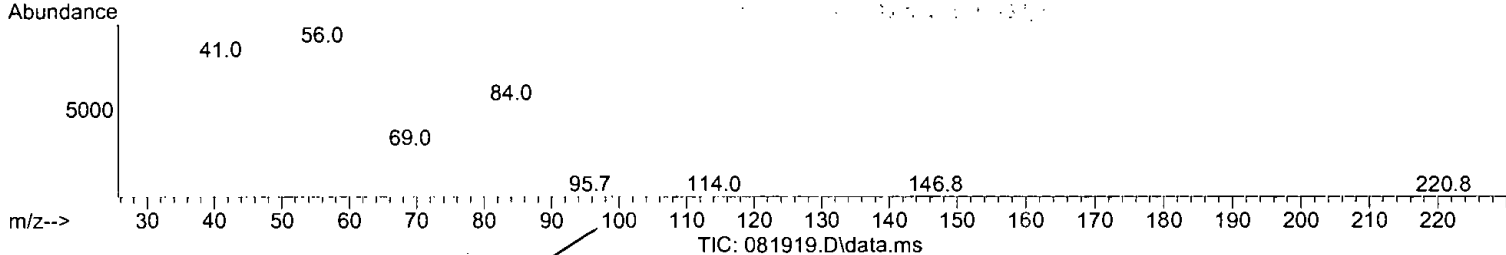
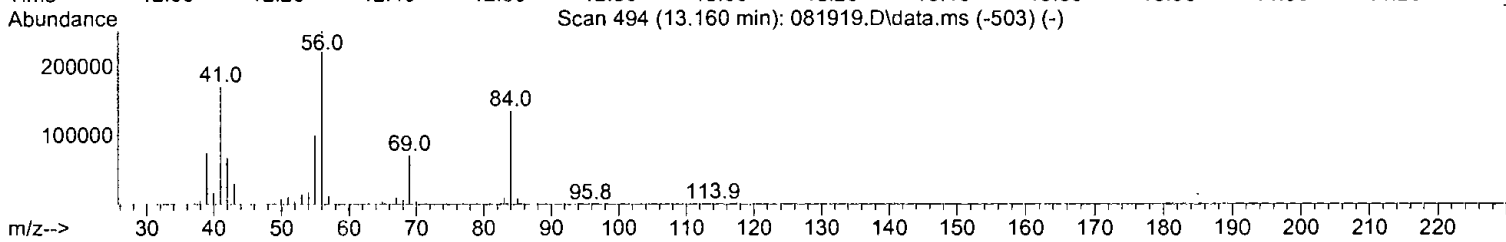
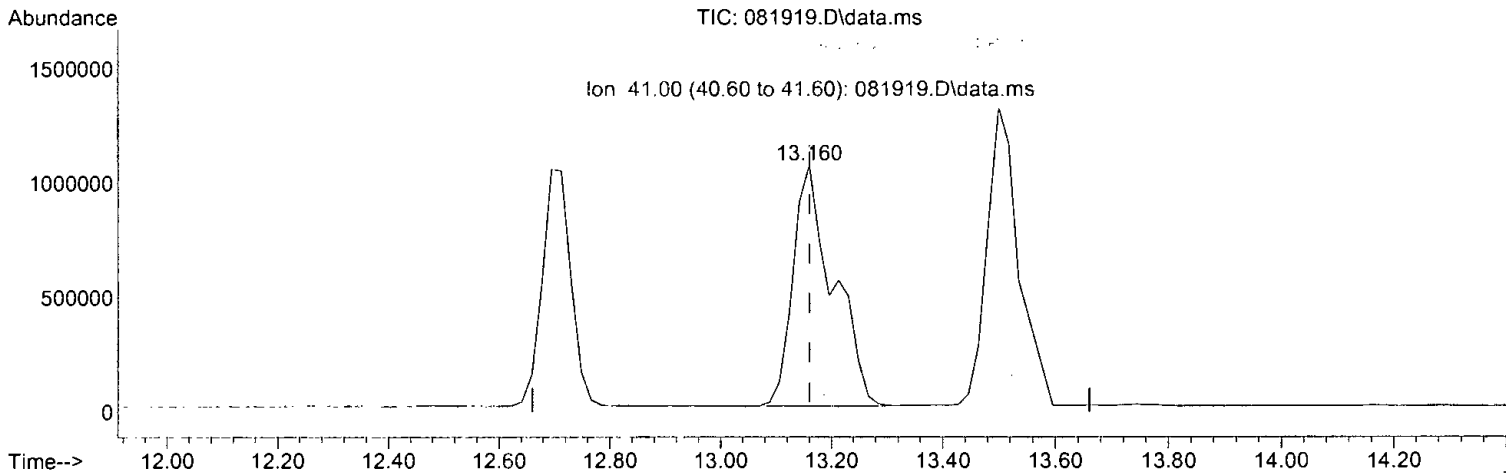
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	0.51#
63.00	8.40	0.86
88.00	7.60	0.11

*AS 8/20/21*

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.160min (-0.000) 126.719 ug/m3

response 5331143

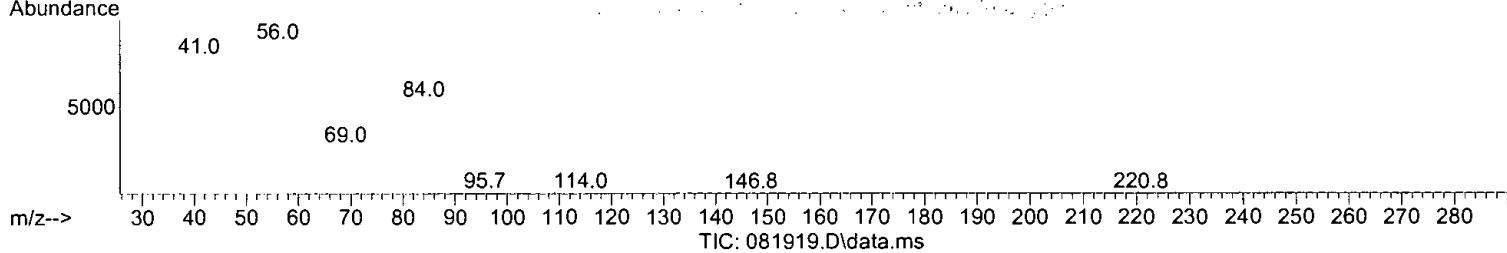
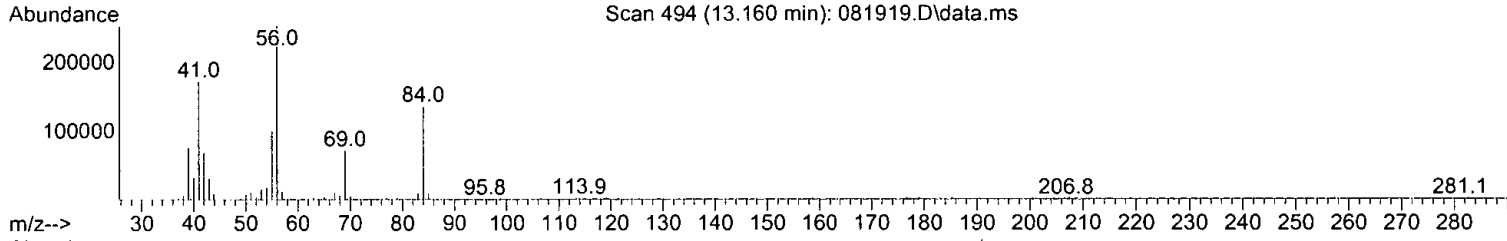
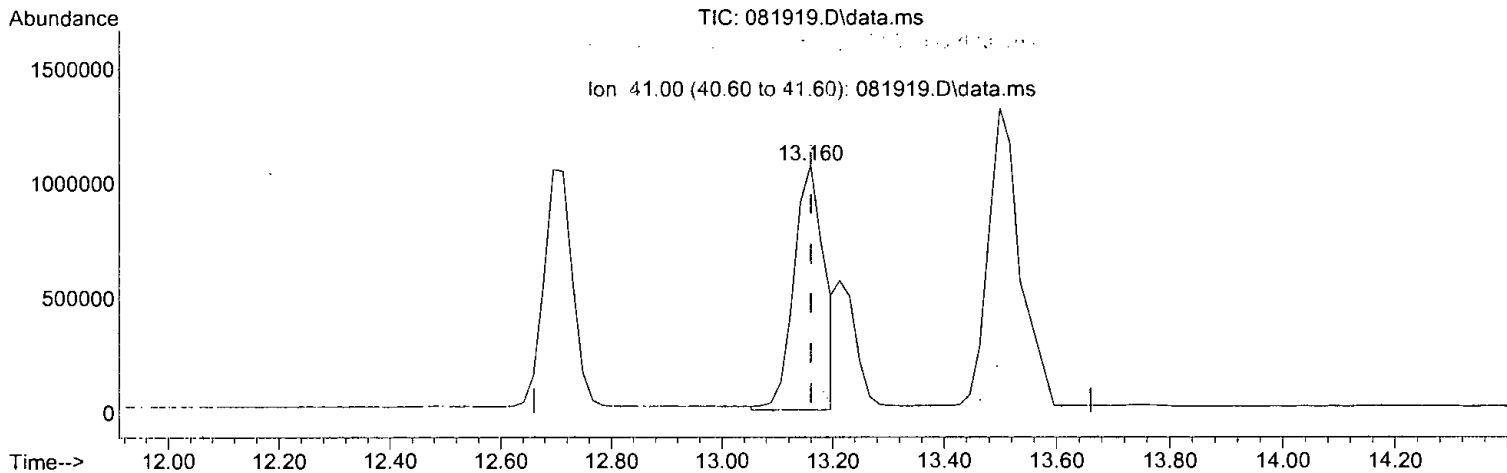
Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.80	23.96
84.00	1.00	12.87
41.00	0.50	16.24

A88/20/4

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.160min (-0.000) 97.017 ug/m3 m

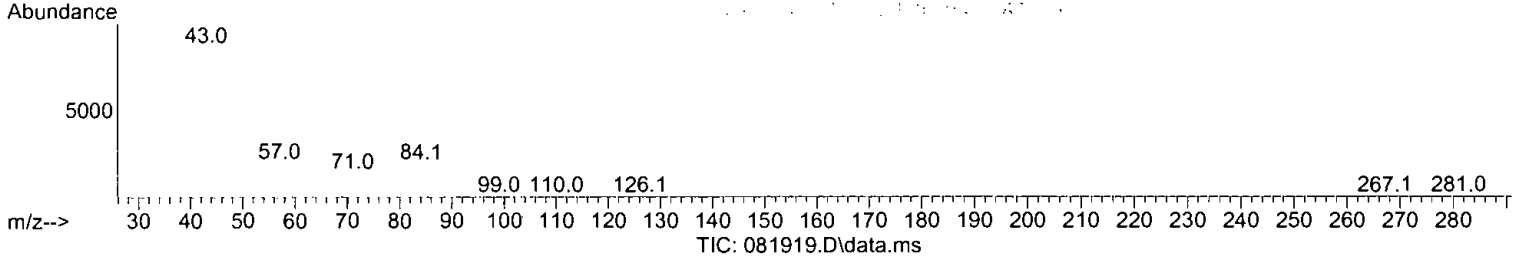
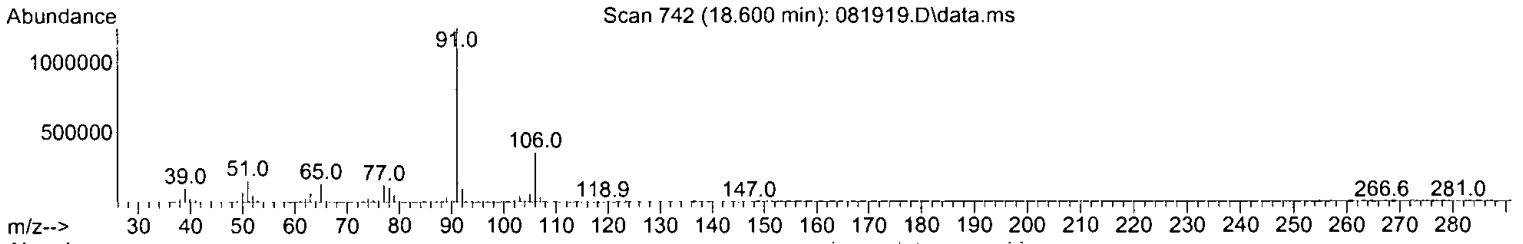
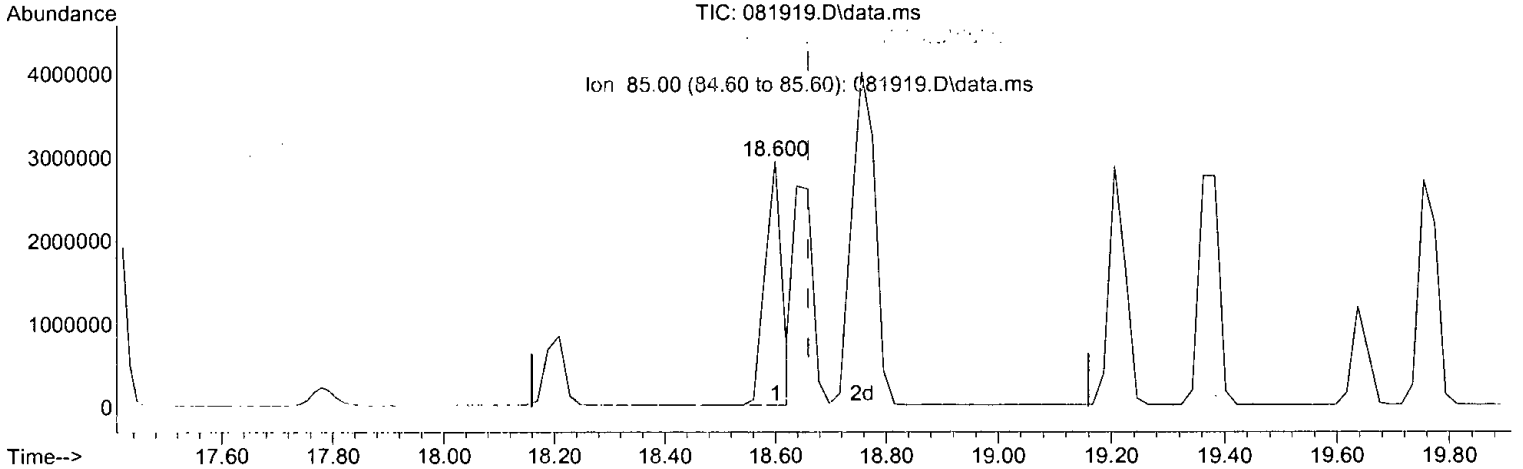
response	4081563
Signal	Exp% Act%
TIC	100.00 100.00
56.00	3.80 31.30
84.00	1.00 16.81
41.00	0.50 21.22

*AS 8/20/21*



Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



~~(29) 2,3-Dimethylheptane (L2)~~

~~18.600min (-0.059) 114.933 ug/m3~~

~~response 6191617~~

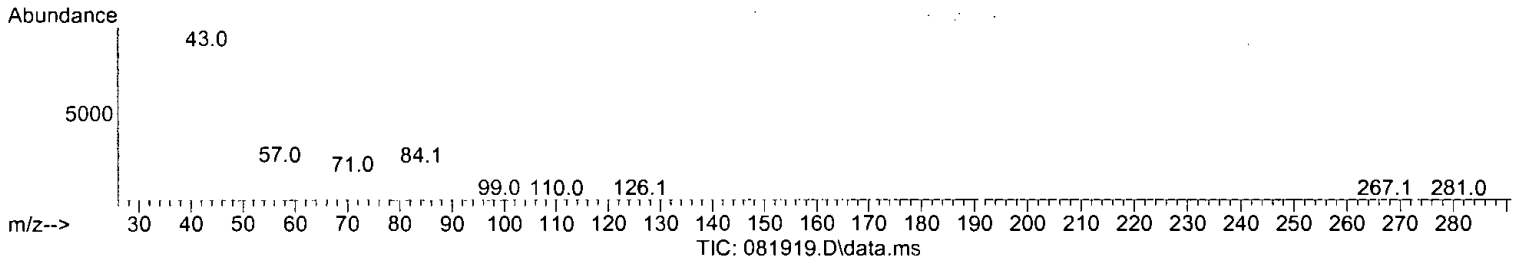
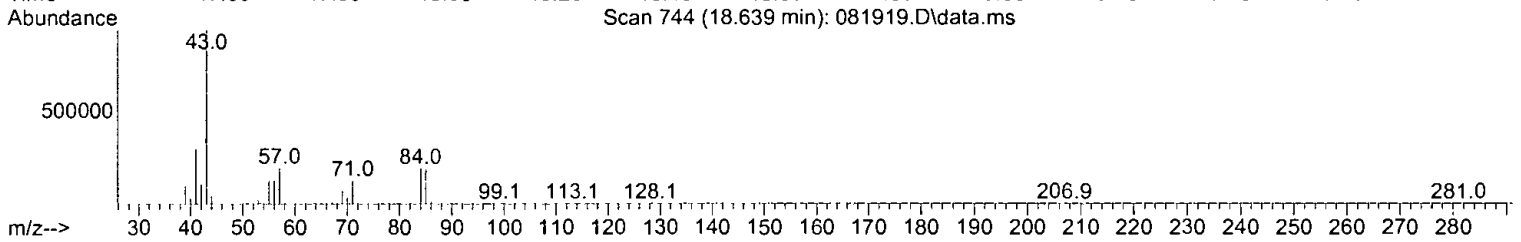
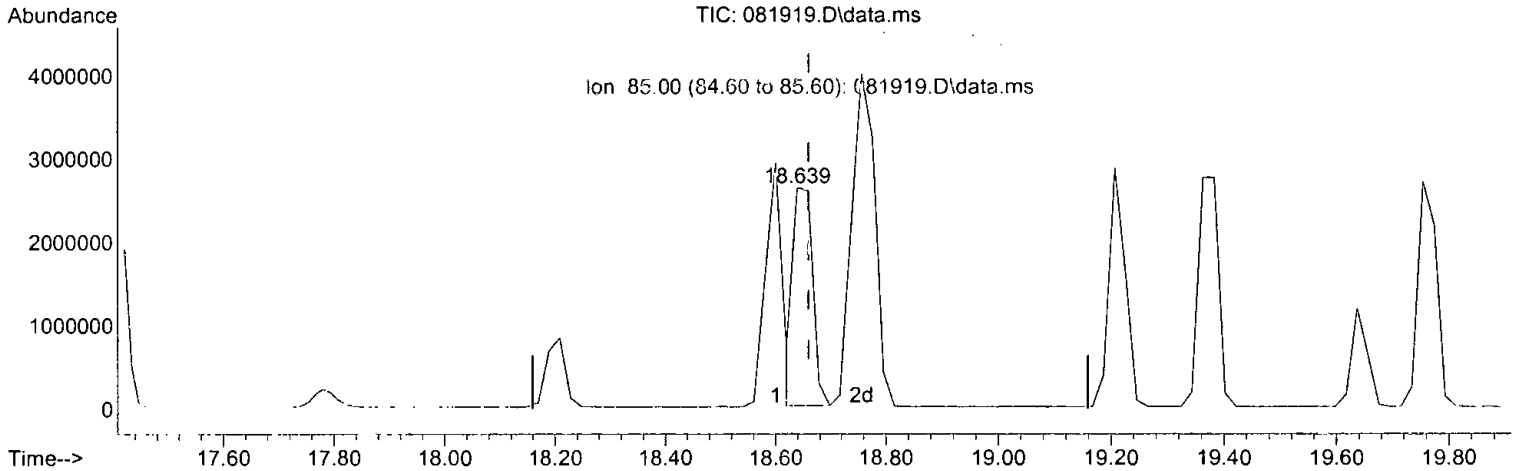
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	38.66#
84.00	9.90	8.18
85.00	9.20	8.05

ASB/oh

Quantitation Report (Qedit)

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.639min (-0.020) 118.835 ug/m3 m

response 6401805

Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	37.39#
84.00	9.90	7.91#
85.00	9.20	7.78

AS 8/20/21

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:46:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	127775	50.000	ug/m3	#-0.02
10) 1,4-Difluorobenzene	13.23	114	606081	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	536029	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	489034	72.819	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	102.56%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.97	TIC	1120832	49.681	ug/m3	87
3) IS-2 1,4-Difluorobenzene	13.21	TIC	1352476m	42.236	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1968155	50.674	ug/m3	91
5) Methylene chloride	6.83	TIC	57111	50.000	ug/m3	92
6) Acetone	5.66	TIC	2983281	49.511	ppbv	100
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.24	54	382421	50.826	ug/m3	81
9) Methyl t-butyl ether	8.49	73	853374	86.639	ug/m3	90
11) Benzene	12.71	78	1592011	77.257	ug/m3	92
12) Isopentane	5.66	TIC	3012737	73.614	ug/m3	97
13) Hexane	10.10	TIC	3474715	86.923	ug/m3	93
14) Cyclohexane	13.16	TIC	4081563m	97.017	ug/m3	
15) 2,3-Dimethylpentane	13.50	TIC	5346903	99.589	ug/m3	94
16) Heptane	14.60	TIC	4489010	102.312	ug/m3	93
17) Octane	17.41	TIC	8396817	139.569	ug/m3	94
18) APH EC5-8 aliphatics T...	12.69	TIC	28801745m	598.921	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	74070449m	1540.265	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2310544	51.060	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	717895	64.409	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	1450406	104.265	ppbv	100
24) Toluene	16.39	92	1022632	88.923	ug/m3	97
25) Ethylbenzene	18.60	91	2470238	104.012	ug/m3	96
26) m,p-Xylene	18.76	106	1693653	212.074	ug/m3	90
27) o-Xylene	19.21	106	837522	110.859	ug/m3	90
28) Naphthalene	23.94	128	2497652	129.508	ug/m3	100
29) 2,3-Dimethylheptane	18.64	TIC	6401805m	118.835	ug/m3	
30) Nonane	19.36	TIC	6869714	122.123	ug/m3	92
31) Decane	20.90	TIC	8157969	145.985	ug/m3	93
32) Butylcyclohexane	21.57	TIC	8470801	133.439	ug/m3	97
33) Undecane	22.28	TIC	8761506	158.082	ug/m3	97
34) Dodecane	23.79	TIC	7599099	167.045	ug/m3	93
35) APH EC9-12 aliphatics ...	21.57	TIC	46260894m	843.515	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	70010543m	1276.562	ug/m3	
38) Isopropylbenzene	19.75	120	499553	118.819	ug/m3#	56
39) 1-Methyl-3-ethylbenzene	20.33	120	707148	120.270	ug/m3#	88
40) 1,3,5-Trimethylbenzene	20.45	120	896048	120.439	ug/m3	91
41) p-Isopropyltoluene	21.28	134	509814	139.481	ug/m3#	80
42) 1,2,3-Trimethylbenzene	21.31	120	1067907	122.305	ug/m3	91
43) APH EC9-10 aromatics T...	21.57	TIC	3680470m	636.452	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	2519442m	394.568	ug/m3	

Data Path : Z:\Proc\_GCMS7\08-19-21\  
Data File : 081919.D  
Acq On : 19 Aug 2021 9:20 pm  
Operator : bat  
Sample : 25 ppbv, 64-38a  
Misc : line 2, 250cc  
ALS Vial : 19 Sample Multiplier: 1  
InstName : GCMS7

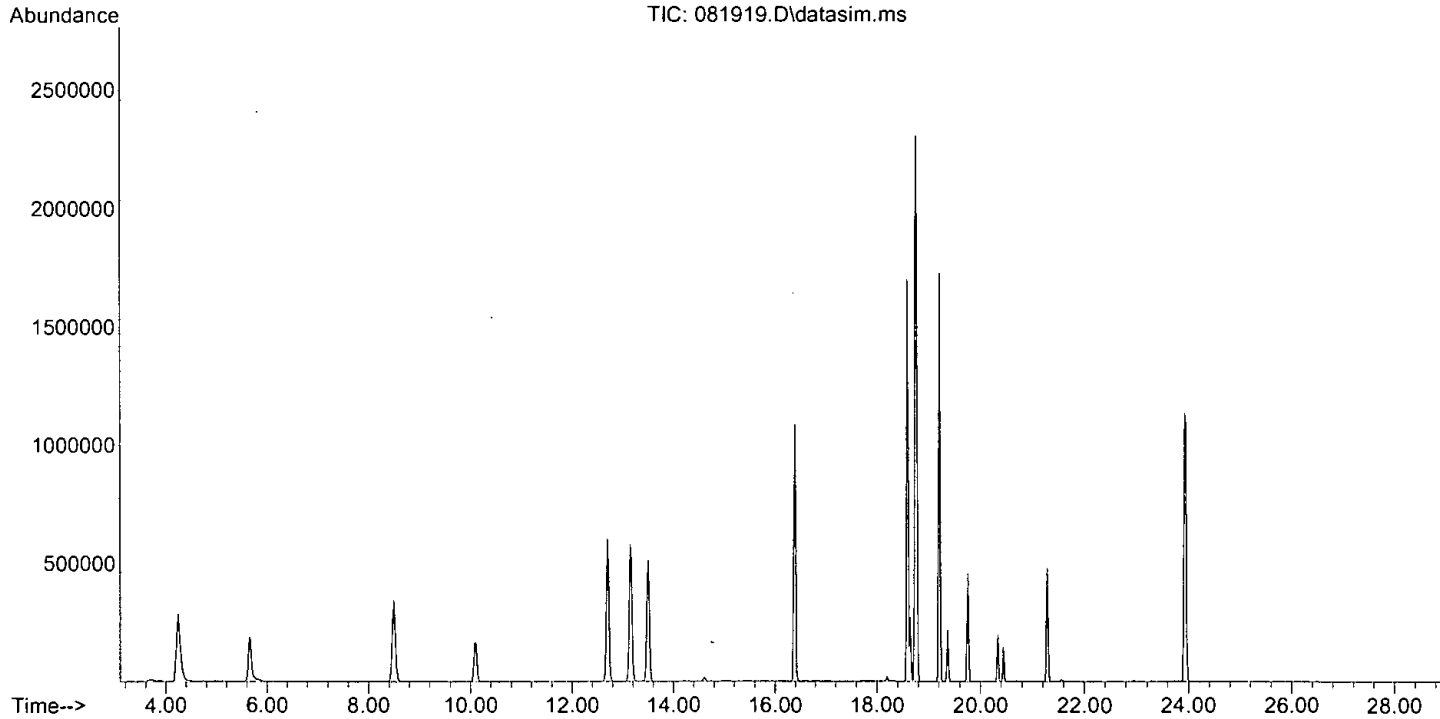
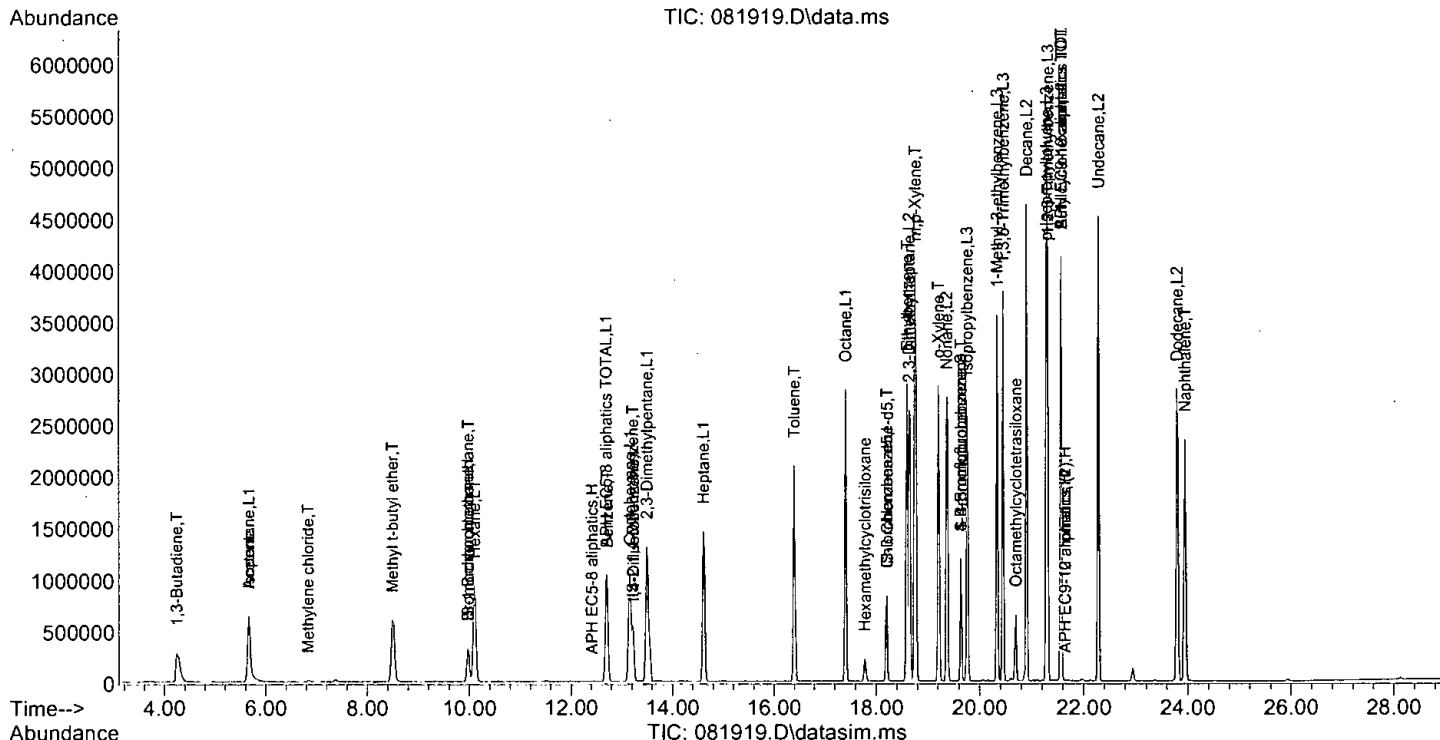
Quant Time: Aug 20 10:46:47 2021  
Quant Method : Z:\METHODS\Inst7\0819APH7.M  
Quant Title : APH TO-15 method  
QLast Update : Fri Aug 20 08:33:26 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	426896m	117.379	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:46:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:46:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I Bromochloromethane	50.000	50.000	0.0	100	-0.02
2 T IS-1 Bromochloromethane	50.000	49.681	0.6	100	-0.02
3 T IS-2 1,4-Difluorobenzene	50.000	42.236	15.5	98	-0.02
4 T IS-3 Chlorobenzene-d5	50.000	50.674	-1.3	100	0.00
5 T Methylene chloride	50.000	50.000	0.0	100	-0.03
6 Acetone	50.000	49.511	1.0	99	-0.02
7 2-Propanol	50.000	0.000	100.0#	0	-5.84#
8 T 1,3-Butadiene	55.000	50.826	7.6	100	-0.04
9 T Methyl t-butyl ether	90.000	86.639	3.7	100	-0.03
10 I 1,4-Difluorobenzene	50.000	50.000	0.0	100	0.00
11 T Benzene	80.000	77.257	3.4	100	0.00
12 L1 Isopentane	75.000	73.614	1.8	101	-0.02
13 L1 Hexane	87.500	86.923	0.7	100	-0.02
14 L1 Cyclohexane	87.500	97.017	-10.9	104	0.00
15 L1 2,3-Dimethylpentane	105.000	99.589	5.2	100	-0.02
16 L1 Heptane	105.000	102.312	2.6	100	-0.02
17 L1 Octane	117.500	139.569	-18.8	100	0.00
18 L1 APH EC5-8 aliphatics TOTAL	575.000	598.921	-4.2	101	-0.02
19 H APH EC5-8 aliphatics	575.000	1540.265	-167.9#	259	0.00
20 I Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T S 4-Bromofluorobenzene	50.000	51.060	-2.1	100	0.00
22 Hexamethylcyclotrisiloxane	50.000	64.409	-28.8	100	0.00
23 Octamethylcyclotetrasiloxan	50.000	104.265	-108.5#	100	0.00
24 T Toluene	93.750	88.923	5.1	100	0.00
25 T Ethylbenzene	108.750	104.012	4.4	100	0.00
26 T m,p-Xylene	220.000	212.074	3.6	100	0.00
27 T o-Xylene	110.000	110.859	-0.8	100	0.00
28 T Naphthalene	125.000	129.508	-3.6	100	0.00
29 L2 2,3-Dimethylheptane	125.000	118.835	4.9	99	-0.02
30 L2 Nonane	125.000	122.123	2.3	100	0.00
31 L2 Decane	150.000	145.985	2.7	100	0.00
32 L2 Butylcyclohexane	137.500	133.439	3.0	100	0.00
33 L2 Undecane	162.500	158.082	2.7	100	0.00
34 L2 Dodecane	175.000	167.045	4.5	100	0.00
35 L2 APH EC9-12 aliphatics TOTAL	875.000	843.515	3.6	100	0.00
36 H APH EC9-12 aliphatics	875.000	1276.562	-45.9#	151	0.00
37 S 4-Bromofluorobenzene	71.000	72.819	-2.6	100	0.00
38 L3 Isopropylbenzene	122.500	118.819	3.0	100	0.00
39 L3 1-Methyl-3-ethylbenzene	122.500	120.270	1.8	100	0.00
40 L3 1,3,5-Trimethylbenzene	122.500	120.439	1.7	100	0.00
41 L3 p-Isopropyltoluene	137.500	139.481	-1.4	100	0.00
42 L3 1,2,3-Trimethylbenzene	122.500	122.305	0.2	100	0.00
43 L3 APH EC9-10 aromatics TOTAL	627.000	636.452	-1.5	100	0.00
44 H APH EC9-10 aromatics (1)	490.000	394.568	19.5	79	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:46:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	137.000	117.379	14.3	84	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:46:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	-0.02
2 T	IS-1 Bromochloromethane	8.828	8.772	0.6	100	-0.02
3 T	IS-2 1,4-Difluorobenzene	12.530	10.585	15.5	98	-0.02
4 T	IS-3 Chlorobenzene-d5	15.199	15.403	-1.3	100	0.00
5 T	Methylene chloride	0.447	0.447	0.0	100	-0.03
6	Acetone	23.578	23.348	1.0	99	-0.02
7	2-Propanol	0.137	0.000	100.0#	0#	-5.84#
8 T	1,3-Butadiene	2.944	2.721	7.6	100	-0.04
9 T	Methyl t-butyl ether	3.854	3.710	3.7	100	-0.03
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
11 T	Benzene	1.700	1.642	3.4	100	0.00
12 L1	Isopentane	3.376	3.314	1.8	101	-0.02
13 L1	Hexane	3.421	3.276	4.2	100	-0.02
14 L1	Cyclohexane	3.471	3.848	-10.9	104	0.00
15 L1	2,3-Dimethylpentane	4.429	4.201	5.1	100	-0.02
16 L1	Heptane	3.620	3.527	2.6	100	-0.02
17 L1	Octane	4.963	5.895	-18.8	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	3.967	4.132	-4.2	101	-0.02
19 H	APH EC5-8 aliphatics	3.967	10.627	-167.9#	259#	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	4.221	4.310	-2.1	100	0.00
22	Hexamethylcyclotrisiloxane	1.040	1.339	-28.7	100	0.00
23	Octamethylcyclotetrasiloxan	1.298	2.706	-108.5#	100	0.00
24 T	Toluene	1.073	1.017	5.2	100	0.00
25 T	Ethylbenzene	2.215	2.119	4.3	100	0.00
26 T	m,p-Xylene	0.745	0.718	3.6	100	0.00
27 T	o-Xylene	0.705	0.710	-0.7	100	0.00
28 T	Naphthalene	1.799	1.864	-3.6	100	0.00
29 L2	2,3-Dimethylheptane	5.025	4.777	4.9	99	-0.02
30 L2	Nonane	5.247	5.126	2.3	100	0.00
31 L2	Decane	5.213	5.073	2.7	100	0.00
32 L2	Butylcyclohexane	5.921	5.747	2.9	100	0.00
33 L2	Undecane	5.170	5.029	2.7	100	0.00
34 L2	Dodecane	4.243	4.050	4.5	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	5.116	4.932	3.6	100	0.00
36 H	APH EC9-12 aliphatics	5.116	7.463	-45.9#	151	0.00
37 S	4-Bromofluorobenzene	0.626	0.642	-2.6	100	0.00
38 L3	Isopropylbenzene	0.392	0.380	3.1	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.548	0.538	1.8	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.694	0.682	1.7	100	0.00
41 L3	p-Isopropyltoluene	0.341	0.346	-1.5	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.814	0.813	0.1	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.539	0.548	-1.7	100	0.00
44 H	APH EC9-10 aromatics (1)	0.596	0.480	19.5	79	0.00



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081919.D  
 Acq On : 19 Aug 2021 9:20 pm  
 Operator : bat  
 Sample : 25 ppbv, 64-38a  
 Misc : line 2, 250cc  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:46:47 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.339	0.291	14.2	84	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081922.D  
 Acq On : 19 Aug 2021 11:26 pm  
 Operator : bat  
 Sample : SCV 64-81b  
 Misc : Line 3, 150cc  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:52 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.97	128	127010	50.000	ug/m3	#-0.02
10) 1,4-Difluorobenzene	13.21	114	599277	50.000	ug/m3	-0.02
20) Chlorobenzene-d5	18.21	117	538456	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	468501	69.448	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	97.82%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.97	TIC	1138516	50.769	ug/m3	89
3) IS-2 1,4-Difluorobenzene	13.21	TIC	1577045	49.546	ug/m3	93
4) IS-3 Chlorobenzene-d5	18.21	TIC	1927807	49.934	ug/m3	92
5) Methylene chloride	6.83	TIC	83754	73.767	ug/m3	93
6) Acetone	5.60	TIC	13287	0.222	ppbv	100
7) 2-Propanol	5.84	TIC	11286	32.431	ppbv	100
8) 1,3-Butadiene	4.28	54	124	0.017	ug/m3#	1
9) Methyl t-butyl ether	0.00		0	N.D.		
11) Benzene	12.71	78	1343	0.066	ug/m3	97
12) Isopentane	5.74	TIC	915	0.023	ug/m3#	51
13) Hexane	10.10	TIC	2171705	54.861	ug/m3	93
14) Cyclohexane	13.21	TIC	1577045	37.911	ug/m3	93
15) 2,3-Dimethylpentane	13.21	TIC	1577045	29.707	ug/m3	64
16) Heptane	14.60	TIC	12137	0.280	ug/m3	70
17) Octane	17.78	TIC	470611	7.911	ug/m3	62
18) APH EC5-8 aliphatics T...	12.91	TIC	5809458m	122.177	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	2880131m	60.571	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2226697	48.985	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	490092	43.772	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	391073	27.986	ppbv	100
24) Toluene	16.14	92	92	0.008	ug/m3#	12
25) Ethylbenzene	18.60	91	1189	0.050	ug/m3	86
26) m,p-Xylene	18.78	106	465	0.058	ug/m3#	22
27) o-Xylene	19.23	106	168	0.022	ug/m3	99
28) Naphthalene	23.94	128	4097	0.211	ug/m3	96
29) 2,3-Dimethylheptane	0.00		0	N.D.		
30) Nonane	19.64	TIC	2226697	39.406	ug/m3	60
31) Decane	20.90	TIC	4049669	72.141	ug/m3	93
32) Butylcyclohexane	21.58	TIC	32240	0.506	ug/m3	61
33) Undecane	22.28	TIC	33872	0.608	ug/m3	98
34) Dodecane	23.79	TIC	4403259	96.357	ug/m3	94
35) APH EC9-12 aliphatics ...	0.00	TIC	10745737m	195.053	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	12708263m	230.676	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	20.45	120	538510	91.176	ug/m3#	62
40) 1,3,5-Trimethylbenzene	20.45	120	538510	72.056	ug/m3	91
41) p-Isopropyltoluene	21.28	134	58	0.016	ug/m3#	1
42) 1,2,3-Trimethylbenzene	21.29	120	391	0.045	ug/m3#	37
43) APH EC9-10 aromatics T...	0.00	TIC	1077469m	185.483	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	440443m	68.667	ug/m3	

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081922.D  
 Acq On : 19 Aug 2021 11:26 pm  
 Operator : bat  
 Sample : SCV 64-81b  
 Misc : Line 3, 150cc  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

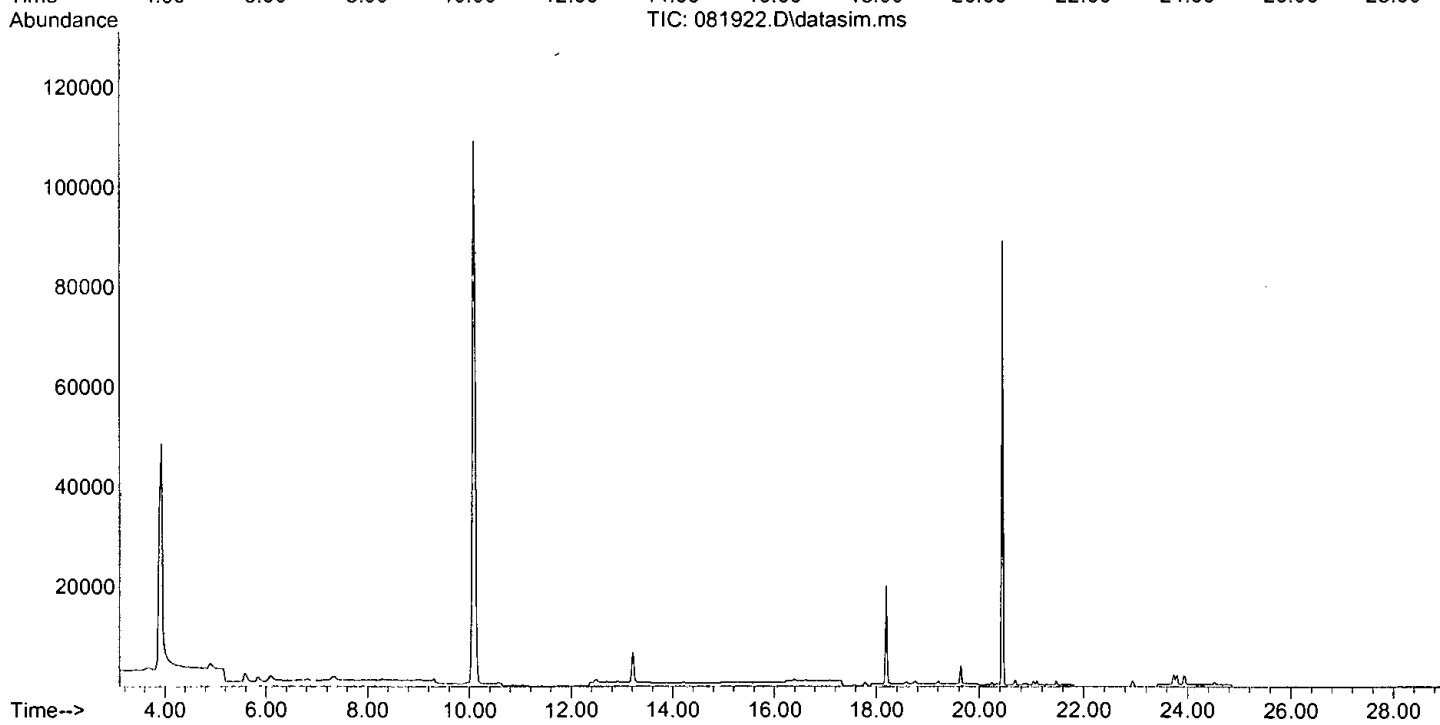
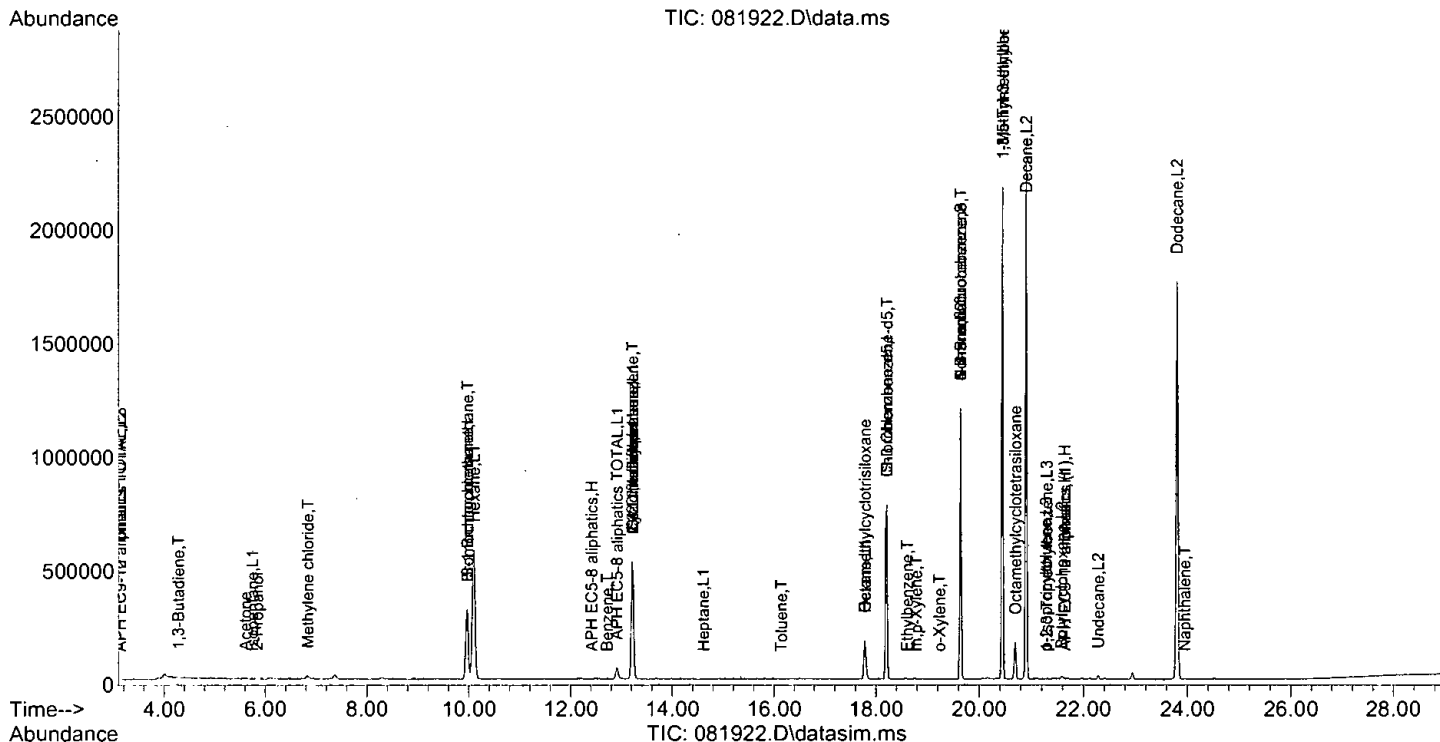
Quant Time: Aug 20 10:30:52 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	-95841m	Below	Cal	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081922.D  
 Acq On : 19 Aug 2021 11:26 pm  
 Operator : bat  
 Sample : SCV 64-81b  
 Misc : Line 3, 150cc  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:52 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081922.D  
 Acq On : 19 Aug 2021 11:26 pm  
 Operator : bat  
 Sample : SCV 64-81b  
 Misc : Line 3, 150cc  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:52 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I Bromochloromethane	50.000	50.000	0.0	100	-0.02
2 T IS-1 Bromochloromethane	50.000	50.769	-1.5	102	-0.02
3 T IS-2 1,4-Difluorobenzene	50.000	49.546	0.9	95	-0.02
4 T IS-3 Chlorobenzene-d5	50.000	49.934	0.1	101	0.00
5 T Methylene chloride	50.000	73.767	-47.5#	0	-0.03
6 Acetone	50.000	0.222	99.6#	0	-0.08
7 2-Propanol	50.000	32.431	35.1#	0	0.00
8 T 1,3-Butadiene	11.000	0.017	99.8#	0	0.00
9 T Methyl t-butyl ether	18.000	0.000	100.0#	0	-8.51#
10 I 1,4-Difluorobenzene	50.000	50.000	0.0	99	-0.02
11 T Benzene	16.000	0.066	99.6#	0	0.00
12 L1 Isopentane	15.000	0.023	99.8#	0	0.06
13 L1 Hexane	<del>17.500</del> 67 17.500	54.861	-213.5#	296	-0.02
14 L1 Cyclohexane	17.500	37.911	-116.6#	226	0.05
15 L1 2,3-Dimethylpentane	21.000	29.707	-41.5#	137	-0.30
16 L1 Heptane	21.000	0.280	98.7#	1	-0.02
17 L1 Octane	23.500	7.911	66.3#	32	0.37
18 L1 APH EC5-8 aliphatics TOTAL	115.000	122.177	-6.2	103	0.20
19 H APH EC5-8 aliphatics	115.000	60.571	47.3#	51	0.00
20 I Chlorobenzene-d5	50.000	50.000	0.0	102	0.00
21 T S 4-Bromofluorobenzene	50.000	48.985	2.0	99	0.00
22 Hexamethylcyclotrisiloxane	50.000	43.772	12.5	91	0.00
23 Octamethylcyclotetrasiloxan	50.000	27.986	44.0#	53	0.00
24 T Toluene	18.750	0.008	100.0#	0	-0.25
25 T Ethylbenzene	21.750	0.050	99.8#	0	0.00
26 T m,p-Xylene	44.000	0.058	99.9#	0	0.02
27 T o-Xylene	22.000	0.022	99.9#	0	0.02
28 T Naphthalene	25.000	0.211	99.2#	1	0.00
29 L2 2,3-Dimethylheptane	25.000	0.000	100.0#	0	-18.66#
30 L2 Nonane	25.000	39.406	-57.6#	161	0.27
31 L2 Decane	<del>30.000</del> 67 30.000	72.141	-140.5#	249	0.00
32 L2 Butylcyclohexane	27.500	0.506	98.2#	2	0.01
33 L2 Undecane	32.500	0.608	98.1#	2	0.00
34 L2 Dodecane	35.000	96.357	-175.3#	282	0.00
35 L2 APH EC9-12 aliphatics TOTAL	175.000	195.053	-11.5	115	-21.57#
36 H APH EC9-12 aliphatics	175.000	230.676	-31.8#	137	0.00
37 S 4-Bromofluorobenzene	71.000	69.448	2.2	100	0.00
38 L3 Isopropylbenzene	24.500	0.000	100.0#	0	-19.75#
39 L3 1-Methyl-3-ethylbenzene	24.500	91.176	-272.1#	387	0.12
40 L3 1,3,5-Trimethylbenzene	<del>24.500</del> 67 24.500	72.056	-194.1#	302	0.00
41 L3 p-Isopropyltoluene	27.750	0.016	99.9#	0	0.00
42 L3 1,2,3-Trimethylbenzene	24.500	0.045	99.8#	0	-0.01
43 L3 APH EC9-10 aromatics TOTAL	125.400	185.483	-47.9#	148	-21.57#
44 H APH EC9-10 aromatics (1)	98.000	68.667	29.9	70	0.00

81.9%

108%

108%

AS 8/20/21

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081922.D  
 Acq On : 19 Aug 2021 11:26 pm  
 Operator : bat  
 Sample : SCV 64-81b  
 Misc : Line 3, 150cc  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:52 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	27.400	-26.234	195.7#	-97	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081922.D  
 Acq On : 19 Aug 2021 11:26 pm  
 Operator : bat  
 Sample : SCV 64-81b  
 Misc : Line 3, 150cc  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:52 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	-0.02
2 T	IS-1 Bromochloromethane	8.828	8.964	-1.5	102	-0.02
3 T	IS-2 1,4-Difluorobenzene	12.530	12.417	0.9	95	-0.02
4 T	IS-3 Chlorobenzene-d5	15.199	15.178	0.1	101	0.00
5 T	Methylene chloride	0.447	0.659	-47.4#	0#	-0.03
6	Acetone	23.578	0.105	99.6#	0#	-0.08
7	2-Propanol	0.137	0.089	35.0#	0#	0.00
8 T	1,3-Butadiene	2.944	0.004	99.9#	0#	0.00
9 T	Methyl t-butyl ether	3.854	0.000	100.0#	0#	-8.51#
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	99	-0.02
11 T	Benzene	1.700	0.007	99.6#	0#	0.00
12 L1	Isopentane	3.376	0.005	99.9#	0#	0.06
13 L1	Hexane	3.421	10.354	-202.7#	296#	-0.02
14 L1	Cyclohexane	3.471	7.519	-116.6#	226#	0.05
15 L1	2,3-Dimethylpentane	4.429	6.266	-41.5#	137	-0.30
16 L1	Heptane	3.620	0.048	98.7#	1#	-0.02
17 L1	Octane	4.963	1.671	66.3#	32#	0.37
18 L1	APH EC5-8 aliphatics TOTAL	3.967	4.215	-6.3	103	0.20
19 H	APH EC5-8 aliphatics	3.967	2.090	47.3#	51	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	102	0.00
21 T	S 4-Bromofluorobenzene	4.221	4.135	2.0	99	0.00
22	Hexamethylcyclotrisiloxane	1.040	0.910	12.5	91	0.00
23	Octamethylcyclotetrasiloxan	1.298	0.726	44.1#	53	0.00
24 T	Toluene	1.073	0.000	100.0#	0#	-0.25
25 T	Ethylbenzene	2.215	0.005	99.8#	0#	0.00
26 T	m,p-Xylene	0.745	0.001	99.9#	0#	0.02
27 T	o-Xylene	0.705	0.001	99.9#	0#	0.02
28 T	Naphthalene	1.799	0.015	99.2#	1#	0.00
29 L2	2,3-Dimethylheptane	5.025	0.000	100.0#	0#	-18.66#
30 L2	Nonane	5.247	8.271	-57.6#	161	0.27
31 L2	Decane	5.213	12.535	-140.5#	249#	0.00
32 L2	Butylcyclohexane	5.921	0.109	98.2#	2#	0.01
33 L2	Undecane	5.170	0.097	98.1#	2#	0.00
34 L2	Dodecane	4.243	11.682	-175.3#	282#	0.00
35 L2	APH EC9-12 aliphatics TOTAL	5.116	5.702	-11.5	115	-21.57#
36 H	APH EC9-12 aliphatics	5.116	6.743	-31.8#	137	0.00
37 S	4-Bromofluorobenzene	0.626	0.613	2.1	100	0.00
38 L3	Isopropylbenzene	0.392	0.000	100.0#	0#	-19.75#
39 L3	1-Methyl-3-ethylbenzene	0.548	2.041	-272.4#	387#	0.12
40 L3	1,3,5-Trimethylbenzene	0.694	2.041	-194.1#	302#	0.00
41 L3	p-Isopropyltoluene	0.341	0.000	100.0#	0#	0.00
42 L3	1,2,3-Trimethylbenzene	0.814	0.001	99.9#	0#	-0.01
43 L3	APH EC9-10 aromatics TOTAL	0.539	0.798	-48.1#	148	-21.57#
44 H	APH EC9-10 aromatics (1)	0.596	0.417	30.0#	70	0.00

Evaluate Continuing Calibration Report

Data Path : Z:\Proc\_GCMS7\08-19-21\  
 Data File : 081922.D  
 Acq On : 19 Aug 2021 11:26 pm  
 Operator : bat  
 Sample : SCV 64-81b  
 Misc : Line 3, 150cc  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Aug 20 10:30:52 2021  
 Quant Method : Z:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.339	-0.325#	195.9#	-97#	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0



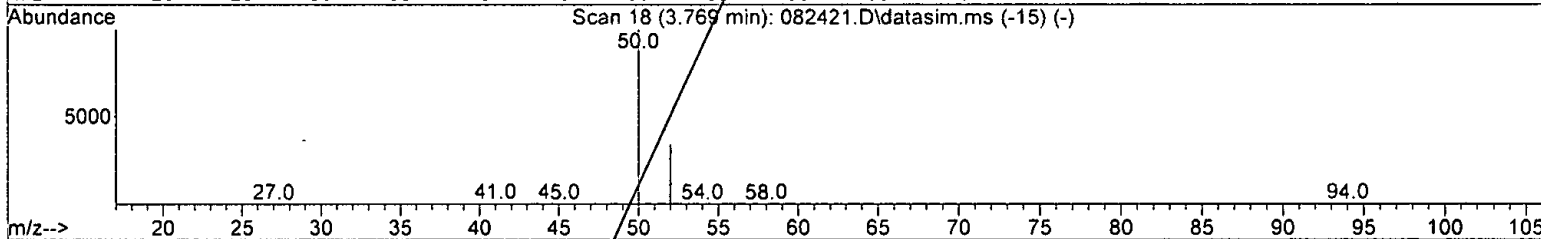
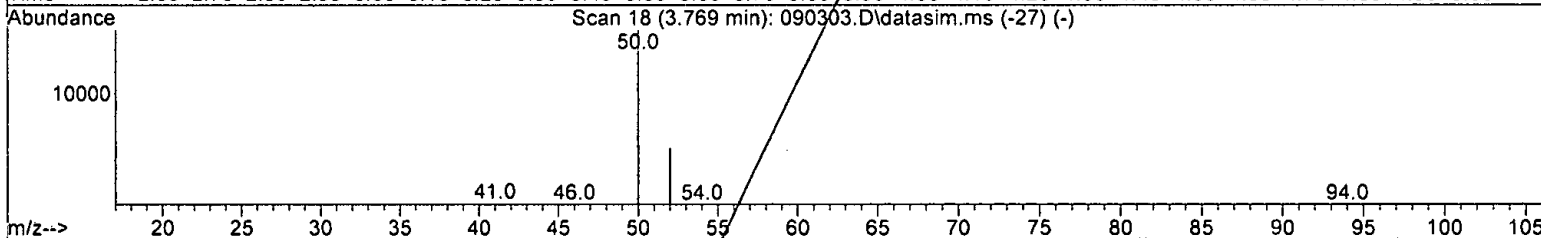
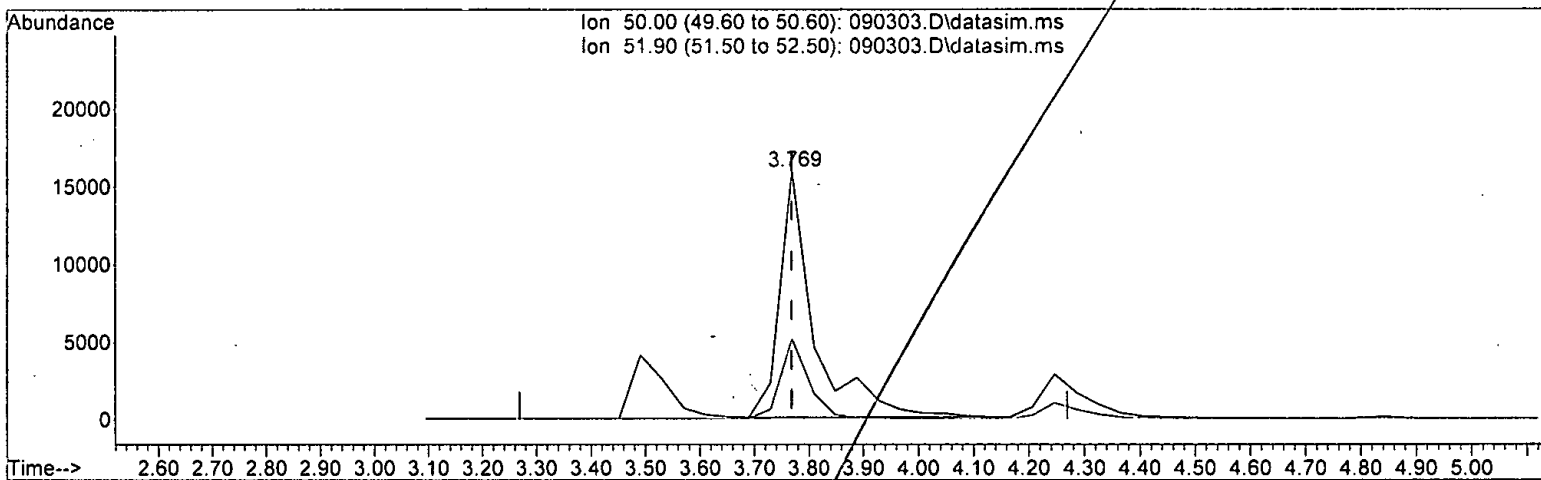
**EPA TO-15  
CCV Summaries**

**F&B Project 109030**

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:02:43 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (+ 0.000) 3.332 ppbv

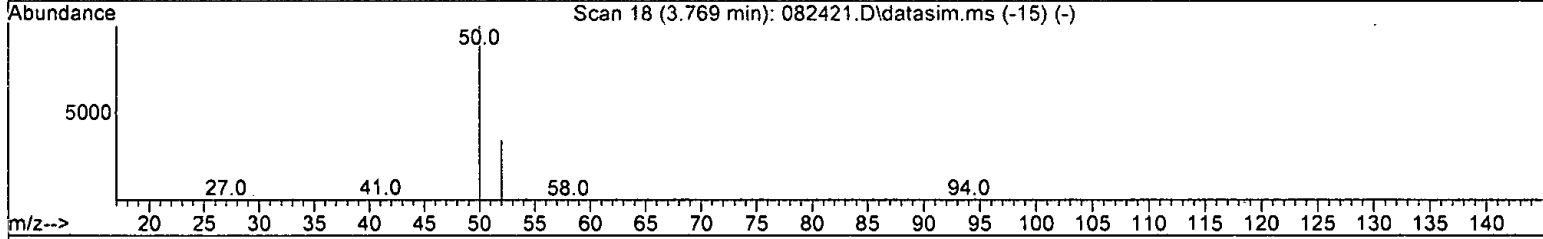
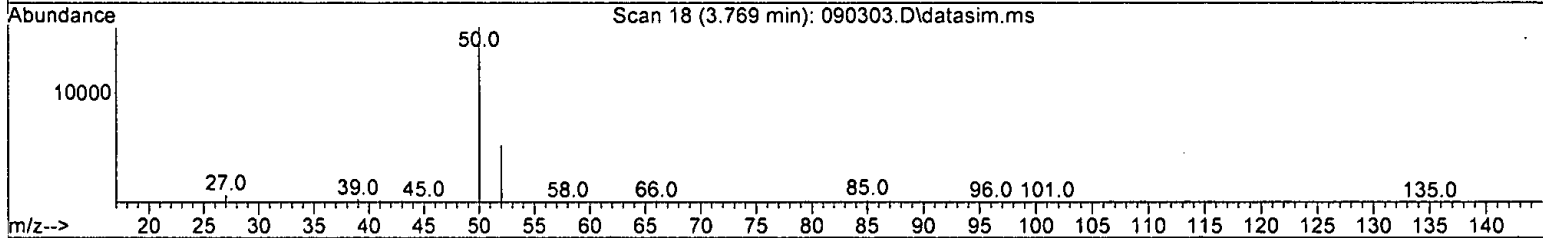
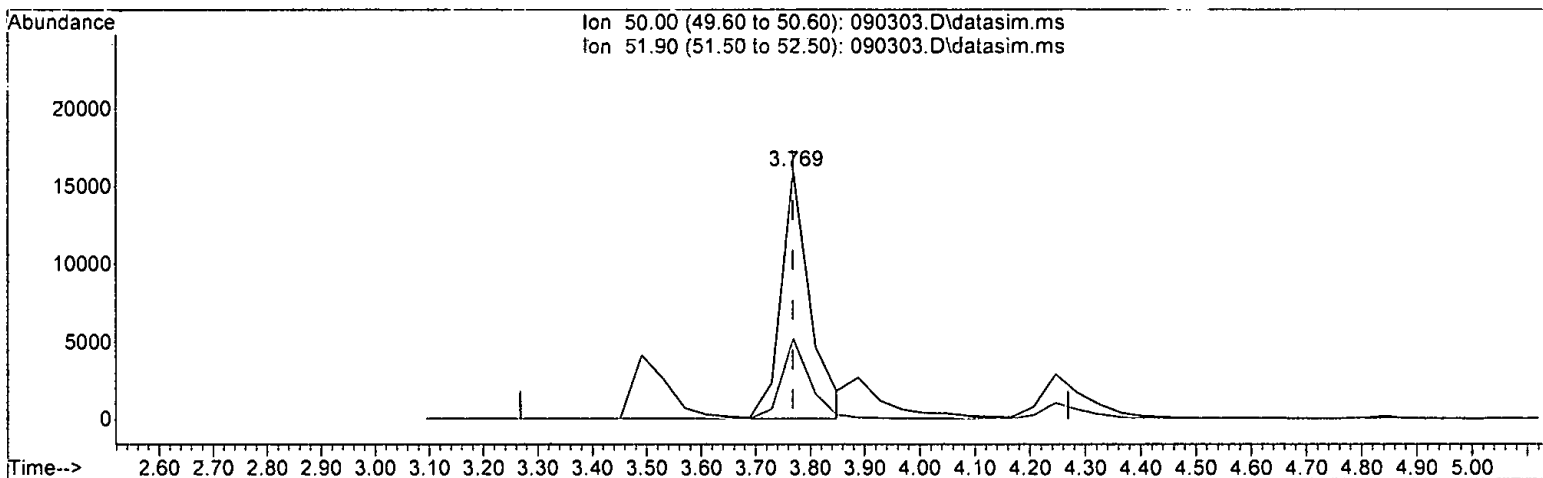
response 69522

Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	32.49
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: R. 10/9/2021*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:02:43 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (+ 0.000) 2.811 ppbv m

response 58650

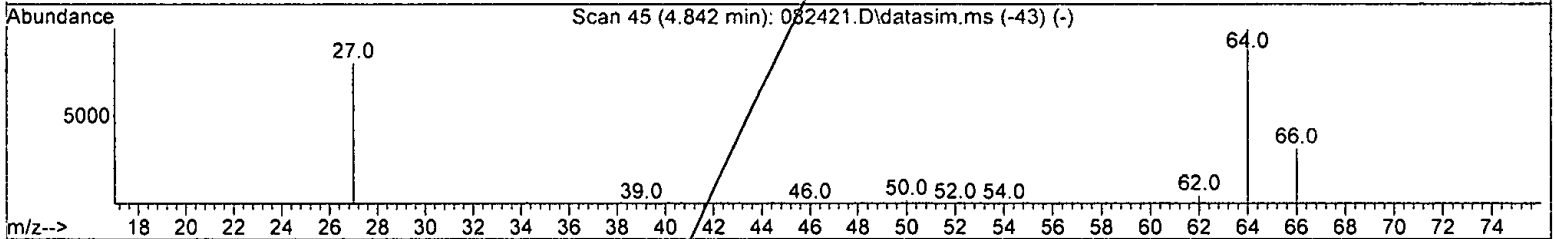
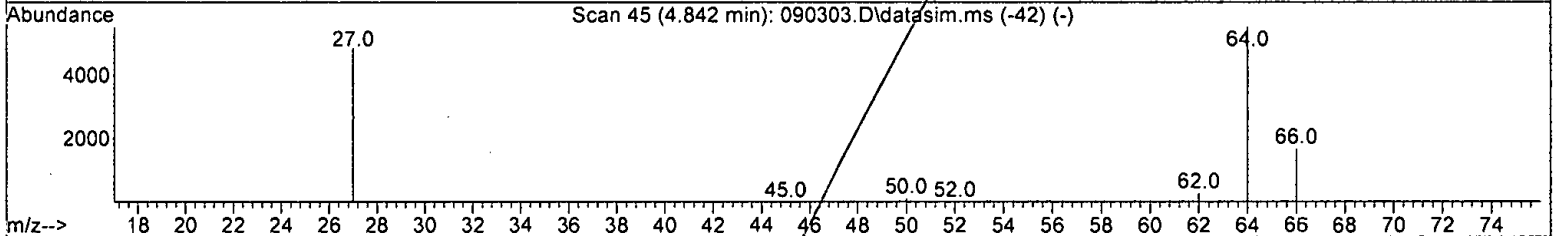
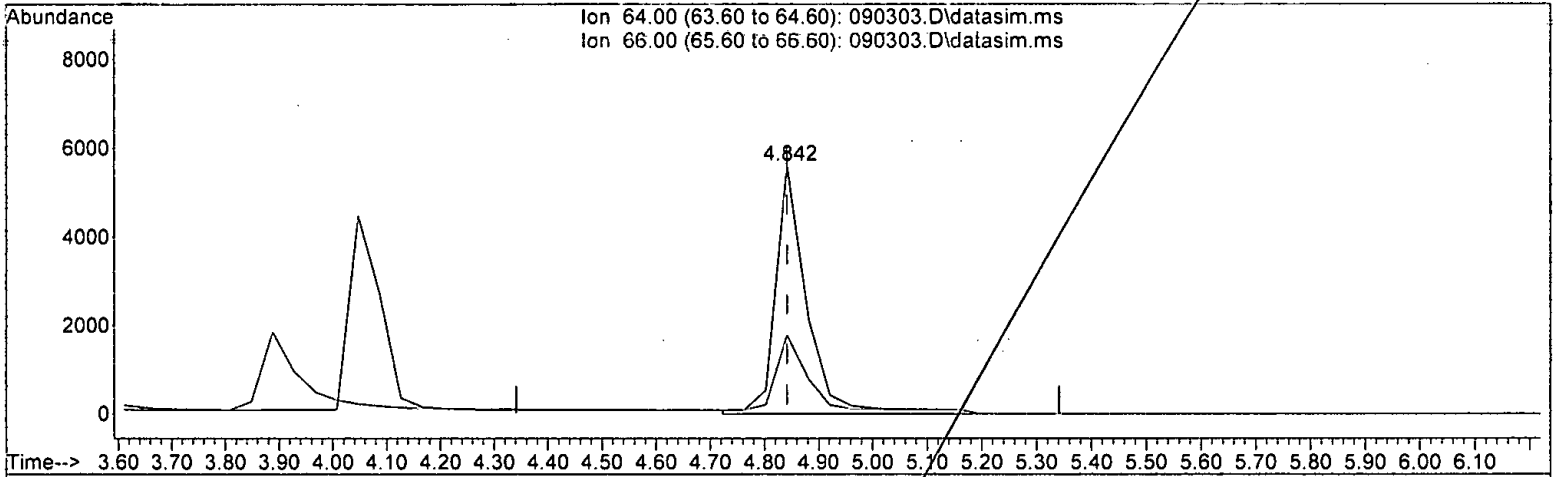
Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	32.57
0.00	0.00	0.00
0.00	0.00	0.00

*h*  
*cal line*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:02:43 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 2.844 ppbv

response 21711

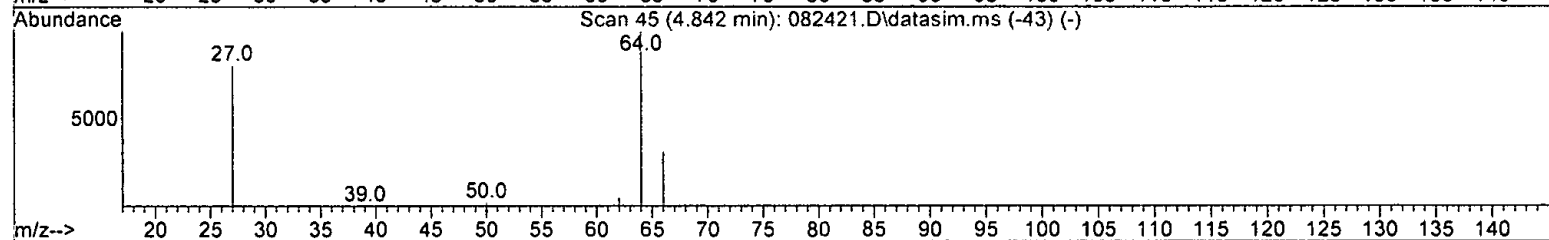
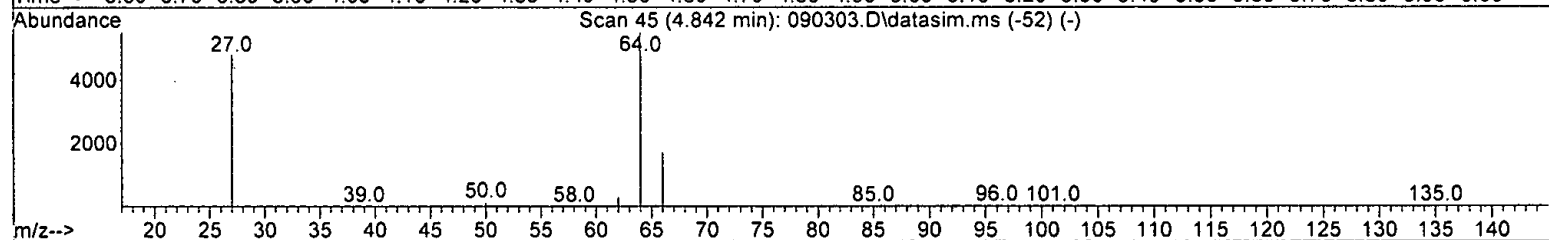
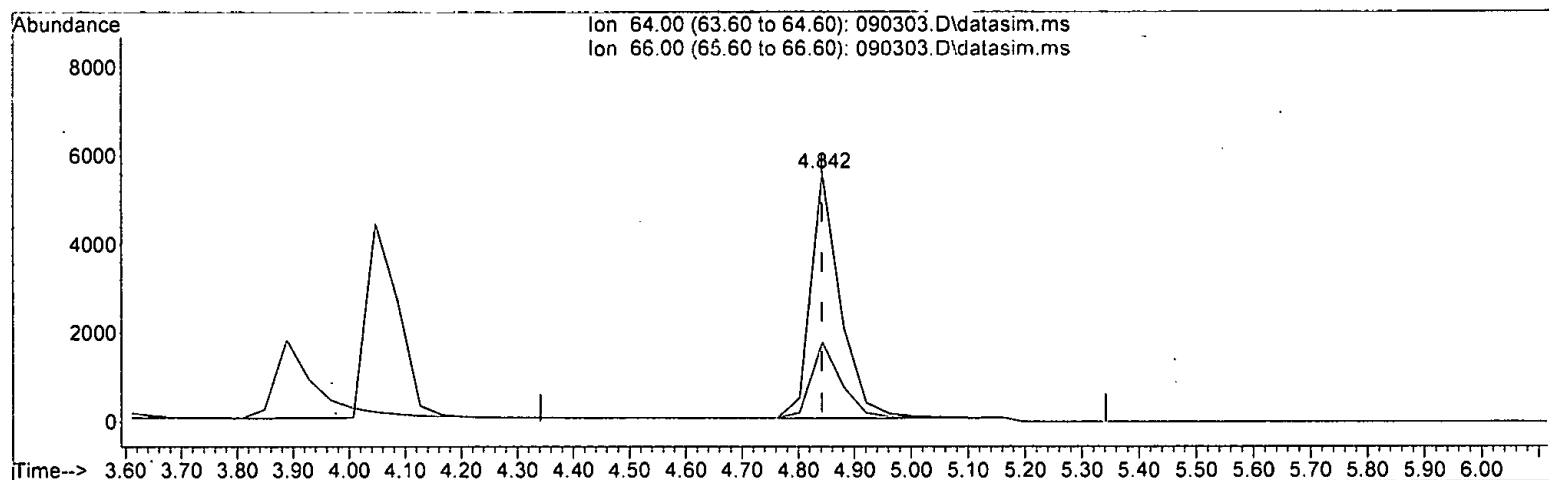
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	31.81
0.00	0.00	0.00
0.00	0.00	0.00

*B  
6/9/2021*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:02:43 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090303.D\data.ms

(10) Chloroethane (TMP)

4.842min (+ 0.000) 2.686 ppbv m

response 20503

Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	31.81
0.00	0.00	0.00
0.00	0.00	0.00

*B. 09/07/21*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:09:20 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.99	128	100564	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	482048	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	422768	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	373933	9.763	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.60%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.41	41	41840	2.433	ppbv	96
3) Dichlorodifluoromethane	3.52	85	116528	2.619	ppbv	97
4) Chloromethane	3.77	50	58650m	2.811	ppbv	
5) F-114	3.88	85	113632	2.539	ppbv	90
6] Vinyl chloride	4.05	62	56737	2.554	ppbv	96
7] 1,3-Butadiene	4.25	54	39271	2.554	ppbv	# 91
8) Butane	4.36	43	83127	2.545	ppbv	97
9) Bromomethane	4.64	94	43474	2.806	ppbv	97
10] Chloroethane	4.84	64	20503m	2.686	ppbv	
11] Vinyl bromide	5.32	106	51206	2.852	ppbv	100
12) Ethanol	4.96	45	15584	2.770	ppbv	88
13] Acrolein	5.43	56	18400	2.520	ppbv	100
14) Pentane	6.33	43	100872	2.578	ppbv	97
15) Trichlorofluoromethane	5.88	101	134373	2.708	ppbv	92
16) Acetone	5.60	58	22864	2.584	ppbv	# 73
17) 2-Propanol	5.86	45	99848	2.792	ppbv	98
18] 1,1-Dichloroethene	6.73	96	43165	2.604	ppbv	87
19] trans-1,2-Dichloroethene	8.18	96	42840	2.620	ppbv	96
20) Methylene chloride	6.86	84	44154	2.509	ppbv	87
21) t-Butyl alcohol (TBA)	6.65	59	82608	2.851	ppbv	# 61
22) 3-Chloropropene	7.01	41	73418	2.509	ppbv	95
23) CFC-113	7.23	101	91839	2.689	ppbv	89
24) Carbon disulfide	7.33	76	156702	2.716	ppbv	94
25) Methyl t-butyl ether (...)	8.51	73	101368	2.639	ppbv	95
26] Vinyl acetate	8.62	43	81942	3.180	ppbv	96
27] 1,1-Dichloroethane	8.44	63	104566	2.701	ppbv	95
28] cis-1,2-Dichloroethene	9.73	96	46827	2.615	ppbv	# 79
29) Hexane	10.11	57	76319	2.565	ppbv	82
30] Chloroform	10.19	83	114216	2.601	ppbv	97
31) Ethyl acetate	10.03	43	185395	2.960	ppbv	# 98
32) Tetrahydrofuran	10.84	42	71222	2.620	ppbv	89
33) 2-Butanone (MEK)	8.99	72	19184	2.680	ppbv	# 43
34] 1,2-Dichloroethane (EDC)	11.44	62	85132	2.577	ppbv	97
35] 1,1,1-Trichloroethane	11.94	97	91278	2.808	ppbv	89
36] Carbon tetrachloride	12.95	117	89077	2.787	ppbv	99
37] Benzene	12.70	78	158410	2.573	ppbv	95
38) Cyclohexane	13.16	84	43766	2.607	ppbv	81
40] 1,2-Dichloropropane	13.90	63	78621	2.639	ppbv	99
41] 1,4-Dioxane	14.17	88	33773	2.598	ppbv	92
42) 2,2,4-Trimethylpentane	14.31	57	264636	2.644	ppbv	91

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

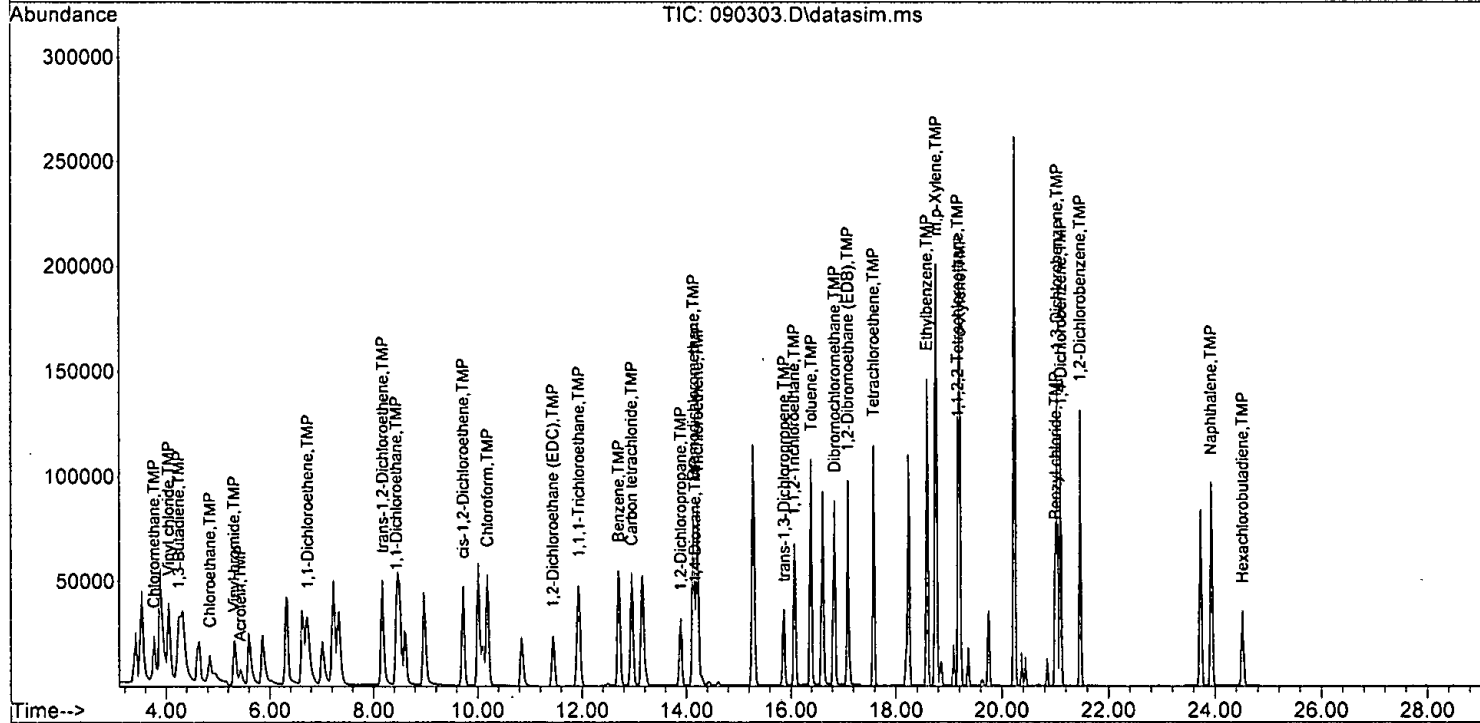
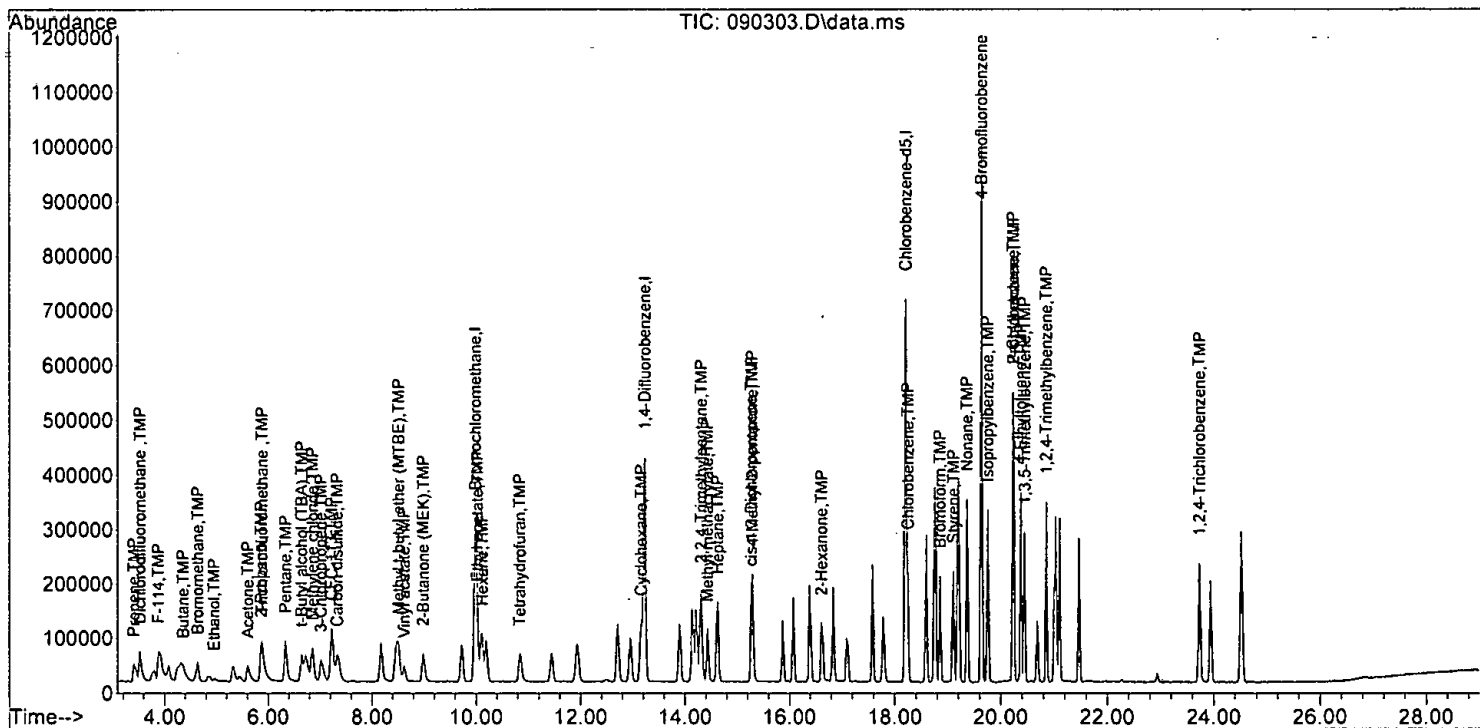
Quant Time: Sep 07 10:09:20 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.43	41	82000	3.001	ppbv #	85
44) Heptane	14.63	43	122427	2.648	ppbv	91
45) Bromodichloromethane	14.14	83	123780	2.694	ppbv	93
46) Trichloroethene	14.22	95	74957	2.516	ppbv	87
47) cis-1,3-Dichloropropene	15.27	75	85025	2.773	ppbv	95
48) 4-Methyl-2-pentanone	15.29	100	5305	2.718	ppbv #	1
49) trans-1,3-Dichloropropene	15.87	75	77287	2.967	ppbv	95
50) Toluene	16.40	92	93196	2.580	ppbv	84
51) 1,1,2-Trichloroethane	16.06	83	72855	2.686	ppbv	98
52) 2-Hexanone	16.62	43	150430	2.958	ppbv	87
53) Tetrachloroethene	17.58	164	49947	2.720	ppbv	82
54) Dibromochloromethane	16.85	129	105379	2.777	ppbv	90
55) 1,2-Dibromoethane (EDB)	17.10	107	101002	2.689	ppbv	89
57) Chlorobenzene	18.25	112	120210	2.655	ppbv	90
58) Ethylbenzene	18.59	91	233248	2.484	ppbv	97
59) 1,1,2,2-Tetrachloroethane	19.17	83	171402	2.617	ppbv	89
60) Nonane	19.36	43	190393	2.682	ppbv	91
61) Isopropylbenzene	19.75	105	216686	2.632	ppbv	96
62) 2-Chlorotoluene	20.23	126	51361	2.624	ppbv	69
63) Propylbenzene	20.23	91	478288	2.618	ppbv	96
64) 4-Ethyltoluene	20.38	105	218324	2.548	ppbv	95
65) m,p-Xylene	18.76	106	154068	5.110	ppbv	92
66) o-Xylene	19.21	106	75588	2.550	ppbv	93
67) Styrene	19.11	104	107145	2.456	ppbv	95
68) Bromoform	18.85	173	98050	2.895	ppbv	99
70) Benzyl chloride	21.01	91	102696	3.235	ppbv	97
71) 1,3,5-Trimethylbenzene	20.45	105	186973	2.721	ppbv	96
72) 1,2,4-Trimethylbenzene	20.86	105	187223	2.637	ppbv	95
73) 1,3-Dichlorobenzene	21.04	146	121532	2.492	ppbv	98
74) 1,4-Dichlorobenzene	21.11	146	120164	2.645	ppbv	99
75) 1,2-Dichlorobenzene	21.47	146	117674	2.552	ppbv	99
76) 1,2,4-Trichlorobenzene	23.73	180	83638	2.224	ppbv	93
77) Naphthalene	23.93	128	204025	2.103	ppbv	98
78) Hexachlorobutadiene	24.52	225	78117	2.580	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:09:20 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:09:20 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev : 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	87	0.00
2 TMP	Propene	2.500	2.433	2.7	77	0.00
3 TMP	Dichlorodifluoromethane	2.500	2.619	-4.8	83	0.00
4 TMP	Chloromethane	2.500	2.811	-12.4	94	0.00
5 TMP	F-114	2.500	2.539	-1.6	82	0.00
6 TMP	Vinyl chloride	2.500	2.554	-2.2	83	0.00
7 TMP	1,3-Butadiene	2.500	2.554	-2.2	83	0.00
8 TMP	Butane	2.500	2.545	-1.8	86	0.04
9 TMP	Bromomethane	2.500	2.806	-12.2	83	0.00
10 TMP	Chloroethane	2.500	2.686	-7.4	85	0.00
11 TMP	Vinyl bromide	2.500	2.852	-14.1	94	0.00
12 TMP	Ethanol	2.500	2.770	-10.8	80	0.00
13 TMP	Acrolein	2.500	2.520	-0.8	81	0.00
14 TMP	Pentane	2.500	2.578	-3.1	81	0.00
15 TMP	Trichlorofluoromethane	2.500	2.708	-8.3	86	0.00
16 TMP	Acetone	2.500	2.584	-3.4	87	0.02
17 TMP	2-Propanol	2.500	2.792	-11.7	92	0.00
18 TMP	1,1-Dichloroethene	2.500	2.604	-4.2	85	0.00
19 TMP	trans-1,2-Dichloroethene	2.500	2.620	-4.8	85	0.00
20 TMP	Methylene chloride	2.500	2.509	-0.4	84	0.00
21 TMP	t-Butyl alcohol (TBA)	2.500	2.851	-14.0	93	0.00
22 TMP	3-Chloropropene	2.500	2.509	-0.4	80	0.00
23 TMP	CFC-113	2.500	2.689	-7.6	87	0.00
24 TMP	Carbon disulfide	2.500	2.716	-8.6	84	0.00
25 TMP	Methyl t-butyl ether (MTBE)	2.500	2.639	-5.6	87	0.00
26 TMP	Vinyl acetate	2.500	3.180	-27.2	107	0.00
27 TMP	1,1-Dichloroethane	2.500	2.701	-8.0	87	0.00
28 TMP	cis-1,2-Dichloroethene	2.500	2.615	-4.6	85	0.00
29 TMP	Hexane	2.500	2.565	-2.6	82	0.00
30 TMP	Chloroform	2.500	2.601	-4.0	86	0.00
31 TMP	Ethyl acetate	2.500	2.960	-18.4	93	0.02
32 TMP	Tetrahydrofuran	2.500	2.620	-4.8	86	0.00
33 TMP	2-Butanone (MEK)	2.500	2.680	-7.2	85	0.00
34 TMP	1,2-Dichloroethane (EDC)	2.500	2.577	-3.1	84	0.00
35 TMP	1,1,1-Trichloroethane	2.500	2.808	-12.3	91	0.00
36 TMP	Carbon tetrachloride	2.500	2.787	-11.5	89	0.00
37 TMP	Benzene	2.500	2.573	-2.9	84	0.00
38 TMP	Cyclohexane	2.500	2.607	-4.3	85	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	86	0.00
40 TMP	1,2-Dichloropropane	2.500	2.639	-5.6	87	0.00
41 TMP	1,4-Dioxane	2.500	2.598	-3.9	84	0.00
42 TMP	2,2,4-Trimethylpentane	2.500	2.644	-5.8	83	0.00
43 TMP	Methyl methacrylate	2.500	3.001	-20.0	94	0.00
44 TMP	Heptane	2.500	2.648	-5.9	85	0.00
45 TMP	Bromodichloromethane	2.500	2.694	-7.8	88	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:09:20 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	2.500	2.516	-0.6	85	0.00
47	TMP cis-1,3-Dichloropropene	2.500	2.773	-10.9	90	0.00
48	TMP 4-Methyl-2-pentanone	2.500	2.718	-8.7	80	0.00
49	TMP trans-1,3-Dichloropropene	2.500	2.967	-18.7	94	0.02
50	TMP Toluene	2.500	2.580	-3.2	82	0.00
51	TMP 1,1,2-Trichloroethane	2.500	2.686	-7.4	87	0.00
52	TMP 2-Hexanone	2.500	2.958	-18.3	96	0.00
53	TMP Tetrachloroethene	2.500	2.720	-8.8	86	0.00
54	TMP Dibromochloromethane	2.500	2.777	-11.1	90	0.00
55	TMP 1,2-Dibromoethane (EDB)	2.500	2.689	-7.6	90	0.00
56	I Chlorobenzene-d5	10.000	10.000	0.0	86	0.00
57	TMP Chlorobenzene	2.500	2.655	-6.2	85	0.00
58	TMP Ethylbenzene	2.500	2.484	0.6	83	0.00
59	TMP 1,1,2,2-Tetrachloroethane	2.500	2.617	-4.7	87	0.02
60	TMP Nonane	2.500	2.682	-7.3	84	0.00
61	TMP Isopropylbenzene	2.500	2.632	-5.3	84	0.00
62	TMP 2-Chlorotoluene	2.500	2.624	-5.0	83	0.00
63	TMP Propylbenzene	2.500	2.618	-4.7	83	-0.01
64	TMP 4-Ethyltoluene	2.500	2.548	-1.9	80	0.00
65	TMP m,p-Xylene	5.000	5.110	-2.2	83	0.00
66	TMP o-Xylene	2.500	2.550	-2.0	83	0.00
67	TMP Styrene	2.500	2.456	1.8	78	0.00
68	TMP Bromoform	2.500	2.895	-15.8	92	0.00
69	S 4-Bromofluorobenzene	10.000	9.763	2.4	84	0.00
70	TMP Benzyl chloride	2.500	3.235	-29.4	106	0.00
71	TMP 1,3,5-Trimethylbenzene	2.500	2.721	-8.8	85	0.00
72	TMP 1,2,4-Trimethylbenzene	2.500	2.637	-5.5	83	0.00
73	TMP 1,3-Dichlorobenzene	2.500	2.492	0.3	81	0.00
74	TMP 1,4-Dichlorobenzene	2.500	2.645	-5.8	85	0.00
75	TMP 1,2-Dichlorobenzene	2.500	2.552	-2.1	84	0.00
76	TMP 1,2,4-Trichlorobenzene	2.500	2.224	11.0	72	0.00
77	TMP Naphthalene	2.500	2.103	15.9	70	0.00
78	TMP Hexachlorobutadiene	2.500	2.580	-3.2	84	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc. : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:09:20 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	87	0.00
2 TMP	Propene	1.710	1.664	2.7	77	0.00
3 TMP	Dichlorodifluoromethane	4.425	4.635	-4.7	83	0.00
4 TMP	Chloromethane	2.075	2.333	-12.4	94	0.00
5 TMP	F-114	4.450	4.520	-1.6	82	0.00
6 TMP	Vinyl chloride	2.209	2.257	-2.2	83	0.00
7 TMP	1,3-Butadiene	1.529	1.562	-2.2	83	0.00
8 TMP	Butane	3.248	3.306	-1.8	86	0.04
9 TMP	Bromomethane	1.540	1.729	-12.3	83	0.00
10 TMP	Chloroethane	0.759	0.816	-7.5	85	0.00
11 TMP	Vinyl bromide	1.785	2.037	-14.1	94	0.00
12 TMP	Ethanol	0.559	0.620	-10.9	80	0.00
13 TMP	Acrolein	0.726	0.732	-0.8	81	0.00
14 TMP	Pentane	3.891	4.012	-3.1	81	0.00
15 TMP	Trichlorofluoromethane	4.934	5.345	-8.3	86	0.00
16 TMP	Acetone	0.880	0.909	-3.3	87	0.02
17 TMP	2-Propanol	3.556	3.972	-11.7	92	0.00
18 TMP	1,1-Dichloroethene	1.648	1.717	-4.2	85	0.00
19 TMP	trans-1,2-Dichloroethene	1.626	1.704	-4.8	85	0.00
20 TMP	Methylene chloride	1.750	1.756	-0.3	84	0.00
21 TMP	t-Butyl alcohol (TBA)	2.881	3.286	-14.1	93	0.00
22 TMP	3-Chloropropene	2.910	2.920	-0.3	80	0.00
23 TMP	CFC-113	3.396	3.653	-7.6	87	0.00
24 TMP	Carbon disulfide	5.738	6.233	-8.6	84	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	4.032	-5.5	87	0.00
26 TMP	Vinyl acetate	2.562	3.259	-27.2	107	0.00
27 TMP	1,1-Dichloroethane	3.850	4.159	-8.0	87	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.863	-4.7	85	0.00
29 TMP	Hexane	2.959	3.036	-2.6	82	0.00
30 TMP	Chloroform	4.366	4.543	-4.1	86	0.00
31 TMP	Ethyl acetate	6.229	7.374	-18.4	93	0.02
32 TMP	Tetrahydrofuran	2.703	2.833	-4.8	86	0.00
33 TMP	2-Butanone (MEK)	0.712	0.763	-7.2	85	0.00
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.386	-3.1	84	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.631	-12.3	91	0.00
36 TMP	Carbon tetrachloride	3.178	3.543	-11.5	89	0.00
37 TMP	Benzene	6.123	6.301	-2.9	84	0.00
38 TMP	Cyclohexane	1.669	1.741	-4.3	85	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	86	0.00
40 TMP	1,2-Dichloropropane	0.618	0.652	-5.5	87	0.00
41 TMP	1,4-Dioxane	0.270	0.280	-3.7	84	0.00
42 TMP	2,2,4-Trimethylpentane	2.076	2.196	-5.8	83	0.00
43 TMP	Methyl methacrylate	0.567	0.680	-19.9	94	0.00
44 TMP	Heptane	0.959	1.016	-5.9	85	0.00
45 TMP	Bromodichloromethane	0.953	1.027	-7.8	88	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:09:20 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	0.618	0.622	-0.6	85	0.00
47	TMP cis-1,3-Dichloropropene	0.636	0.706	-11.0	90	0.00
48	TMP 4-Methyl-2-pentanone	0.040	0.044	-10.0	80	0.00
49	TMP trans-1,3-Dichloropropene	0.540	0.641	-18.7	94	0.02
50	TMP Toluene	0.749	0.773	-3.2	82	0.00
51	TMP 1,1,2-Trichloroethane	0.563	0.605	-7.5	87	0.00
52	TMP 2-Hexanone	1.055	1.248	-18.3	96	0.00
53	TMP Tetrachloroethene	0.381	0.414	-8.7	86	0.00
54	TMP Dibromochloromethane	0.787	0.874	-11.1	90	0.00
55	TMP 1,2-Dibromoethane (EDB)	0.779	0.838	-7.6	90	0.00
56	I Chlorobenzene-d5	1.000	1.000	0.0	86	0.00
57	TMP Chlorobenzene	1.071	1.137	-6.2	85	0.00
58	TMP Ethylbenzene	2.221	2.207	0.6	83	0.00
59	TMP 1,1,2,2-Tetrachloroethane	1.549	1.622	-4.7	87	-0.02
60	TMP Nonane	1.679	1.801	-7.3	84	0.00
61	TMP Isopropylbenzene	1.948	2.050	-5.2	84	0.00
62	TMP 2-Chlorotoluene	0.463	0.486	-5.0	83	0.00
63	TMP Propylbenzene	4.322	4.525	-4.7	83	-0.01
64	TMP 4-Ethyltoluene	2.027	2.066	-1.9	80	0.00
65	TMP m,p-Xylene	0.713	0.729	-2.2	83	0.00
66	TMP o-Xylene	0.701	0.715	-2.0	83	0.00
67	TMP Styrene	1.032	1.014	1.7	78	0.00
68	TMP Bromoform	0.801	0.928	-15.9	92	0.00
69	S 4-Bromofluorobenzene	0.906	0.884	2.4	84	0.00
70	TMP Benzyl chloride	0.751	0.972	-29.4	106	0.00
71	TMP 1,3,5-Trimethylbenzene	1.625	1.769	-8.9	85	0.00
72	TMP 1,2,4-Trimethylbenzene	1.679	1.771	-5.5	83	0.00
73	TMP 1,3-Dichlorobenzene	1.154	1.150	0.3	81	0.00
74	TMP 1,4-Dichlorobenzene	1.152	1.137	1.3	85	0.00
75	TMP 1,2-Dichlorobenzene	1.091	1.113	-2.0	84	0.00
76	TMP 1,2,4-Trichlorobenzene	0.950	0.791	16.7	72	0.00
77	TMP Naphthalene	2.538	1.930	24.0	70	0.00
78	TMP Hexachlorobutadiene	0.852	0.739	13.3	84	0.00

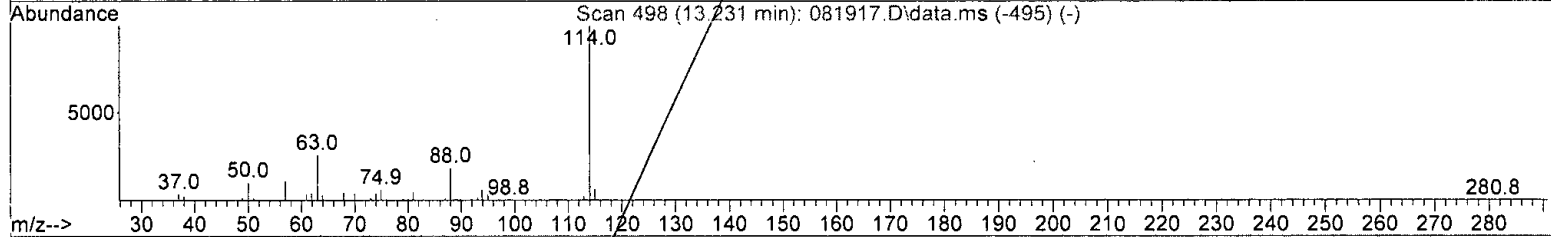
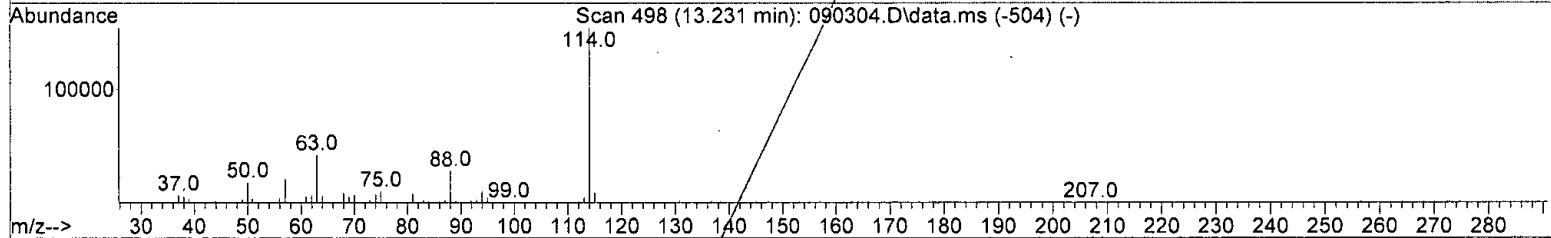
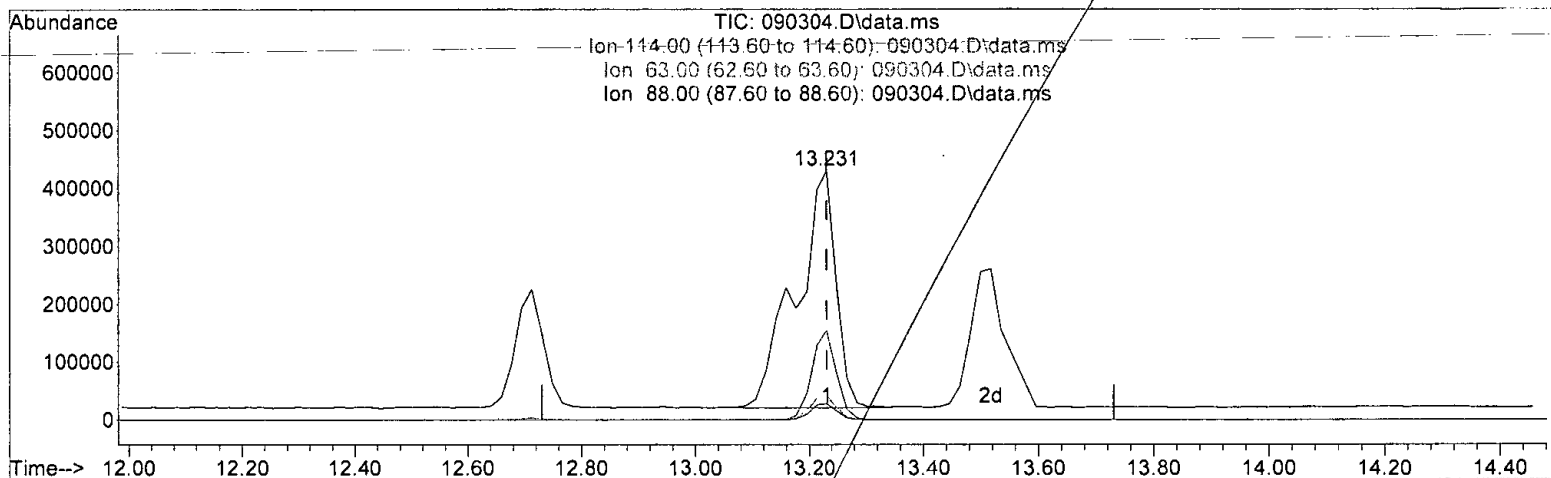
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:13:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000) 79.832 ug/m3

response 2013663

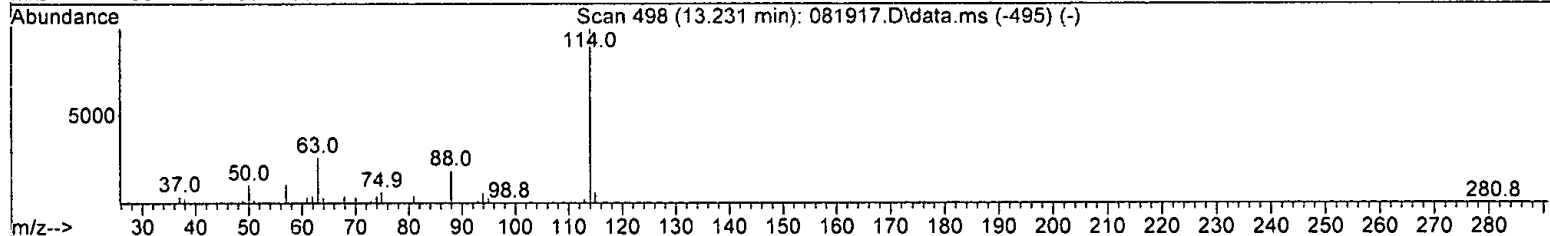
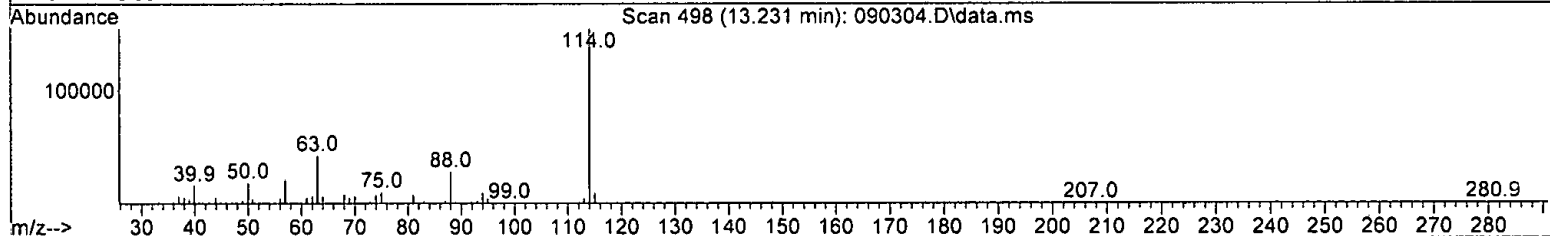
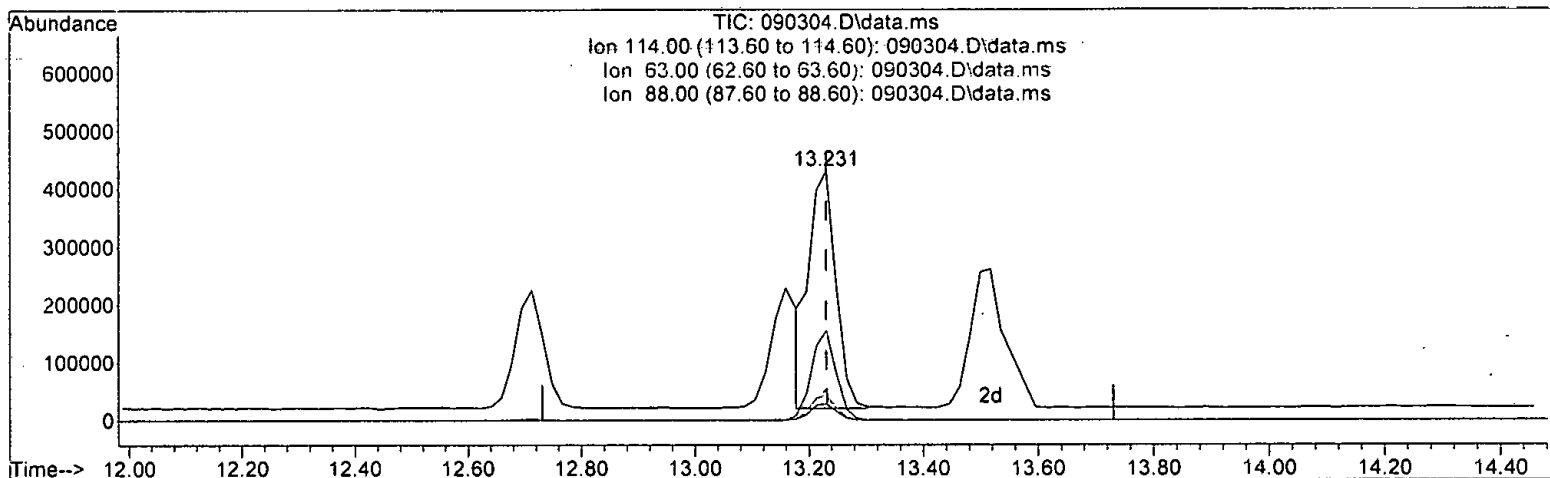
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	37.85
63.00	8.40	10.38
88.00	7.60	6.86

*R  
0.10x/4*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:13:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



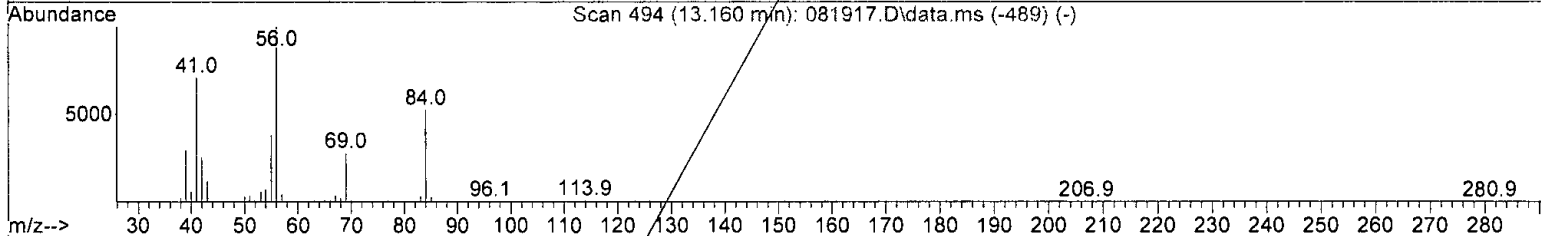
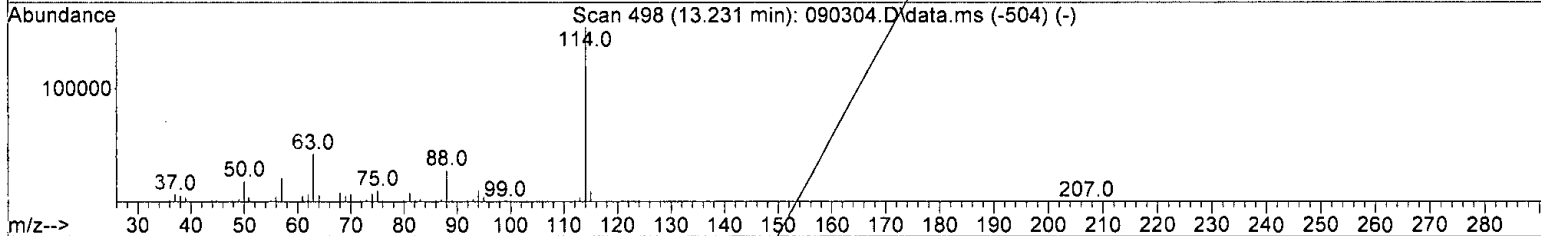
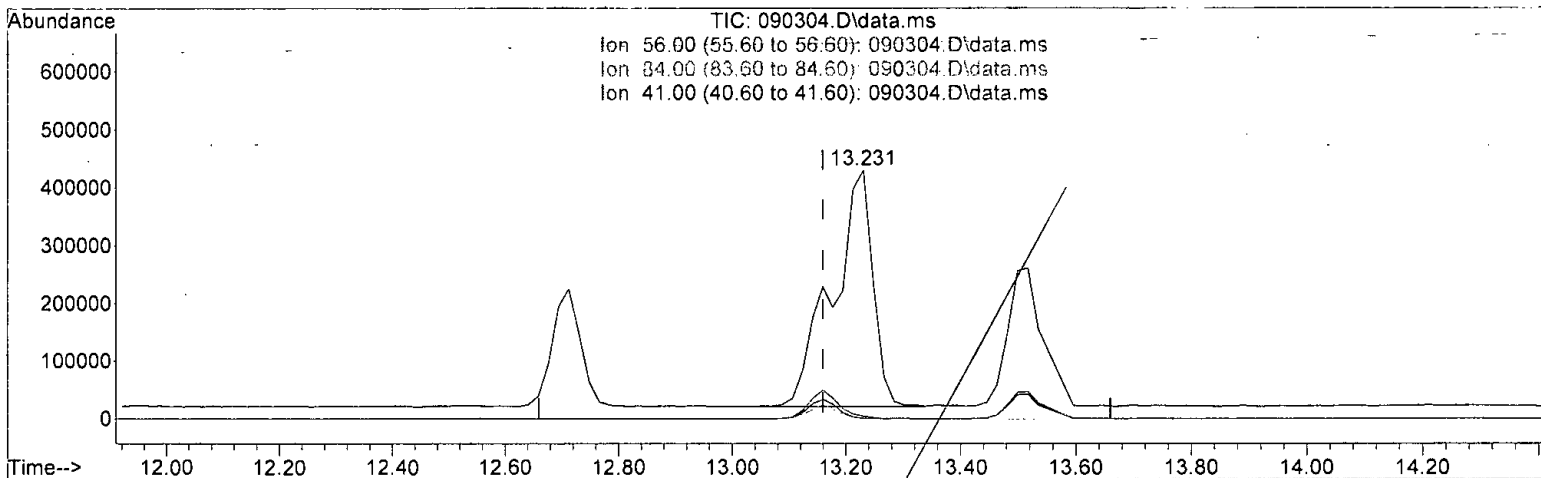
(3) IS-2 1,4-Difluorobenzene (T)  
 13.231min (+ 0.000) 53.602 ug/m3 m  
 response 1352054  

Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	56.37
63.00	8.40	15.46
88.00	7.60	10.22

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:13:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.231min (+ 0.071) 61.293 ug/m3

response 2013663

Signal	Exp%	Act%
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TIC	100.00	100.00
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56.00	3.80	1.13
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84.00	1.00	0.12
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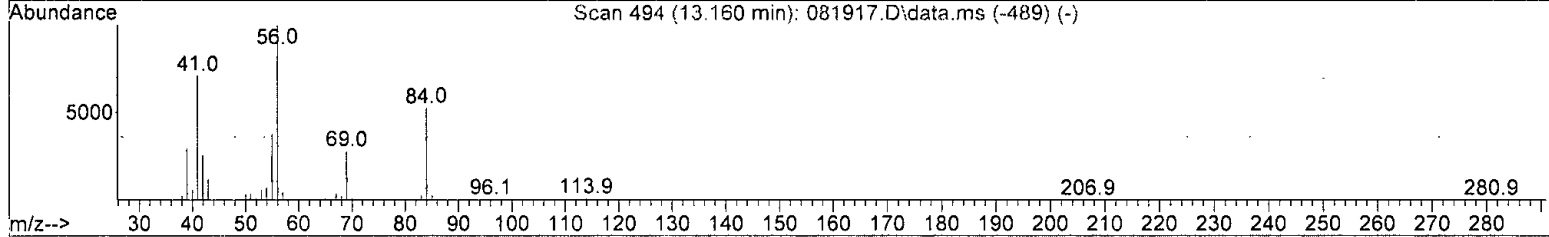
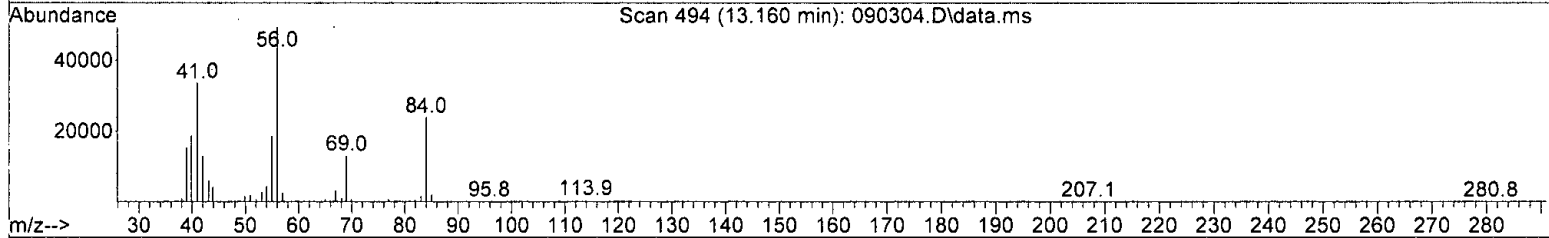
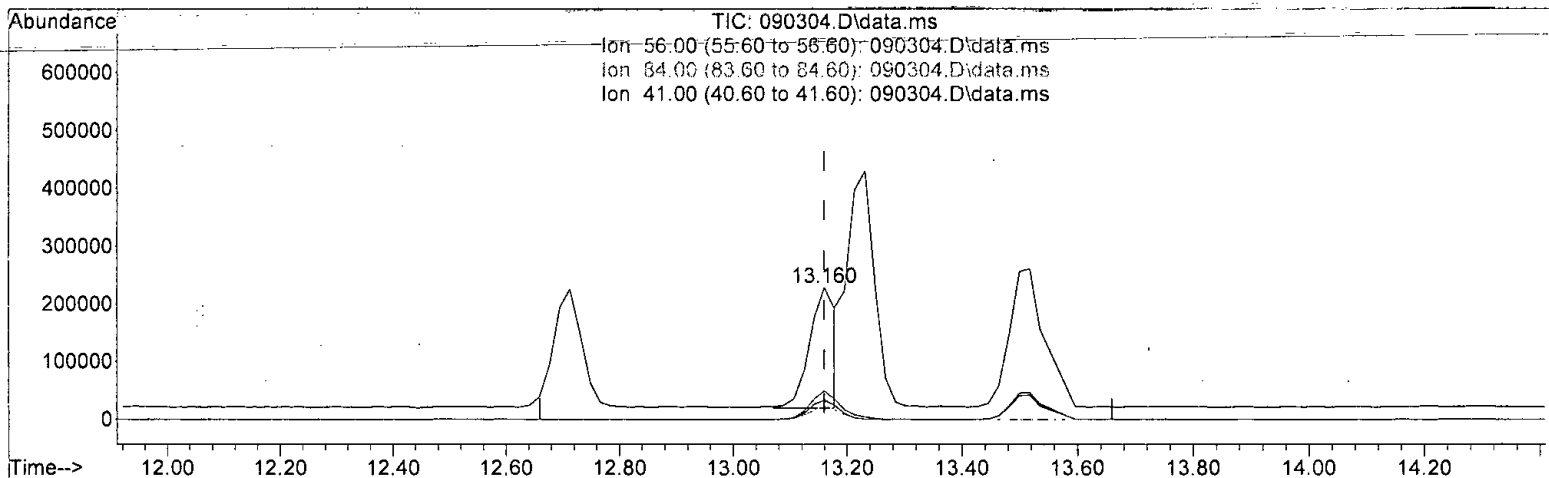
41.00	0.50	0.11
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*Bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:13:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(14) Cyclohexane (L1)

13.160min (-0.000) 20.290 ug/m3 m

response	666596	
Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.80	3.40
84.00	1.00	0.37
41.00	0.50	0.35

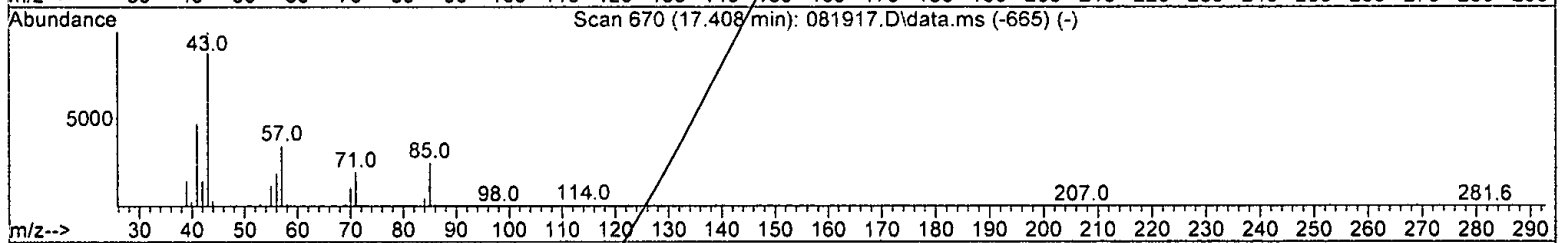
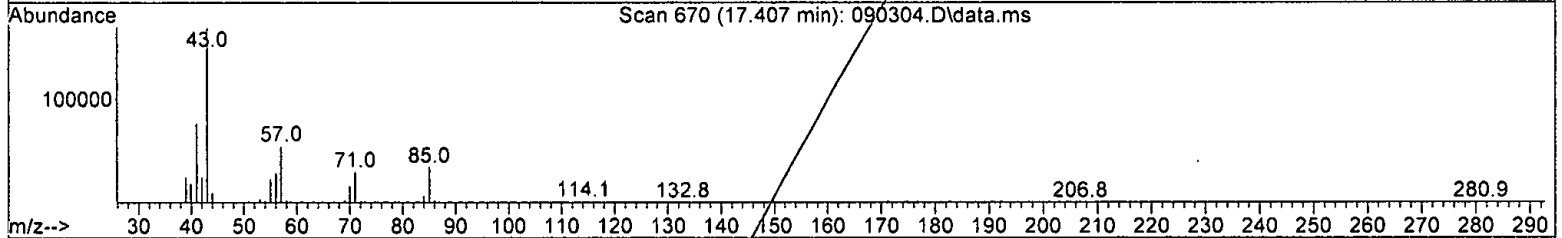
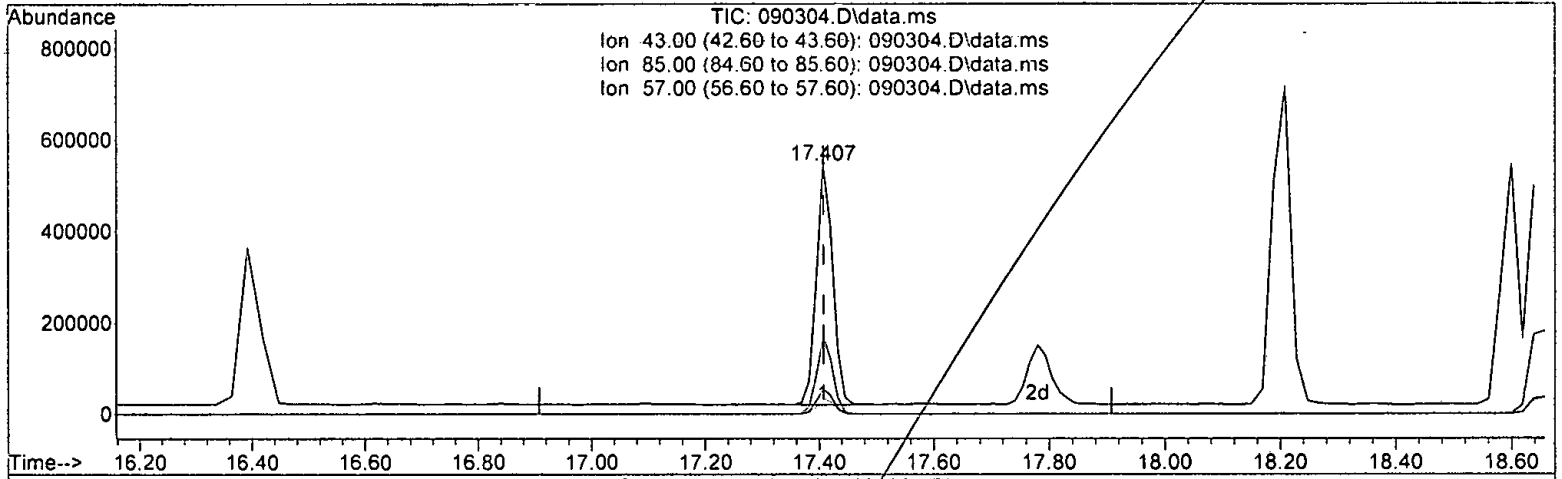
*B. Galati*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:13:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(17) Octane (L1)

17.407min (-0.001) 33.943 ug/m3

response 1594652

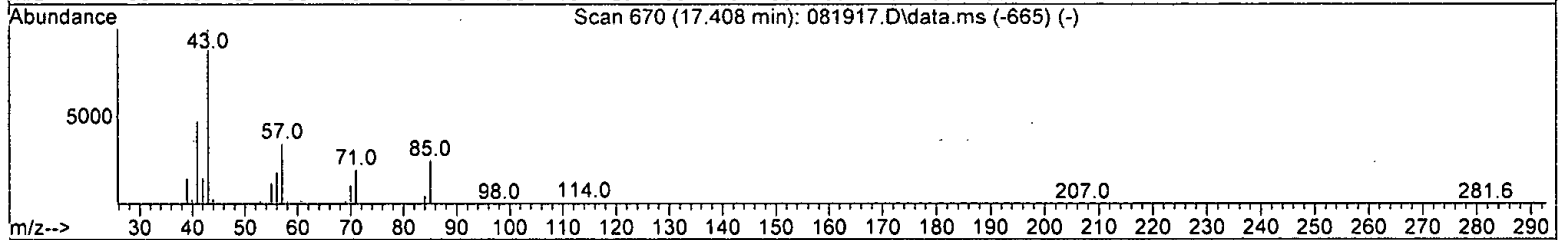
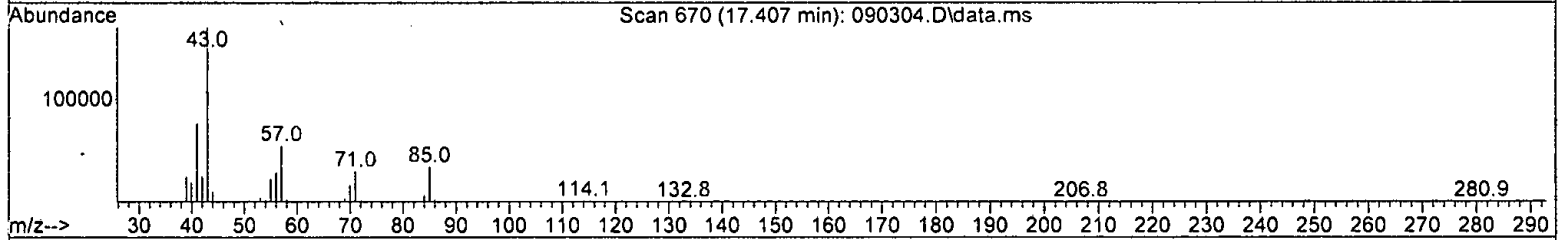
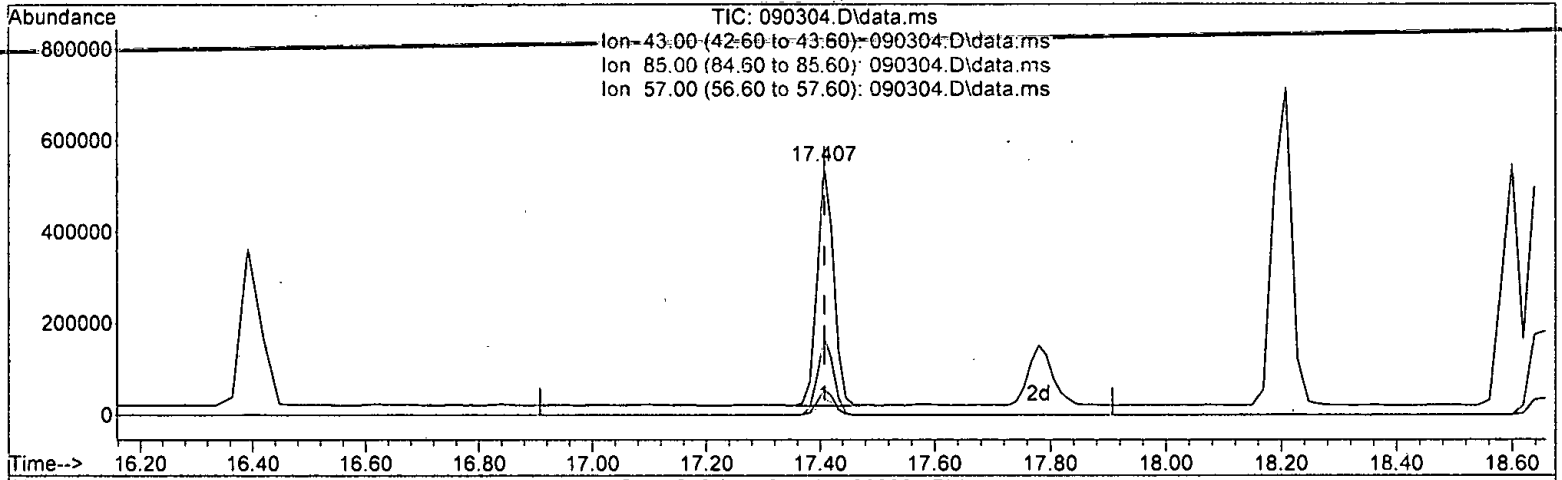
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	24.10	30.19
85.00	9.40	6.06
57.00	10.10	10.15

*W Octane*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:13:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(17) Octane (L1)

17.407min (-0.001) 22.672 ug/m3 m

response 1065152

Signal	Exp%	Act%
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TIC	100.00	100.00
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43.00	24.10	45.19
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85.00	9.40	9.07
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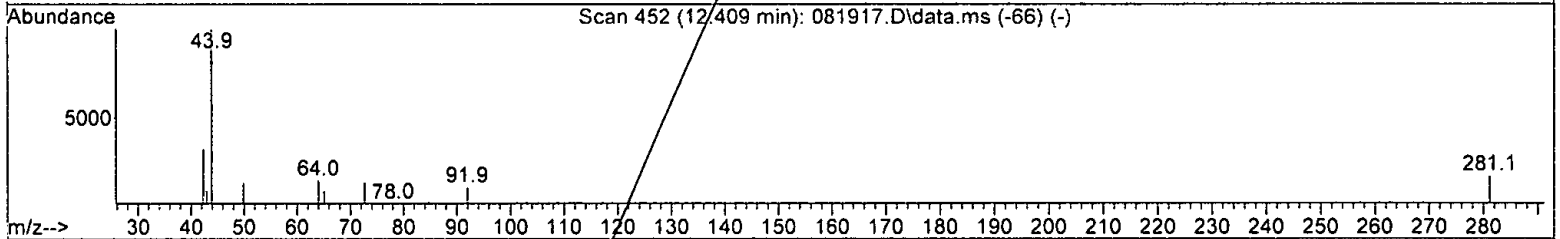
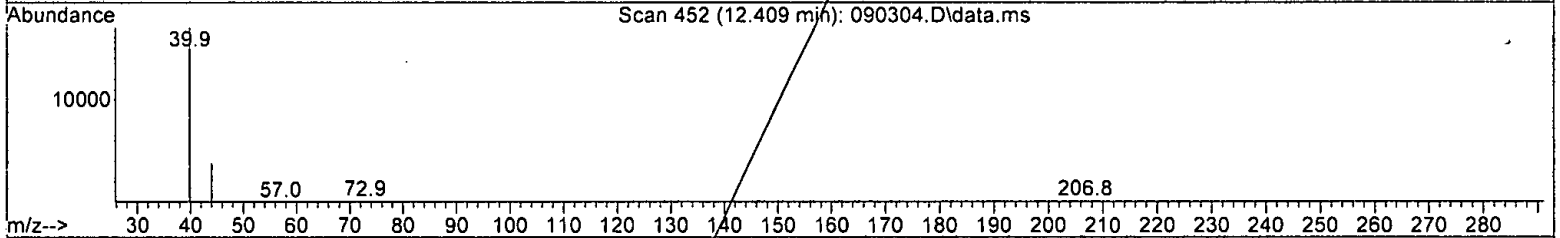
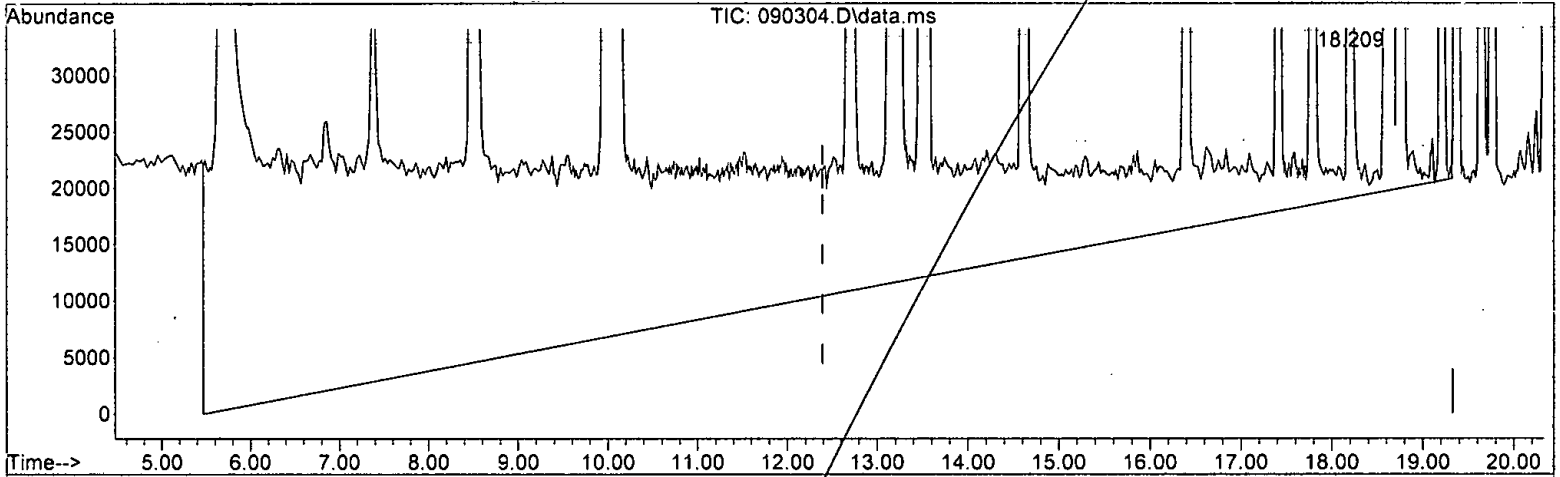
57.00	10.10	15.20
-------	-------	-------

*U Octane*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:13:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH ECS-8 aliphatics (H)  
 12.400min ( 0.000) 328.422 ug/m3 m  
 response 12333219

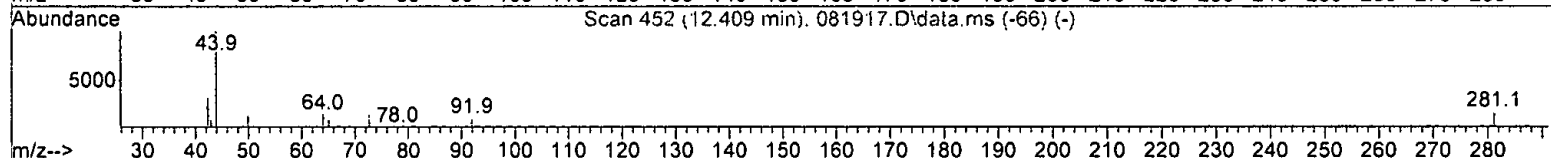
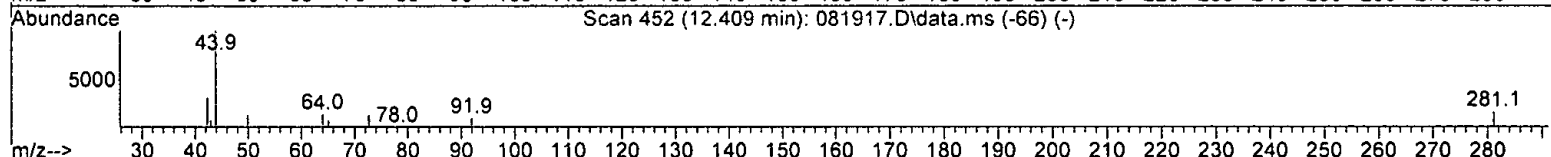
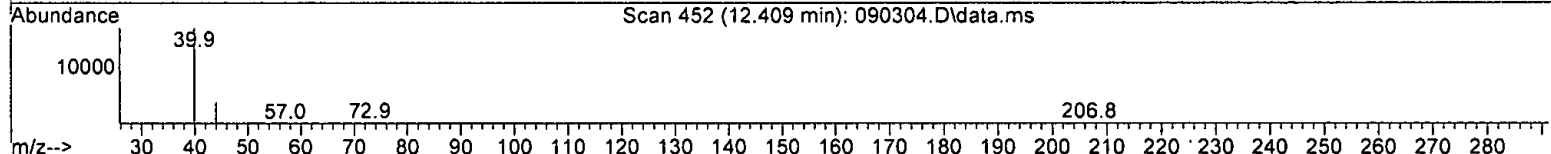
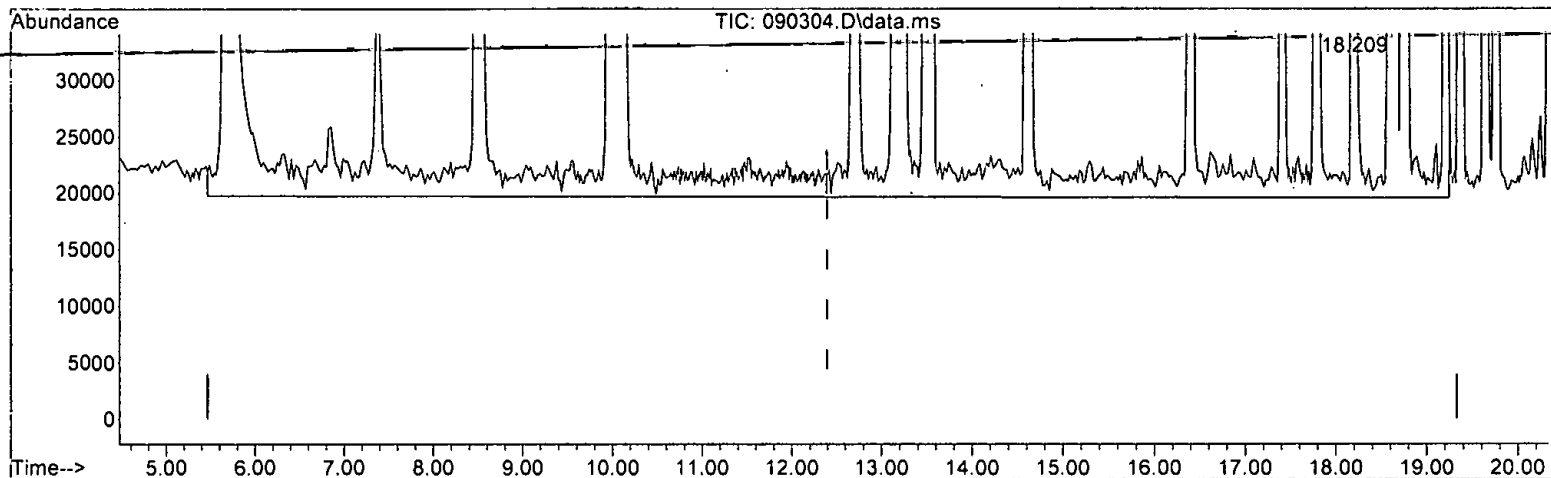
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*R  
09/07/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:13:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090304.D\data.ms

(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 492.404 ug/m3 m

response 18491251

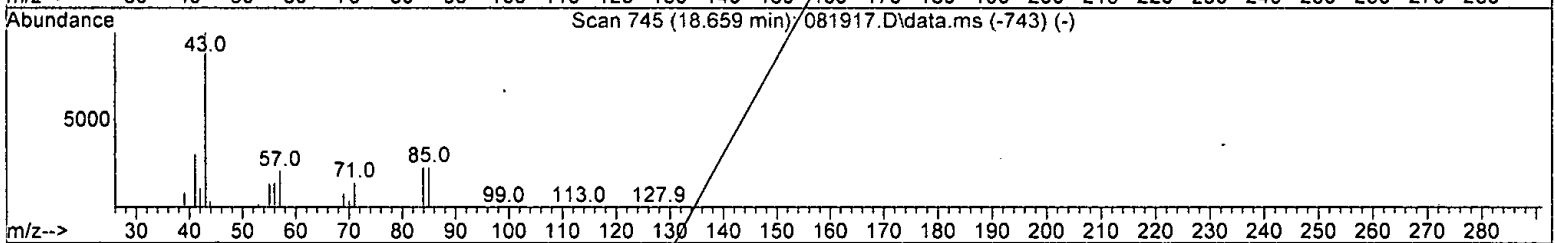
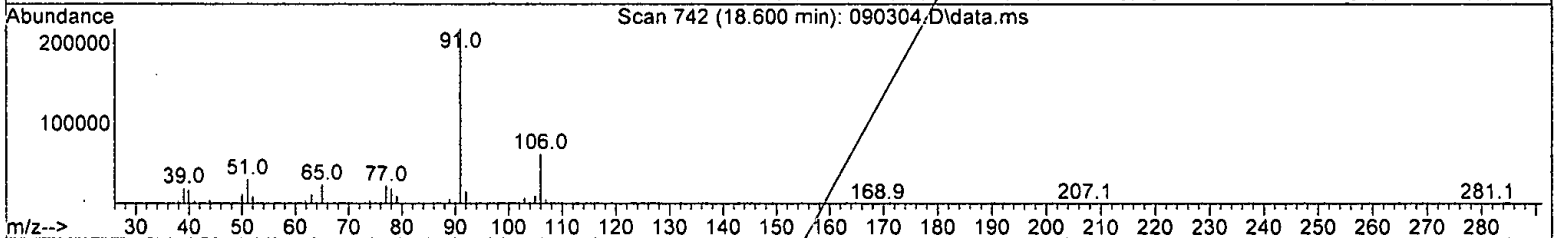
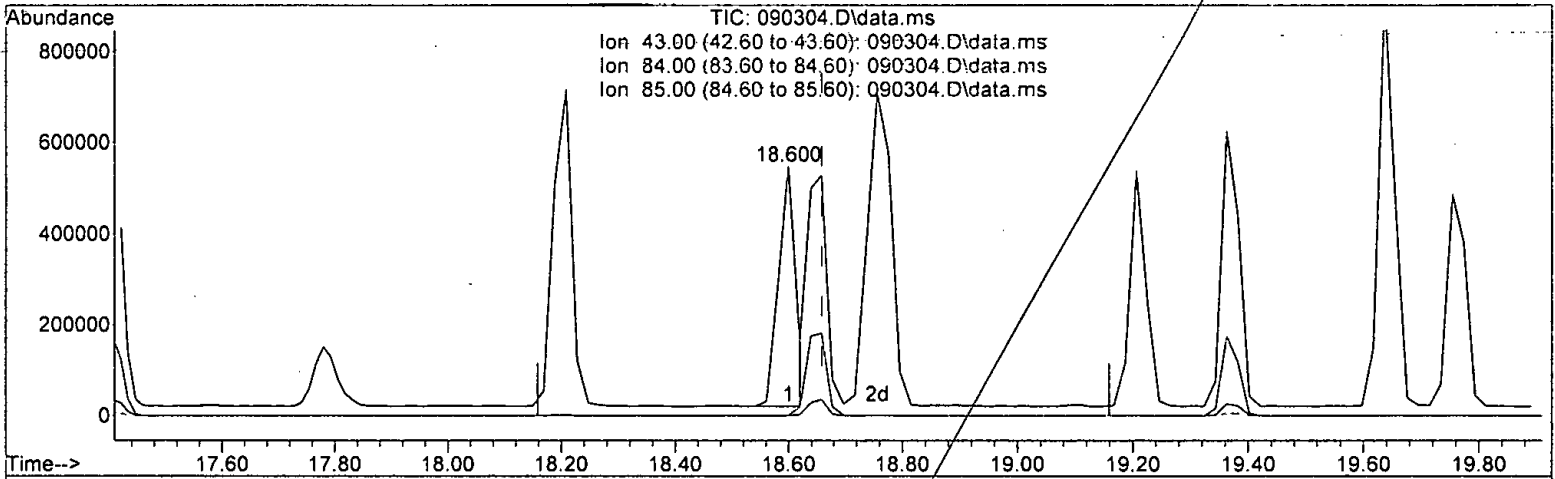
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B. bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:13:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

18.600min (-0.059) 25.983 ug/m3

response 1098663

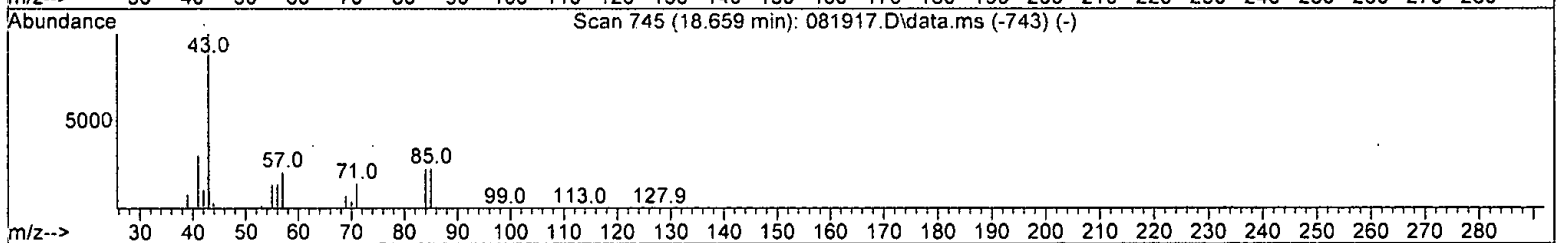
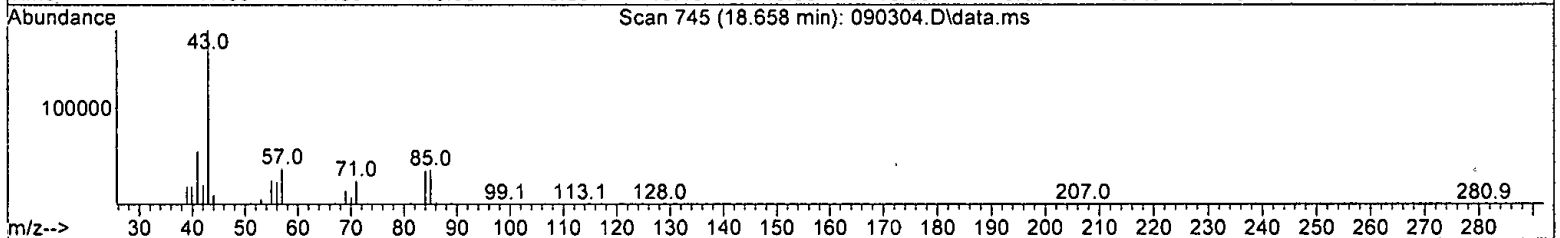
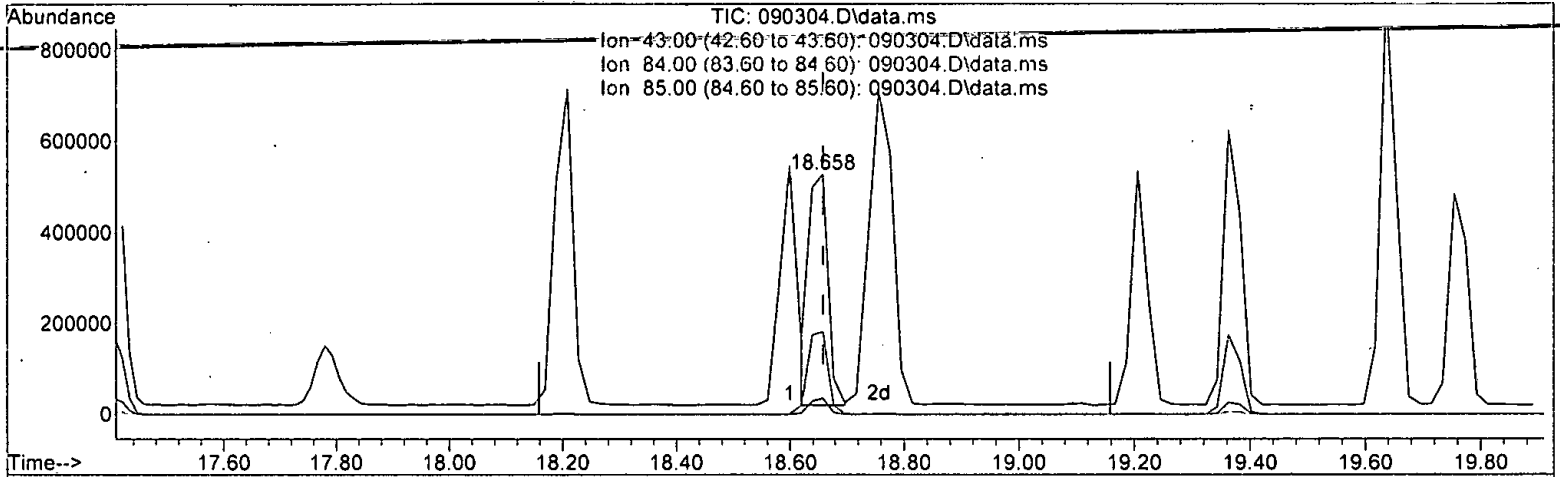
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	28.20	42.68#
84.00	9.90	7.85#
85.00	9.20	7.69

*h  
 08/27/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:13:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(29) 2,3-Dimethylheptane (L2)

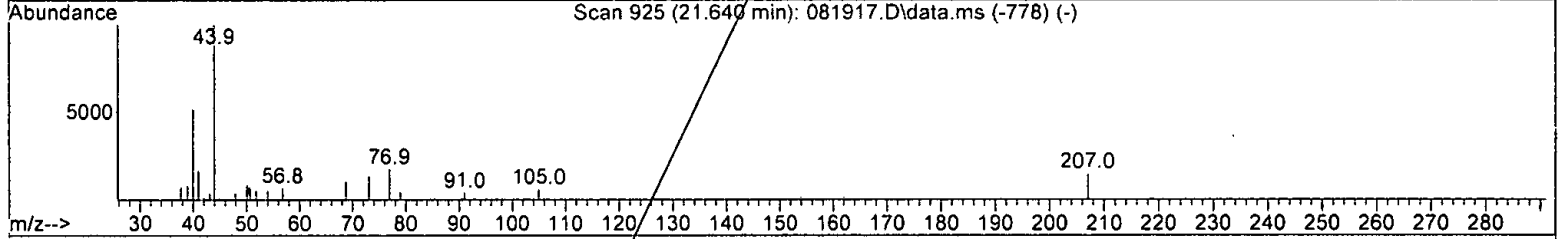
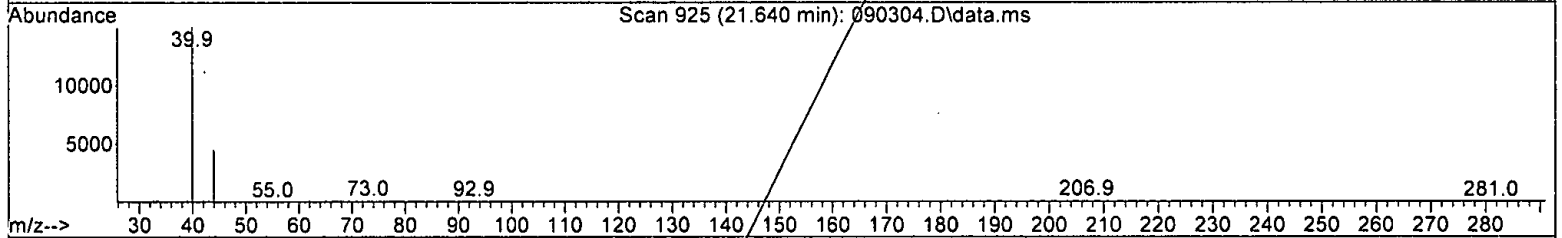
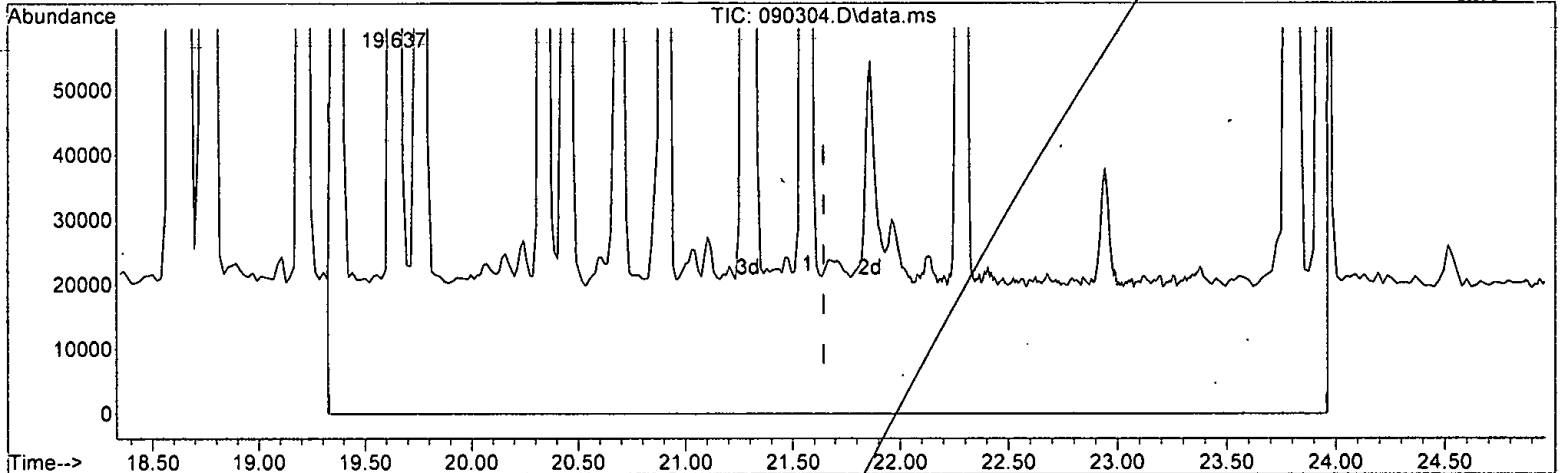
18.658min (-0.001) 29.198 ug/m3 m

response	1234623
Signal	Exp% Act%
TIC	100.00 100.00
43.00	28.20 37.98#
84.00	9.90 6.98#
85.00	9.20 6.84#

*Handwritten signature:* 12/09/2021

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:13:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 281.767 ug/m3 m

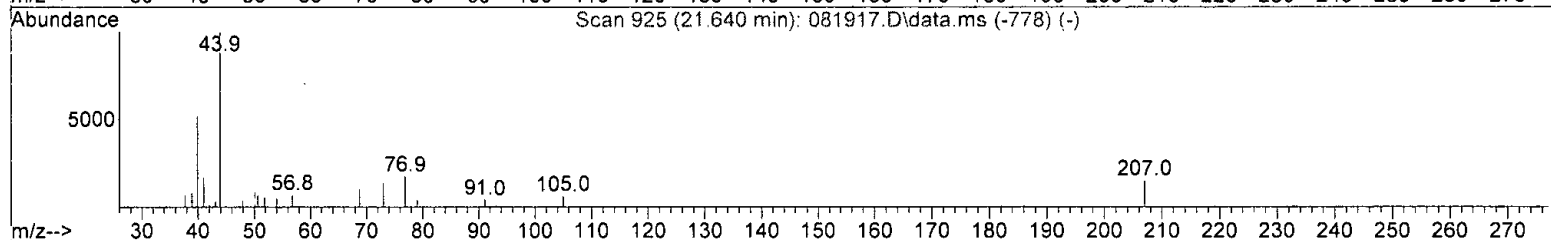
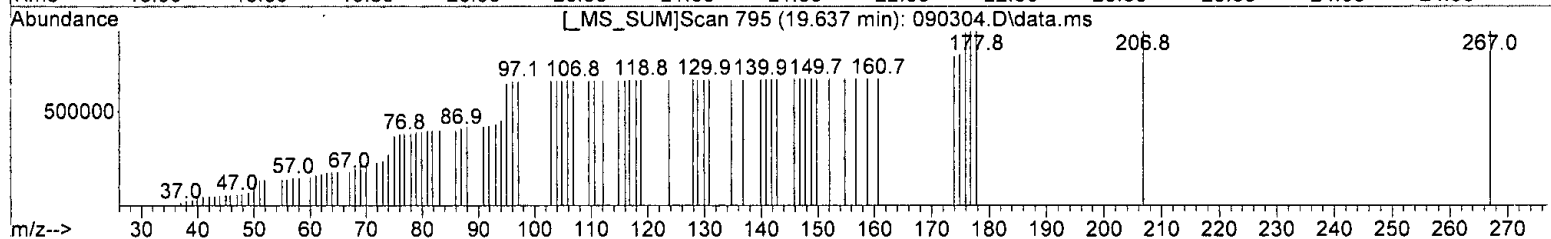
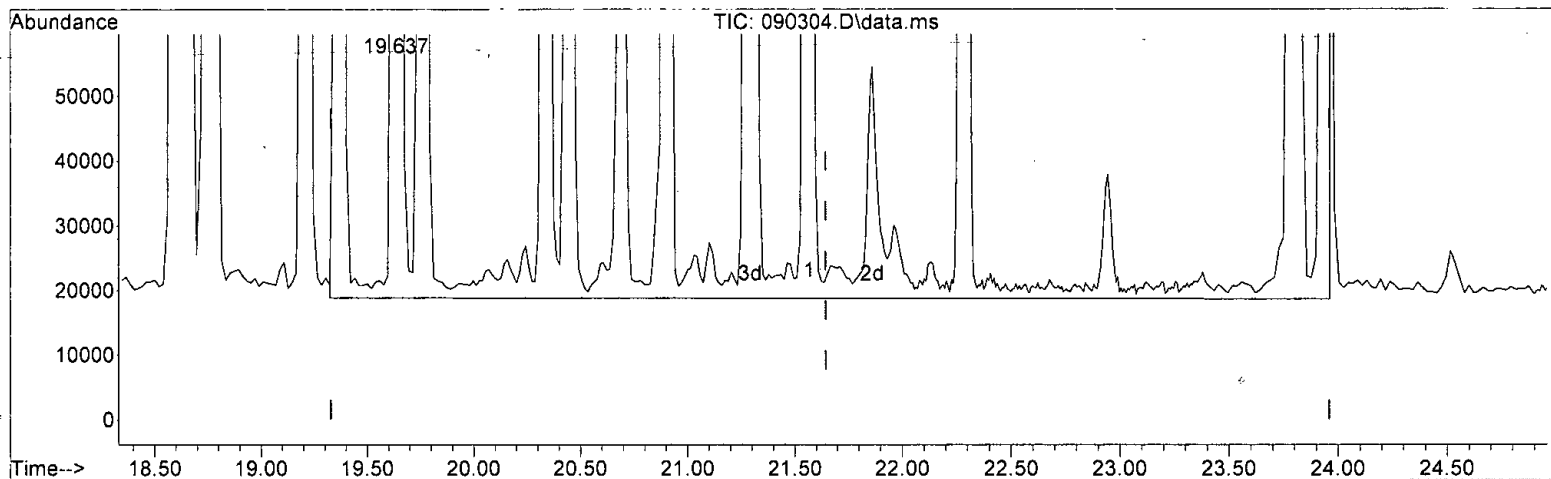
response 12129087

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B*  
*09/07/21*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:13:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 315.138 ug/m3 m

response 13565631

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

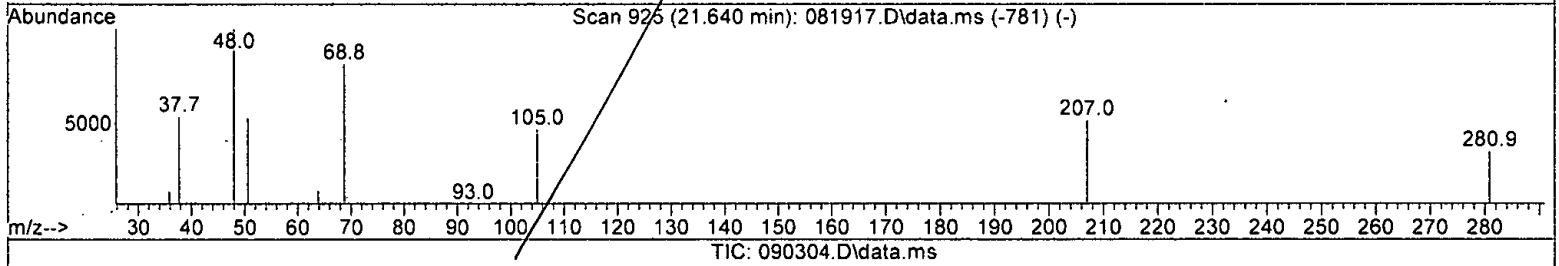
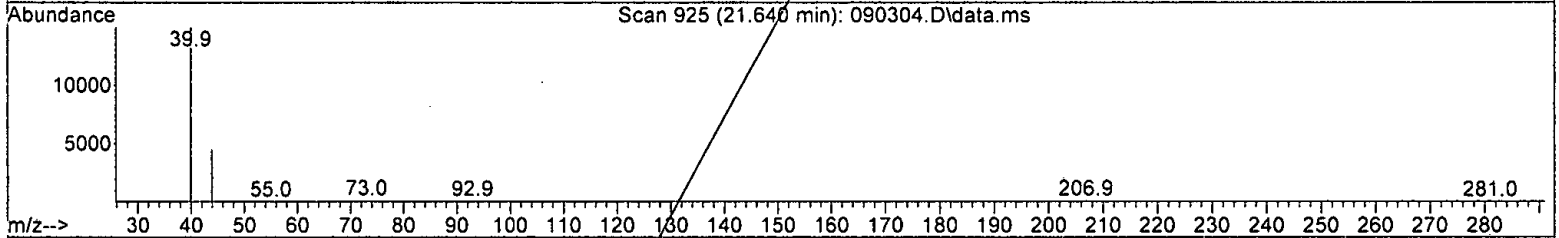
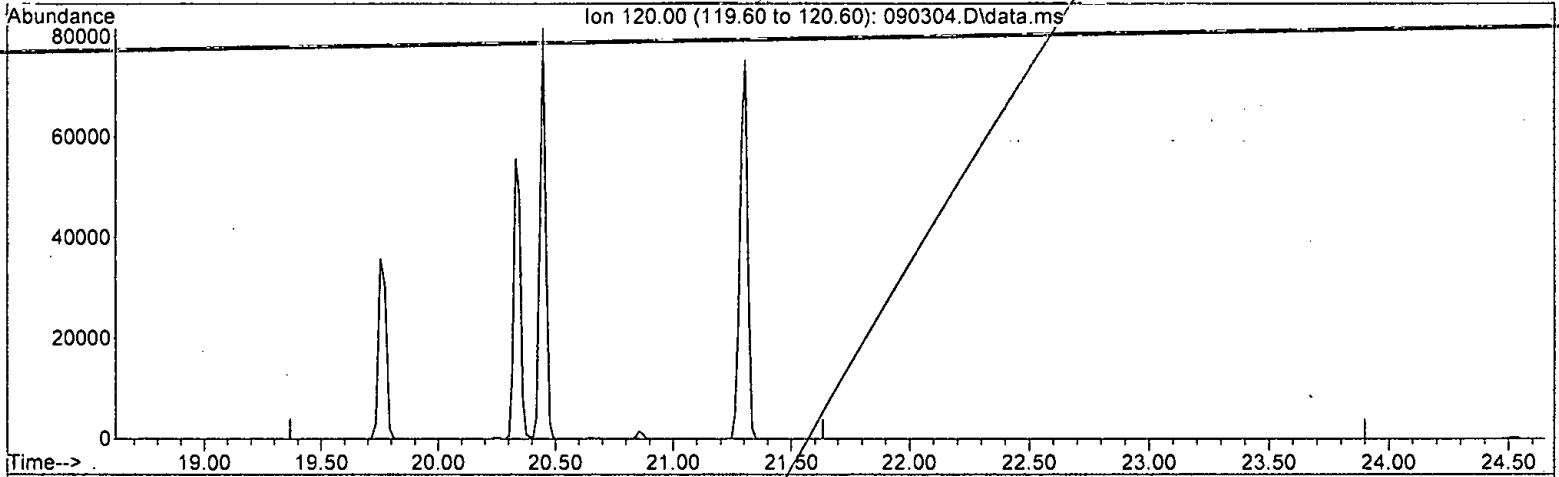
*B. B. B.*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:13:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 85.066 ug/m3 m

response 426339

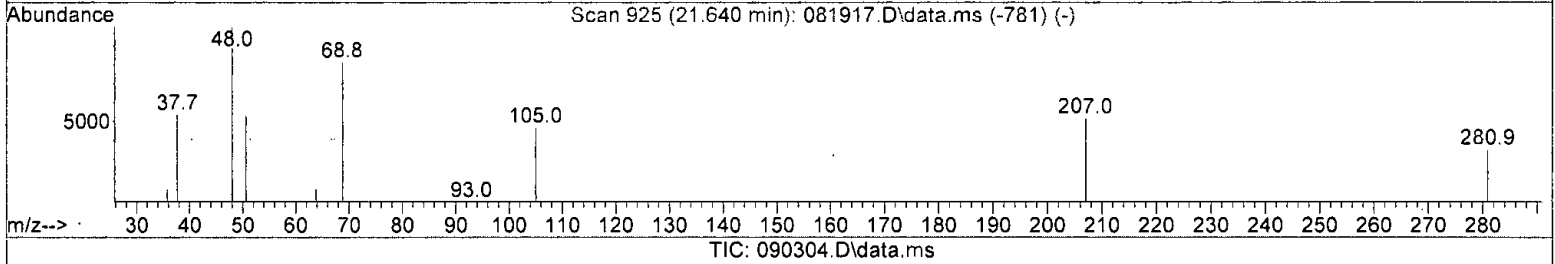
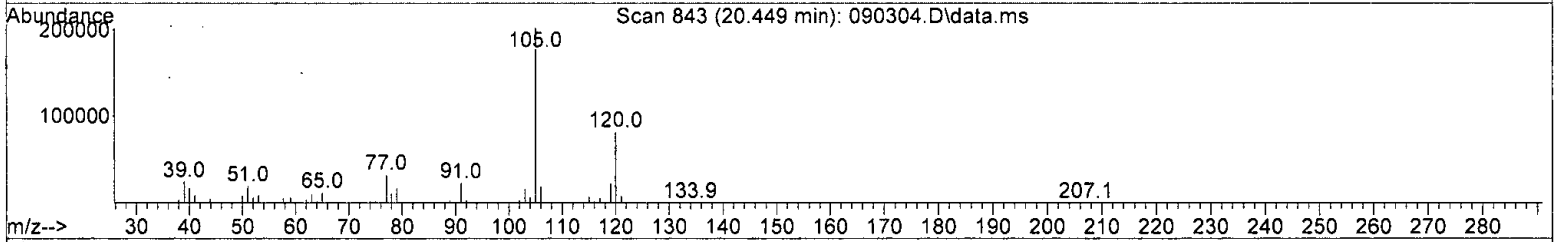
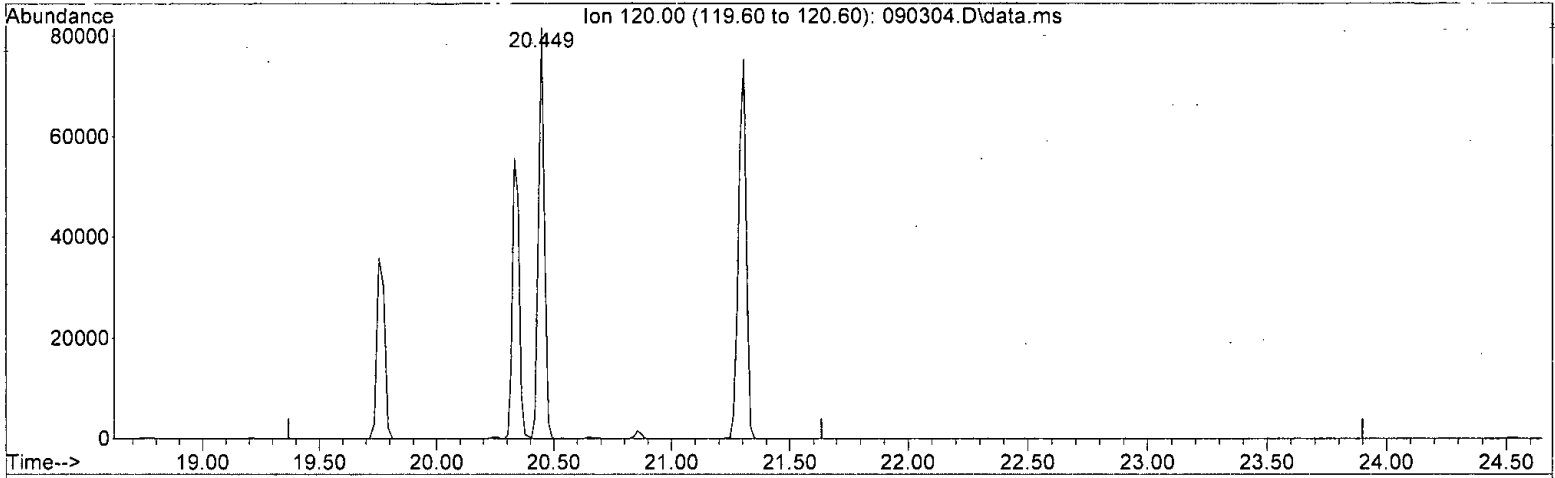
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h  
calculated*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:13:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 80.205 ug/m3 m

response 401976

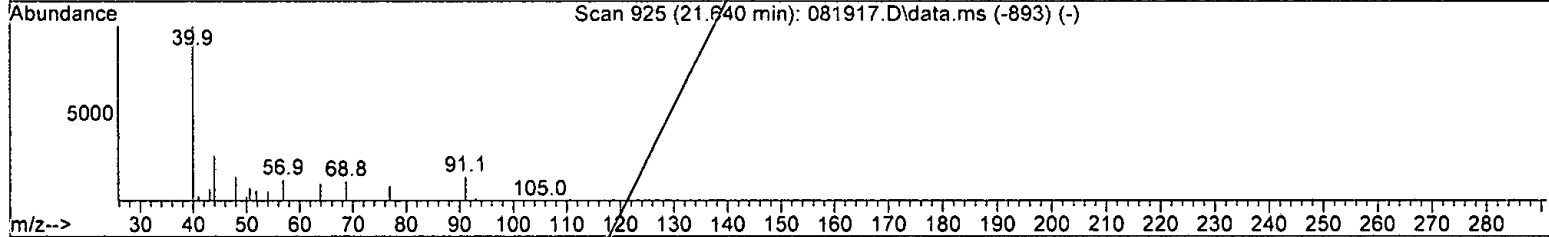
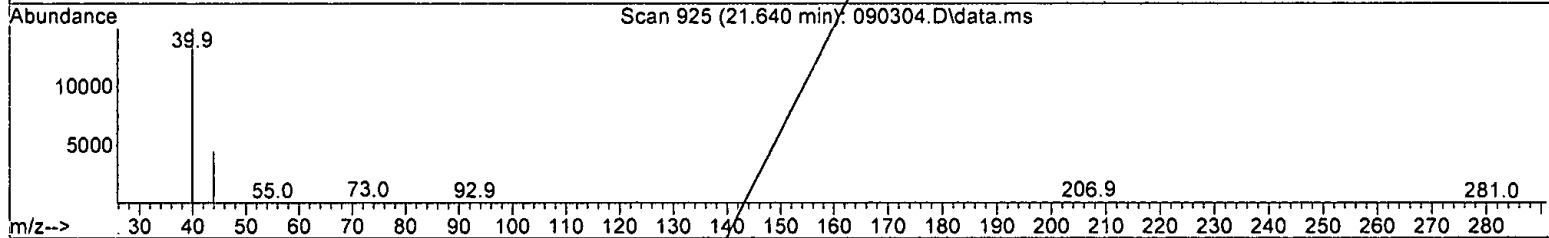
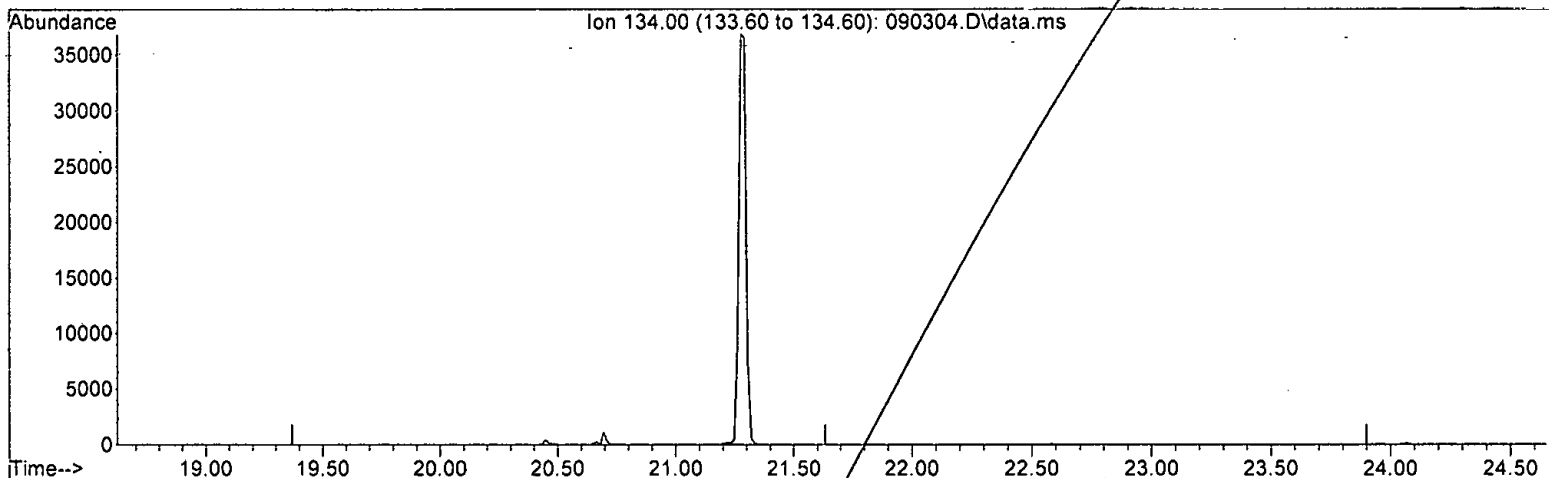
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:13:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) -0.005 ug/m3 m

response -14

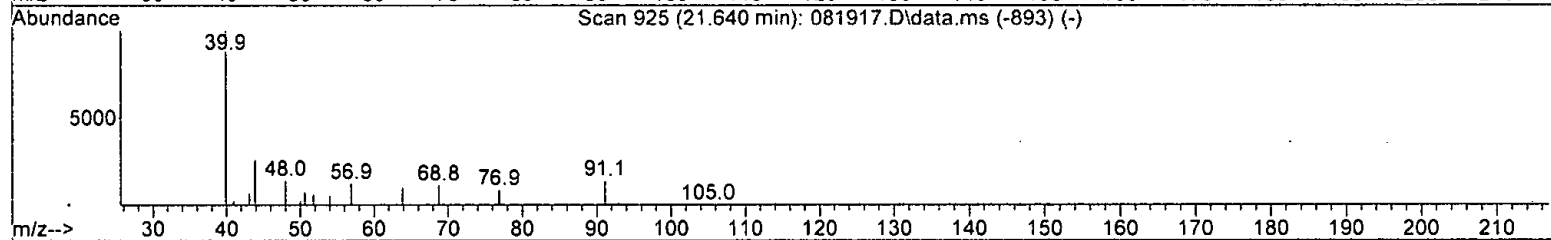
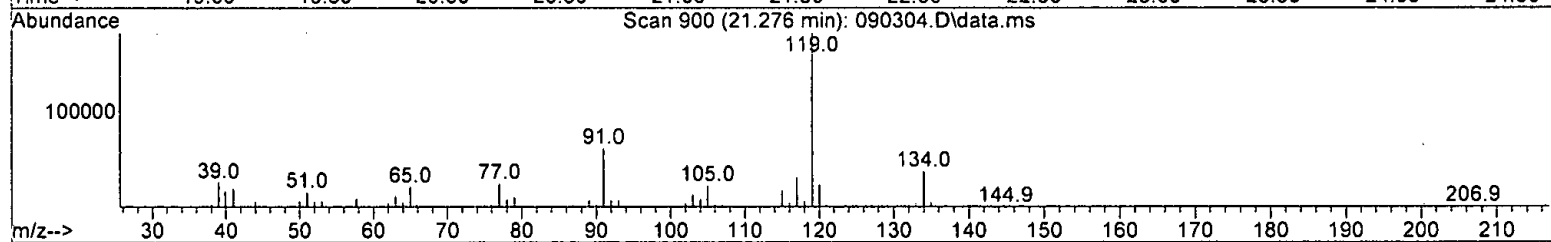
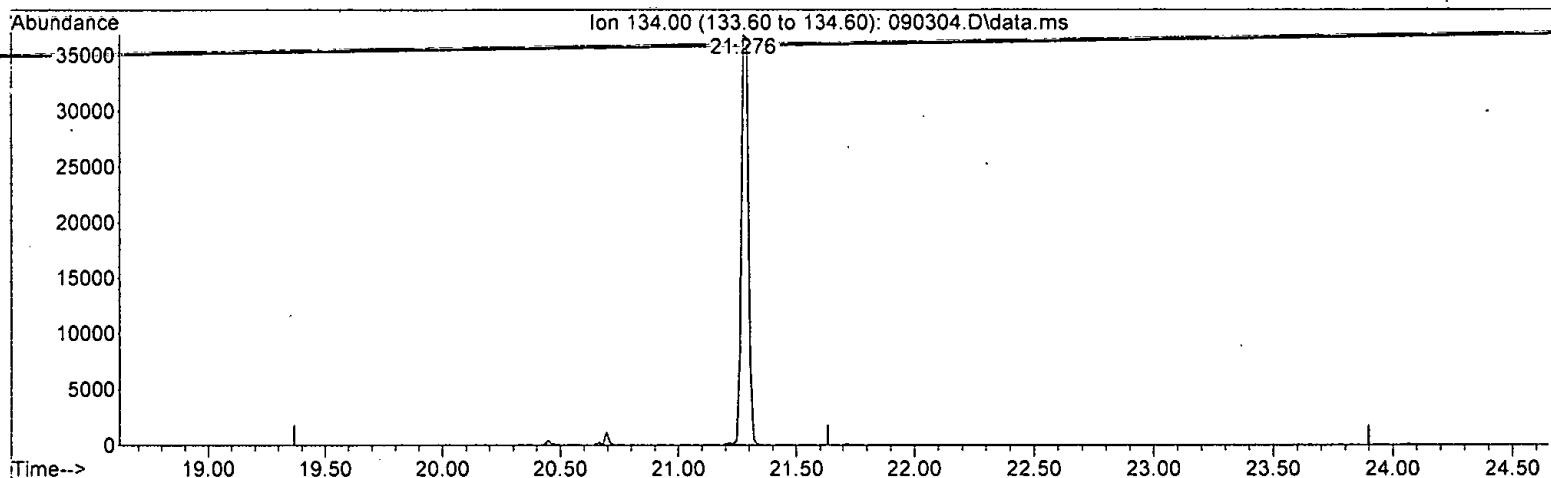
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Batlor 14*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:13:15 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090304.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 23.504 ug/m3 m

response 67095

Ion Exp% Act%

134.00 100.00 100.00

0.00 0.00 0.00

0.00 0.00 0.00

0.00 0.00 0.00

*Break*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:17:53 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	100650	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	473288	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	420732	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	374523	71.051	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	100.07%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	948612	53.379	ug/m3	86
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1352054m	53.602	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1565113	51.156	ug/m3	91
5) Methylene chloride	6.86	TIC	28695	31.893	ug/m3	92
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.24	54	75896	12.805	ug/m3	91
9) Methyl t-butyl ether	8.51	73	202750	26.132	ug/m3	89
11) Benzene	12.71	78	293287	18.226	ug/m3	90
12) Isopentane	5.68	TIC	607898	19.021	ug/m3	97
13) Hexane	10.10	TIC	691176	21.973	ug/m3	94
14) Cyclohexane	13.16	TIC	666596m	20.290	ug/m3	
15) 2,3-Dimethylpentane	13.52	TIC	1107334	26.412	ug/m3	95
16) Heptane	14.63	TIC	878589	25.643	ug/m3	92
17) Octane	17.41	TIC	1065152m	22.672	ug/m3	
18) APH EC5-8 aliphatics T...	12.71	TIC	5016745m	133.591	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	18491251m	492.404	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1762059	49.610	ug/m3	90
22) Hexamethylcyclotrisilo...	17.78	TIC	450669	51.514	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	322036	29.494	ppbv	100
24) Toluene	16.39	92	177368	19.650	ug/m3	97
25) Ethylbenzene	18.60	91	430524	23.095	ug/m3	96
26) m,p-Xylene	18.76	106	280187	44.698	ug/m3	83
27) o-Xylene	19.21	106	138802	23.407	ug/m3	86
28) Naphthalene	23.94	128	253738	16.762	ug/m3	98
29) 2,3-Dimethylheptane	18.66	TIC	1234623m	29.198	ug/m3	
30) Nonane	19.36	TIC	1294841	29.326	ug/m3	91
31) Decane	20.90	TIC	1525696	34.784	ug/m3	93
32) Butylcyclohexane	21.57	TIC	1505879	30.222	ug/m3	96
33) Undecane	22.28	TIC	1630191	37.474	ug/m3	96
34) Dodecane	23.79	TIC	1527372	42.776	ug/m3	94
35) APH EC9-12 aliphatics ...	21.57	TIC	8718602m	202.539	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	13565631m	315.138	ug/m3	
38) Isopropylbenzene	19.75	120	83335	25.253	ug/m3#	81
39) 1-Methyl-3-ethylbenzene	20.33	120	111739	24.212	ug/m3#	82
40) 1,3,5-Trimethylbenzene	20.45	120	142452	24.394	ug/m3#	88
41) p-Isopropyltoluene	21.28	134	79197	27.605	ug/m3#	74
42) 1,2,3-Trimethylbenzene	21.31	120	168024	24.517	ug/m3	88
43) APH EC9-10 aromatics T...	21.57	TIC	584747m	128.829	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	401976m	80.205	ug/m3	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a.  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

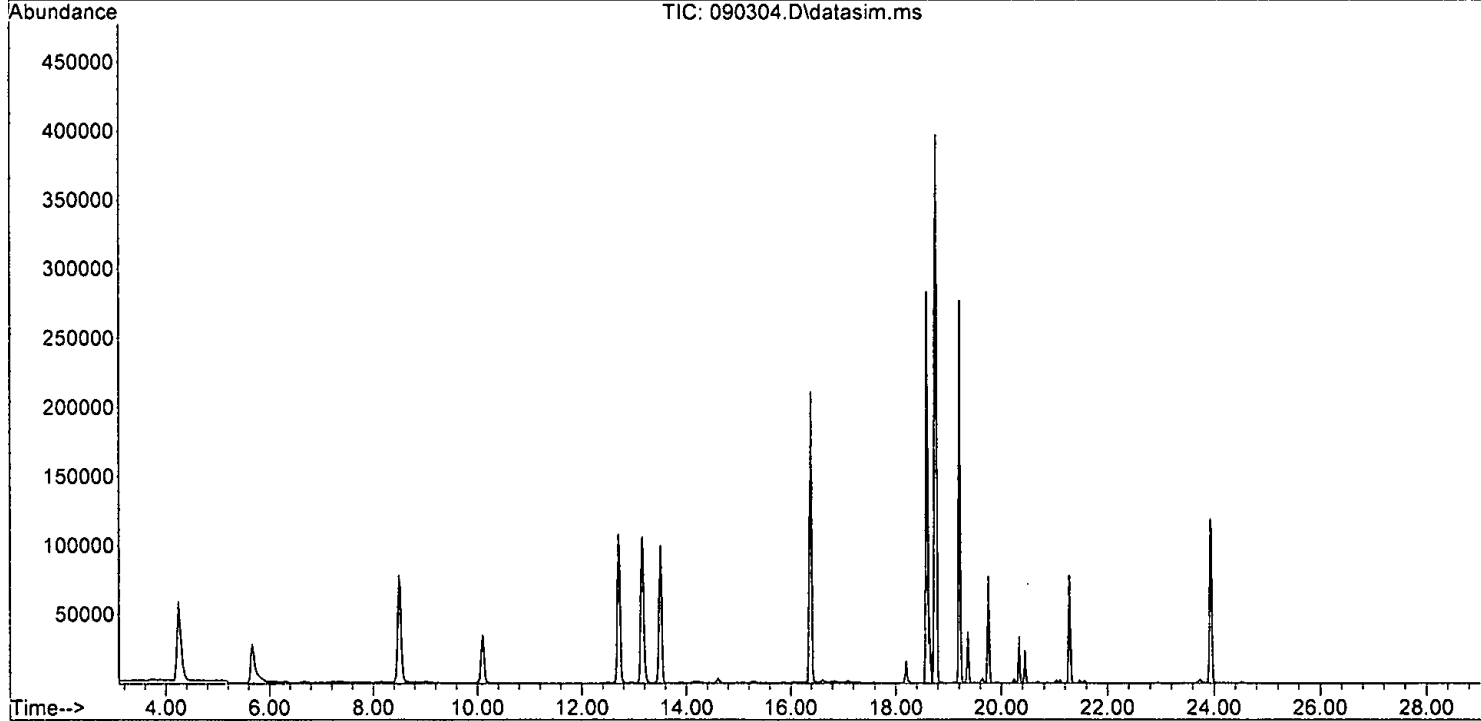
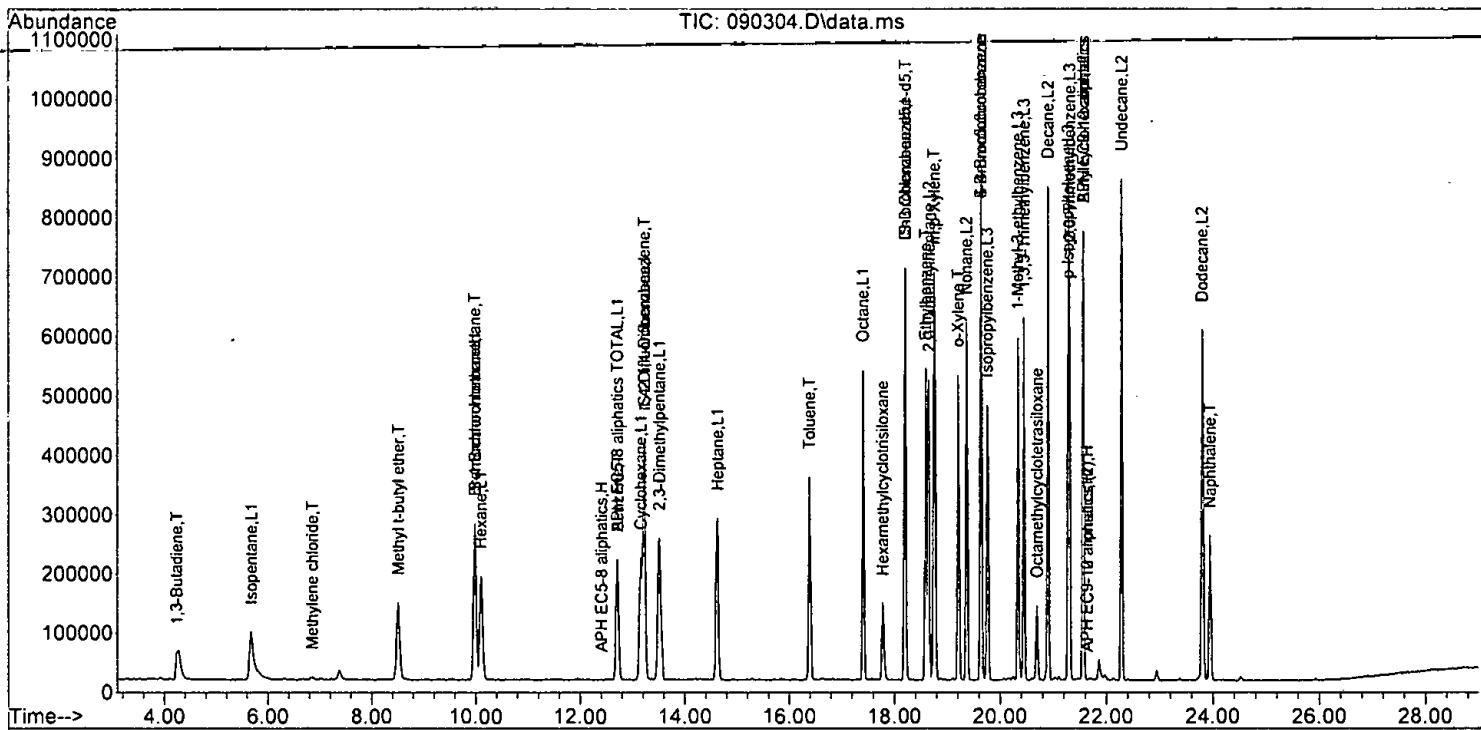
Quant Time: Sep 07 10:17:53 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	67095m	23.504	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:17:53 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:17:53 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min.-RRF-----:---0-000---Min.-Rel.-Area---50%---Max.-R-T---Dev---0-50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	79	0.00
2 T	IS-1 Bromochloromethane	50.000	53.379	-6.8	85	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	53.602	-7.2	82	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	51.156	-2.3	82	0.00
5 T	Methylene chloride	50.000	31.893	36.2#	0	0.00
6	Acetone	50.000	0.000	100.0#	0	-5.68#
7	2-Propanol	50.000	0.000	100.0#	0	-5.84#
8 T	1,3-Butadiene	11.000	12.805	-16.4	99	-0.04
9 T	Methyl t-butyl ether	18.000	26.132	-45.2#	119	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	79	0.00
11 T	Benzene	16.000	18.226	-13.9	89	0.00
12 L1	Isopentane	15.000	19.021	-26.8	93	0.00
13 L1	Hexane	17.500	21.973	-25.6	94	-0.02
14 L1	Cyclohexane	17.500	20.290	-15.9	96	0.00
15 L1	2,3-Dimethylpentane	21.000	26.412	-25.8	96	0.00
16 L1	Heptane	21.000	25.643	-22.1	97	0.00
17 L1	Octane	23.500	22.672	3.5	71	0.00
18 L1	APH EC5-8 aliphatics TOTAL	115.000	133.591	-16.2	89	0.00
19 H	APH EC5-8 aliphatics	115.000	492.404	-328.2#	328	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	80	0.00
21 T	S 4-Bromofluorobenzene	50.000	49.610	0.8	78	0.00
22	Hexamethylcyclotrisiloxane	50.000	51.514	-3.0	84	0.00
23	Octamethylcyclotetrasiloxan	50.000	29.494	41.0#	43	0.00
24 T	Toluene	18.750	19.650	-4.8	87	0.00
25 T	Ethylbenzene	21.750	23.095	-6.2	86	0.00
26 T	m,p-Xylene	44.000	44.698	-1.6	83	0.00
27 T	o-Xylene	22.000	23.407	-6.4	85	0.00
28 T	Naphthalene	25.000	16.762	33.0#	57	0.00
29 L2	2,3-Dimethylheptane	25.000	29.198	-16.8	94	0.00
30 L2	Nonane	25.000	29.326	-17.3	94	0.00
31 L2	Decane	30.000	34.784	-15.9	94	0.00
32 L2	Butylcyclohexane	27.500	30.222	-9.9	89	0.00
33 L2	Undecane	32.500	37.474	-15.3	94	0.00
34 L2	Dodecane	35.000	42.776	-22.2	98	0.00
35 L2	APH EC9-12 aliphatics TOTAL	175.000	202.539	-15.7	94	0.00
36 H	APH EC9-12 aliphatics	175.000	315.138	-80.1#	146	0.00
37 S	4-Bromofluorobenzene	71.000	71.051	-0.1	80	0.00
38 L3	Isopropylbenzene	24.500	25.253	-3.1	83	0.00
39 L3	1-Methyl-3-ethylbenzene	24.500	24.212	1.2	80	0.00
40 L3	1,3,5-Trimethylbenzene	24.500	24.394	0.4	80	0.00
41 L3	p-Isopropyltoluene	27.750	27.605	0.5	80	0.00
42 L3	1,2,3-Trimethylbenzene	24.500	24.517	-0.1	80	0.00
43 L3	APH EC9-10 aromatics TOTAL	125.400	128.829	-2.7	81	0.00
44 H	APH EC9-10 aromatics (1)	98.000	80.205	18.2	64	0.00



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:17:53 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	27.400	23.504	14.2	68	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:17:53 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	79	0.00
2 T	IS-1 Bromochloromethane	8.828	9.425	-6.8	85	0.00
3 T	IS-2 1,4-Difluorobenzene	12.530	13.433	-7.2	82	0.00
4 T	IS-3 Chlorobenzene-d5	15.199	15.550	-2.3	82	0.00
5 T	Methylene chloride	0.447	0.285	36.2#	0#	0.00
6	Acetone	23.578	0.000	100.0#	0#	-5.68#
7	2-Propanol	0.137	0.000	100.0#	0#	-5.84#
8 T	1,3-Butadiene	2.944	3.428	-16.4	99	-0.04
9 T	Methyl t-butyl ether	3.854	5.596	-45.2#	119	0.00
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	79	0.00
11 T	Benzene	1.700	1.936	-13.9	89	0.00
12 L1	Isopentane	3.376	4.281	-26.8	93	0.00
13 L1	Hexane	3.421	4.172	-22.0	94	-0.02
14 L1	Cyclohexane	3.471	4.024	-15.9	96	0.00
15 L1	2,3-Dimethylpentane	4.429	5.571	-25.8	96	0.00
16 L1	Heptane	3.620	4.420	-22.1	97	0.00
17 L1	Octane	4.963	4.788	3.5	71	0.00
18 L1	APH EC5-8 aliphatics TOTAL	3.967	4.609	-16.2	89	0.00
19 H	APH EC5-8 aliphatics	3.967	16.987	-328.2#	328#	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	80	0.00
21 T	S 4-Bromofluorobenzene	4.221	4.188	0.8	78	0.00
22	Hexamethylcyclotrisiloxane	1.040	1.071	-3.0	84	0.00
23	Octamethylcyclotetrasiloxan	1.298	0.765	41.1#	43#	0.00
24 T	Toluene	1.073	1.124	-4.8	87	0.00
25 T	Ethylbenzene	2.215	2.352	-6.2	86	0.00
26 T	m,p-Xylene	0.745	0.757	-1.6	83	0.00
27 T	o-Xylene	0.705	0.750	-6.4	85	0.00
28 T	Naphthalene	1.799	1.206	33.0#	57	0.00
29 L2	2,3-Dimethylheptane	5.025	5.869	-16.8	94	0.00
30 L2	Nonane	5.247	6.155	-17.3	94	0.00
31 L2	Decane	5.213	6.044	-15.9	94	0.00
32 L2	Butylcyclohexane	5.921	6.508	-9.9	89	0.00
33 L2	Undecane	5.170	5.961	-15.3	94	0.00
34 L2	Dodecane	4.243	5.186	-22.2	98	0.00
35 L2	APH EC9-12 aliphatics TOTAL	5.116	5.921	-15.7	94	0.00
36 H	APH EC9-12 aliphatics	5.116	9.212	-80.1#	146	0.00
37 S	4-Bromofluorobenzene	0.626	0.627	-0.2	80	0.00
38 L3	Isopropylbenzene	0.392	0.404	-3.1	83	0.00
39 L3	1-Methyl-3-ethylbenzene	0.548	0.542	1.1	80	0.00
40 L3	1,3,5-Trimethylbenzene	0.694	0.691	0.4	80	0.00
41 L3	p-Isopropyltoluene	0.341	0.339	0.6	80	0.00
42 L3	1,2,3-Trimethylbenzene	0.814	0.815	-0.1	80	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.539	0.554	-2.8	81	0.00
44 H	APH EC9-10 aromatics (1)	0.596	0.487	18.3	64	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090304.D  
 Acq On : 3 Sep 2021 9:36 am  
 Operator : bat  
 Sample : 5 ppbv APH 64-91a  
 Misc : line 2  
 ALS Vial : 4 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:17:53 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.339	0.291	14.2	68	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

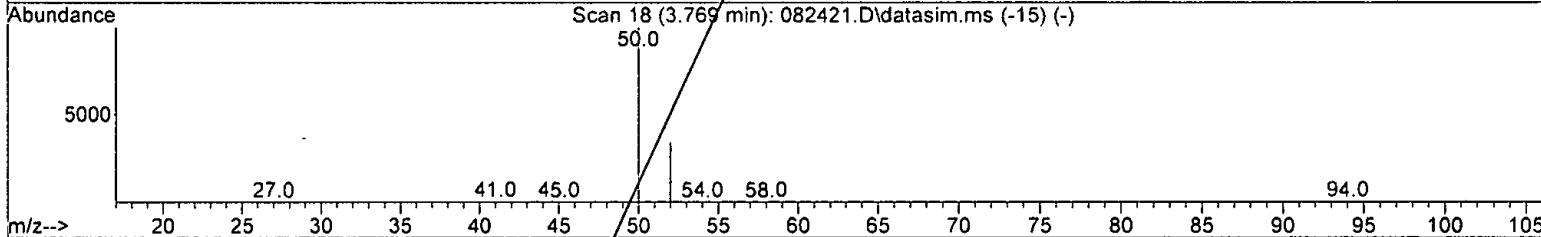
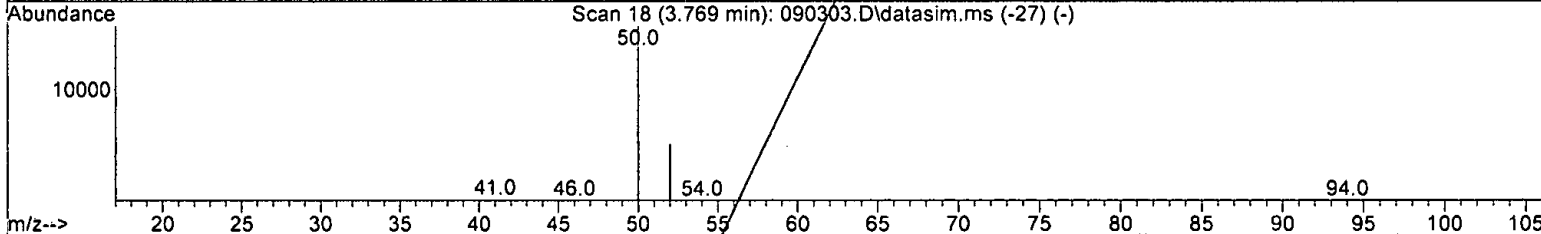
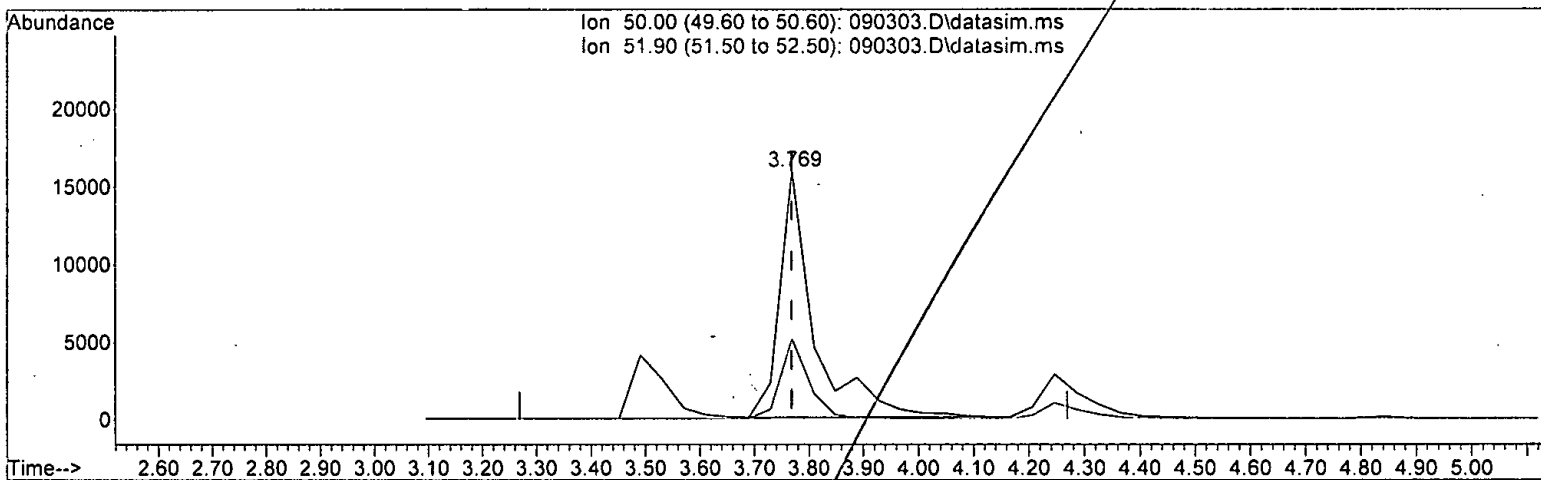
EPA TO-15  
Quality Assurance Data

F&B Project 109030

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:02:43 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (+ 0.000) 3.332 ppbv

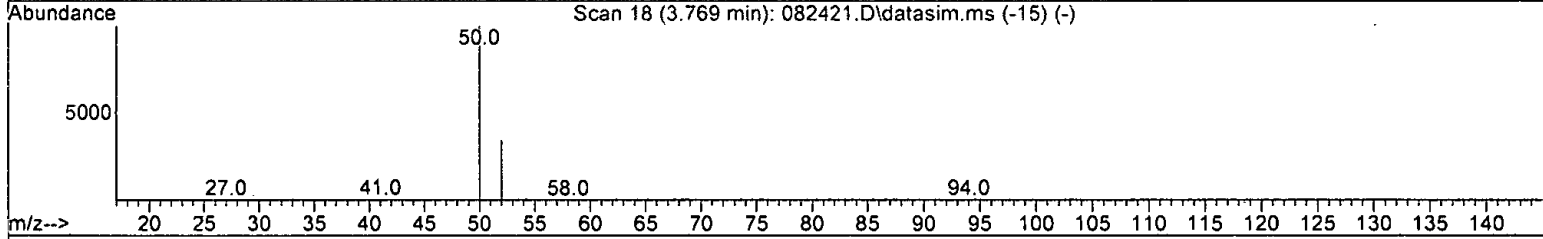
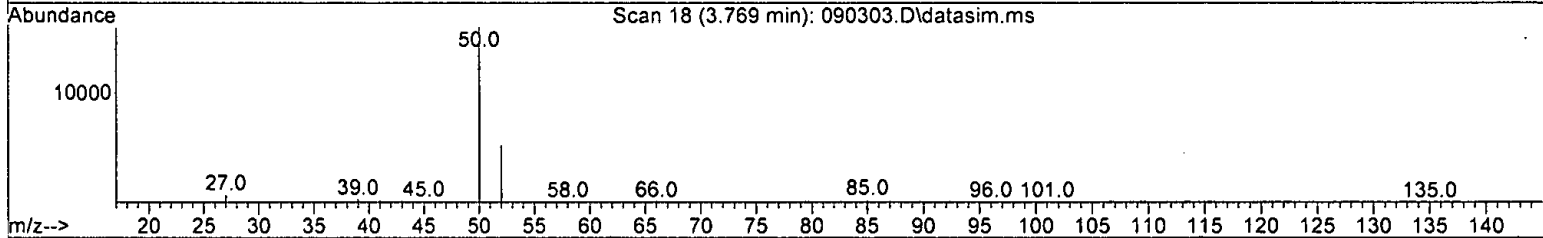
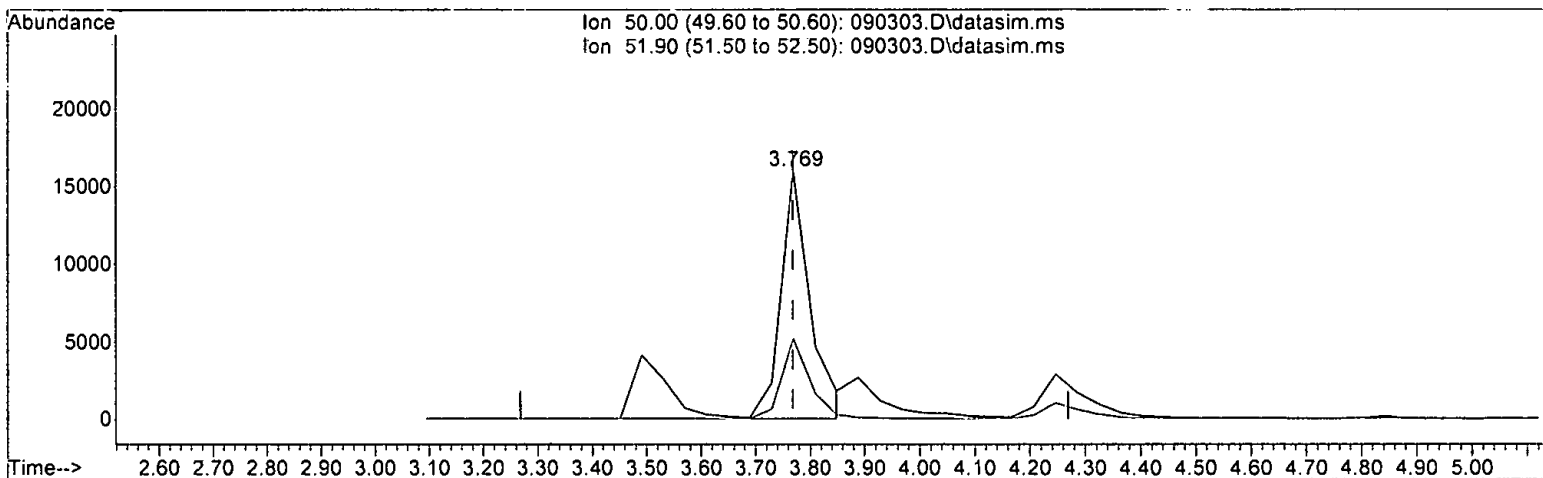
response 69522

Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	32.49
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: R. 10/9/2021*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:02:43 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) Chloromethane (TMP)

3.769min (+ 0.000) 2.811 ppbv m

response 58650

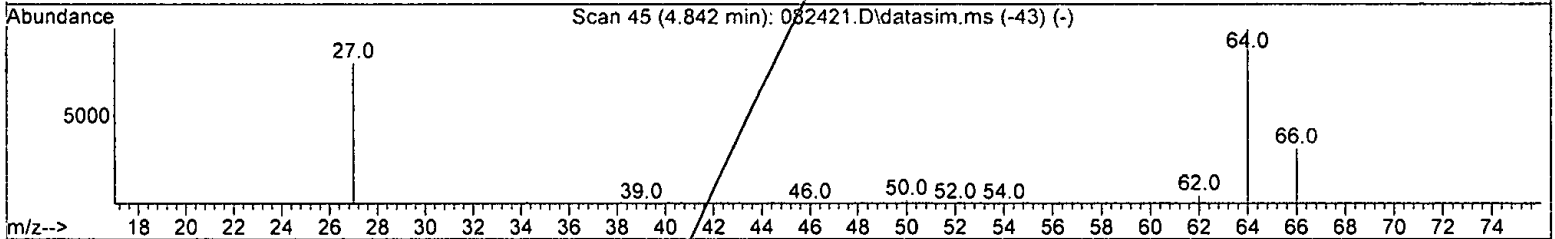
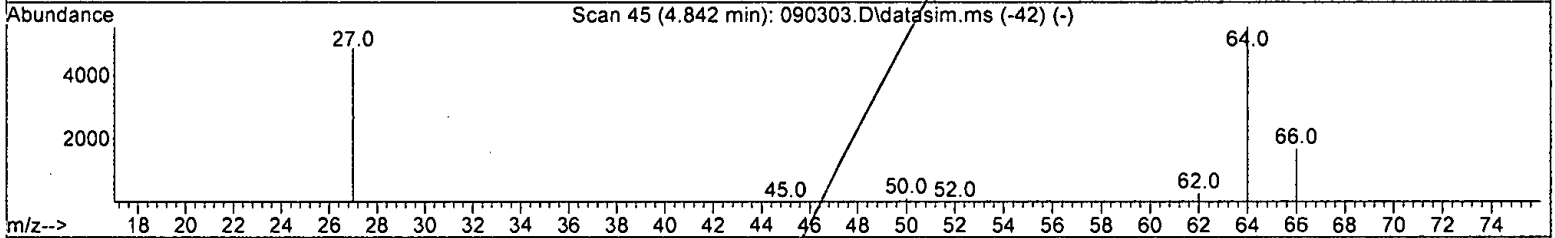
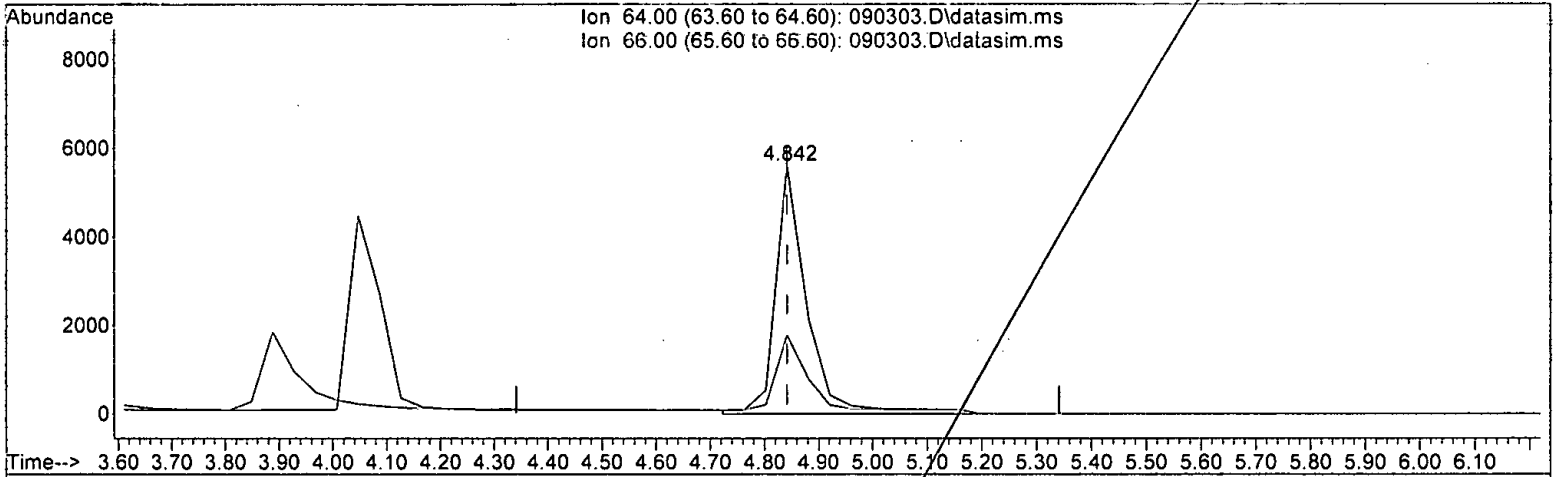
Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	32.57
0.00	0.00	0.00
0.00	0.00	0.00

*h*  
*cal line*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:02:43 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090303.D\data.ms

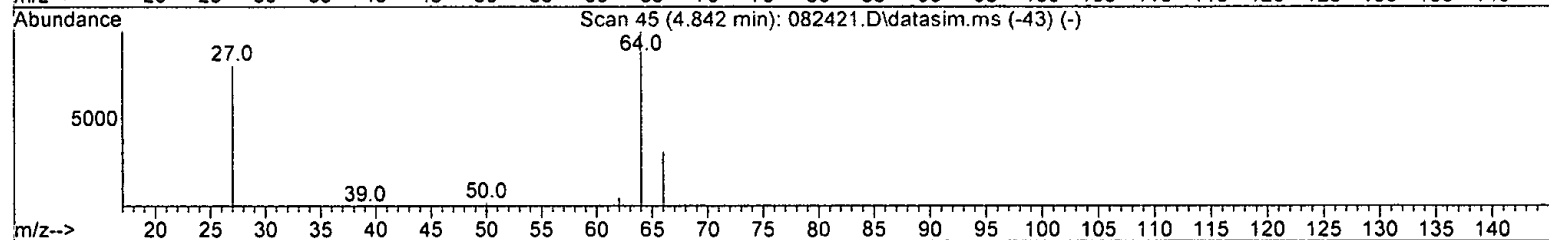
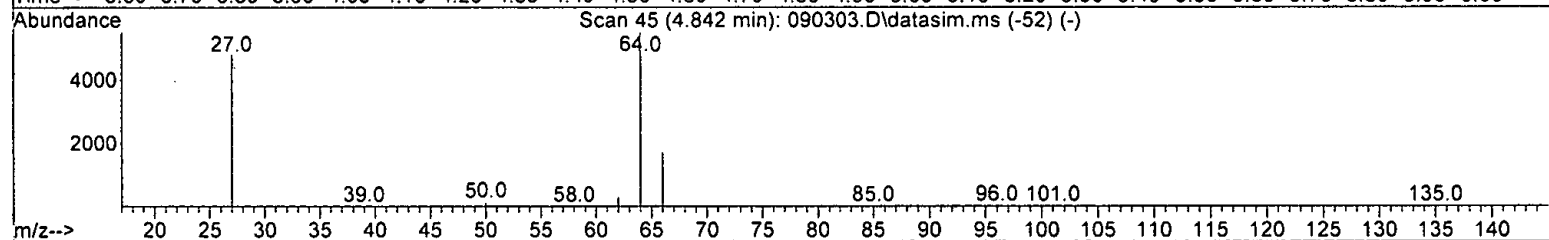
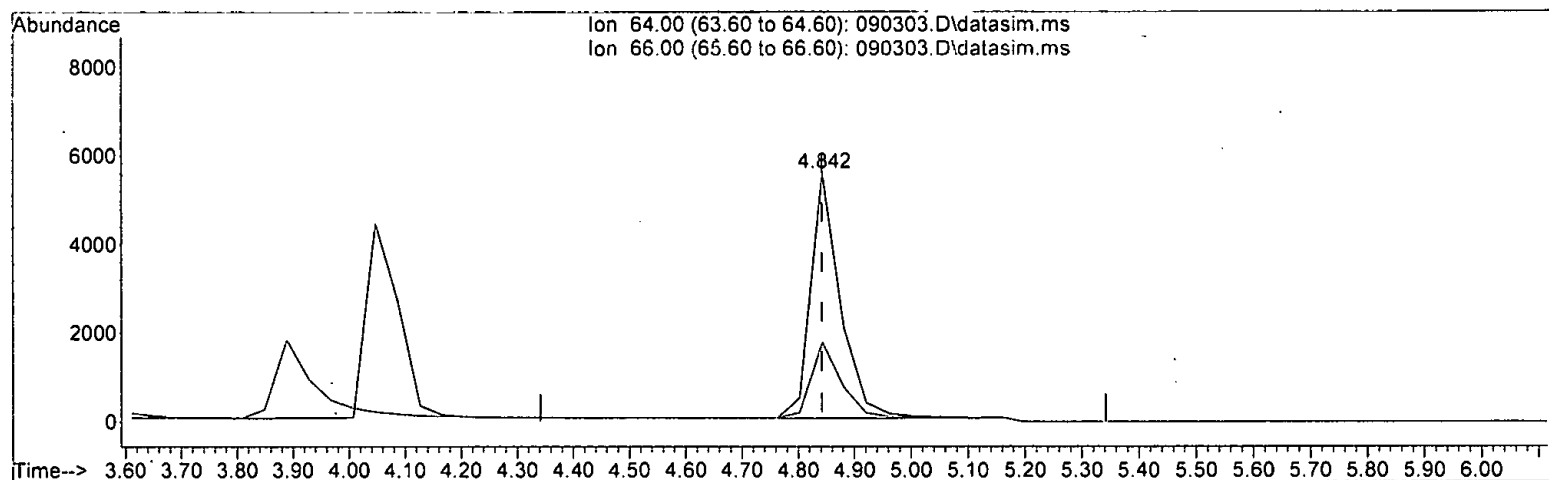
(10) Chloroethane (TMP)		
4.842min (+ 0.000)	2.844 ppbv	
response	21711	
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	31.81
0.00	0.00	0.00
0.00	0.00	0.00

*B  
6/9/2021*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:02:43 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090303.D\data.ms

(10) Chloroethane (TMP)

4.842min (+ 0.000) 2.686 ppbv m

response 20503

Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	31.81
0.00	0.00	0.00
0.00	0.00	0.00

*B. 09/07/21*



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:09:20 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.99	128	100564	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	482048	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	422768	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	373933	9.763	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.60%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.41	41	41840	2.433	ppbv	96
3) Dichlorodifluoromethane	3.52	85	116528	2.619	ppbv	97
4) Chloromethane	3.77	50	58650m	2.811	ppbv	
5) F-114	3.88	85	113632	2.539	ppbv	90
6] Vinyl chloride	4.05	62	56737	2.554	ppbv	96
7] 1,3-Butadiene	4.25	54	39271	2.554	ppbv	# 91
8) Butane	4.36	43	83127	2.545	ppbv	97
9) Bromomethane	4.64	94	43474	2.806	ppbv	97
10] Chloroethane	4.84	64	20503m	2.686	ppbv	
11] Vinyl bromide	5.32	106	51206	2.852	ppbv	100
12) Ethanol	4.96	45	15584	2.770	ppbv	88
13] Acrolein	5.43	56	18400	2.520	ppbv	100
14) Pentane	6.33	43	100872	2.578	ppbv	97
15) Trichlorofluoromethane	5.88	101	134373	2.708	ppbv	92
16) Acetone	5.60	58	22864	2.584	ppbv	# 73
17) 2-Propanol	5.86	45	99848	2.792	ppbv	98
18] 1,1-Dichloroethene	6.73	96	43165	2.604	ppbv	87
19] trans-1,2-Dichloroethene	8.18	96	42840	2.620	ppbv	96
20) Methylene chloride	6.86	84	44154	2.509	ppbv	87
21) t-Butyl alcohol (TBA)	6.65	59	82608	2.851	ppbv	# 61
22) 3-Chloropropene	7.01	41	73418	2.509	ppbv	95
23) CFC-113	7.23	101	91839	2.689	ppbv	89
24) Carbon disulfide	7.33	76	156702	2.716	ppbv	94
25) Methyl t-butyl ether (...)	8.51	73	101368	2.639	ppbv	95
26] Vinyl acetate	8.62	43	81942	3.180	ppbv	96
27] 1,1-Dichloroethane	8.44	63	104566	2.701	ppbv	95
28] cis-1,2-Dichloroethene	9.73	96	46827	2.615	ppbv	# 79
29) Hexane	10.11	57	76319	2.565	ppbv	82
30] Chloroform	10.19	83	114216	2.601	ppbv	97
31) Ethyl acetate	10.03	43	185395	2.960	ppbv	# 98
32) Tetrahydrofuran	10.84	42	71222	2.620	ppbv	89
33) 2-Butanone (MEK)	8.99	72	19184	2.680	ppbv	# 43
34] 1,2-Dichloroethane (EDC)	11.44	62	85132	2.577	ppbv	97
35] 1,1,1-Trichloroethane	11.94	97	91278	2.808	ppbv	89
36] Carbon tetrachloride	12.95	117	89077	2.787	ppbv	99
37] Benzene	12.70	78	158410	2.573	ppbv	95
38) Cyclohexane	13.16	84	43766	2.607	ppbv	81
40] 1,2-Dichloropropane	13.90	63	78621	2.639	ppbv	99
41] 1,4-Dioxane	14.17	88	33773	2.598	ppbv	92
42) 2,2,4-Trimethylpentane	14.31	57	264636	2.644	ppbv	91

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

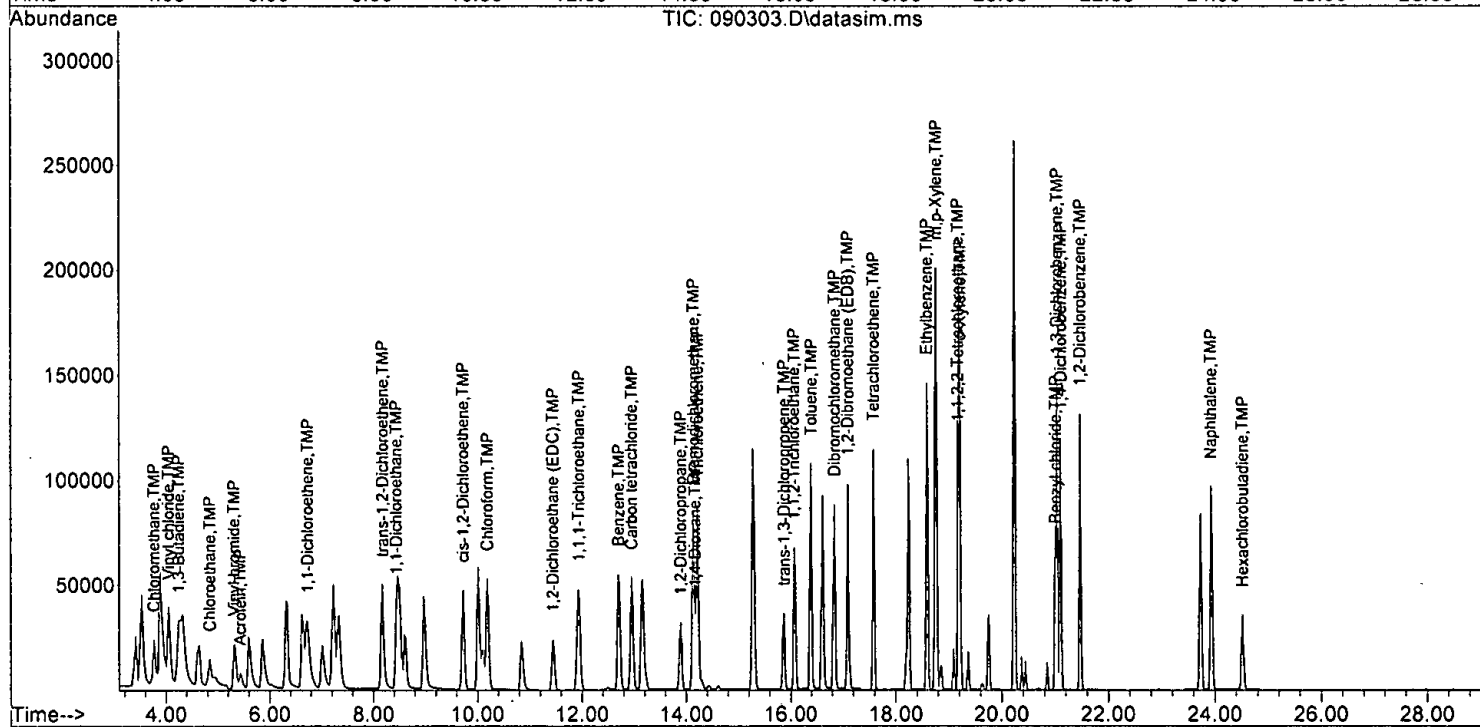
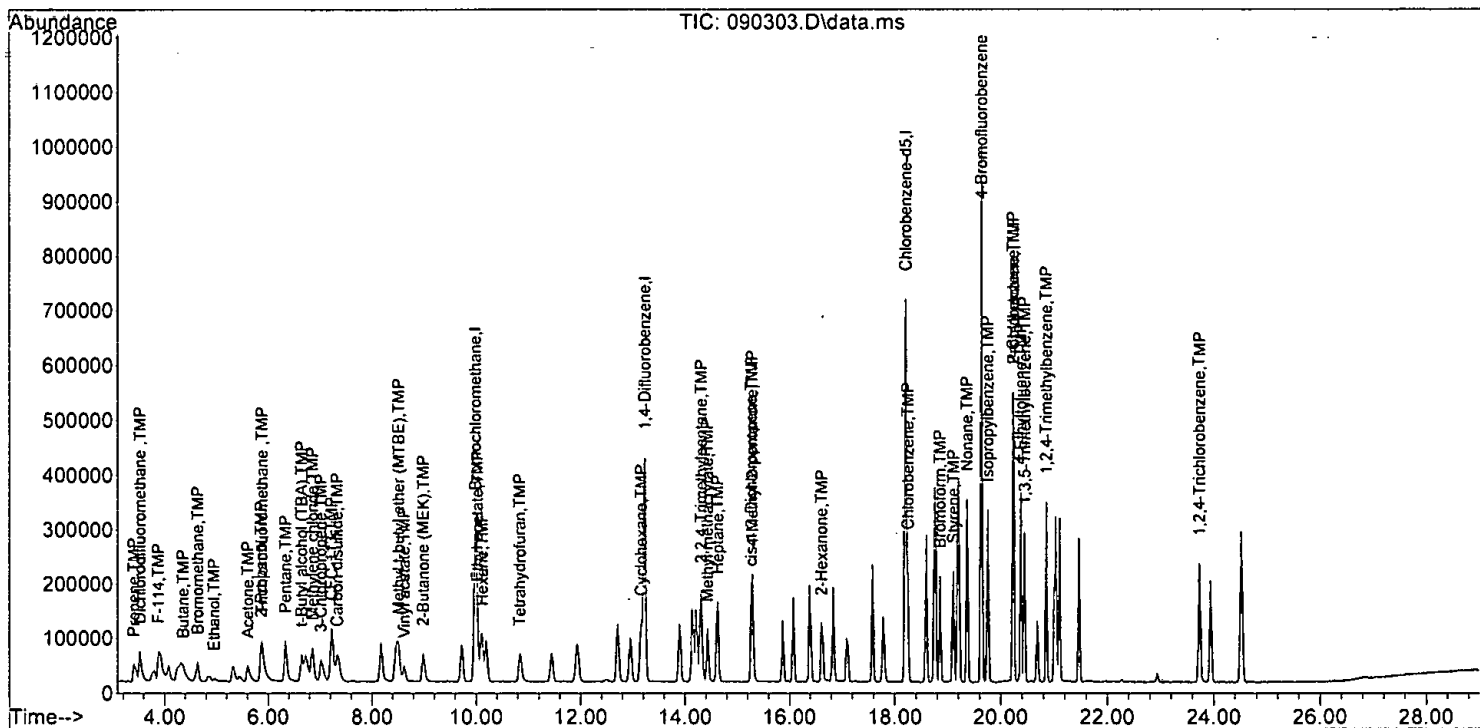
Quant Time: Sep 07 10:09:20 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.43	41	82000	3.001	ppbv #	85
44) Heptane	14.63	43	122427	2.648	ppbv	91
45) Bromodichloromethane	14.14	83	123780	2.694	ppbv	93
46) Trichloroethene	14.22	95	74957	2.516	ppbv	87
47) cis-1,3-Dichloropropene	15.27	75	85025	2.773	ppbv	95
48) 4-Methyl-2-pentanone	15.29	100	5305	2.718	ppbv #	1
49) trans-1,3-Dichloropropene	15.87	75	77287	2.967	ppbv	95
50) Toluene	16.40	92	93196	2.580	ppbv	84
51) 1,1,2-Trichloroethane	16.06	83	72855	2.686	ppbv	98
52) 2-Hexanone	16.62	43	150430	2.958	ppbv	87
53) Tetrachloroethene	17.58	164	49947	2.720	ppbv	82
54) Dibromochloromethane	16.85	129	105379	2.777	ppbv	90
55) 1,2-Dibromoethane (EDB)	17.10	107	101002	2.689	ppbv	89
57) Chlorobenzene	18.25	112	120210	2.655	ppbv	90
58) Ethylbenzene	18.59	91	233248	2.484	ppbv	97
59) 1,1,2,2-Tetrachloroethane	19.17	83	171402	2.617	ppbv	89
60) Nonane	19.36	43	190393	2.682	ppbv	91
61) Isopropylbenzene	19.75	105	216686	2.632	ppbv	96
62) 2-Chlorotoluene	20.23	126	51361	2.624	ppbv	69
63) Propylbenzene	20.23	91	478288	2.618	ppbv	96
64) 4-Ethyltoluene	20.38	105	218324	2.548	ppbv	95
65) m,p-Xylene	18.76	106	154068	5.110	ppbv	92
66) o-Xylene	19.21	106	75588	2.550	ppbv	93
67) Styrene	19.11	104	107145	2.456	ppbv	95
68) Bromoform	18.85	173	98050	2.895	ppbv	99
70) Benzyl chloride	21.01	91	102696	3.235	ppbv	97
71) 1,3,5-Trimethylbenzene	20.45	105	186973	2.721	ppbv	96
72) 1,2,4-Trimethylbenzene	20.86	105	187223	2.637	ppbv	95
73) 1,3-Dichlorobenzene	21.04	146	121532	2.492	ppbv	98
74) 1,4-Dichlorobenzene	21.11	146	120164	2.645	ppbv	99
75) 1,2-Dichlorobenzene	21.47	146	117674	2.552	ppbv	99
76) 1,2,4-Trichlorobenzene	23.73	180	83638	2.224	ppbv	93
77) Naphthalene	23.93	128	204025	2.103	ppbv	98
78) Hexachlorobutadiene	24.52	225	78117	2.580	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:09:20 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:09:20 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev : 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	87	0.00
2 TMP	Propene	2.500	2.433	2.7	77	0.00
3 TMP	Dichlorodifluoromethane	2.500	2.619	-4.8	83	0.00
4 TMP	Chloromethane	2.500	2.811	-12.4	94	0.00
5 TMP	F-114	2.500	2.539	-1.6	82	0.00
6 TMP	Vinyl chloride	2.500	2.554	-2.2	83	0.00
7 TMP	1,3-Butadiene	2.500	2.554	-2.2	83	0.00
8 TMP	Butane	2.500	2.545	-1.8	86	0.04
9 TMP	Bromomethane	2.500	2.806	-12.2	83	0.00
10 TMP	Chloroethane	2.500	2.686	-7.4	85	0.00
11 TMP	Vinyl bromide	2.500	2.852	-14.1	94	0.00
12 TMP	Ethanol	2.500	2.770	-10.8	80	0.00
13 TMP	Acrolein	2.500	2.520	-0.8	81	0.00
14 TMP	Pentane	2.500	2.578	-3.1	81	0.00
15 TMP	Trichlorofluoromethane	2.500	2.708	-8.3	86	0.00
16 TMP	Acetone	2.500	2.584	-3.4	87	0.02
17 TMP	2-Propanol	2.500	2.792	-11.7	92	0.00
18 TMP	1,1-Dichloroethene	2.500	2.604	-4.2	85	0.00
19 TMP	trans-1,2-Dichloroethene	2.500	2.620	-4.8	85	0.00
20 TMP	Methylene chloride	2.500	2.509	-0.4	84	0.00
21 TMP	t-Butyl alcohol (TBA)	2.500	2.851	-14.0	93	0.00
22 TMP	3-Chloropropene	2.500	2.509	-0.4	80	0.00
23 TMP	CFC-113	2.500	2.689	-7.6	87	0.00
24 TMP	Carbon disulfide	2.500	2.716	-8.6	84	0.00
25 TMP	Methyl t-butyl ether (MTBE)	2.500	2.639	-5.6	87	0.00
26 TMP	Vinyl acetate	2.500	3.180	-27.2	107	0.00
27 TMP	1,1-Dichloroethane	2.500	2.701	-8.0	87	0.00
28 TMP	cis-1,2-Dichloroethene	2.500	2.615	-4.6	85	0.00
29 TMP	Hexane	2.500	2.565	-2.6	82	0.00
30 TMP	Chloroform	2.500	2.601	-4.0	86	0.00
31 TMP	Ethyl acetate	2.500	2.960	-18.4	93	0.02
32 TMP	Tetrahydrofuran	2.500	2.620	-4.8	86	0.00
33 TMP	2-Butanone (MEK)	2.500	2.680	-7.2	85	0.00
34 TMP	1,2-Dichloroethane (EDC)	2.500	2.577	-3.1	84	0.00
35 TMP	1,1,1-Trichloroethane	2.500	2.808	-12.3	91	0.00
36 TMP	Carbon tetrachloride	2.500	2.787	-11.5	89	0.00
37 TMP	Benzene	2.500	2.573	-2.9	84	0.00
38 TMP	Cyclohexane	2.500	2.607	-4.3	85	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	86	0.00
40 TMP	1,2-Dichloropropane	2.500	2.639	-5.6	87	0.00
41 TMP	1,4-Dioxane	2.500	2.598	-3.9	84	0.00
42 TMP	2,2,4-Trimethylpentane	2.500	2.644	-5.8	83	0.00
43 TMP	Methyl methacrylate	2.500	3.001	-20.0	94	0.00
44 TMP	Heptane	2.500	2.648	-5.9	85	0.00
45 TMP	Bromodichloromethane	2.500	2.694	-7.8	88	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:09:20 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	2.500	2.516	-0.6	85	0.00
47	TMP cis-1,3-Dichloropropene	2.500	2.773	-10.9	90	0.00
48	TMP 4-Methyl-2-pentanone	2.500	2.718	-8.7	80	0.00
49	TMP trans-1,3-Dichloropropene	2.500	2.967	-18.7	94	0.02
50	TMP Toluene	2.500	2.580	-3.2	82	0.00
51	TMP 1,1,2-Trichloroethane	2.500	2.686	-7.4	87	0.00
52	TMP 2-Hexanone	2.500	2.958	-18.3	96	0.00
53	TMP Tetrachloroethene	2.500	2.720	-8.8	86	0.00
54	TMP Dibromochloromethane	2.500	2.777	-11.1	90	0.00
55	TMP 1,2-Dibromoethane (EDB)	2.500	2.689	-7.6	90	0.00
56	I Chlorobenzene-d5	10.000	10.000	0.0	86	0.00
57	TMP Chlorobenzene	2.500	2.655	-6.2	85	0.00
58	TMP Ethylbenzene	2.500	2.484	0.6	83	0.00
59	TMP 1,1,2,2-Tetrachloroethane	2.500	2.617	-4.7	87	<0.02
60	TMP Nonane	2.500	2.682	-7.3	84	0.00
61	TMP Isopropylbenzene	2.500	2.632	-5.3	84	0.00
62	TMP 2-Chlorotoluene	2.500	2.624	-5.0	83	0.00
63	TMP Propylbenzene	2.500	2.618	-4.7	83	-0.01
64	TMP 4-Ethyltoluene	2.500	2.548	-1.9	80	0.00
65	TMP m,p-Xylene	5.000	5.110	-2.2	83	0.00
66	TMP o-Xylene	2.500	2.550	-2.0	83	0.00
67	TMP Styrene	2.500	2.456	1.8	78	0.00
68	TMP Bromoform	2.500	2.895	-15.8	92	0.00
69	S 4-Bromofluorobenzene	10.000	9.763	2.4	84	0.00
70	TMP Benzyl chloride	2.500	3.235	-29.4	106	0.00
71	TMP 1,3,5-Trimethylbenzene	2.500	2.721	-8.8	85	0.00
72	TMP 1,2,4-Trimethylbenzene	2.500	2.637	-5.5	83	0.00
73	TMP 1,3-Dichlorobenzene	2.500	2.492	0.3	81	0.00
74	TMP 1,4-Dichlorobenzene	2.500	2.645	-5.8	85	0.00
75	TMP 1,2-Dichlorobenzene	2.500	2.552	-2.1	84	0.00
76	TMP 1,2,4-Trichlorobenzene	2.500	2.224	11.0	72	0.00
77	TMP Naphthalene	2.500	2.103	15.9	70	0.00
78	TMP Hexachlorobutadiene	2.500	2.580	-3.2	84	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:09:20 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	87	0.00
2 TMP	Propene	1.710	1.664	2.7	77	0.00
3 TMP	Dichlorodifluoromethane	4.425	4.635	-4.7	83	0.00
4 TMP	Chloromethane	2.075	2.333	-12.4	94	0.00
5 TMP	F-114	4.450	4.520	-1.6	82	0.00
6 TMP	Vinyl chloride	2.209	2.257	-2.2	83	0.00
7 TMP	1,3-Butadiene	1.529	1.562	-2.2	83	0.00
8 TMP	Butane	3.248	3.306	-1.8	86	0.04
9 TMP	Bromomethane	1.540	1.729	-12.3	83	0.00
10 TMP	Chloroethane	0.759	0.816	-7.5	85	0.00
11 TMP	Vinyl bromide	1.785	2.037	-14.1	94	0.00
12 TMP	Ethanol	0.559	0.620	-10.9	80	0.00
13 TMP	Acrolein	0.726	0.732	-0.8	81	0.00
14 TMP	Pentane	3.891	4.012	-3.1	81	0.00
15 TMP	Trichlorofluoromethane	4.934	5.345	-8.3	86	0.00
16 TMP	Acetone	0.880	0.909	-3.3	87	0.02
17 TMP	2-Propanol	3.556	3.972	-11.7	92	0.00
18 TMP	1,1-Dichloroethene	1.648	1.717	-4.2	85	0.00
19 TMP	trans-1,2-Dichloroethene	1.626	1.704	-4.8	85	0.00
20 TMP	Methylene chloride	1.750	1.756	-0.3	84	0.00
21 TMP	t-Butyl alcohol (TBA)	2.881	3.286	-14.1	93	0.00
22 TMP	3-Chloropropene	2.910	2.920	-0.3	80	0.00
23 TMP	CFC-113	3.396	3.653	-7.6	87	0.00
24 TMP	Carbon disulfide	5.738	6.233	-8.6	84	0.00
25 TMP	Methyl t-butyl ether (MTBE)	3.820	4.032	-5.5	87	0.00
26 TMP	Vinyl acetate	2.562	3.259	-27.2	107	0.00
27 TMP	1,1-Dichloroethane	3.850	4.159	-8.0	87	0.00
28 TMP	cis-1,2-Dichloroethene	1.780	1.863	-4.7	85	0.00
29 TMP	Hexane	2.959	3.036	-2.6	82	0.00
30 TMP	Chloroform	4.366	4.543	-4.1	86	0.00
31 TMP	Ethyl acetate	6.229	7.374	-18.4	93	0.02
32 TMP	Tetrahydrofuran	2.703	2.833	-4.8	86	0.00
33 TMP	2-Butanone (MEK)	0.712	0.763	-7.2	85	0.00
34 TMP	1,2-Dichloroethane (EDC)	3.285	3.386	-3.1	84	0.00
35 TMP	1,1,1-Trichloroethane	3.232	3.631	-12.3	91	0.00
36 TMP	Carbon tetrachloride	3.178	3.543	-11.5	89	0.00
37 TMP	Benzene	6.123	6.301	-2.9	84	0.00
38 TMP	Cyclohexane	1.669	1.741	-4.3	85	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	86	0.00
40 TMP	1,2-Dichloropropane	0.618	0.652	-5.5	87	0.00
41 TMP	1,4-Dioxane	0.270	0.280	-3.7	84	0.00
42 TMP	2,2,4-Trimethylpentane	2.076	2.196	-5.8	83	0.00
43 TMP	Methyl methacrylate	0.567	0.680	-19.9	94	0.00
44 TMP	Heptane	0.959	1.016	-5.9	85	0.00
45 TMP	Bromodichloromethane	0.953	1.027	-7.8	88	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090303.D  
 Acq On : 3 Sep 2021 8:55 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 2.5ppbv 64-87a  
 Misc : cal line  
 ALS Vial : 3 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:09:20 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	0.618	0.622	-0.6	85	0.00
47	TMP cis-1,3-Dichloropropene	0.636	0.706	-11.0	90	0.00
48	TMP 4-Methyl-2-pentanone	0.040	0.044	-10.0	80	0.00
49	TMP trans-1,3-Dichloropropene	0.540	0.641	-18.7	94	0.02
50	TMP Toluene	0.749	0.773	-3.2	82	0.00
51	TMP 1,1,2-Trichloroethane	0.563	0.605	-7.5	87	0.00
52	TMP 2-Hexanone	1.055	1.248	-18.3	96	0.00
53	TMP Tetrachloroethene	0.381	0.414	-8.7	86	0.00
54	TMP Dibromochloromethane	0.787	0.874	-11.1	90	0.00
55	TMP 1,2-Dibromoethane (EDB)	0.779	0.838	-7.6	90	0.00
56	I Chlorobenzene-d5	1.000	1.000	0.0	86	0.00
57	TMP Chlorobenzene	1.071	1.137	-6.2	85	0.00
58	TMP Ethylbenzene	2.221	2.207	0.6	83	0.00
59	TMP 1,1,2,2-Tetrachloroethane	1.549	1.622	-4.7	87	-0.02
60	TMP Nonane	1.679	1.801	-7.3	84	0.00
61	TMP Isopropylbenzene	1.948	2.050	-5.2	84	0.00
62	TMP 2-Chlorotoluene	0.463	0.486	-5.0	83	0.00
63	TMP Propylbenzene	4.322	4.525	-4.7	83	-0.01
64	TMP 4-Ethyltoluene	2.027	2.066	-1.9	80	0.00
65	TMP m,p-Xylene	0.713	0.729	-2.2	83	0.00
66	TMP o-Xylene	0.701	0.715	-2.0	83	0.00
67	TMP Styrene	1.032	1.014	1.7	78	0.00
68	TMP Bromoform	0.801	0.928	-15.9	92	0.00
69	S 4-Bromofluorobenzene	0.906	0.884	2.4	84	0.00
70	TMP Benzyl chloride	0.751	0.972	-29.4	106	0.00
71	TMP 1,3,5-Trimethylbenzene	1.625	1.769	-8.9	85	0.00
72	TMP 1,2,4-Trimethylbenzene	1.679	1.771	-5.5	83	0.00
73	TMP 1,3-Dichlorobenzene	1.154	1.150	0.3	81	0.00
74	TMP 1,4-Dichlorobenzene	1.152	1.137	1.3	85	0.00
75	TMP 1,2-Dichlorobenzene	1.091	1.113	-2.0	84	0.00
76	TMP 1,2,4-Trichlorobenzene	0.950	0.791	16.7	72	0.00
77	TMP Naphthalene	2.538	1.930	24.0	70	0.00
78	TMP Hexachlorobutadiene	0.852	0.739	13.3	84	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Spike Recovery and RPD Summary Report - WATER

Method : F:\METHODS\Inst7\0824TO15ss7.M (RTE Integrator)  
 Title : TO-15 SS method  
 Last Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration

Non-Spiked Sample: 090310.D

Spike Sample	Spike Duplicate Sample
File ID : 090303.D	090303.D
Sample : 01-2004 lcs/ 2.5ppbv 64-87a	01-2004 lcs/ 2.5ppbv 64-87a
Acq Time: 3 Sep 2021 8:55 am	3 Sep 2021 8:55 am

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
Propene	0.0	3	2	2	97	97	0	20	70-130
Dichlorodifluorometh	0.0	3	3	3	105	105	0	20	70-130
Chloromethane	0.0	3	3	3	112	112	0	20	70-130
F-114	0.0	3	3	3	102	102	0	20	70-130
Vinyl chloride	0.0	3	3	3	102	102	0	20	70-130
1,3-Butadiene	0.0	3	3	3	102	102	0	20	70-130
Butane	0.0	3	3	3	102	102	0	20	70-130
Bromomethane	0.0	3	3	3	112	112	0	20	70-130
Chloroethane	0.0	3	3	3	107	107	0	20	70-130
Vinyl bromide	0.0	3	3	3	114	114	0	20	70-130
Ethanol	0.0	3	3	3	111	111	0	20	70-130
Acrolein	0.0	3	3	3	101	101	0	20	70-130
Pentane	0.0	3	3	3	103	103	0	20	70-130
Trichlorofluorometha	0.0	3	3	3	108	108	0	20	70-130
Acetone	0.0	3	3	3	103	103	0	20	70-130
2-Propanol	0.0	3	3	3	112	112	0	20	70-130
1,1-Dichloroethene	0.0	3	3	3	104	104	0	20	70-130
trans-1,2-Dichloroet	0.0	3	3	3	105	105	0	20	70-130
Methylene chloride	0.1	3	3	3	96	96	0	20	70-130
t-Butyl alcohol (TBA	0.0	3	3	3	114	114	0	20	70-130
3-Chloropropene	0.0	3	3	3	100	100	0	20	70-130
CFC-113	0.0	3	3	3	108	108	0	20	70-130
Carbon disulfide	0.0	3	3	3	109	109	0	20	70-130
Methyl t-butyl ether	0.0	3	3	3	105	105	0	20	70-130
Vinyl acetate	0.0	3	3	3	127	127	0	20	70-130
1,1-Dichloroethane	0.0	3	3	3	108	108	0	20	70-130
cis-1,2-Dichloroethe	0.0	3	3	3	105	105	0	20	70-130
Hexane	0.0	3	3	3	102	102	0	20	70-130
Chloroform	0.0	3	3	3	104	104	0	20	70-130
Ethyl acetate	0.0	3	3	3	118	118	0	20	70-130
Tetrahydrofuran	0.0	3	3	3	105	105	0	20	70-130
2-Butanone (MEK)	0.0	3	3	3	107	107	0	20	70-130
1,2-Dichloroethane (	0.0	3	3	3	103	103	0	20	70-130
1,1,1-Trichloroethan	0.0	3	3	3	112	112	0	20	70-130
Carbon tetrachloride	0.0	3	3	3	111	111	0	20	70-130
Benzene	0.0	3	3	3	103	103	0	20	70-130



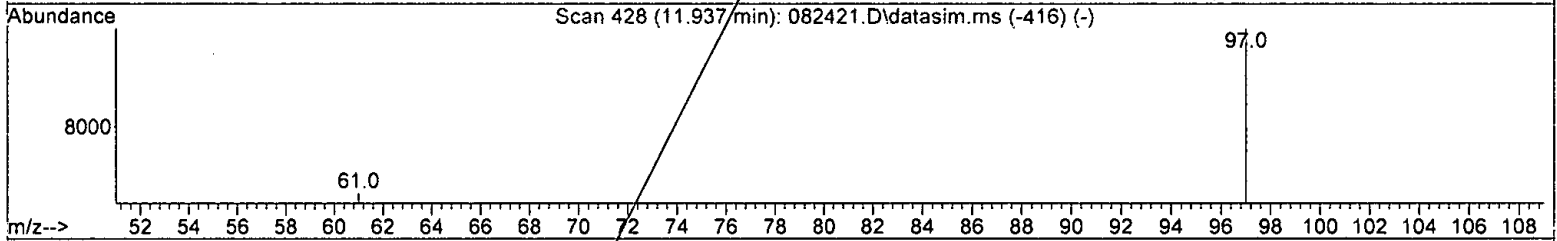
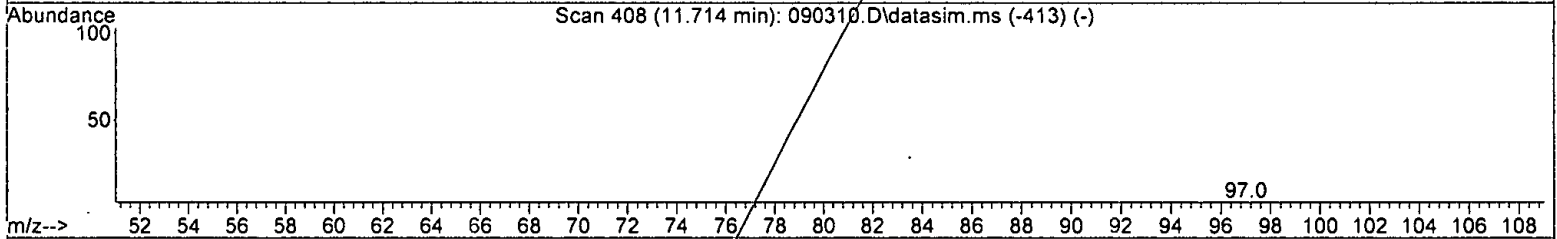
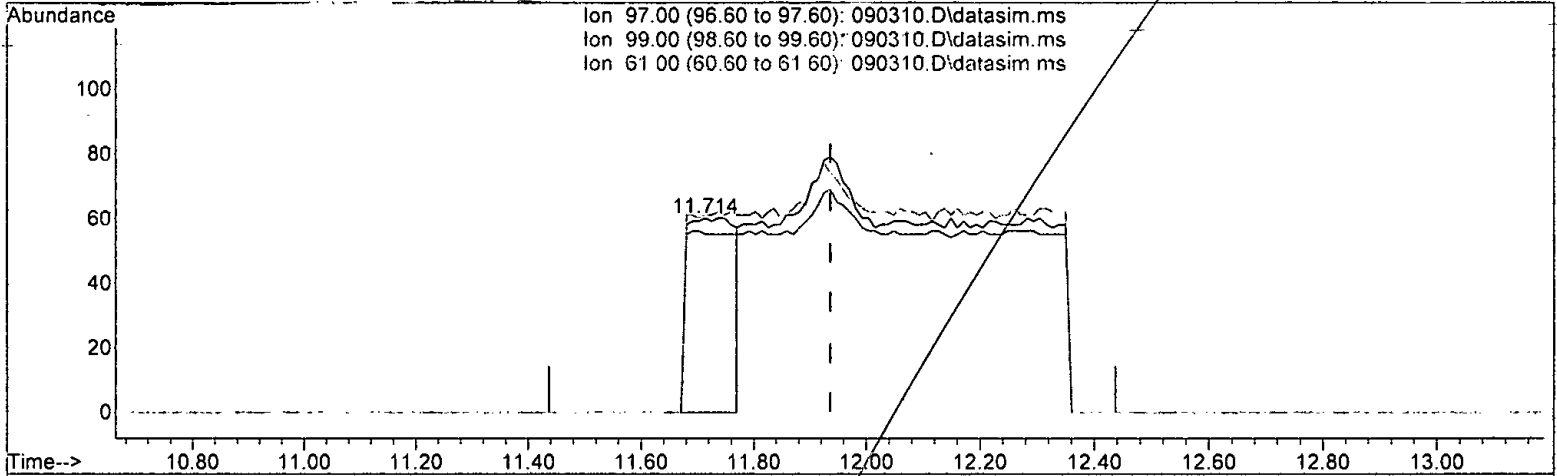
Cyclohexane	0.0	3	3	3	104	104	0	20	70-130
1,2-Dichloropropane	0.0	3	3	3	105	105	0	20	70-130
1,4-Dioxane	0.0	3	3	3	104	104	0	20	70-130
2,2,4-Trimethylpenta	0.0	3	3	3	106	106	0	20	70-130
Methyl methacrylate	0.0	3	3	3	120	120	0	20	70-130
Heptane	0.0	3	3	3	106	106	0	20	70-130
Bromodichloromethane	0.0	3	3	3	108	108	0	20	70-130
Trichloroethene	0.0	3	3	3	100	100	0	20	70-130
cis-1,3-Dichloroprop	0.0	3	3	3	111	111	0	20	70-130
4-Methyl-2-pentanone	0.0	3	3	3	109	109	0	20	70-130
trans-1,3-Dichloropr	0.0	3	3	3	118	118	0	20	70-130
Toluene	0.0	3	3	3	103	103	0	20	70-130
1,1,2-Trichloroethan	0.0	3	3	3	107	107	0	20	70-130
2-Hexanone	0.0	3	3	3	118	118	0	20	70-130
Tetrachloroethene	0.0	3	3	3	109	109	0	20	70-130
Dibromochloromethane	0.0	3	3	3	111	111	0	20	70-130
1,2-Dibromoethane (E	0.0	3	3	3	107	107	0	20	70-130
Chlorobenzene	0.0	3	3	3	106	106	0	20	70-130
Ethylbenzene	0.0	3	2	2	99	99	0	20	70-130
1,1,2,2-Tetrachloroe	0.0	3	3	3	104	104	0	20	70-130
Nonane	0.0	3	3	3	107	107	0	20	70-130
Isopropylbenzene	0.0	3	3	3	105	105	0	20	70-130
2-Chlorotoluene	0.0	3	3	3	105	105	0	20	70-130
Propylbenzene	0.0	3	3	3	104	104	0	20	70-130
4-Ethyltoluene	0.0	3	3	3	102	102	0	20	70-130
m,p-Xylene	0.0	5	5	5	102	102	0	20	70-130
o-Xylene	0.0	3	3	3	102	102	0	20	70-130
Styrene	0.0	3	2	2	98	98	0	20	70-130
Bromoform	0.0	3	3	3	116	116	0	20	70-130
Benzyl chloride	0.0	3	3	3	129	129	0	20	70-130
1,3,5-Trimethylbenze	0.0	3	3	3	108	108	0	20	70-130
1,2,4-Trimethylbenze	0.0	3	3	3	105	105	0	20	70-130
1,3-Dichlorobenzene	0.0	3	2	2	99	99	0	20	70-130
1,4-Dichlorobenzene	0.0	3	3	3	106	106	0	20	70-130
1,2-Dichlorobenzene	0.0	3	3	3	102	102	0	20	70-130
1,2,4-Trichlorobenze	0.0	3	2	2	89	89	0	20	70-130
Naphthalene	0.0	3	2	2	84	84	0	20	70-130
Hexachlorobutadiene	0.0	3	3	3	103	103	0	20	70-130

# - Fails Limit Check

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:03:18 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090310.D\data.ms

(35) 1,1,1-Trichloroethane (TMP)

11.714min (-0.223) 0.011 ppbv

response 344

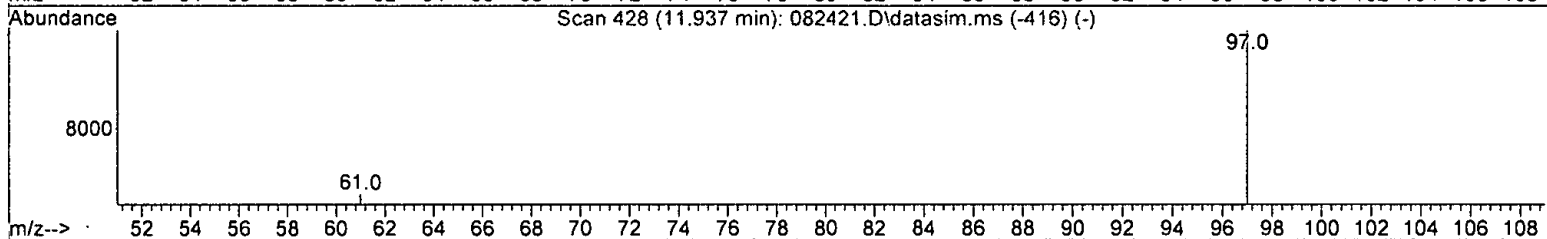
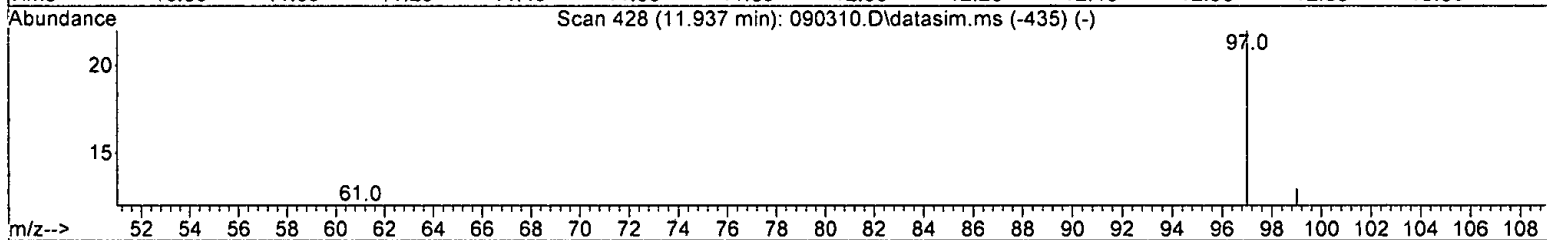
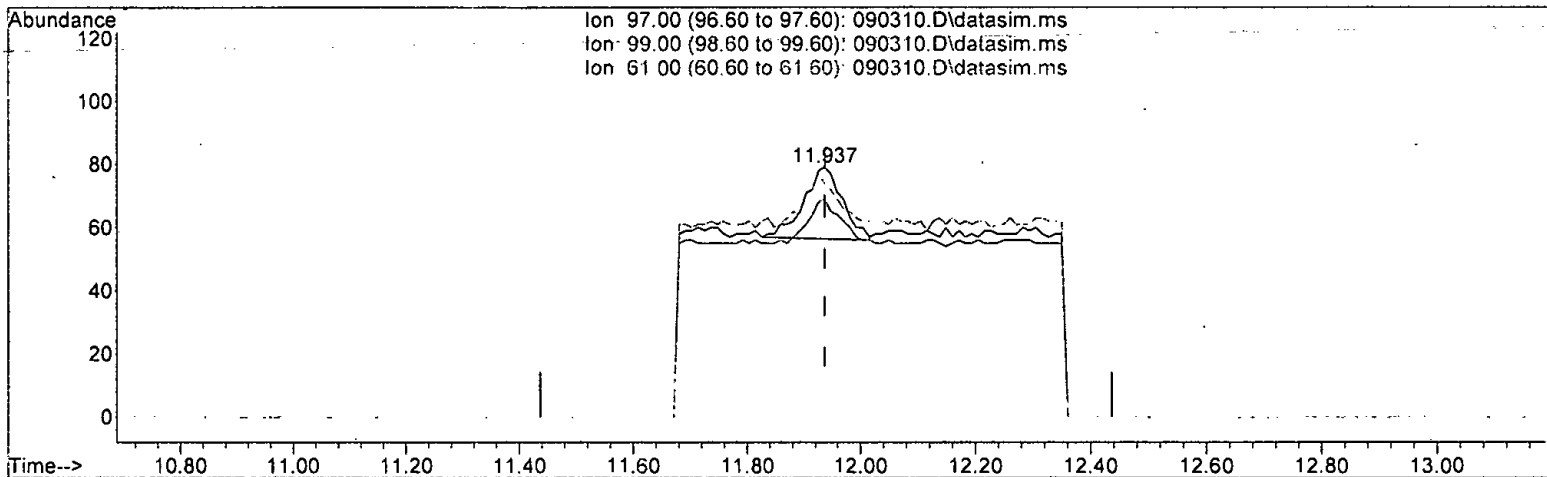
Ion	Exp%	Act%
97.00	100.00	100.00
99.00	61.70	91.67
61.00	49.30	101.67#
0.00	0.00	0.00

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:03:18 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*Handwritten signature/initials*  
 09/07/21

(35) 1,1,1-Trichloroethane (TMP)

11.937min (-0.000) 0.003 ppbv m

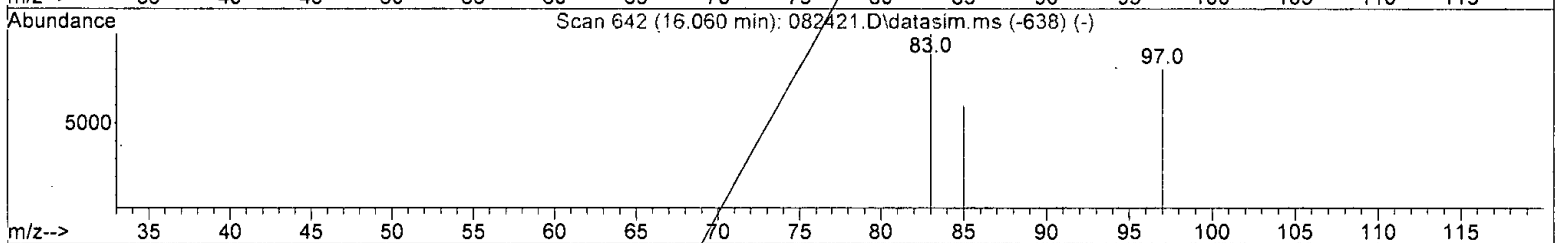
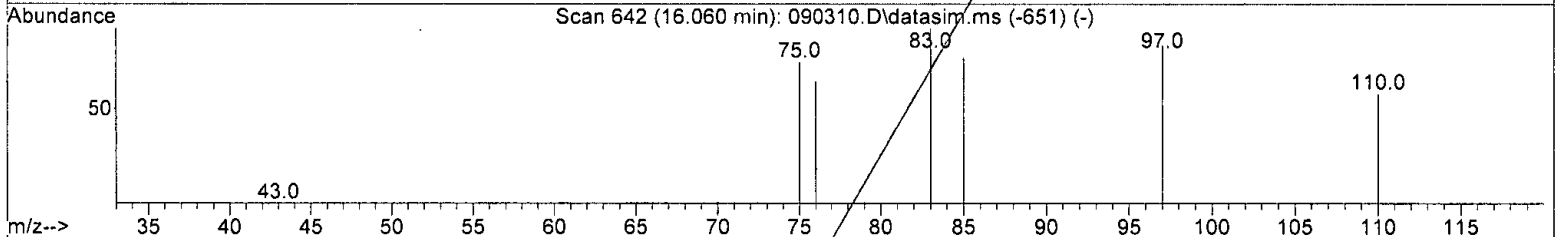
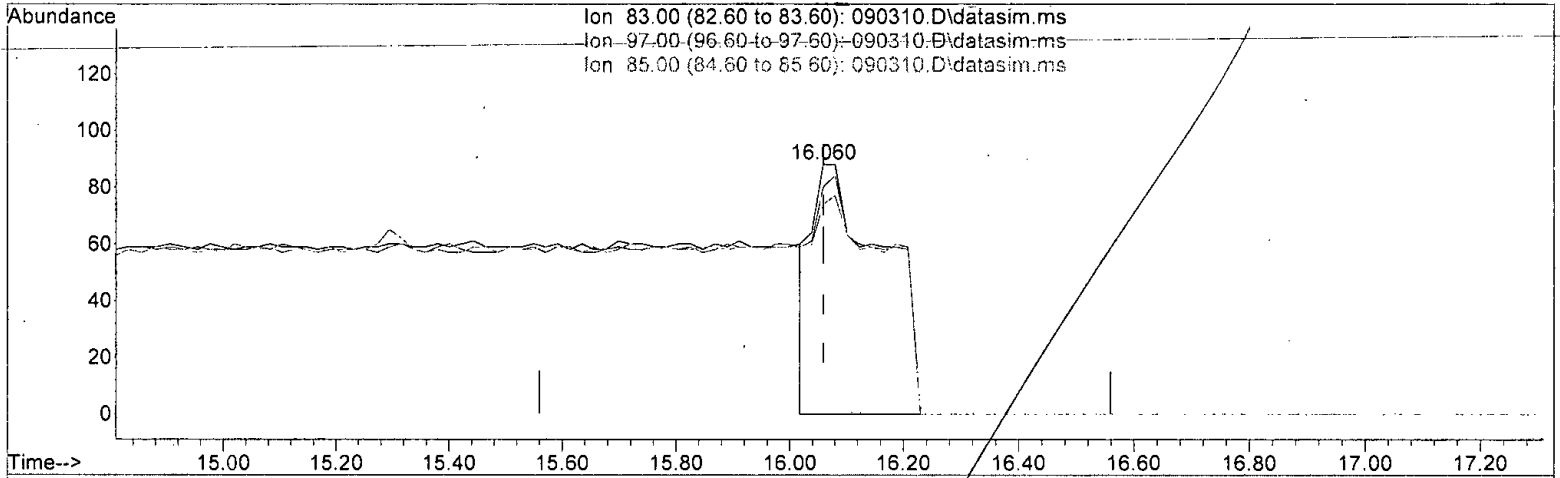
response 108

Ion	Exp%	Act%
97.00	100.00	100.00
99.00	61.70	87.34
61.00	49.30	93.67#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:03:18 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*u*  
*01/02/14*

(51) 1,1,2-Trichloroethane (TMP)

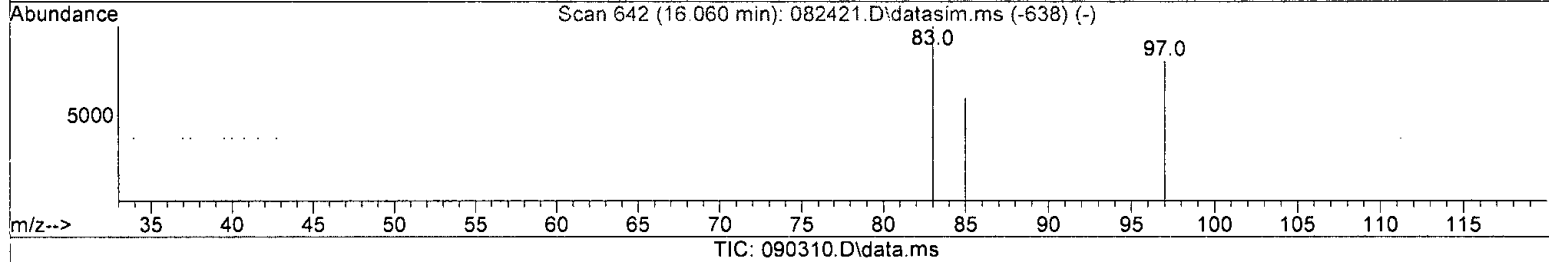
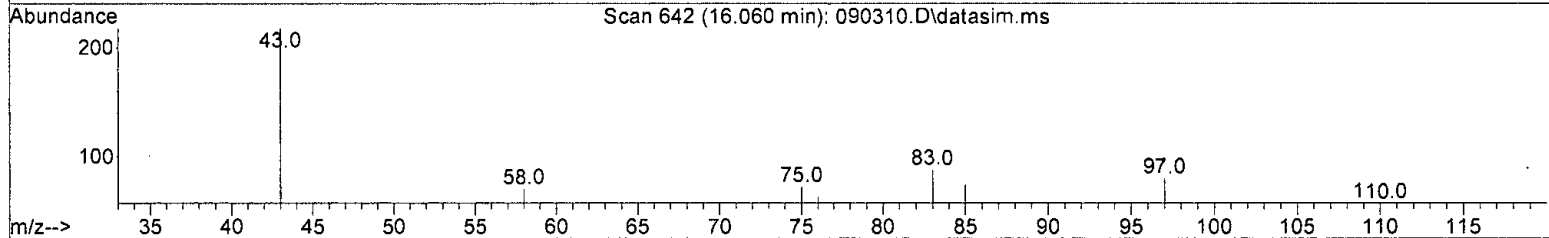
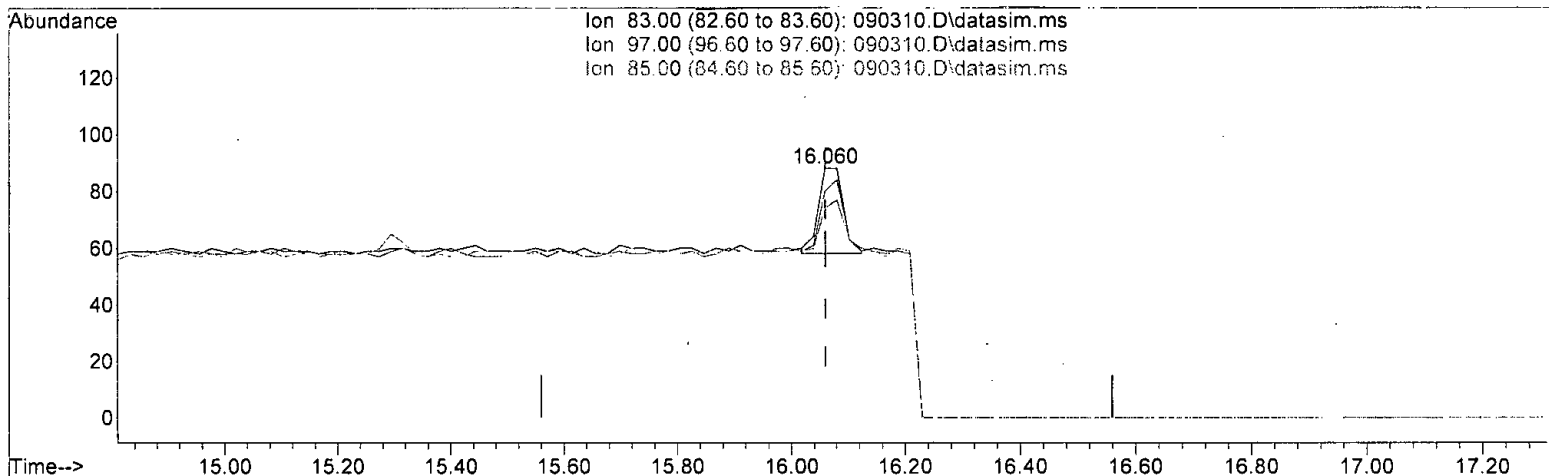
16.060min (-0.000) 0.030 ppbv

response 784

Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	90.91
85.00	60.50	84.09
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:03:18 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(51) 1,1,2-Trichloroethane (TMP)

16.060min (-0.000) 0.003 ppbv m

response 92

Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	90.91
85.00	60.50	84.09
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

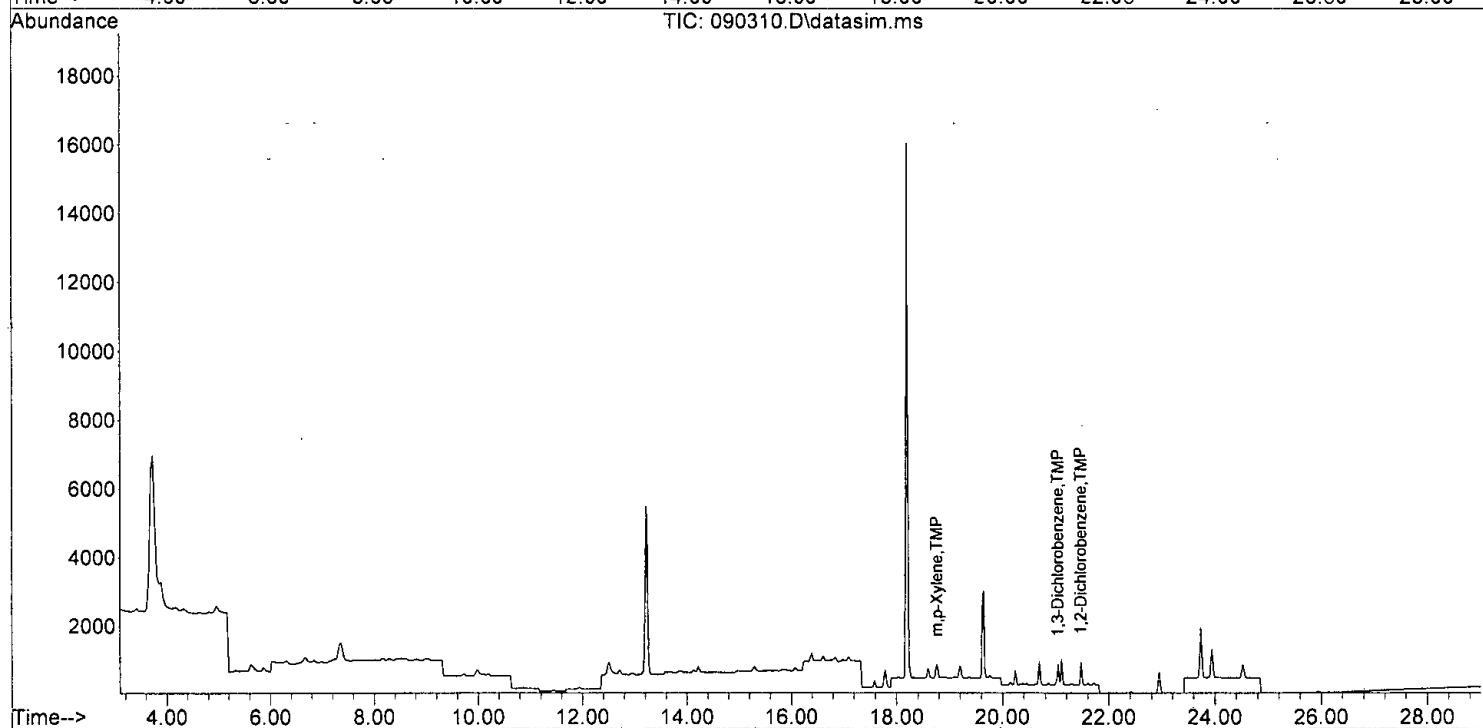
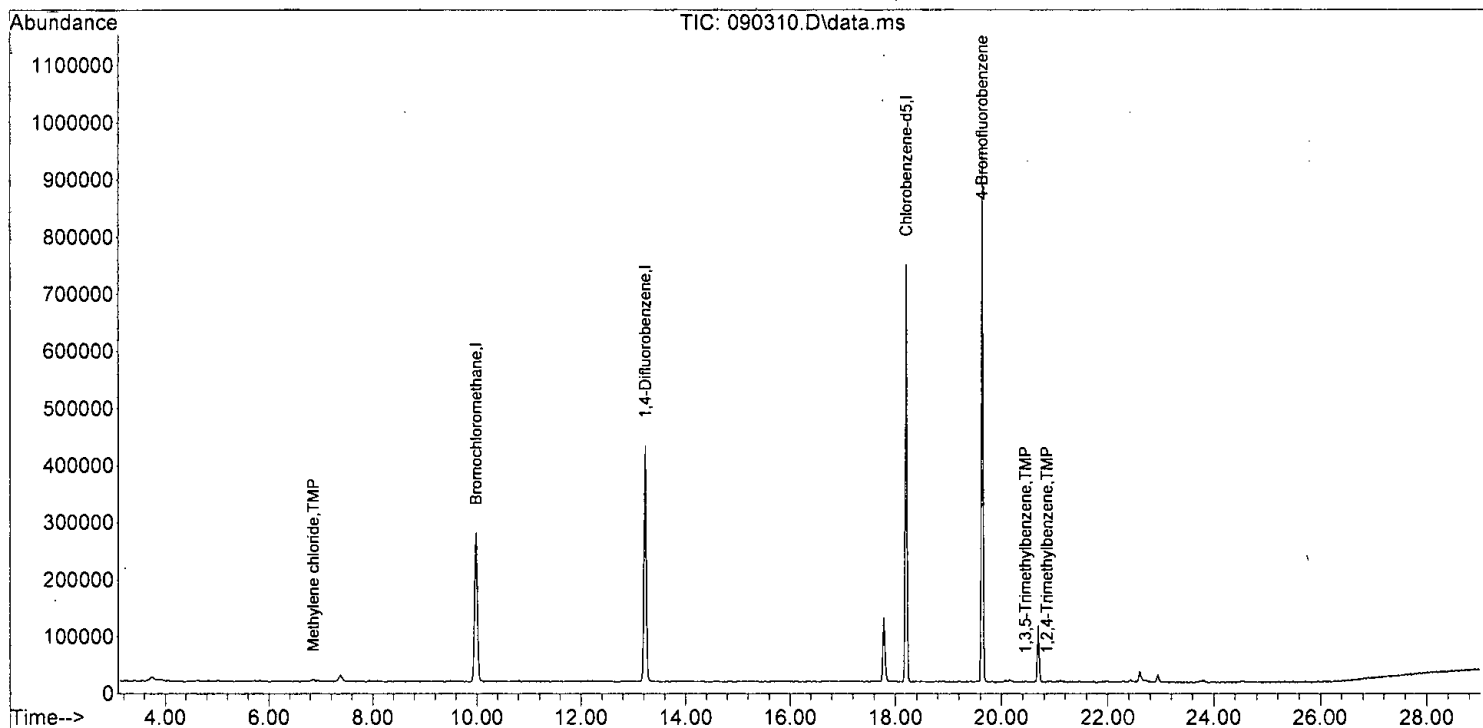
Quant Time: Sep 07 10:32:17 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

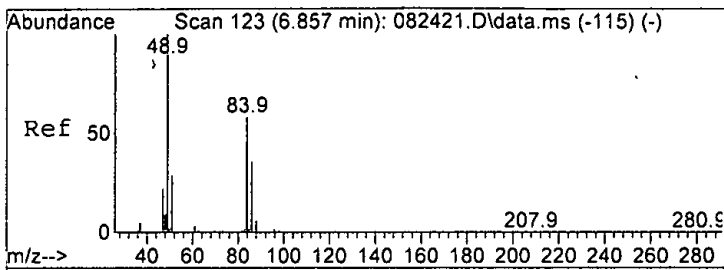
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	99860	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	471726	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	414230	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	362427	9.658	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	96.60%
Target Compounds						
						Qvalue
20) Methylene chloride	6.86	84	1975	0.113	ppbv	# 56
.65] m,p-Xylene	18.76	106	304	0.010	ppbv	96
71) 1,3,5-Trimethylbenzene	20.45	105	840	0.012	ppbv	79
72) 1,2,4-Trimethylbenzene	20.86	105	784	0.011	ppbv	84
73] 1,3-Dichlorobenzene	21.04	146	582	0.012	ppbv	89
75] 1,2-Dichlorobenzene	21.47	146	628	0.014	ppbv	91
76) 1,2,4-Trichlorobenzene	23.75	180	1465	Below	Cal	95
-----						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

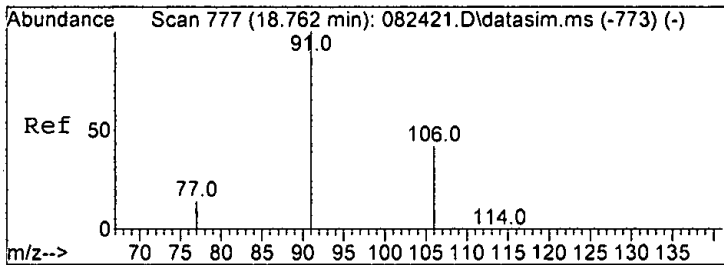
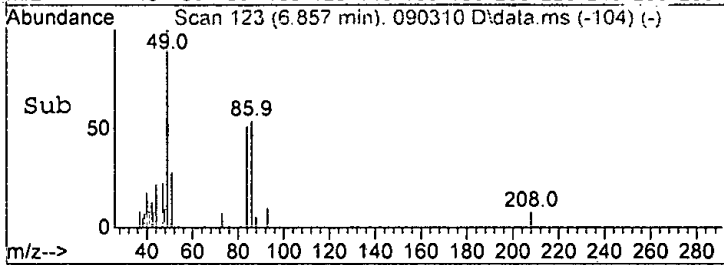
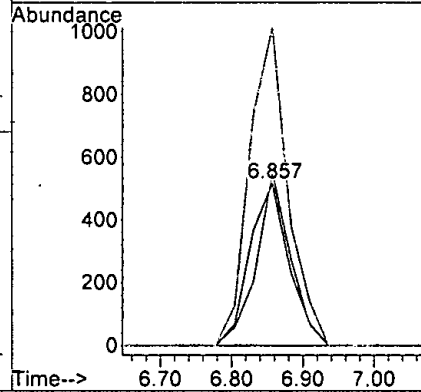
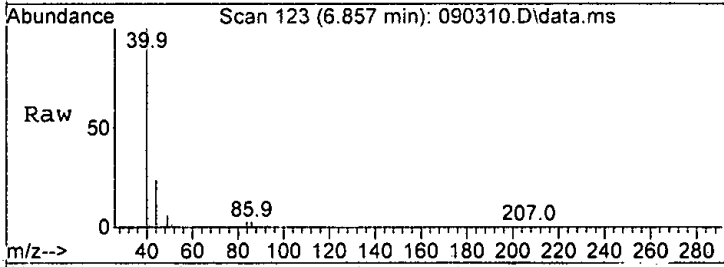
Quant Time: Sep 07 10:32:17 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





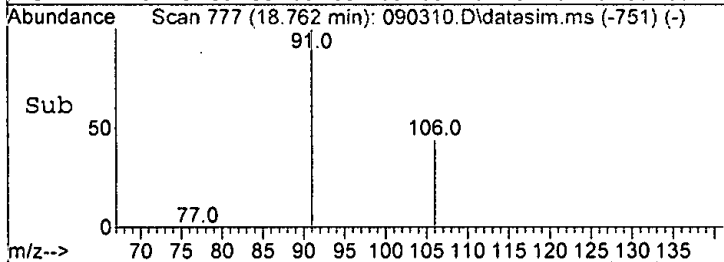
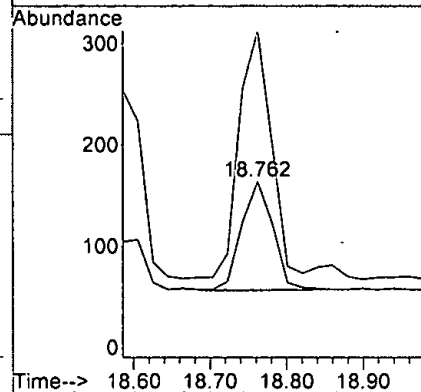
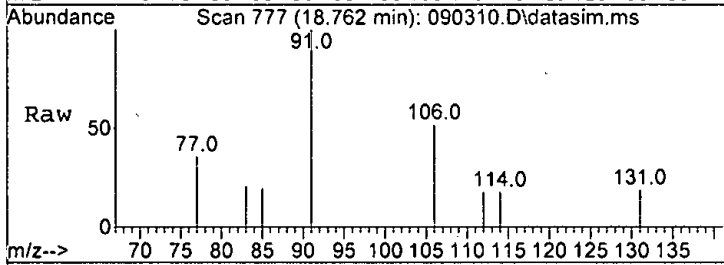
#20  
 Methylene chloride  
 Concen: 0.113 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. -0.000 min  
 Lab File: 090310.D  
 Acq: 3 Sep 2021 1:43 pm

Tgt Ion:	84	Resp:	1975
Ion Ratio	Lower	Upper	
84	100		
86	106.6	33.9	93.9#
49	195.9	116.6	176.6#

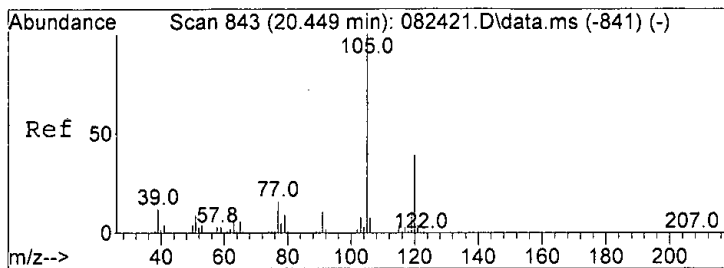


#65  
 m, p-Xylene  
 Concen: 0.010 ppbv  
 RT: 18.76 min Scan# 777  
 Delta R.T. 0.000 min  
 Lab File: 090310.D  
 Acq: 3 Sep 2021 1:43 pm

Tgt Ion:	106	Resp:	304
Ion Ratio	Lower	Upper	
106	100		
91	229.2	193.0	253.0

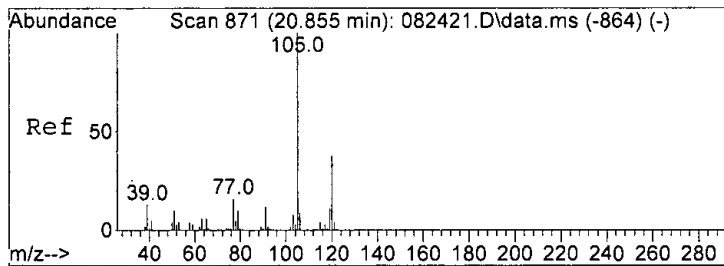
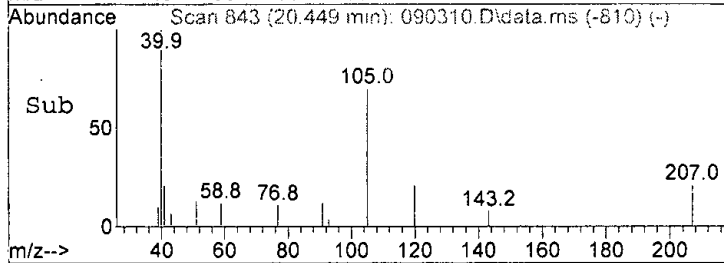
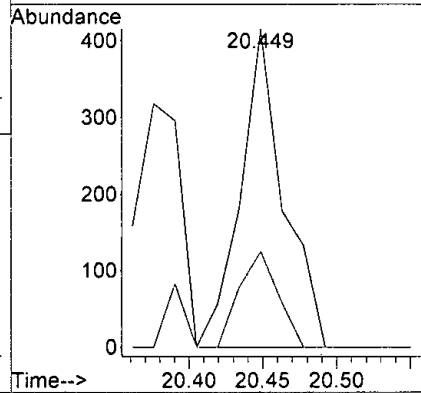
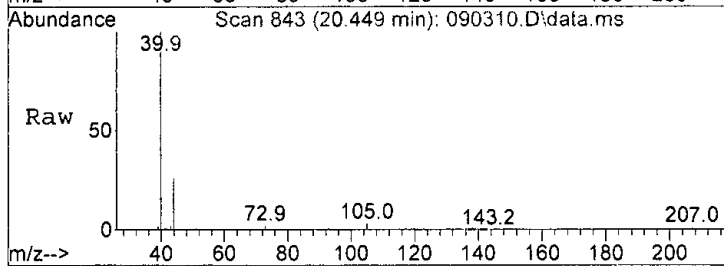






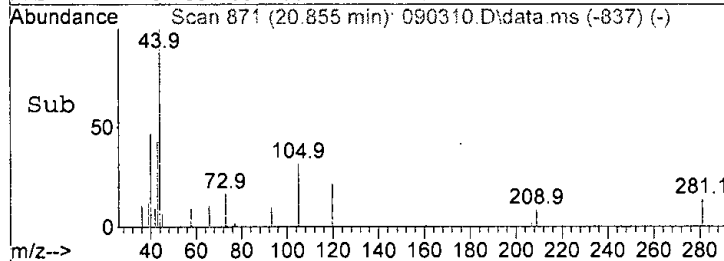
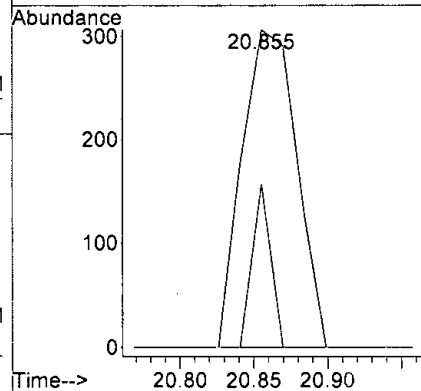
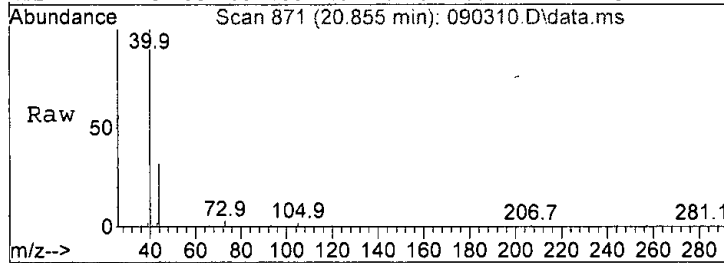
#71  
 1,3,5-Trimethylbenzene  
 Concen: 0.012 ppbv  
 RT: 20.45 min Scan# 843  
 Delta R.T. -0.000 min  
 Lab File: 090310.D  
 Acq: 3 Sep 2021 1:43 pm

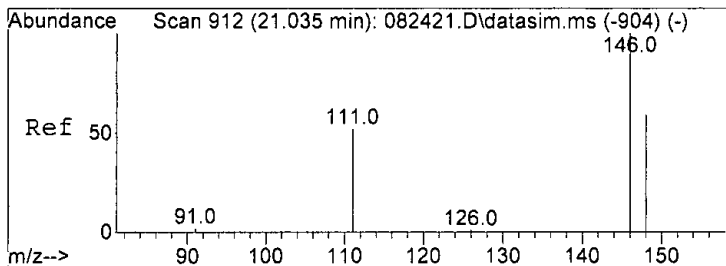
Tgt Ion: 105 Resp: 840  
 Ion Ratio Lower Upper  
 105 100  
 120 30.1 13.4 73.4



#72  
 1,2,4-Trimethylbenzene  
 Concen: 0.011 ppbv  
 RT: 20.86 min Scan# 871  
 Delta R.T. 0.000 min  
 Lab File: 090310.D  
 Acq: 3 Sep 2021 1:43 pm

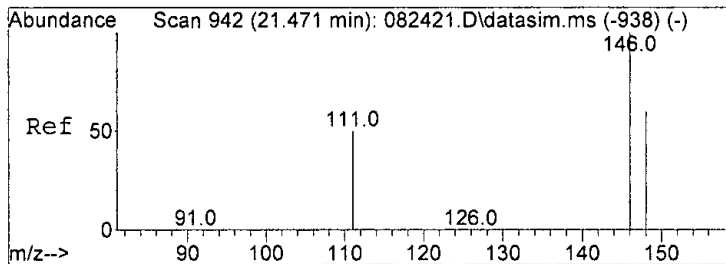
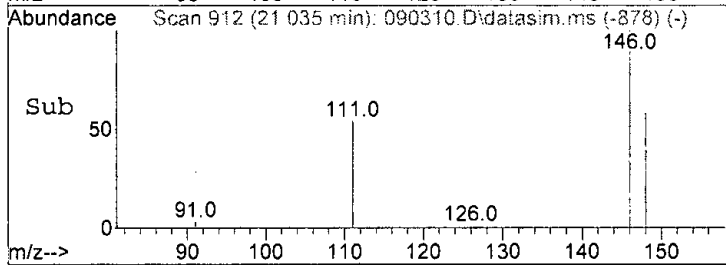
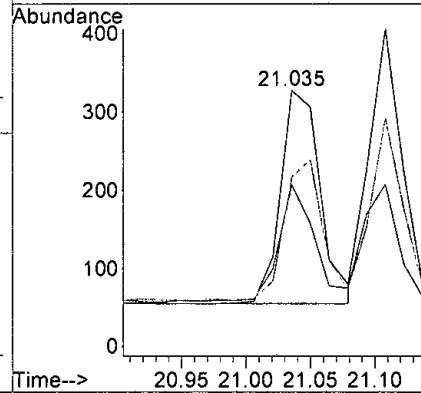
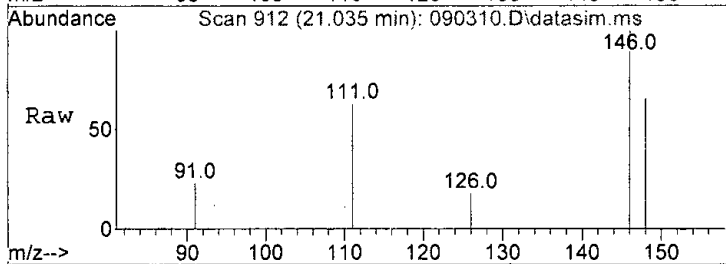
Tgt Ion: 105 Resp: 784  
 Ion Ratio Lower Upper  
 105 100  
 120 51.3 11.0 71.0





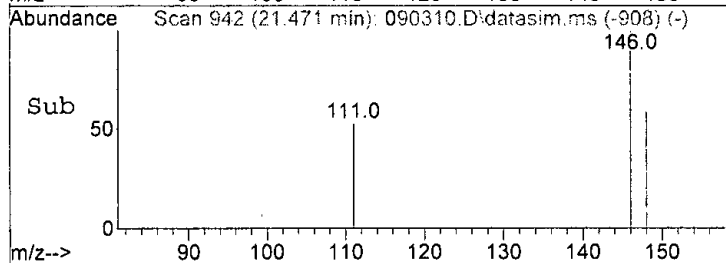
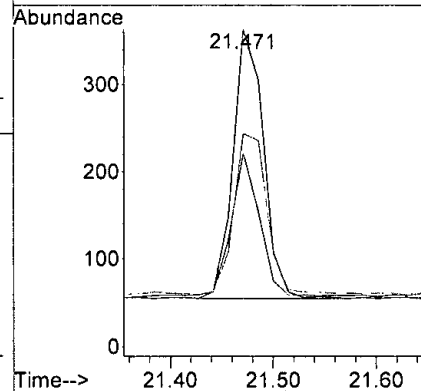
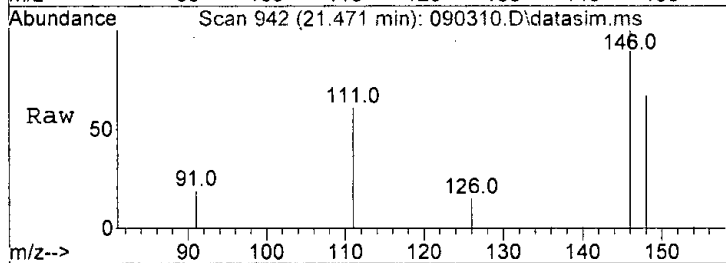
#73  
 1,3-Dichlorobenzene  
 Concen: 0.012 ppbv  
 RT: 21.04 min Scan# 912  
 Delta R.T. 0.000 min  
 Lab File: 090310.D  
 Acq: 3 Sep 2021 1:43 pm

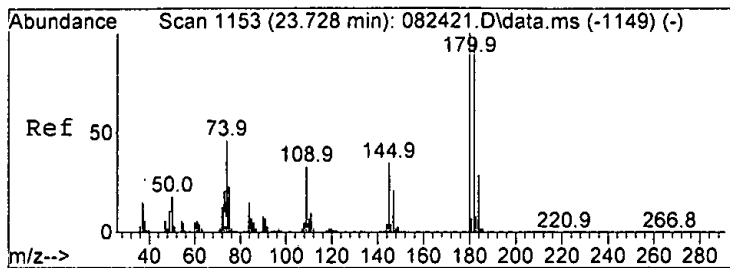
Tgt Ion	Ratio	Lower	Upper
146	100		
111	54.8	13.6	73.6
148	58.1	32.6	92.6



#75  
 1,2-Dichlorobenzene  
 Concen: 0.014 ppbv  
 RT: 21.47 min Scan# 942  
 Delta R.T. 0.000 min  
 Lab File: 090310.D  
 Acq: 3 Sep 2021 1:43 pm

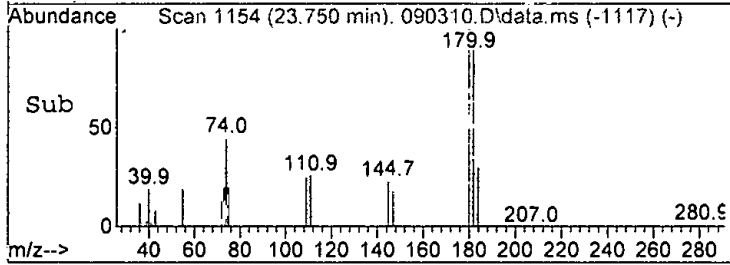
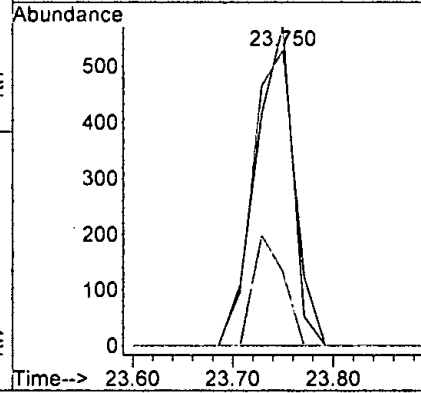
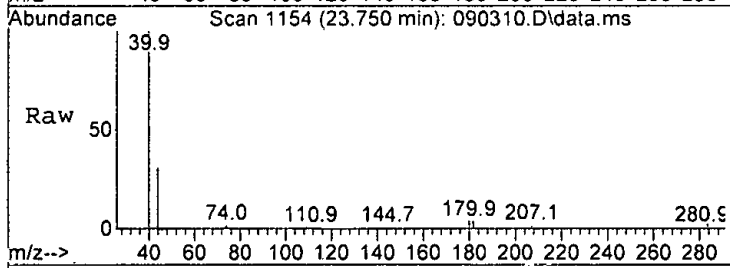
Tgt Ion	Ratio	Lower	Upper
146	100		
111	53.2	12.9	72.9
148	59.7	33.2	93.2





#76  
 1,2,4-Trichlorobenzene  
 Concen: Below Cal  
 RT: 23.75 min Scan# 1154  
 Delta R.T. 0.022 min  
 Lab File: 090310.D  
 Acq: 3 Sep 2021 1:43 pm

Tgt Ion	Ratio	Resp	Lower	Upper
180	100	1465		
182	92.5		64.5	124.5
145	23.5		0.8	60.8



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:32:17 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
-----							
Internal Standards							
1) Bromochloromethane	9.99	128	99860	10.000	ppbv	#	0.00
39) 1,4-Difluorobenzene	13.23	114	471726	10.000	ppbv		0.00
56) Chlorobenzene-d5	18.21	117	414230	10.000	ppbv		0.00
System Monitoring Compounds							
69) 4-Bromofluorobenzene	19.64	95	362427	9.658	ppbv		0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=		96.60%
Target Compounds							
						Qvalue	
2) Propene	0.00		0	N.D.	d		
3) Dichlorodifluoromethane	0.00		0	N.D.			
4) Chloromethane	3.73	50	172	N.D.			
5) F-114	0.00		0	N.D.			
6) Vinyl chloride	0.00		0	N.D.			
7) 1,3-Butadiene	0.00		0	N.D.			
8) Butane	0.00		0	N.D.	d		
9) Bromomethane	0.00		0	N.D.			
10) Chloroethane	0.00		0	N.D.			
11) Vinyl bromide	0.00		0	N.D.	d		
12) Ethanol	0.00		0	N.D.	d		
13) Acrolein	0.00		0	N.D.			
14) Pentane	0.00		0	N.D.	d		
15) Trichlorofluoromethane	0.00		0	N.D.			
16) Acetone	0.00		0	N.D.			
17) 2-Propanol	0.00		0	N.D.	d		
18) 1,1-Dichloroethene	0.00		0	N.D.			
19) trans-1,2-Dichloroethene	0.00		0	N.D.			
20) Methylene chloride	6.86	84	1975	0.113	ppbv	#	56
21) t-Butyl alcohol (TBA)	0.00		0	N.D.			
22) 3-Chloropropene	0.00		0	N.D.	d		
23) CFC-113	0.00		0	N.D.			
24) Carbon disulfide	0.00		0	N.D.	d		
25) Methyl t-butyl ether (...)	8.51	73	315	N.D.			
26) Vinyl acetate	0.00		0	N.D.	d		
27) 1,1-Dichloroethane	8.44	63	121	N.D.			
28) cis-1,2-Dichloroethene	0.00		0	N.D.			
29) Hexane	10.15	57	149	N.D.			
30) Chloroform	10.19	83	123	N.D.			
31) Ethyl acetate	9.99	43	257	N.D.			
32) Tetrahydrofuran	0.00		0	N.D.	d		
33) 2-Butanone (MEK)	0.00		0	N.D.			
34) 1,2-Dichloroethane (EDC)	11.20	62	243	N.D.			
35) 1,1,1-Trichloroethane	11.94	97	108	N.D.			
36) Carbon tetrachloride	0.00		0	N.D.			
37) Benzene	12.70	78	335	N.D.			
38) Cyclohexane	0.00		0	N.D.	d		
40) 1,2-Dichloropropane	13.90	63	106	N.D.			
41) 1,4-Dioxane	0.00		0	N.D.			
42) 2,2,4-Trimethylpentane	14.31	57	369	N.D.			

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

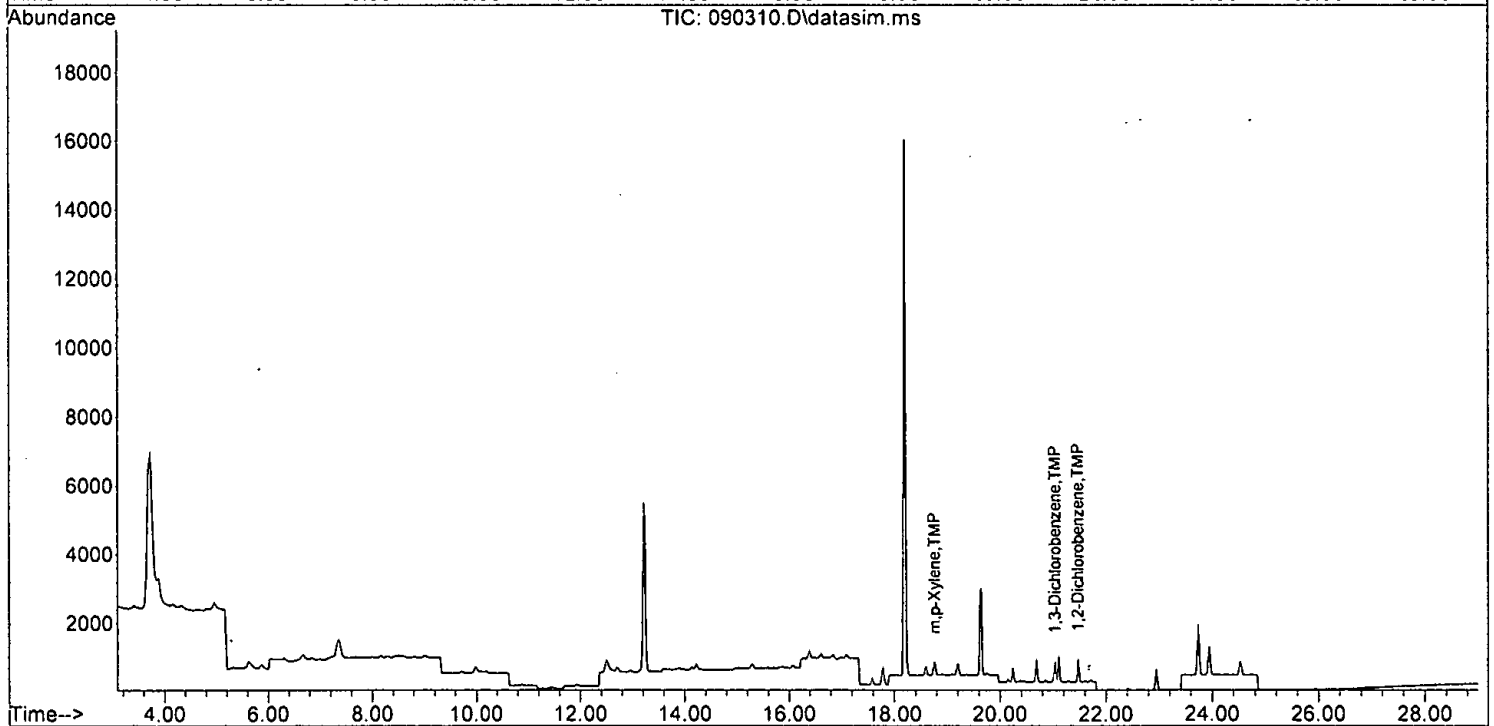
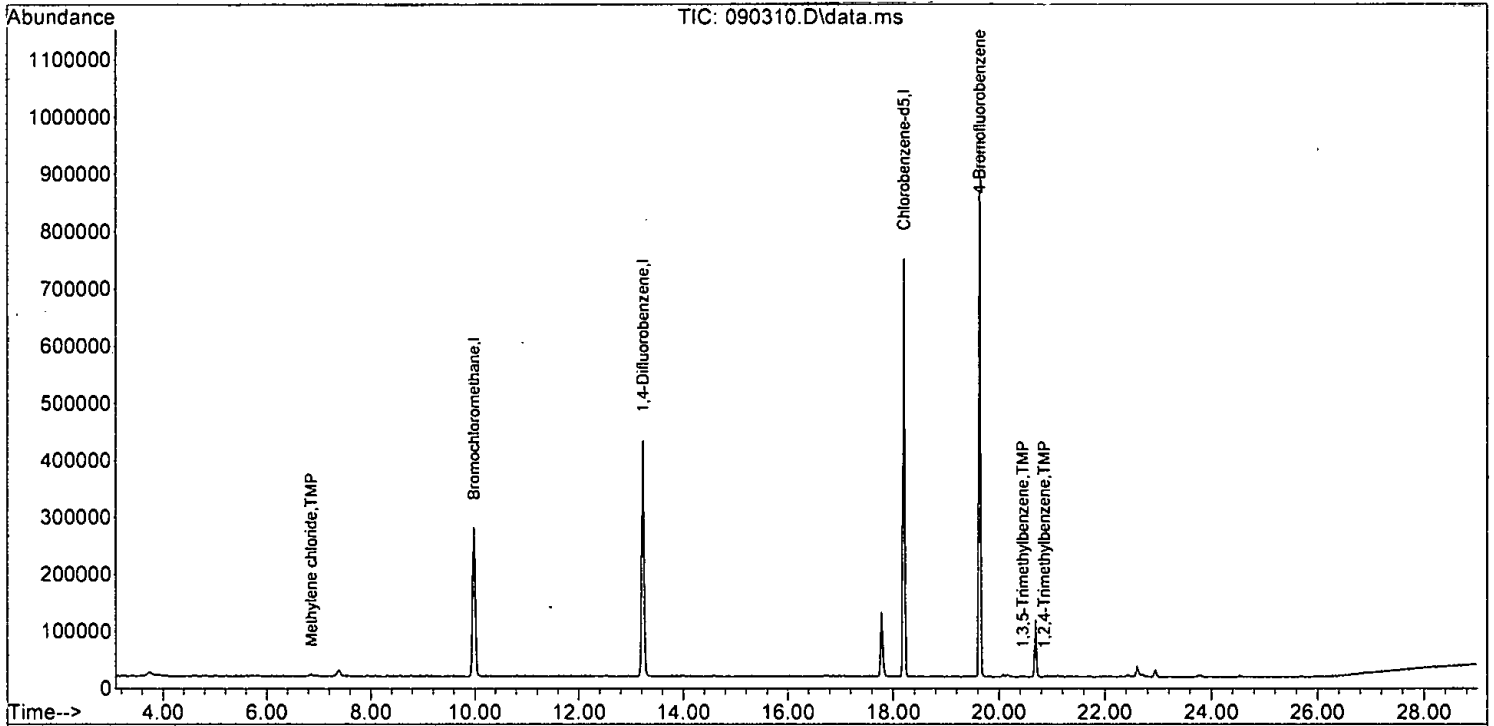
Quant Time: Sep 07 10:32:17 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	14.51	43	405	N.D.		
45) Bromodichloromethane	14.14	83	128	N.D.		
46) Trichloroethene	14.22	95	152	N.D.		
47) cis-1,3-Dichloropropene	15.27	75	171	N.D.		
48) 4-Methyl-2-pentanone	0.00		0	N.D.		
49) trans-1,3-Dichloropropene	15.87	75	112	N.D.		
50) Toluene	0.00		0	N.D.	d	
51) 1,1,2-Trichloroethane	16.06	83	92	N.D.		
52) 2-Hexanone	0.00		0	N.D.	d	
53) Tetrachloroethene	0.00		0	N.D.	d	
54) Dibromochloromethane	16.85	129	109	N.D.		
55) 1,2-Dibromoethane (EDB)	17.10	107	136	N.D.		
57) Chlorobenzene	0.00		0	N.D.		
58) Ethylbenzene	18.59	91	488	N.D.		
59) 1,1,2,2-Tetrachloroethane	19.19	83	283	N.D.		
60) Nonane	19.36	43	455	N.D.		
61) Isopropylbenzene	19.75	105	372	N.D.		
62) 2-Chlorotoluene	0.00		0	N.D.		
63) Propylbenzene	20.25	91	1153	N.D.		
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.76	106	304	0.010	ppbv	96
66) o-Xylene	19.21	106	176	N.D.		
67) Styrene	19.09	104	149	N.D.		
68) Bromoform	0.00		0	N.D.		
70) Benzyl chloride	21.01	91	157	N.D.		
71) 1,3,5-Trimethylbenzene	20.45	105	840	0.012	ppbv	79
72) 1,2,4-Trimethylbenzene	20.86	105	784	0.011	ppbv	84
73] 1,3-Dichlorobenzene	21.04	146	582	0.012	ppbv	89
74) 1,4-Dichlorobenzene	21.11	146	643	N.D.		
75] 1,2-Dichlorobenzene	21.47	146	628	0.014	ppbv	91
76) 1,2,4-Trichlorobenzene	23.75	180	1465	Below Cal		95
77) Naphthalene	23.95	128	1943	N.D.		
78) Hexachlorobutadiene	24.52	225	900	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

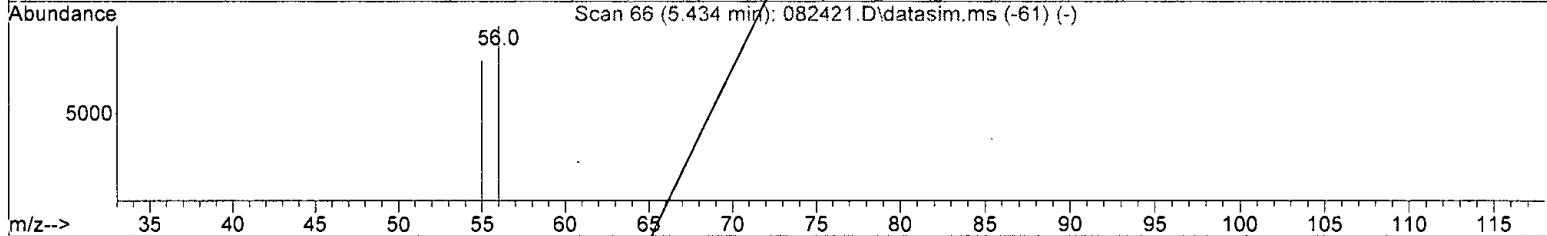
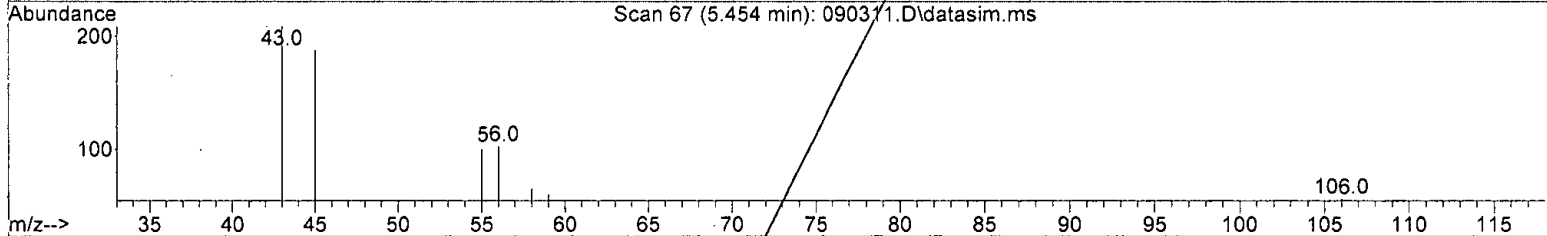
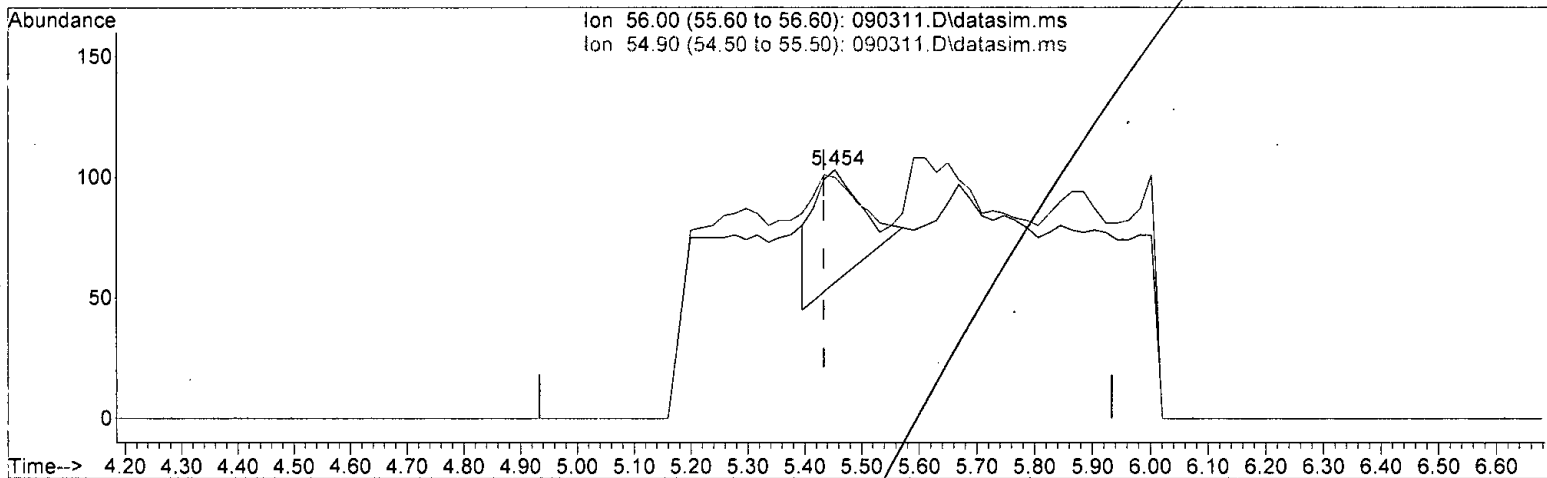
Quant Time: Sep 07 10:32:17 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:03:25 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.454min (+ 0.020) 0.038 ppbv

response 278

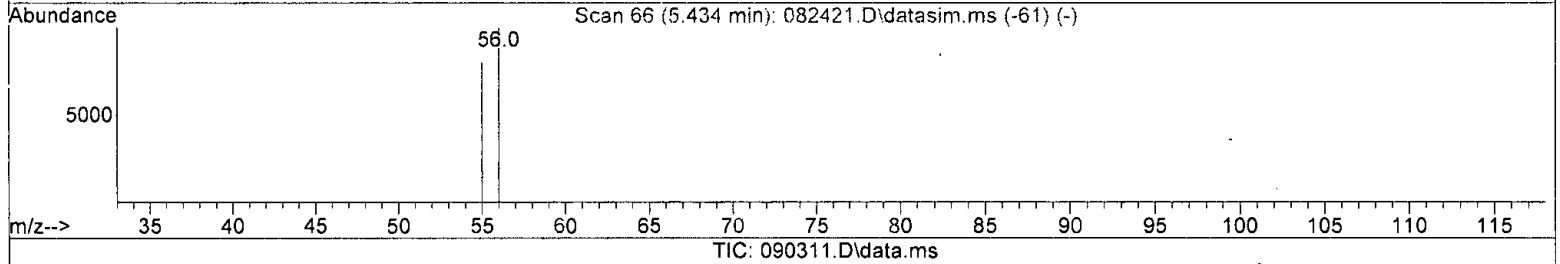
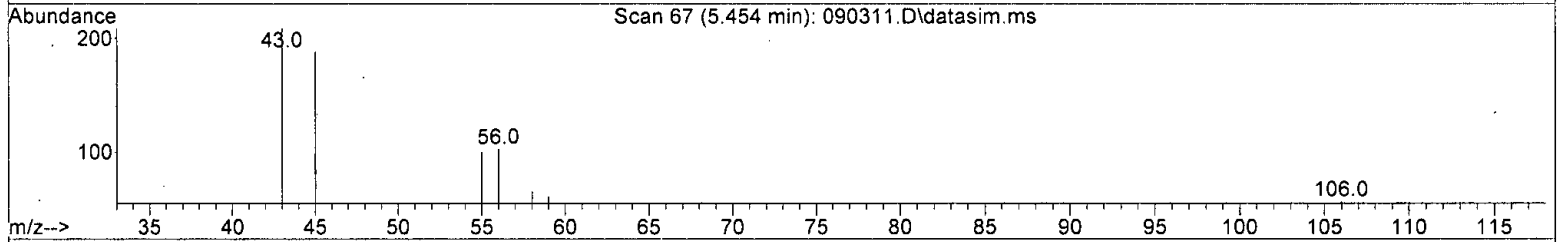
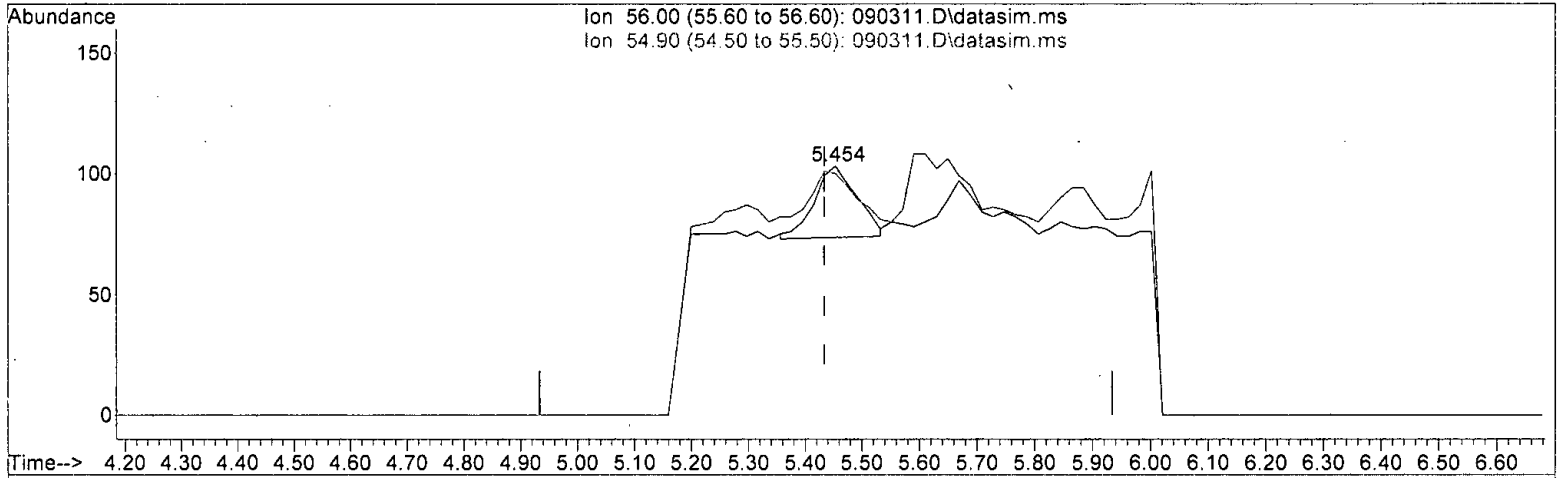
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

*Initial calibration*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:03:25 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.454min (+ 0.020) 0.021 ppbv m

response 153

Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

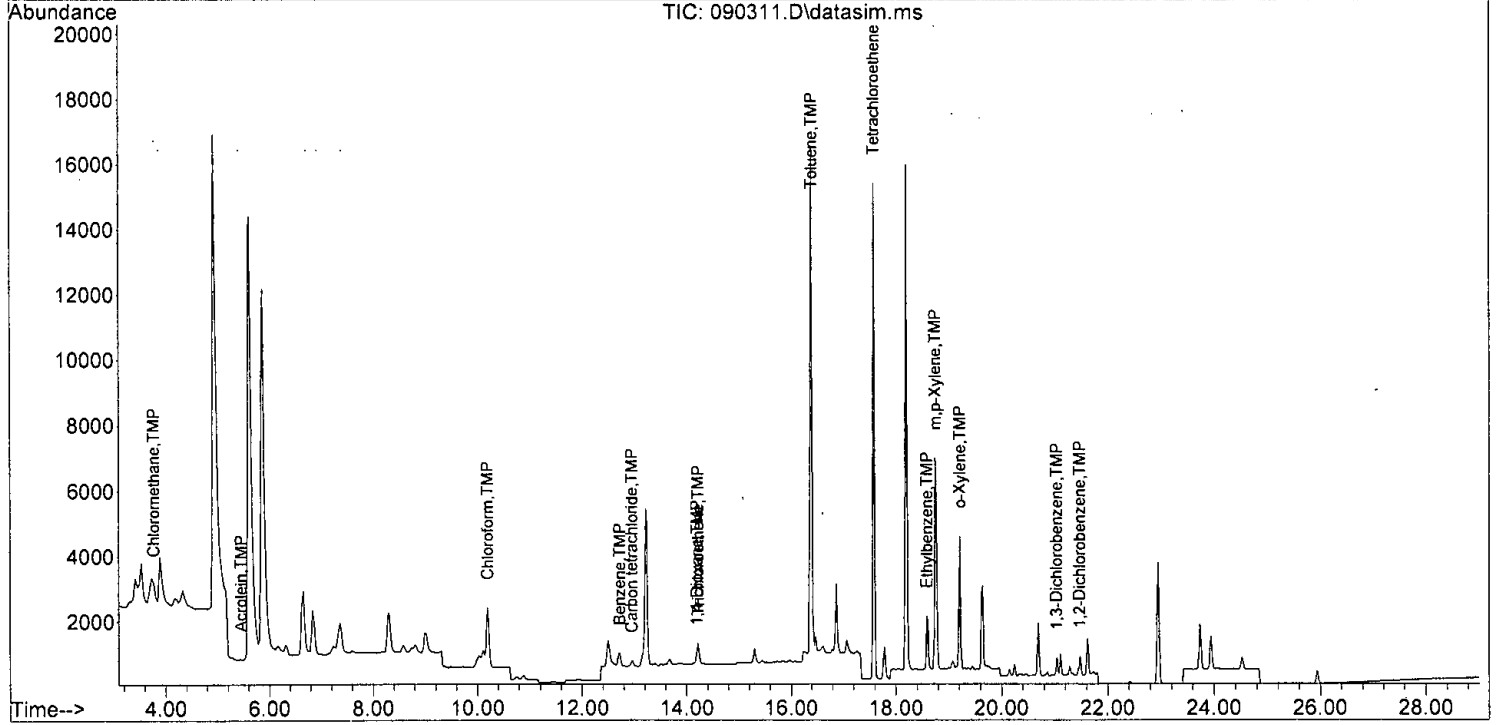
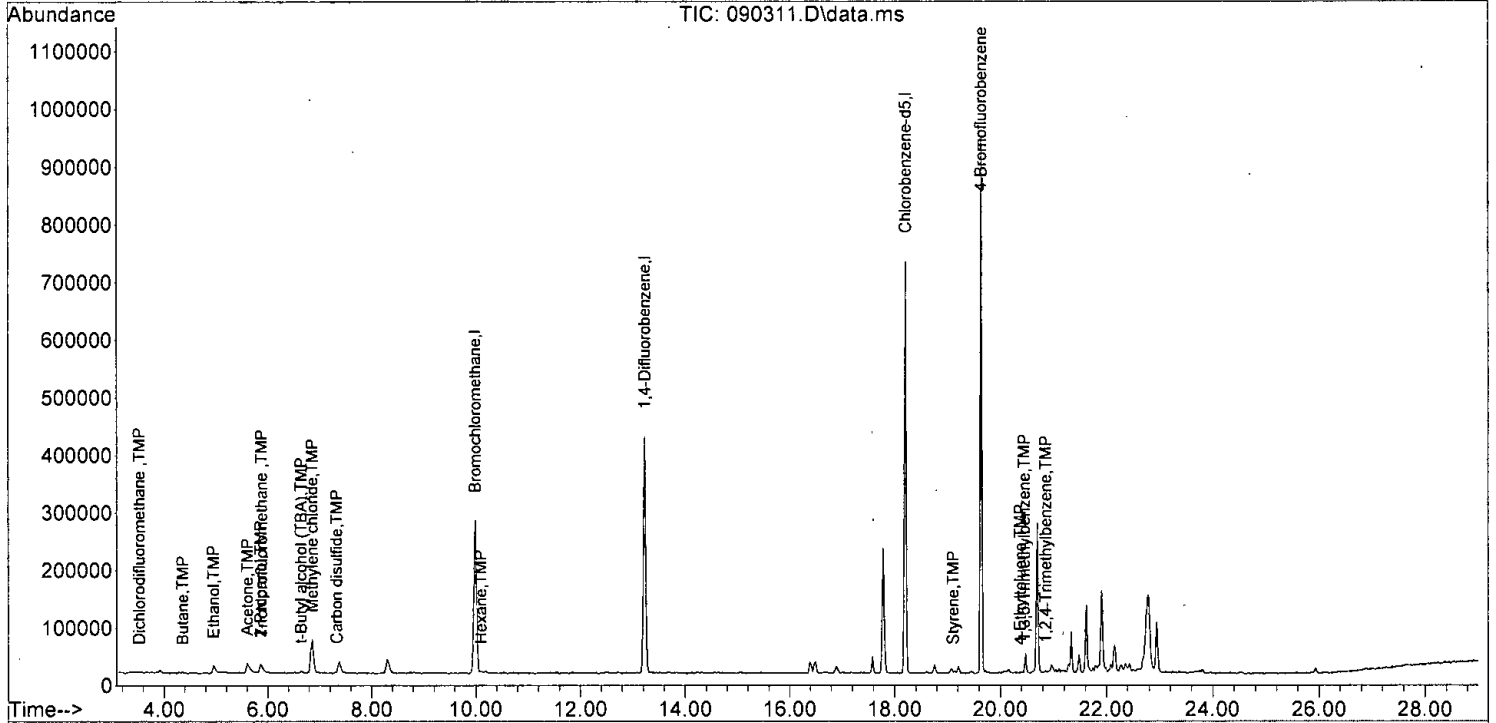
Quant Time: Sep 07 10:40:57 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

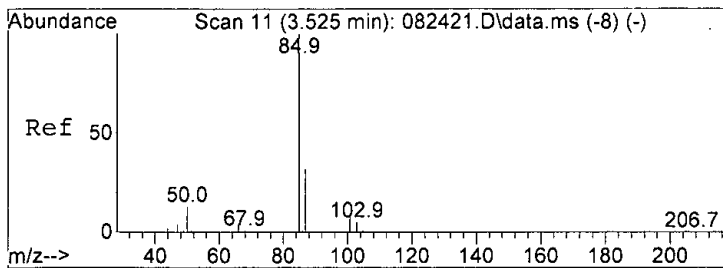
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	101138	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	464533	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	409944	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	359613	9.683	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	96.80%
Target Compounds						
						Qvalue
3) Dichlorodifluoromethane	3.52	85	3302	0.074	ppbv	83
4) Chloromethane	3.77	50	491	0.023	ppbv	83
8) Butane	4.36	43	2403	0.073	ppbv	# 80
12) Ethanol	4.96	45	34938	6.175	ppbv	94
13] Acrolein	5.45	56	153m	0.021	ppbv	
15) Trichlorofluoromethane	5.88	101	2099	0.042	ppbv	78
16) Acetone	5.60	58	13906	1.563	ppbv	96
17) 2-Propanol	5.86	45	48667	1.353	ppbv	97
20) Methylene chloride	6.86	84	44515	2.515	ppbv	87
21) t-Butyl alcohol (TBA)	6.65	59	4262	0.146	ppbv	# 44
24) Carbon disulfide	7.33	76	2513	0.043	ppbv	73
29) Hexane	10.10	57	2477	0.083	ppbv	89
30] Chloroform	10.19	83	3989	0.090	ppbv	97
36] Carbon tetrachloride	12.95	117	328	0.010	ppbv	97
37] Benzene	12.72	78	1171	0.019	ppbv	98
41] 1,4-Dioxane	14.19	88	431	0.034	ppbv	77
46] Trichloroethene	14.22	95	475	0.017	ppbv	84
50] Toluene	16.40	92	14298	0.411	ppbv	86
53] Tetrachloroethene	17.58	164	6830	0.386	ppbv	# 80
58] Ethylbenzene	18.59	91	2905	0.032	ppbv	96
64) 4-Ethyltoluene	20.38	105	851	0.010	ppbv	# 79
65] m,p-Xylene	18.74	106	4831	0.165	ppbv	# 77
66] o-Xylene	19.21	106	2019	0.070	ppbv	88
67) Styrene	19.11	104	795	0.019	ppbv	96
71) 1,3,5-Trimethylbenzene	20.45	105	1067	0.016	ppbv	83
72) 1,2,4-Trimethylbenzene	20.86	105	1902	0.028	ppbv	75
73] 1,3-Dichlorobenzene	21.04	146	553	0.012	ppbv	91
75] 1,2-Dichlorobenzene	21.47	146	568	0.013	ppbv	93
76) 1,2,4-Trichlorobenzene	23.75	180	1735	Below Cal		90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

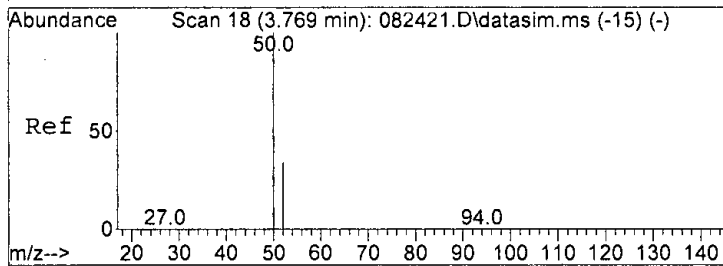
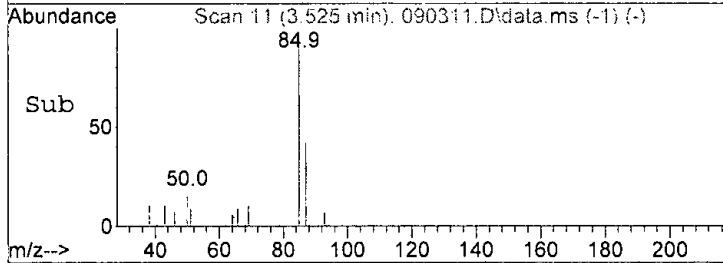
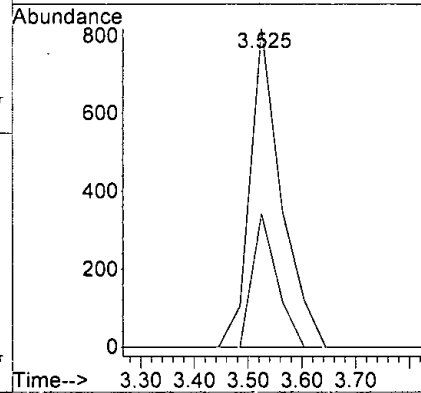
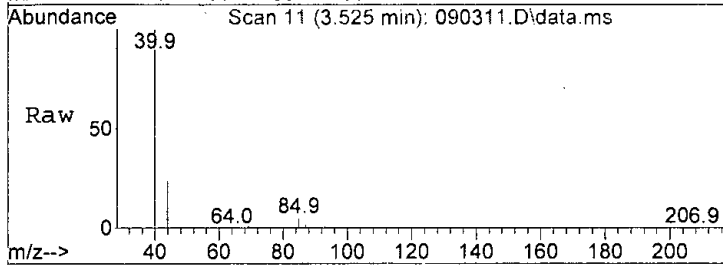
Quant Time: Sep 07 10:40:57 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





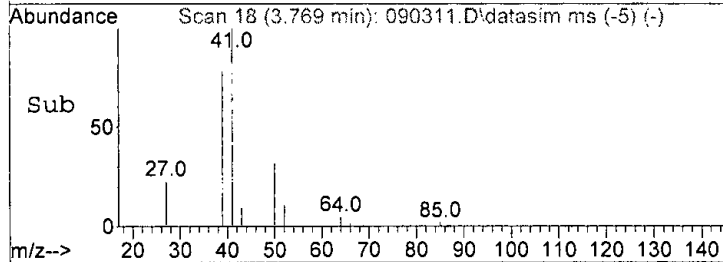
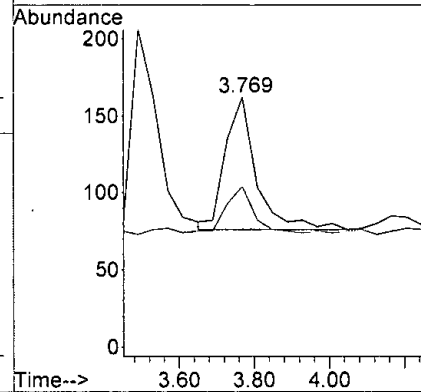
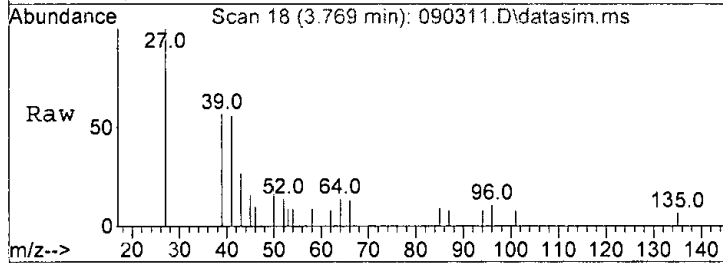
#3  
 Dichlorodifluoromethane  
 Concen: 0.074 ppbv  
 RT: 3.52 min Scan# 11  
 Delta R.T. -0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

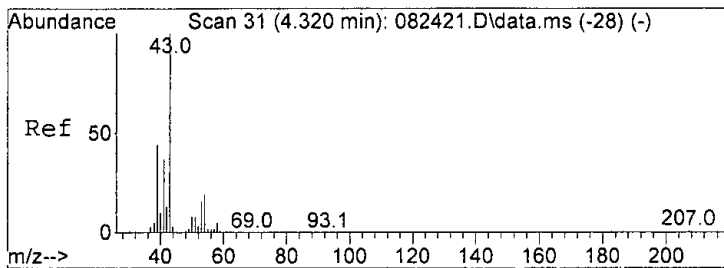
Tgt Ion: 85 Resp: 3302  
 Ion Ratio Lower Upper  
 85 100  
 87 41.9 2.2 62.2



#4  
 Chloromethane  
 Concen: 0.023 ppbv  
 RT: 3.77 min Scan# 18  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

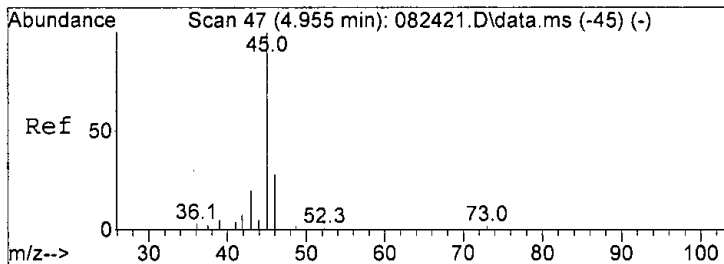
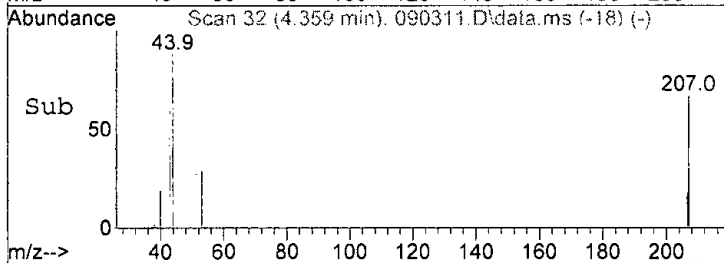
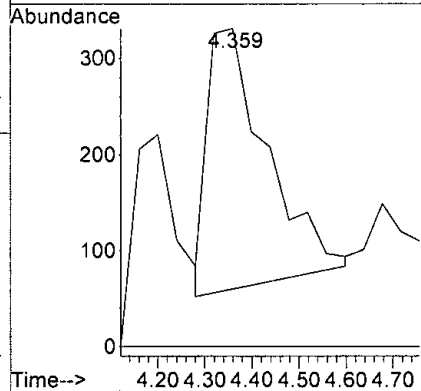
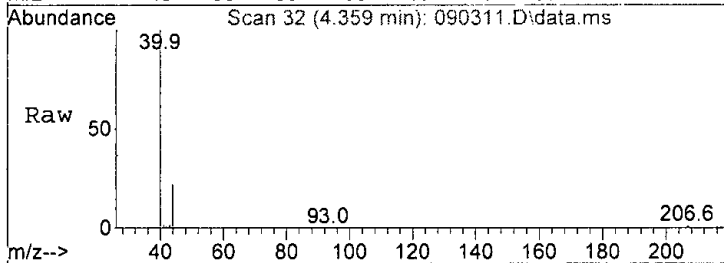
Tgt Ion: 50 Resp: 491  
 Ion Ratio Lower Upper  
 50 100  
 52 33.7 0.0 55.3





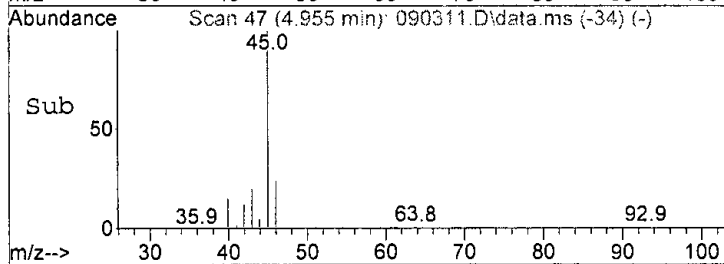
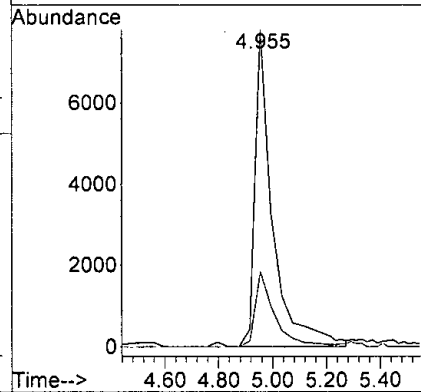
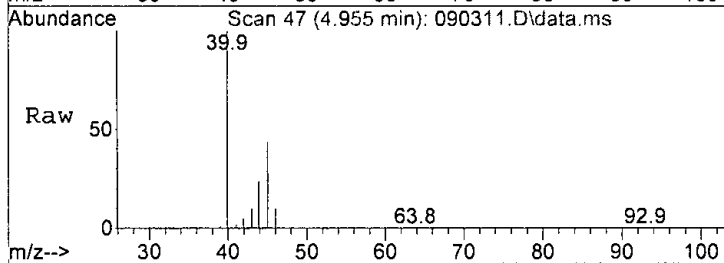
#8  
 Butane  
 Concen: 0.073 ppbv  
 RT: 4.36 min Scan# 32  
 Delta R.T. 0.039 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

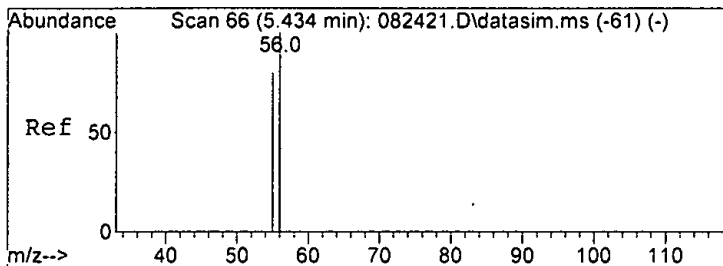
Tgt Ion: 43 Resp: 2403  
 Ion Ratio Lower Upper  
 43 100  
 58 0.0 0.0 36.9



#12  
 Ethanol  
 Concen: 6.175 ppbv  
 RT: 4.96 min Scan# 47  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

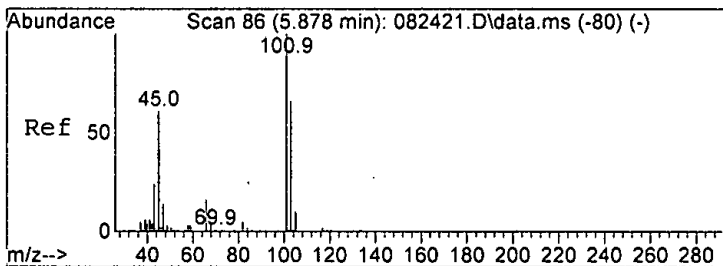
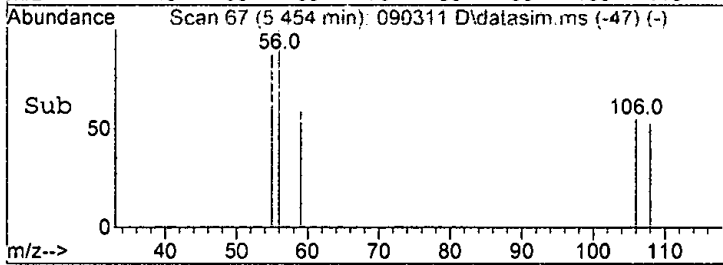
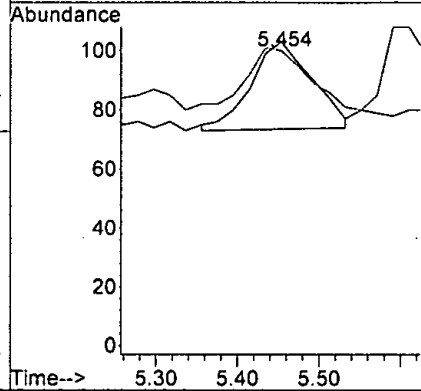
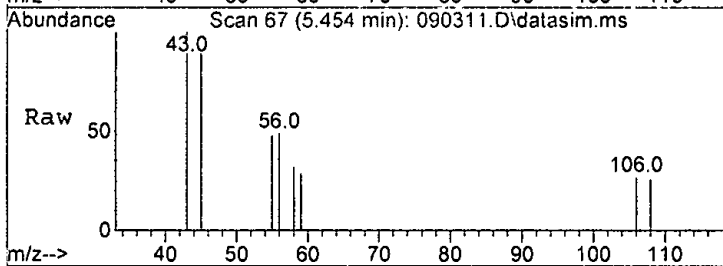
Tgt Ion: 45 Resp: 34938  
 Ion Ratio Lower Upper  
 45 100  
 46 28.7 0.0 55.5





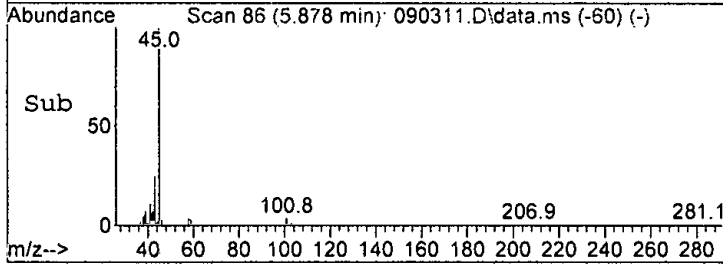
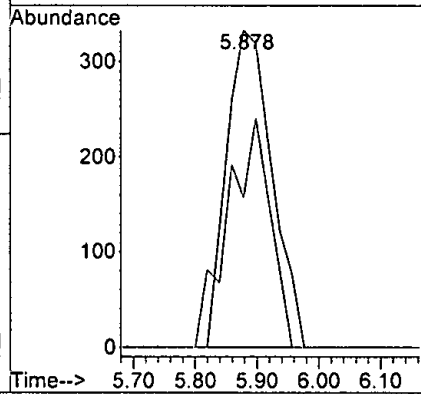
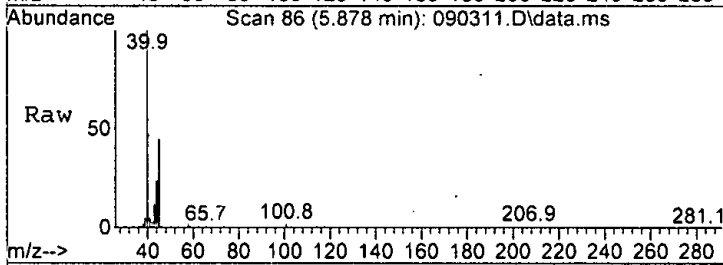
#13  
 Acrolein  
 Concen: 0.021 ppbv m  
 RT: 5.45 min Scan# 67  
 Delta R.T. 0.020 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

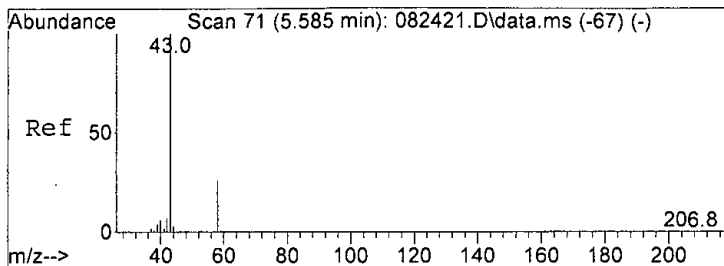
Tgt Ion: 56 Resp: 153  
 Ion Ratio Lower Upper  
 56 100  
 55 0.0 51.0 111.0#



#15  
 Trichlorofluoromethane  
 Concen: 0.042 ppbv  
 RT: 5.88 min Scan# 86  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

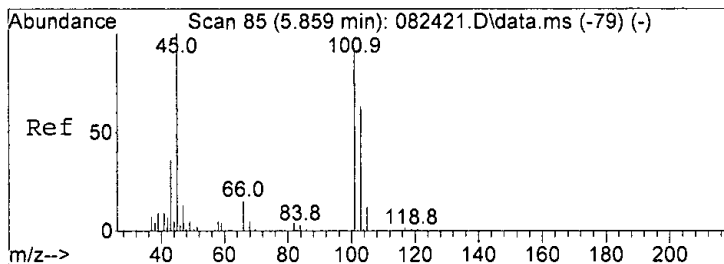
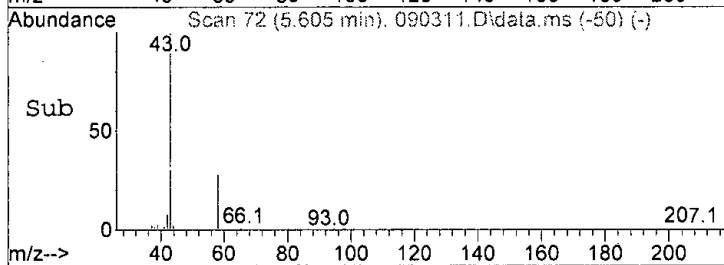
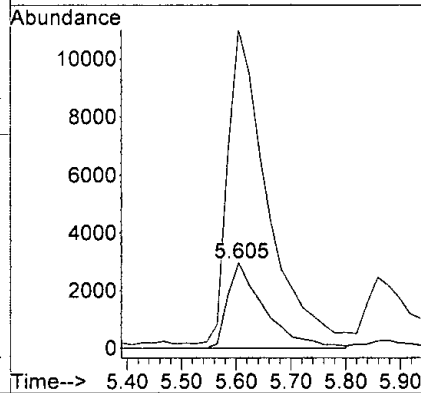
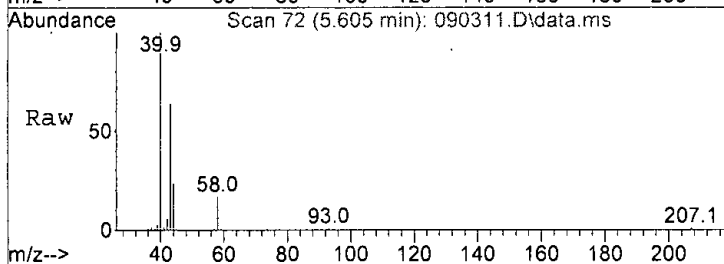
Tgt Ion: 101 Resp: 2099  
 Ion Ratio Lower Upper  
 101 100  
 103 47.1 34.5 94.5





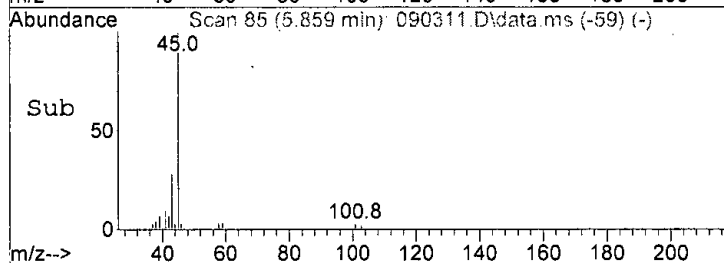
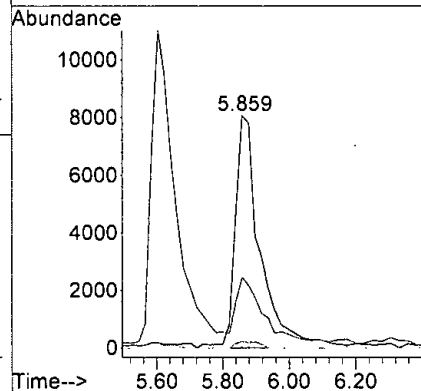
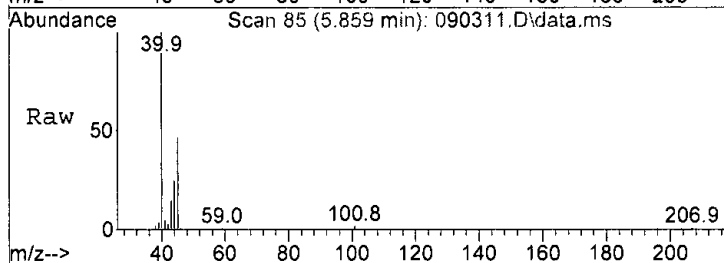
#16  
 Acetone  
 Concen: 1.563 ppbv  
 RT: 5.60 min Scan# 72  
 Delta R.T. 0.020 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

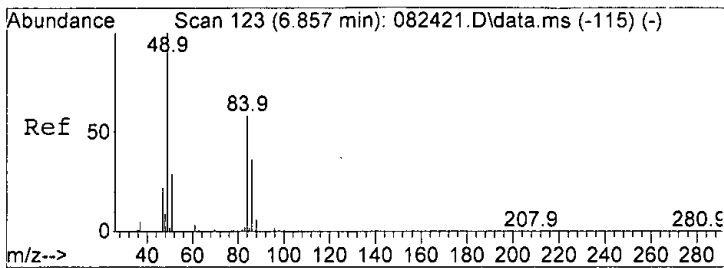
Tgt Ion: 58 Resp: 13906  
 Ion Ratio Lower Upper  
 58 100  
 43 367.4 329.3 389.3



#17  
 2-Propanol  
 Concen: 1.353 ppbv  
 RT: 5.86 min Scan# 85  
 Delta R.T. -0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

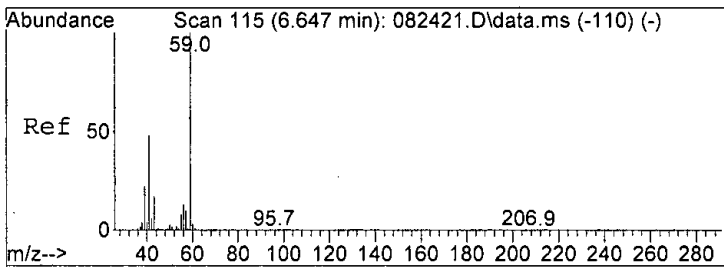
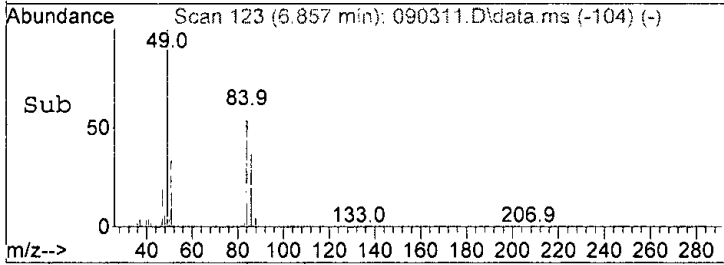
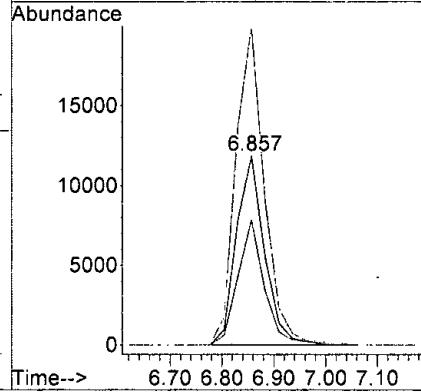
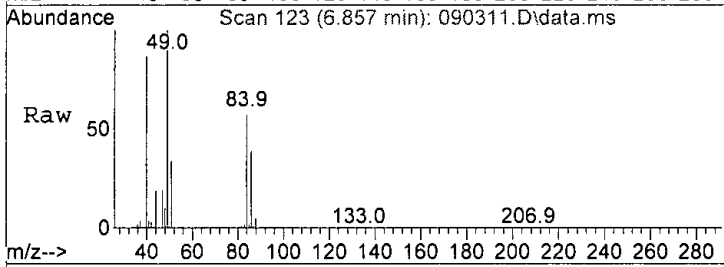
Tgt Ion: 45 Resp: 48667  
 Ion Ratio Lower Upper  
 45 100  
 43 26.9 0.0 30.0  
 59 2.7 0.0 33.6





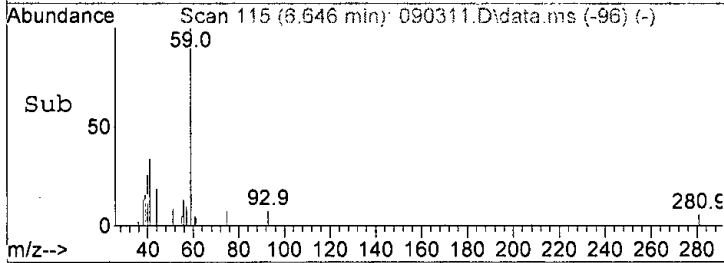
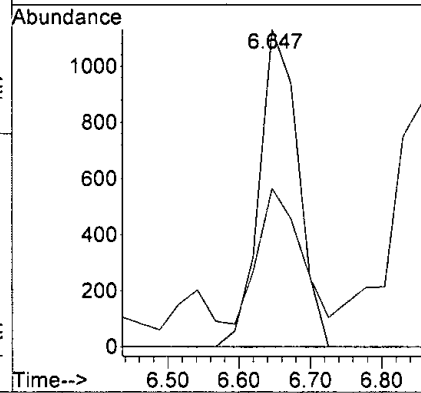
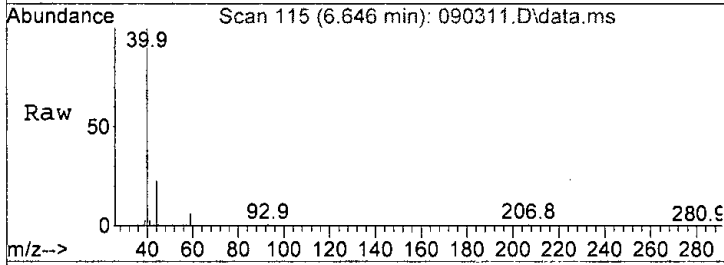
#20  
 Methylene chloride  
 Concen: 2.515 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. -0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

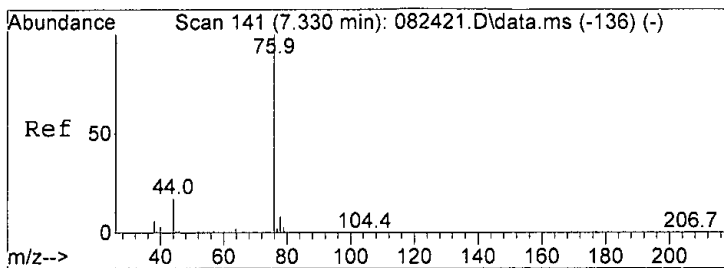
Tgt Ion	Resp	Lower	Upper
84	100		
86	66.2	33.9	93.9
49	168.5	116.6	176.6



#21  
 t-Butyl alcohol (TBA)  
 Concen: 0.146 ppbv  
 RT: 6.65 min Scan# 115  
 Delta R.T. -0.001 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

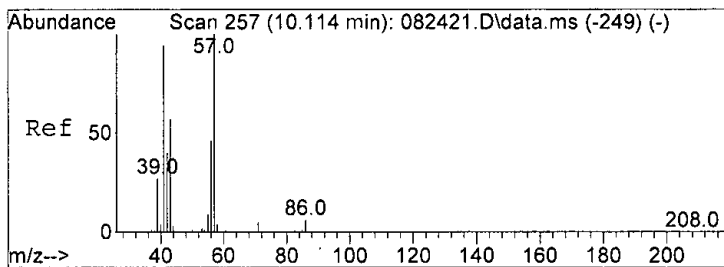
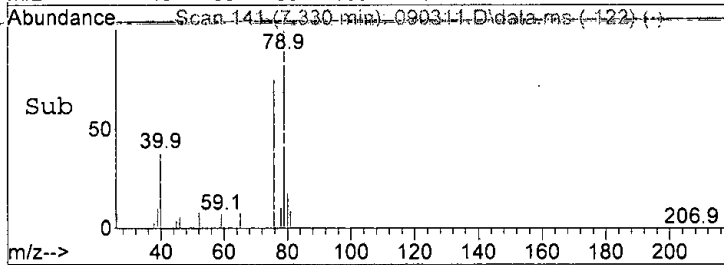
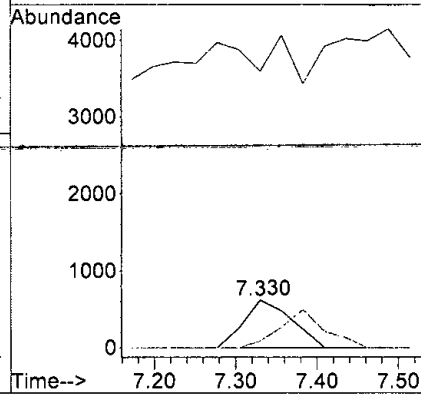
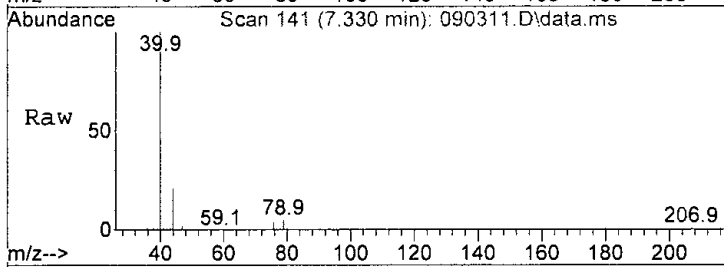
Tgt Ion	Resp	Lower	Upper
59	100		
41	46.1	16.2	24.4#





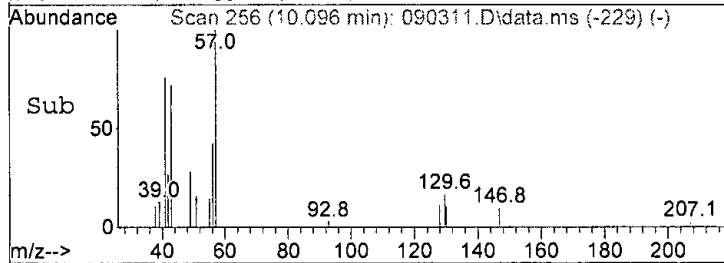
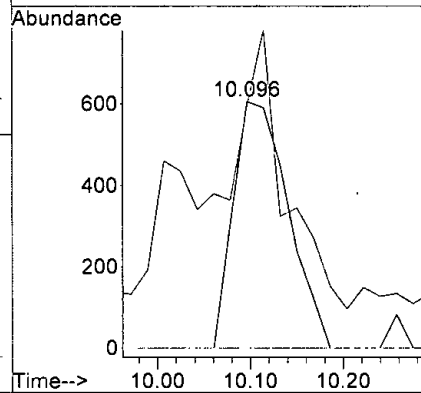
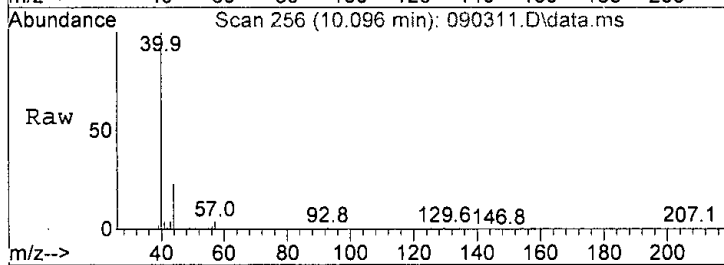
#24  
 Carbon disulfide  
 Concen: 0.043 ppbv  
 RT: 7.33 min Scan# 141  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

Tgt Ion	Resp	Lower	Upper
76	2513		
76	100		
44	0.0	0.0	44.3
78	14.3	0.0	39.2

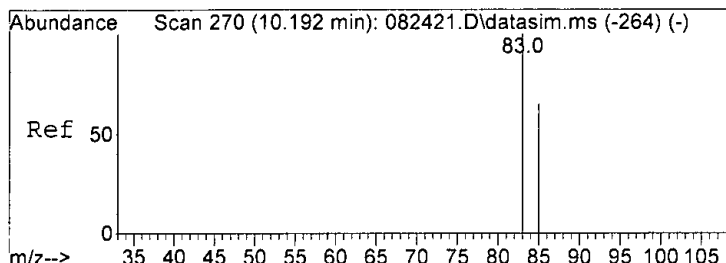


#29  
 Hexane  
 Concen: 0.083 ppbv  
 RT: 10.10 min Scan# 256  
 Delta R.T. -0.018 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

Tgt Ion	Resp	Lower	Upper
57	2477		
57	100		
43	82.3	43.6	103.6
86	0.0	0.0	35.9

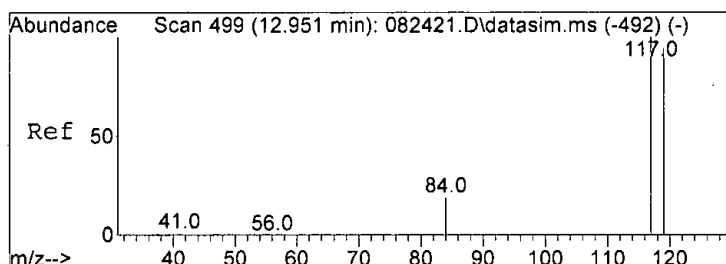
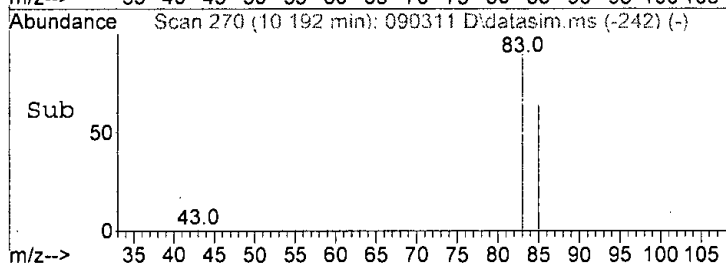
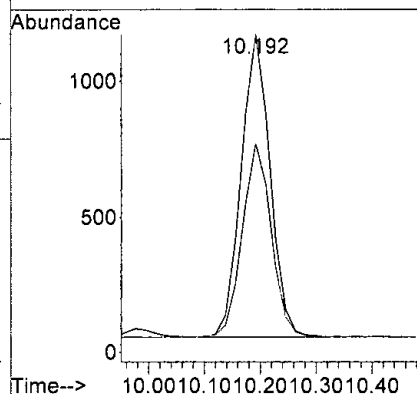
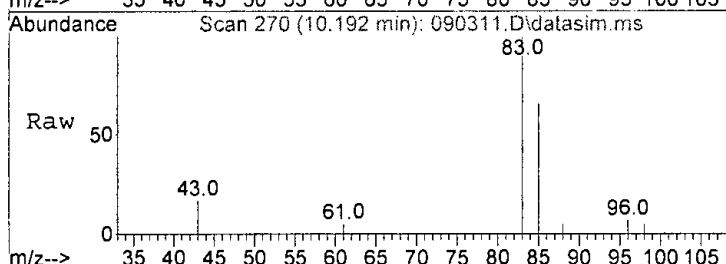






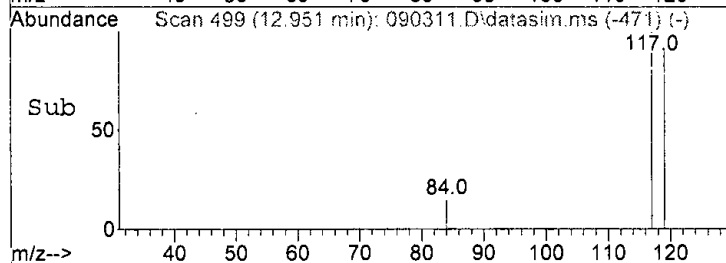
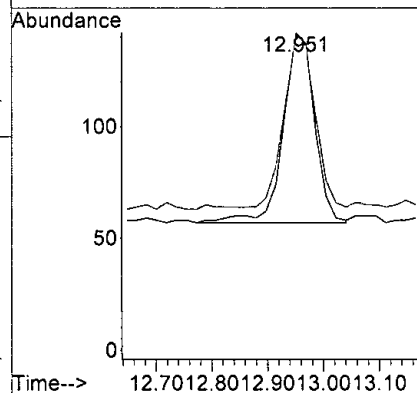
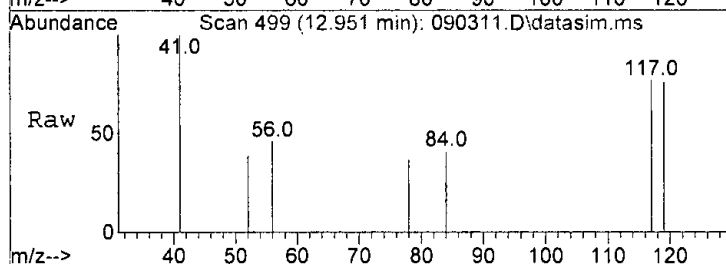
#30  
 Chloroform  
 Concen: 0.090 ppbv  
 RT: 10.19 min Scan# 270  
 Delta R.T. -0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

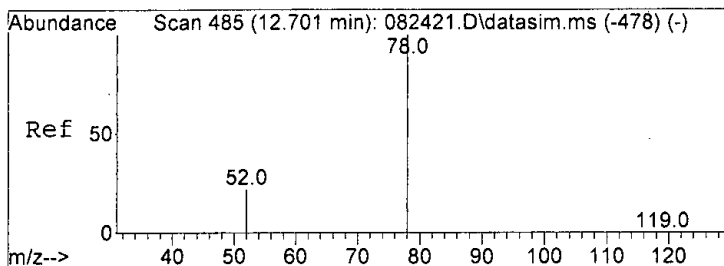
Tgt Ion: 83 Resp: 3989  
 Ion Ratio Lower Upper  
 83 100  
 85 64.1 36.3 96.3



#36  
 Carbon tetrachloride  
 Concen: 0.010 ppbv  
 RT: 12.95 min Scan# 499  
 Delta R.T. -0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

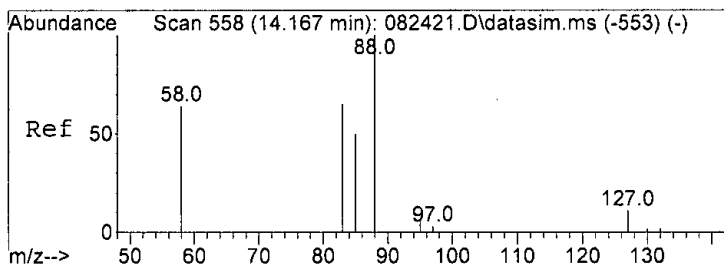
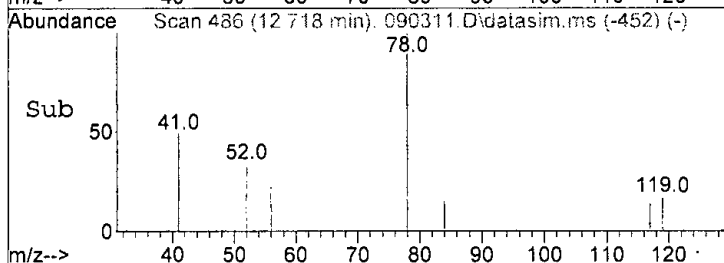
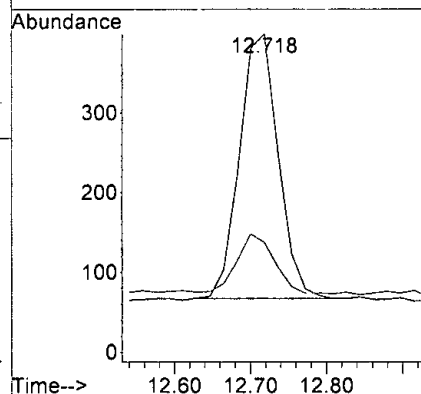
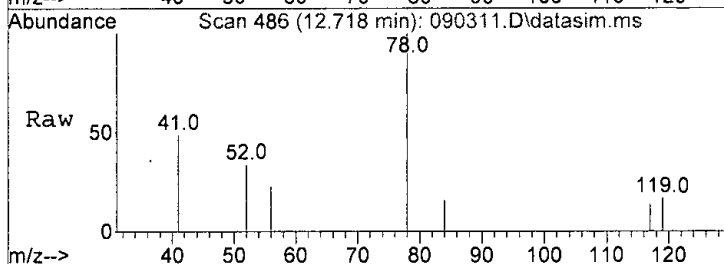
Tgt Ion: 117 Resp: 328  
 Ion Ratio Lower Upper  
 117 100  
 119 91.8 64.6 124.6





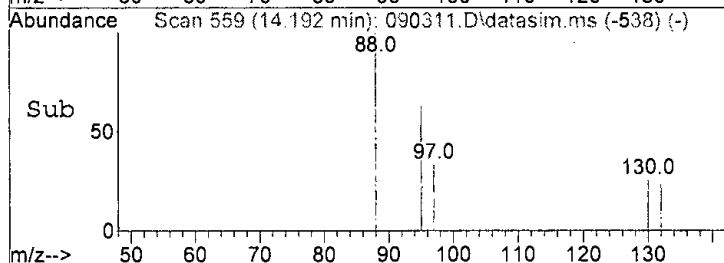
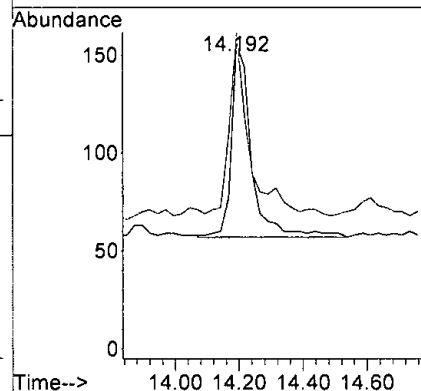
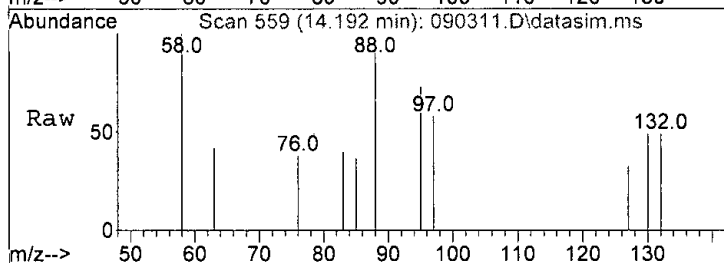
#37  
Benzene  
Concen: 0.019 ppbv  
RT: 12.72 min Scan# 486  
Delta R.T. 0.017 min  
Lab File: 090311.D  
Acq: 3 Sep 2021 2:20 pm

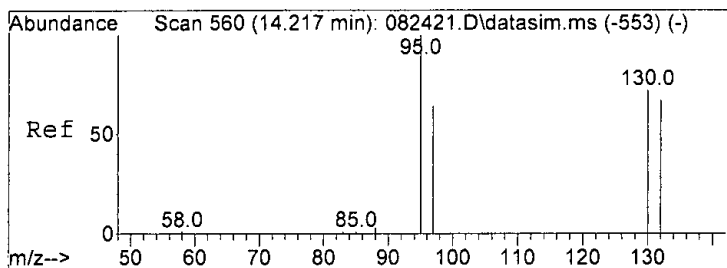
Tgt Ion: 78 Resp: 1171  
Ion Ratio Lower Upper  
78 100  
52 18.7 0.0 49.7



#41  
1,4-Dioxane  
Concen: 0.034 ppbv  
RT: 14.19 min Scan# 559  
Delta R.T. 0.025 min  
Lab File: 090311.D  
Acq: 3 Sep 2021 2:20 pm

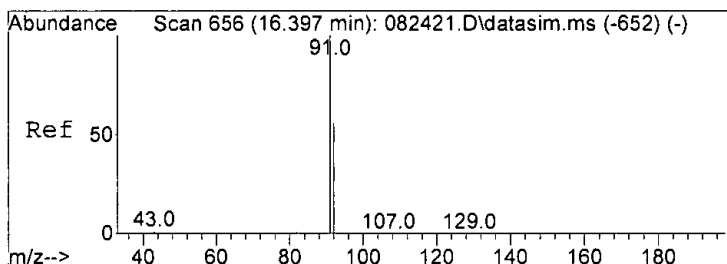
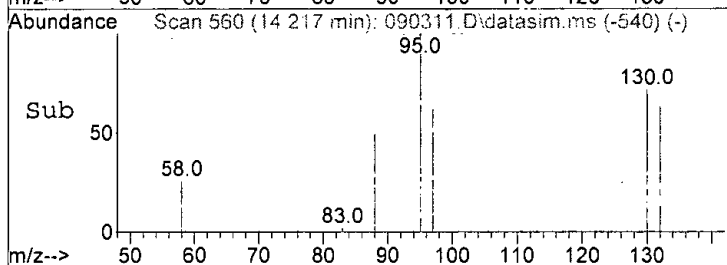
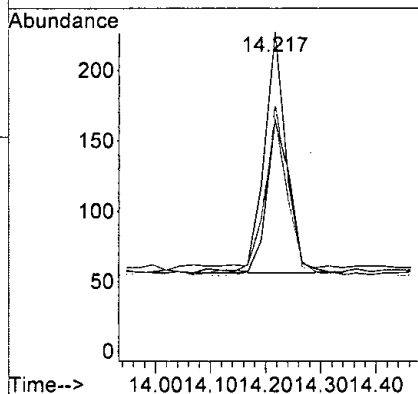
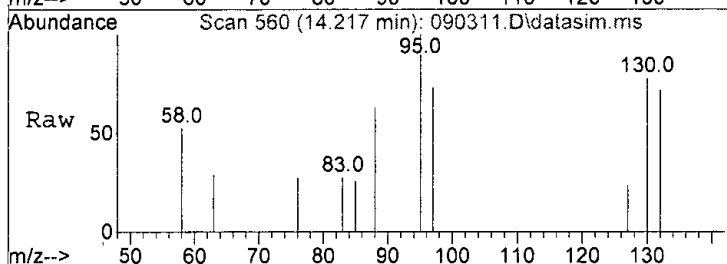
Tgt Ion: 88 Resp: 431  
Ion Ratio Lower Upper  
88 100  
58 92.9 43.4 103.4





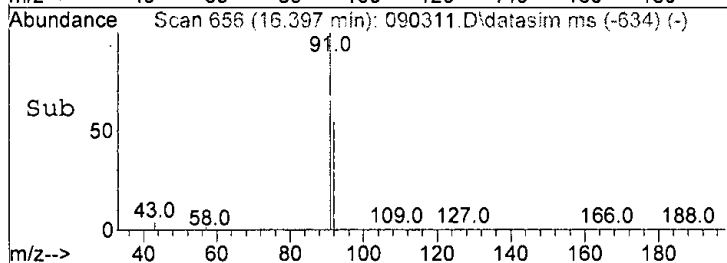
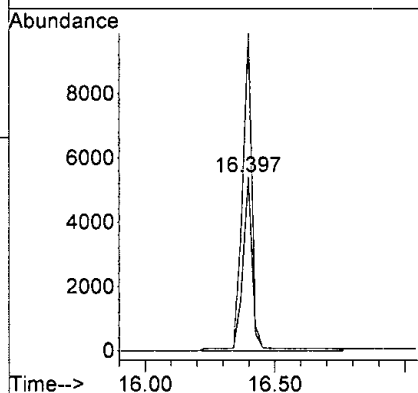
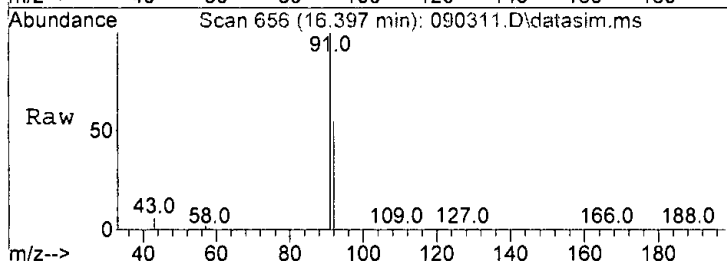
#46  
 Trichloroethene  
 Concen: 0.017 ppbv  
 RT: 14.22 min Scan# 560  
 Delta R.T. -0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

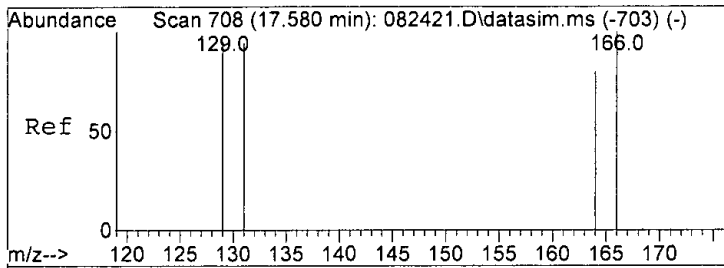
Tgt Ion	Resp	Lower	Upper
95	100		
97	62.0	37.1	97.1
130	71.3	56.1	116.1
132	63.7	54.3	114.3



#50  
 Toluene  
 Concen: 0.411 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

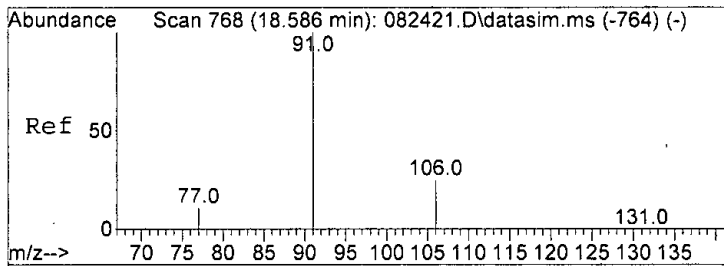
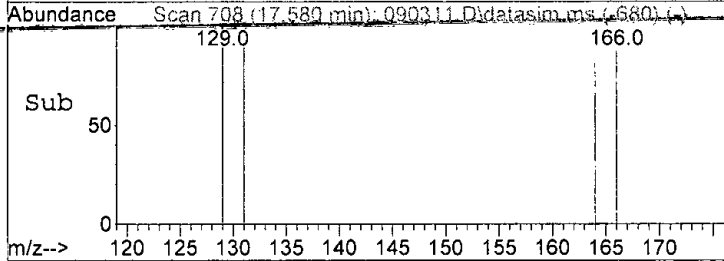
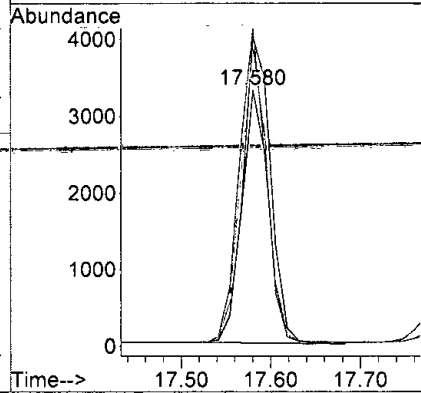
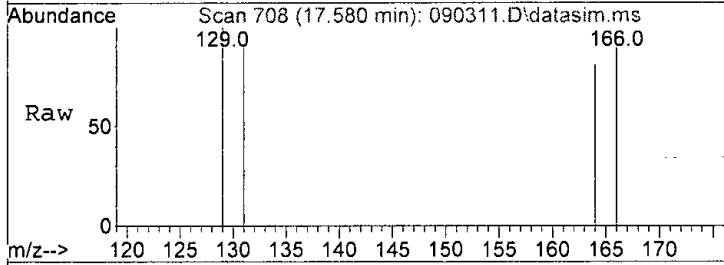
Tgt Ion	Resp	Lower	Upper
92	100		
91	182.4	174.6	234.6





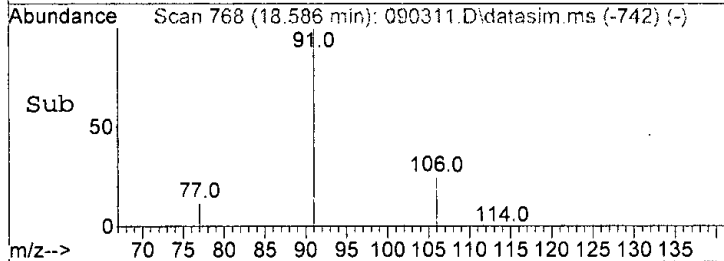
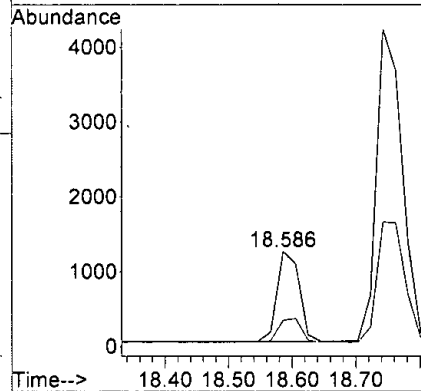
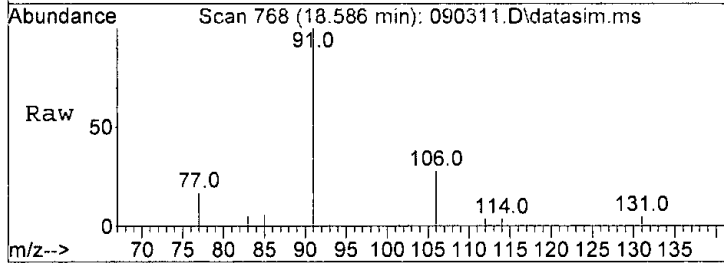
#53  
 Tetrachloroethene  
 Concen: 0.386 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

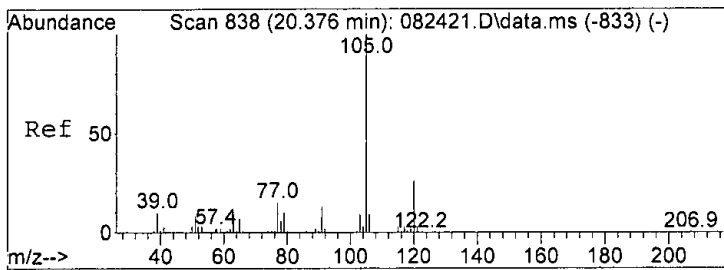
Tgt Ion	Ratio	Lower	Upper
164	100		
129	124.4	63.2	123.2#
131	117.1	70.7	130.7
166	121.0	107.5	167.5



#58  
 Ethylbenzene  
 Concen: 0.032 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. -0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

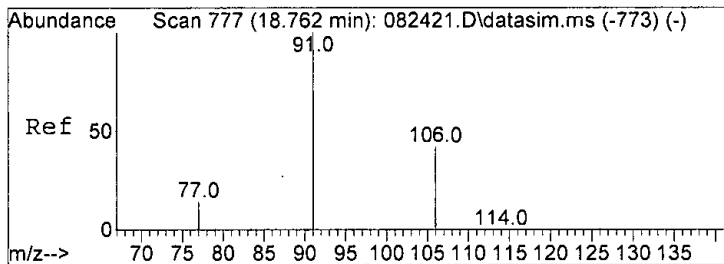
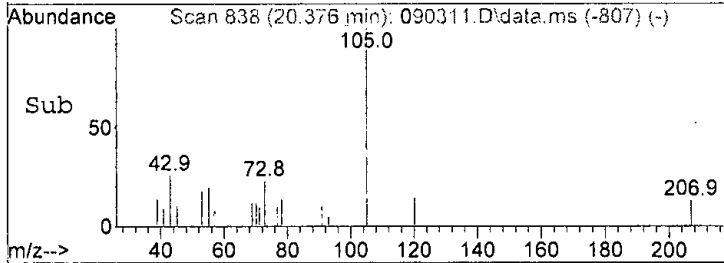
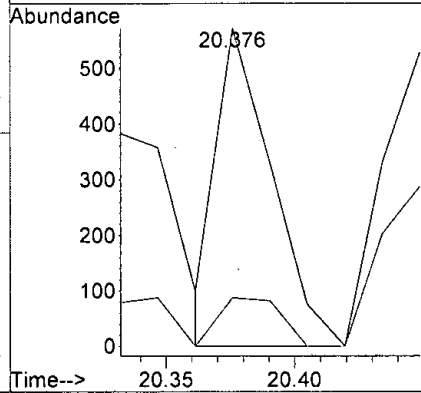
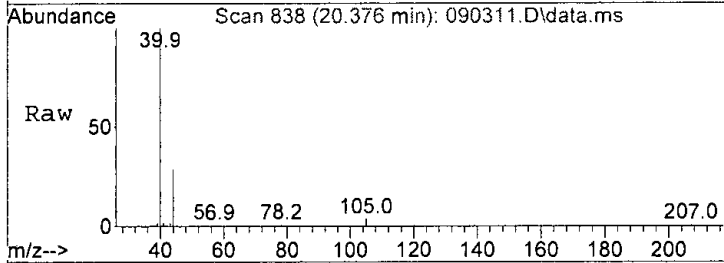
Tgt Ion	Ratio	Lower	Upper
91	100		
106	24.7	0.0	57.0





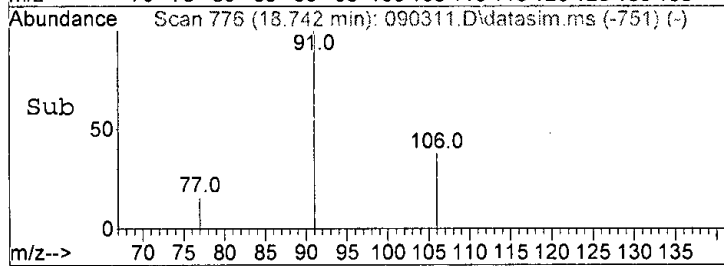
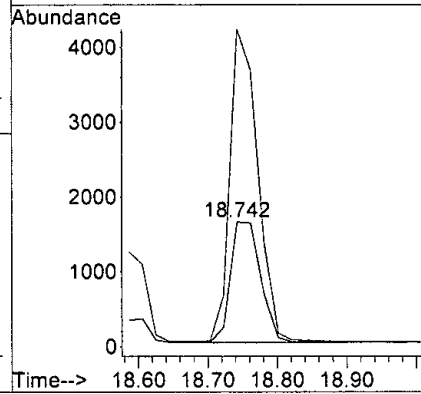
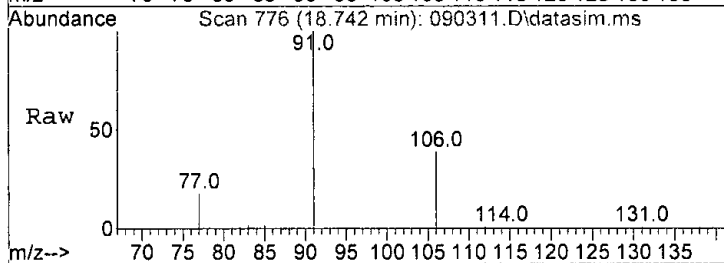
#64  
 4-Ethyltoluene  
 Concen: 0.010 ppbv  
 RT: 20.38 min Scan# 838  
 Delta R.T. -0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

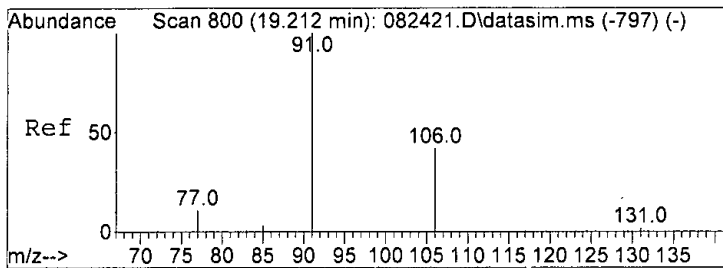
Tgt Ion:105 Resp: 851  
 Ion Ratio Lower Upper  
 105 100  
 120 17.4 23.0 34.4#



#65  
 m,p-Xylene  
 Concen: 0.165 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.020 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

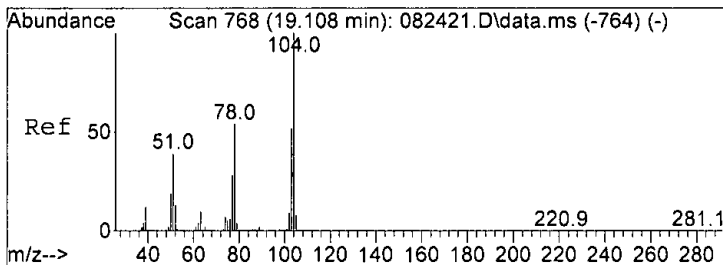
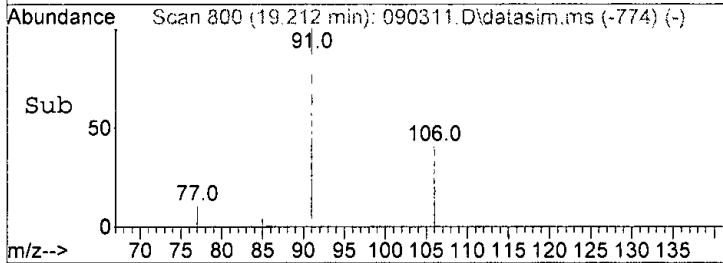
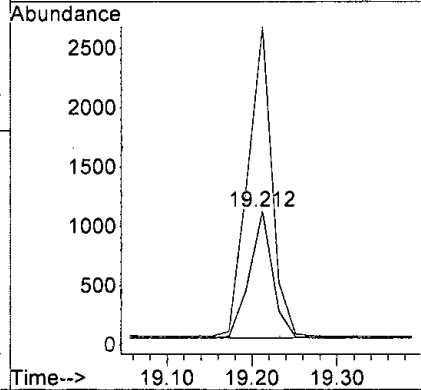
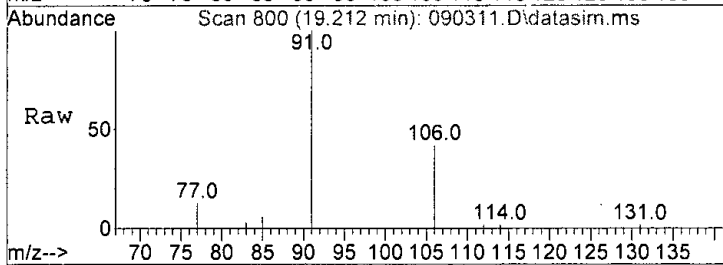
Tgt Ion:106 Resp: 4831  
 Ion Ratio Lower Upper  
 106 100  
 91 259.9 193.0 253.0#





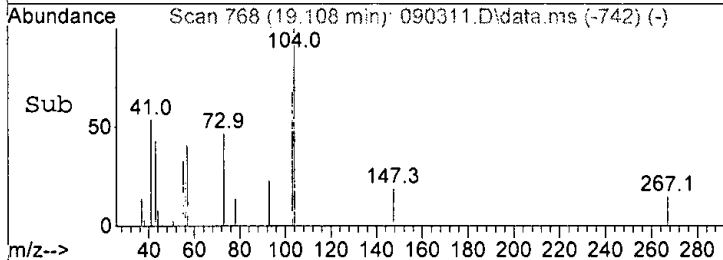
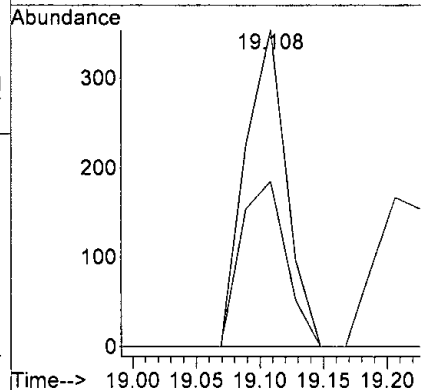
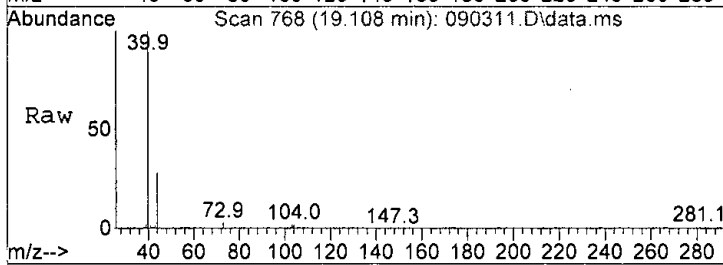
#66  
 o-Xylene  
 Concen: 0.070 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. -0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

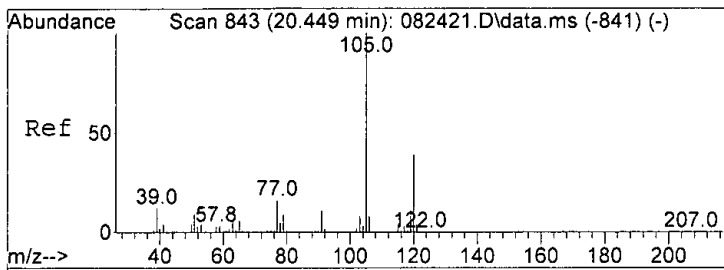
Tgt Ion: 106 Resp: 2019  
 Ion Ratio Lower Upper  
 106 100  
 91 244.4 194.4 254.4



#67  
 Styrene  
 Concen: 0.019 ppbv  
 RT: 19.11 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

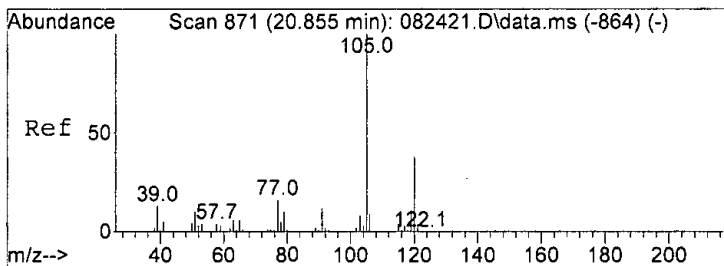
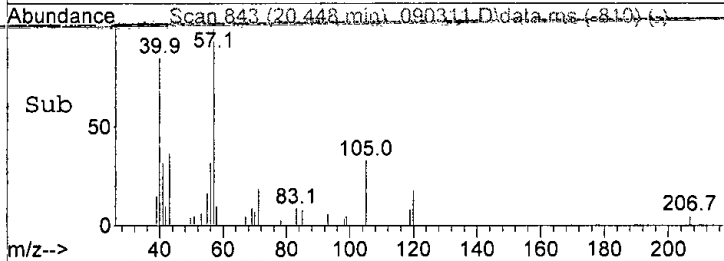
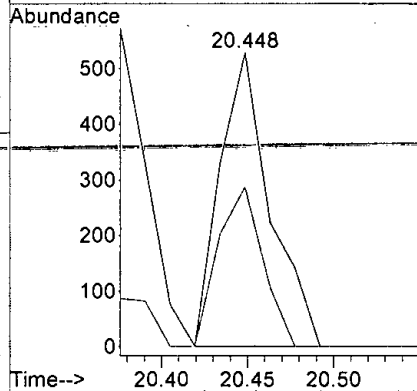
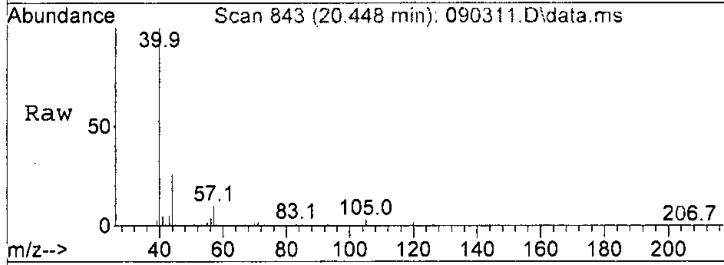
Tgt Ion: 104 Resp: 795  
 Ion Ratio Lower Upper  
 104 100  
 78 52.3 19.6 79.6





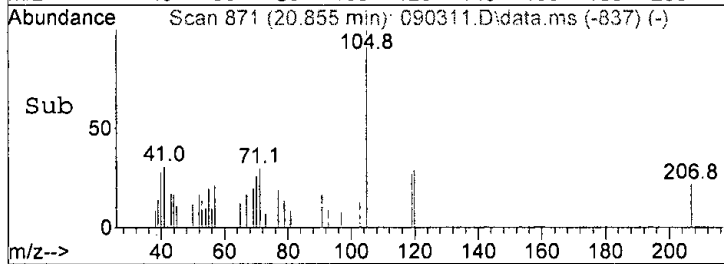
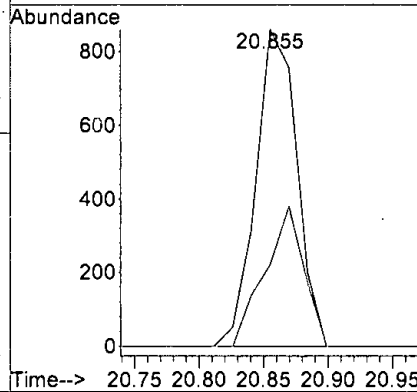
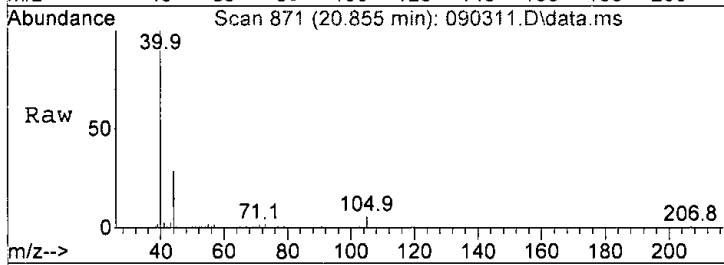
#71  
 1,3,5-Trimethylbenzene  
 Concen: 0.016 ppbv  
 RT: 20.45 min Scan# 843  
 Delta R.T. -0.001 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

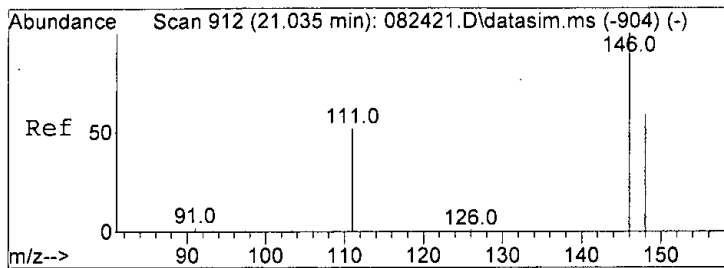
Tgt Ion: 105 Resp: 1067  
 Ion Ratio Lower Upper  
 105 100  
 120 54.4 13.4 73.4



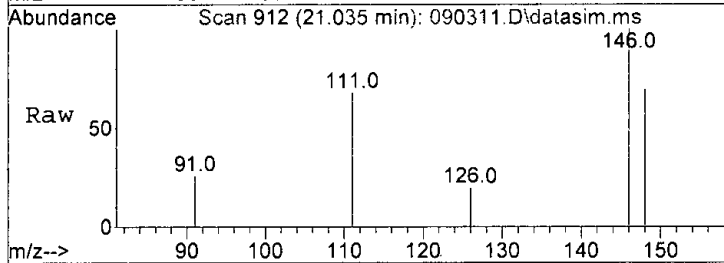
#72  
 1,2,4-Trimethylbenzene  
 Concen: 0.028 ppbv  
 RT: 20.86 min Scan# 871  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

Tgt Ion: 105 Resp: 1902  
 Ion Ratio Lower Upper  
 105 100  
 120 25.6 11.0 71.0

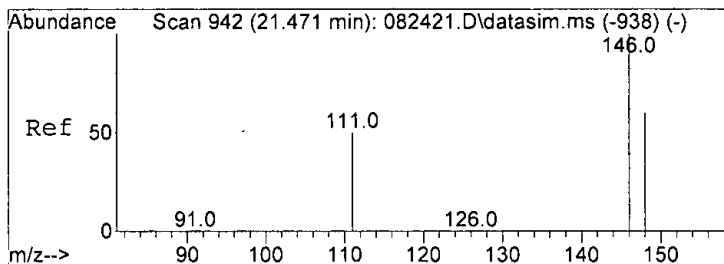
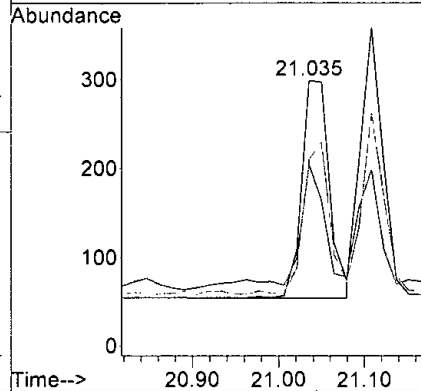
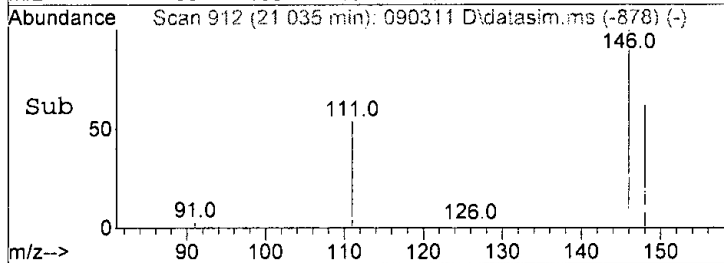




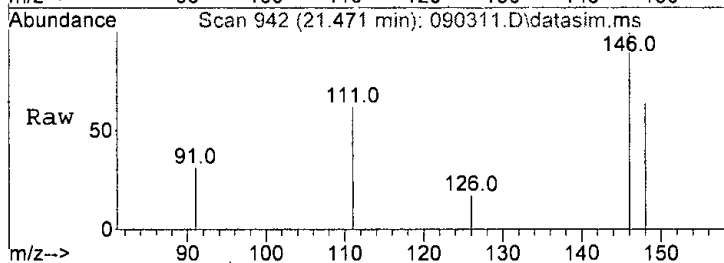
#73  
 1,3-Dichlorobenzene  
 Concen: 0.012 ppbv  
 RT: 21.04 min Scan# 912  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm



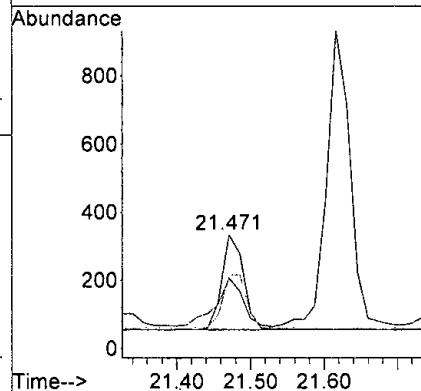
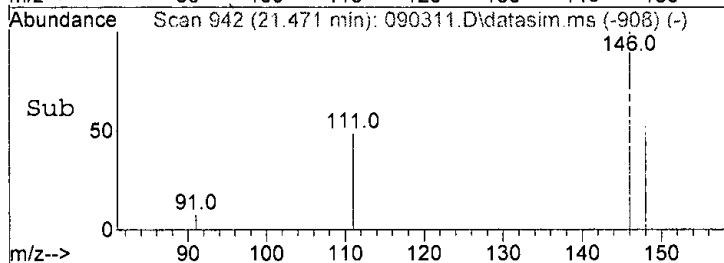
Tgt Ion:146 Resp: 553  
 Ion Ratio Lower Upper  
 146 100  
 111 56.3 13.6 73.6  
 148 61.6 32.6 92.6



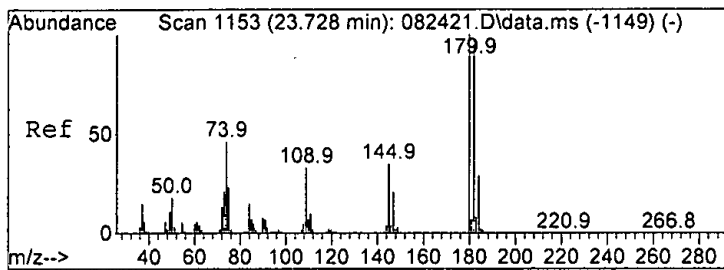
#75  
 1,2-Dichlorobenzene  
 Concen: 0.013 ppbv  
 RT: 21.47 min Scan# 942  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm



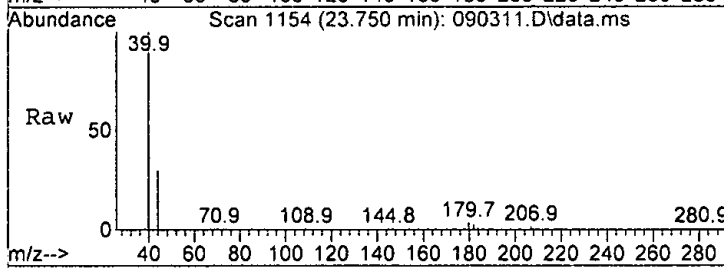
Tgt Ion:146 Resp: 568  
 Ion Ratio Lower Upper  
 146 100  
 111 40.9 12.9 72.9  
 148 55.2 33.2 93.2



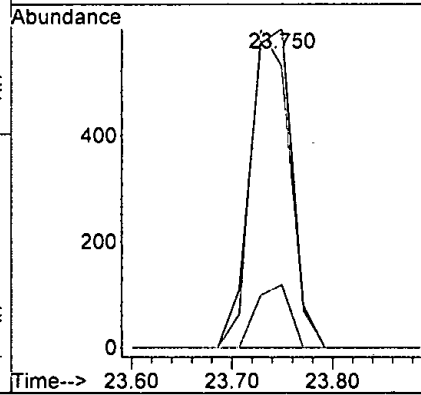
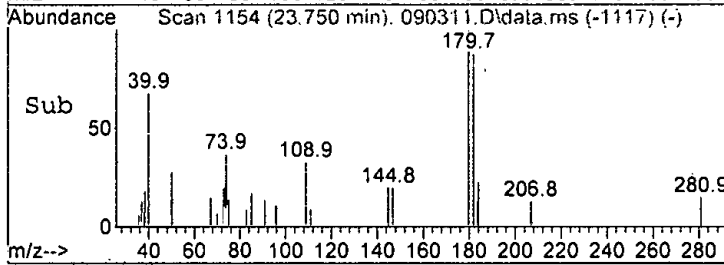




#76  
 1,2,4-Trichlorobenzene  
 Concen: Below Cal  
 RT: 23.75 min Scan# 1154  
 Delta R.T. 0.022 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm



Tgt Ion	Ratio	Resp	Lower	Upper
180	100	1735		
182	88.1	64.5	124.5	
145	19.9	0.8	60.8	



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:40:57 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	101138	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	464533	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	409944	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	359613	9.683	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	96.80%
Target Compounds						
						Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	3.52	85	3302	0.074	ppbv	83
4) Chloromethane	3.77	50	491	0.023	ppbv	83
5) F-114	3.88	85	174	N.D.		
6) Vinyl chloride	0.00		0	N.D.		
7) 1,3-Butadiene	0.00		0	N.D.		
8) Butane	4.36	43	2403	0.073	ppbv	# 80
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	4.96	45	34938	6.175	ppbv	94
13) Acrolein	5.45	56	153m	0.021	ppbv	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	5.88	101	2099	0.042	ppbv	78
16) Acetone	5.60	58	13906	1.563	ppbv	96
17) 2-Propanol	5.86	45	48667	1.353	ppbv	97
18) 1,1-Dichloroethene	0.00		0	N.D.		
19) trans-1,2-Dichloroethene	0.00		0	N.D.		
20) Methylene chloride	6.86	84	44515	2.515	ppbv	87
21) t-Butyl alcohol (TBA)	6.65	59	4262	0.146	ppbv	# 44
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	7.20	101	256	N.D.		
24) Carbon disulfide	7.33	76	2513	0.043	ppbv	73
25) Methyl t-butyl ether (...)	8.72	73	314	N.D.		
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	0.00		0	N.D.		
28) cis-1,2-Dichloroethene	0.00		0	N.D.		
29) Hexane	10.10	57	2477	0.083	ppbv	89
30] Chloroform	10.19	83	3989	0.090	ppbv	97
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	11.18	62	173	N.D.		
35) 1,1,1-Trichloroethane	11.68	97	150	N.D.		
36] Carbon tetrachloride	12.95	117	328	0.010	ppbv	97
37] Benzene	12.72	78	1171	0.019	ppbv	98
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41] 1,4-Dioxane	14.19	88	431	0.034	ppbv	77
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

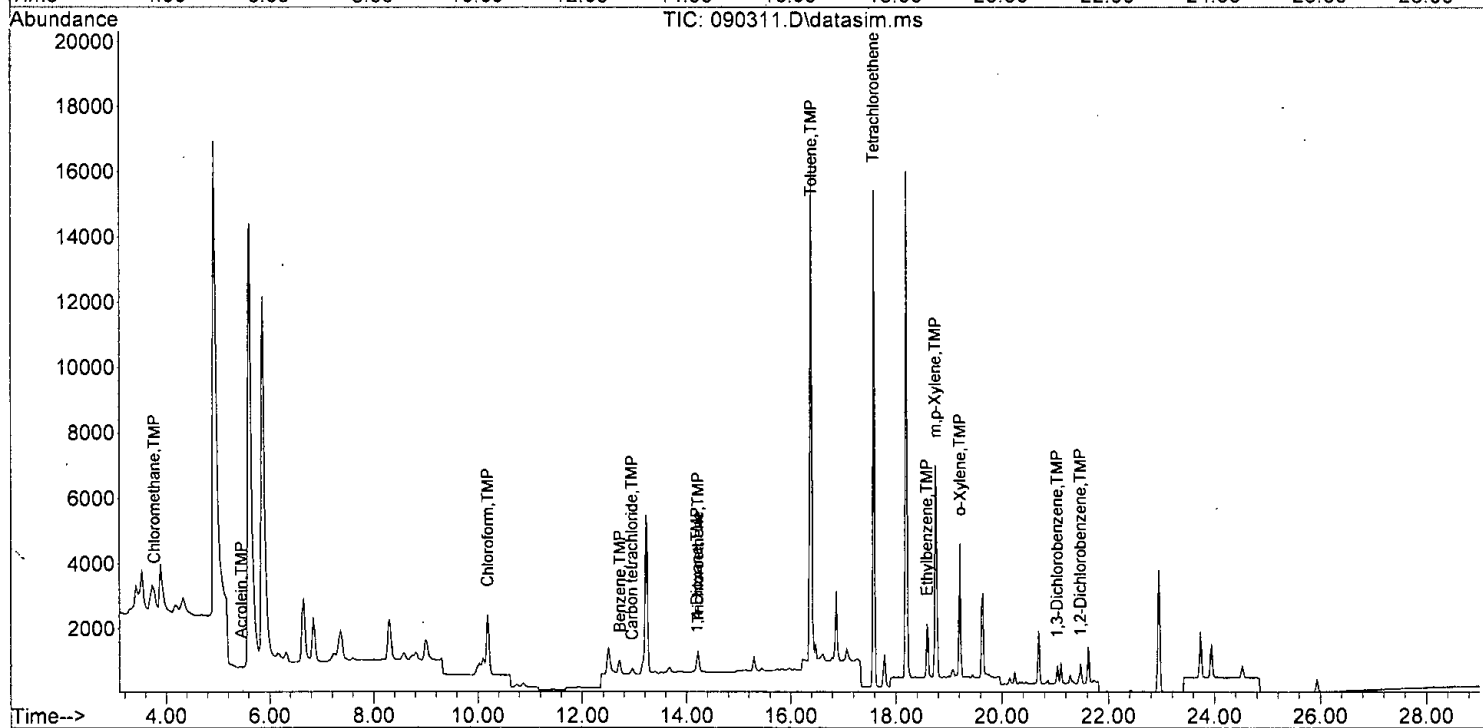
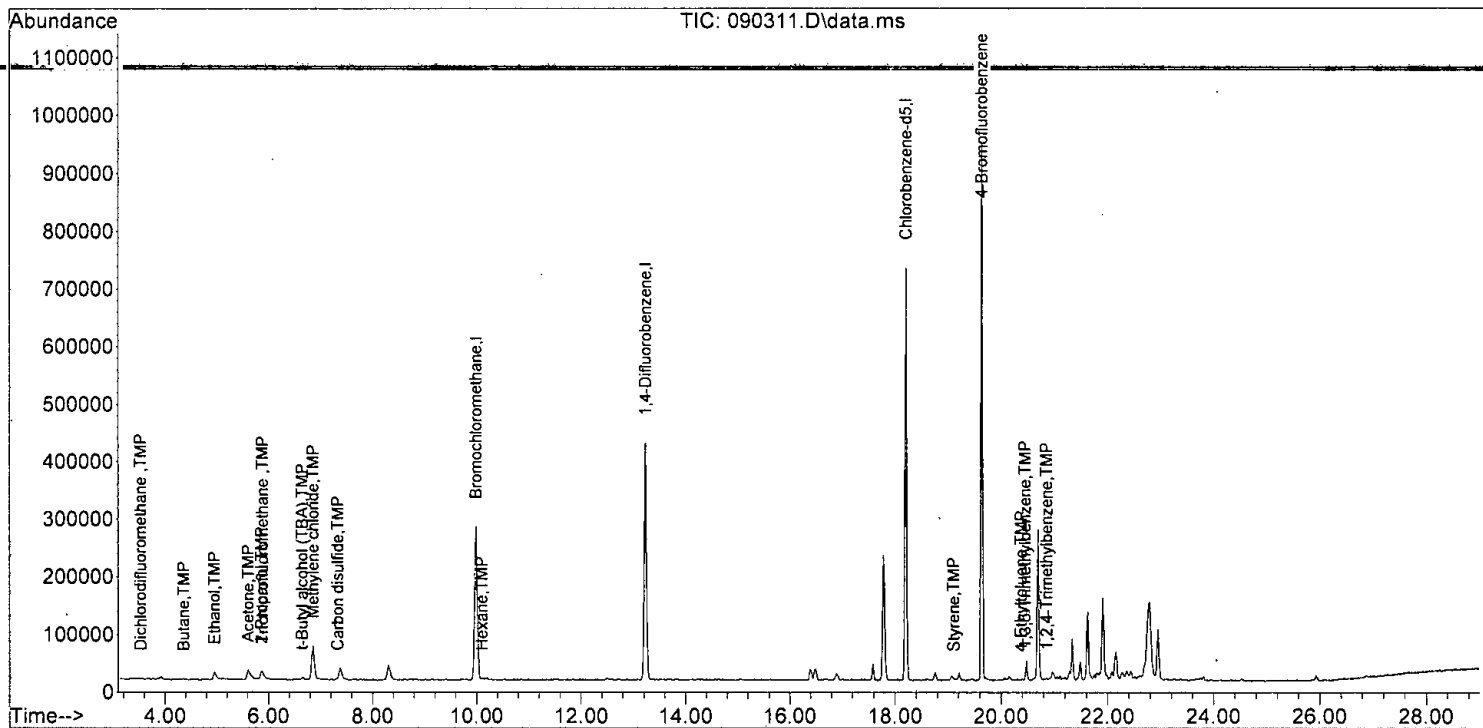
Quant Time: Sep 07 10:40:57 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.		
46) Trichloroethene	14.22	95	475	0.017	ppbv	84
47) cis-1,3-Dichloropropene	0.00		0	N.D.		
48) 4-Methyl-2-pentanone	0.00		0	N.D.		
49) trans-1,3-Dichloropropene	15.83	75	136	N.D.		
50] Toluene	16.40	92	14298	0.411	ppbv	86
51) 1,1,2-Trichloroethane	0.00		0	N.D.		
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	6830	0.386	ppbv #	80
54) Dibromochloromethane	0.00		0	N.D.		
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.		
57) Chlorobenzene	0.00		0	N.D.		
58] Ethylbenzene	18.59	91	2905	0.032	ppbv	96
59) 1,1,2,2-Tetrachloroethane	19.19	83	195	N.D.		
60) Nonane	19.36	43	621	N.D.		
61) Isopropylbenzene	19.75	105	266	N.D.		
62) 2-Chlorotoluene	0.00		0	N.D.		
63) Propylbenzene	20.25	91	709	N.D.		
64) 4-Ethyltoluene	20.38	105	851	0.010	ppbv #	79
65] m,p-Xylene	18.74	106	4831	0.165	ppbv #	77
66] o-Xylene	19.21	106	2019	0.070	ppbv	88
67) Styrene	19.11	104	795	0.019	ppbv	96
68) Bromoform	0.00		0	N.D.		
70) Benzyl chloride	21.01	91	100	N.D.		
71) 1,3,5-Trimethylbenzene	20.45	105	1067	0.016	ppbv	83
72) 1,2,4-Trimethylbenzene	20.86	105	1902	0.028	ppbv	75
73] 1,3-Dichlorobenzene	21.04	146	553	0.012	ppbv	91
74) 1,4-Dichlorobenzene	21.11	146	551	N.D.		
75] 1,2-Dichlorobenzene	21.47	146	568	0.013	ppbv	93
76) 1,2,4-Trichlorobenzene	23.75	180	1735	Below Cal		90
77) Naphthalene	23.95	128	2326	N.D.		
78) Hexachlorobutadiene	24.52	225	825	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

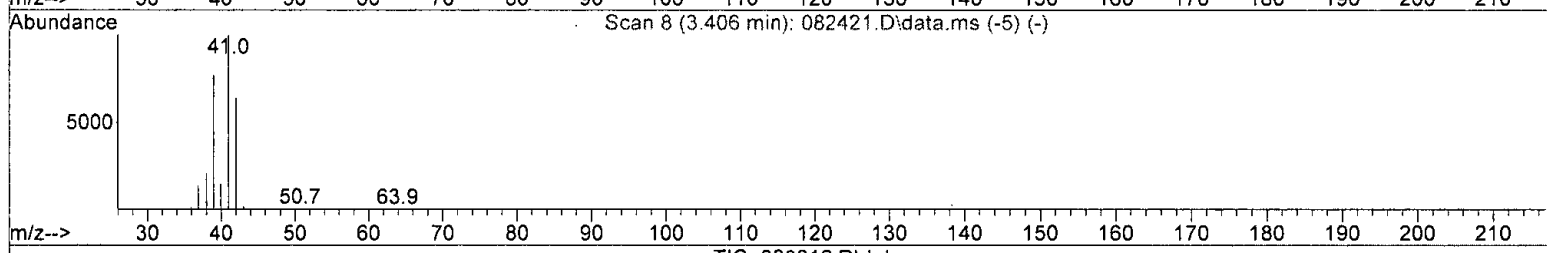
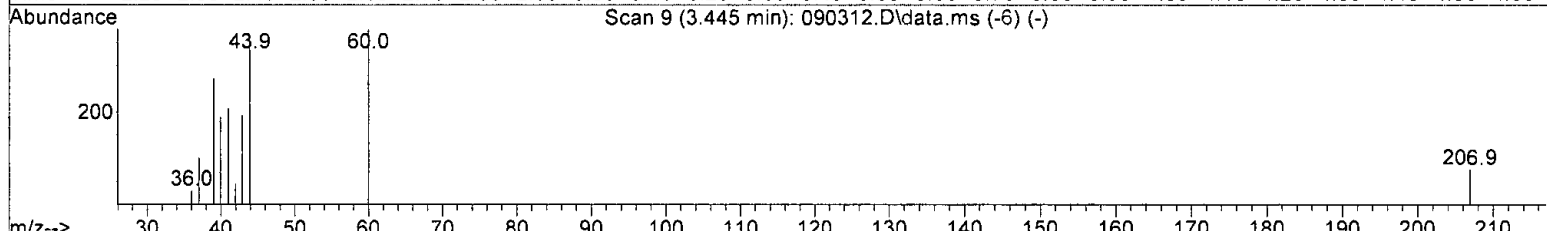
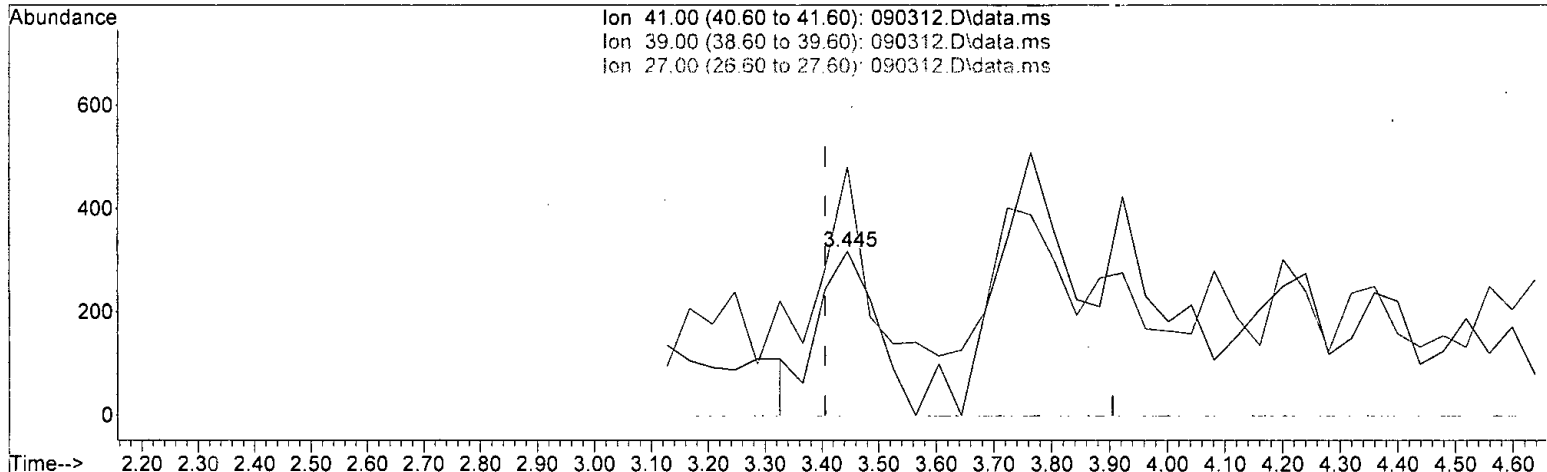
Quant Time: Sep 07 10:40:57 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090312.D  
 Acq On : 3 Sep 2021 2:58 pm  
 Operator : bat  
 Sample : 109030-01 dup 1/5.8  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:03:32 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090312.D\data.ms

(2) Propene (TMP)

3.445min (+ 0.039) 0.135 ppbv

response 2237

Ion	Exp%	Act%
41.00	100.00	100.00
39.00	75.60	106.94#
27.00	0.00	0.00
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090312.D  
 Acq On : 3 Sep 2021 2:58 pm  
 Operator : bat  
 Sample : 109030-01 dup 1/5.8  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

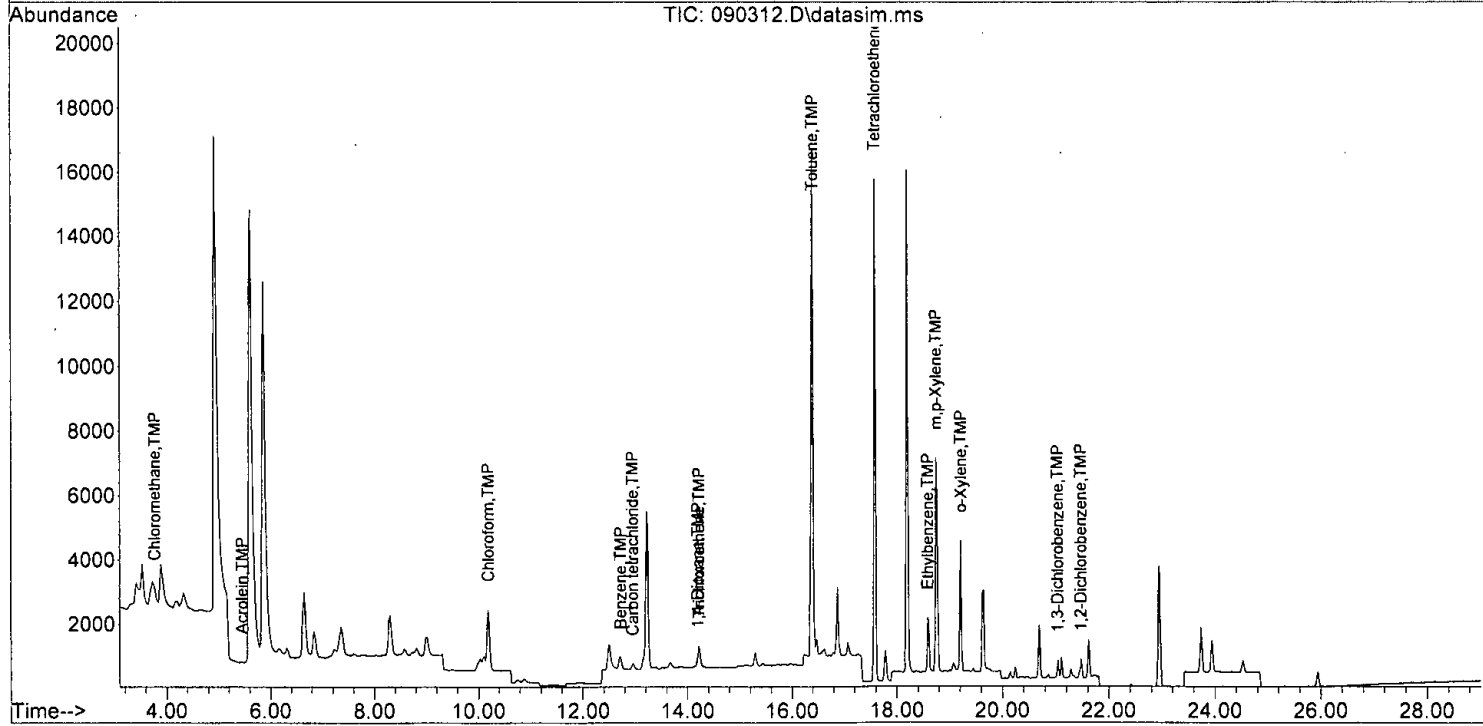
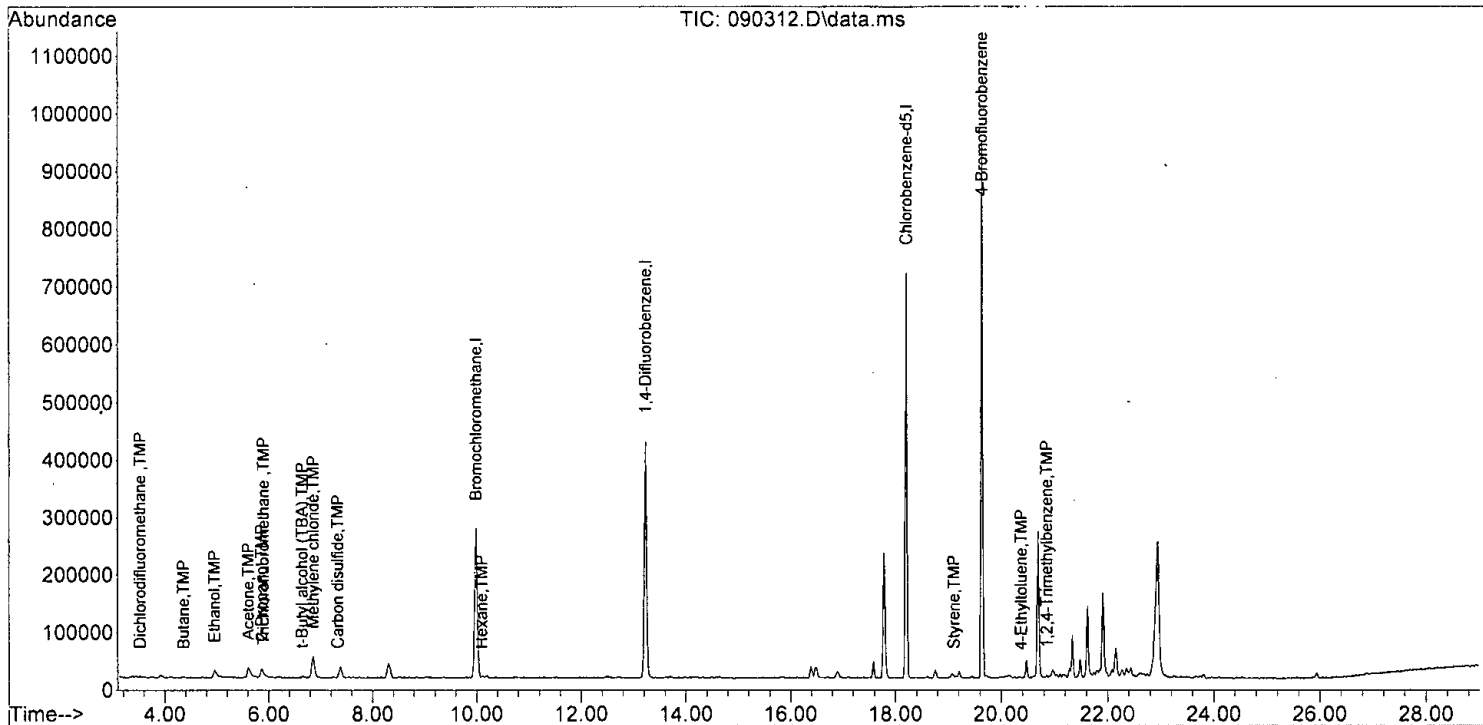
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 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

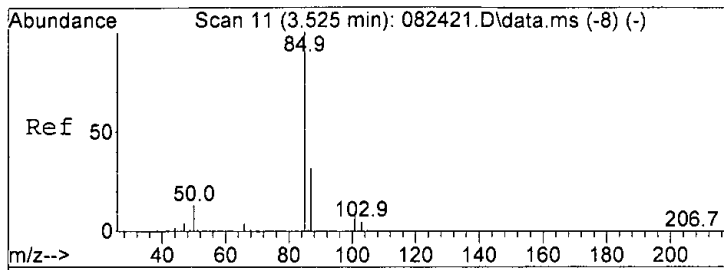
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
-----							
Internal Standards							
1) Bromochloromethane	9.99	128	97025	10.000	ppbv	#	0.00
39) 1,4-Difluorobenzene	13.23	114	458135	10.000	ppbv		0.00
56) Chlorobenzene-d5	18.21	117	402258	10.000	ppbv		0.00
System Monitoring Compounds							
69) 4-Bromofluorobenzene	19.64	95	355845	9.765	ppbv		0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=		97.60%
Target Compounds							
							Qvalue
3) Dichlorodifluoromethane	3.52	85	3810	0.089	ppbv		94
4) Chloromethane	3.77	50	448	0.022	ppbv		86
8) Butane	4.36	43	3431	0.109	ppbv	#	80
12) Ethanol	4.96	45	36828	6.785	ppbv		100
13] Acrolein	5.45	56	111	0.016	ppbv	#	9
15) Trichlorofluoromethane	5.90	101	1404	0.029	ppbv		75
16) Acetone	5.60	58	13765	1.612	ppbv		100
17) 2-Propanol	5.86	45	48711	1.412	ppbv		96
20) Methylene chloride	6.86	84	25590	1.507	ppbv	#	80
21) t-Butyl alcohol (TBA)	6.65	59	4298	0.154	ppbv	#	28
24) Carbon disulfide	7.33	76	2687	0.048	ppbv		71
29) Hexane	10.10	57	2315	0.081	ppbv		68
30] Chloroform	10.19	83	4091	0.097	ppbv		95
36] Carbon tetrachloride	12.95	117	318	0.010	ppbv		92
37] Benzene	12.72	78	1142	0.019	ppbv		97
41] 1,4-Dioxane	14.19	88	396	0.032	ppbv		78
46] Trichloroethene	14.22	95	471	0.017	ppbv		85
50] Toluene	16.40	92	14278	0.416	ppbv		86
53] Tetrachloroethene	17.58	164	6904	0.396	ppbv	#	80
58] Ethylbenzene	18.59	91	2865	0.032	ppbv		95
64) 4-Ethyltoluene	20.38	105	1346	0.017	ppbv		96
65] m,p-Xylene	18.74	106	4838	0.169	ppbv	#	80
66] o-Xylene	19.21	106	2085	0.074	ppbv		90
67) Styrene	19.11	104	1105	0.027	ppbv		73
72) 1,2,4-Trimethylbenzene	20.86	105	1525	0.023	ppbv		93
73] 1,3-Dichlorobenzene	21.04	146	541	0.012	ppbv		89
75] 1,2-Dichlorobenzene	21.47	146	549	0.013	ppbv		91
76) 1,2,4-Trichlorobenzene	23.75	180	1290	Below Cal			85

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090312.D  
 Acq On : 3 Sep 2021 2:58 pm  
 Operator : bat  
 Sample : 109030-01 dup 1/5.8  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

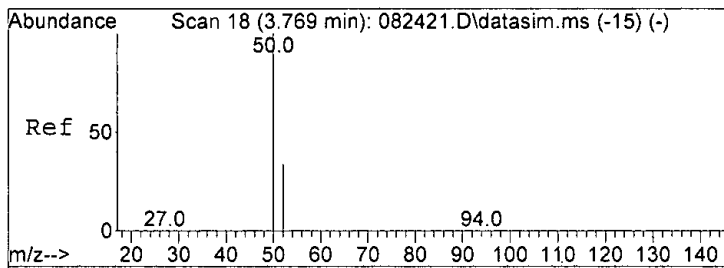
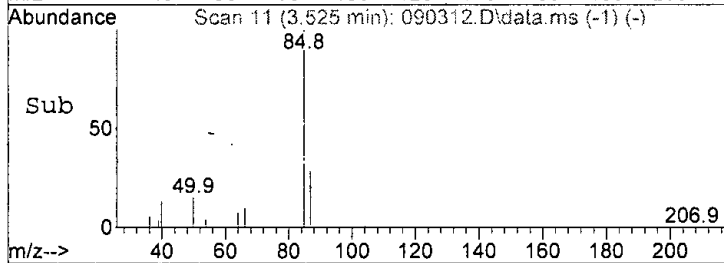
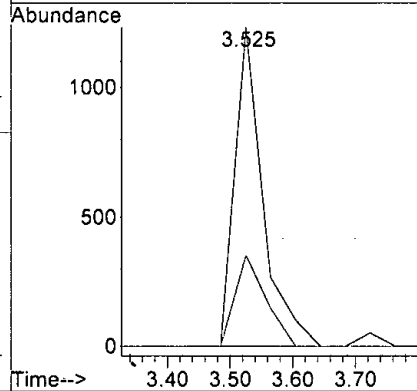
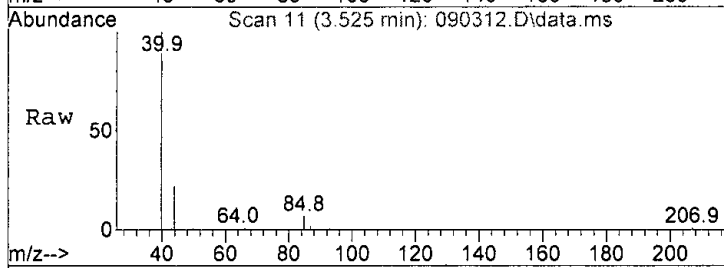
Quant Time: Sep 07 10:51:31 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





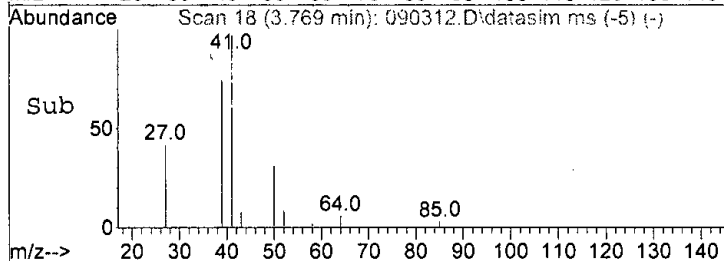
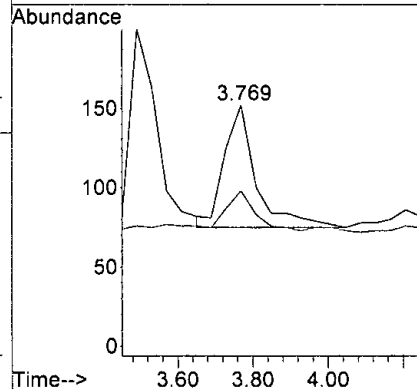
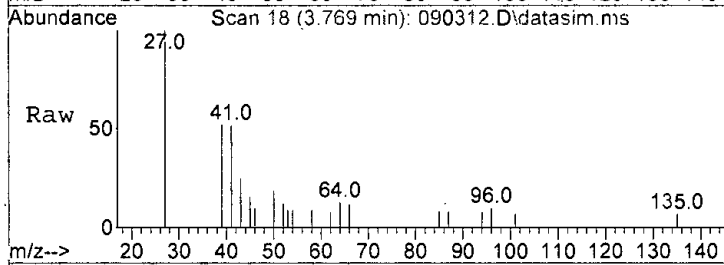
#3  
 Dichlorodifluoromethane  
 Concen: 0.089 ppbv  
 RT: 3.52 min Scan# 11  
 Delta R.T. -0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

Tgt Ion: 85 Resp: 3810  
 Ion Ratio Lower Upper  
 85 100  
 87 28.7 2.2 62.2

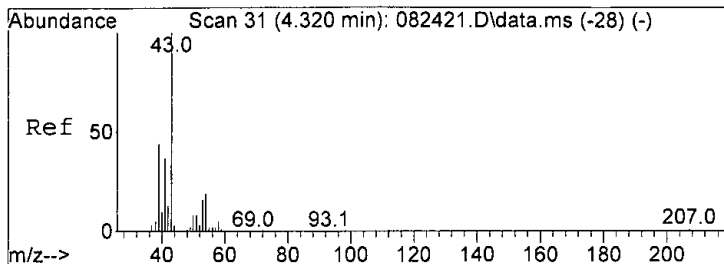


#4  
 Chloromethane  
 Concen: 0.022 ppbv  
 RT: 3.77 min Scan# 18  
 Delta R.T. 0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

Tgt Ion: 50 Resp: 448  
 Ion Ratio Lower Upper  
 50 100  
 52 32.5 0.0 55.3

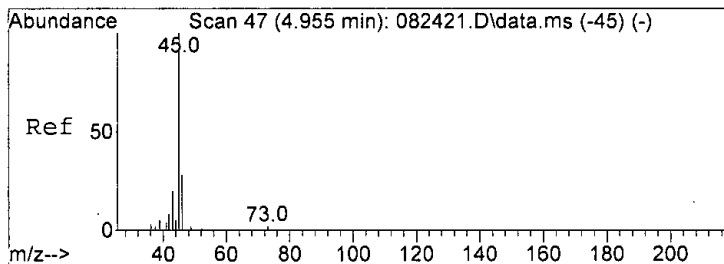
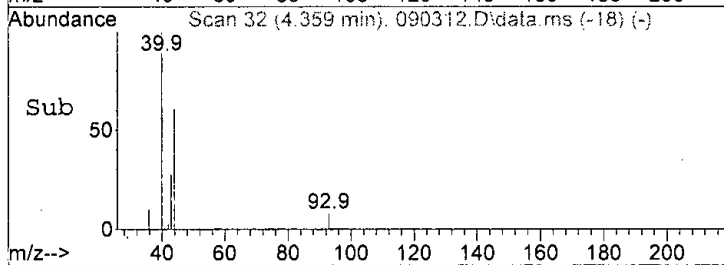
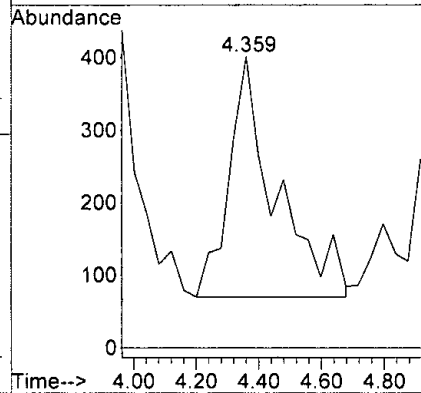
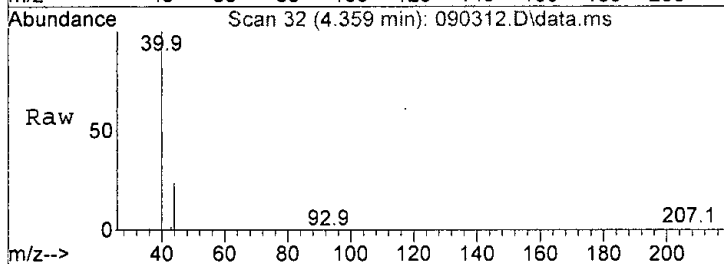






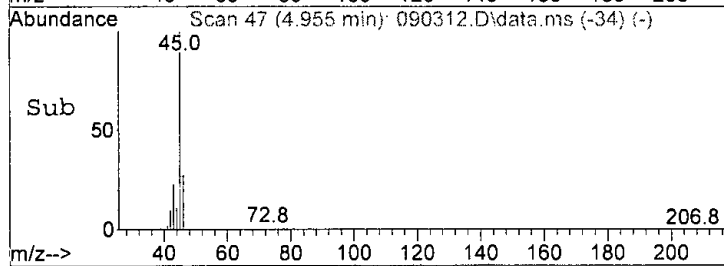
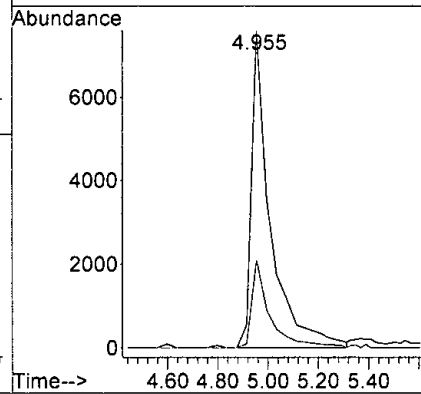
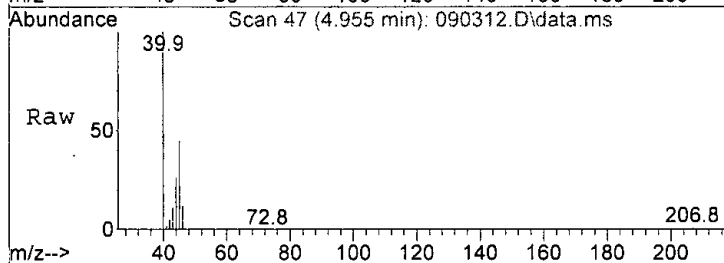
#8  
 Butane  
 Concen: 0.109 ppbv  
 RT: 4.36 min Scan# 32  
 Delta R.T. 0.039 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

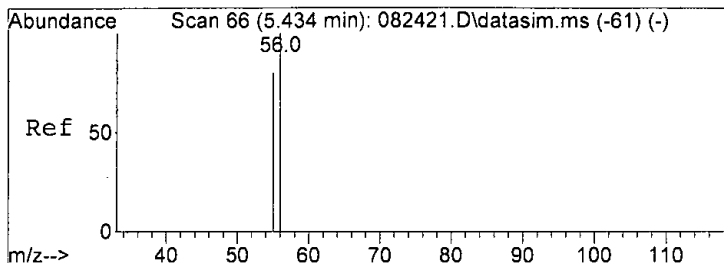
Tgt Ion: 43 Resp: 3431  
 Ion Ratio Lower Upper  
 43 100  
 58 0.0 0.0 36.9



#12  
 Ethanol  
 Concen: 6.785 ppbv  
 RT: 4.96 min Scan# 47  
 Delta R.T. 0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

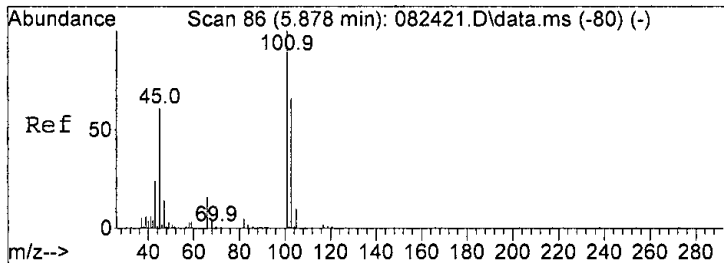
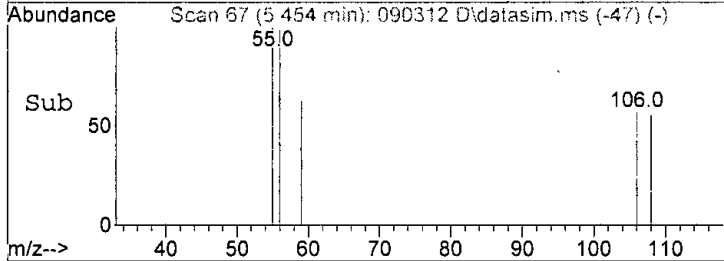
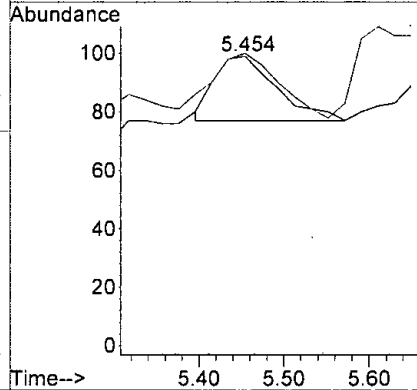
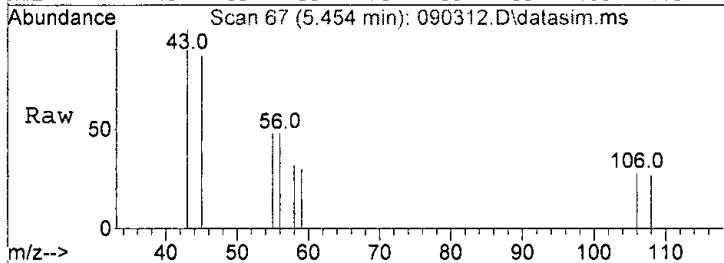
Tgt Ion: 45 Resp: 36828  
 Ion Ratio Lower Upper  
 45 100  
 46 25.7 0.0 55.5





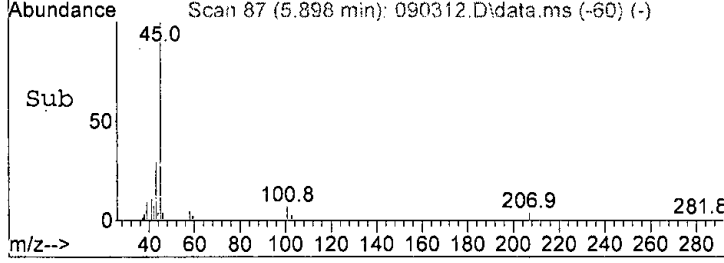
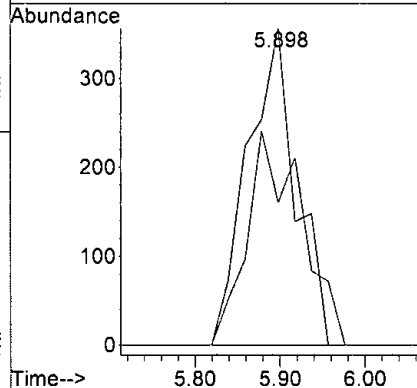
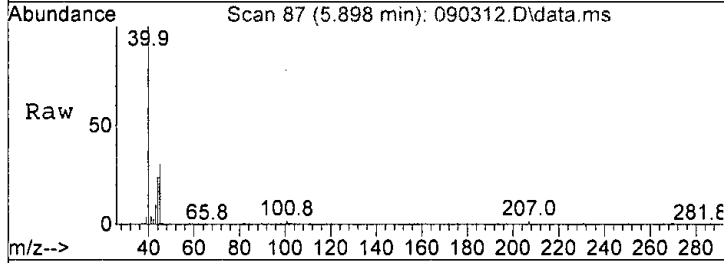
#13  
 Acrolein  
 Concen: 0.016 ppbv  
 RT: 5.45 min Scan# 67  
 Delta R.T. 0.020 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

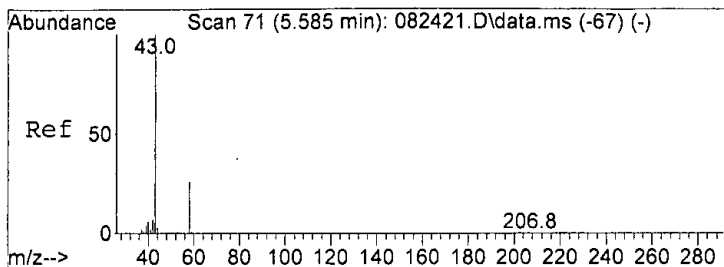
Tgt Ion: 56 Resp: 111  
 Ion Ratio Lower Upper  
 56 100  
 55 0.0 51.0 111.0#



#15  
 Trichlorofluoromethane  
 Concen: 0.029 ppbv  
 RT: 5.90 min Scan# 87  
 Delta R.T. 0.020 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

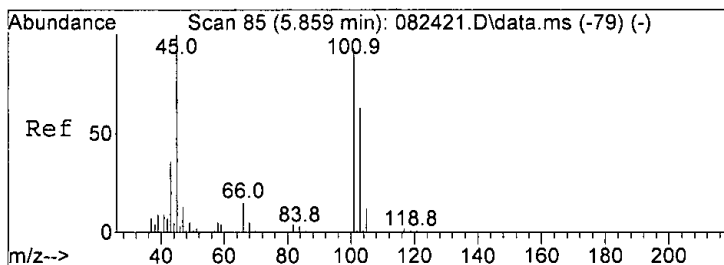
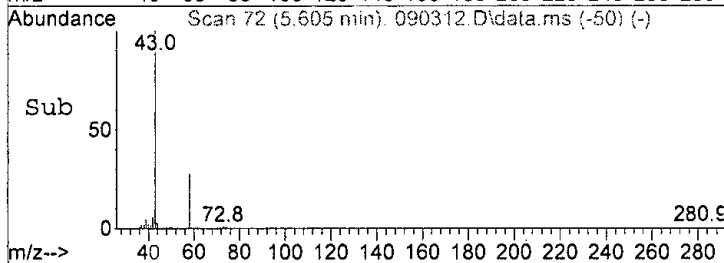
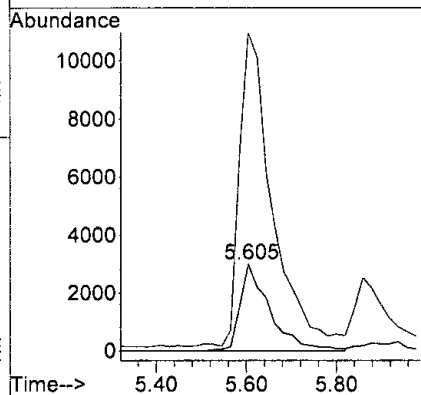
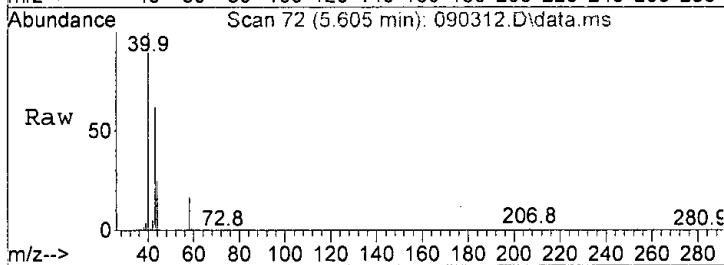
Tgt Ion: 101 Resp: 1404  
 Ion Ratio Lower Upper  
 101 100  
 103 44.8 34.5 94.5





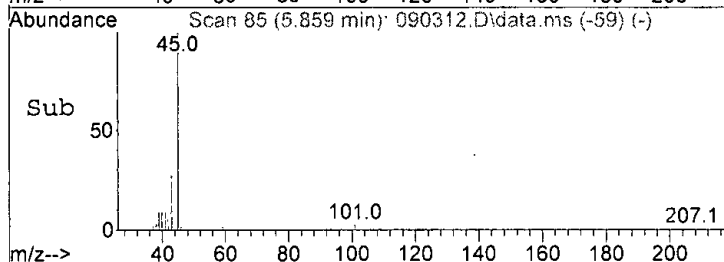
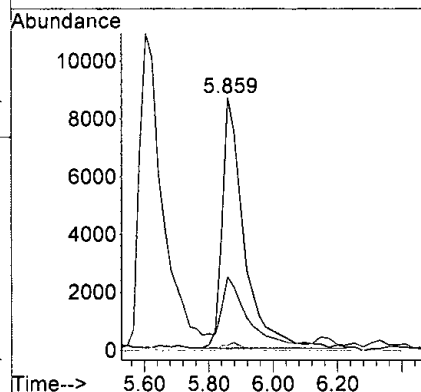
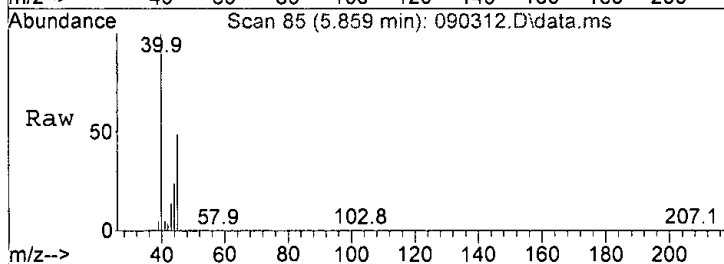
#16  
 Acetone  
 Concen: 1.612 ppbv  
 RT: 5.60 min Scan# 72  
 Delta R.T. 0.020 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

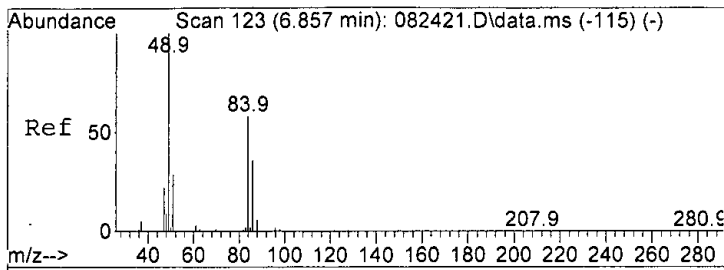
Tgt Ion: 58 Resp: 13765  
 Ion Ratio Lower Upper  
 58 100  
 43 359.6 329.3 389.3



#17  
 2-Propanol  
 Concen: 1.412 ppbv  
 RT: 5.86 min Scan# 85  
 Delta R.T. -0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

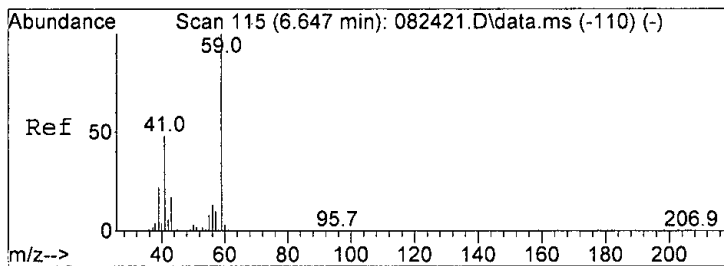
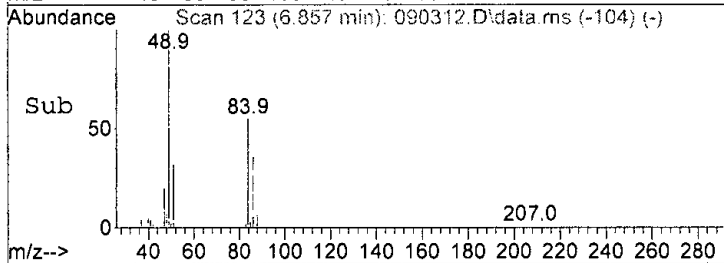
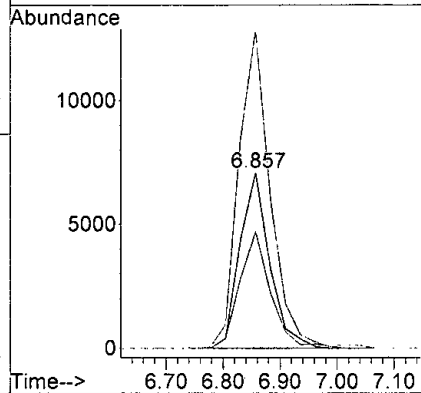
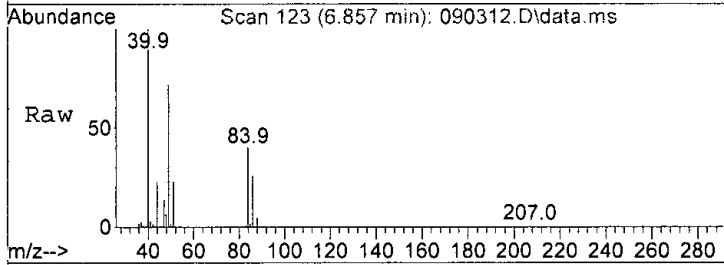
Tgt Ion: 45 Resp: 48711  
 Ion Ratio Lower Upper  
 45 100  
 43 27.0 0.0 30.0  
 59 2.2 0.0 33.6





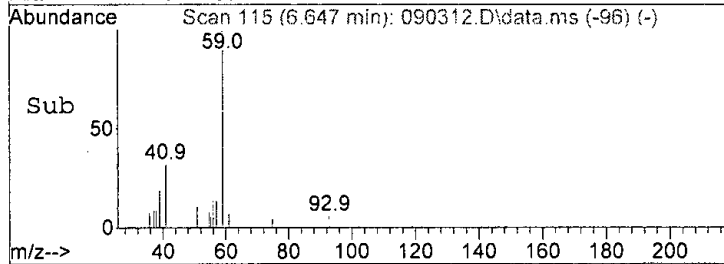
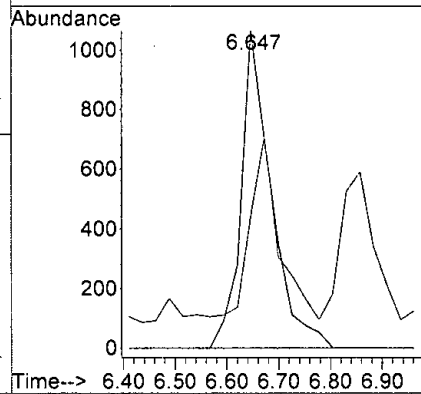
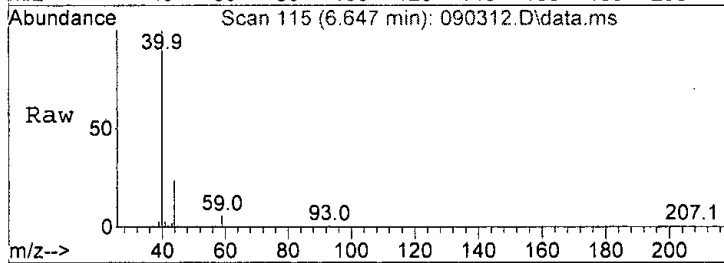
#20  
 Methylene chloride  
 Concen: 1.507 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. -0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

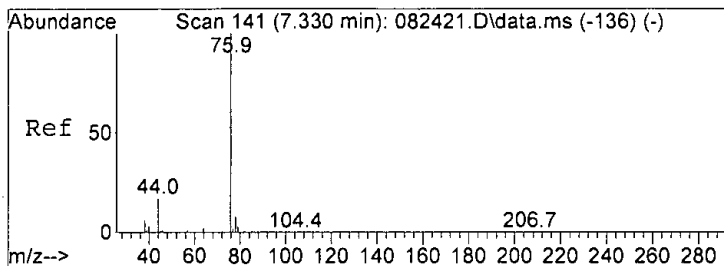
Tgt Ion: 84 Resp: 25590  
 Ion Ratio Lower Upper  
 84 100  
 86 66.2 33.9 93.9  
 49 181.8 116.6 176.6#



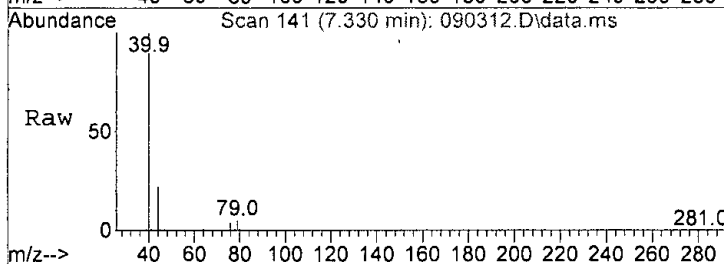
#21  
 t-Butyl alcohol (TBA)  
 Concen: 0.154 ppbv  
 RT: 6.65 min Scan# 115  
 Delta R.T. -0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

Tgt Ion: 59 Resp: 4298  
 Ion Ratio Lower Upper  
 59 100  
 41 53.4 16.2 24.4#

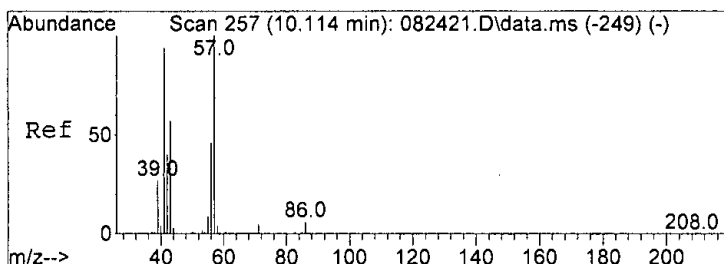
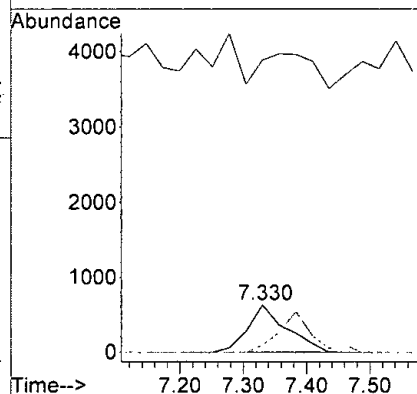
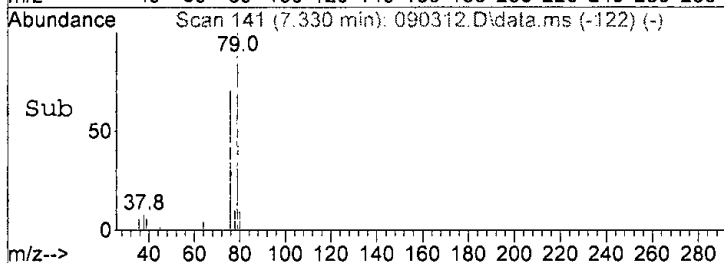




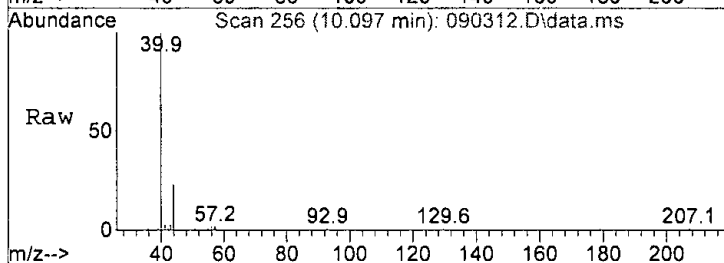
#24  
 Carbon disulfide  
 Concen: 0.048 ppbv  
 RT: 7.33 min Scan# 141  
 Delta R.T. 0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm



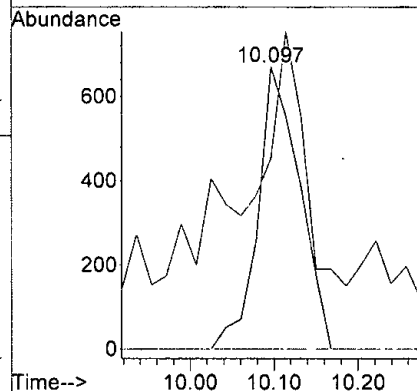
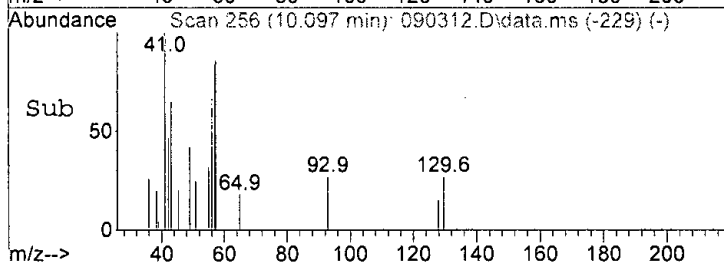
Tgt Ion	Resp	Lower	Upper
76	100		
44	30.0	0.0	44.3
78	14.7	0.0	39.2

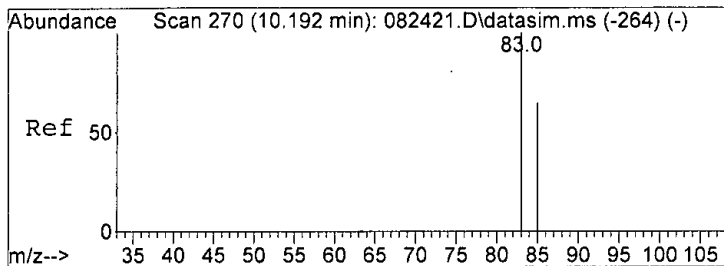


#29  
 Hexane  
 Concen: 0.081 ppbv  
 RT: 10.10 min Scan# 256  
 Delta R.T. -0.017 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm



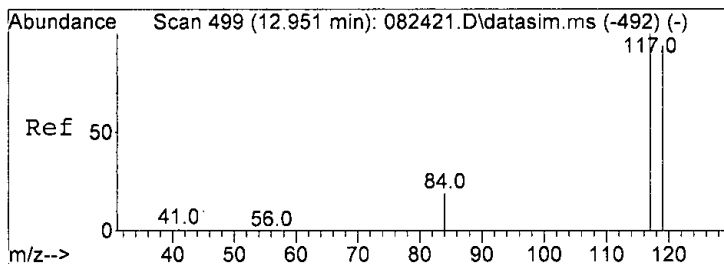
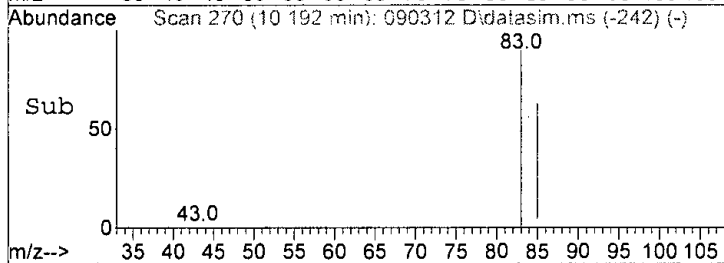
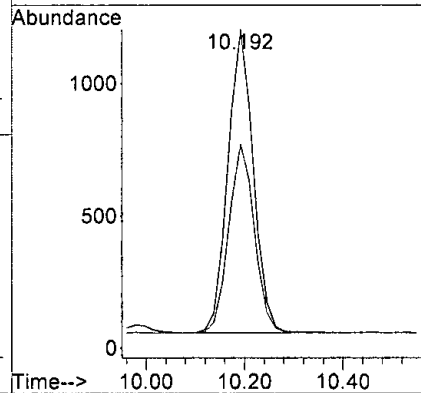
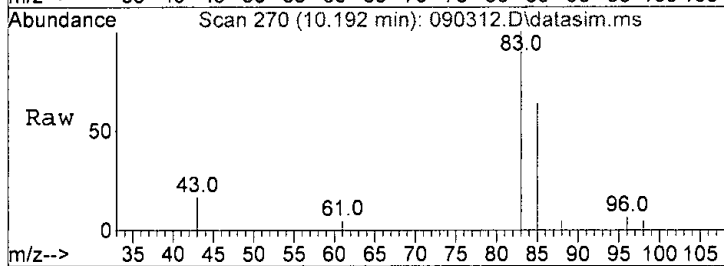
Tgt Ion	Resp	Lower	Upper
57	100		
43	45.4	43.6	103.6
86	0.0	0.0	35.9





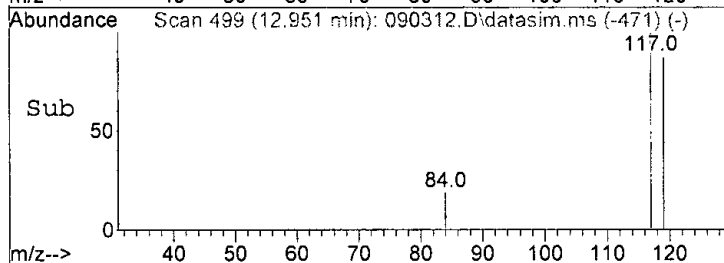
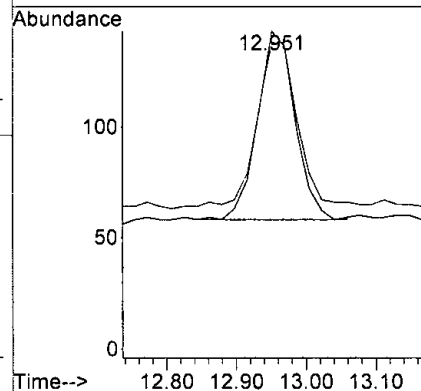
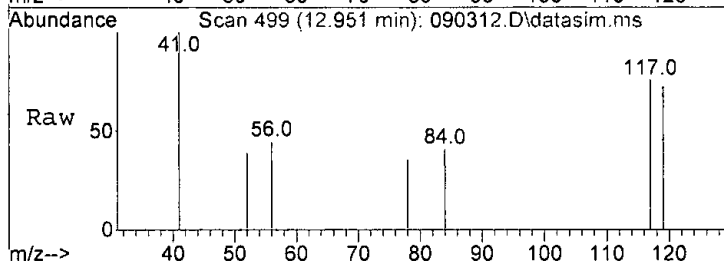
#30  
 Chloroform  
 Concen: 0.097 ppbv  
 RT: 10.19 min Scan# 270  
 Delta R.T. -0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

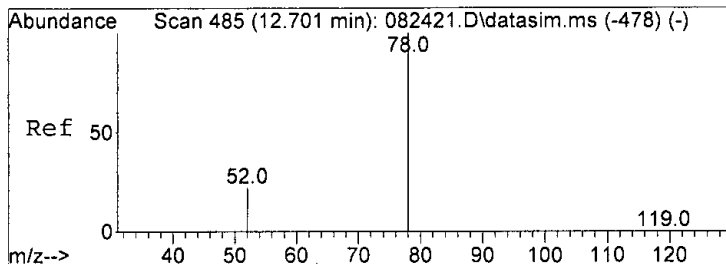
Tgt Ion: 83 Resp: 4091  
 Ion Ratio Lower Upper  
 83 100  
 85 62.4 36.3 96.3



#36  
 Carbon tetrachloride  
 Concen: 0.010 ppbv  
 RT: 12.95 min Scan# 499  
 Delta R.T. -0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

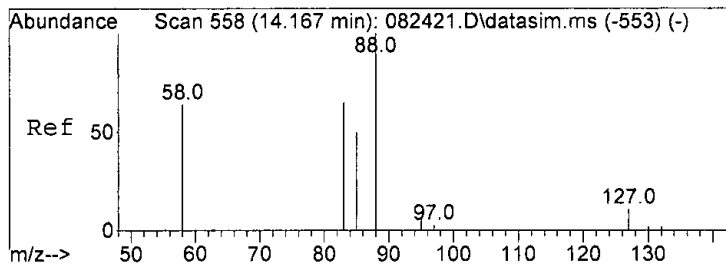
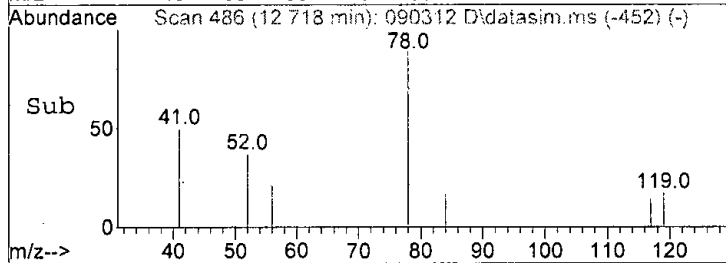
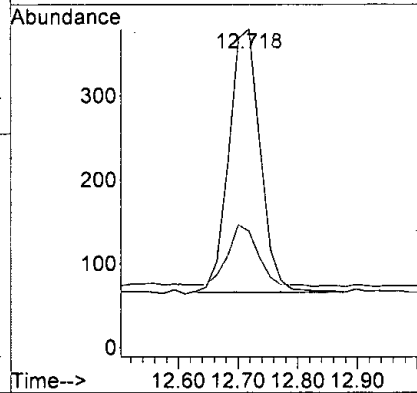
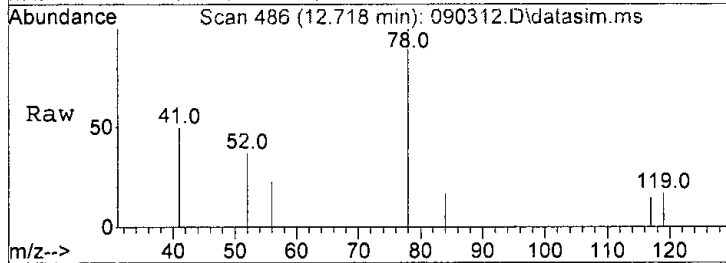
Tgt Ion: 117 Resp: 318  
 Ion Ratio Lower Upper  
 117 100  
 119 87.1 64.6 124.6





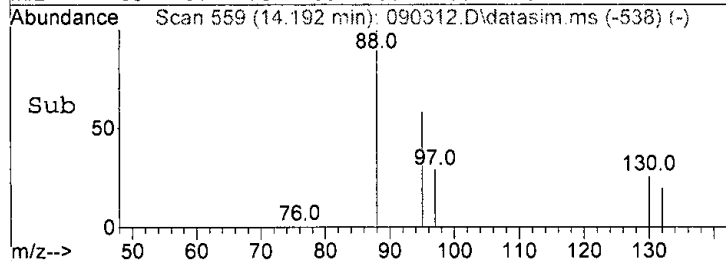
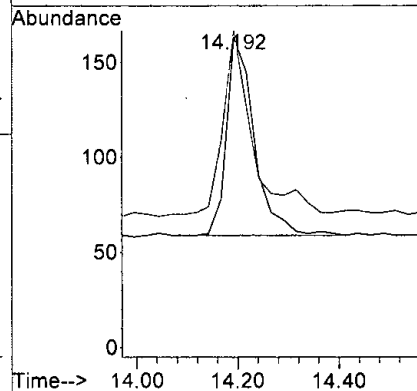
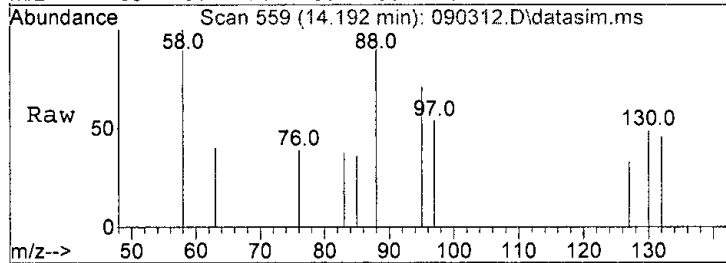
#37  
Benzene  
Concen: 0.019 ppbv  
RT: 12.72 min Scan# 486  
Delta R.T. 0.017 min  
Lab File: 090312.D  
Acq: 3 Sep 2021 2:58 pm

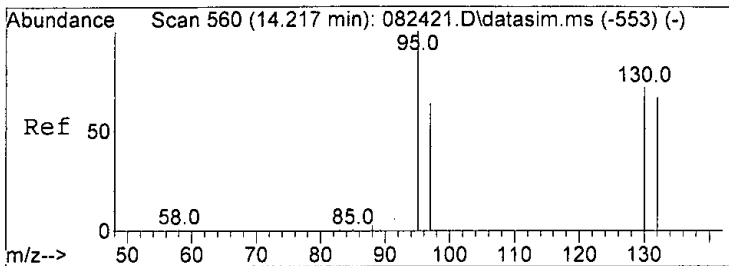
Tgt Ion: 78 Resp: 1142  
Ion Ratio Lower Upper  
78 100  
52 21.1 0.0 49.7



#41  
1,4-Dioxane  
Concen: 0.032 ppbv  
RT: 14.19 min Scan# 559  
Delta R.T. 0.025 min  
Lab File: 090312.D  
Acq: 3 Sep 2021 2:58 pm

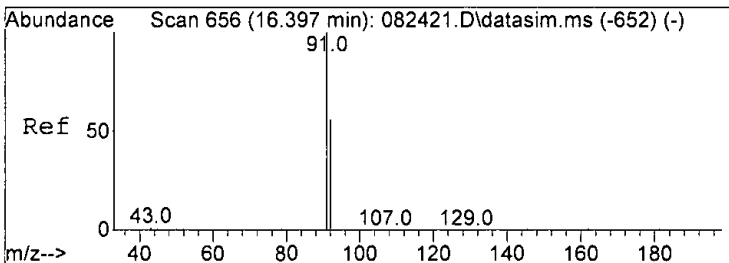
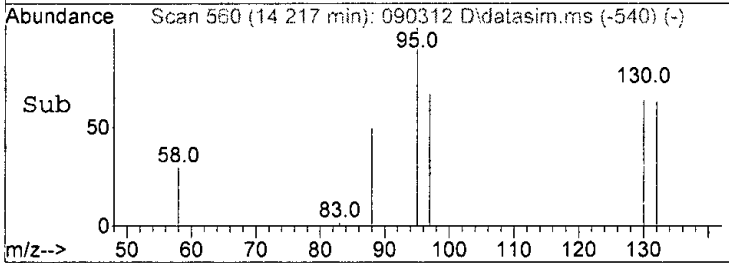
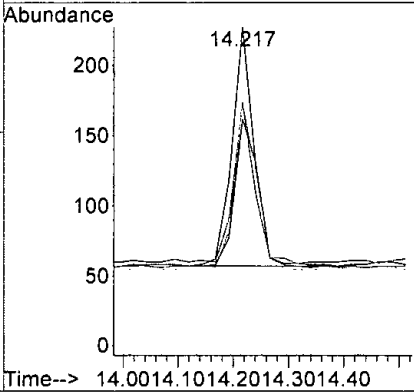
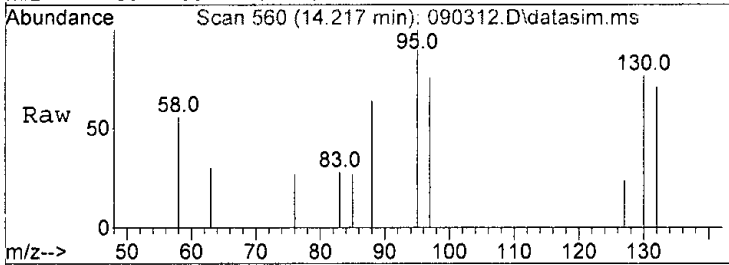
Tgt Ion: 88 Resp: 396  
Ion Ratio Lower Upper  
88 100  
58 92.3 43.4 103.4





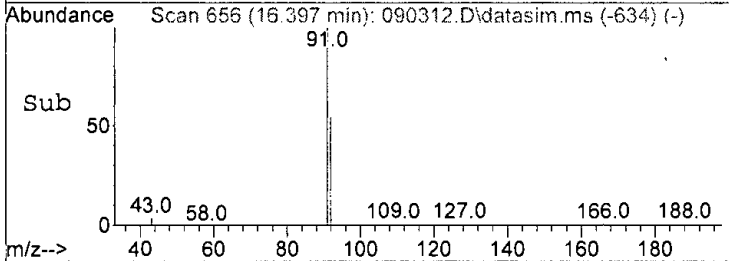
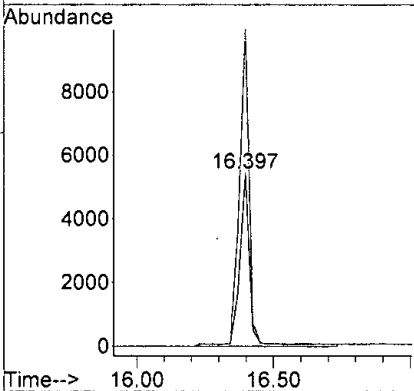
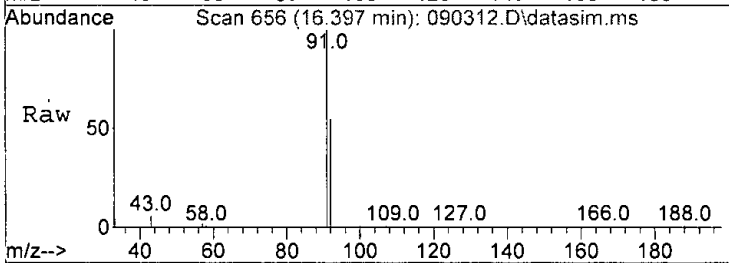
#46  
 Trichloroethene  
 Concen: 0.017 ppbv  
 RT: 14.22 min Scan# 560  
 Delta R.T. -0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

Tgt Ion	Resp	Lower	Upper
95	100		
97	66.5	37.1	97.1
130	70.0	56.1	116.1
132	62.4	54.3	114.3

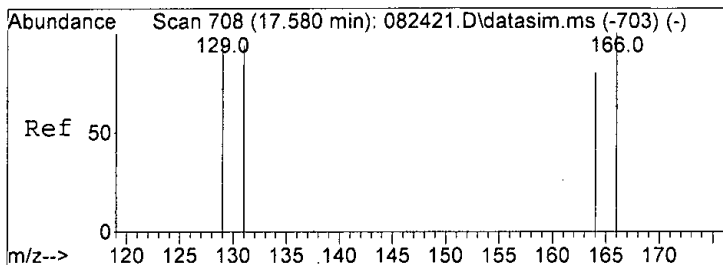


#50  
 Toluene  
 Concen: 0.416 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

Tgt Ion	Resp	Lower	Upper
92	100		
91	183.2	174.6	234.6

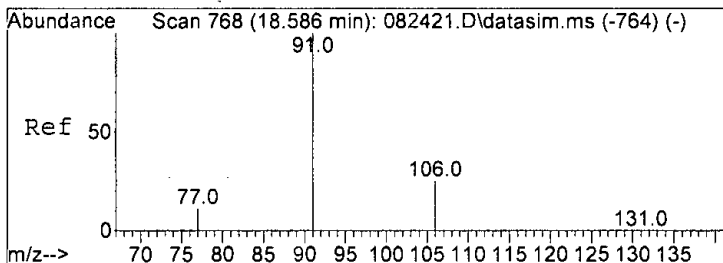
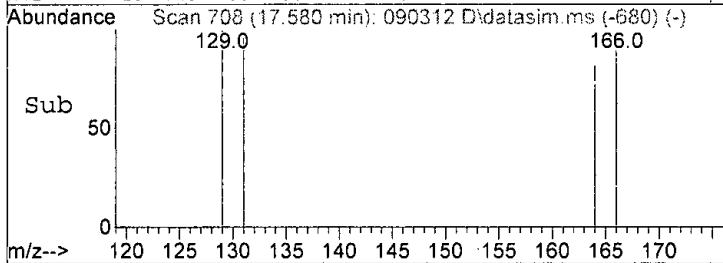
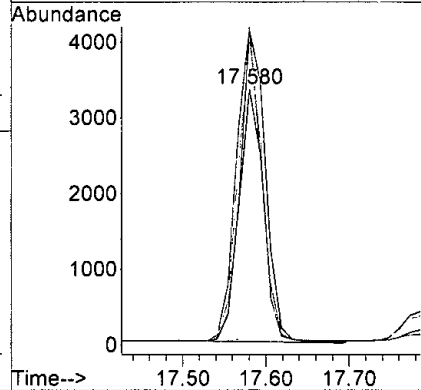
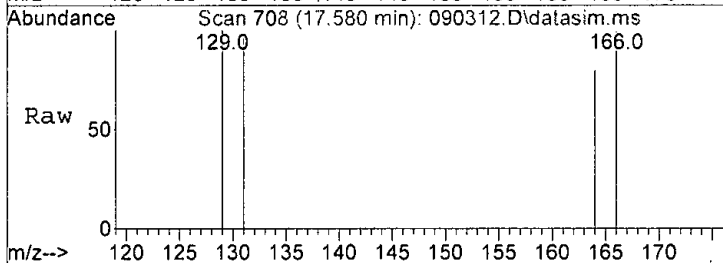






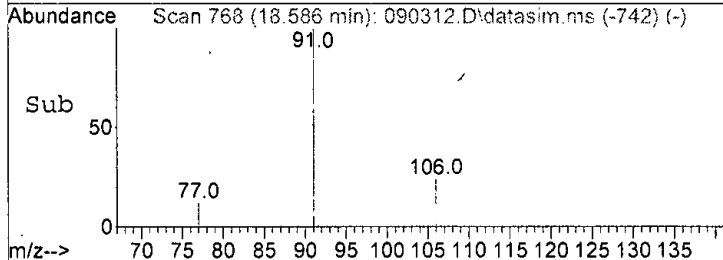
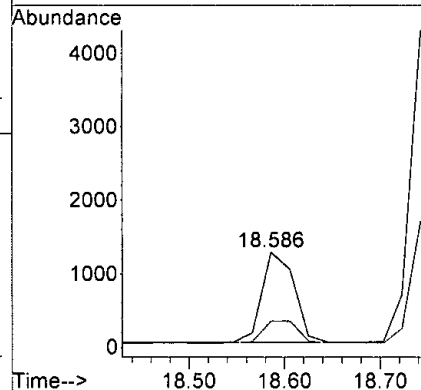
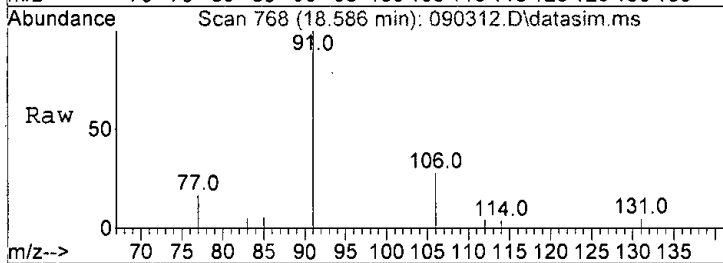
#53  
 Tetrachloroethene  
 Concen: 0.396 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

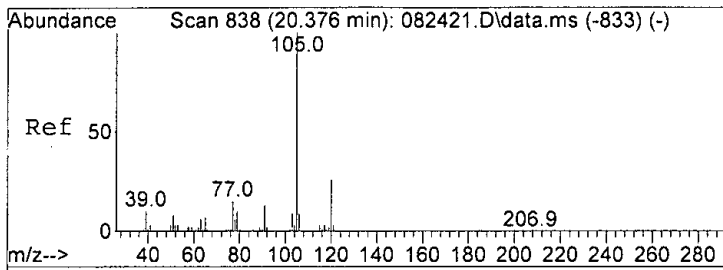
Tgt Ion	Ratio	Lower	Upper
164	100		
129	124.7	63.2	123.2#
131	119.5	70.7	130.7
166	123.3	107.5	167.5



#58  
 Ethylbenzene  
 Concen: 0.032 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

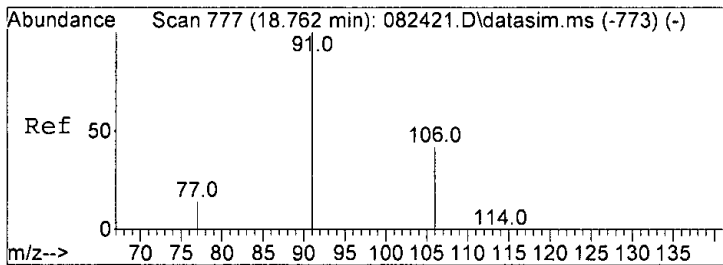
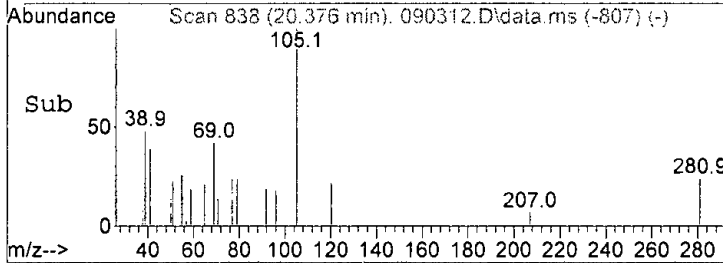
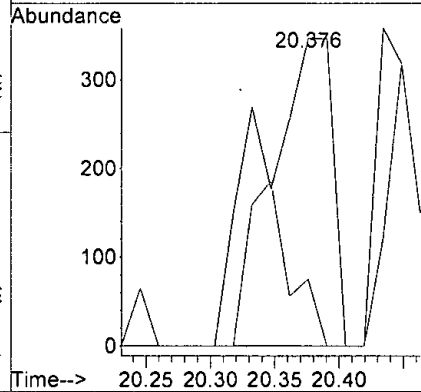
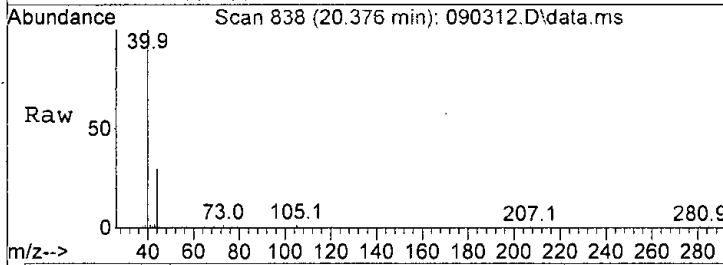
Tgt Ion	Ratio	Lower	Upper
91	100		
106	24.6	0.0	57.0





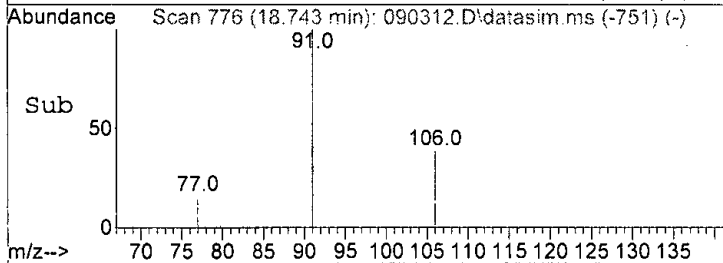
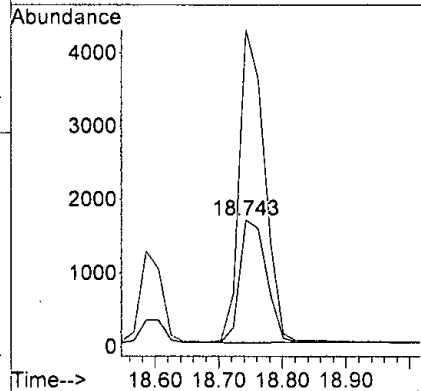
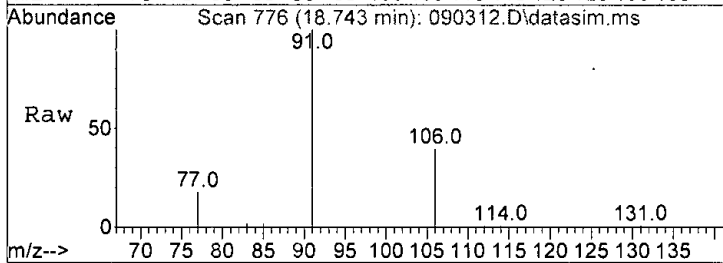
#64  
 4-Ethyltoluene  
 Concen: 0.017 ppbv  
 RT: 20.38 min Scan# 838  
 Delta R.T. -0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

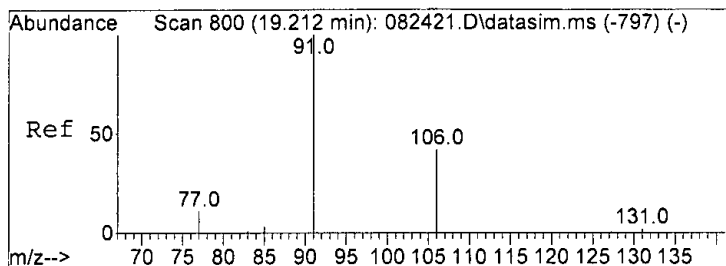
Tgt Ion: 105 Resp: 1346  
 Ion Ratio Lower Upper  
 105 100  
 120 30.8 23.0 34.4



#65  
 m,p-Xylene  
 Concen: 0.169 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.019 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

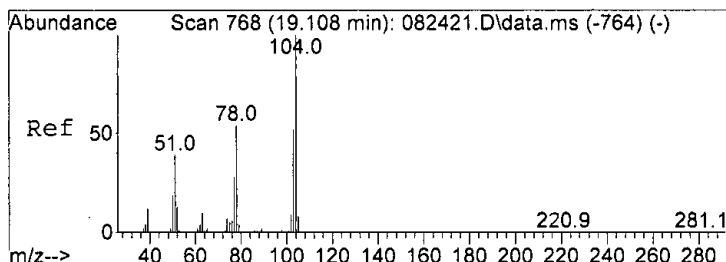
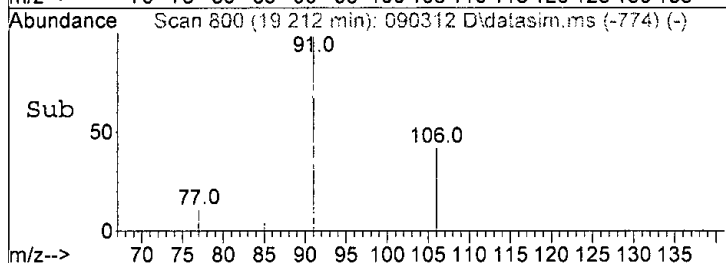
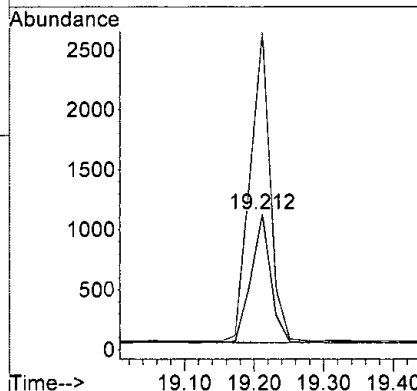
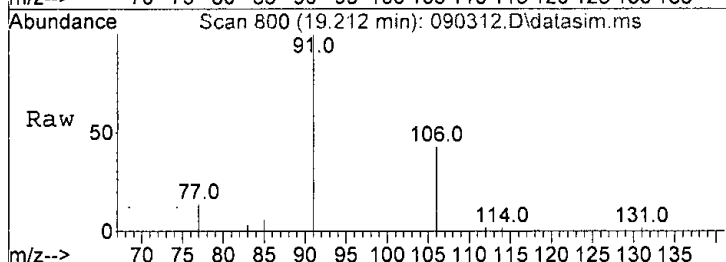
Tgt Ion: 106 Resp: 4838  
 Ion Ratio Lower Upper  
 106 100  
 91 255.9 193.0 253.0#





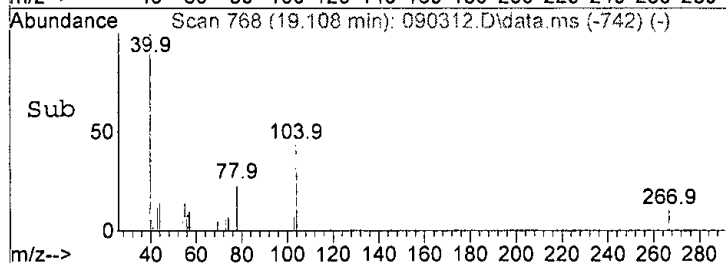
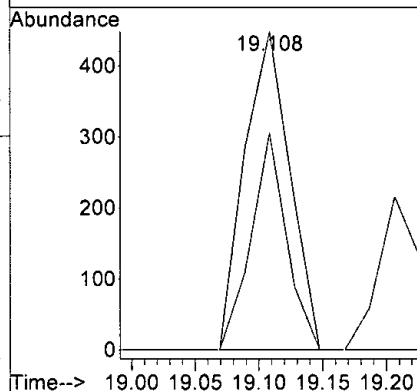
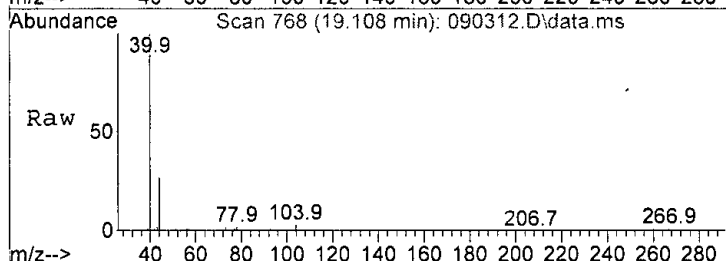
#66  
 o-Xylene  
 Concen: 0.074 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

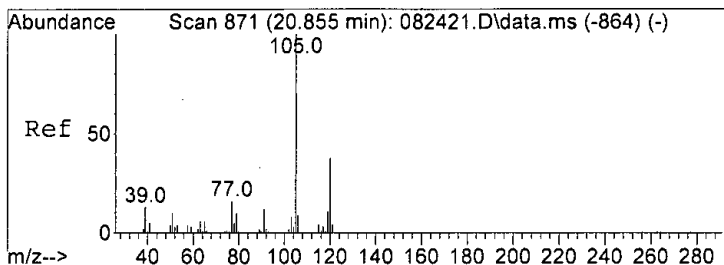
Tgt Ion: 106 Resp: 2085  
 Ion Ratio Lower Upper  
 106 100  
 91 240.9 194.4 254.4



#67  
 Styrene  
 Concen: 0.027 ppbv  
 RT: 19.11 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

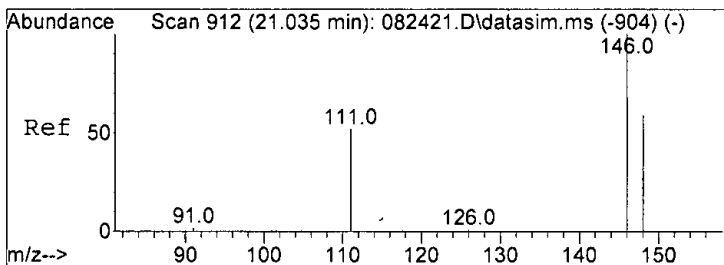
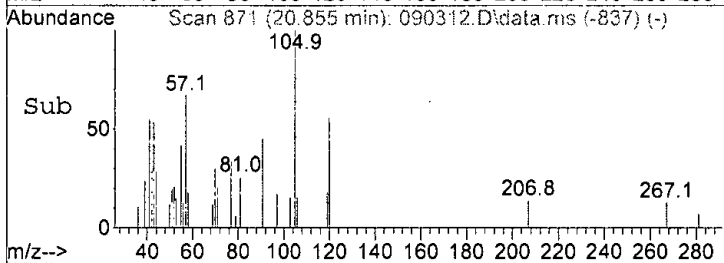
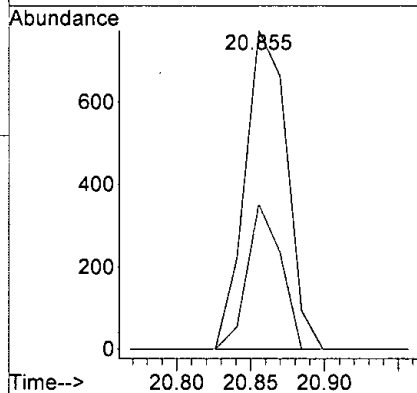
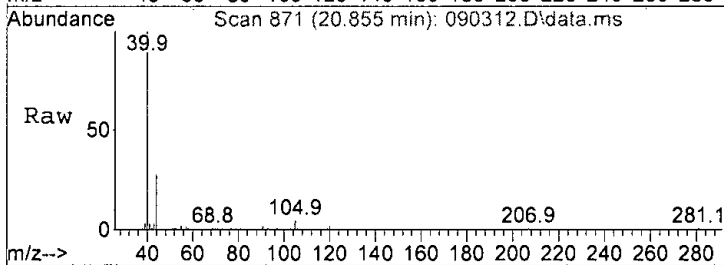
Tgt Ion: 104 Resp: 1105  
 Ion Ratio Lower Upper  
 104 100  
 78 68.3 19.6 79.6





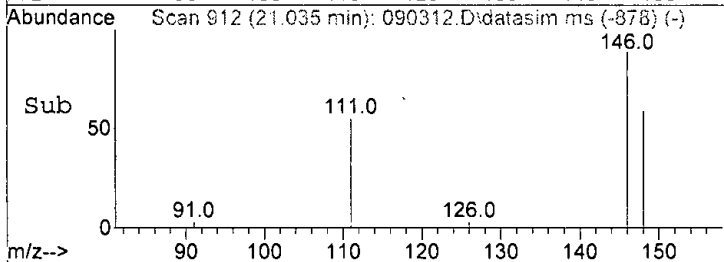
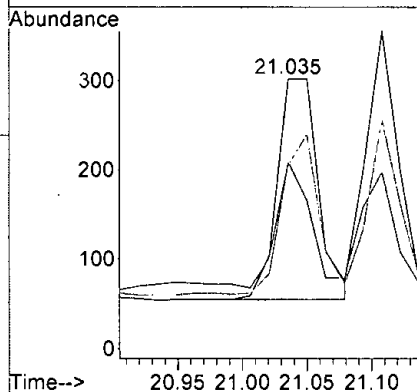
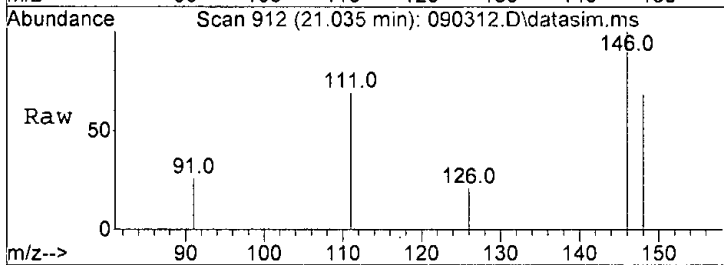
#72  
 1,2,4-Trimethylbenzene  
 Concen: 0.023 ppbv  
 RT: 20.86 min Scan# 871  
 Delta R.T. 0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

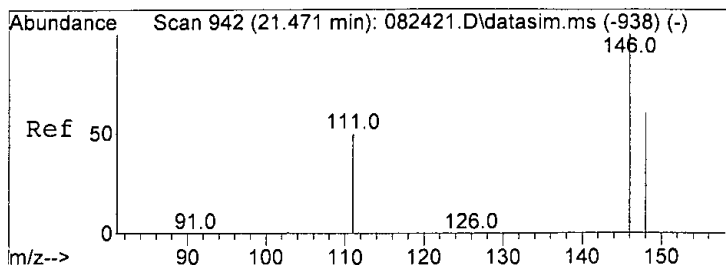
Tgt Ion: 105 Resp: 1525  
 Ion Ratio Lower Upper  
 105 100  
 120 45.6 11.0 71.0



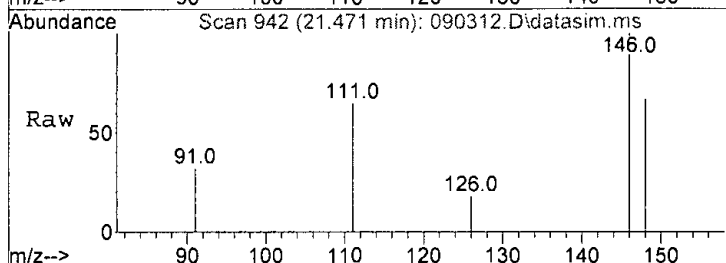
#73  
 1,3-Dichlorobenzene  
 Concen: 0.012 ppbv  
 RT: 21.04 min Scan# 912  
 Delta R.T. 0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm

Tgt Ion: 146 Resp: 541  
 Ion Ratio Lower Upper  
 146 100  
 111 55.1 13.6 73.6  
 148 58.3 32.6 92.6

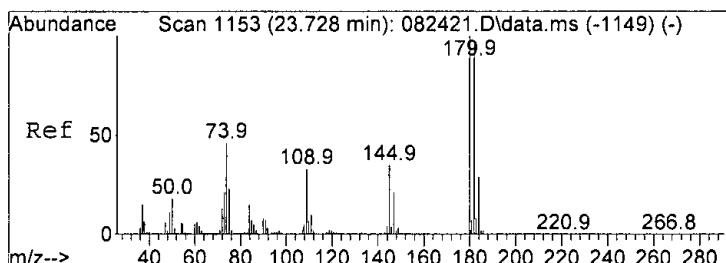
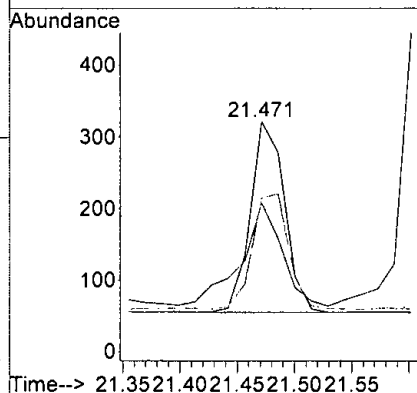
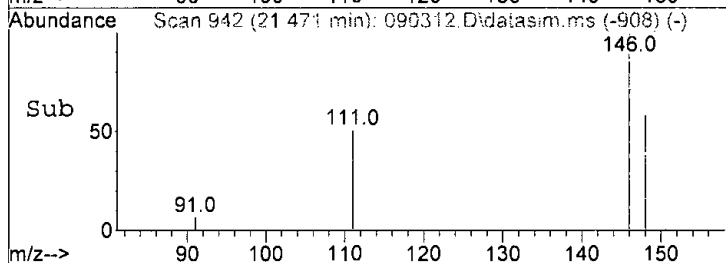




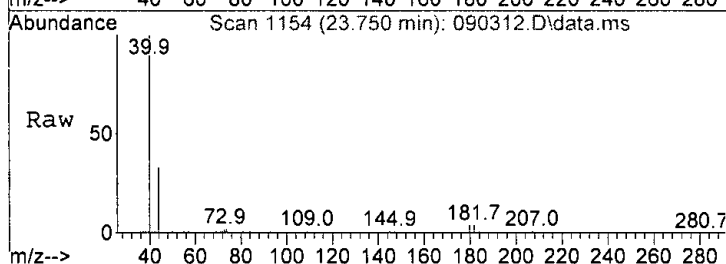
#75  
 1,2-Dichlorobenzene  
 Concen: 0.013 ppbv  
 RT: 21.47 min Scan# 942  
 Delta R.T. 0.000 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm



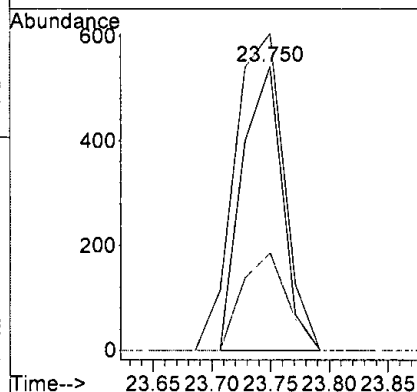
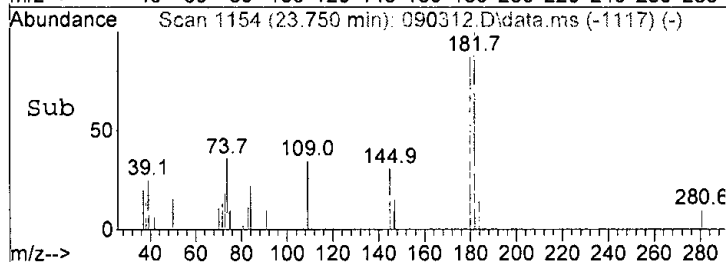
Tgt Ion:146 Resp: 549  
 Ion Ratio Lower Upper  
 146 100  
 111 51.9 12.9 72.9  
 148 58.3 33.2 93.2



#76  
 1,2,4-Trichlorobenzene  
 Concen: Below Cal  
 RT: 23.75 min Scan# 1154  
 Delta R.T. 0.022 min  
 Lab File: 090312.D  
 Acq: 3 Sep 2021 2:58 pm



Tgt Ion:180 Resp: 1290  
 Ion Ratio Lower Upper  
 180 100  
 182 111.6 64.5 124.5  
 145 34.3 0.8 60.8



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090312.D  
 Acq On : 3 Sep 2021 2:58 pm  
 Operator : bat  
 Sample : 109030-01 dup 1/5.8  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:51:31 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	97025	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	458135	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	402258	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	355845	9.765	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.60%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	3.52	85	3810	0.089	ppbv	94
4] Chloromethane	3.77	50	448	0.022	ppbv	86
5) F-114	0.00		0	N.D.		
6) Vinyl chloride	0.00		0	N.D.		
7) 1,3-Butadiene	4.25	54	110	N.D.		
8) Butane	4.36	43	3431	0.109	ppbv #	80
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	4.96	45	36828	6.785	ppbv	100
13] Acrolein	5.45	56	111	0.016	ppbv #	9
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	5.90	101	1404	0.029	ppbv	75
16) Acetone	5.60	58	13765	1.612	ppbv	100
17) 2-Propanol	5.86	45	48711	1.412	ppbv	96
18) 1,1-Dichloroethene	0.00		0	N.D.		
19) trans-1,2-Dichloroethene	0.00		0	N.D.		
20) Methylene chloride	6.86	84	25590	1.507	ppbv #	80
21) t-Butyl alcohol (TBA)	6.65	59	4298	0.154	ppbv #	28
22) 3-Chloropropene	6.99	41	128	N.D.		
23) CFC-113	7.23	101	323	N.D.		
24) Carbon disulfide	7.33	76	2687	0.048	ppbv	71
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	0.00		0	N.D.		
28) cis-1,2-Dichloroethene	0.00		0	N.D.		
29) Hexane	10.10	57	2315	0.081	ppbv	68
30] Chloroform	10.19	83	4091	0.097	ppbv	95
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	10.86	42	139	N.D.		
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	11.17	62	210	N.D.		
35) 1,1,1-Trichloroethane	11.68	97	150	N.D.		
36] Carbon tetrachloride	12.95	117	318	0.010	ppbv	92
37] Benzene	12.72	78	1142	0.019	ppbv	97
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	13.58	63	261	N.D.		
41] 1,4-Dioxane	14.19	88	396	0.032	ppbv	78
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090312.D  
 Acq On : 3 Sep 2021 2:58 pm  
 Operator : bat  
 Sample : 109030-01 dup 1/5.8  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

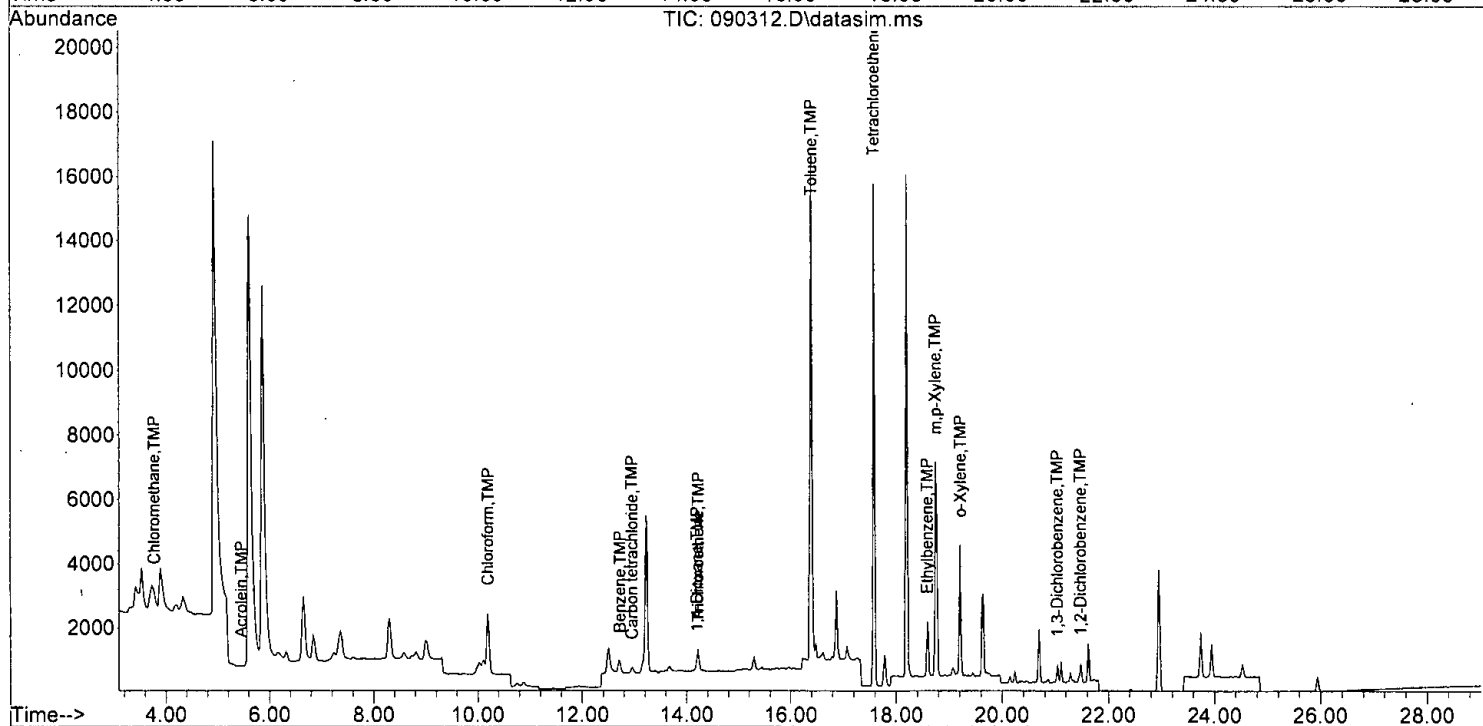
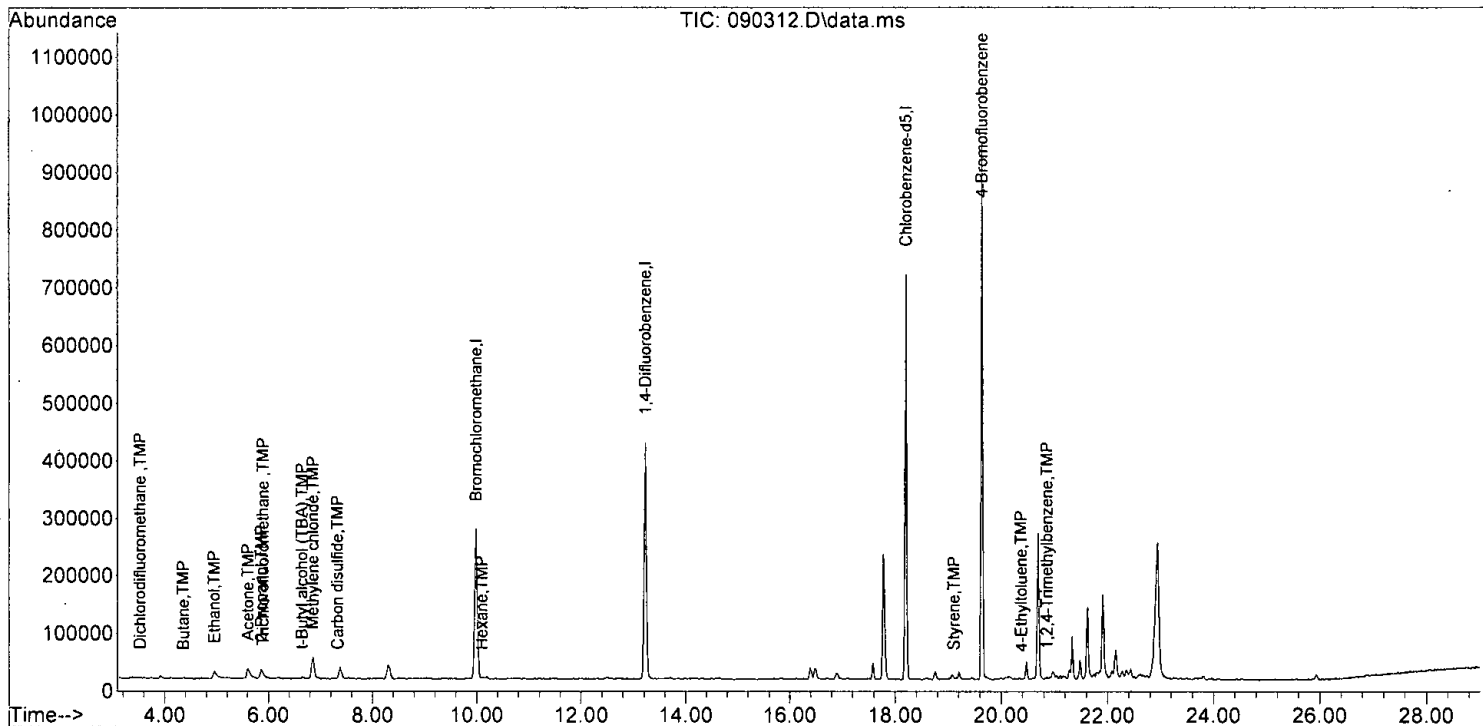
Quant Time: Sep 07 10:51:31 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.43	41	210	N.D.		
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	14.14	83	112	N.D.		
46] Trichloroethene	14.22	95	471	0.017	ppbv	85
47) cis-1,3-Dichloropropene	0.00		0	N.D.		
48) 4-Methyl-2-pentanone	0.00		0	N.D.		
49) trans-1,3-Dichloropropene	15.83	75	161	N.D.		
50] Toluene	16.40	92	14278	0.416	ppbv	86
51) 1,1,2-Trichloroethane	0.00		0	N.D.		
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	6904	0.396	ppbv #	80
54) Dibromochloromethane	0.00		0	N.D.		
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.		
57) Chlorobenzene	0.00		0	N.D.		
58] Ethylbenzene	18.59	91	2865	0.032	ppbv	95
59) 1,1,2,2-Tetrachloroethane	19.19	83	181	N.D.		
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	19.77	105	290	N.D.		
62) 2-Chlorotoluene	0.00		0	N.D.		
63] Propylbenzene	20.23	91	660	N.D.		
64) 4-Ethyltoluene	20.38	105	1346	0.017	ppbv	96
65] m,p-Xylene	18.74	106	4838	0.169	ppbv #	80
66] o-Xylene	19.21	106	2085	0.074	ppbv	90
67) Styrene	19.11	104	1105	0.027	ppbv	73
68) Bromoform	0.00		0	N.D.		
70) Benzyl chloride	20.86	91	266	N.D.		
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	20.86	105	1525	0.023	ppbv	93
73] 1,3-Dichlorobenzene	21.04	146	541	0.012	ppbv	89
74) 1,4-Dichlorobenzene	21.11	146	530	N.D.		
75] 1,2-Dichlorobenzene	21.47	146	549	0.013	ppbv	91
76) 1,2,4-Trichlorobenzene	23.75	180	1290	Below Cal		85
77) Naphthalene	23.95	128	2245	N.D.		
78) Hexachlorobutadiene	24.52	225	824	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090312.D  
 Acq On : 3 Sep 2021 2:58 pm  
 Operator : bat  
 Sample : 109030-01 dup 1/5.8  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:51:31 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090305.D  
 Acq On : 3 Sep 2021 10:15 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 67 ug/m3 64-81b  
 Misc : line 3  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:19:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	102789	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	491847	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	431389	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	377433	69.834	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	98.35%

Target Compounds						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	976451	53.802	ug/m3	86
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1348274	52.340	ug/m3	92
4) IS-3 Chlorobenzene-d5	18.21	TIC	1599035	51.177	ug/m3	91
5) Methylene chloride	6.86	TIC	59957	65.251	ug/m3	92
6) Acetone	5.60	TIC	19429	0.401	ppbv	100
7) 2-Propanol	5.88	TIC	8426	29.918	ppbv	100
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	8.51	73	475	0.060	ug/m3	56
11) Benzene	12.71	78	556	0.033	ug/m3	38
12) Isopentane	5.60	TIC	19429	0.585	ug/m3#	65
13) Hexane	10.11	TIC	2000765	61.610	ug/m3	93
14) Cyclohexane	13.23	TIC	1348274	39.491	ug/m3	94
15) 2,3-Dimethylpentane	13.23	TIC	1348274	30.945	ug/m3	64
16) Heptane	14.73	TIC	8456	0.237	ug/m3	65
17) Octane	17.78	TIC	401123	8.216	ug/m3	62
18) APH EC5-8 aliphatics T...	12.93	TIC	5126321m	131.358	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	2678109m	68.625	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1788000	49.097	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	479927	53.503	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	298299	26.645	ppbv	100
24) Toluene	16.39	92	381	0.041	ug/m3#	41
25) Ethylbenzene	18.60	91	1658	0.087	ug/m3	91
26) m,p-Xylene	18.78	106	1161	0.181	ug/m3#	63
27) o-Xylene	19.21	106	540	0.089	ug/m3	82
28) Naphthalene	23.94	128	7264	0.468	ug/m3	96
29) 2,3-Dimethylheptane	0.00		0	N.D.		
30) Nonane	19.64	TIC	1788000	39.495	ug/m3#	60
31) Decane	20.90	TIC	3703049	82.339	ug/m3	92
32) Butylcyclohexane	21.55	TIC	9421	0.184	ug/m3	89
33) Undecane	22.29	TIC	42083	0.943	ug/m3	94
34) Dodecane	23.79	TIC	3904625	106.652	ug/m3	93
35) APH EC9-12 aliphatics ...	0.00	TIC	9447178m	214.042	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	11075293m	250.930	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	20.45	120	427139	90.268	ug/m3#	63
40) 1,3,5-Trimethylbenzene	20.45	120	427139	71.339	ug/m3	90
41) p-Isopropyltoluene	21.28	134	288	0.098	ug/m3#	35
42) 1,2,3-Trimethylbenzene	21.31	120	740	0.105	ug/m3#	65
43) APH EC9-10 aromatics T...	0.00	TIC	855306m	183.782	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	348031m	67.726	ug/m3	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090305.D  
 Acq On : 3 Sep 2021 10:15 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 67 ug/m3 64-81b  
 Misc : line 3  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS7

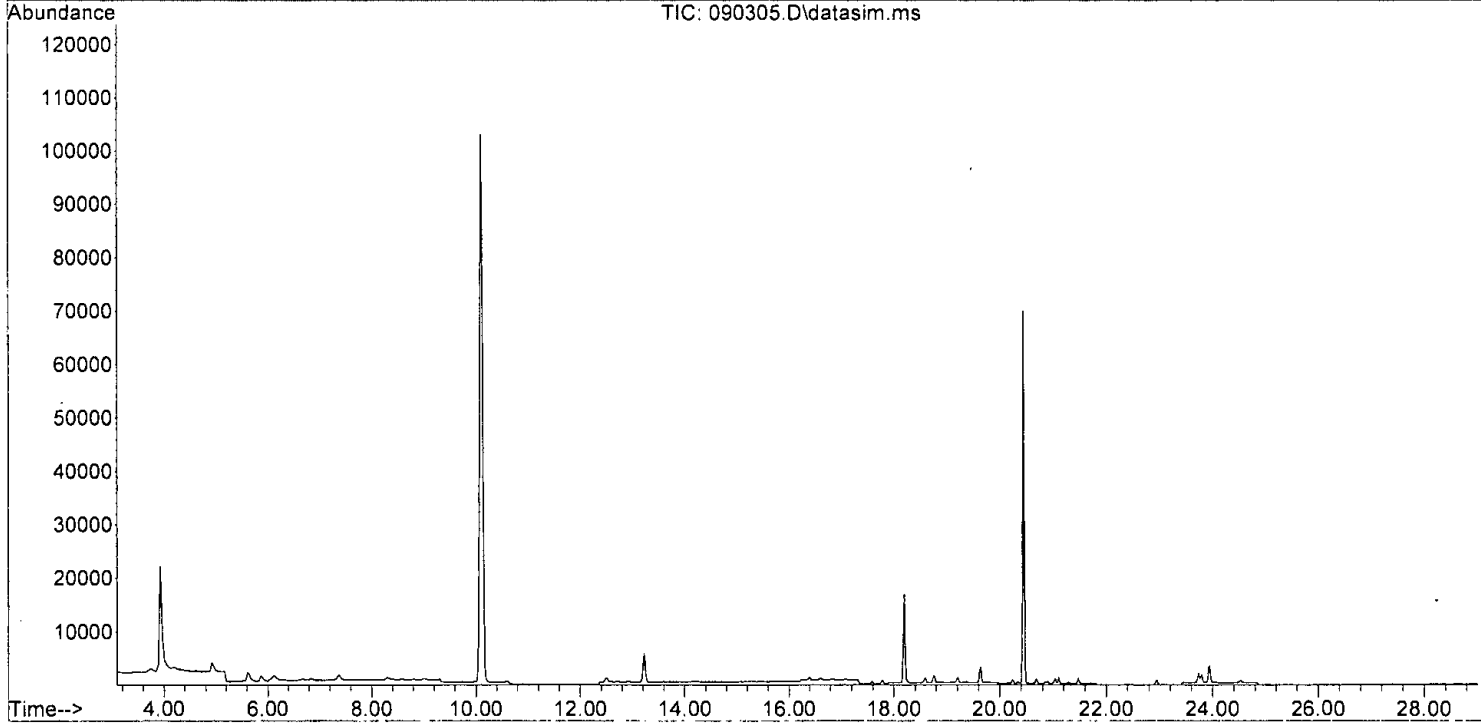
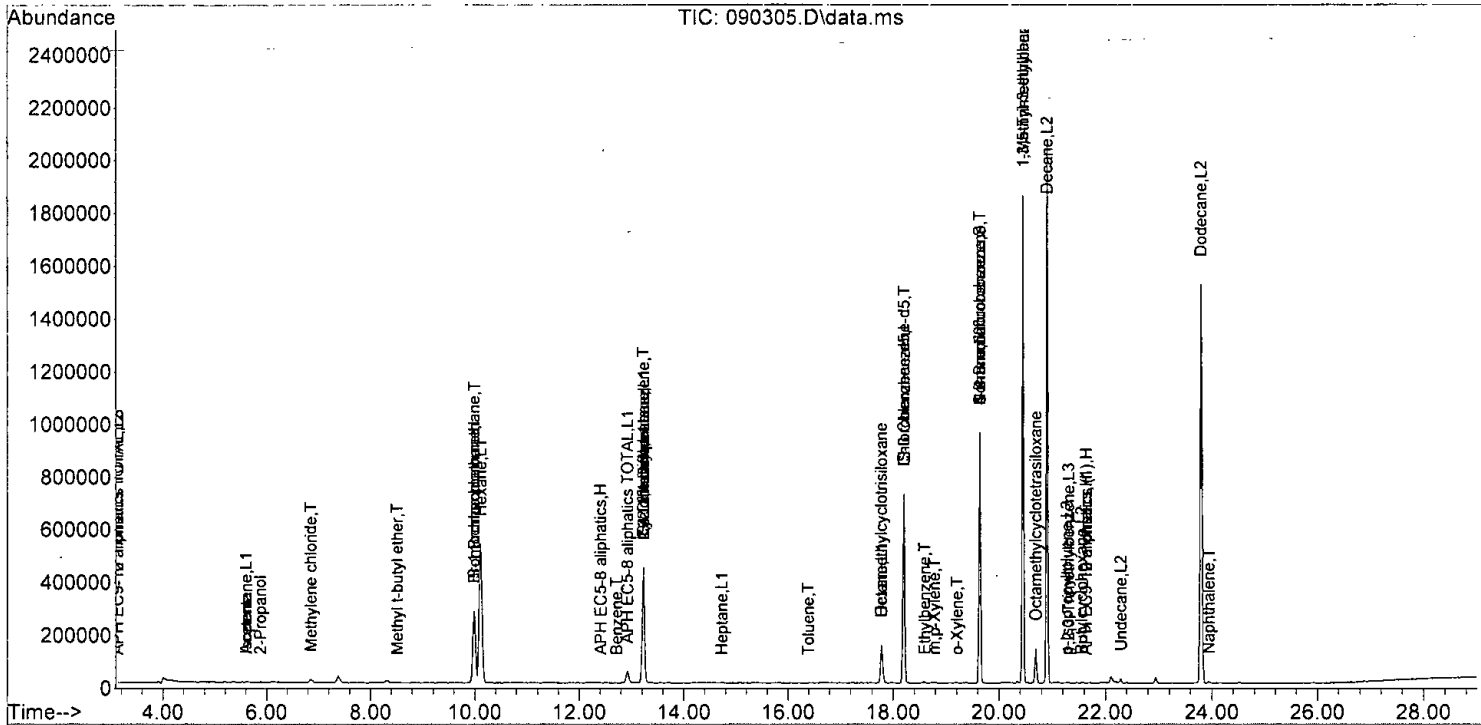
Quant Time: Sep 07 10:19:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	-75539m	Below	Cal	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090305.D  
 Acq On : 3 Sep 2021 10:15 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 67 ug/m3 64-81b  
 Misc : line 3  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:19:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090305.D  
 Acq On : 3 Sep 2021 10:15 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 67 ug/m3 64-81b  
 Misc : line 3  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS7

*69/07/21*

Quant Time: Sep 07 10:19:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev : 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	81	0.00
2 T	IS-1 Bromochloromethane	50.000	53.802	-7.6	87	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	52.340	-4.7	81	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	51.177	-2.4	84	0.00
5 T	Methylene chloride	50.000	65.251	-30.5#	0	0.00
6	Acetone	50.000	0.401	99.2#	0	-0.08
7	2-Propanol	50.000	29.918	40.2#	0	0.04
8 T	1,3-Butadiene	11.000	0.000	100.0#	0	-4.28#
9 T	Methyl t-butyl ether	18.000	0.060	99.7#	0	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	82	0.00
11 T	Benzene	16.000	0.033	99.8#	0	0.00
12 L1	Isopentane	15.000	0.585	96.1#	3	-0.08
13 L1	Hexane	<i>67</i> 17.500	61.610	-252.1#	273	0.00
14 L1	Cyclohexane	17.500	39.491	-125.7#	193	0.07
15 L1	2,3-Dimethylpentane	21.000	30.945	-47.4#	117	-0.29
16 L1	Heptane	21.000	0.237	98.9#	1	0.10
17 L1	Octane	23.500	8.216	65.0#	27	0.37
18 L1	APH EC5-8 aliphatics TOTAL	115.000	131.358	-14.2	91	0.21
19 H	APH EC5-8 aliphatics	115.000	68.625	40.3#	47	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	82	0.00
21 T	S 4-Bromofluorobenzene	50.000	49.097	1.8	79	0.00
22	Hexamethylcyclotrisiloxane	50.000	53.503	-7.0	90	0.00
23	Octamethylcyclotetrasiloxan	50.000	26.645	46.7#	40	0.00
24 T	Toluene	18.750	0.041	99.8#	0	0.00
25 T	Ethylbenzene	21.750	0.087	99.6#	0	0.00
26 T	m,p-Xylene	44.000	0.181	99.6#	0	0.02
27 T	o-Xylene	22.000	0.089	99.6#	0	0.00
28 T	Naphthalene	25.000	0.468	98.1#	2	0.00
29 L2	2,3-Dimethylheptane	25.000	0.000	100.0#	0	-18.66#
30 L2	Nonane	25.000	39.495	-58.0#	130	0.27
31 L2	Decane	<i>67</i> 30.000	82.339	-174.5#	228	0.00
32 L2	Butylcyclohexane	27.500	0.184	99.3#	1	-0.01
33 L2	Undecane	32.500	0.943	97.1#	2	0.00
34 L2	Dodecane	35.000	106.652	-204.7#	251	0.00
35 L2	APH EC9-12 aliphatics TOTAL	175.000	214.042	-22.3	102	-21.57#
36 H	APH EC9-12 aliphatics	175.000	250.930	-43.4#	119	0.00
37 S	4-Bromofluorobenzene	71.000	69.834	1.6	80	0.00
38 L3	Isopropylbenzene	24.500	0.000	100.0#	0	-19.75#
39 L3	1-Methyl-3-ethylbenzene	24.500	90.268	-268.4#	307	0.12
40 L3	1,3,5-Trimethylbenzene	<i>67</i> 24.500	71.339	-191.2#	239	0.00
41 L3	p-Isopropyltoluene	27.750	0.098	99.6#	0	0.00
42 L3	1,2,3-Trimethylbenzene	24.500	0.105	99.6#	0	0.00
43 L3	APH EC9-10 aromatics TOTAL	125.400	183.782	-46.6#	118	-21.57#
44 H	APH EC9-10 aromatics (1)	98.000	67.726	30.9#	55	0.00

*91.96%*

*122.74%*

*106.48%*

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090305.D  
 Acq On : 3 Sep 2021 10:15 am  
 Operator : bat  
 Sample : 01-2004 lcs/ 67 ug/m3 64-81b  
 Misc : line 3  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:19:04 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev Area	% Dev(min)
45 H APH EC9-10 aromatics (2)	27.400	-25.808	194.2# -77	0.00

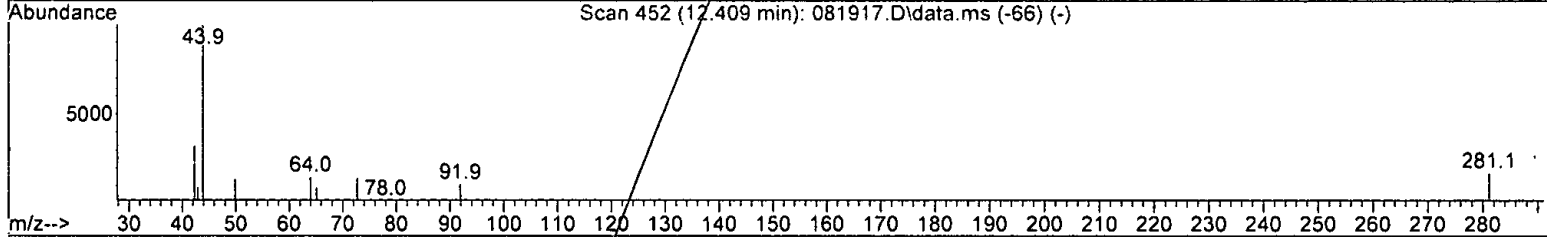
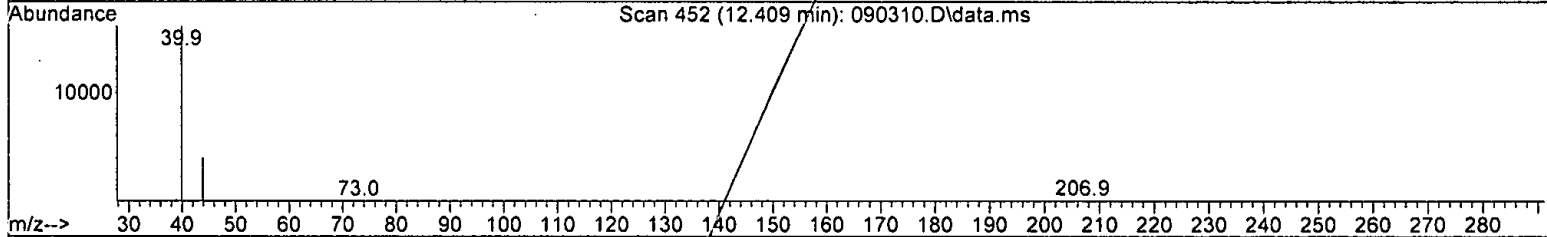
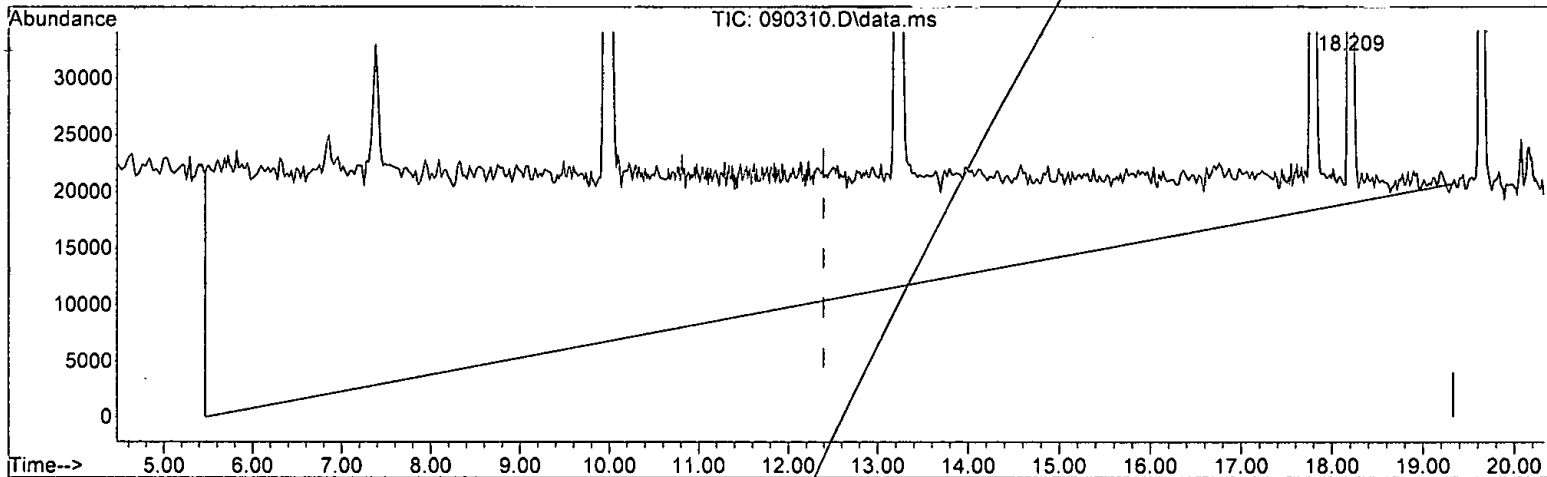
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:27:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

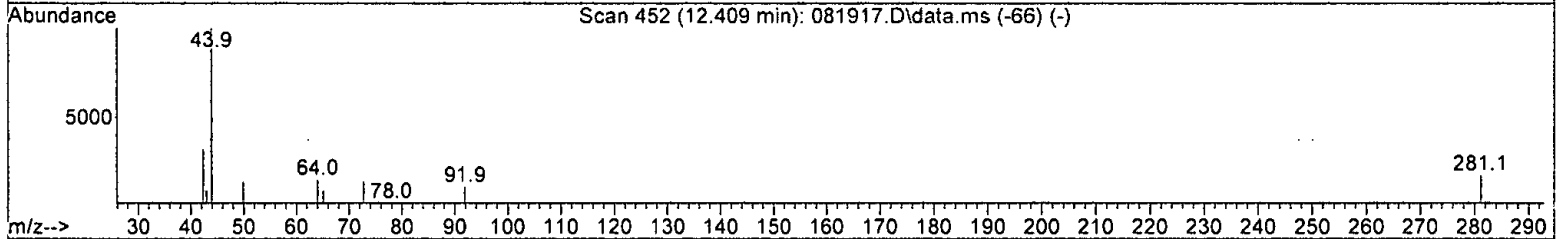
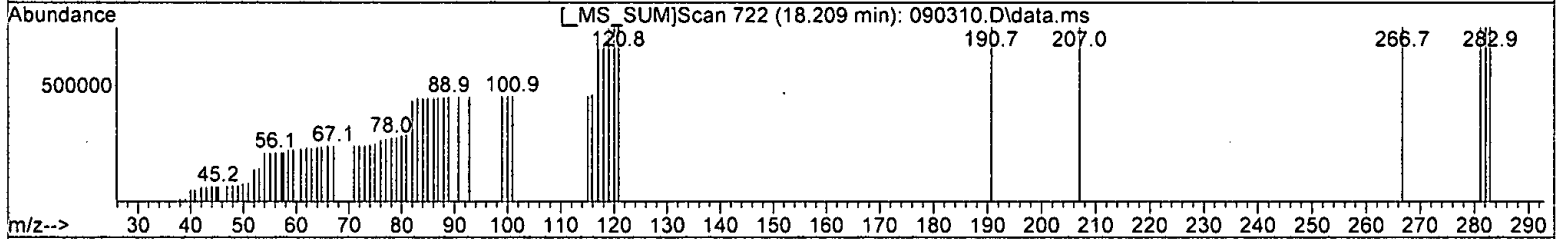
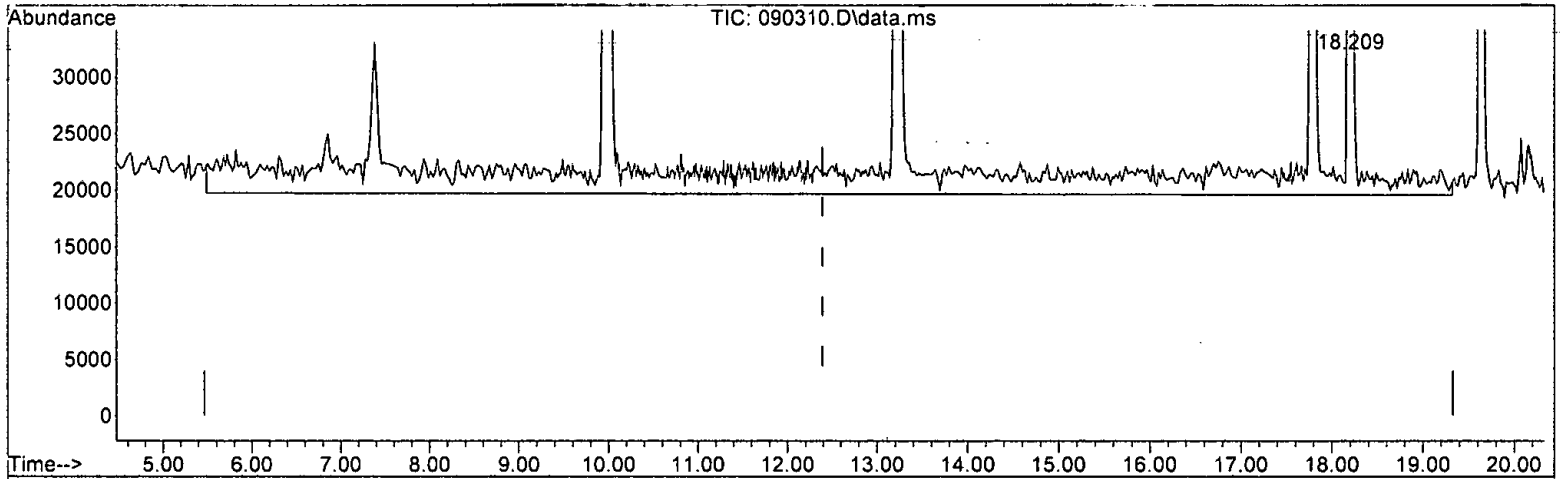
12.400min ( 0.000)	11.572 ug/m3 m
response	433112
Signal	Exp% Act%
TIC	100.00 100.00
0.00	0.00 0.00
0.00	0.00 0.00
0.00	0.00 0.00

*M*  
*6/9/07/14*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:27:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH ECS-8 aliphatics (H)  
 12.400min ( 0.000) 158.877 ug/m3 m  
 response 5946599

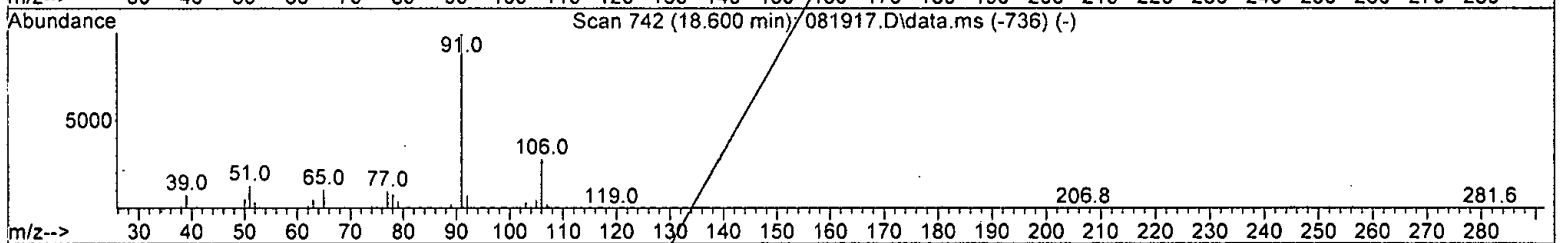
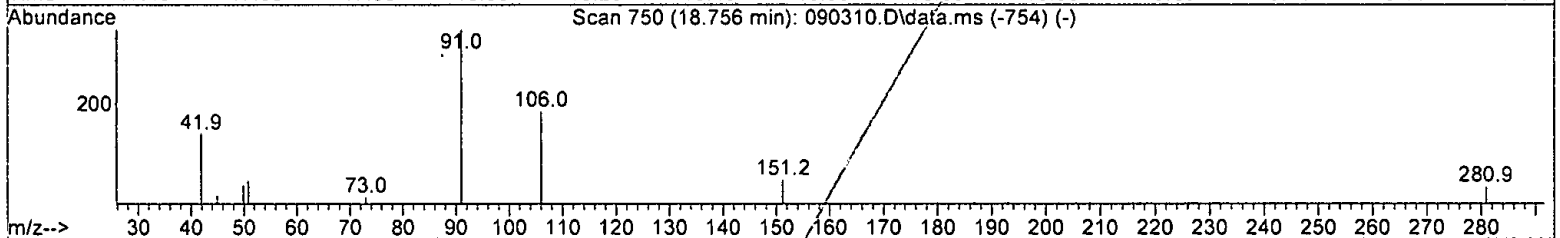
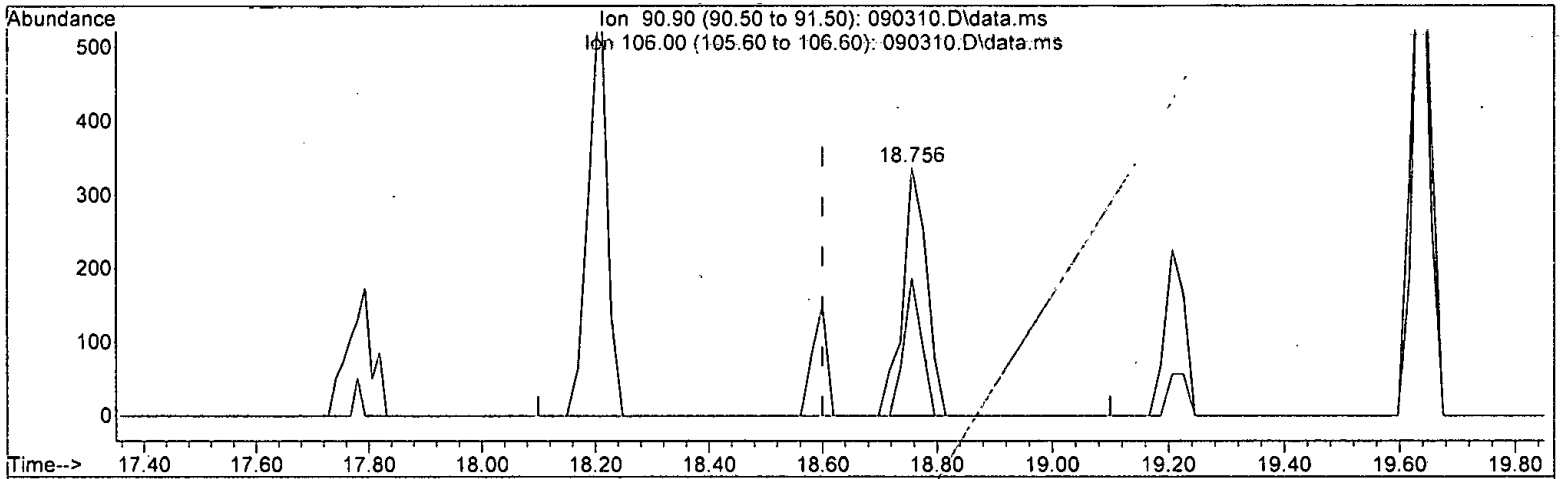
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*12.400min*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:27:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(25) Ethylbenzene (T)

18.756min (+ 0.156) 0.053 ug/m3

response 972

Ion	Exp%	Act%
90.90	100.00	100.00
106.00	30.50	55.19
0.00	0.00	0.00
0.00	0.00	0.00

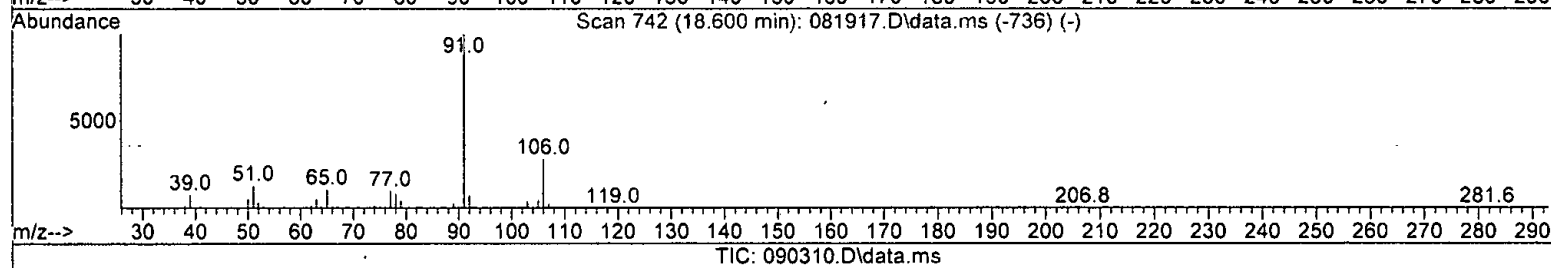
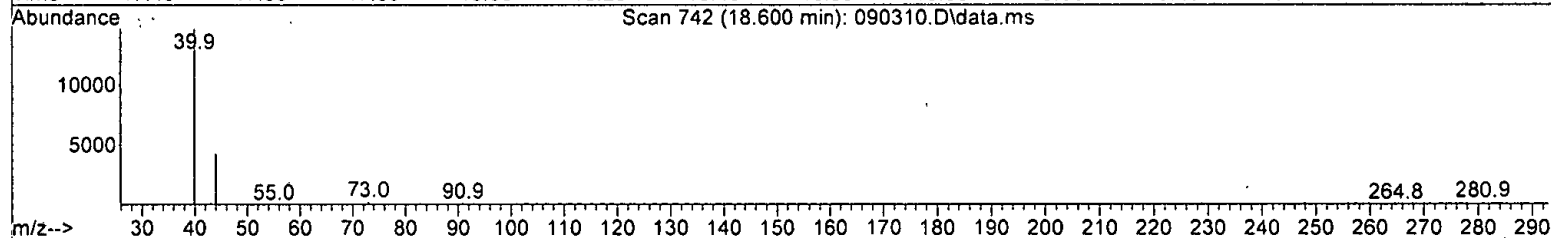
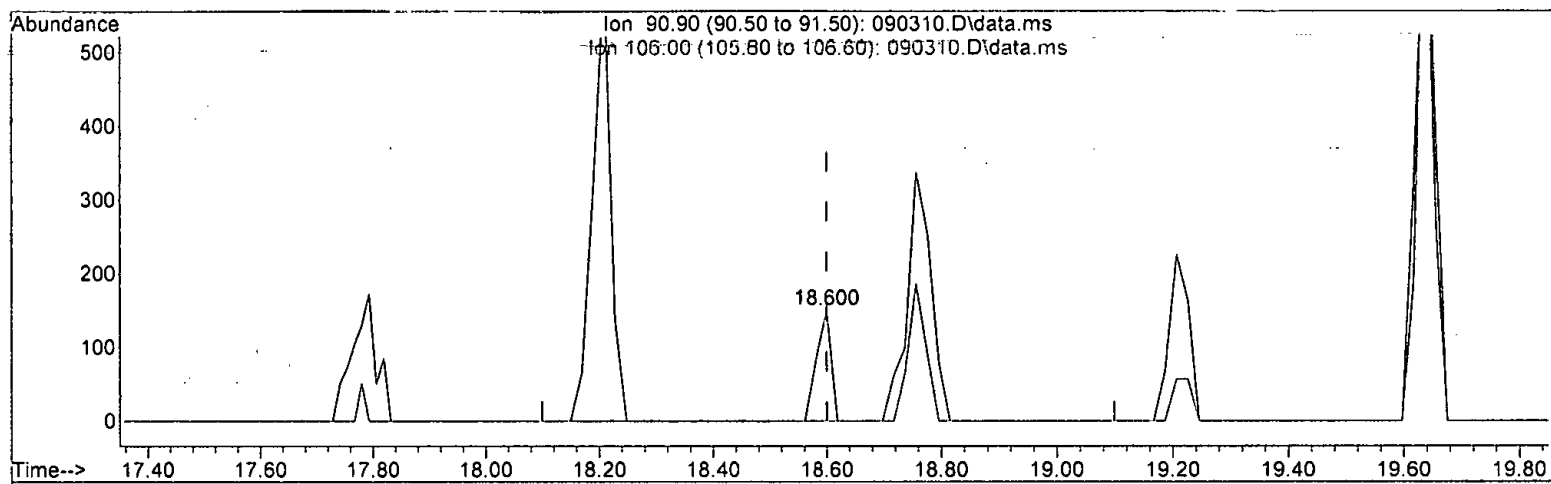
*Bat*  
 09/07/21



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:27:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(25) Ethylbenzene (T)

18.600min (-0.000) 0.015 ug/m3 m

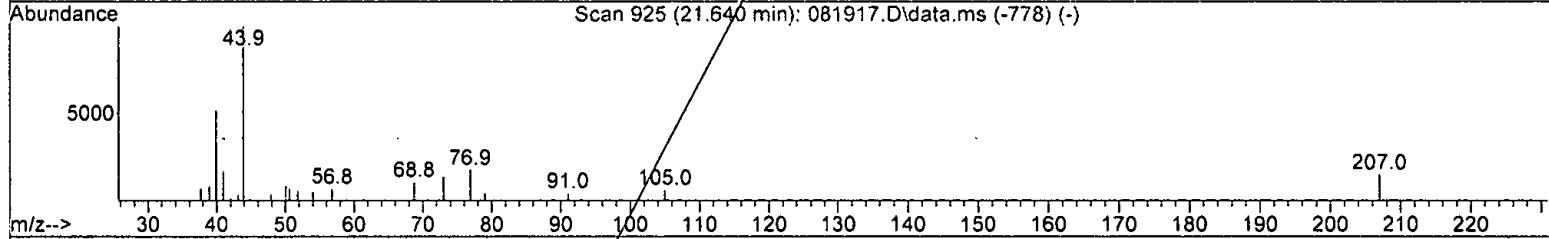
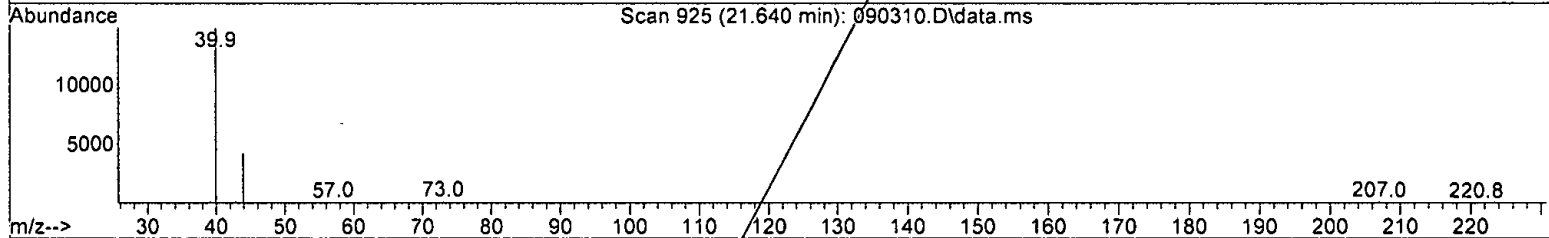
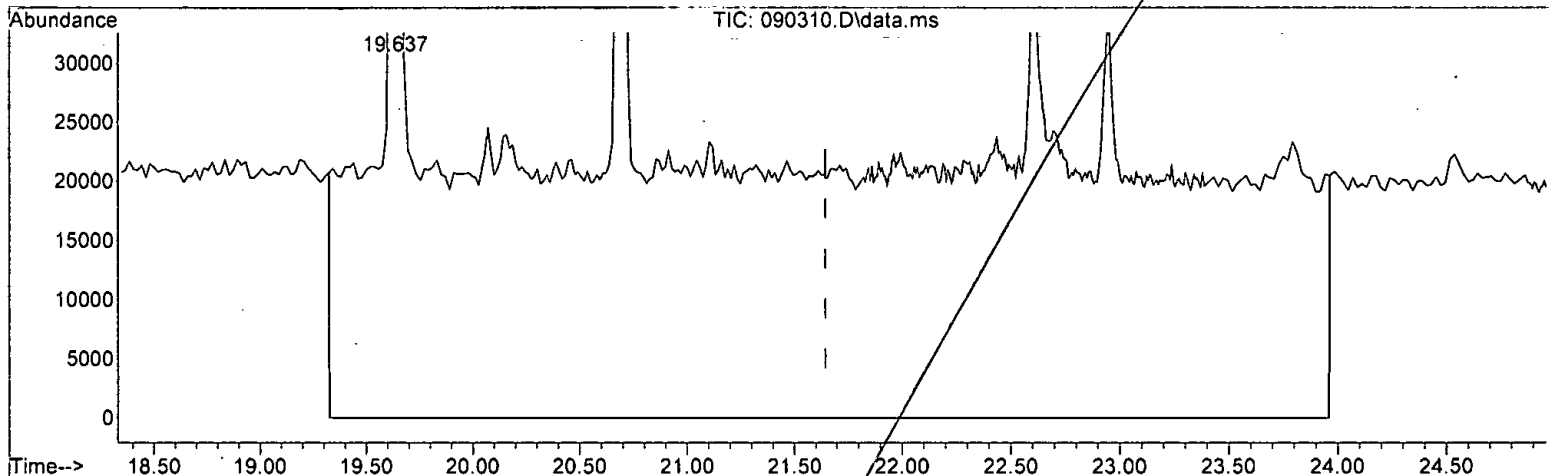
response 277

Ion	Exp%	Act%
90.90	100.00	100.00
106.00	30.50	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

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Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:27:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 6.844 ug/m3 m  
 response 290042  

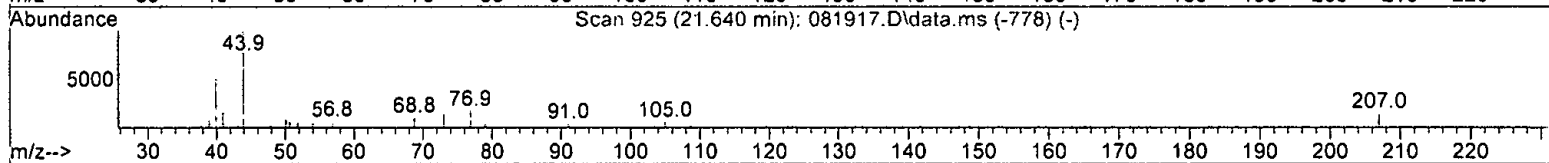
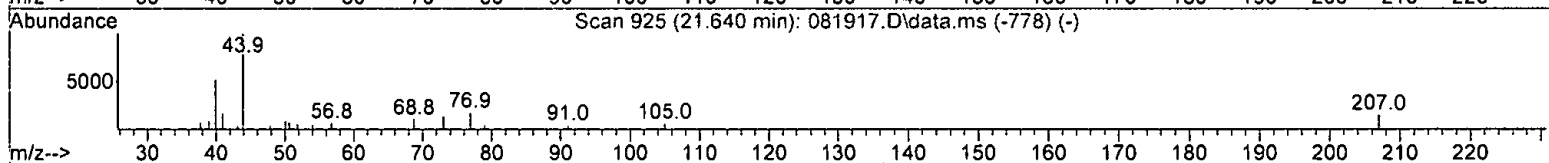
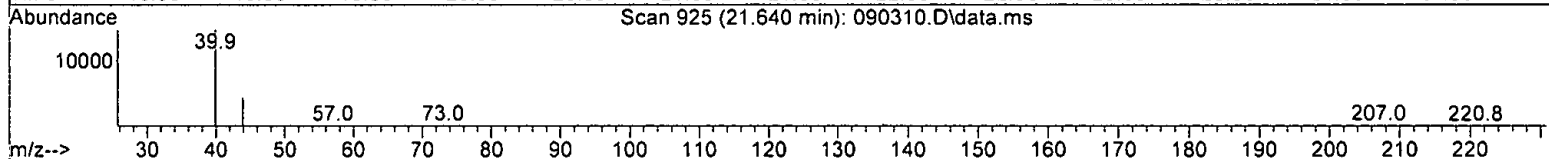
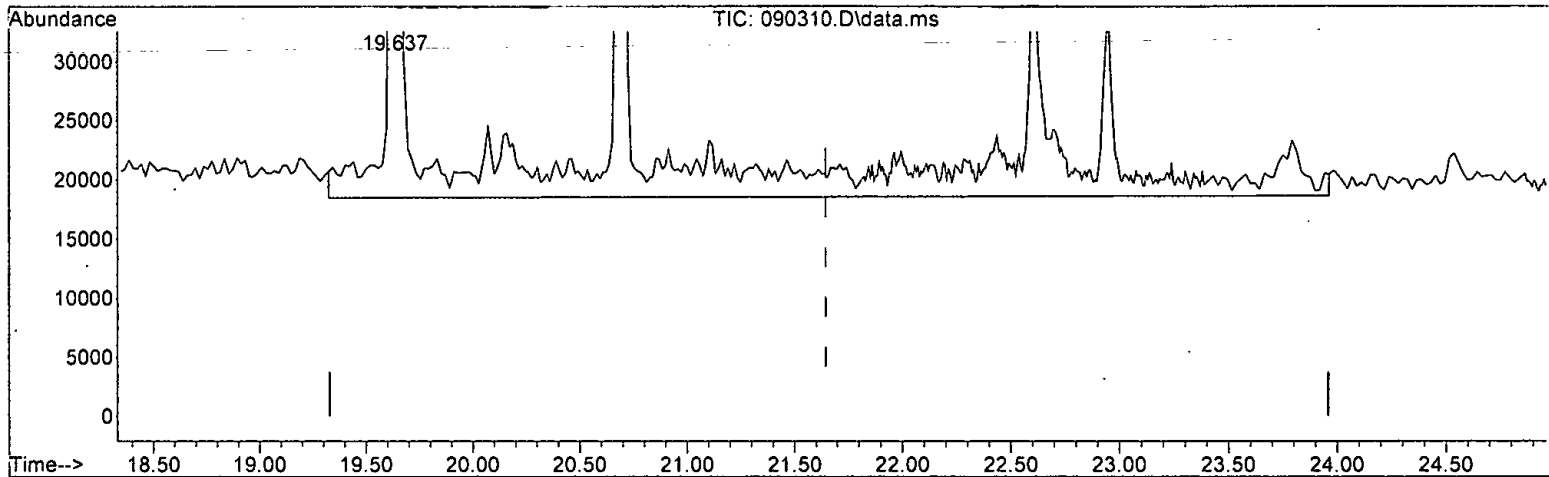
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:27:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



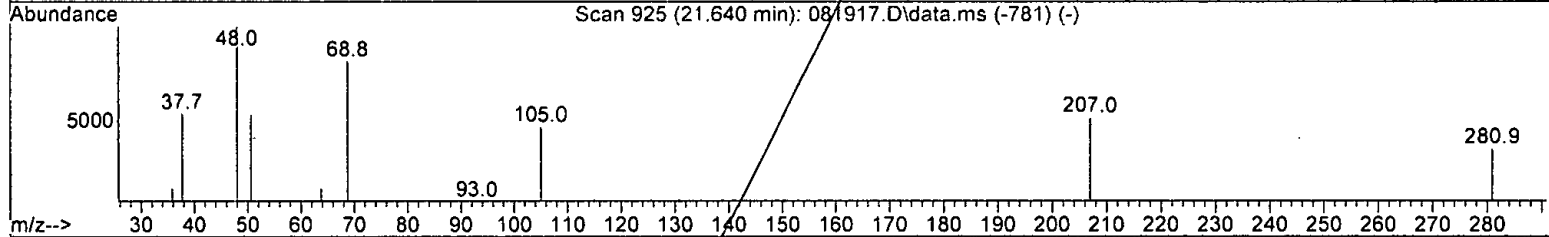
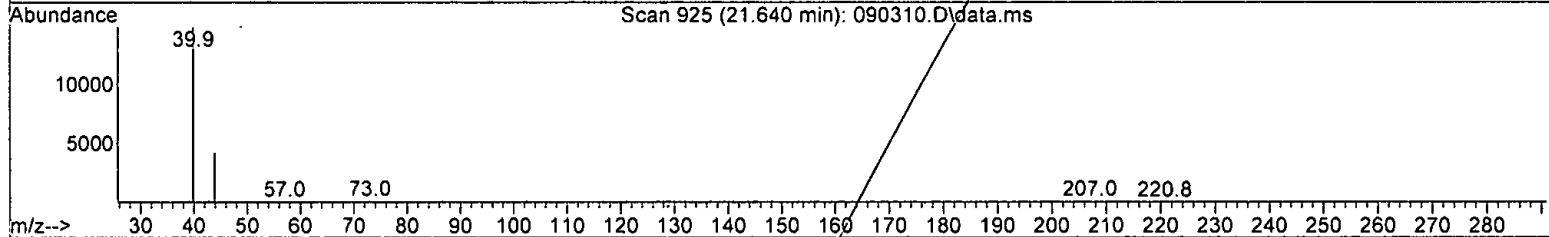
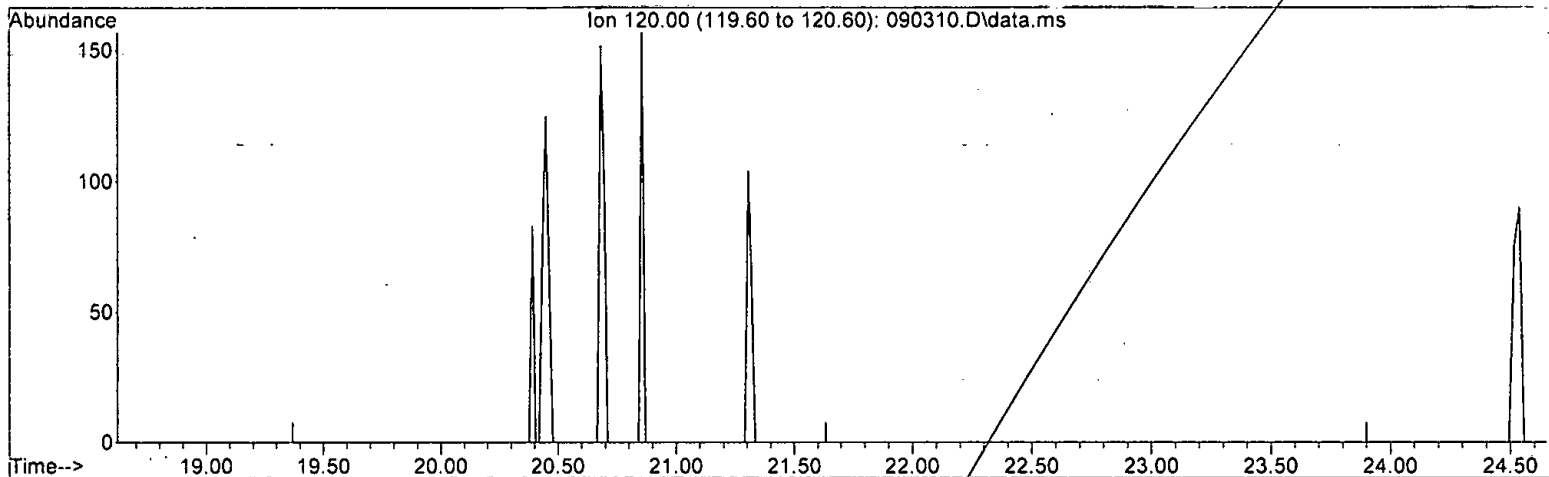
*Bat*

(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 47.089 ug/m3 m  
 response 1995693

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:27:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



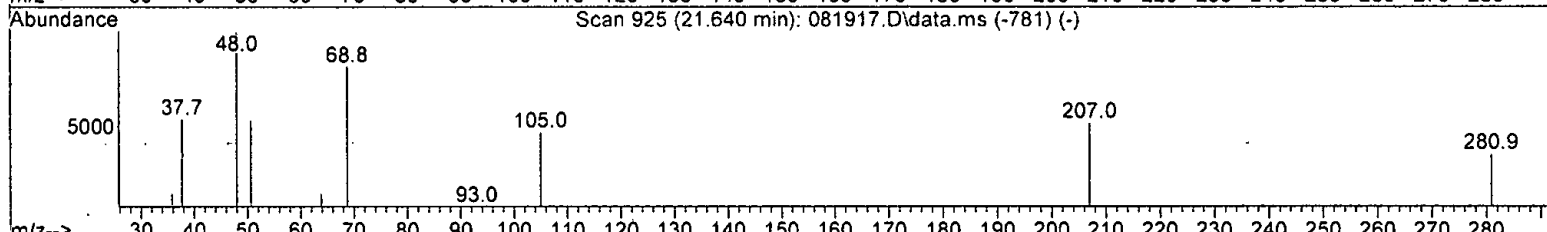
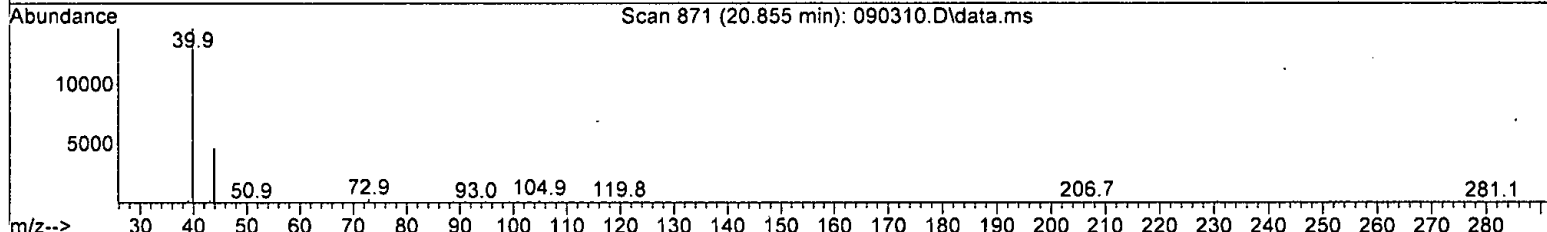
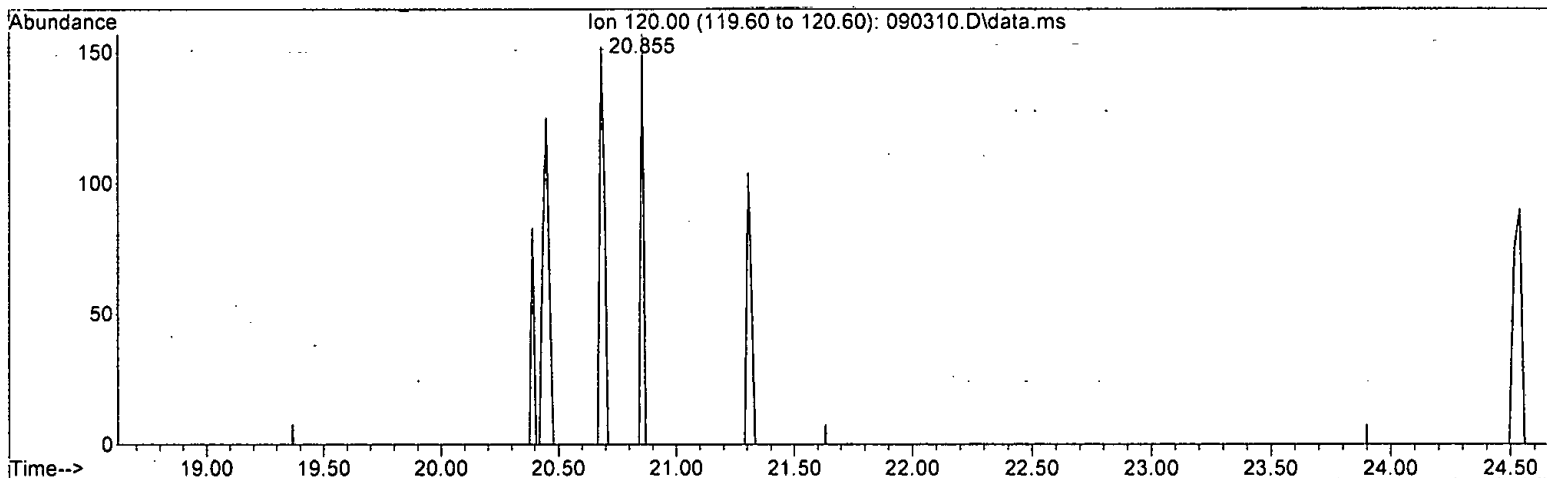
(44) APH EC9-10 aromatics (1) (H)  
 21.635min ( 0.000) -15.260 ug/m3 m  
 response -75298

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*B. Orlov*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:27:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090310.D\data.ms

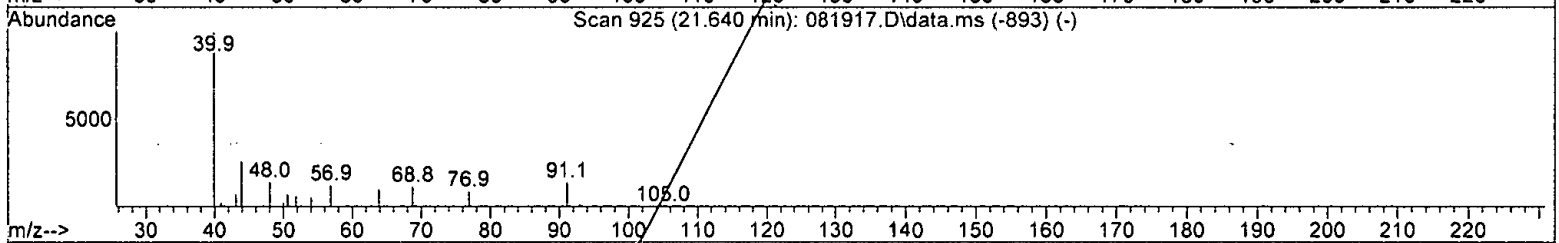
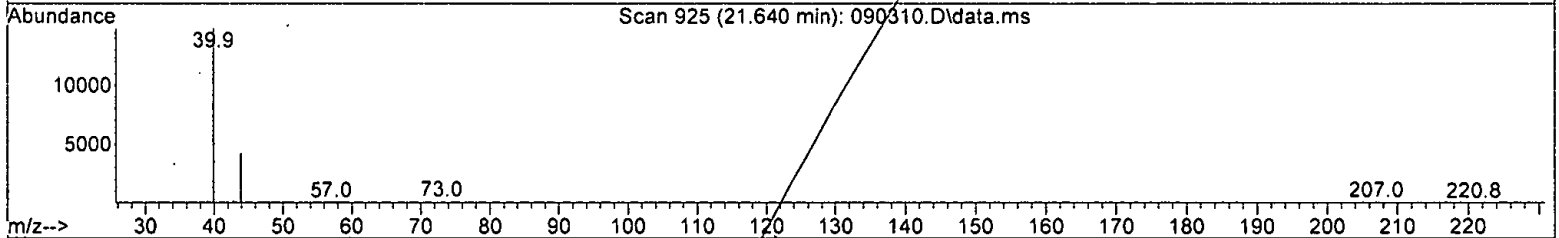
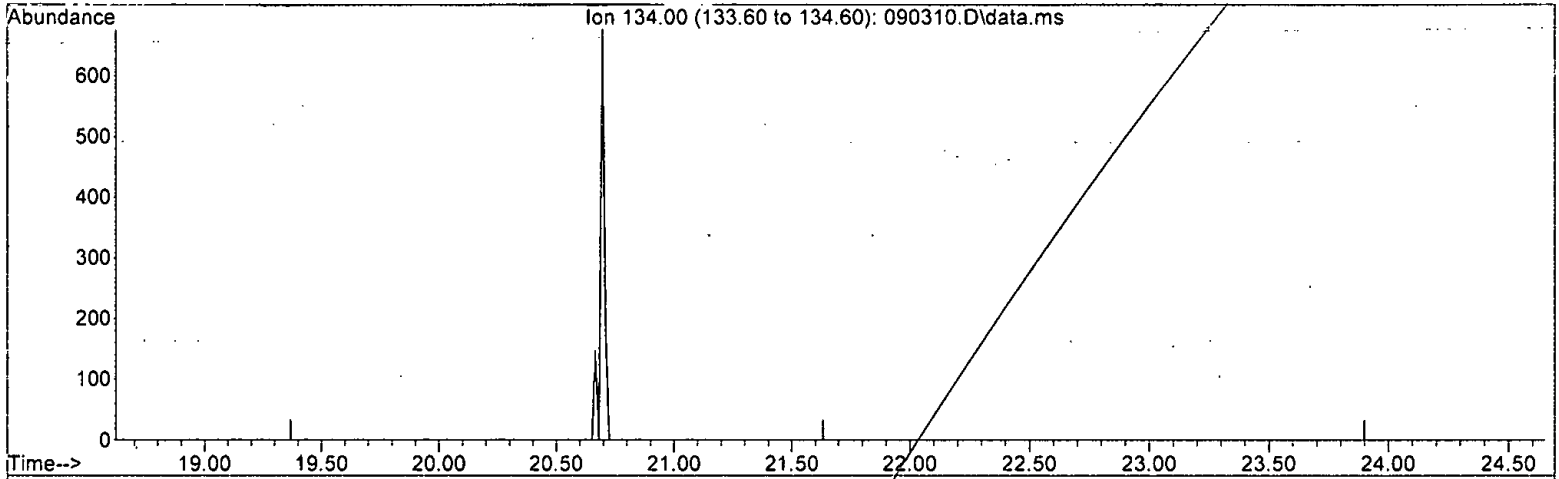
(44) APH EC9-10 aromatics (1) (H)		
21.635min ( 0.000) 0.132 ug/m3 m		
response	650	
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

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09/07/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:27:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) -26.764 ug/m3 m

response -75219

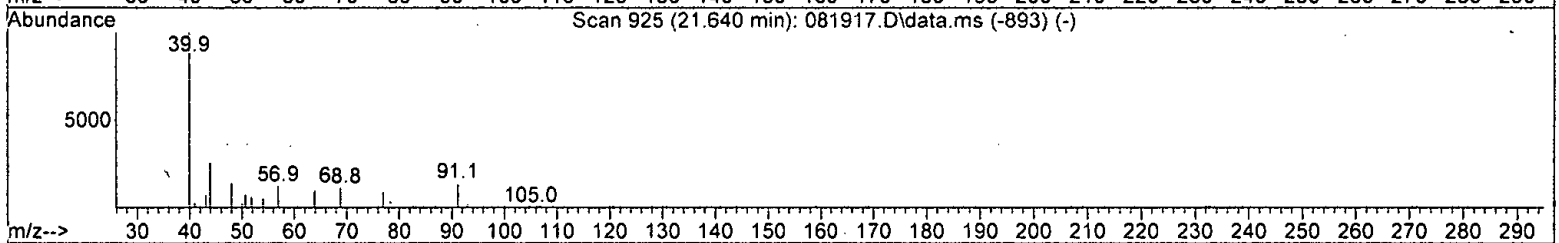
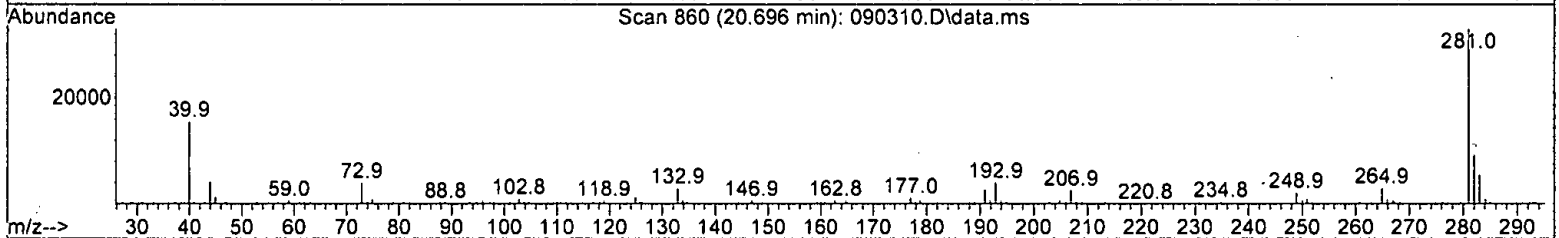
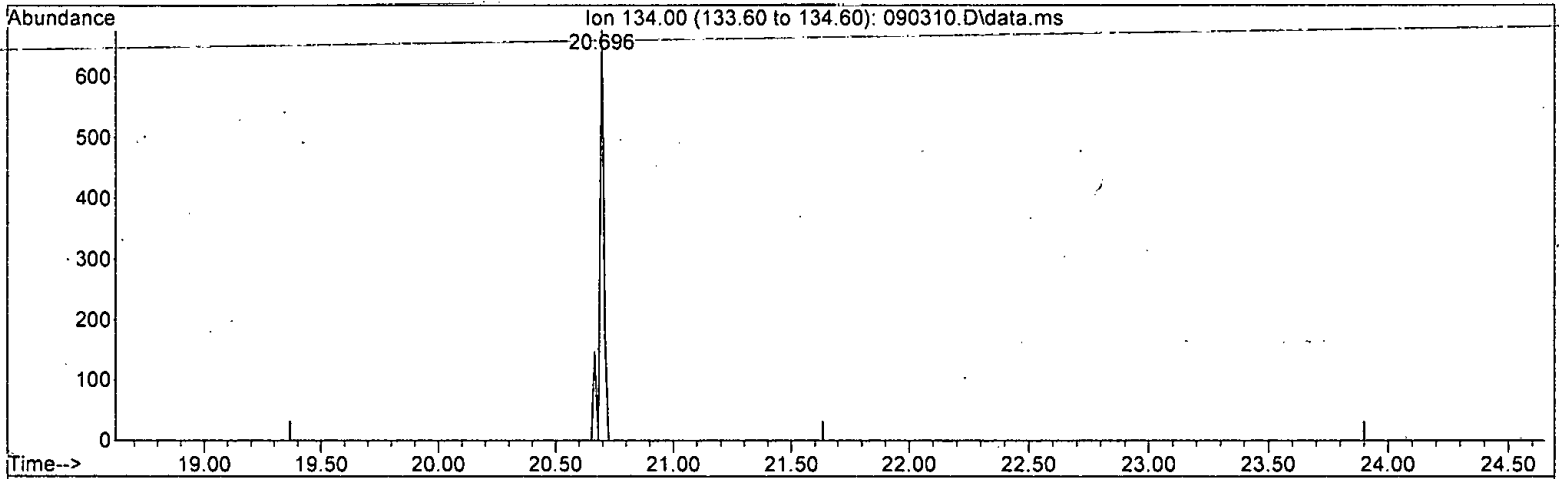
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Kalaly*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:27:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 0.254 ug/m3 m

response 715

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:29:58 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	99860	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	471726	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	414230	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	362427	69.835	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	98.37%

Target Compounds						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	949781	53.867	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1284300	51.319	ug/m3	93
4) IS-3 Chlorobenzene-d5	18.21	TIC	1533025	50.504	ug/m3	91
5) Methylene chloride	6.86	TIC	33029	37.000	ug/m3	85
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.	d	
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	8.51	73	315	0.041	ug/m3	56
11) Benzene	12.73	78	302	0.019	ug/m3	61
12) Isopentane	5.68	TIC	2718	0.085	ug/m3#	68
13) Hexane	9.99	TIC	949781	30.380	ug/m3	61
14) Cyclohexane	13.23	TIC	1284300	39.222	ug/m3	94
15) 2,3-Dimethylpentane	13.23	TIC	1284300	30.734	ug/m3	64
16) Heptane	14.58	TIC	9043	0.265	ug/m3	67
17) Octane	17.78	TIC	317063	6.771	ug/m3#	62
18) APH EC5-8 aliphatics T...	0.00	TIC	3847205m	102.787	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	5946599m	158.877	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1716274	49.079	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	405629	47.093	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	241905	22.503	ppbv	100
24) Toluene	0.00		0	N.D.		
25) Ethylbenzene	18.60	91	277m	0.015	ug/m3	
26) m,p-Xylene	18.76	106	400	0.065	ug/m3#	78
27) o-Xylene	19.21	106	134	0.023	ug/m3#	1
28) Naphthalene	23.94	128	1734	0.116	ug/m3	68
29) 2,3-Dimethylheptane	0.00		0	N.D.		
30) Nonane	19.64	TIC	1716274	39.482	ug/m3#	60
31) Decane	20.70	TIC	241905	5.602	ug/m3	60
32) Butylcyclohexane	21.61	TIC	2267	0.046	ug/m3#	63
33) Undecane	22.28	TIC	5118	0.119	ug/m3#	95
34) Dodecane	23.79	TIC	29972	0.853	ug/m3	74
35) APH EC9-12 aliphatics ...	0.00	TIC	1995536m	47.085	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	1995693m	47.089	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	0.00		0	N.D.		
40) 1,3,5-Trimethylbenzene	20.45	120	227	0.039	ug/m3#	12
41) p-Isopropyltoluene	0.00		0	N.D.		
42) 1,2,3-Trimethylbenzene	21.31	120	137	0.020	ug/m3#	27
43) APH EC9-10 aromatics T...	0.00	TIC	364m	0.081	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	650m	0.132	ug/m3	



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

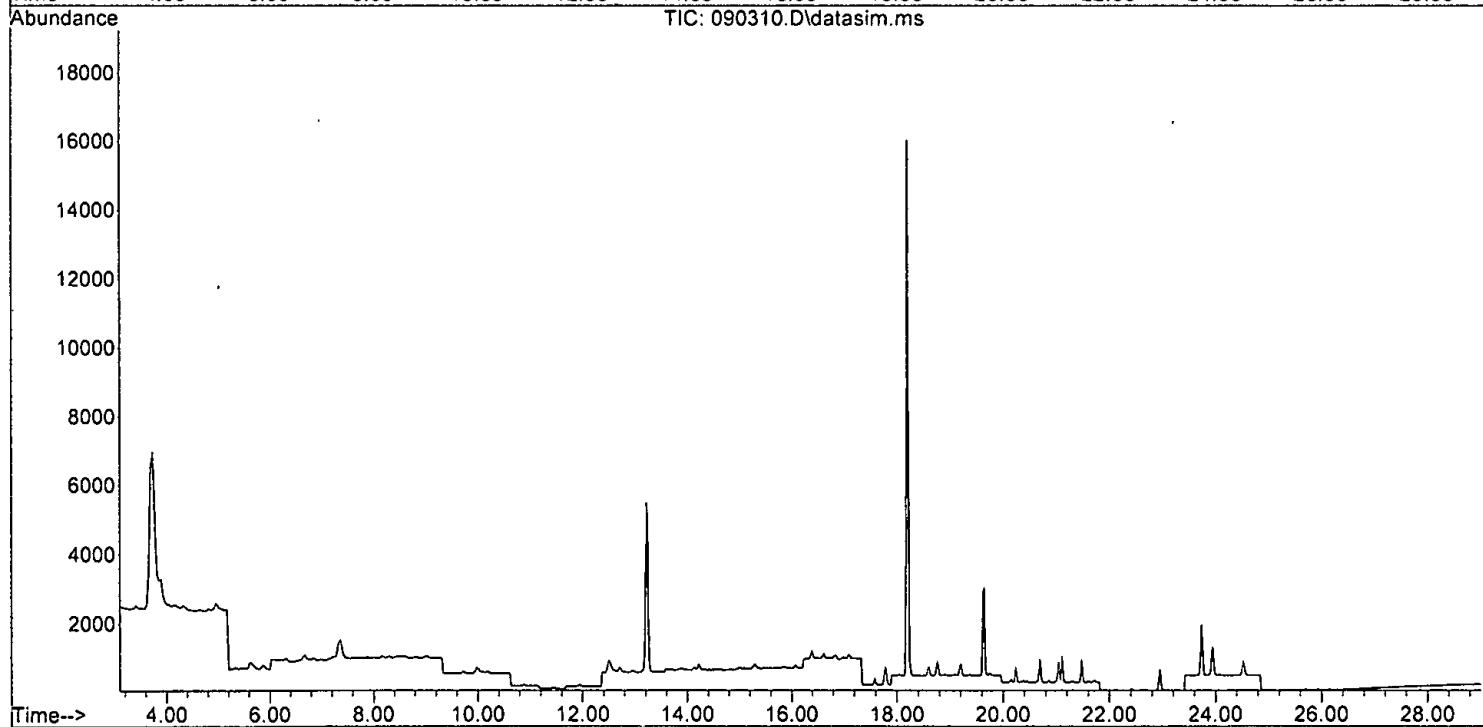
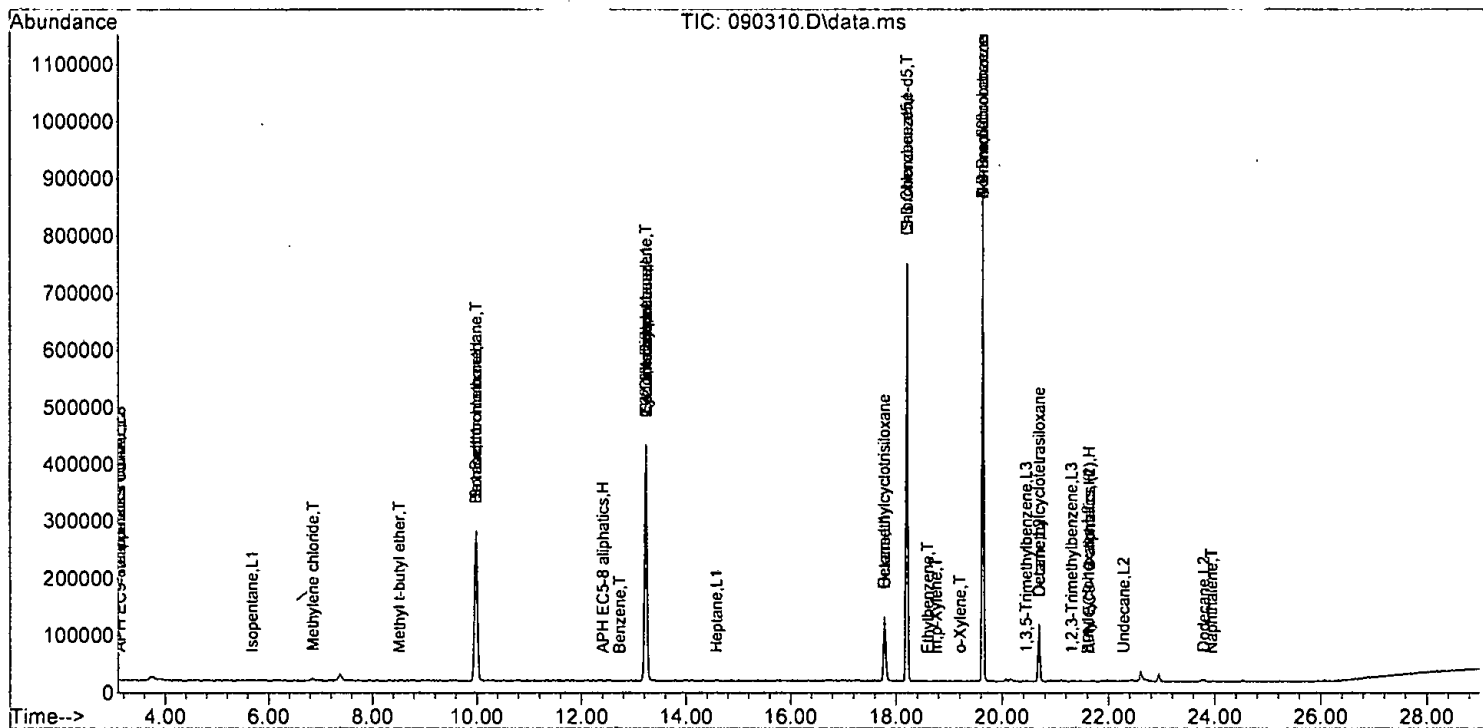
Quant Time: Sep 07 10:29:58 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
45) APH EC9-10 aromatics (2)	21.64	134	715m	0.254	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090310.D  
 Acq On : 3 Sep 2021 1:43 pm  
 Operator : bat  
 Sample : 01-2004 MB  
 Misc : T1  
 ALS Vial : 10 Sample Multiplier: 1  
 InstName : GCMS7

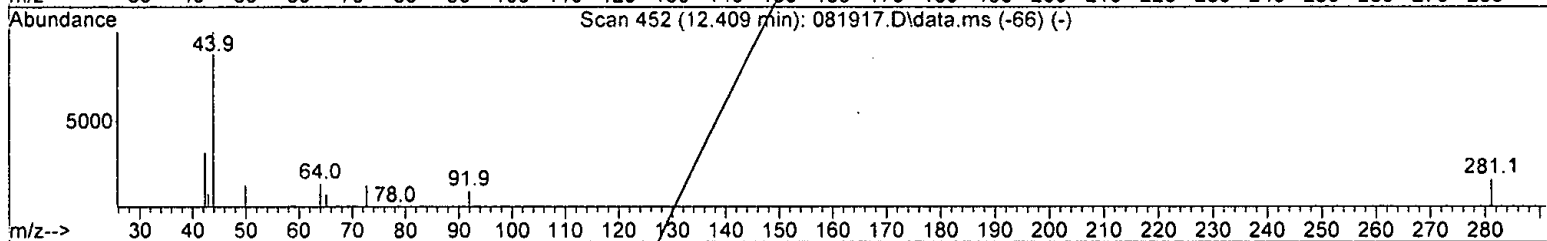
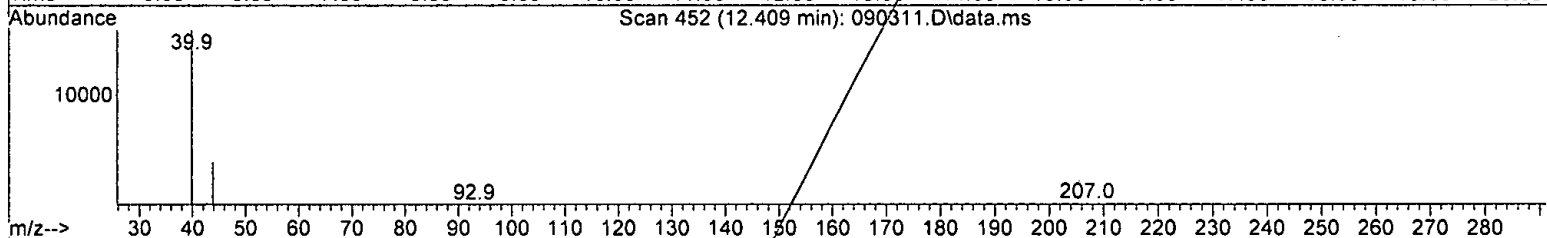
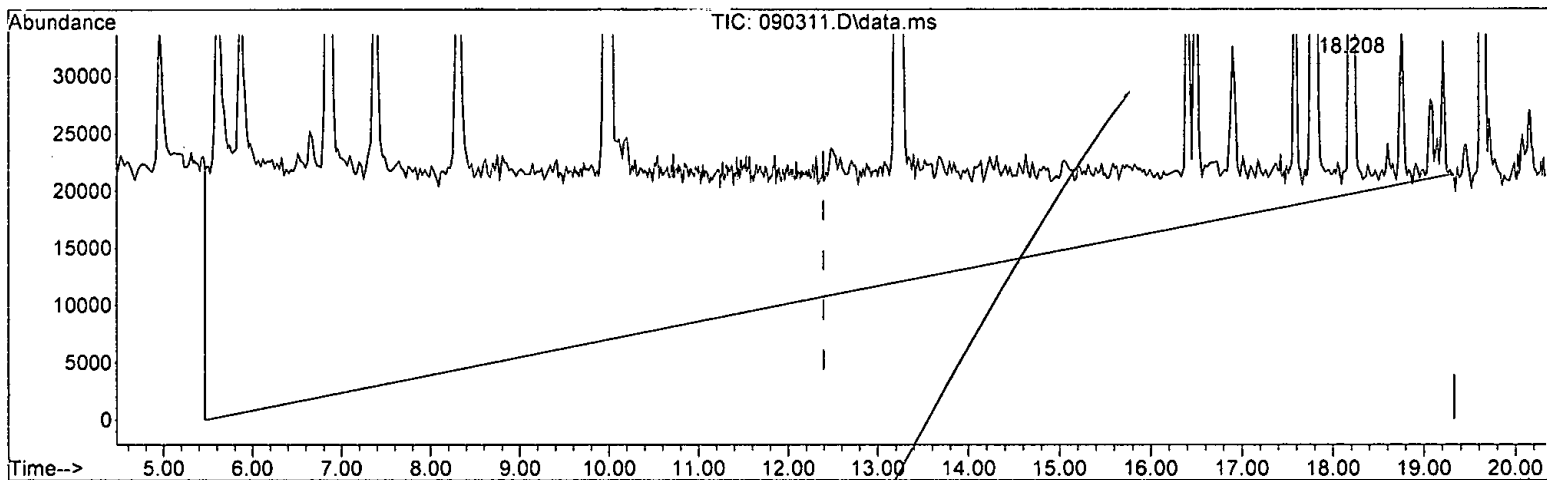
Quant Time: Sep 07 10:29:58 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:35:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 42.564 ug/m3 m  
 response 1568833  

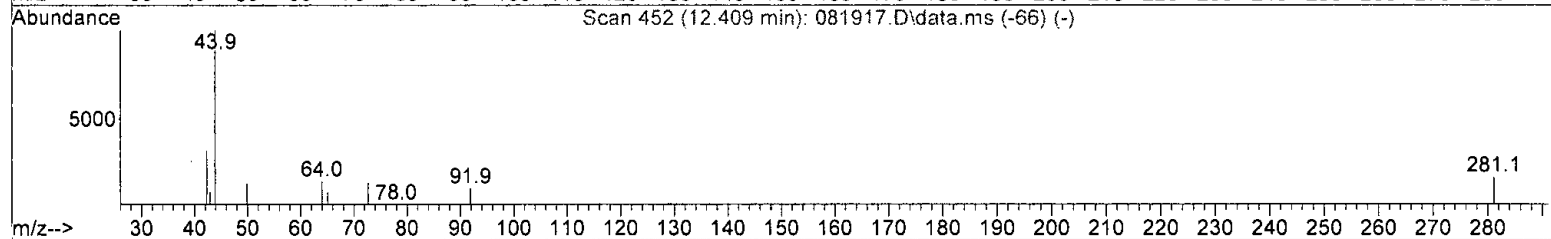
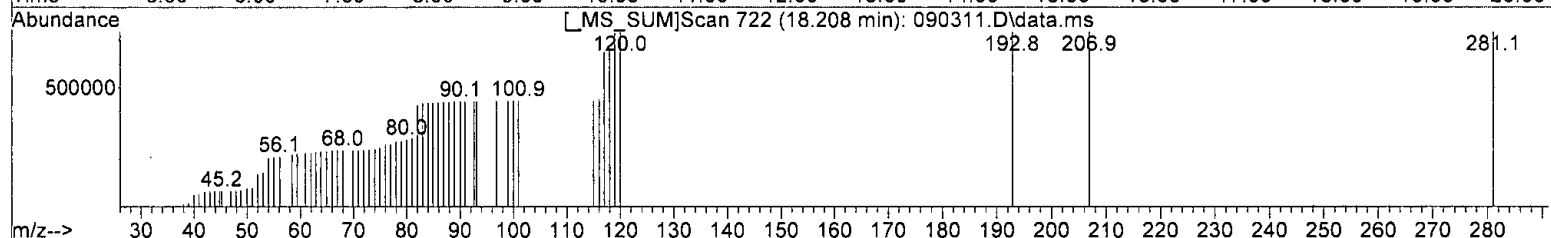
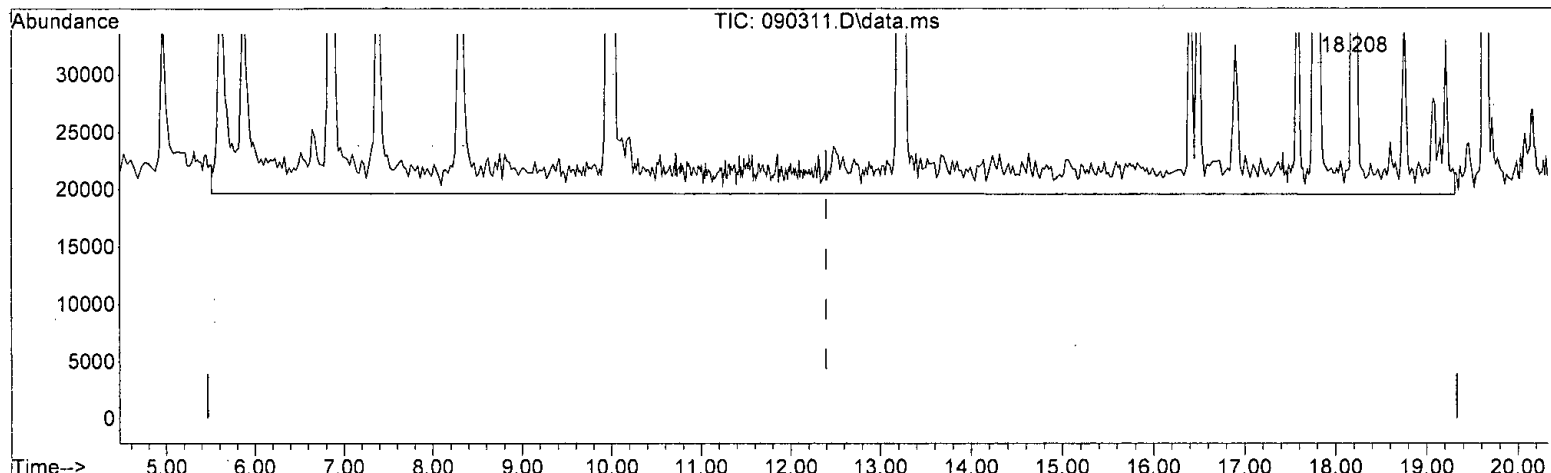
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten note:* n only

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:35:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 198.469 ug/m3 m

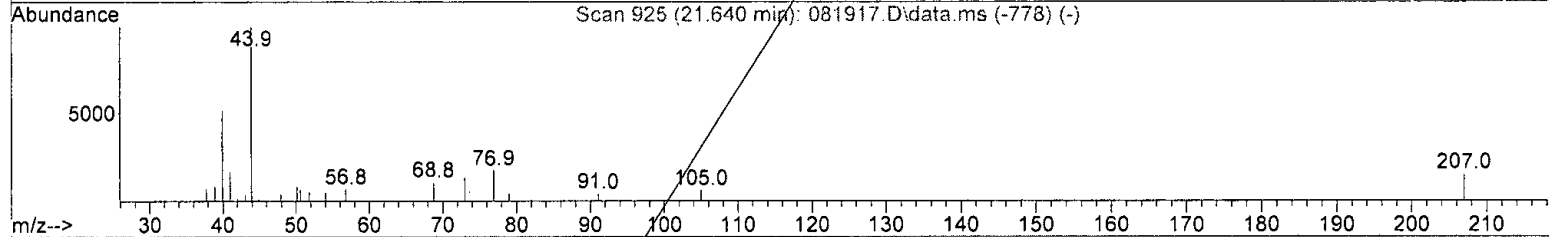
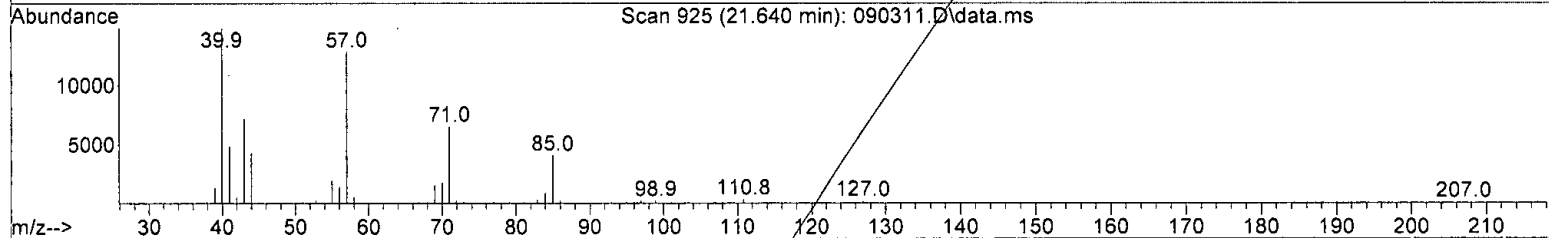
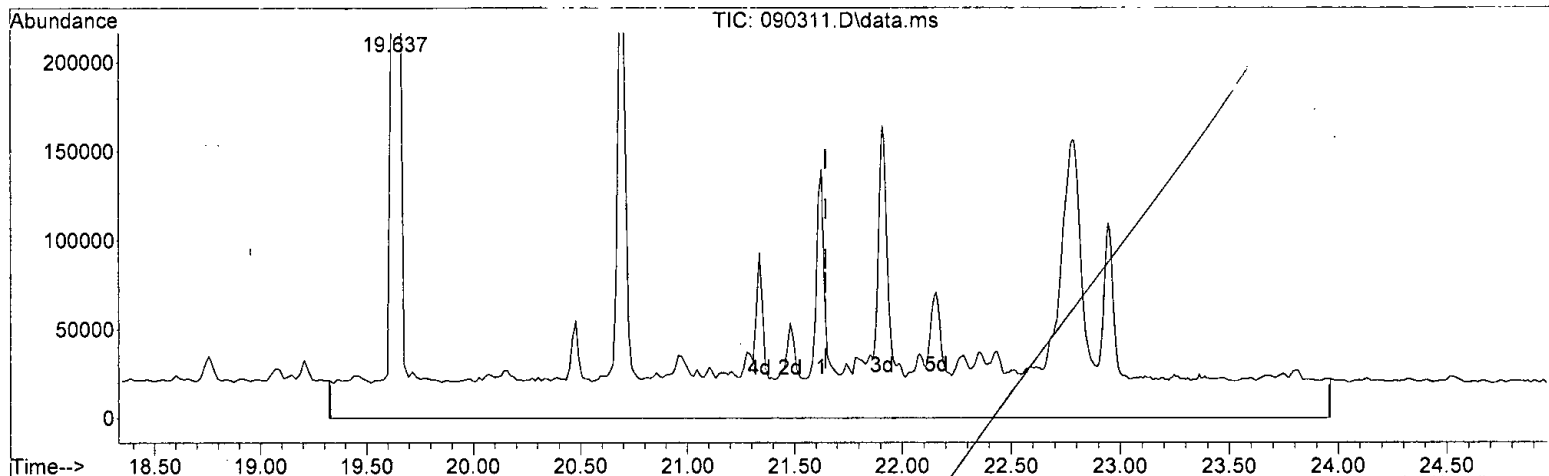
response 7315224

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature and date:*  
 09/07/21

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:35:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 67.757 ug/m3 m  
 response 2841933

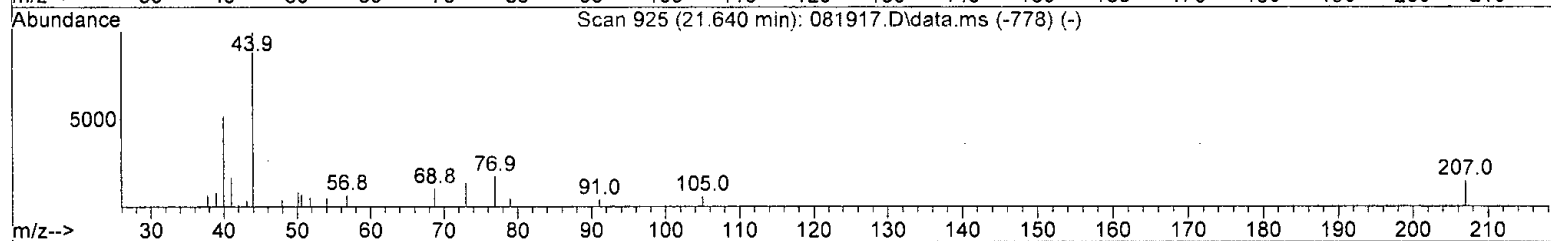
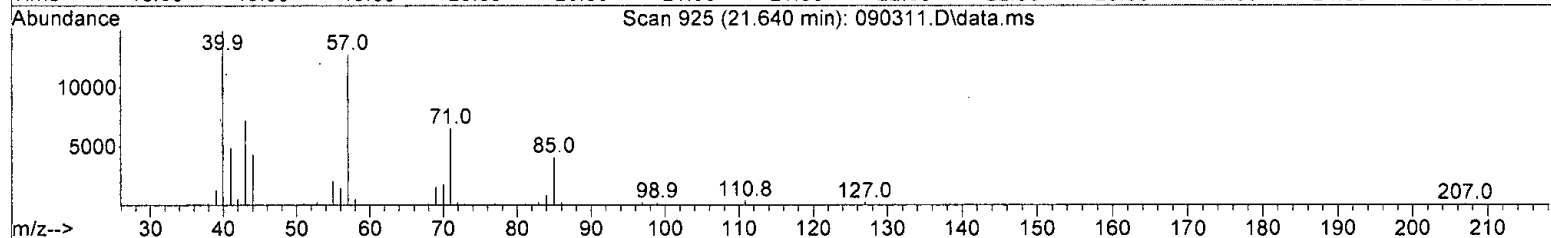
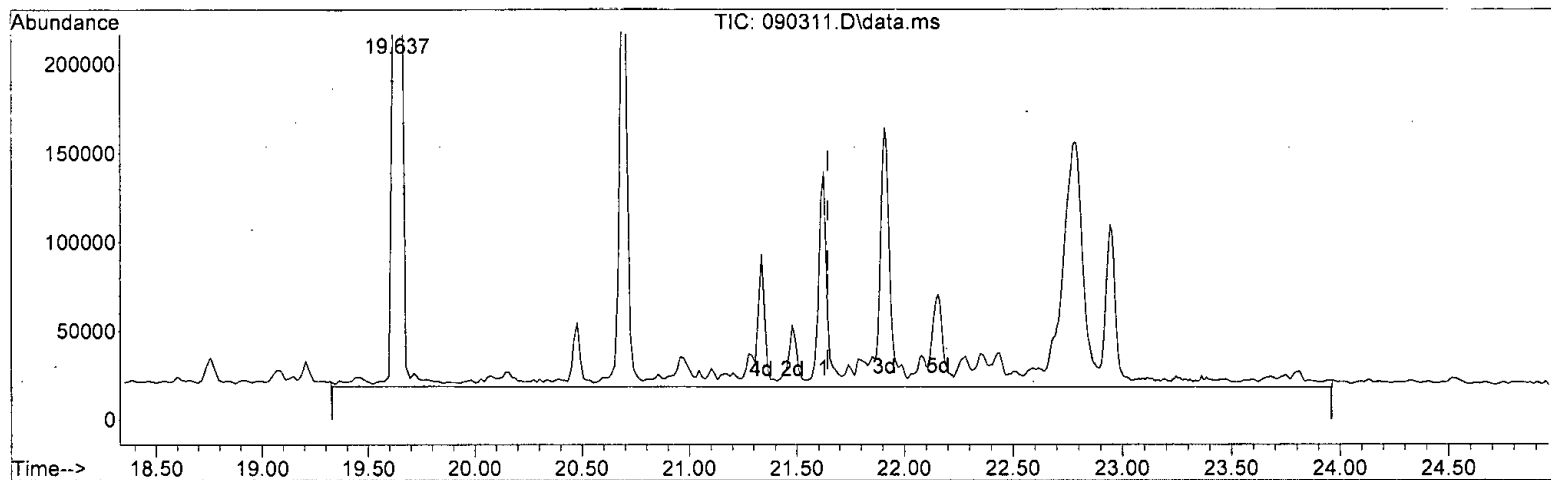
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B aliphatics*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:35:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 145.753 ug/m3 m

response 6113272

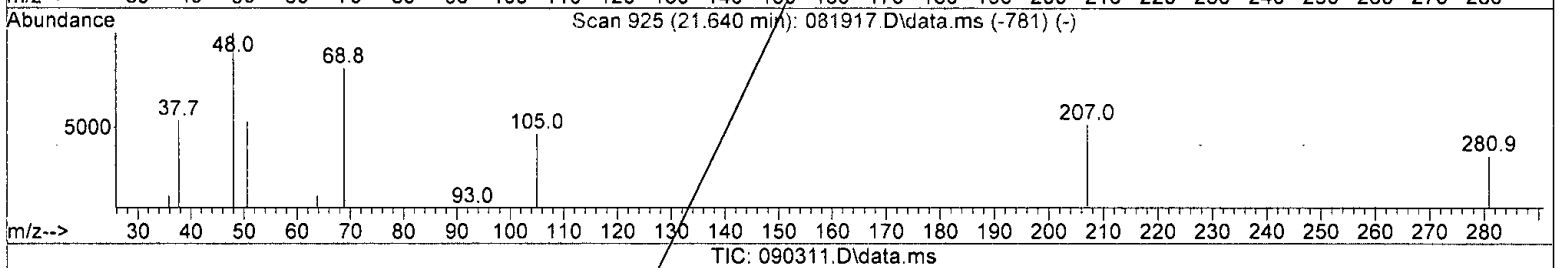
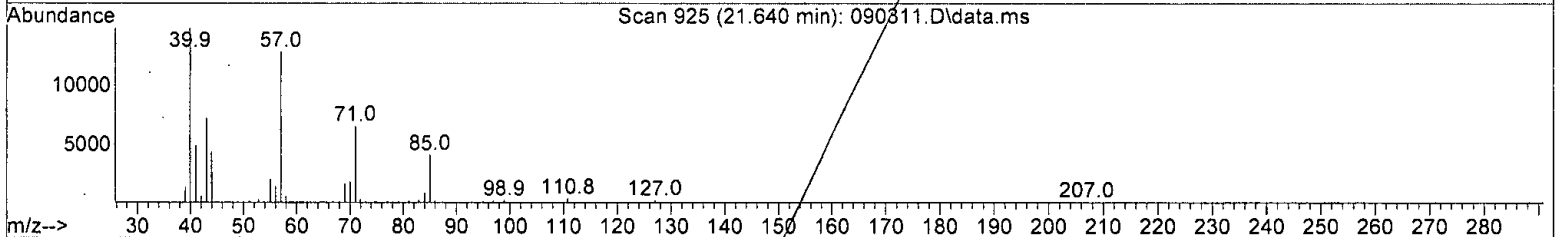
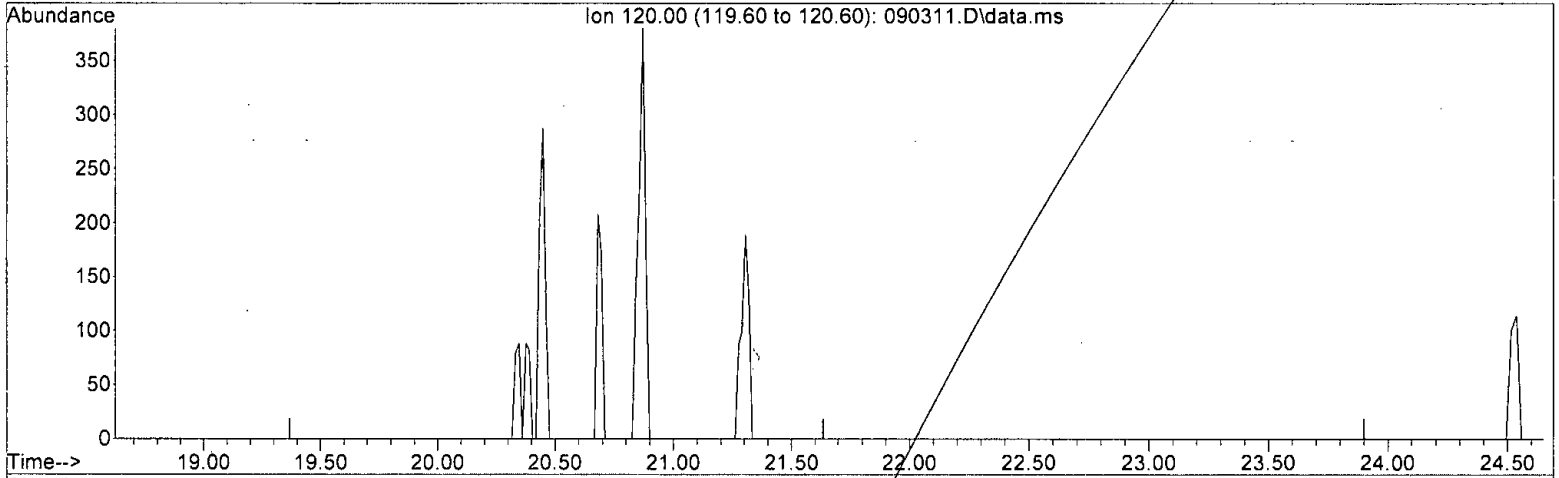
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:35:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) -15.021 ug/m3 m

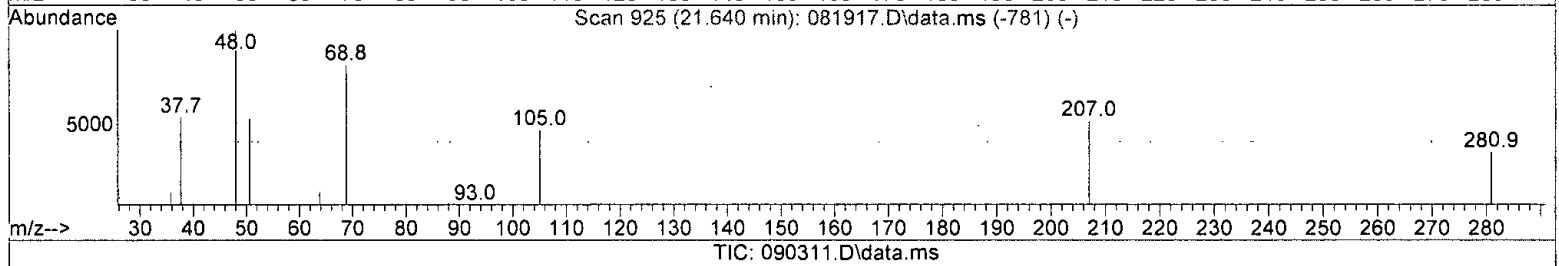
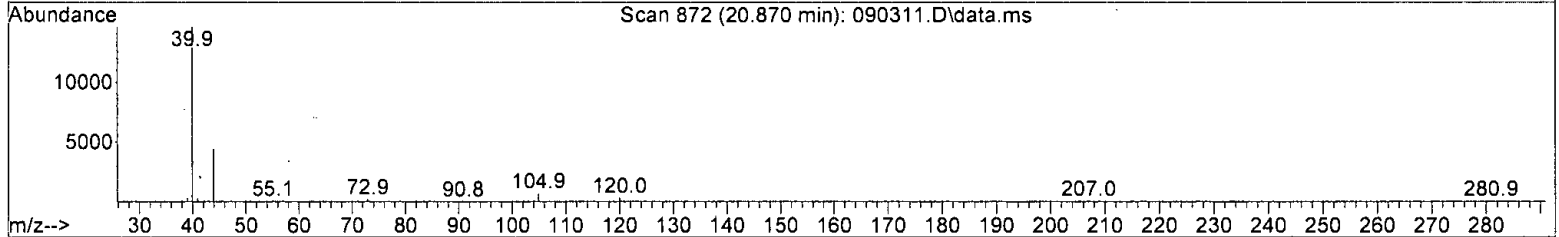
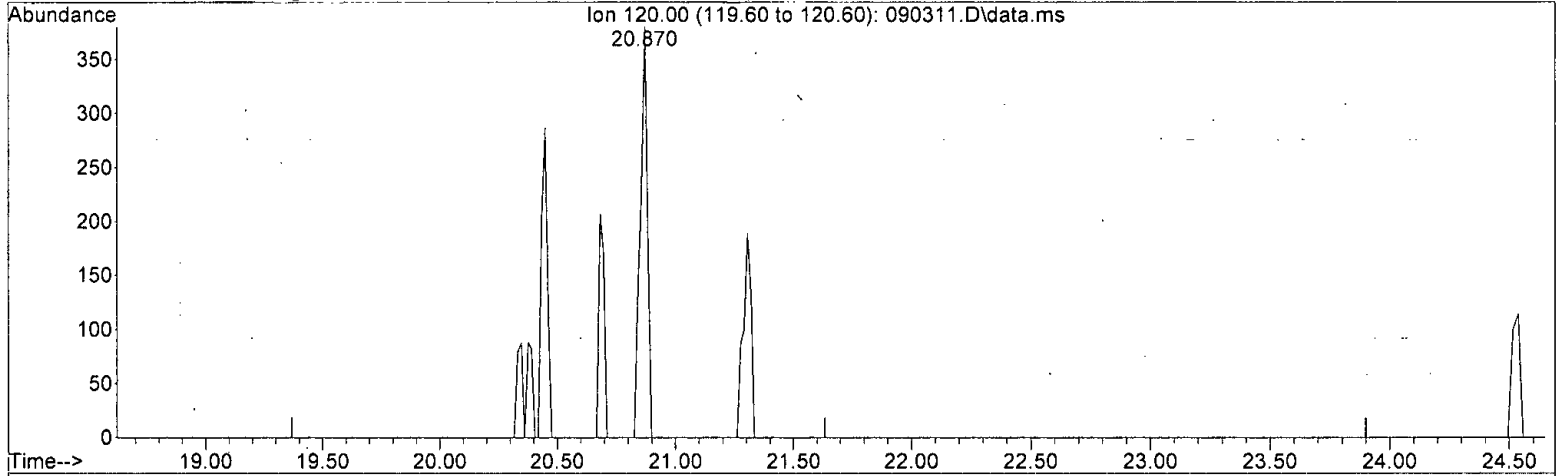
response -73354

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature: B. entor...*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:35:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 0.401 ug/m3 m

response 1958

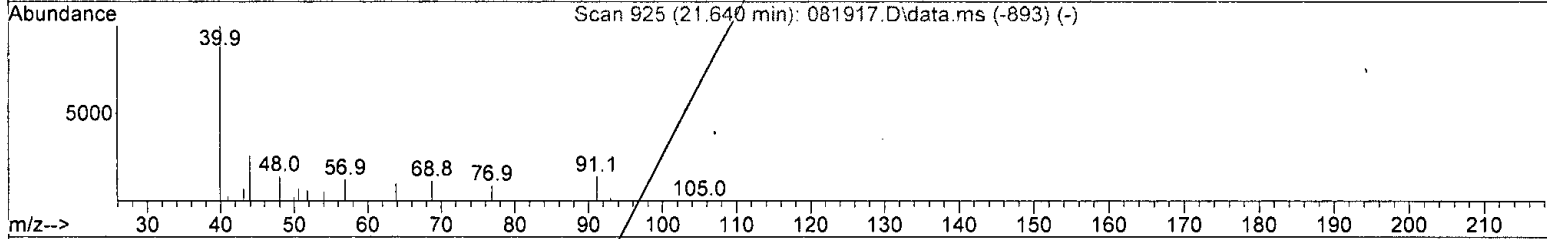
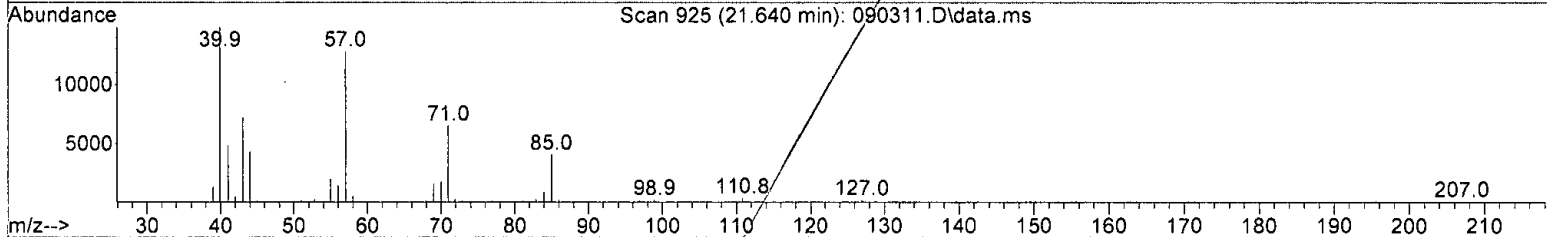
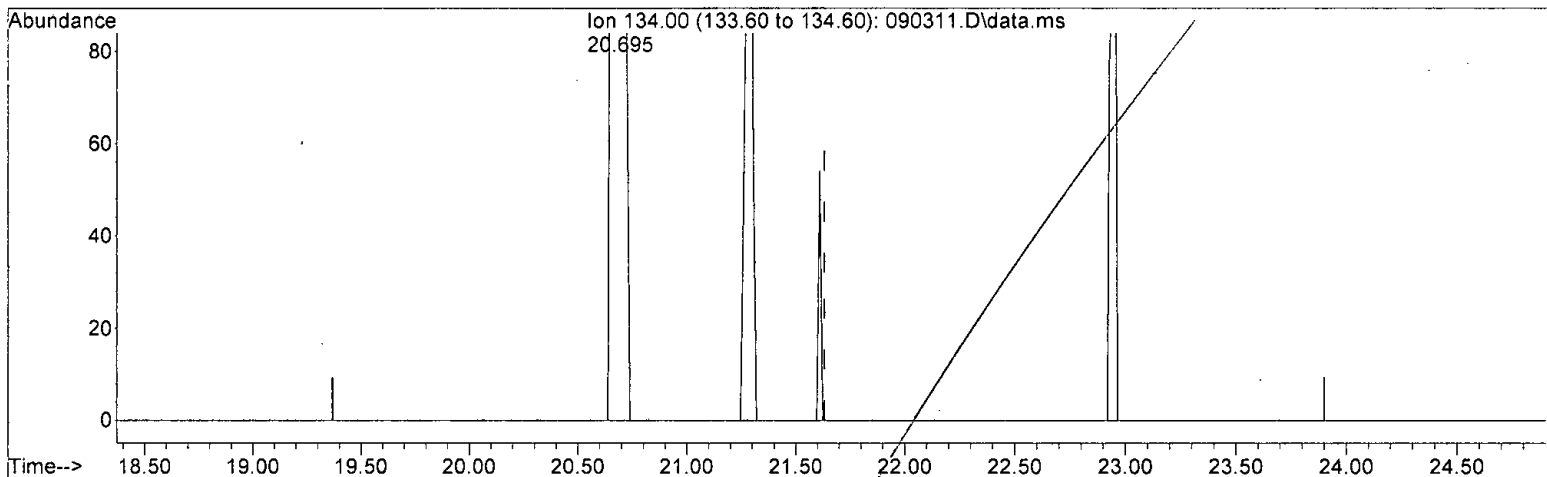
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:35:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)  
 21.635min ( 0.000) -25.579 ug/m3 m

response -71146

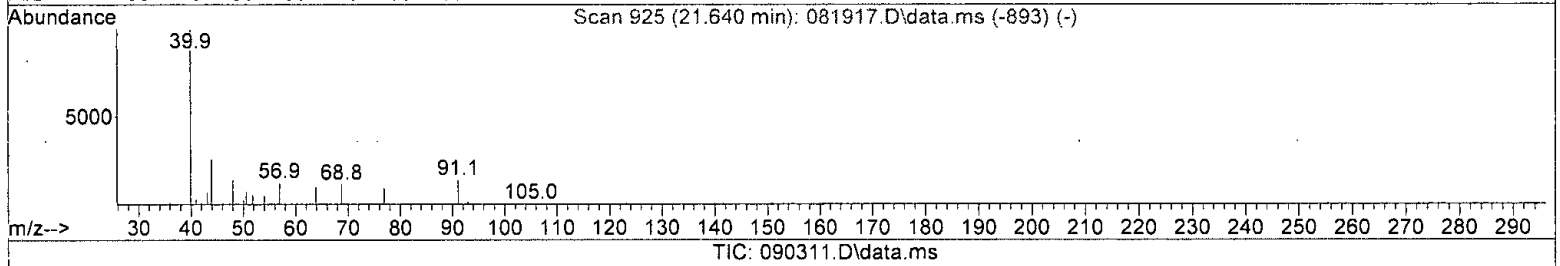
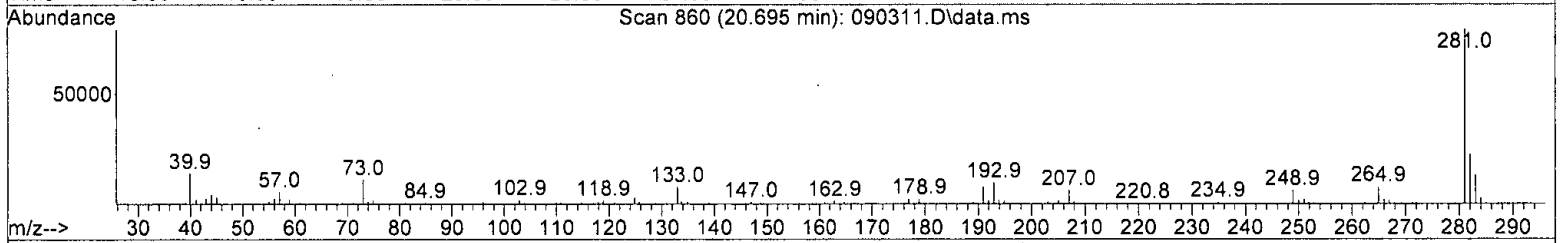
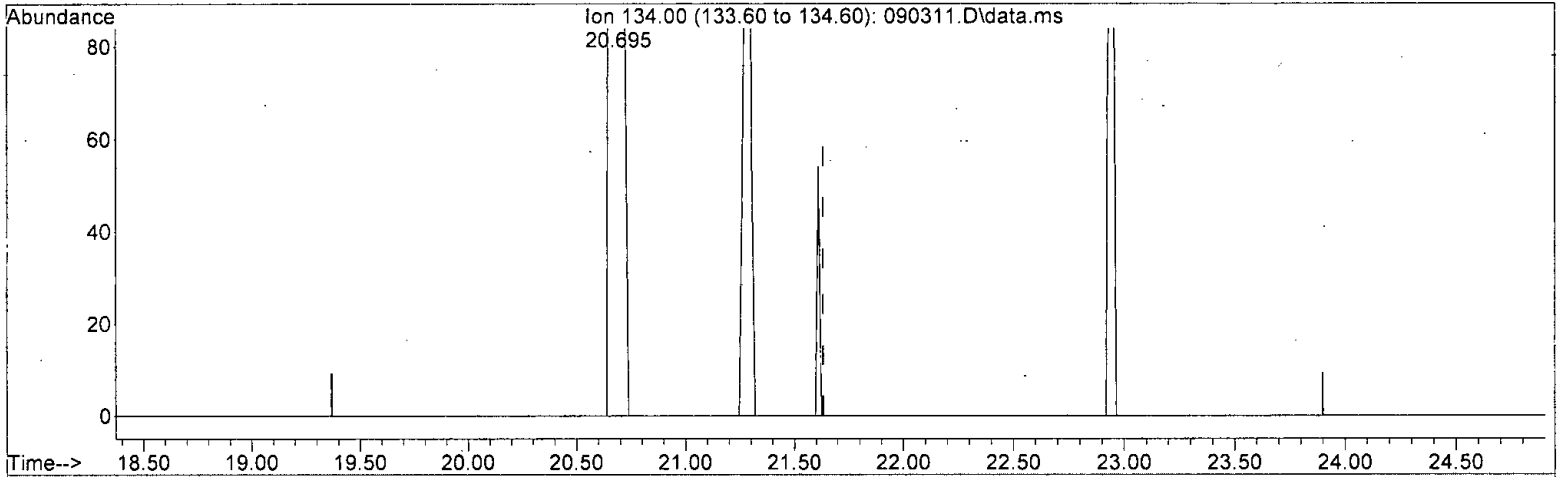
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:35:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 1.421 ug/m3 m

response	3953
Ion	Exp% Act%
134.00	100.00 100.00
0.00	0.00 0.00
0.00	0.00 0.00
0.00	0.00 0.00

*h orla/ly*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:37:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	101138	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	464533	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	409944	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	359613	70.018	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	98.62%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	943606	52.841	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1272420	50.202	ug/m3	92
4) IS-3 Chlorobenzene-d5	18.21	TIC	1525136	49.609	ug/m3	91
5) Methylene chloride	6.86	TIC	239473	264.873	ug/m3	92
6) Acetone	5.60	TIC	95244	1.997	ppbv	100
7) 2-Propanol	5.86	TIC	90584	326.888	ppbv	100
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	8.72	73	314	0.040	ug/m3	56
11) Benzene	12.71	78	1178	0.075	ug/m3	57
12) Isopentane	5.60	TIC	95244	3.036	ug/m3#	54
13) Hexane	9.99	TIC	943606	30.652	ug/m3	61
14) Cyclohexane	13.23	TIC	1272420	39.461	ug/m3	94
15) 2,3-Dimethylpentane	13.23	TIC	1272420	30.921	ug/m3	64
16) Heptane	14.63	TIC	4014	0.119	ug/m3	97
17) Octane	17.78	TIC	596574	12.938	ug/m3	61
18) APH EC5-8 aliphatics T...	0.00	TIC	4184278m	113.523	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	7315224m	198.469	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1720997	49.729	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	760523	89.220	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	623719	58.628	ppbv	100
24) Toluene	16.39	92	10900	1.239	ug/m3	94
25) Ethylbenzene	18.60	91	2514	0.138	ug/m3	94
26) m,p-Xylene	18.76	106	4353	0.713	ug/m3#	73
27) o-Xylene	19.21	106	1899	0.329	ug/m3	98
28) Naphthalene	23.94	128	2450	0.166	ug/m3	68
29) 2,3-Dimethylheptane	18.76	TIC	45950	1.115	ug/m3#	58
30) Nonane	19.64	TIC	1711930	39.793	ug/m3#	60
31) Decane	20.96	TIC	49591	1.160	ug/m3	97
32) Butylcyclohexane	21.63	TIC	300682	6.193	ug/m3	62
33) Undecane	22.28	TIC	37390	0.882	ug/m3	89
34) Dodecane	23.81	TIC	29891	0.859	ug/m3	85
35) APH EC9-12 aliphatics ...	21.63	TIC	2175434m	51.867	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	6113272m	145.753	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	20.45	120	520	0.116	ug/m3#	45
40) 1,3,5-Trimethylbenzene	20.87	120	794	0.140	ug/m3	92
41) p-Isopropyltoluene	21.29	134	349	0.125	ug/m3#	69
42) 1,2,3-Trimethylbenzene	21.31	120	439	0.066	ug/m3#	85
43) APH EC9-10 aromatics T...	21.63	TIC	2102m	0.475	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	1958m	0.401	ug/m3	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

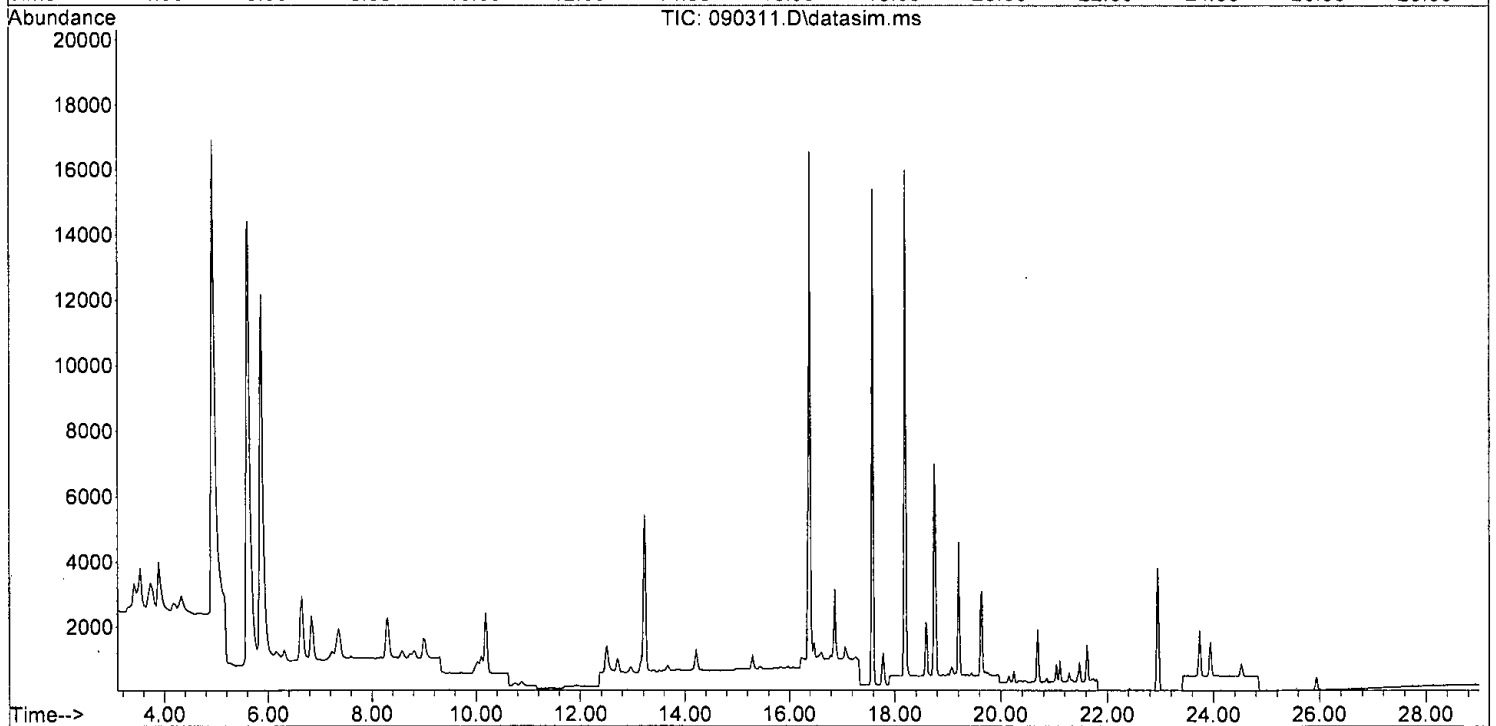
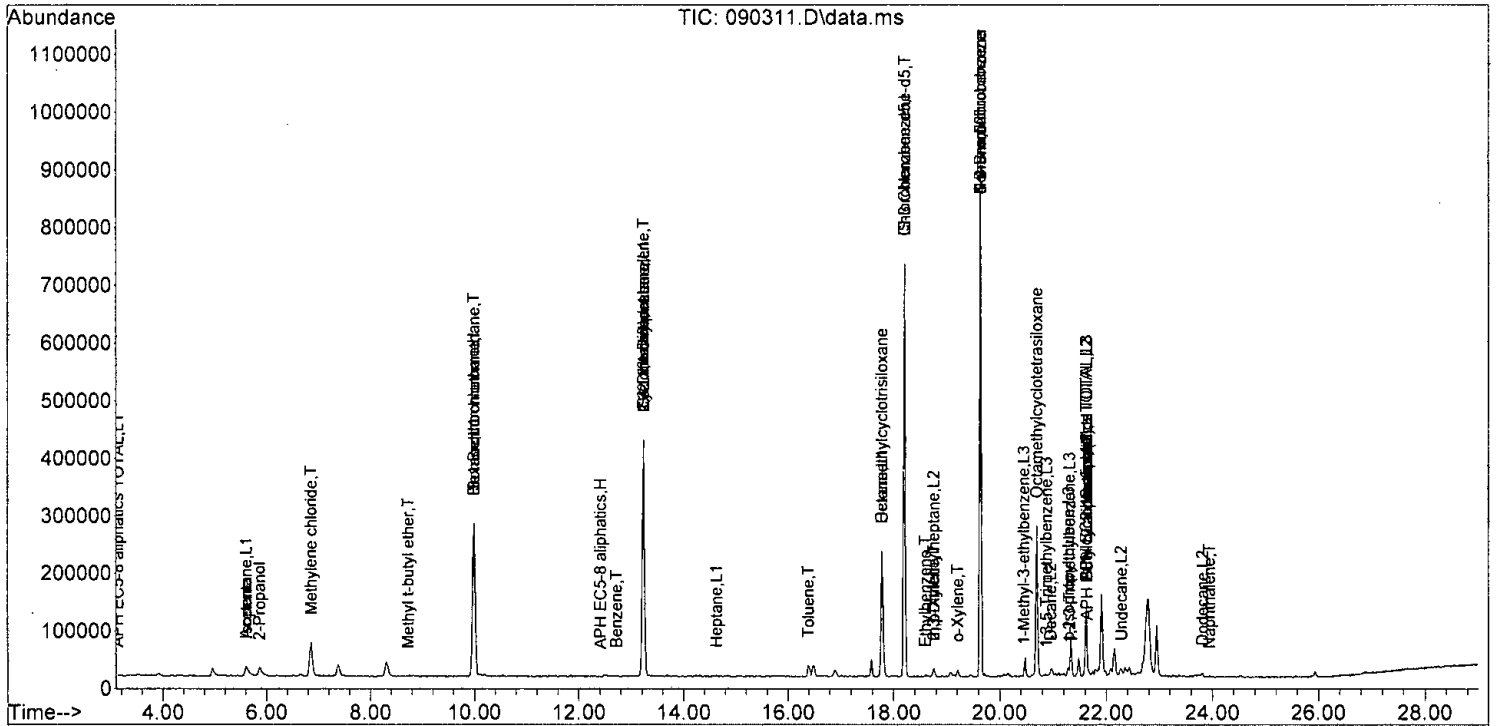
Quant Time: Sep 07 10:37:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
45) APH EC9-10 aromatics (2)	21.64	134	3953m	1.421	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

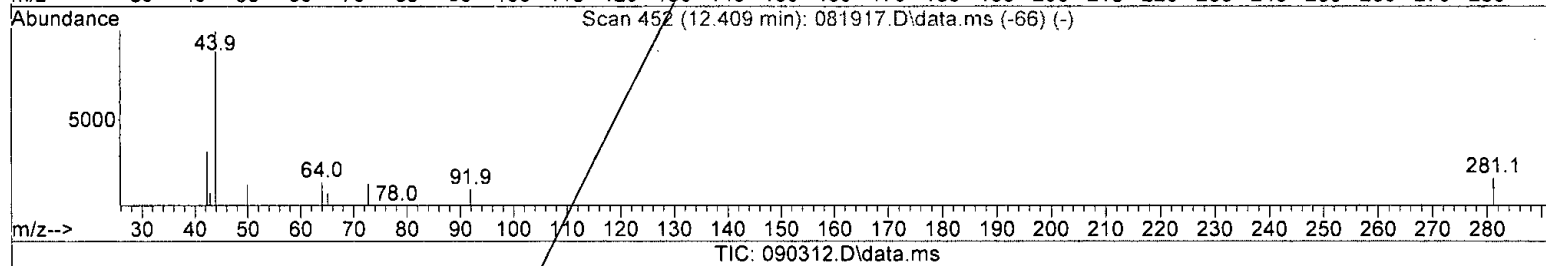
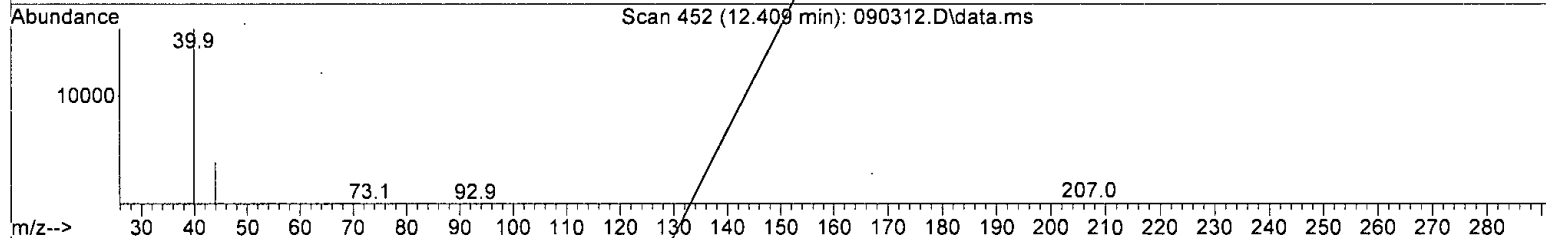
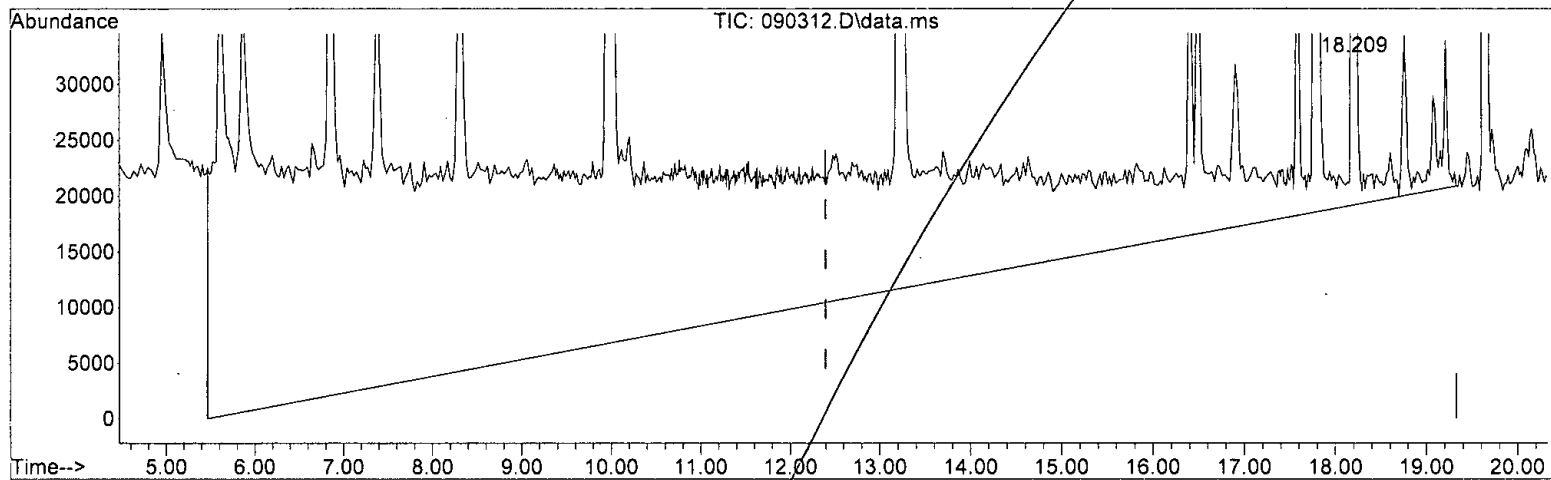
Quant Time: Sep 07 10:37:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090312.D  
 Acq On : 3 Sep 2021 2:58 pm  
 Operator : bat  
 Sample : 109030-01 dup 1/5.8  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:42:34 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 38.861 ug/m3 m  
 response 1412616

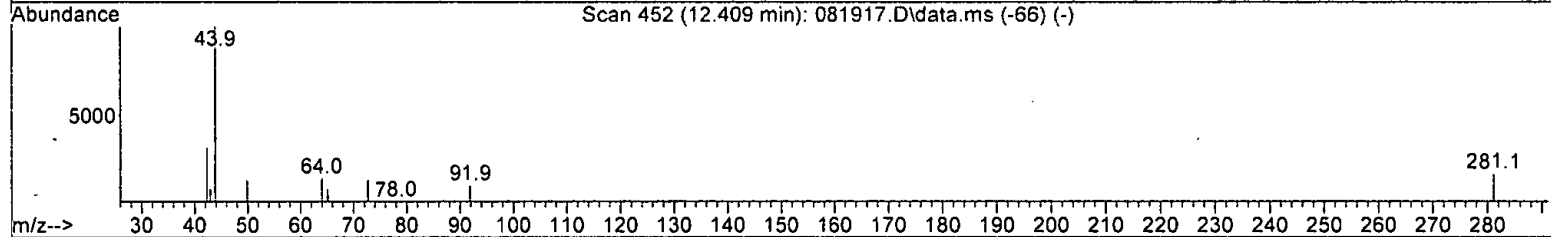
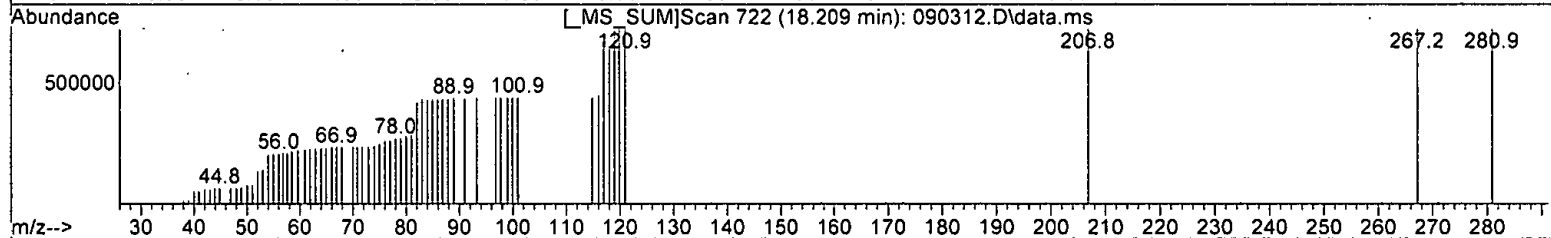
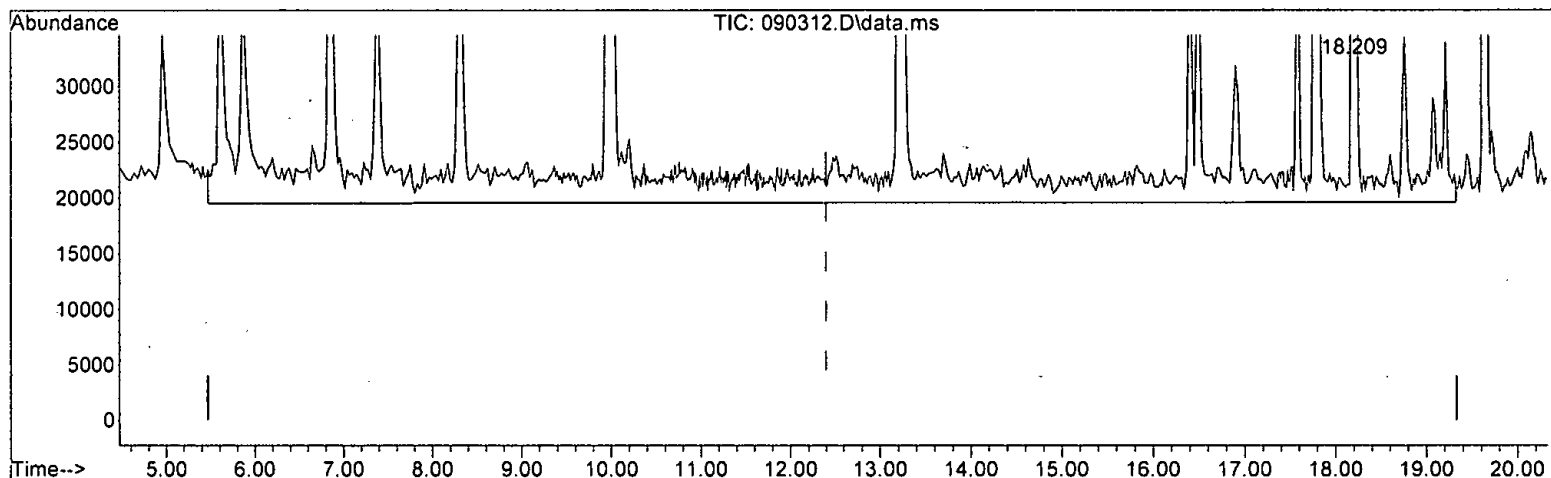
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090312.D  
 Acq On : 3 Sep 2021 2:58 pm  
 Operator : bat  
 Sample : 109030-01 dup 1/5.8  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:42:34 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

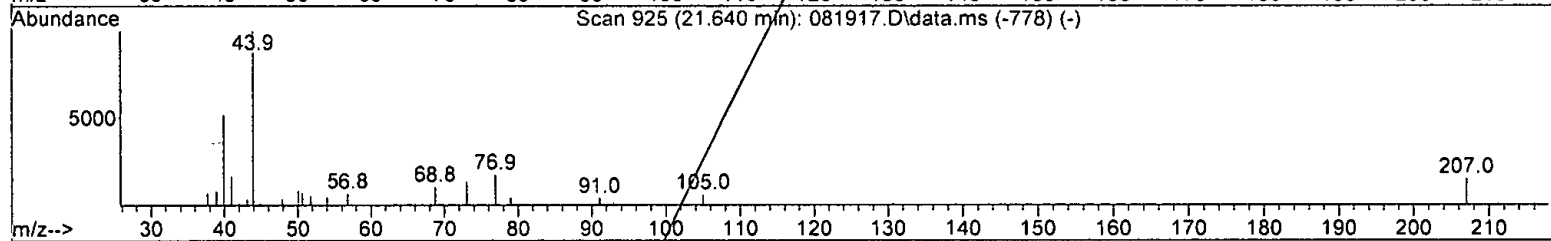
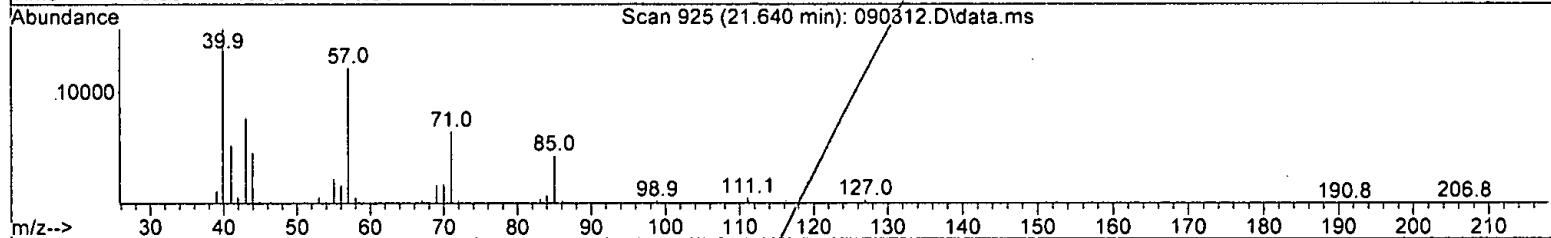
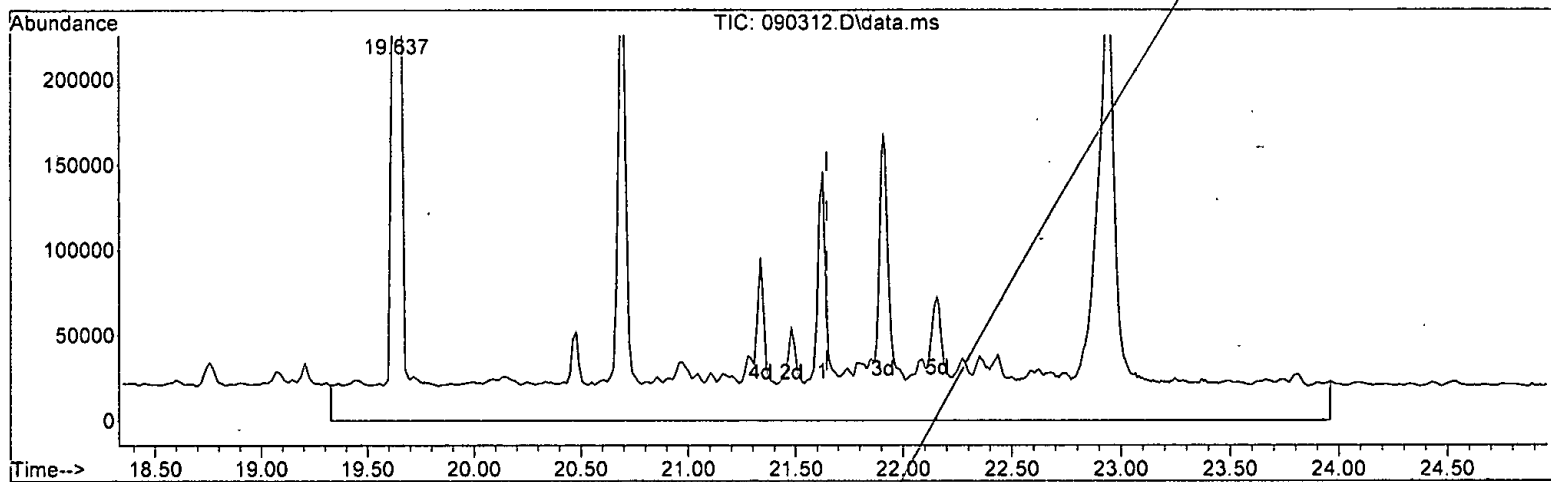
12.400min ( 0.000) 200.325 ug/m3 m

response	7281939
Signal	Exp% Act%
TIC	100.00 100.00
0.00	0.00 0.00
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090312.D  
 Acq On : 3 Sep 2021 2:58 pm  
 Operator : bat  
 Sample : 109030-01 dup 1/5.8  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:42:34 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 75.692 ug/m3 m  
 response 3115224

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

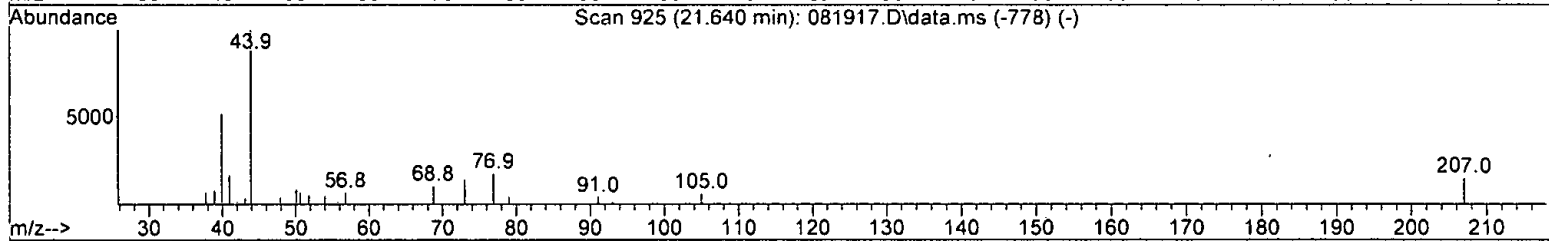
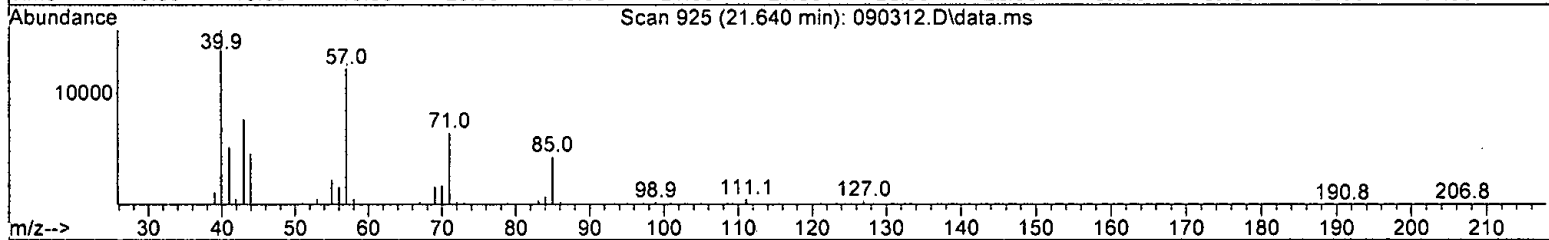
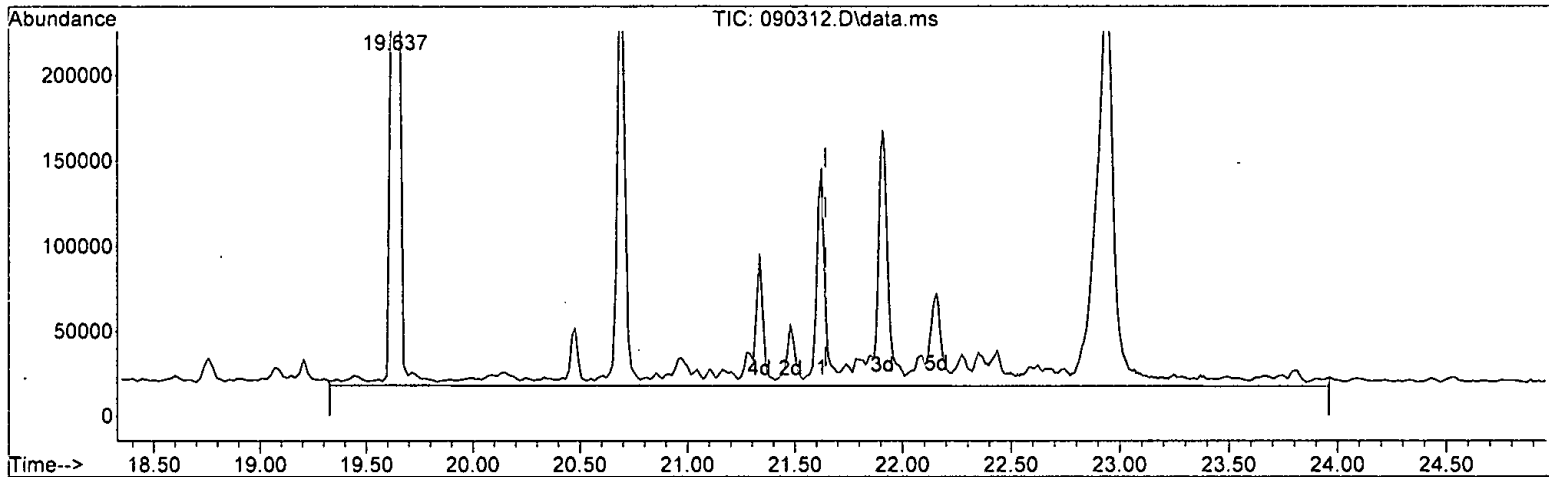
*Handwritten signature:* M. [unclear]



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090312.D  
 Acq On : 3 Sep 2021 2:58 pm  
 Operator : bat  
 Sample : 109030-01 dup 1/5.8  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:42:34 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 160.014 ug/m3 m

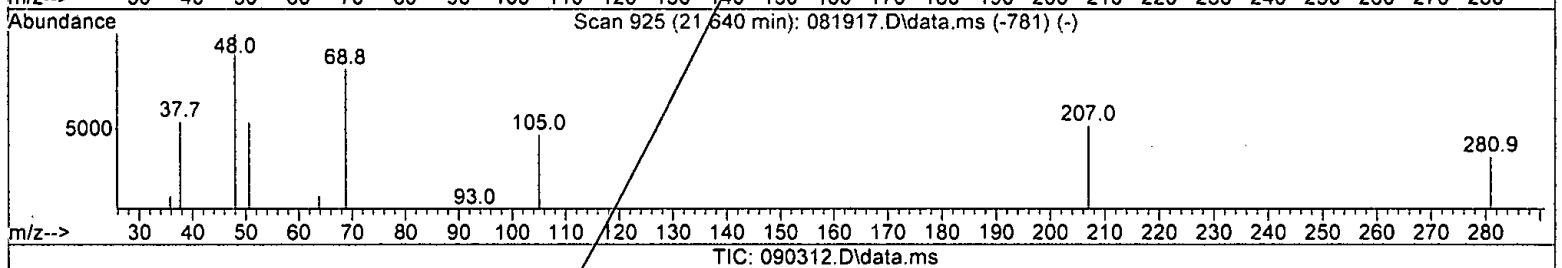
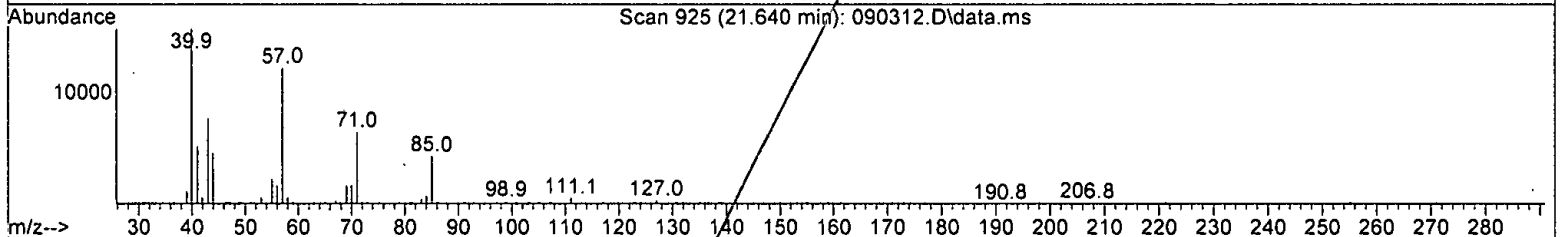
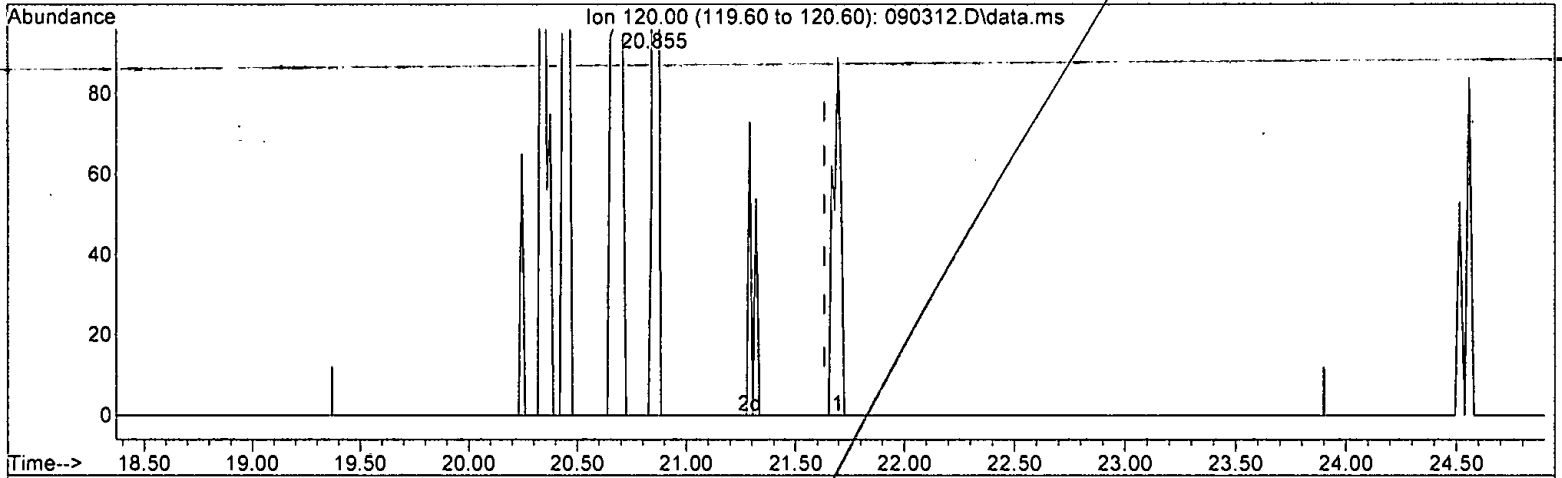
response 6585597

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: M. G. G.*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090312.D  
 Acq On : 3 Sep 2021 2:58 pm  
 Operator : bat  
 Sample : 109030-01 dup 1/5.8  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:42:34 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (R)

21.635min ( 0.000) -14.999 ug/m3 m

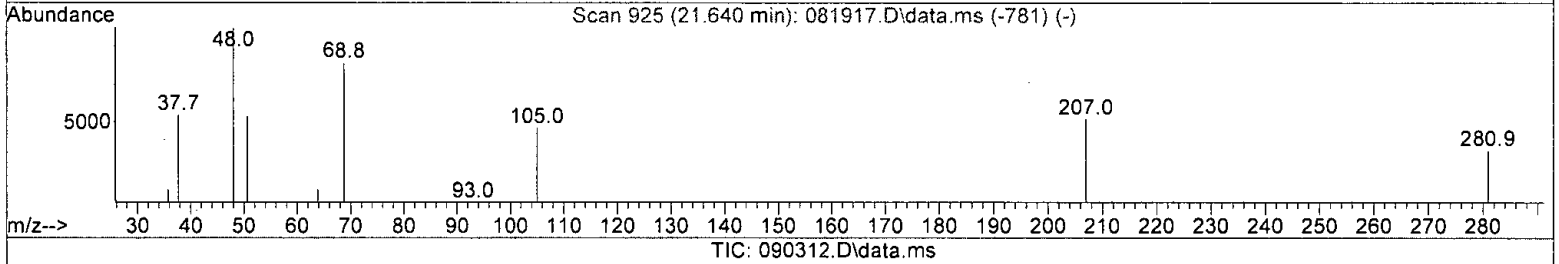
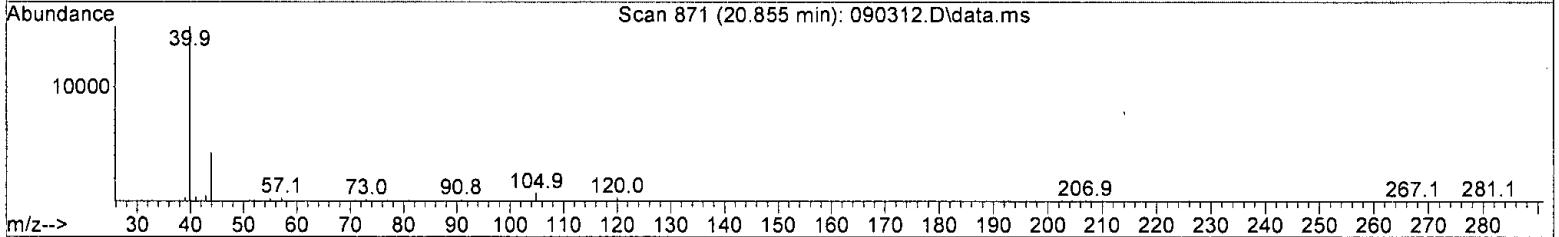
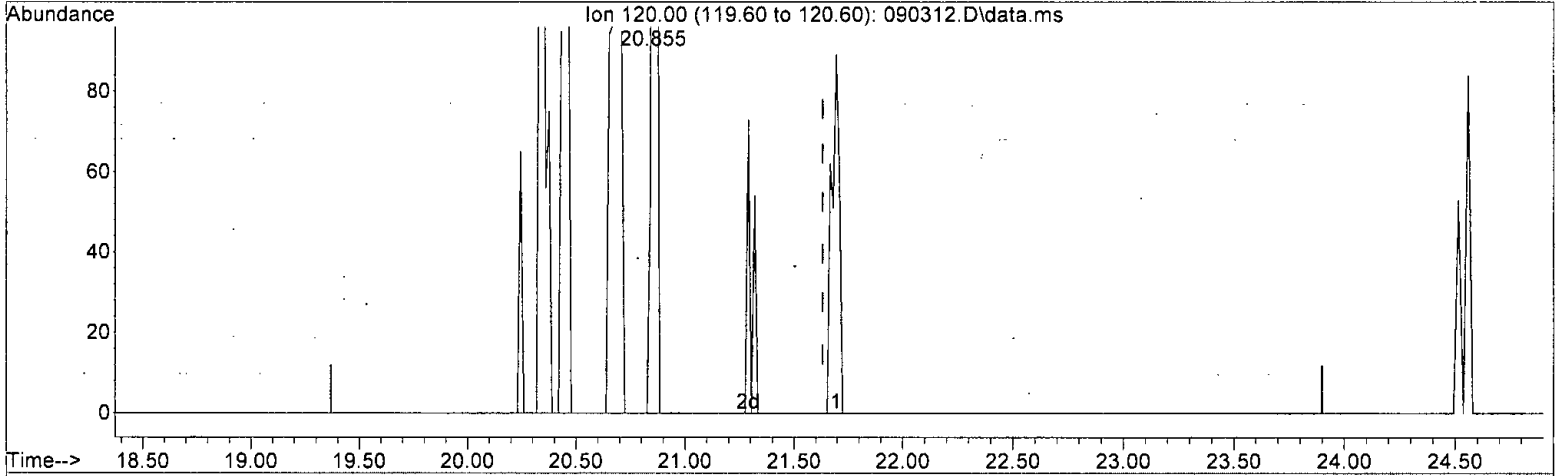
response -71871

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*h  
02/02/24*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090312.D  
 Acq On : 3 Sep' 2021 2:58 pm  
 Operator : bat  
 Sample : 109030-01 dup 1/5.8  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:42:34 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 0.422 ug/m3 m

response 2022

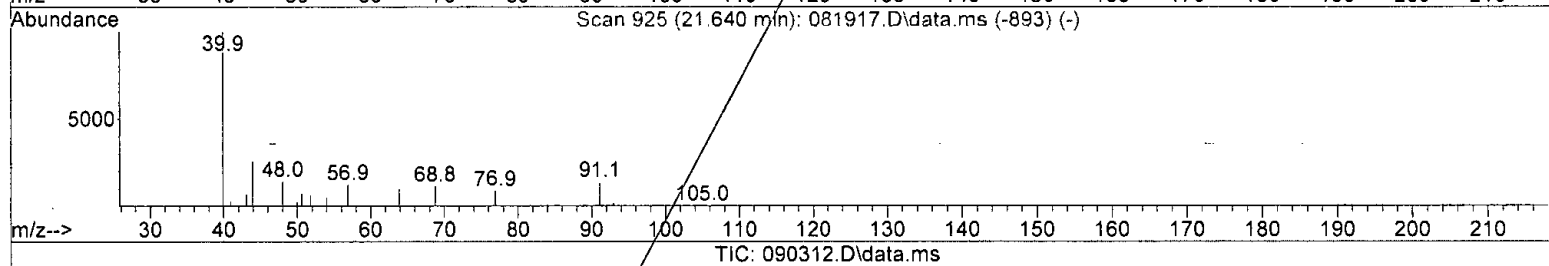
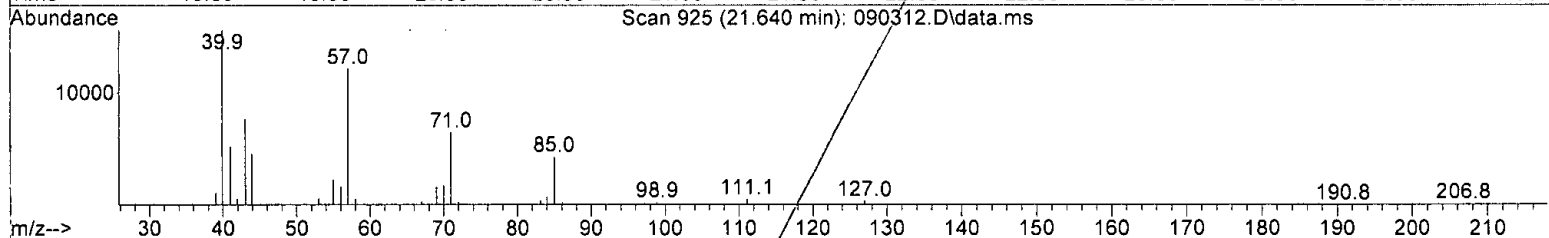
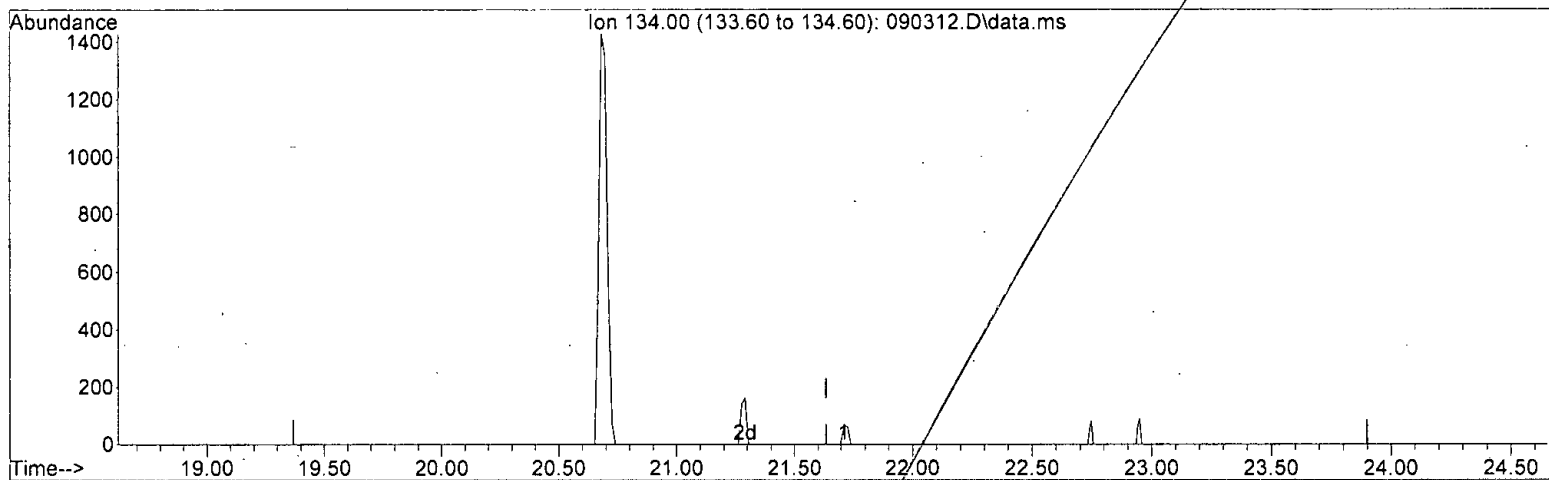
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090312.D  
 Acq On : 3 Sep 2021 2:58 pm  
 Operator : bat  
 Sample : 109030-01 dup 1/5.8  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:42:34 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) -25.846 ug/m3 m

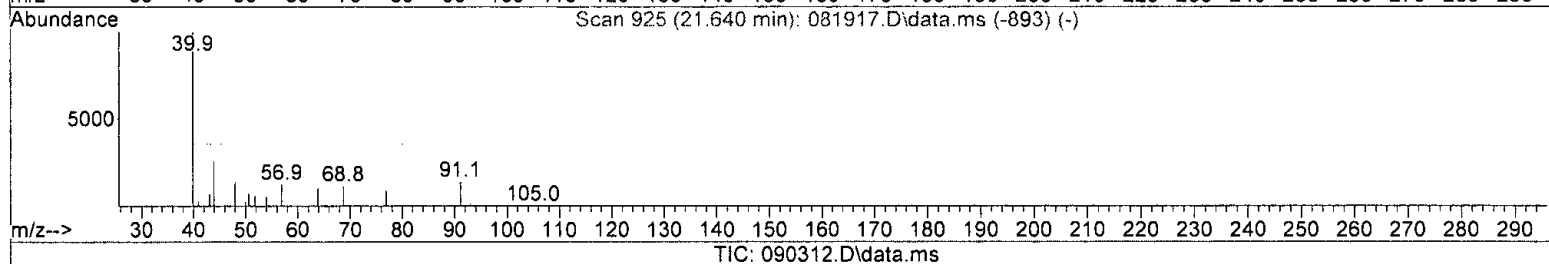
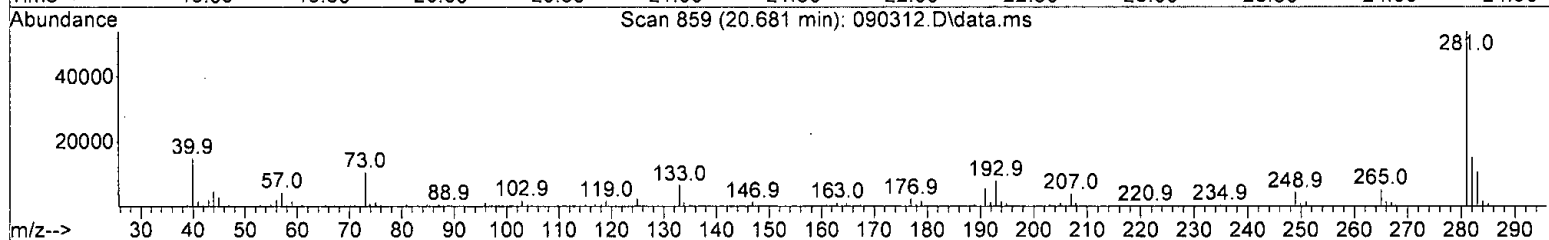
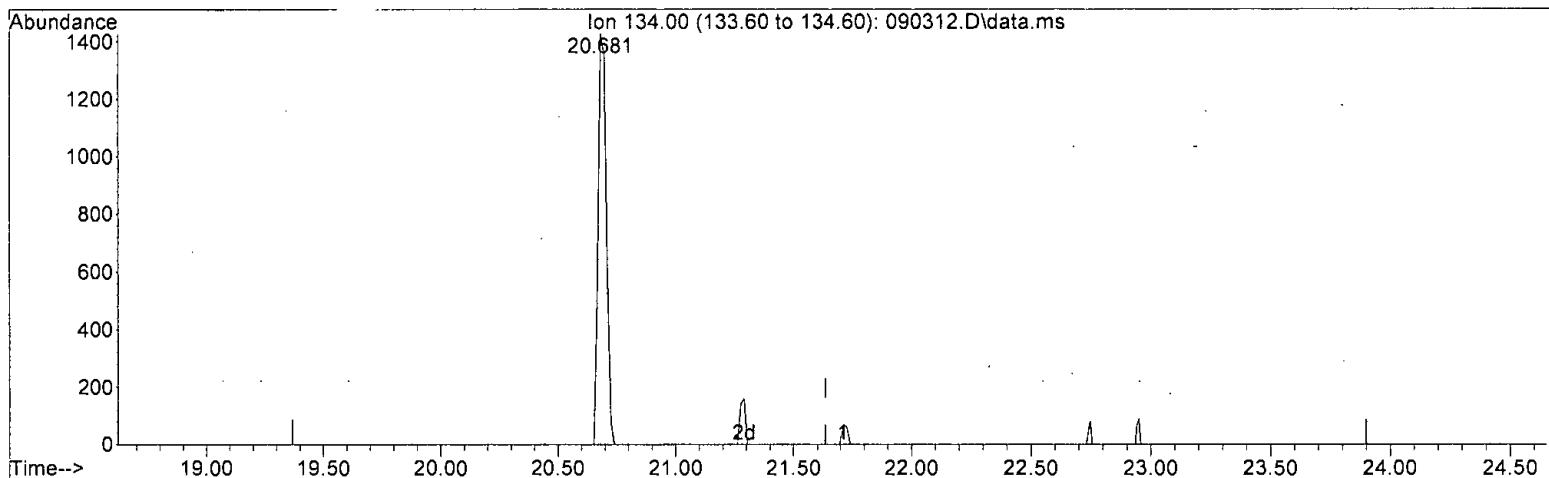
response -70542

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Bat*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090312.D  
 Acq On : 3 Sep 2021 2:58 pm  
 Operator : bat  
 Sample : 109030-01 dup 1/5.8  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:42:34 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 1.216 ug/m3 m

response 3319

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090312.D  
 Acq On : 3 Sep 2021 2:58 pm  
 Operator : bat  
 Sample : 109030-01 dup 1/5.8  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:47:11 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	97025	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	458135	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	402258	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	355845	70.608	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	99.45%

Target Compounds						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	919405	53.668	ug/m3	86
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1259504	51.799	ug/m3	92
4) IS-3 Chlorobenzene-d5	18.21	TIC	1500373	50.873	ug/m3	91
5) Methylene chloride	6.86	TIC	161199	185.855	ug/m3	92
6) Acetone	5.60	TIC	89253	1.951	ppbv	100
7) 2-Propanol	5.86	TIC	98007	368.668	ppbv	100
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	8.33	73	1261	0.169	ug/m3	83
11) Benzene	12.71	78	1386	0.089	ug/m3	93
12) Isopentane	5.60	TIC	89253	2.885	ug/m3#	50
13) Hexane	9.99	TIC	919405	30.280	ug/m3	61
14) Cyclohexane	13.23	TIC	1259504	39.606	ug/m3	93
15) 2,3-Dimethylpentane	13.23	TIC	1259504	31.035	ug/m3	64
16) Heptane	14.63	TIC	13898	0.419	ug/m3	77
17) Octane	17.78	TIC	588779	12.947	ug/m3	62
18) APH EC5-8 aliphatics T...	0.00	TIC	4130343m	113.625	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	7281939m	200.325	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1704579	50.196	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	709100	84.777	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	609370	58.373	ppbv	100
24) Toluene	16.39	92	10857	1.258	ug/m3	91
25) Ethylbenzene	18.60	91	2805	0.157	ug/m3	95
26) m,p-Xylene	18.76	106	4834	0.807	ug/m3	90
27) o-Xylene	19.21	106	1974	0.348	ug/m3	96
28) Naphthalene	23.94	128	1985	0.137	ug/m3	87
29) 2,3-Dimethylheptane	18.76	TIC	47988	1.187	ug/m3#	59
30) Nonane	19.64	TIC	1693460	40.116	ug/m3#	60
31) Decane	20.97	TIC	64106	1.529	ug/m3	93
32) Butylcyclohexane	21.63	TIC	319446	6.706	ug/m3	62
33) Undecane	22.27	TIC	34440	0.828	ug/m3	91
34) Dodecane	23.81	TIC	32164	0.942	ug/m3	81
35) APH EC9-12 aliphatics ...	21.63	TIC	2191604m	53.251	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	6585597m	160.014	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	20.35	120	415	0.094	ug/m3	96
40) 1,3,5-Trimethylbenzene	20.45	120	516	0.092	ug/m3#	47
41) p-Isopropyltoluene	21.29	134	263	0.096	ug/m3#	61
42) 1,2,3-Trimethylbenzene	21.29	120	111	0.017	ug/m3#	1
43) APH EC9-10 aromatics T...	21.63	TIC	1305m	0.301	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	2022m	0.422	ug/m3	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090312.D  
 Acq On : 3 Sep 2021 2:58 pm  
 Operator : bat  
 Sample : 109030-01 dup 1/5.8  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

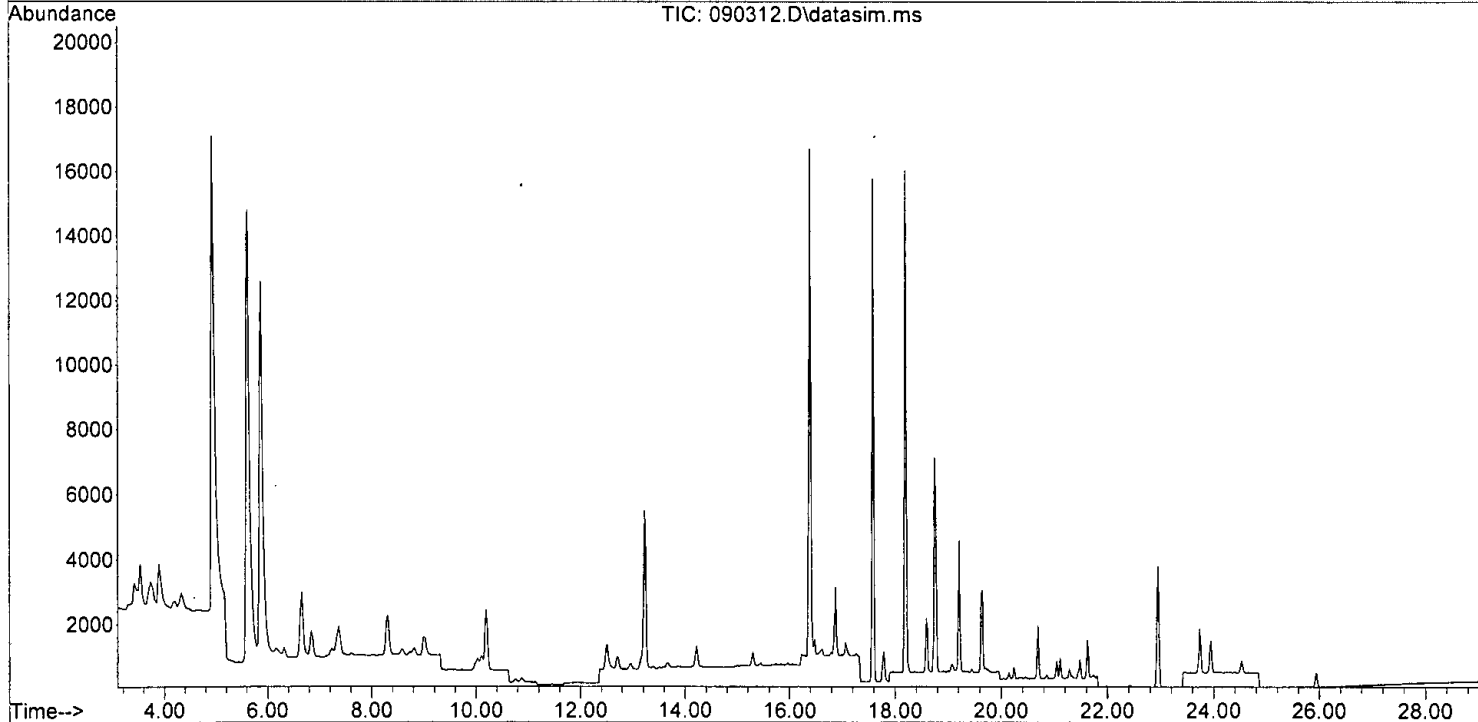
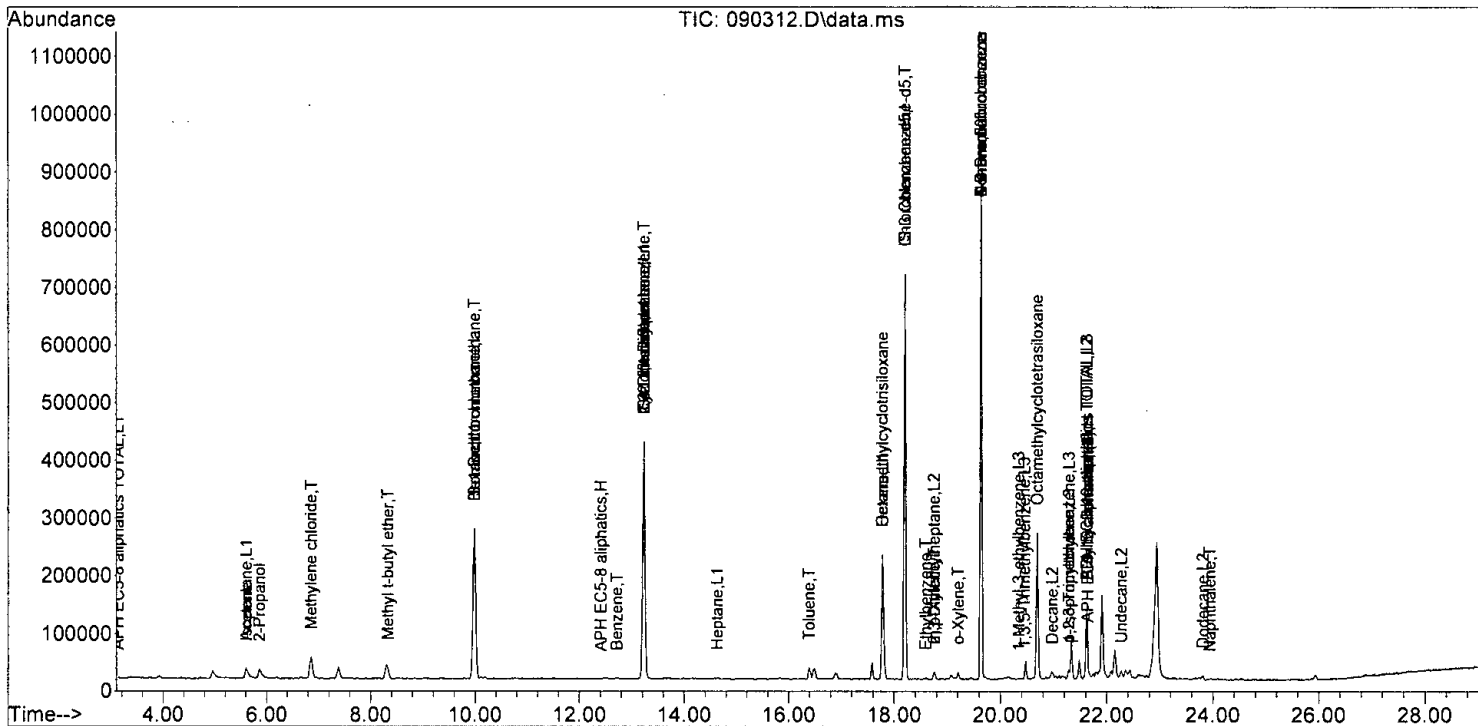
Quant Time: Sep 07 10:47:11 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	3319m	1.216	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090312.D  
 Acq On : 3 Sep 2021 2:58 pm  
 Operator : bat  
 Sample : 109030-01 dup 1/5.8  
 Misc : T2  
 ALS Vial : 12 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:47:11 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





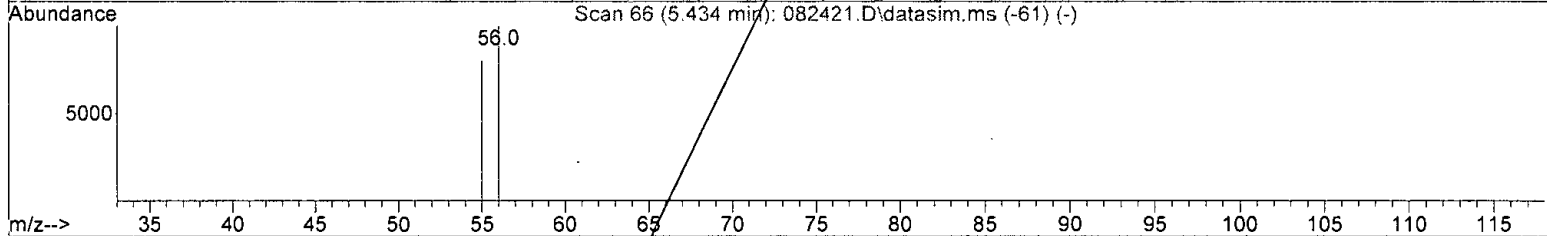
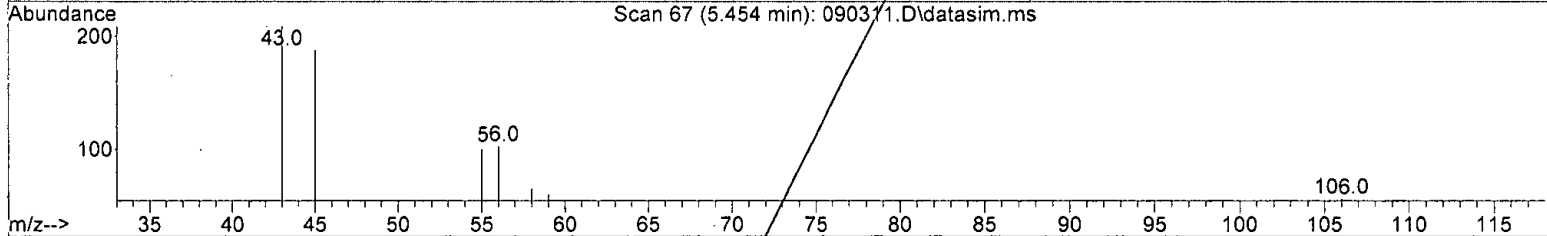
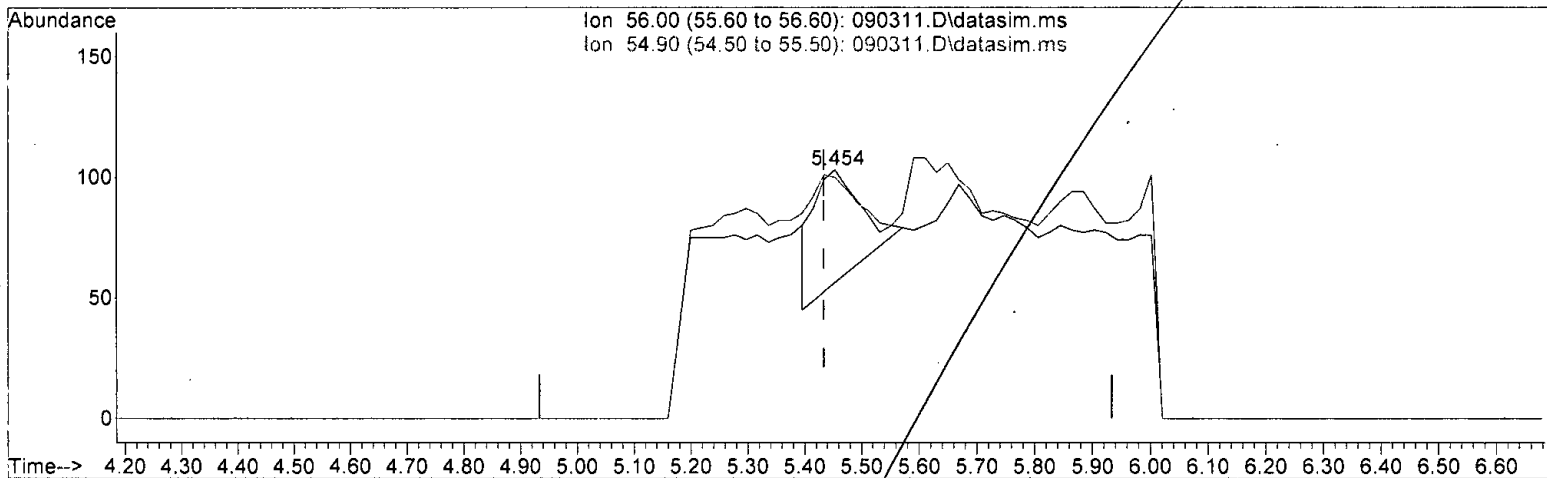
EPA TO-15  
Sample Data

F&B Project 109030

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:03:25 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.454min (+ 0.020) 0.038 ppbv

response 278

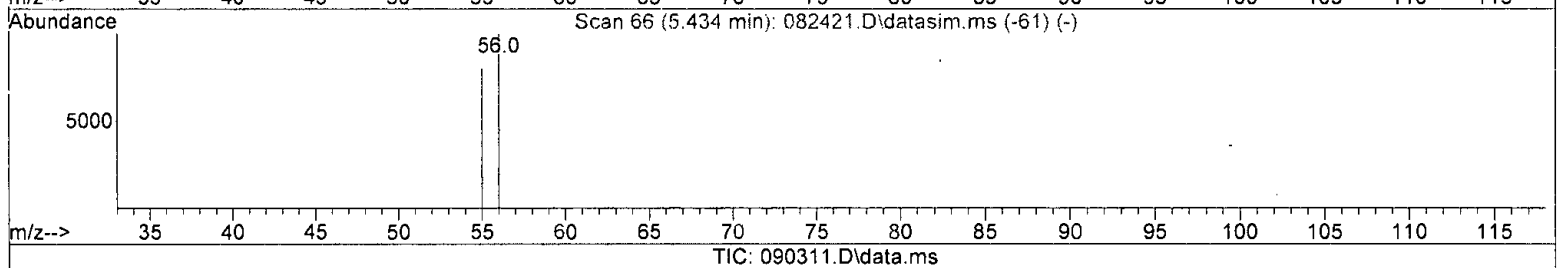
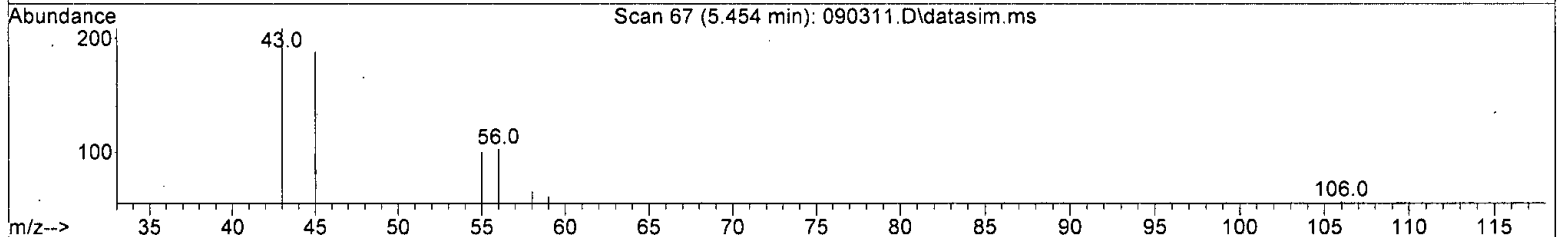
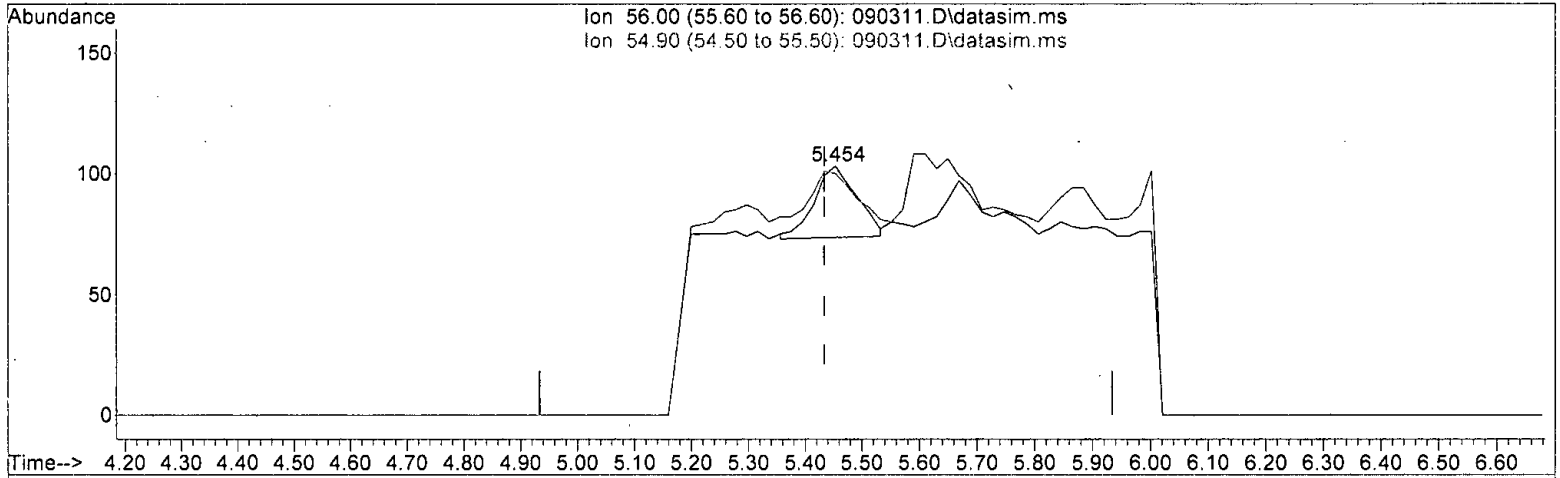
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

*Initial Calibration*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:03:25 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(13) Acrolein (TMP)

5.454min (+ 0.020) 0.021 ppbv m

response 153

Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

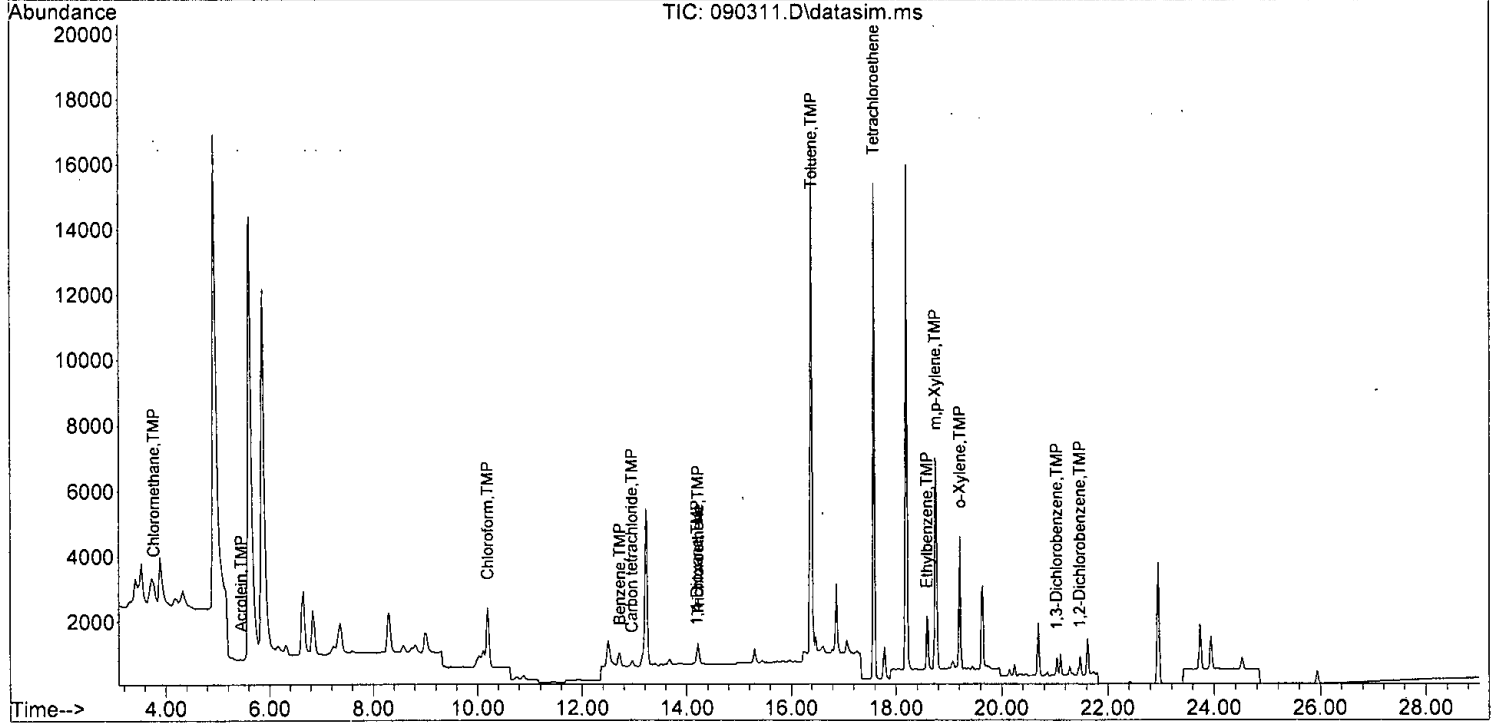
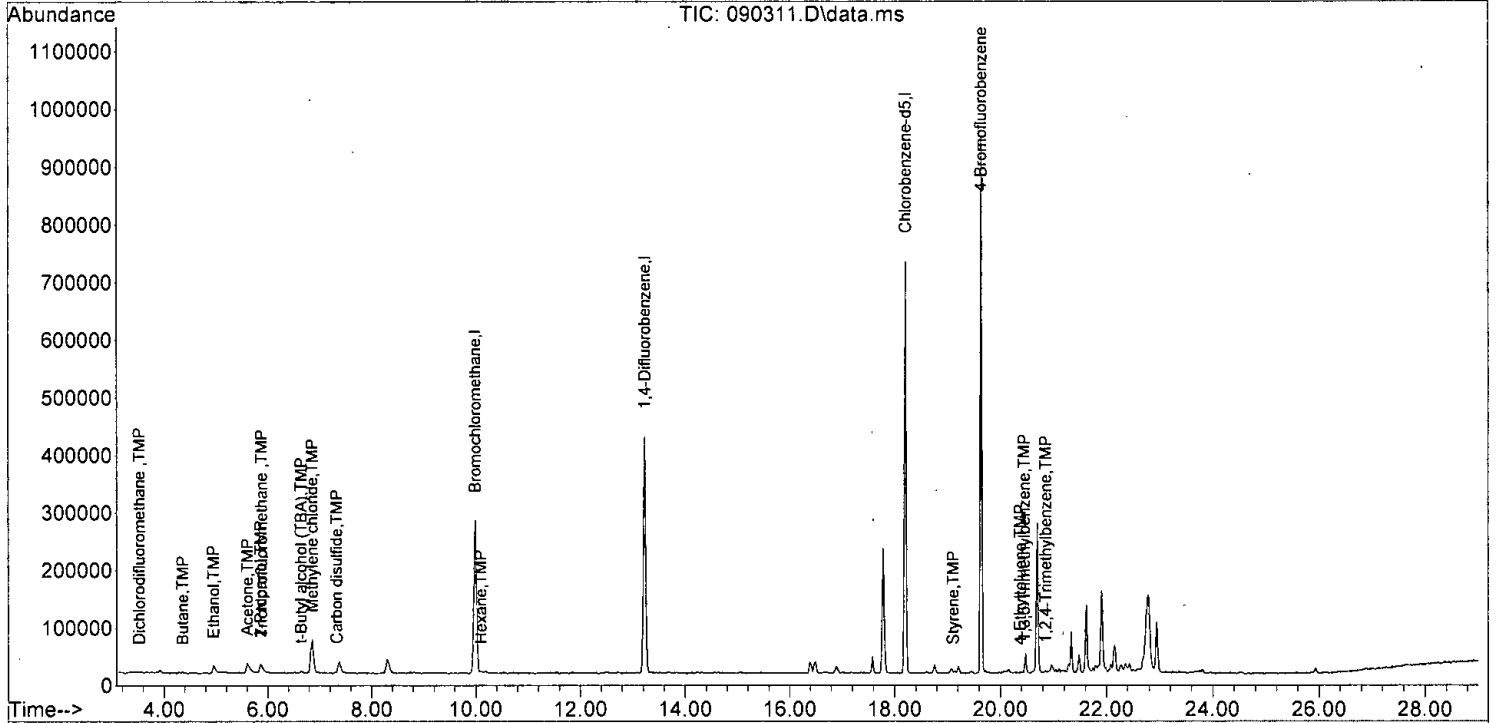
Quant Time: Sep 07 10:40:57 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

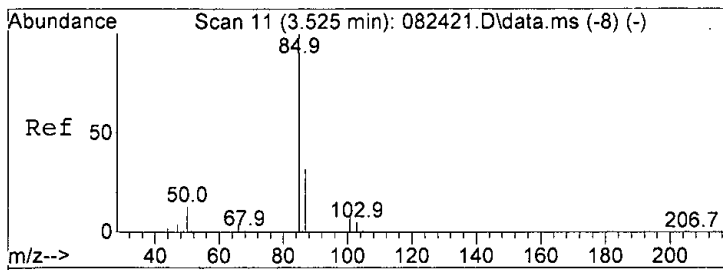
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	101138	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	464533	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	409944	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	359613	9.683	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	96.80%
Target Compounds						
						Qvalue
3) Dichlorodifluoromethane	3.52	85	3302	0.074	ppbv	83
4) Chloromethane	3.77	50	491	0.023	ppbv	83
8) Butane	4.36	43	2403	0.073	ppbv	# 80
12) Ethanol	4.96	45	34938	6.175	ppbv	94
13] Acrolein	5.45	56	153m	0.021	ppbv	
15) Trichlorofluoromethane	5.88	101	2099	0.042	ppbv	78
16) Acetone	5.60	58	13906	1.563	ppbv	96
17) 2-Propanol	5.86	45	48667	1.353	ppbv	97
20) Methylene chloride	6.86	84	44515	2.515	ppbv	87
21) t-Butyl alcohol (TBA)	6.65	59	4262	0.146	ppbv	# 44
24) Carbon disulfide	7.33	76	2513	0.043	ppbv	73
29) Hexane	10.10	57	2477	0.083	ppbv	89
30] Chloroform	10.19	83	3989	0.090	ppbv	97
36] Carbon tetrachloride	12.95	117	328	0.010	ppbv	97
37] Benzene	12.72	78	1171	0.019	ppbv	98
41] 1,4-Dioxane	14.19	88	431	0.034	ppbv	77
46] Trichloroethene	14.22	95	475	0.017	ppbv	84
50] Toluene	16.40	92	14298	0.411	ppbv	86
53] Tetrachloroethene	17.58	164	6830	0.386	ppbv	# 80
58] Ethylbenzene	18.59	91	2905	0.032	ppbv	96
64) 4-Ethyltoluene	20.38	105	851	0.010	ppbv	# 79
65] m,p-Xylene	18.74	106	4831	0.165	ppbv	# 77
66] o-Xylene	19.21	106	2019	0.070	ppbv	88
67) Styrene	19.11	104	795	0.019	ppbv	96
71) 1,3,5-Trimethylbenzene	20.45	105	1067	0.016	ppbv	83
72) 1,2,4-Trimethylbenzene	20.86	105	1902	0.028	ppbv	75
73] 1,3-Dichlorobenzene	21.04	146	553	0.012	ppbv	91
75] 1,2-Dichlorobenzene	21.47	146	568	0.013	ppbv	93
76) 1,2,4-Trichlorobenzene	23.75	180	1735	Below Cal		90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

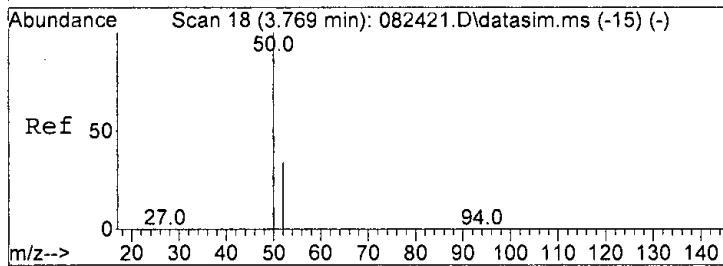
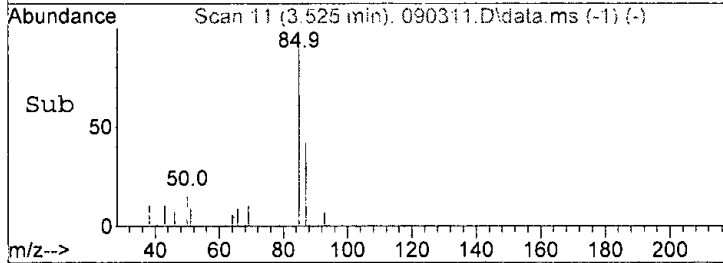
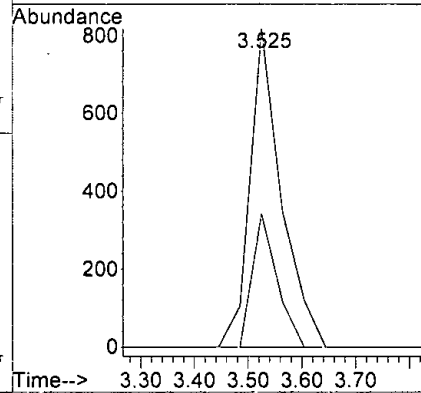
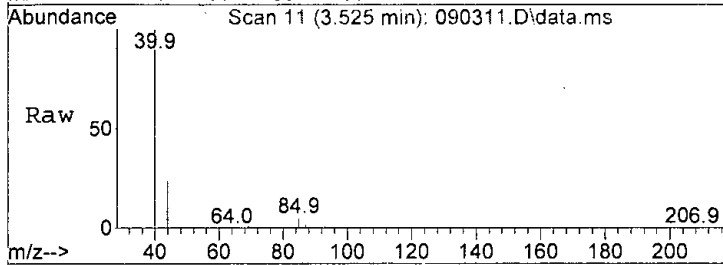
Quant Time: Sep 07 10:40:57 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





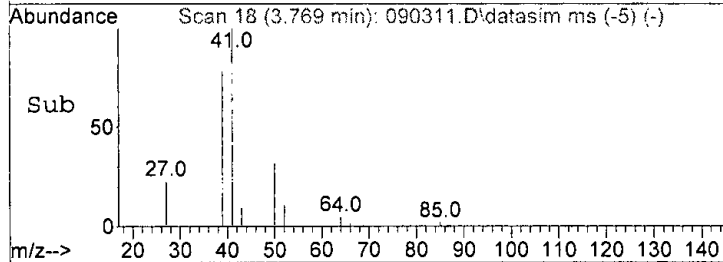
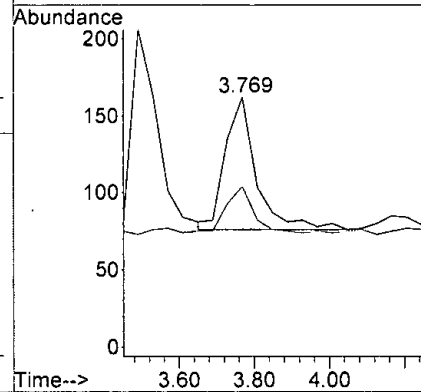
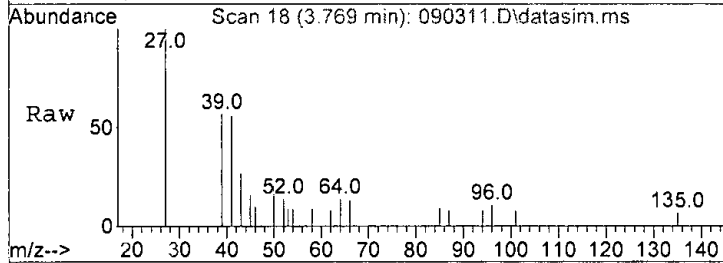
#3  
 Dichlorodifluoromethane  
 Concen: 0.074 ppbv  
 RT: 3.52 min Scan# 11  
 Delta R.T. -0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

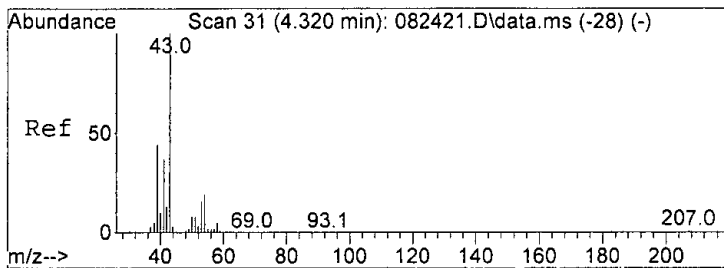
Tgt Ion: 85 Resp: 3302  
 Ion Ratio Lower Upper  
 85 100  
 87 41.9 2.2 62.2



#4  
 Chloromethane  
 Concen: 0.023 ppbv  
 RT: 3.77 min Scan# 18  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

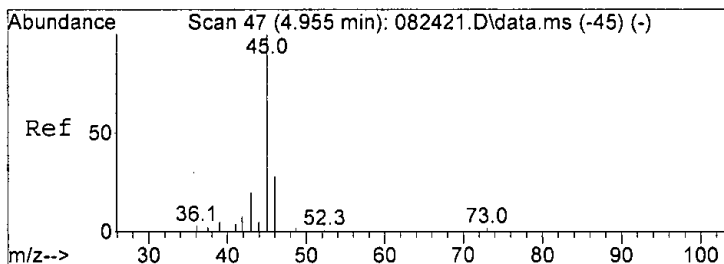
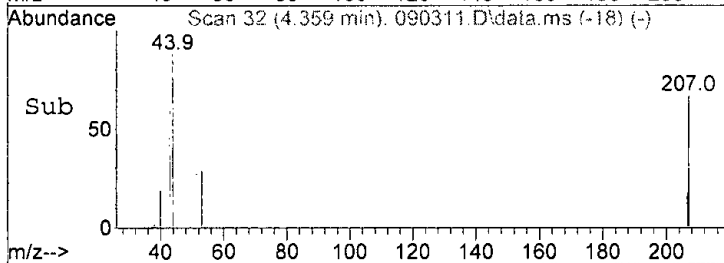
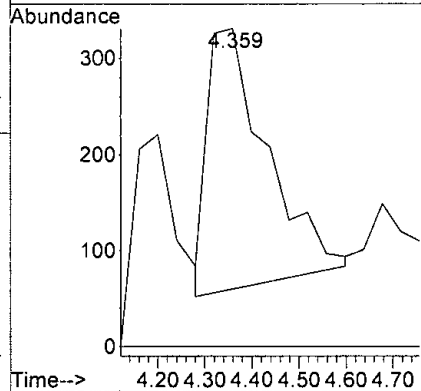
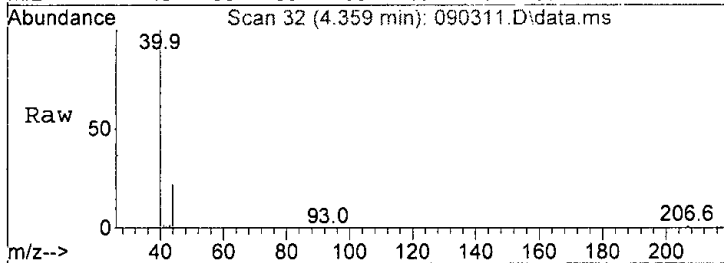
Tgt Ion: 50 Resp: 491  
 Ion Ratio Lower Upper  
 50 100  
 52 33.7 0.0 55.3





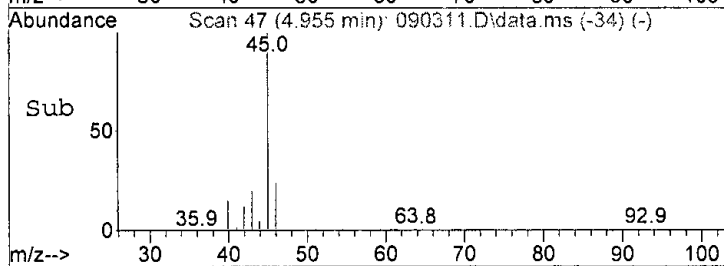
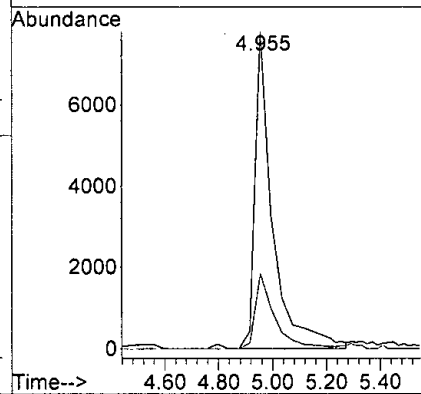
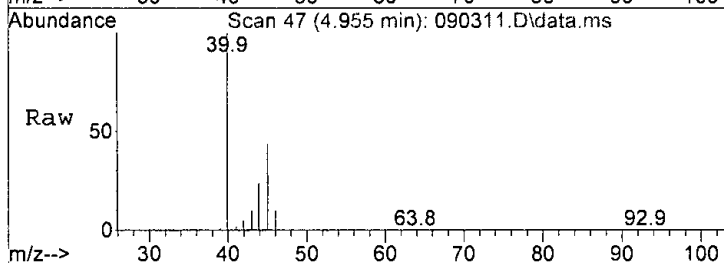
#8  
 Butane  
 Concen: 0.073 ppbv  
 RT: 4.36 min Scan# 32  
 Delta R.T. 0.039 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

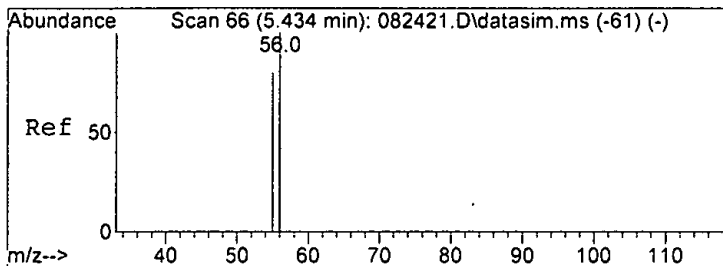
Tgt Ion: 43 Resp: 2403  
 Ion Ratio Lower Upper  
 43 100  
 58 0.0 0.0 36.9



#12  
 Ethanol  
 Concen: 6.175 ppbv  
 RT: 4.96 min Scan# 47  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

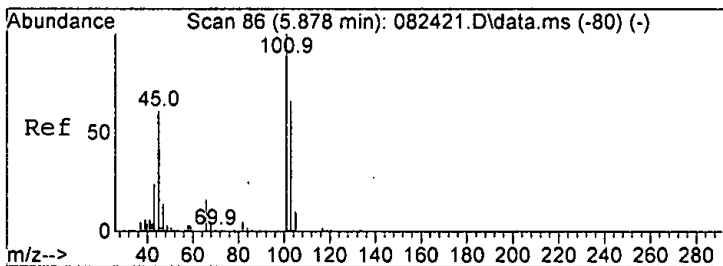
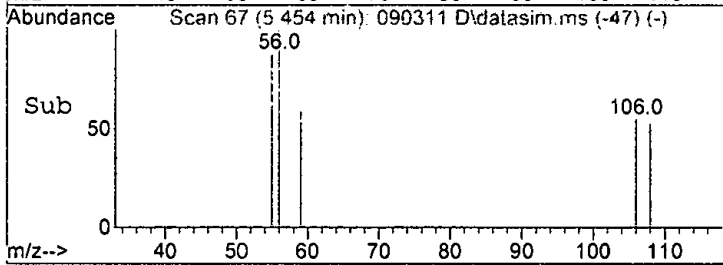
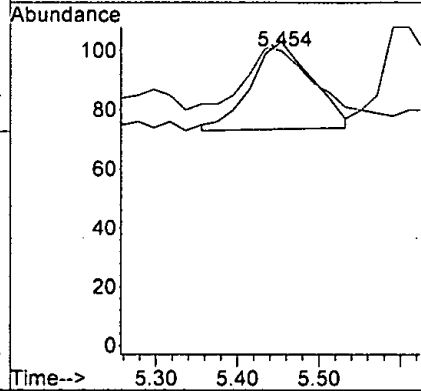
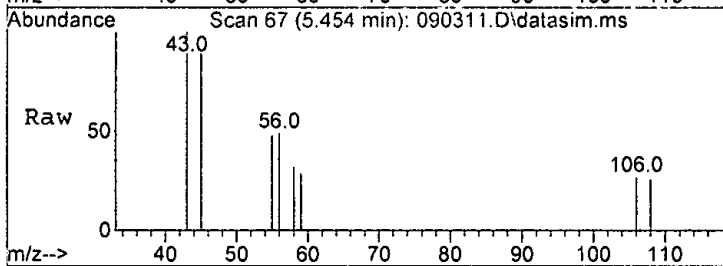
Tgt Ion: 45 Resp: 34938  
 Ion Ratio Lower Upper  
 45 100  
 46 28.7 0.0 55.5





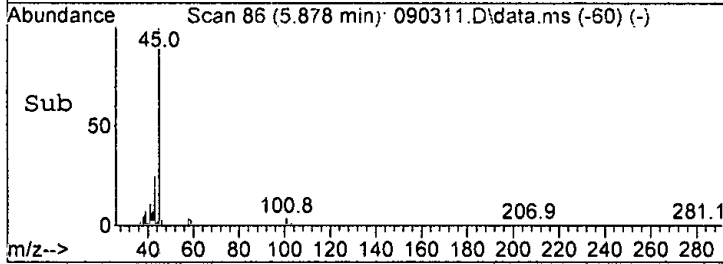
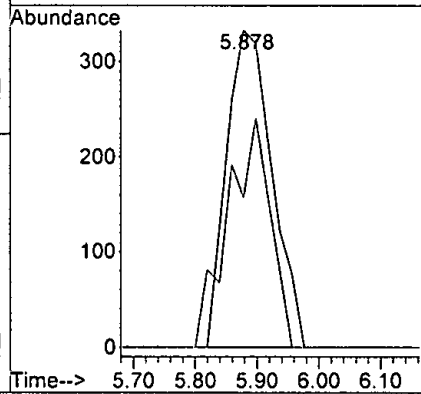
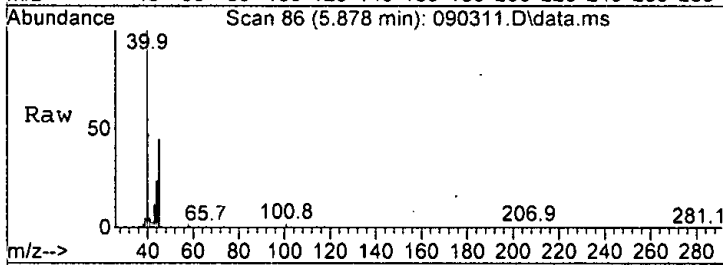
#13  
 Acrolein  
 Concen: 0.021 ppbv m  
 RT: 5.45 min Scan# 67  
 Delta R.T. 0.020 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

Tgt Ion: 56 Resp: 153  
 Ion Ratio Lower Upper  
 56 100  
 55 0.0 51.0 111.0#

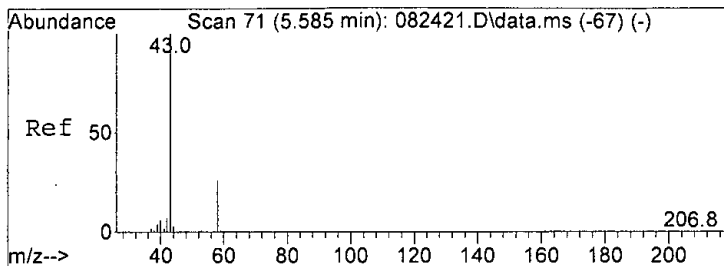


#15  
 Trichlorofluoromethane  
 Concen: 0.042 ppbv  
 RT: 5.88 min Scan# 86  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

Tgt Ion: 101 Resp: 2099  
 Ion Ratio Lower Upper  
 101 100  
 103 47.1 34.5 94.5

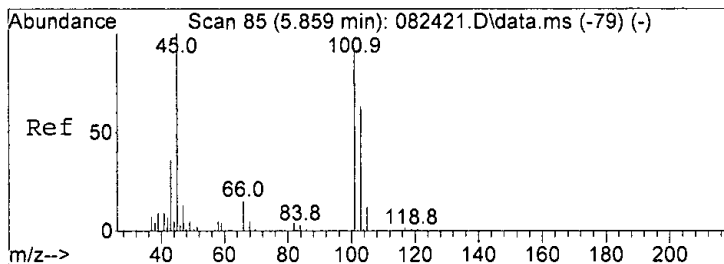
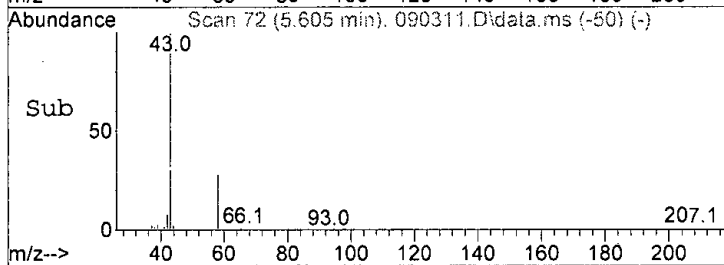
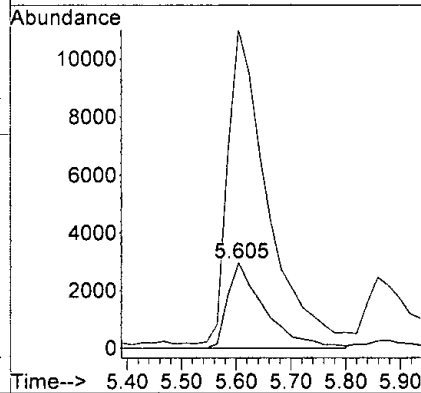
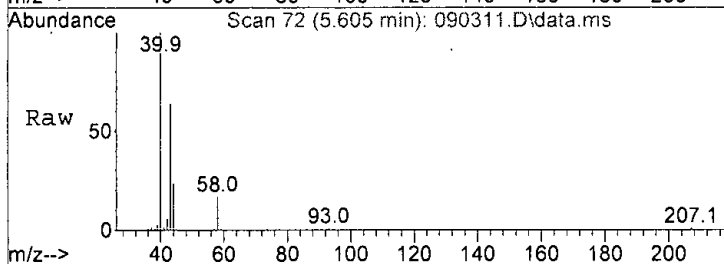






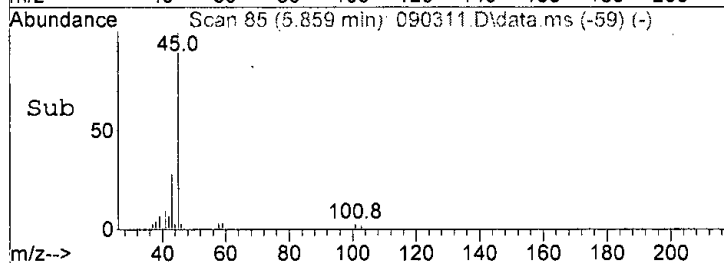
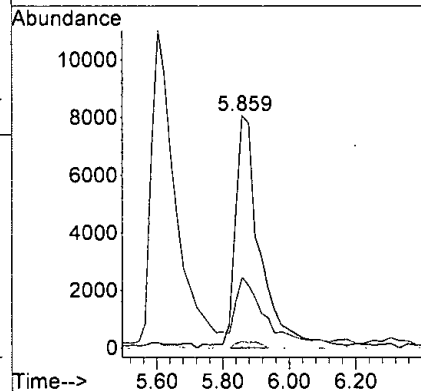
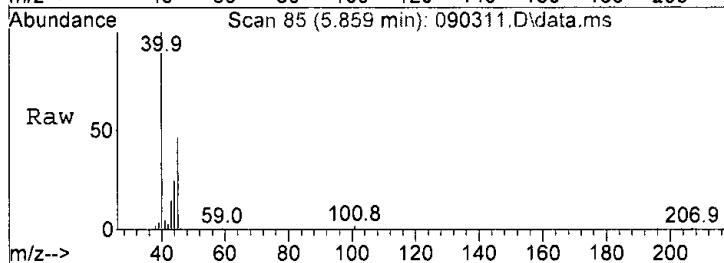
#16  
 Acetone  
 Concen: 1.563 ppbv  
 RT: 5.60 min Scan# 72  
 Delta R.T. 0.020 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

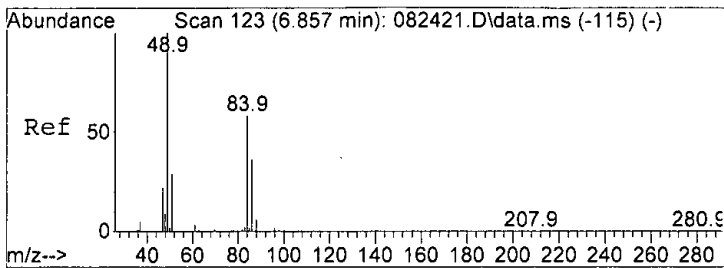
Tgt Ion: 58 Resp: 13906  
 Ion Ratio Lower Upper  
 58 100  
 43 367.4 329.3 389.3



#17  
 2-Propanol  
 Concen: 1.353 ppbv  
 RT: 5.86 min Scan# 85  
 Delta R.T. -0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

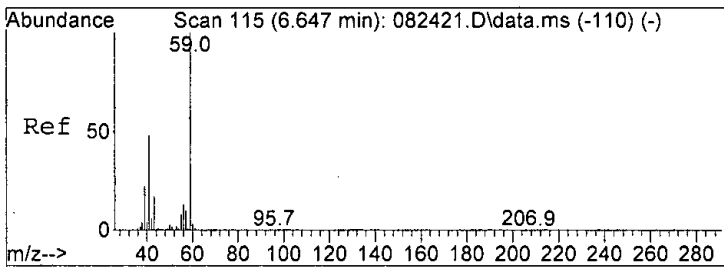
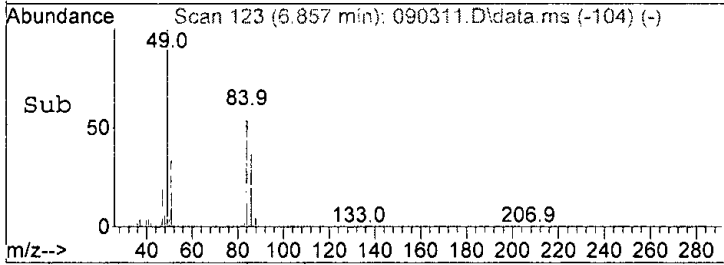
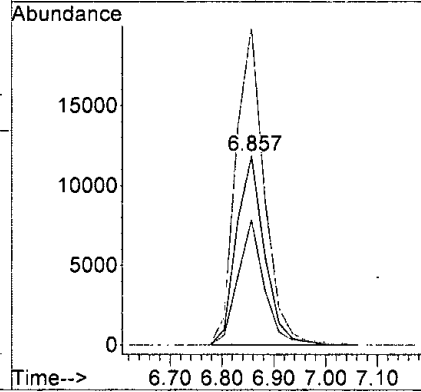
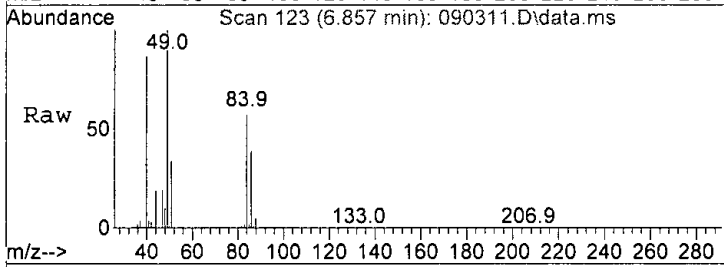
Tgt Ion: 45 Resp: 48667  
 Ion Ratio Lower Upper  
 45 100  
 43 26.9 0.0 30.0  
 59 2.7 0.0 33.6





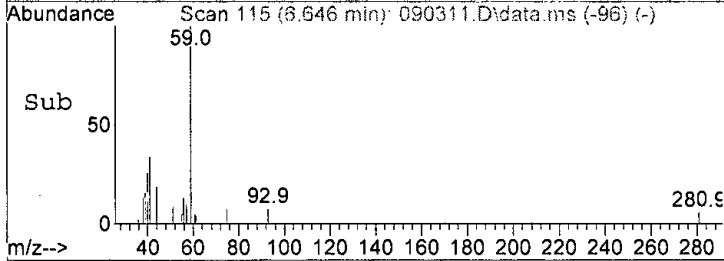
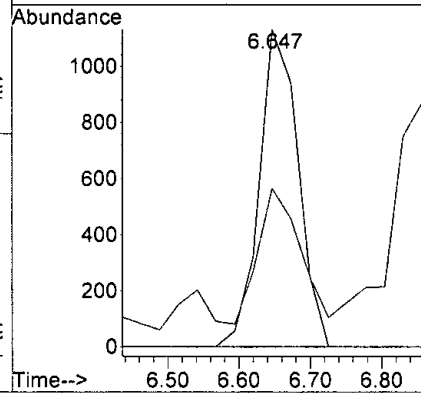
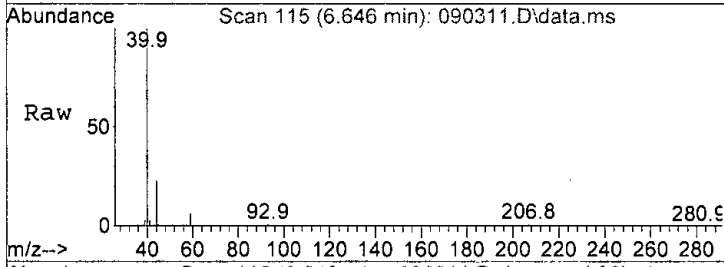
#20  
 Methylene chloride  
 Concen: 2.515 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. -0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

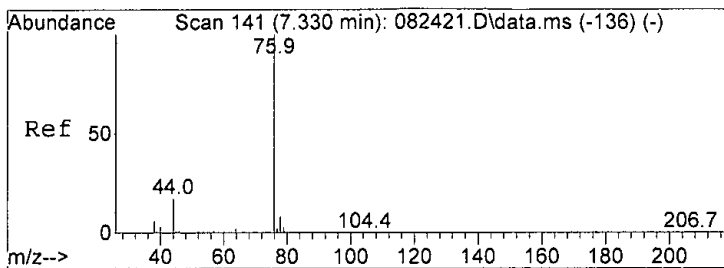
Tgt Ion	Resp	Lower	Upper
84	100		
86	66.2	33.9	93.9
49	168.5	116.6	176.6



#21  
 t-Butyl alcohol (TBA)  
 Concen: 0.146 ppbv  
 RT: 6.65 min Scan# 115  
 Delta R.T. -0.001 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

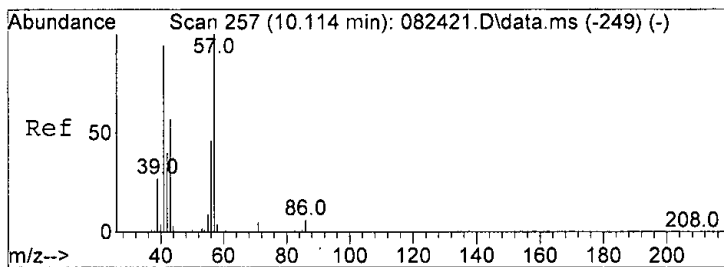
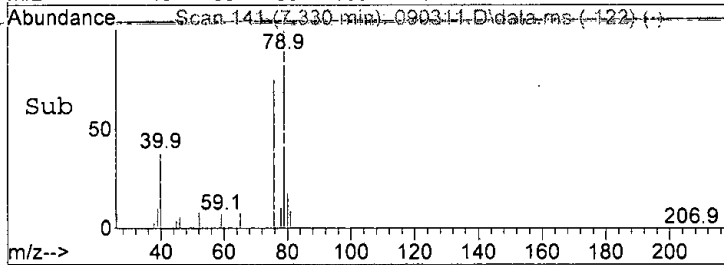
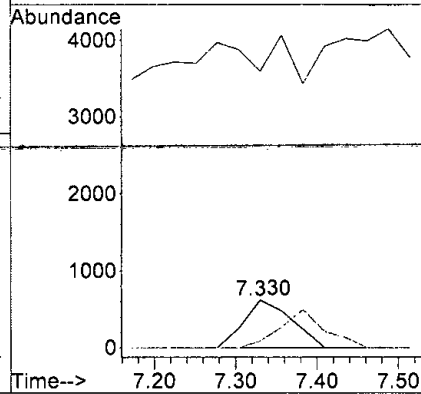
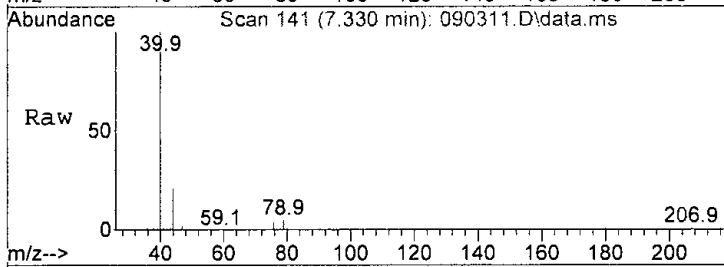
Tgt Ion	Resp	Lower	Upper
59	100		
41	46.1	16.2	24.4#





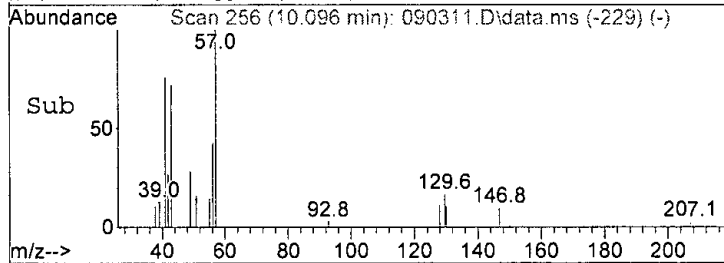
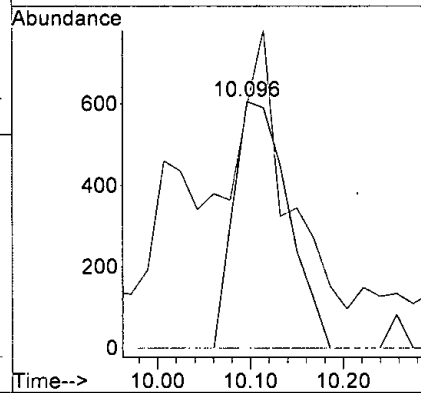
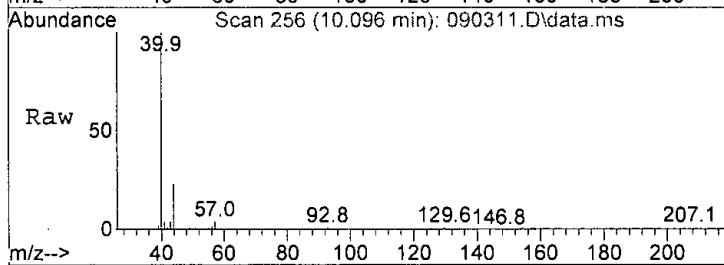
#24  
 Carbon disulfide  
 Concen: 0.043 ppbv  
 RT: 7.33 min Scan# 141  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

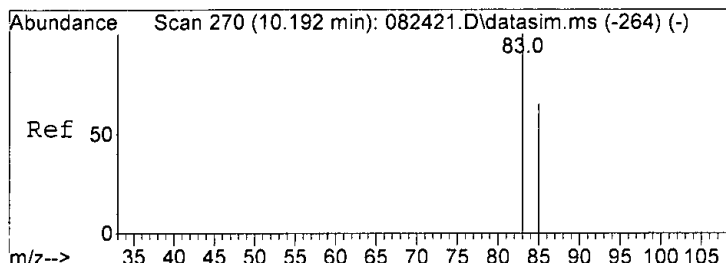
Tgt Ion	Resp	Lower	Upper
76	2513		
76	100		
44	0.0	0.0	44.3
78	14.3	0.0	39.2



#29  
 Hexane  
 Concen: 0.083 ppbv  
 RT: 10.10 min Scan# 256  
 Delta R.T. -0.018 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

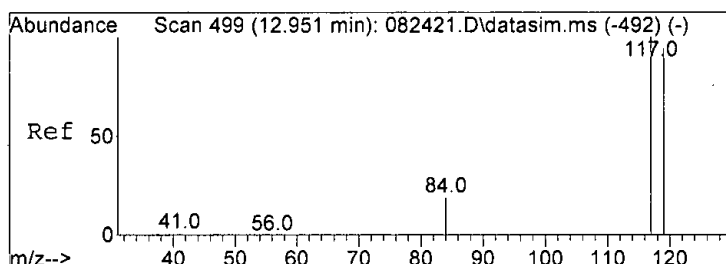
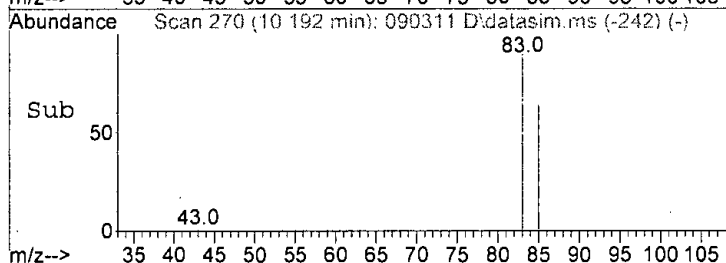
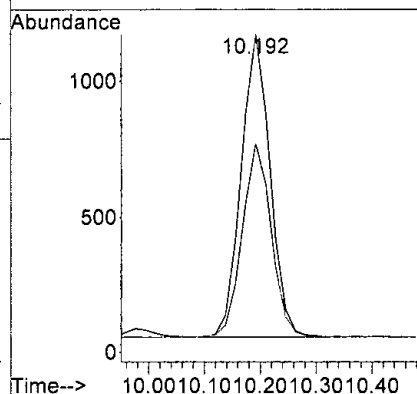
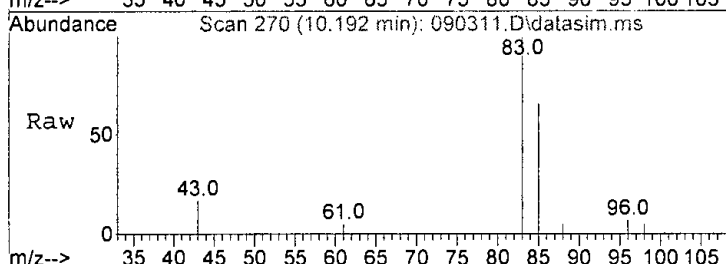
Tgt Ion	Resp	Lower	Upper
57	2477		
57	100		
43	82.3	43.6	103.6
86	0.0	0.0	35.9





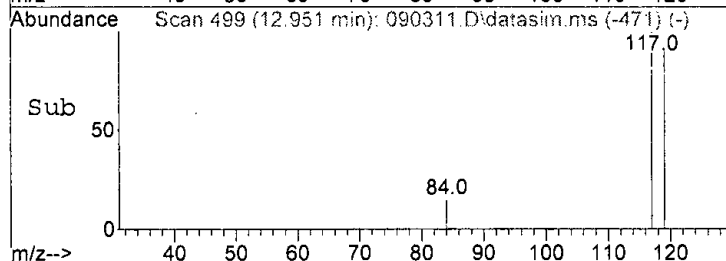
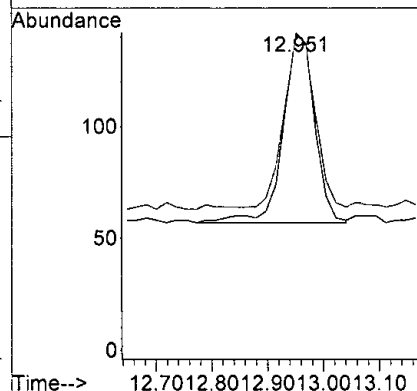
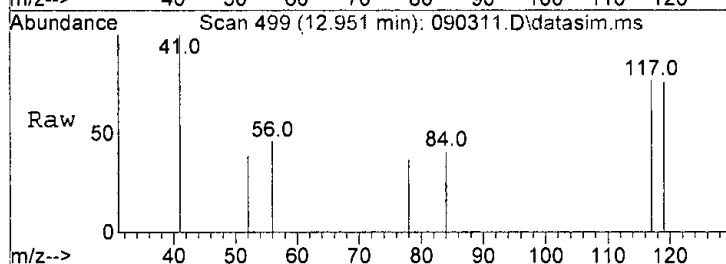
#30  
 Chloroform  
 Concen: 0.090 ppbv  
 RT: 10.19 min Scan# 270  
 Delta R.T. -0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

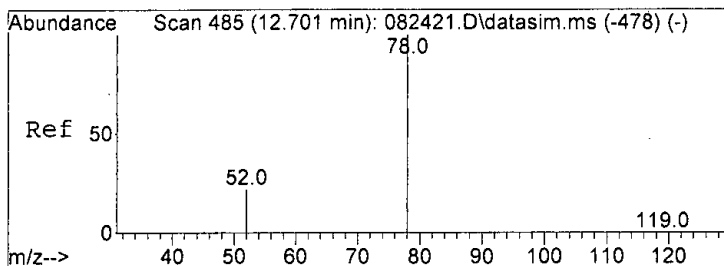
Tgt Ion: 83 Resp: 3989  
 Ion Ratio Lower Upper  
 83 100  
 85 64.1 36.3 96.3



#36  
 Carbon tetrachloride  
 Concen: 0.010 ppbv  
 RT: 12.95 min Scan# 499  
 Delta R.T. -0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

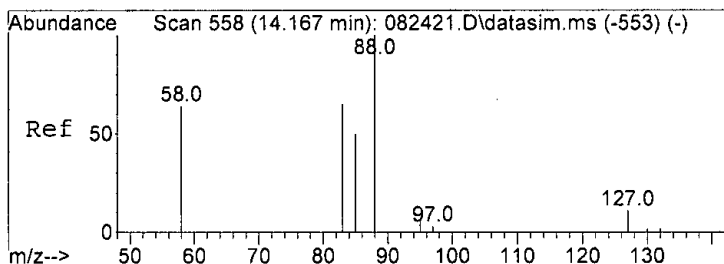
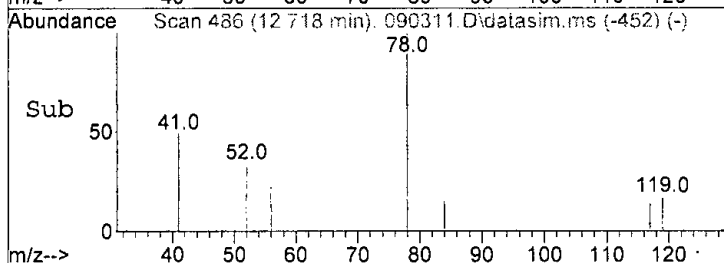
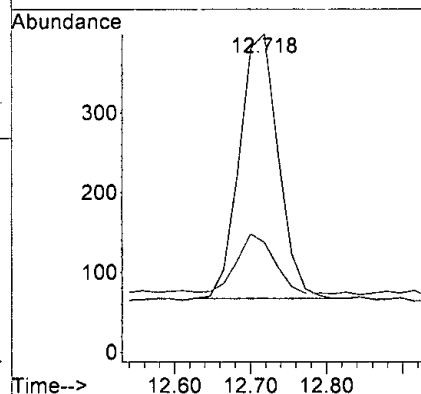
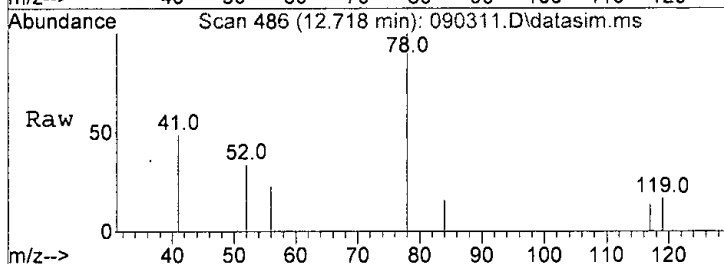
Tgt Ion: 117 Resp: 328  
 Ion Ratio Lower Upper  
 117 100  
 119 91.8 64.6 124.6





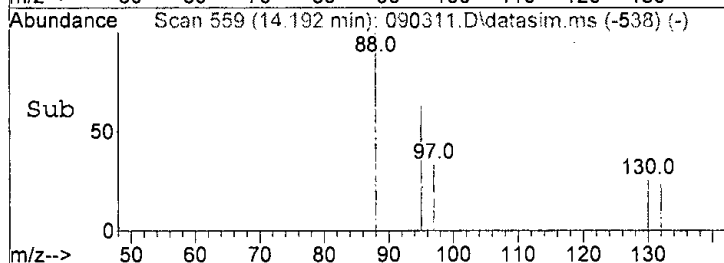
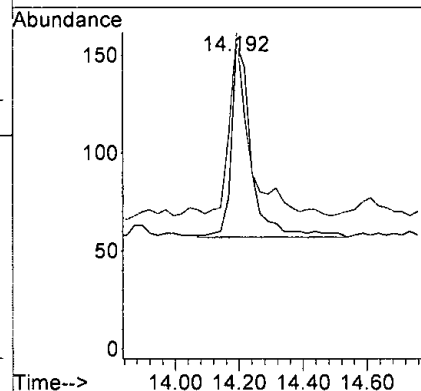
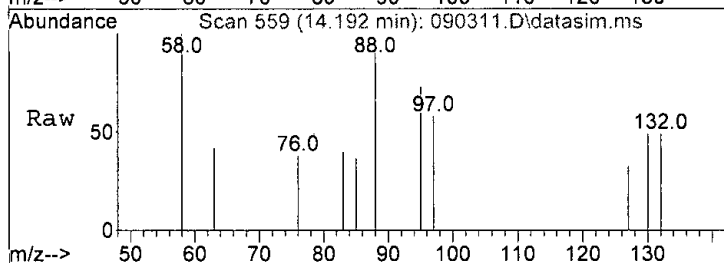
#37  
Benzene  
Concen: 0.019 ppbv  
RT: 12.72 min Scan# 486  
Delta R.T. 0.017 min  
Lab File: 090311.D  
Acq: 3 Sep 2021 2:20 pm

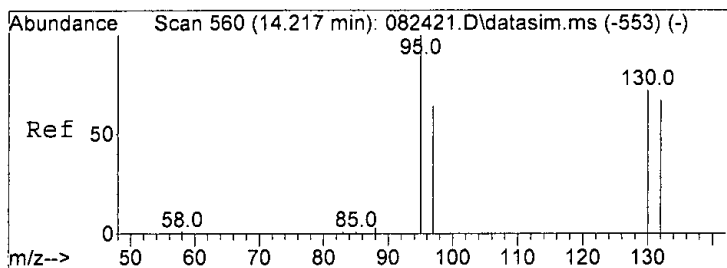
Tgt Ion: 78 Resp: 1171  
Ion Ratio Lower Upper  
78 100  
52 18.7 0.0 49.7



#41  
1,4-Dioxane  
Concen: 0.034 ppbv  
RT: 14.19 min Scan# 559  
Delta R.T. 0.025 min  
Lab File: 090311.D  
Acq: 3 Sep 2021 2:20 pm

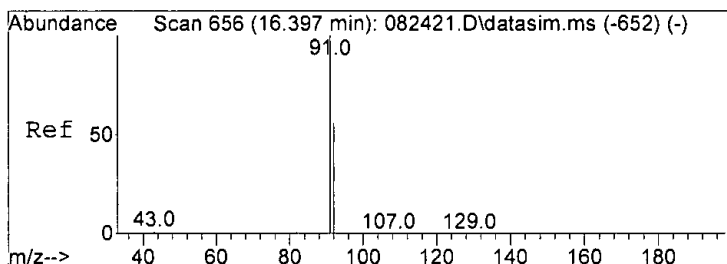
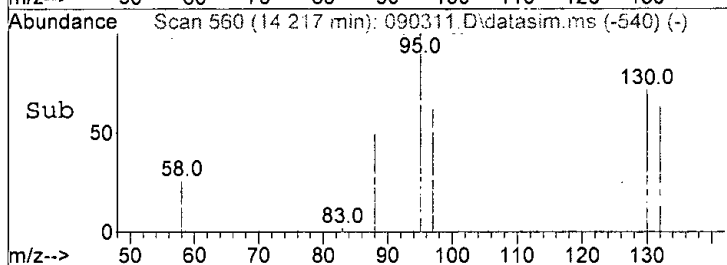
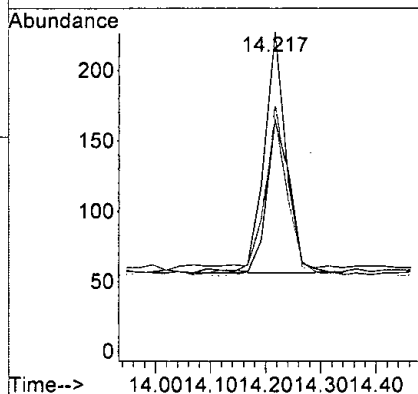
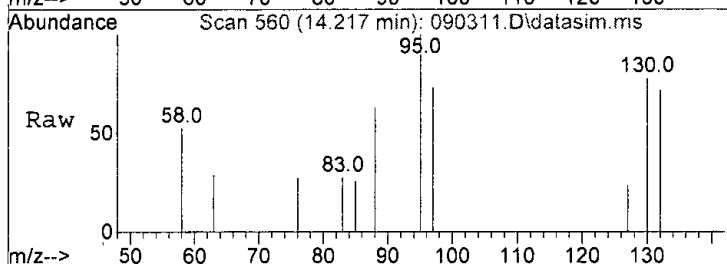
Tgt Ion: 88 Resp: 431  
Ion Ratio Lower Upper  
88 100  
58 92.9 43.4 103.4





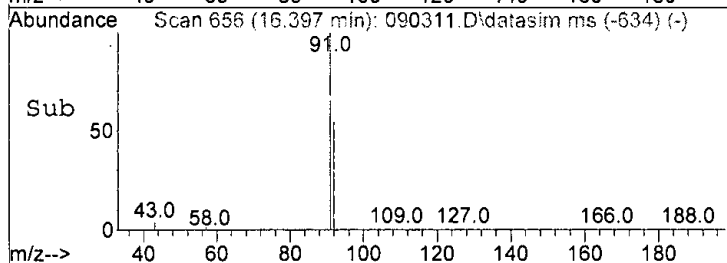
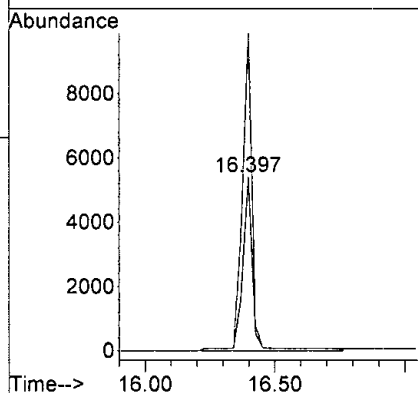
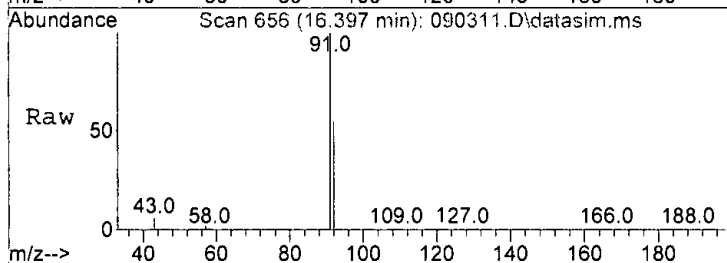
#46  
 Trichloroethene  
 Concen: 0.017 ppbv  
 RT: 14.22 min Scan# 560  
 Delta R.T. -0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

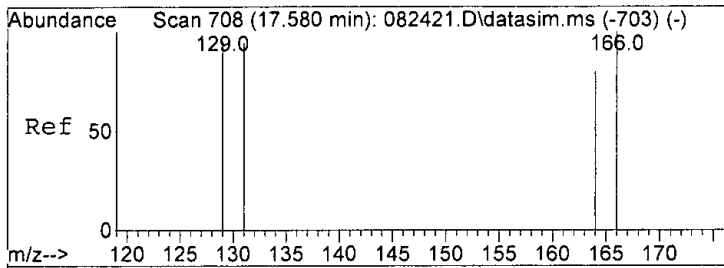
Tgt Ion	Resp	Lower	Upper
95	100		
97	62.0	37.1	97.1
130	71.3	56.1	116.1
132	63.7	54.3	114.3



#50  
 Toluene  
 Concen: 0.411 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

Tgt Ion	Resp	Lower	Upper
92	100		
91	182.4	174.6	234.6

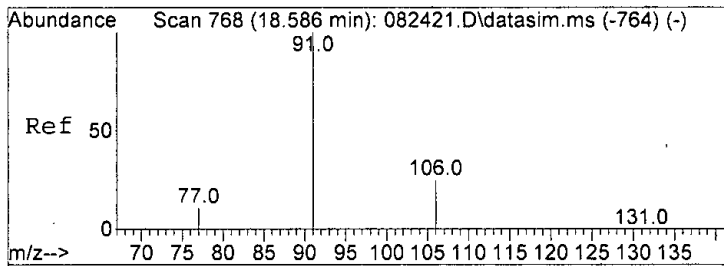
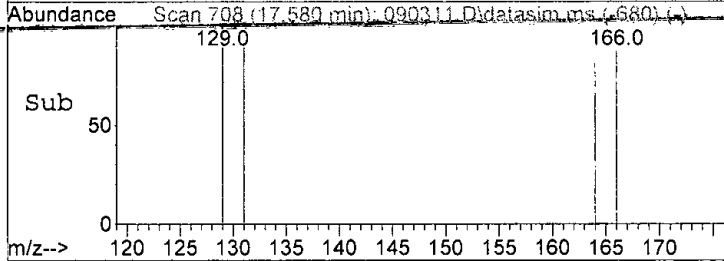
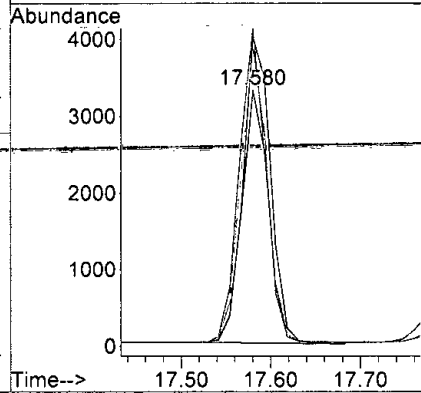
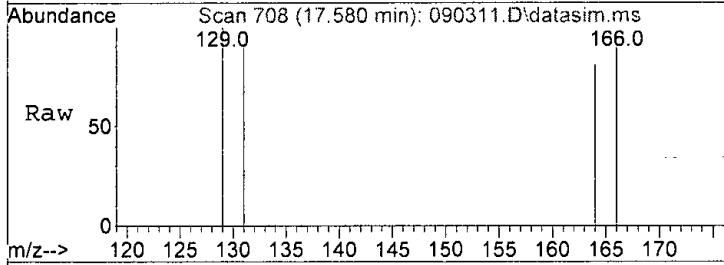




#53  
 Tetrachloroethene  
 Concen: 0.386 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

Tgt Ion: 164 Resp: 6830

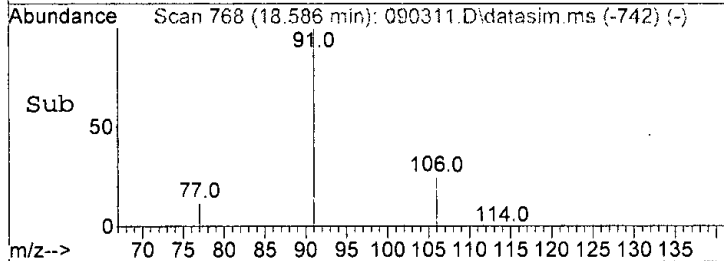
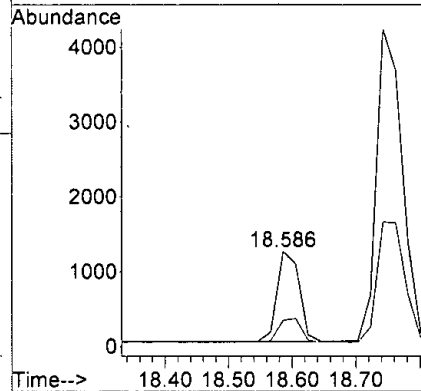
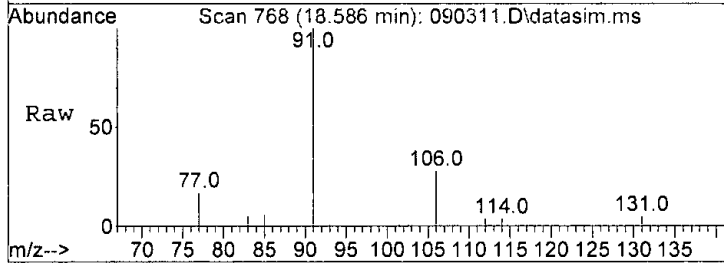
Ion	Ratio	Lower	Upper
164	100		
129	124.4	63.2	123.2#
131	117.1	70.7	130.7
166	121.0	107.5	167.5

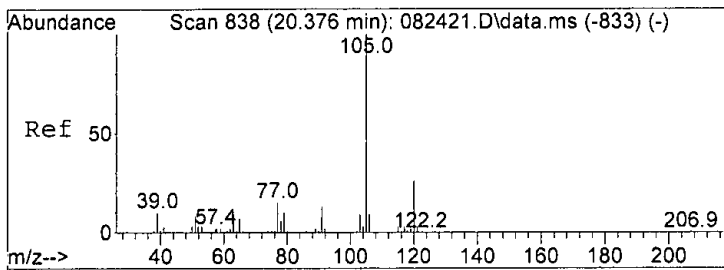


#58  
 Ethylbenzene  
 Concen: 0.032 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. -0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

Tgt Ion: 91 Resp: 2905

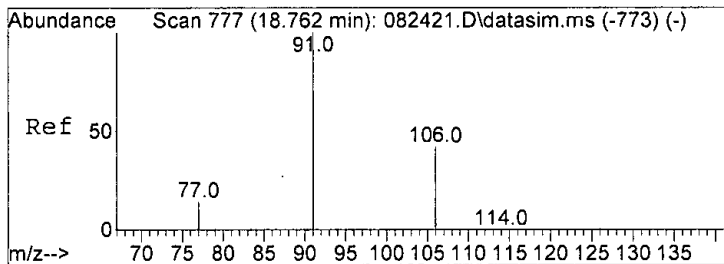
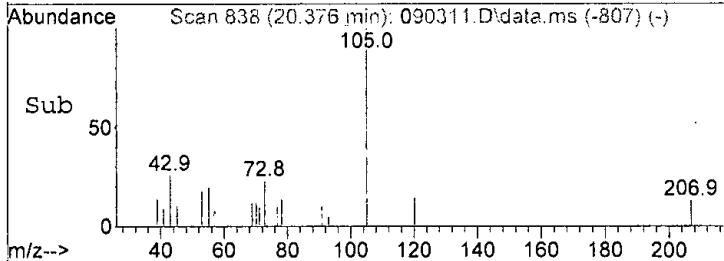
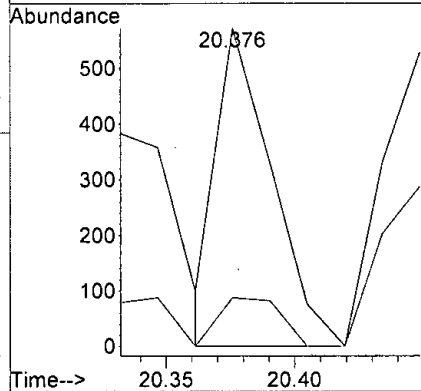
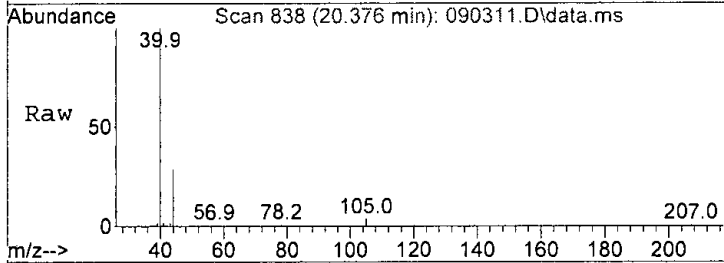
Ion	Ratio	Lower	Upper
91	100		
106	24.7	0.0	57.0





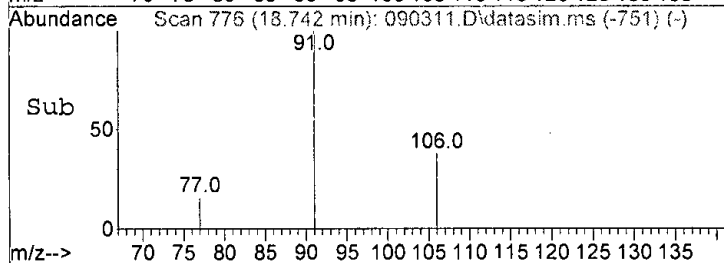
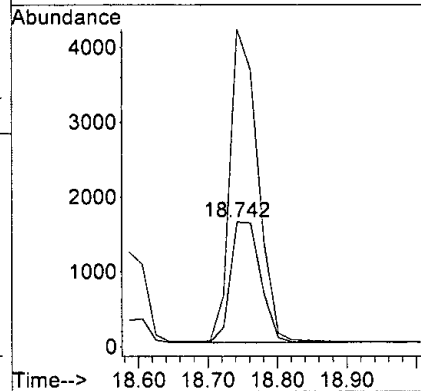
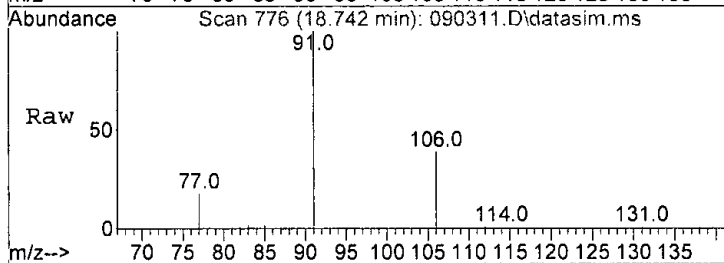
#64  
 4-Ethyltoluene  
 Concen: 0.010 ppbv  
 RT: 20.38 min Scan# 838  
 Delta R.T. -0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

Tgt Ion:105 Resp: 851  
 Ion Ratio Lower Upper  
 105 100  
 120 17.4 23.0 34.4#

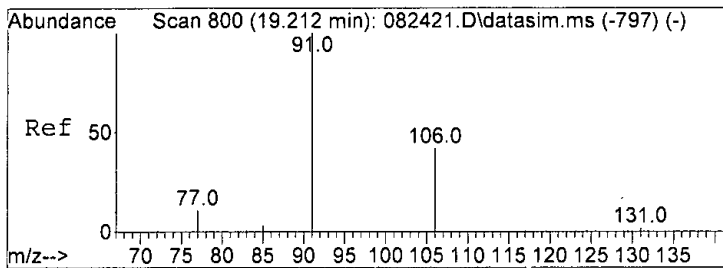


#65  
 m,p-Xylene  
 Concen: 0.165 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.020 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

Tgt Ion:106 Resp: 4831  
 Ion Ratio Lower Upper  
 106 100  
 91 259.9 193.0 253.0#

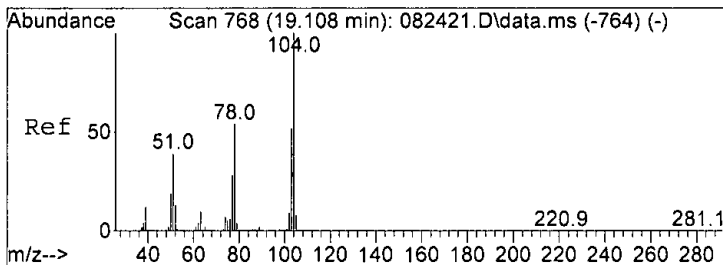
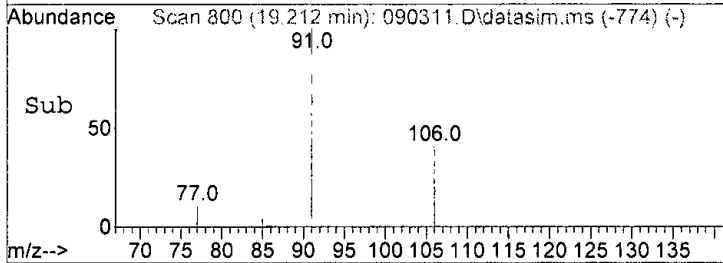
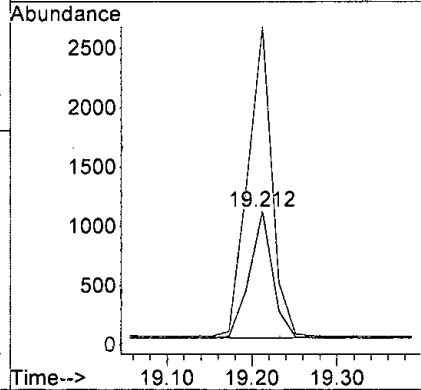
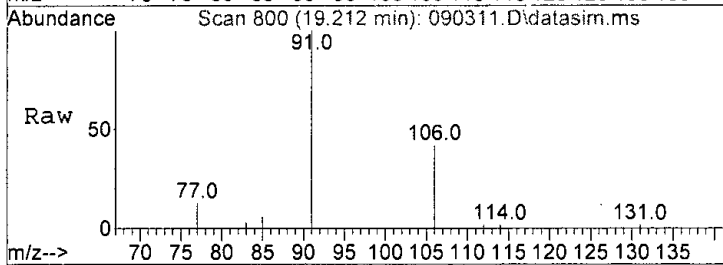






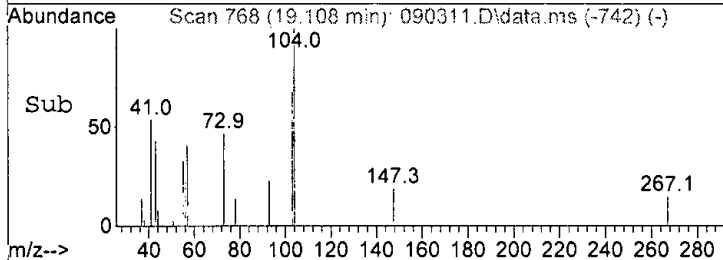
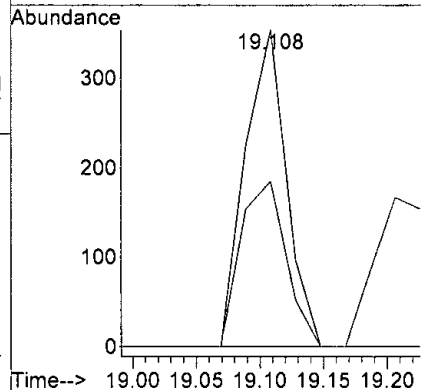
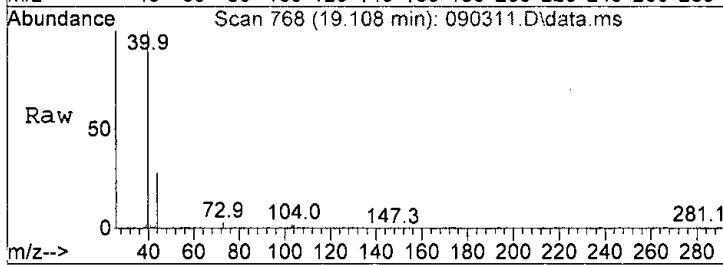
#66  
 o-Xylene  
 Concen: 0.070 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. -0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

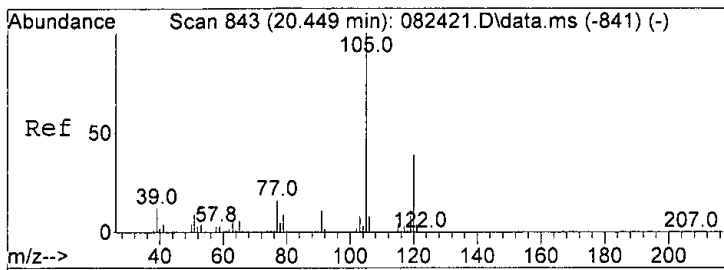
Tgt Ion: 106 Resp: 2019  
 Ion Ratio Lower Upper  
 106 100  
 91 244.4 194.4 254.4



#67  
 Styrene  
 Concen: 0.019 ppbv  
 RT: 19.11 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

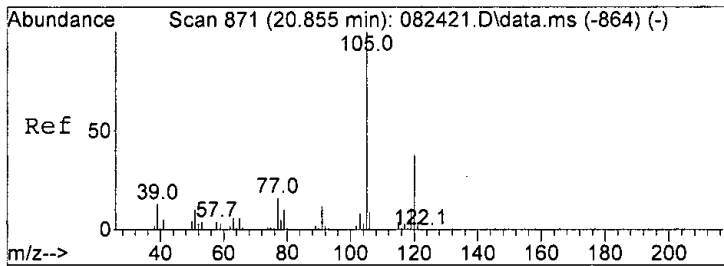
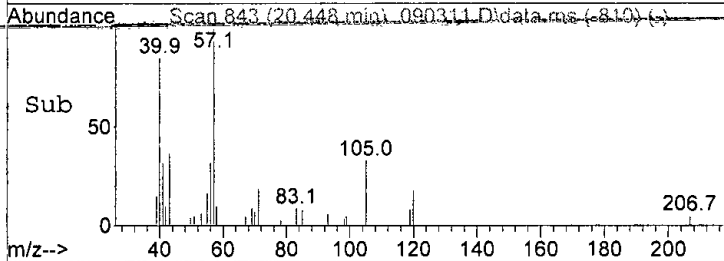
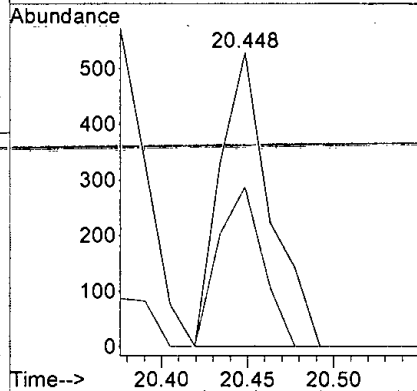
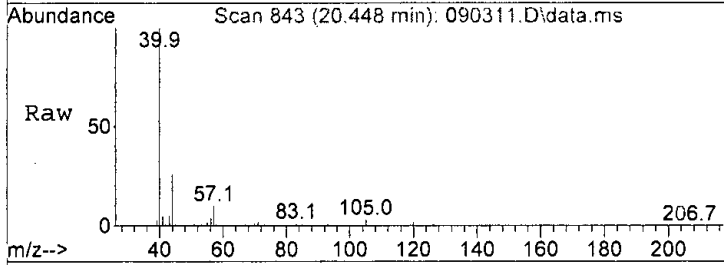
Tgt Ion: 104 Resp: 795  
 Ion Ratio Lower Upper  
 104 100  
 78 52.3 19.6 79.6





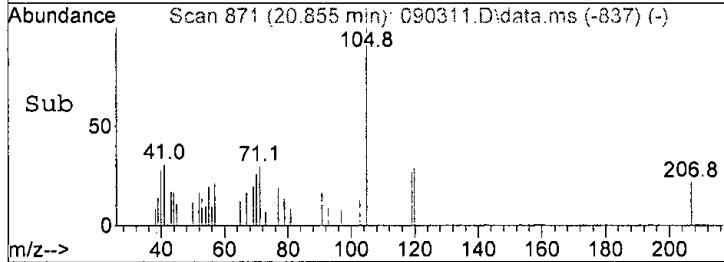
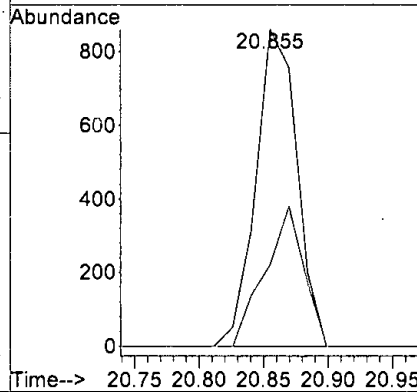
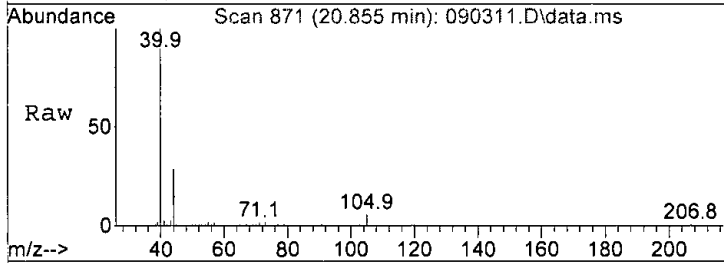
#71  
 1,3,5-Trimethylbenzene  
 Concen: 0.016 ppbv  
 RT: 20.45 min Scan# 843  
 Delta R.T. -0.001 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

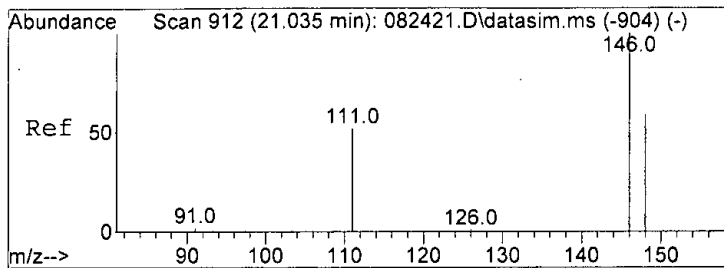
Tgt Ion: 105 Resp: 1067  
 Ion Ratio Lower Upper  
 105 100  
 120 54.4 13.4 73.4



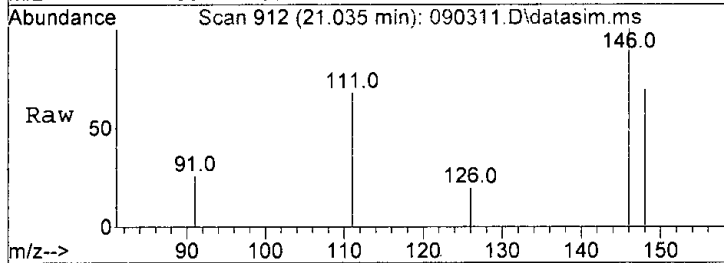
#72  
 1,2,4-Trimethylbenzene  
 Concen: 0.028 ppbv  
 RT: 20.86 min Scan# 871  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

Tgt Ion: 105 Resp: 1902  
 Ion Ratio Lower Upper  
 105 100  
 120 25.6 11.0 71.0

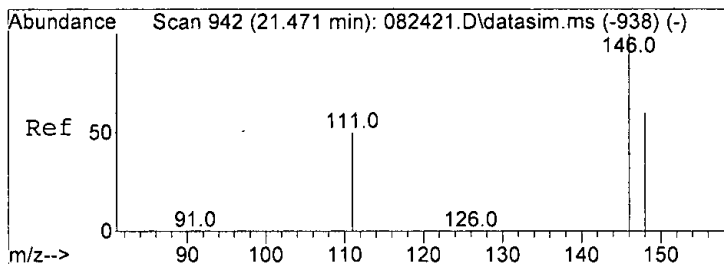
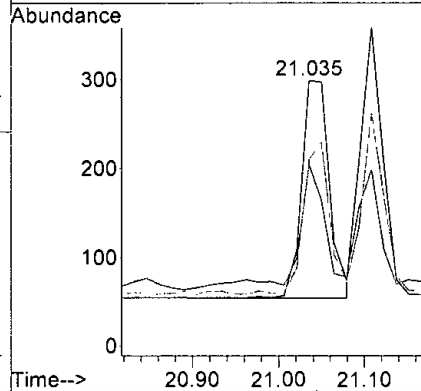
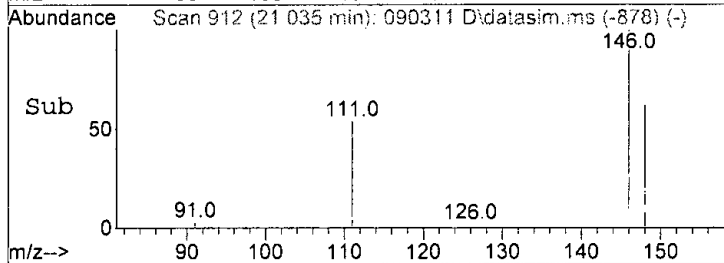




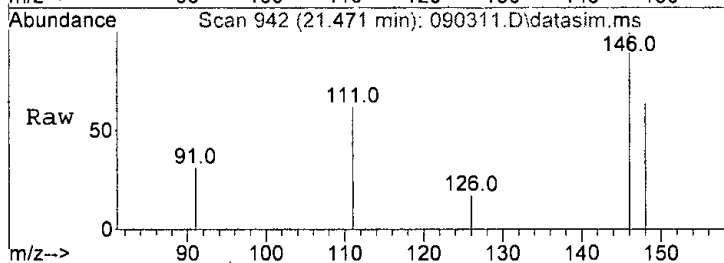
#73  
 1,3-Dichlorobenzene  
 Concen: 0.012 ppbv  
 RT: 21.04 min Scan# 912  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm



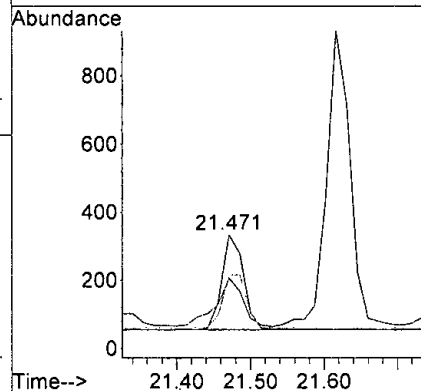
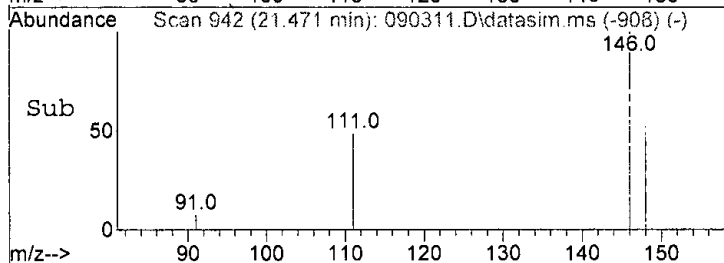
Tgt Ion:146 Resp: 553  
 Ion Ratio Lower Upper  
 146 100  
 111 56.3 13.6 73.6  
 148 61.6 32.6 92.6

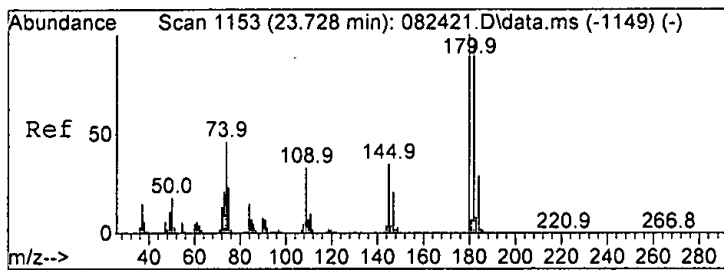


#75  
 1,2-Dichlorobenzene  
 Concen: 0.013 ppbv  
 RT: 21.47 min Scan# 942  
 Delta R.T. 0.000 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm



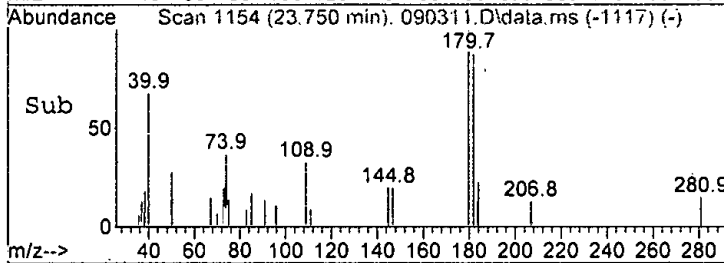
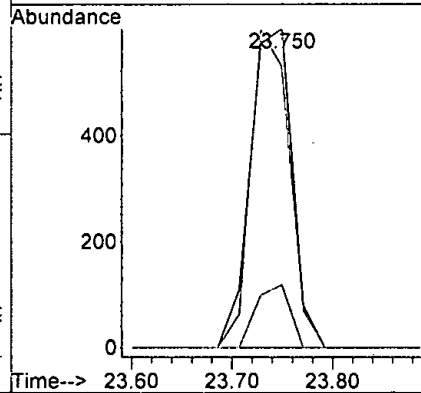
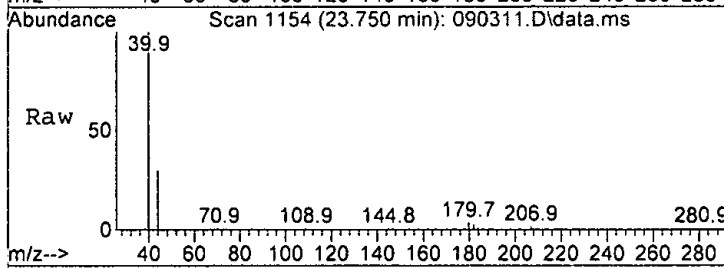
Tgt Ion:146 Resp: 568  
 Ion Ratio Lower Upper  
 146 100  
 111 40.9 12.9 72.9  
 148 55.2 33.2 93.2





#76  
 1,2,4-Trichlorobenzene  
 Concen: Below Cal  
 RT: 23.75 min Scan# 1154  
 Delta R.T. 0.022 min  
 Lab File: 090311.D  
 Acq: 3 Sep 2021 2:20 pm

Tgt Ion	180	182	145	Ratio	100	88.1	19.9	Resp	1735	Lower	Upper
180	100										
182		88.1			64.5				124.5		
145			19.9		0.8				60.8		



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:40:57 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	101138	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	464533	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	409944	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	359613	9.683	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	96.80%
Target Compounds						
						Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	3.52	85	3302	0.074	ppbv	83
4) Chloromethane	3.77	50	491	0.023	ppbv	83
5) F-114	3.88	85	174	N.D.		
6) Vinyl chloride	0.00		0	N.D.		
7) 1,3-Butadiene	0.00		0	N.D.		
8) Butane	4.36	43	2403	0.073	ppbv	# 80
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	4.96	45	34938	6.175	ppbv	94
13) Acrolein	5.45	56	153m	0.021	ppbv	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	5.88	101	2099	0.042	ppbv	78
16) Acetone	5.60	58	13906	1.563	ppbv	96
17) 2-Propanol	5.86	45	48667	1.353	ppbv	97
18) 1,1-Dichloroethene	0.00		0	N.D.		
19) trans-1,2-Dichloroethene	0.00		0	N.D.		
20) Methylene chloride	6.86	84	44515	2.515	ppbv	87
21) t-Butyl alcohol (TBA)	6.65	59	4262	0.146	ppbv	# 44
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	7.20	101	256	N.D.		
24) Carbon disulfide	7.33	76	2513	0.043	ppbv	73
25) Methyl t-butyl ether (...)	8.72	73	314	N.D.		
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	0.00		0	N.D.		
28) cis-1,2-Dichloroethene	0.00		0	N.D.		
29) Hexane	10.10	57	2477	0.083	ppbv	89
30] Chloroform	10.19	83	3989	0.090	ppbv	97
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	11.18	62	173	N.D.		
35) 1,1,1-Trichloroethane	11.68	97	150	N.D.		
36] Carbon tetrachloride	12.95	117	328	0.010	ppbv	97
37] Benzene	12.72	78	1171	0.019	ppbv	98
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41] 1,4-Dioxane	14.19	88	431	0.034	ppbv	77
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

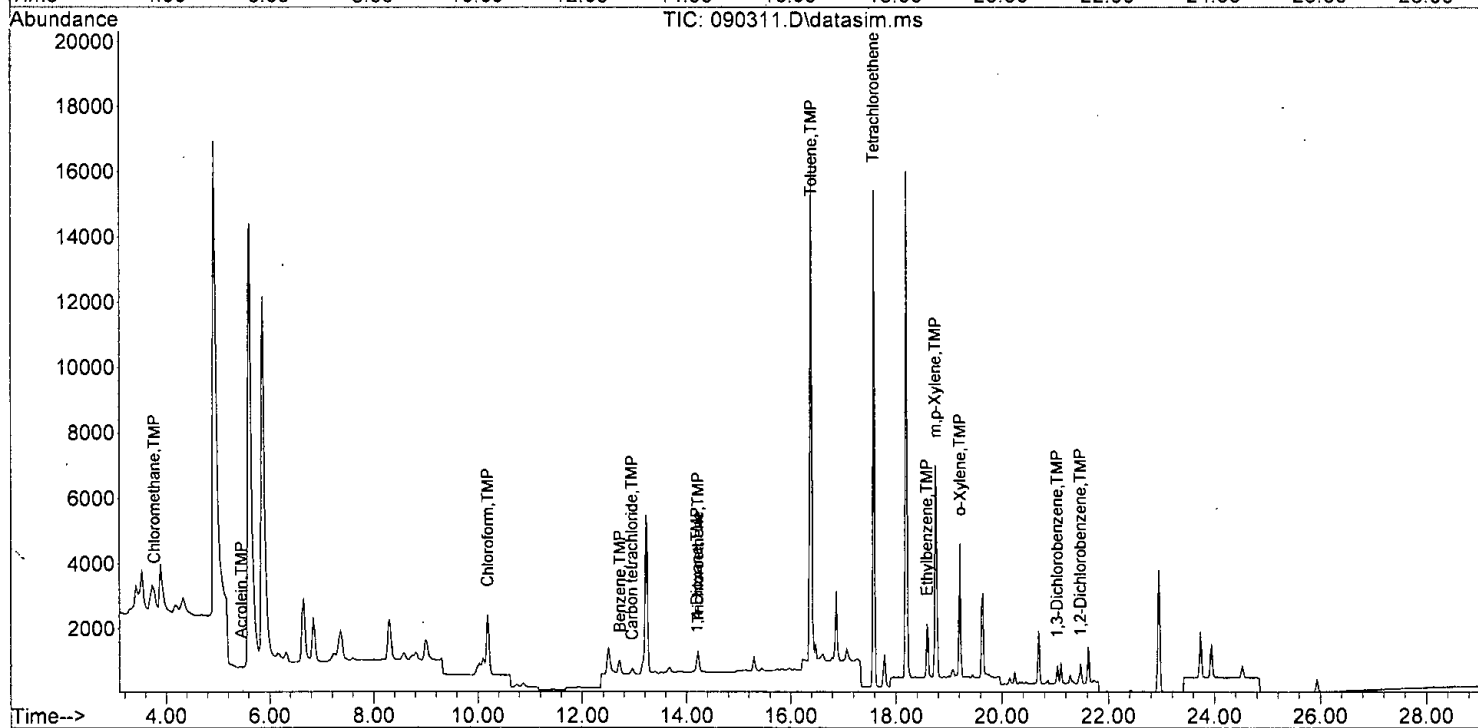
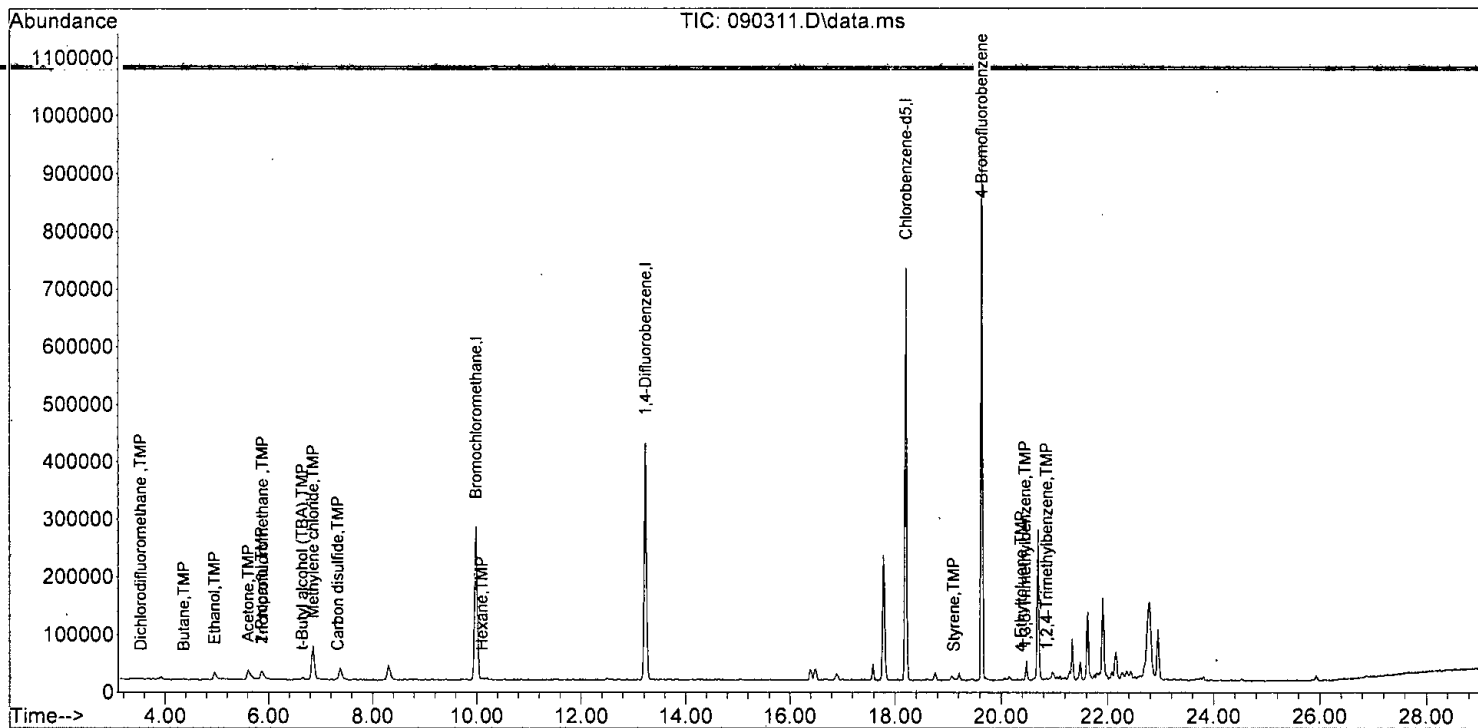
Quant Time: Sep 07 10:40:57 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.		
46) Trichloroethene	14.22	95	475	0.017	ppbv	84
47) cis-1,3-Dichloropropene	0.00		0	N.D.		
48) 4-Methyl-2-pentanone	0.00		0	N.D.		
49) trans-1,3-Dichloropropene	15.83	75	136	N.D.		
50] Toluene	16.40	92	14298	0.411	ppbv	86
51) 1,1,2-Trichloroethane	0.00		0	N.D.		
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	6830	0.386	ppbv #	80
54) Dibromochloromethane	0.00		0	N.D.		
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.		
57) Chlorobenzene	0.00		0	N.D.		
58] Ethylbenzene	18.59	91	2905	0.032	ppbv	96
59) 1,1,2,2-Tetrachloroethane	19.19	83	195	N.D.		
60) Nonane	19.36	43	621	N.D.		
61) Isopropylbenzene	19.75	105	266	N.D.		
62) 2-Chlorotoluene	0.00		0	N.D.		
63) Propylbenzene	20.25	91	709	N.D.		
64) 4-Ethyltoluene	20.38	105	851	0.010	ppbv #	79
65] m,p-Xylene	18.74	106	4831	0.165	ppbv #	77
66] o-Xylene	19.21	106	2019	0.070	ppbv	88
67) Styrene	19.11	104	795	0.019	ppbv	96
68) Bromoform	0.00		0	N.D.		
70) Benzyl chloride	21.01	91	100	N.D.		
71) 1,3,5-Trimethylbenzene	20.45	105	1067	0.016	ppbv	83
72) 1,2,4-Trimethylbenzene	20.86	105	1902	0.028	ppbv	75
73] 1,3-Dichlorobenzene	21.04	146	553	0.012	ppbv	91
74) 1,4-Dichlorobenzene	21.11	146	551	N.D.		
75] 1,2-Dichlorobenzene	21.47	146	568	0.013	ppbv	93
76) 1,2,4-Trichlorobenzene	23.75	180	1735	Below Cal		90
77) Naphthalene	23.95	128	2326	N.D.		
78) Hexachlorobutadiene	24.52	225	825	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

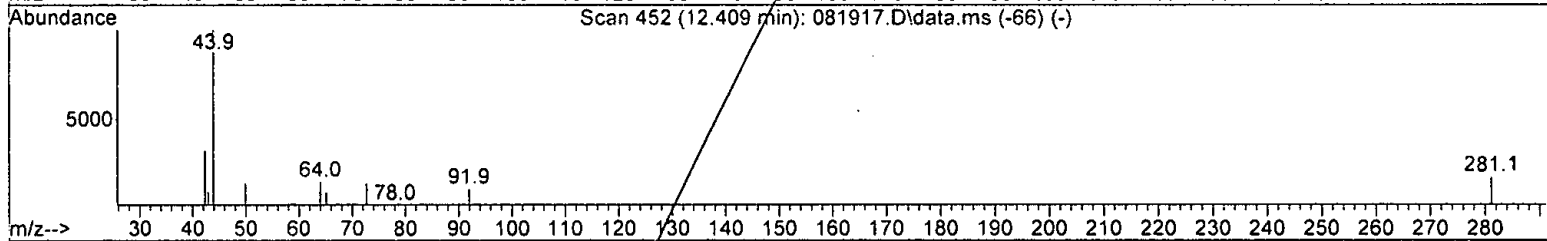
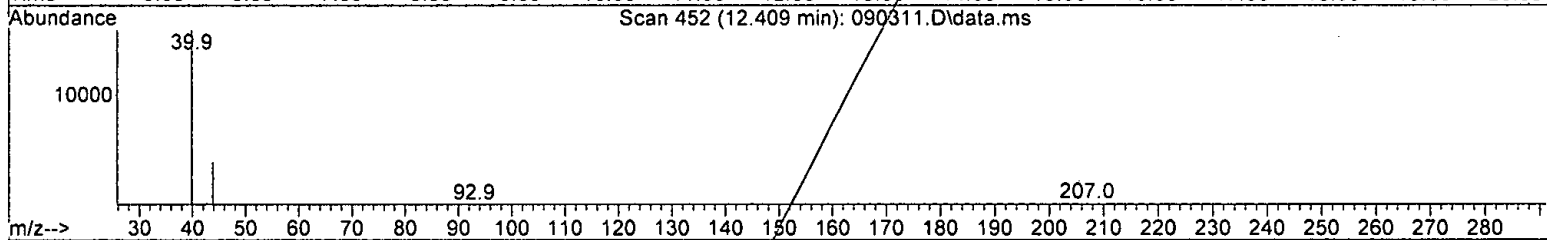
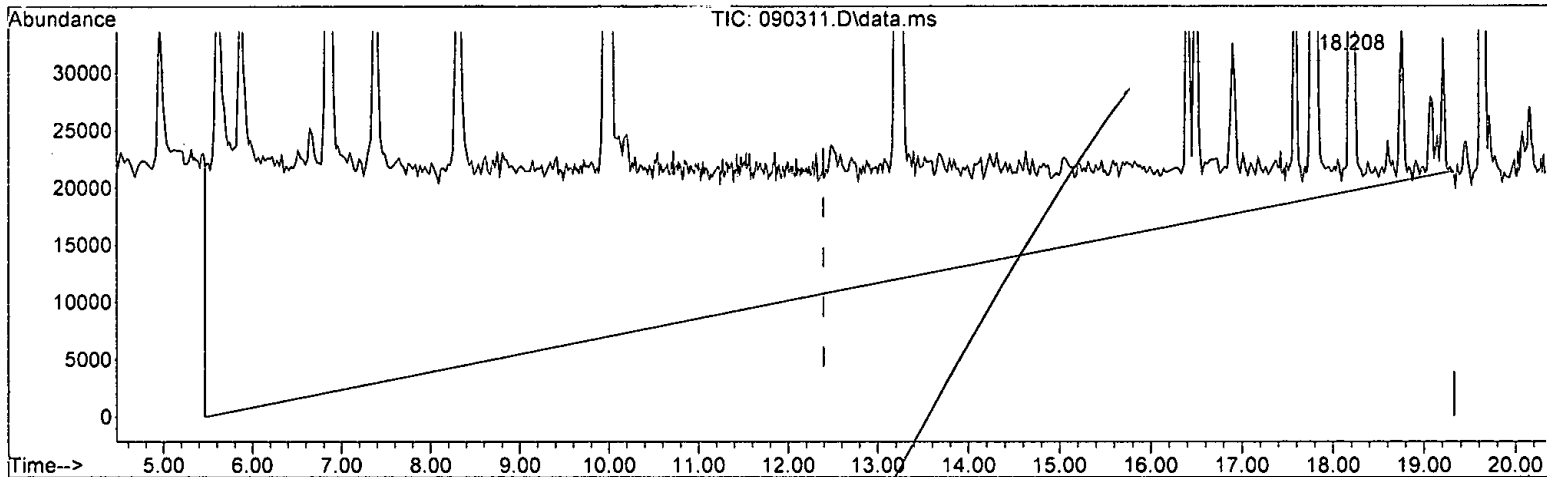
Quant Time: Sep 07 10:40:57 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:35:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 42.564 ug/m3 m

response 1568833

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

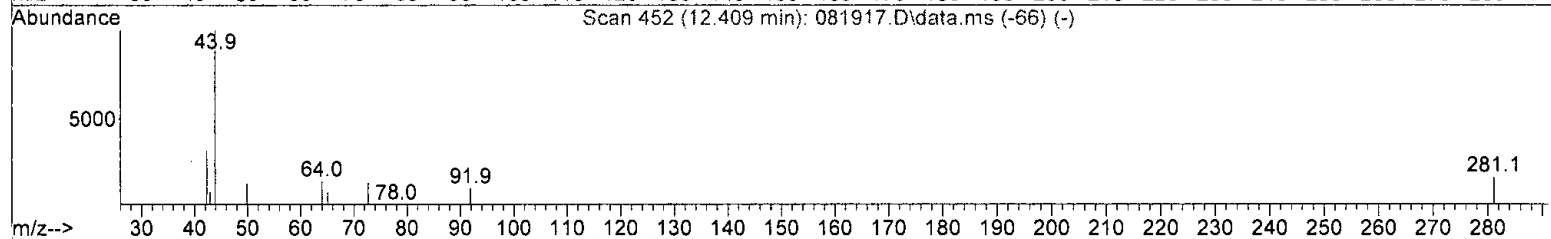
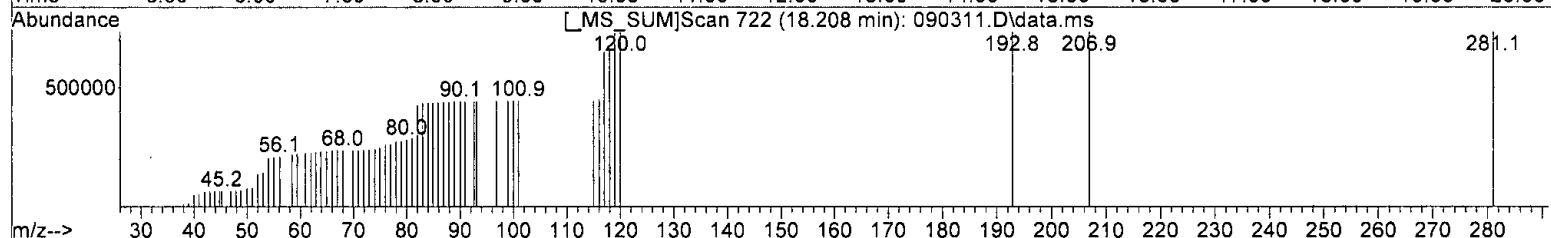
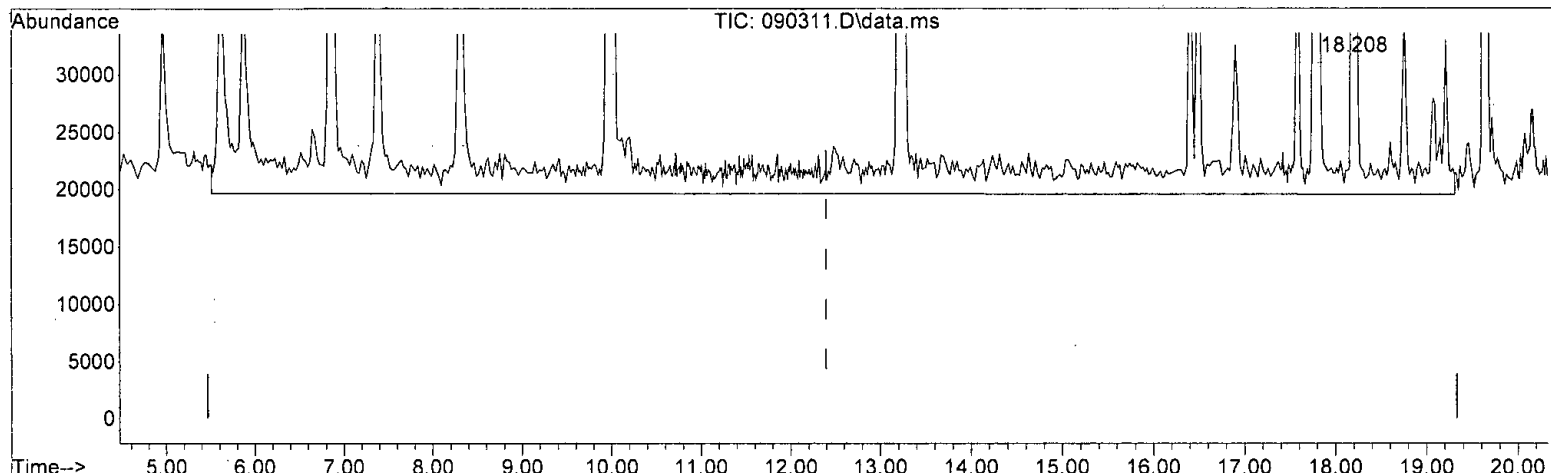
*Handwritten note:* m only



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:35:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 198.469 ug/m3 m

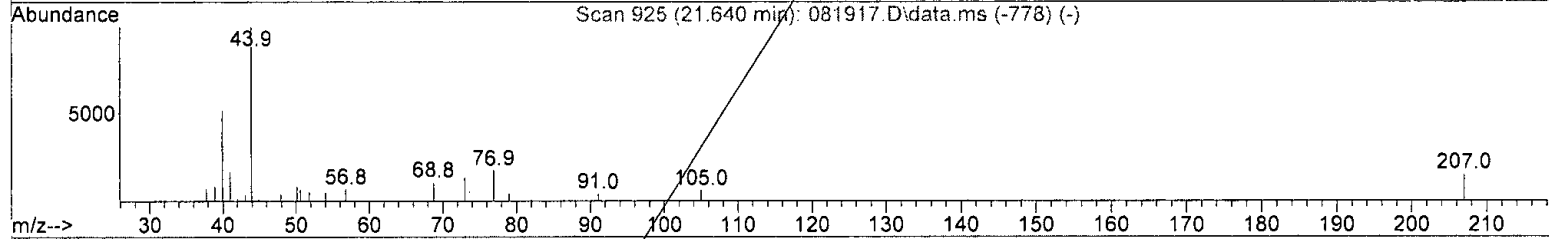
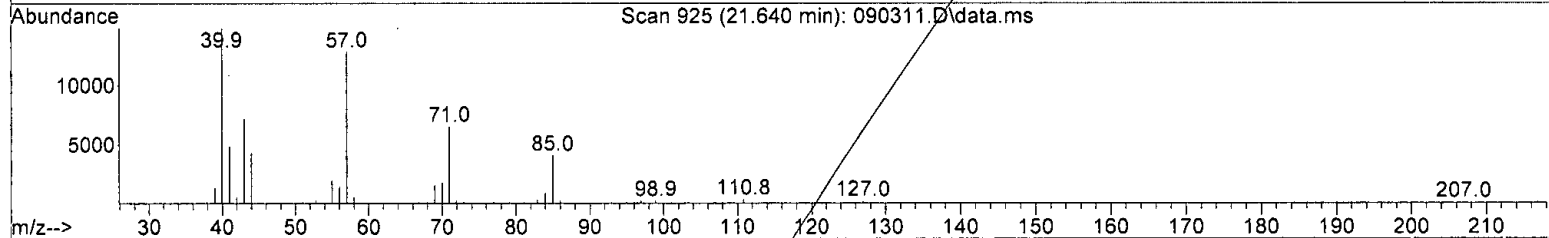
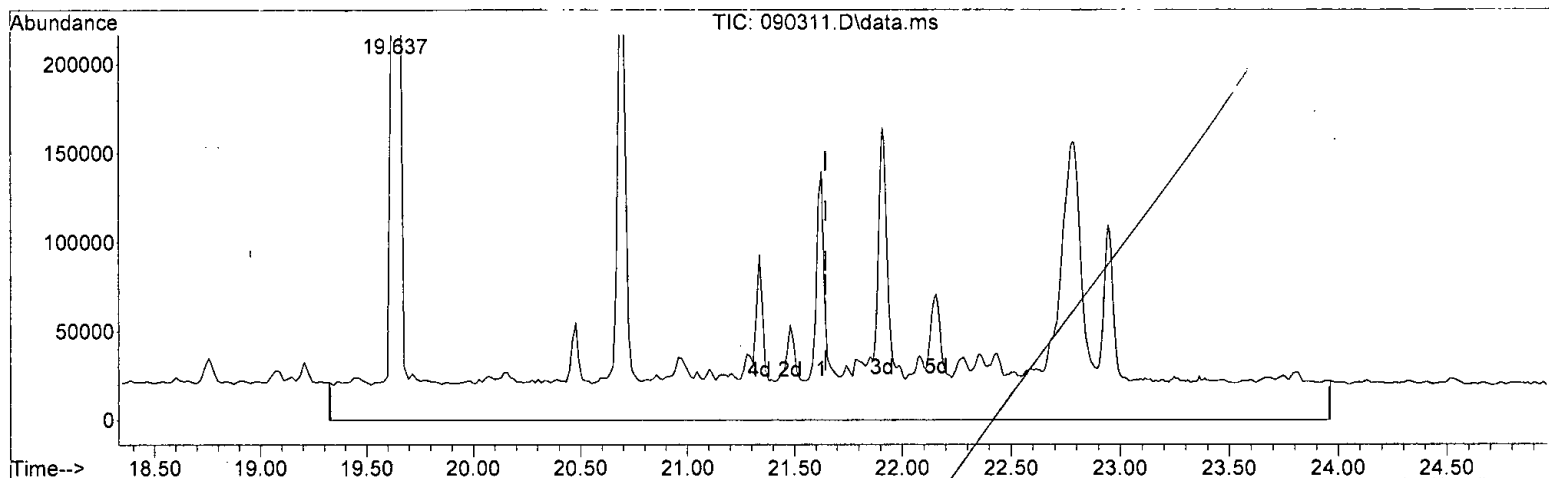
response 7315224

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature and date:*  
 09/07/21

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:35:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 67.757 ug/m3 m  
 response 2841933

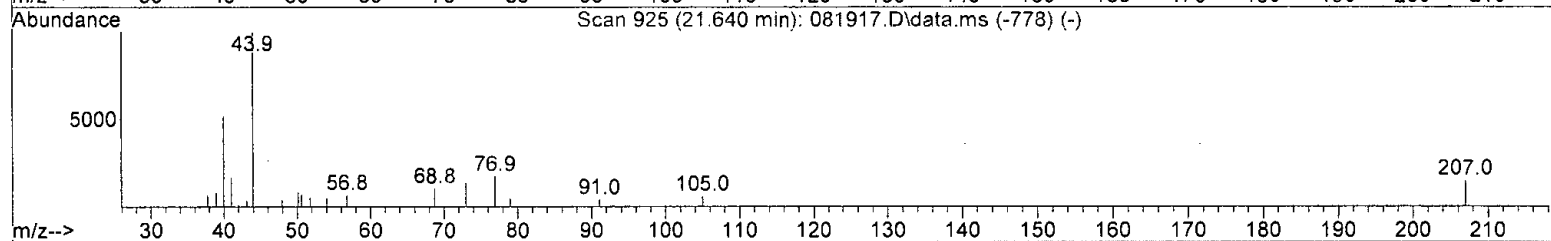
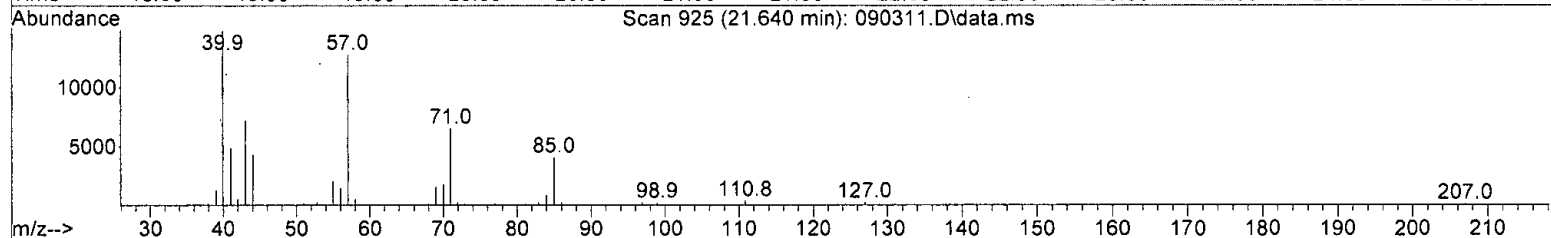
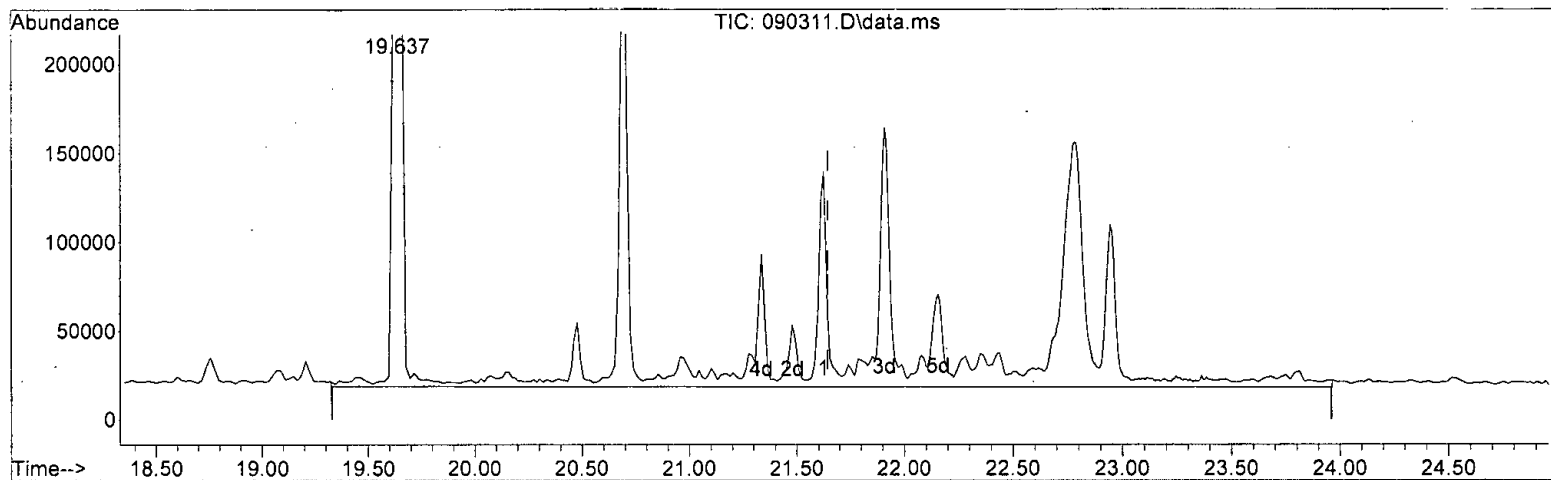
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B aliphatics*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:35:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 145.753 ug/m3 m

response 6113272

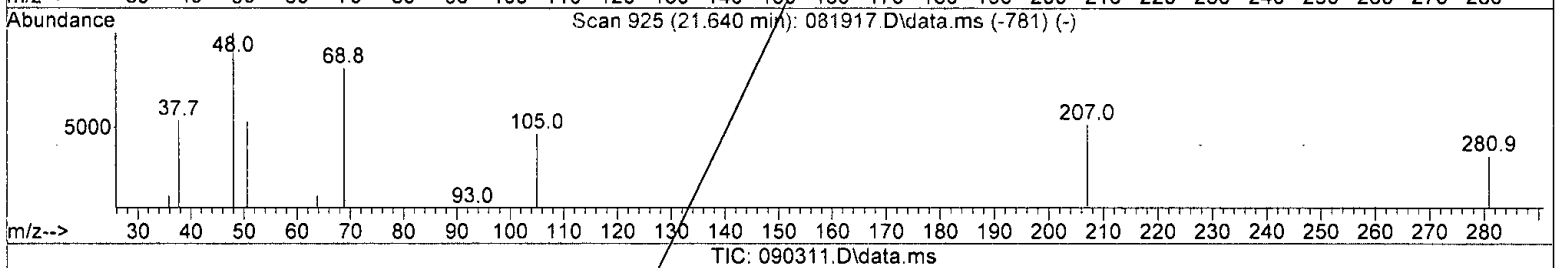
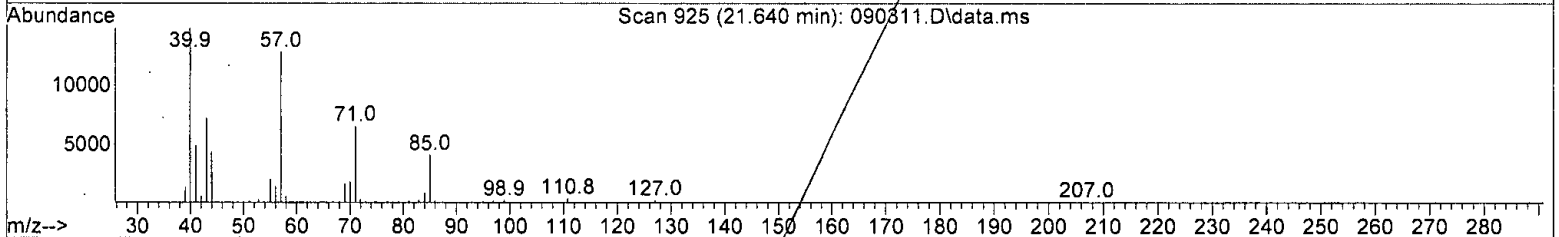
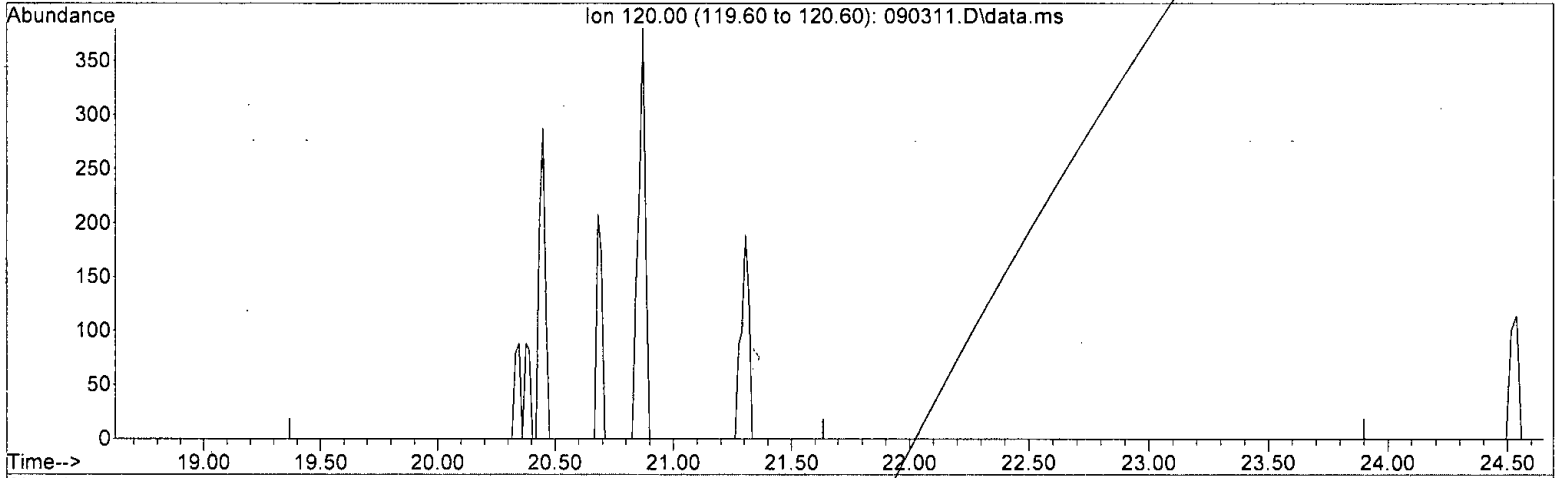
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:35:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) -15.021 ug/m3 m

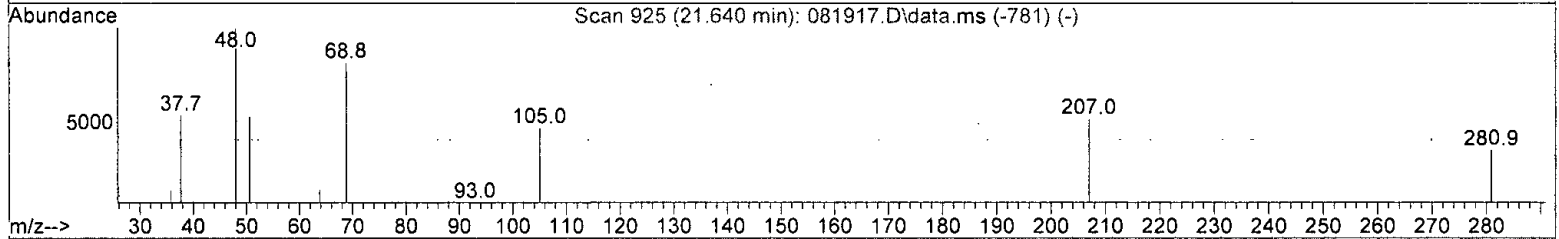
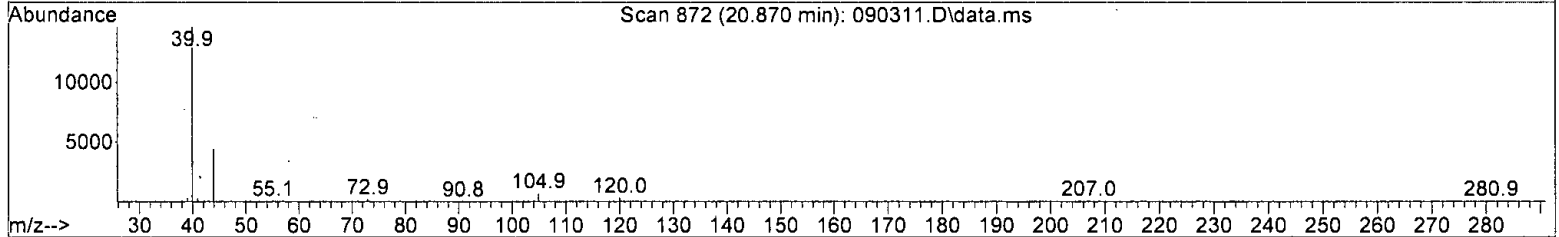
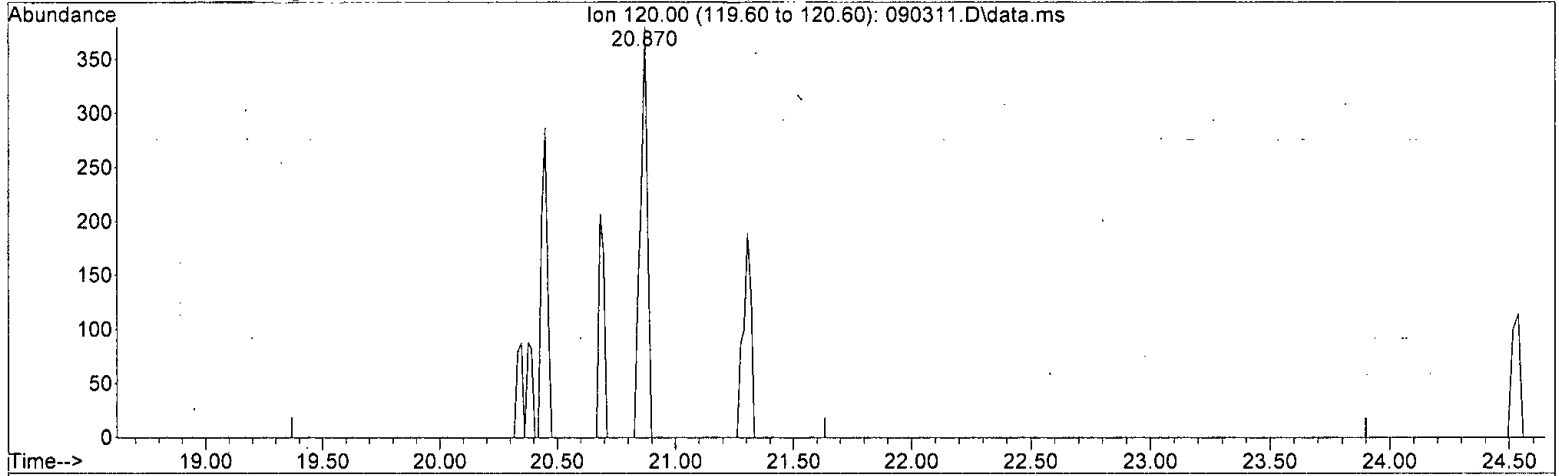
response -73354

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature: B. entor...*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:35:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



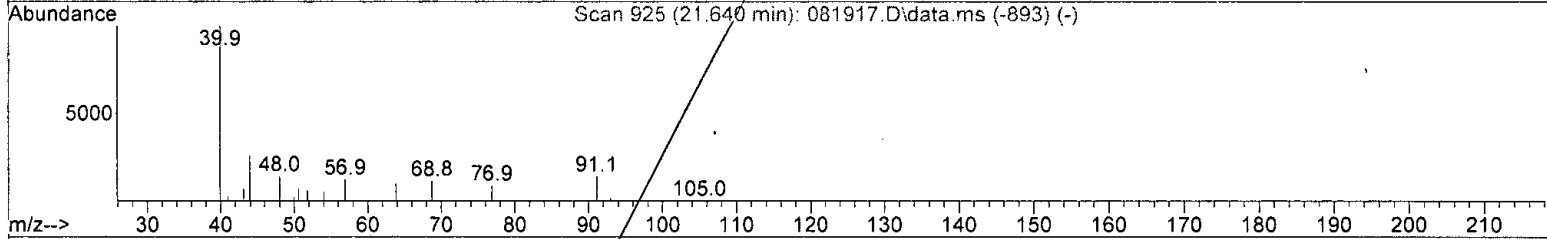
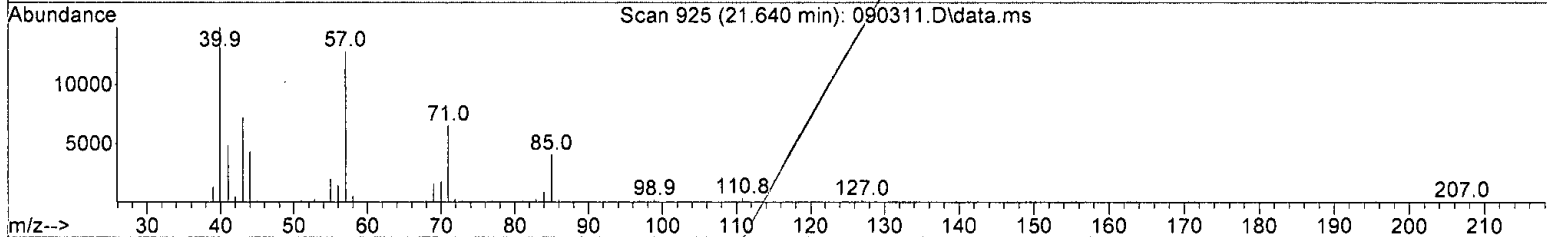
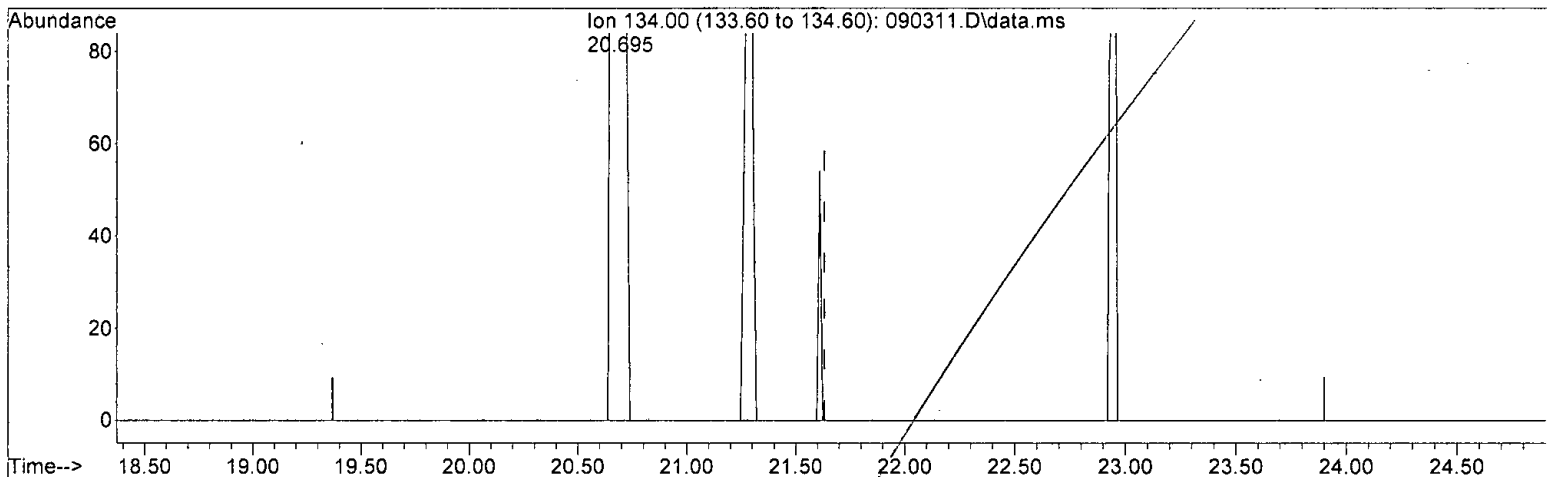
TIC: 090311.D\data.ms

(44) APH EC9-10 aromatics (1) (H)			
21.635min ( 0.000)		0.401 ug/m3 m	
response	1958		
Ion	Exp%	Act%	
120.00	100.00	100.00	
0.00	0.00	0.00	
0.00	0.00	0.00	
0.00	0.00	0.00	

*Handwritten signature: K. Orlowski*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:35:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090311.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) -25.579 ug/m3 m

response -71146

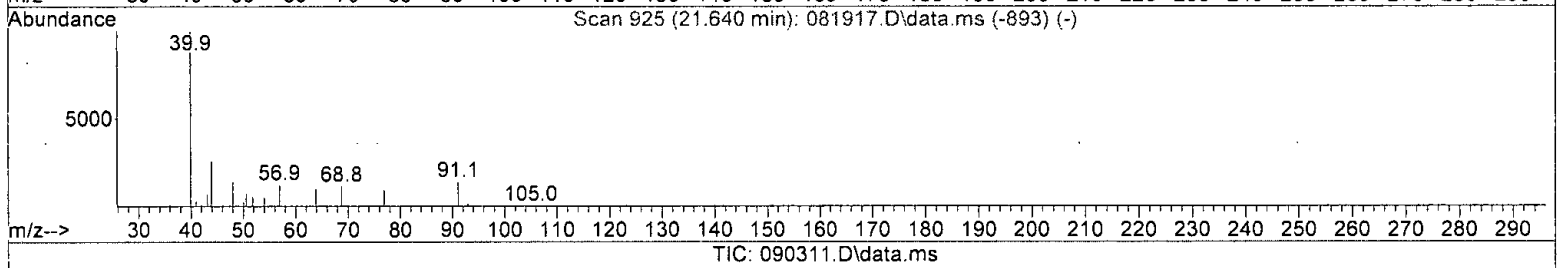
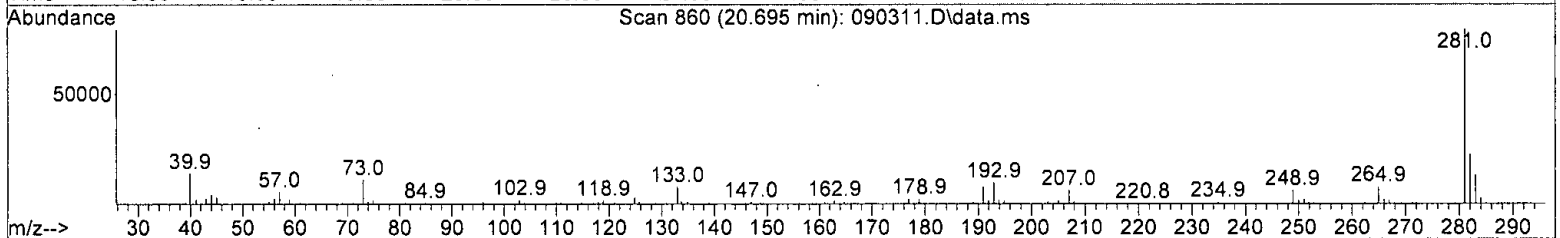
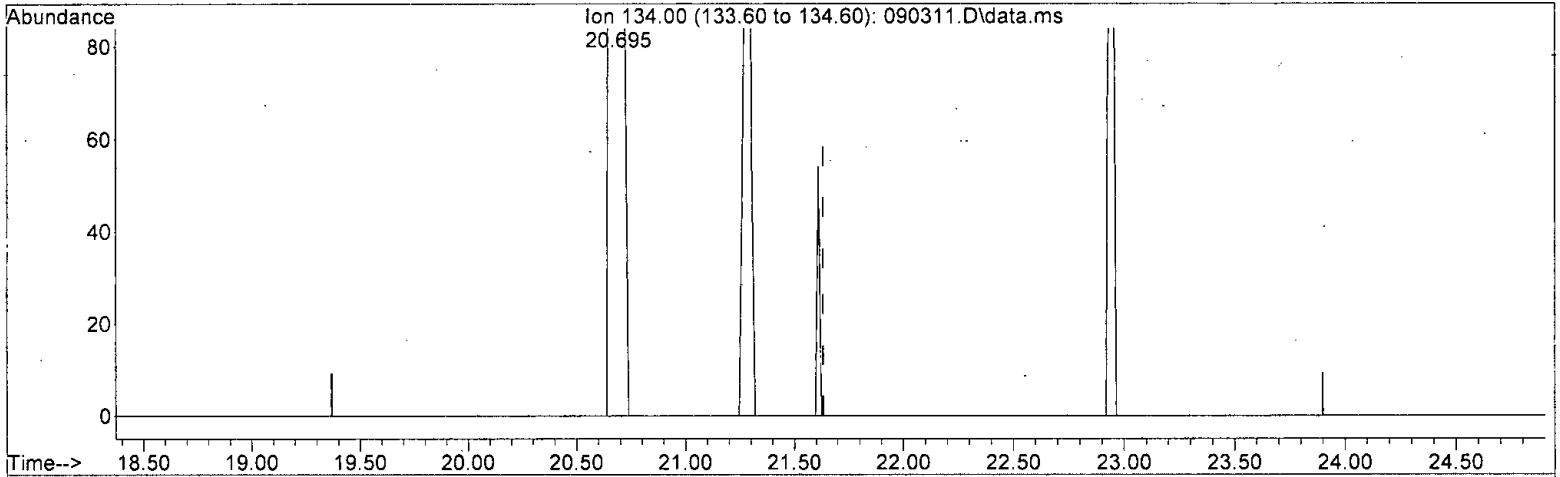
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:35:27 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 1.421 ug/m3 m

response	3953
Ion	Exp% Act%
134.00	100.00 100.00
0.00	0.00 0.00
0.00	0.00 0.00
0.00	0.00 0.00

*h orla/ly*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:37:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	101138	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	464533	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	409944	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	359613	70.018	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	98.62%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	943606	52.841	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1272420	50.202	ug/m3	92
4) IS-3 Chlorobenzene-d5	18.21	TIC	1525136	49.609	ug/m3	91
5) Methylene chloride	6.86	TIC	239473	264.873	ug/m3	92
6) Acetone	5.60	TIC	95244	1.997	ppbv	100
7) 2-Propanol	5.86	TIC	90584	326.888	ppbv	100
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	8.72	73	314	0.040	ug/m3	56
11) Benzene	12.71	78	1178	0.075	ug/m3	57
12) Isopentane	5.60	TIC	95244	3.036	ug/m3#	54
13) Hexane	9.99	TIC	943606	30.652	ug/m3	61
14) Cyclohexane	13.23	TIC	1272420	39.461	ug/m3	94
15) 2,3-Dimethylpentane	13.23	TIC	1272420	30.921	ug/m3	64
16) Heptane	14.63	TIC	4014	0.119	ug/m3	97
17) Octane	17.78	TIC	596574	12.938	ug/m3	61
18) APH EC5-8 aliphatics T...	0.00	TIC	4184278m	113.523	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	7315224m	198.469	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1720997	49.729	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	760523	89.220	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	623719	58.628	ppbv	100
24) Toluene	16.39	92	10900	1.239	ug/m3	94
25) Ethylbenzene	18.60	91	2514	0.138	ug/m3	94
26) m,p-Xylene	18.76	106	4353	0.713	ug/m3#	73
27) o-Xylene	19.21	106	1899	0.329	ug/m3	98
28) Naphthalene	23.94	128	2450	0.166	ug/m3	68
29) 2,3-Dimethylheptane	18.76	TIC	45950	1.115	ug/m3#	58
30) Nonane	19.64	TIC	1711930	39.793	ug/m3#	60
31) Decane	20.96	TIC	49591	1.160	ug/m3	97
32) Butylcyclohexane	21.63	TIC	300682	6.193	ug/m3	62
33) Undecane	22.28	TIC	37390	0.882	ug/m3	89
34) Dodecane	23.81	TIC	29891	0.859	ug/m3	85
35) APH EC9-12 aliphatics ...	21.63	TIC	2175434m	51.867	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	6113272m	145.753	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	20.45	120	520	0.116	ug/m3#	45
40) 1,3,5-Trimethylbenzene	20.87	120	794	0.140	ug/m3	92
41) p-Isopropyltoluene	21.29	134	349	0.125	ug/m3#	69
42) 1,2,3-Trimethylbenzene	21.31	120	439	0.066	ug/m3#	85
43) APH EC9-10 aromatics T...	21.63	TIC	2102m	0.475	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	1958m	0.401	ug/m3	



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

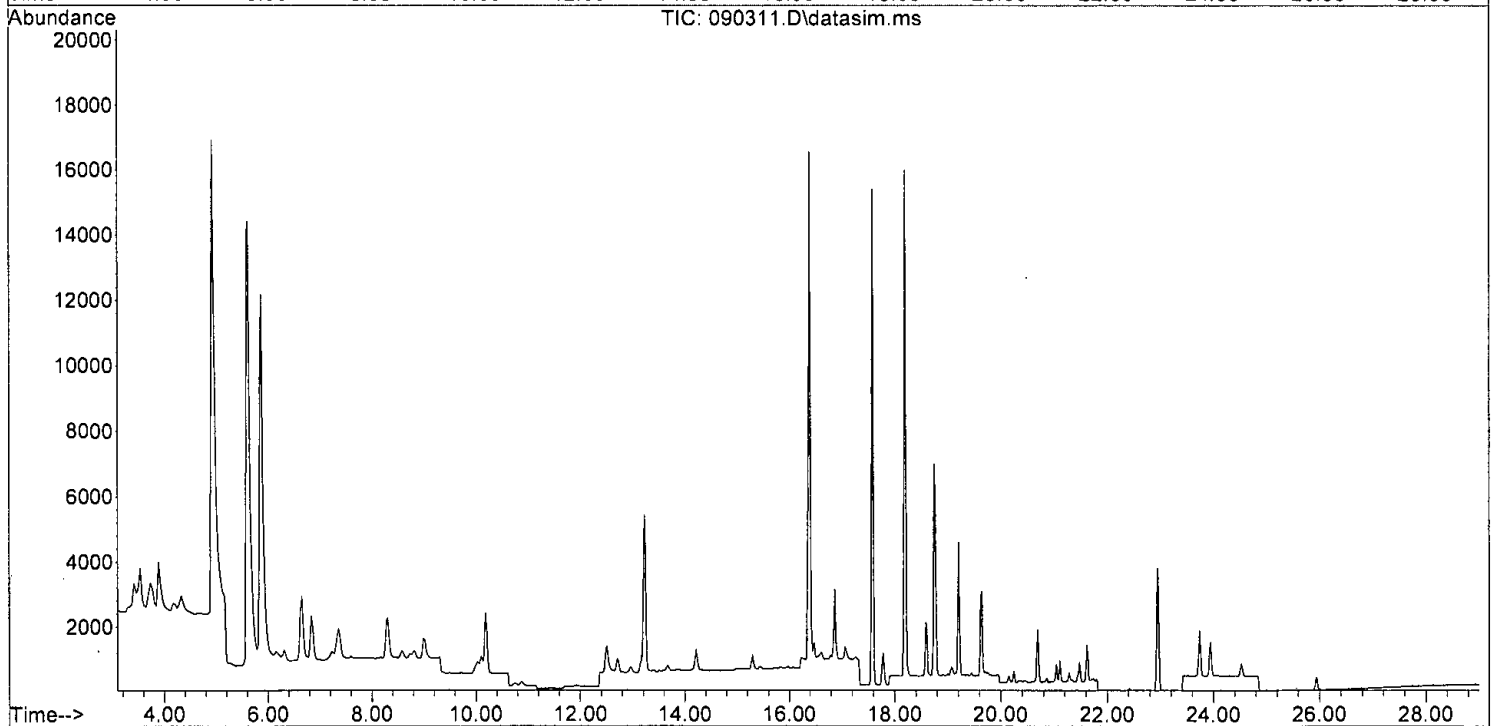
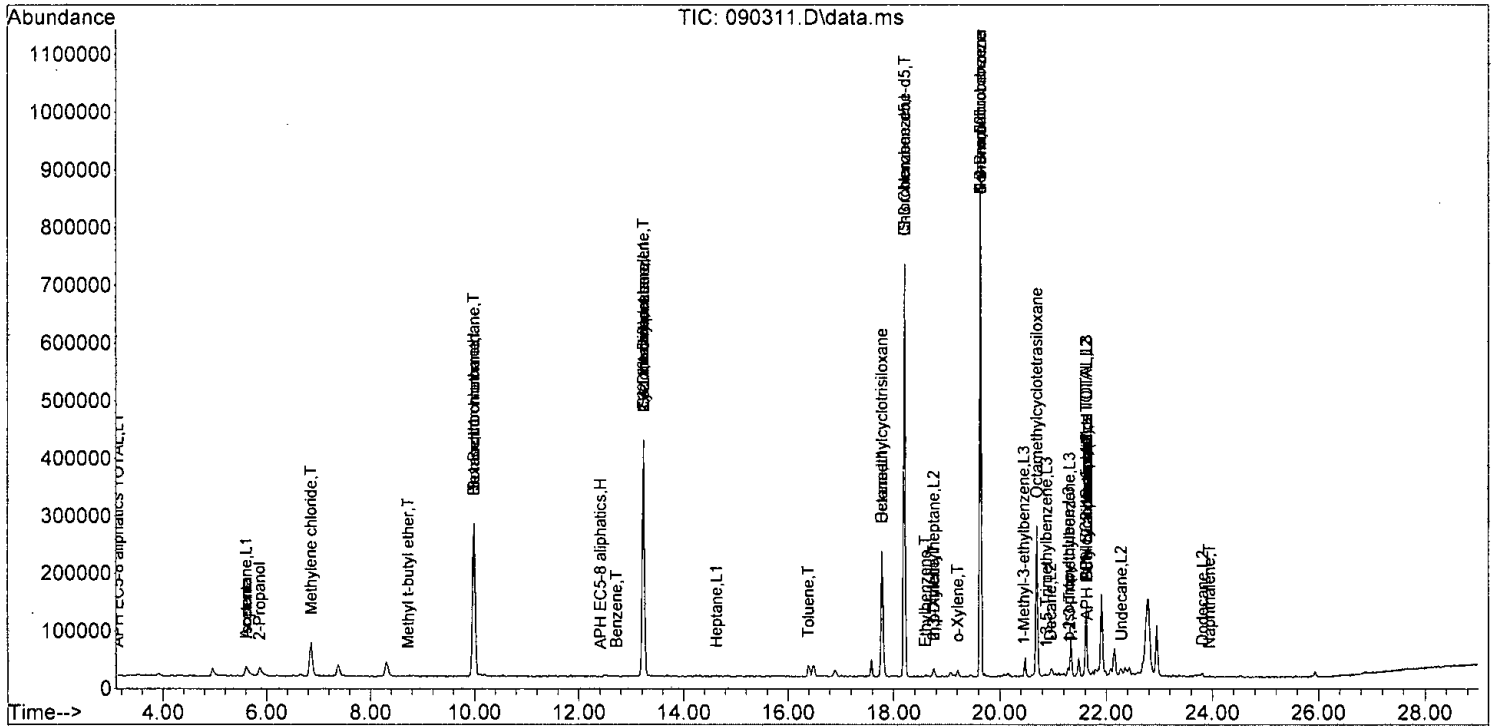
Quant Time: Sep 07 10:37:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	3953m	1.421	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090311.D  
 Acq On : 3 Sep 2021 2:20 pm  
 Operator : bat  
 Sample : 109030-01 1/5.8  
 Misc : T2  
 ALS Vial : 11 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:37:54 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090322.D  
 Acq On : 3 Sep 2021 9:31 pm  
 Operator : bat  
 Sample : 109030-02 1/5.0  
 Misc : T10  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

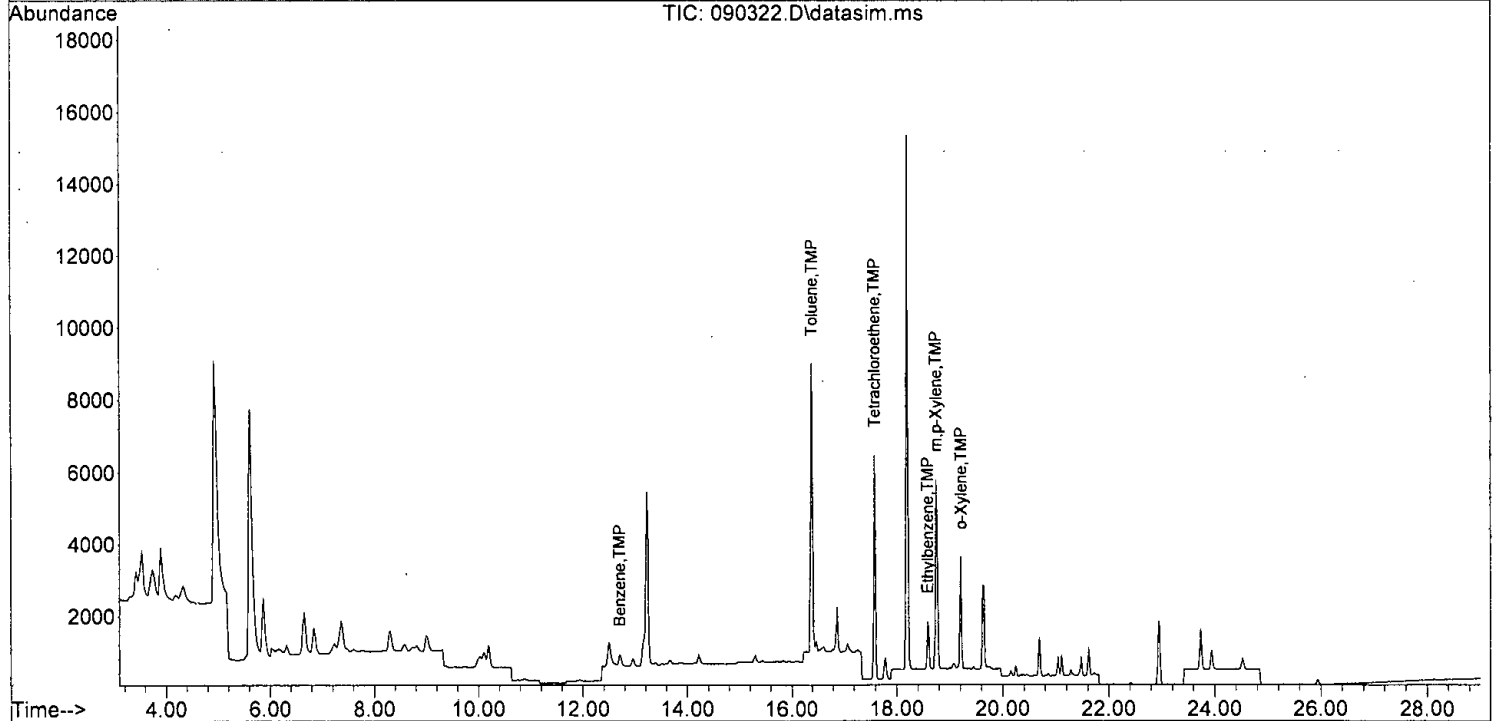
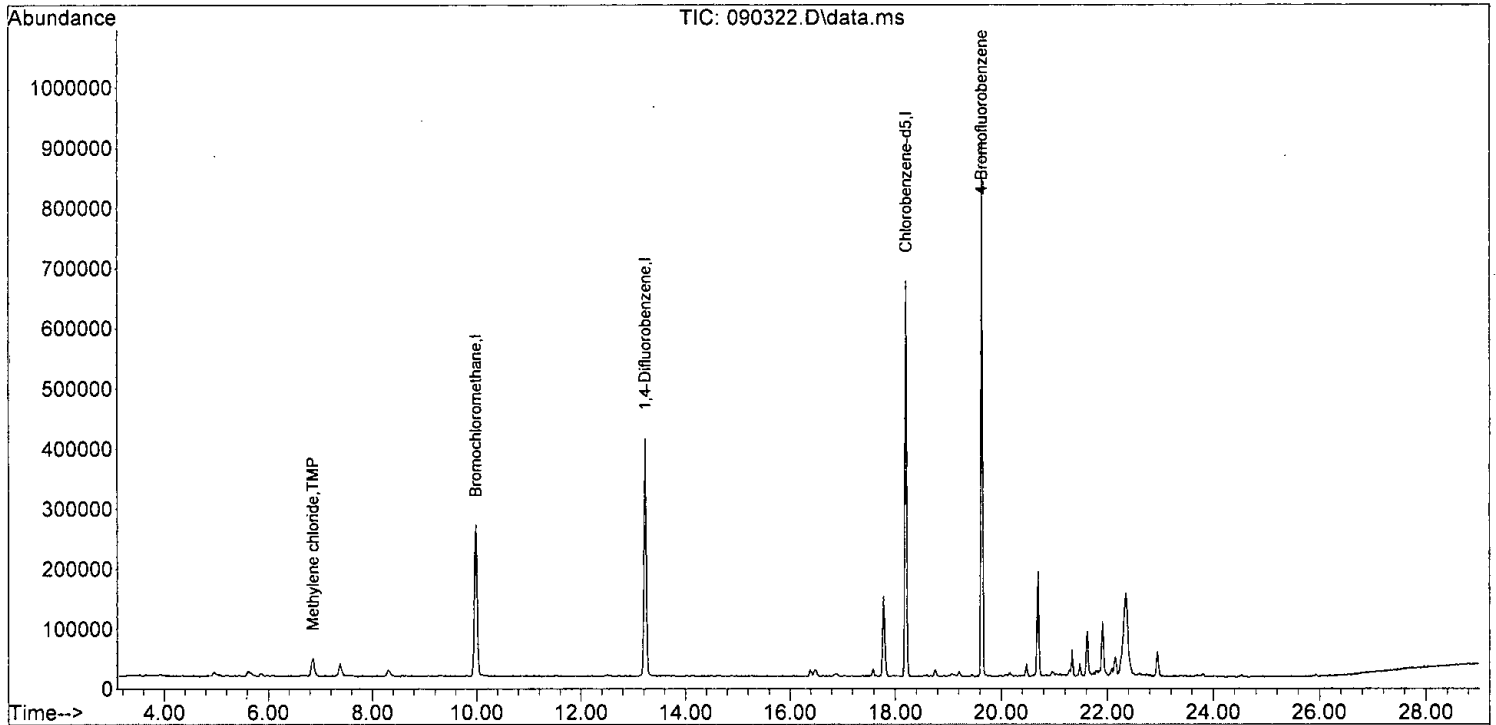
Quant Time: Sep 07 15:05:16 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

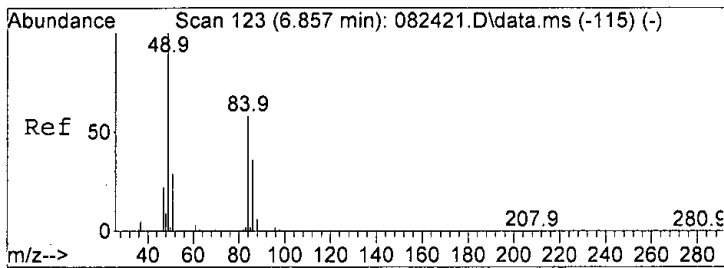
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	97408	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	448691	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	394288	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	345718	9.678	ppbv	0.00
Spiked Amount	10.000	Range 70 - 130	Recovery	=	96.80%	
Target Compounds						
						Qvalue
20) Methylene chloride	6.86	84	22156	1.300	ppbv	# 61
37] Benzene	12.70	78	925	0.016	ppbv	94
50] Toluene	16.40	92	7548	0.225	ppbv	85
53] Tetrachloroethene	17.58	164	2806	0.164	ppbv	# 81
58] Ethylbenzene	18.59	91	2268	0.026	ppbv	97
65] m,p-Xylene	18.74	106	3804	0.135	ppbv	83
66] o-Xylene	19.21	106	1616	0.058	ppbv	92
77] Naphthalene	23.95	128	1278	Below Cal		100
-----						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090322.D  
 Acq On : 3 Sep 2021 9:31 pm  
 Operator : bat  
 Sample : 109030-02 1/5.0  
 Misc : T10  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

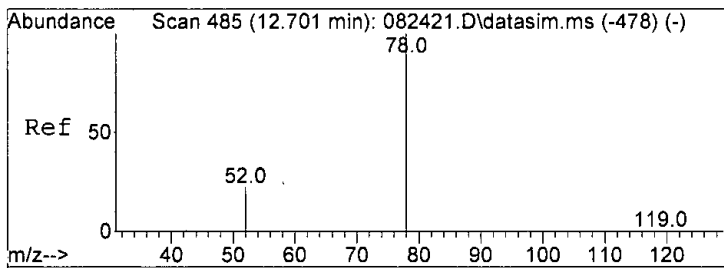
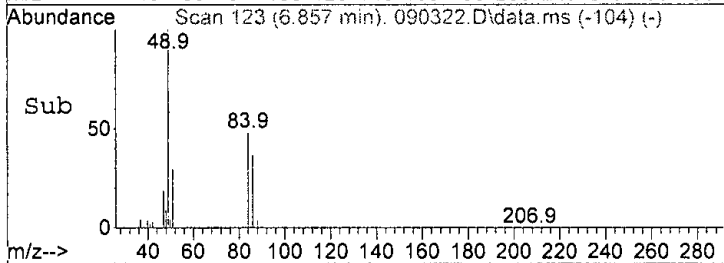
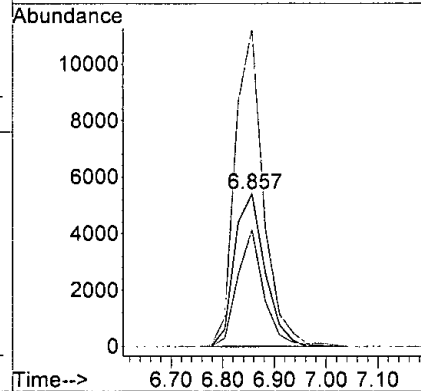
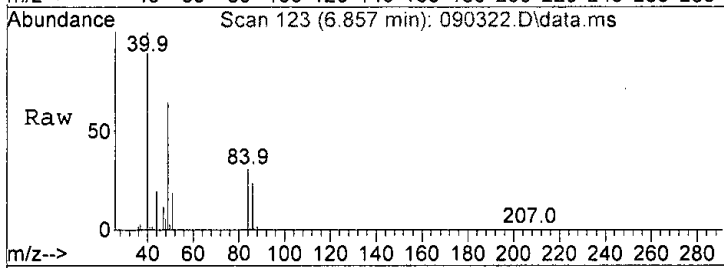
Quant Time: Sep 07 15:05:16 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





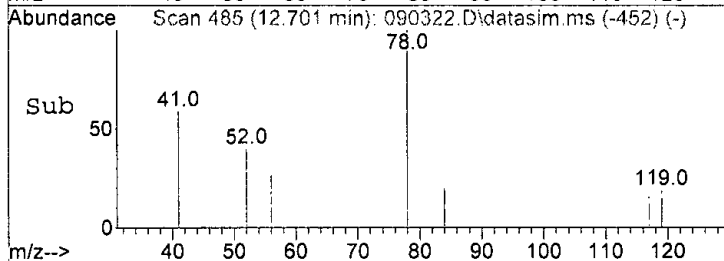
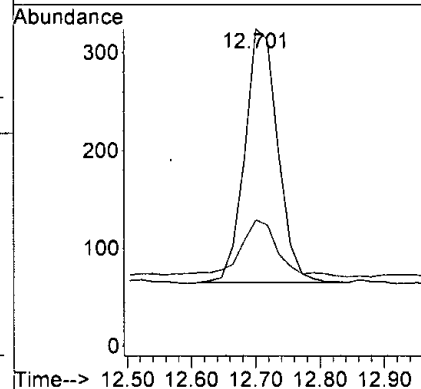
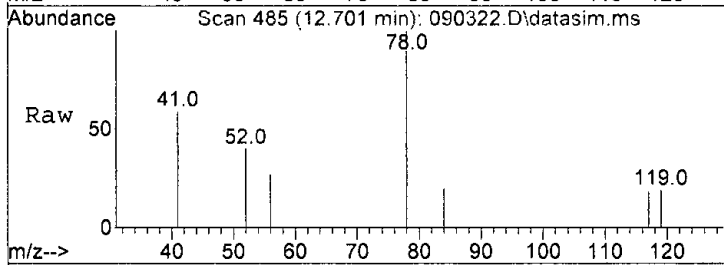
#20  
 Methylene chloride  
 Concen: 1.300 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. -0.000 min  
 Lab File: 090322.D  
 Acq: 3 Sep 2021 9:31 pm

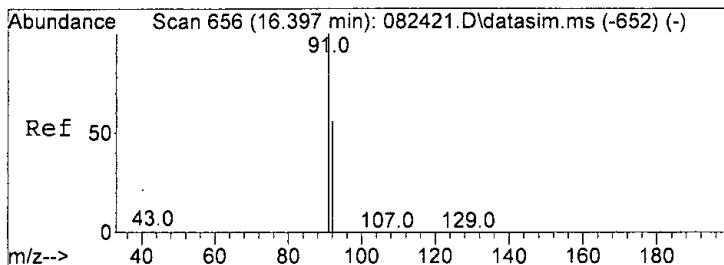
Tgt Ion	Ratio	Lower	Upper
84	100		
86	76.6	33.9	93.9
49	208.7	116.6	176.6#



#37  
 Benzene  
 Concen: 0.016 ppbv  
 RT: 12.70 min Scan# 485  
 Delta R.T. -0.000 min  
 Lab File: 090322.D  
 Acq: 3 Sep 2021 9:31 pm

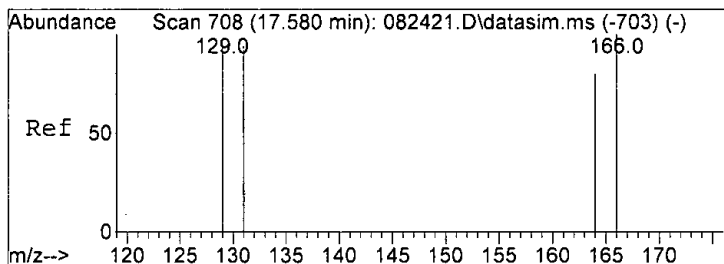
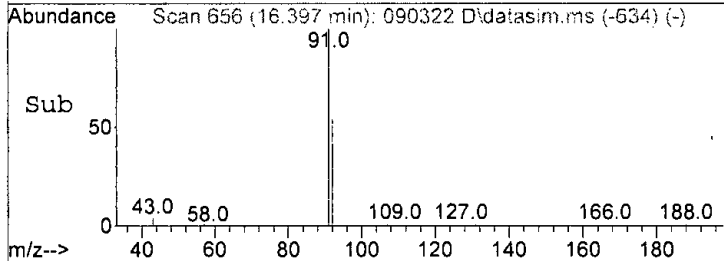
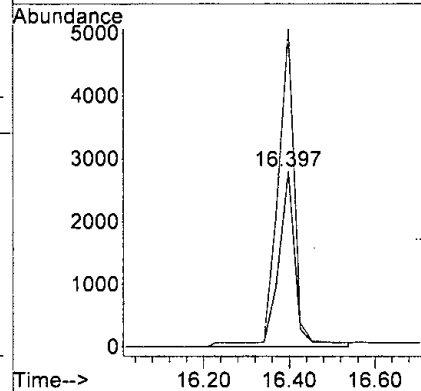
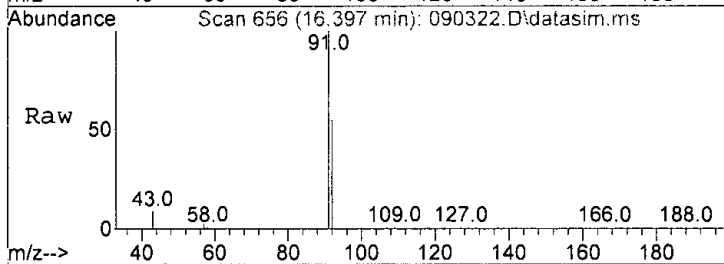
Tgt Ion	Ratio	Lower	Upper
78	100		
52	22.4	0.0	49.7





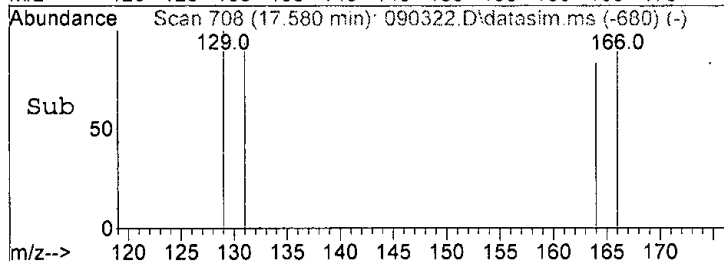
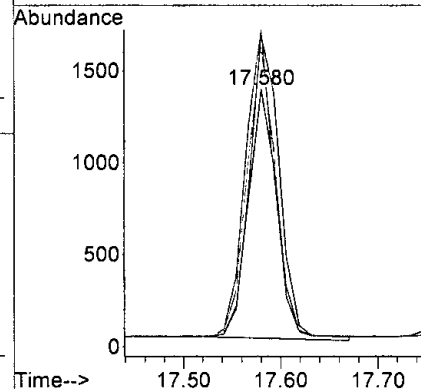
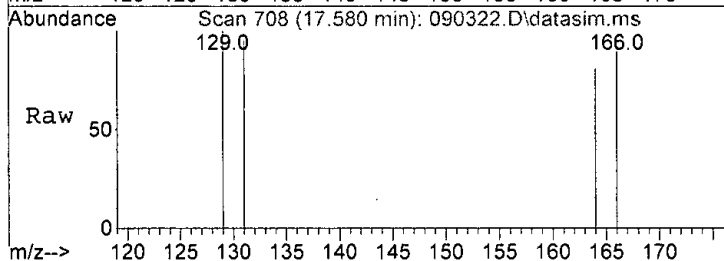
#50  
 Toluene  
 Concen: 0.225 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090322.D  
 Acq: 3 Sep 2021 9:31 pm

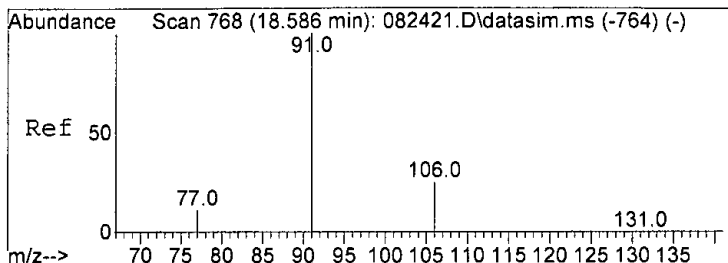
Tgt Ion: 92 Resp: 7548  
 Ion Ratio Lower Upper  
 92 100  
 91 181.0 174.6 234.6



#53  
 Tetrachloroethene  
 Concen: 0.164 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090322.D  
 Acq: 3 Sep 2021 9:31 pm

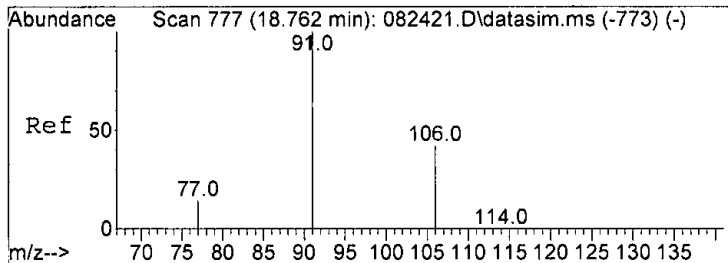
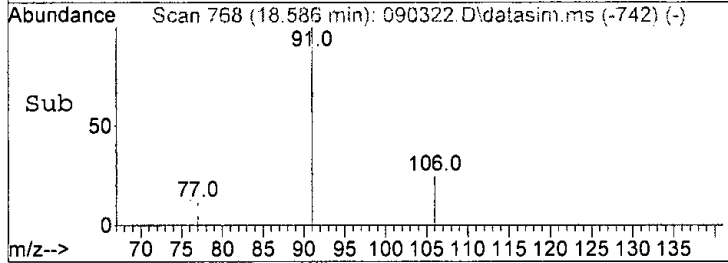
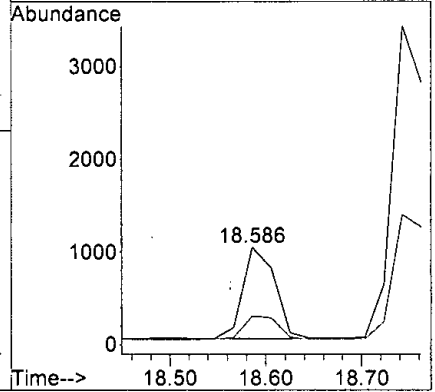
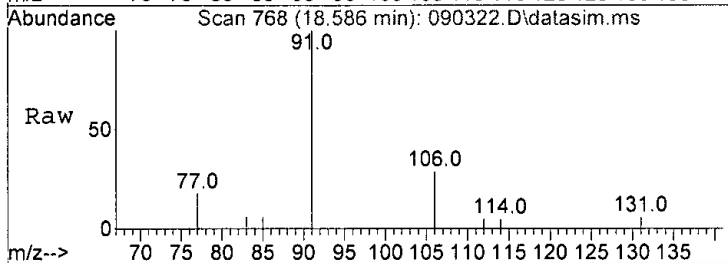
Tgt Ion: 164 Resp: 2806  
 Ion Ratio Lower Upper  
 164 100  
 129 124.3 63.2 123.2#  
 131 117.1 70.7 130.7  
 166 122.0 107.5 167.5





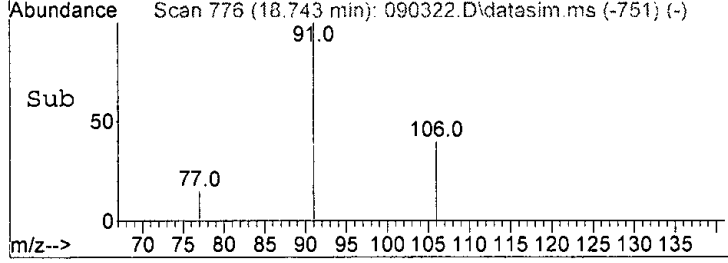
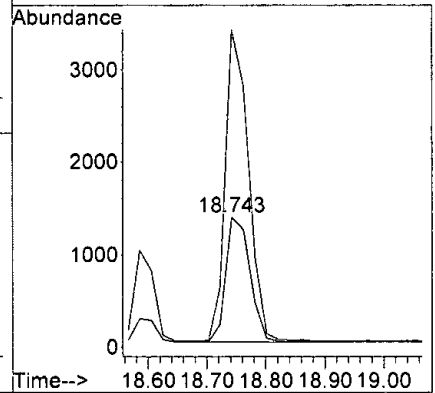
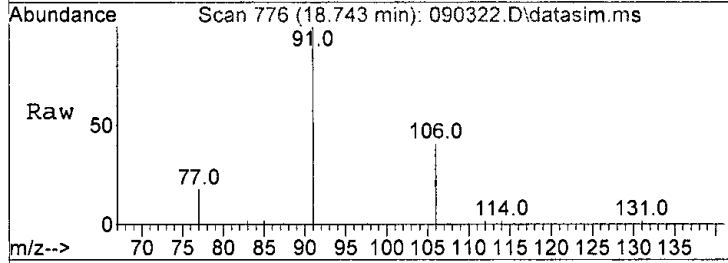
#58  
 Ethylbenzene  
 Concen: 0.026 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090322.D  
 Acq: 3 Sep 2021 9:31 pm

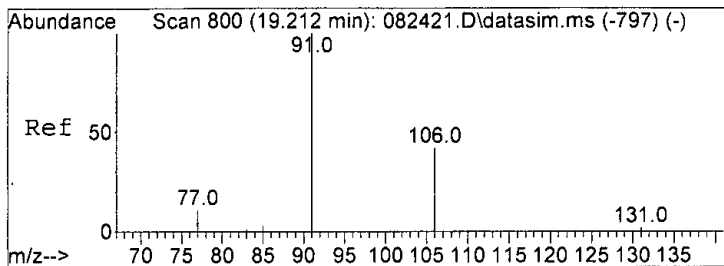
Tgt Ion: 91 Resp: 2268  
 Ion Ratio Lower Upper  
 91 100  
 106 25.4 0.0 57.0



#65  
 m,p-Xylene  
 Concen: 0.135 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.020 min  
 Lab File: 090322.D  
 Acq: 3 Sep 2021 9:31 pm

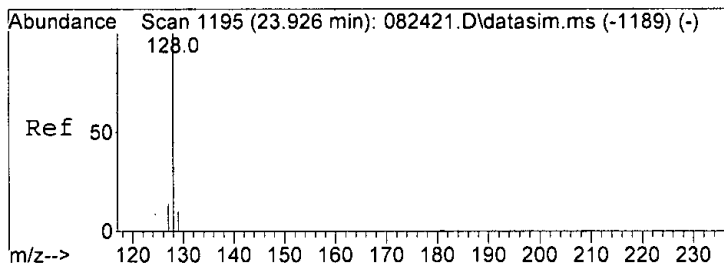
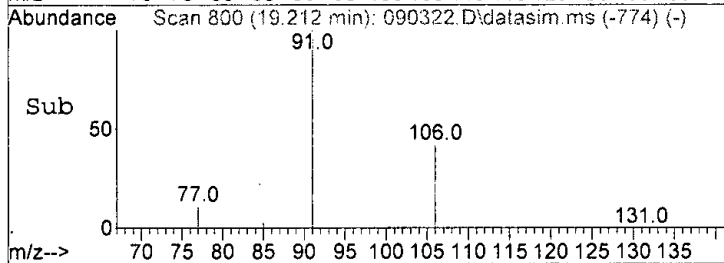
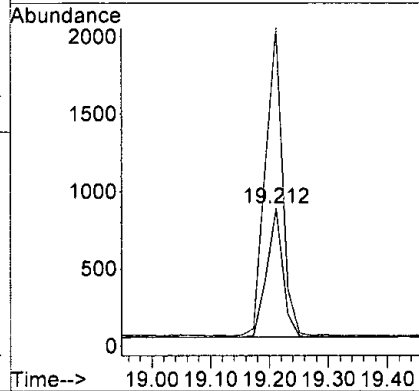
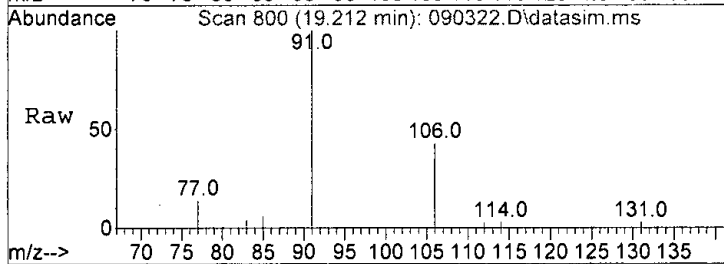
Tgt Ion: 106 Resp: 3804  
 Ion Ratio Lower Upper  
 106 100  
 91 250.2 193.0 253.0





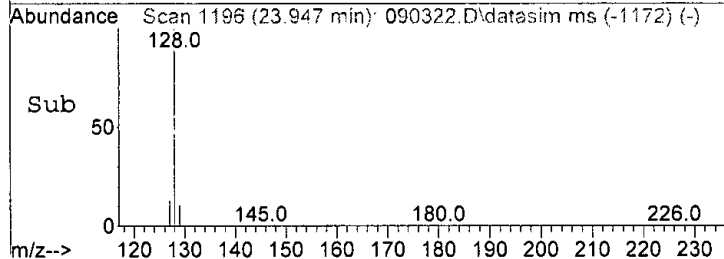
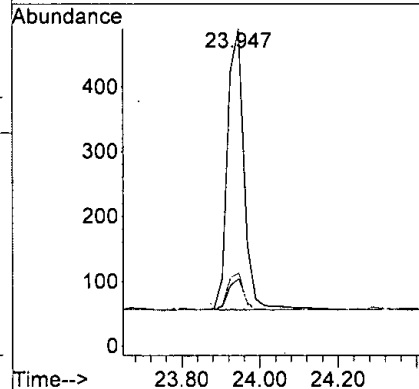
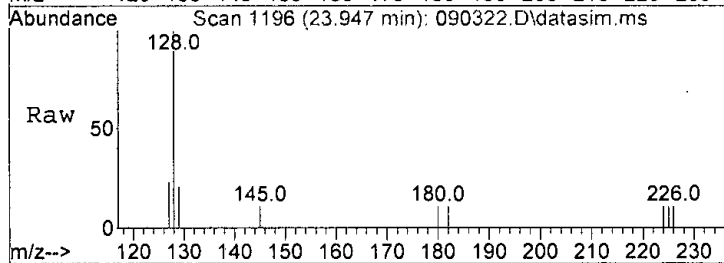
#66  
 o-Xylene  
 Concen: 0.058 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090322.D  
 Acq: 3 Sep 2021 9:31 pm

Tgt Ion:106 Resp: 1616  
 Ion Ratio Lower Upper  
 106 100  
 91 238.0 194.4 254.4



#77  
 Naphthalene  
 Concen: Below Cal  
 RT: 23.95 min Scan# 1196  
 Delta R.T. 0.021 min  
 Lab File: 090322.D  
 Acq: 3 Sep 2021 9:31 pm

Tgt Ion:128 Resp: 1278  
 Ion Ratio Lower Upper  
 128 100  
 129 11.1 0.0 41.0  
 127 13.4 0.0 43.2





Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090322.D  
 Acq On : 3 Sep 2021 9:31 pm  
 Operator : bat  
 Sample : 109030-02 1/5.0  
 Misc : T10  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:05:16 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.99	128	97408	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	448691	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	394288	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	345718	9.678	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	96.80%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.		
6) Vinyl chloride	0.00		0	N.D.		
7) 1,3-Butadiene	0.00		0	N.D.		
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.	d	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	0.00		0	N.D.		
19) trans-1,2-Dichloroethene	0.00		0	N.D.		
20) Methylene chloride	6.86	84	22156	1.300	ppbv	# 61
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.		
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	0.00		0	N.D.		
28) cis-1,2-Dichloroethene	0.00		0	N.D.		
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.		
34) 1,2-Dichloroethane (EDC)	11.19	62	207	N.D.		
35) 1,1,1-Trichloroethane	11.68	97	110	N.D.		
36) Carbon tetrachloride	0.00		0	N.D.	d	
37) Benzene	12.70	78	925	0.016	ppbv	94
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090322.D  
 Acq On : 3 Sep 2021 9:31 pm  
 Operator : bat  
 Sample : 109030-02 1/5.0  
 Misc : T10  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

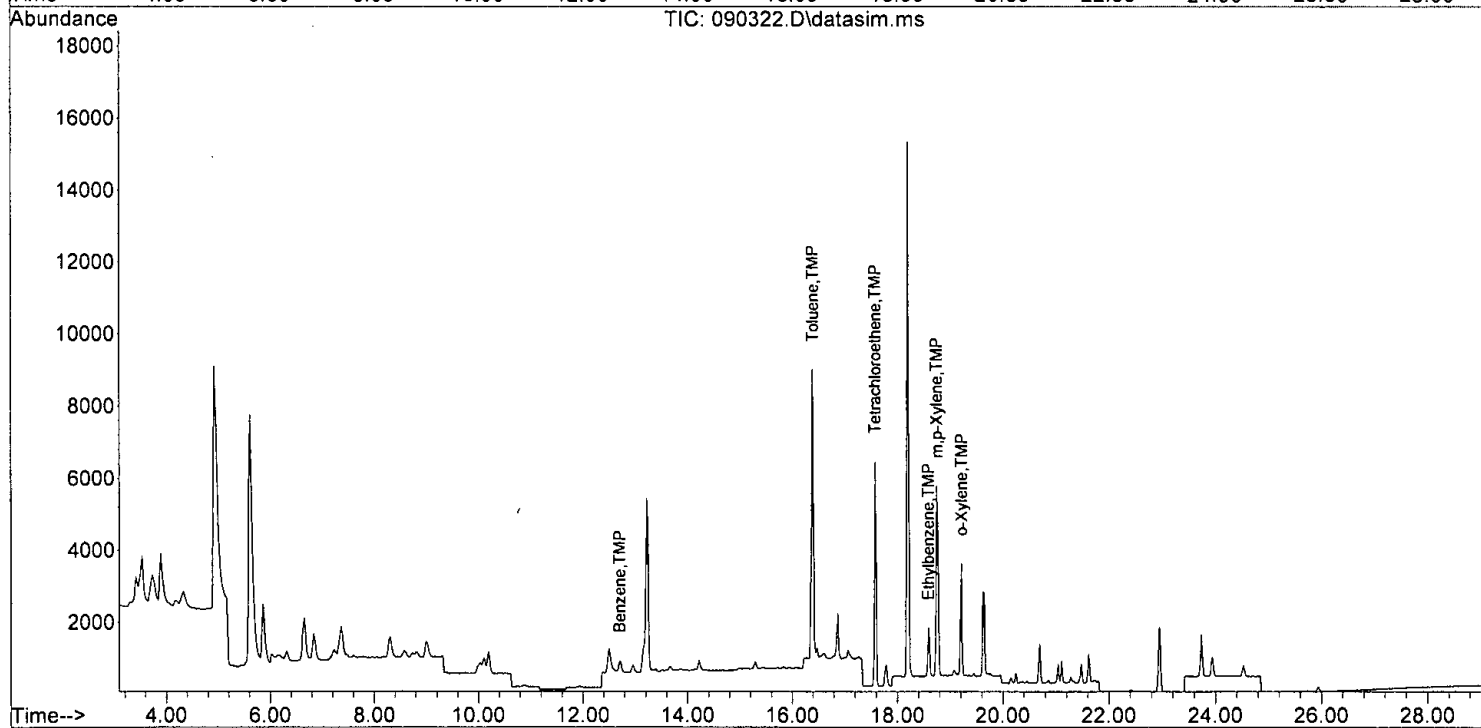
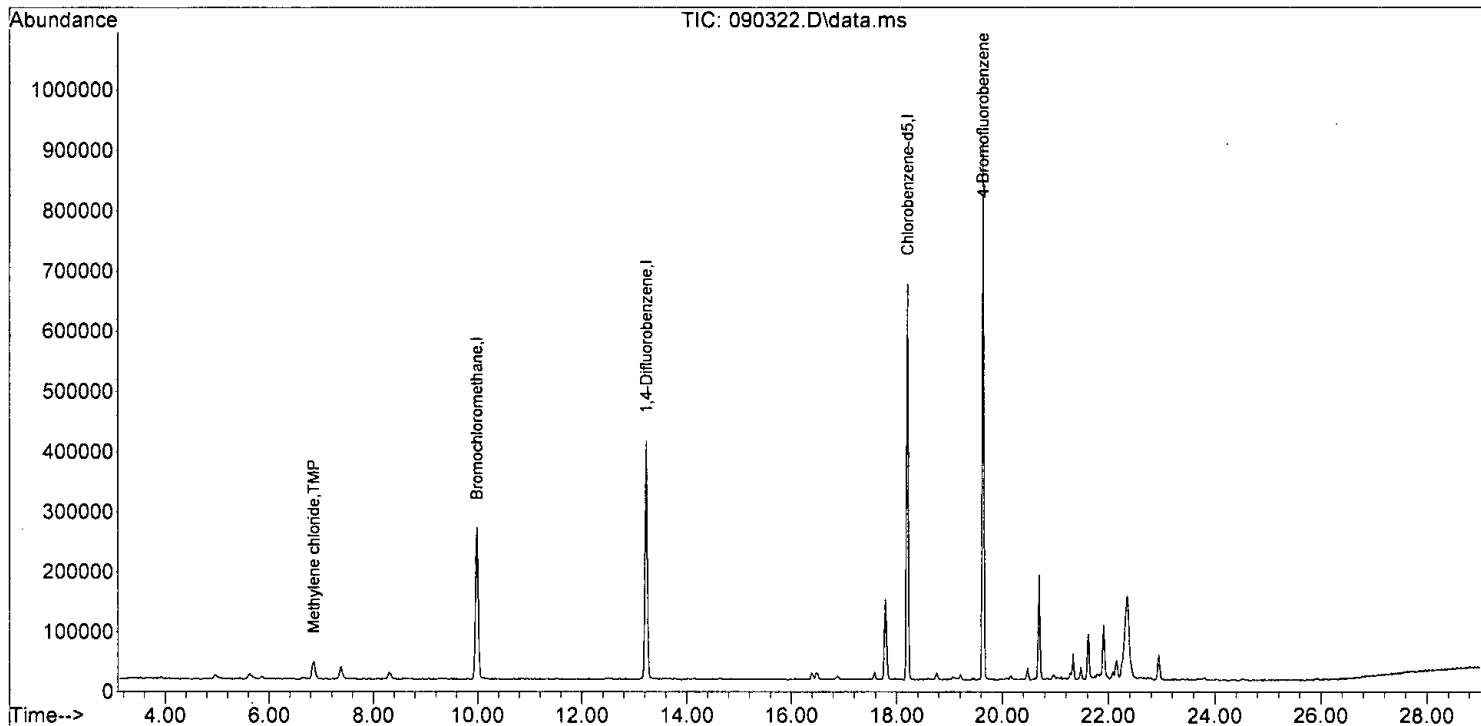
Quant Time: Sep 07 15:05:16 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46) Trichloroethene	14.22	95	238	N.D.		
47) cis-1,3-Dichloropropene	0.00		0	N.D.		
48) 4-Methyl-2-pentanone	0.00		0	N.D.		
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	7548	0.225	ppbv	85
51) 1,1,2-Trichloroethane	0.00		0	N.D.		
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	2806	0.164	ppbv #	81
54) Dibromochloromethane	0.00		0	N.D.		
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.		
57) Chlorobenzene	0.00		0	N.D.		
58] Ethylbenzene	18.59	91	2268	0.026	ppbv	97
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.		
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.74	106	3804	0.135	ppbv	83
66] o-Xylene	19.21	106	1616	0.058	ppbv	92
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.		
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77] Naphthalene	23.95	128	1278	Below Cal		100
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090322.D  
 Acq On : 3 Sep 2021 9:31 pm  
 Operator : bat  
 Sample : 109030-02 1/5.0  
 Misc : T10  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

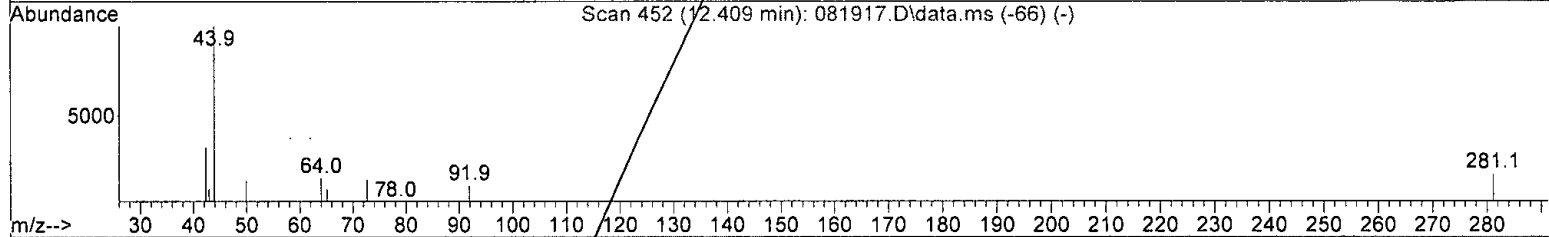
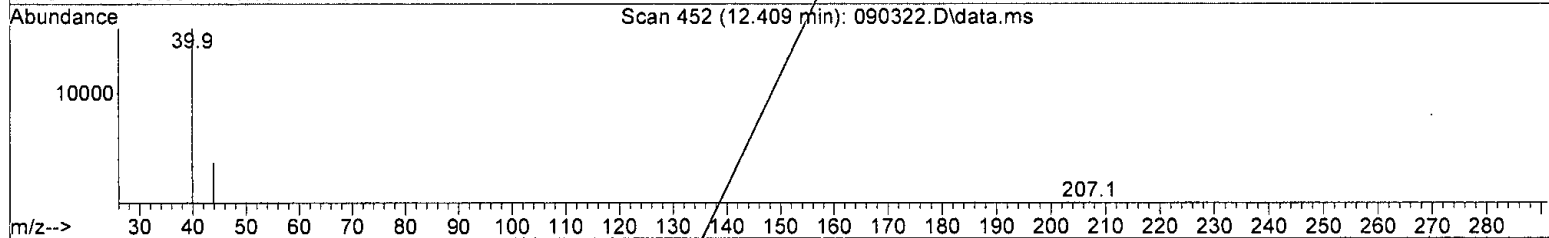
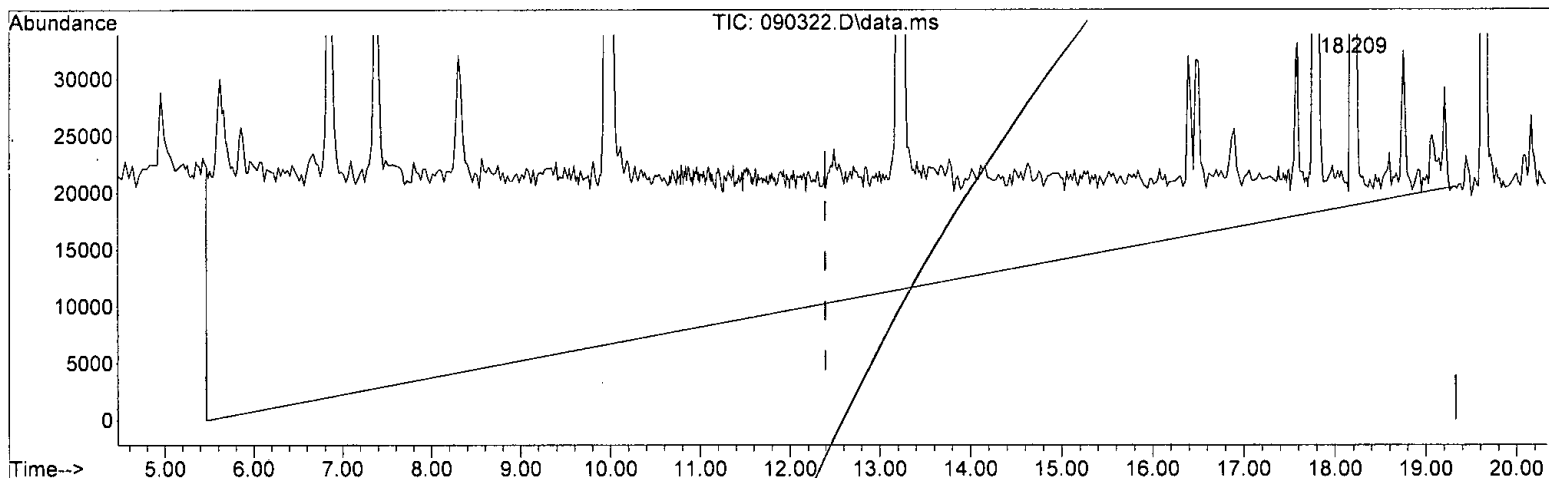
Quant Time: Sep 07 15:05:16 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090322.D  
 Acq On : 3 Sep 2021 9:31 pm  
 Operator : bat  
 Sample : 109030-02 1/5.0  
 Misc : T10  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:01:06 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 22.680 ug/m3 m  
 response 807428  

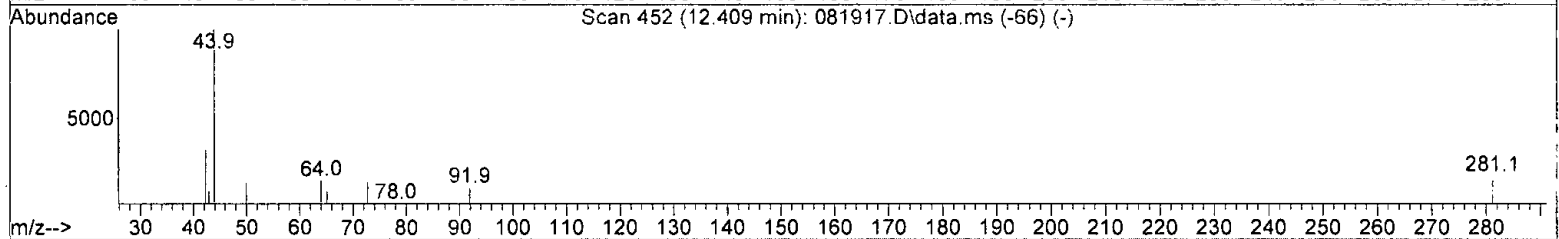
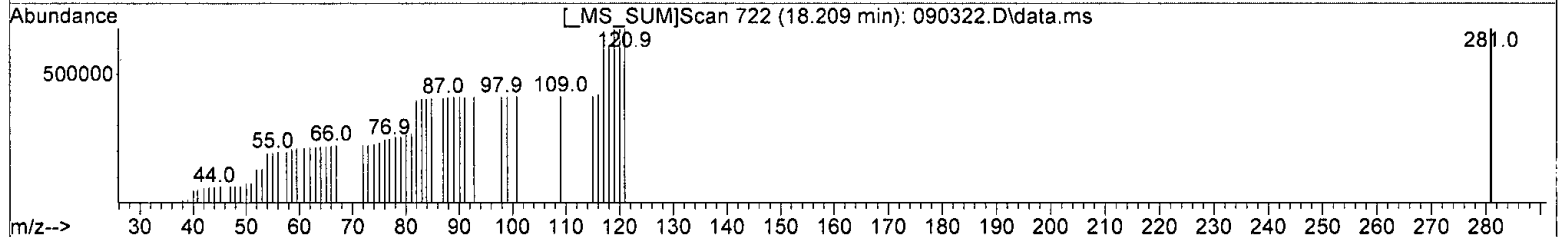
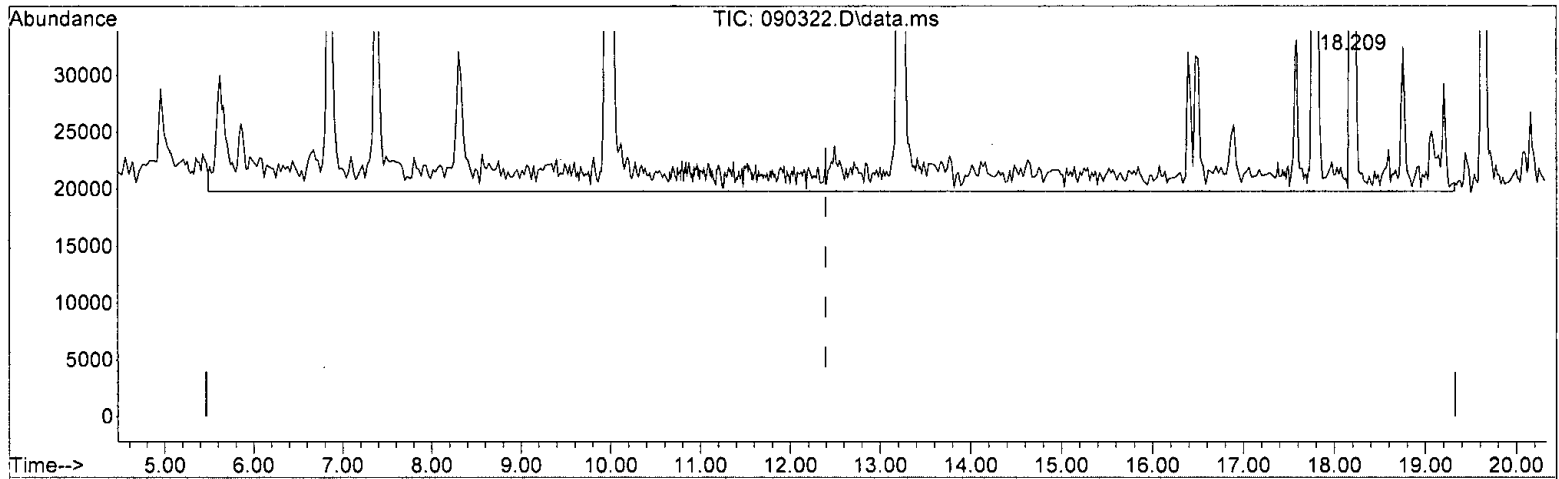
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h/09/07/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090322.D  
 Acq On : 3 Sep 2021 9:31 pm  
 Operator : bat  
 Sample : 109030-02 1/5.0  
 Misc : T10  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:01:06 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



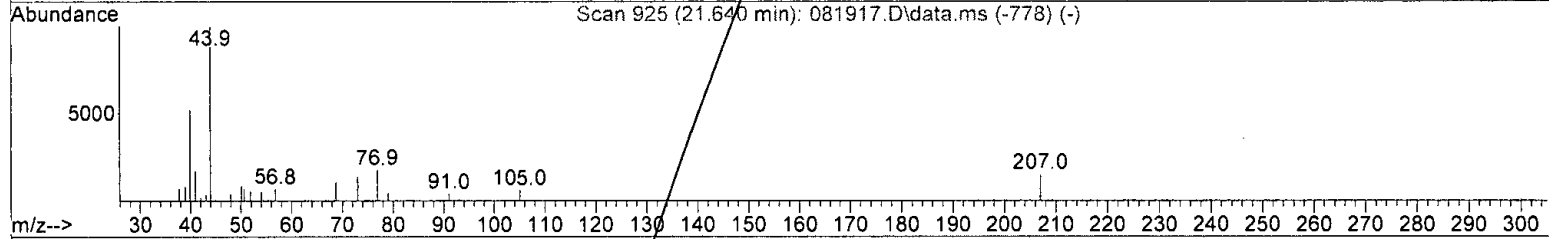
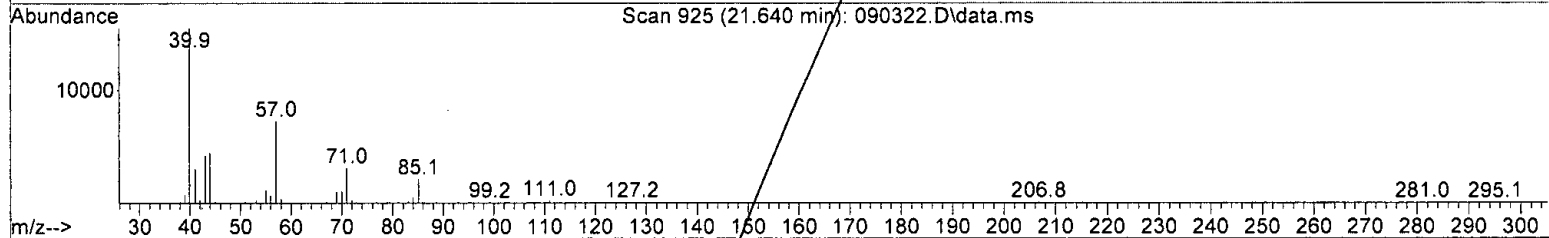
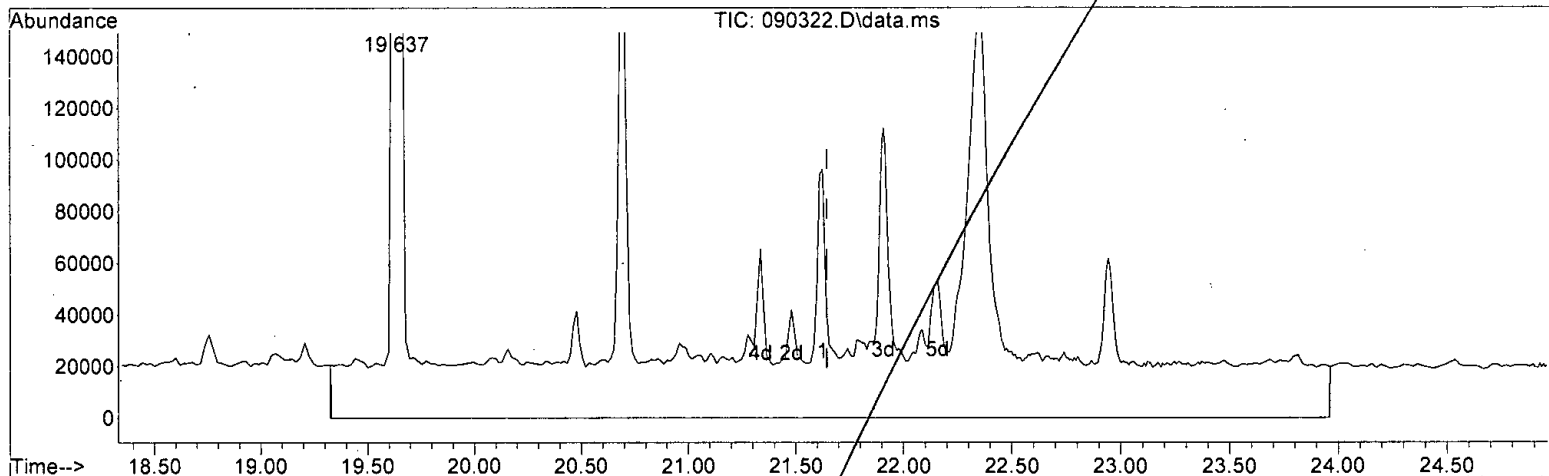
(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 171.369 ug/m3 m  
 response 6100955

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h  
 08/20/21*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090322.D  
 Acq On : 3 Sep 2021 9:31 pm  
 Operator : bat  
 Sample : 109030-02 1/5.0  
 Misc : T10  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:01:06 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 52.976 ug/m3 m

response 2137110

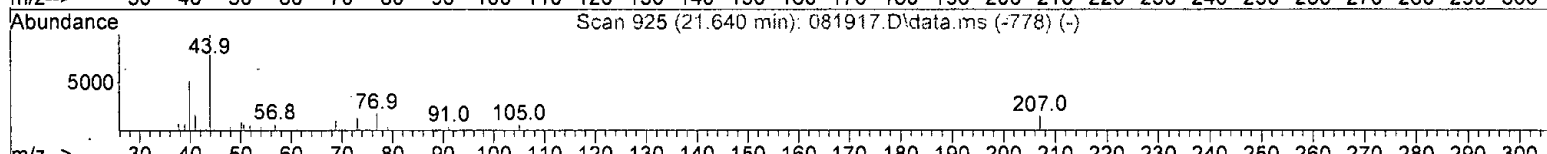
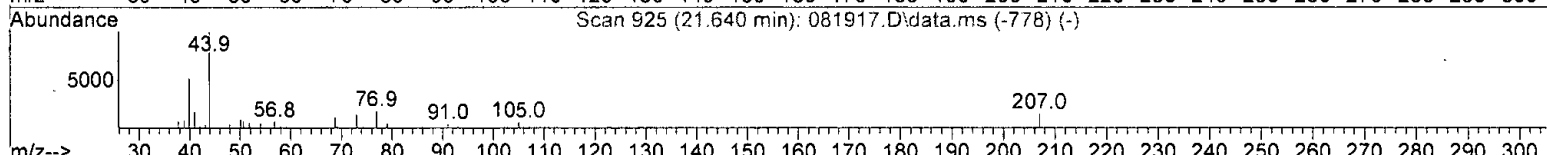
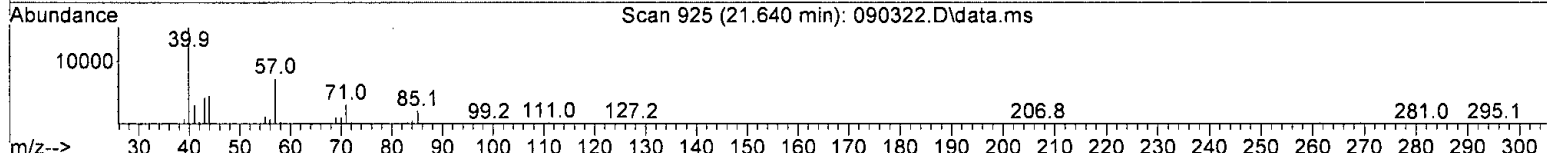
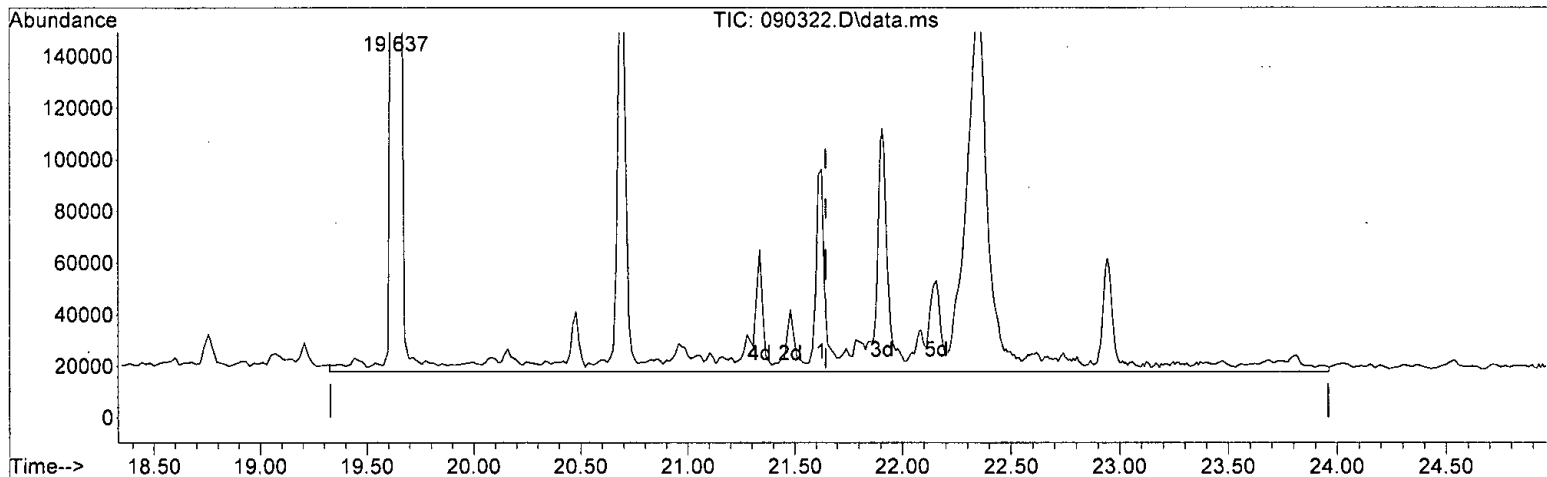
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Bat 09/07/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090322.D  
 Acq On : 3 Sep 2021 9:31 pm  
 Operator : bat  
 Sample : 109030-02 1/5.0  
 Misc : T10  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:01:06 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



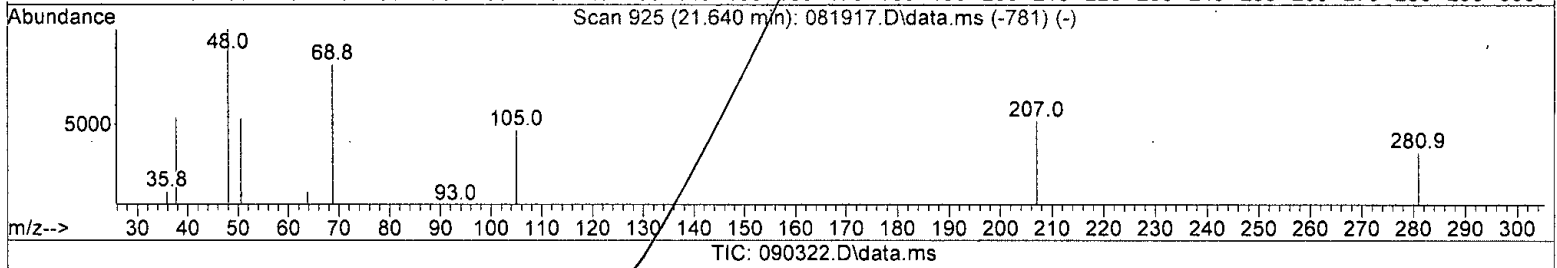
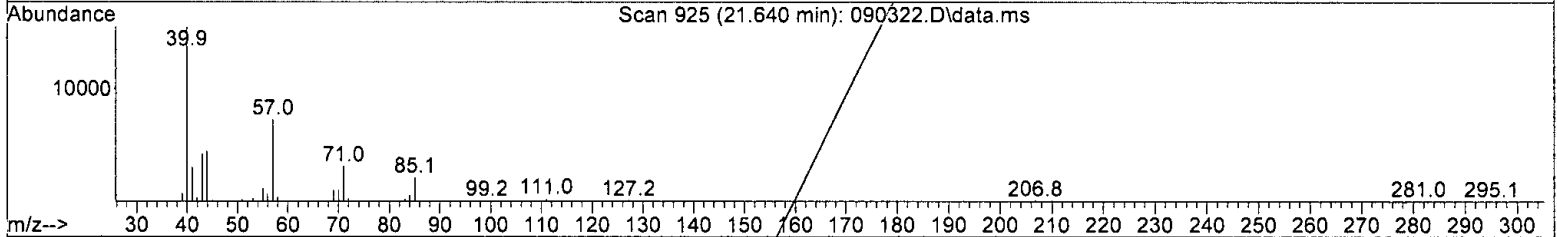
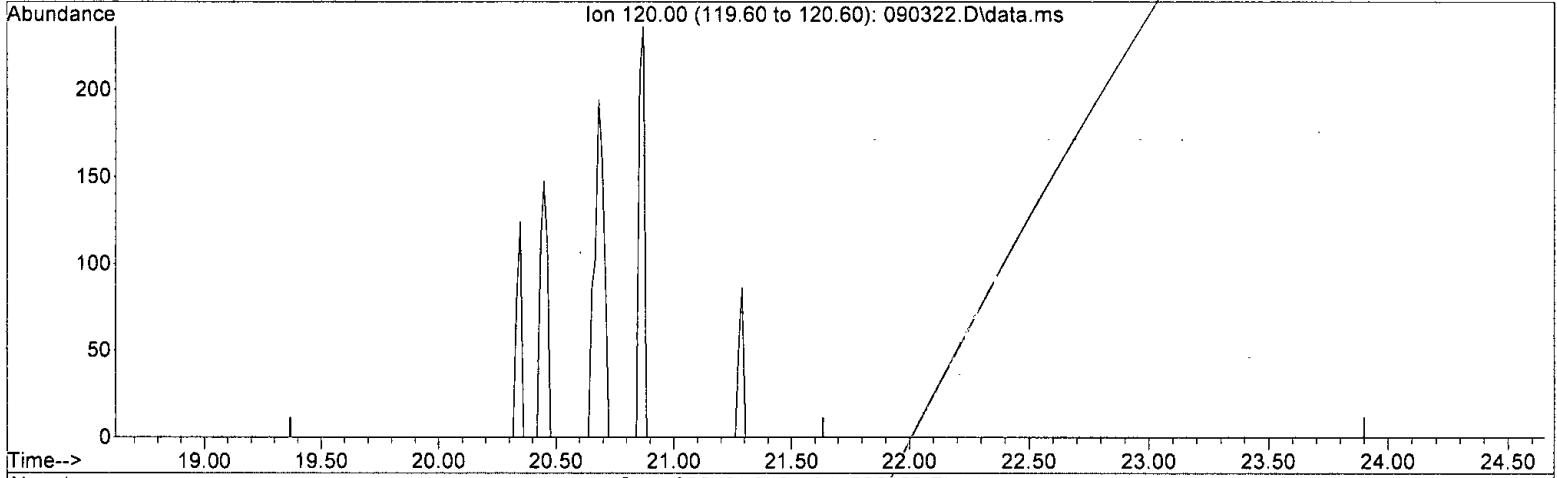
(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 121.238 ug/m3 m  
 response 4890847  

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*R. B. B. B.*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090322.D  
 Acq On : 3 Sep 2021 9:31 pm  
 Operator : bat  
 Sample : 109030-02 1/5.0  
 Misc : T10  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:01:06 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)  
 21.635min ( 0.000) -15.033 ug/m3 m  
 response -70610

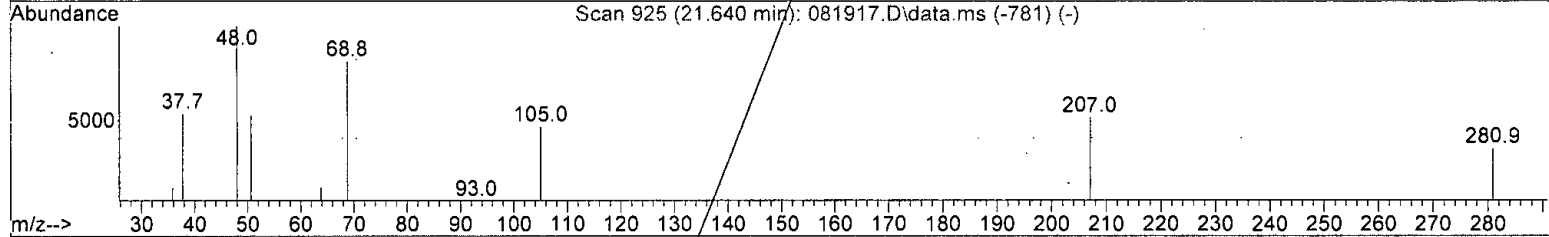
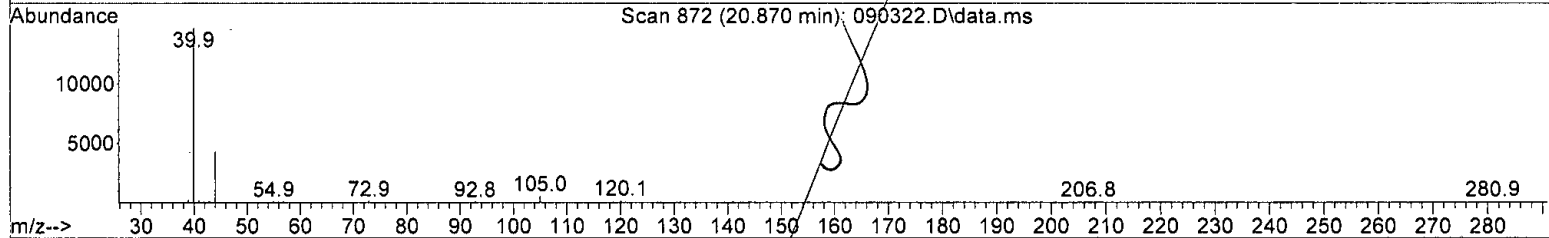
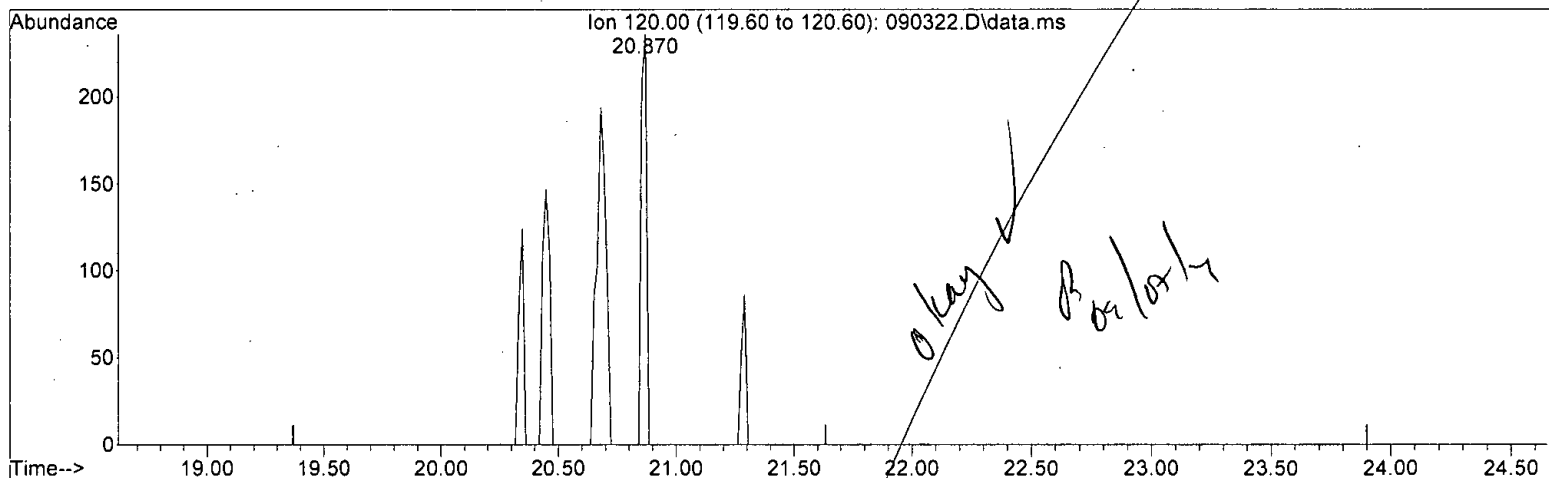
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature/initials*



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090322.D  
 Acq On : 3 Sep 2021 9:31 pm  
 Operator : bat  
 Sample : 109030-02 1/5.0  
 Misc : T10  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:01:06 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090322.D\data.ms

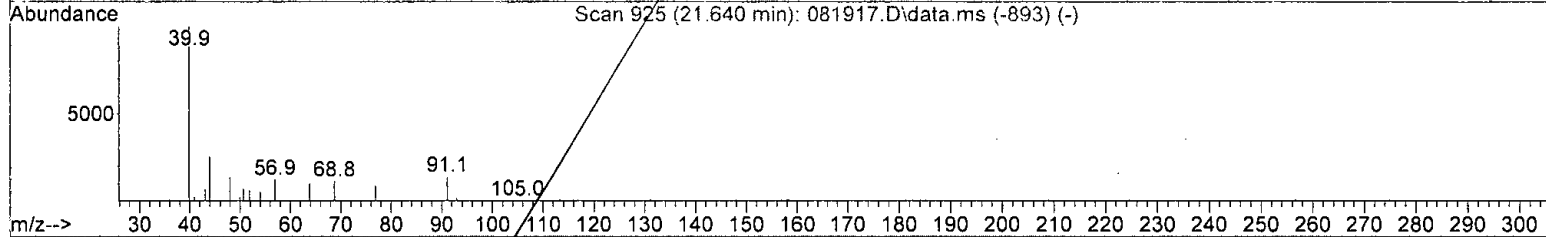
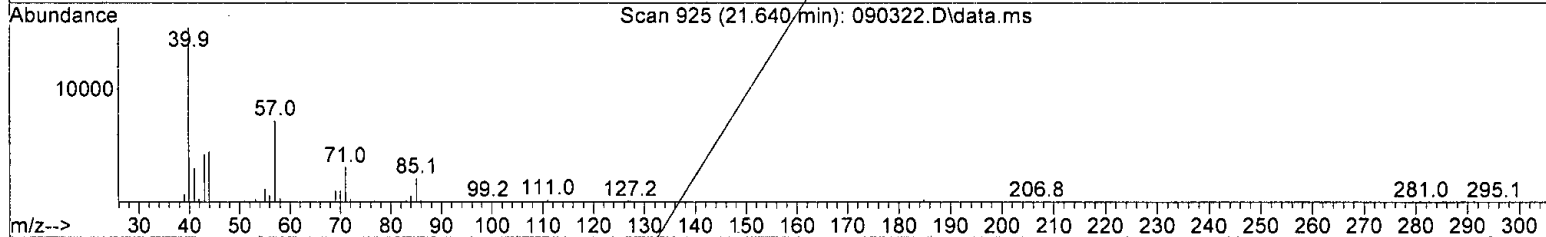
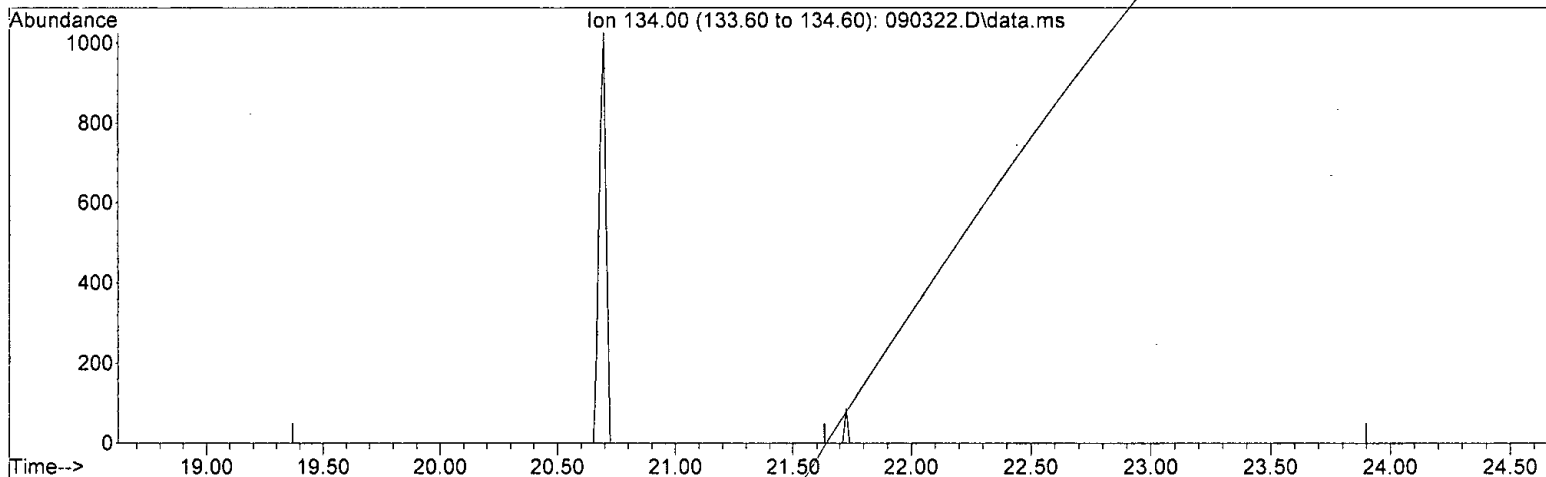
(44) APH EC9-10 aromatics (1) (H)			
21.635min	( 0.000)	0.272 ug/m3	m
response	1279		
Ion	Exp%	Act%	
120.00	100.00	100.00	
0.00	0.00	0.00	
0.00	0.00	0.00	
0.00	0.00	0.00	

Handwritten note: W or 10/12

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090322.D  
 Acq On : 3 Sep 2021 9:31 pm  
 Operator : bat  
 Sample : 109030-02 1/5.0  
 Misc : T10  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:01:06 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)  
 21.635min ( 0.000) -26.146 ug/m3 m  
 response -69947

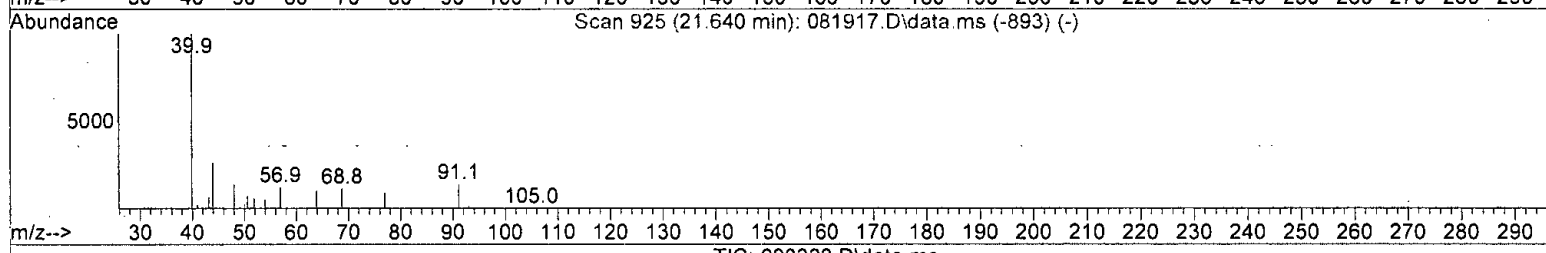
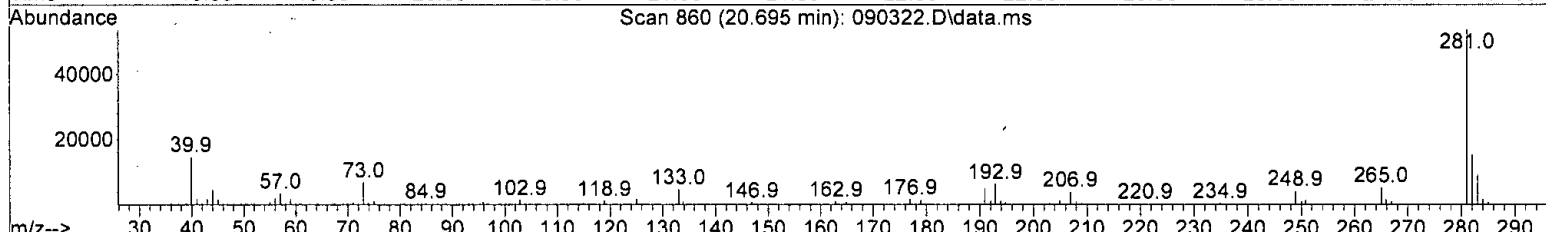
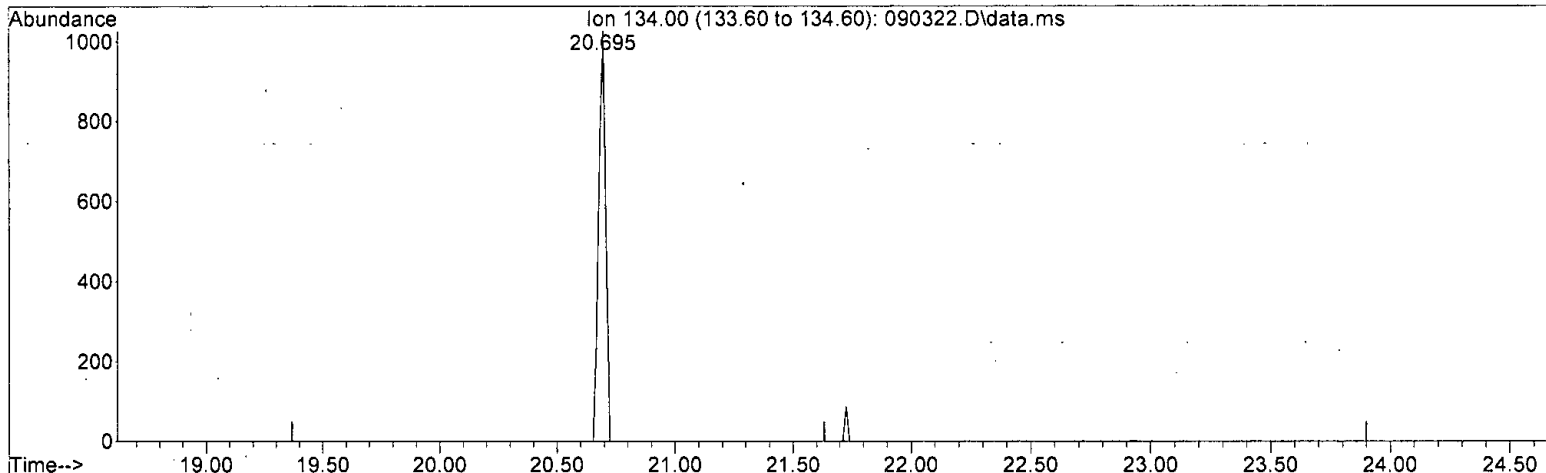
*Initial Calibration*

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090322.D  
 Acq On : 3 Sep 2021 9:31 pm  
 Operator : bat  
 Sample : 109030-02 1/5.0  
 Misc : T10  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:01:06 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090322.D\data.ms

(45) APH EC9-10 aromatics (2) (H)  
 21.635min ( 0.000) 0.681 ug/m3 m

response	1821
Ion	Exp% Act%
134.00	100.00 100.00
0.00	0.00 0.00
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten note:* 11/21/21

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090322.D  
 Acq On : 3 Sep 2021 9:31 pm  
 Operator : bat  
 Sample : 109030-02 1/5.0  
 Misc : T10  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:03:02 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	97408	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	448691	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	394288	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	345718	69.985	ug/m3	0.00
Spiked Amount	71.000	Range 70 - 130	Recovery	=	98.58%	
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	915920	53.255	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1237602	50.698	ug/m3	92
4) IS-3 Chlorobenzene-d5	18.21	TIC	1461039	49.344	ug/m3	91
5) Methylene chloride	6.86	TIC	131991	151.581	ug/m3	88
6) Acetone	5.62	TIC	49010	1.067	ppbv	100
7) 2-Propanol	5.86	TIC	16296	61.059	ppbv	100
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	8.30	73	976	0.130	ug/m3	42
11) Benzene	12.71	78	943	0.062	ug/m3	70
12) Isopentane	5.62	TIC	49010	1.618	ug/m3#	54
13) Hexane	9.99	TIC	915920	30.804	ug/m3	61
14) Cyclohexane	13.23	TIC	1237602	39.736	ug/m3	94
15) 2,3-Dimethylpentane	13.23	TIC	1237602	31.137	ug/m3	64
16) Heptane	14.63	TIC	10203	0.314	ug/m3	88
17) Octane	17.78	TIC	376736	8.459	ug/m3	62
18) APH EC5-8 aliphatics T...	0.00	TIC	3827073m	107.498	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	6100955m	171.369	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1658681	49.831	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	464568	56.664	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	413413	40.402	ppbv	100
24) Toluene	16.39	92	5980	0.707	ug/m3	92
25) Ethylbenzene	18.60	91	1994	0.114	ug/m3	97
26) m,p-Xylene	18.76	106	3612	0.615	ug/m3#	55
27) o-Xylene	19.21	106	1534	0.276	ug/m3	97
28) Naphthalene	23.94	128	1256	0.089	ug/m3	68
29) 2,3-Dimethylheptane	18.76	TIC	37302	0.941	ug/m3#	62
30) Nonane	19.64	TIC	1658681	40.086	ug/m3#	60
31) Decane	20.96	TIC	31059	0.756	ug/m3	96
32) Butylcyclohexane	21.63	TIC	200279	4.289	ug/m3	62
33) Undecane	22.16	TIC	93050	2.282	ug/m3	90
34) Dodecane	23.81	TIC	18180	0.543	ug/m3	89
35) APH EC9-12 aliphatics ...	21.63	TIC	2038551m	50.533	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	4890847m	121.238	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	20.45	120	321	0.074	ug/m3#	55
40) 1,3,5-Trimethylbenzene	20.45	120	321	0.059	ug/m3	100
41) p-Isopropyltoluene	0.00		0	N.D.		
42) 1,2,3-Trimethylbenzene	21.29	120	121	0.019	ug/m3#	1
43) APH EC9-10 aromatics T...	21.63	TIC	763m	0.179	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	1279m	0.272	ug/m3	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090322.D  
 Acq On : 3 Sep 2021 9:31 pm  
 Operator : bat  
 Sample : 109030-02 1/5.0  
 Misc : T10  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

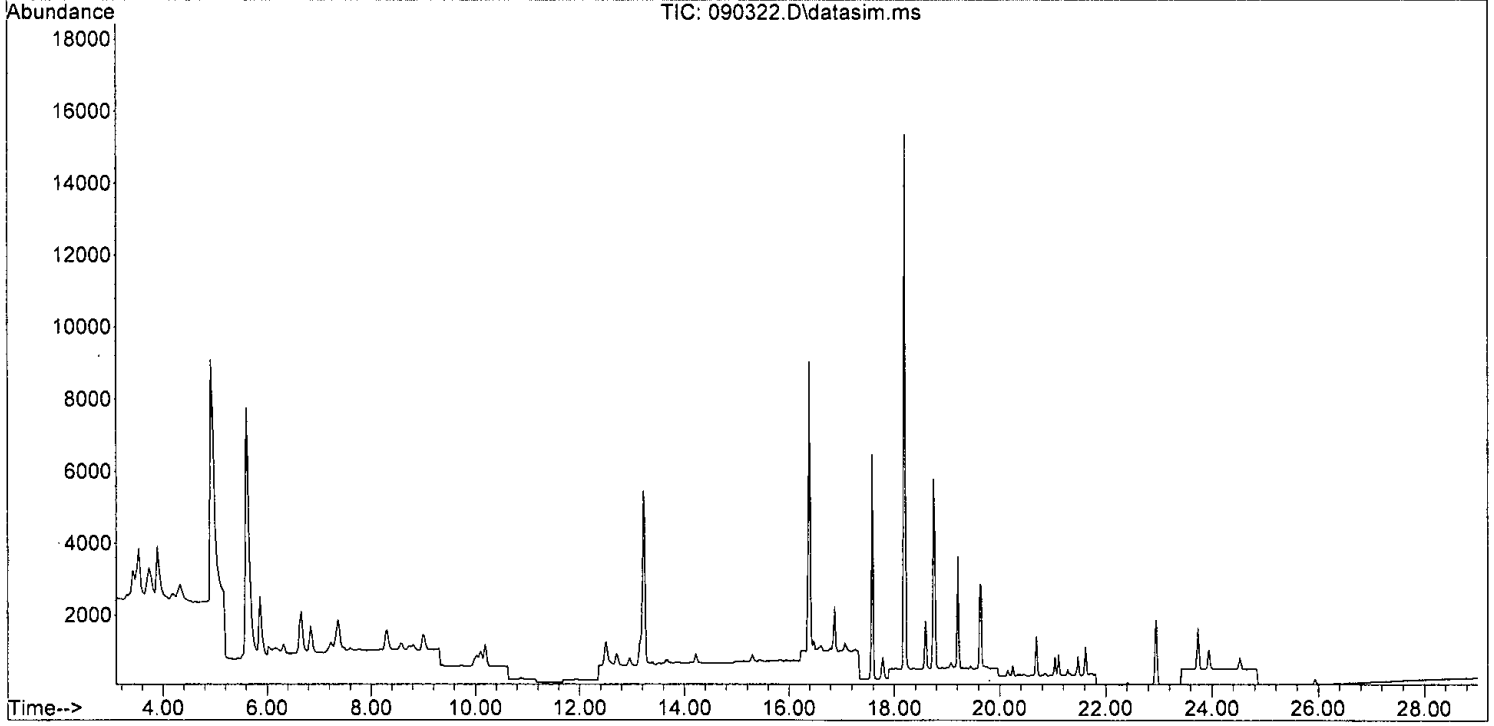
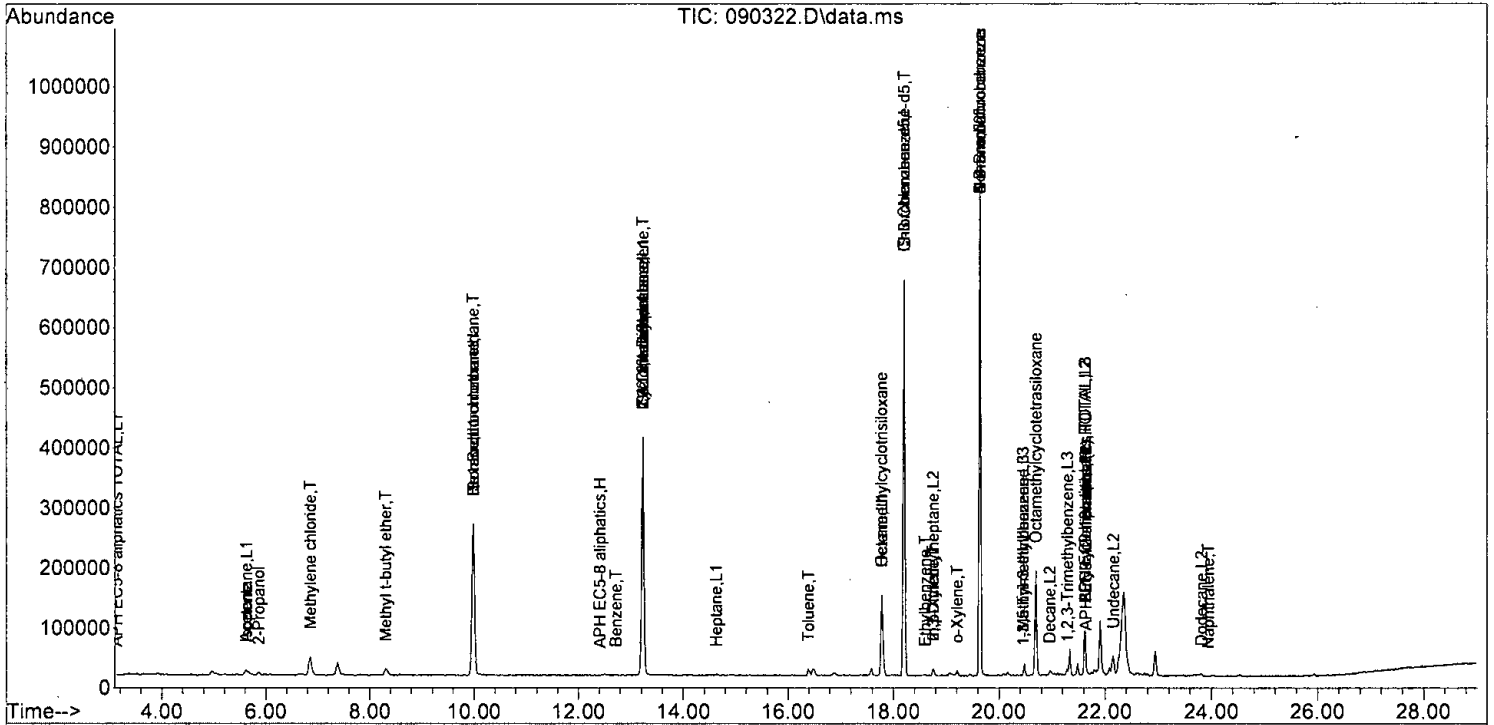
Quant Time: Sep 07 15:03:02 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	1821m	0.681	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090322.D  
 Acq On : 3 Sep 2021 9:31 pm  
 Operator : bat  
 Sample : 109030-02 1/5.0  
 Misc : T10  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:03:02 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: T015DC.M



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090313.D  
 Acq On : 3 Sep 2021 3:37 pm  
 Operator : bat  
 Sample : 109030-03 1/5.4  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

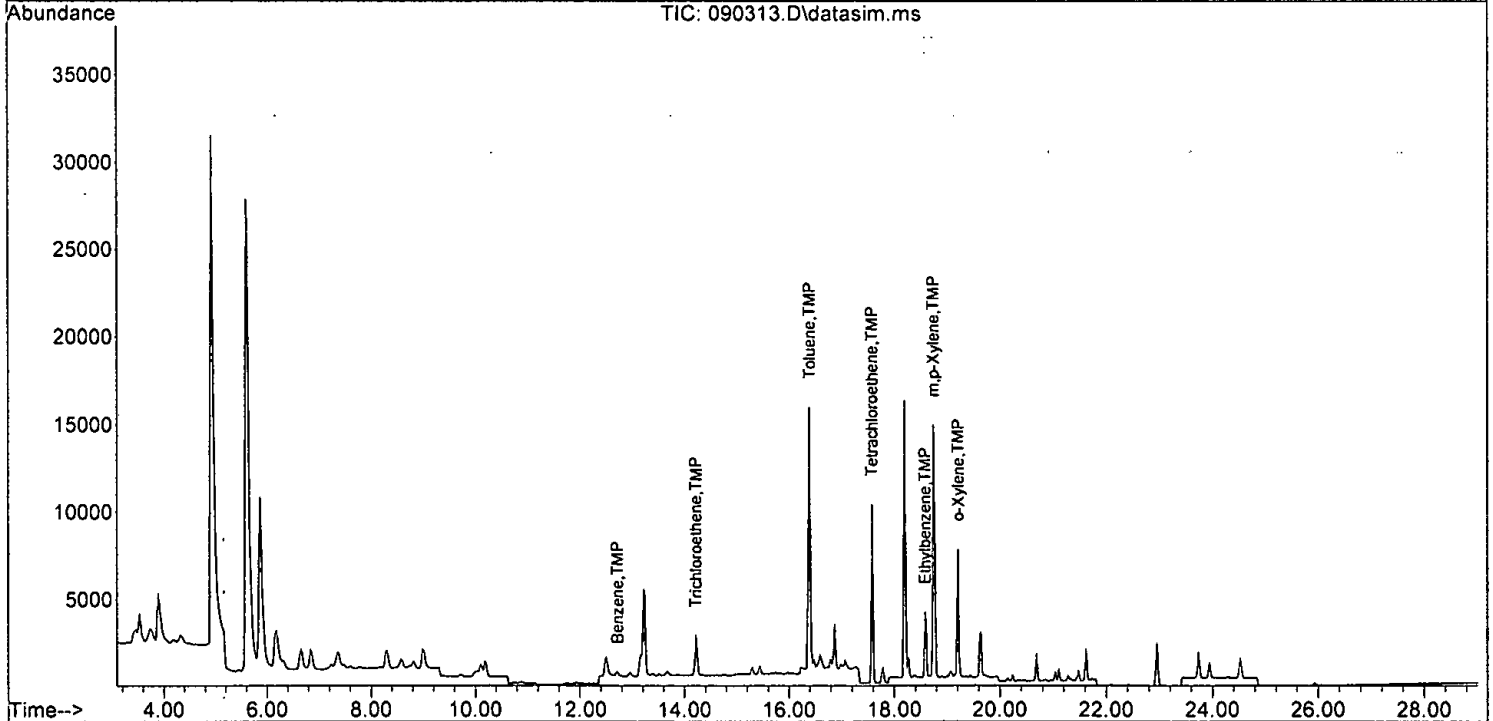
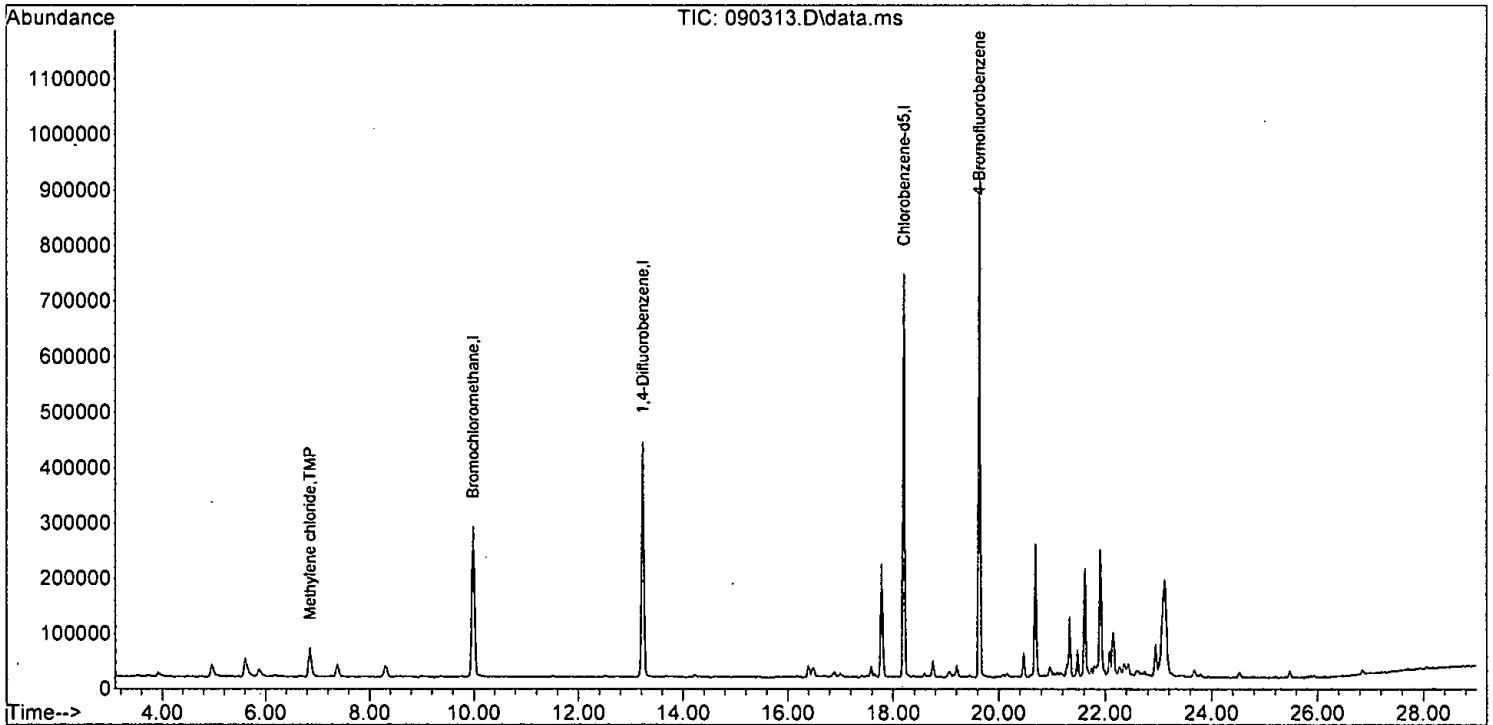
Quant Time: Sep 07 11:23:45 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
-----							
Internal Standards							
1) Bromochloromethane	9.99	128	102889	10.000	ppbv	#	0.00
39) 1,4-Difluorobenzene	13.23	114	472104	10.000	ppbv		0.00
56) Chlorobenzene-d5	18.21	117	413599	10.000	ppbv		0.00
System Monitoring Compounds							
69) 4-Bromofluorobenzene	19.64	95	366117	9.771	ppbv		0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=		97.70%
Target Compounds							
						Qvalue	
20) Methylene chloride	6.86	84	38507	2.138	ppbv		84
37] Benzene	12.72	78	758	0.012	ppbv		100
46] Trichloroethene	14.22	95	1989	0.068	ppbv		82
50] Toluene	16.40	92	13075	0.370	ppbv		86
53] Tetrachloroethene	17.58	164	4633	0.258	ppbv #		80
58] Ethylbenzene	18.59	91	6407	0.070	ppbv		96
65] m,p-Xylene	18.74	106	10031	0.340	ppbv #		80
66] o-Xylene	19.21	106	3747	0.129	ppbv		89
-----							

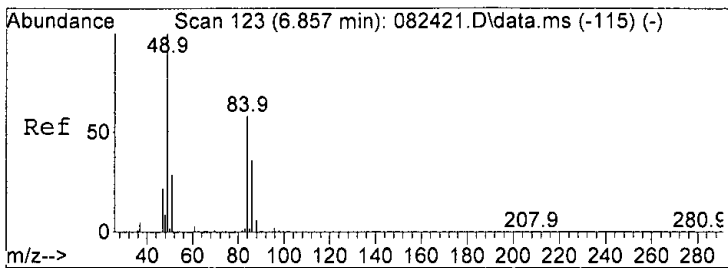
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090313.D  
 Acq On : 3 Sep 2021 3:37 pm  
 Operator : bat  
 Sample : 109030-03 1/5.4  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:23:45 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

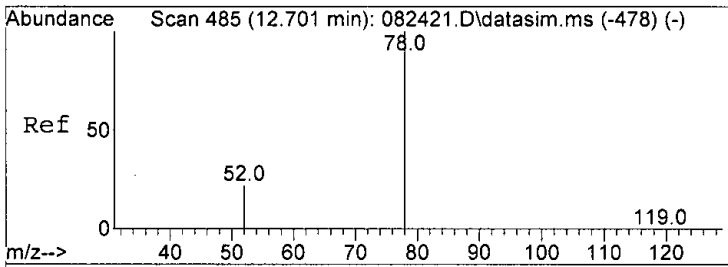
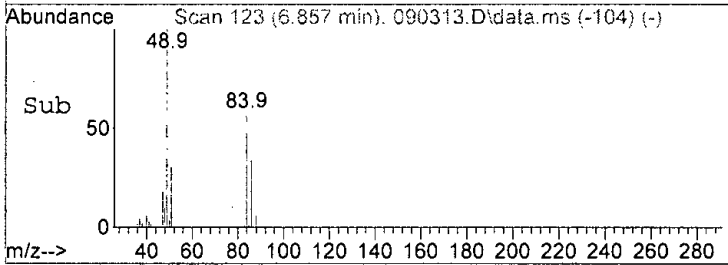
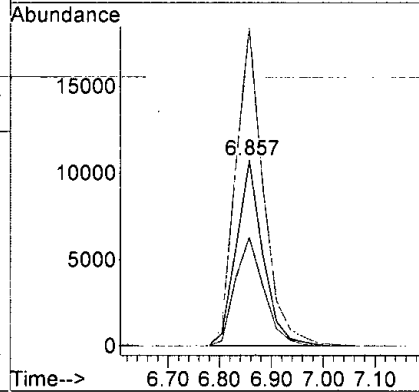
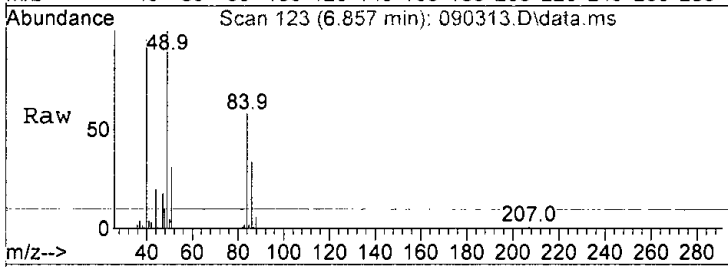






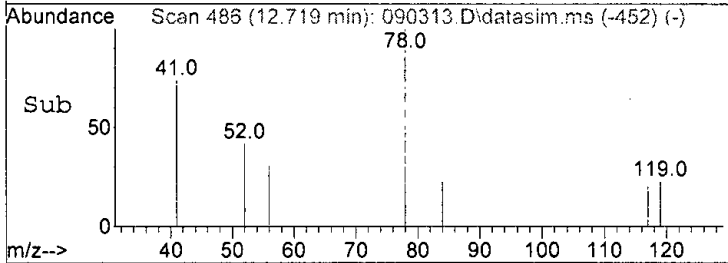
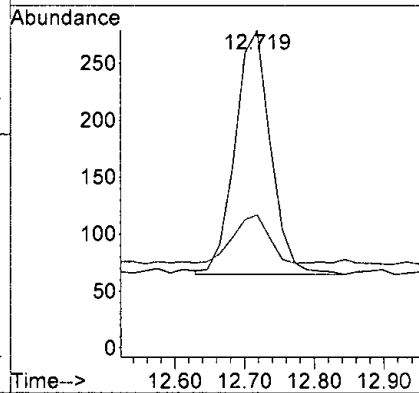
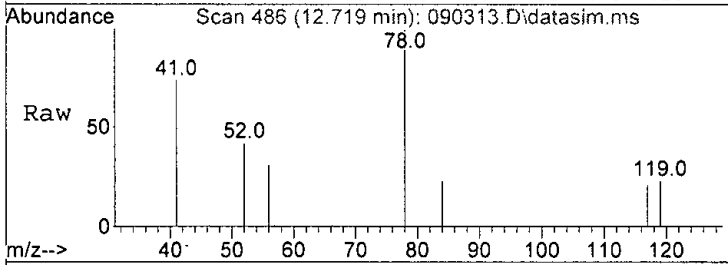
#20  
 Methylene chloride  
 Concen: 2.138 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090313.D  
 Acq: 3 Sep 2021 3:37 pm

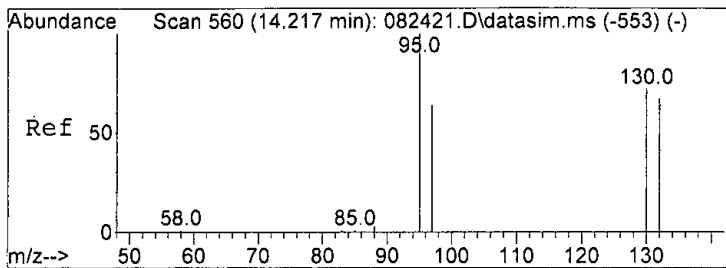
Tgt Ion:	84	Resp:	38507
Ion Ratio	Lower	Upper	
84	100		
86	58.7	33.9	93.9
49	171.7	116.6	176.6



#37  
 Benzene  
 Concen: 0.012 ppbv  
 RT: 12.72 min Scan# 486  
 Delta R.T. 0.018 min  
 Lab File: 090313.D  
 Acq: 3 Sep 2021 3:37 pm

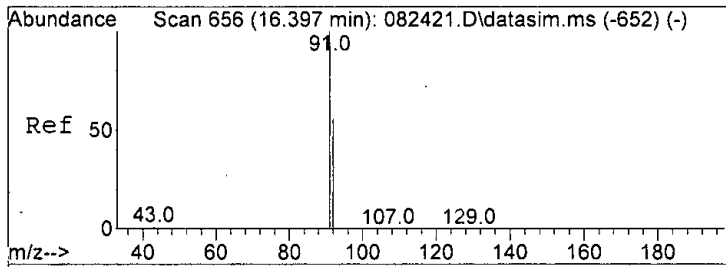
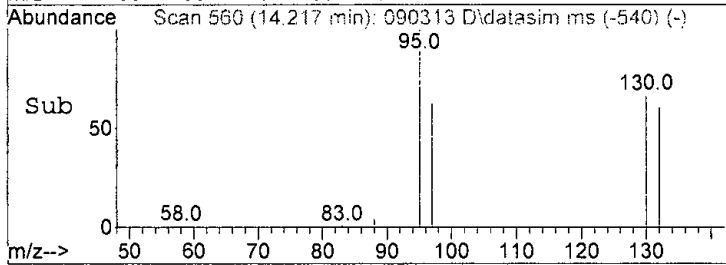
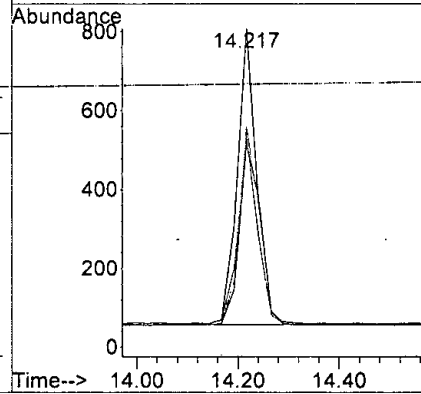
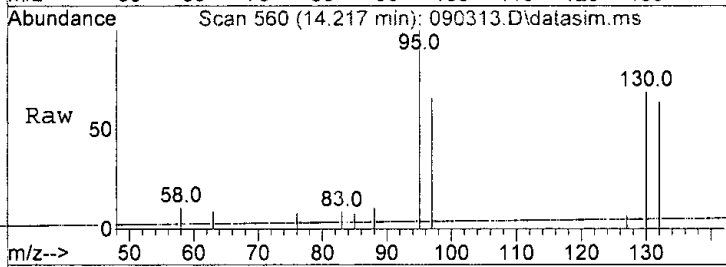
Tgt Ion:	78	Resp:	758
Ion Ratio	Lower	Upper	
78	100		
52	19.6	0.0	49.7





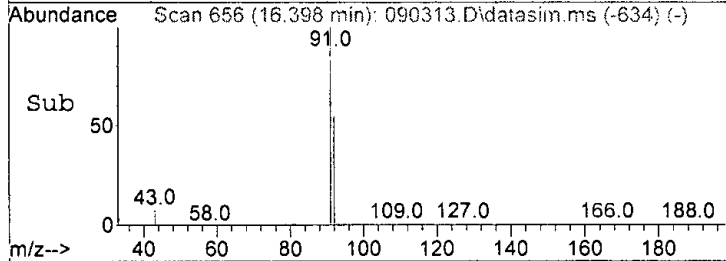
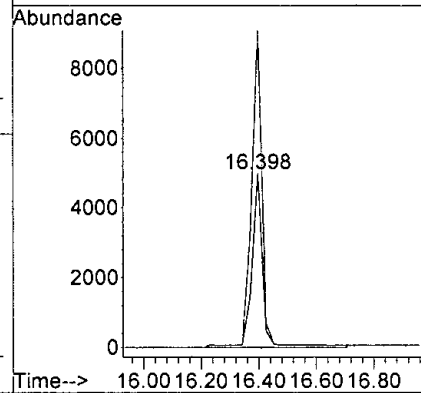
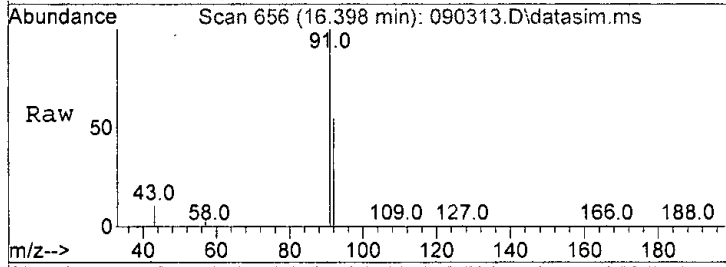
#46  
 Trichloroethene  
 Concen: 0.068 ppbv  
 RT: 14.22 min Scan# 560  
 Delta R.T. -0.000 min  
 Lab File: 090313.D  
 Acq: 3 Sep 2021 3:37 pm

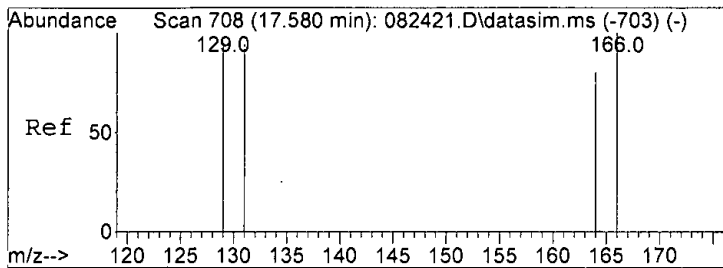
Tgt Ion	Resp	Lower	Upper
95	100		
97	63.2	37.1	97.1
130	67.3	56.1	116.1
132	61.3	54.3	114.3



#50  
 Toluene  
 Concen: 0.370 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.001 min  
 Lab File: 090313.D  
 Acq: 3 Sep 2021 3:37 pm

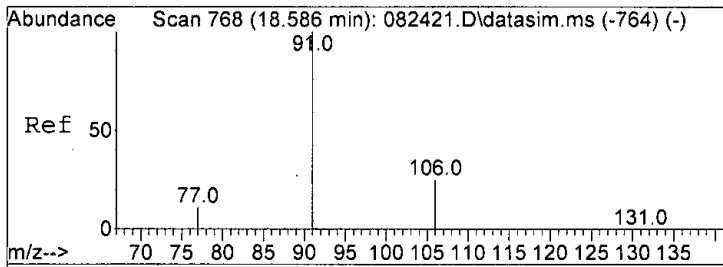
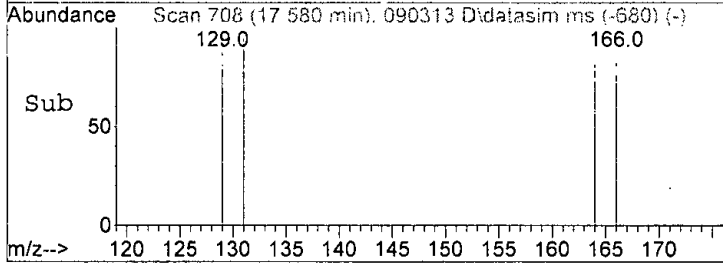
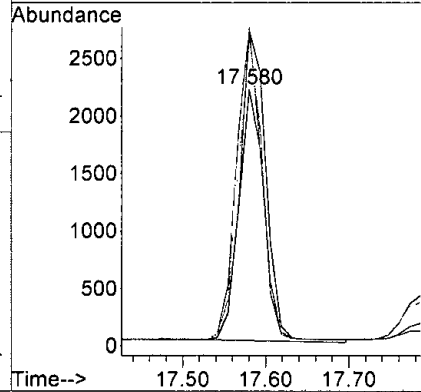
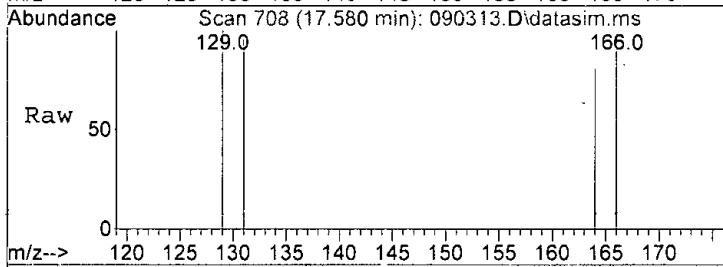
Tgt Ion	Resp	Lower	Upper
92	100		
91	182.9	174.6	234.6





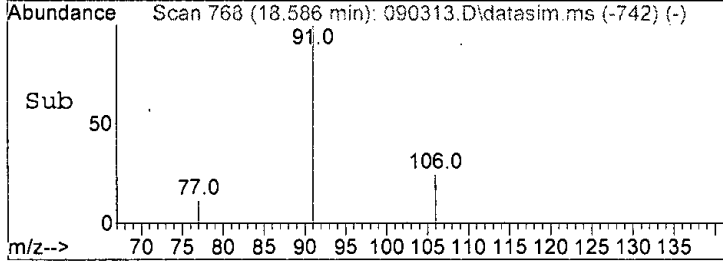
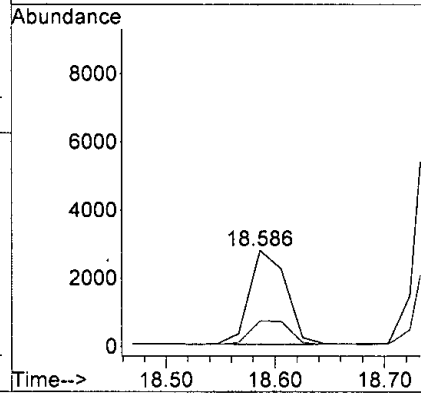
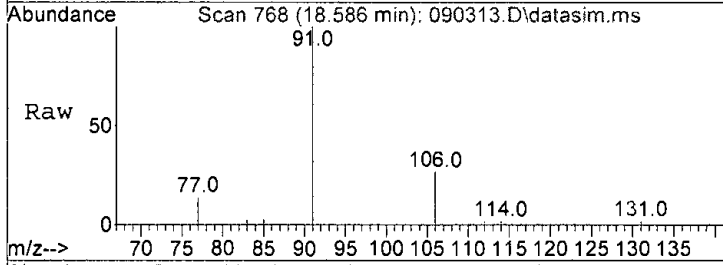
#53  
 Tetrachloroethene  
 Concen: 0.258 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090313.D  
 Acq: 3 Sep 2021 3:37 pm

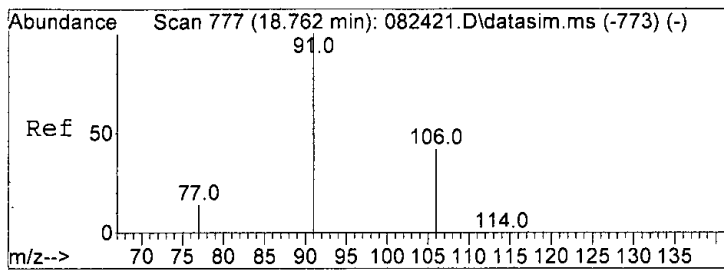
Tgt Ion	Ratio	Resp	Lower	Upper
164	100	4633		
129	124.5	63.2	123.2#	
131	119.9	70.7	130.7	
166	123.5	107.5	167.5	



#58  
 Ethylbenzene  
 Concen: 0.070 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090313.D  
 Acq: 3 Sep 2021 3:37 pm

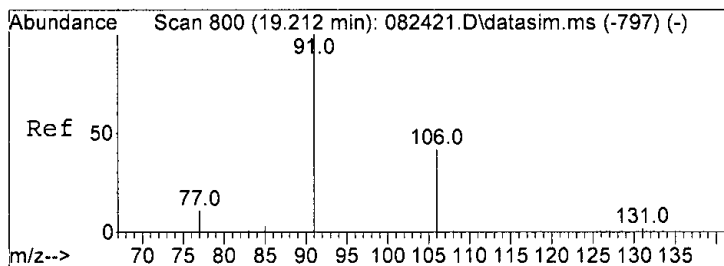
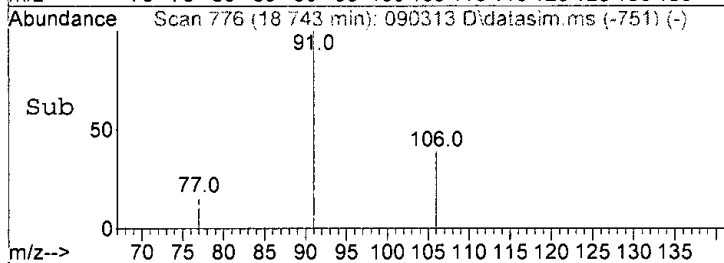
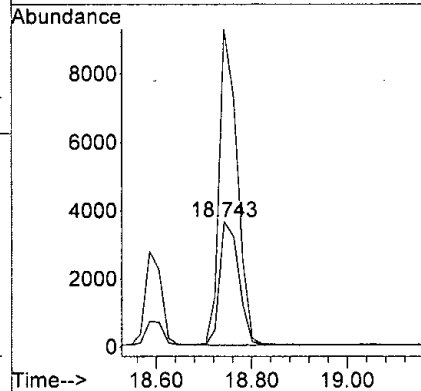
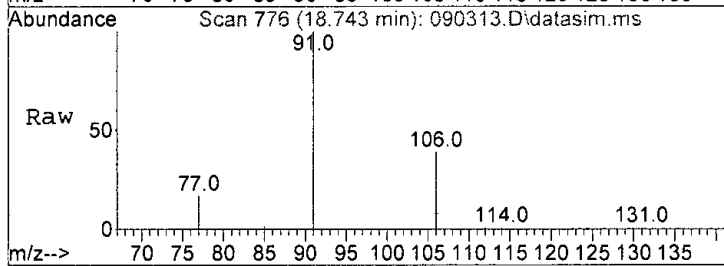
Tgt Ion	Ratio	Resp	Lower	Upper
91	100	6407		
106	25.2	0.0	57.0	





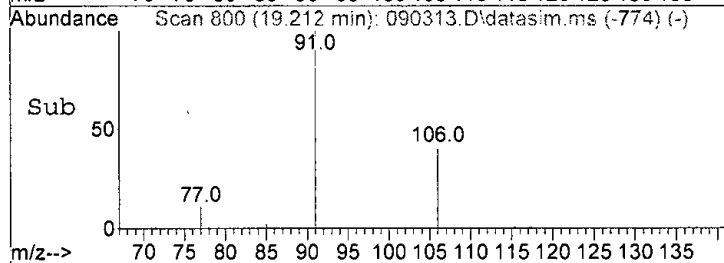
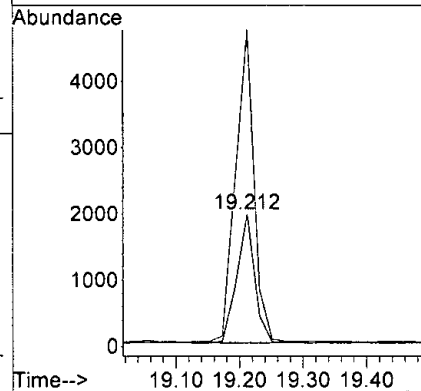
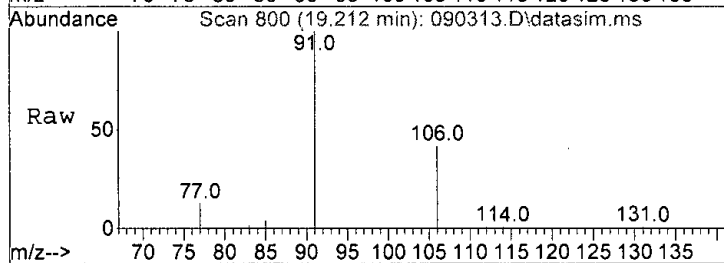
#65  
 m,p-Xylene  
 Concen: 0.340 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.019 min  
 Lab File: 090313.D  
 Acq: 3 Sep 2021 3:37 pm

Tgt Ion:106 Resp: 10031  
 Ion Ratio Lower Upper  
 106 100  
 91 255.3 193.0 253.0#



#66  
 o-Xylene  
 Concen: 0.129 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090313.D  
 Acq: 3 Sep 2021 3:37 pm

Tgt Ion:106 Resp: 3747  
 Ion Ratio Lower Upper  
 106 100  
 91 242.1 194.4 254.4



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090313.D  
 Acq On : 3 Sep 2021 3:37 pm  
 Operator : bat  
 Sample : 109030-03 1/5.4  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:23:45 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	102889	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	472104	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	413599	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	366117	9.771	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.70%
Target Compounds						
						Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.	d	
6) Vinyl chloride	0.00		0	N.D.		
7) 1,3-Butadiene	0.00		0	N.D.		
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.	d	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	0.00		0	N.D.		
19) trans-1,2-Dichloroethene	8.18	96	142	N.D.		
20) Methylene chloride	6.86	84	38507	2.138	ppbv	84
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.		
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	0.00		0	N.D.		
28) cis-1,2-Dichloroethene	9.73	96	133	N.D.		
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	11.21	62	245	N.D.		
35) 1,1,1-Trichloroethane	11.68	97	229	N.D.		
36) Carbon tetrachloride	0.00		0	N.D.	d	
37) Benzene	12.72	78	758	0.012	ppbv	100
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.	d	
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090313.D  
 Acq On : 3 Sep 2021 3:37 pm  
 Operator : bat  
 Sample : 109030-03 1/5.4  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

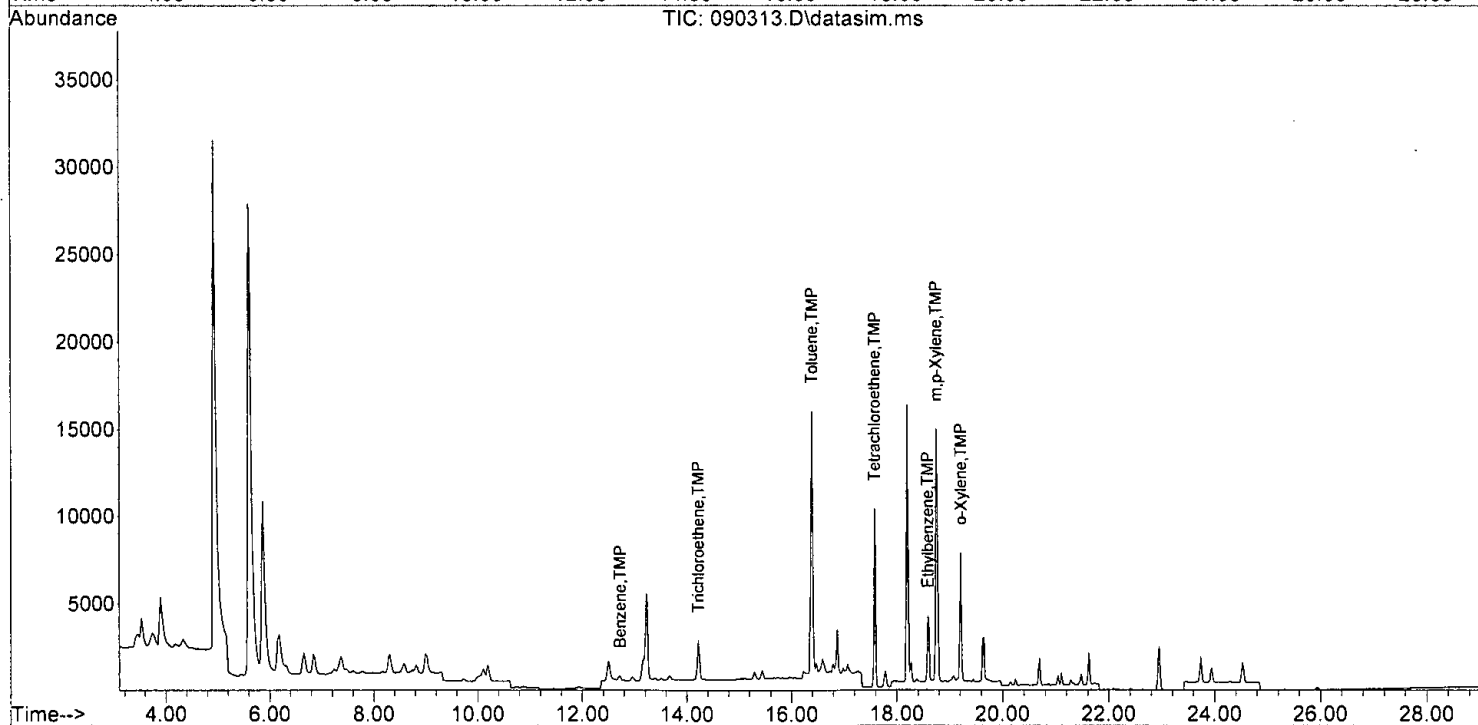
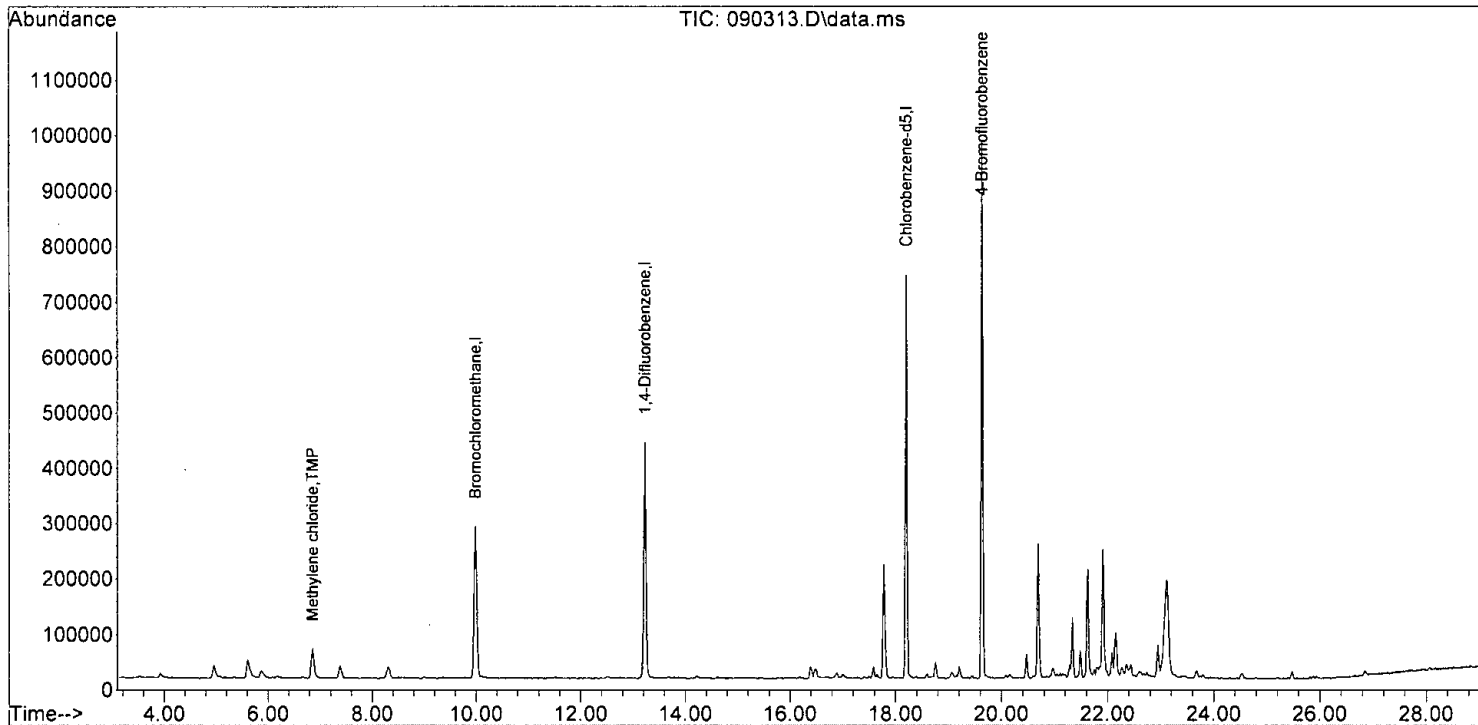
Quant Time: Sep 07 11:23:45 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46) Trichloroethene	14.22	95	1989	0.068	ppbv	82
47) cis-1,3-Dichloropropene	0.00		0	N.D.		
48) 4-Methyl-2-pentanone	0.00		0	N.D.		
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50) Toluene	16.40	92	13075	0.370	ppbv	86
51) 1,1,2-Trichloroethane	0.00		0	N.D.		
52) 2-Hexanone	0.00		0	N.D.	d	
53) Tetrachloroethene	17.58	164	4633	0.258	ppbv #	80
54) Dibromochloromethane	0.00		0	N.D.		
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.		
57) Chlorobenzene	0.00		0	N.D.	d	
58) Ethylbenzene	18.59	91	6407	0.070	ppbv	96
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.		
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65) m,p-Xylene	18.74	106	10031	0.340	ppbv #	80
66) o-Xylene	19.21	106	3747	0.129	ppbv	89
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.		
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77) Naphthalene	23.95	128	1879	N.D.		
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090313.D  
 Acq On : 3 Sep 2021 3:37 pm  
 Operator : bat  
 Sample : 109030-03 1/5.4  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

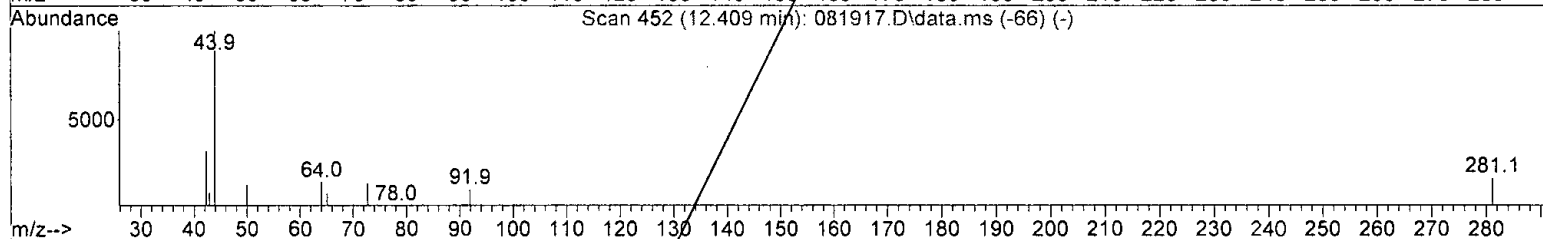
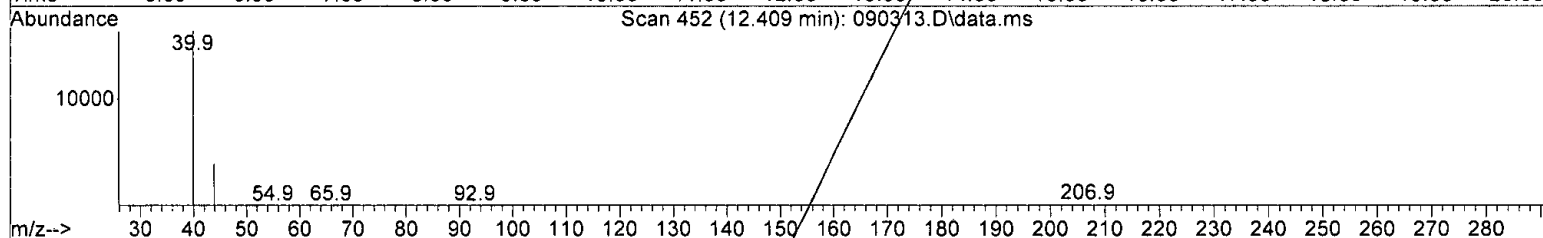
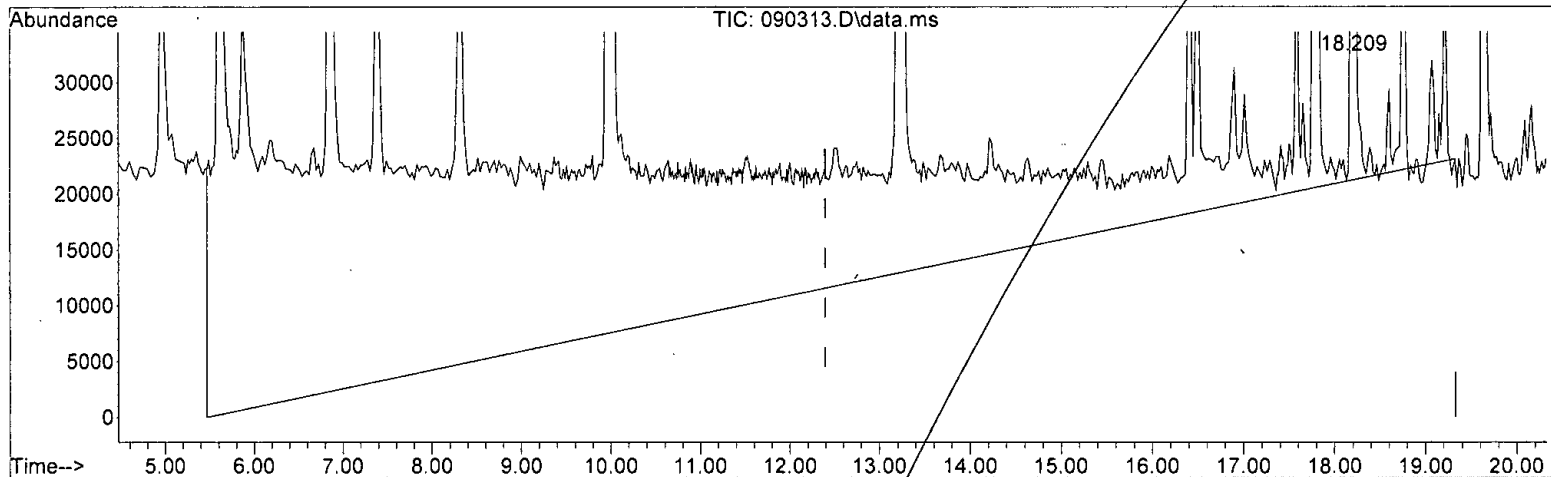
Quant Time: Sep 07 11:23:45 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090313.D  
 Acq On : 3 Sep 2021 3:37 pm  
 Operator : bat  
 Sample : 109030-03 1/5.4  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:52:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 43.585 ug/m3 m  
 response 1632662

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

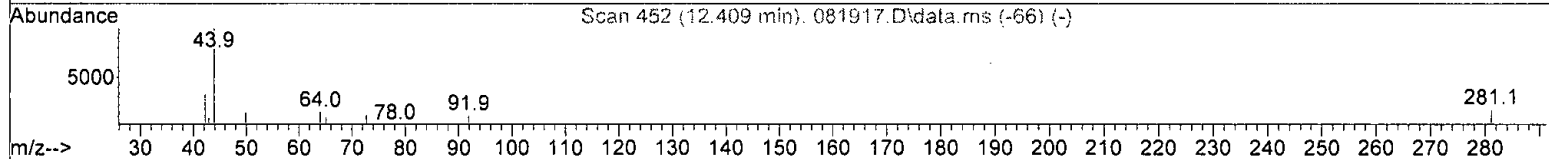
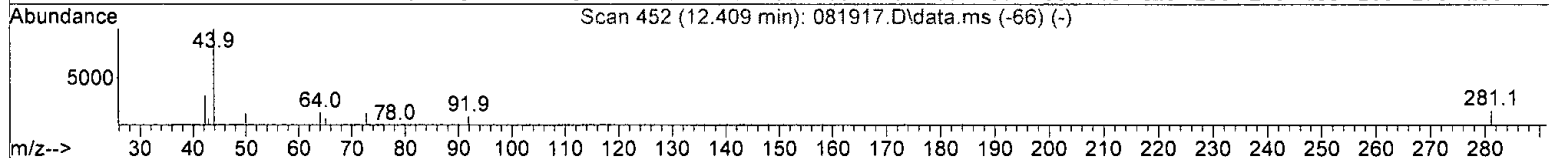
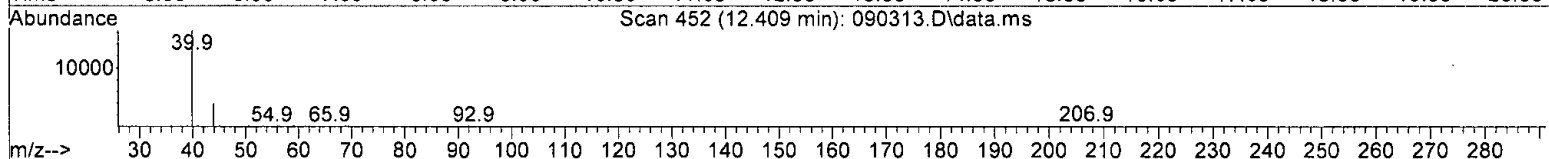
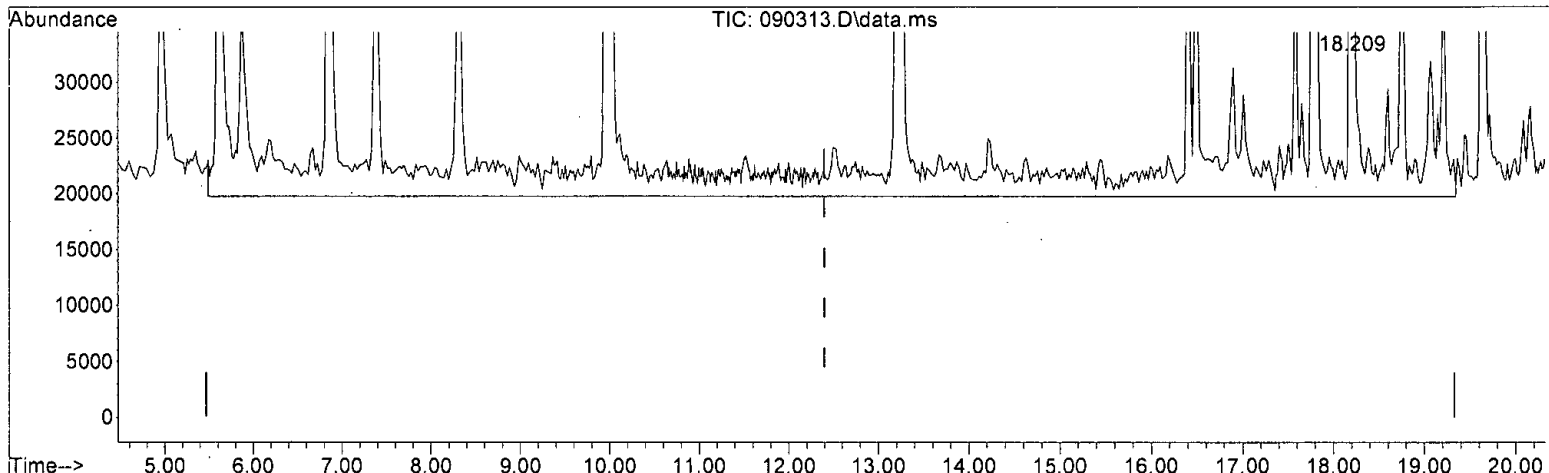
*R  
 02/07/24*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090313.D  
 Acq On : 3 Sep 2021 3:37 pm  
 Operator : bat  
 Sample : 109030-03 1/5.4  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:52:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 202.836 ug/m3 m

response 7598051

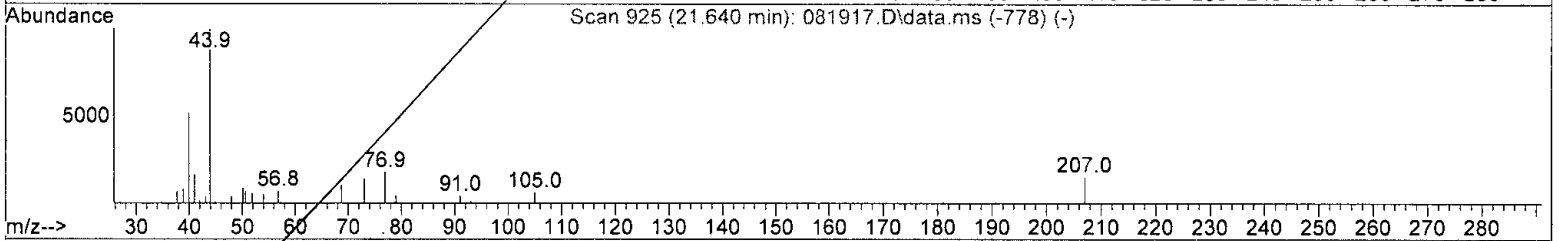
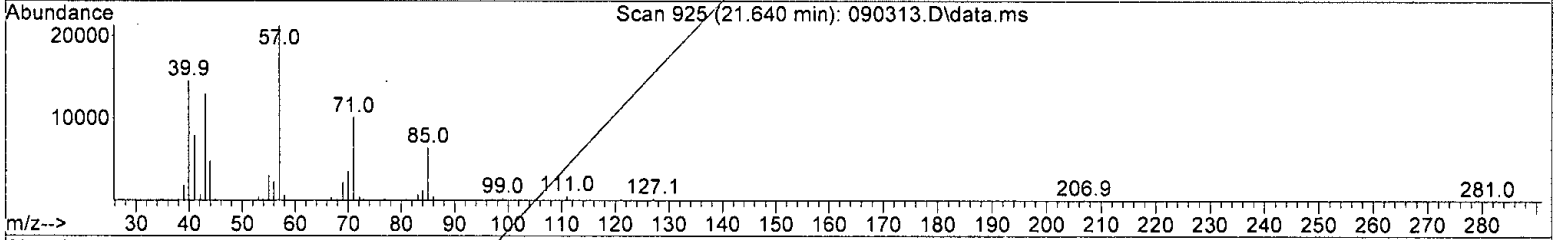
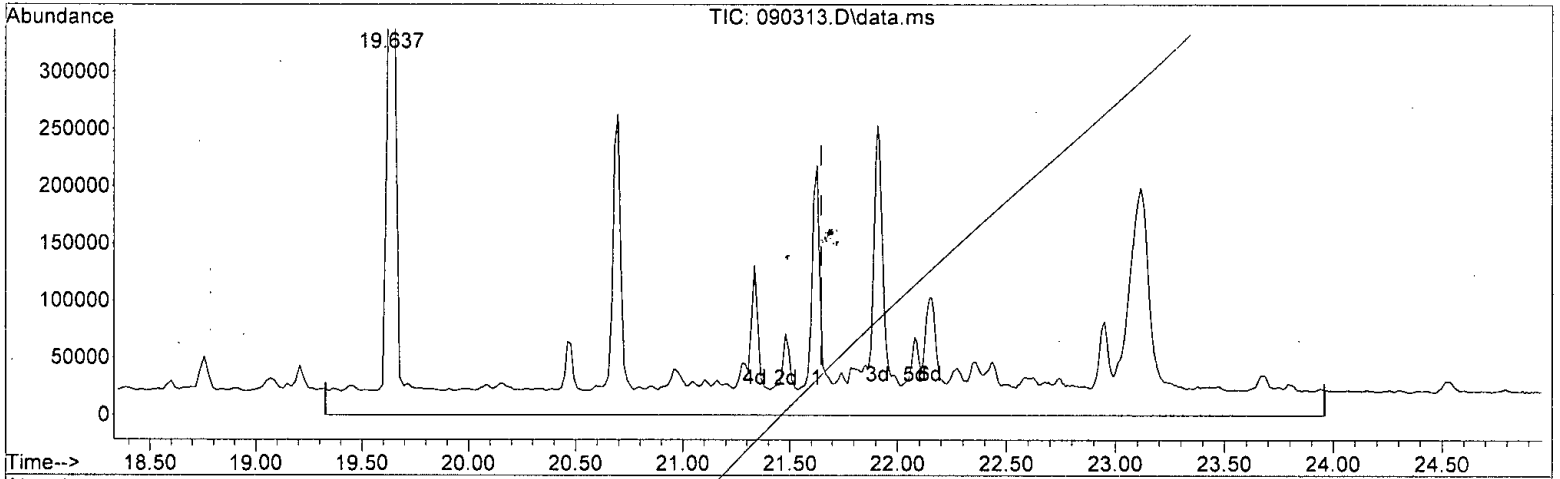
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090313.D  
 Acq On : 3 Sep 2021 3:37 pm  
 Operator : bat  
 Sample : 109030-03 1/5.4  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:52:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 94.304 ug/m3 m

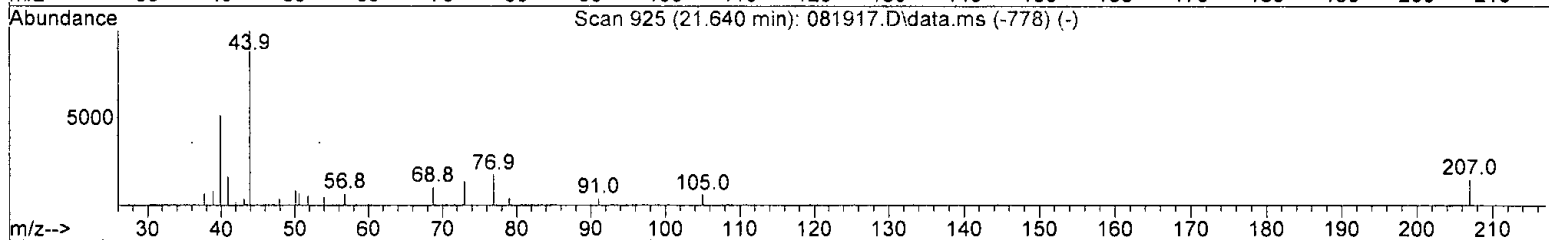
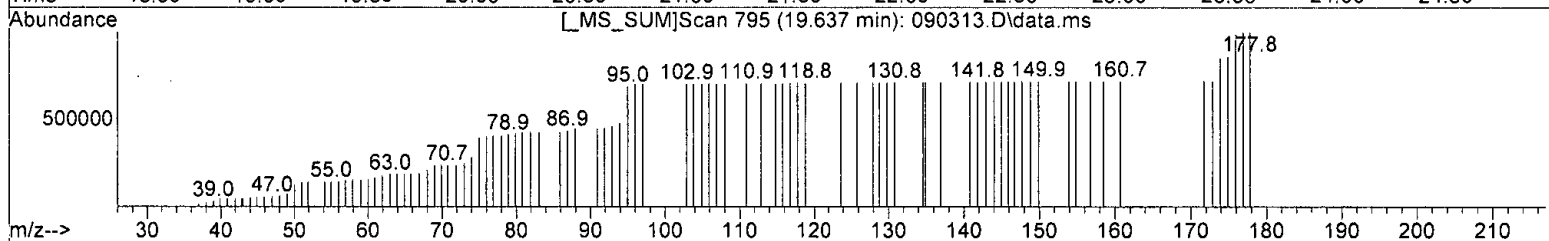
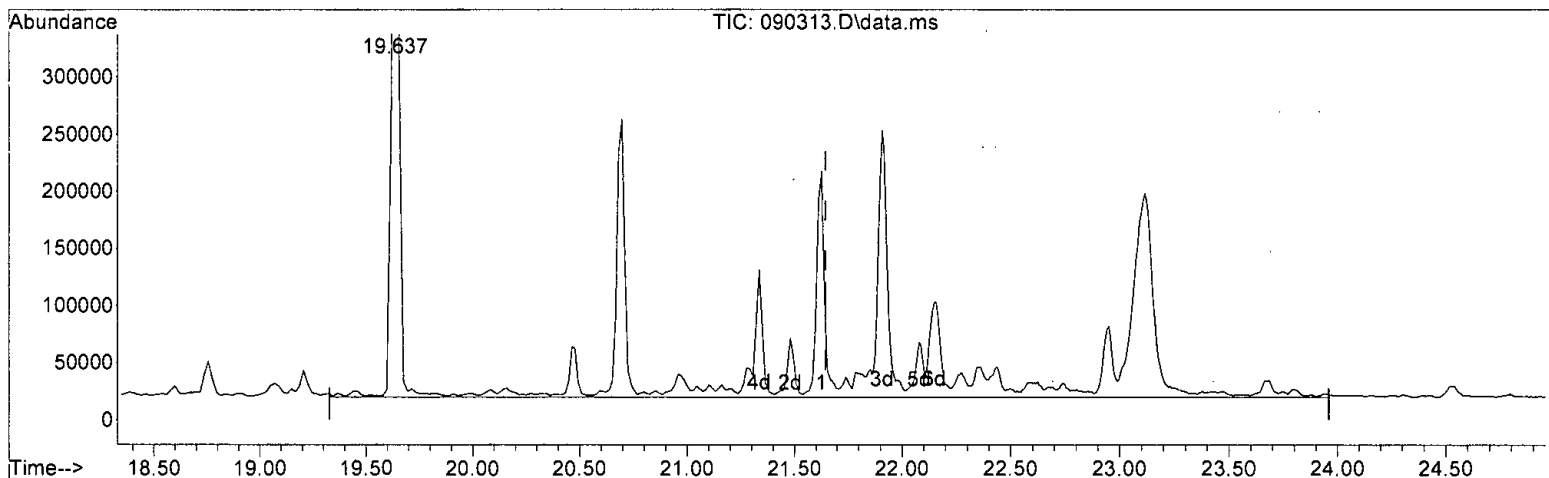
response 3990645

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc GCMS7\09-03-21\  
 Data File : 090313.D  
 Acq On : 3 Sep 2021 3:37 pm  
 Operator : bat  
 Sample : 109030-03 1/5.4  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:52:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



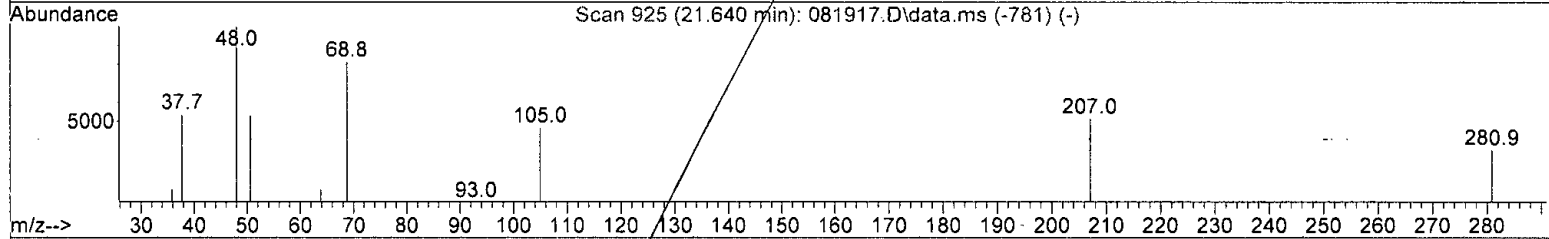
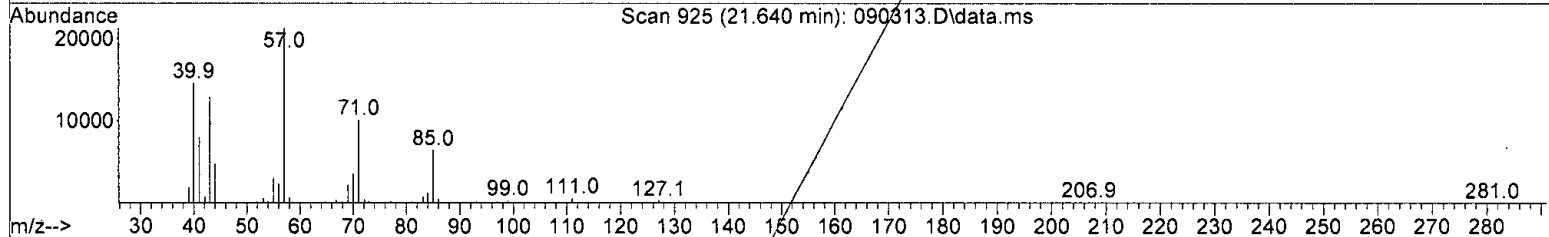
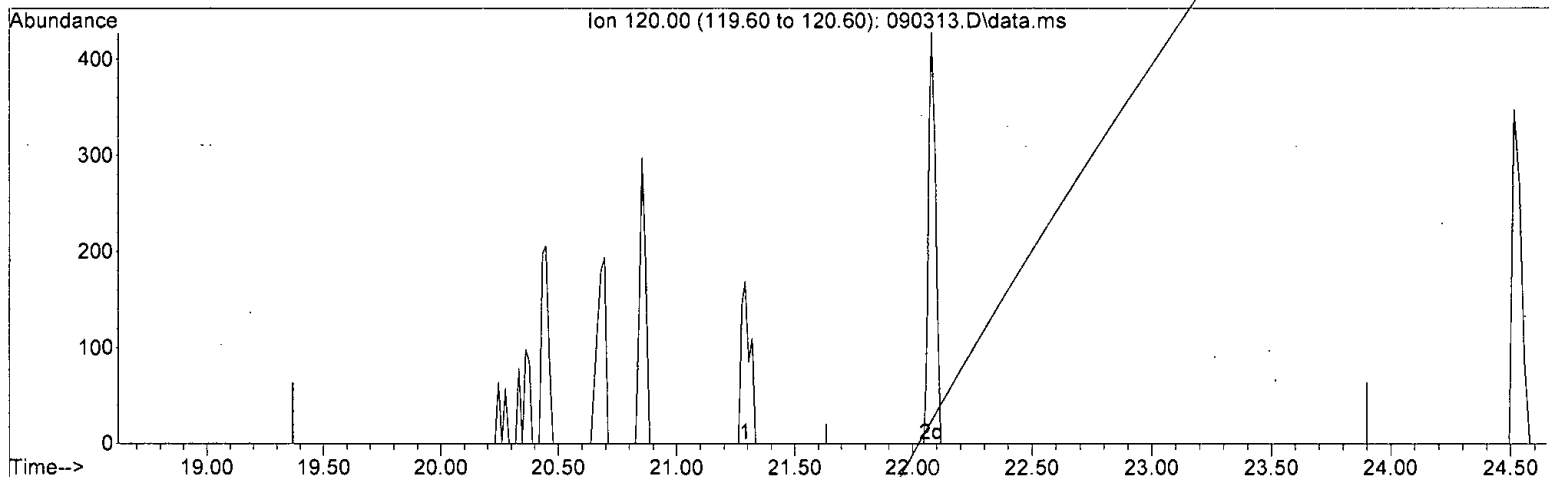
(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 175.113 ug/m3 m  
 response 7410216

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten note:* 6/10/21

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090313.D  
 Acq On : 3 Sep 2021 3:37 pm  
 Operator : bat  
 Sample : 109030-03 1/5.4  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:52:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) -14.779 ug/m3 m

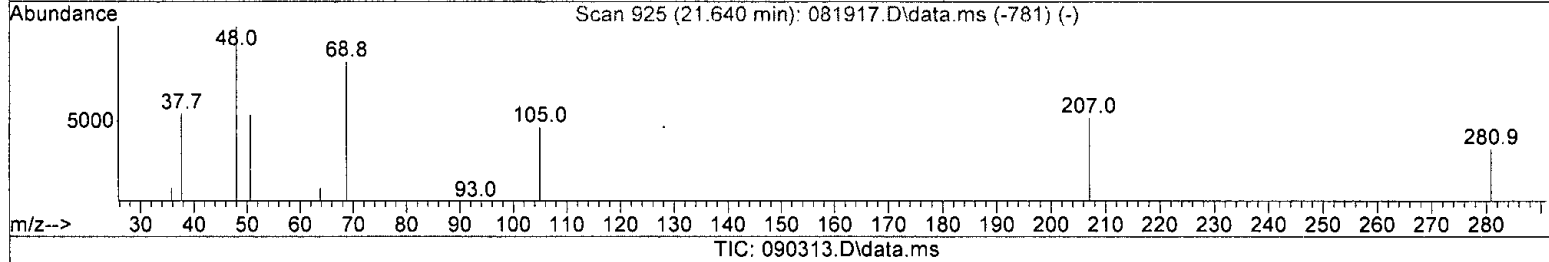
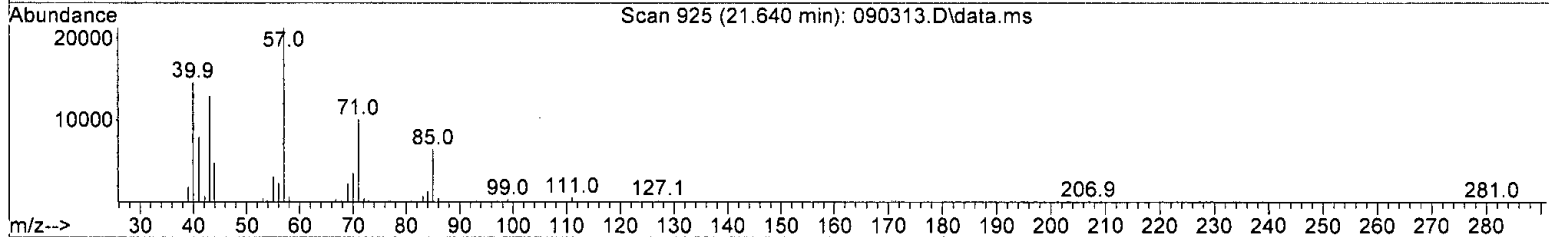
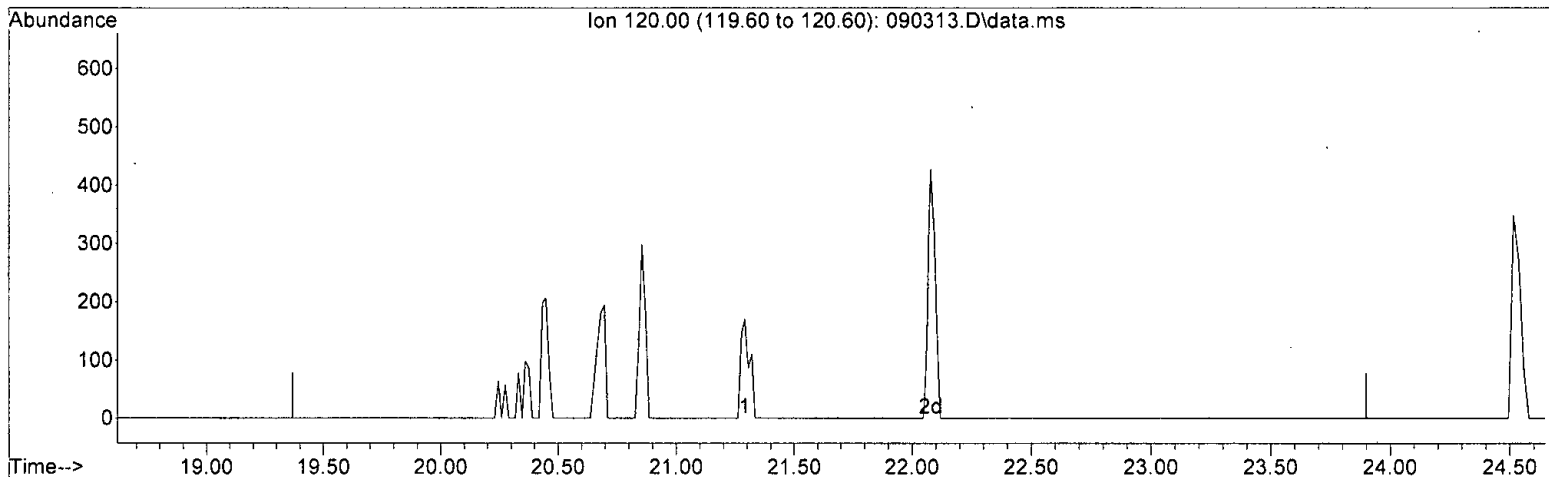
response -72814

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature: u orlaty*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090313.D  
 Acq On : 3 Sep 2021 3:37 pm  
 Operator : bat  
 Sample : 109030-03 1/5.4  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:52:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 0.643 ug/m3 m

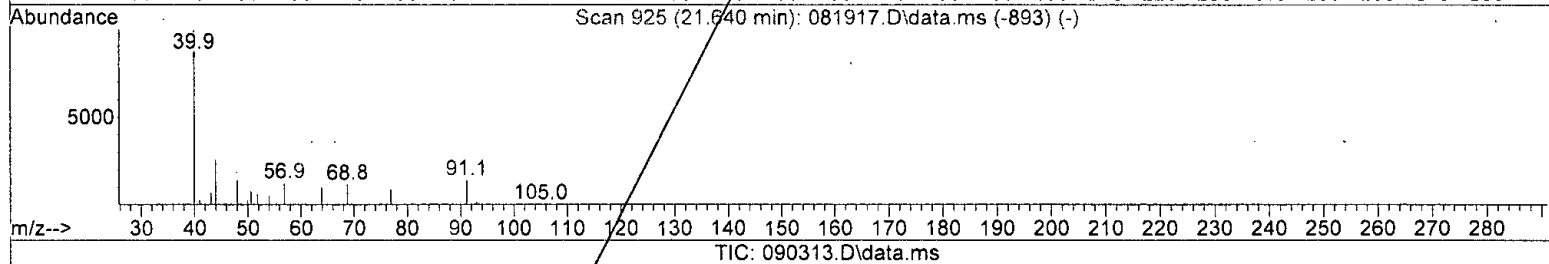
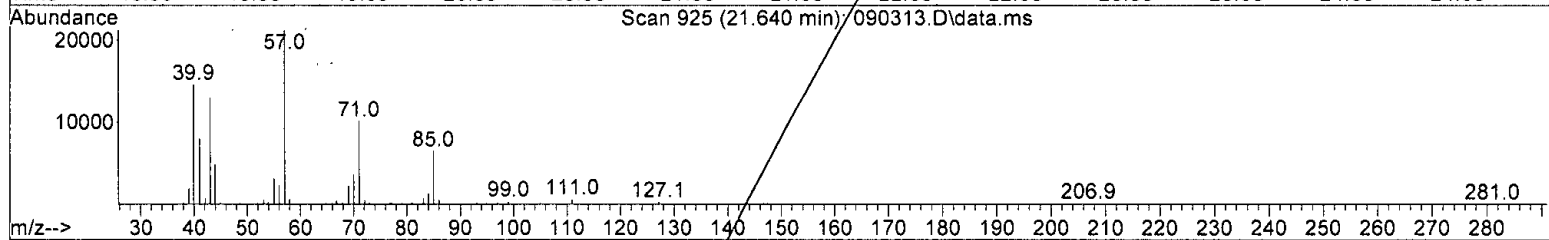
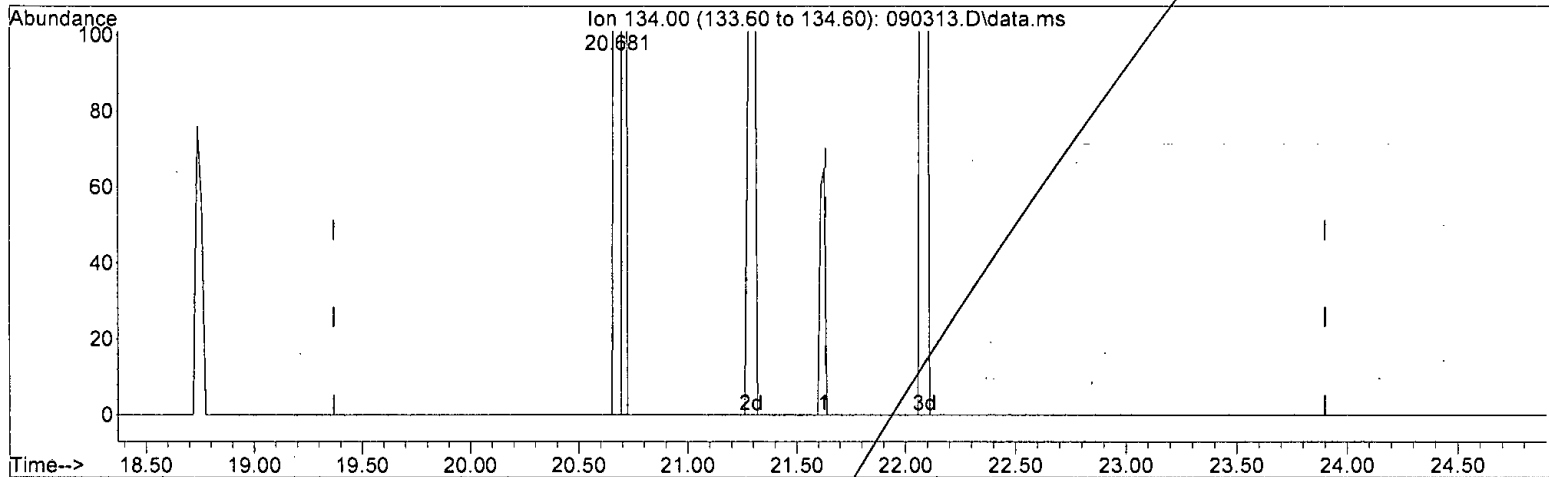
response	3169	
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h*  
*09/07/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090313.D  
 Acq On : 3 Sep 2021 3:37 pm  
 Operator : bat  
 Sample : 109030-03 1/5.4  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:52:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



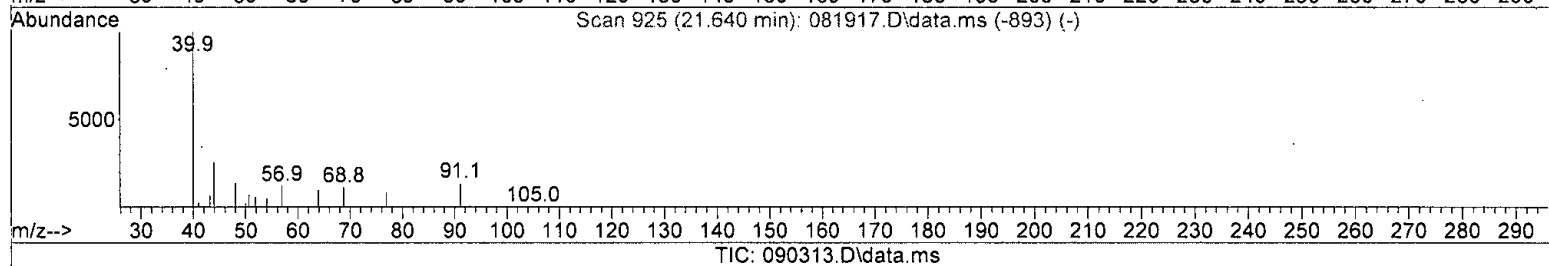
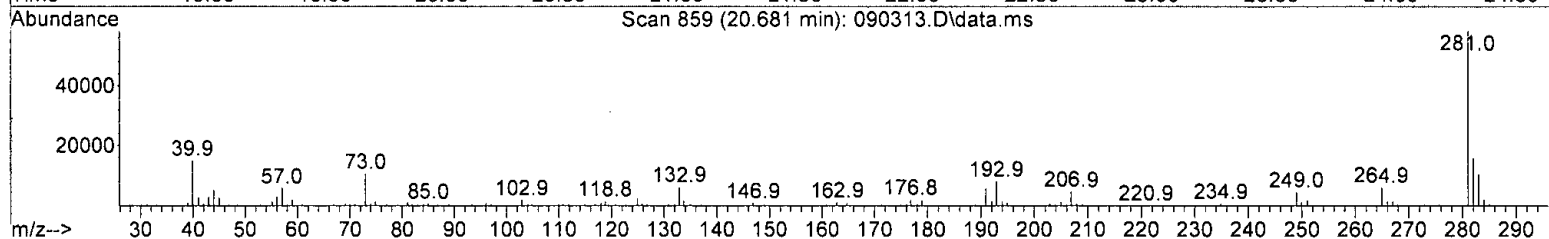
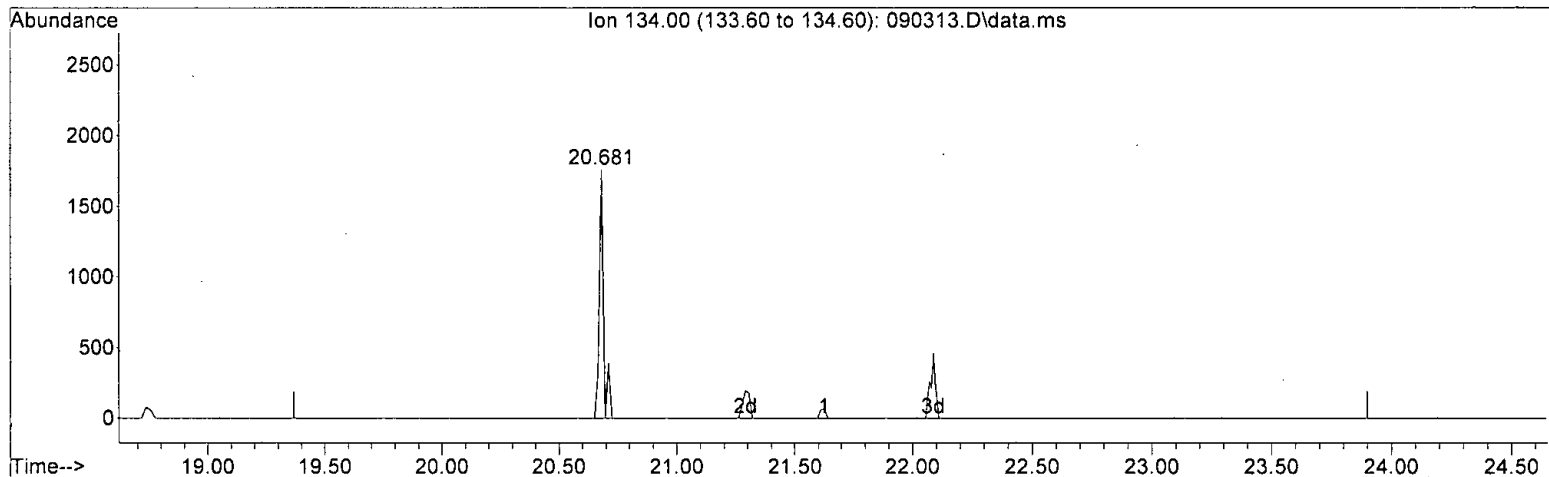
(45) APH EC9-10 aromatics (2) (H)  
 21.635min ( 0.000) -25.859 ug/m3 m  
 response -72567

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature: K. Orskov*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090313.D  
 Acq On : 3 Sep 2021 3:37 pm  
 Operator : bat  
 Sample : 109030-03 1/5.4  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:52:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 1.152 ug/m3 m

response	Exp%	Act%
3232		
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*6 / 07 / 21*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090313.D  
 Acq On : 3 Sep 2021 3:37 pm  
 Operator : bat  
 Sample : 109030-03 1/5.4  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:21:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	102889	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	472104	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	413599	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	366117	70.654	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	99.51%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	978346	53.854	ug/m3	86
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1326534	51.446	ug/m3	92
4) IS-3 Chlorobenzene-d5	18.21	TIC	1567383	50.116	ug/m3	91
5) Methylene chloride	6.86	TIC	212124	230.631	ug/m3	92
6) Acetone	5.60	TIC	167396	3.450	ppbv	100
7) 2-Propanol	5.88	TIC	84301	299.037	ppbv	100
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	0.00		0	N.D.	d	
11) Benzene	12.71	78	789	0.049	ug/m3	61
12) Isopentane	5.60	TIC	167396	5.251	ug/m3#	49
13) Hexane	9.99	TIC	978346	31.276	ug/m3	61
14) Cyclohexane	13.23	TIC	1326534	40.479	ug/m3	93
15) 2,3-Dimethylpentane	13.23	TIC	1326534	31.719	ug/m3#	64
16) Heptane	14.63	TIC	8419	0.246	ug/m3	93
17) Octane	17.78	TIC	549992	11.736	ug/m3	62
18) APH EC5-8 aliphatics T...	0.00	TIC	4357221m	116.320	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	7598051m	202.836	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1765849	50.574	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	682155	79.319	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	610012	56.832	ppbv	100
24) Toluene	16.39	92	10588	1.193	ug/m3	83
25) Ethylbenzene	18.60	91	5663	0.309	ug/m3	95
26) m,p-Xylene	18.76	106	9131	1.482	ug/m3	81
27) o-Xylene	19.21	106	3764	0.646	ug/m3	90
28) Naphthalene	23.96	128	1578	0.106	ug/m3	80
29) 2,3-Dimethylheptane	18.60	TIC	25368	0.610	ug/m3#	60
30) Nonane	19.21	TIC	55994	1.290	ug/m3	76
31) Decane	20.96	TIC	64078	1.486	ug/m3	98
32) Butylcyclohexane	21.63	TIC	502154	10.252	ug/m3	62
33) Undecane	22.27	TIC	39266	0.918	ug/m3	95
34) Dodecane	23.79	TIC	19016	0.542	ug/m3	94
35) APH EC9-12 aliphatics ...	21.63	TIC	705876m	16.681	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	7410216m	175.113	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	20.45	120	425	0.094	ug/m3#	25
40) 1,3,5-Trimethylbenzene	20.45	120	425	0.074	ug/m3#	62
41) p-Isopropyltoluene	21.29	134	401	0.142	ug/m3#	58
42) 1,2,3-Trimethylbenzene	21.29	120	443	0.066	ug/m3#	77
43) APH EC9-10 aromatics T...	21.63	TIC	1694m	0.380	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	3169m	0.643	ug/m3	



Data Path : F:\Proc GCMS7\09-03-21\  
 Data File : 090313.D  
 Acq On : 3 Sep 2021 3:37 pm  
 Operator : bat  
 Sample : 109030-03 1/5.4  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

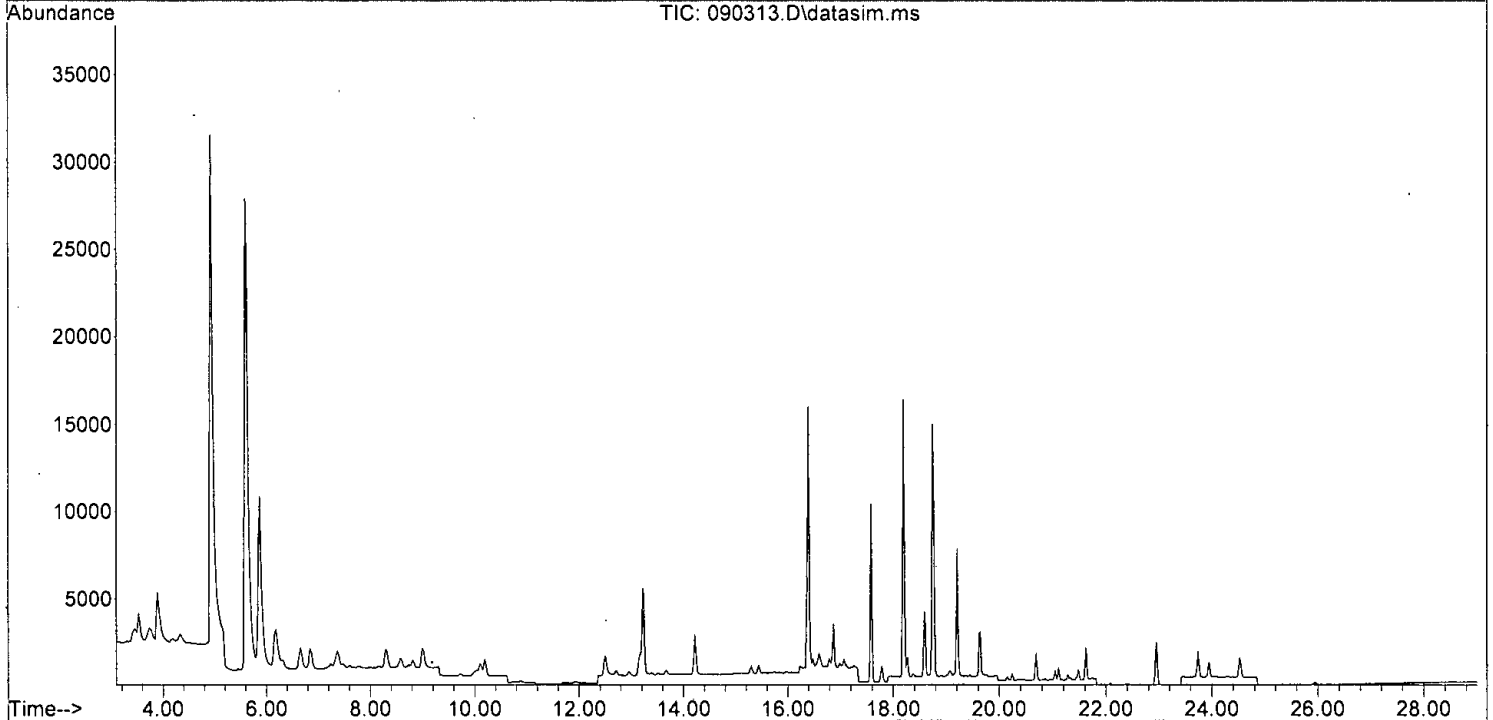
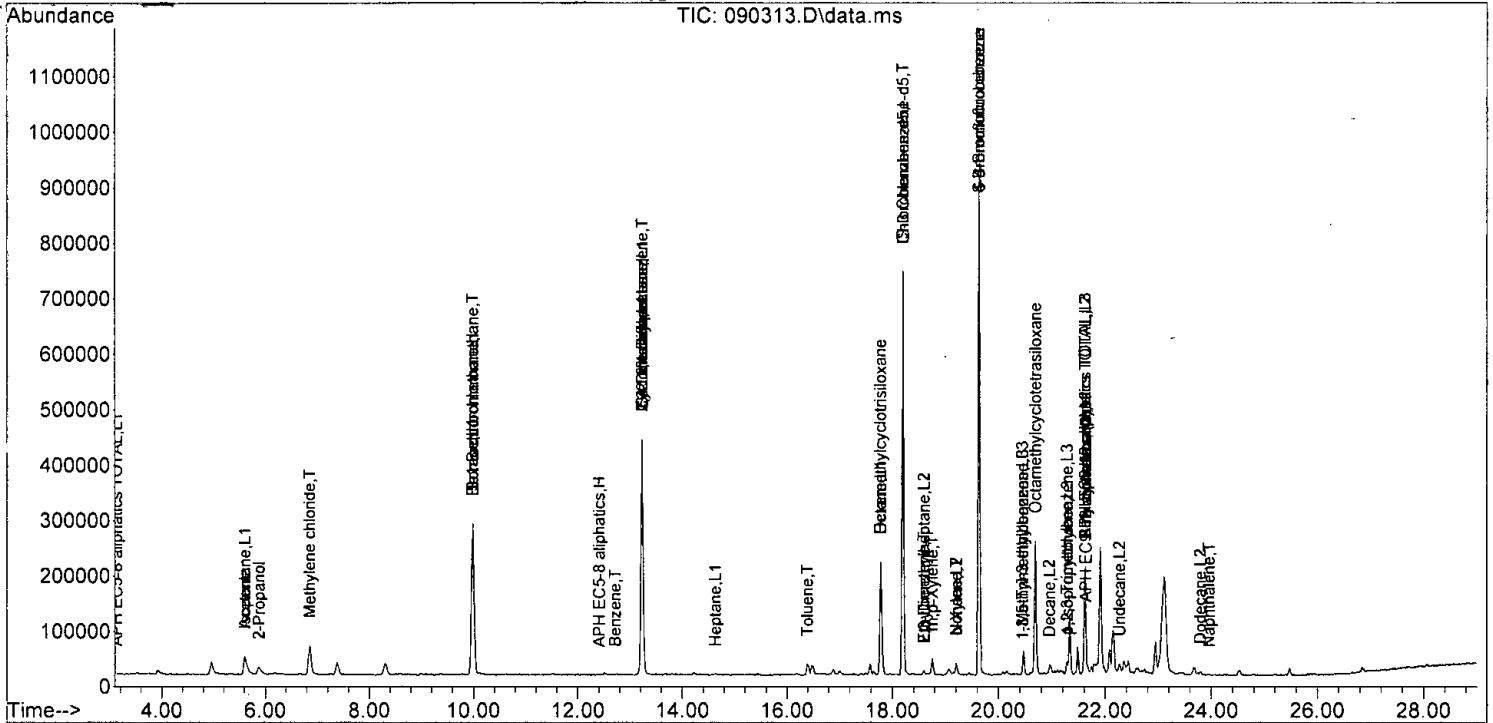
Quant Time: Sep 07 11:21:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	3232m	1.152	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090313.D  
 Acq On : 3 Sep 2021 3:37 pm  
 Operator : bat  
 Sample : 109030-03 1/5.4  
 Misc : T3  
 ALS Vial : 13 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:21:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090314.D  
 Acq On : 3 Sep 2021 4:15 pm  
 Operator : bat  
 Sample : 109030-04 1/6.1  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

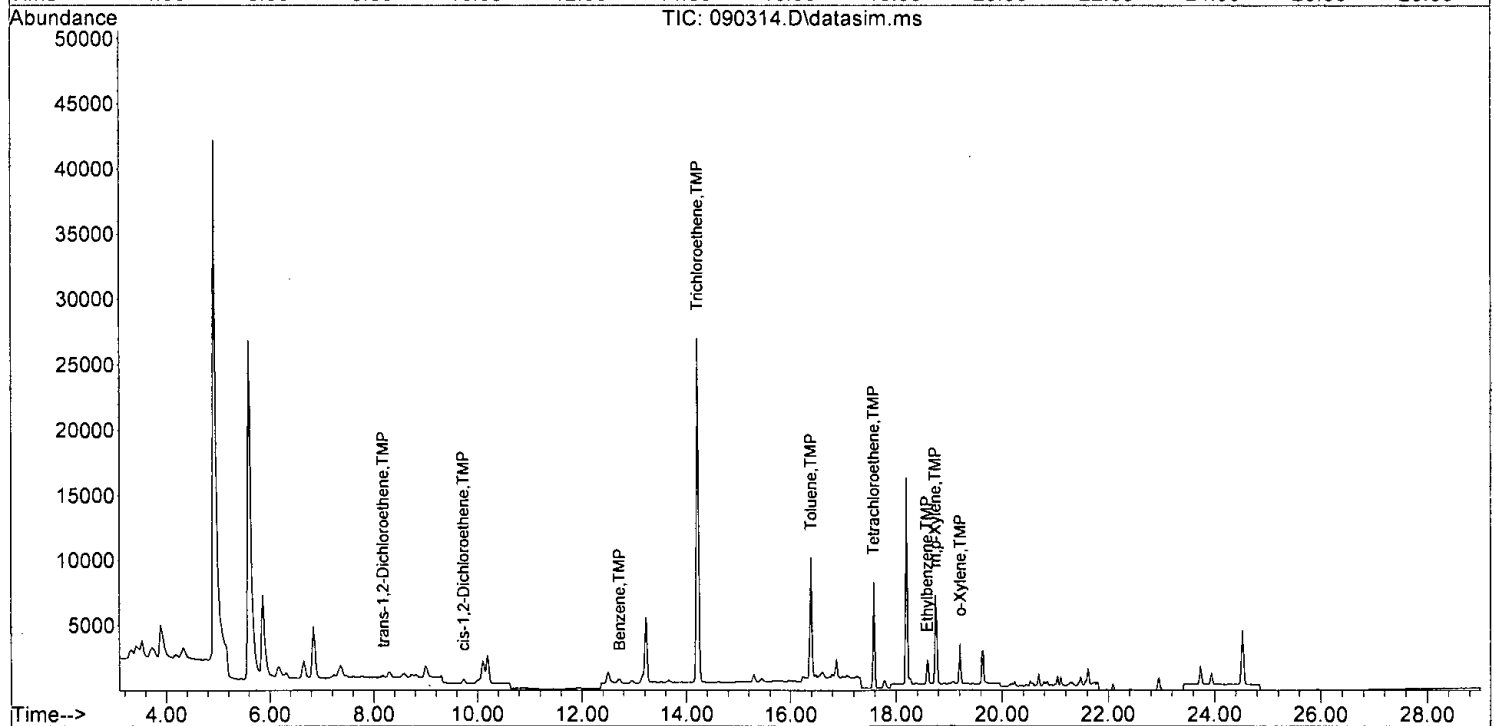
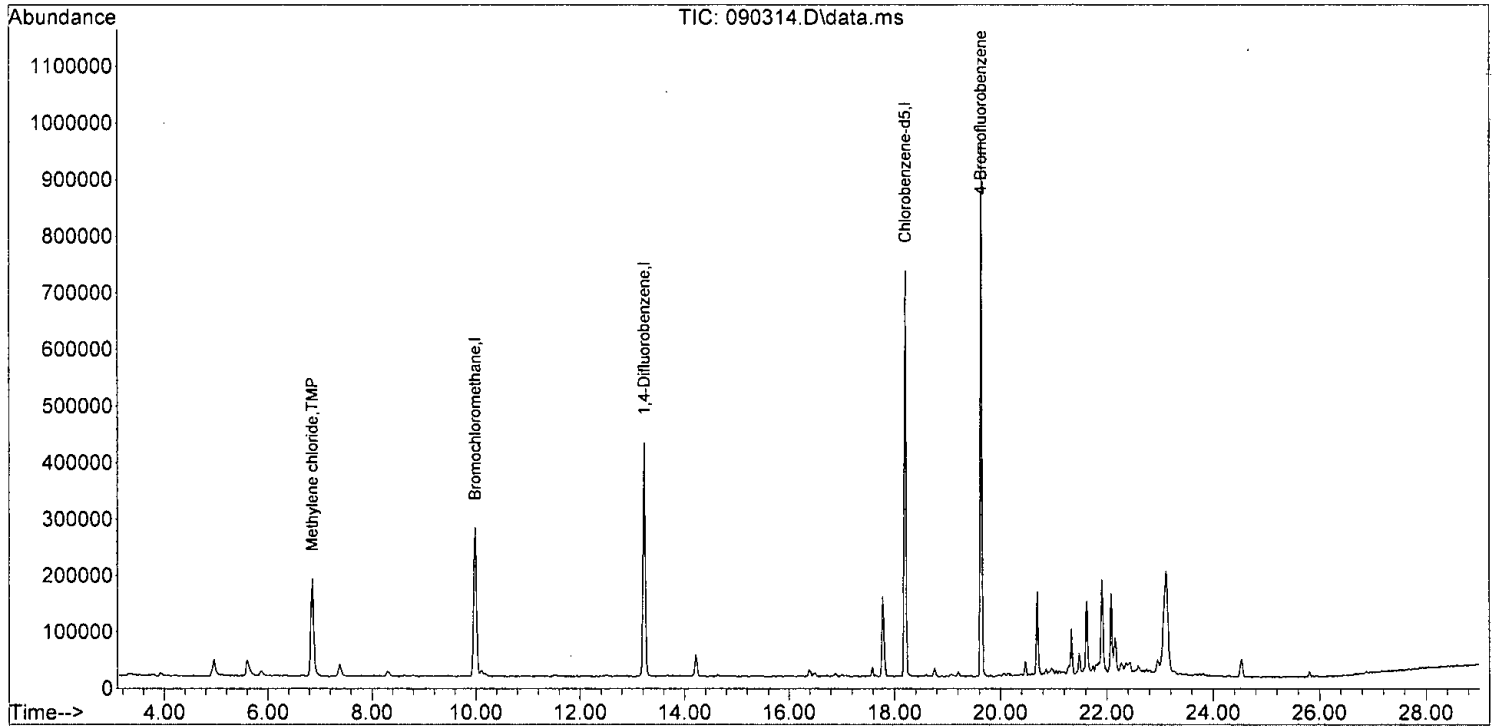
Quant Time: Sep 07 11:31:57 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

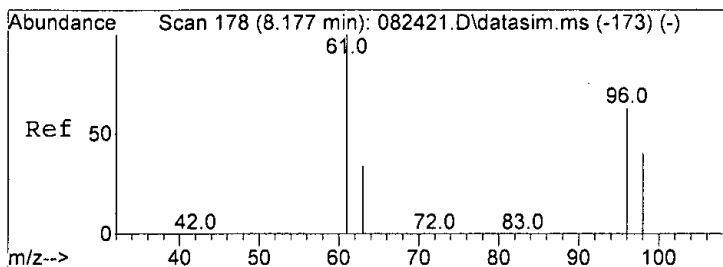
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	99416	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	463537	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	413143	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	359914	9.616	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	96.20%
Target Compounds						
19] trans-1,2-Dichloroethene	8.18	96	173	0.011	ppbv	88
20] Methylene chloride	6.86	84	129880	7.464	ppbv	# 81
28] cis-1,2-Dichloroethene	9.73	96	376	0.021	ppbv	# 81
37] Benzene	12.72	78	981	0.016	ppbv	99
46] Trichloroethene	14.22	95	23331	0.814	ppbv	83
50] Toluene	16.40	92	8557	0.246	ppbv	84
53] Tetrachloroethene	17.58	164	3702	0.210	ppbv	# 80
58] Ethylbenzene	18.59	91	3105	0.034	ppbv	97
65] m,p-Xylene	18.74	106	4823	0.164	ppbv	# 81
66] o-Xylene	19.21	106	1533	0.053	ppbv	91
-----						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090314.D  
 Acq On : 3 Sep 2021 4:15 pm  
 Operator : bat  
 Sample : 109030-04 1/6.1  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

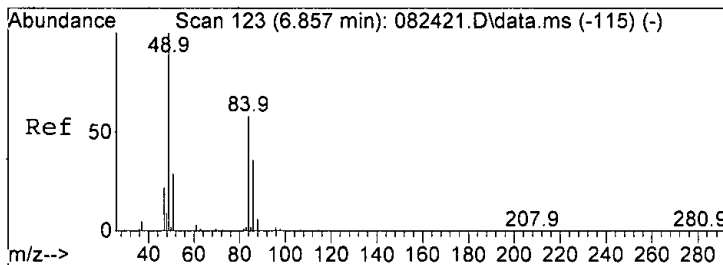
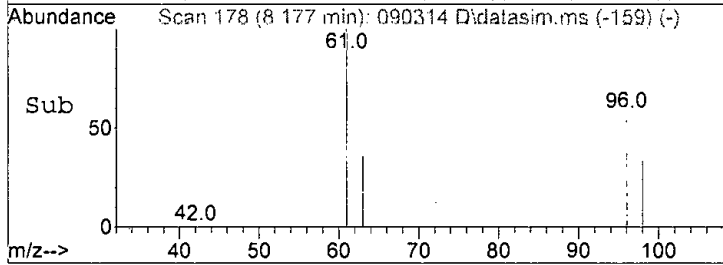
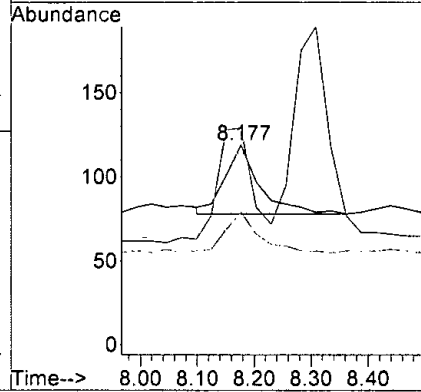
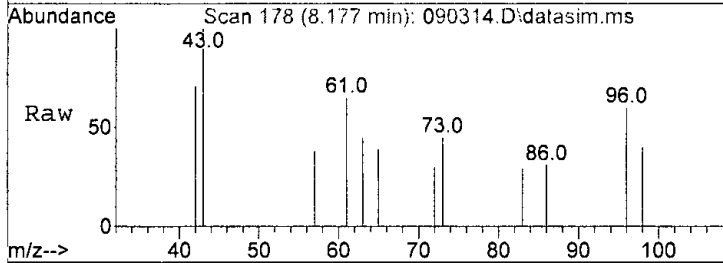
Quant Time: Sep 07 11:31:57 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





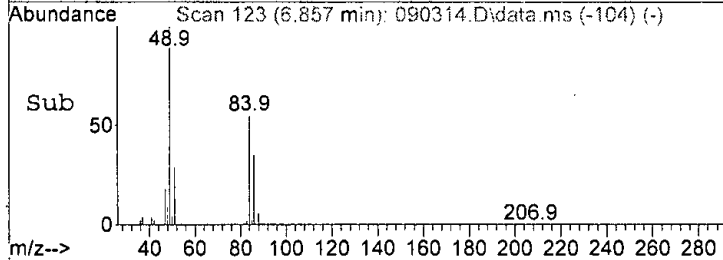
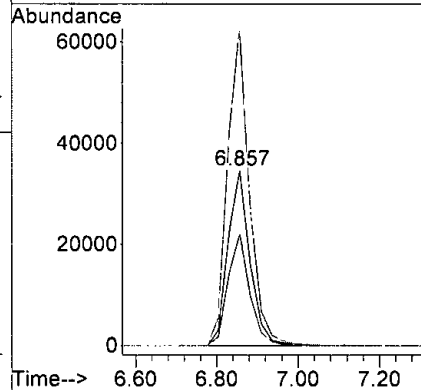
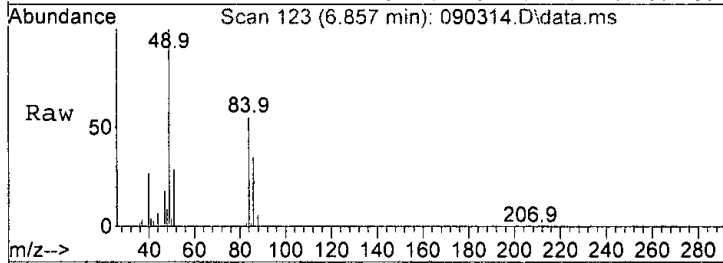
#19  
 trans-1,2-Dichloroethene  
 Concen: 0.011 ppbv  
 RT: 8.18 min Scan# 178  
 Delta R.T. 0.000 min  
 Lab File: 090314.D  
 Acq: 3 Sep 2021 4:15 pm

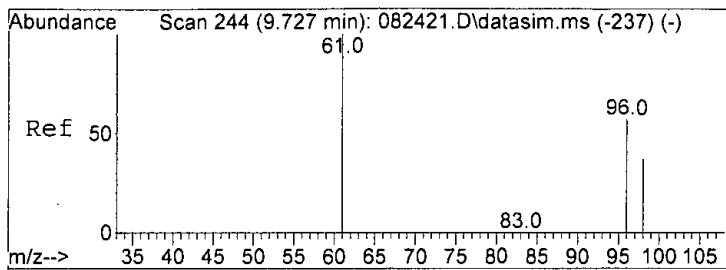
Tgt Ion	Resp	Lower	Upper
96	100		
61	161.0	147.9	207.9
98	56.1	34.2	94.2



#20  
 Methylene chloride  
 Concen: 7.464 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090314.D  
 Acq: 3 Sep 2021 4:15 pm

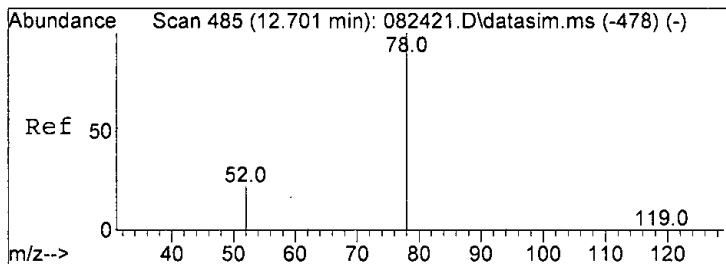
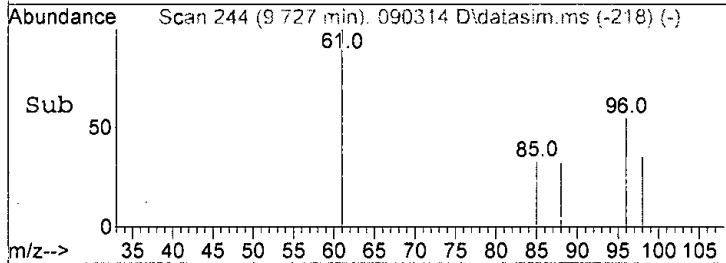
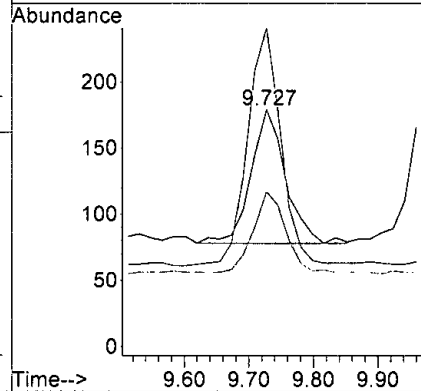
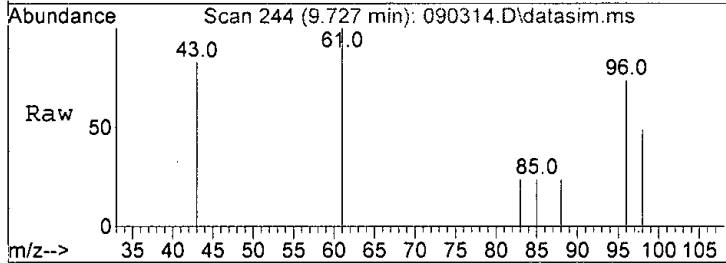
Tgt Ion	Resp	Lower	Upper
84	129880		
86	63.9	33.9	93.9
49	181.1	116.6	176.6#





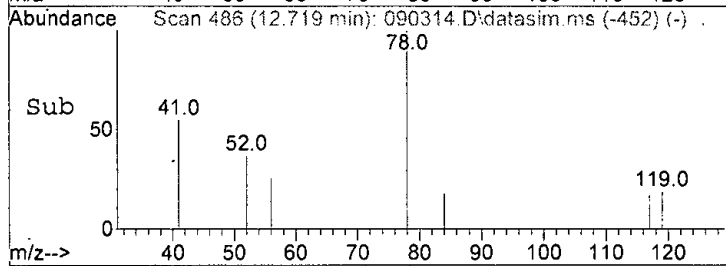
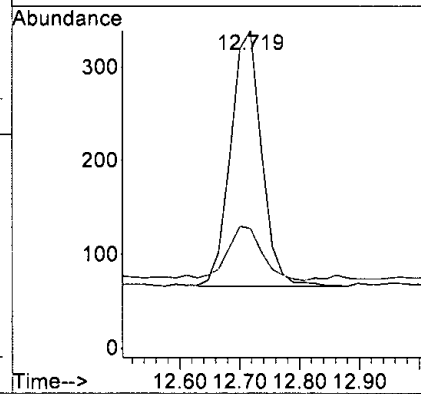
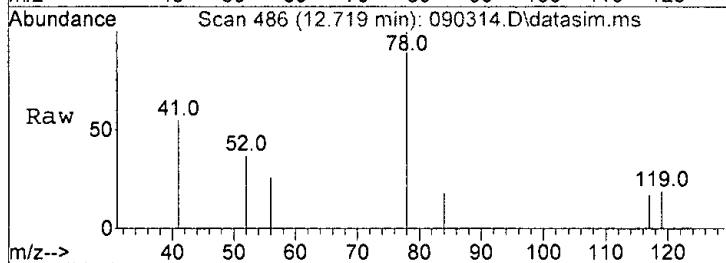
#28  
 cis-1,2-Dichloroethene  
 Concen: 0.021 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. -0.000 min  
 Lab File: 090314.D  
 Acq: 3 Sep 2021 4:15 pm

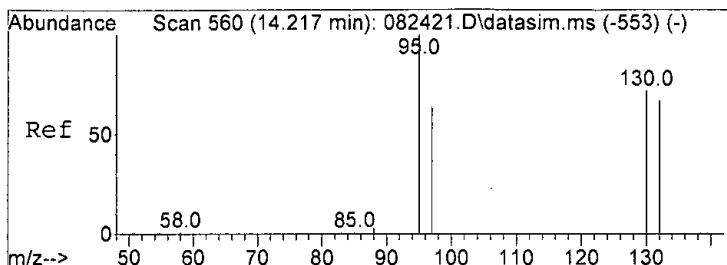
Tgt Ion	Resp	Lower	Upper
96	100		
61	177.2	116.0	176.0#
98	60.4	35.2	95.2



#37  
 Benzene  
 Concen: 0.016 ppbv  
 RT: 12.72 min Scan# 486  
 Delta R.T. 0.018 min  
 Lab File: 090314.D  
 Acq: 3 Sep 2021 4:15 pm

Tgt Ion	Resp	Lower	Upper
78	100		
52	19.0	0.0	49.7

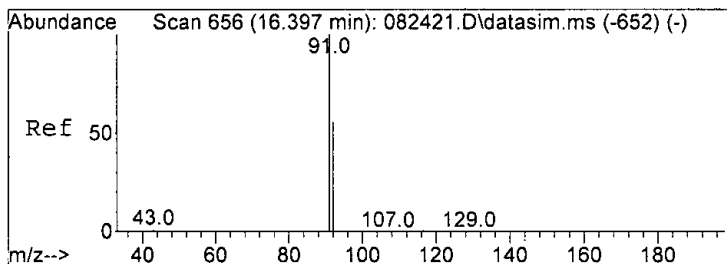
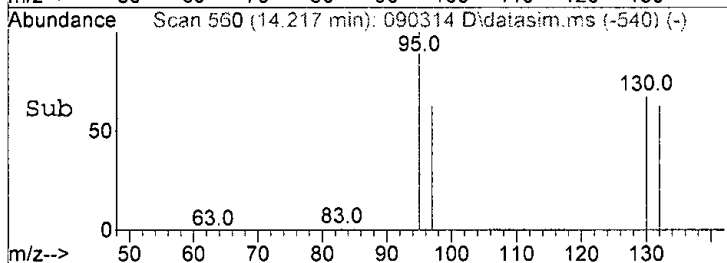
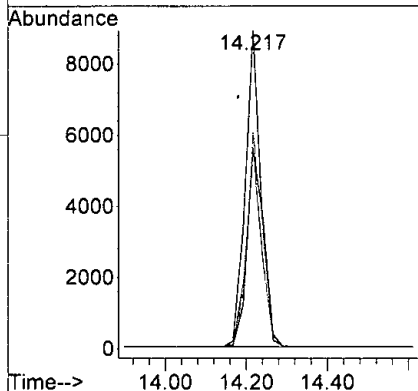
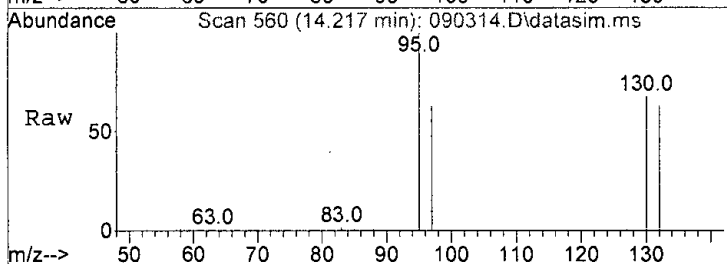




#46  
 Trichloroethene  
 Concen: 0.814 ppbv  
 RT: 14.22 min Scan# 560  
 Delta R.T. -0.000 min  
 Lab File: 090314.D  
 Acq: 3 Sep 2021 4:15 pm

Tgt Ion: 95 Resp: 23331

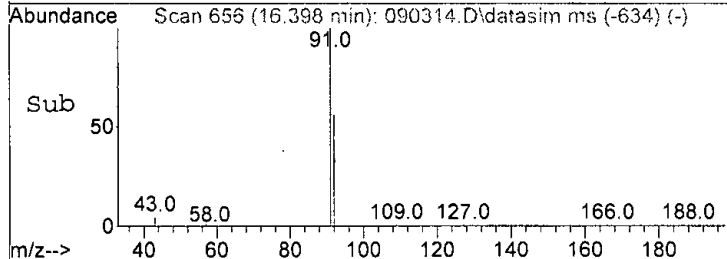
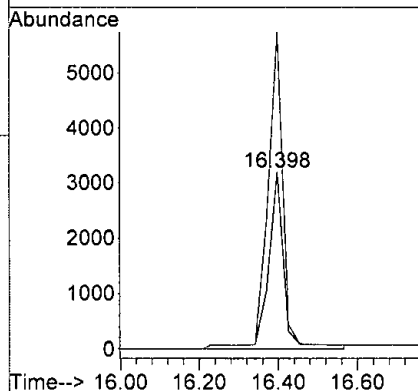
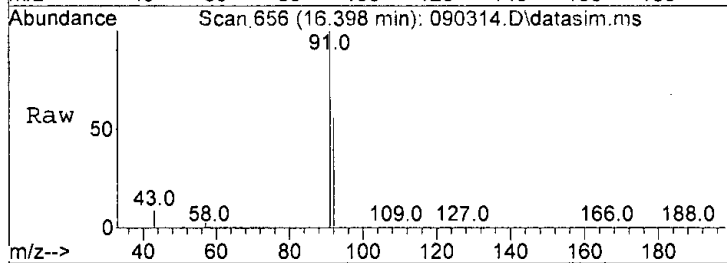
Ion	Ratio	Lower	Upper
95	100		
97	62.9	37.1	97.1
130	67.9	56.1	116.1
132	62.8	54.3	114.3

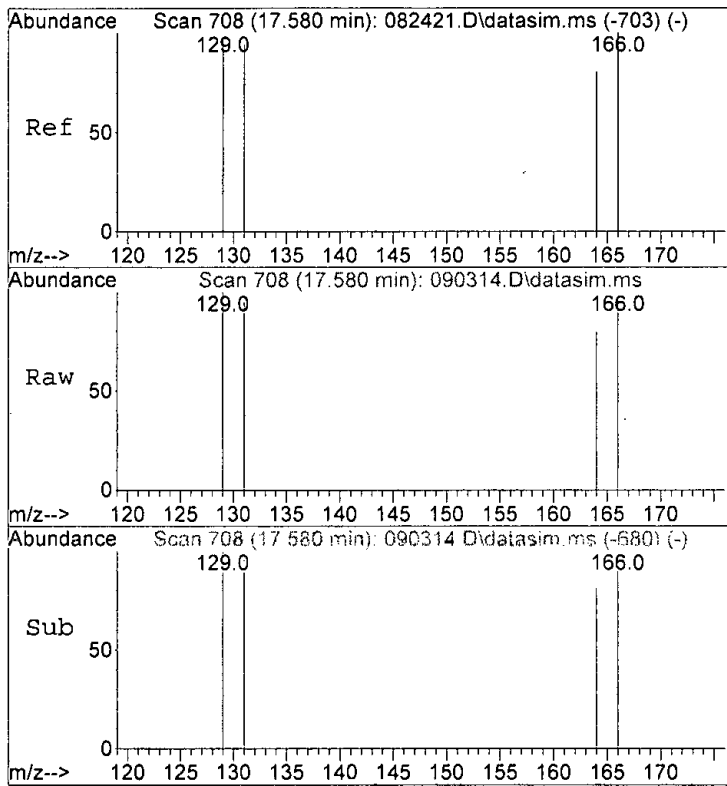


#50  
 Toluene  
 Concen: 0.246 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.001 min  
 Lab File: 090314.D  
 Acq: 3 Sep 2021 4:15 pm

Tgt Ion: 92 Resp: 8557

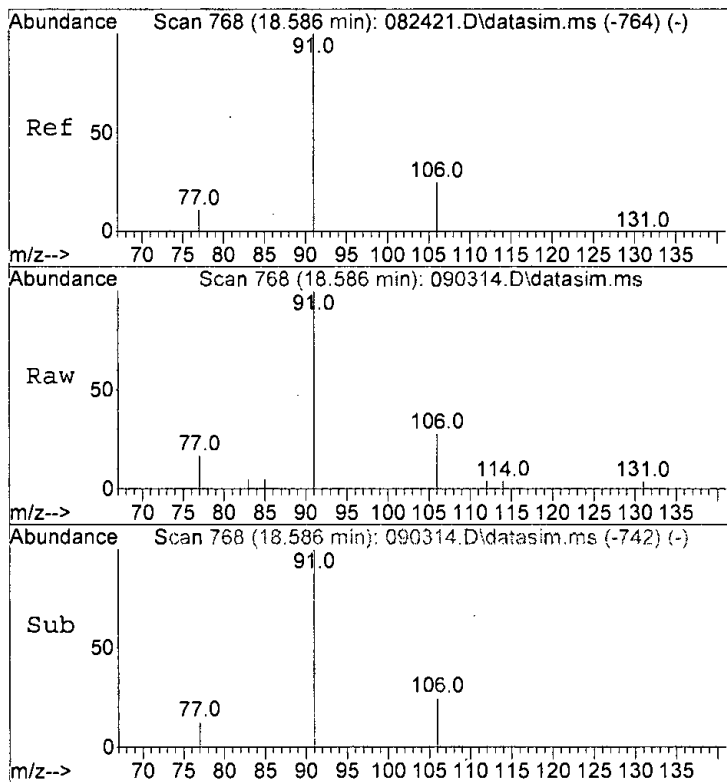
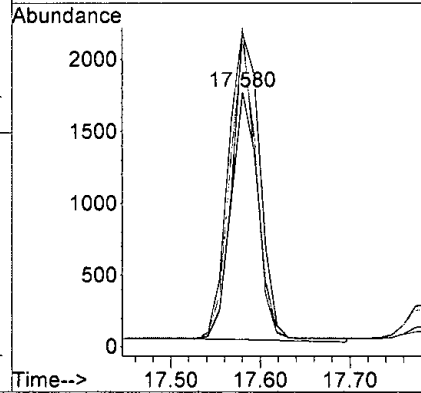
Ion	Ratio	Lower	Upper
92	100		
91	179.8	174.6	234.6





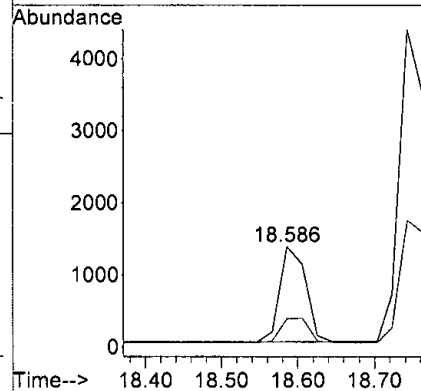
#53  
 Tetrachloroethene  
 Concen: 0.210 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090314.D  
 Acq: 3 Sep 2021 4:15 pm

Tgt Ion	Ratio	Resp	Lower	Upper
164	100	3702		
129	125.6	63.2	123.2#	
131	120.3	70.7	130.7	
166	123.8	107.5	167.5	

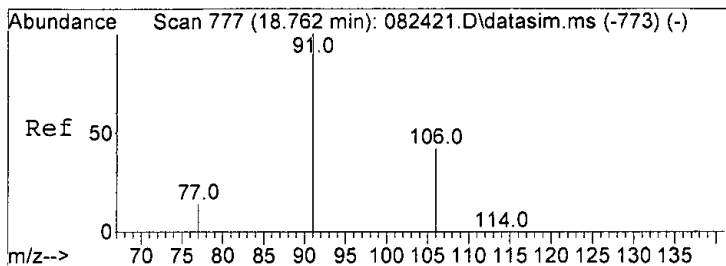


#58  
 Ethylbenzene  
 Concen: 0.034 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090314.D  
 Acq: 3 Sep 2021 4:15 pm

Tgt Ion	Ratio	Resp	Lower	Upper
91	100	3105		
106	25.4	0.0	57.0	

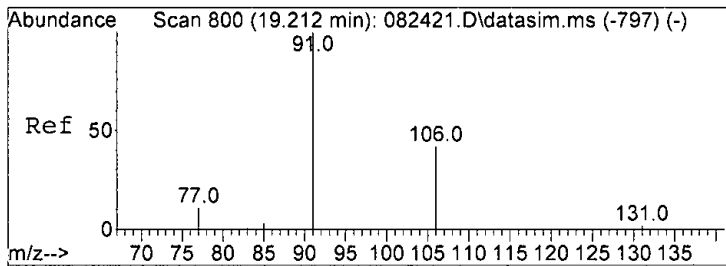
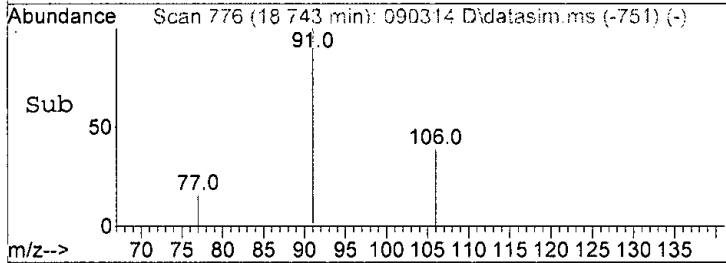
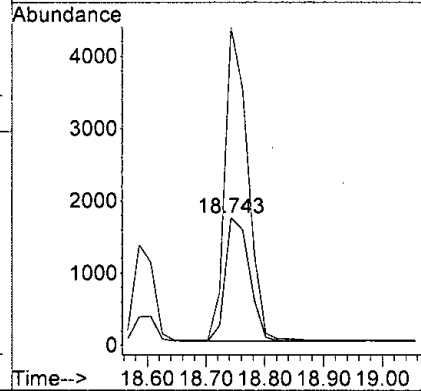
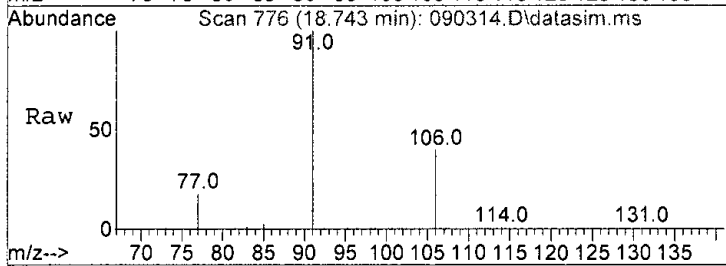






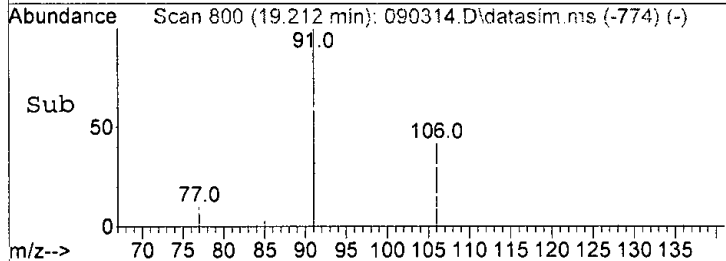
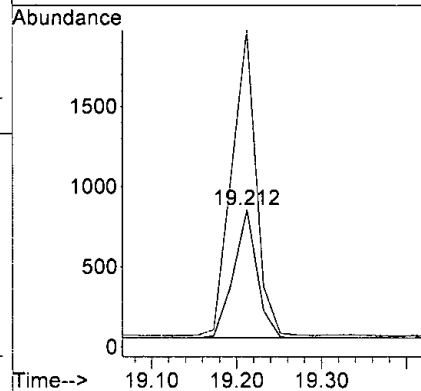
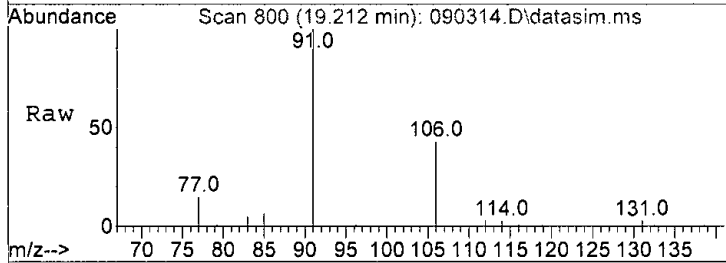
#65  
 m,p-Xylene  
 Concen: 0.164 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.019 min  
 Lab File: 090314.D  
 Acq: 3 Sep 2021 4:15 pm

Tgt Ion:106 Resp: 4823  
 Ion Ratio Lower Upper  
 106 100  
 91 254.4 193.0 253.0#



#66  
 o-Xylene  
 Concen: 0.053 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090314.D  
 Acq: 3 Sep 2021 4:15 pm

Tgt Ion:106 Resp: 1533  
 Ion Ratio Lower Upper  
 106 100  
 91 238.7 194.4 254.4



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090314.D  
 Acq On : 3 Sep 2021 4:15 pm  
 Operator : bat  
 Sample : 109030-04 1/6.1  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:31:57 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.99	128	99416	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	463537	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	413143	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	359914	9.616	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	96.20%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.	d	
6) Vinyl chloride	0.00		0	N.D.		
7) 1,3-Butadiene	0.00		0	N.D.		
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.	d	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	0.00		0	N.D.		
19] trans-1,2-Dichloroethene	8.18	96	173	0.011	ppbv	88
20) Methylene chloride	6.86	84	129880	7.464	ppbv #	81
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	0.00		0	N.D.		
28] cis-1,2-Dichloroethene	9.73	96	376	0.021	ppbv #	81
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.		
34) 1,2-Dichloroethane (EDC)	11.45	62	138	N.D.		
35) 1,1,1-Trichloroethane	11.94	97	160	N.D.		
36) Carbon tetrachloride	0.00		0	N.D.	d	
37] Benzene	12.72	78	981	0.016	ppbv	99
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090314.D  
 Acq On : 3 Sep 2021 4:15 pm  
 Operator : bat  
 Sample : 109030-04 1/6.1  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

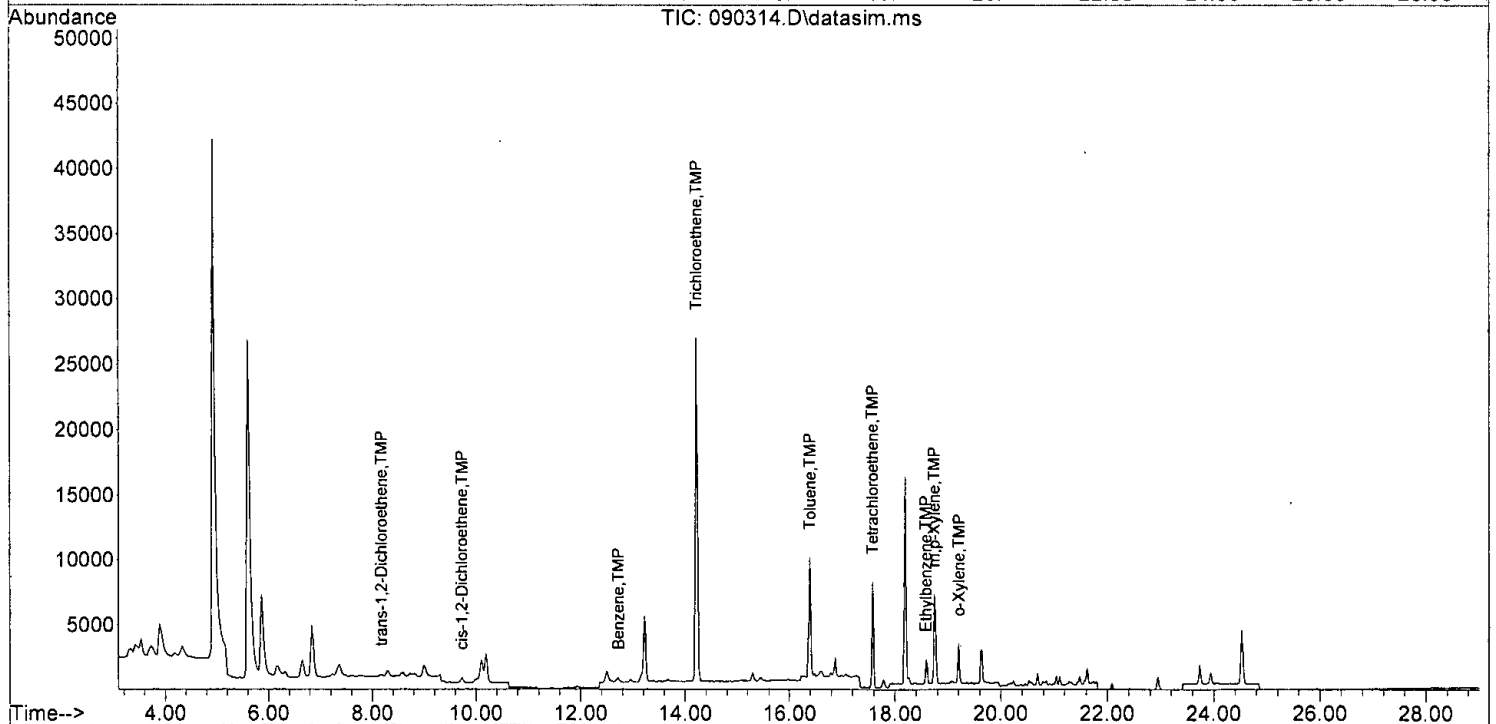
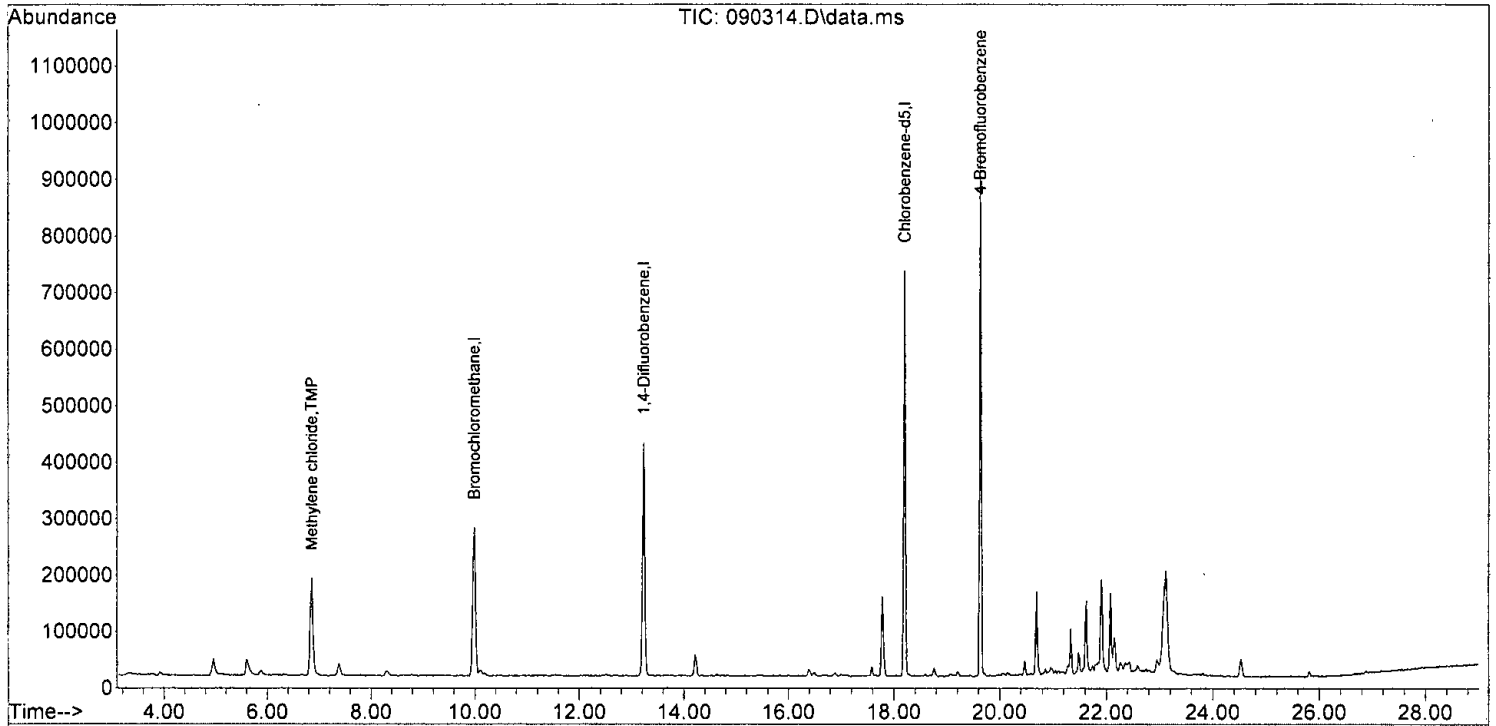
Quant Time: Sep 07 11:31:57 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	23331	0.814	ppbv	83
47) cis-1,3-Dichloropropene	0.00		0	N.D.		
48) 4-Methyl-2-pentanone	0.00		0	N.D.		
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	8557	0.246	ppbv	84
51) 1,1,2-Trichloroethane	0.00		0	N.D.		
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	3702	0.210	ppbv #	80
54) Dibromochloromethane	0.00		0	N.D.		
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.		
57) Chlorobenzene	0.00		0	N.D.		
58] Ethylbenzene	18.59	91	3105	0.034	ppbv	97
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.74	106	4823	0.164	ppbv #	81
66] o-Xylene	19.21	106	1533	0.053	ppbv	91
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.		
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77) Naphthalene	23.95	128	1832	N.D.		
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

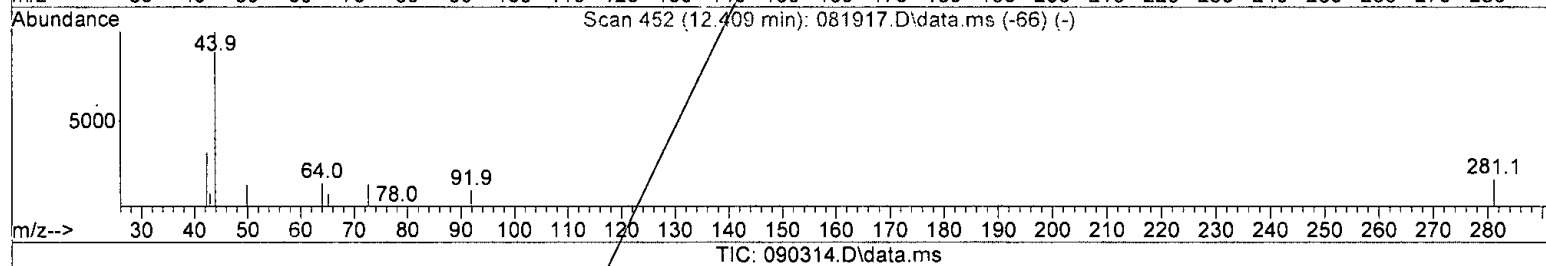
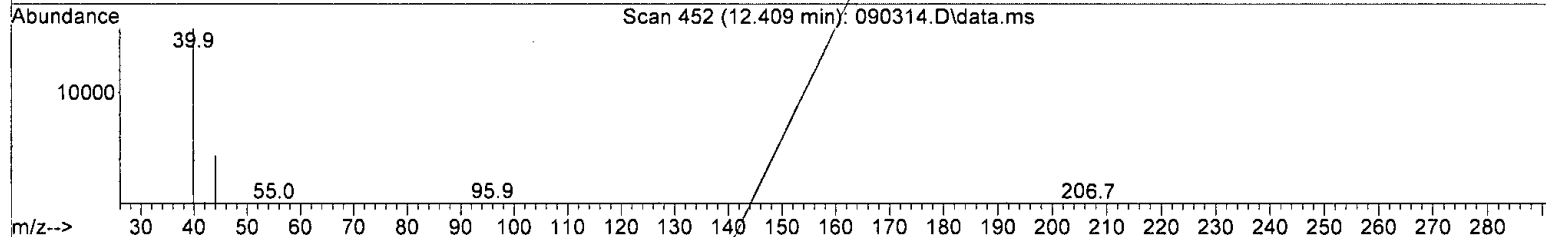
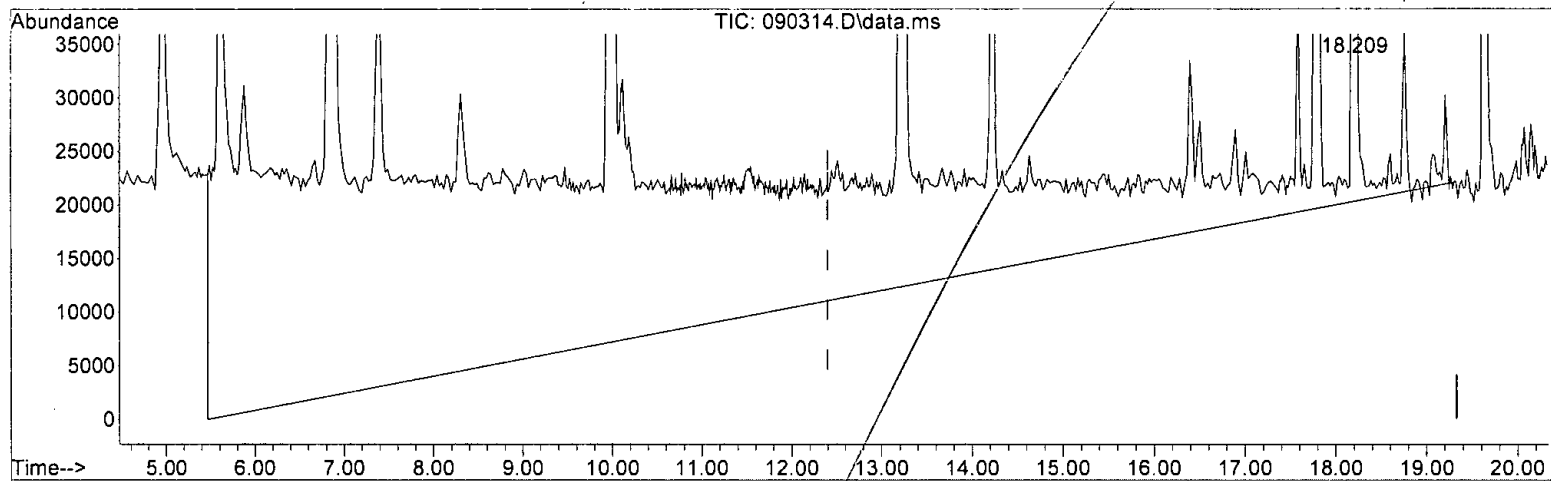
Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090314.D  
 Acq On : 3 Sep 2021 4:15 pm  
 Operator : bat  
 Sample : 109030-04 1/6.1  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:31:57 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090314.D  
 Acq On : 3 Sep 2021 4:15 pm  
 Operator : bat  
 Sample : 109030-04 1/6.1  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:25:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



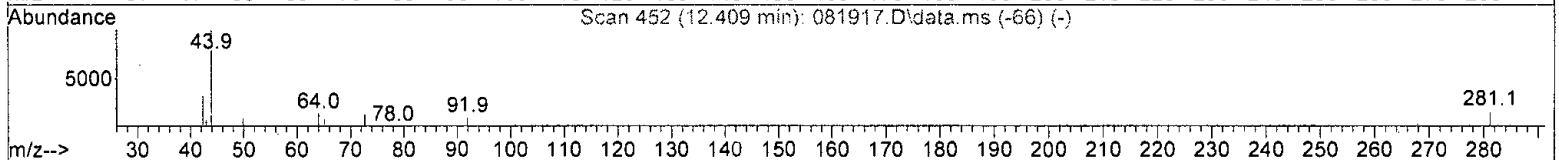
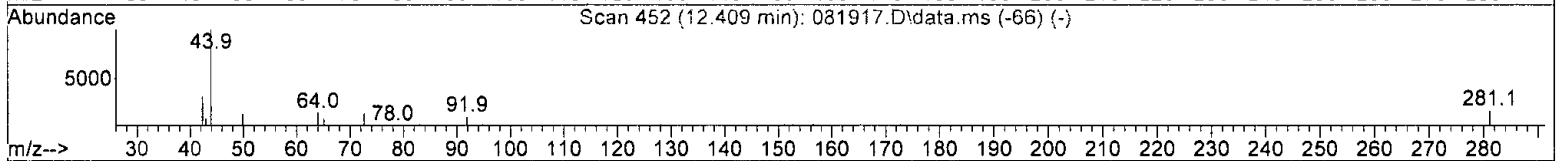
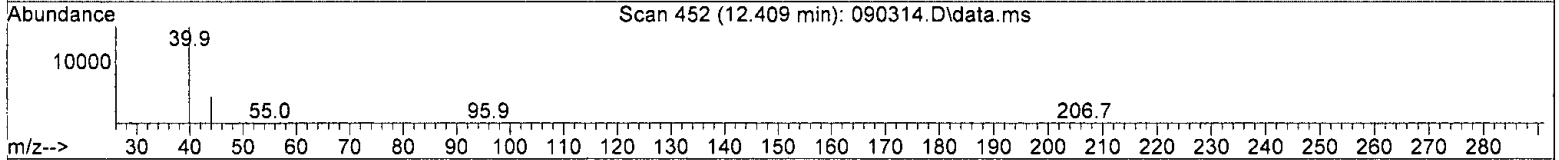
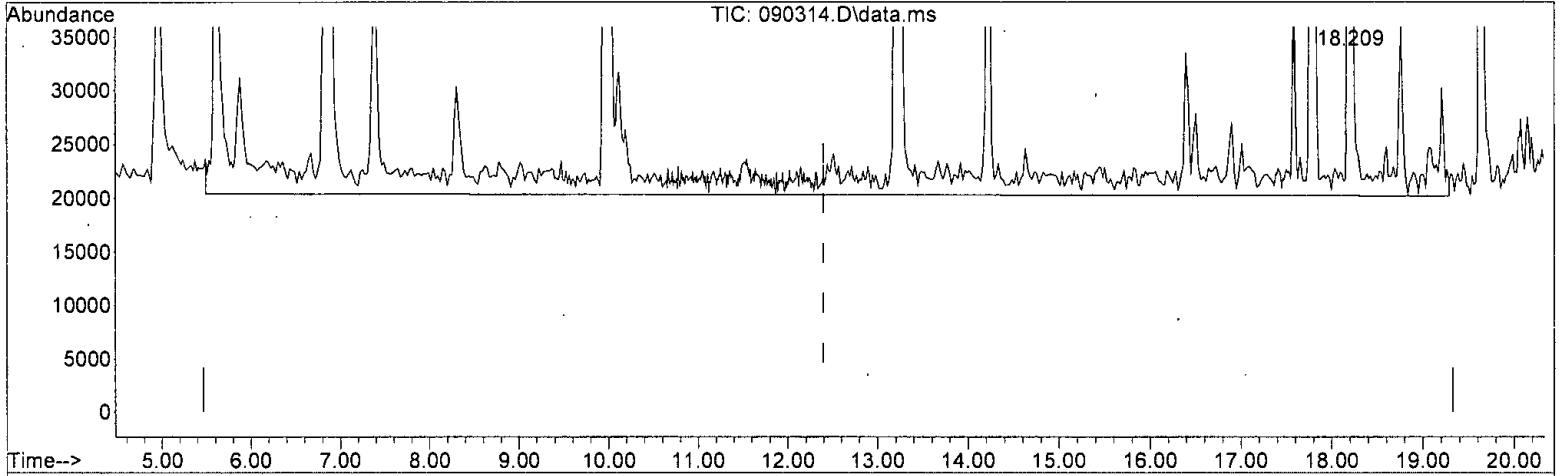
(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 42.180 ug/m3 m  
 response 1551349  

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h only*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090314.D  
 Acq On : 3 Sep 2021 4:15 pm  
 Operator : bat  
 Sample : 109030-04 1/6.1  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:25:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*Handwritten signature*

(19) APH EC5-8 aliphatics (H)

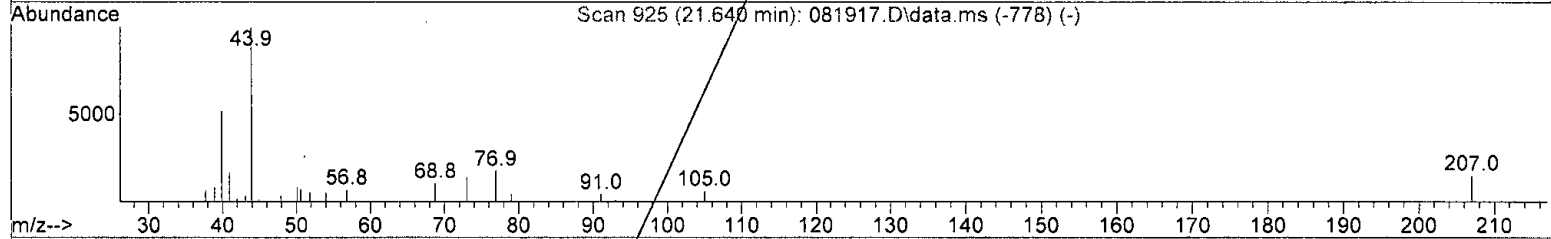
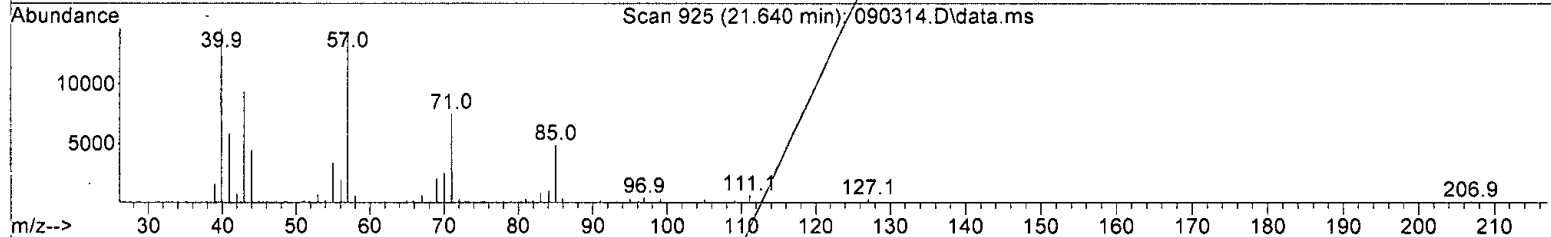
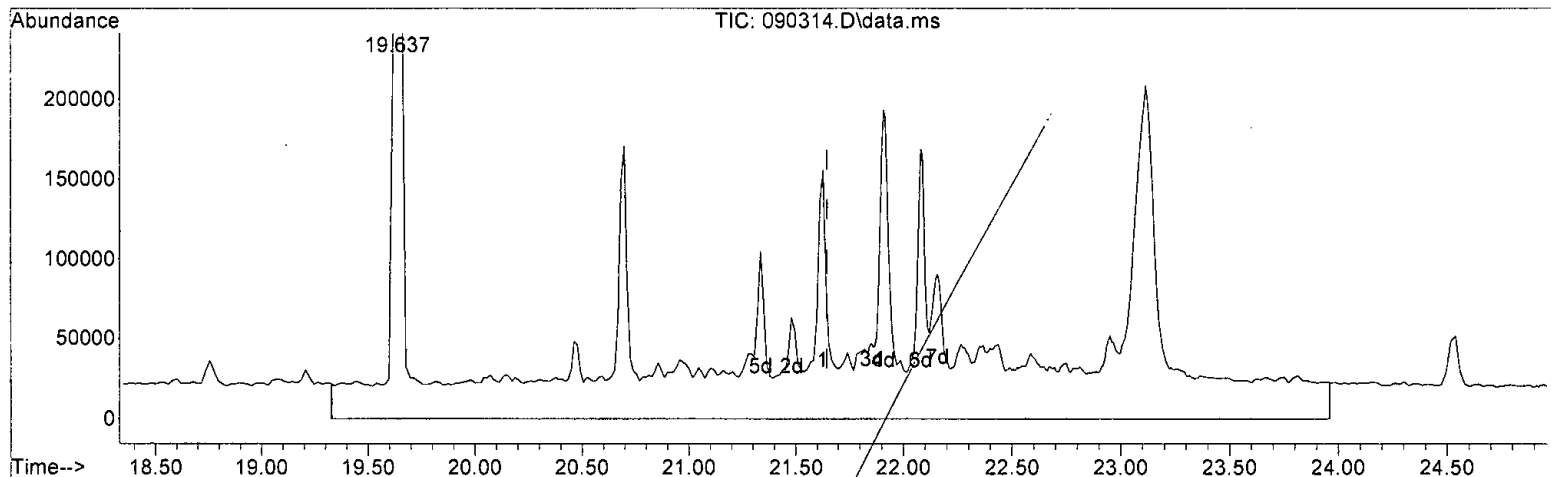
12.400min ( 0.000) 189.114 ug/m3 m

response 6955481

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090314.D  
 Acq On : 3 Sep 2021 4:15 pm  
 Operator : bat  
 Sample : 109030-04 1/6.1  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:25:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 74.429 ug/m3 m  
 response 3146107

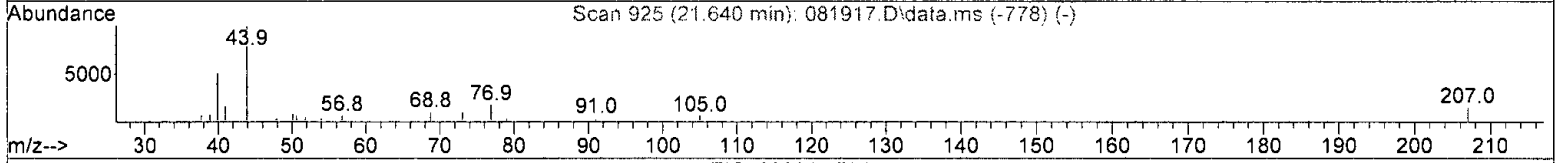
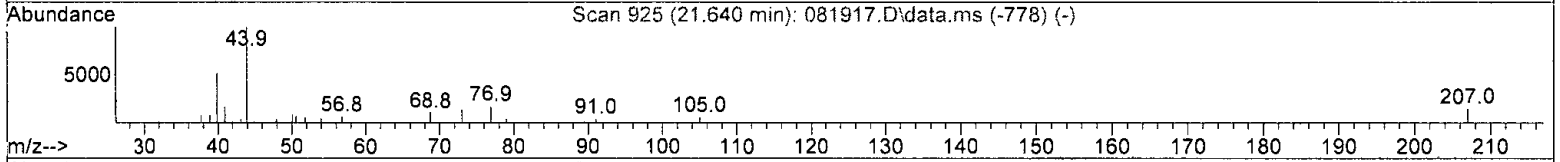
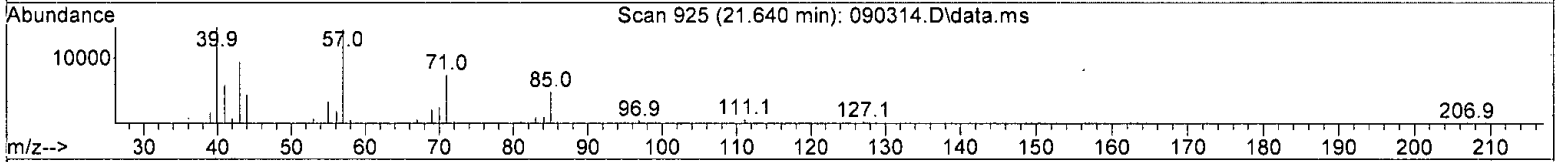
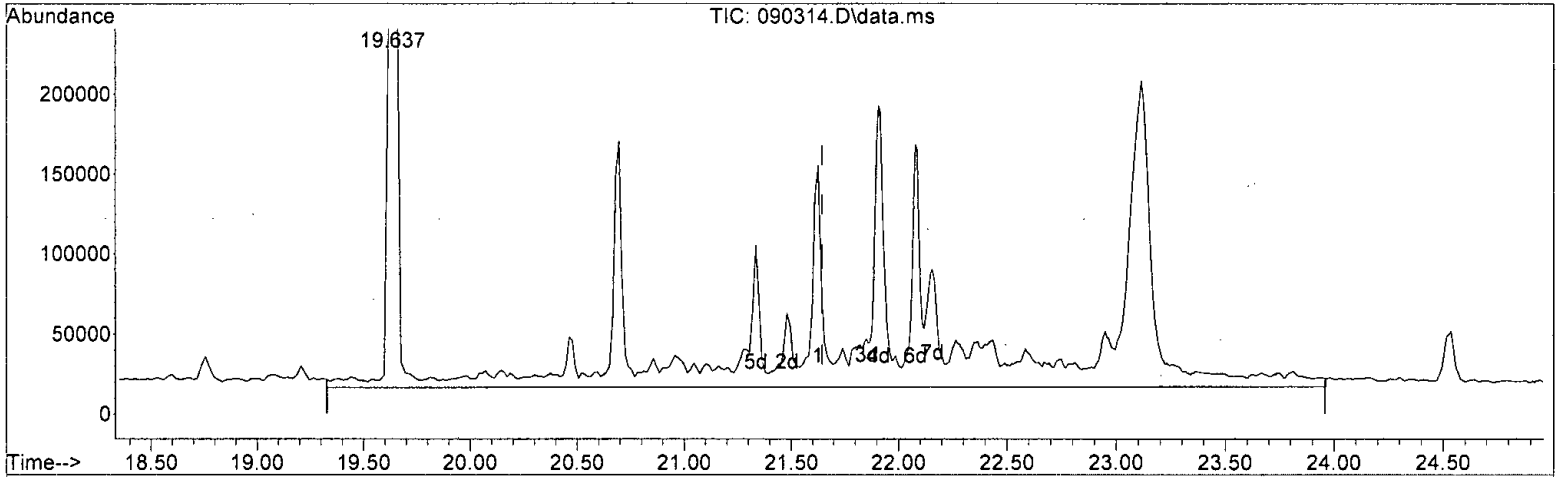
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature and date: 09/07/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090314.D  
 Acq On : 3 Sep 2021 4:15 pm  
 Operator : bat  
 Sample : 109030-04 1/6.1  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:25:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*u or/α/β*

(36) APH EC9-12 aliphatics (H)

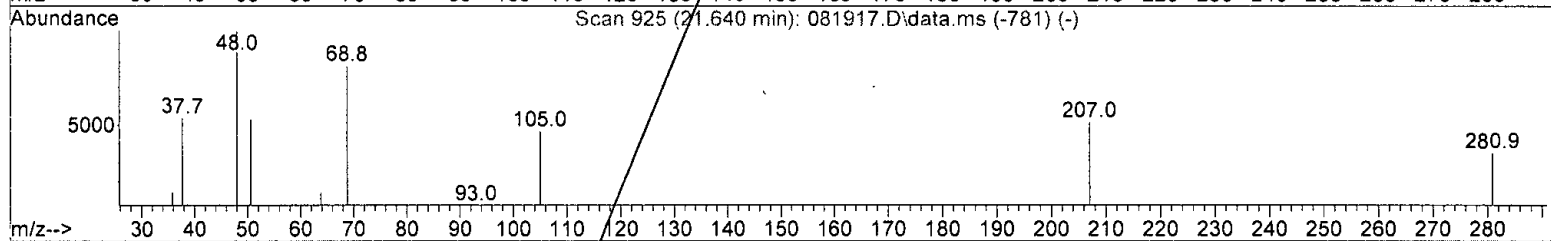
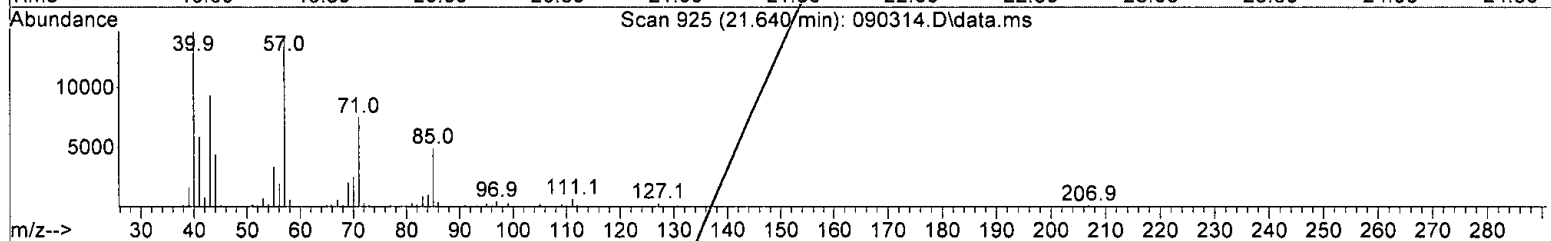
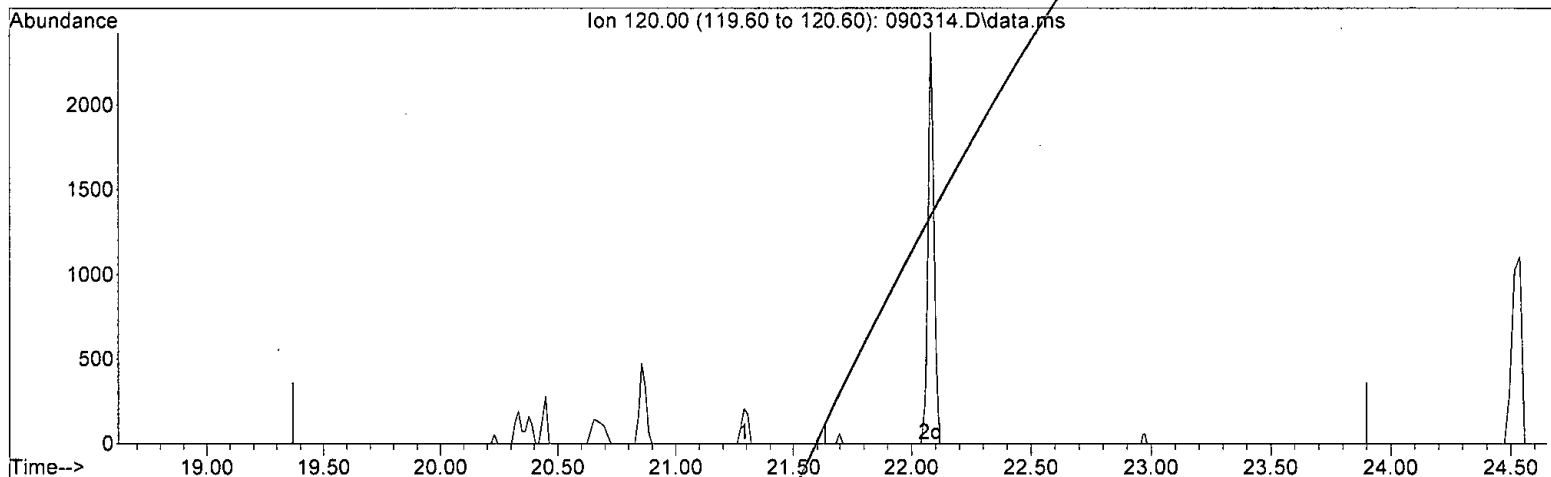
21.645min ( 0.000) 198.376 ug/m3 m

response	8385364
Signal	Exp% Act%
TIC	100.00 100.00
0.00	0.00 0.00
0.00	0.00 0.00
0.00	0.00 0.00



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090314.D  
 Acq On : 3 Sep 2021 4:15 pm  
 Operator : bat  
 Sample : 109030-04 1/6.1  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:25:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) -13.757 ug/m<sup>3</sup> m

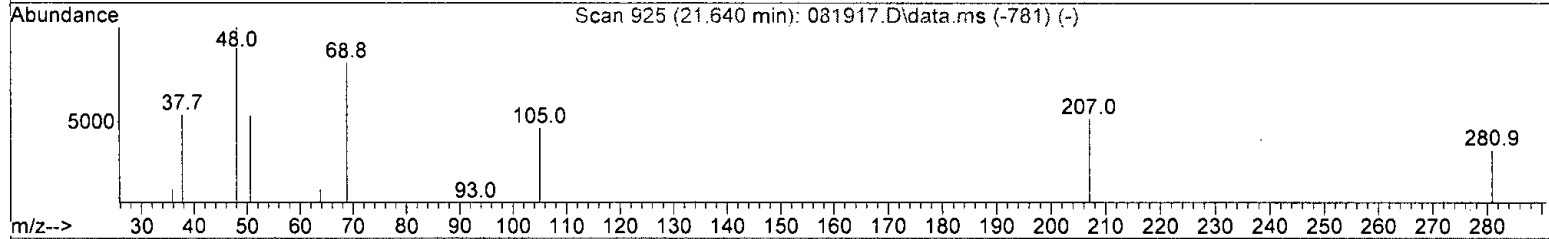
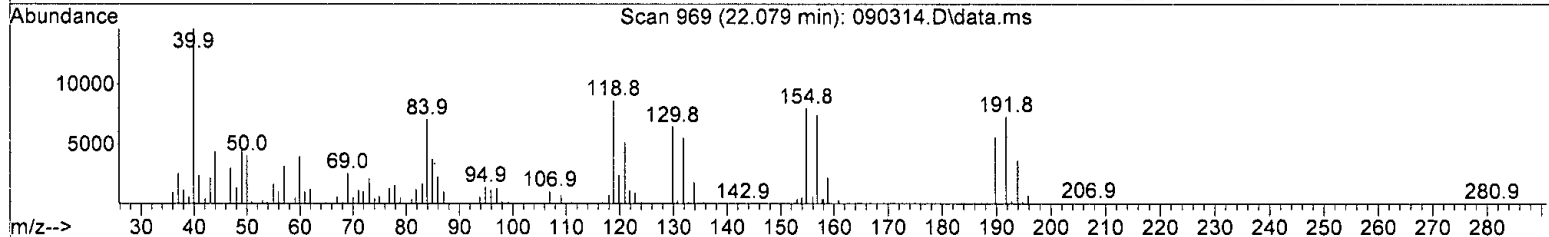
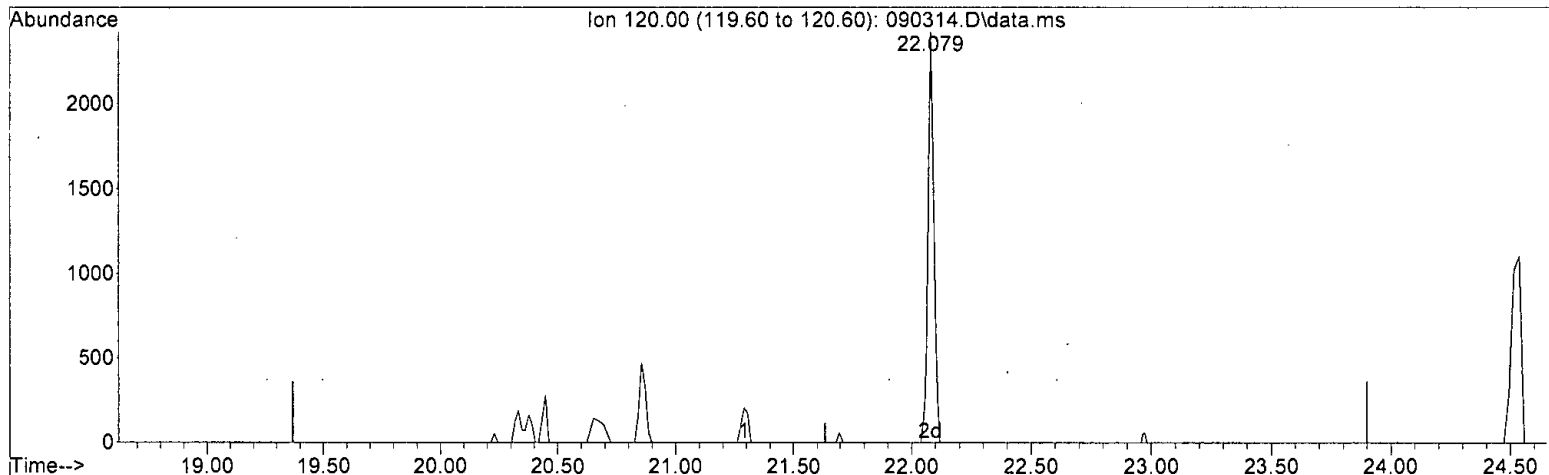
response -67706

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten:* 11/21/21

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090314.D  
 Acq On : 3 Sep 2021 4:15 pm  
 Operator : bat  
 Sample : 109030-04 1/6.1  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:25:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 1.782 ug/m3 m

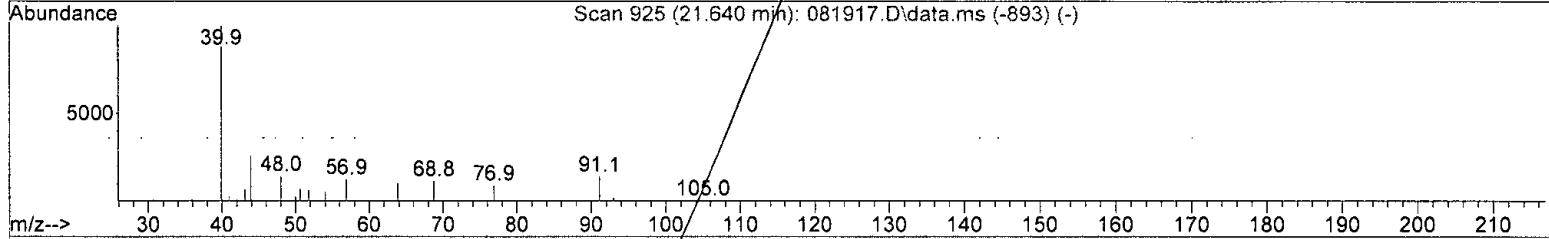
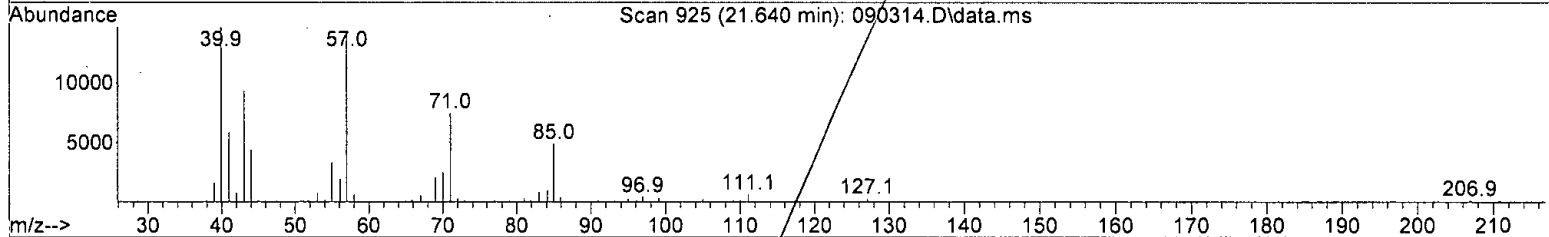
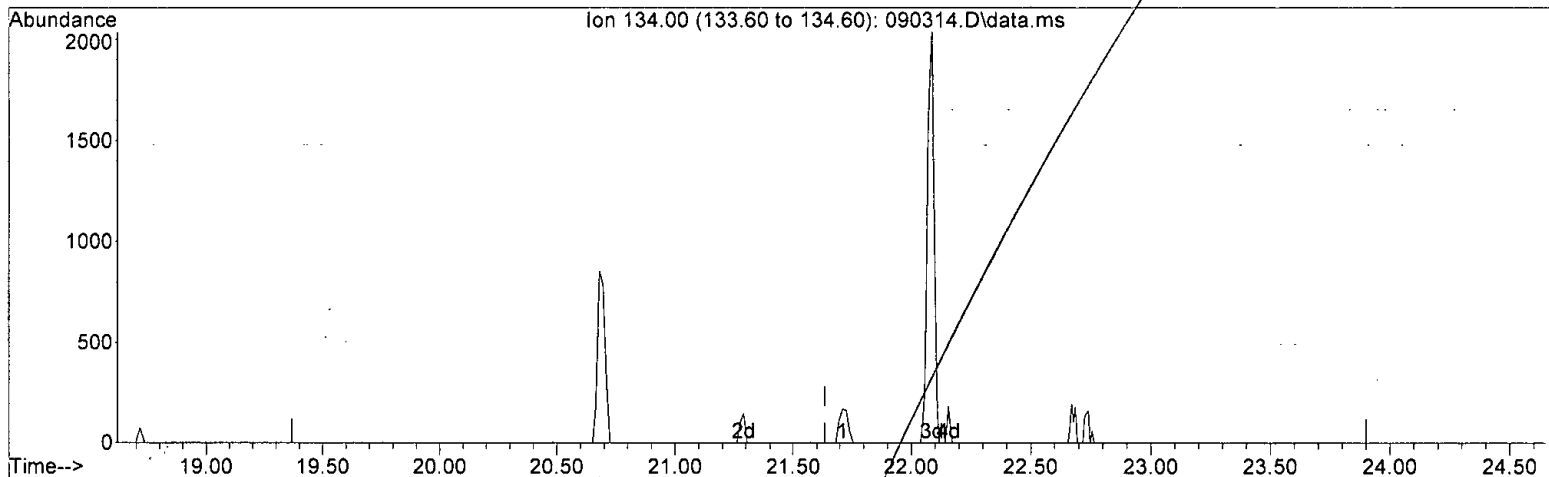
response 8768

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* M/ox/ly

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090314.D  
 Acq On : 3 Sep 2021 4:15 pm  
 Operator : bat  
 Sample : 109030-04 1/6.1  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:25:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



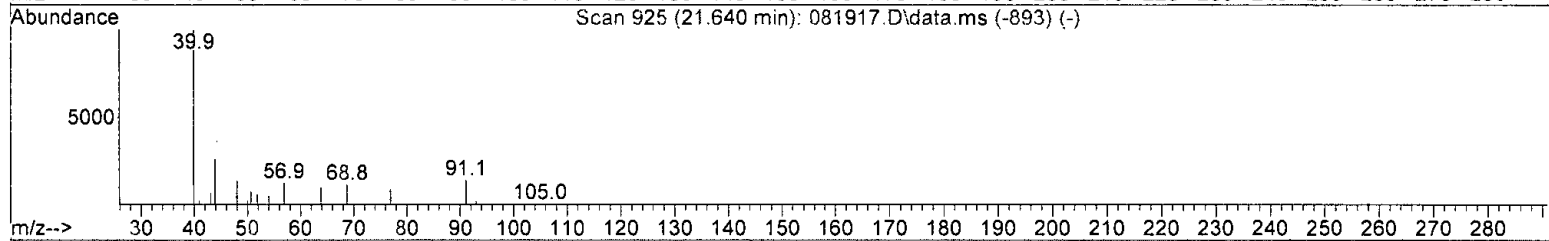
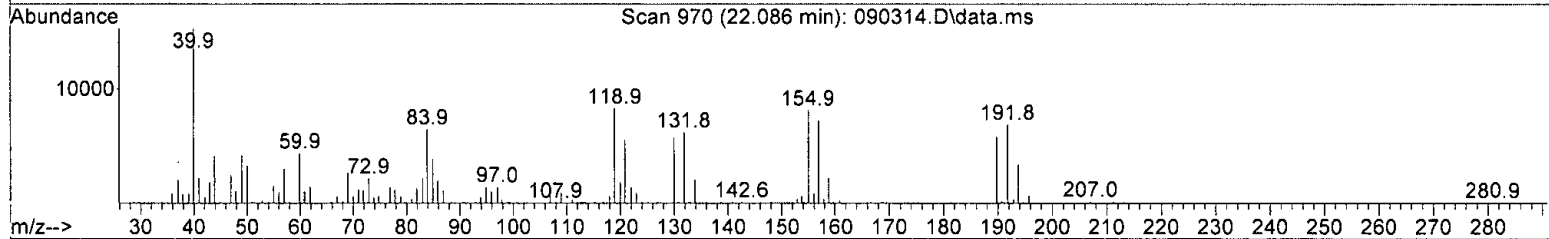
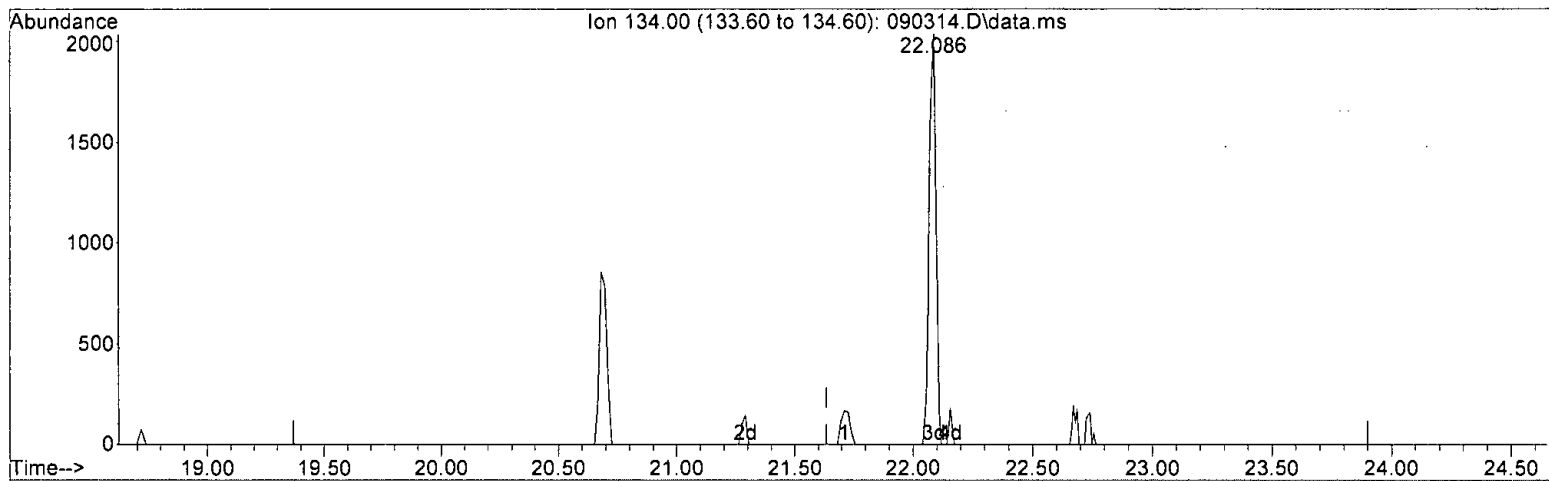
*W. 09/07/21*

(45) APH EC9-10 aromatics (2) (H)  
 21.635min ( 0.000) -24.068 ug/m3 m  
 response -67467

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090314.D  
 Acq On : 3 Sep 2021 4:15 pm  
 Operator : bat  
 Sample : 109030-04 1/6.1  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:25:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090314.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 3.280 ug/m3 m

response 9195

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090314.D  
 Acq On : 3 Sep 2021 4:15 pm  
 Operator : bat  
 Sample : 109030-04 1/6.1  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:27:42 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	99416	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	463537	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	413143	50.000	ug/m3	0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	359914	69.534	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	97.93%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	936729	53.365	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1283682	51.523	ug/m3	92
4) IS-3 Chlorobenzene-d5	18.21	TIC	1533302	50.739	ug/m3	91
5) Methylene chloride	6.86	TIC	673791	758.167	ug/m3	91
6) Acetone	5.60	TIC	143208	3.055	ppbv	100
7) 2-Propanol	5.88	TIC	48489	178.012	ppbv	100
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	8.30	73	542	0.071	ug/m3	56
11) Benzene	12.71	78	945	0.060	ug/m3	64
12) Isopentane	5.60	TIC	143208	4.575	ug/m3#	47
13) Hexane	10.11	TIC	46185	1.289	ug/m3	95
14) Cyclohexane	13.23	TIC	1283682	39.896	ug/m3	94
15) 2,3-Dimethylpentane	13.23	TIC	1283682	31.262	ug/m3	64
16) Heptane	14.63	TIC	12447	0.371	ug/m3	92
17) Octane	17.59	TIC	34338	0.746	ug/m3#	62
18) APH EC5-8 aliphatics T...	0.00	TIC	2803542m	76.226	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	6955481m	189.114	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1740377	49.900	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	404461	47.081	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	358477	33.435	ppbv	100
24) Toluene	16.39	92	6921	0.781	ug/m3	91
25) Ethylbenzene	18.60	91	3214	0.176	ug/m3	100
26) m,p-Xylene	18.76	106	5084	0.826	ug/m3	92
27) o-Xylene	19.21	106	1245	0.214	ug/m3	84
28) Naphthalene	23.94	128	1930	0.130	ug/m3	77
29) 2,3-Dimethylheptane	18.76	TIC	55827	1.345	ug/m3#	60
30) Nonane	19.64	TIC	1738760	40.104	ug/m3#	60
31) Decane	20.96	TIC	44635	1.036	ug/m3	93
32) Butylcyclohexane	21.48	TIC	99232	2.028	ug/m3	63
33) Undecane	22.27	TIC	47629	1.115	ug/m3	91
34) Dodecane	23.81	TIC	14350	0.409	ug/m3	89
35) APH EC9-12 aliphatics ...	21.63	TIC	2000433m	47.325	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	8385364m	198.376	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	20.33	120	402	0.089	ug/m3#	7
40) 1,3,5-Trimethylbenzene	20.45	120	366	0.064	ug/m3	95
41) p-Isopropyltoluene	21.29	134	217	0.077	ug/m3#	54
42) 1,2,3-Trimethylbenzene	20.86	120	758	0.113	ug/m3	89
43) APH EC9-10 aromatics T...	21.63	TIC	1743m	0.391	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	8768m	1.782	ug/m3	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090314.D  
 Acq On : 3 Sep 2021 4:15 pm  
 Operator : bat  
 Sample : 109030-04 1/6.1  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

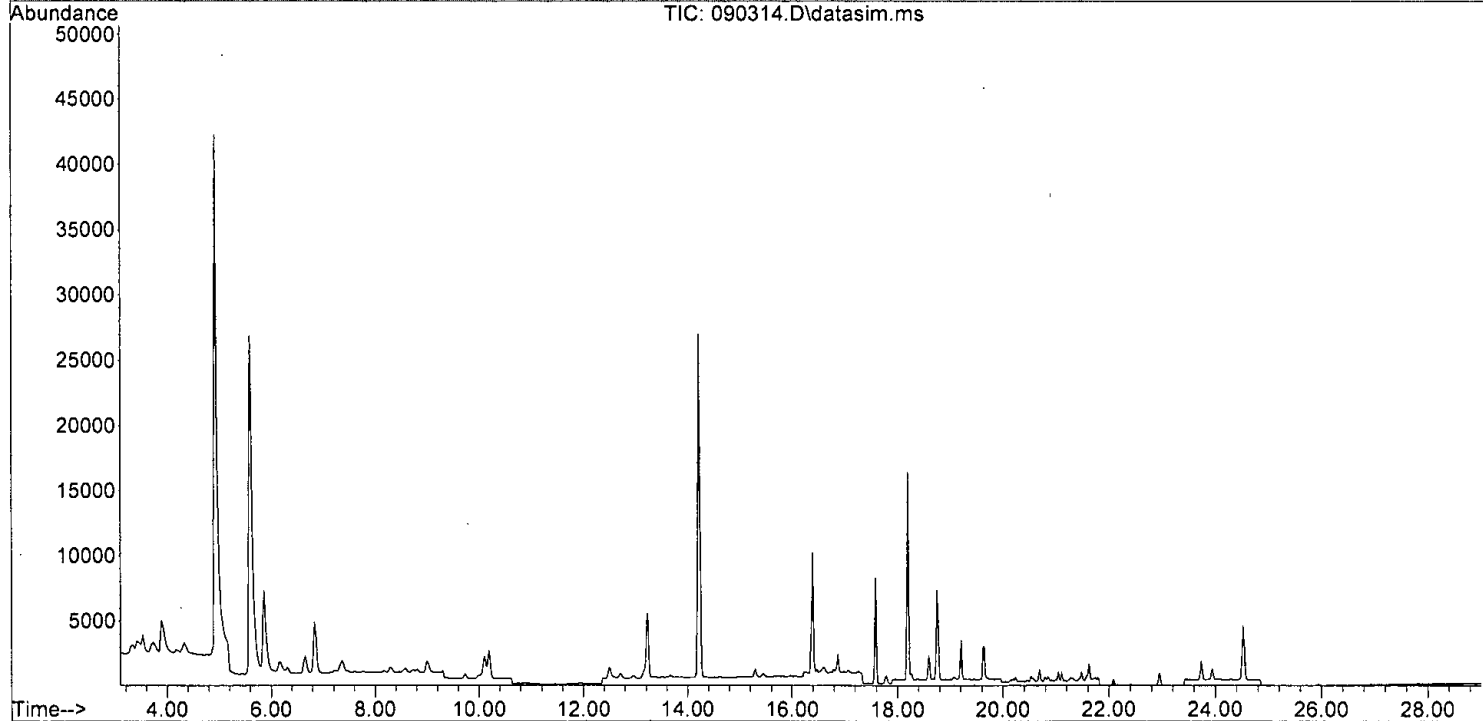
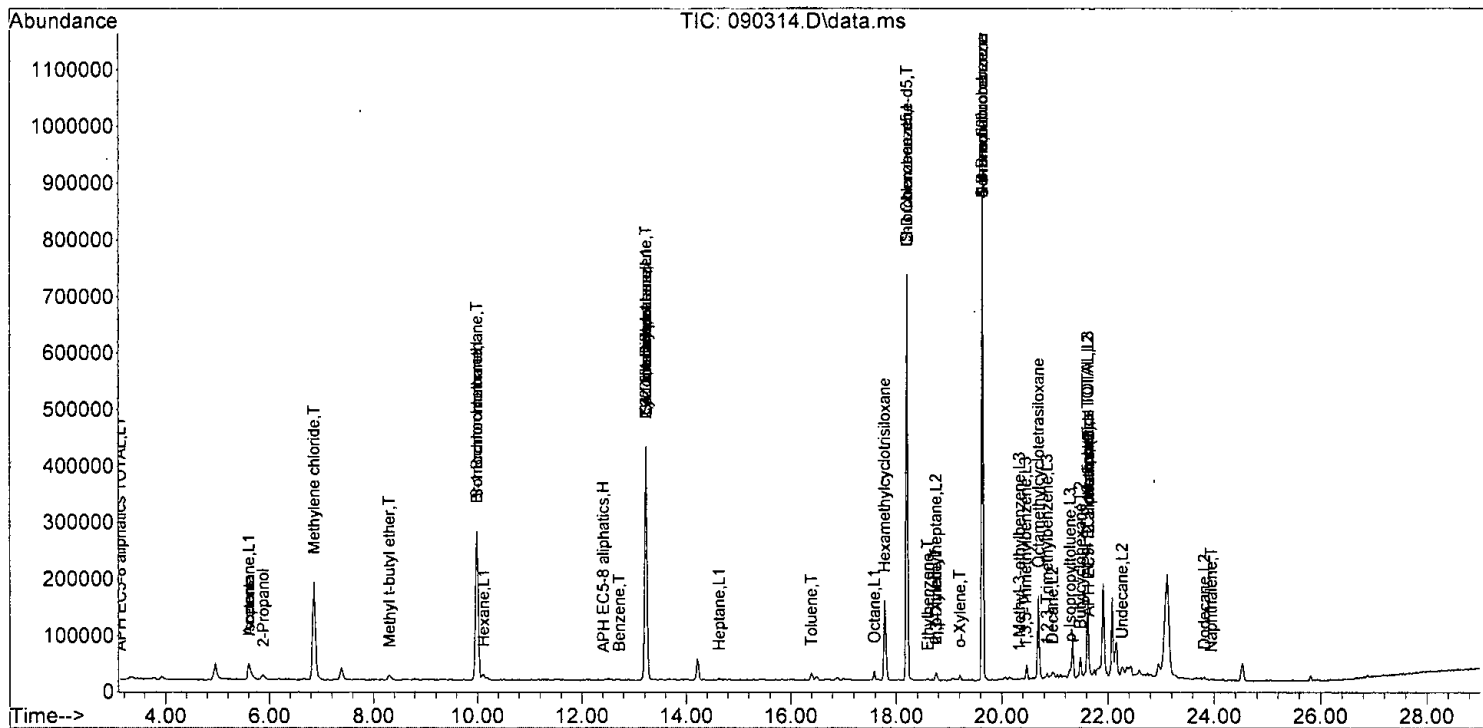
Quant Time: Sep 07 11:27:42 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	9195m	3.280	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090314.D  
 Acq On : 3 Sep 2021 4:15 pm  
 Operator : bat  
 Sample : 109030-04 1/6.1  
 Misc : T4  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS7

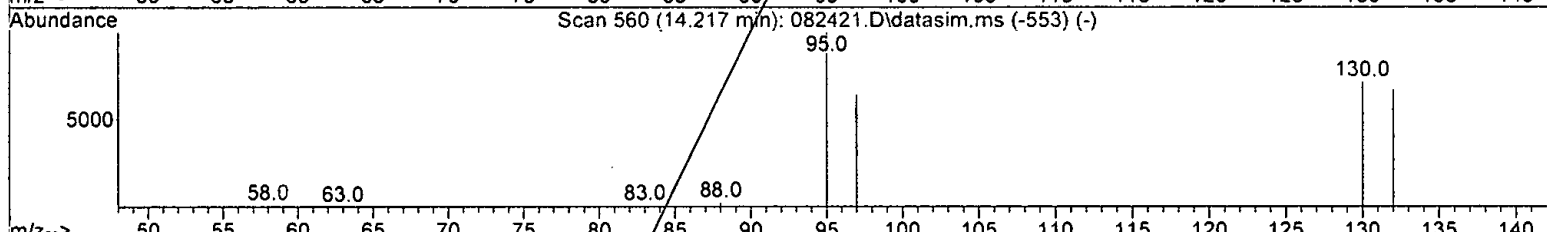
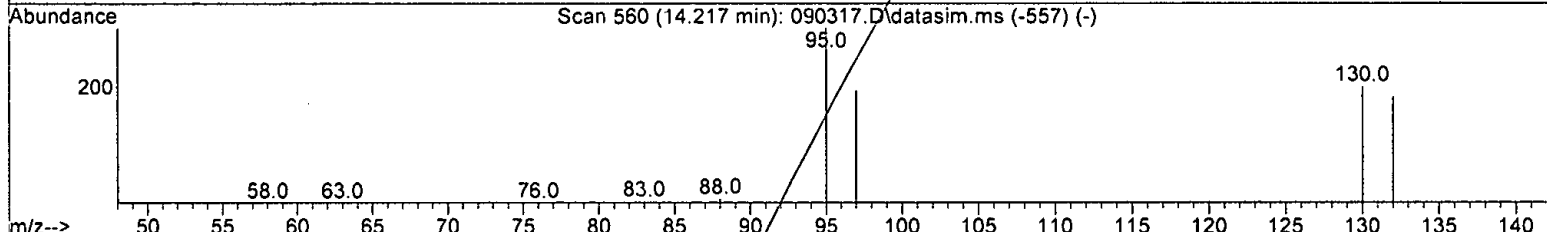
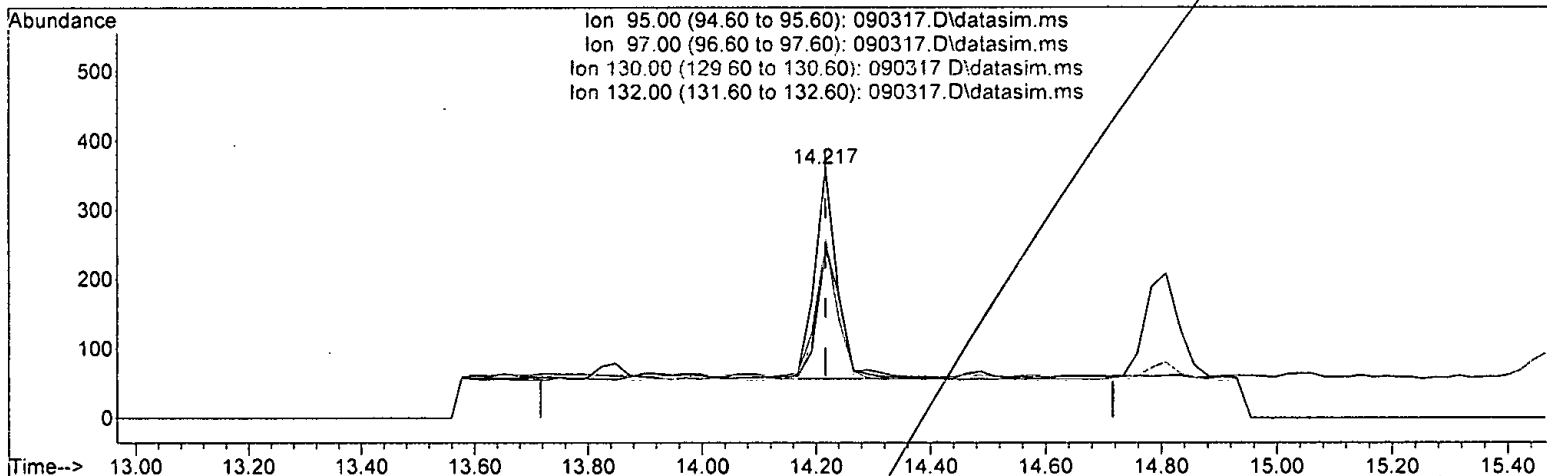
Quant Time: Sep 07 11:27:42 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090317.D  
 Acq On : 3 Sep 2021 6:17 pm  
 Operator : bat  
 Sample : 109030-05 1/5.4  
 Misc : T6  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:04:07 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(46) Trichloroethene (TME)

14.217min (-0.000) 0.029 ppbv

response 828

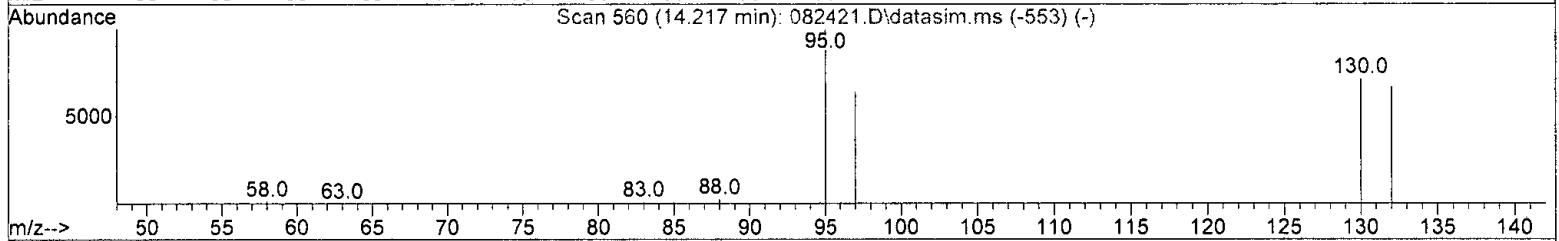
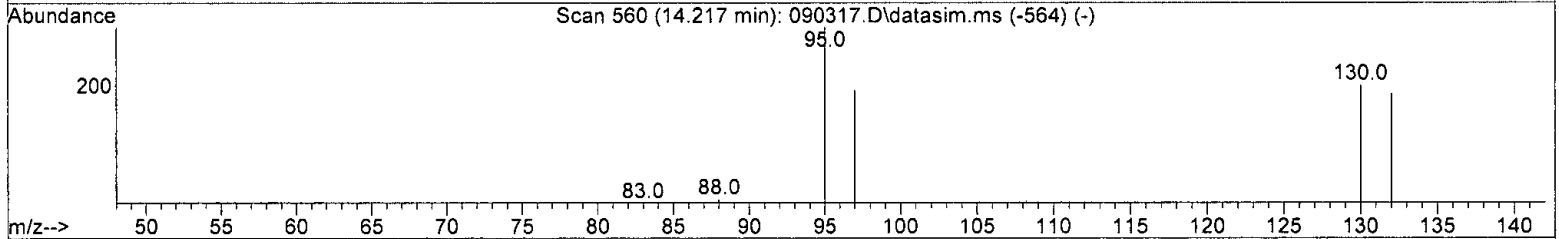
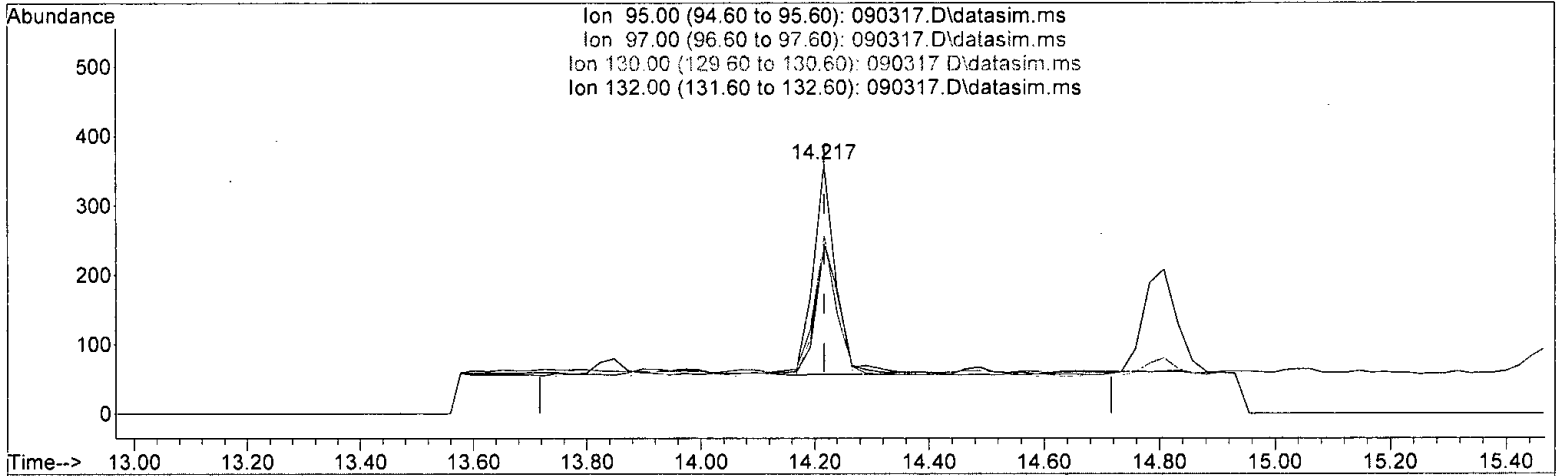
Ion	Exp%	Act%
95.00	100.00	100.00
97.00	67.10	65.23
130.00	86.10	66.89
132.00	84.30	61.92

*M  
09/07/21*



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090317.D  
 Acq On : 3 Sep 2021 6:17 pm  
 Operator : bat  
 Sample : 109030-05 1/5.4  
 Misc : T6  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:04:07 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090317.D\data.ms

(46) Trichloroethene (TMP)

14.217min (-0.000) 0.029 ppbv m

response 823

Ion	Exp%	Act%
95.00	100.00	100.00
97.00	67.10	71.31
130.00	86.10	71.59
132.00	84.30	67.97

*h*  
*09/07/21*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090317.D  
 Acq On : 3 Sep 2021 6:17 pm  
 Operator : bat  
 Sample : 109030-05 1/5.4  
 Misc : T6  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

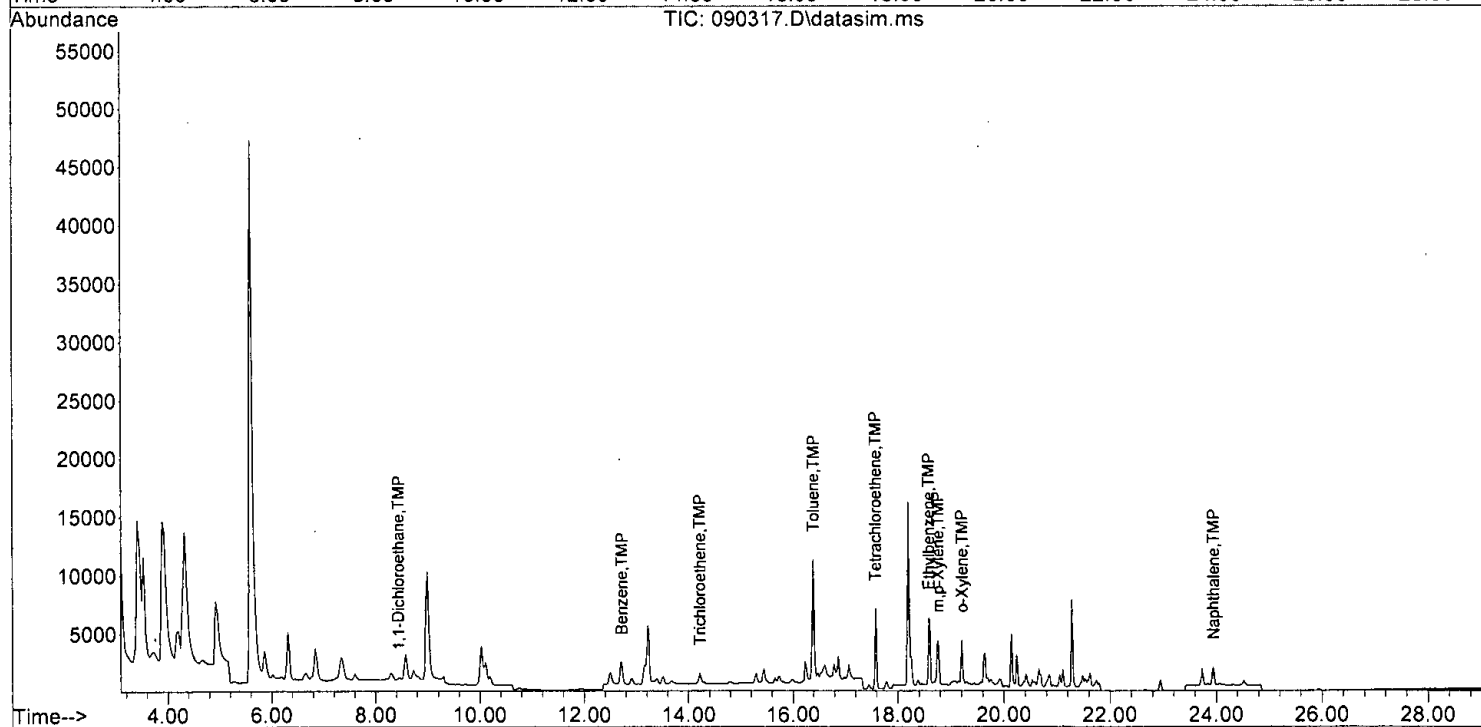
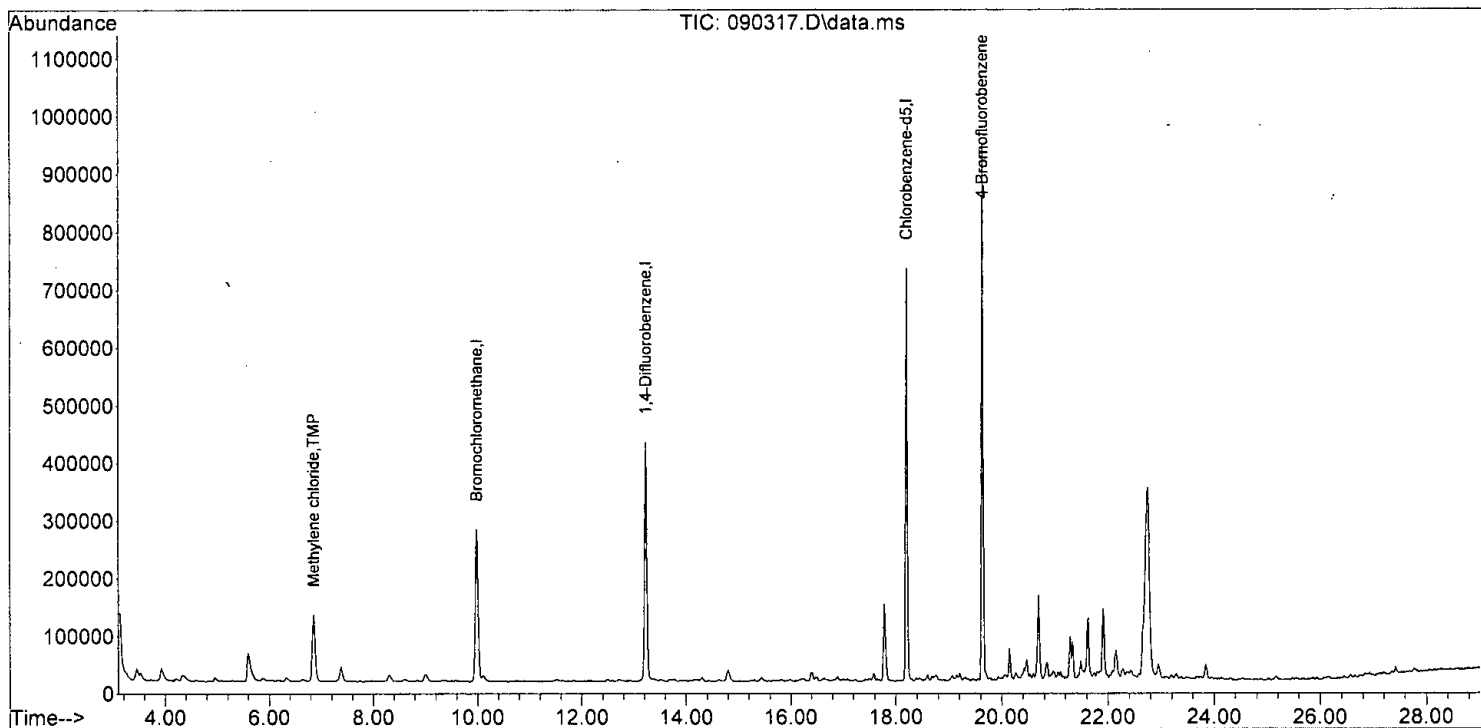
Quant Time: Sep 07 12:44:58 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

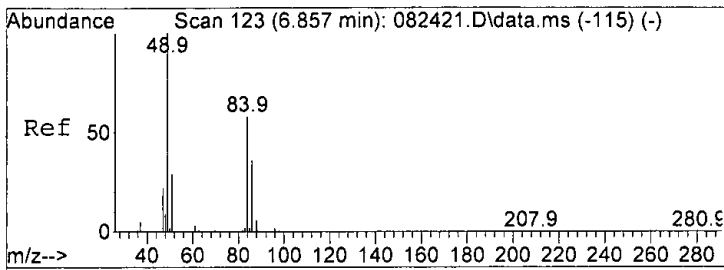
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	100037	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	462498	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	407152	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	352360	9.553	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	95.50%
Target Compounds						
						Qvalue
20) Methylene chloride	6.86	84	89741	5.125	ppbv	83
27] 1,1-Dichloroethane	8.44	63	394	0.010	ppbv	96
37] Benzene	12.72	78	5646	0.092	ppbv	100
46] Trichloroethene	14.22	95	823m	0.029	ppbv	
50] Toluene	16.40	92	5542	0.160	ppbv	86
53] Tetrachloroethene	17.58	164	3116	0.177	ppbv	# 79
58] Ethylbenzene	18.59	91	9766	0.108	ppbv	96
65] m,p-Xylene	18.76	106	2939	0.101	ppbv	92
66] o-Xylene	19.21	106	1903	0.067	ppbv	91
77] Naphthalene	23.95	128	3637	0.023	ppbv	99
-----						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090317.D  
 Acq On : 3 Sep 2021 6:17 pm  
 Operator : bat  
 Sample : 109030-05 1/5.4  
 Misc : T6  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

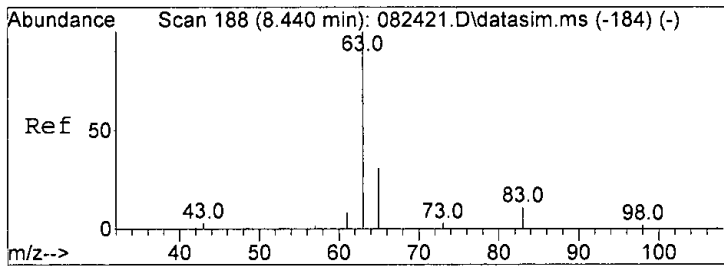
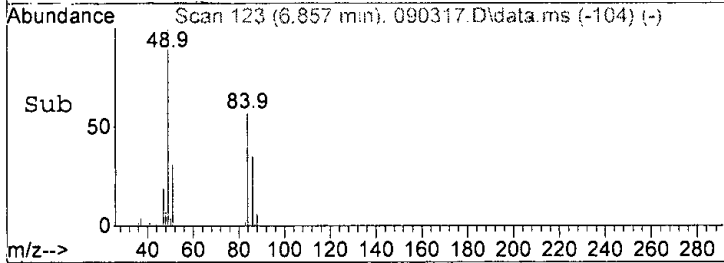
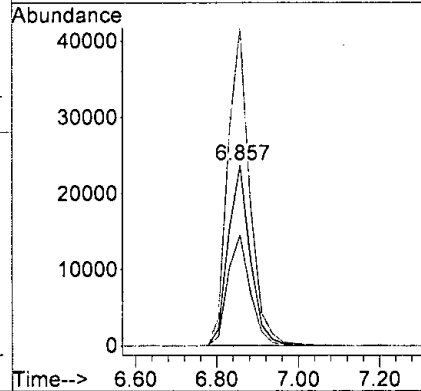
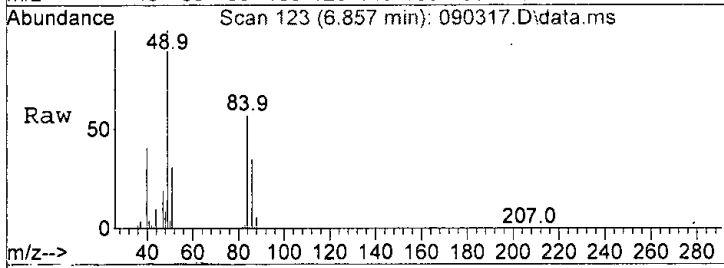
Quant Time: Sep 07 12:44:58 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





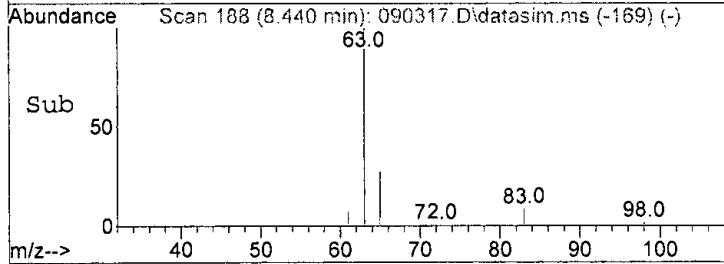
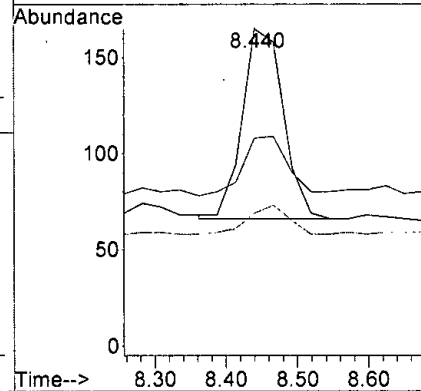
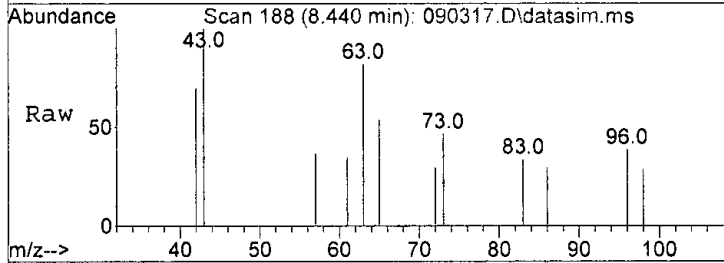
#20  
 Methylene chloride  
 Concen: 5.125 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090317.D  
 Acq: 3 Sep 2021 6:17 pm

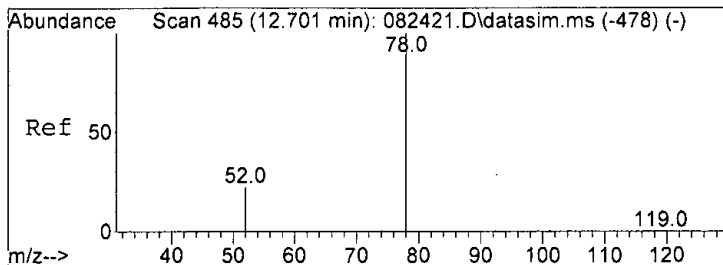
Tgt Ion:	84	Resp:	89741
Ion Ratio	Lower	Upper	
84	100		
86	61.4	33.9	93.9
49	175.9	116.6	176.6



#27  
 1,1-Dichloroethane  
 Concen: 0.010 ppbv  
 RT: 8.44 min Scan# 188  
 Delta R.T. 0.000 min  
 Lab File: 090317.D  
 Acq: 3 Sep 2021 6:17 pm

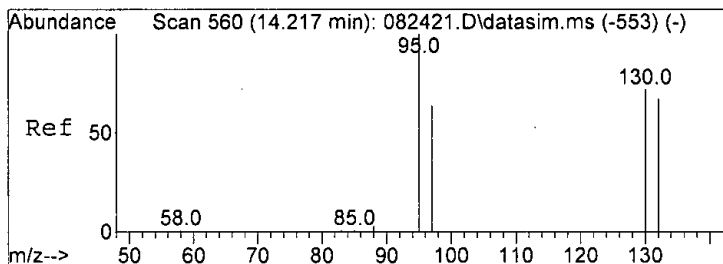
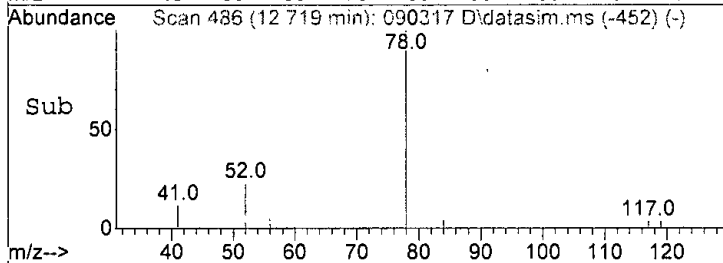
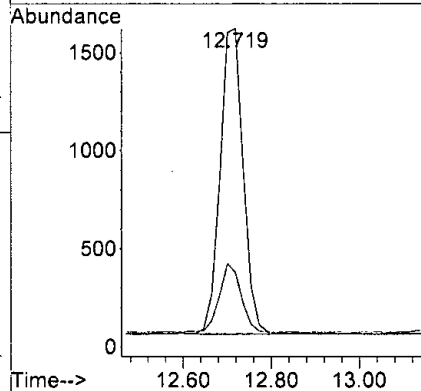
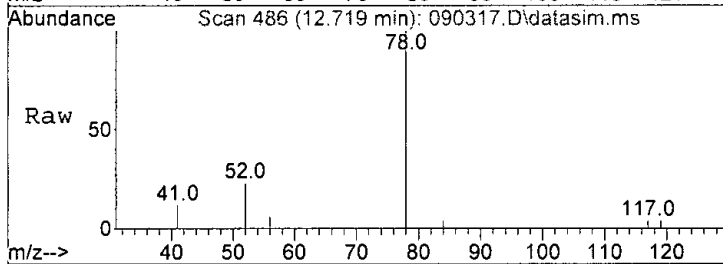
Tgt Ion:	63	Resp:	394
Ion Ratio	Lower	Upper	
63	100		
65	30.3	2.5	62.5
83	11.1	0.0	43.2





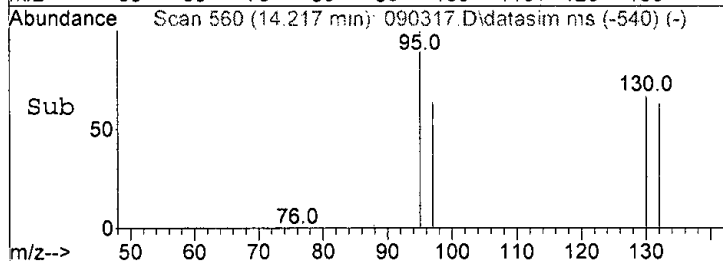
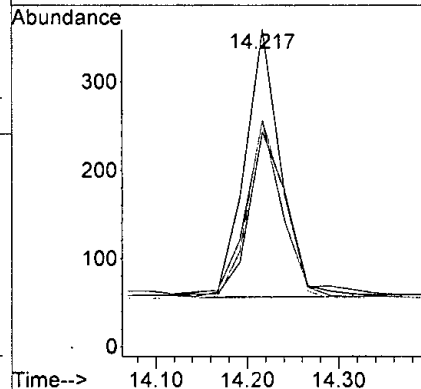
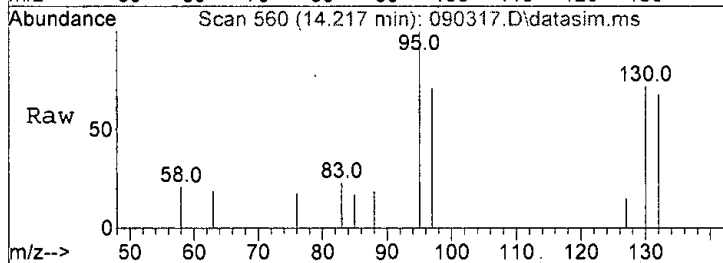
#37  
Benzene  
Concen: 0.092 ppbv  
RT: 12.72 min Scan# 486  
Delta R.T. 0.018 min  
Lab File: 090317.D  
Acq: 3 Sep 2021 6:17 pm

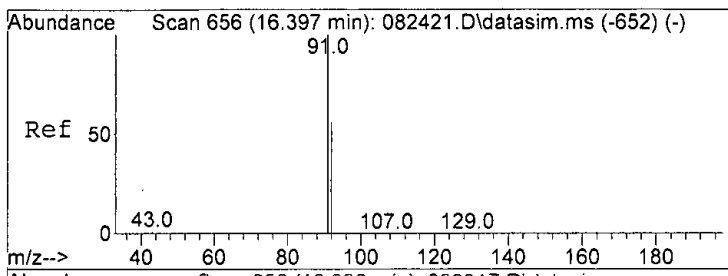
Tgt Ion: 78 Resp: 5646  
Ion Ratio Lower Upper  
78 100  
52 19.8 0.0 49.7



#46  
Trichloroethene  
Concen: 0.029 ppbv m  
RT: 14.22 min Scan# 560  
Delta R.T. -0.000 min  
Lab File: 090317.D  
Acq: 3 Sep 2021 6:17 pm

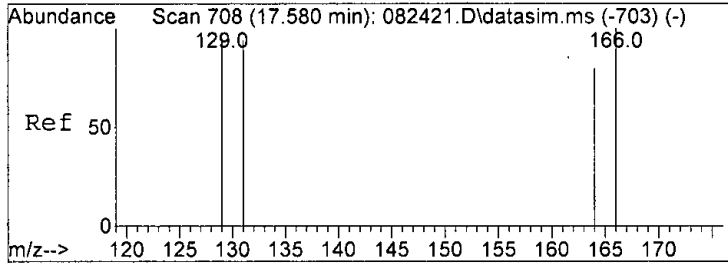
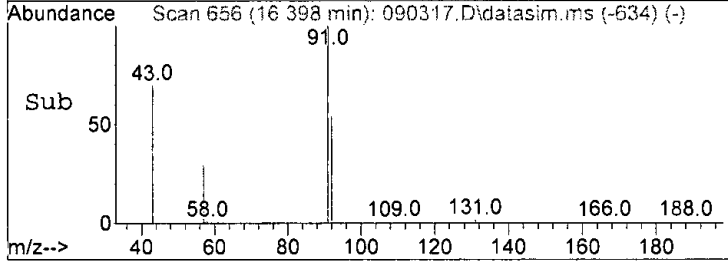
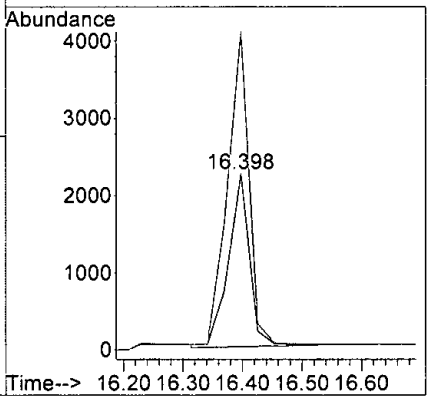
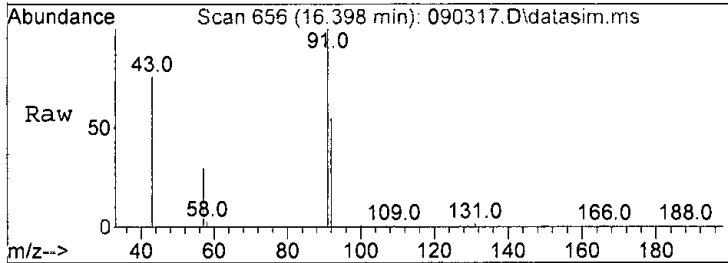
Tgt Ion: 95 Resp: 823  
Ion Ratio Lower Upper  
95 100  
97 71.3 37.1 97.1  
130 71.6 56.1 116.1  
132 68.0 54.3 114.3





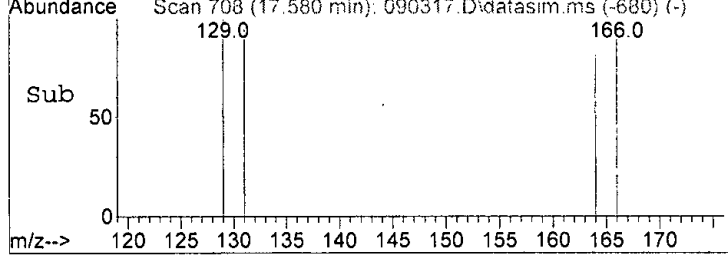
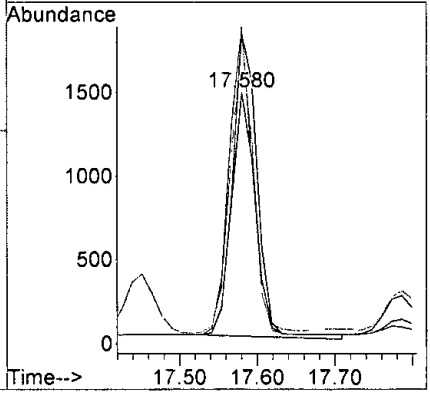
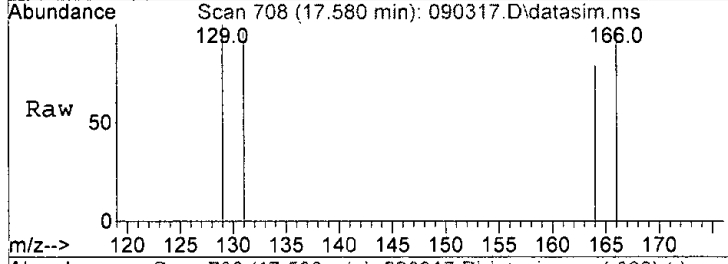
#50  
 Toluene  
 Concen: 0.160 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.001 min  
 Lab File: 090317.D  
 Acq: 3 Sep 2021 6:17 pm

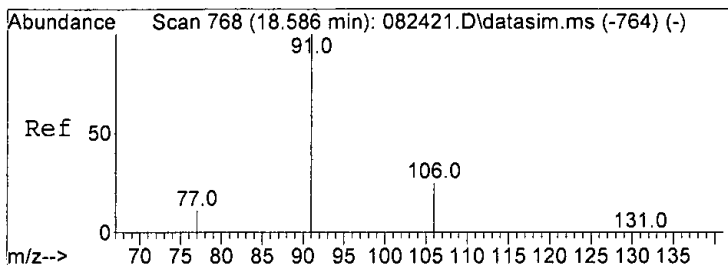
Tgt Ion:	Resp:	Lower	Upper
92	5542		
91	183.1	174.6	234.6



#53  
 Tetrachloroethene  
 Concen: 0.177 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090317.D  
 Acq: 3 Sep 2021 6:17 pm

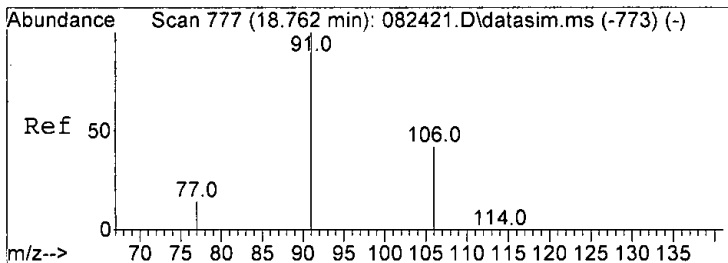
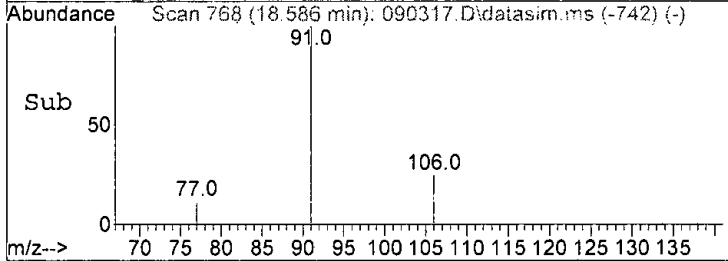
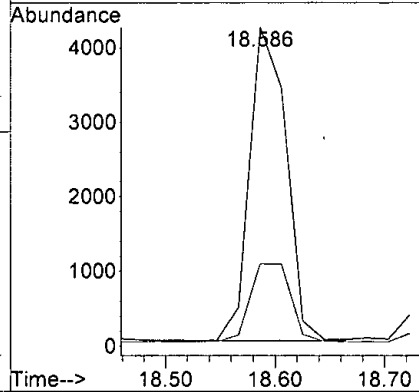
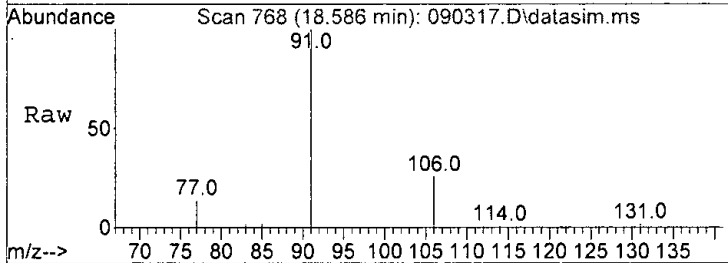
Tgt Ion:	Resp:	Lower	Upper
164	3116		
164	100		
129	127.0	63.2	123.2#
131	122.3	70.7	130.7
166	124.5	107.5	167.5





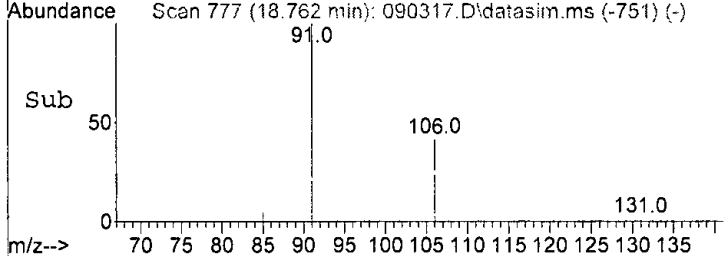
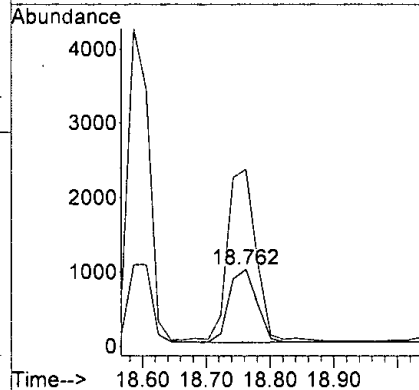
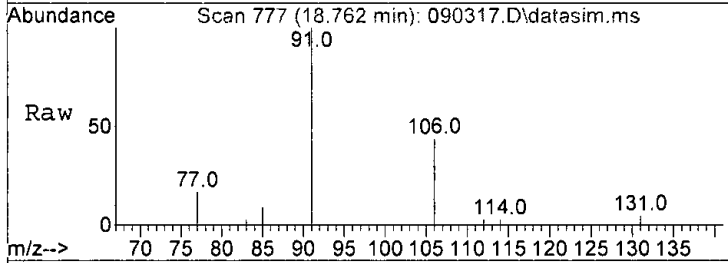
#58  
 Ethylbenzene  
 Concen: 0.108 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090317.D  
 Acq: 3 Sep 2021 6:17 pm

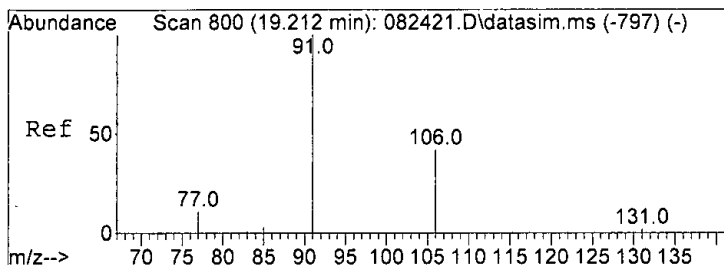
Tgt Ion: 91 Resp: 9766  
 Ion Ratio Lower Upper  
 91 100  
 106 24.8 0.0 57.0



#65  
 m,p-Xylene  
 Concen: 0.101 ppbv  
 RT: 18.76 min Scan# 777  
 Delta R.T. 0.000 min  
 Lab File: 090317.D  
 Acq: 3 Sep 2021 6:17 pm

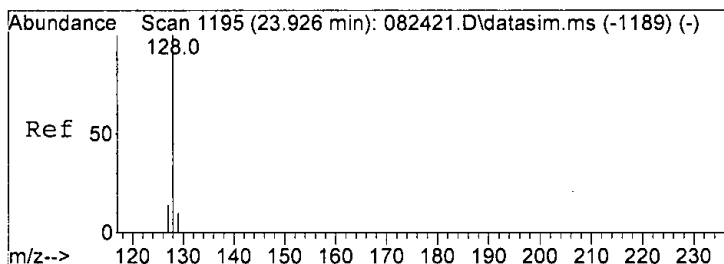
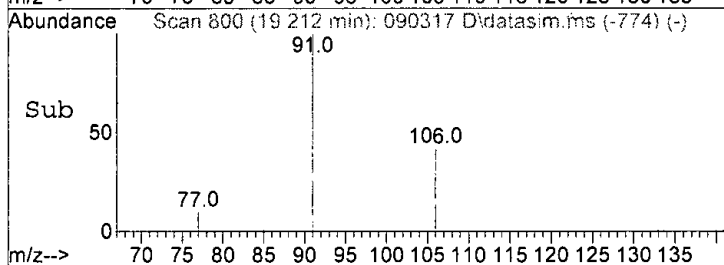
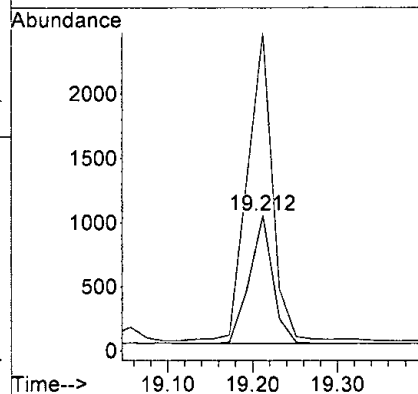
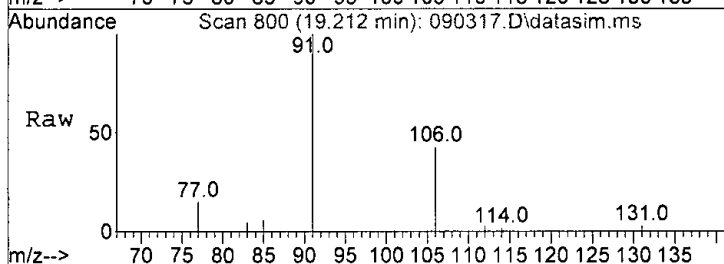
Tgt Ion: 106 Resp: 2939  
 Ion Ratio Lower Upper  
 106 100  
 91 235.5 193.0 253.0





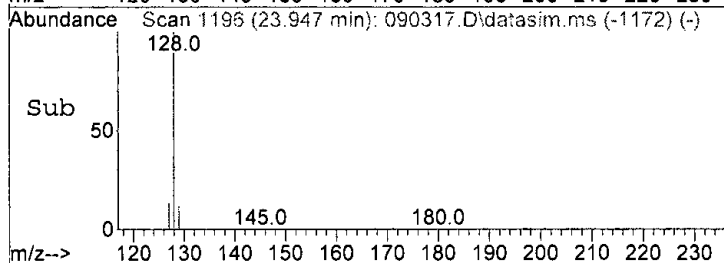
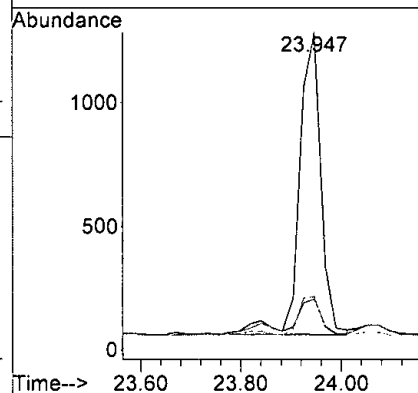
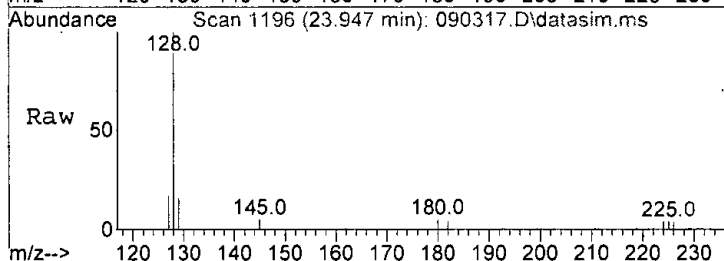
#66  
 o-Xylene  
 Concen: 0.067 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090317.D  
 Acq: 3 Sep 2021 6:17 pm

Tgt Ion	Ratio	Resp	Lower	Upper
106	100	1903		
91	239.1	194.4	254.4	



#77  
 Naphthalene  
 Concen: 0.023 ppbv  
 RT: 23.95 min Scan# 1196  
 Delta R.T. 0.021 min  
 Lab File: 090317.D  
 Acq: 3 Sep 2021 6:17 pm

Tgt Ion	Ratio	Resp	Lower	Upper
128	100	3637		
129	11.8	0.0	41.0	
127	13.0	0.0	43.2	





Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090317.D  
 Acq On : 3 Sep 2021 6:17 pm  
 Operator : bat  
 Sample : 109030-05 1/5.4  
 Misc : T6  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:44:58 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	100037	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	462498	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	407152	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	352360	9.553	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	95.50%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.	d	
6) Vinyl chloride	0.00		0	N.D.	d	
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.	d	
10) Chloroethane	0.00		0	N.D.	d	
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.	d	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	0.00		0	N.D.	d	
19) trans-1,2-Dichloroethene	0.00		0	N.D.	d	
20) Methylene chloride	6.86	84	89741	5.125	ppbv	83
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.44	63	394	0.010	ppbv	96
28) cis-1,2-Dichloroethene	9.73	96	107	N.D.	d	
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	11.17	62	104	N.D.	d	
35) 1,1,1-Trichloroethane	11.94	97	148	N.D.	d	
36) Carbon tetrachloride	0.00		0	N.D.	d	
37] Benzene	12.72	78	5646	0.092	ppbv	100
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.	d	
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090317.D  
 Acq On : 3 Sep 2021 6:17 pm  
 Operator : bat  
 Sample : 109030-05 1/5.4  
 Misc : T6  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

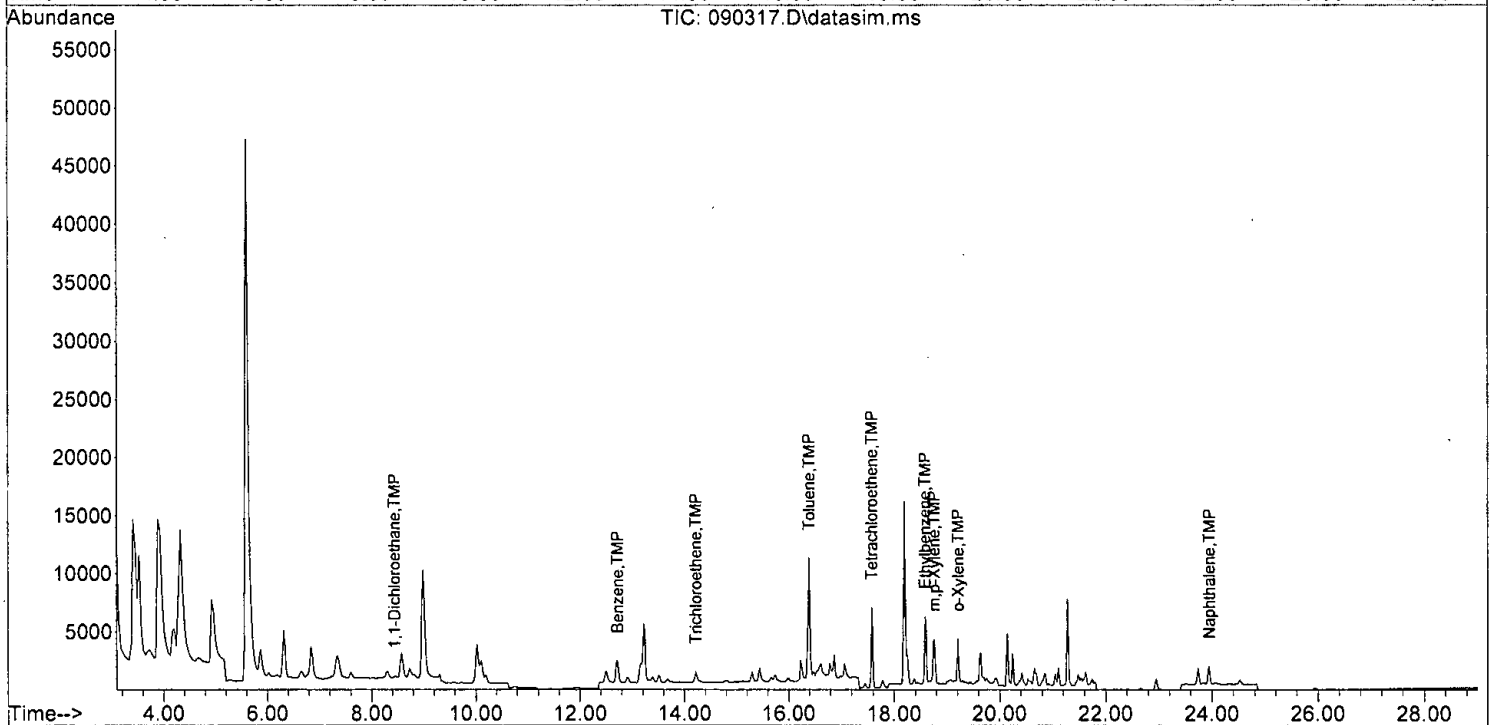
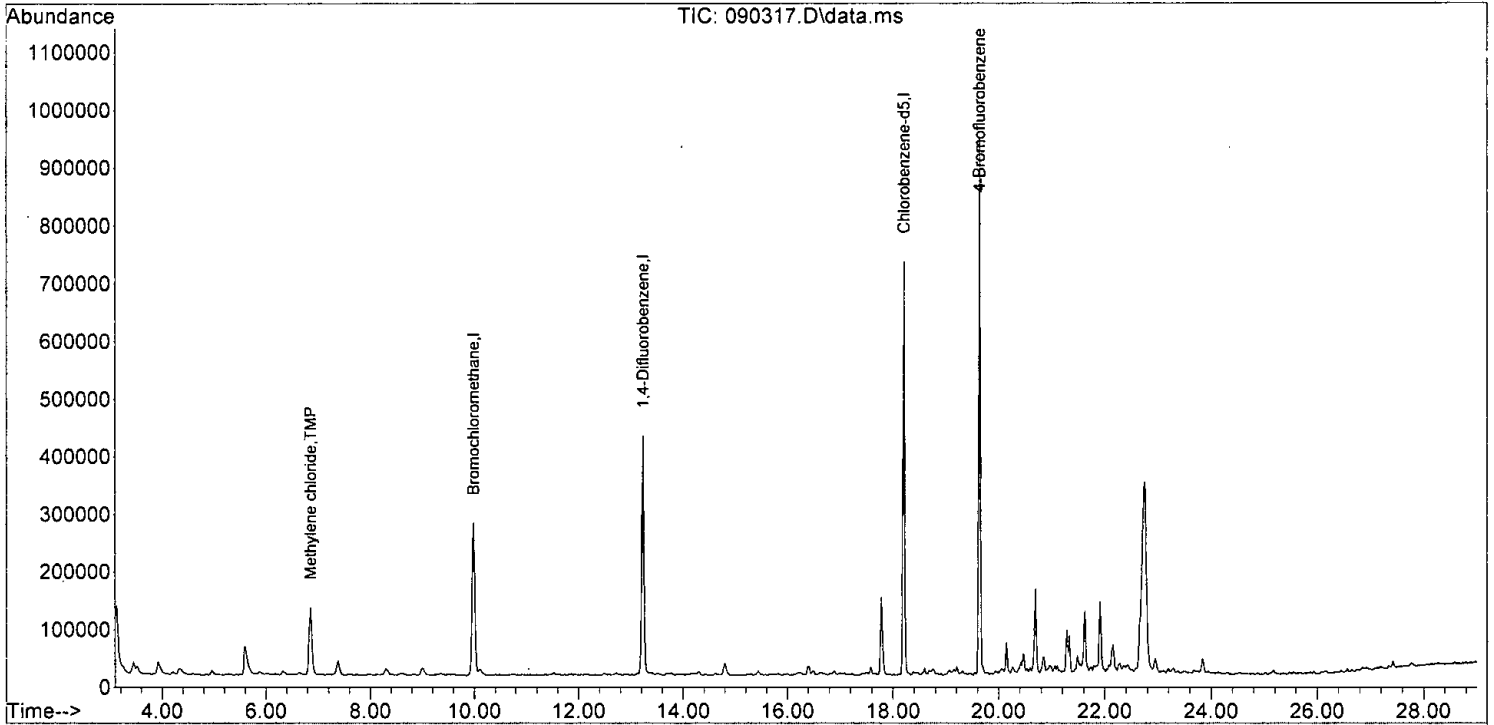
Quant Time: Sep 07 12:44:58 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	823m	0.029	ppbv	
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	5542	0.160	ppbv	86
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	3116	0.177	ppbv #	79
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	9766	0.108	ppbv	96
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.76	106	2939	0.101	ppbv	92
66] o-Xylene	19.21	106	1903	0.067	ppbv	91
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77] Naphthalene	23.95	128	3637	0.023	ppbv	99
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090317.D  
 Acq On : 3 Sep 2021 6:17 pm  
 Operator : bat  
 Sample : 109030-05 1/5.4  
 Misc : T6  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

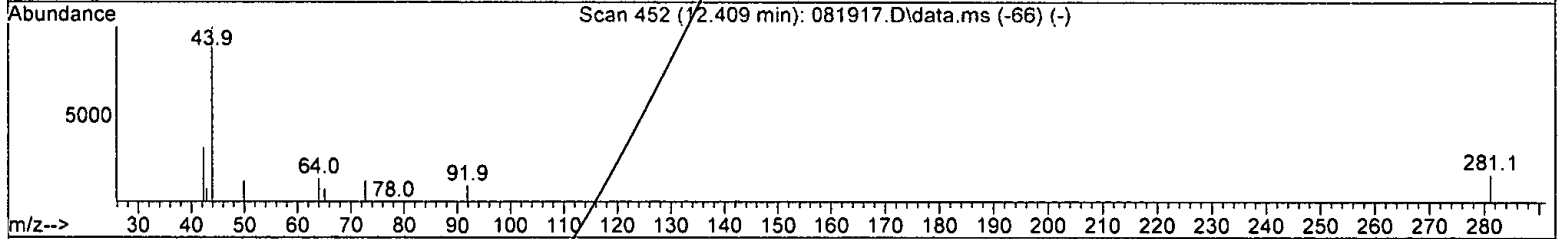
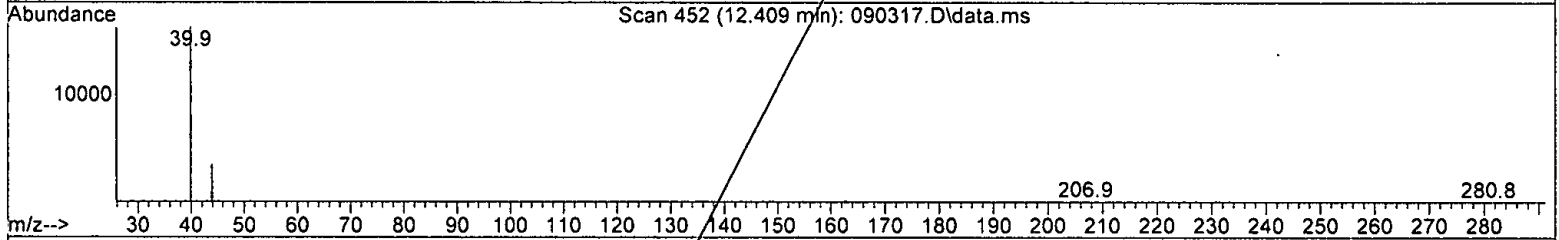
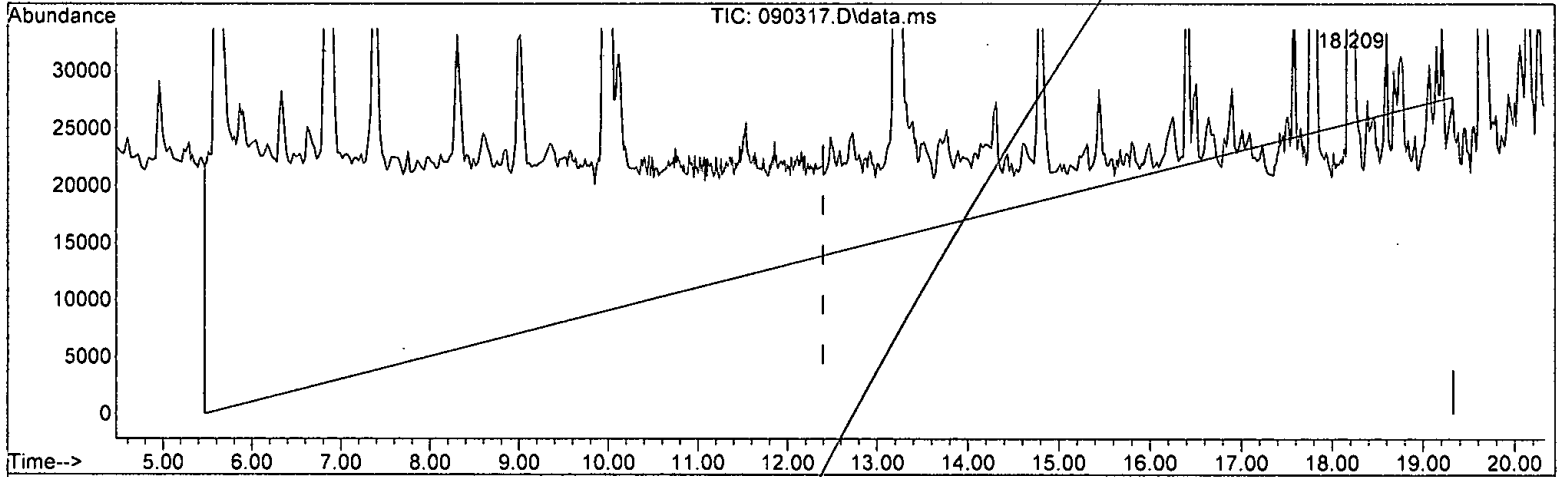
Quant Time: Sep 07 12:44:58 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090317.D  
 Acq On : 3 Sep 2021 6:17 pm  
 Operator : bat  
 Sample : 109030-05 1/5.4  
 Misc : T6  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:09:40 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 43.505 ug/m3 m

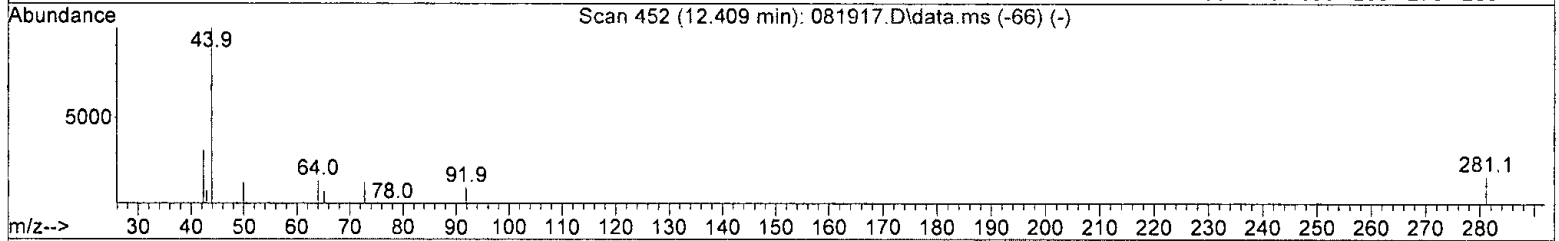
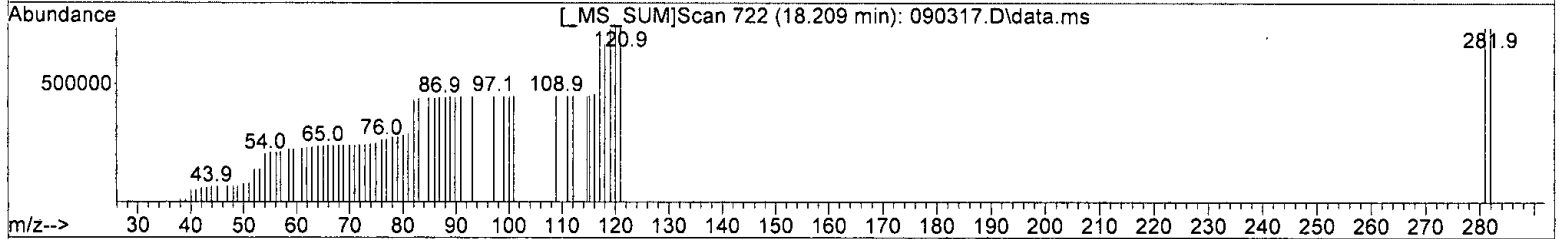
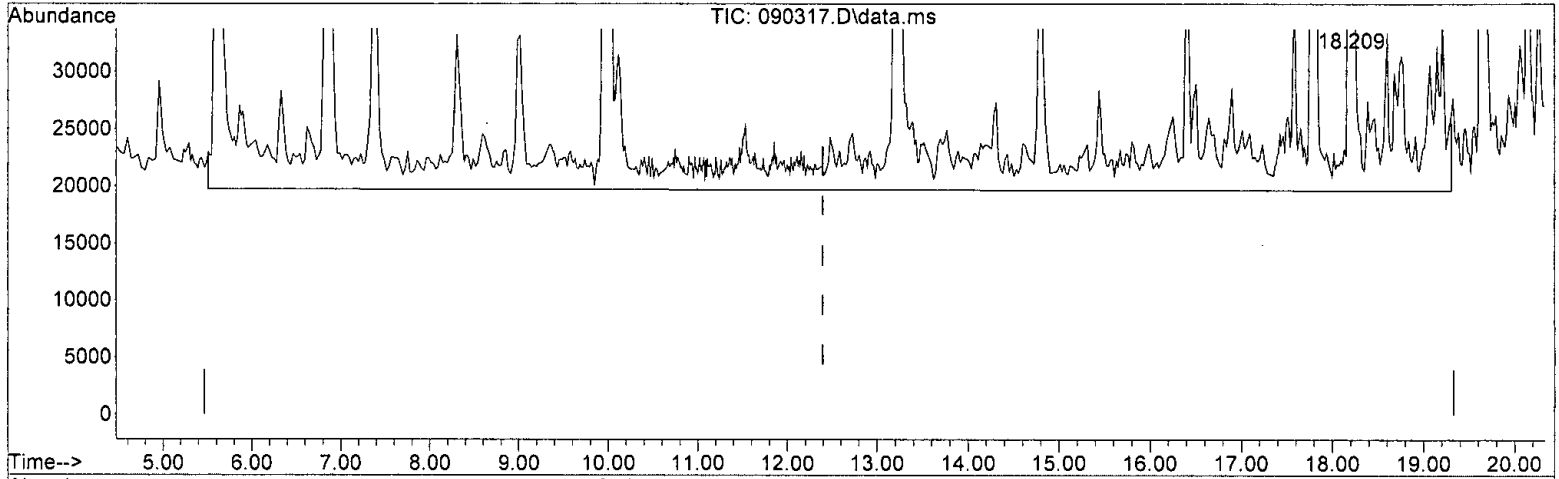
response 1596503

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten note:*  
 N  
 orloki

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090317.D  
 Acq On : 3 Sep 2021 6:17 pm  
 Operator : bat  
 Sample : 109030-05 1/5.4  
 Misc : T6  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:09:40 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 213.275 ug/m3 m

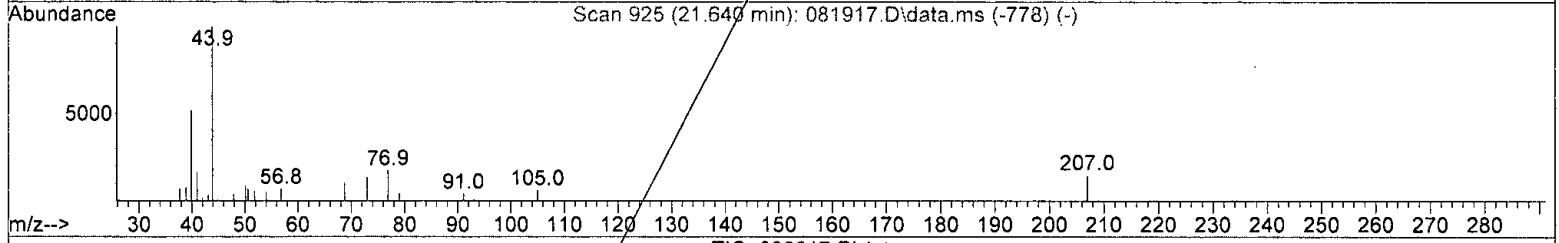
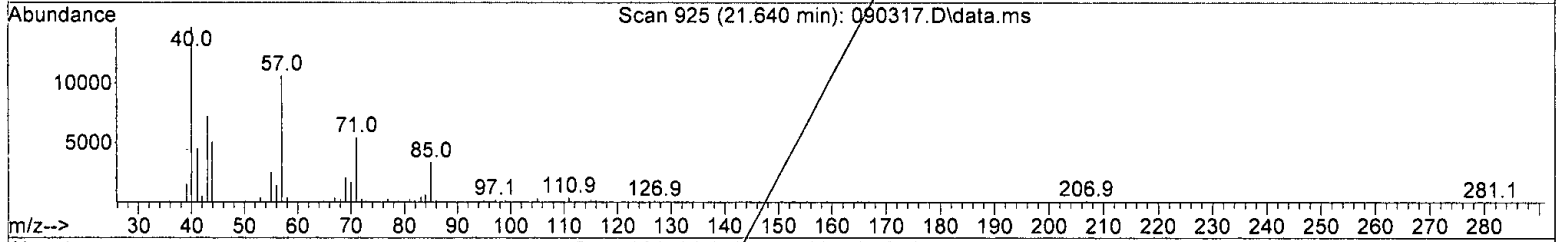
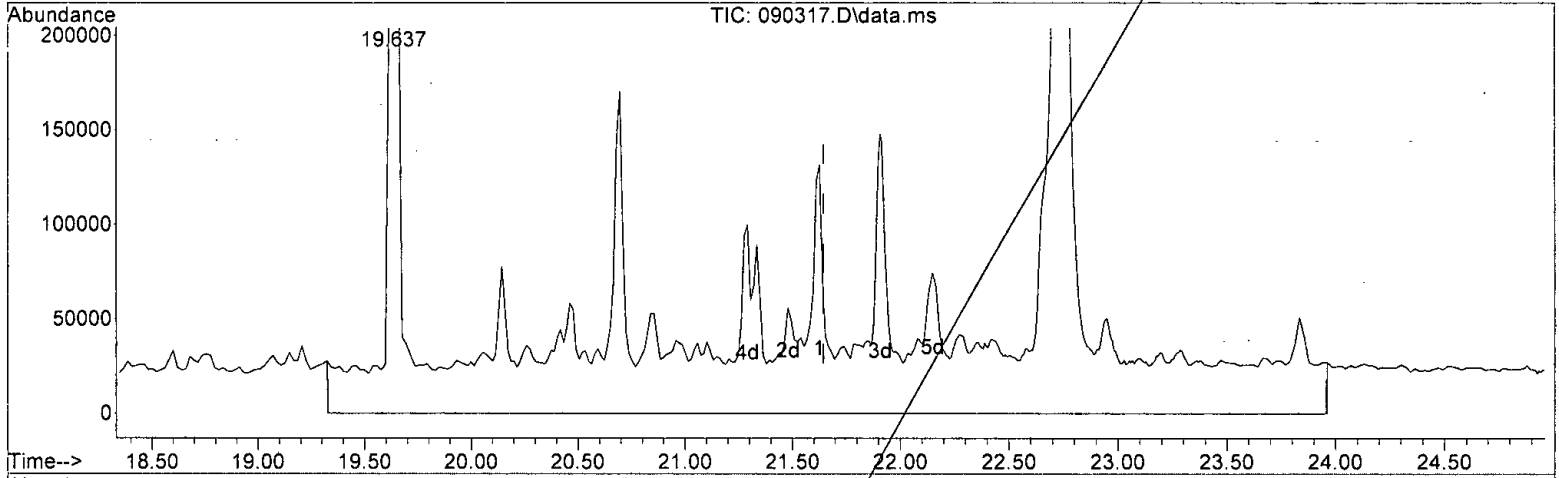
response 7826527

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*U/orlab*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090317.D  
 Acq On : 3 Sep 2021 6:17 pm  
 Operator : bat  
 Sample : 109030-05 1/5.4  
 Misc : T6  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:09:40 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 98.273 ug/m3 m

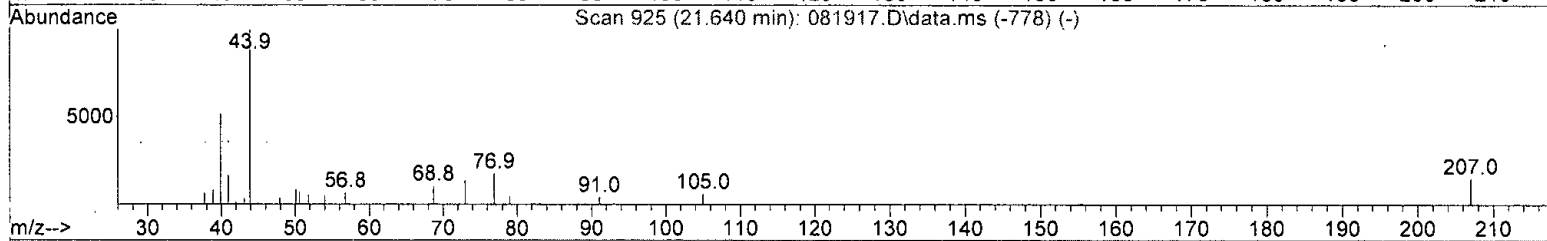
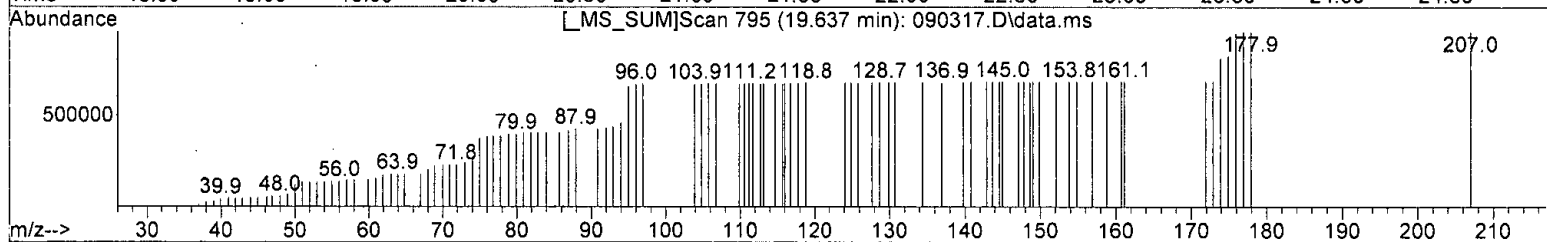
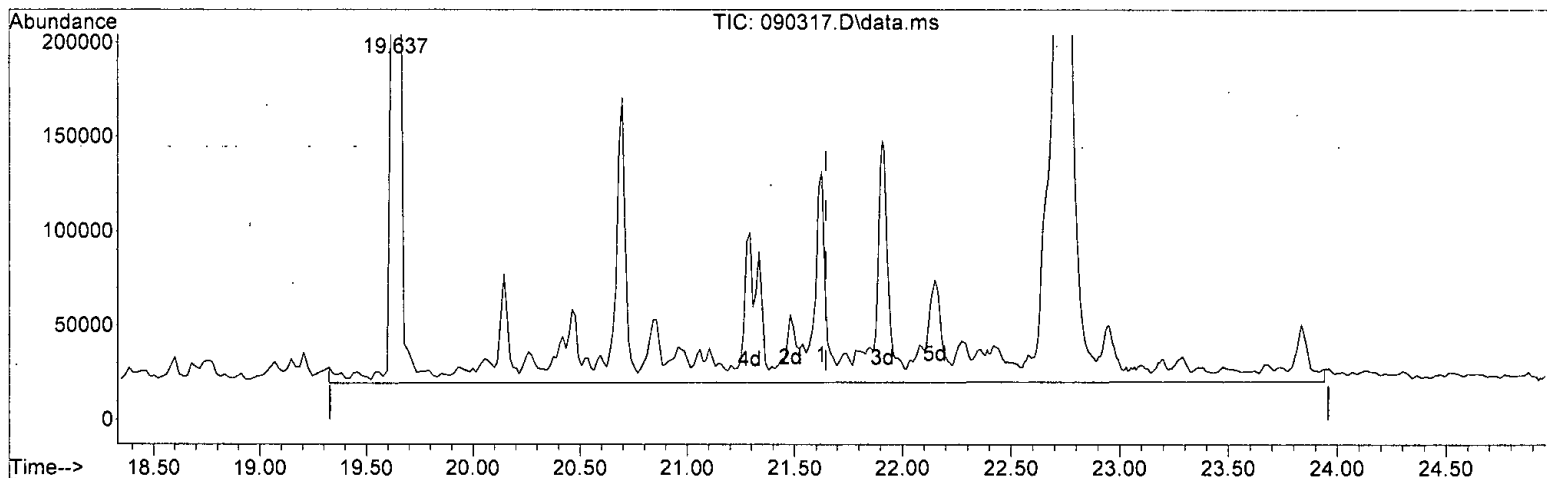
response 4093776

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h/ox/h*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090317.D  
 Acq On : 3 Sep 2021 6:17 pm  
 Operator : bat  
 Sample : 109030-05 1/5.4  
 Misc : T6  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:09:40 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 209.020 ug/m3 m

response 8707176

Signal	Exp%	Act%
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TIC	100.00	100.00
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0.00	0.00	0.00
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0.00	0.00	0.00
------	------	------

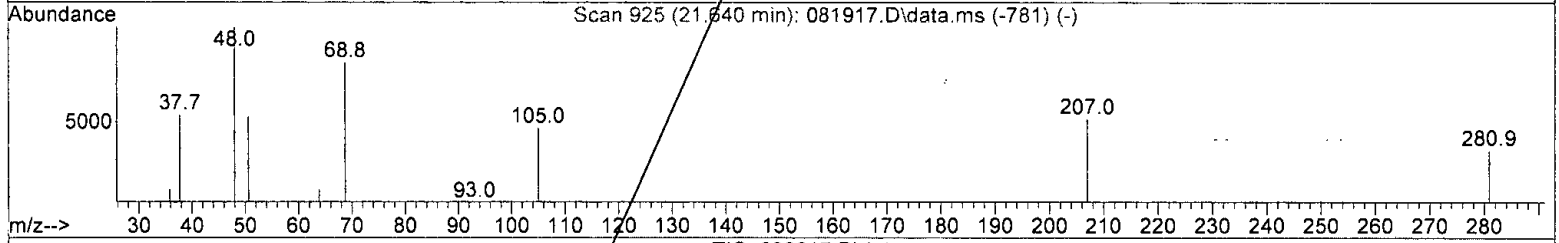
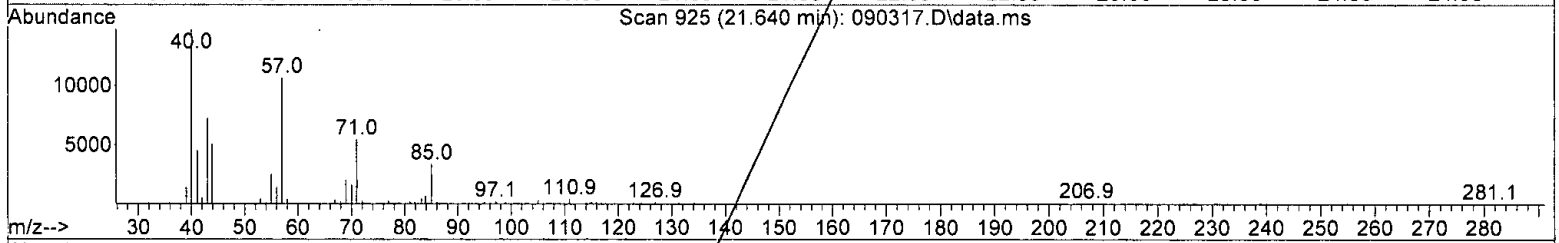
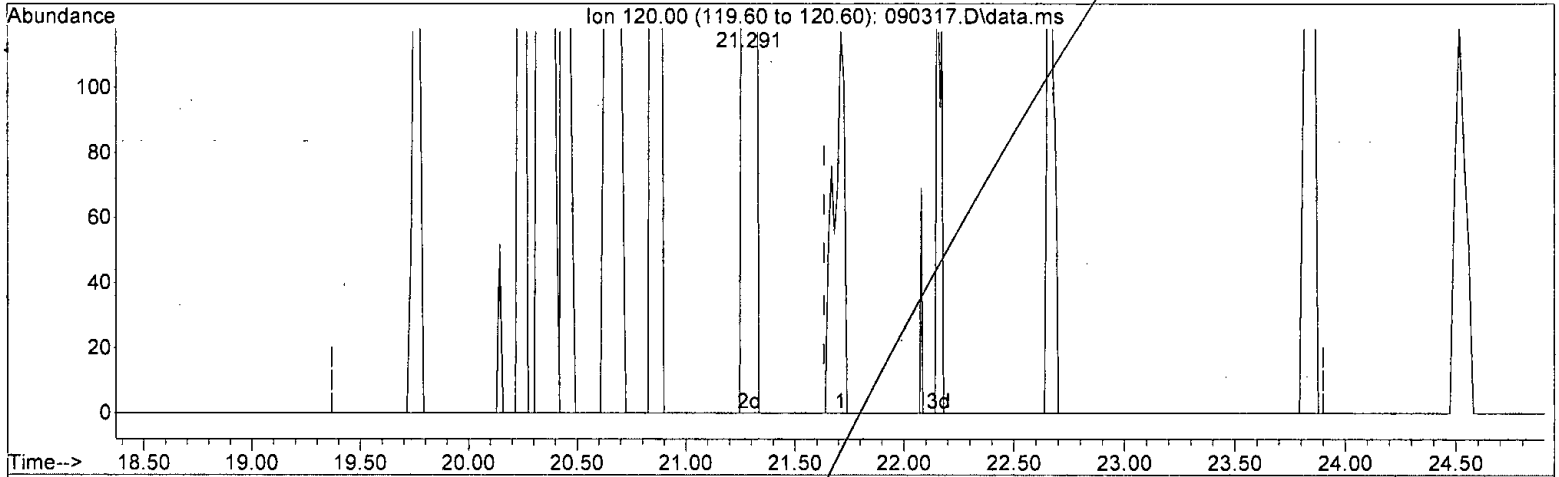
0.00	0.00	0.00
------	------	------

*aliphatics*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090317.D  
 Acq On : 3 Sep 2021 6:17 pm  
 Operator : bat  
 Sample : 109030-05 1/5.4  
 Misc : T6  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:09:40 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090317.D\data.ms

(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) -11.727 ug/m3 m

response -56879

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

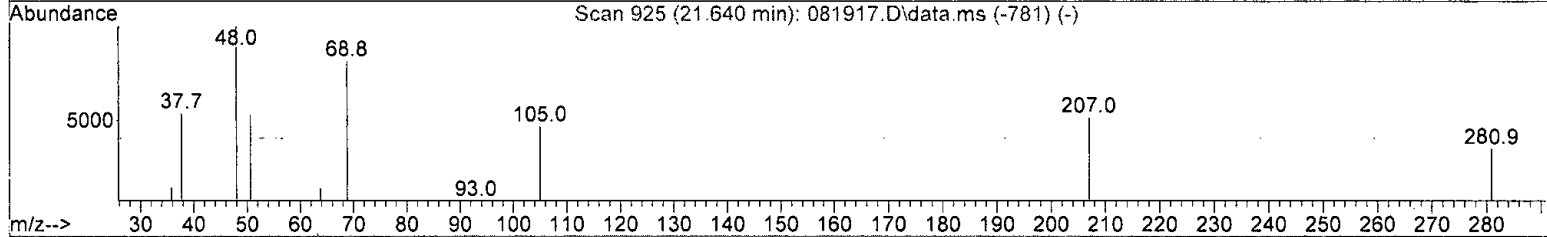
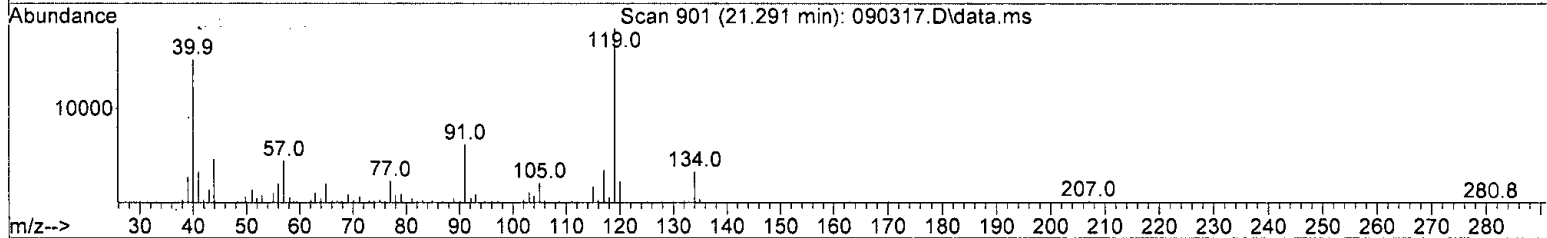
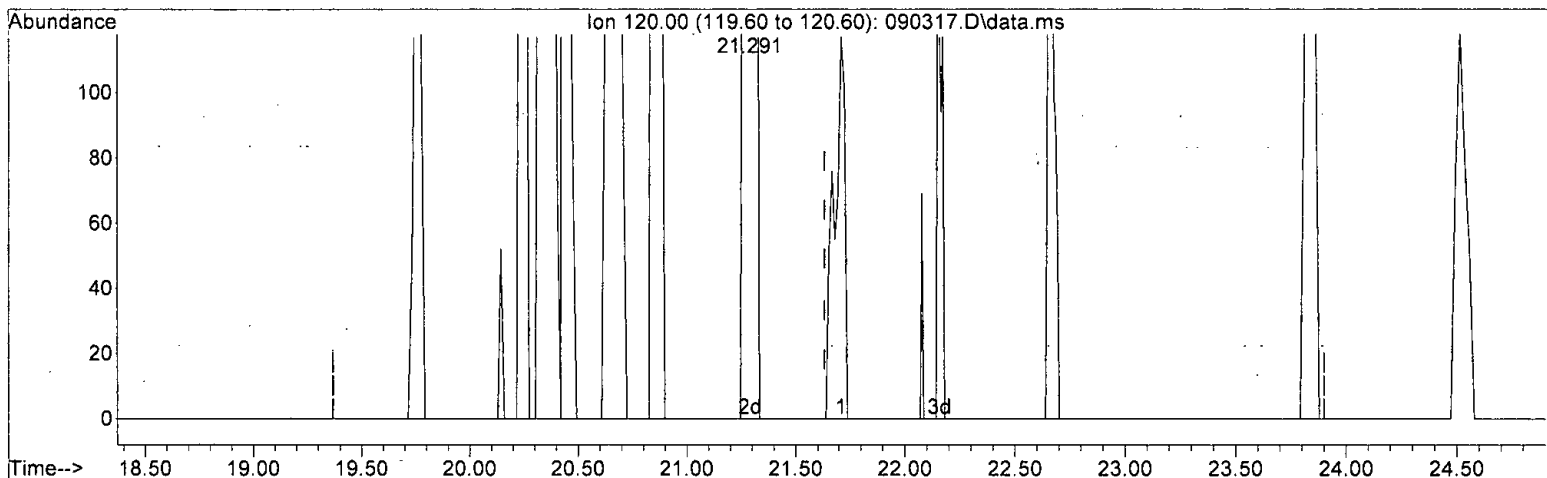
*Bat*  
*09/07/21*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090317.D  
 Acq On : 3 Sep 2021 6:17 pm  
 Operator : bat  
 Sample : 109030-05 1/5.4  
 Misc : T6  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:09:40 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090317.D\data.ms

(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 2.773 ug/m3 m

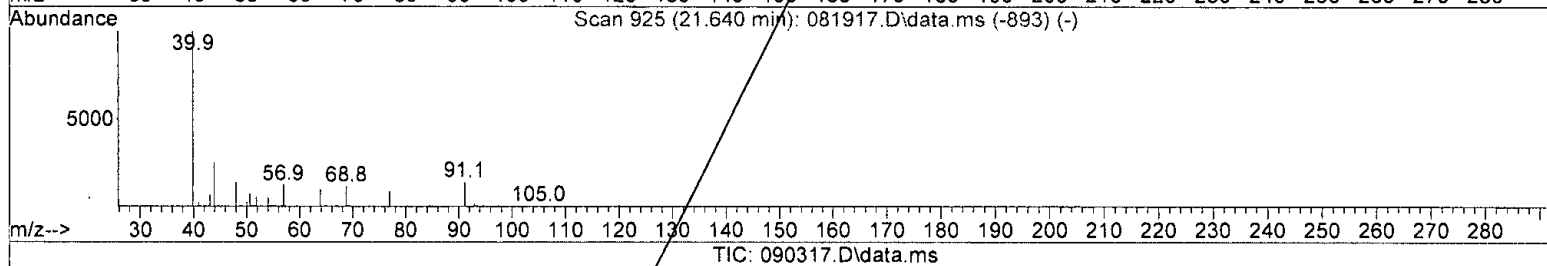
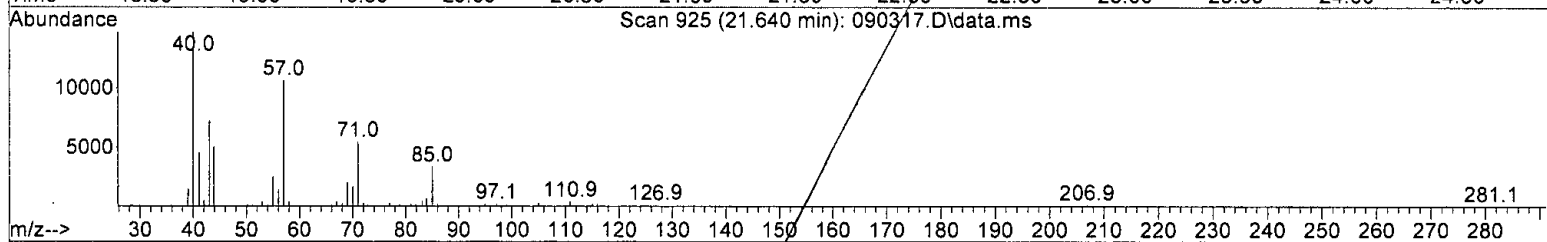
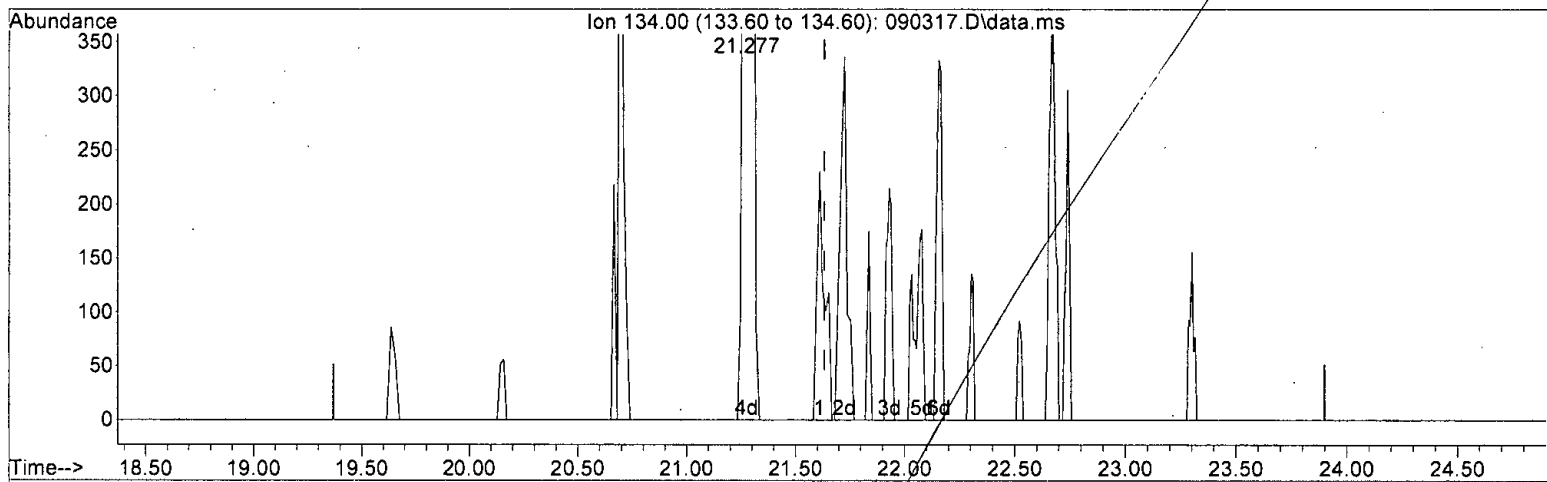
response	13448
Ion	Exp% Act%
120.00	100.00 100.00
0.00	0.00 0.00
0.00	0.00 0.00
0.00	0.00 0.00

*M*  
*02/07/24*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090317.D  
 Acq On : 3 Sep 2021 6:17 pm  
 Operator : bat  
 Sample : 109030-05 1/5.4  
 Misc : T6  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:09:40 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(45) APH EC9-10 aromatics (2) (H)  
 21.635min ( 0.000) -21.571 ug/m3 m

response -59589

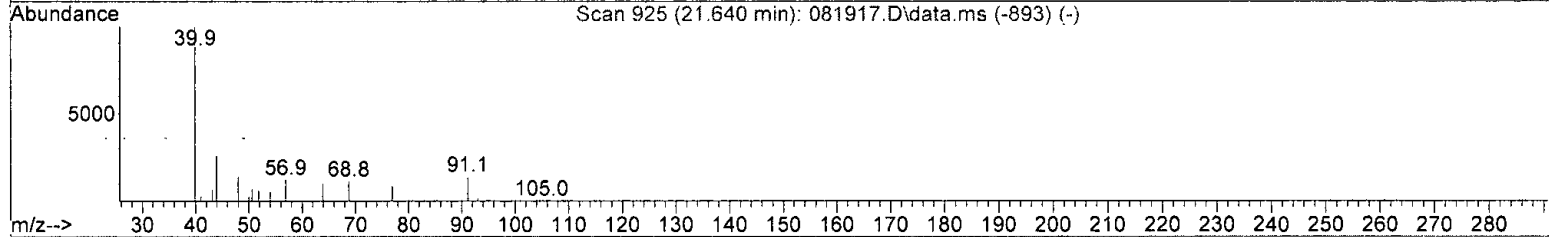
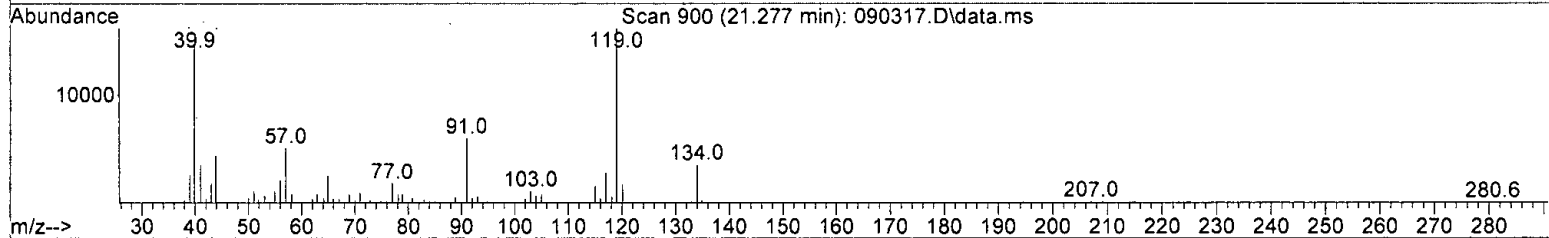
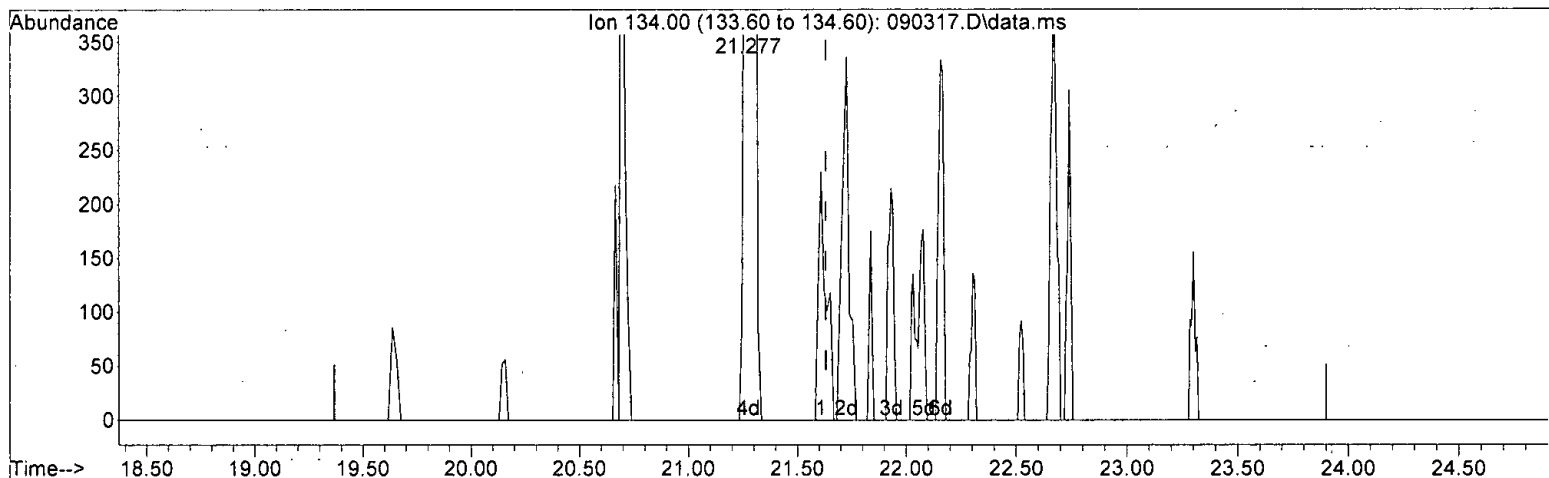
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*M. Ortolu*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090317.D  
 Acq On : 3 Sep 2021 6:17 pm  
 Operator : bat  
 Sample : 109030-05 1/5.4  
 Misc : T6  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:09:40 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*Handwritten signature:* W 09/07/21

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 4.918 ug/m3 m

response 13587

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090317.D  
 Acq On : 3 Sep 2021 6:17 pm  
 Operator : bat  
 Sample : 109030-05 1/5.4  
 Misc : T6  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:41:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	9.99	128	100037	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	462498	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	407152	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	352360	69.076	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	97.30%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	970632	54.953	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1294992	51.655	ug/m3	91
4) IS-3 Chlorobenzene-d5	18.21	TIC	1545895	50.838	ug/m3	91
5) Methylene chloride	6.86	TIC	439276	491.216	ug/m3	91
6) Acetone	5.59	TIC	262438	5.563	ppbv	100
7) 2-Propanol	5.86	TIC	17405	63.500	ppbv	100
8) 1,3-Butadiene	4.32	54	272	0.046	ug/m3#	1
9) Methyl t-butyl ether	8.54	73	487	0.063	ug/m3	56
11) Benzene	12.71	78	5432	0.345	ug/m3	92
12) Isopentane	5.59	TIC	262438	8.403	ug/m3#	48
13) Hexane	10.11	TIC	41509	1.139	ug/m3	95
14) Cyclohexane	13.23	TIC	1294992	40.337	ug/m3	94
15) 2,3-Dimethylpentane	13.23	TIC	1292534	31.548	ug/m3	64
16) Heptane	14.60	TIC	14104	0.421	ug/m3	96
17) Octane	17.42	TIC	11821	0.257	ug/m3	86
18) APH EC5-8 aliphatics T...	0.00	TIC	2917398m	79.500	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	7826527m	213.275	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1762104	51.266	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	507693	59.968	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	382498	36.200	ppbv	100
24) Toluene	16.39	92	4946	0.566	ug/m3	97
25) Ethylbenzene	18.60	91	8662	0.480	ug/m3	97
26) m,p-Xylene	18.76	106	3009	0.496	ug/m3	93
27) o-Xylene	19.21	106	1953	0.340	ug/m3	99
28) Naphthalene	23.94	128	3596	0.245	ug/m3	92
29) 2,3-Dimethylheptane	18.60	TIC	28588	0.699	ug/m3#	62
30) Nonane	19.64	TIC	1751434	40.991	ug/m3	60
31) Decane	20.86	TIC	101258	2.386	ug/m3	65
32) Butylcyclohexane	21.63	TIC	304619	6.318	ug/m3	66
33) Undecane	22.27	TIC	43123	1.024	ug/m3	85
34) Dodecane	23.83	TIC	83281	2.410	ug/m3	67
35) APH EC9-12 aliphatics ...	21.63	TIC	2312303m	55.508	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	8707176m	209.020	ug/m3	
38) Isopropylbenzene	19.75	120	451	0.141	ug/m3#	16
39) 1-Methyl-3-ethylbenzene	20.65	120	2336	0.523	ug/m3	99
40) 1,3,5-Trimethylbenzene	20.45	120	1147	0.203	ug/m3#	77
41) p-Isopropyltoluene	21.28	134	7835	2.822	ug/m3#	40
42) 1,2,3-Trimethylbenzene	21.29	120	5454	0.822	ug/m3#	47
43) APH EC9-10 aromatics T...	21.63	TIC	17223m	3.921	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	13448m	2.773	ug/m3	

Data Path : F:\Proc\_GCMS7\09-03-21\  
Data File : 090317.D  
Acq On : 3 Sep 2021 6:17 pm  
Operator : bat  
Sample : 109030-05 1/5.4  
Misc : T6  
ALS Vial : 17 Sample Multiplier: 1  
InstName : GCMS7

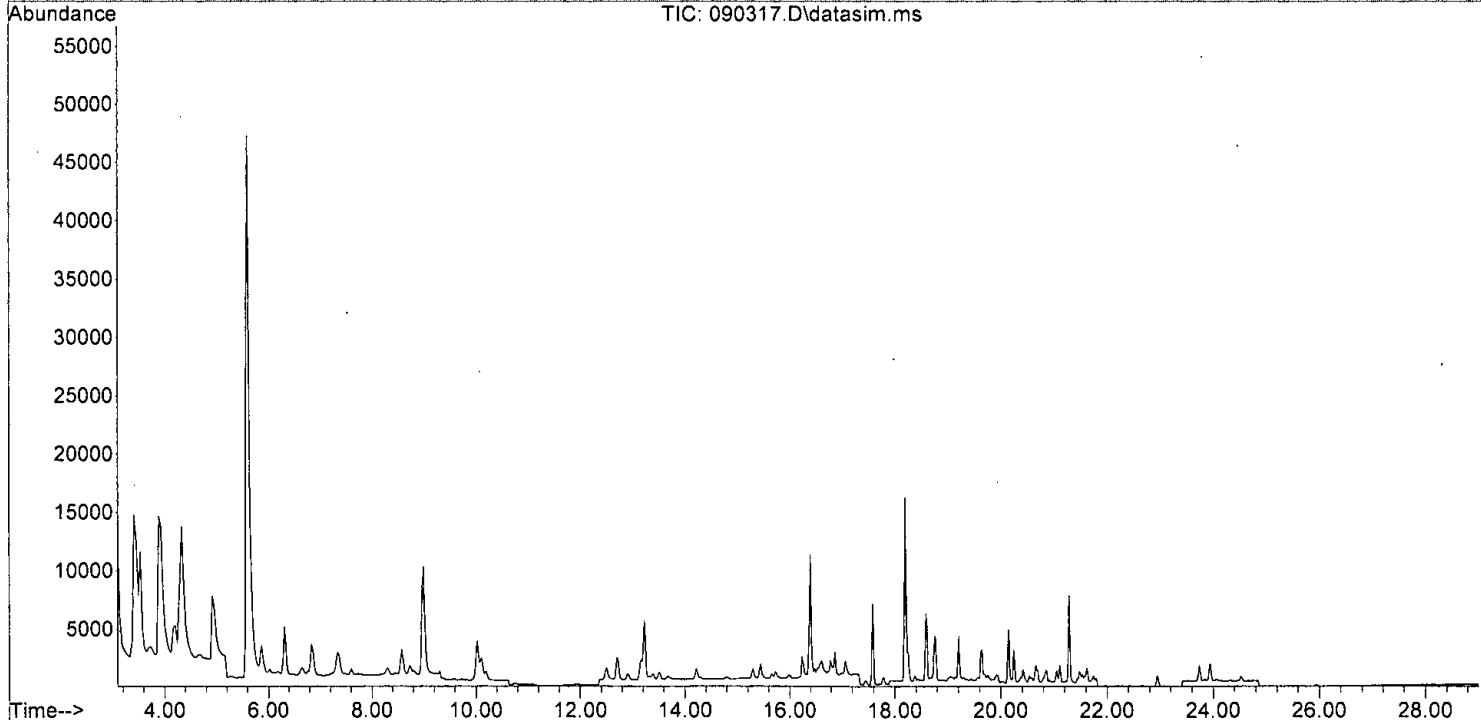
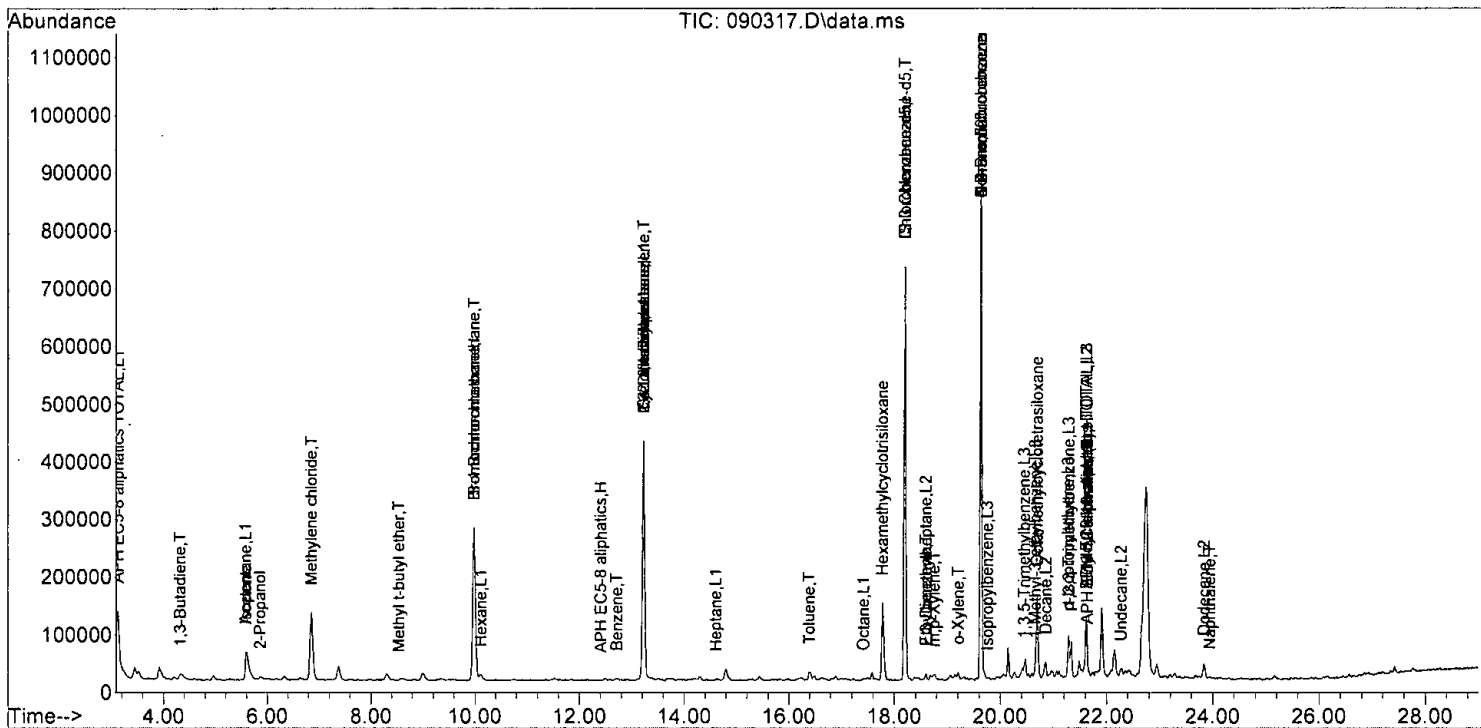
Quant Time: Sep 07 12:41:55 2021  
Quant Method : F:\METHODS\Inst7\0819APH7.M  
Quant Title : APH TO-15 method  
QLast Update : Fri Aug 20 08:33:26 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	13587m	4.918	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090317.D  
 Acq On : 3 Sep 2021 6:17 pm  
 Operator : bat  
 Sample : 109030-05 1/5.4  
 Misc : T6  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:41:55 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

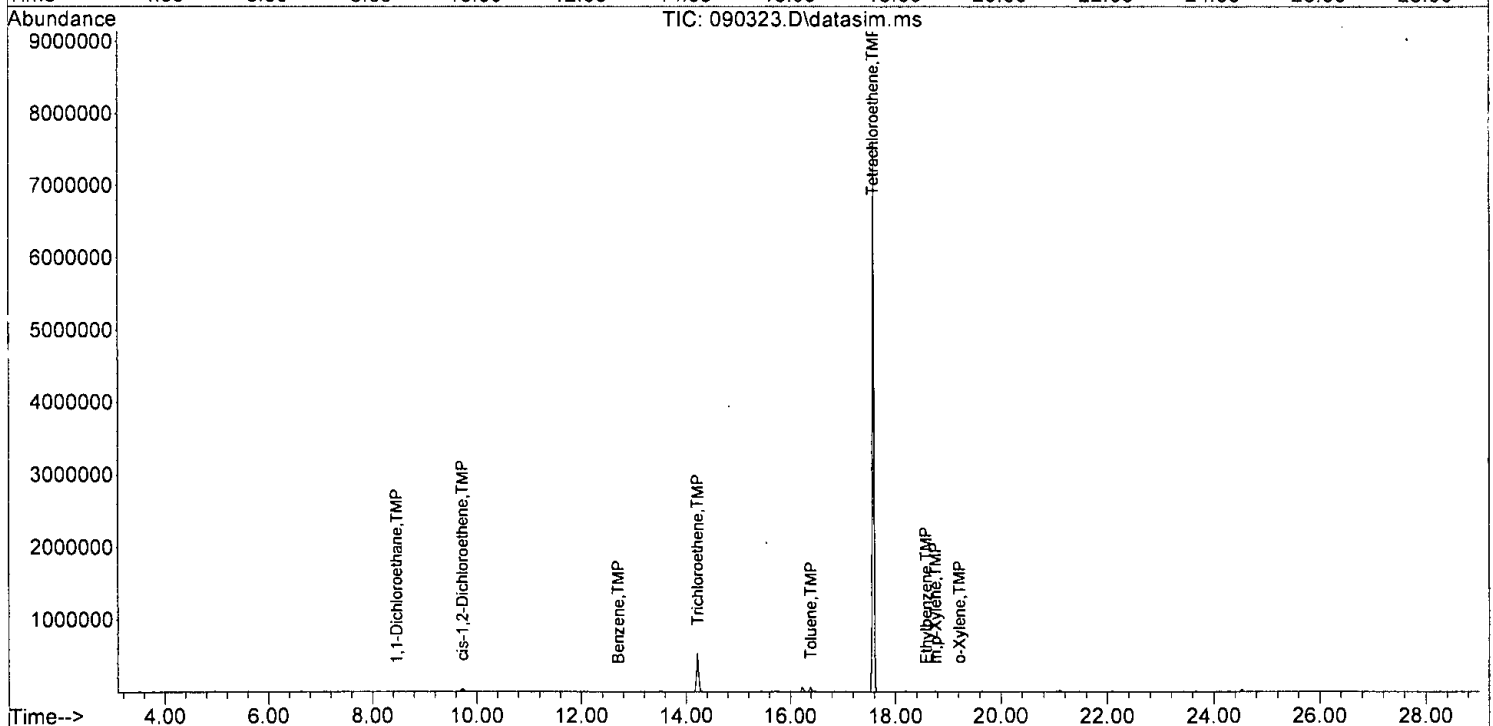
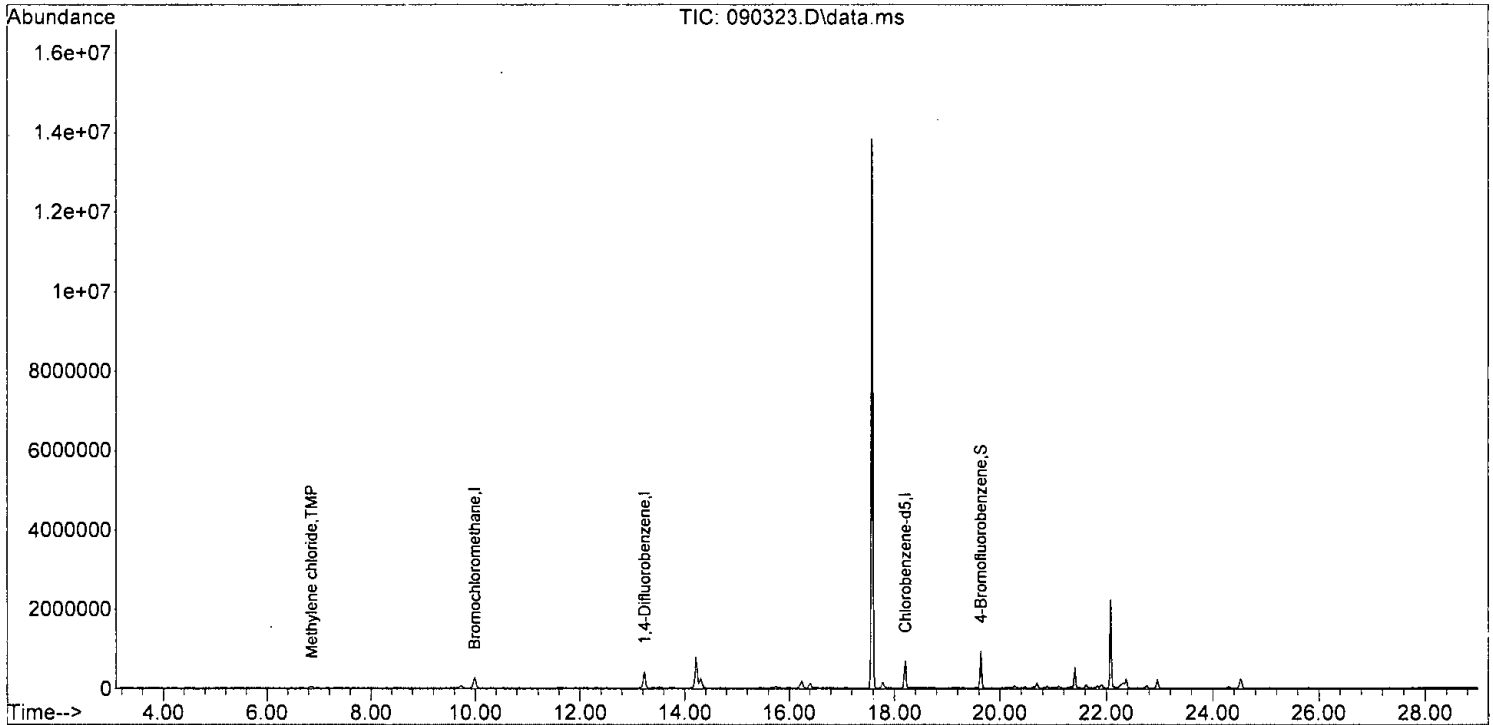
Quant Time: Sep 07 15:23:33 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	98950	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	462276	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	421250	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	364078	9.540	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	95.40%
Target Compounds						
						Qvalue
20) Methylene chloride	6.86	84	31457	1.816	ppbv	85
27] 1,1-Dichloroethane	8.47	63	818	0.021	ppbv	93
28] cis-1,2-Dichloroethene	9.73	96	38885	2.207	ppbv #	75
37] Benzene	12.70	78	8633	0.142	ppbv	94
46] Trichloroethene	14.22	95	460169	16.104	ppbv	86
50] Toluene	16.40	92	5514	0.159	ppbv	84
53] Tetrachloroethene	17.58	164	3258593	185.025	ppbv #	80
58] Ethylbenzene	18.59	91	2386	0.026	ppbv	95
65] m,p-Xylene	18.76	106	2109	0.070	ppbv	94
66] o-Xylene	19.21	106	2737	0.093	ppbv	91
77] Naphthalene	23.95	128	1489	Below Cal	#	57
-----						

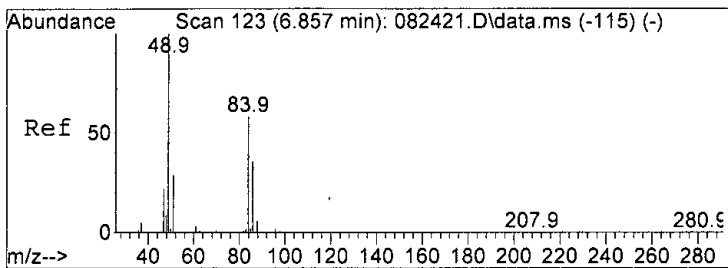
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:23:33 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

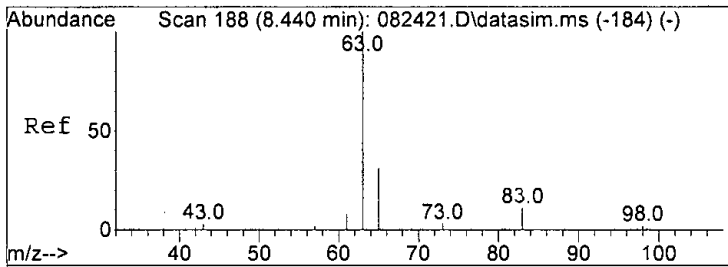
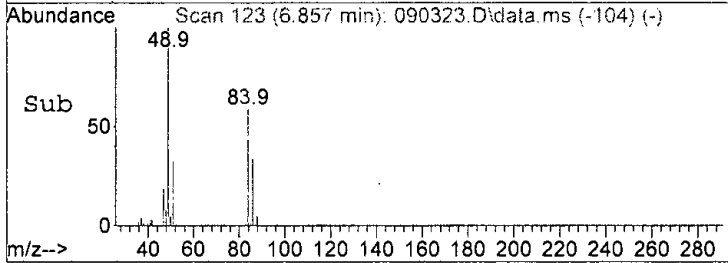
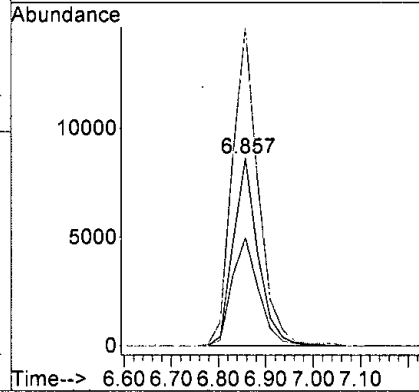
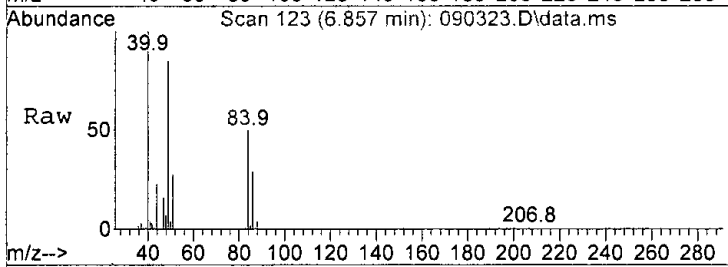






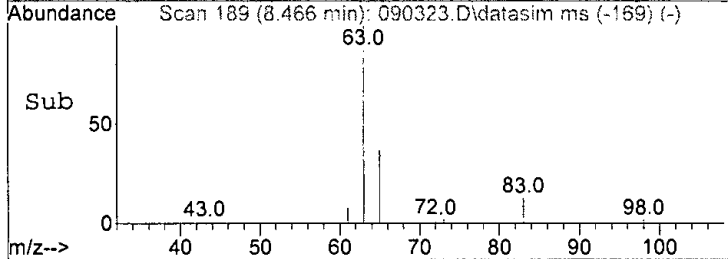
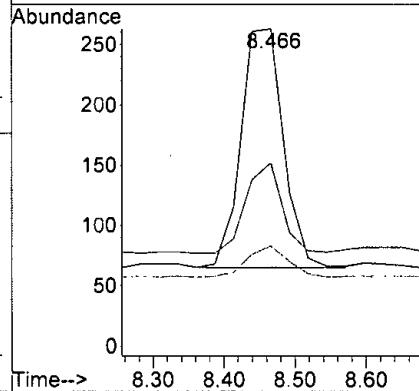
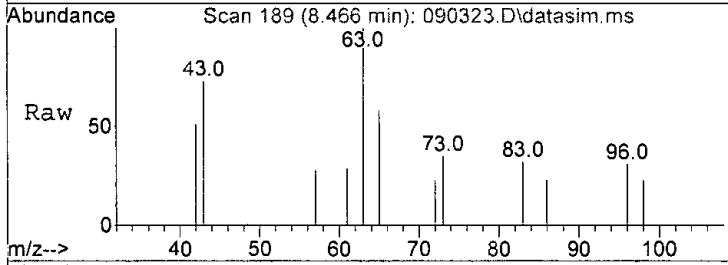
#20  
 Methylene chloride  
 Concen: 1.816 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. -0.000 min  
 Lab File: 090323.D  
 Acq: 3 Sep 2021 10:08 pm

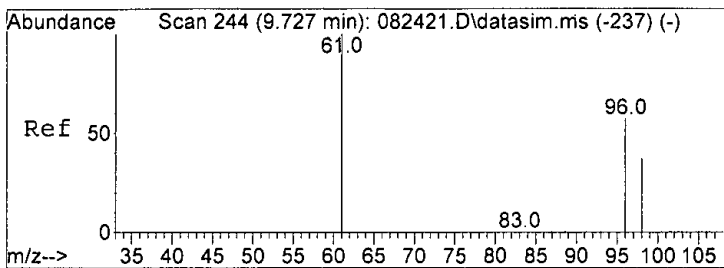
Tgt Ion:	84	Resp:	31457
Ion Ratio	Lower	Upper	
84	100		
86	57.6	33.9	93.9
49	169.8	116.6	176.6



#27  
 1,1-Dichloroethane  
 Concen: 0.021 ppbv  
 RT: 8.47 min Scan# 189  
 Delta R.T. 0.026 min  
 Lab File: 090323.D  
 Acq: 3 Sep 2021 10:08 pm

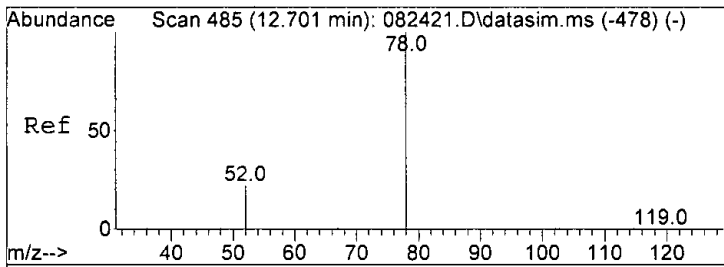
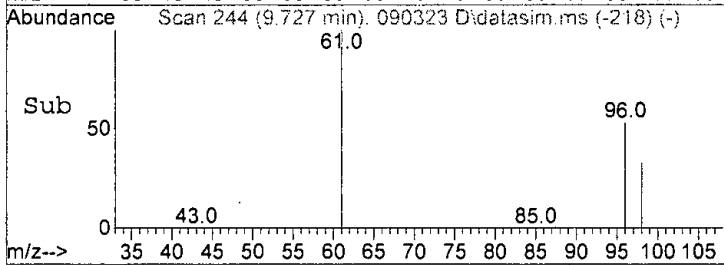
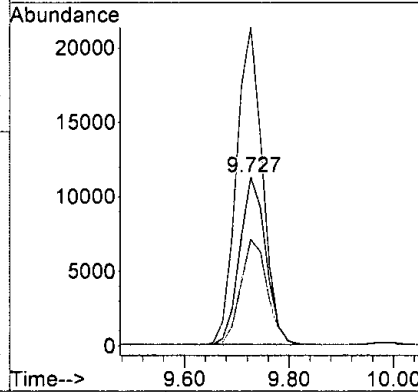
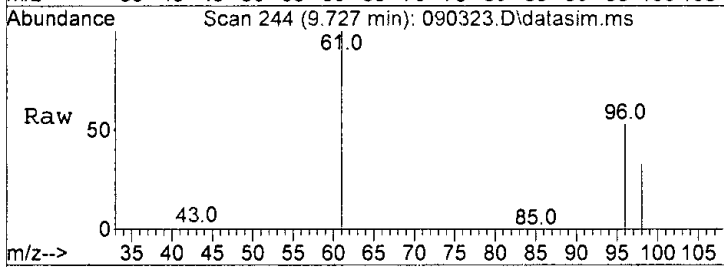
Tgt Ion:	63	Resp:	818
Ion Ratio	Lower	Upper	
63	100		
65	37.9	2.5	62.5
83	13.1	0.0	43.2





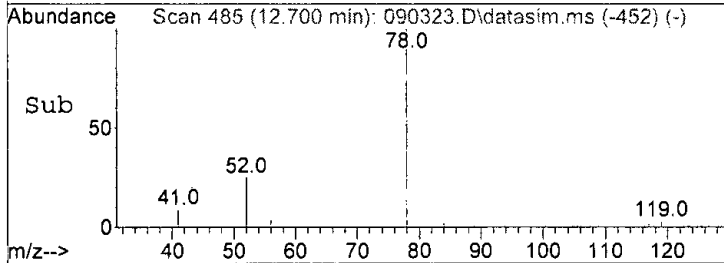
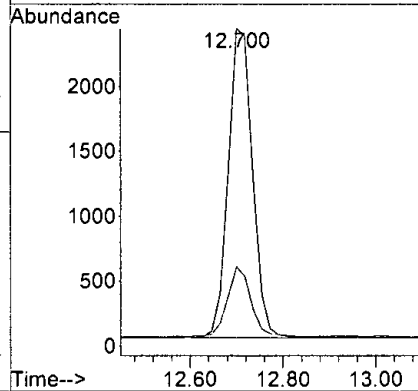
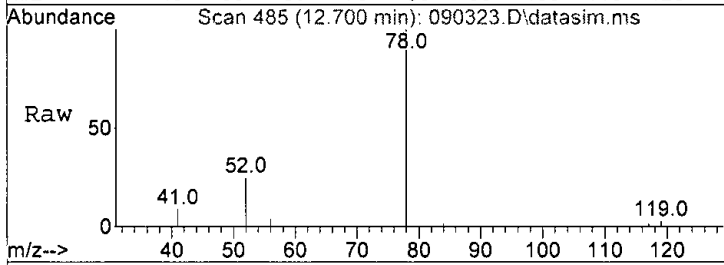
#28  
 cis-1,2-Dichloroethene  
 Concen: 2.207 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. -0.000 min  
 Lab File: 090323.D  
 Acq: 3 Sep 2021 10:08 pm

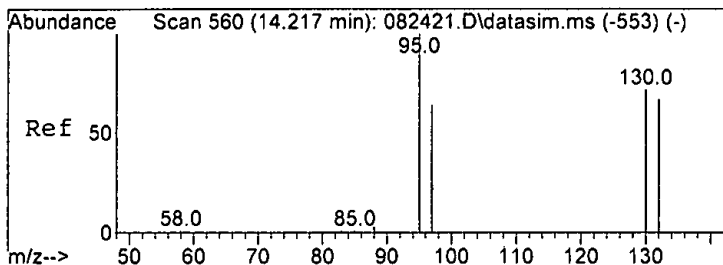
Tgt Ion: 96 Resp: 38885  
 Ion Ratio Lower Upper  
 96 100  
 61 189.8 116.0 176.0#  
 98 62.9 35.2 95.2



#37  
 Benzene  
 Concen: 0.142 ppbv  
 RT: 12.70 min Scan# 485  
 Delta R.T. -0.001 min  
 Lab File: 090323.D  
 Acq: 3 Sep 2021 10:08 pm

Tgt Ion: 78 Resp: 8633  
 Ion Ratio Lower Upper  
 78 100  
 52 22.4 0.0 49.7

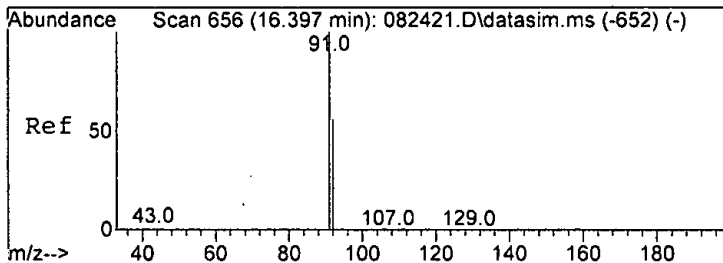
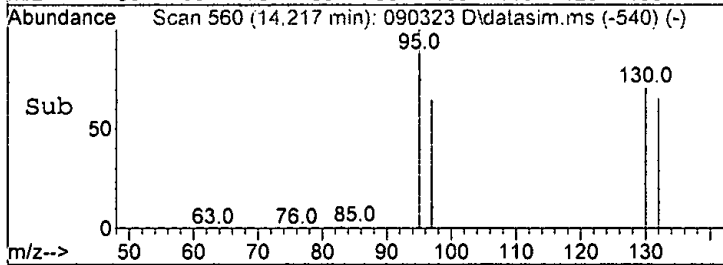
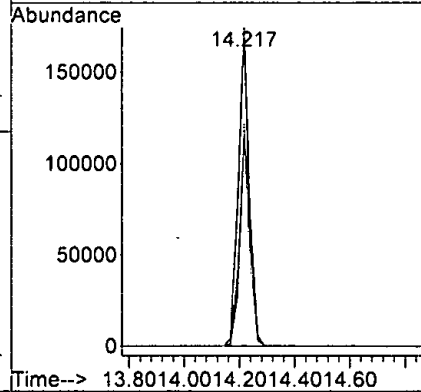
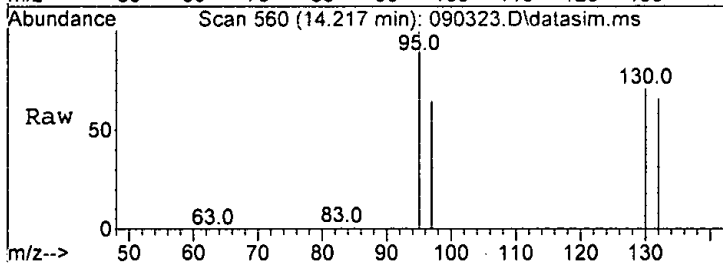




#46  
 Trichloroethene  
 Concen: 16.104 ppbv  
 RT: 14.22 min Scan# 560  
 Delta R.T. -0.000 min  
 Lab File: 090323.D  
 Acq: 3 Sep 2021 10:08 pm

Tgt Ion: 95 Resp: 460169

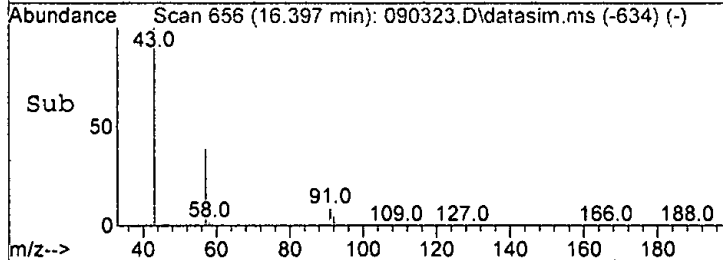
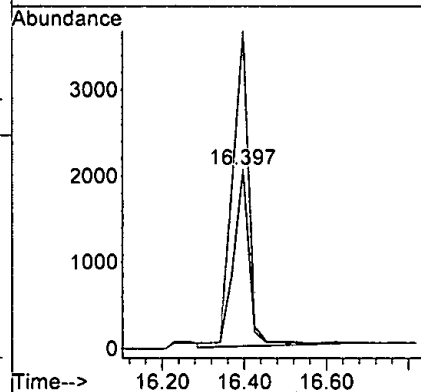
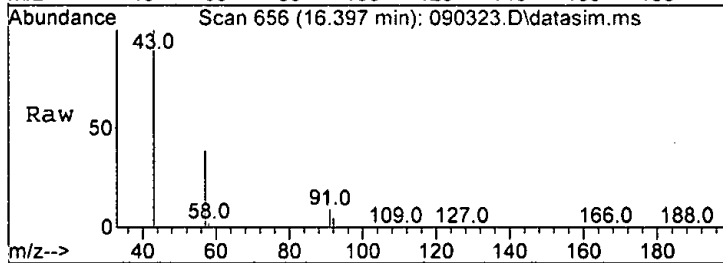
Ion	Ratio	Lower	Upper
95	100		
97	64.9	37.1	97.1
130	70.7	56.1	116.1
132	66.4	54.3	114.3

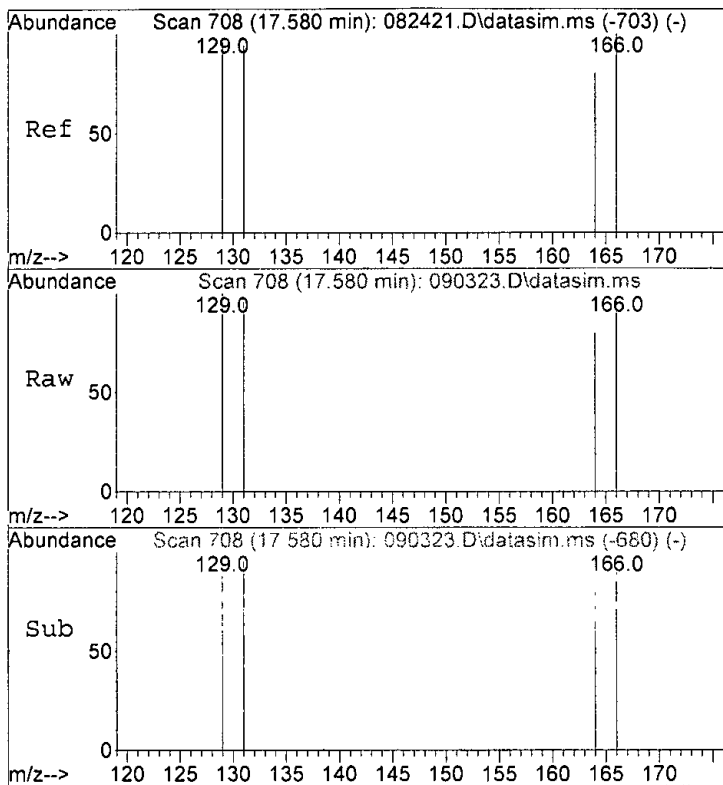


#50  
 Toluene  
 Concen: 0.159 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090323.D  
 Acq: 3 Sep 2021 10:08 pm

Tgt Ion: 92 Resp: 5514

Ion	Ratio	Lower	Upper
92	100		
91	179.4	174.6	234.6

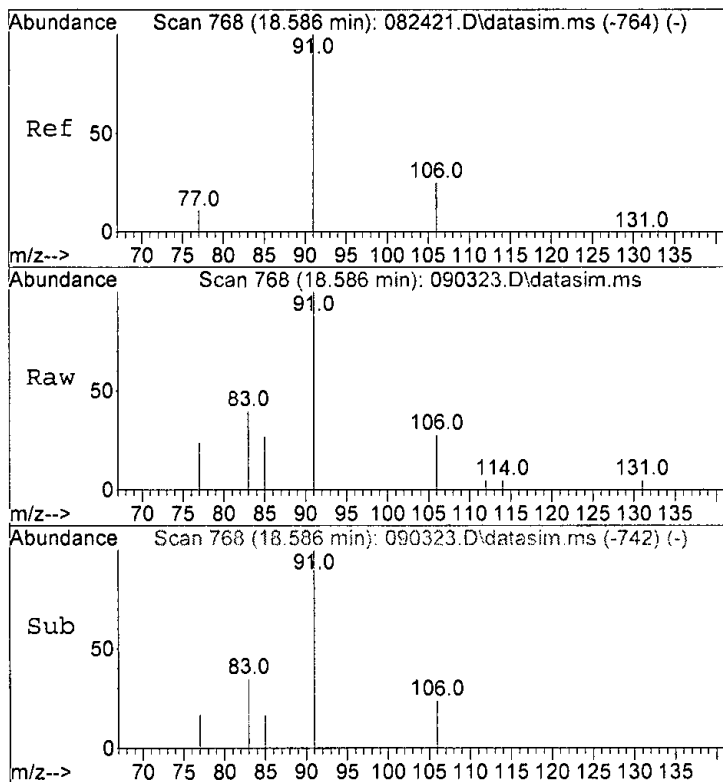
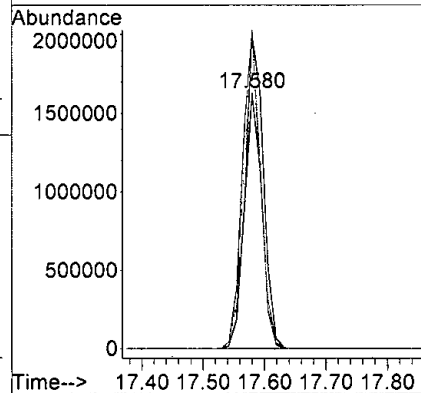




#53  
 Tetrachloroethene  
 Concen: 185.025 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090323.D  
 Acq: 3 Sep 2021 10:08 pm

Tgt Ion: 164 Resp: 3258593

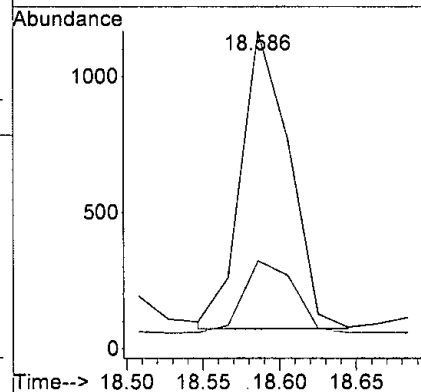
Ion	Ratio	Lower	Upper
164	100		
129	124.6	63.2	123.2#
131	120.4	70.7	130.7
166	122.7	107.5	167.5

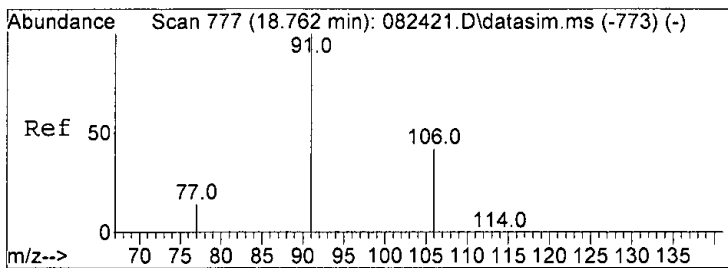


#58  
 Ethylbenzene  
 Concen: 0.026 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. -0.000 min  
 Lab File: 090323.D  
 Acq: 3 Sep 2021 10:08 pm

Tgt Ion: 91 Resp: 2386

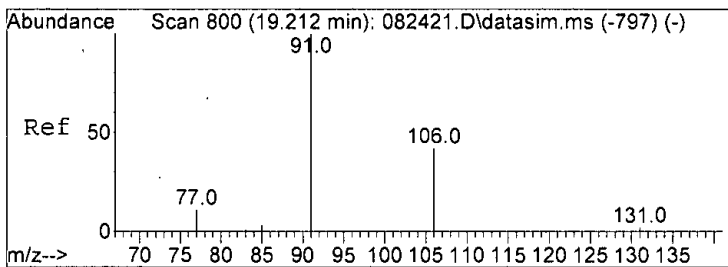
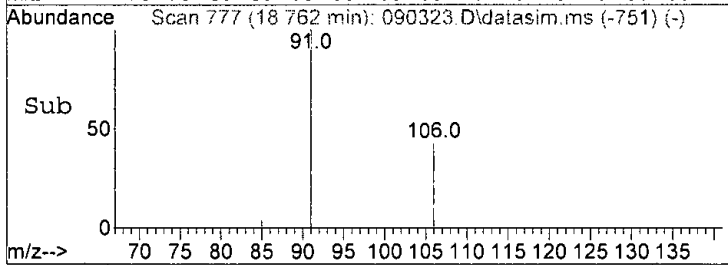
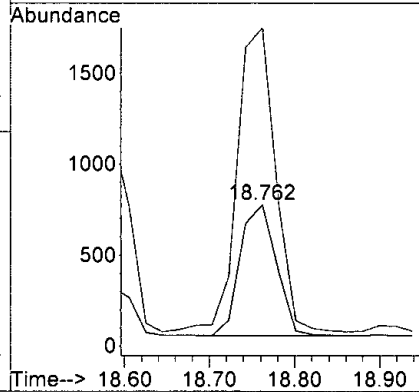
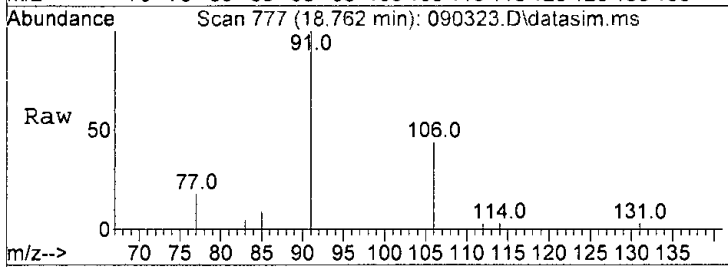
Ion	Ratio	Lower	Upper
91	100		
106	24.2	0.0	57.0





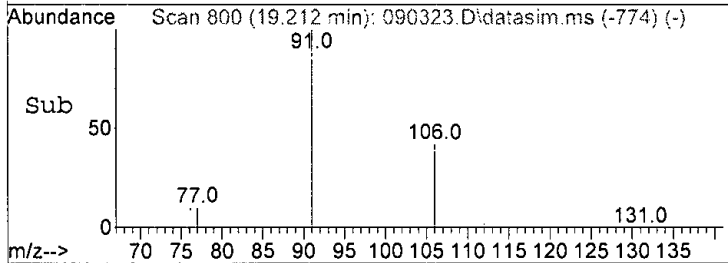
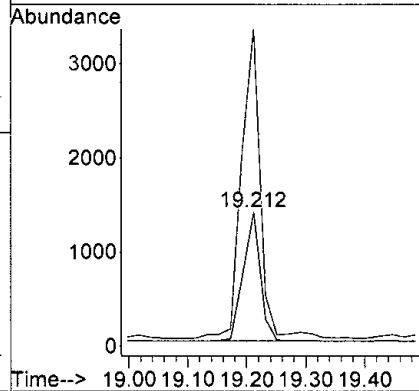
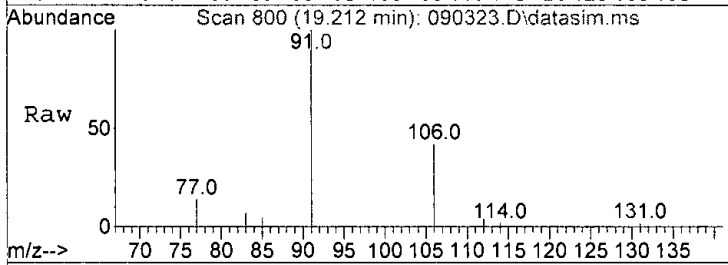
#65  
 m,p-Xylene  
 Concen: 0.070 ppbv  
 RT: 18.76 min Scan# 777  
 Delta R.T. 0.000 min  
 Lab File: 090323.D  
 Acq: 3 Sep 2021 10:08 pm

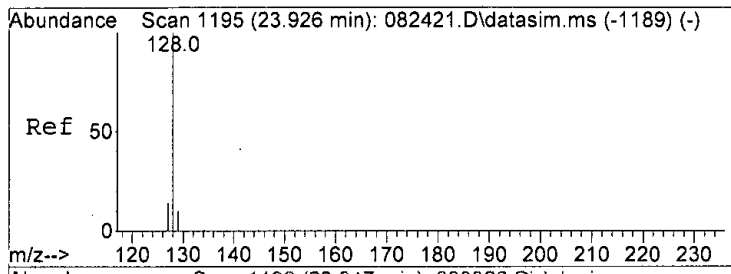
Tgt Ion:106 Resp: 2109  
 Ion Ratio Lower Upper  
 106 100  
 91 232.8 193.0 253.0



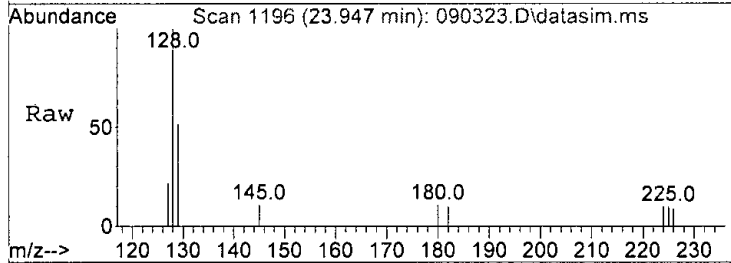
#66  
 o-Xylene  
 Concen: 0.093 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. -0.000 min  
 Lab File: 090323.D  
 Acq: 3 Sep 2021 10:08 pm

Tgt Ion:106 Resp: 2737  
 Ion Ratio Lower Upper  
 106 100  
 91 239.6 194.4 254.4

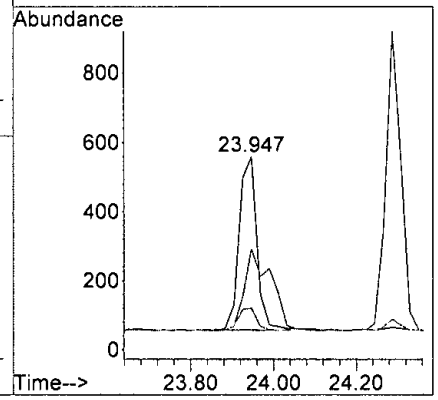
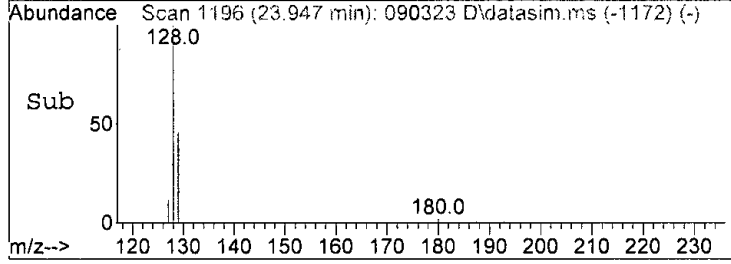




#77  
 Naphthalene  
 Concen: Below Cal  
 RT: 23.95 min Scan# 1196  
 Delta R.T. 0.021 min  
 Lab File: 090323.D  
 Acq: 3 Sep 2021 10:08 pm



Tgt Ion	Ratio	Lower	Upper
128	100		
129	46.8	0.0	41.0#
127	13.1	0.0	43.2



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:23:33 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.99	128	98950	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	462276	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	421250	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	364078	9.540	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	95.40%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.		
6) Vinyl chloride	0.00		0	N.D.		
7) 1,3-Butadiene	0.00		0	N.D.		
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.		
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	0.00		0	N.D.		
19) trans-1,2-Dichloroethene	8.18	96	148	N.D.		
20) Methylene chloride	6.86	84	31457	1.816	ppbv	85
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.		
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.47	63	818	0.021	ppbv	93
28] cis-1,2-Dichloroethene	9.73	96	38885	2.207	ppbv #	75
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.		
34) 1,2-Dichloroethane (EDC)	11.20	62	205	N.D.		
35) 1,1,1-Trichloroethane	11.68	97	266	N.D.		
36) Carbon tetrachloride	0.00		0	N.D.	d	
37] Benzene	12.70	78	8633	0.142	ppbv	94
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:23:33 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

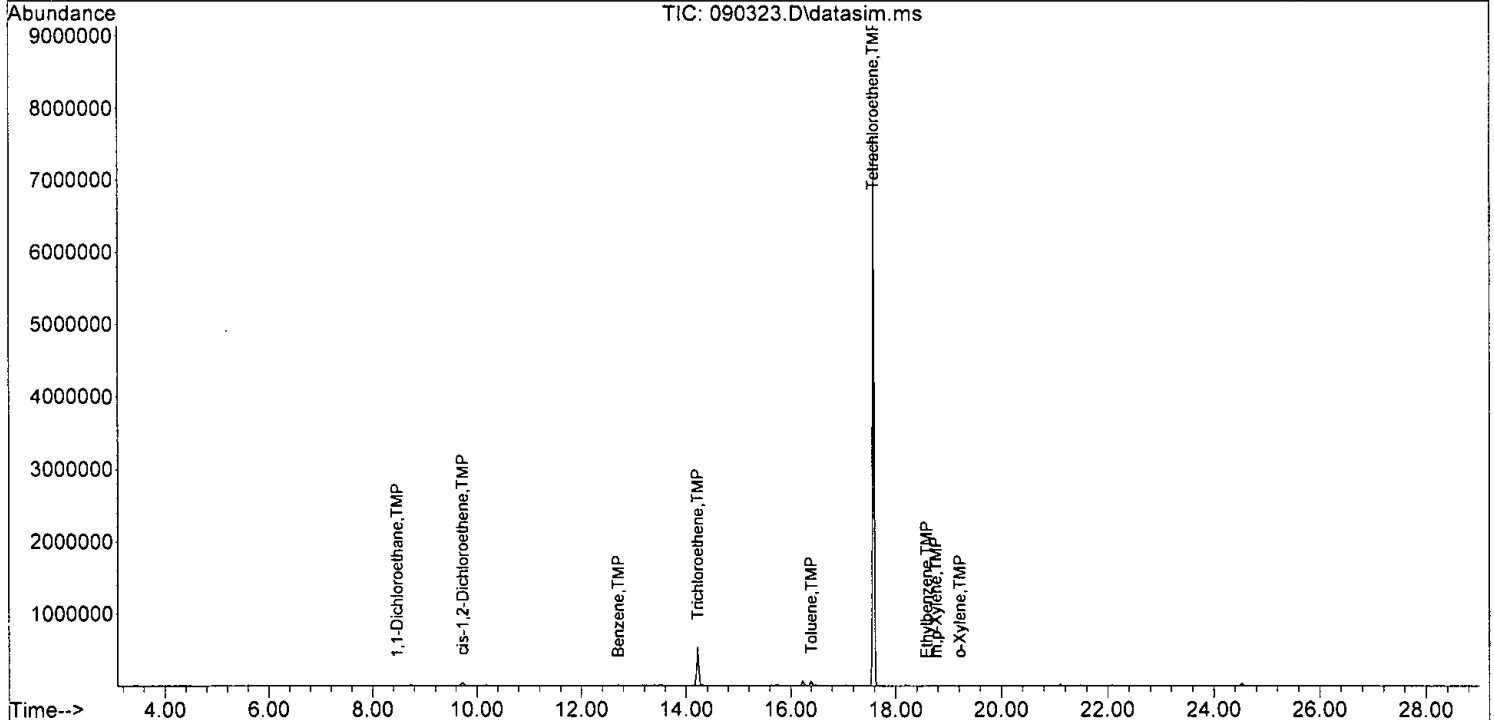
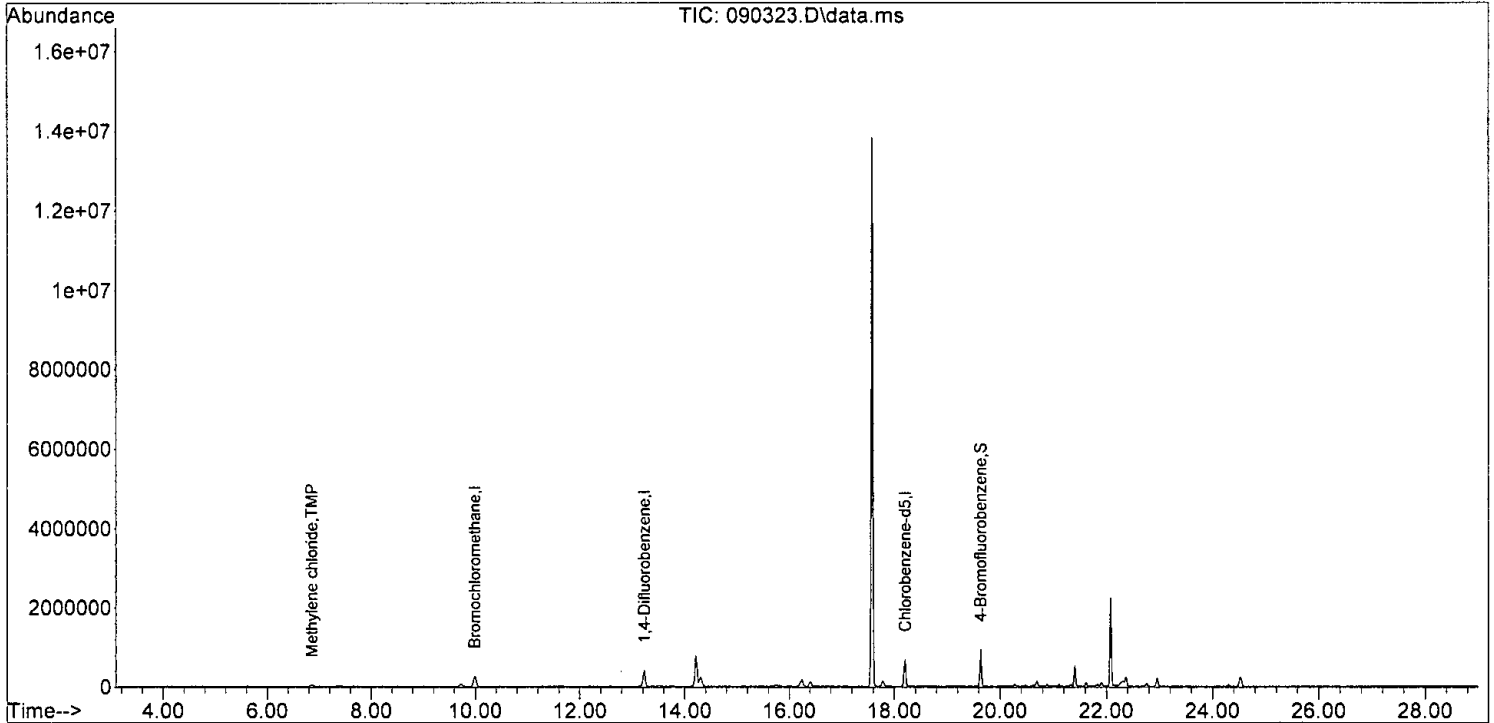
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	460169	16.104	ppbv	86
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	5514	0.159	ppbv	84
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	3258593	185.025	ppbv #	80
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	2386	0.026	ppbv	95
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.76	106	2109	0.070	ppbv	94
66] o-Xylene	19.21	106	2737	0.093	ppbv	91
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77] Naphthalene	23.95	128	1489	Below Cal	#	57
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

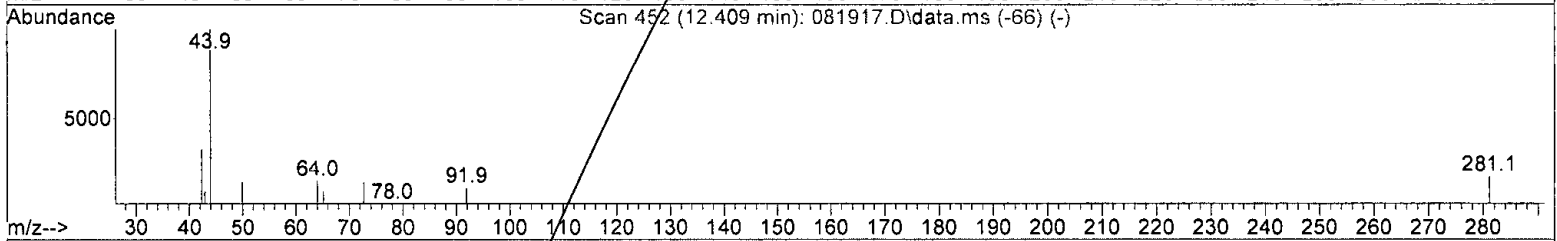
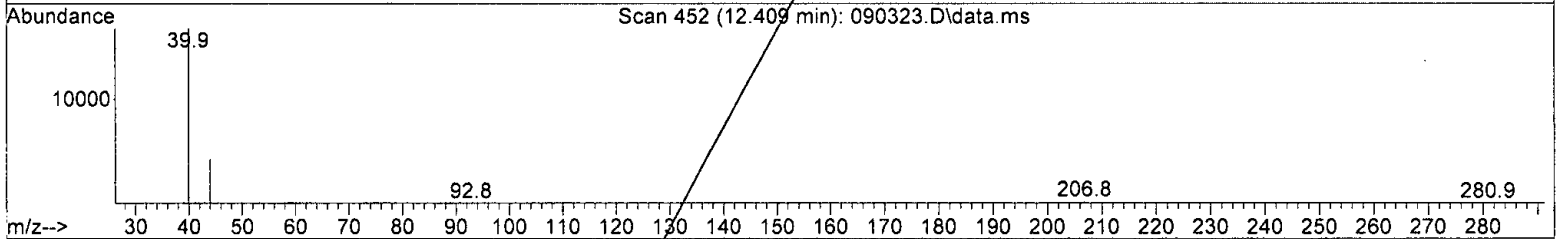
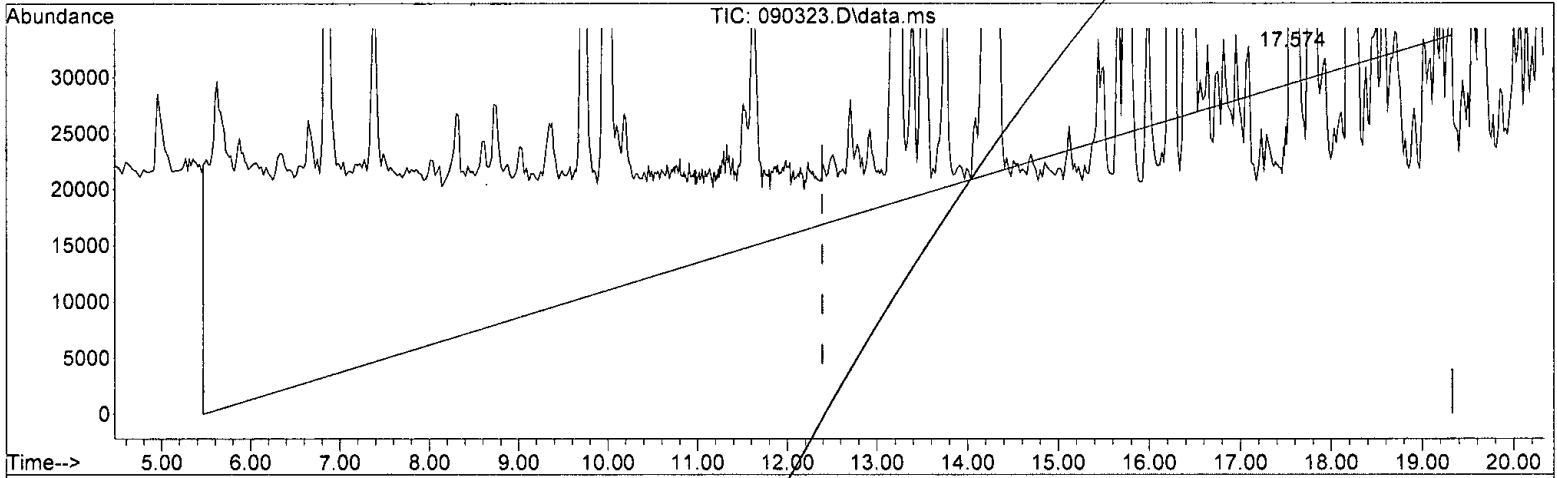
Quant Time: Sep 07 15:23:33 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:10:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 916.034 µg/m3 m  
 response 33599420

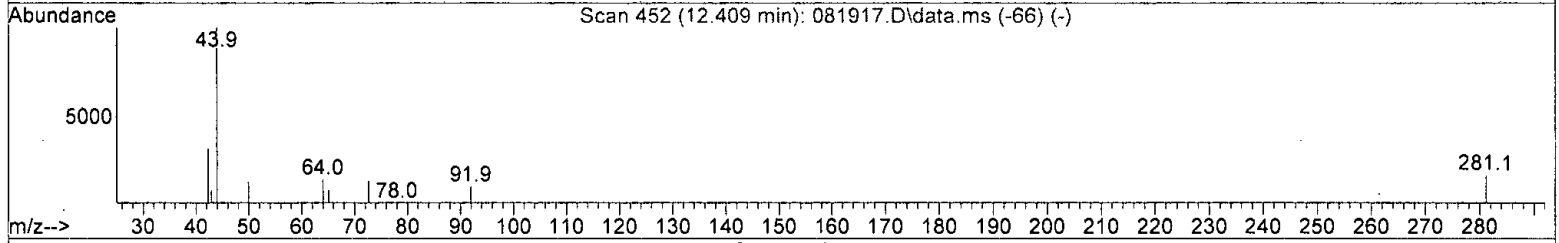
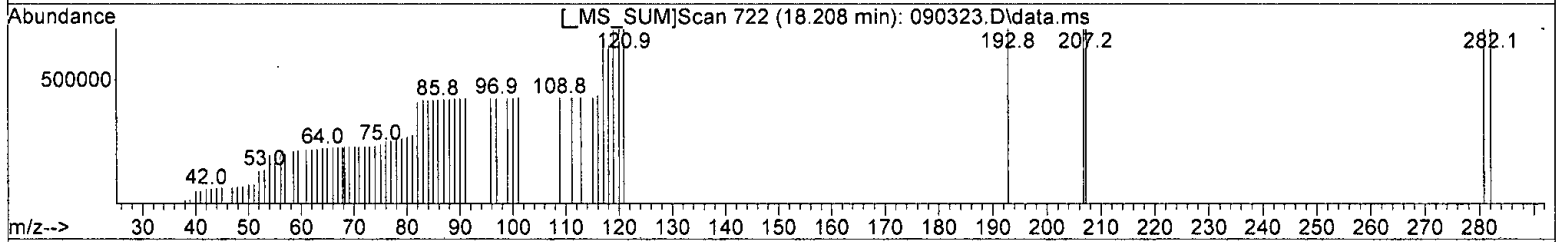
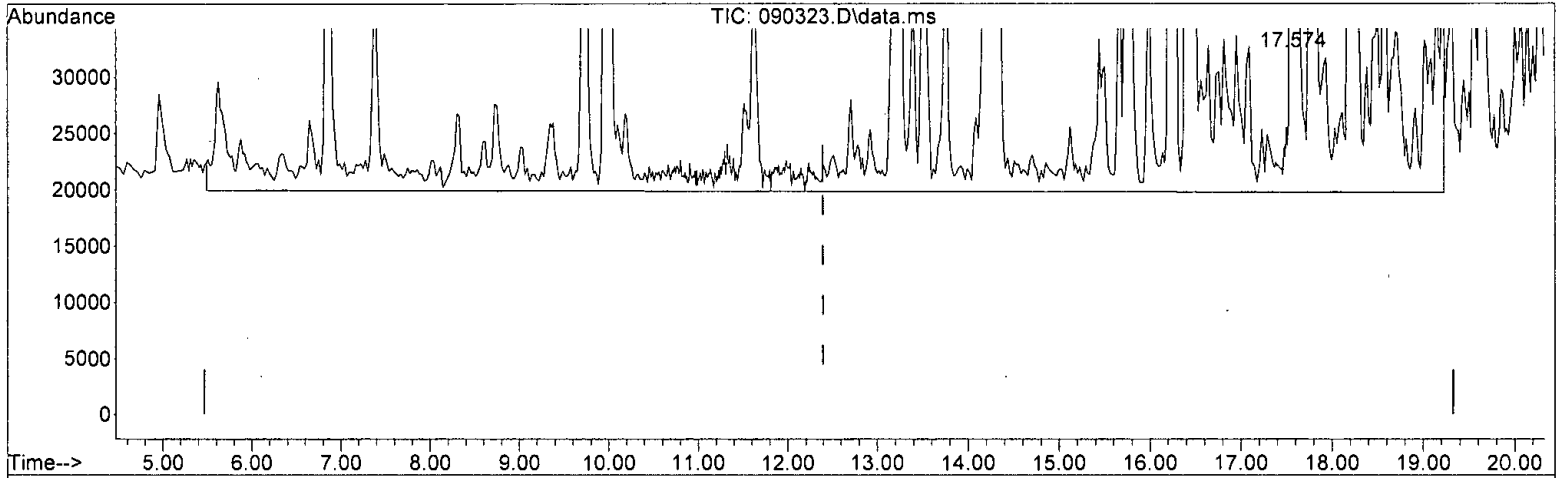
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h  
only*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:10:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 1582.096 ug/m3 m

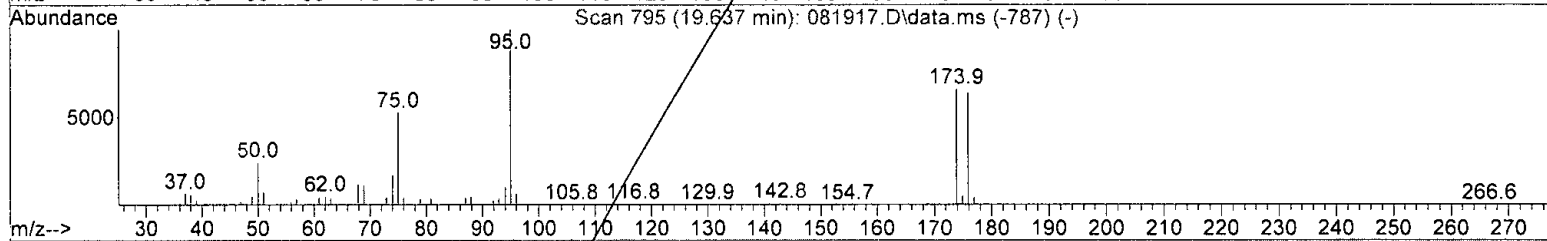
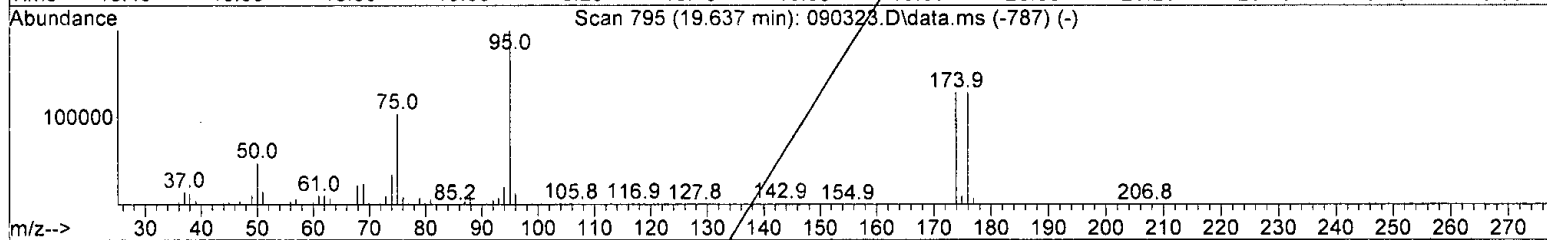
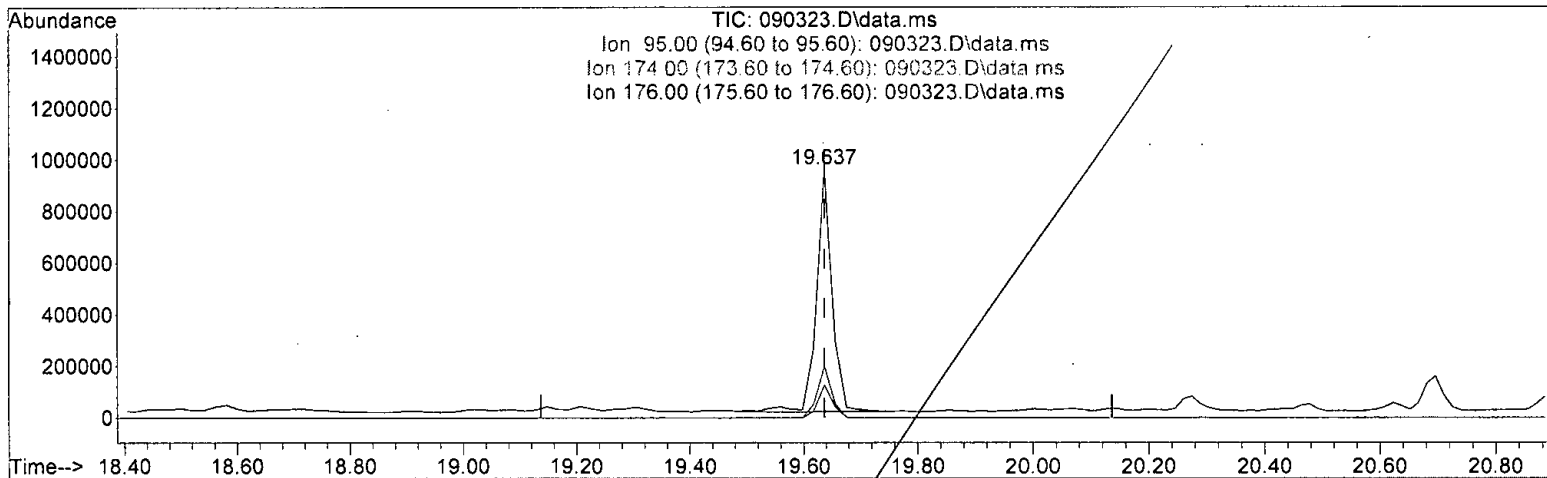
response 58030066

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

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Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:10:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 50.664 ug/m3

response 1801721

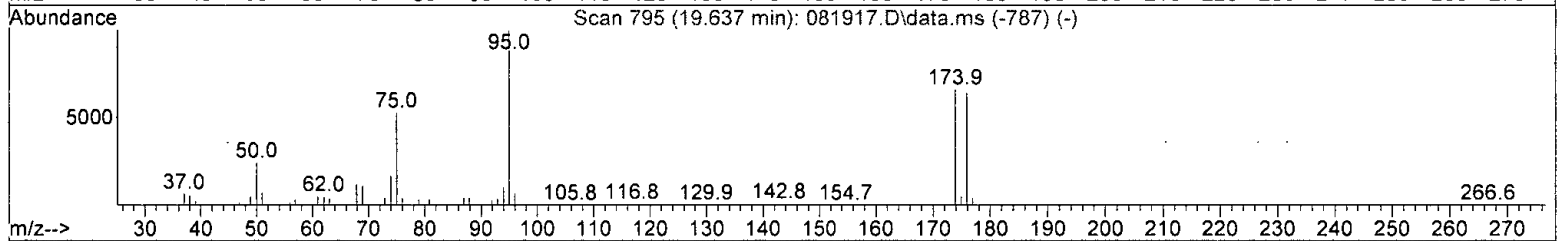
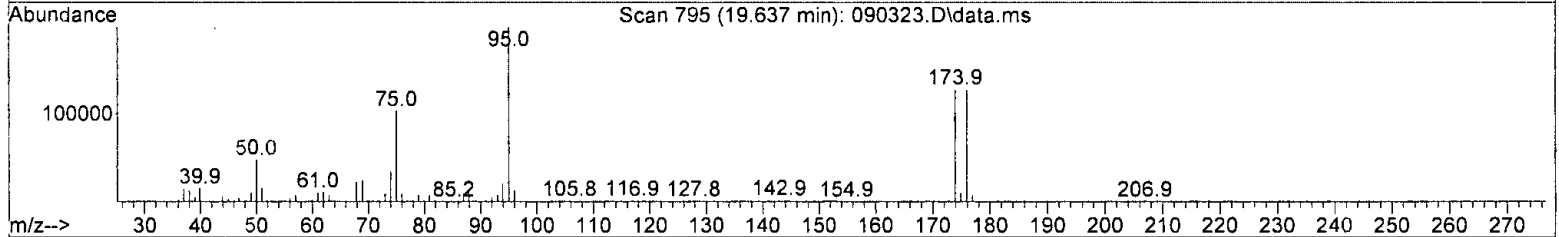
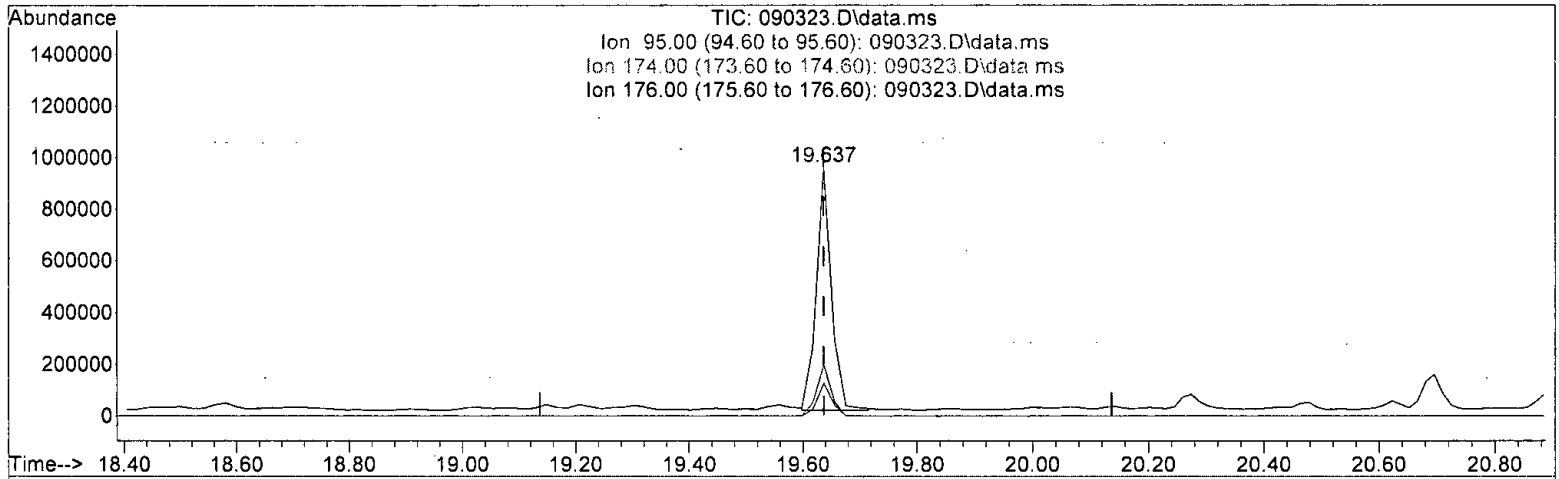
Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	21.23
174.00	19.20	13.64
176.00	18.70	13.60

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:10:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 49.281 ug/m3 m

response 1752539

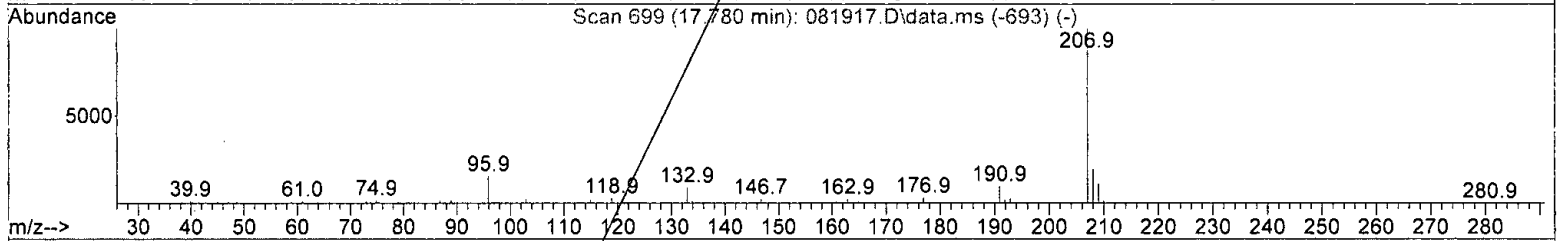
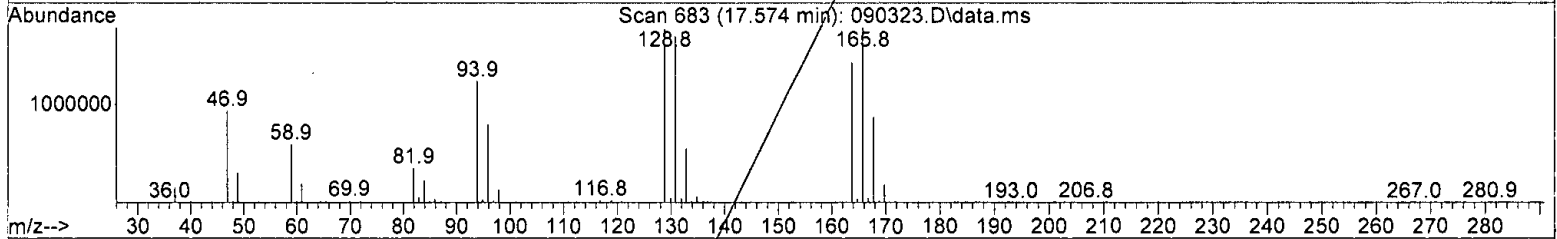
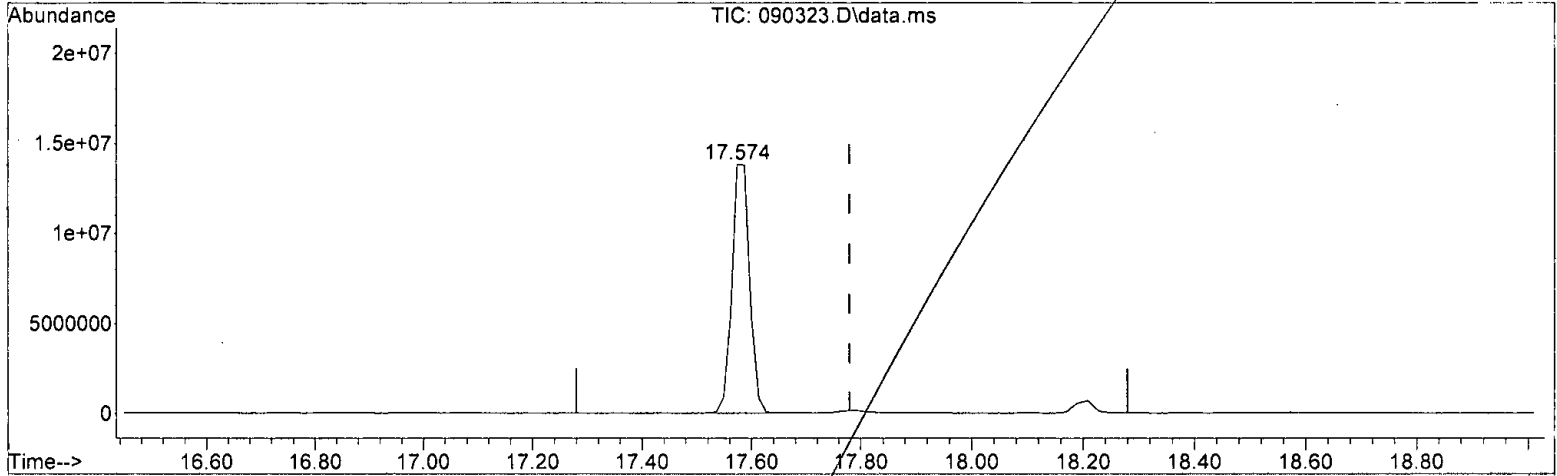
Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	21.82
174.00	19.20	14.02
176.00	18.70	13.98

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:10:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(22) Hexamethylcyclotrisiloxane  
 17.574min (-0.206) 3538.198 ppbv  
 response 30991950

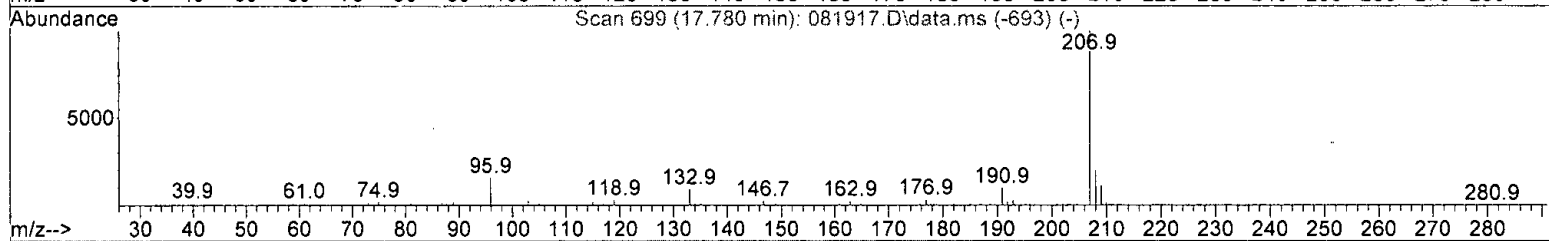
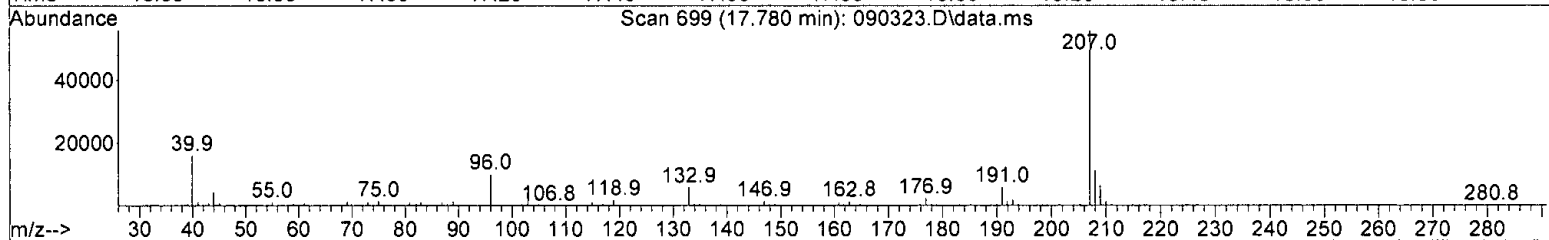
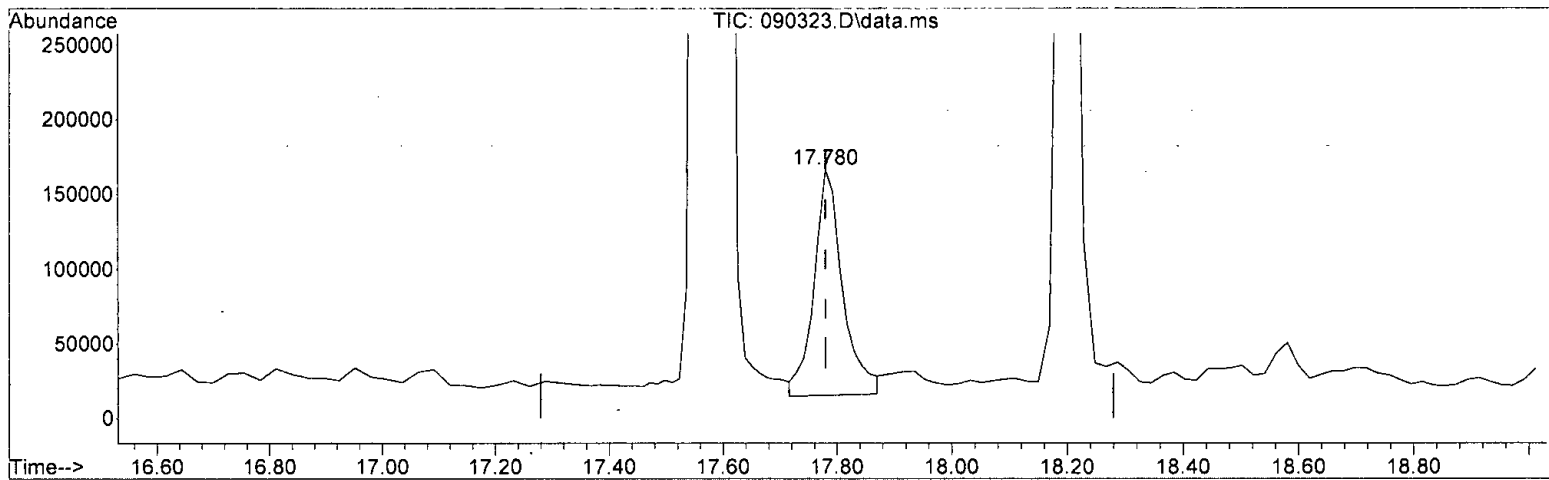
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:10:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(22) Hexamethylcyclotrisiloxane

17.780min (-0.000) 60.872 ppbv m

response 533196

Signal Exp% Act%

TIC 100.00 100.00

0.00 0.00 0.00

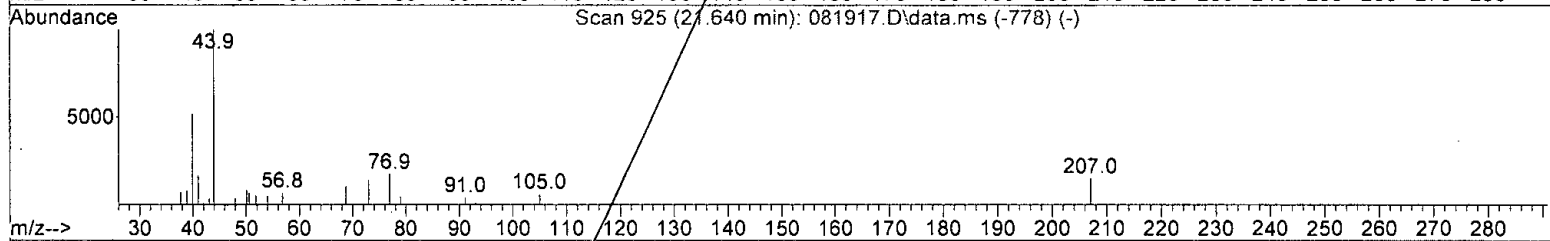
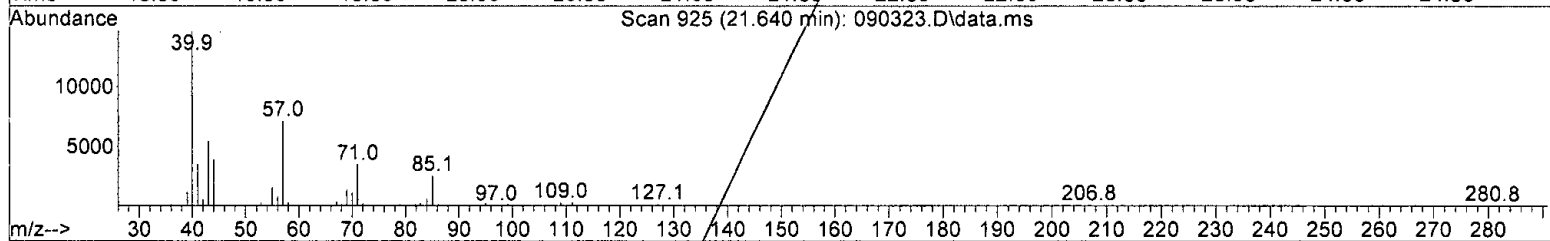
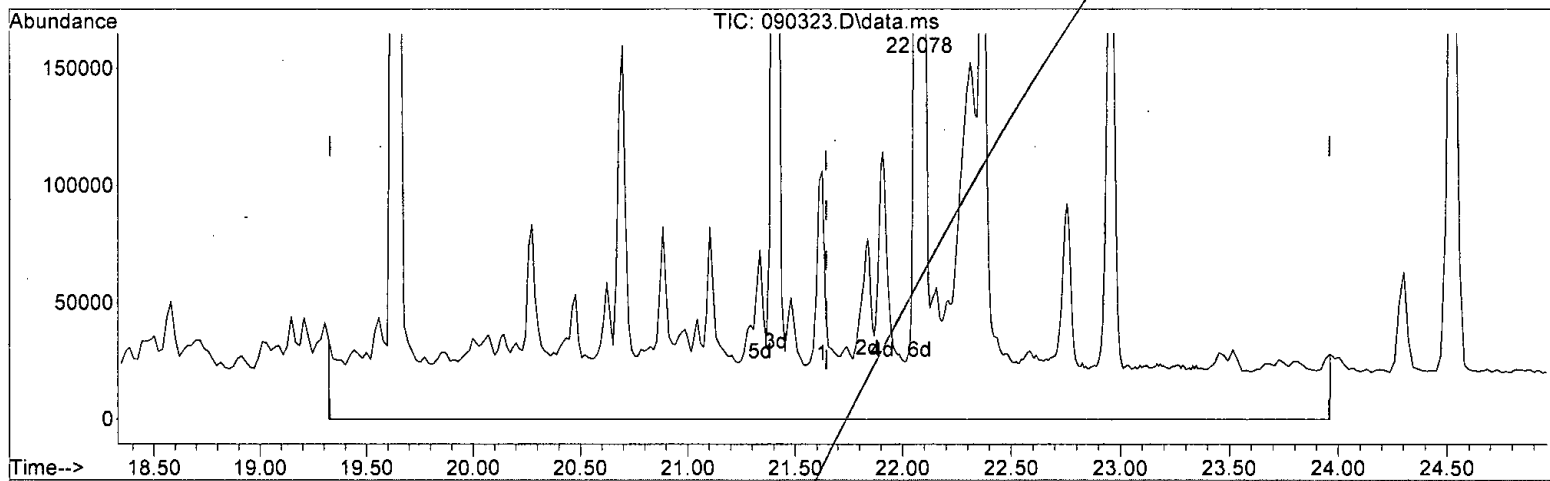
0.00 0.00 0.00

0.00 0.00 0.00

*W 07/07/21*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:10:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 197.563 ug/m3 m

response 8514896

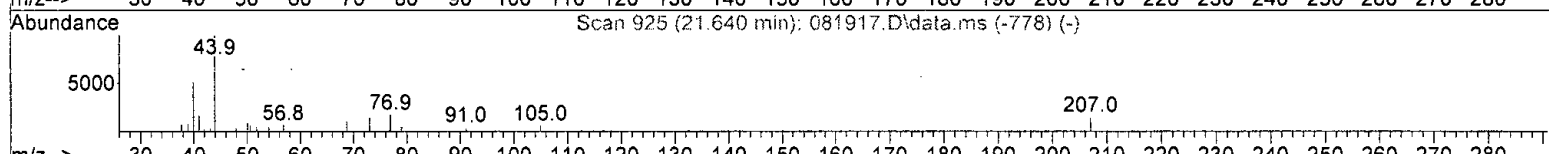
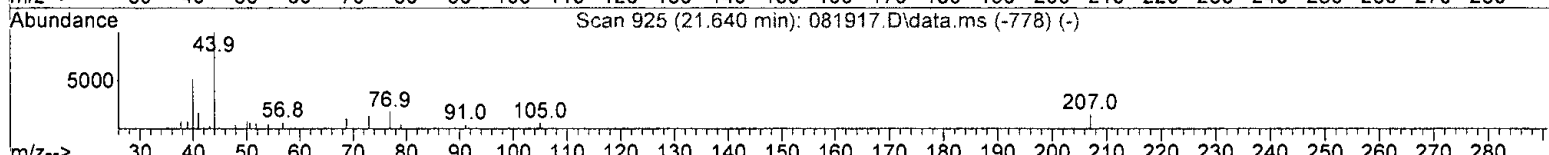
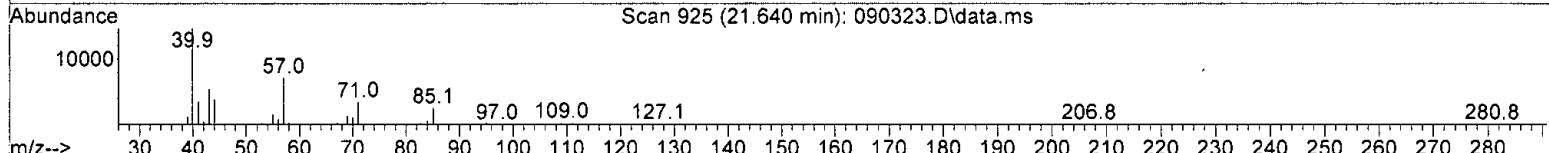
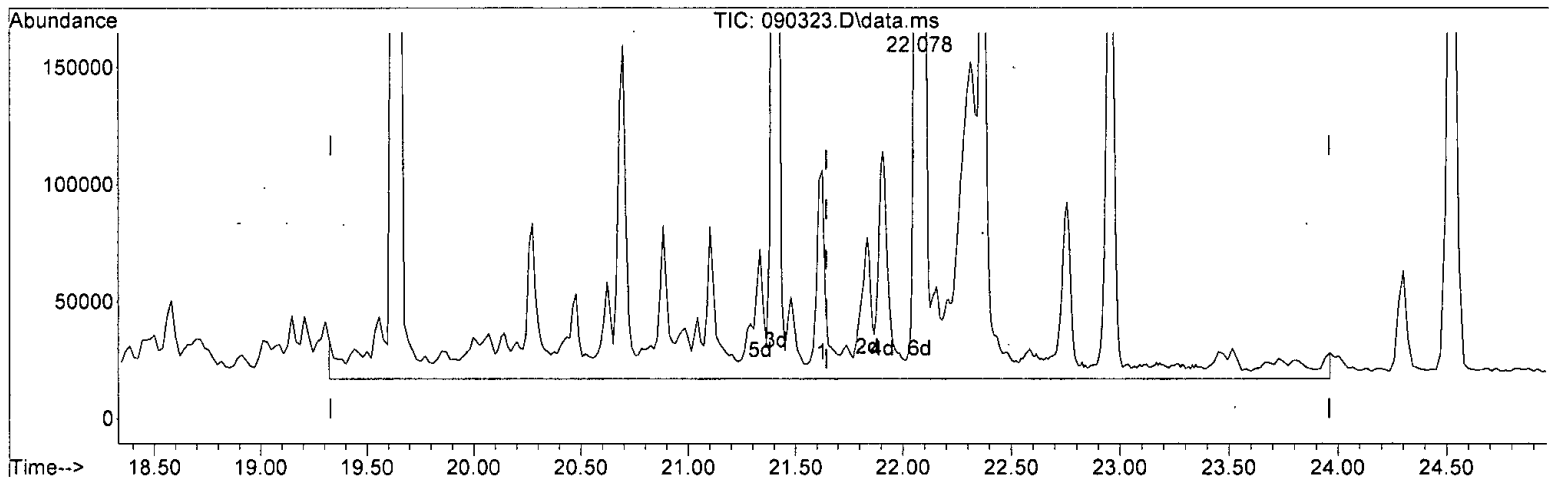
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* M. 09/07/21



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:10:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090323.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 358.948 ug/m3 m

response 15470520

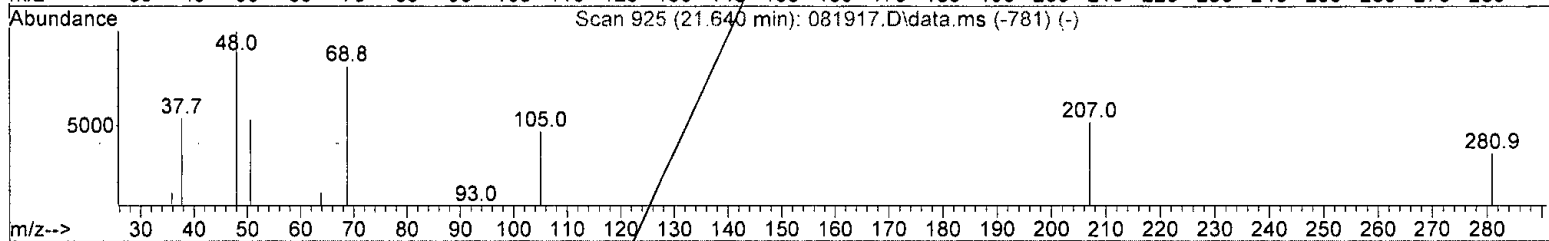
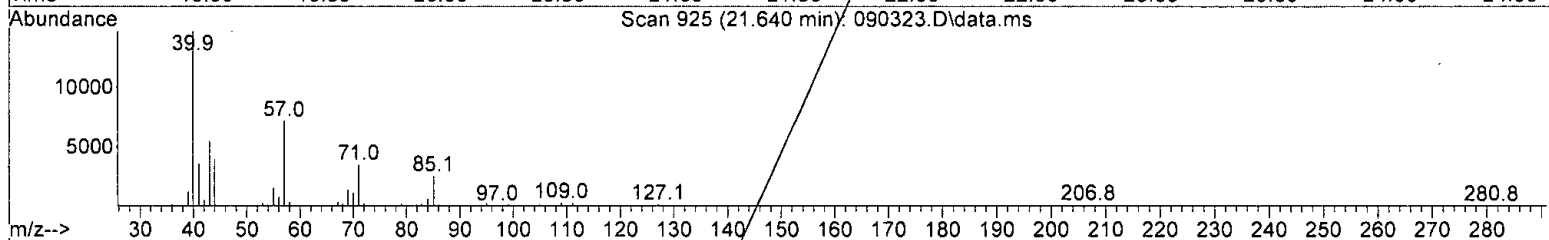
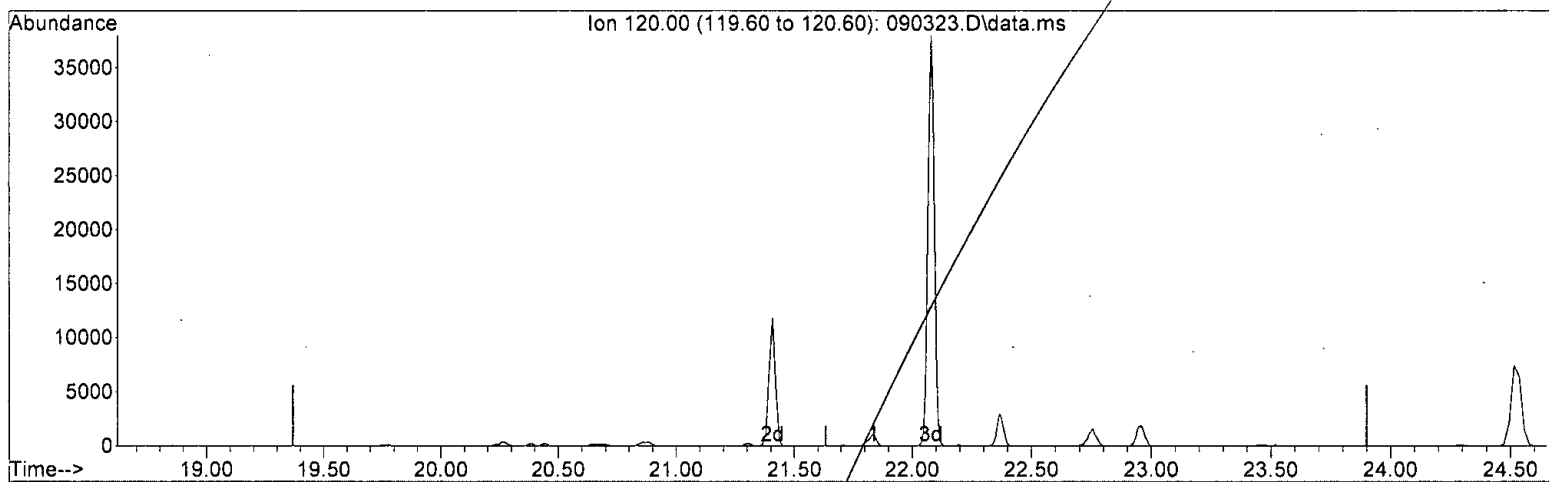
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* 4/02/07/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:10:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090323.D\data.ms

(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 7.030 ug/m3 m

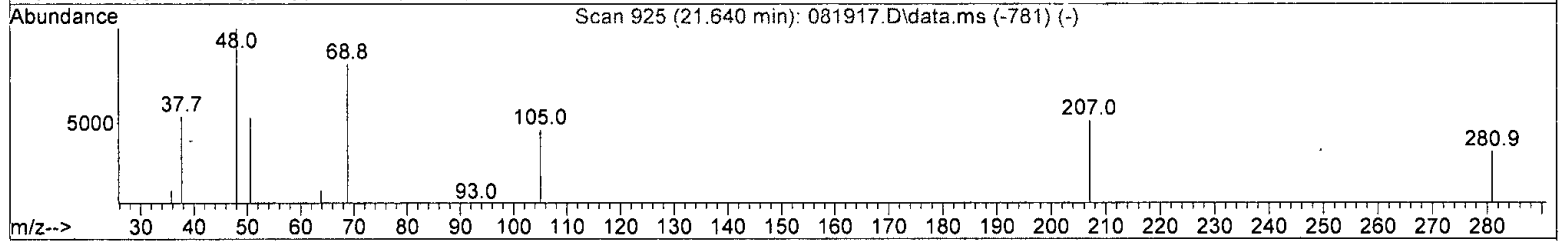
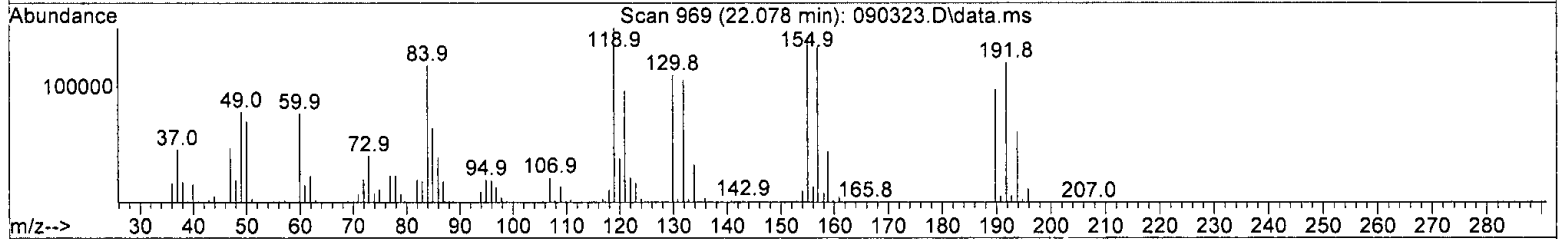
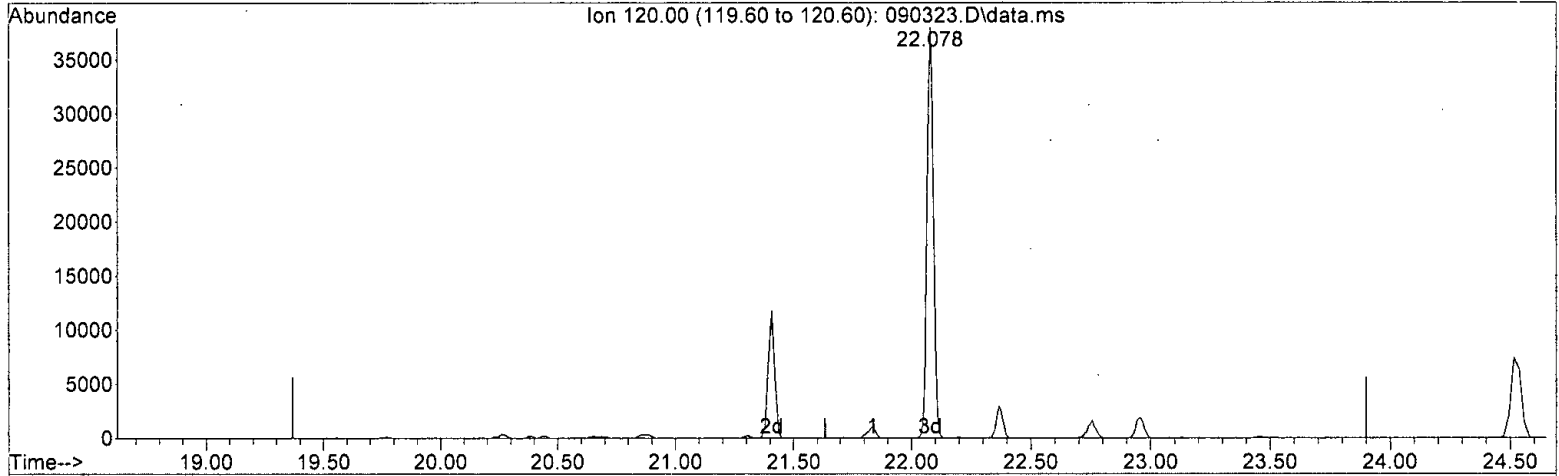
response 35275

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:10:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



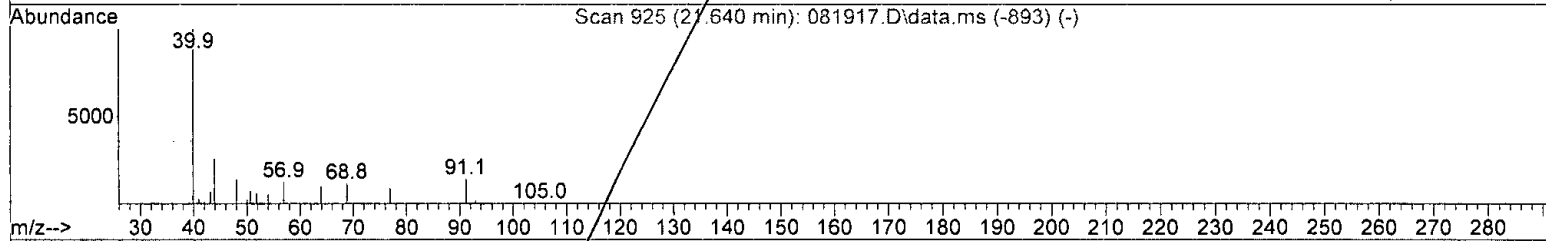
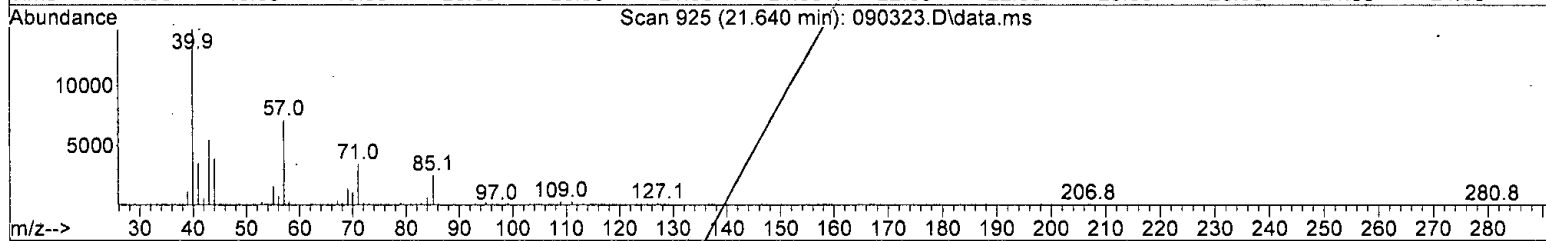
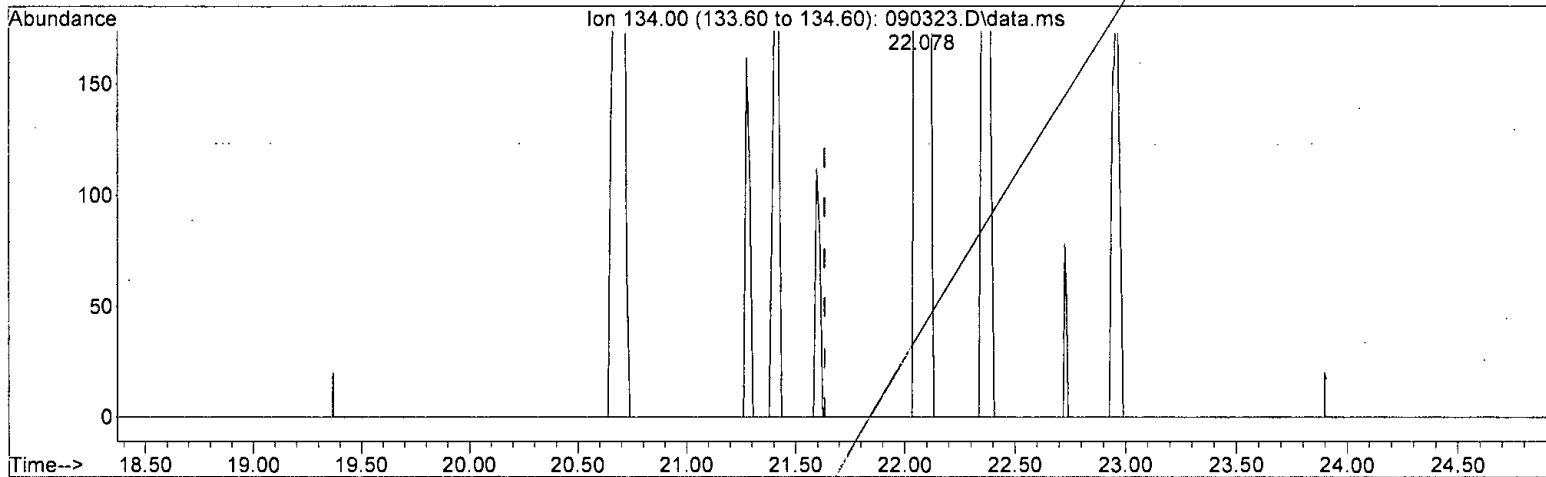
*Handwritten signature*

(44) APH EC9-10 aromatics (1) (H)  
 21.635min ( 0.000) 30.999 ug/m3 m  
 response 155555

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:10:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090323.D\data.ms

(45) APH EC9-10 aromatics (2) (A)

21.635min ( 0.000) -4.218 ug/m3 m

response -12056

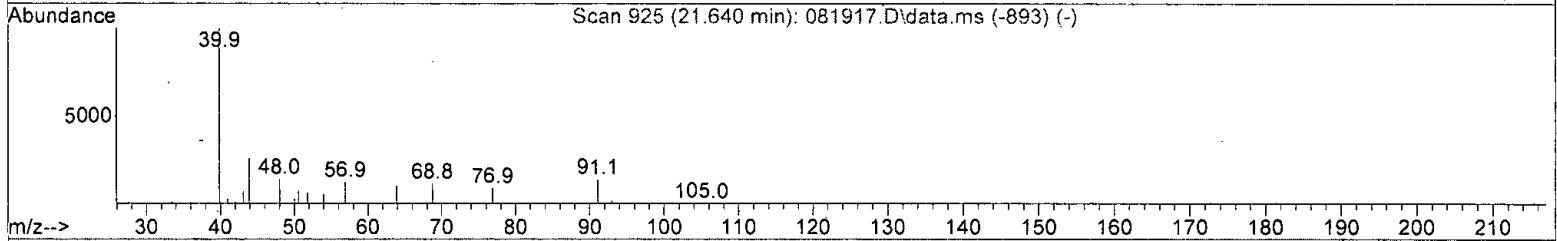
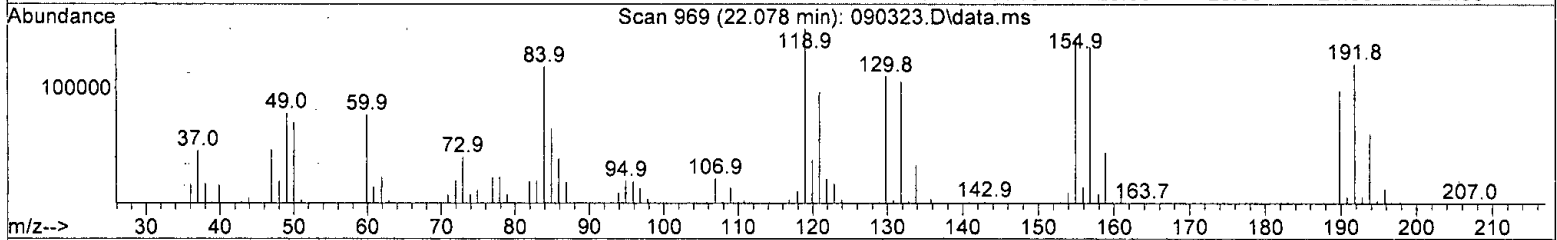
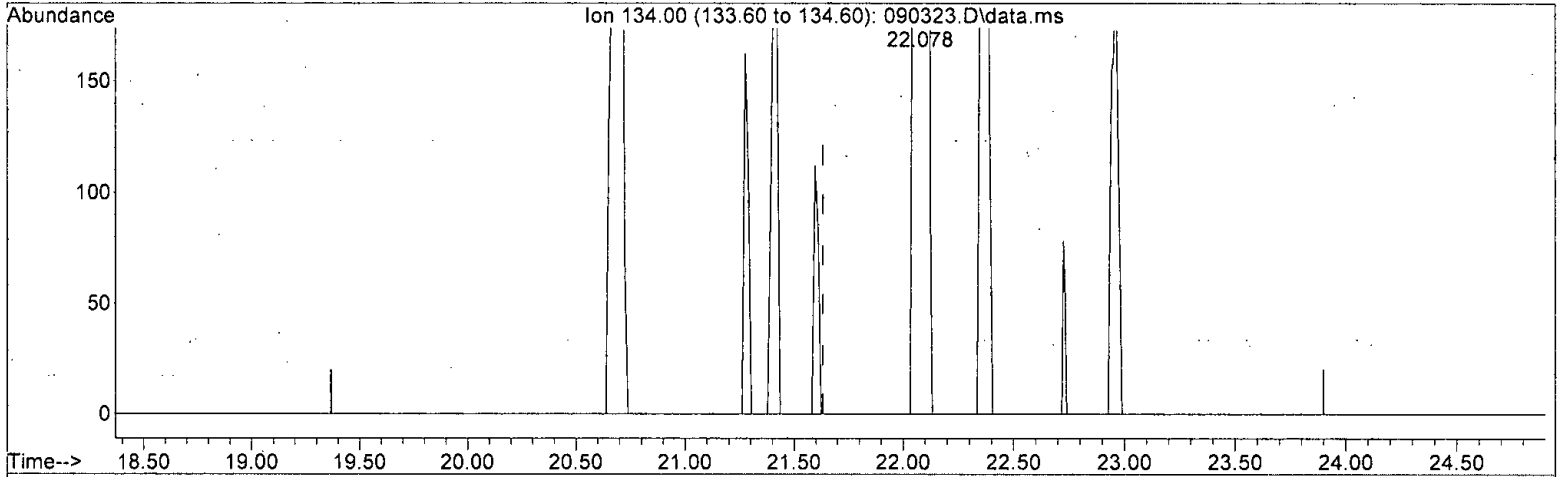
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:10:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090323.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 35.709 ug/m3 m

response 102062

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h  
09/07/21*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:20:01 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	98950	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	462276	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	421250	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	364078	68.984	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	97.15%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	945192	54.100	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1301845	52.498	ug/m3	92
4) IS-3 Chlorobenzene-d5	18.21	TIC	1617662	53.782	ug/m3	91
5) Methylene chloride	6.86	TIC	164768	186.274	ug/m3	92
6) Acetone	5.62	TIC	51653	1.107	ppbv	100
7) 2-Propanol	5.88	TIC	12830	47.323	ppbv	100
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	8.43	73	156	0.020	ug/m3	56
11) Benzene	12.71	78	8102	0.515	ug/m3	80
12) Isopentane	5.62	TIC	51653	1.655	ug/m3#	53
13) Hexane	9.99	TIC	945192	30.855	ug/m3	61
14) Cyclohexane	13.23	TIC	1299578	40.500	ug/m3	93
15) 2,3-Dimethylpentane	13.52	TIC	127675	3.118	ug/m3	96
16) Heptane	0.00		0	N.D.		
17) Octane	17.57	TIC	30991950	675.388	ug/m3	61
18) APH EC5-8 aliphatics T...	0.00	TIC	33416048m	911.035	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	58030066m	1582.096	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1752539m	49.281	ug/m3	
22) Hexamethylcyclotrisilo...	17.78	TIC	533196m	60.872	ppbv	
23) Octamethylcyclotetrasil...	20.70	TIC	305158	27.914	ppbv	100
24) Toluene	16.39	92	4630	0.512	ug/m3	98
25) Ethylbenzene	18.60	91	2651	0.142	ug/m3	87
26) m,p-Xylene	18.76	106	2016	0.321	ug/m3	82
27) o-Xylene	19.21	106	2563	0.432	ug/m3	95
28) Naphthalene	23.94	128	1492	0.098	ug/m3	84
29) 2,3-Dimethylheptane	18.70	TIC	80384	1.899	ug/m3#	65
30) Nonane	19.15	TIC	58526	1.324	ug/m3	72
31) Decane	20.99	TIC	43693	0.995	ug/m3	96
32) Butylcyclohexane	21.62	TIC	225235	4.515	ug/m3	62
33) Undecane	21.91	TIC	243560	5.592	ug/m3	80
34) Dodecane	23.79	TIC	17105	0.478	ug/m3	90
35) APH EC9-12 aliphatics ...	21.62	TIC	668503m	15.511	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	15470520m	358.948	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	0.00		0	N.D.		
40) 1,3,5-Trimethylbenzene	20.45	120	329	0.056	ug/m3	90
41) p-Isopropyltoluene	21.28	134	234	0.081	ug/m3#	1
42) 1,2,3-Trimethylbenzene	21.41	120	22649	3.301	ug/m3#	1
43) APH EC9-10 aromatics T...	21.62	TIC	23212m	5.108	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	155555m	30.999	ug/m3	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

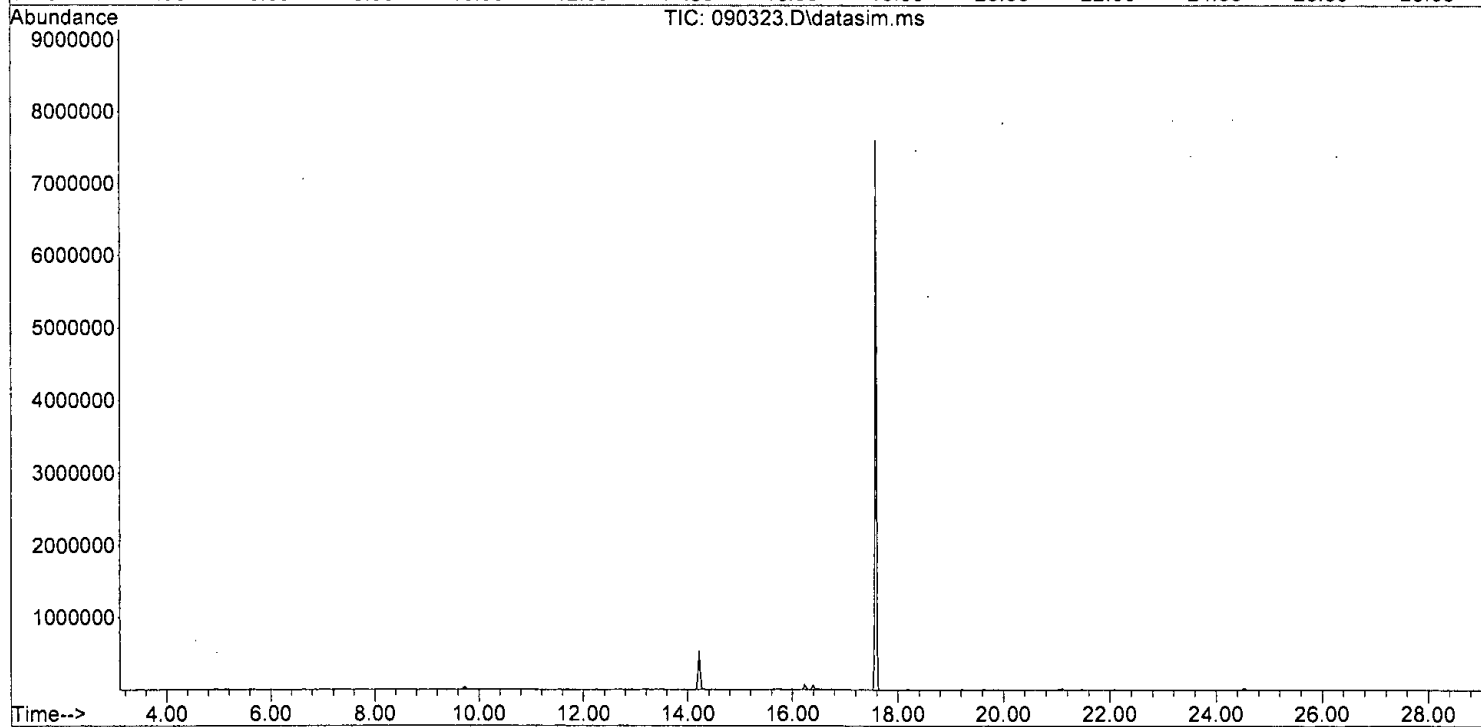
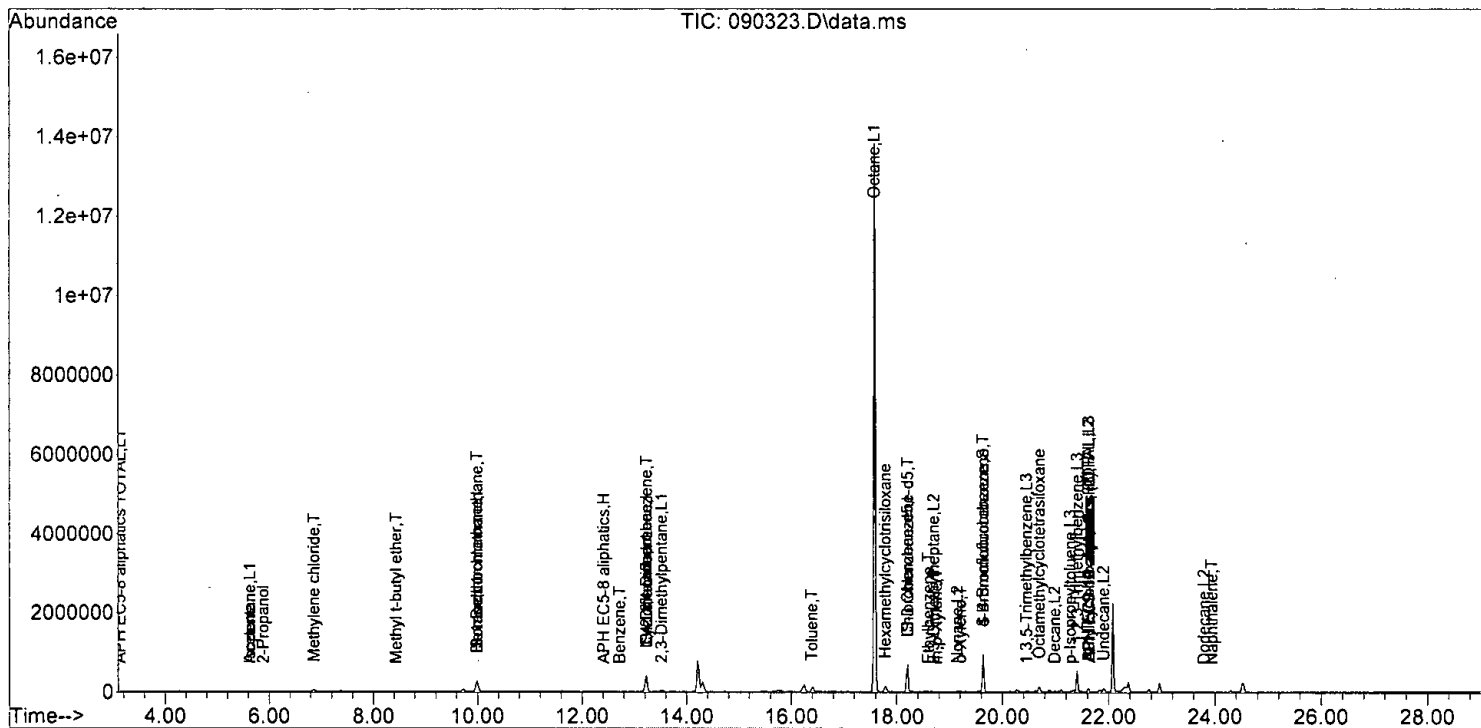
Quant Time: Sep 07 15:20:01 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	102062m	35.709	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:20:01 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





LSC Area Percent Report

Data Path : W:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1

Integration Parameters: rteint.p  
 Integrator: RTE  
 Smoothing : OFF  
 Sampling : 1  
 Start Thrs: 0.2  
 Stop Thrs : 0

Filtering: 5  
 Min Area: 1 % of largest Peak  
 Max Peaks: 100  
 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >  
 Peak separation: 5

Method : W:\METHODS\Inst7\0819APH7.M  
 Title : APH TO-15 method

Signal : TIC: 090323.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	9.989	244	250	255	rBV	270901	928137	3.00%	1.925%
2	13.231	490	498	503	rBV	406714	1299578	4.20%	2.696%
3	14.211	538	541	543	rBV	770785	2263447	7.32%	4.695%
4	14.309	543	545	549	rVB	239982	787276	2.55%	1.633%
5	16.252	626	628	631	rVB	175734	473990	1.53%	0.983%
6	16.420	631	634	636	rBV	117832	392748	1.27%	0.815%
7	17.574	679	683	688	rBV	13806077	30922037	100.00%	64.142%
8	17.780	694	699	706	rBV	141961	452488	1.46%	0.939%
9	18.208	719	722	725	rBV	682092	1587014	5.13%	3.292%
10	19.637	793	795	798	rBV	932070	1687516	5.46%	3.500%
11	21.407	906	909	912	rVB	525470	993481	3.21%	2.061%
12	22.078	960	969	975	rBV	2224418	4224069	13.66%	8.762%
13	22.312	988	999	1003	rBV	106590	487489	1.58%	1.011%
14	22.366	1003	1006	1014	rVB	226396	462942	1.50%	0.960%
15	22.958	1073	1082	1089	rVB	220557	531602	1.72%	1.103%
16	24.515	1187	1190	1194	rBV	235542	714594	2.31%	1.482%

Sum of corrected areas: 48208408

Signal : TIC: 090323.D\datasim.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
--------	----------	------------	----------	-----------	-------	-------------	------------	--------------	------------

No peaks were detected using the above RTE integration parameters!

Data Path : W:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1

Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
 Peak Number 1 Ethene, trichloro- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.21	87.08 ug/m3	2263450	1,4-Difluorobenzene	13.23

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		Ethene, trichloro-	130	C2HCl3	000079-01-6	95
2		2-Fluoro-5-chloropyrimidine	132	C4H2ClFN2	062802-37-3	25
3		Ethyne, chloro-	60	C2HCl	000593-63-5	10
4		Pyridine, 1-oxide	95	C5H5NO	000694-59-7	9
5		2(1H)-Pyridinone	95	C5H5NO	000142-08-5	9

\*\*\*\*\*  
 Peak Number 2 Pentane, 2,2,4-trimethyl- Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.31	30.29 ug/m3	787276	1,4-Difluorobenzene	13.23

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		Pentane, 2,2,4-trimethyl-	114	C8H18	000540-84-1	78
2		Hexane, 2,2-dimethyl-	114	C8H18	000590-73-8	64
3		Pentane, 2,2,4,4-tetramethyl-	128	C9H20	001070-87-7	64
4		Butane, 2,2,3,3-tetramethyl-	114	C8H18	000594-82-1	64
5		Pentane, 2,2,3-trimethyl-	114	C8H18	000564-02-3	40

\*\*\*\*\*  
 Peak Number 3 Pentane, 2,3,4-trimethyl- Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
16.25	14.93 ug/m3	473990	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		Pentane, 2,3,4-trimethyl-	114	C8H18	000565-75-3	78
2		Hexane, 3-methyl-	100	C7H16	000589-34-4	56
3		Heptane, 4-methyl-	114	C8H18	000589-53-7	45
4		Hexane, 2,3-dimethyl-	114	C8H18	000584-94-1	38
5		Pentane, 3-ethyl-	100	C7H16	000617-78-7	36

\*\*\*\*\*  
 Peak Number 4 Ethene, tetrachloro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
17.57	974.22 ug/m3	30922000	Chlorobenzene-d5	18.21

Data Path : W:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1

Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		Ethene, tetrachloro-	164	C2Cl4	000127-18-4	97
2		2,5-Furandione, 3,4-dichloro-	166	C4Cl2O3	001122-17-4	27
3		Quinazoline, 4-chloro-	164	C8H5ClN2	005190-68-1	9
4		2-Chloroquinoxaline	164	C8H5ClN2	001448-87-9	9
5		Pyrimidine, 5-fluoro-2,4-dichloro-	166	C4HCl2FN2	002927-71-1	9

\*\*\*\*\*  
 Peak Number 5 1,3-Butadiene, 1,1,3,4-tetr... Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.08	133.08 ug/m3	4224070	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		1,3-Butadiene, 1,1,3,4-tetrachloro-	190	C4H2Cl4	042769-38-0	93
2		1,3-Benzenediol, 4,6-dichloro-2-...	192	C7H6Cl2O2	052956-21-5	30
3		Benzene, 1-bromo-2-chloro-	190	C6H4BrCl	000694-80-4	9
4		Benzene, 1-bromo-3-chloro-	190	C6H4BrCl	000108-37-2	9
5		Phenol, 2,4-dichloro-3,5-dimethyl-	190	C8H8Cl2O	000133-53-9	9

\*\*\*\*\*  
 Peak Number 6 Carbon dioxide Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.31	15.36 ug/m3	487489	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		Carbon dioxide	44	CO2	000124-38-9	3
2		Nitrogen oxide (N2O)	44	N2O	010024-97-2	3
3		Acetaldehyde	44	C2H4O	000075-07-0	2
4		Ethyne, fluoro-	44	C2HF	002713-09-9	2
5		Ethylene oxide(DOT)	44	C2H4O	000075-21-8	2

\*\*\*\*\*  
 Peak Number 7 1,3-Butadiene, 1,1,3,4-tetr... Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.37	14.59 ug/m3	462942	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		1,3-Butadiene, 1,1,3,4-tetrachloro-	190	C4H2Cl4	042769-38-0	89
2		1,3-Benzenediol, 4,6-dichloro-2-...	192	C7H6Cl2O2	052956-21-5	35
3		3-Pyridinecarboxylic acid, 2-chl...	157	C6H4ClNO2	002942-59-8	9

Data Path : W:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1

Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P

4 Pyrrolidine, 1-(12-hydroxy-1-oxo... 353 C22H43NO2 056666-49-0 9  
 5 3-Penten-2-one, 4-chloro-1,1,1,5... 226 C5HClF6O 056666-71-8 9

\*\*\*\*\*  
 Peak Number 8 1,3-Butadiene, pentachloro- Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
22.96	16.75 ug/m3	531602	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		1,3-Butadiene, pentachloro-	224	C4HCl5	055880-77-8	94
2		1,3-Cyclopentanedione, 2-bromo-4...	204	C7H9BrO2	057157-02-5	10
3		Carboxamide, seleno-2-thienyl-	191	C5H5NSSe	054679-69-5	9
4		Phenol, 2,6-dichloro-4-(1-methyl...	218	C10H12Cl2O	034593-74-3	9
5		4-Pyridinol, 3,5-dichloro-2,6-di...	191	C7H7Cl2NO	002971-90-6	9

\*\*\*\*\*  
 Peak Number 9 1,3-Butadiene, 1,1,2,3,4,4-... Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.52	22.51 ug/m3	714594	Chlorobenzene-d5	18.21

Hit# of	5	Tentative ID	MW	MolForm	CAS#	Qual
1		1,3-Butadiene, 1,1,2,3,4,4-hexac...	258	C4Cl6	000087-68-3	99
2		Selenocyanic acid, p-(sec-butyla...	254	C11H14N2Se	022037-11-2	9
3		Phenanthrene, 9,10-dihydro-3-nitro-	225	C14H11NO2	018264-83-0	7
4		1H-Purin-6-amine, N-(phenylmethyl)-	225	C12H11N5	001214-39-7	5
5		3,6-Bis(N-methylamino)carbazole	225	C14H15N3	098785-99-0	4

Tentatively Identified Compound (LSC) summary

Data Path : W:\Proc\_GCMS7\09-03-21\  
 Data File : 090323.D  
 Acq On : 3 Sep 2021 10:08 pm  
 Operator : bat  
 Sample : 109030-06 1/17  
 Misc : T11  
 ALS Vial : 23 Sample Multiplier: 1

Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method

TIC Library : D:\Database\NBS54K.L  
 TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	--Internal Standard--			
					#	RT	Resp	Conc
Ethene, trichloro-	14.21	87.1	ug/m3	<u>2263450</u>	2	13.23	1299580	50.0
Pentane, 2,2,4-...	14.31	30.3	ug/m3	787276	2	13.23	1299580	50.0
Pentane, 2,3,4-...	16.25	14.9	ug/m3	473990	3	18.21	1587010	50.0
Ethene, tetrach...	17.57	974.2	ug/m3	<u>30922000</u>	3	18.21	1587010	50.0
1,3-Butadiene, ...	22.08	133.1	ug/m3	4224070	3	18.21	1587010	50.0
Carbon dioxide	22.31	15.4	ug/m3	487489	3	18.21	1587010	50.0
1,3-Butadiene, ...	22.37	14.6	ug/m3	462942	3	18.21	1587010	50.0
1,3-Butadiene, ...	22.96	16.7	ug/m3	531602	3	18.21	1587010	50.0
1,3-Butadiene, ...	24.52	22.5	ug/m3	714594	3	18.21	1587010	50.0

1	Analysis For Volatile Compounds By Method MA-APH
2	
3	Client Sample ID:
4	Date Received:
5	Date Collected:
6	Date Analyzed: 09/03/21 22:08
7	Matrix:
8	Units:
9	
10	
11	Surrogates: Recovery:
12	4-Bromofluorobenzene 97
13	
14	Concentration
15	Compounds: ug/m3
16	
17	APH EC5-8 aliphatics #DIV/0!
18	APH EC9-12 aliphatics #DIV/0!
19	APH EC9-10 aromatics #DIV/0!
20	
21	Calculation Data 090323.D 109

	A	B	C	D	E	F
1	Analysis For Volatile Compounds By Method MA-APH					
2						
3	Client Sample ID:	Client:				
4	Date Received:	Project:				
5	Date Collected:	Lab ID:		109030-06 1/17		
6	Date Analyzed:	Data File:		090323.D		
7	Matrix:	Instrument:		GCMS7		
8	Units:	Operator:		bat		
9						
10						
11	Surrogates: Recovery:					
12	4-Bromofluorobenzene 97					
13						
14	Concentration					
15	Compounds: ug/m3					
16						
17	APH EC5-8 aliphatics #DIV/0!					
18	APH EC9-12 aliphatics #DIV/0!					
19	APH EC9-10 aromatics #DIV/0!					
20						
21	Calculation Data 090323.D 109					

UserForm7

Sample Info  
 10903006117  
 090323.D

### NON-APH PEAKS TO SUBTRACT

	Non-APH Peak #1 Response	Non-APH Peak #2 Response	Non-APH Peak #3 Response
APH EC5-8 Aliphatics	2263450	30922000	
APH EC9-12 Aliphatics			

\*\*After entering all values, hit 'PrtScr' on keyboard, paste into Word, then Print page\*\*

Continue

UserForm1

Sample Info  
 10903006117  
 090323.D

Flint Hills Report Format

TQP Dilution Factor 17

Soil (dry wt) Reporting Limit

Water Calculation Factor

Product Surrogate DF 17

Air Dry Weight 0

TO-15 Sol Gas FL Initial Calib Limit

Reporting Units  Place in RUSH directory

Report to MDL

Report to 2xMDL

OK/Continue Cancel



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

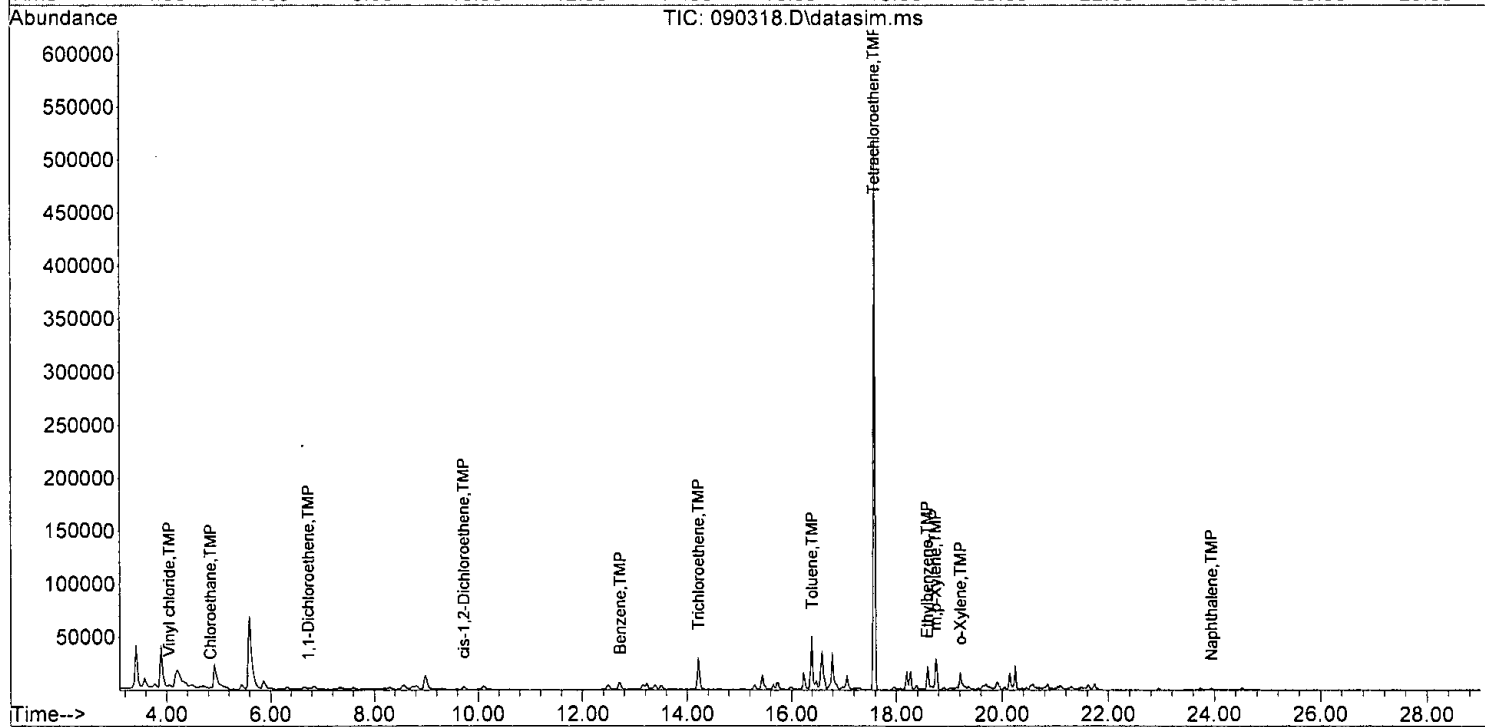
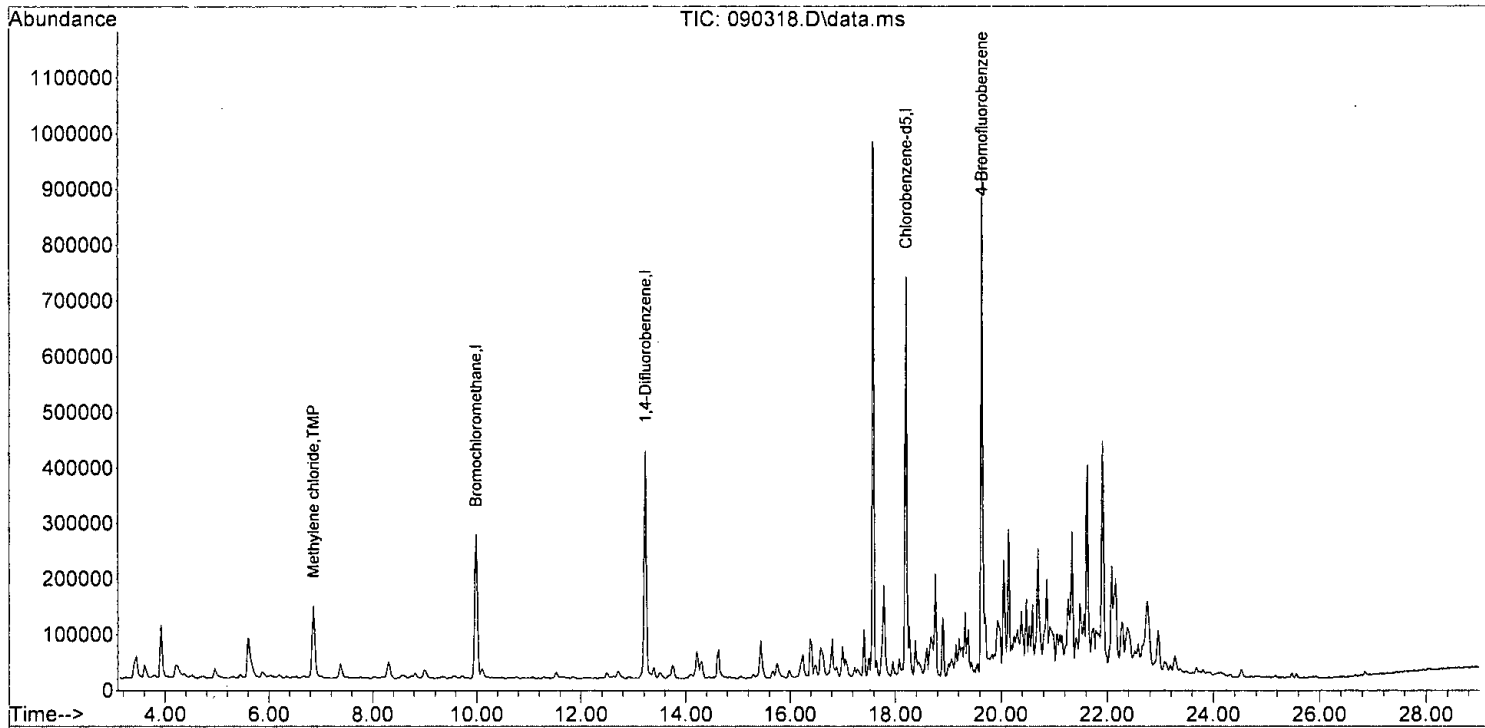
Quant Time: Sep 07 13:47:49 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	96153	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	449252	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	399878	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	355859	9.823	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	98.20%
Target Compounds						
						Qvalue
6] Vinyl chloride	4.05	62	4745	0.223	ppbv	95
10] Chloroethane	4.84	64	644	0.088	ppbv	96
18] 1,1-Dichloroethene	6.73	96	759	0.048	ppbv #	40
20] Methylene chloride	6.86	84	95137	5.653	ppbv #	80
28] cis-1,2-Dichloroethene	9.73	96	2838	0.166	ppbv #	72
37] Benzene	12.72	78	18954	0.322	ppbv	99
46] Trichloroethene	14.22	95	25803	0.929	ppbv	84
50] Toluene	16.40	92	27394	0.814	ppbv	84
53] Tetrachloroethene	17.58	164	225621	13.182	ppbv #	80
58] Ethylbenzene	18.59	91	36398	0.410	ppbv	97
65] m,p-Xylene	18.74	106	17488	0.613	ppbv #	79
66] o-Xylene	19.21	106	7415	0.264	ppbv	88
77] Naphthalene	23.95	128	2930	0.016	ppbv	97

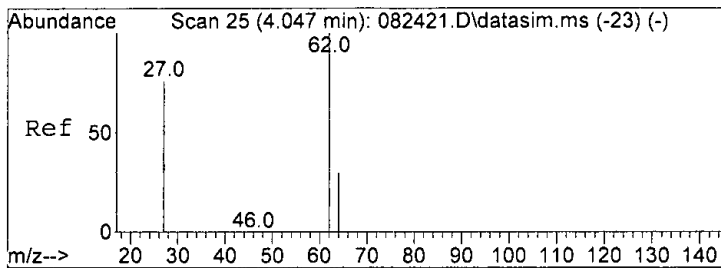
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:47:49 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

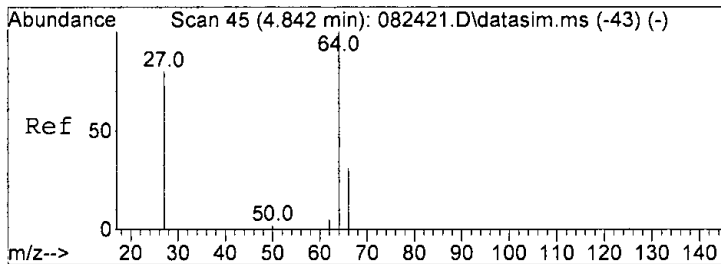
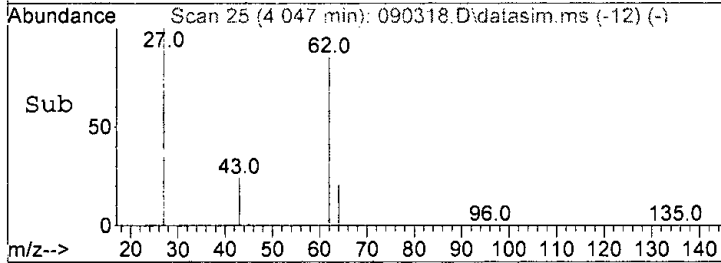
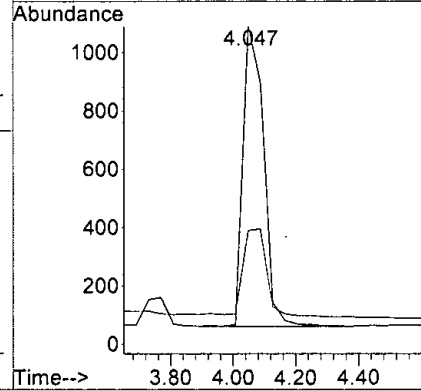
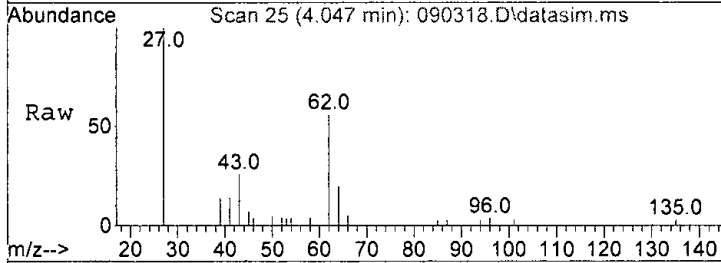






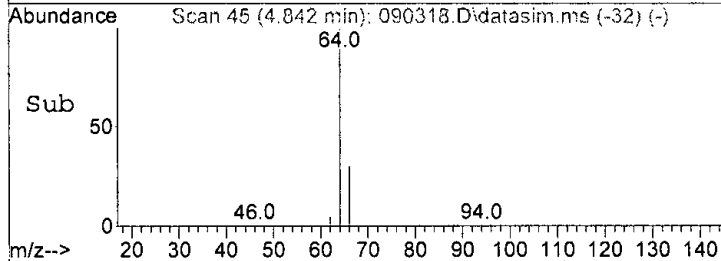
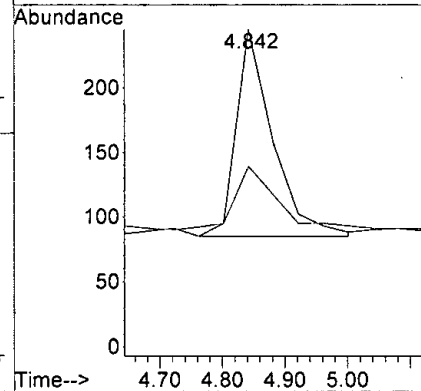
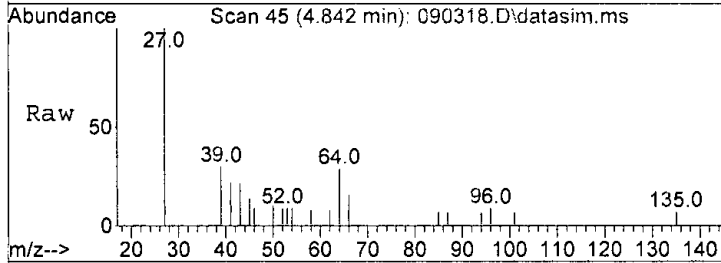
#6  
 Vinyl chloride  
 Concen: 0.223 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090318.D  
 Acq: 3 Sep 2021 6:55 pm

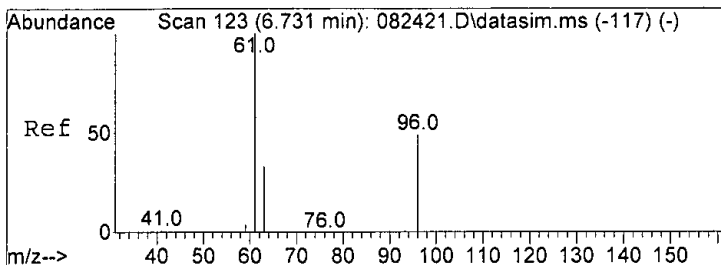
Tgt Ion	Ratio	Lower	Upper
62	100		
64	28.7	1.5	61.5



#10  
 Chloroethane  
 Concen: 0.088 ppbv  
 RT: 4.84 min Scan# 45  
 Delta R.T. 0.000 min  
 Lab File: 090318.D  
 Acq: 3 Sep 2021 6:55 pm

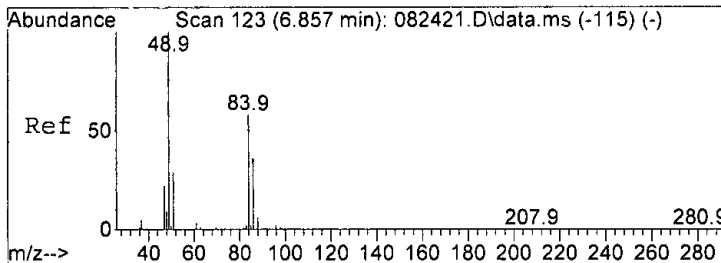
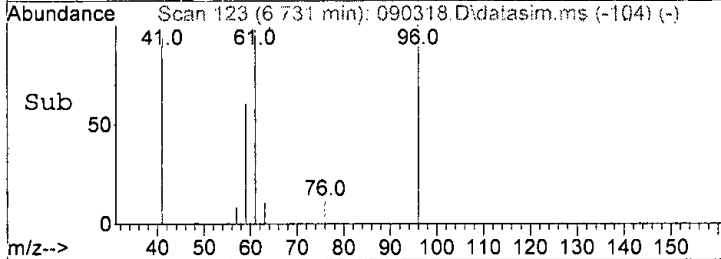
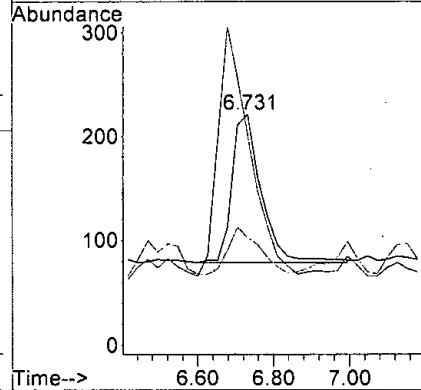
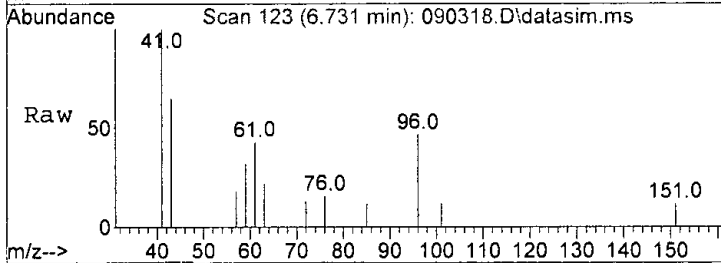
Tgt Ion	Ratio	Lower	Upper
64	100		
66	29.4	1.8	61.8





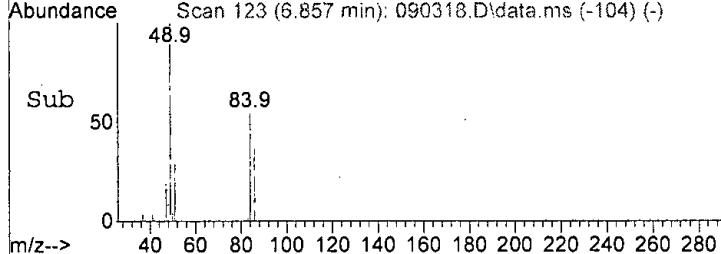
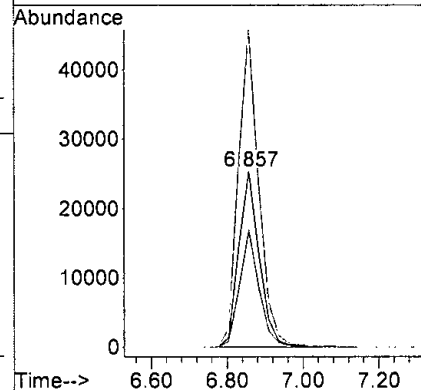
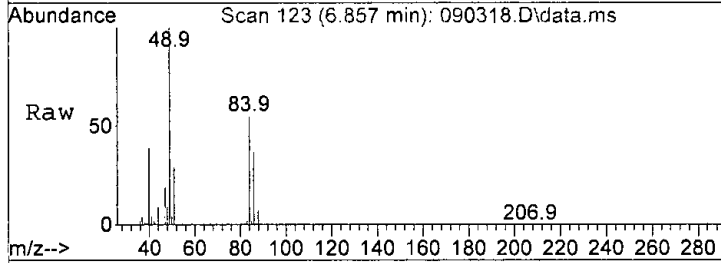
#18  
 1,1-Dichloroethene  
 Concen: 0.048 ppbv  
 RT: 6.73 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090318.D  
 Acq: 3 Sep 2021 6:55 pm

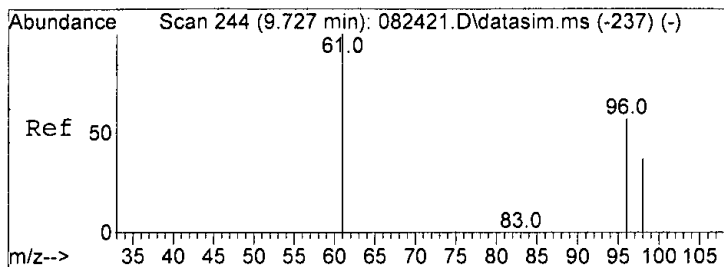
Tgt Ion	Resp	Lower	Upper
96	100		
61	95.8	159.0	219.0#
63	24.6	32.0	92.0#



#20  
 Methylene chloride  
 Concen: 5.653 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. -0.000 min  
 Lab File: 090318.D  
 Acq: 3 Sep 2021 6:55 pm

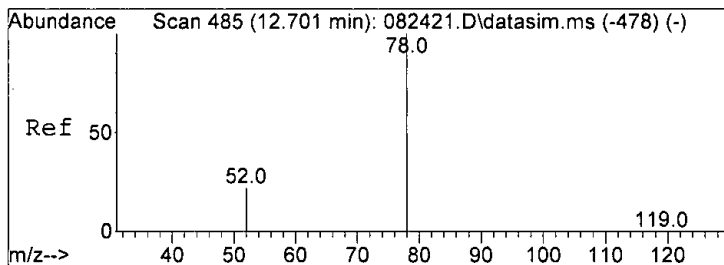
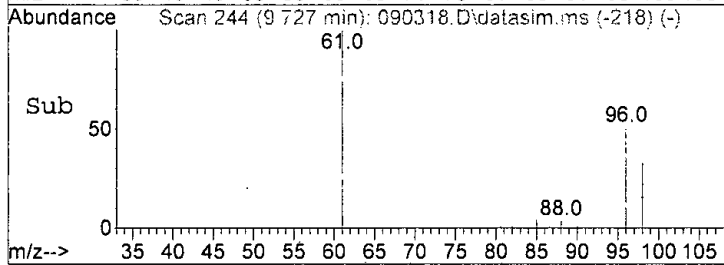
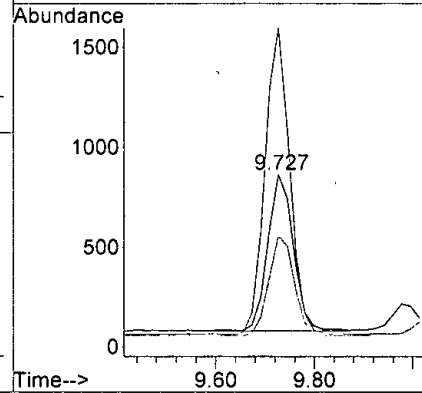
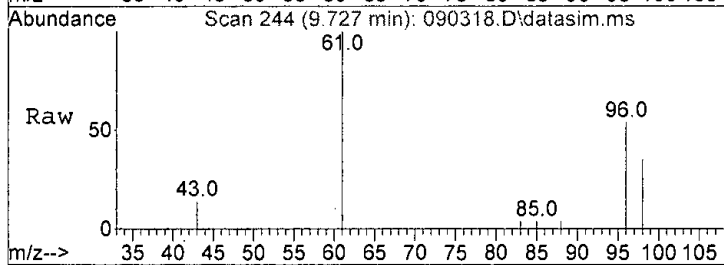
Tgt Ion	Resp	Lower	Upper
84	100		
86	66.7	33.9	93.9
49	181.1	116.6	176.6#





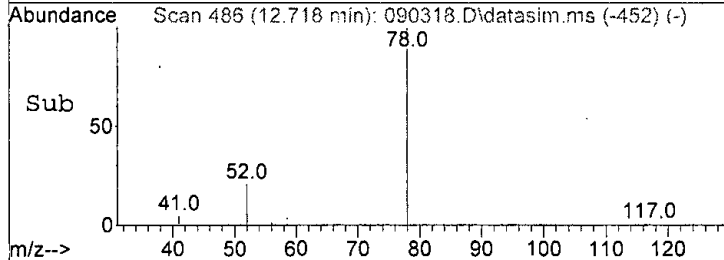
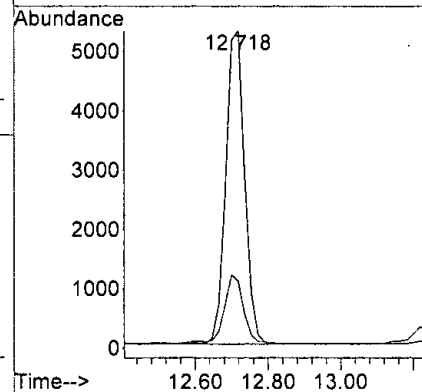
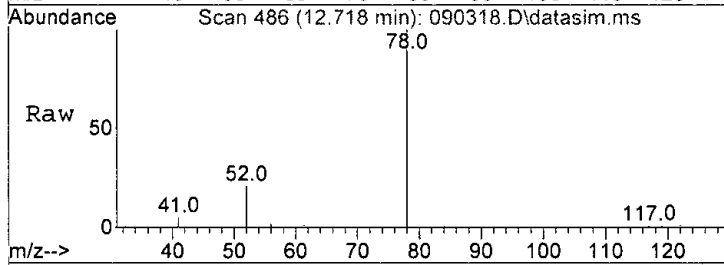
#28  
 cis-1,2-Dichloroethene  
 Concen: 0.166 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. -0.000 min  
 Lab File: 090318.D  
 Acq: 3 Sep 2021 6:55 pm

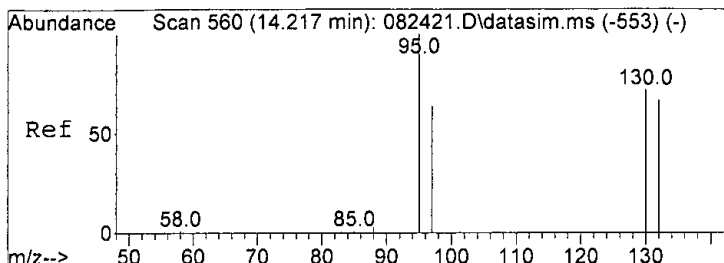
Tgt Ion	Resp	Lower	Upper
96	100		
61	195.5	116.0	176.0#
98	63.8	35.2	95.2



#37  
 Benzene  
 Concen: 0.322 ppbv  
 RT: 12.72 min Scan# 486  
 Delta R.T. 0.017 min  
 Lab File: 090318.D  
 Acq: 3 Sep 2021 6:55 pm

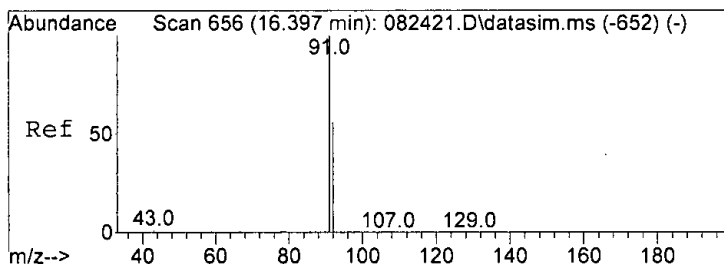
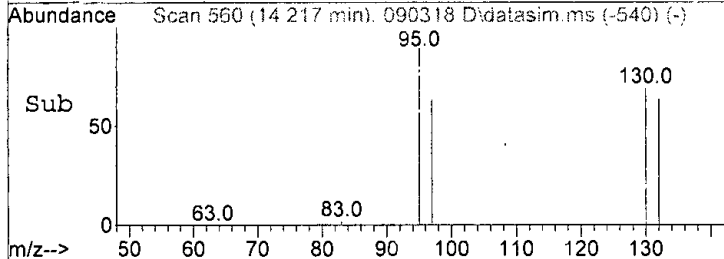
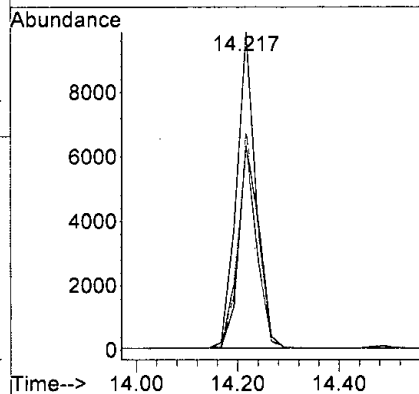
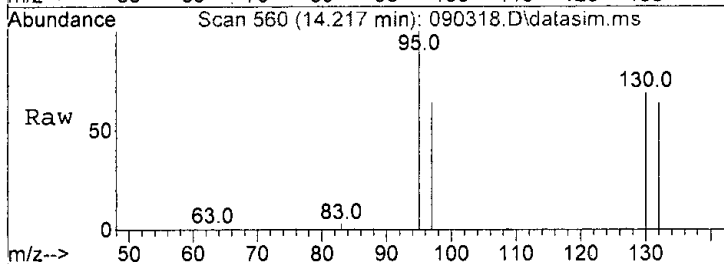
Tgt Ion	Resp	Lower	Upper
78	100		
52	19.9	0.0	49.7





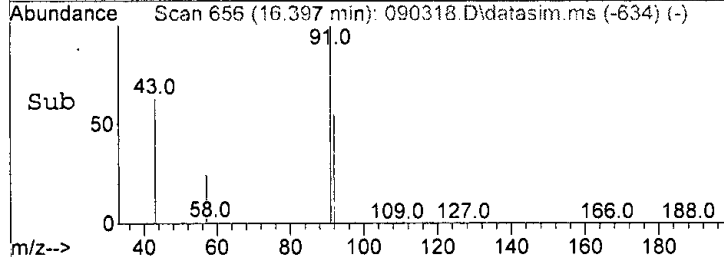
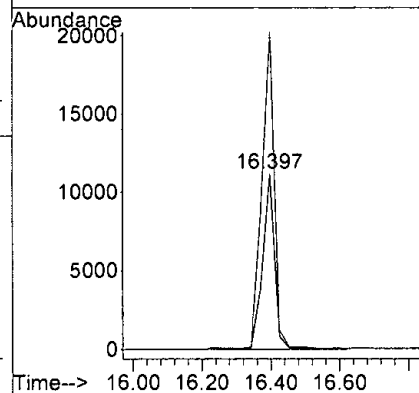
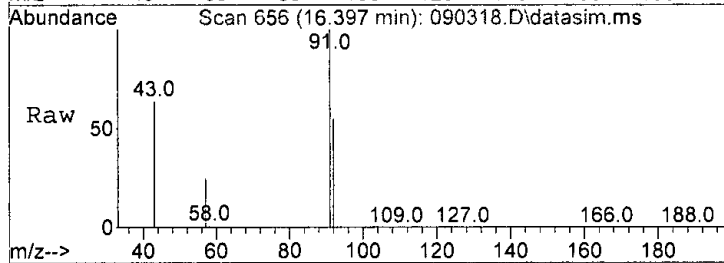
#46  
 Trichloroethene  
 Concen: 0.929 ppbv  
 RT: 14.22 min Scan# 560  
 Delta R.T. -0.000 min  
 Lab File: 090318.D  
 Acq: 3 Sep 2021 6:55 pm

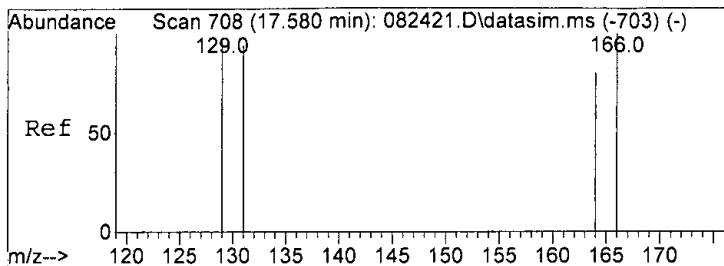
Tgt Ion	Resp	Lower	Upper
95	100		
97	64.2	37.1	97.1
130	68.7	56.1	116.1
132	64.0	54.3	114.3



#50  
 Toluene  
 Concen: 0.814 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090318.D  
 Acq: 3 Sep 2021 6:55 pm

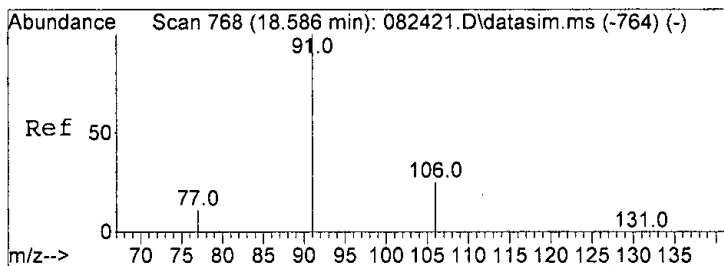
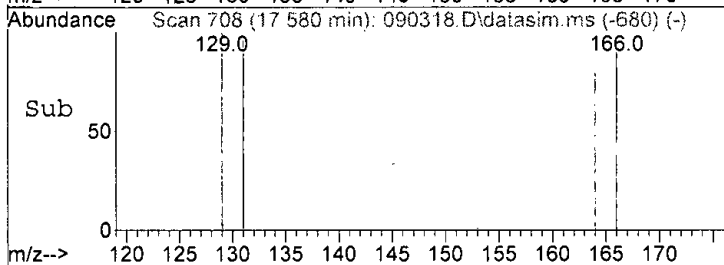
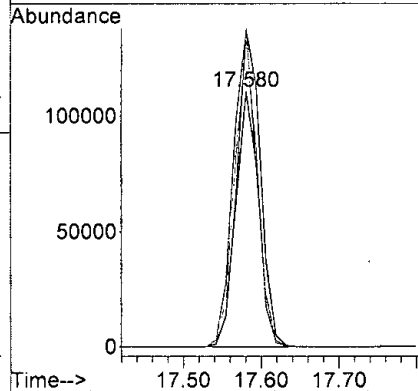
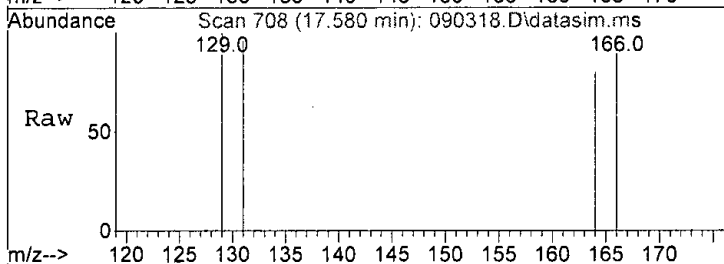
Tgt Ion	Resp	Lower	Upper
92	100		
91	180.6	174.6	234.6





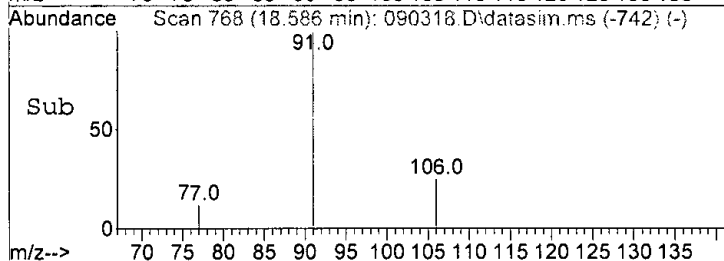
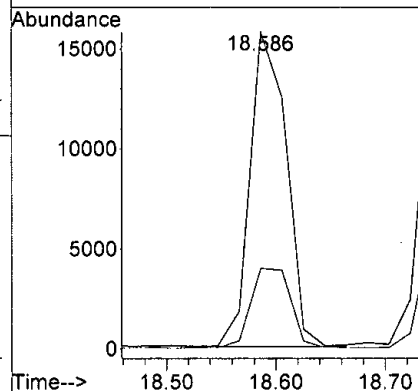
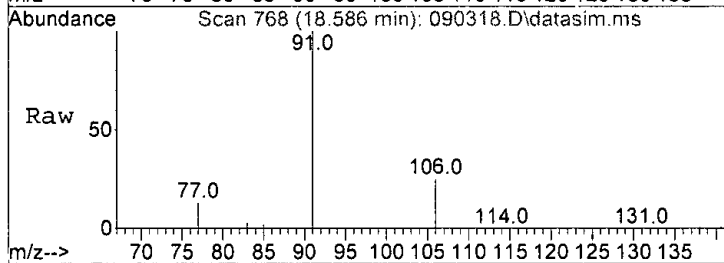
#53  
 Tetrachloroethene  
 Concen: 13.182 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090318.D  
 Acq: 3 Sep 2021 6:55 pm

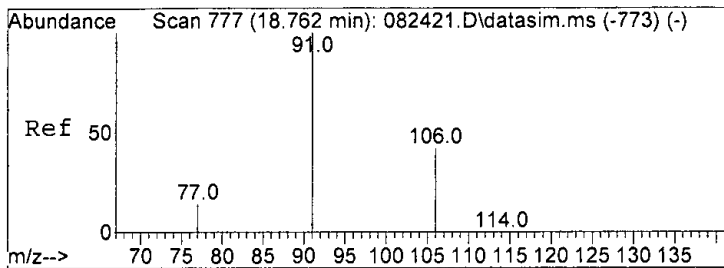
Tgt Ion	Ratio	Lower	Upper
164	100		
129	124.8	63.2	123.2#
131	120.3	70.7	130.7
166	124.0	107.5	167.5



#58  
 Ethylbenzene  
 Concen: 0.410 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090318.D  
 Acq: 3 Sep 2021 6:55 pm

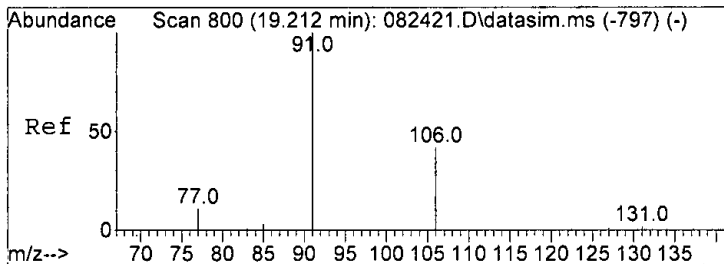
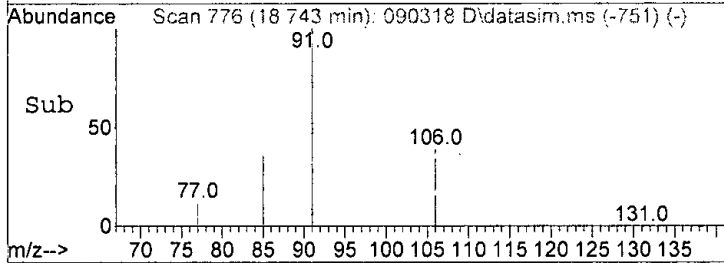
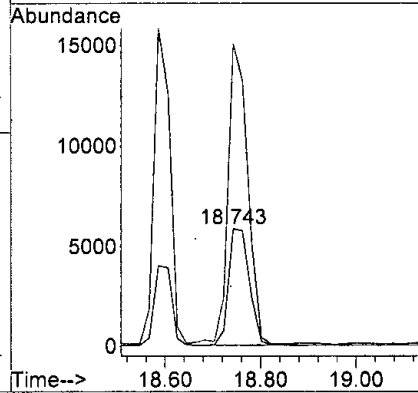
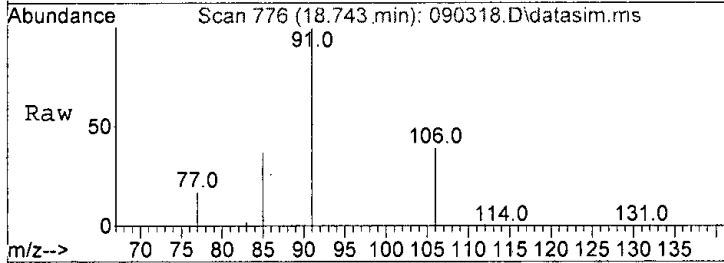
Tgt Ion	Ratio	Lower	Upper
91	100		
106	25.3	0.0	57.0





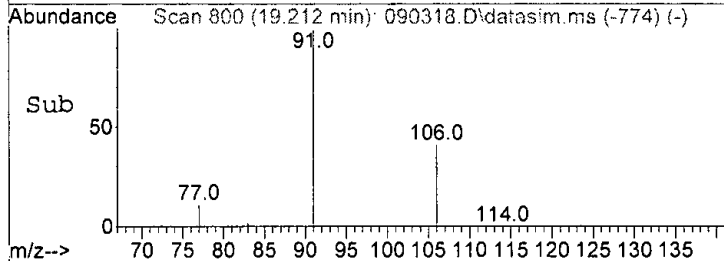
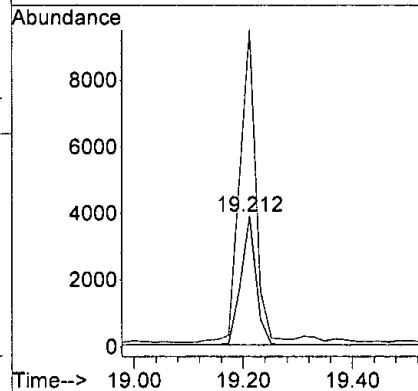
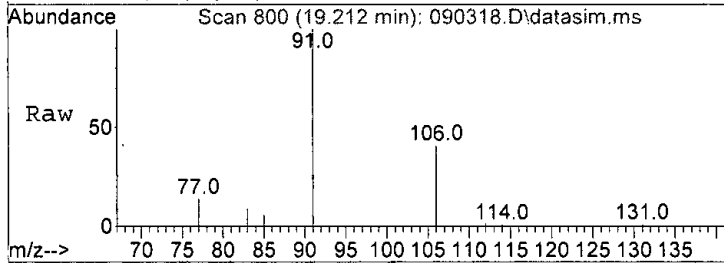
#65  
 m,p-Xylene  
 Concen: 0.613 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.019 min  
 Lab File: 090318.D  
 Acq: 3 Sep 2021 6:55 pm

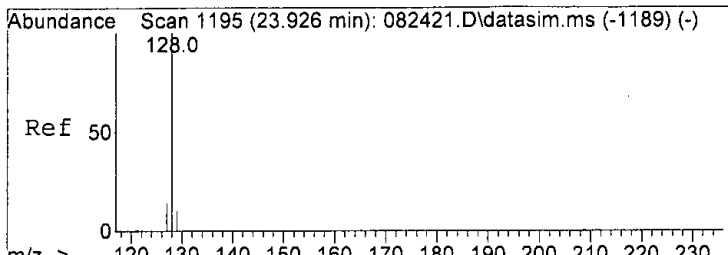
Tgt Ion:106 Resp: 17488  
 Ion Ratio Lower Upper  
 106 100  
 91 257.0 193.0 253.0#



#66  
 o-Xylene  
 Concen: 0.264 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090318.D  
 Acq: 3 Sep 2021 6:55 pm

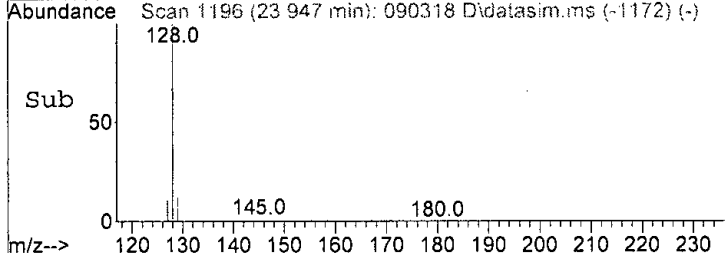
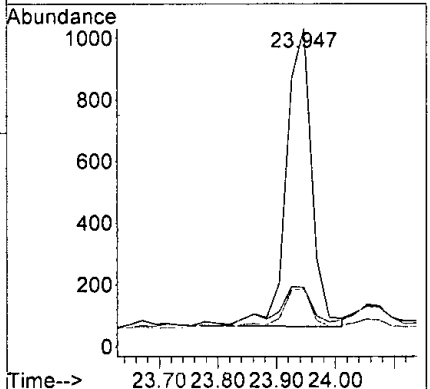
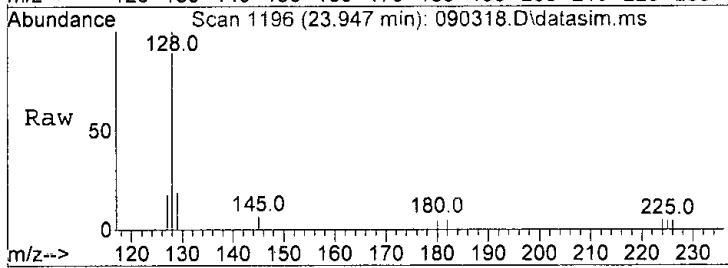
Tgt Ion:106 Resp: 7415  
 Ion Ratio Lower Upper  
 106 100  
 91 243.2 194.4 254.4





#77  
 Naphthalene  
 Concen: 0.016 ppbv  
 RT: 23.95 min Scan# 1196  
 Delta R.T. 0.021 min  
 Lab File: 090318.D  
 Acq: 3 Sep 2021 6:55 pm

Tgt Ion	Ratio	Resp	Lower	Upper
128	100	2930		
129	13.0		0.0	41.0
127	12.7		0.0	43.2



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:47:49 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
-----							
Internal Standards							
1) Bromochloromethane	9.99	128	96153	10.000	ppbv	#	0.00
39) 1,4-Difluorobenzene	13.23	114	449252	10.000	ppbv		0.00
56) Chlorobenzene-d5	18.21	117	399878	10.000	ppbv		0.00
System Monitoring Compounds							
69) 4-Bromofluorobenzene	19.64	95	355859	9.823	ppbv		0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=		98.20%
Target Compounds							
						Qvalue	
2) Propene	0.00		0	N.D.	d		
3) Dichlorodifluoromethane	0.00		0	N.D.	d		
4) Chloromethane	0.00		0	N.D.	d		
5) F-114	0.00		0	N.D.	d		
6] Vinyl chloride	4.05	62	4745	0.223	ppbv		95
7) 1,3-Butadiene	0.00		0	N.D.	d		
8) Butane	0.00		0	N.D.	d		
9) Bromomethane	0.00		0	N.D.	d		
10] Chloroethane	4.84	64	644	0.088	ppbv		96
11) Vinyl bromide	0.00		0	N.D.	d		
12) Ethanol	0.00		0	N.D.	d		
13) Acrolein	0.00		0	N.D.	d		
14) Pentane	0.00		0	N.D.	d		
15) Trichlorofluoromethane	0.00		0	N.D.	d		
16) Acetone	0.00		0	N.D.	d		
17) 2-Propanol	0.00		0	N.D.	d		
18] 1,1-Dichloroethene	6.73	96	759	0.048	ppbv	#	40
19) trans-1,2-Dichloroethene	8.18	96	143	N.D.	d		
20) Methylene chloride	6.86	84	95137	5.653	ppbv	#	80
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d		
22) 3-Chloropropene	0.00		0	N.D.	d		
23) CFC-113	0.00		0	N.D.	d		
24) Carbon disulfide	0.00		0	N.D.	d		
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d		
26) Vinyl acetate	0.00		0	N.D.	d		
27) 1,1-Dichloroethane	8.55	63	180	N.D.	d		
28] cis-1,2-Dichloroethene	9.73	96	2838	0.166	ppbv	#	72
29) Hexane	0.00		0	N.D.	d		
30) Chloroform	0.00		0	N.D.	d		
31) Ethyl acetate	0.00		0	N.D.	d		
32) Tetrahydrofuran	0.00		0	N.D.	d		
33) 2-Butanone (MEK)	0.00		0	N.D.	d		
34) 1,2-Dichloroethane (EDC)	11.18	62	140	N.D.	d		
35) 1,1,1-Trichloroethane	11.68	97	150	N.D.	d		
36) Carbon tetrachloride	0.00		0	N.D.	d		
37] Benzene	12.72	78	18954	0.322	ppbv		99
38) Cyclohexane	0.00		0	N.D.	d		
40) 1,2-Dichloropropane	0.00		0	N.D.	d		
41) 1,4-Dioxane	0.00		0	N.D.	d		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d		



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

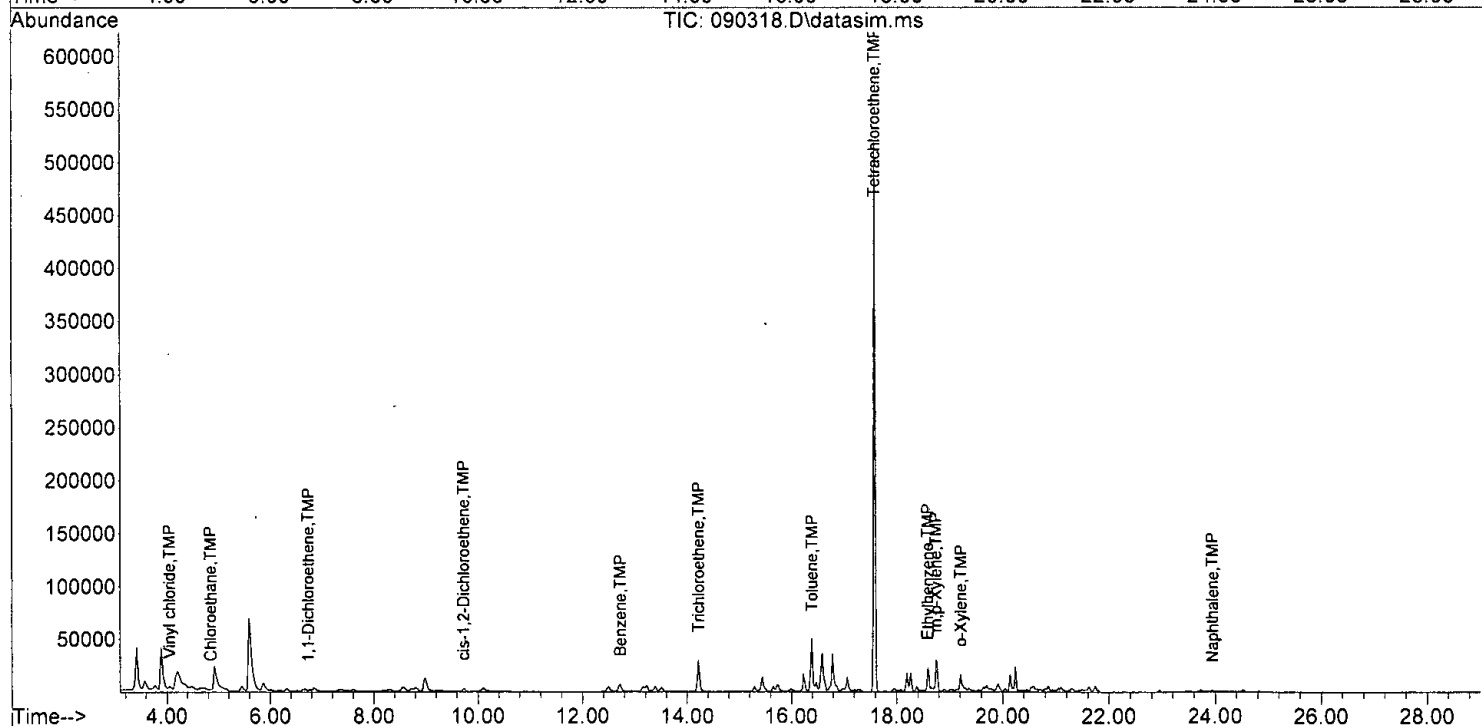
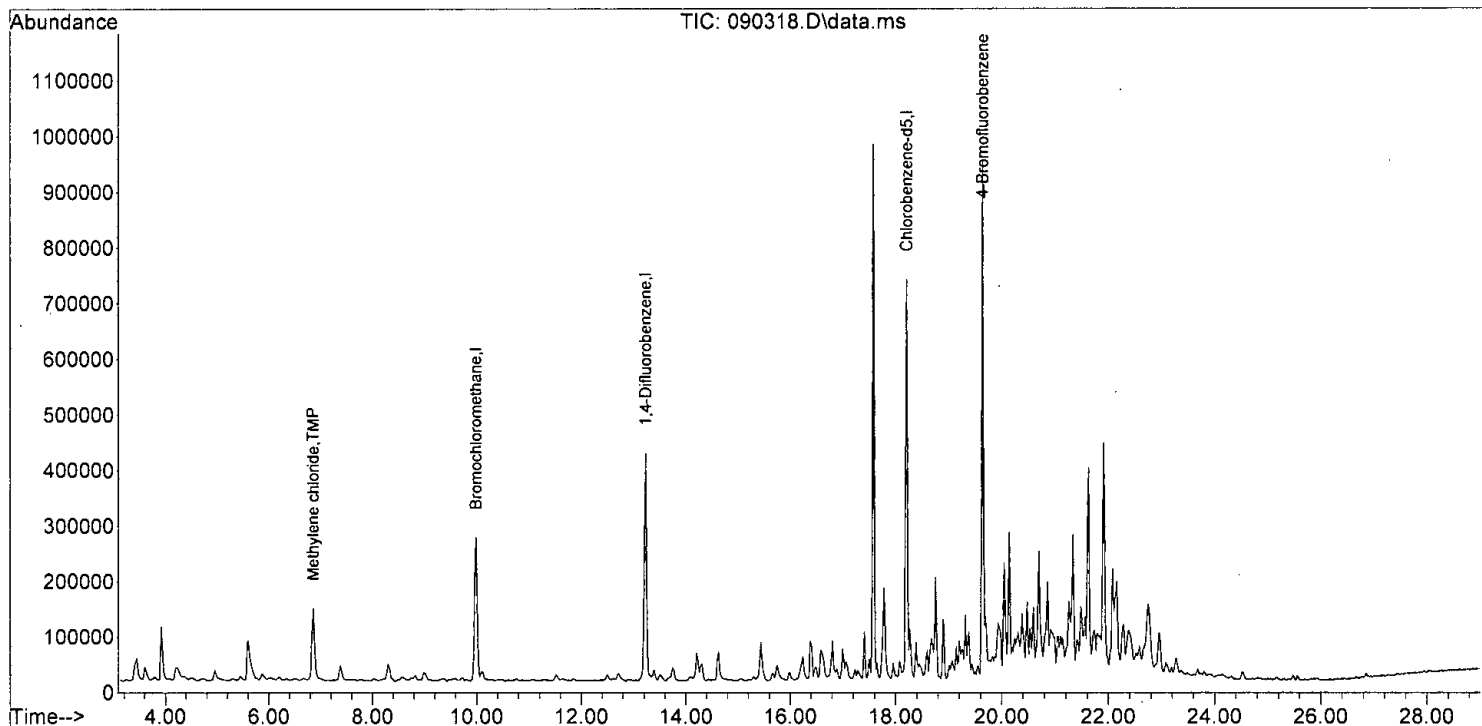
Quant Time: Sep 07 13:47:49 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	25803	0.929	ppbv	84
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	27394	0.814	ppbv	84
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	225621	13.182	ppbv #	80
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	36398	0.410	ppbv	97
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.74	106	17488	0.613	ppbv #	79
66] o-Xylene	19.21	106	7415	0.264	ppbv	88
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77] Naphthalene	23.95	128	2930	0.016	ppbv	97
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

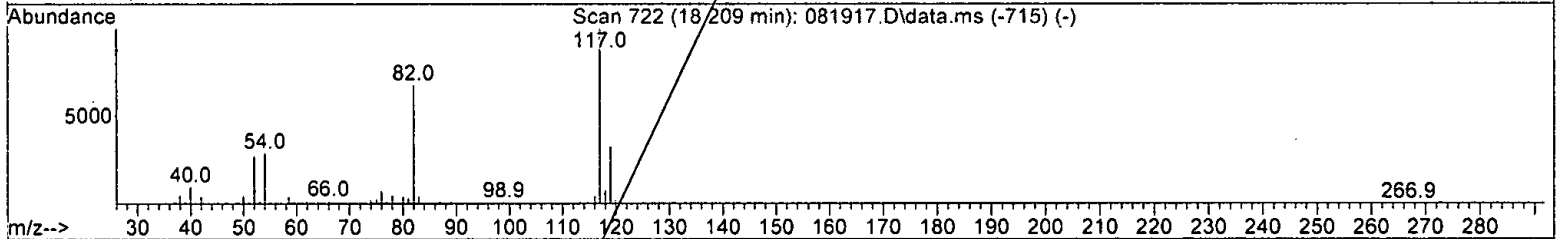
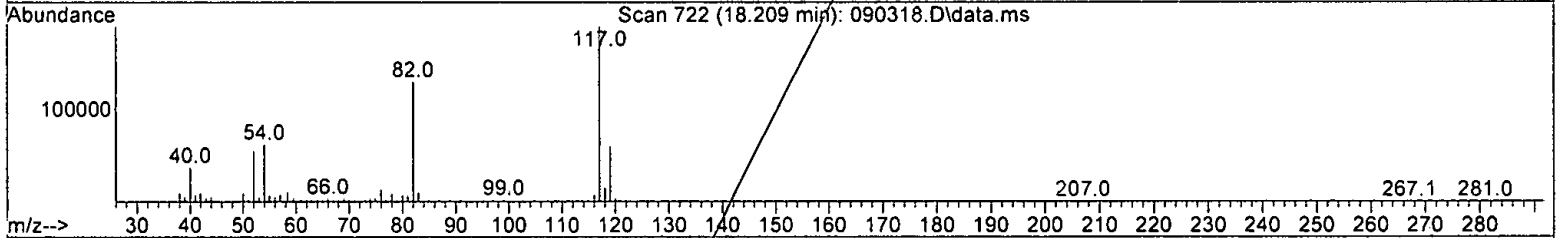
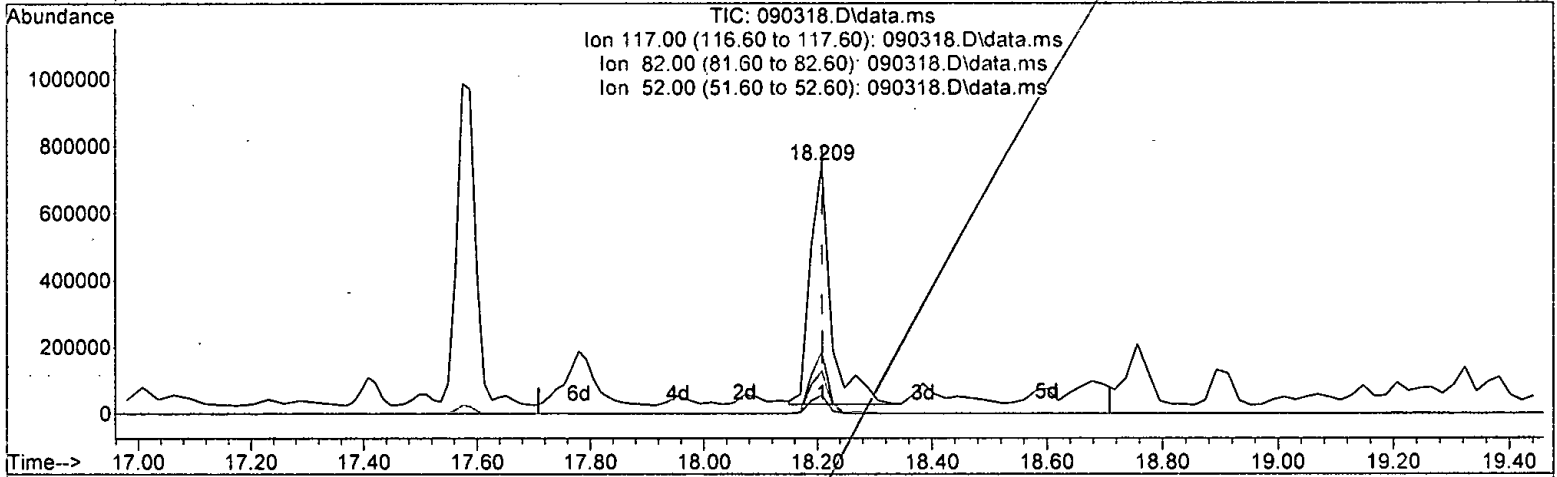
Quant Time: Sep 07 13:47:49 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:46:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 63.744 ug/m3

response 1863080

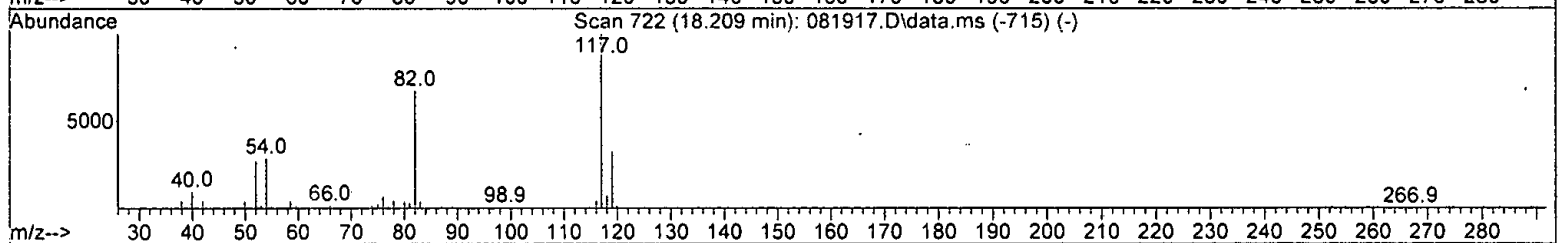
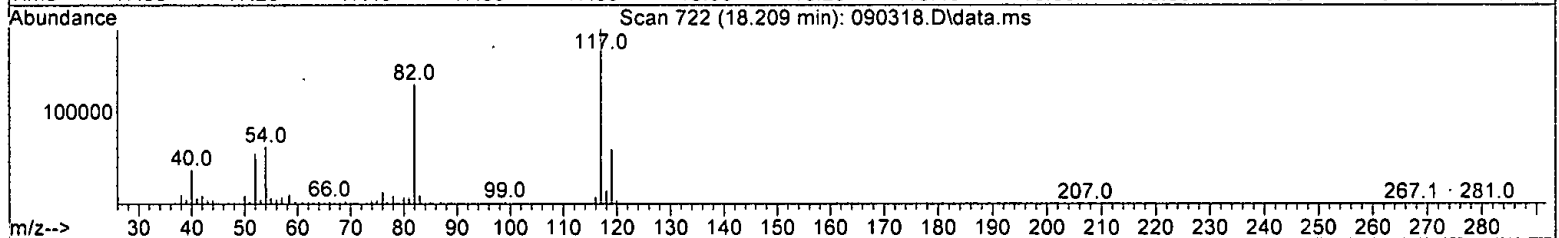
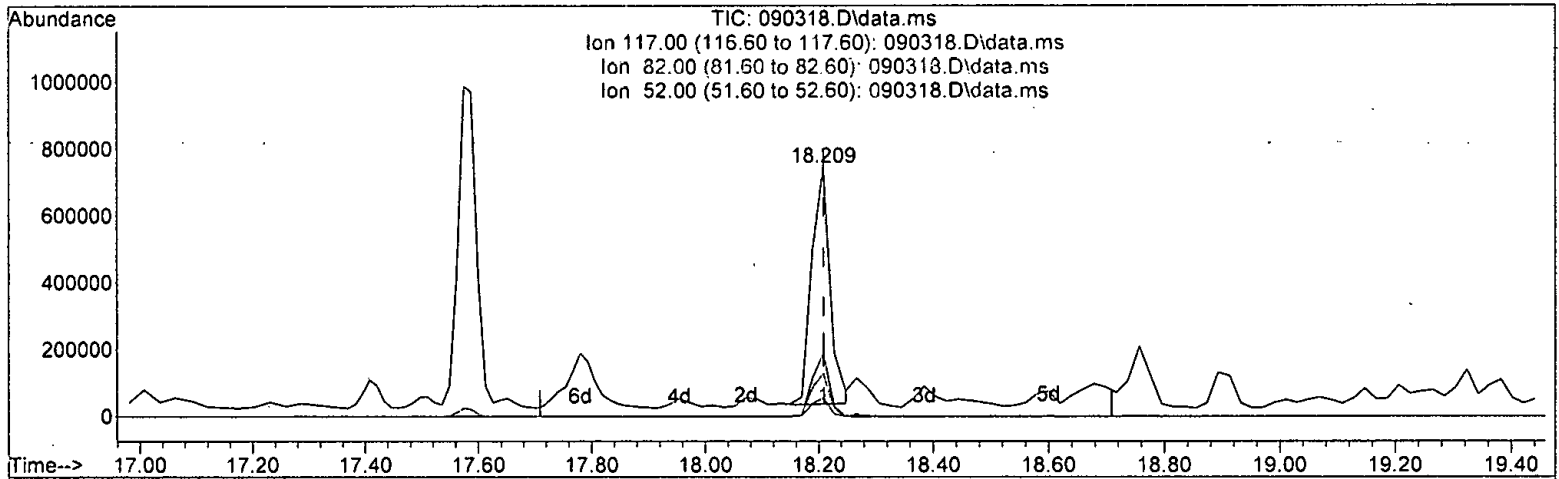
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	21.46
82.00	18.10	16.22
52.00	6.90	6.66

*h  
only*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:46:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 55.479 ug/m3 m

response 1621539

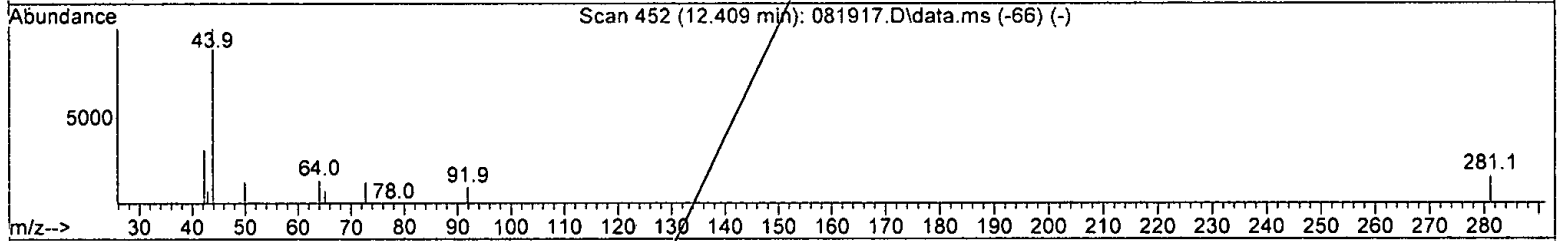
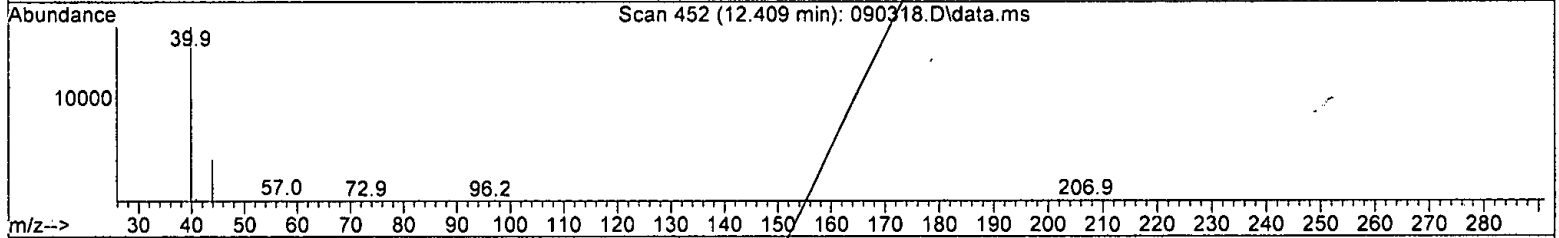
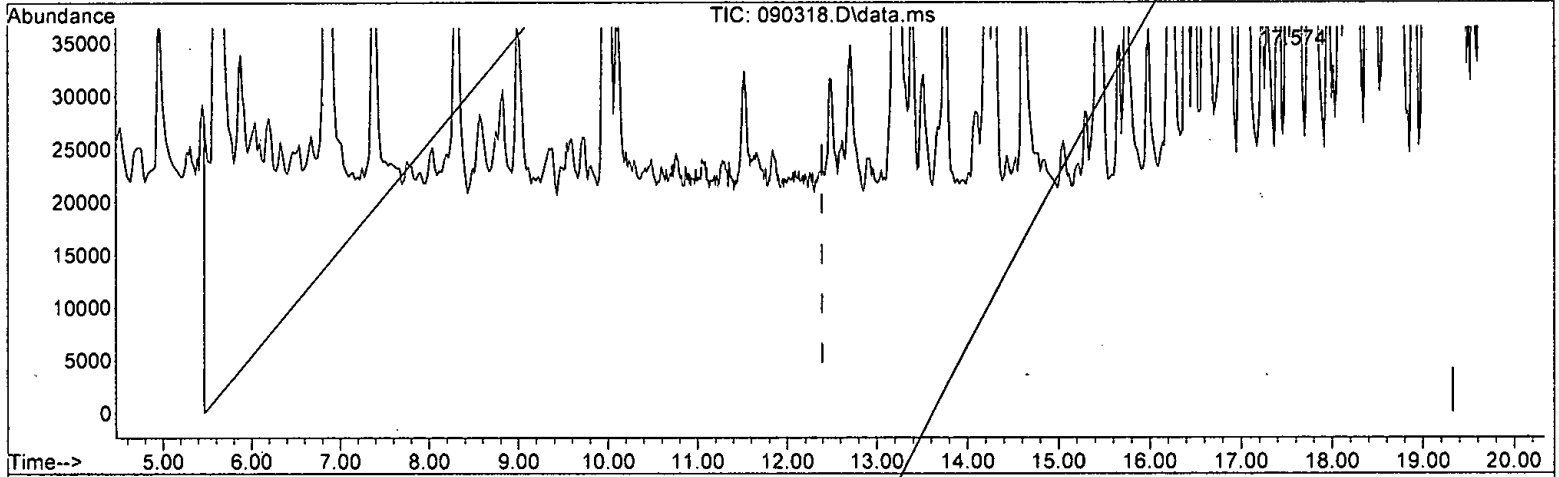
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	24.66
82.00	18.10	18.64
52.00	6.90	7.65

*Handwritten signature and date: 09/07/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:46:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 240.691 ug/m3 m  
 response 8579634

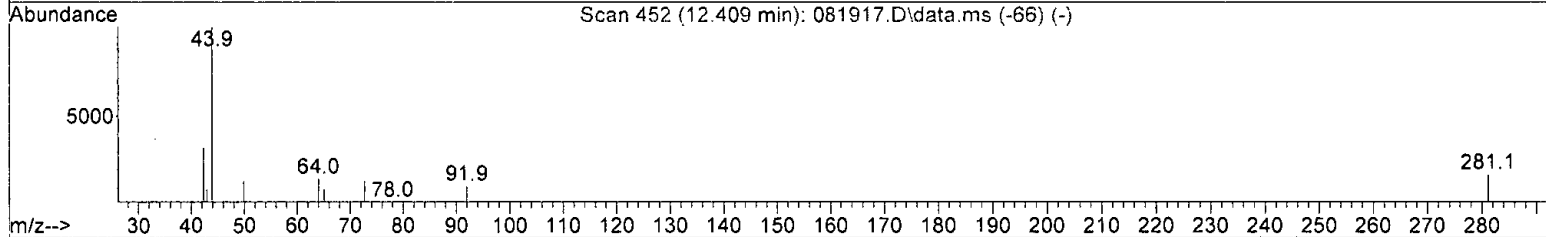
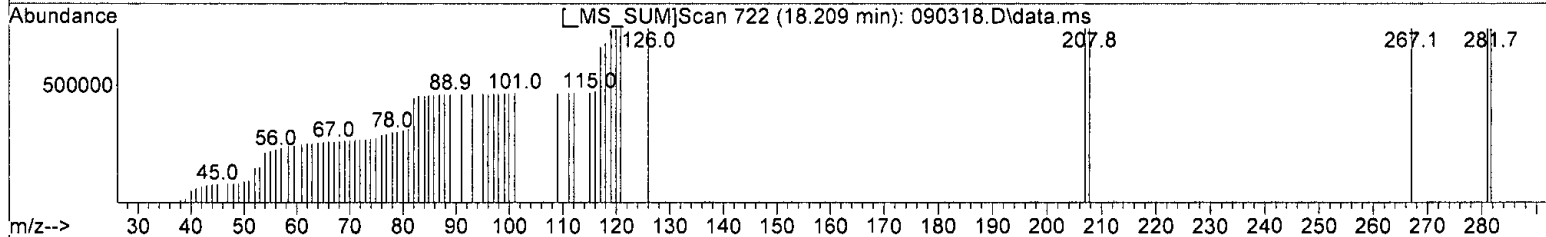
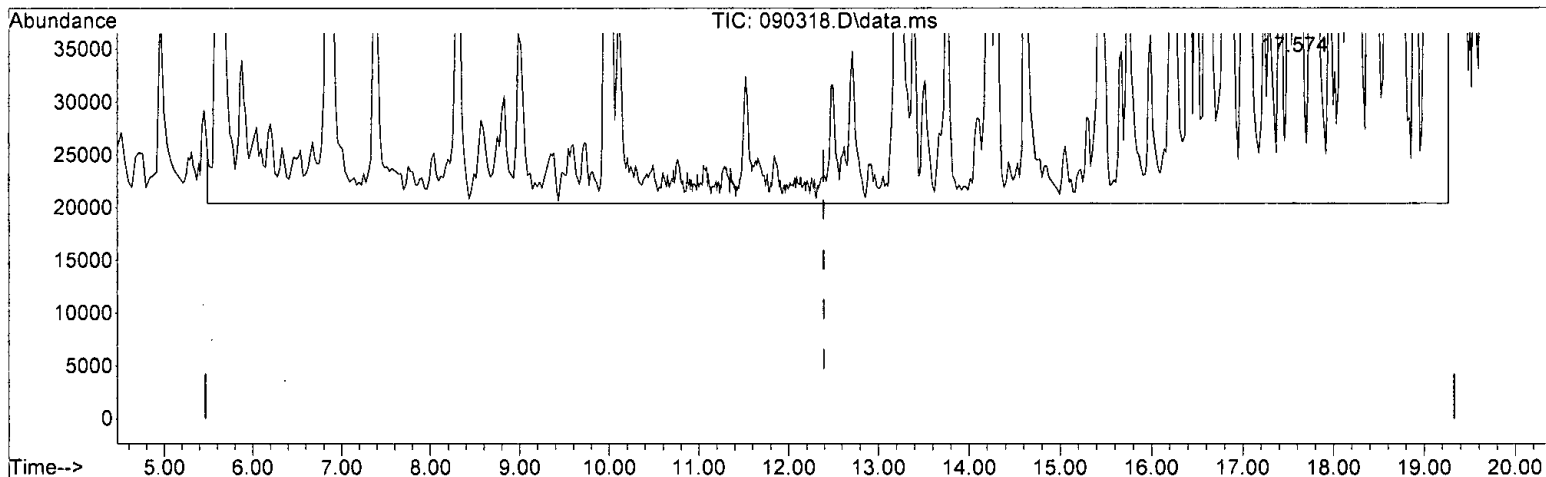
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*M*  
 09/07/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:46:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 466.180 ug/m3 m  
 response 16617390

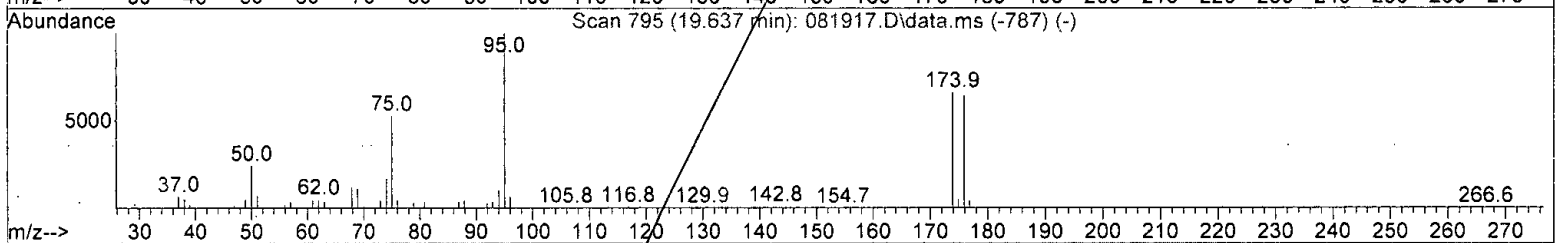
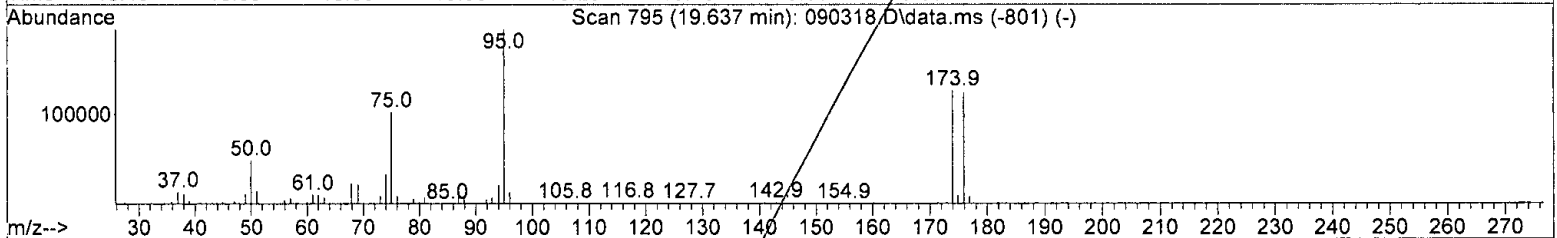
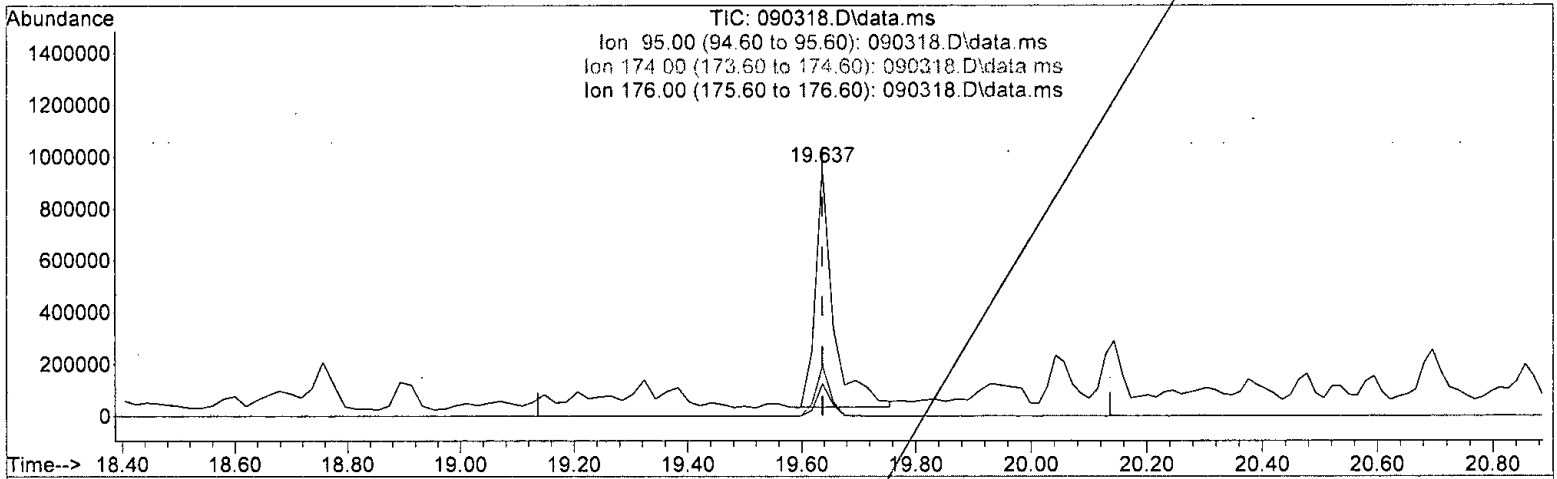
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*  
 09/07/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:46:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 60.922 ug/m3

response 2056595

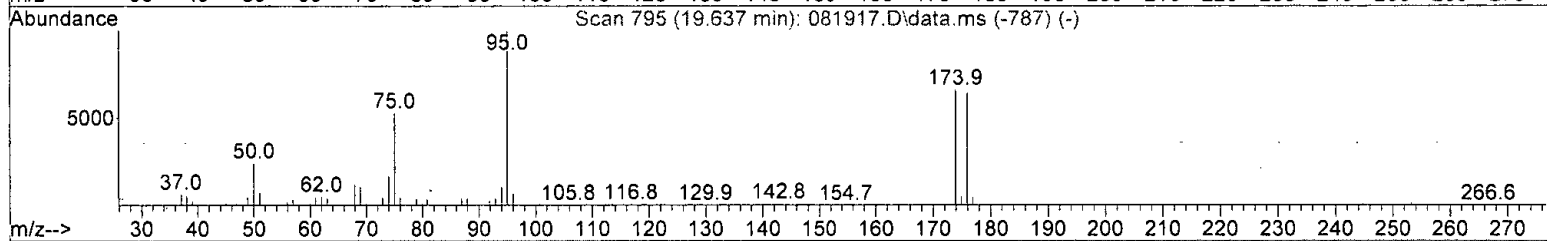
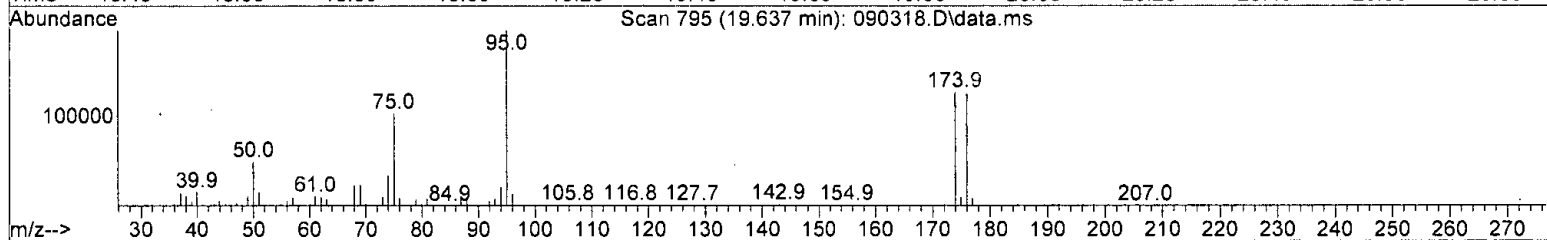
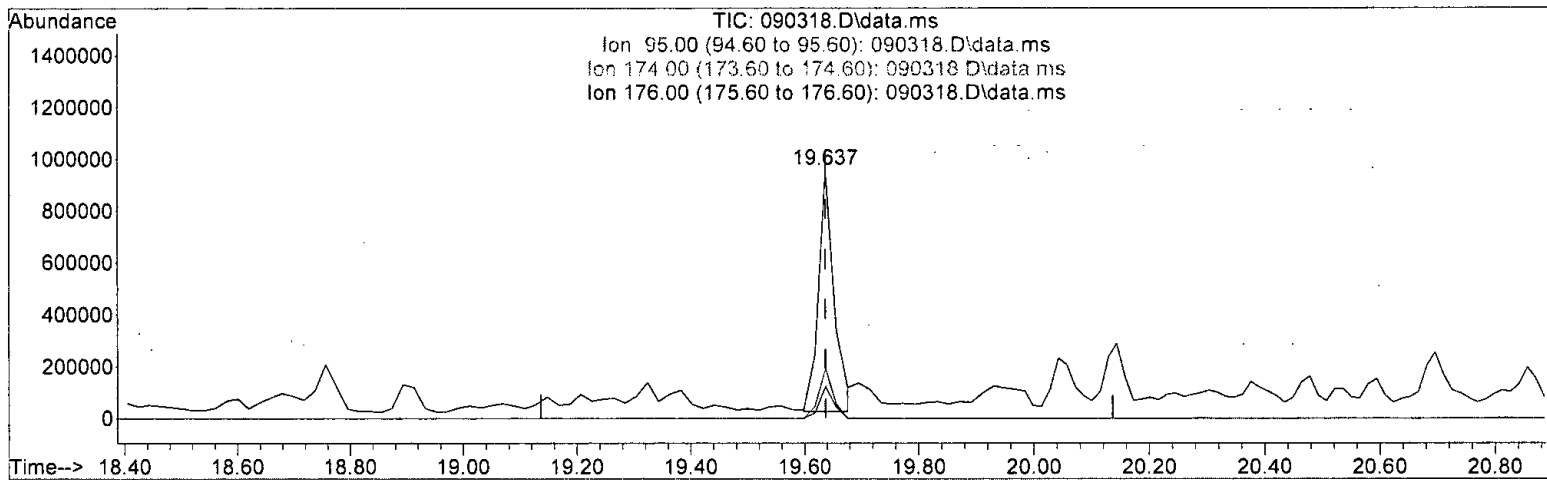
Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	21.11
174.00	19.20	13.66
176.00	18.70	13.46

*Handwritten note:* 10/10/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:46:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 54.042 ug/m3 m

response 1824331

Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	23.80
174.00	19.20	15.40
176.00	18.70	15.18

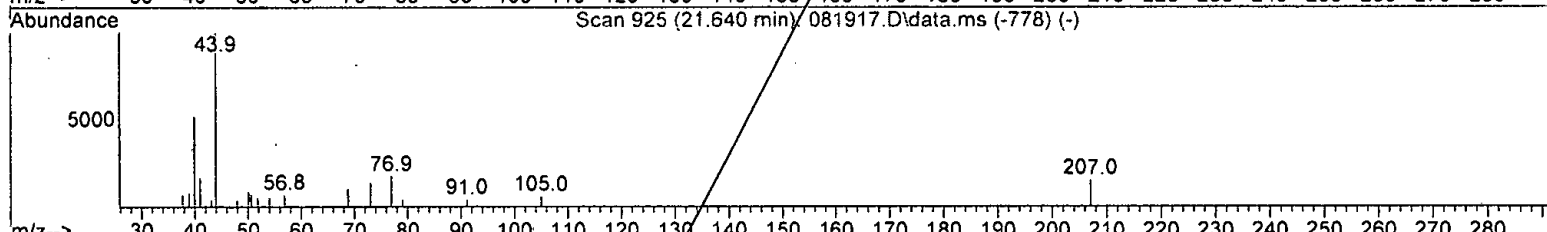
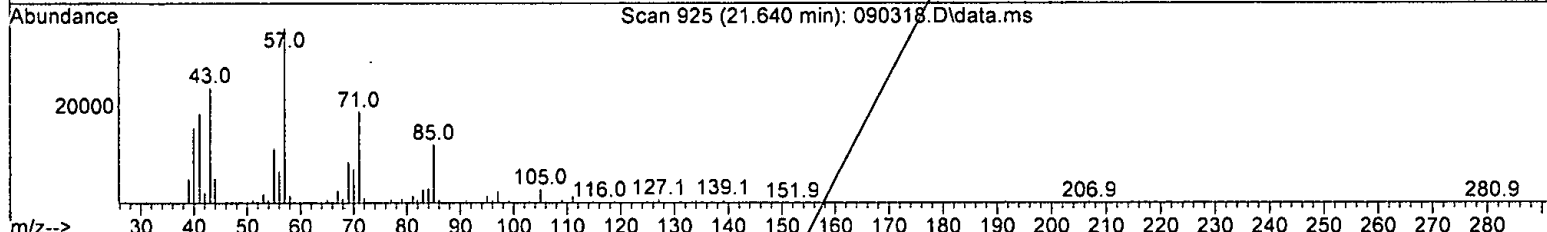
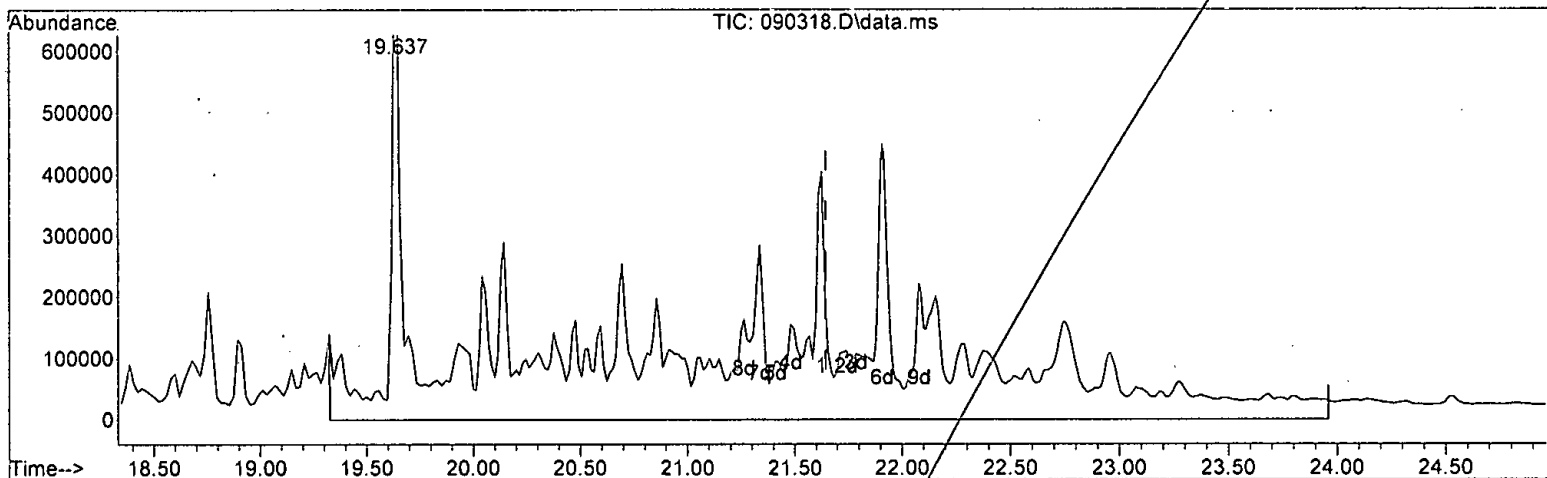
*Handwritten signature/initials*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:46:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 237.320 ug/m3 m

response 9709458

Signal Exp% Act%

TIC 100.00 100.00

0.00 0.00 0.00

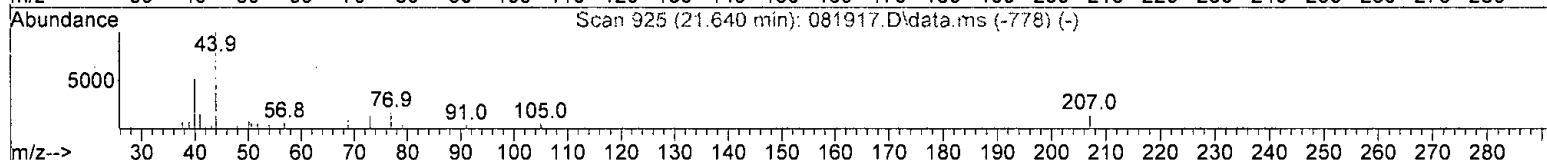
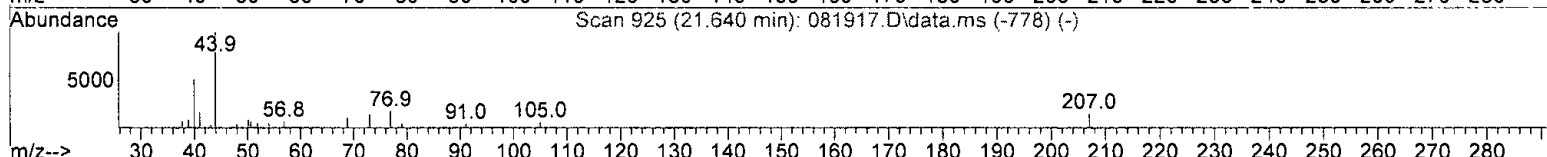
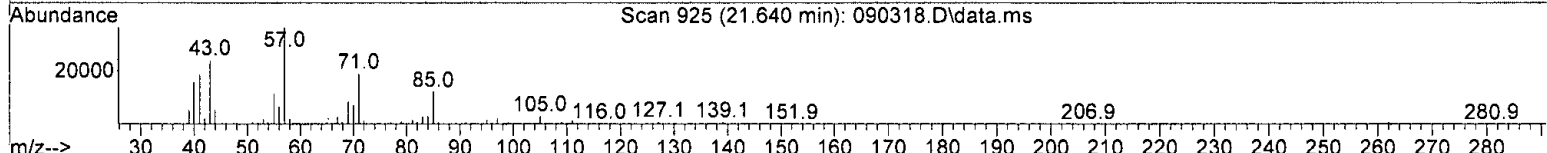
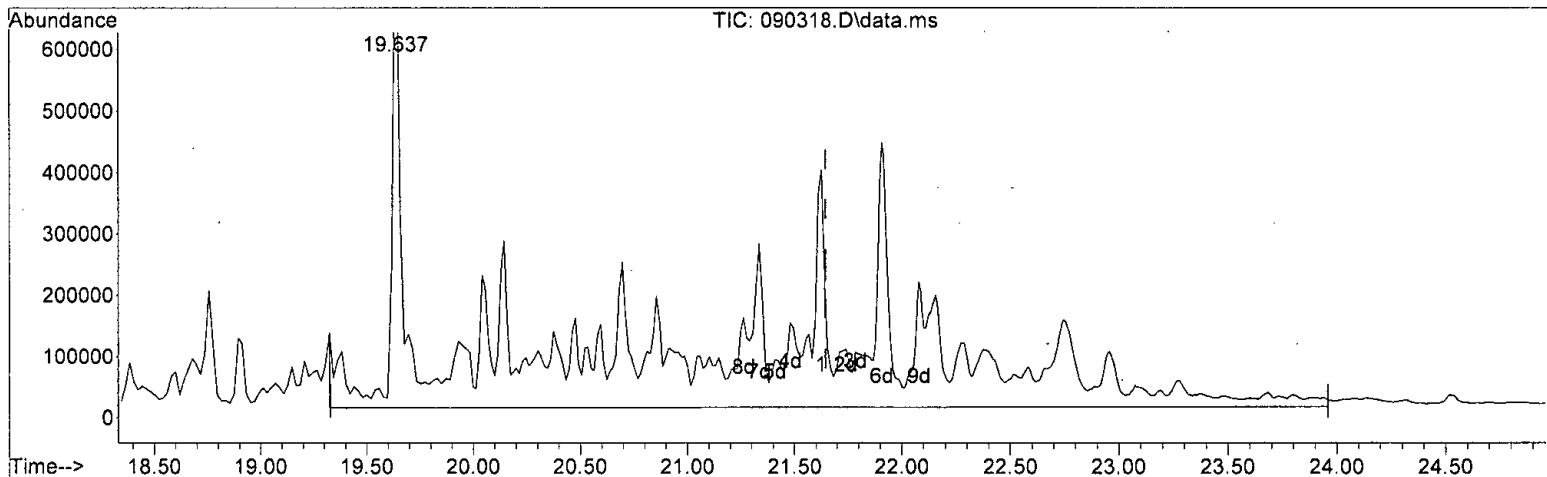
0.00 0.00 0.00

0.00 0.00 0.00

*B*  
*0.00/0.00*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:46:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



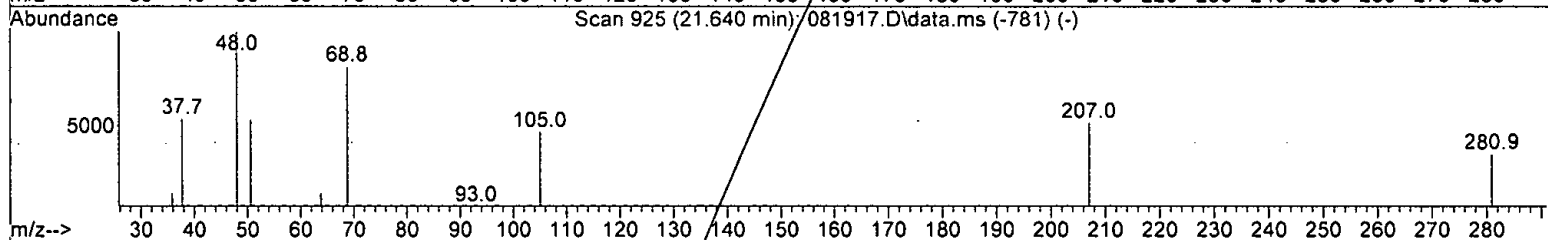
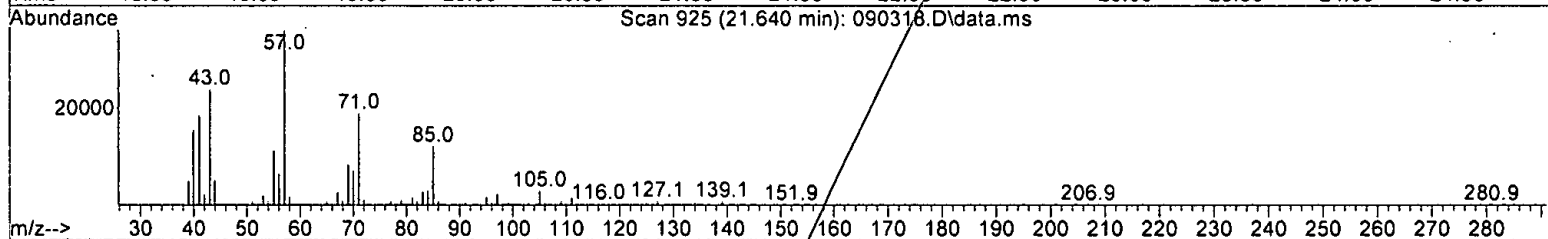
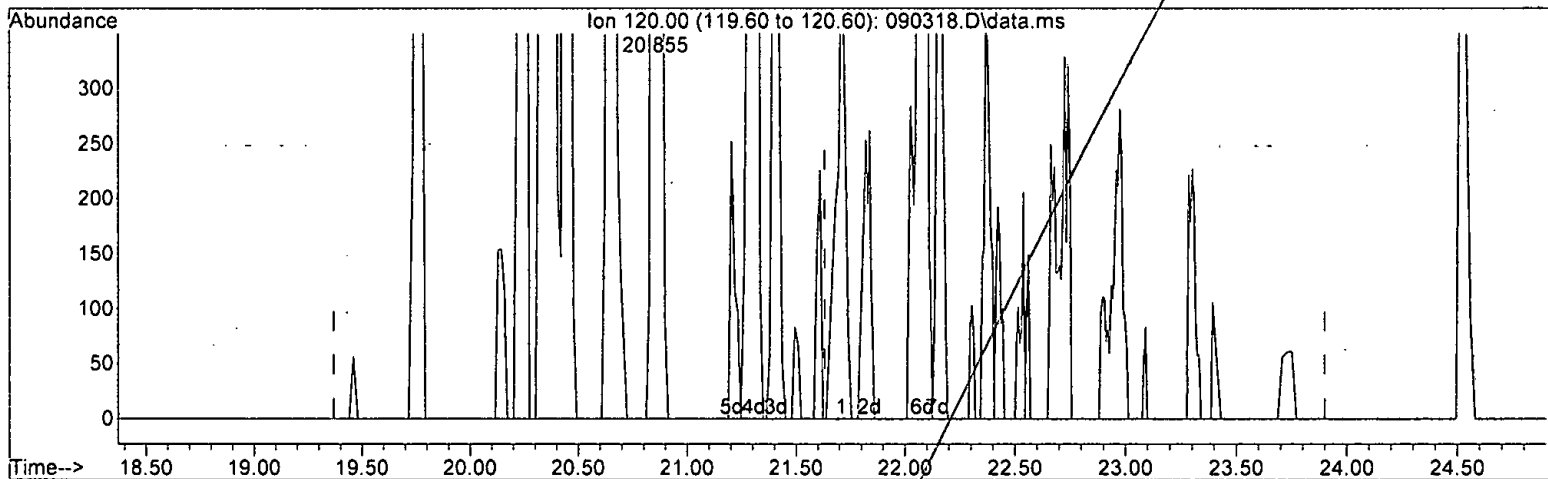
*B  
 09/07/21*

(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 531.719 ug/m3 m  
 response 21754203

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:46:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) -3.995 ug/m3 m

response -19029

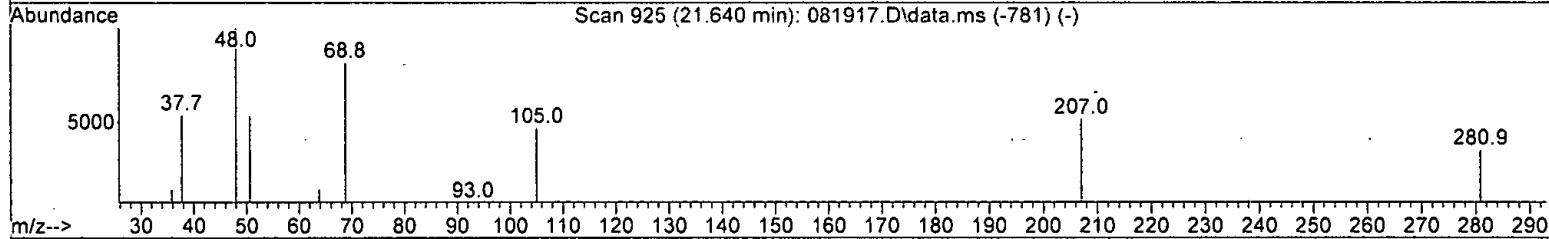
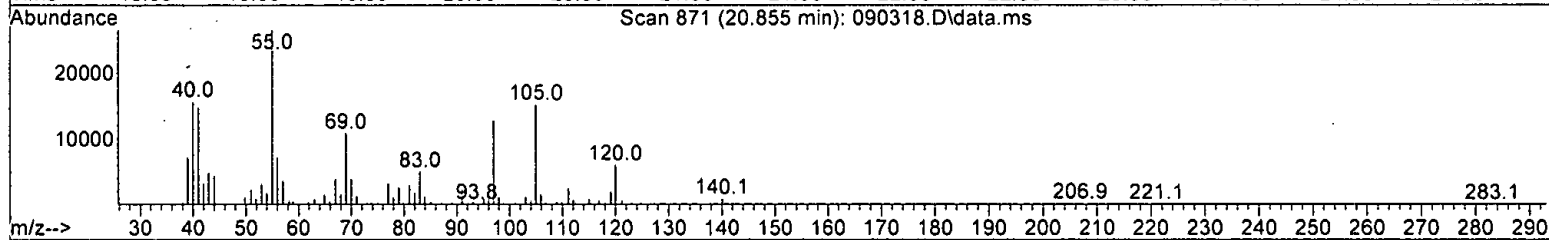
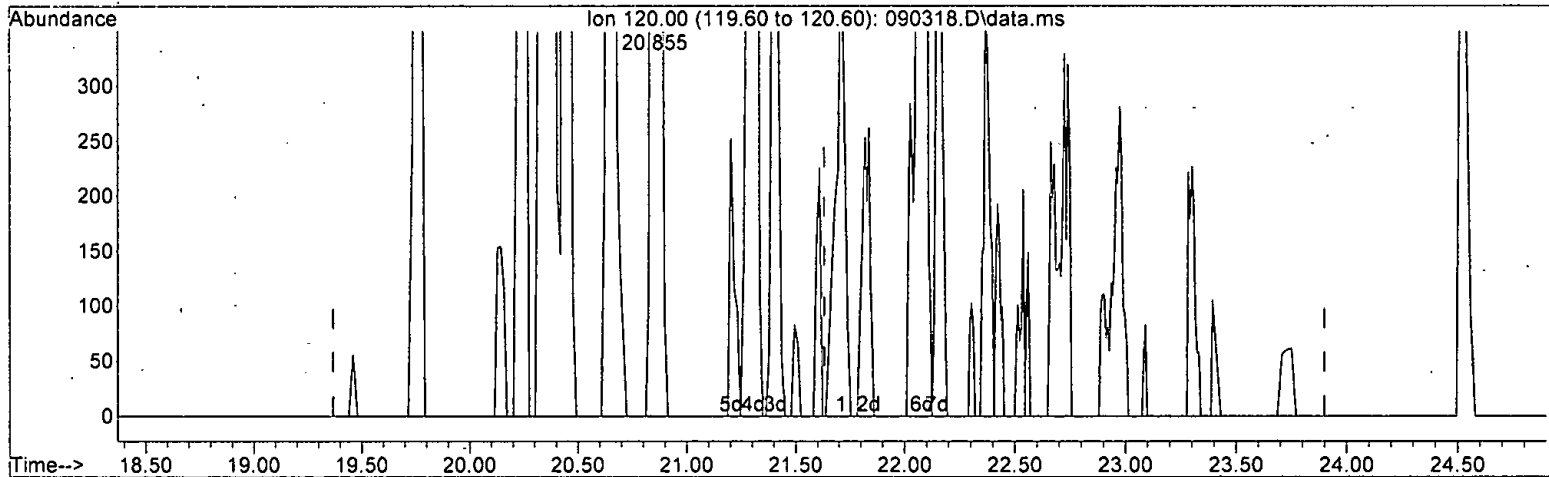
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*K*  
 8/10/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07.1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:46:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090318.D\data.ms

(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 11.544 ug/m3 m

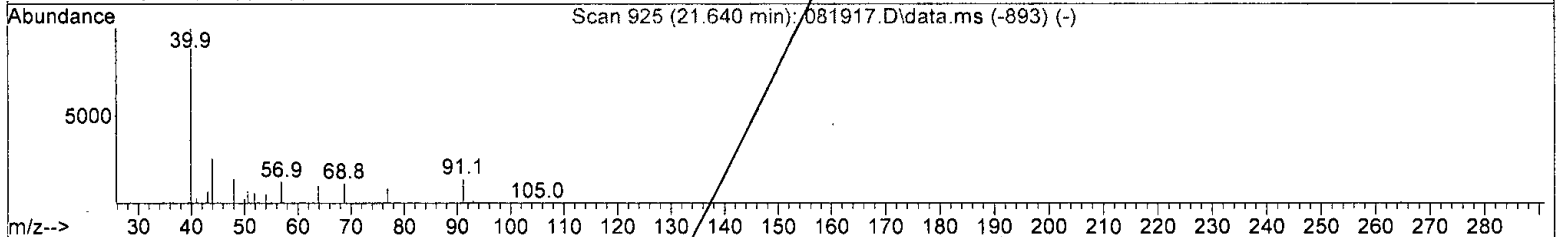
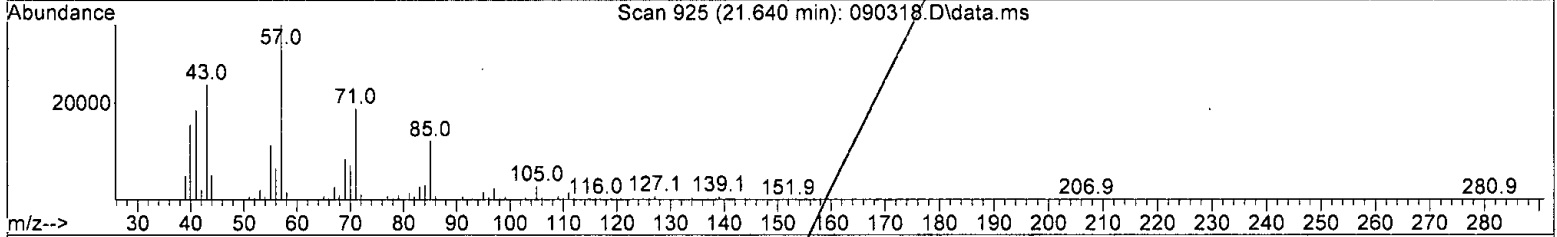
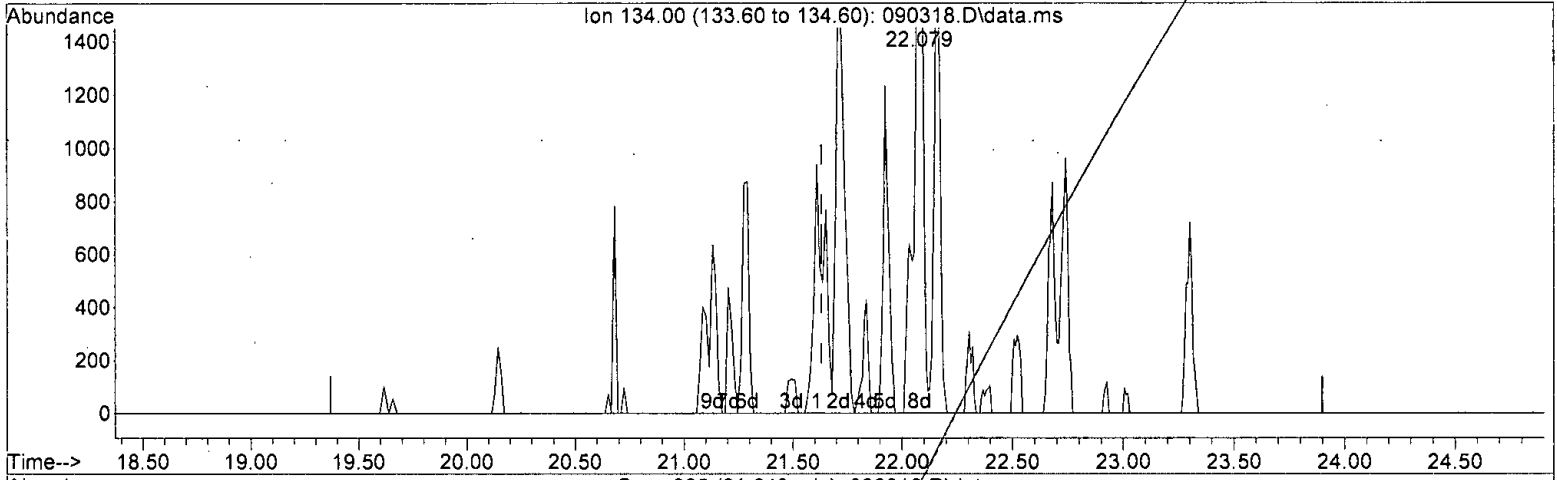
response	54989
Ion	Exp% Act%
120.00	100.00 100.00
0.00	0.00 0.00
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten signature:* M  
 09/07/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:46:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*W  
09/07/21*

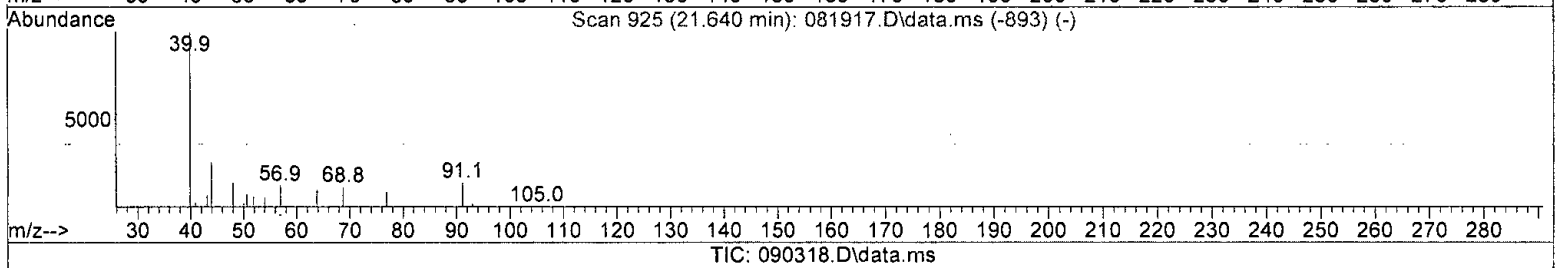
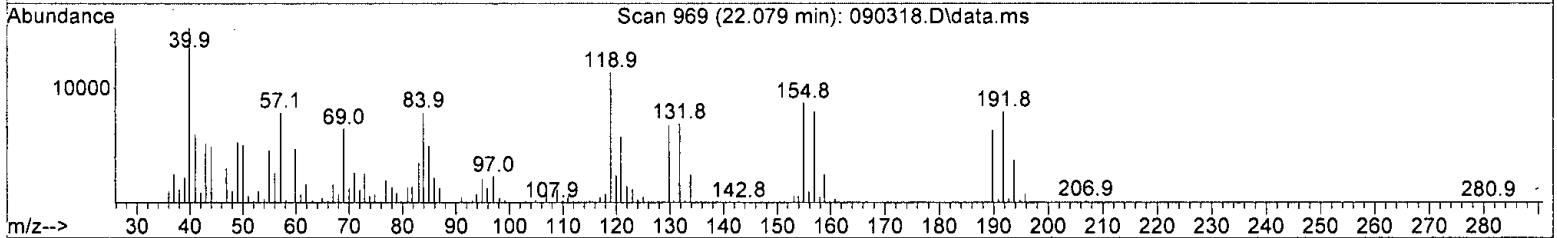
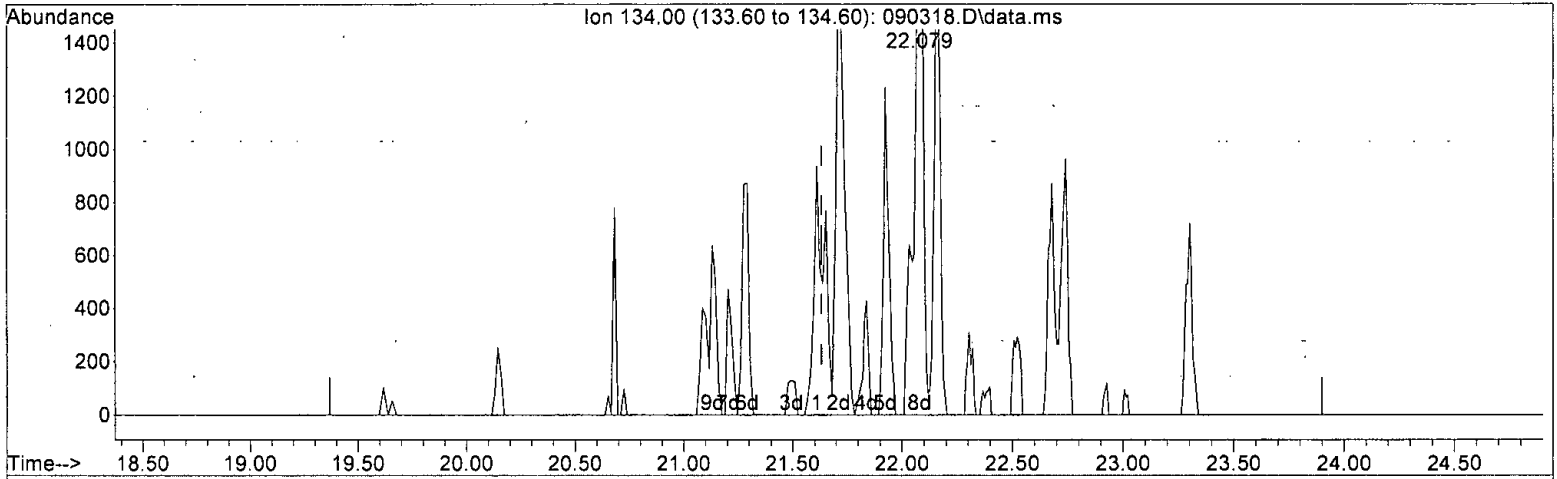
(45) APH EC9-10 aromatics (2) (H)  
 21.635min ( 0.000) -14.510 ug/m3 m  
 response -39367

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:46:33 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 15.098 ug/m3 m

response 40962

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:43:22 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	96153	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	449252	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	399878	50.000	ug/m3	# 0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	355859	71.031	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	100.04%

Target Compounds						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	915448	53.922	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1313582	54.513	ug/m3	92
4) IS-3 Chlorobenzene-d5	18.21	TIC	1621539m	55.479	ug/m3	
5) Methylene chloride	6.86	TIC	516259	600.622	ug/m3	91
6) Acetone	5.60	TIC	362563	7.996	ppbv	100
7) 2-Propanol	5.88	TIC	45459	172.552	ppbv	100
8) 1,3-Butadiene	4.28	54	8314	1.468	ug/m3#	1
9) Methyl t-butyl ether	8.67	73	161	0.022	ug/m3	56
11) Benzene	12.71	78	17580	1.151	ug/m3	97
12) Isopentane	5.60	TIC	362563	11.951	ug/m3#	49
13) Hexane	10.11	TIC	66693	2.031	ug/m3	94
14) Cyclohexane	13.23	TIC	1303015	41.784	ug/m3	94
15) 2,3-Dimethylpentane	13.52	TIC	54816	1.377	ug/m3	95
16) Heptane	14.63	TIC	185173	5.694	ug/m3	94
17) Octane	17.41	TIC	176908	3.967	ug/m3	92
18) APH EC5-8 aliphatics T...	0.00	TIC	2149168m	60.292	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	16617390m	466.180	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1824331m	54.042	ug/m3	
22) Hexamethylcyclotrisilo...	17.78	TIC	667162	80.237	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	540956	52.128	ppbv	100
24) Toluene	16.39	92	26184	3.052	ug/m3	92
25) Ethylbenzene	18.60	91	36539	2.062	ug/m3	94
26) m,p-Xylene	18.76	106	15959	2.679	ug/m3#	71
27) o-Xylene	19.21	106	7389	1.311	ug/m3	86
28) Naphthalene	23.94	128	2368	0.165	ug/m3	95
29) 2,3-Dimethylheptane	18.68	TIC	311876	7.760	ug/m3#	77
30) Nonane	19.32	TIC	482007	11.486	ug/m3	67
31) Decane	20.91	TIC	307471	7.376	ug/m3	78
32) Butylcyclohexane	21.48	TIC	213854	4.516	ug/m3	88
33) Undecane	22.28	TIC	240290	5.812	ug/m3	76
34) Dodecane	23.79	TIC	15231	0.449	ug/m3	59
35) APH EC9-12 aliphatics ...	21.63	TIC	1570729m	38.392	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	21754203m	531.719	ug/m3	
38) Isopropylbenzene	19.75	120	2236	0.713	ug/m3#	55
39) 1-Methyl-3-ethylbenzene	20.33	120	3082	0.703	ug/m3#	1
40) 1,3,5-Trimethylbenzene	20.45	120	4710	0.849	ug/m3	95
41) p-Isopropyltoluene	21.29	134	1841	0.675	ug/m3#	26
42) 1,2,3-Trimethylbenzene	21.31	120	5341	0.820	ug/m3#	62
43) APH EC9-10 aromatics T...	21.63	TIC	17210m	3.989	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	54989m	11.544	ug/m3	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090318.D  
 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:43:22 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

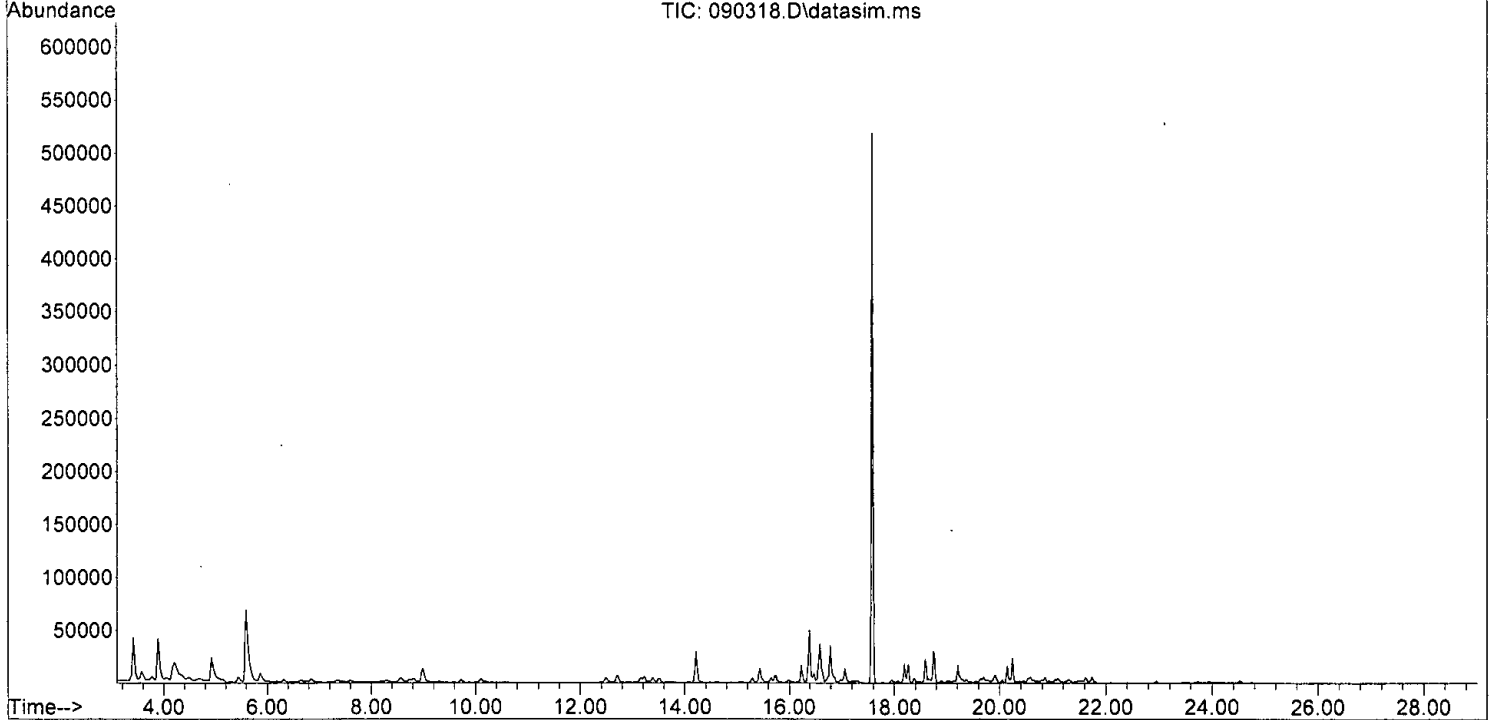
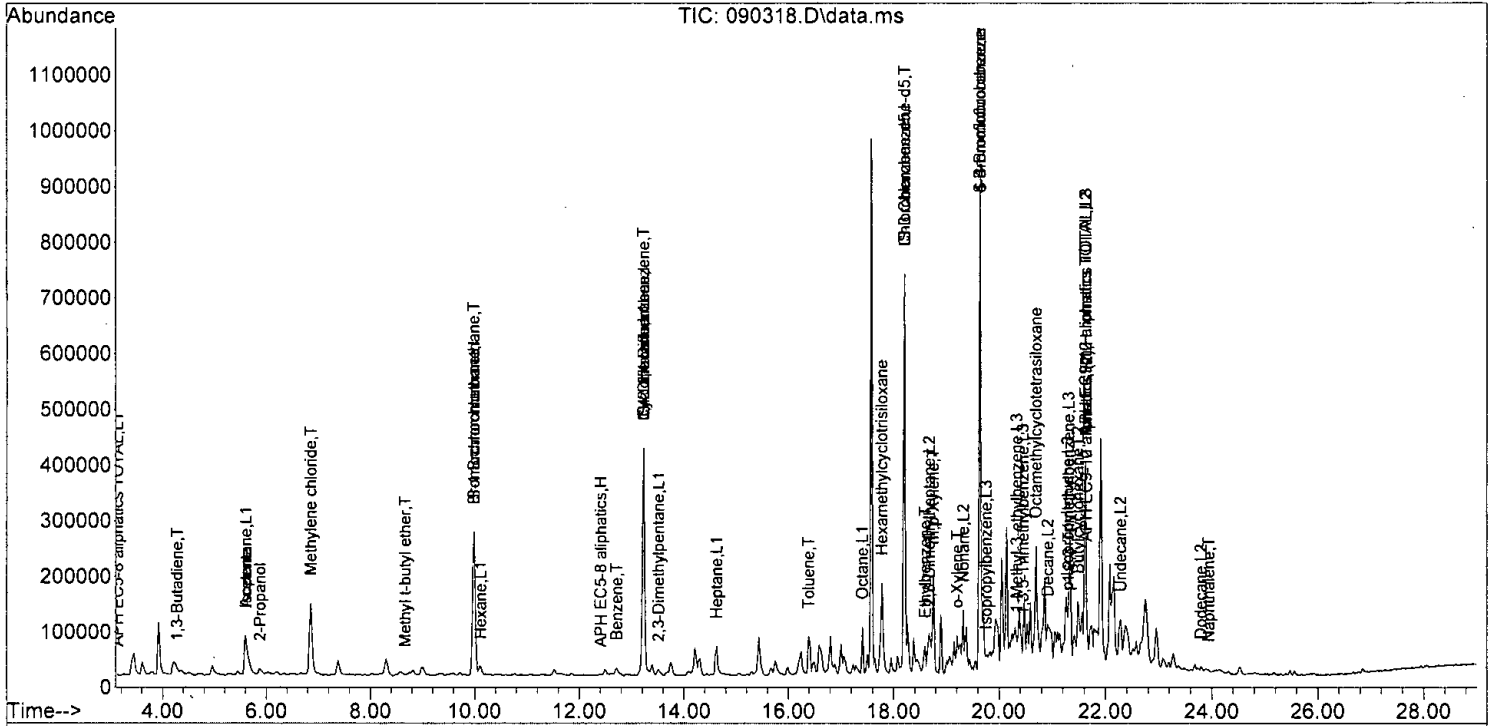
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	40962m	15.098	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed



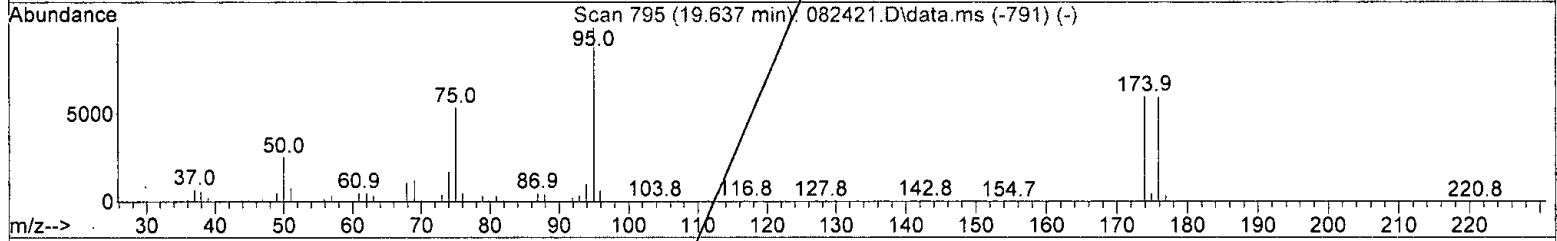
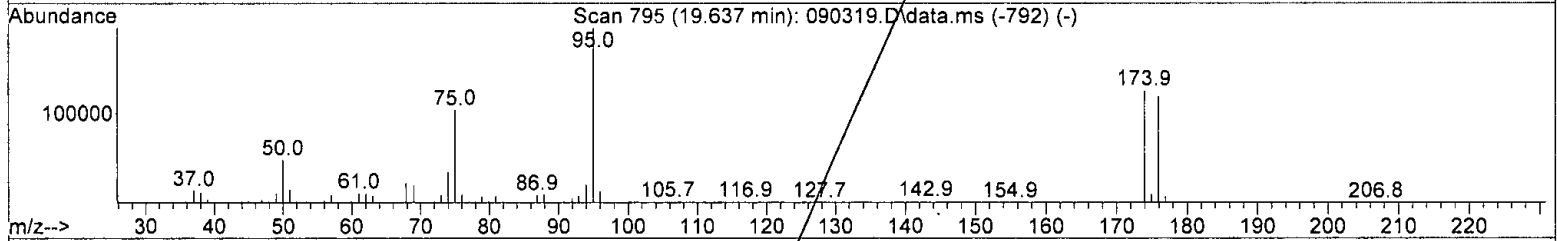
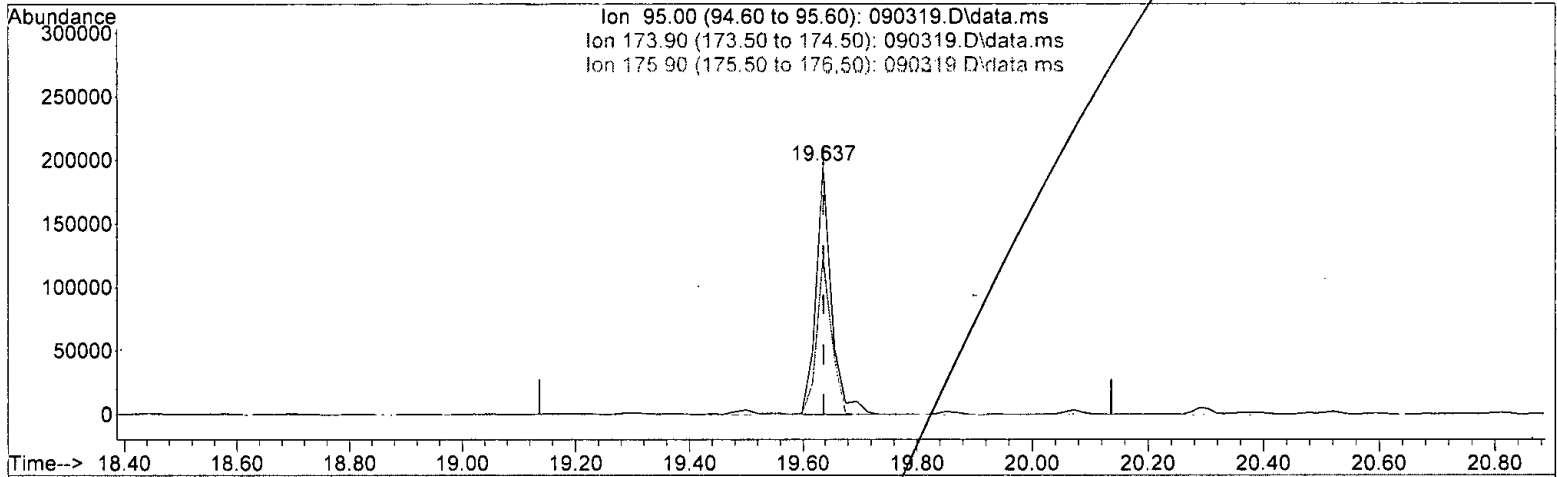
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 Acq On : 3 Sep 2021 6:55 pm  
 Operator : bat  
 Sample : 109030-07 1/5.8  
 Misc : T7  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:43:22 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:04:21 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*in lab*

TIC: 090319.D\data.ms

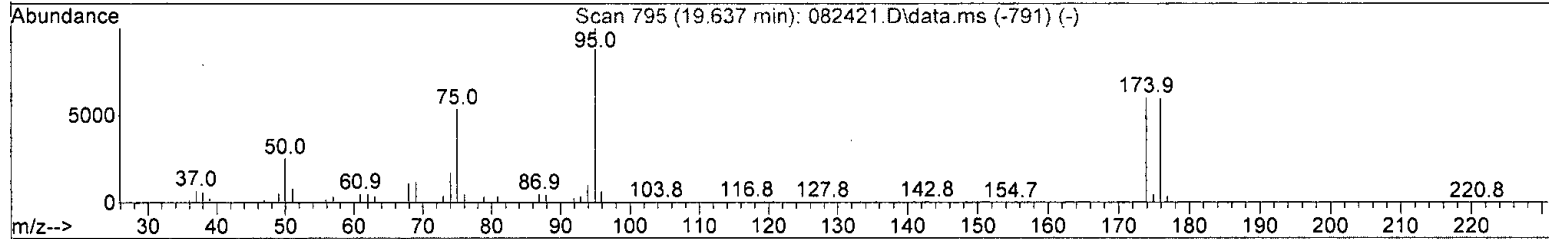
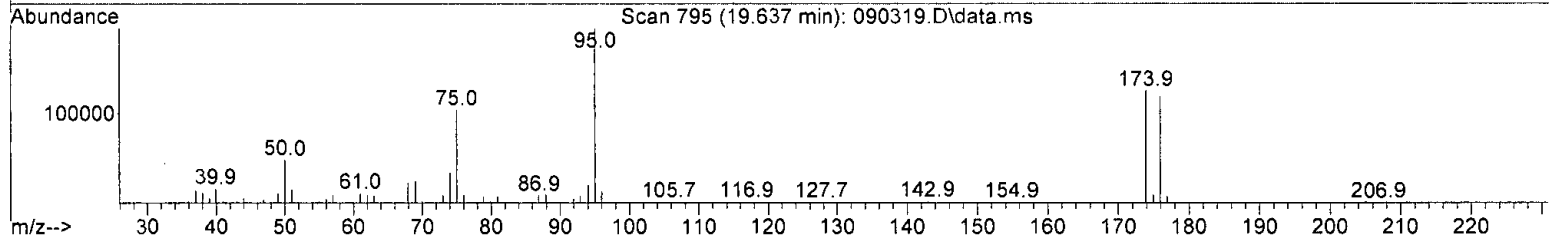
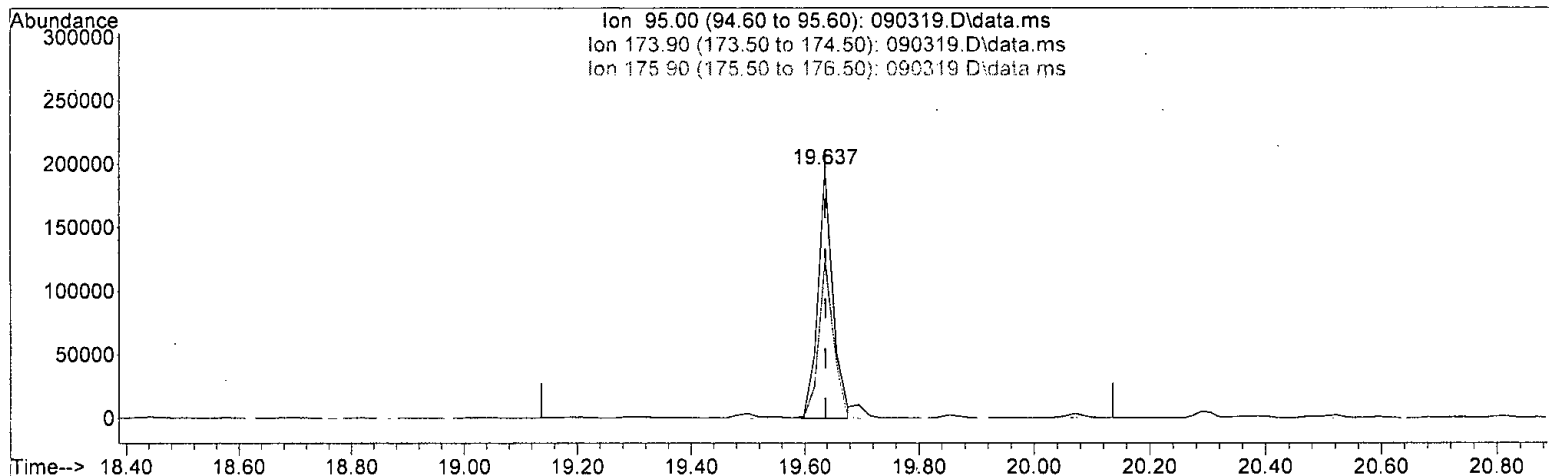
(69) 4-Bromofluorobenzene (S)  
 19.637min (-0.000) 10.262 ppbv

response	373945
Ion	Exp% Act%
95.00	100.00 100.00
173.90	73.50 64.19
175.90	70.90 60.94
0.00	0.00 0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:04:21 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(69) 4-Bromofluorobenzene (S)

19.637min (-0.000) 9.895 ppbv m

response 360567

Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	64.14
175.90	70.90	60.89
0.00	0.00	0.00

*M. Salo*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

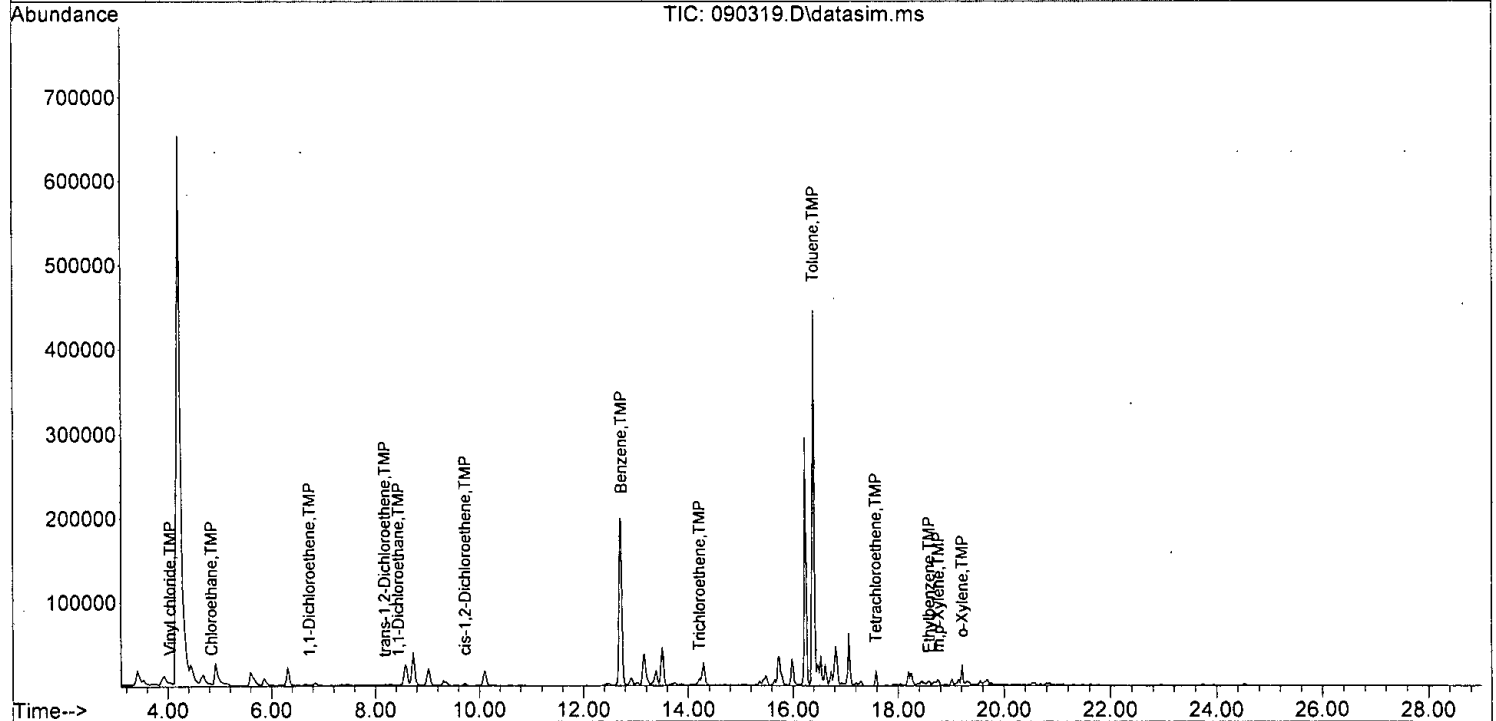
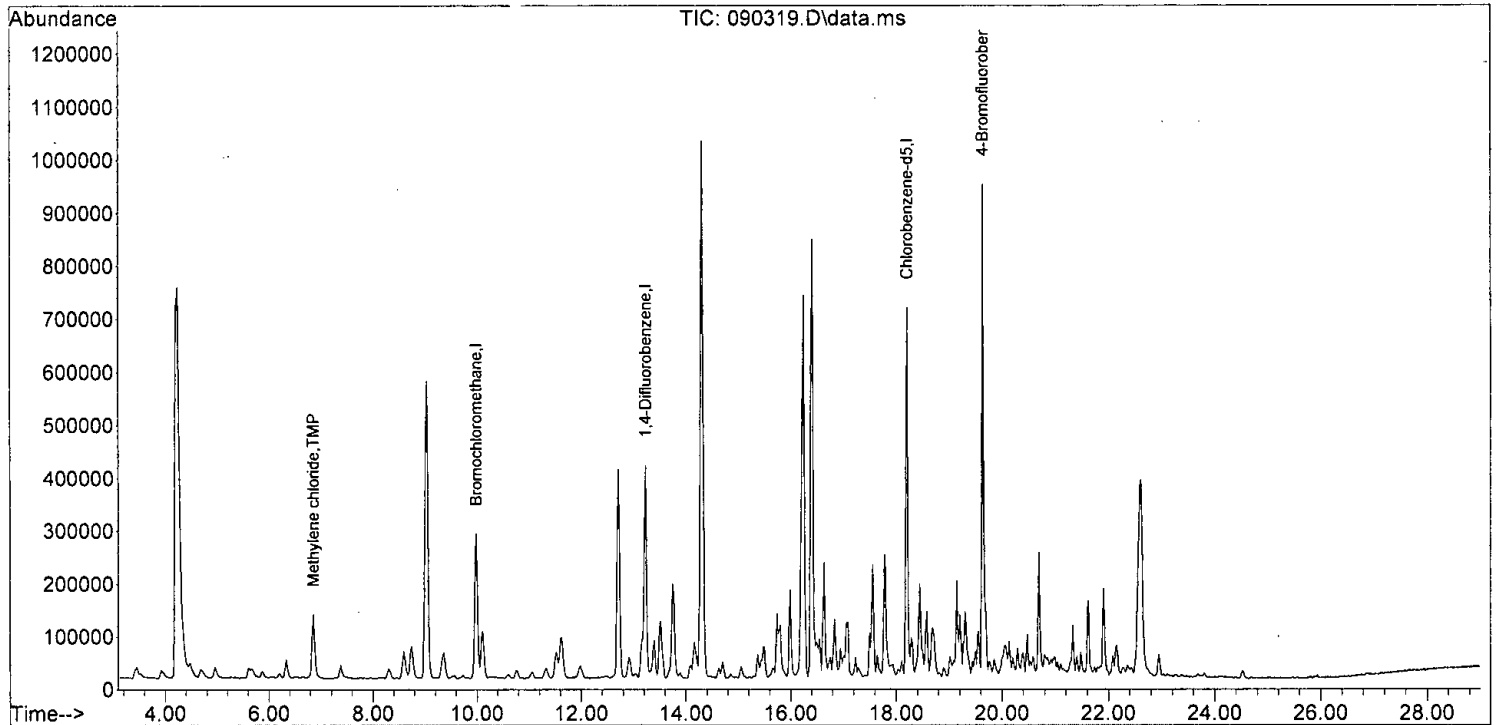
Quant Time: Sep 07 14:40:38 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

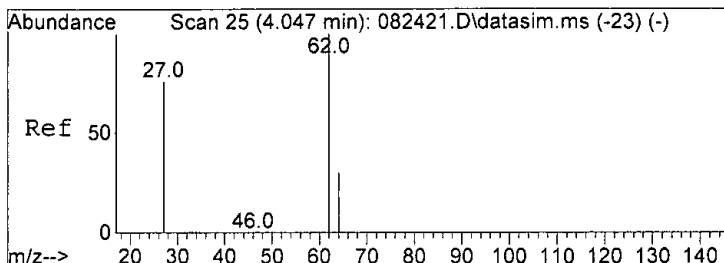
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	98707	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	459721	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	402212	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	360567m	9.895	ppbv	0.00
Spiked Amount	10.000	Range 70 - 130	Recovery	=	99.00%	
Target Compounds						
						Qvalue
6] Vinyl chloride	4.05	62	1540	0.071	ppbv	95
10] Chloroethane	4.84	64	157	0.021	ppbv	89
18] 1,1-Dichloroethene	6.73	96	297	0.018	ppbv #	74
19] trans-1,2-Dichloroethene	8.18	96	412	0.026	ppbv	97
20] Methylene chloride	6.86	84	89050	5.154	ppbv #	81
27] 1,1-Dichloroethane	8.44	63	1153	0.030	ppbv	96
28] cis-1,2-Dichloroethene	9.73	96	2627	0.149	ppbv #	77
37] Benzene	12.72	78	591289	9.783	ppbv	100
46] Trichloroethene	14.22	95	6775	0.238	ppbv	85
50] Toluene	16.40	92	16358	0.475	ppbv	86
53] Tetrachloroethene	17.58	164	7865	0.449	ppbv #	80
58] Ethylbenzene	18.59	91	4949	0.055	ppbv	93
65] m,p-Xylene	18.76	106	5023	0.175	ppbv	95
66] o-Xylene	19.21	106	11500	0.408	ppbv	89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

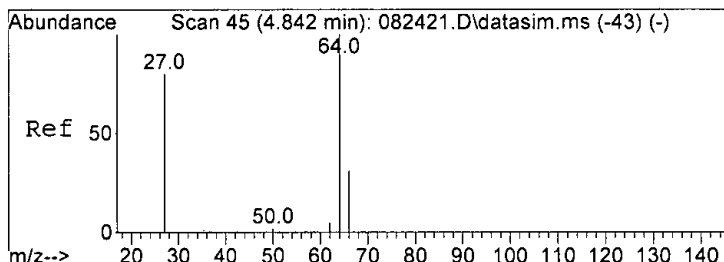
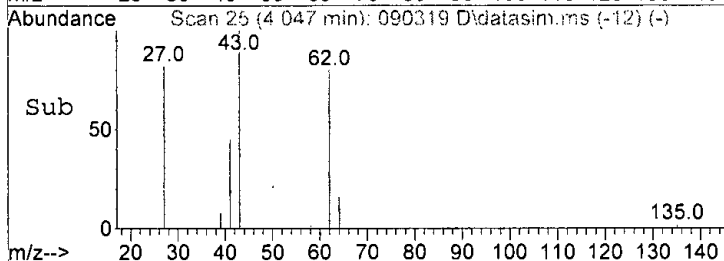
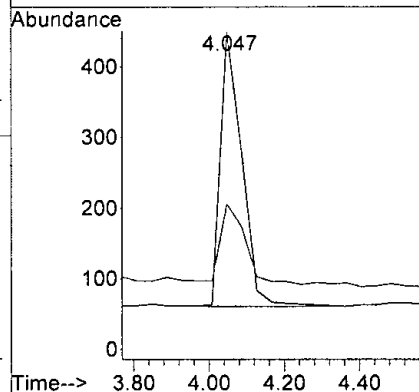
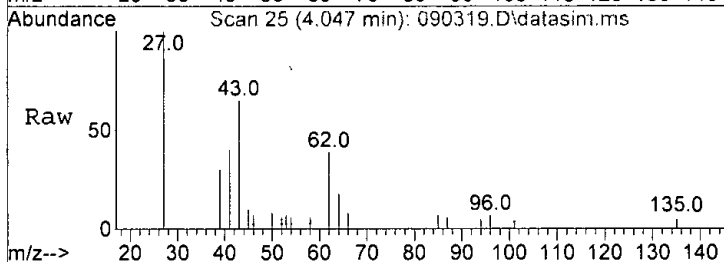
Quant Time: Sep 07 14:40:38 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





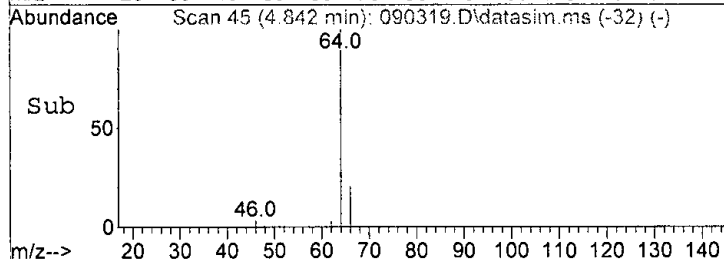
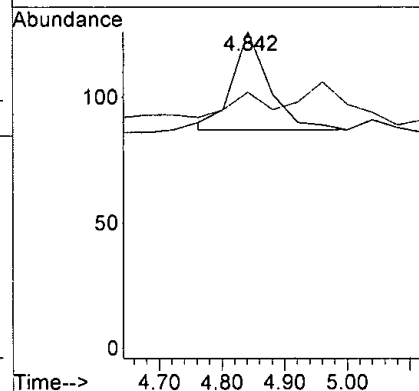
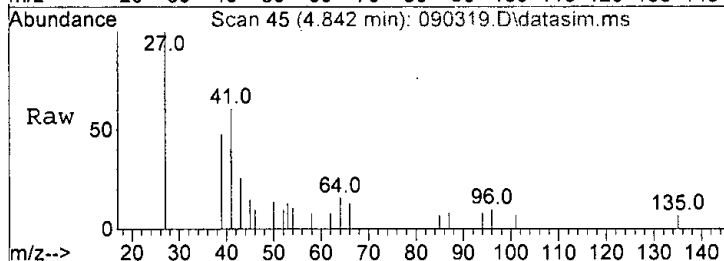
#6  
 Vinyl chloride  
 Concen: 0.071 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090319.D  
 Acq: 3 Sep 2021 7:32 pm

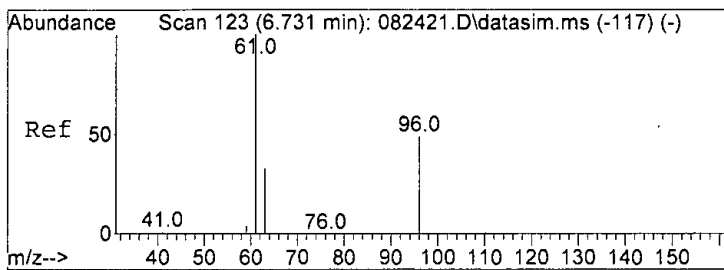
Tgt Ion: 62 Resp: 1540  
 Ion Ratio Lower Upper  
 62 100  
 64 28.8 1.5 61.5



#10  
 Chloroethane  
 Concen: 0.021 ppbv  
 RT: 4.84 min Scan# 45  
 Delta R.T. -0.000 min  
 Lab File: 090319.D  
 Acq: 3 Sep 2021 7:32 pm

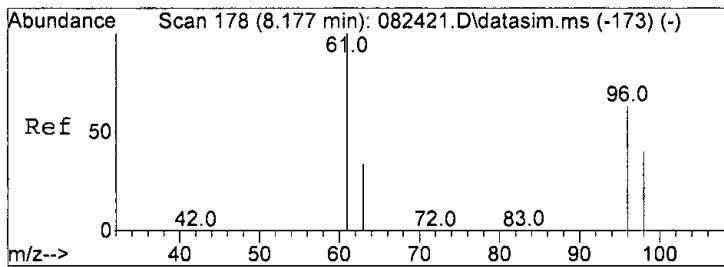
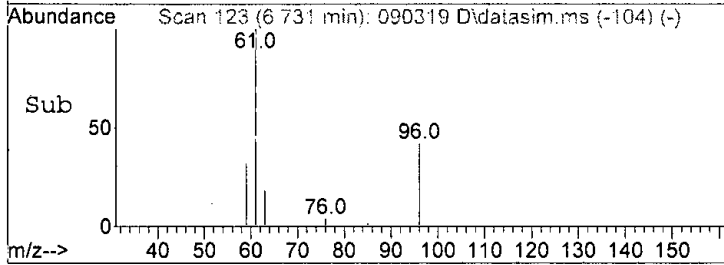
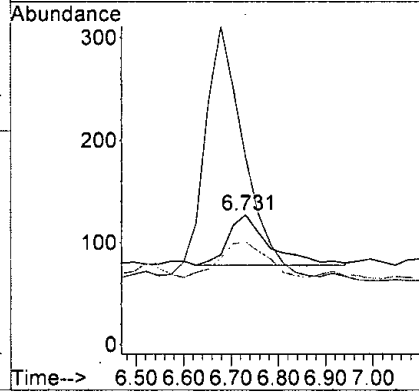
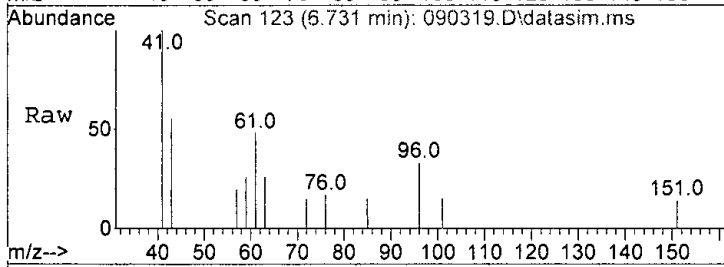
Tgt Ion: 64 Resp: 157  
 Ion Ratio Lower Upper  
 64 100  
 66 25.6 1.8 61.8





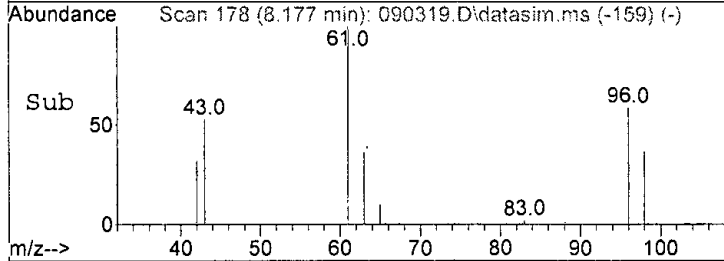
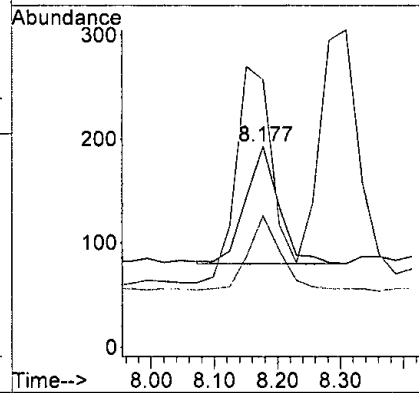
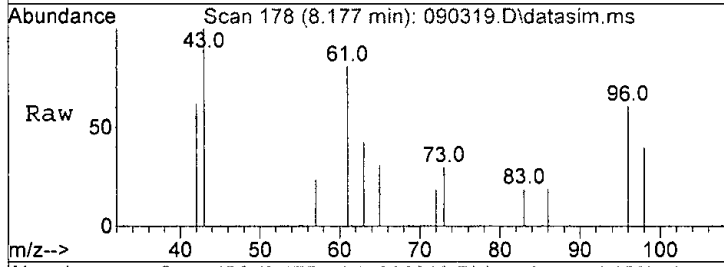
#18  
 1,1-Dichloroethene  
 Concen: 0.018 ppbv  
 RT: 6.73 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090319.D  
 Acq: 3 Sep 2021 7:32 pm

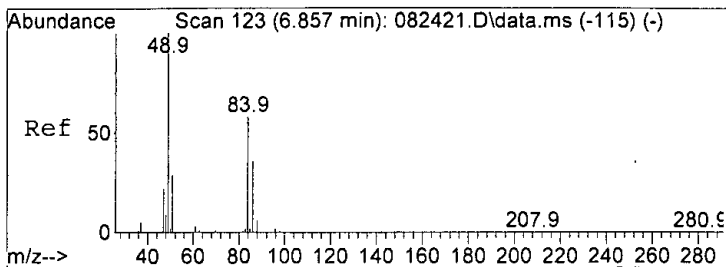
Tgt Ion	96	Resp	297
Ion Ratio	Lower	Upper	
96	100		
61	236.7	159.0	219.0#
63	67.3	32.0	92.0



#19  
 trans-1,2-Dichloroethene  
 Concen: 0.026 ppbv  
 RT: 8.18 min Scan# 178  
 Delta R.T. 0.000 min  
 Lab File: 090319.D  
 Acq: 3 Sep 2021 7:32 pm

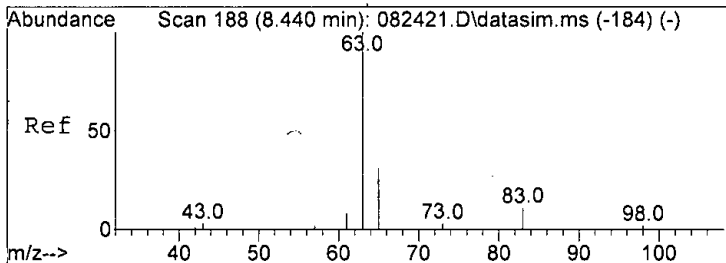
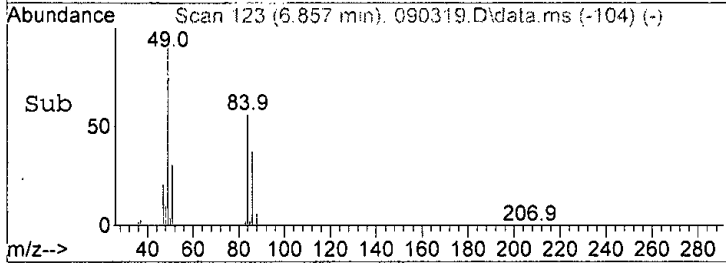
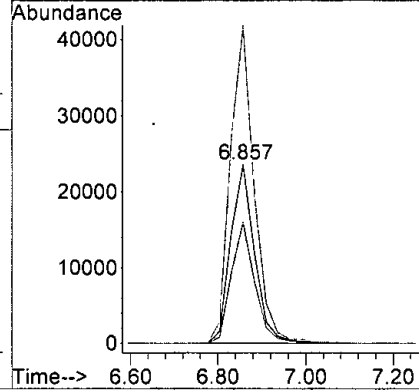
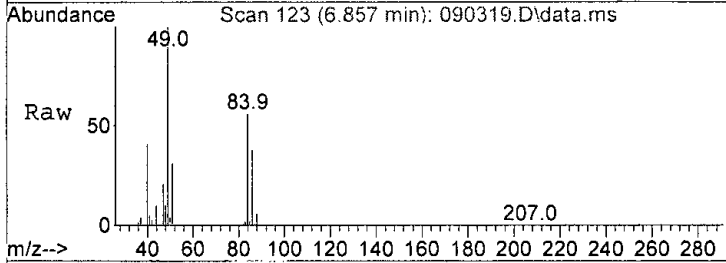
Tgt Ion	96	Resp	412
Ion Ratio	Lower	Upper	
96	100		
61	172.6	147.9	207.9
98	62.8	34.2	94.2





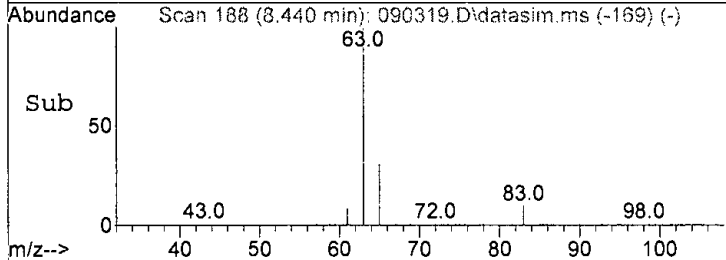
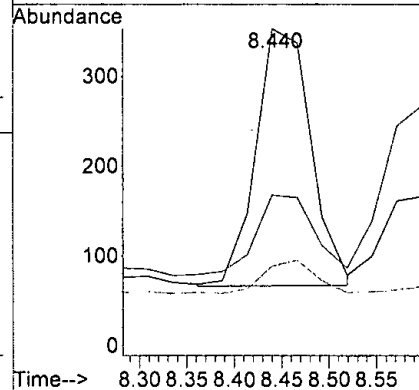
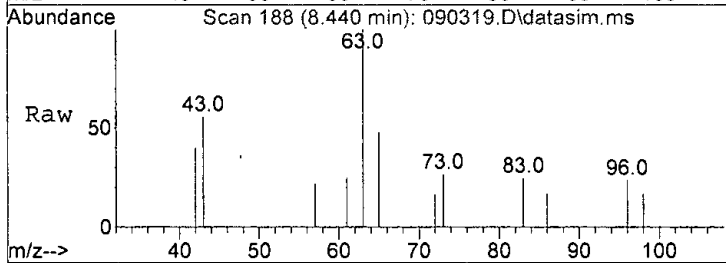
#20  
 Methylene chloride  
 Concen: 5.154 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. -0.000 min  
 Lab File: 090319.D  
 Acq: 3 Sep 2021 7:32 pm

Tgt Ion:	84	Resp:	89050
Ion Ratio	Lower	Upper	
84	100		
86	67.7	33.9	93.9
49	177.5	116.6	176.6#

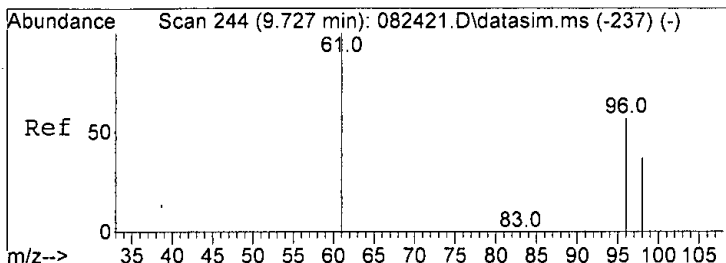


#27  
 1,1-Dichloroethane  
 Concen: 0.030 ppbv  
 RT: 8.44 min Scan# 188  
 Delta R.T. 0.000 min  
 Lab File: 090319.D  
 Acq: 3 Sep 2021 7:32 pm

Tgt Ion:	63	Resp:	1153
Ion Ratio	Lower	Upper	
63	100		
65	31.2	2.5	62.5
83	10.2	0.0	43.2

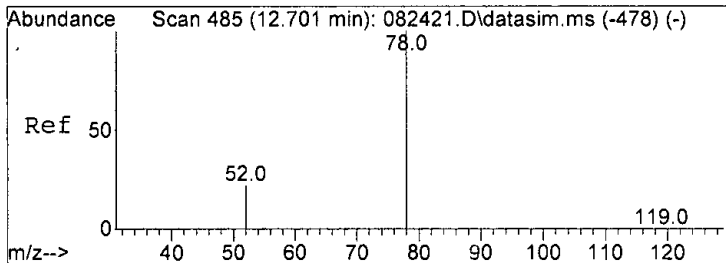
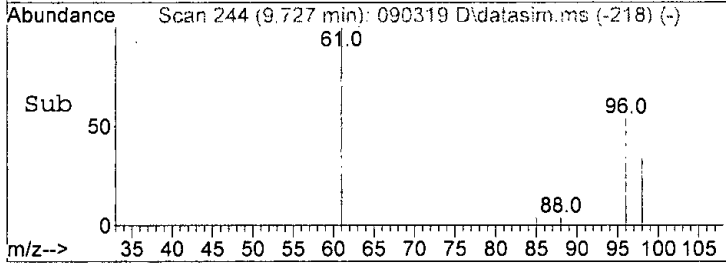
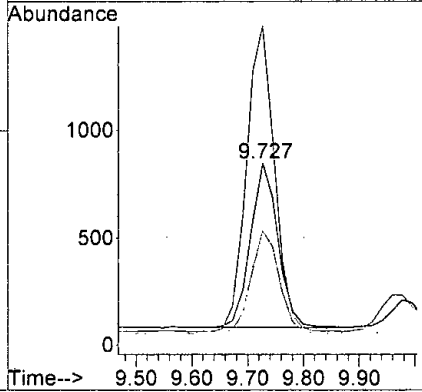
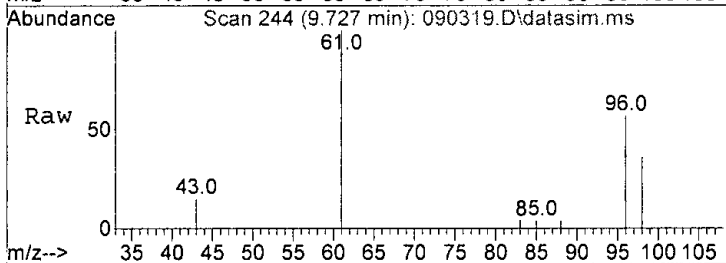






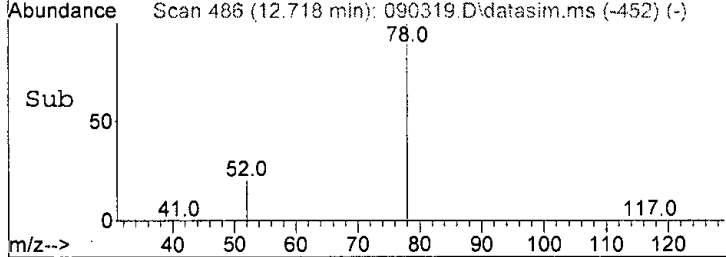
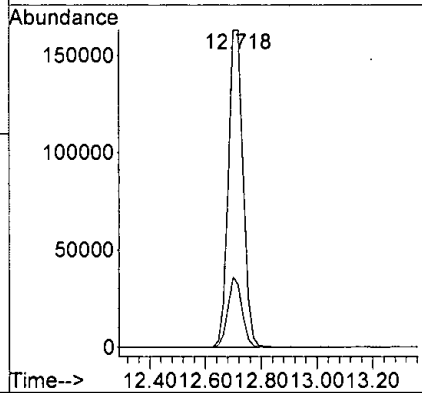
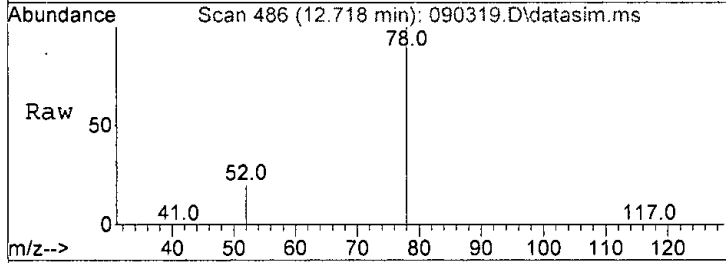
#28  
 cis-1,2-Dichloroethene  
 Concen: 0.149 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. -0.000 min  
 Lab File: 090319.D  
 Acq: 3 Sep 2021 7:32 pm

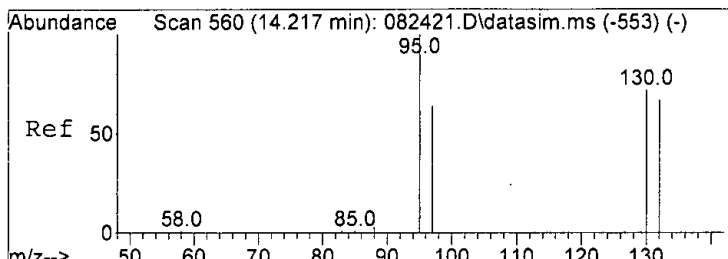
Tgt Ion: 96 Resp: 2627  
 Ion Ratio Lower Upper  
 96 100  
 61 186.0 116.0 176.0#  
 98 62.6 35.2 95.2



#37  
 Benzene  
 Concen: 9.783 ppbv  
 RT: 12.72 min Scan# 486  
 Delta R.T. 0.017 min  
 Lab File: 090319.D  
 Acq: 3 Sep 2021 7:32 pm

Tgt Ion: 78 Resp: 591289  
 Ion Ratio Lower Upper  
 78 100  
 52 19.6 0.0 49.7

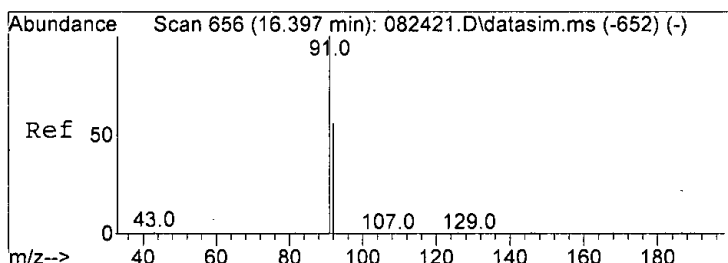
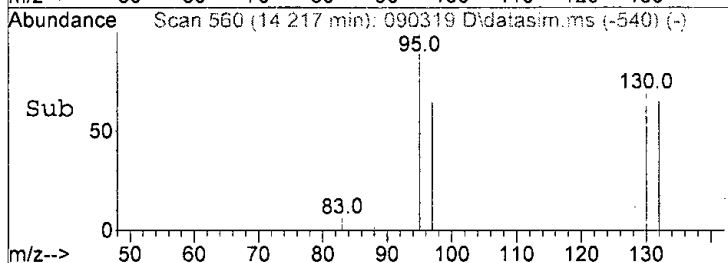
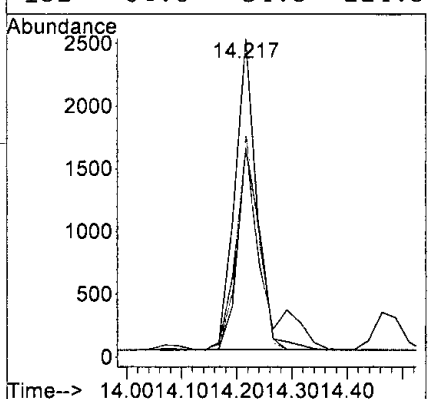
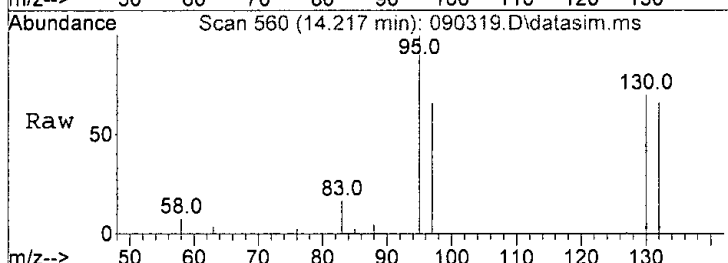




#46  
 Trichloroethene  
 Concen: 0.238 ppbv  
 RT: 14.22 min Scan# 560  
 Delta R.T. -0.000 min  
 Lab File: 090319.D  
 Acq: 3 Sep 2021 7:32 pm

Tgt Ion: 95 Resp: 6775

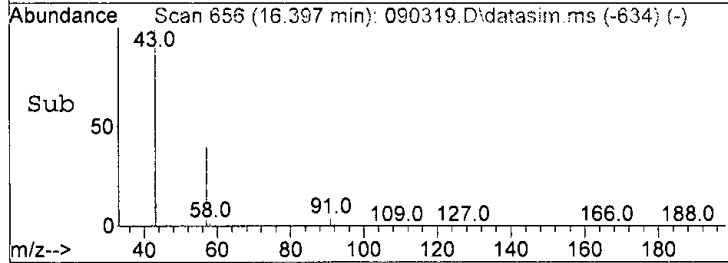
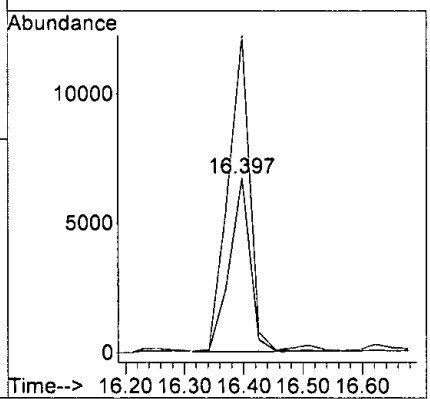
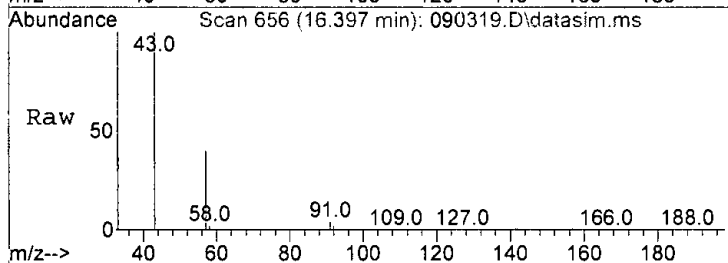
Ion	Ratio	Lower	Upper
95	100		
97	64.8	37.1	97.1
130	69.4	56.1	116.1
132	64.8	54.3	114.3

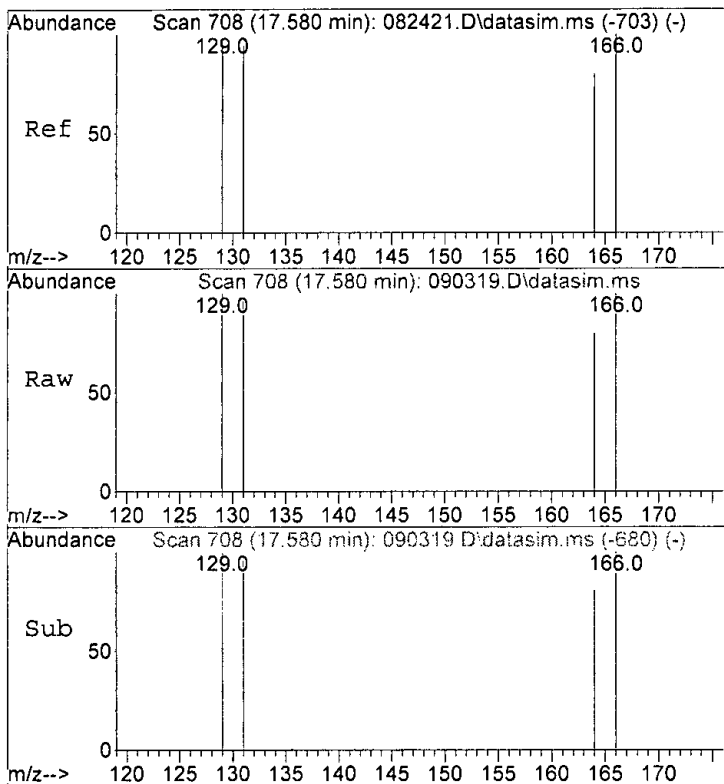


#50  
 Toluene  
 Concen: 0.475 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090319.D  
 Acq: 3 Sep 2021 7:32 pm

Tgt Ion: 92 Resp: 16358

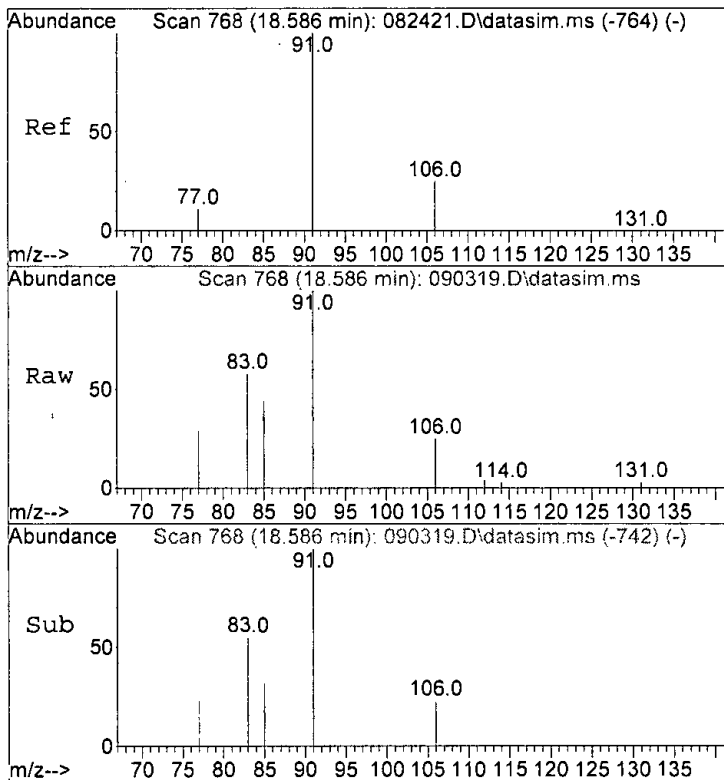
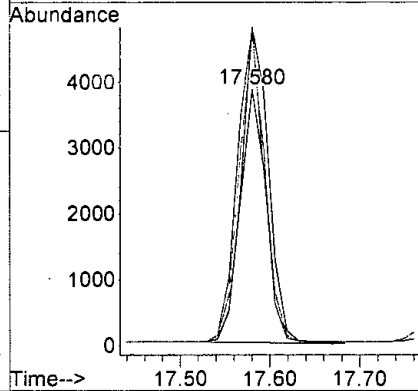
Ion	Ratio	Lower	Upper
92	100		
91	182.7	174.6	234.6





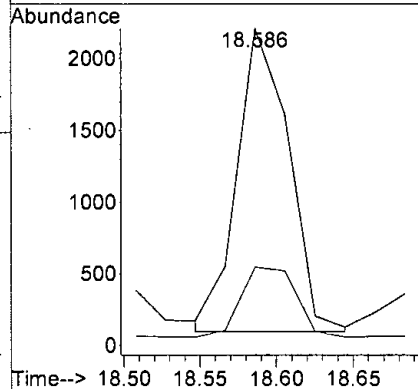
#53  
 Tetrachloroethene  
 Concen: 0.449 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090319.D  
 Acq: 3 Sep 2021 7:32 pm

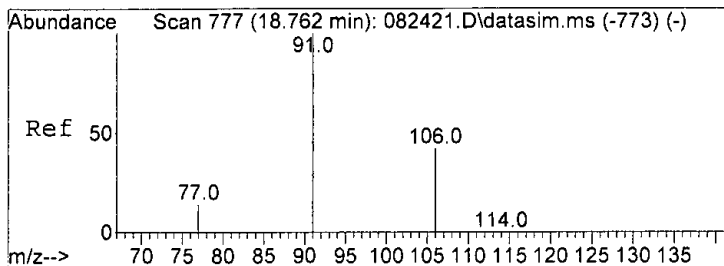
Tgt Ion	Ratio	Lower	Upper
164	100		
129	124.7	63.2	123.2#
131	121.1	70.7	130.7
166	124.8	107.5	167.5



#58  
 Ethylbenzene  
 Concen: 0.055 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090319.D  
 Acq: 3 Sep 2021 7:32 pm

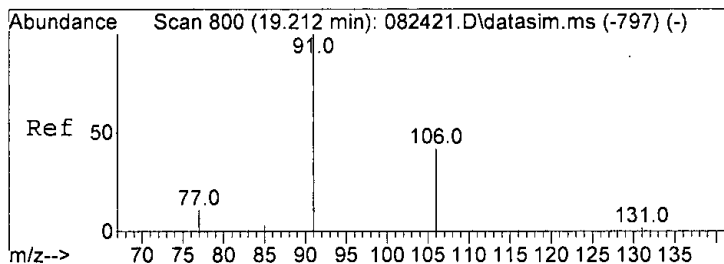
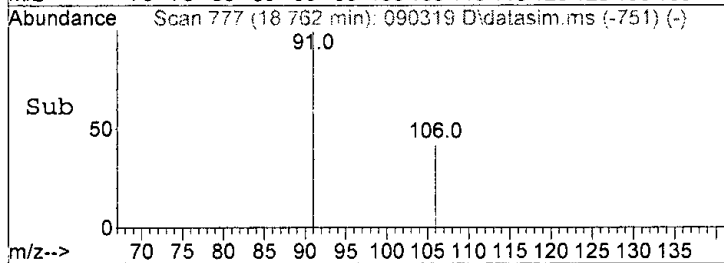
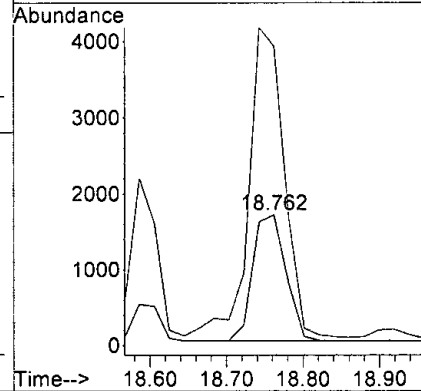
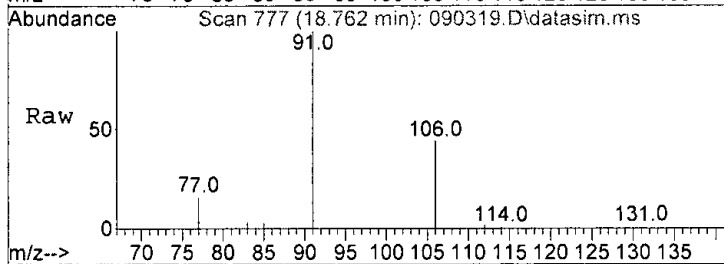
Tgt Ion	Ratio	Lower	Upper
91	100		
106	23.4	0.0	57.0





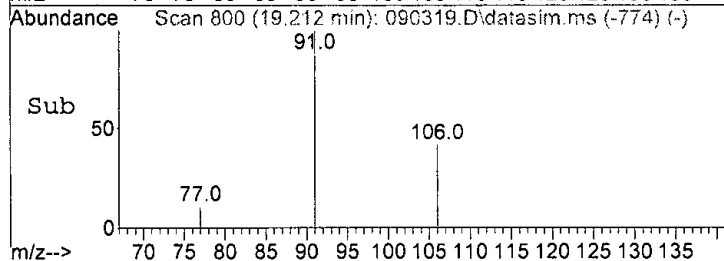
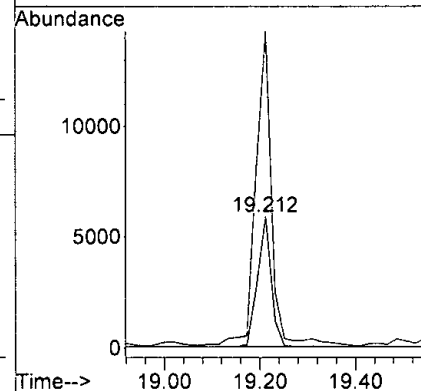
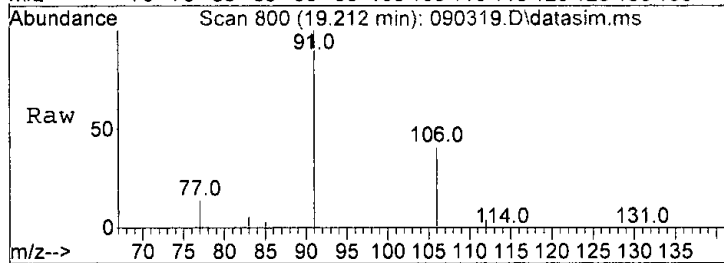
#65  
 m,p-Xylene  
 Concen: 0.175 ppbv  
 RT: 18.76 min Scan# 777  
 Delta R.T. 0.000 min  
 Lab File: 090319.D  
 Acq: 3 Sep 2021 7:32 pm

Tgt Ion:106 Resp: 5023  
 Ion Ratio Lower Upper  
 106 100  
 91 230.3 193.0 253.0



#66  
 o-Xylene  
 Concen: 0.408 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090319.D  
 Acq: 3 Sep 2021 7:32 pm

Tgt Ion:106 Resp: 11500  
 Ion Ratio Lower Upper  
 106 100  
 91 242.0 194.4 254.4



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 14:40:38 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.99	128	98707	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	459721	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	402212	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	360567m	9.895	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	99.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)	Qvalue
2) Propene	0.00		0	N.D.	d		
3) Dichlorodifluoromethane	0.00		0	N.D.	d		
4) Chloromethane	0.00		0	N.D.	d		
5) F-114	0.00		0	N.D.	d		
6] Vinyl chloride	4.05	62	1540	0.071	ppbv		95
7) 1,3-Butadiene	0.00		0	N.D.	d		
8) Butane	0.00		0	N.D.	d		
9) Bromomethane	0.00		0	N.D.	d		
10] Chloroethane	4.84	64	157	0.021	ppbv		89
11) Vinyl bromide	0.00		0	N.D.	d		
12) Ethanol	0.00		0	N.D.	d		
13) Acrolein	0.00		0	N.D.	d		
14) Pentane	0.00		0	N.D.	d		
15) Trichlorofluoromethane	0.00		0	N.D.	d		
16) Acetone	0.00		0	N.D.	d		
17) 2-Propanol	0.00		0	N.D.	d		
18] 1,1-Dichloroethene	6.73	96	297	0.018	ppbv	#	74
19] trans-1,2-Dichloroethene	8.18	96	412	0.026	ppbv	#	97
20) Methylene chloride	6.86	84	89050	5.154	ppbv	#	81
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d		
22) 3-Chloropropene	0.00		0	N.D.	d		
23) CFC-113	0.00		0	N.D.	d		
24) Carbon disulfide	0.00		0	N.D.	d		
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d		
26) Vinyl acetate	0.00		0	N.D.	d		
27] 1,1-Dichloroethane	8.44	63	1153	0.030	ppbv		96
28] cis-1,2-Dichloroethene	9.73	96	2627	0.149	ppbv	#	77
29) Hexane	0.00		0	N.D.	d		
30) Chloroform	0.00		0	N.D.	d		
31) Ethyl acetate	0.00		0	N.D.	d		
32) Tetrahydrofuran	0.00		0	N.D.	d		
33) 2-Butanone (MEK)	0.00		0	N.D.	d		
34) 1,2-Dichloroethane (EDC)	11.52	62	121	N.D.			
35) 1,1,1-Trichloroethane	11.68	97	269	N.D.			
36) Carbon tetrachloride	0.00		0	N.D.			
37] Benzene	12.72	78	591289	9.783	ppbv		100
38) Cyclohexane	0.00		0	N.D.	d		
40) 1,2-Dichloropropane	0.00		0	N.D.	d		
41) 1,4-Dioxane	0.00		0	N.D.	d		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d		

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

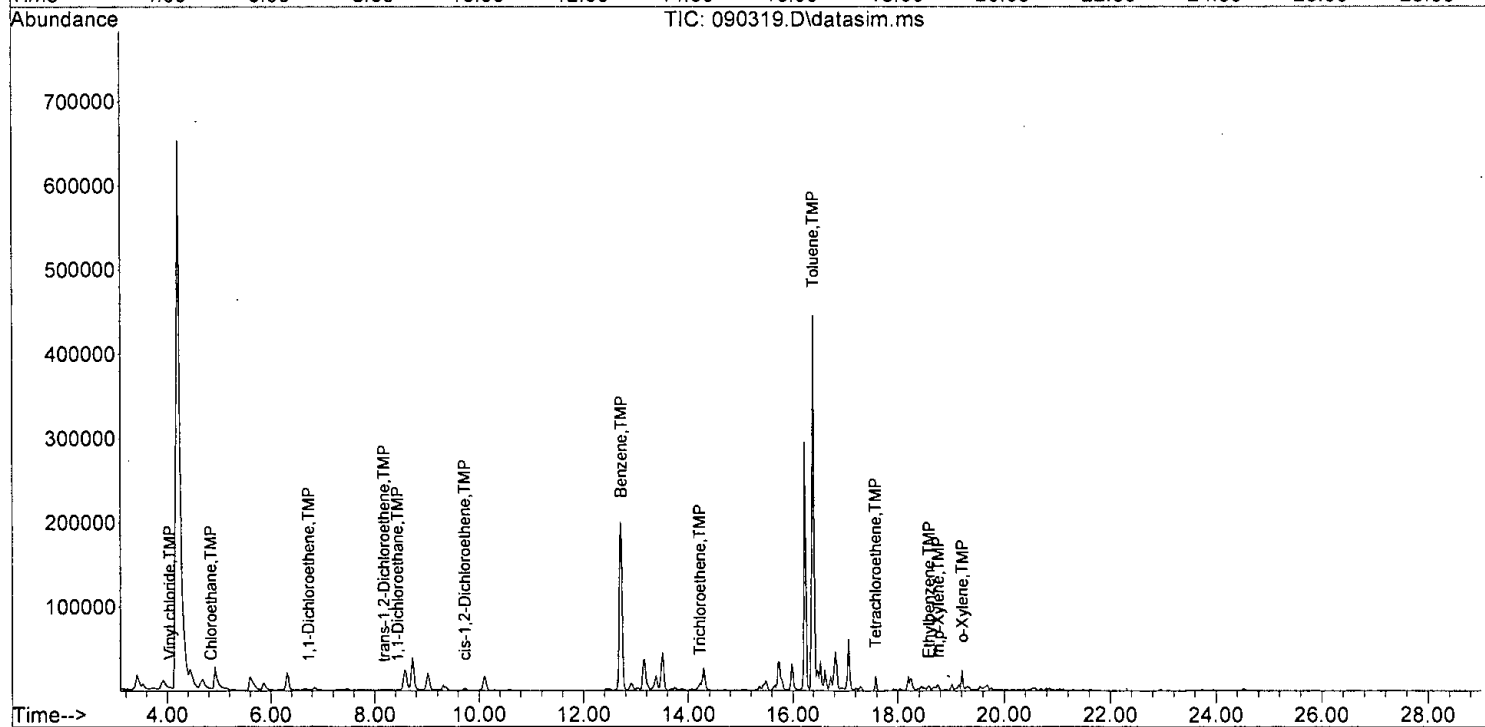
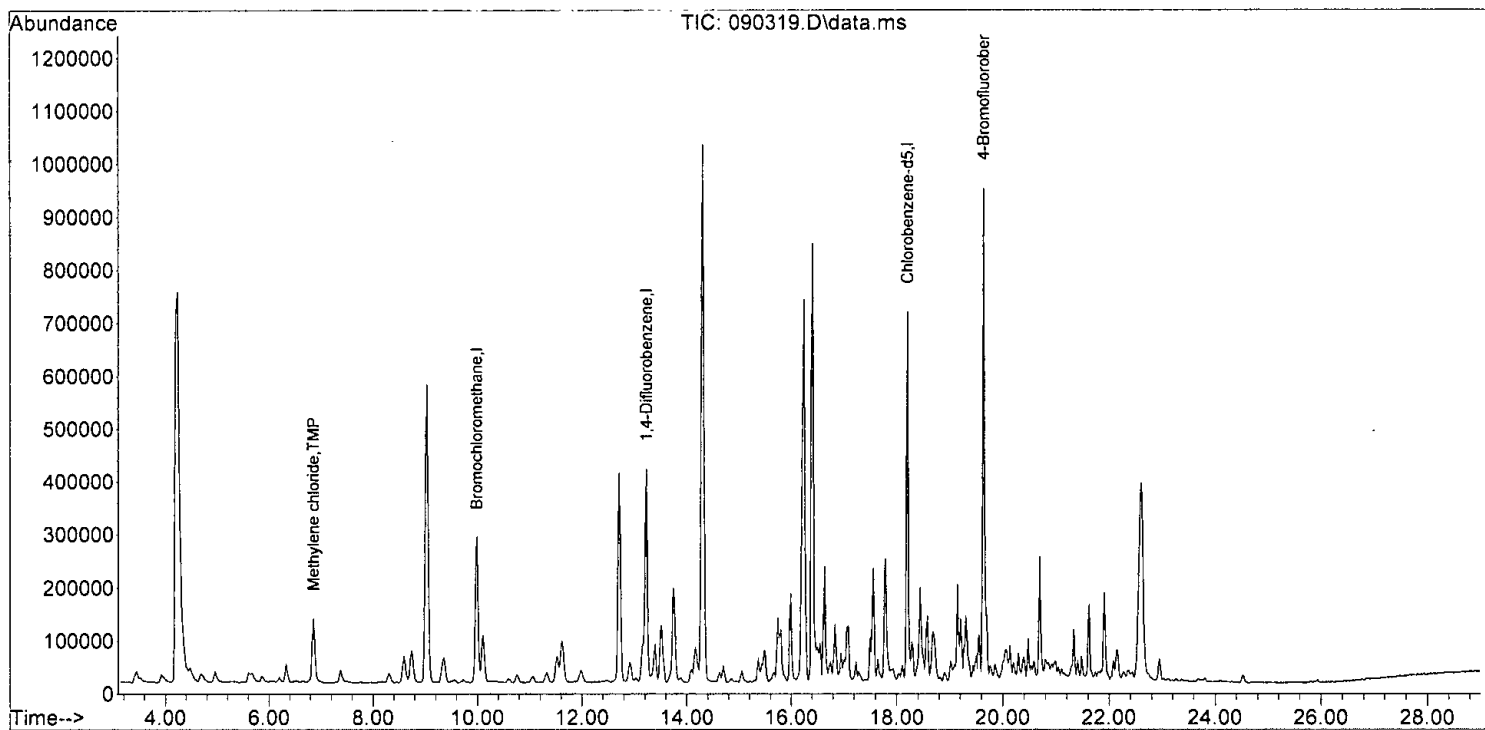
Quant Time: Sep 07 14:40:38 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	6775	0.238	ppbv	85
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	16358	0.475	ppbv	86
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	7865	0.449	ppbv #	80
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	4949	0.055	ppbv	93
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.76	106	5023	0.175	ppbv	95
66] o-Xylene	19.21	106	11500	0.408	ppbv	89
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77) Naphthalene	23.95	128	1710	N.D.	d	
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

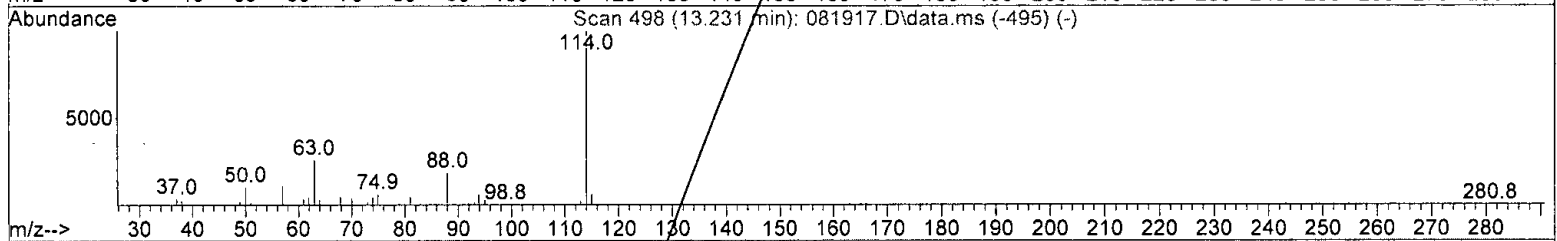
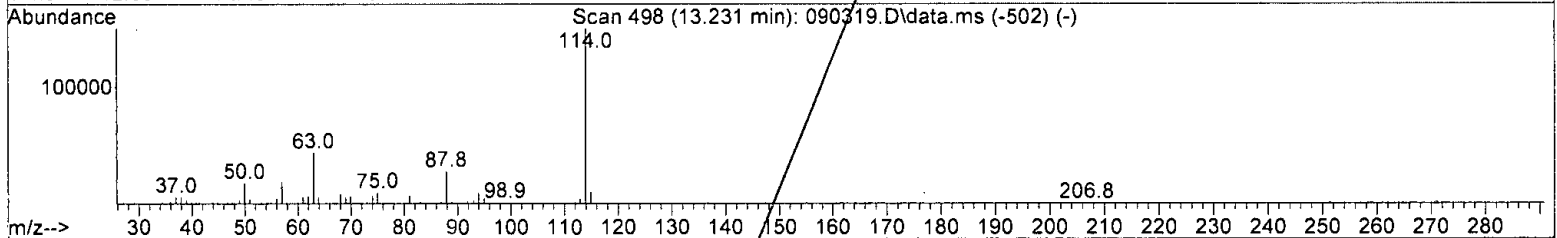
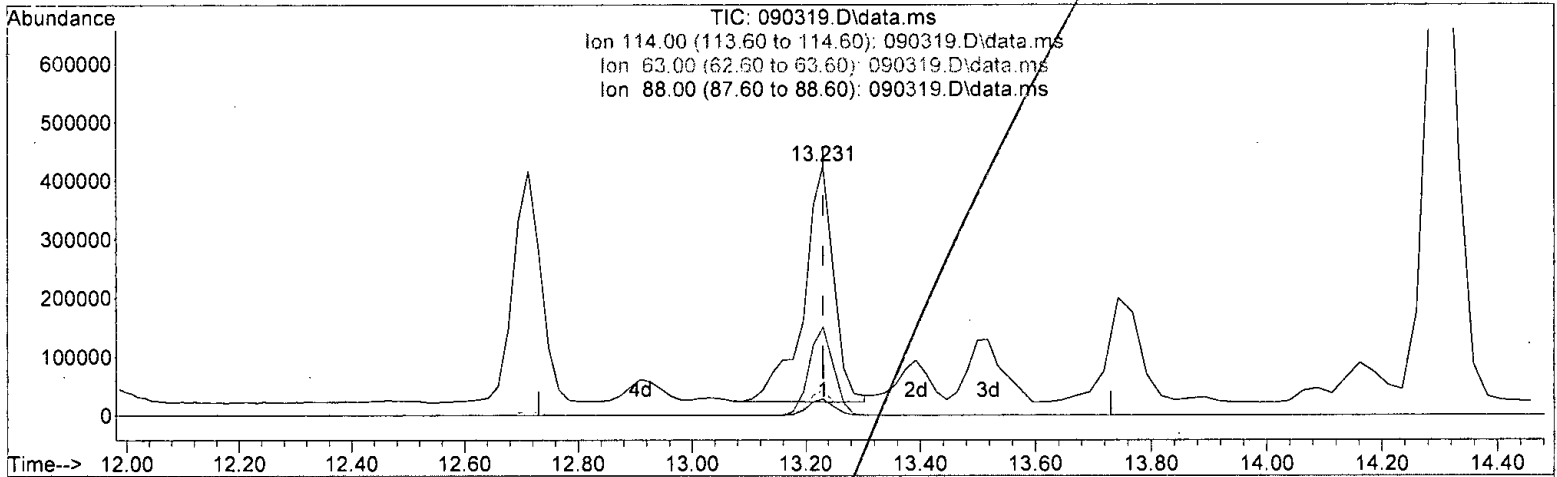
Quant Time: Sep 07 14:40:38 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:49:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000) 60.675 ug/m3

response 1500902

Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	37.69
63.00	8.40	10.88
88.00	7.60	6.91

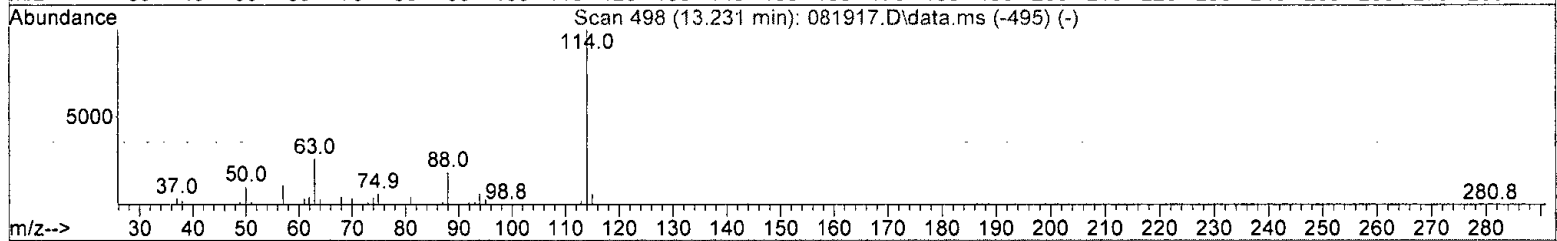
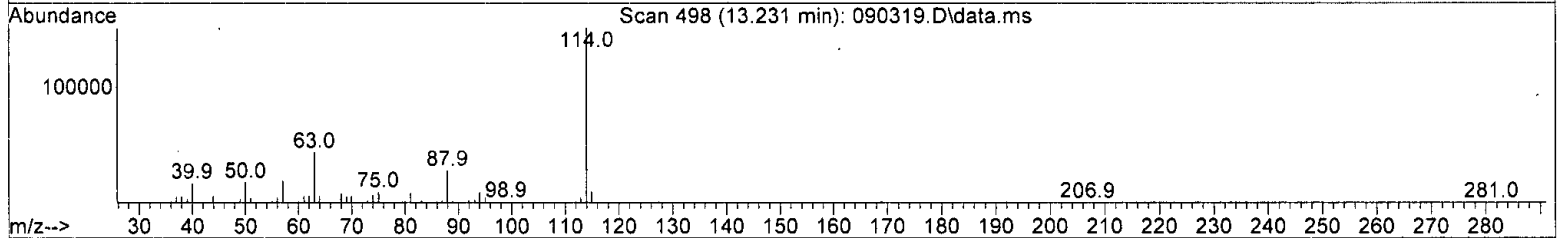
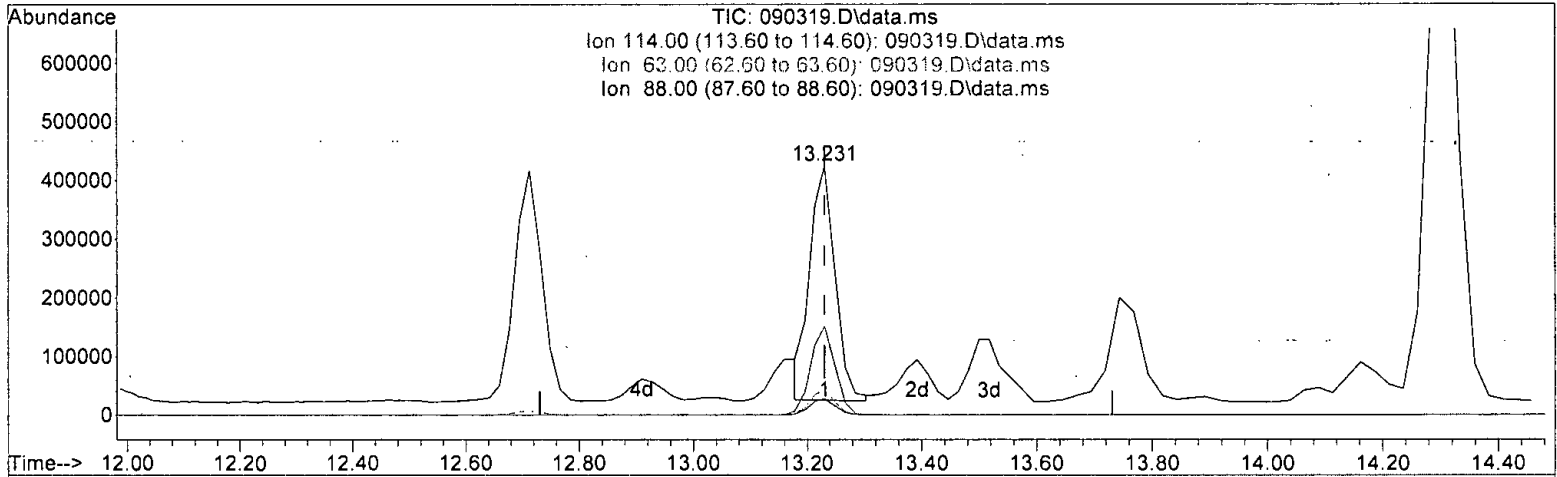
*h  
07/2/24*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:49:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



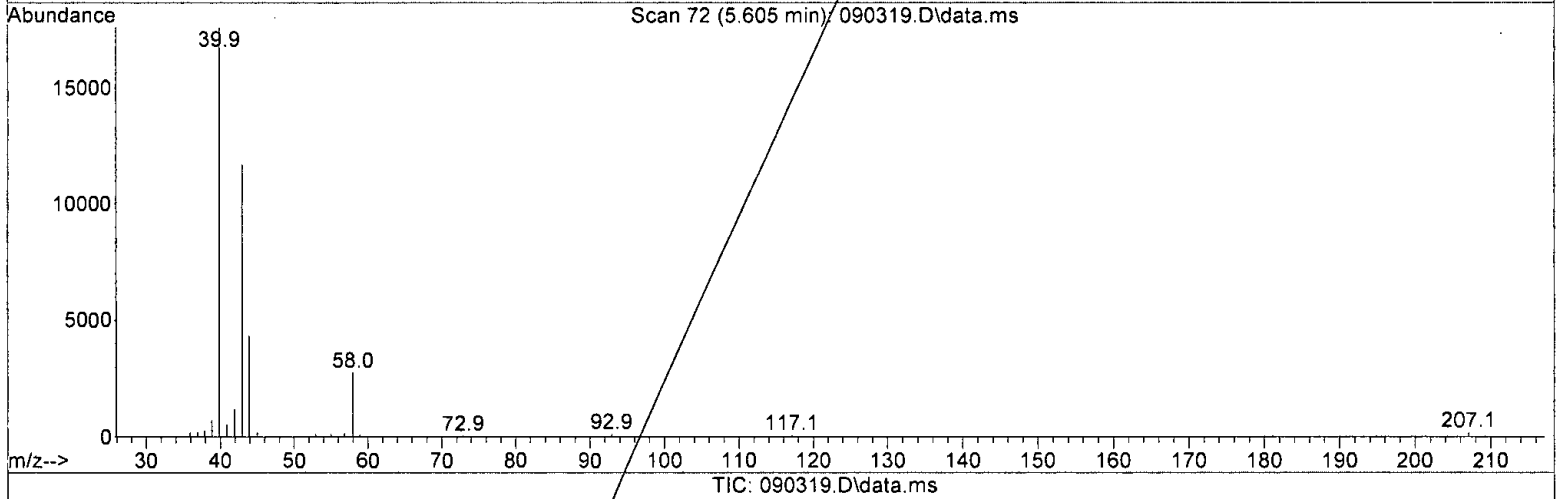
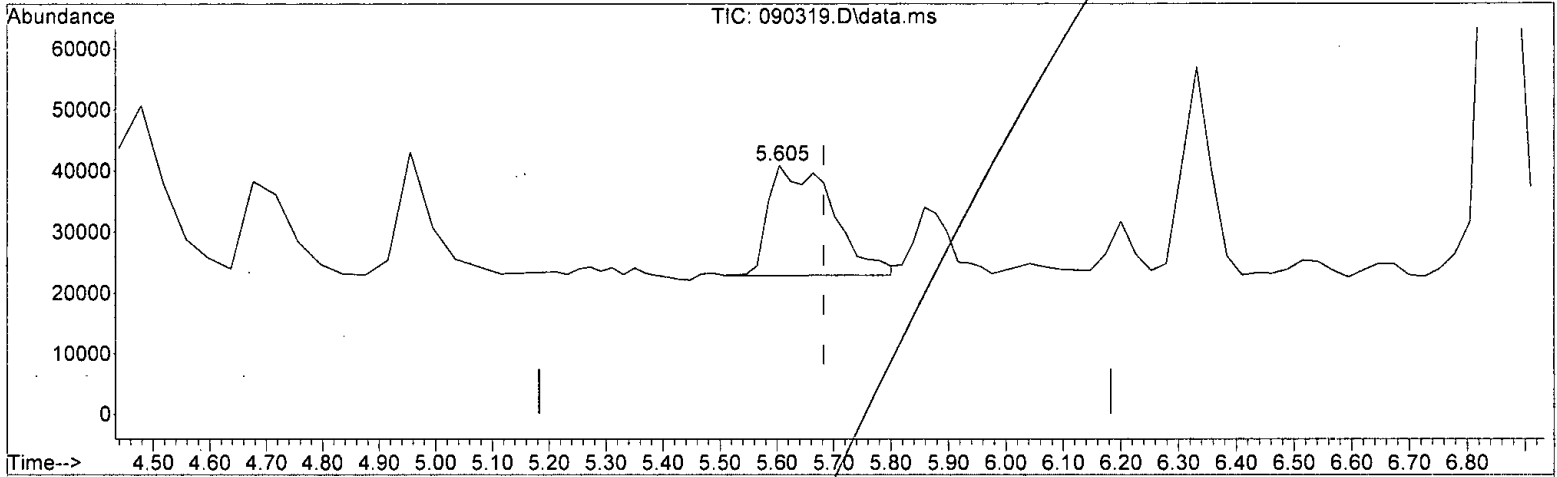
(3) IS-2 1,4-Difluorobenzene (T)  
 13.231min (+ 0.000) 50.510 ug/m3 m  
 response 1249458  

Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	45.28
63.00	8.40	13.07
88.00	7.60	8.30

*Handwritten signature:* 4/09/2021

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:49:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(6) Acetone

5.605min (-0.078) 3.041 ppbv

response 141573

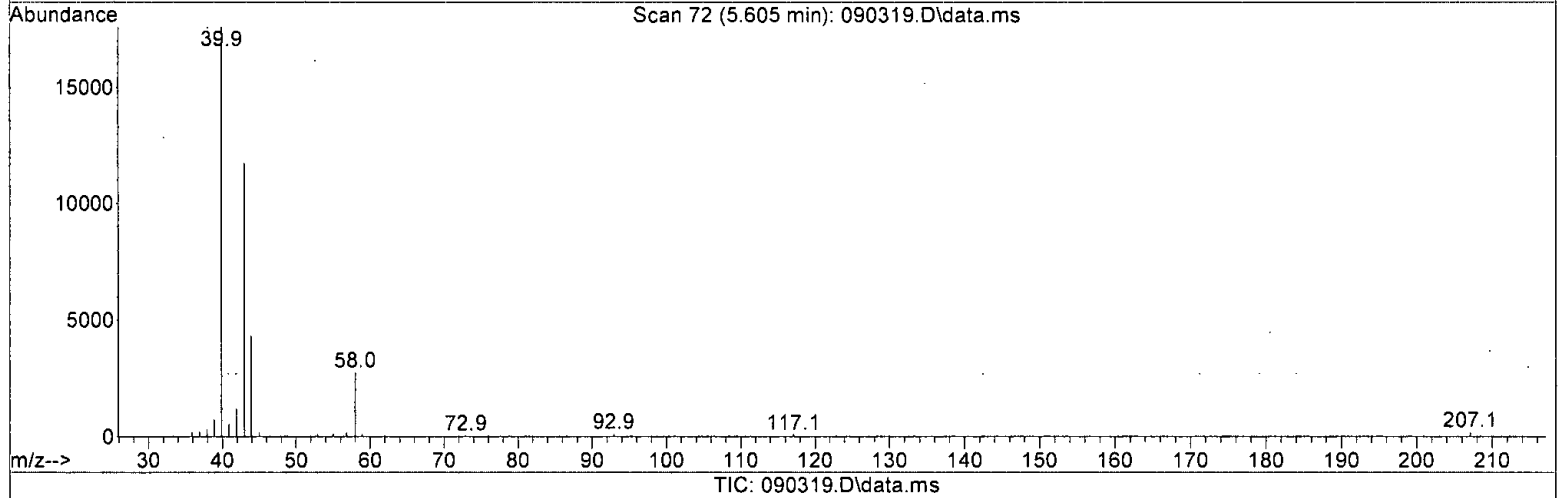
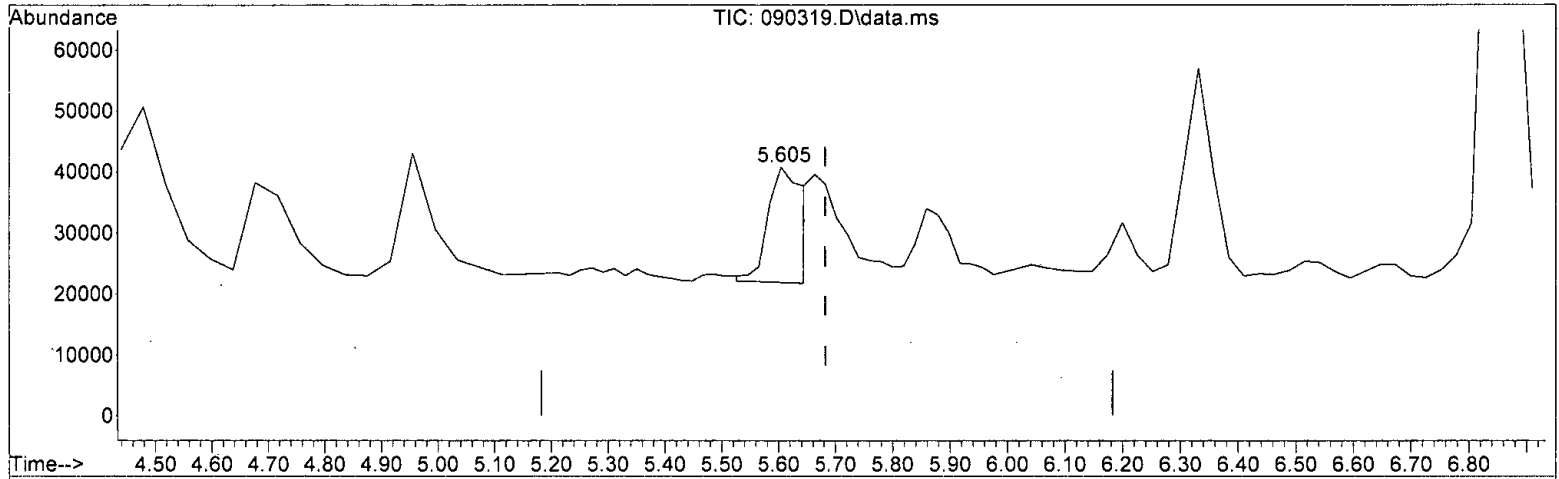
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten note:*  
 10/23/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:49:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(6) Acetone

5.605min (-0.078) 1.716 ppbv m

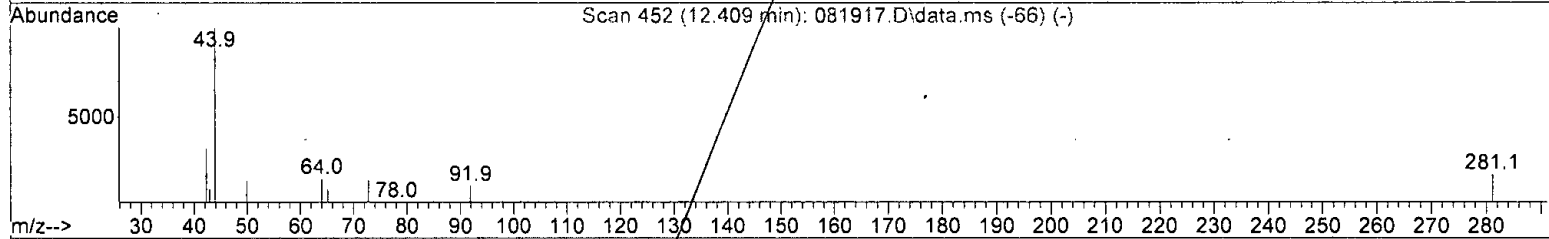
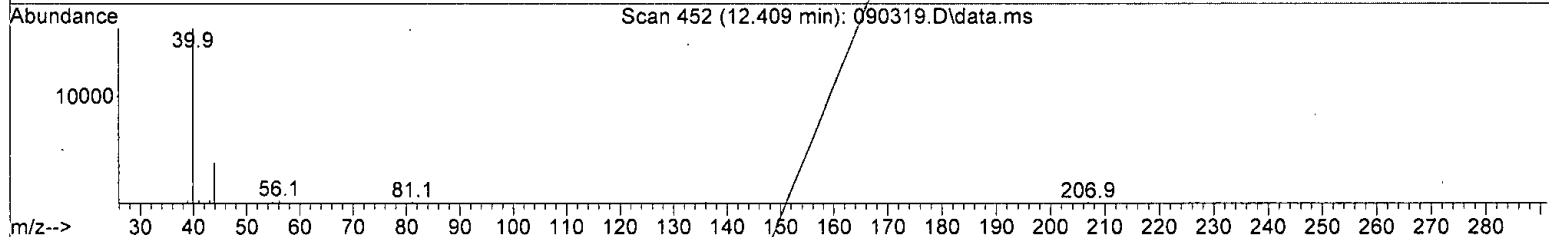
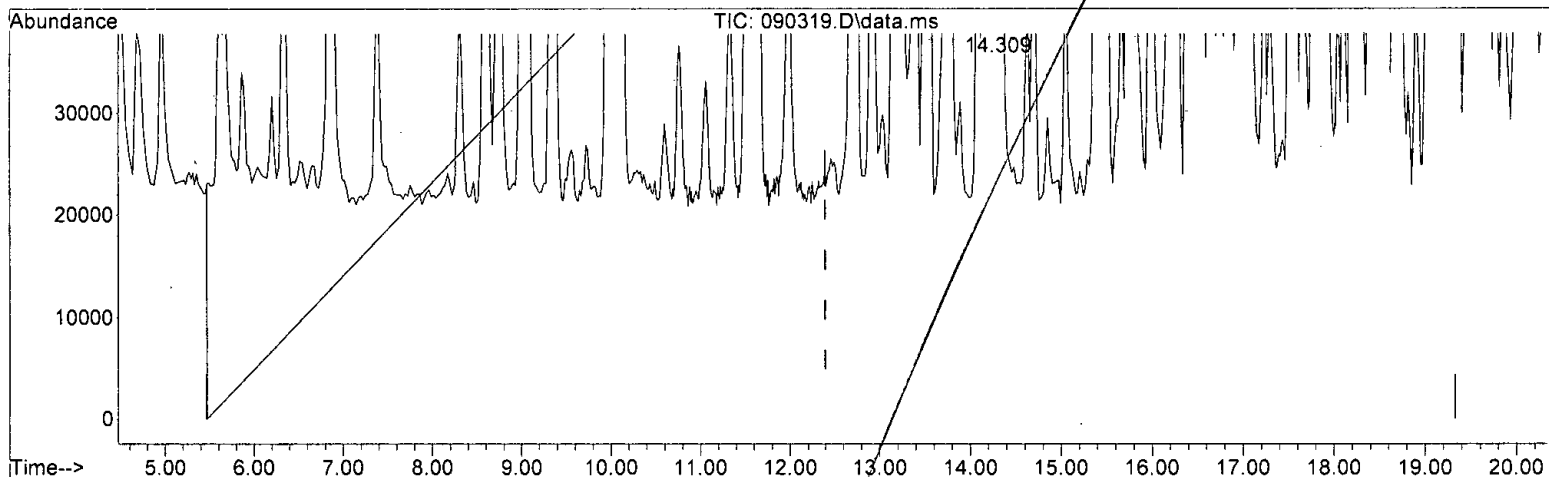
response	Exp%	Act%
79864		
Signal		
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*M  
09/07/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:49:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 658.379 ug/m3 m  
 response 24015359

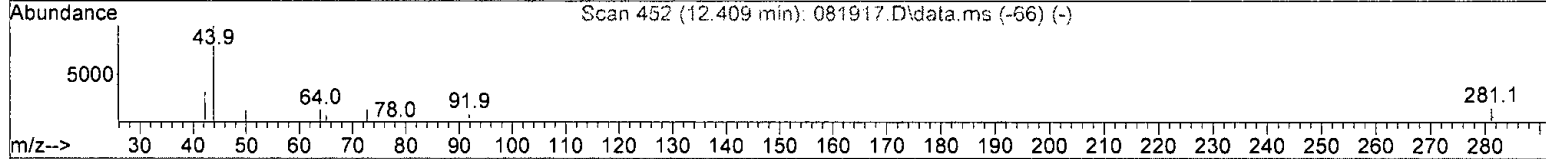
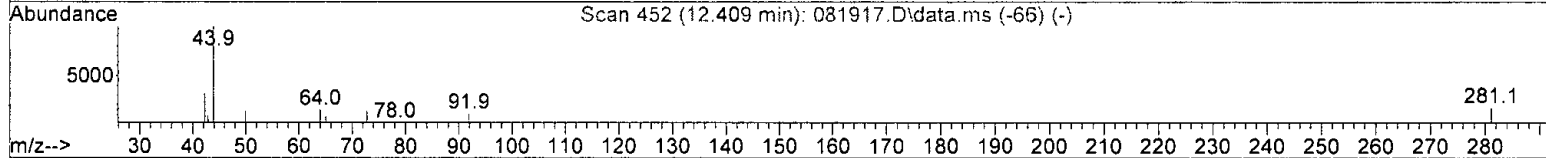
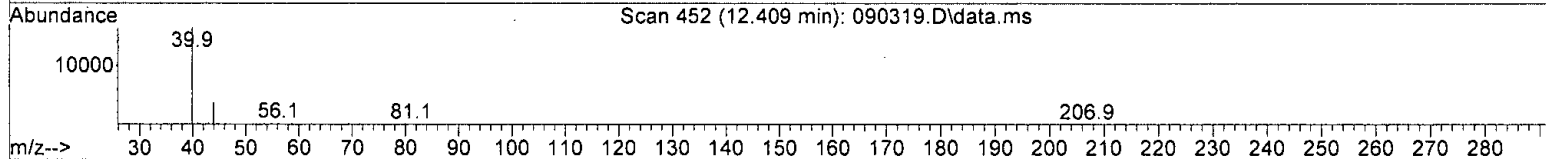
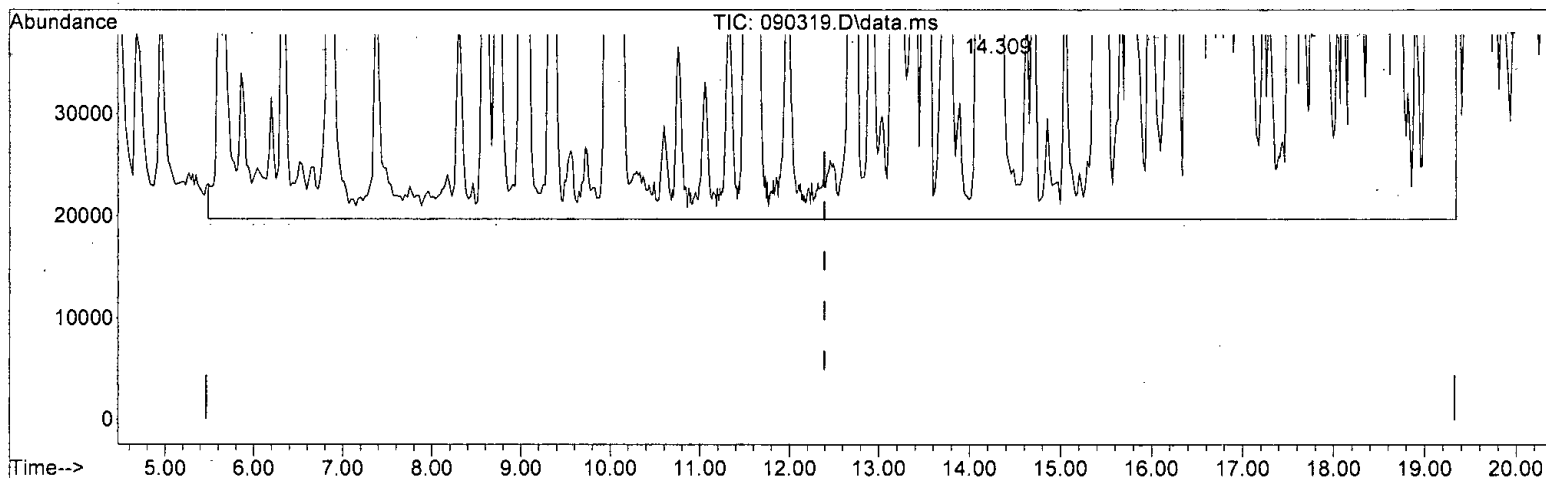
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B or 12/4*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:49:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 823.009 ug/m3 m

response 30020506

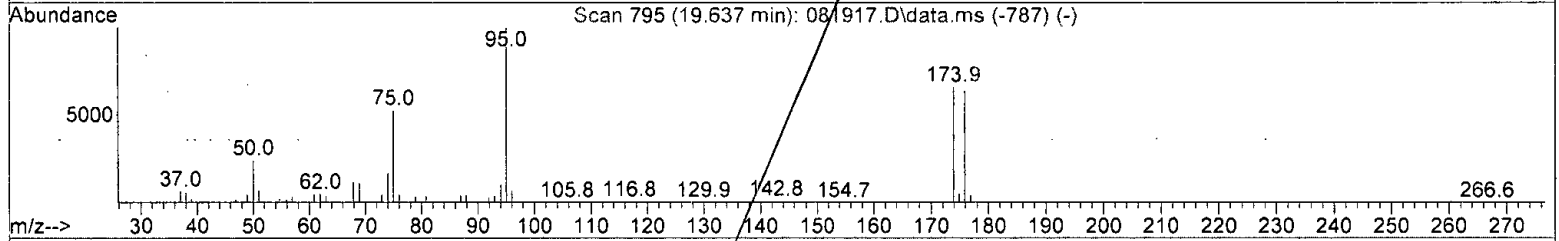
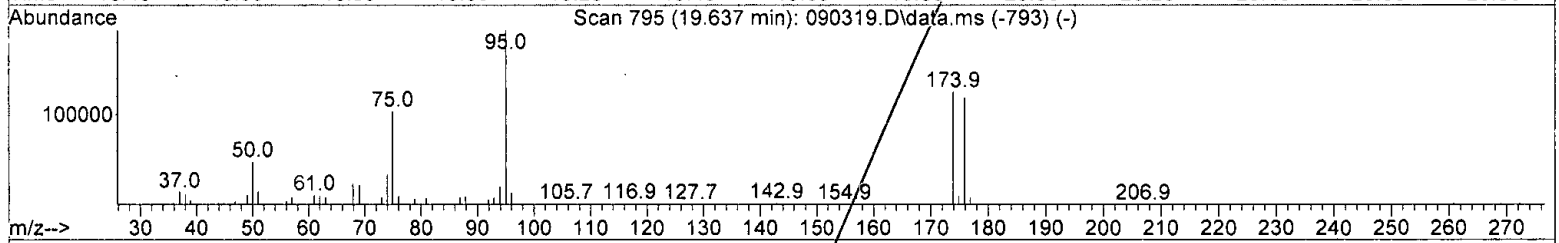
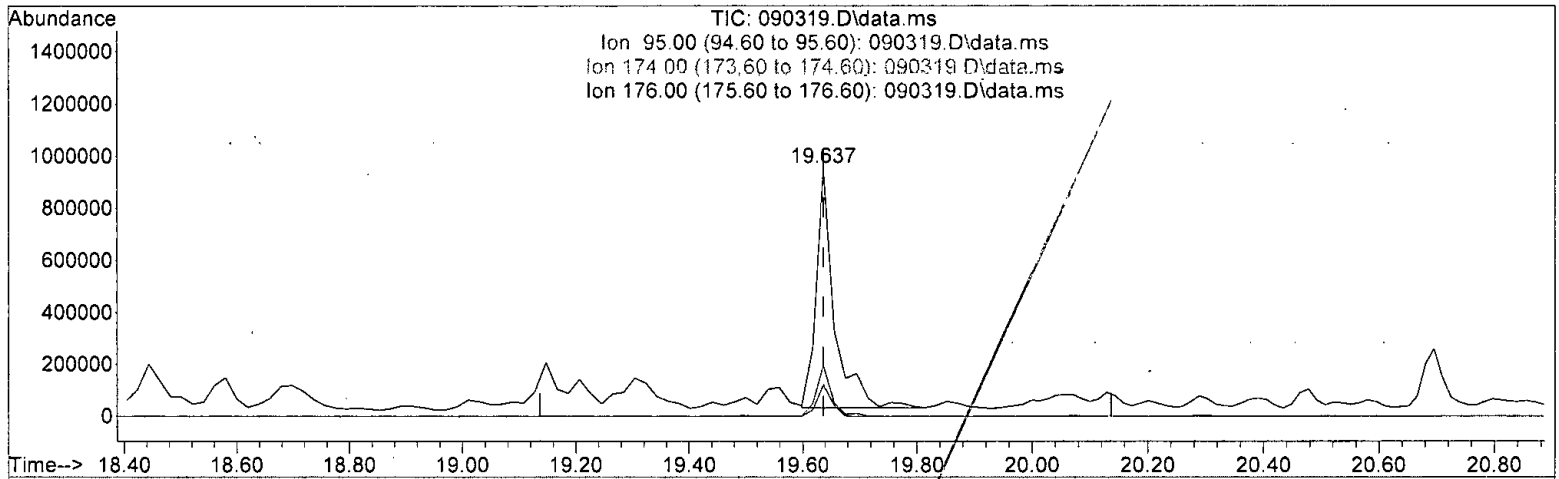
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:49:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 61.665 ug/m3

response 2093830

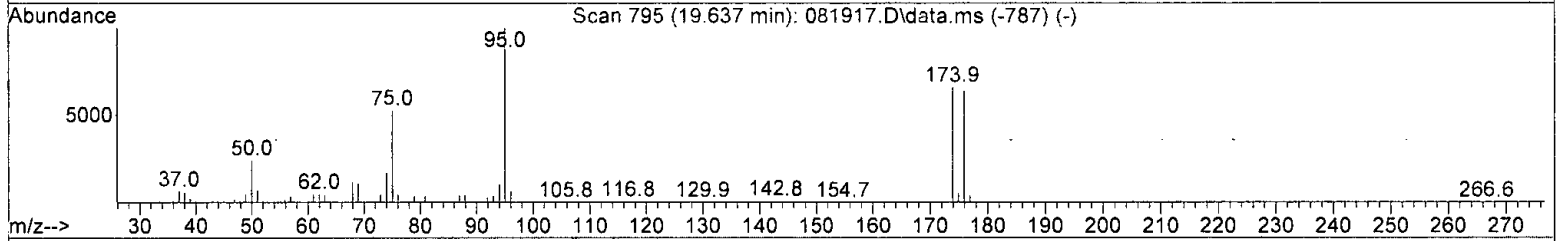
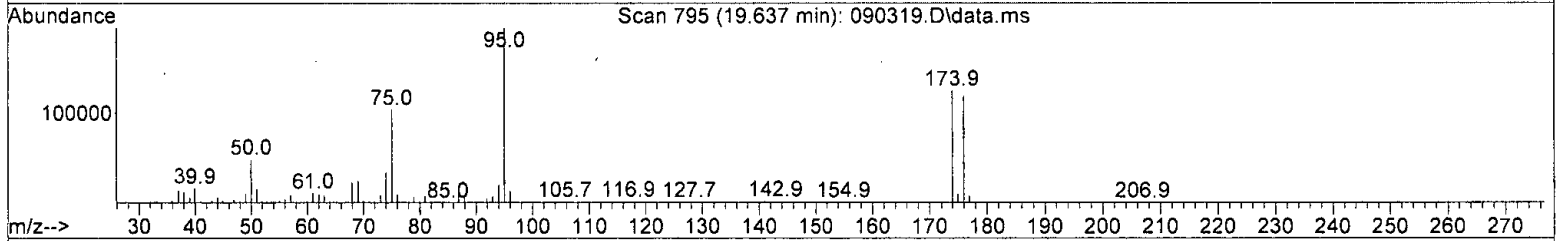
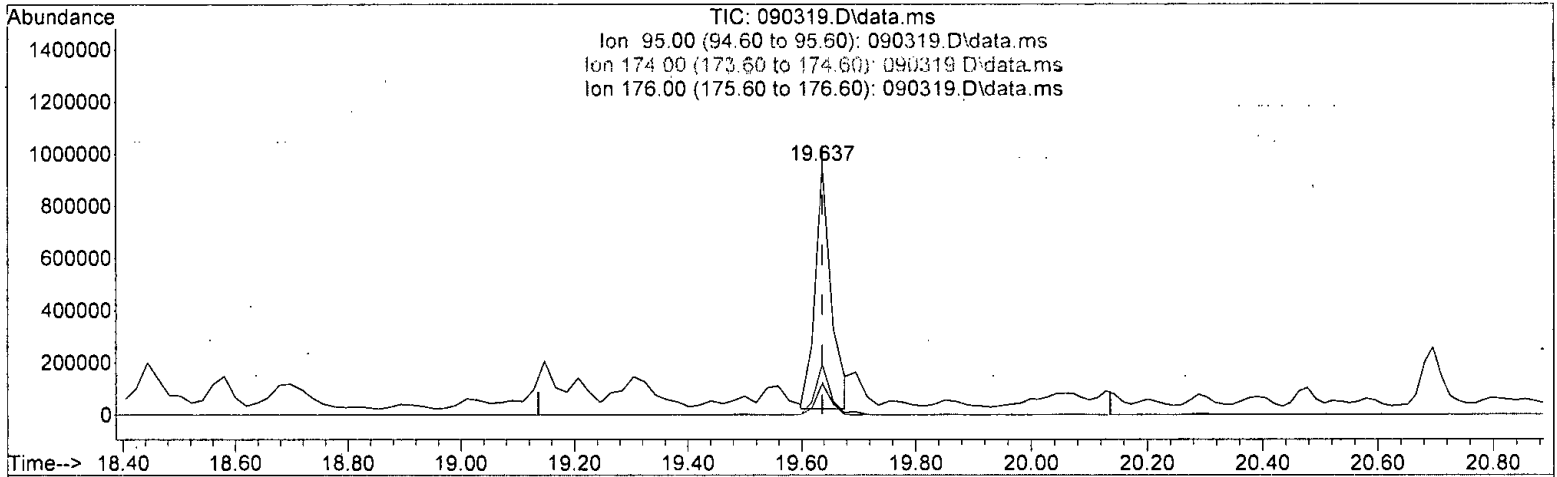
Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	21.20
174.00	19.20	13.61
176.00	18.70	12.92

*Handwritten note:* 11/07/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:49:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 55.445 ug/m3 m

response 1882626

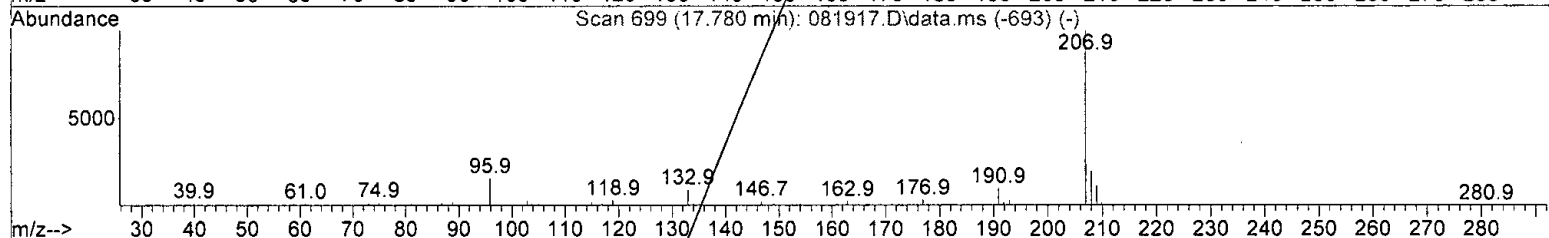
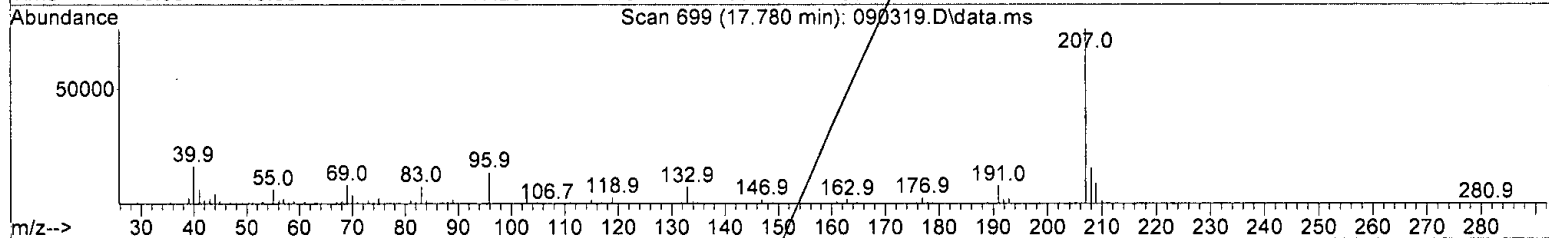
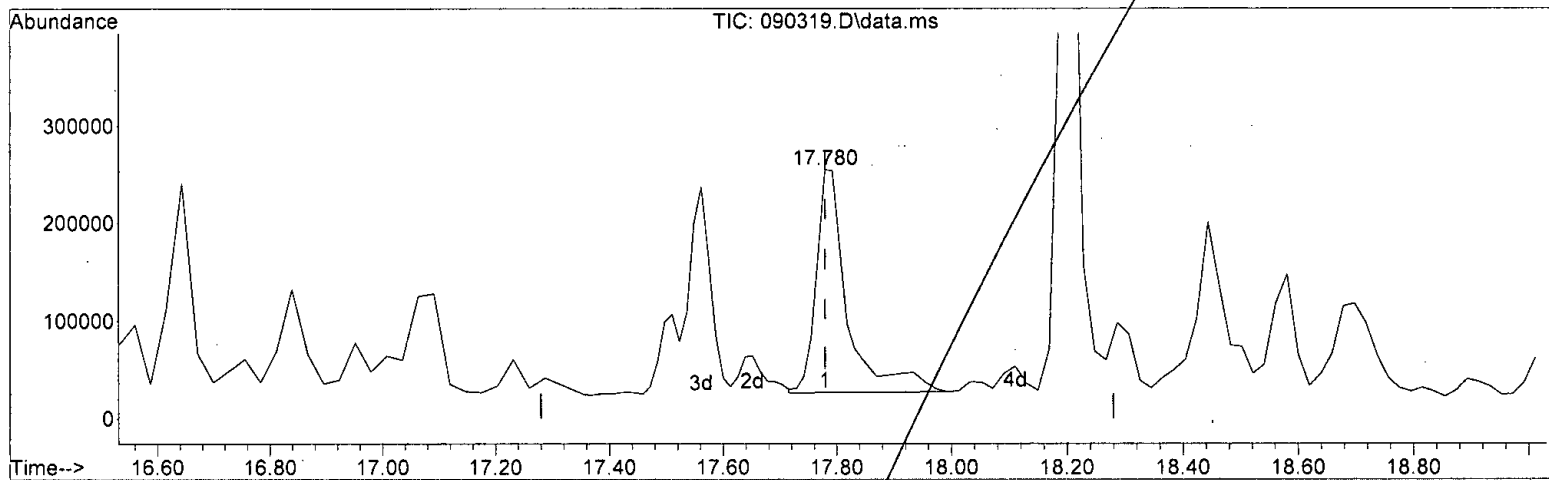
Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	23.58
174.00	19.20	15.13
176.00	18.70	14.37

*Handwritten signature:* N 09/07/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:49:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(22) Hexamethylcyclotrisiloxane

17.780min (-0.000) 123.892 ppbv

response 1036154

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

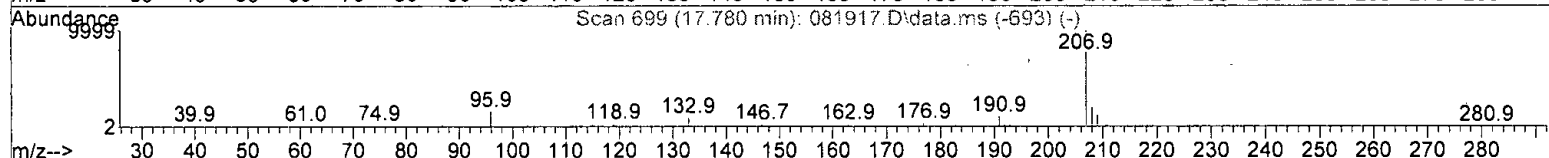
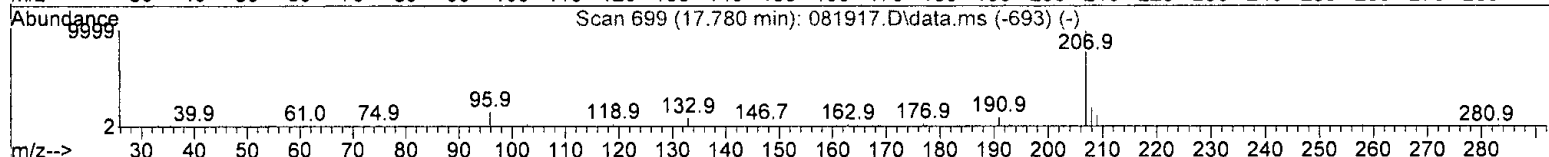
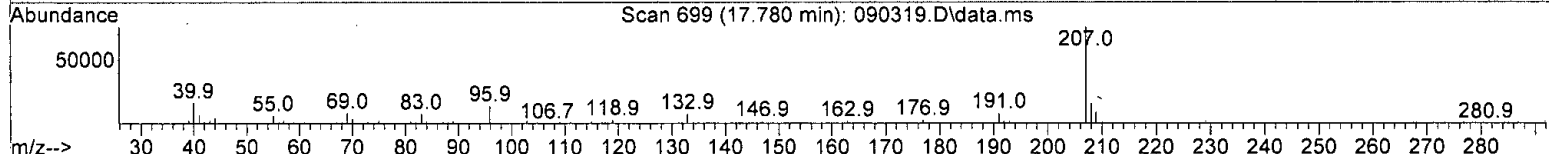
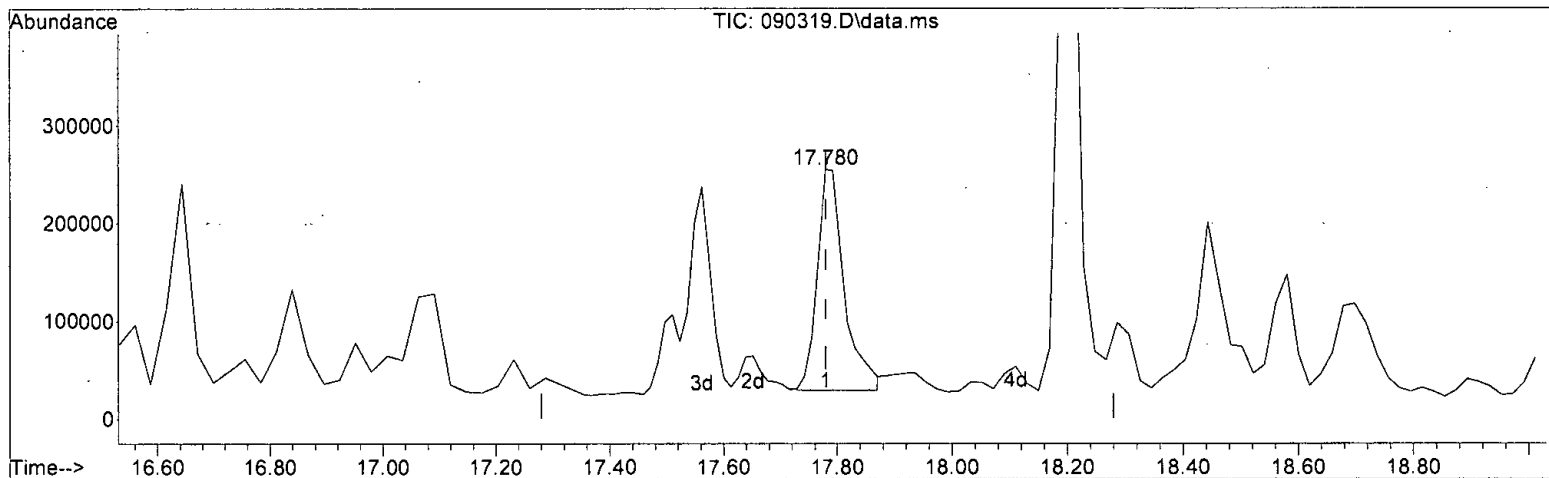
*Handwritten signature:* K. G. 09/07/21



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:49:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



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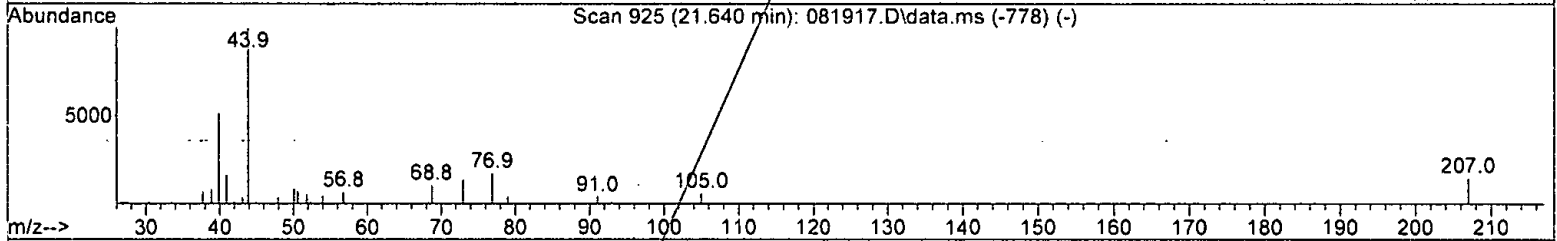
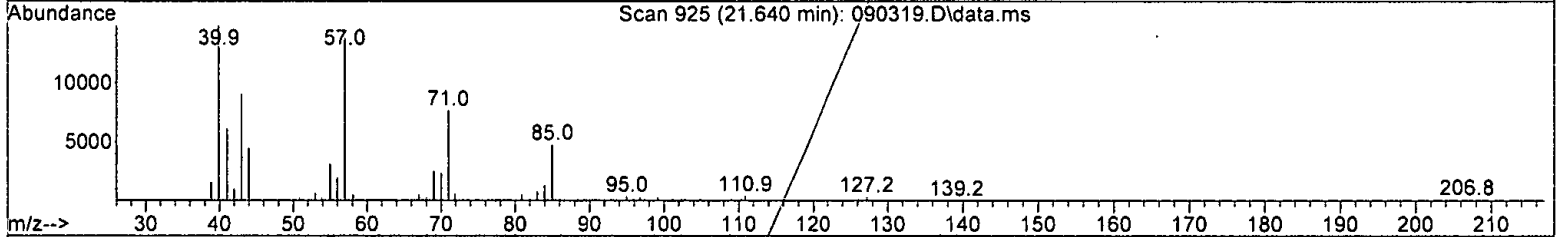
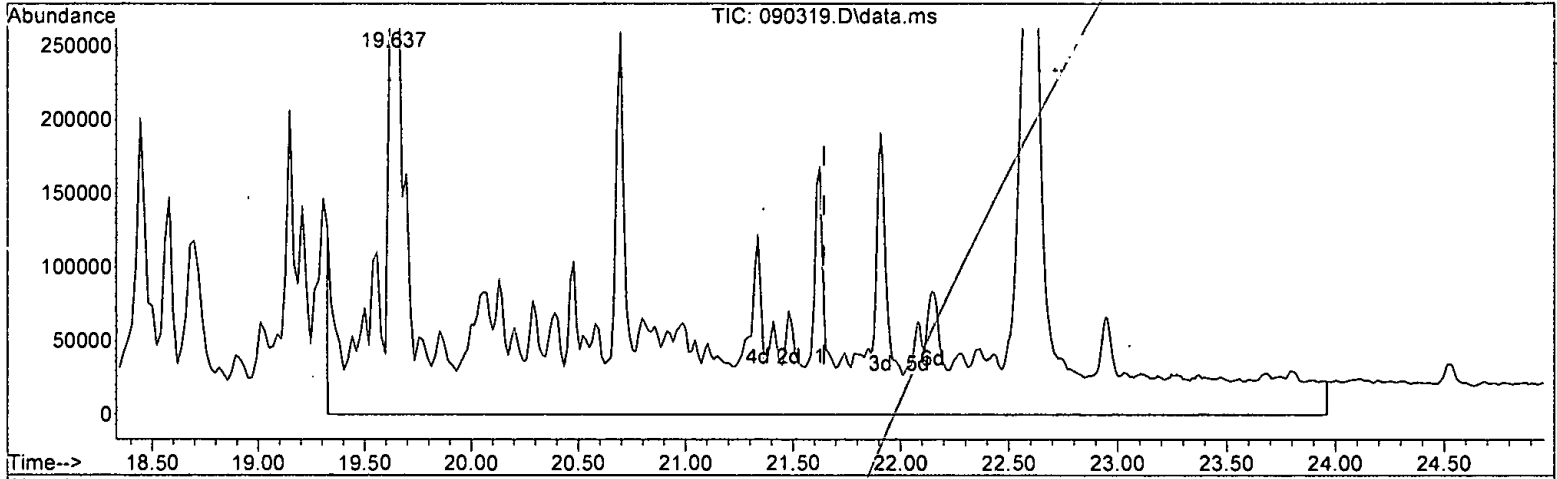
(22) Hexamethylcyclotrisiloxane

17.780min (-0.000) 89.780 ppbv m

response	750865
Signal	Exp% Act%
TIC	100.00 100.00
0.00	0.00 0.00
0.00	0.00 0.00
0.00	0.00 0.00

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:49:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 160.062 ug/m3 m

response 6586833

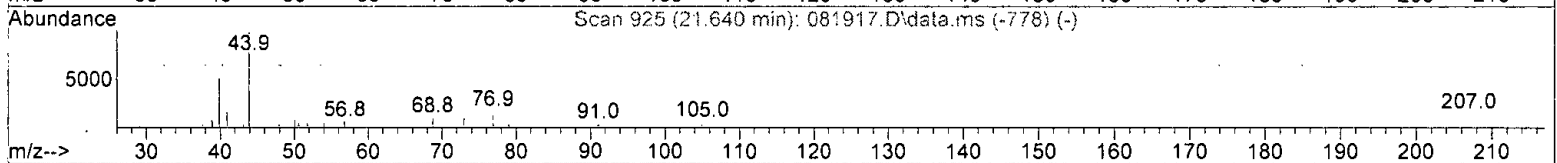
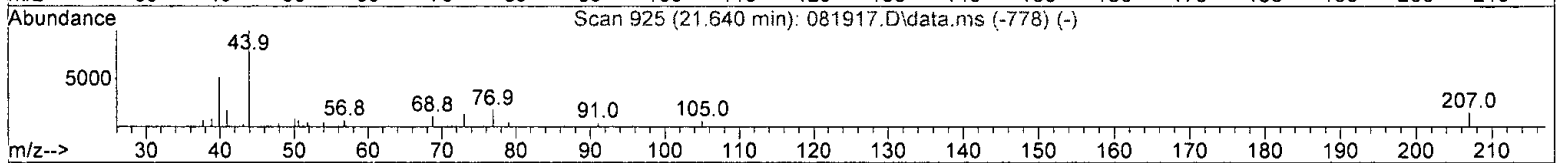
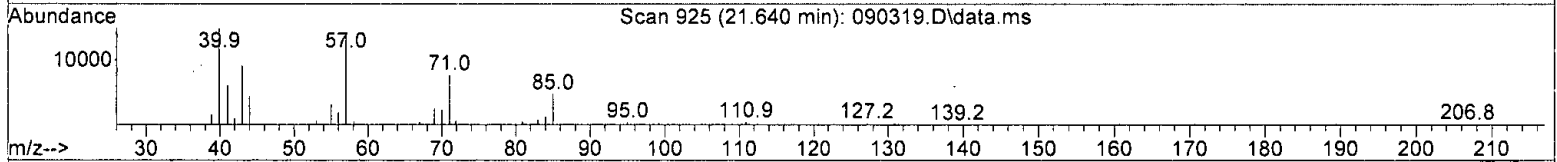
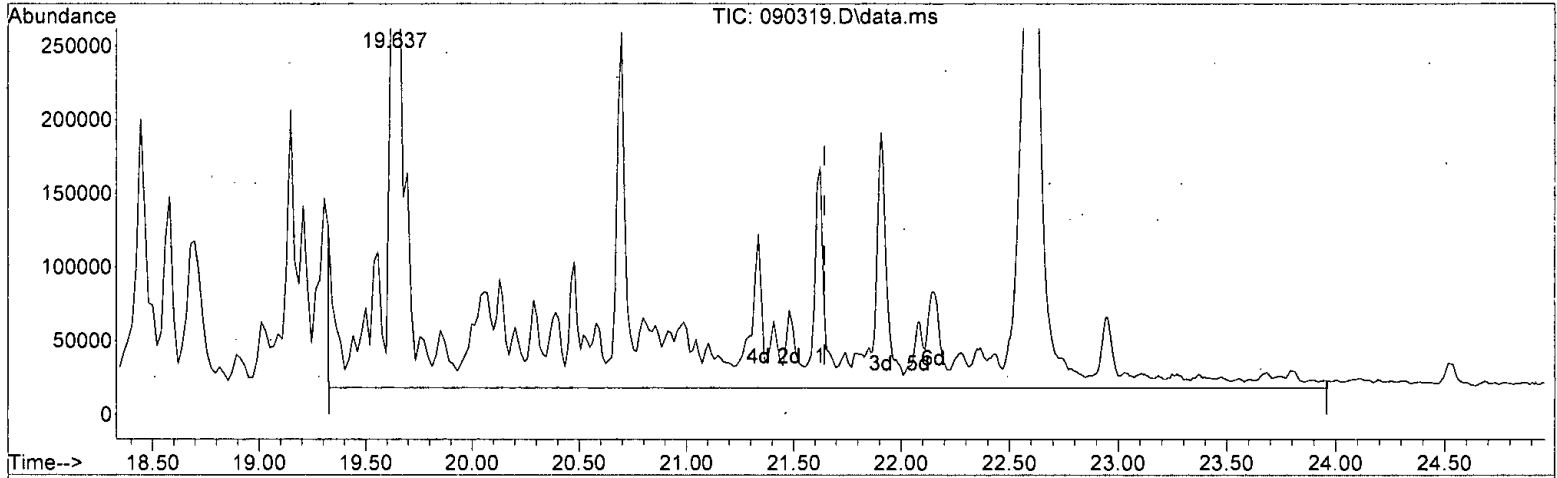
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*W. alata*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:49:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090319.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 288.917 ug/m3 m

response 11889441

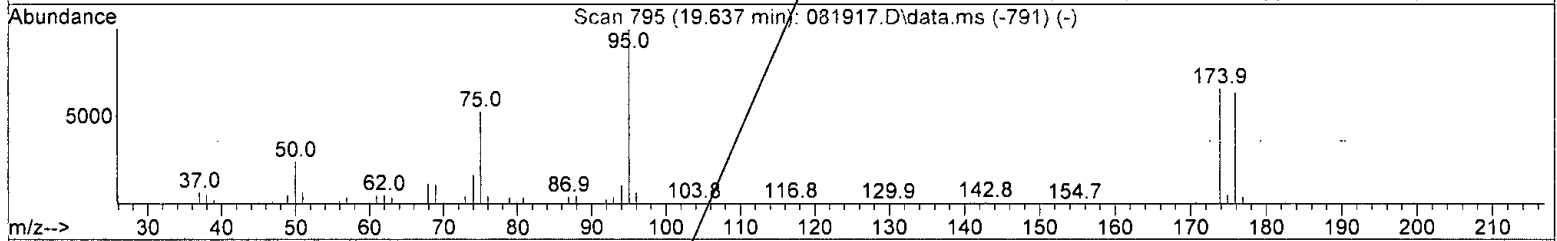
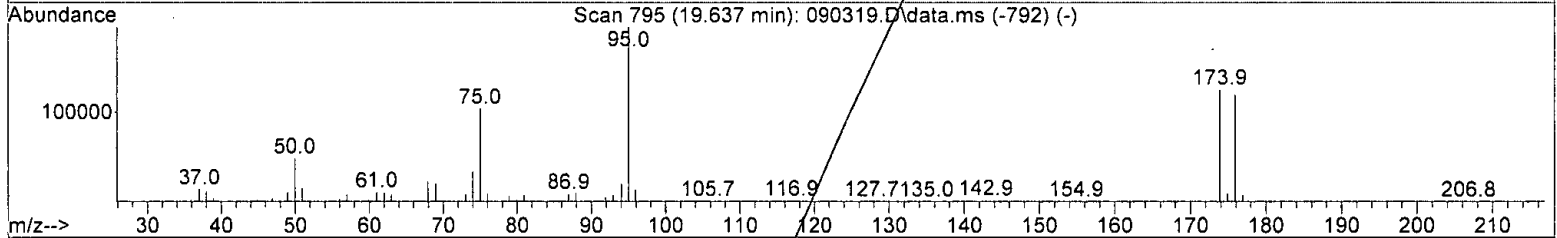
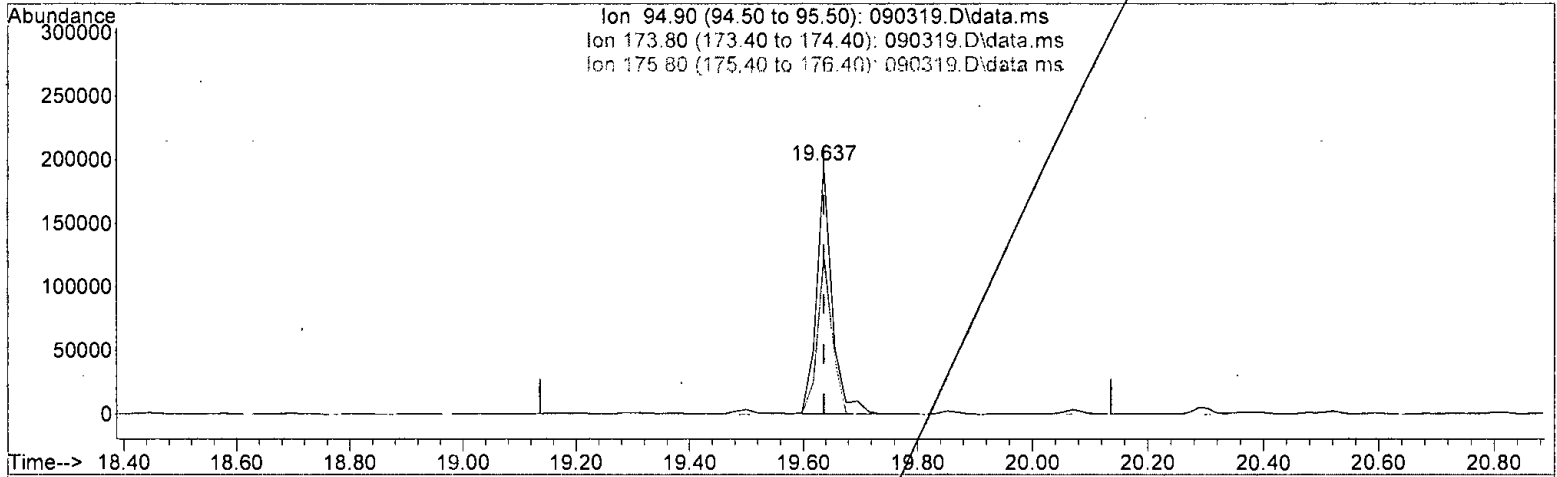
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h*  
*07/07/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:49:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*Handwritten:* 19.637 / 09/07/21

(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 74.208 ug/m3

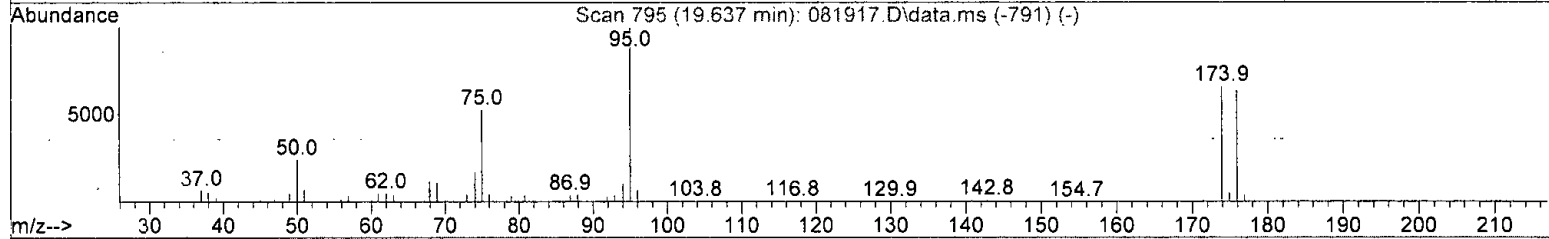
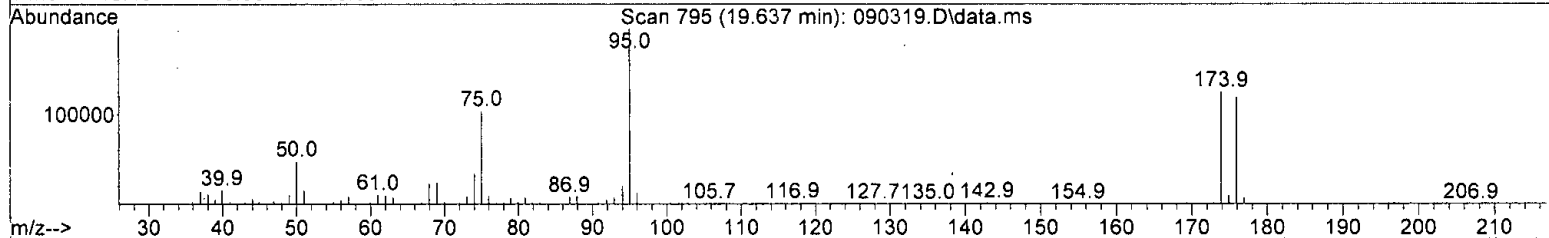
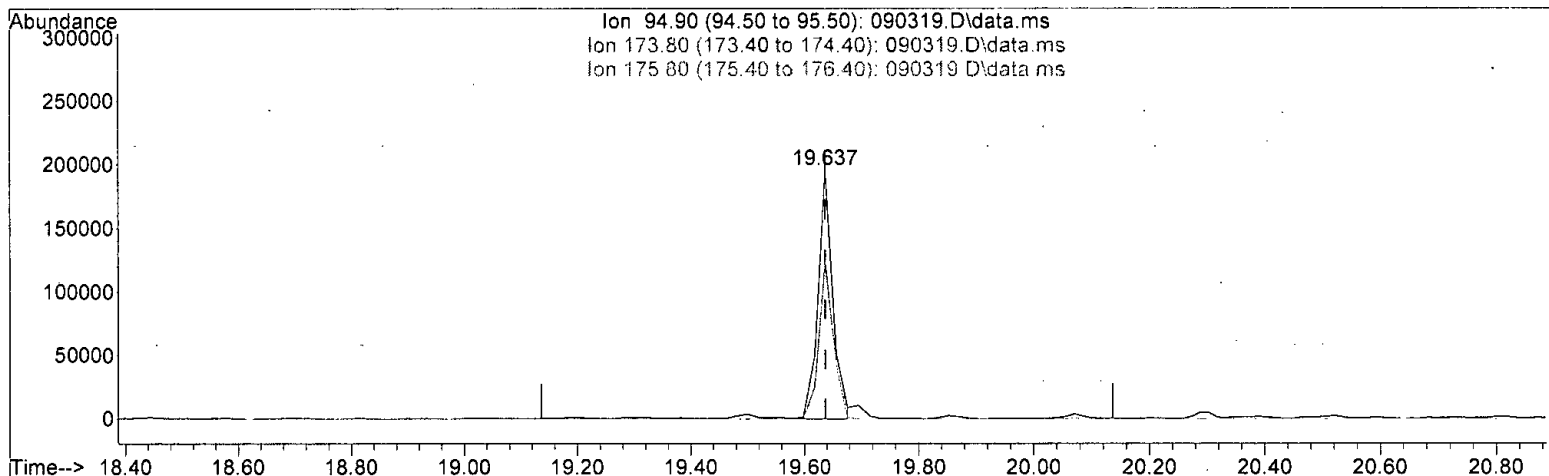
response 373945

Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	64.19#
175.80	93.50	60.94#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:49:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



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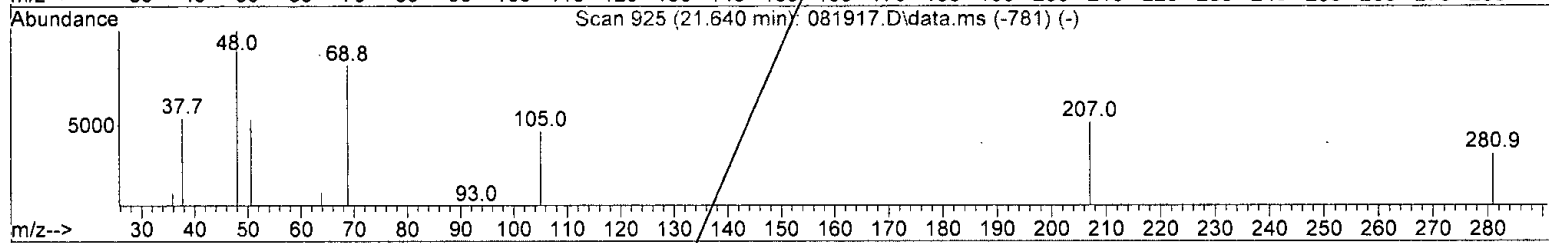
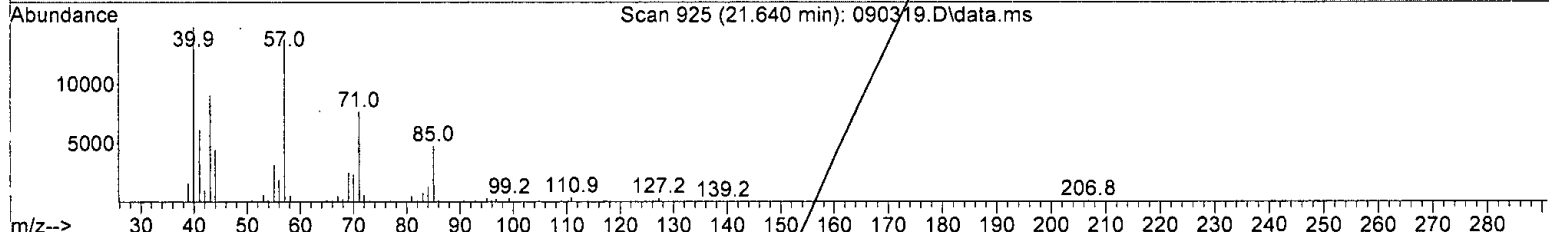
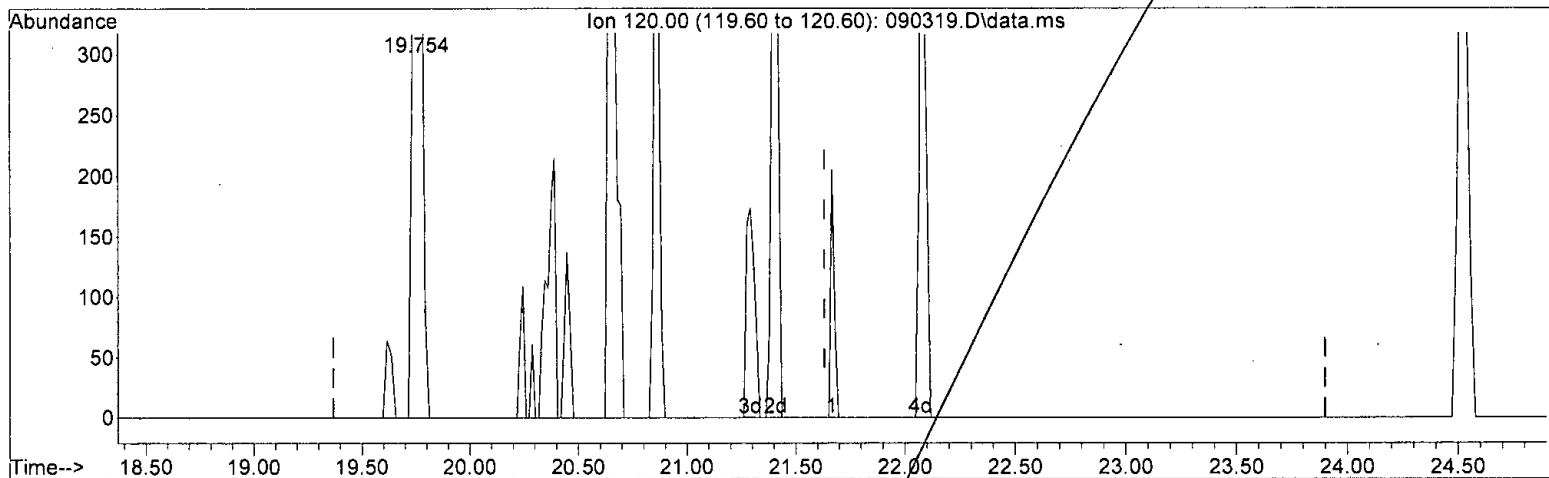
(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 71.553 ug/m3 m

response	360567
Ion	Exp% Act%
94.90	100.00 100.00
173.80	96.00 64.14#
175.80	93.50 60.89#
0.00	0.00 0.00

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:49:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



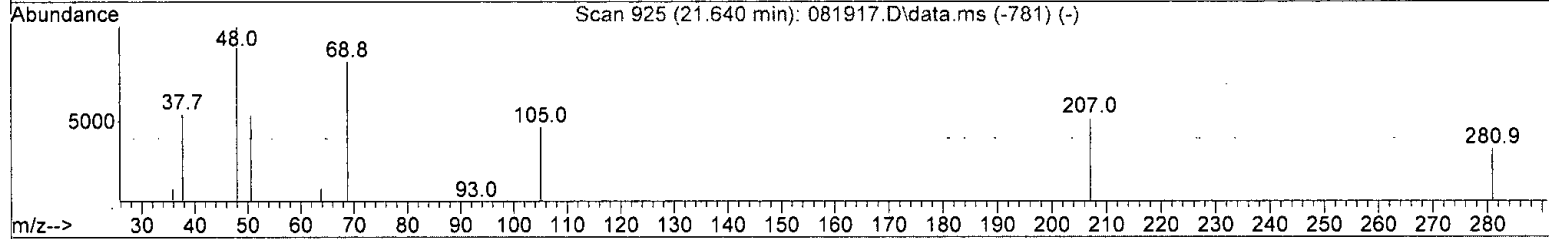
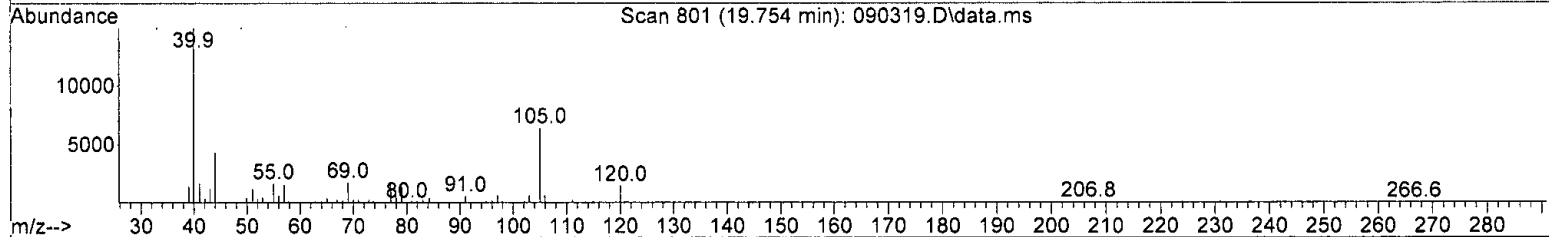
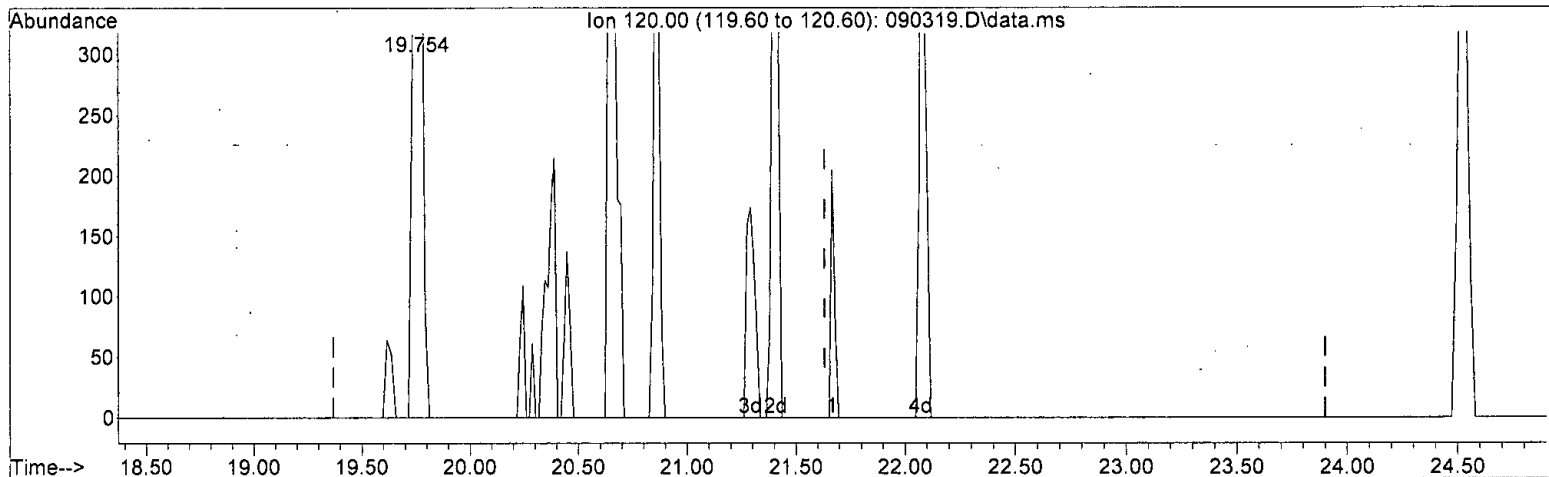
(44) APH EC9-10 aromatics (1) (H)  
 21.635min ( 0.000) -13.989 ug/m3 m  
 response -67027

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*M/09/07/21*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:49:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090319.D\data.ms

(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 1.670 ug/m3 m

response 8002

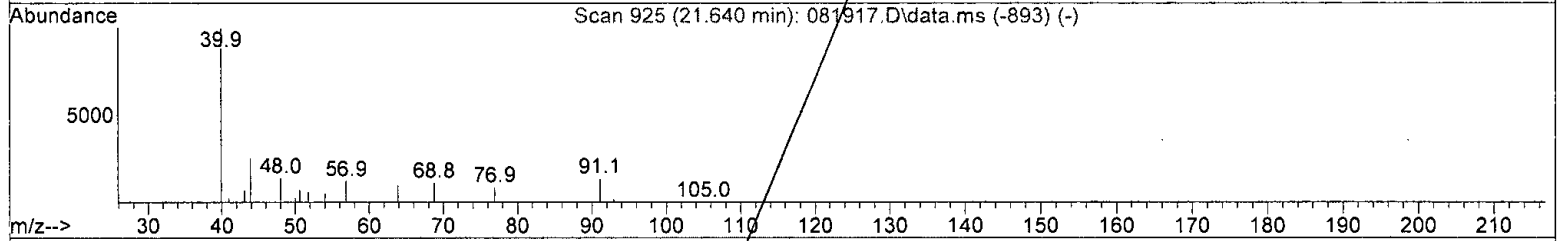
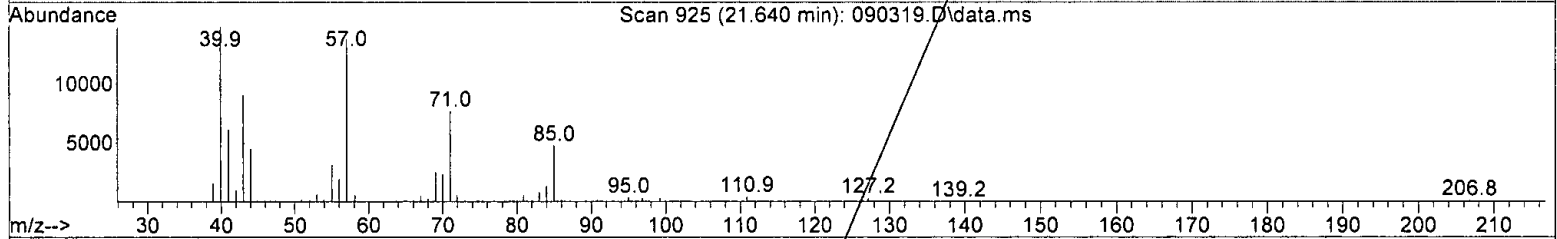
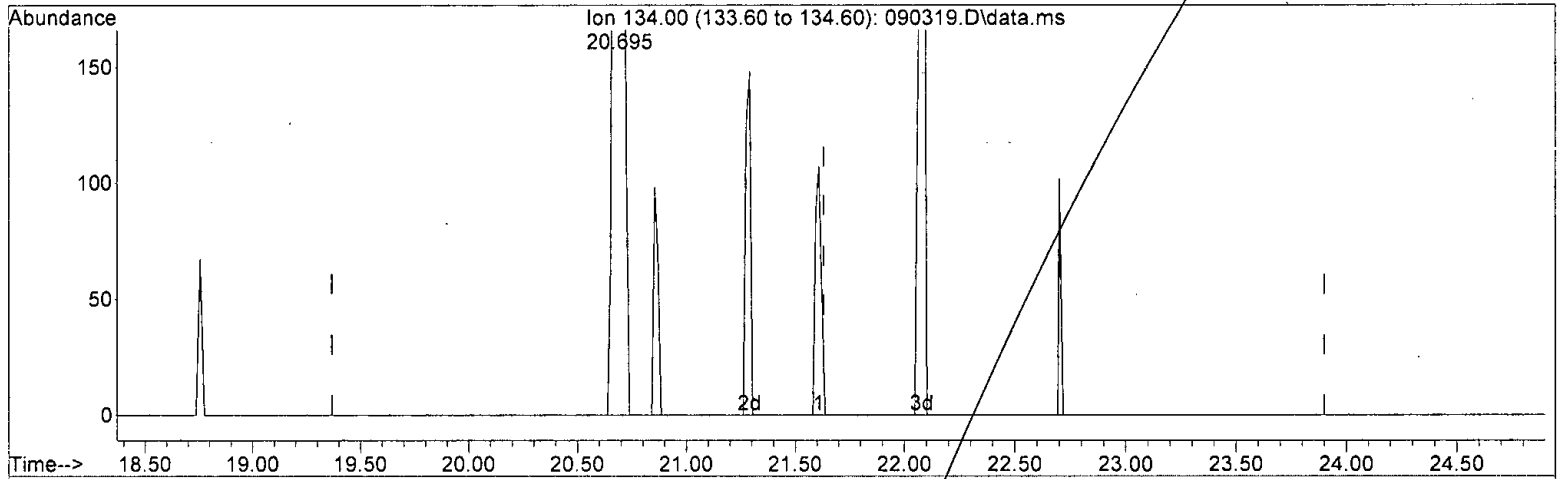
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*W. G. 9/7/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:49:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090319.D\data.ms

(45) APH EC9-10 aromatics (2) (H)  
 21.635min ( 0.000) -26.480 ug/m3 m  
 response -72264

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

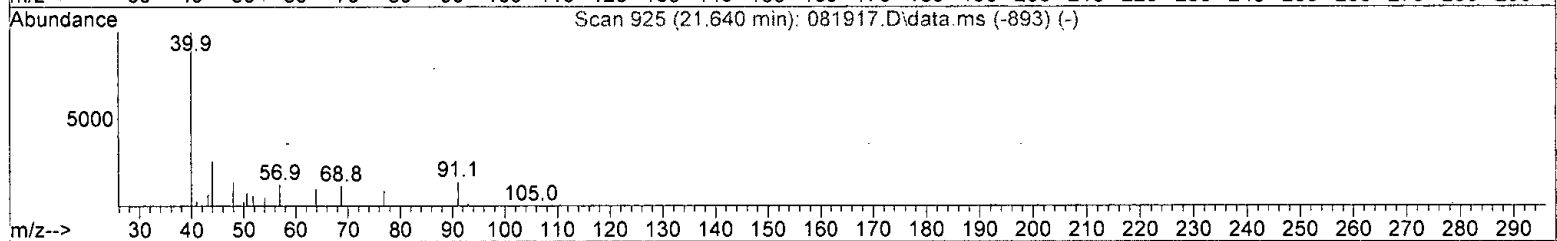
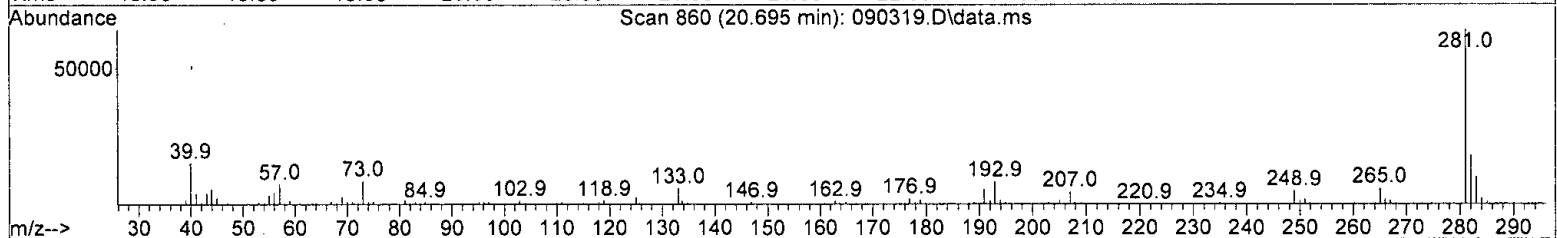
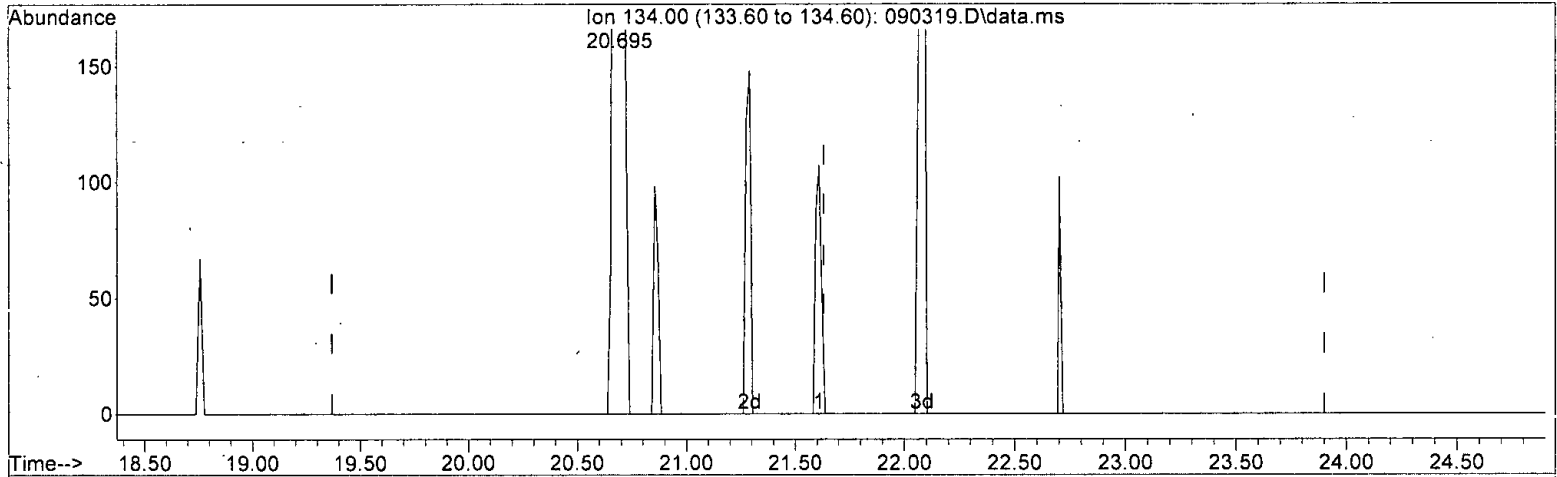
*M  
09/07/21*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 13:49:44 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090319.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 1.564 ug/m3 m

response 4269

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Bat*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 14:37:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	98707	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	459721	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	402212	50.000	ug/m3	# 0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	360567m	71.553	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	100.77%

Target Compounds						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1021248	58.597	ug/m3	86
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1249458m	50.510	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1654952	55.158	ug/m3	89
5) Methylene chloride	6.86	TIC	492352	557.987	ug/m3	92
6) Acetone	5.60	TIC	79864m	1.716	ppbv	
7) 2-Propanol	5.86	TIC	45468	168.120	ppbv	100
8) 1,3-Butadiene	4.20	54	43784	7.533	ug/m3#	1
9) Methyl t-butyl ether	8.49	73	823	0.108	ug/m3	56
11) Benzene	12.71	78	557218	35.649	ug/m3	89
12) Isopentane	5.60	TIC	141573	4.561	ug/m3	67
13) Hexane	10.11	TIC	341357	11.062	ug/m3	94
14) Cyclohexane	13.23	TIC	1491097	46.726	ug/m3	94
15) 2,3-Dimethylpentane	13.52	TIC	513491	12.609	ug/m3	95
16) Heptane	14.70	TIC	149801	4.501	ug/m3	64
17) Octane	17.56	TIC	744078	16.305	ug/m3	65
18) APH EC5-8 aliphatics T...	12.71	TIC	3381397m	92.701	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	30020506m	823.009	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1882626m	55.445	ug/m3	
22) Hexamethylcyclotrisilo...	17.78	TIC	750865m	89.780	ppbv	
23) Octamethylcyclotetrasil...	20.70	TIC	552073	52.891	ppbv	100
24) Toluene	16.39	92	15481	1.794	ug/m3	91
25) Ethylbenzene	18.60	91	4785	0.269	ug/m3	100
26) m,p-Xylene	18.76	106	4605	0.768	ug/m3	89
27) o-Xylene	19.21	106	11041	1.948	ug/m3	84
28) Naphthalene	23.94	128	1663	0.115	ug/m3	81
29) 2,3-Dimethylheptane	18.70	TIC	490718	12.140	ug/m3#	68
30) Nonane	19.30	TIC	497953	11.797	ug/m3	65
31) Decane	20.99	TIC	110507	2.635	ug/m3	90
32) Butylcyclohexane	21.63	TIC	363497	7.631	ug/m3	62
33) Undecane	22.15	TIC	175954	4.231	ug/m3	90
34) Dodecane	23.79	TIC	27863	0.816	ug/m3	92
35) APH EC9-12 aliphatics ...	21.63	TIC	1666492m	40.496	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	11889441m	288.917	ug/m3	
38) Isopropylbenzene	19.75	120	2864	0.908	ug/m3	95
39) 1-Methyl-3-ethylbenzene	20.39	120	601	0.136	ug/m3	100
40) 1,3,5-Trimethylbenzene	20.45	120	241	0.043	ug/m3#	51
41) p-Isopropyltoluene	21.29	134	239	0.087	ug/m3#	54
42) 1,2,3-Trimethylbenzene	21.29	120	472	0.072	ug/m3#	74
43) APH EC9-10 aromatics T...	21.63	TIC	4417m	1.018	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	8002m	1.670	ug/m3	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

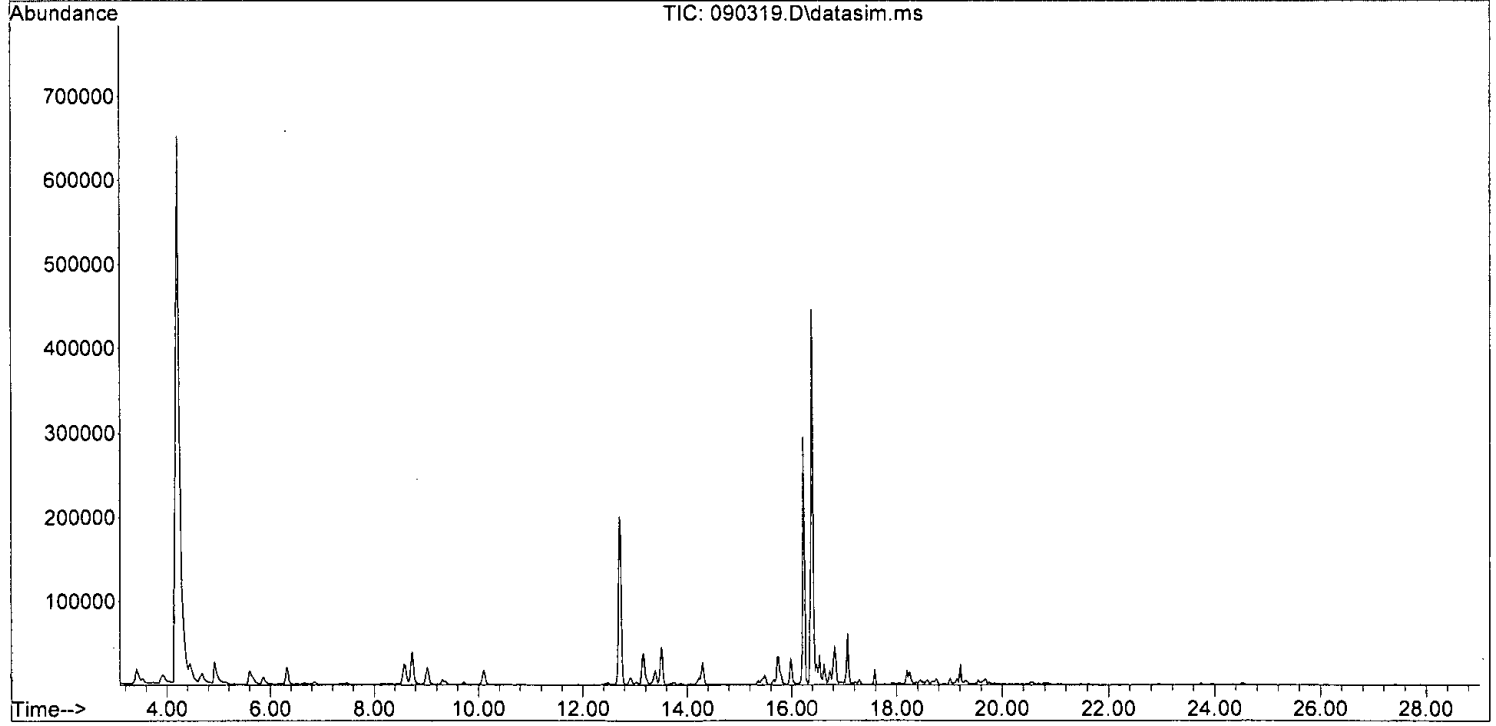
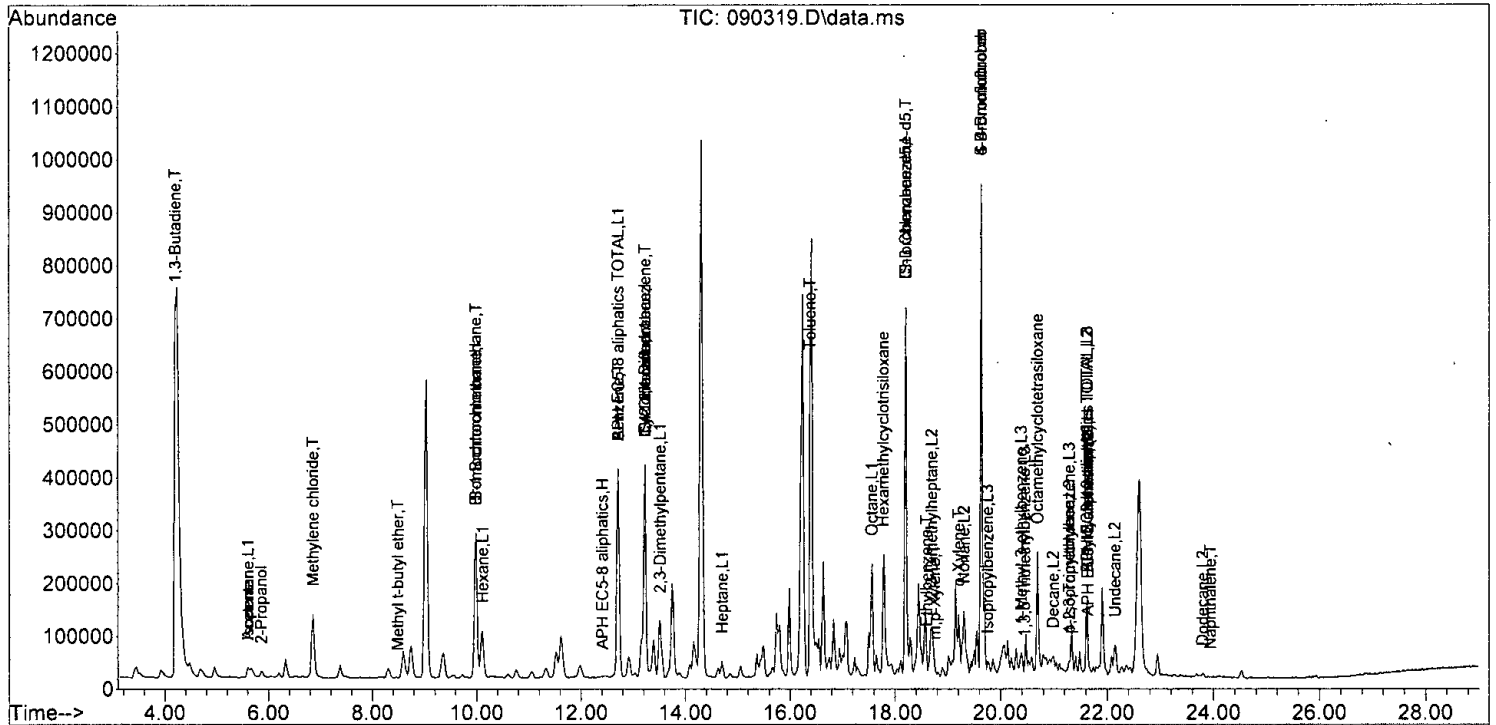
Quant Time: Sep 07 14:37:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	4269m	1.564	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090319.D  
 Acq On : 3 Sep 2021 7:32 pm  
 Operator : bat  
 Sample : 109030-08 1/5.5  
 Misc : T8  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS7

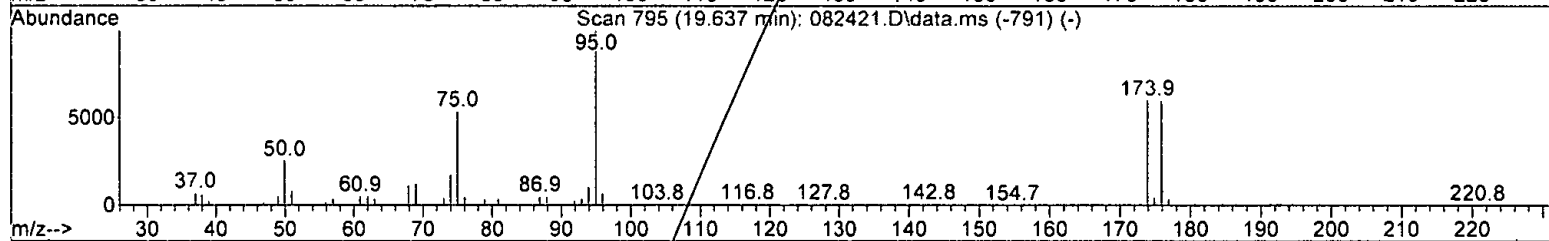
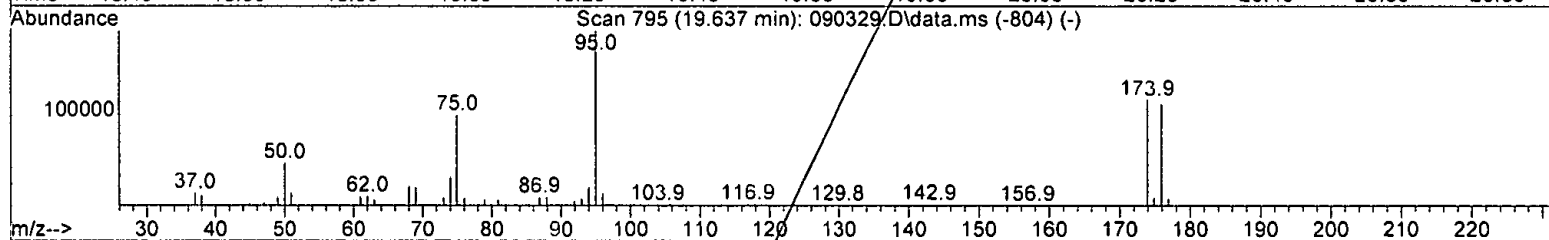
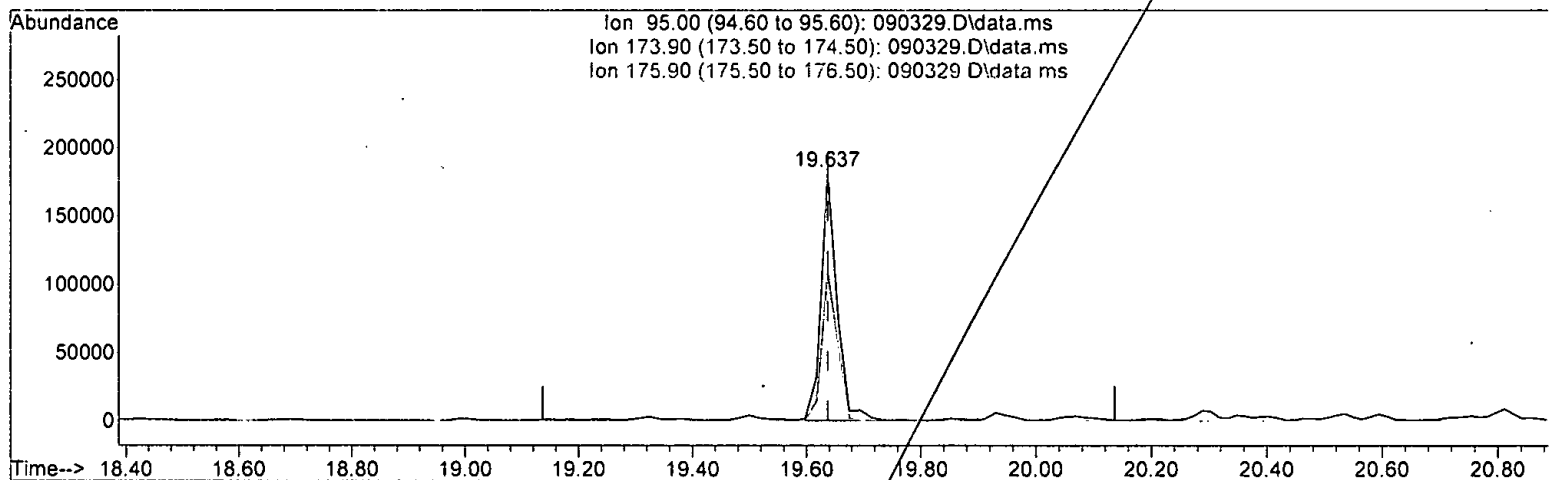
Quant Time: Sep 07 14:37:45 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:05:32 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*Handwritten note:*  
 1  
 or/only

TIC: 090329.D\data.ms

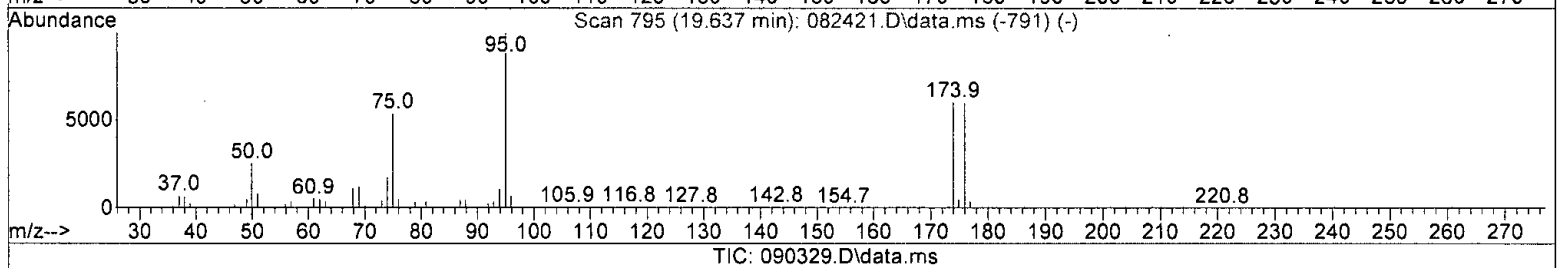
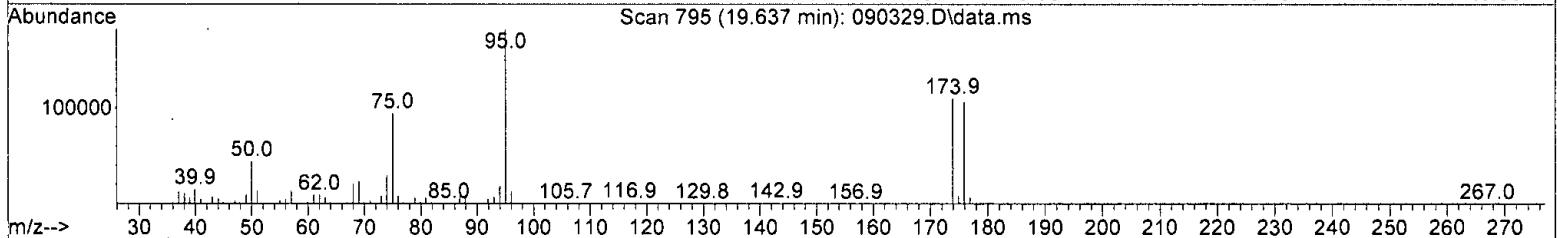
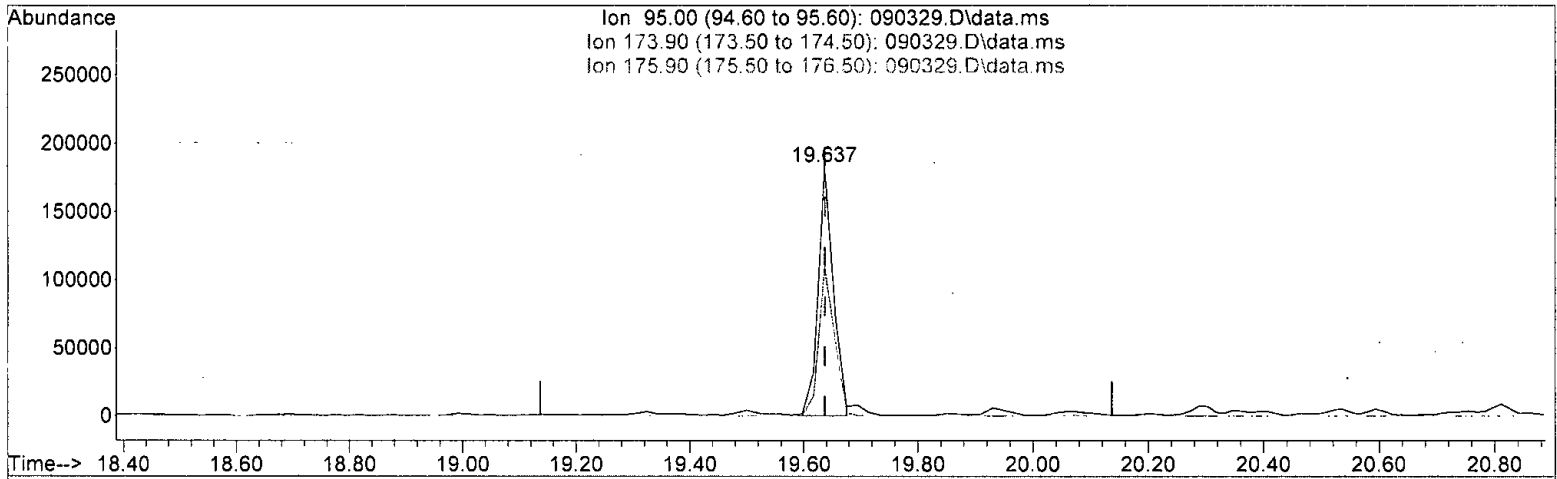
(69) 4-Bromofluorobenzene (S)  
 19.637min (-0.000) 10.291 ppbv

response	357628
Ion	Exp% Act%
95.00	100.00 100.00
173.90	73.50 60.35
175.90	70.90 58.31
0.00	0.00 0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:05:32 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(69) 4-Bromofluorobenzene (S)

19.637min (-0.000) 9.973 ppbv m

response 346580

Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	60.27
175.90	70.90	58.23
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:49:29 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration

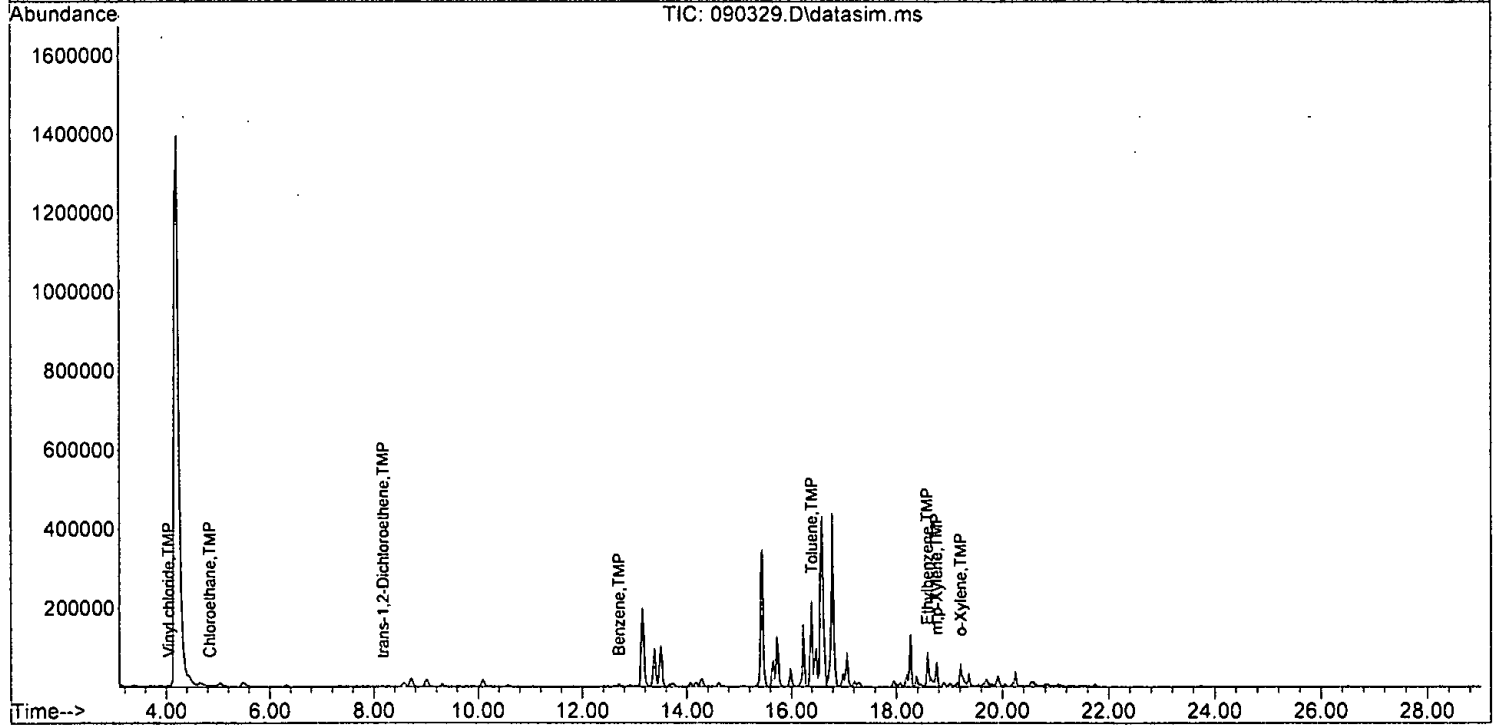
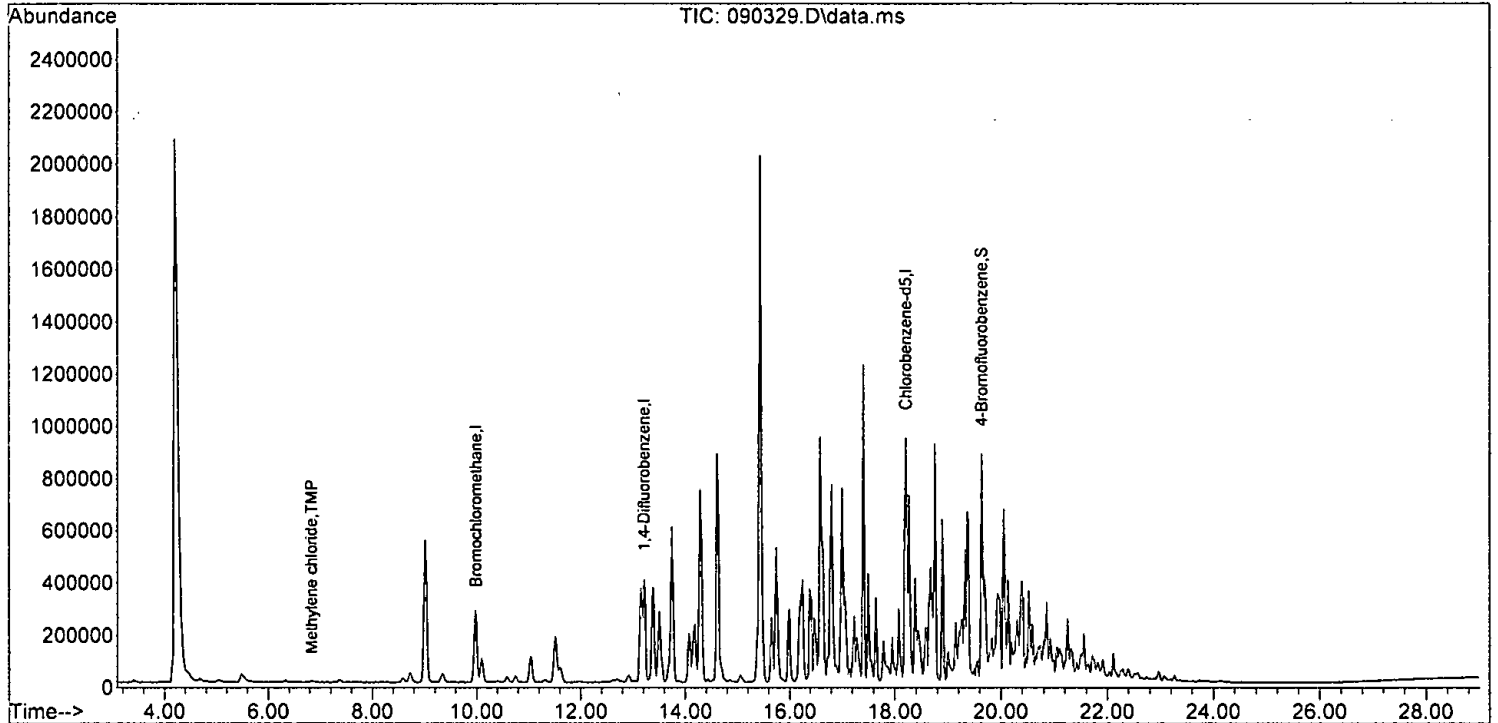
DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	92132	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.21	114	438856	10.000	ppbv	-0.02
56) Chlorobenzene-d5	18.21	117	383606	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	346580m	9.973	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	99.70%
Target Compounds						
						Qvalue
6] Vinyl chloride	4.05	62	4258	0.209	ppbv	100
10] Chloroethane	4.84	64	346	0.049	ppbv	98
19] trans-1,2-Dichloroethene	8.18	96	727	0.049	ppbv	85
20] Methylene chloride	6.83	84	2529	0.157	ppbv	90
37] Benzene	12.70	78	17682	0.313	ppbv	97
50] Toluene	16.40	92	62683	1.906	ppbv	82
58] Ethylbenzene	18.59	91	129616	1.521	ppbv	97
65] m,p-Xylene	18.76	106	13098	0.479	ppbv #	80
66] o-Xylene	19.21	106	27089	1.007	ppbv	91
77] Naphthalene	23.93	128	1194	Below Cal		94
-----						

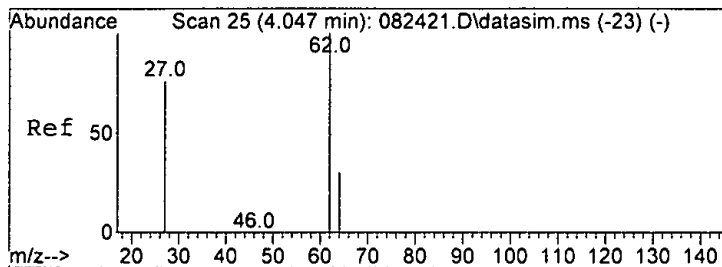
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:49:29 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

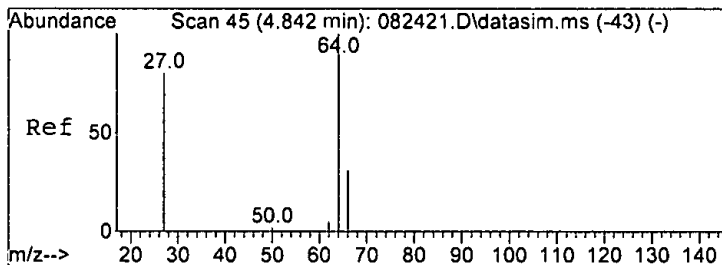
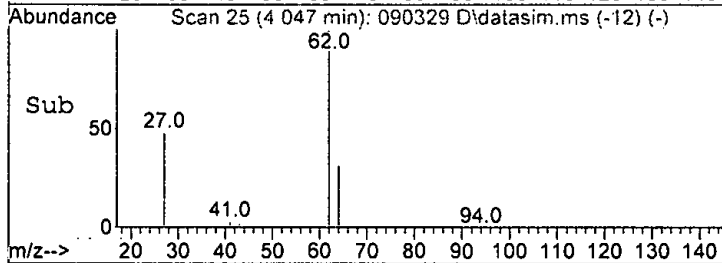
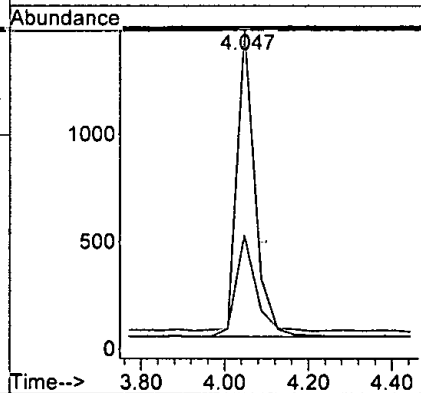
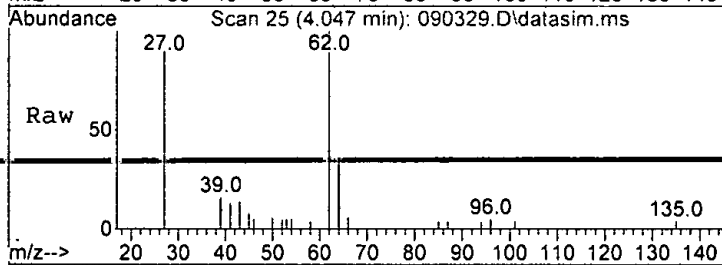






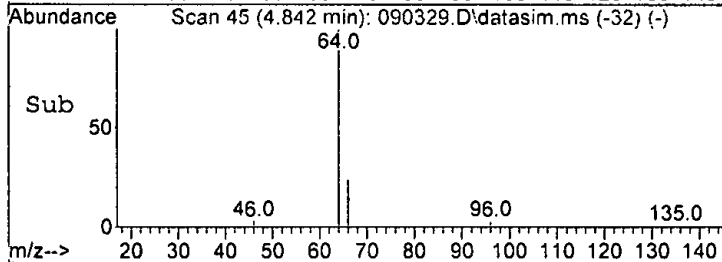
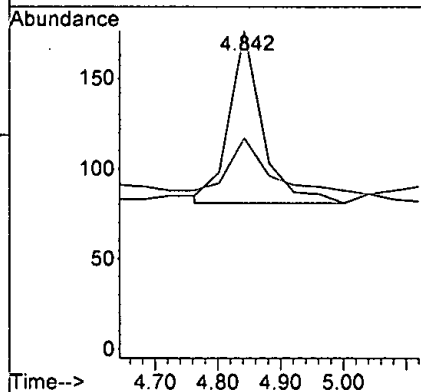
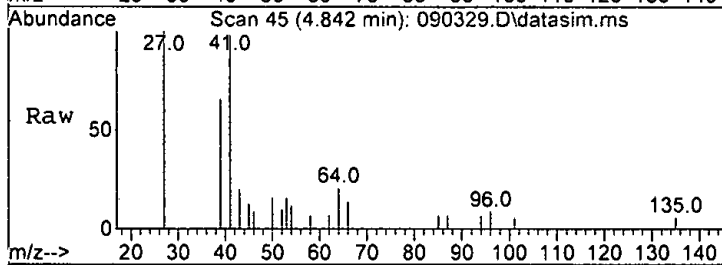
#6  
 Vinyl chloride  
 Concen: 0.209 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090329.D  
 Acq: 4 Sep 2021 2:08 am

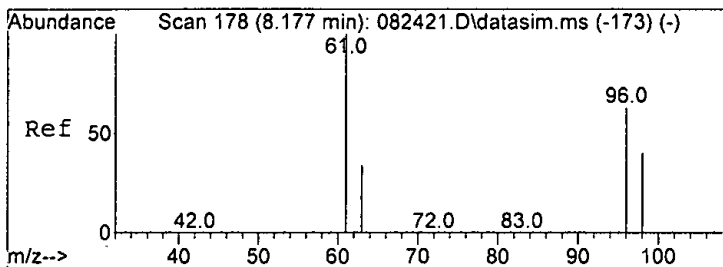
Tgt Ion: 62 Resp: 4258  
 Ion Ratio Lower Upper  
 62 100  
 64 31.4 1.5 61.5



#10  
 Chloroethane  
 Concen: 0.049 ppbv  
 RT: 4.84 min Scan# 45  
 Delta R.T. -0.000 min  
 Lab File: 090329.D  
 Acq: 4 Sep 2021 2:08 am

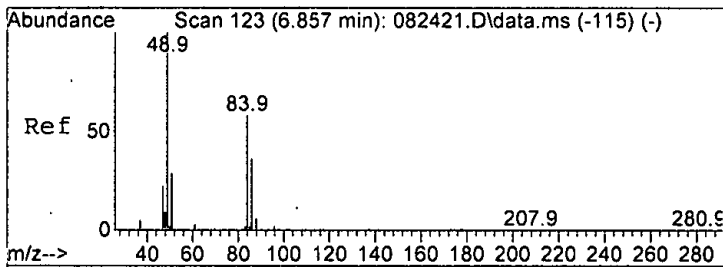
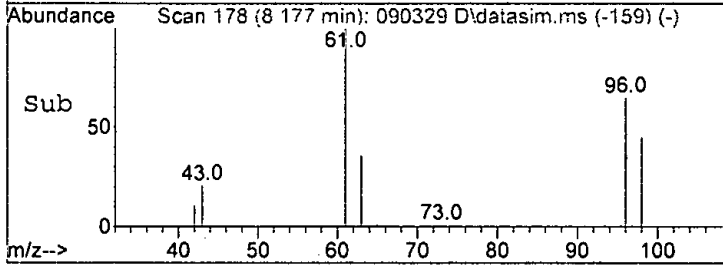
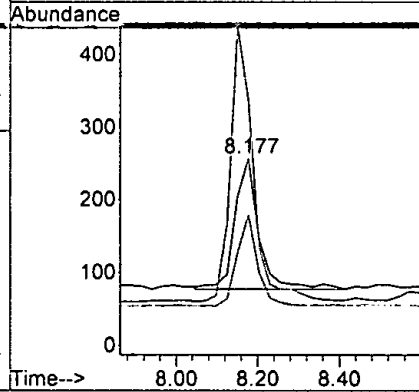
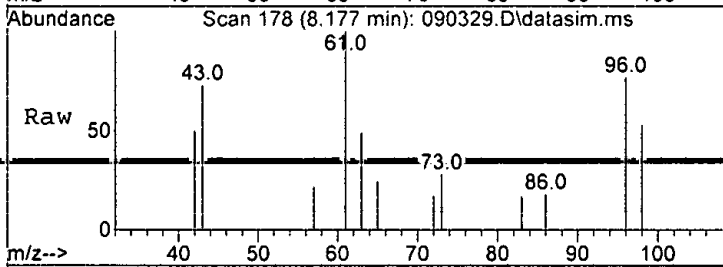
Tgt Ion: 64 Resp: 346  
 Ion Ratio Lower Upper  
 64 100  
 66 30.5 1.8 61.8





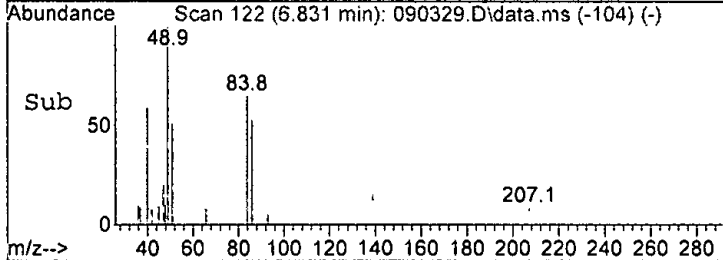
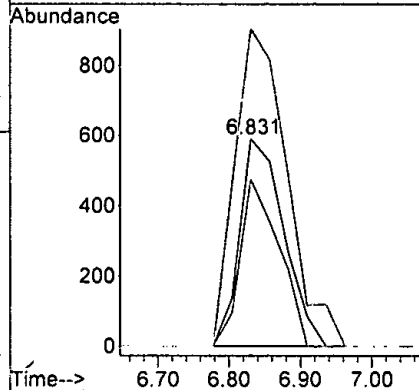
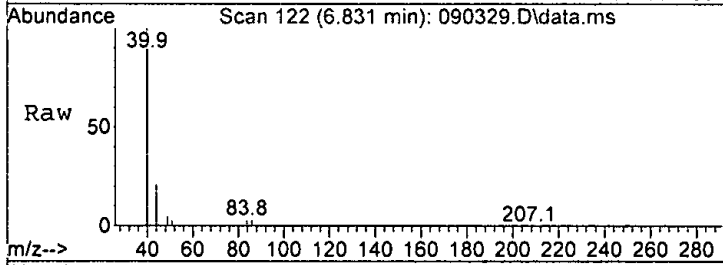
#19  
 trans-1,2-Dichloroethene  
 Concen: 0.049 ppbv  
 RT: 8.18 min Scan# 178  
 Delta R.T. 0.000 min  
 Lab File: 090329.D  
 Acq: 4 Sep 2021 2:08 am

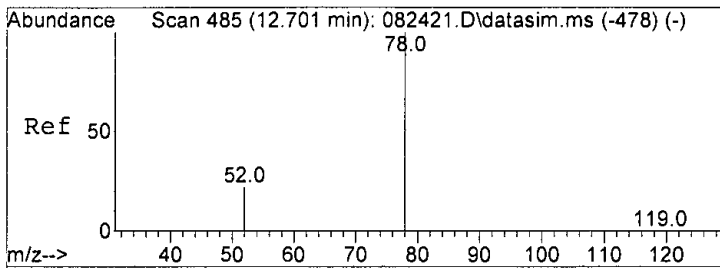
Tgt Ion	Resp	Lower	Upper
96	100		
61	152.8	147.9	207.9
98	69.4	34.2	94.2



#20  
 Methylene chloride  
 Concen: 0.157 ppbv  
 RT: 6.83 min Scan# 122  
 Delta R.T. -0.026 min  
 Lab File: 090329.D  
 Acq: 4 Sep 2021 2:08 am

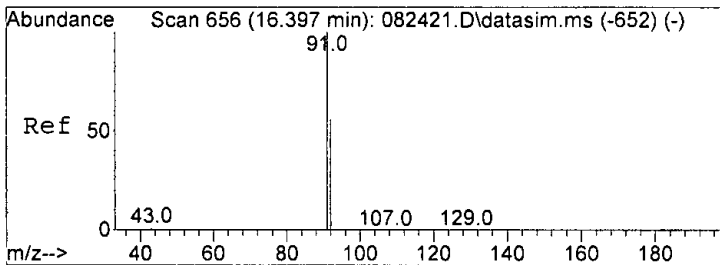
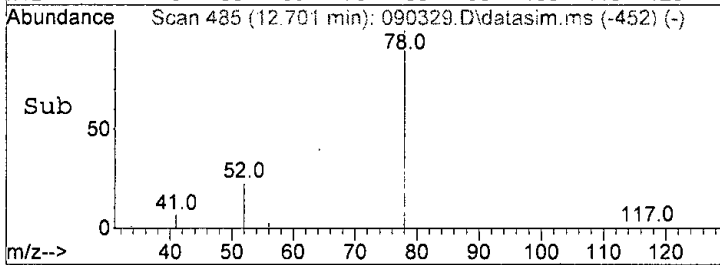
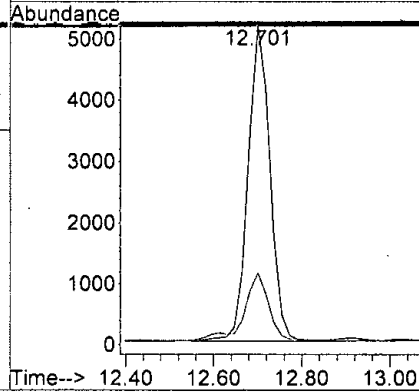
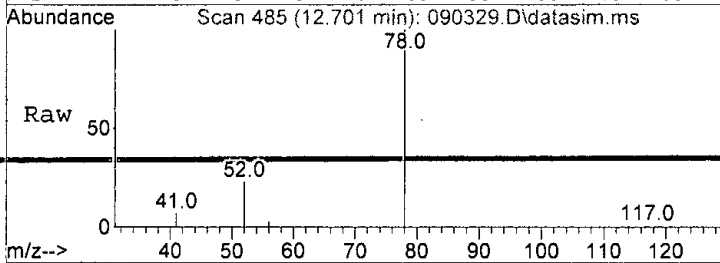
Tgt Ion	Resp	Lower	Upper
84	100		
86	80.7	33.9	93.9
49	153.6	116.6	176.6





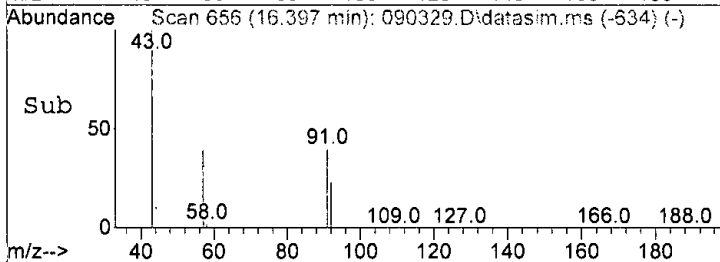
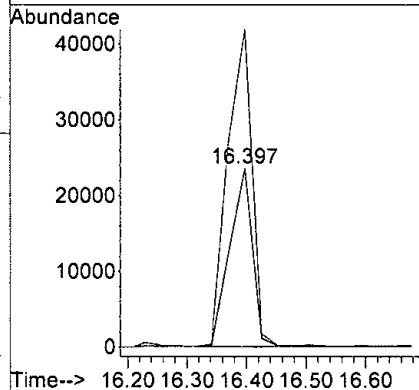
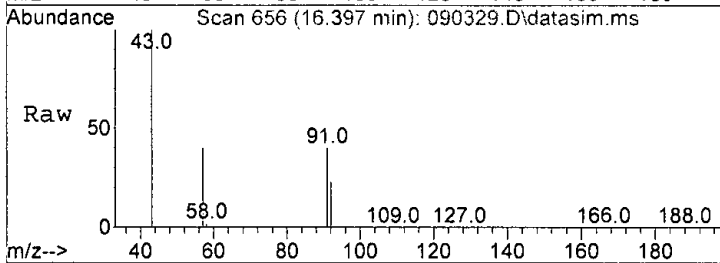
#37  
Benzene  
Concen: 0.313 ppbv  
RT: 12.70 min Scan# 485  
Delta R.T. -0.000 min  
Lab File: 090329.D  
Acq: 4 Sep 2021 2:08 am

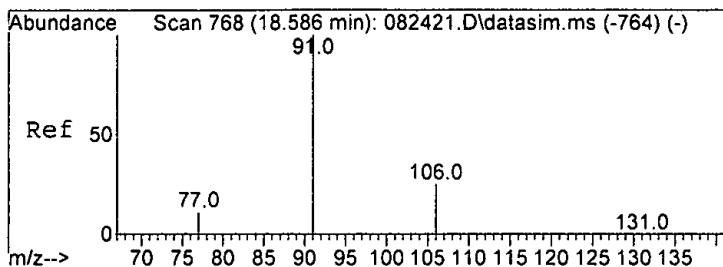
Tgt Ion: 78 Resp: 17682  
Ion Ratio Lower Upper  
78 100  
52 21.3 0.0 49.7



#50  
Toluene  
Concen: 1.906 ppbv  
RT: 16.40 min Scan# 656  
Delta R.T. 0.000 min  
Lab File: 090329.D  
Acq: 4 Sep 2021 2:08 am

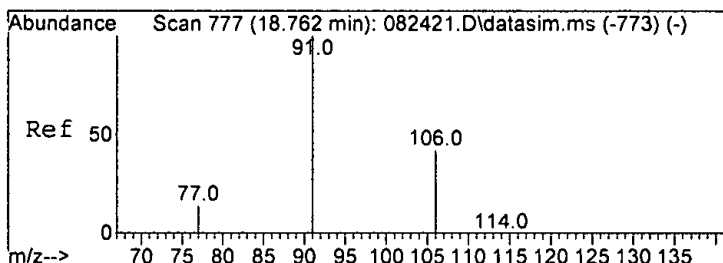
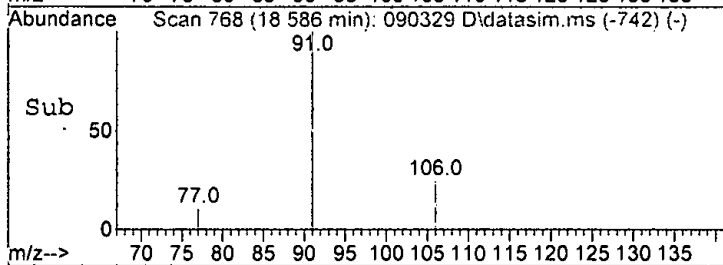
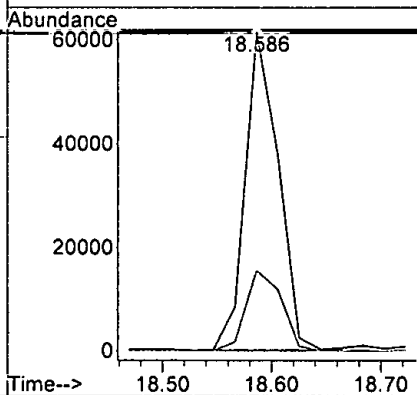
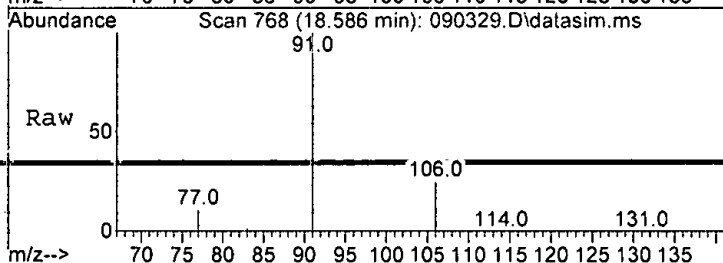
Tgt Ion: 92 Resp: 62683  
Ion Ratio Lower Upper  
92 100  
91 177.7 174.6 234.6





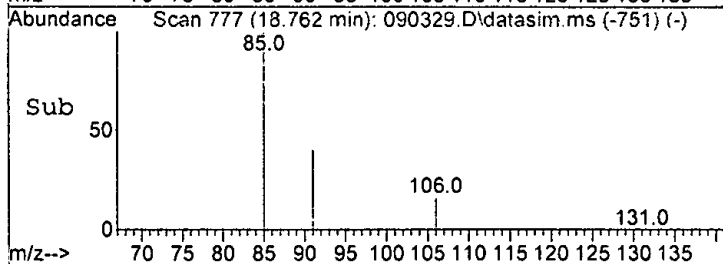
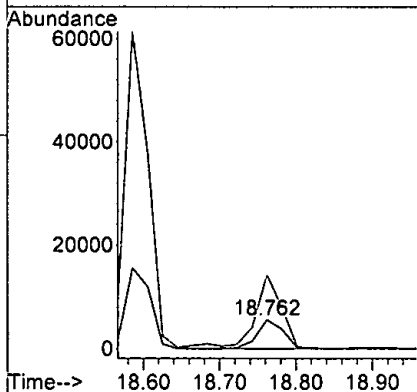
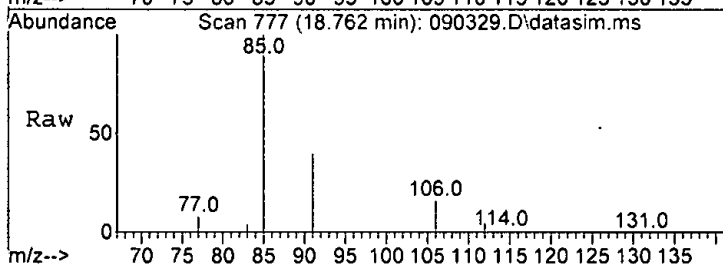
#58  
 Ethylbenzene  
 Concen: 1.521 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090329.D  
 Acq: 4 Sep 2021 2:08 am

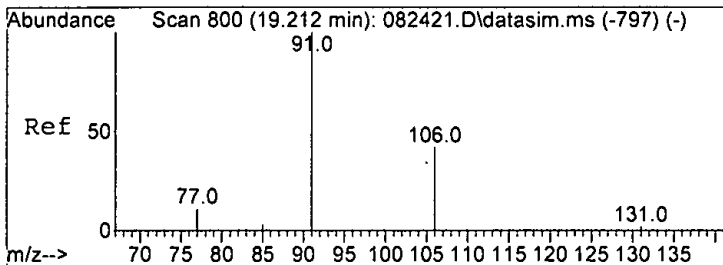
Tgt Ion: 91 Resp: 129616  
 Ion Ratio Lower Upper  
 91 100  
 106 25.4 0.0 57.0



#65  
 m,p-Xylene  
 Concen: 0.479 ppbv  
 RT: 18.76 min Scan# 777  
 Delta R.T. 0.000 min  
 Lab File: 090329.D  
 Acq: 4 Sep 2021 2:08 am

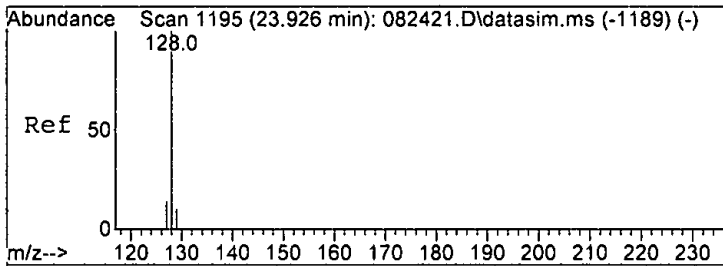
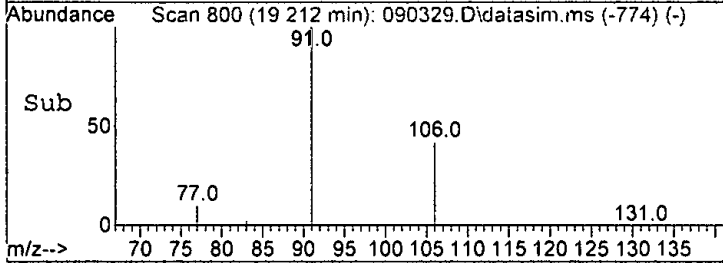
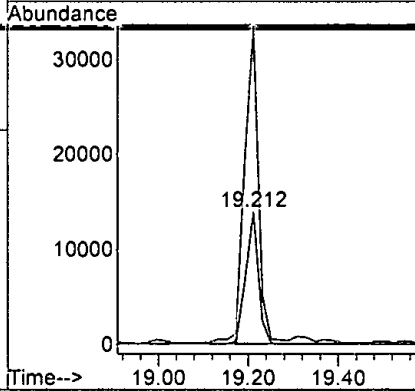
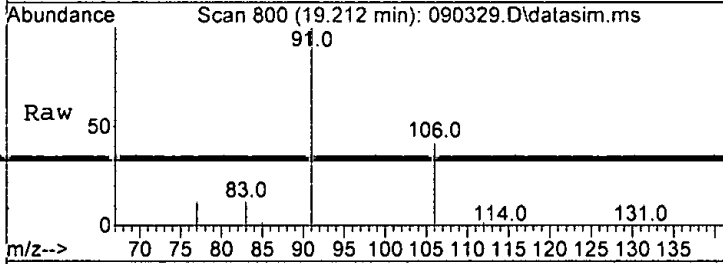
Tgt Ion: 106 Resp: 13098  
 Ion Ratio Lower Upper  
 106 100  
 91 256.1 193.0 253.0#





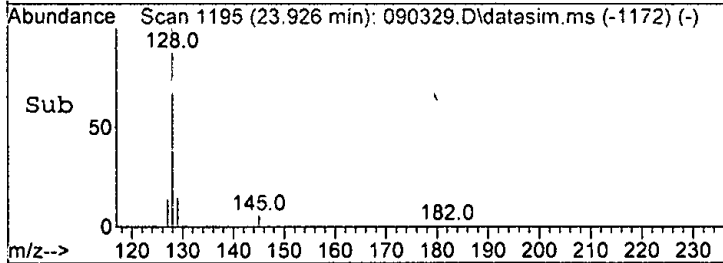
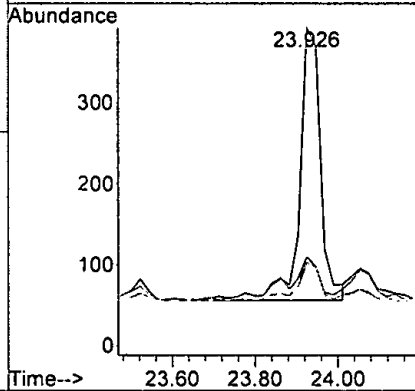
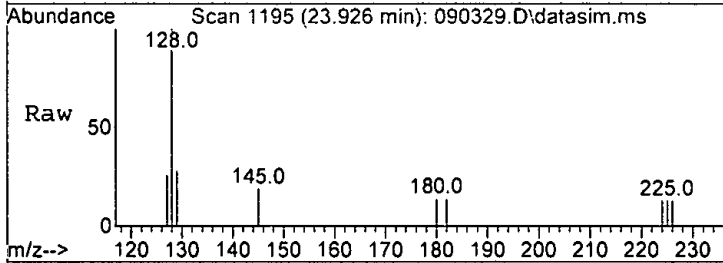
#66  
 o-Xylene  
 Concen: 1.007 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090329.D  
 Acq: 4 Sep 2021 2:08 am

Tgt Ion:106 Resp: 27089  
 Ion Ratio Lower Upper  
 106 100  
 91 239.8 194.4 254.4



#77  
 Naphthalene  
 Concen: Below Cal  
 RT: 23.93 min Scan# 1195  
 Delta R.T. -0.000 min  
 Lab File: 090329.D  
 Acq: 4 Sep 2021 2:08 am

Tgt Ion:128 Resp: 1194  
 Ion Ratio Lower Upper  
 128 100  
 129 15.7 0.0 41.0  
 127 13.6 0.0 43.2



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:49:29 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<b>Internal Standards</b>						
1) Bromochloromethane	9.99	128	92132	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.21	114	438856	10.000	ppbv	-0.02
56) Chlorobenzene-d5	18.21	117	383606	10.000	ppbv	0.00
<b>System Monitoring Compounds</b>						
69) 4-Bromofluorobenzene	19.64	95	346580m	9.973	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	99.70%
<b>Target Compounds</b>						
						Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.		
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.		
6] Vinyl chloride	4.05	62	4258	0.209	ppbv	100
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10] Chloroethane	4.84	64	346	0.049	ppbv	98
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.	d	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.		
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	0.00		0	N.D.		
19] trans-1,2-Dichloroethene	8.18	96	727	0.049	ppbv	85
20) Methylene chloride	6.83	84	2529	0.157	ppbv	90
21) t-Butyl alcohol (TBA)	0.00		0	N.D.		
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.		
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	8.44	63	170	N.D.		
28) cis-1,2-Dichloroethene	9.73	96	141	N.D.		
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	0.00		0	N.D.	d	
35) 1,1,1-Trichloroethane	11.69	97	147	N.D.		
36) Carbon tetrachloride	0.00		0	N.D.		
37] Benzene	12.70	78	17682	0.313	ppbv	97
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:49:29 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration

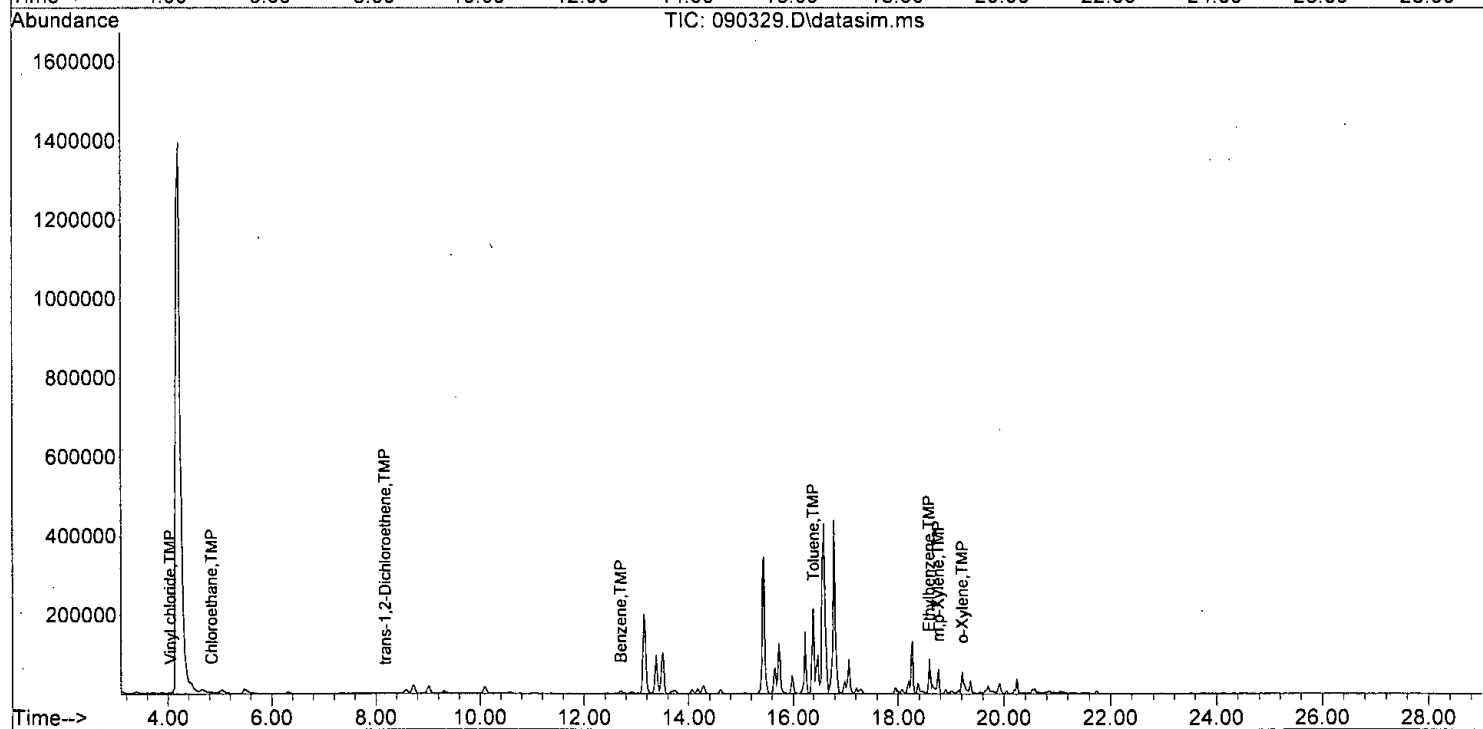
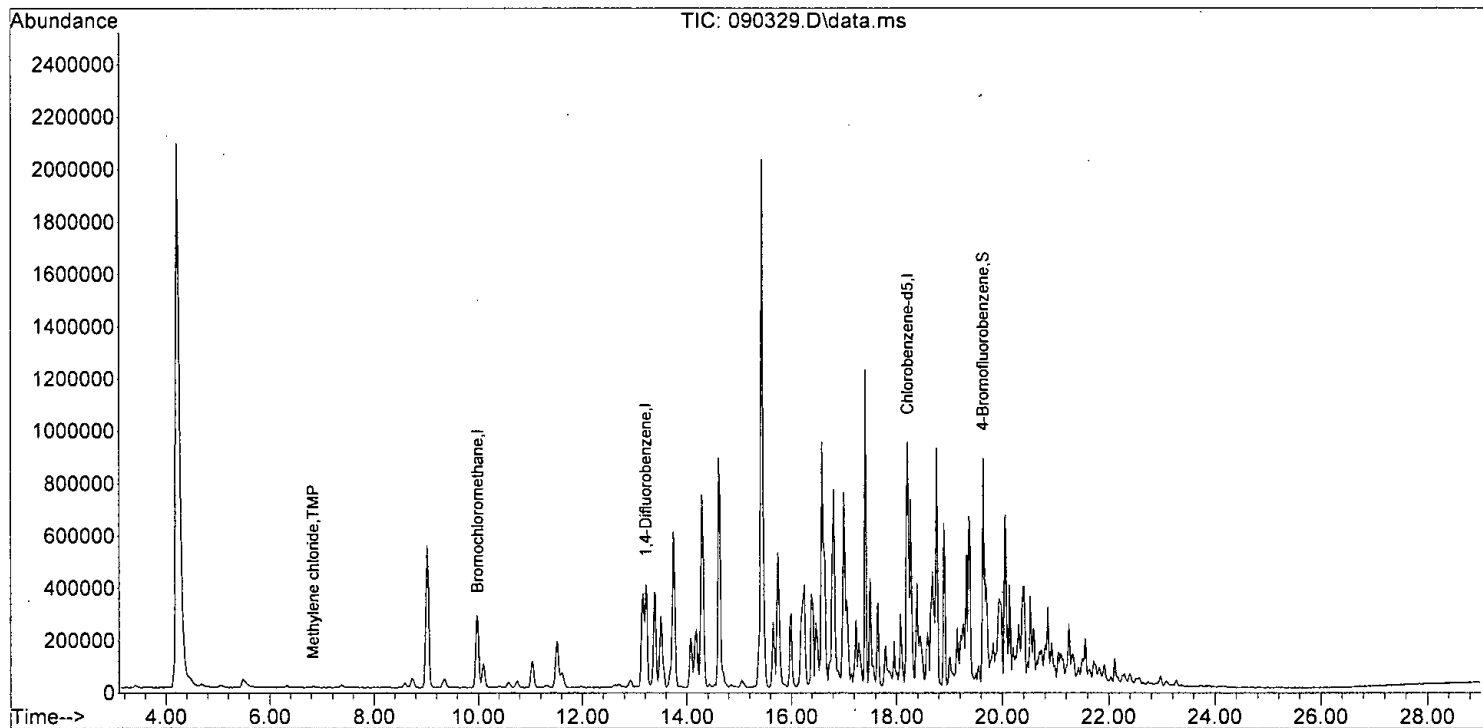
DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46) Trichloroethene	0.00		0	N.D.	d	
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	62683	1.906	ppbv	82
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53) Tetrachloroethene	17.58	164	119	N.D.		
54) Dibromochloromethane	0.00		0	N.D.		
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	129616	1.521	ppbv	97
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.76	106	13098	0.479	ppbv #	80
66] o-Xylene	19.21	106	27089	1.007	ppbv	91
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.		
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77] Naphthalene	23.93	128	1194	Below Cal		94
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
Data File : 090329.D  
Acq On : 4 Sep 2021 2:08 am  
Operator : bat  
Sample : 109030-09 1/2200  
Misc : T14  
ALS Vial : 29 Sample Multiplier: 1  
InstName : GCMS7

Quant Time: Sep 07 16:49:29 2021  
Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
Quant Title : TO-15 SS method  
QLast Update : Wed Aug 25 09:28:09 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M

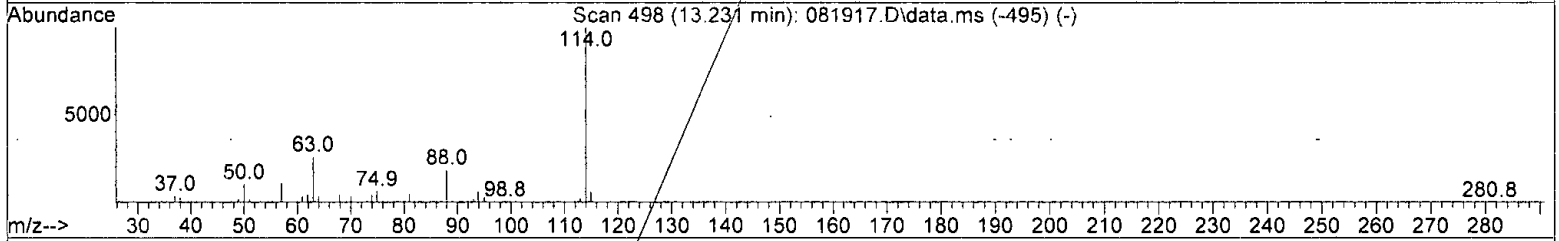
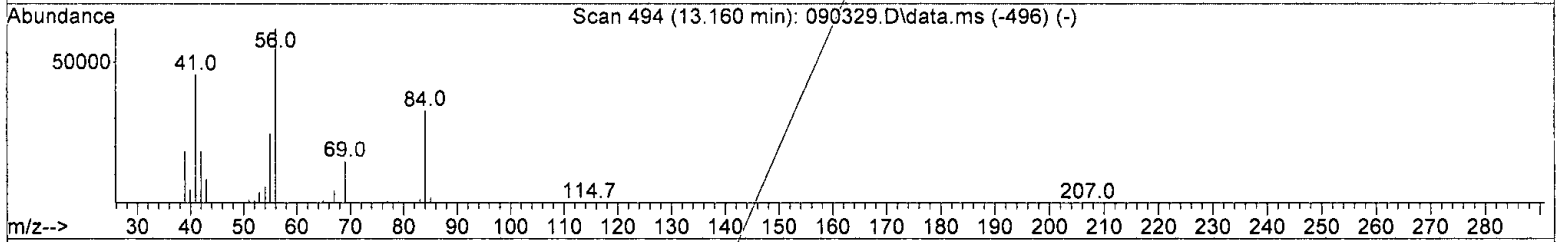
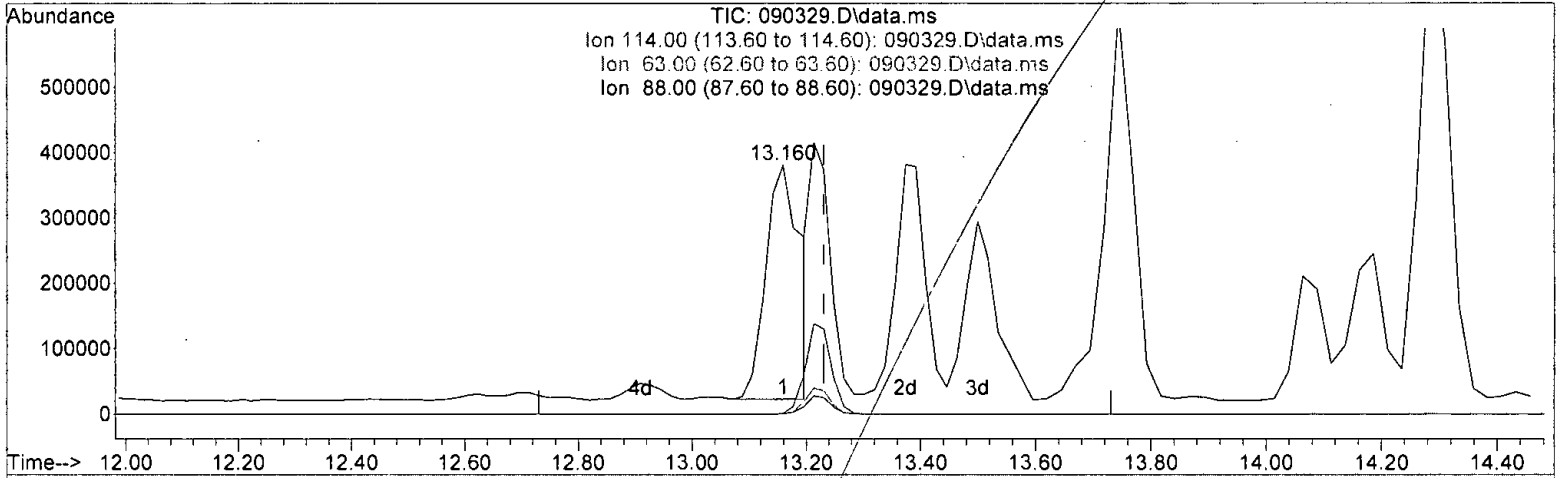




Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.160min (-0.071) 63.802 ug/m3

response 1473126

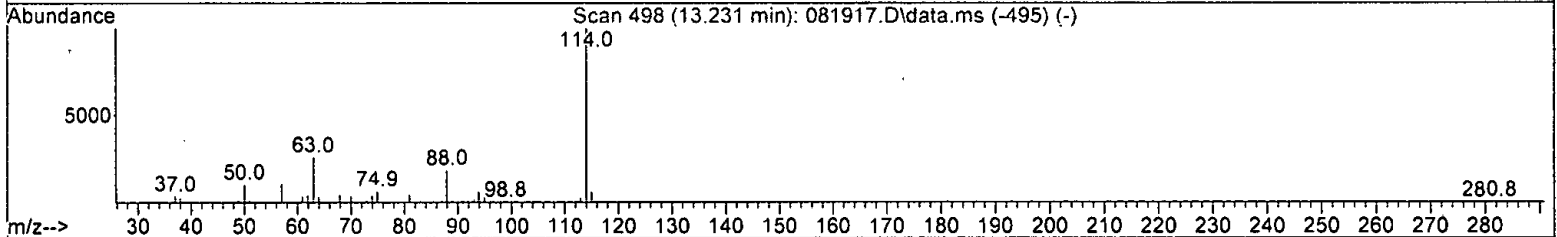
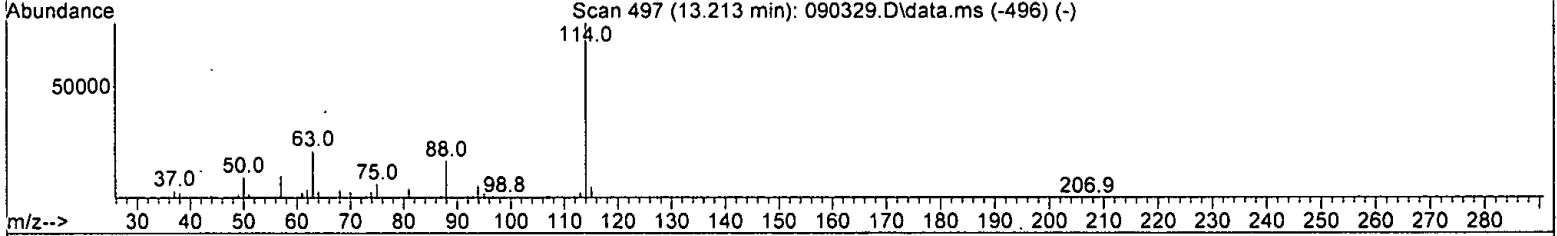
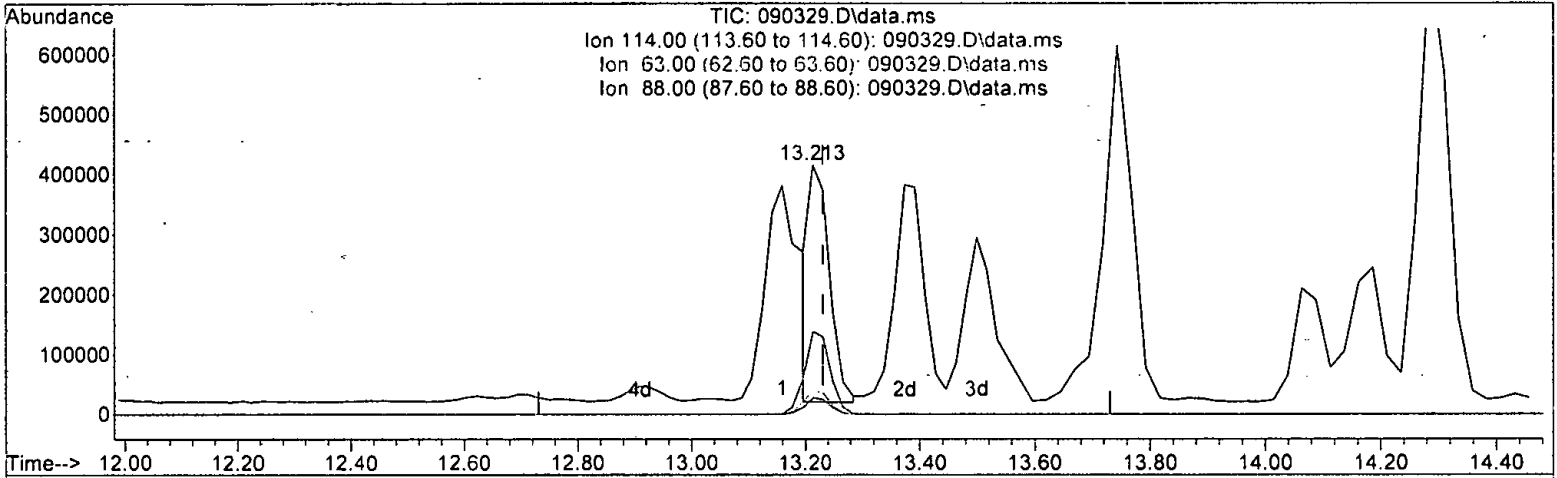
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	0.27#
63.00	8.40	0.24
88.00	7.60	0.06

*h or/ox/h*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
~~DataAcq-Meth:TO15DC=M~~



(3) IS-2 1,4-Difluorobenzene (T)

13.213min (-0.018) 43.701 ug/m3 m

response 1009029

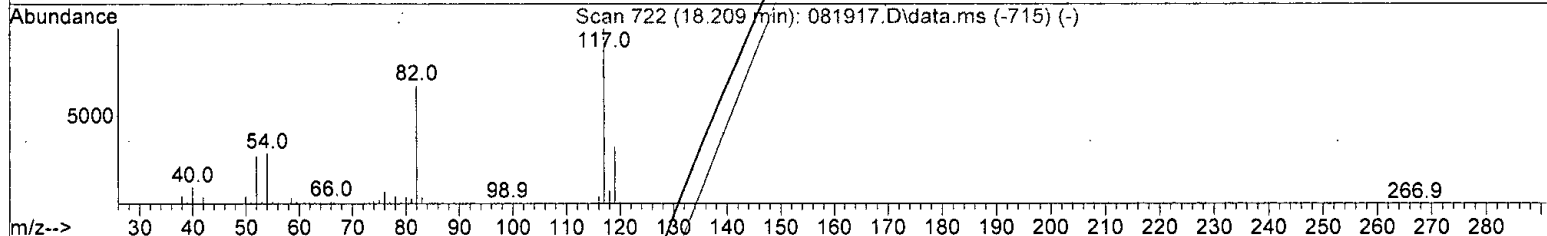
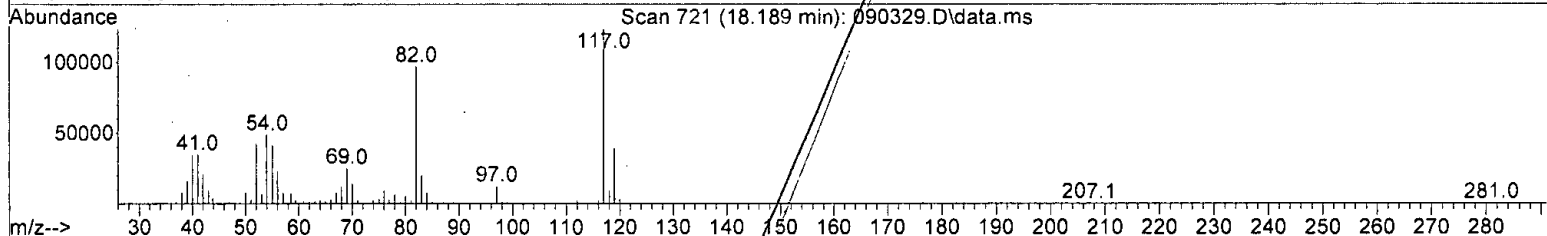
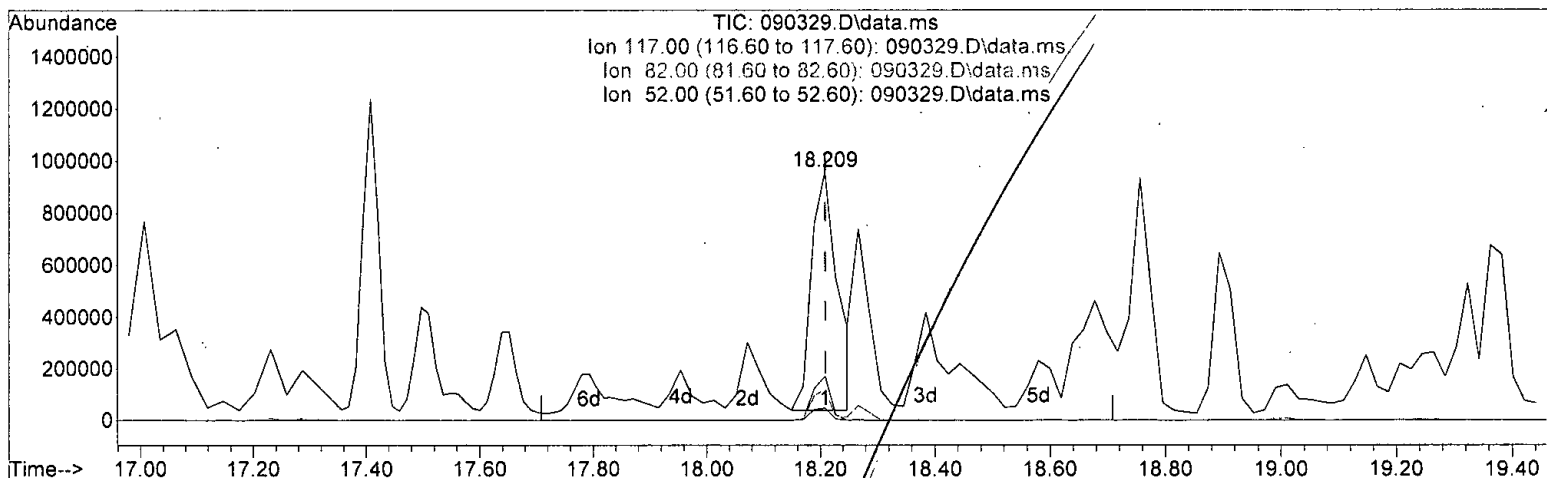
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	0.39#
63.00	8.40	0.35
88.00	7.60	0.09

*Handwritten signature:* M on/9/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 107.260 ug/m3

response 3003859

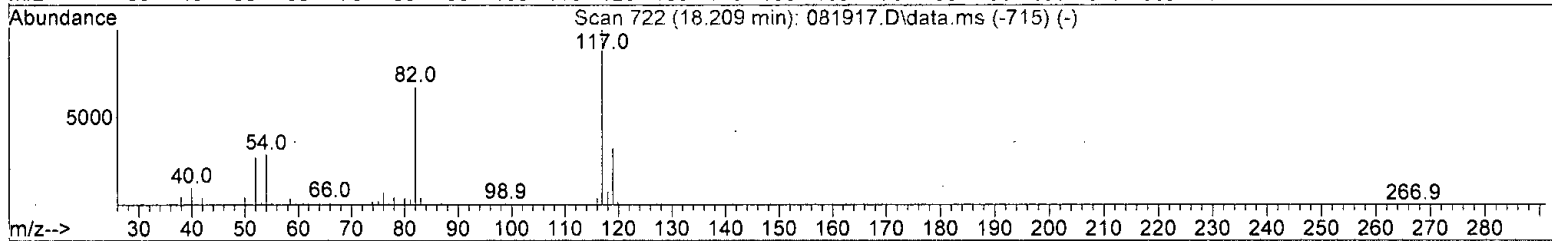
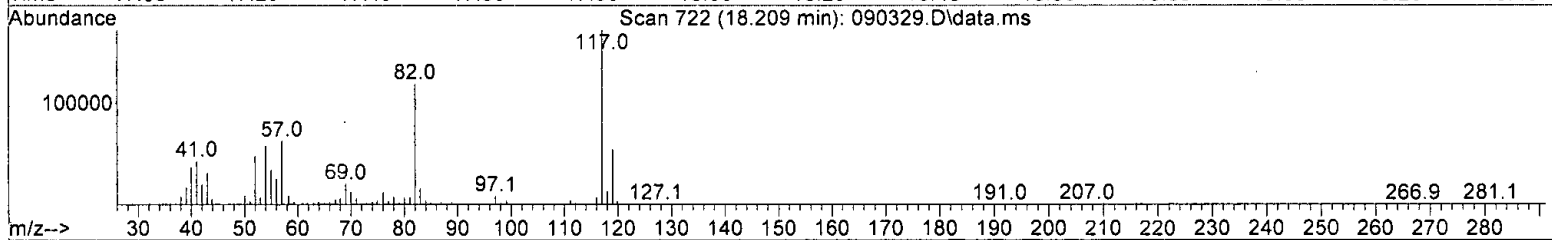
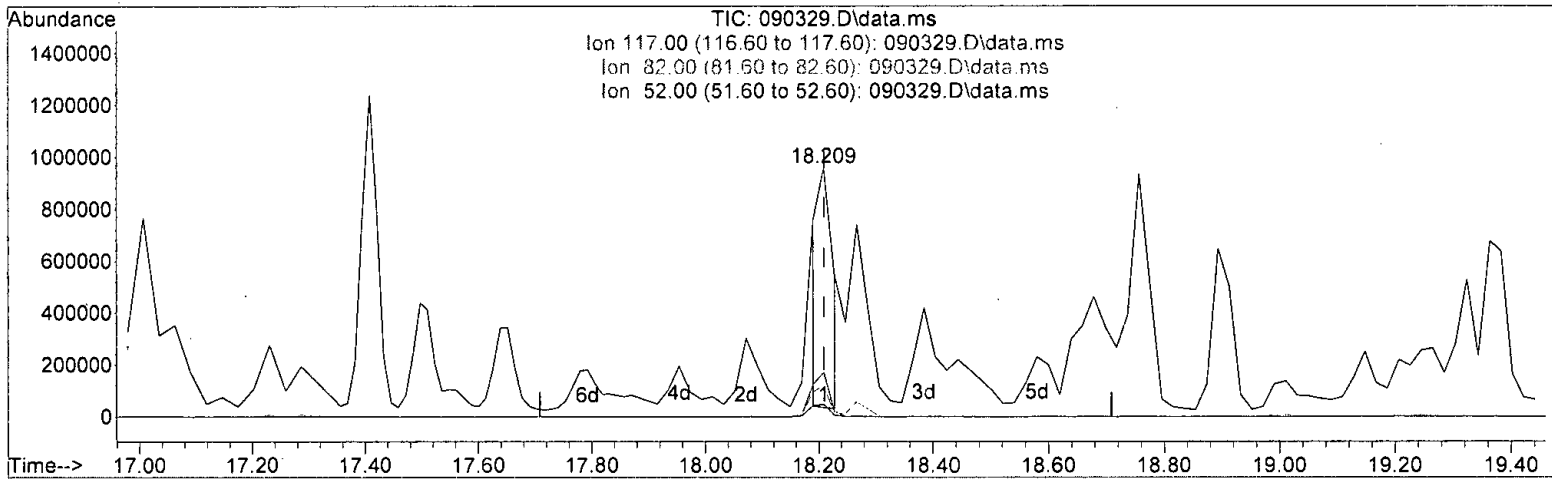
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	12.77#
82.00	18.10	9.89
52.00	6.90	4.08

*Handwritten signature:* M 09/07/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 60.029 ug/m3 m

response 1681150

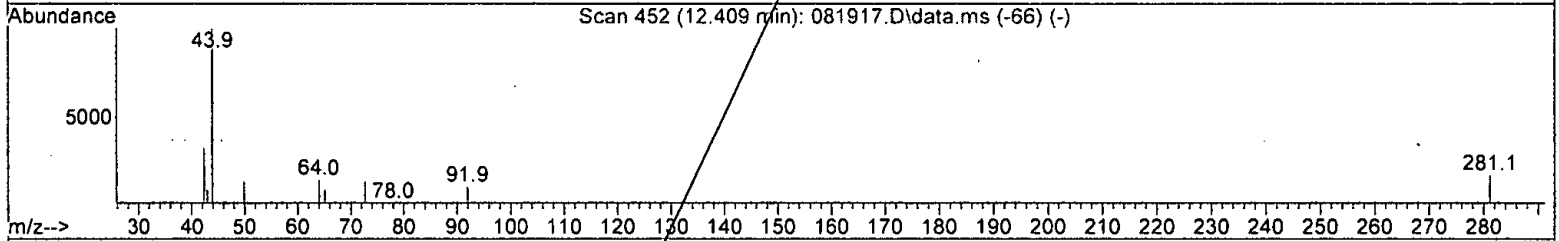
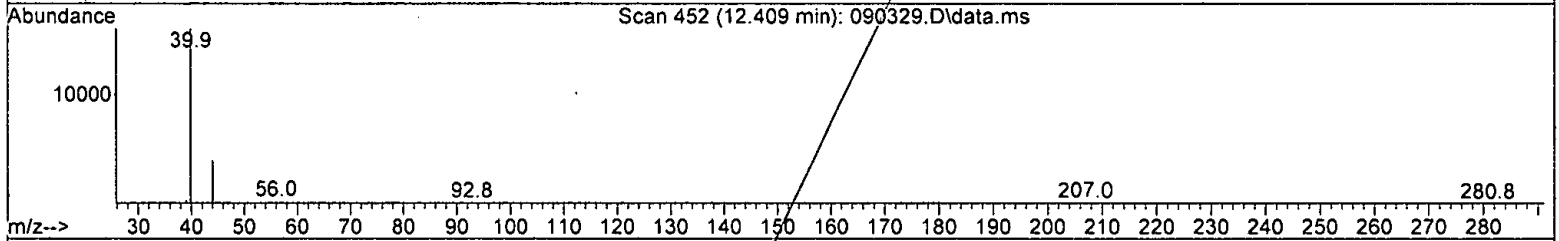
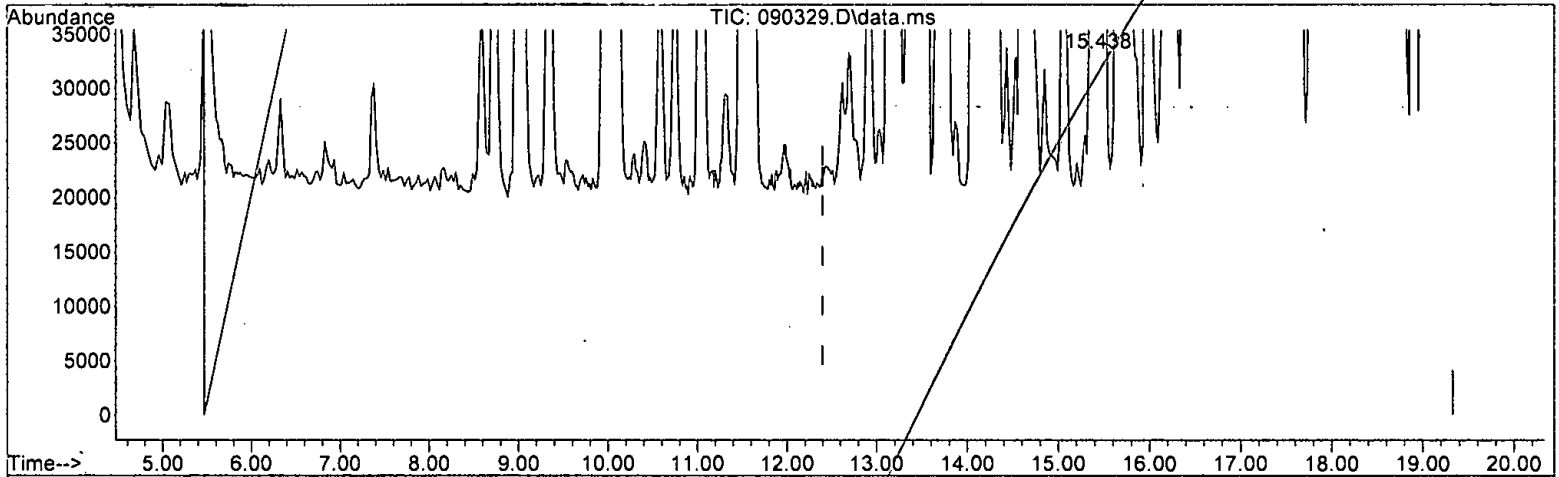
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	22.82
82.00	18.10	17.67
52.00	6.90	7.28

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
~~DataAcq-Meth:TO15DC.M~~



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 1520.898 ug/m3 m

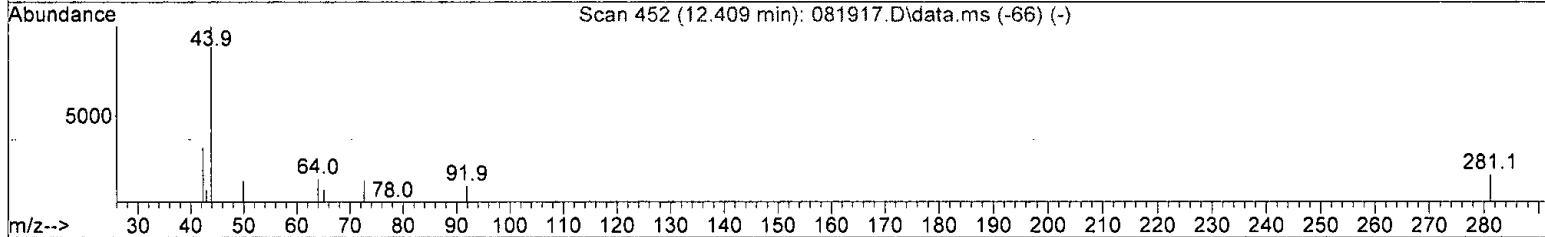
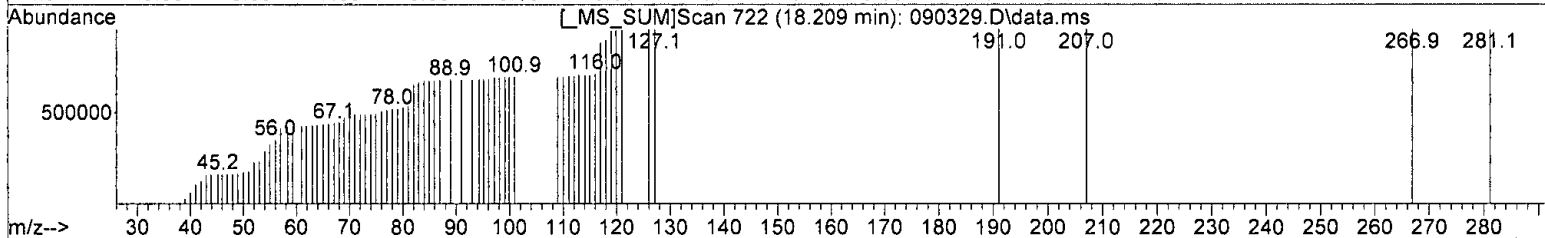
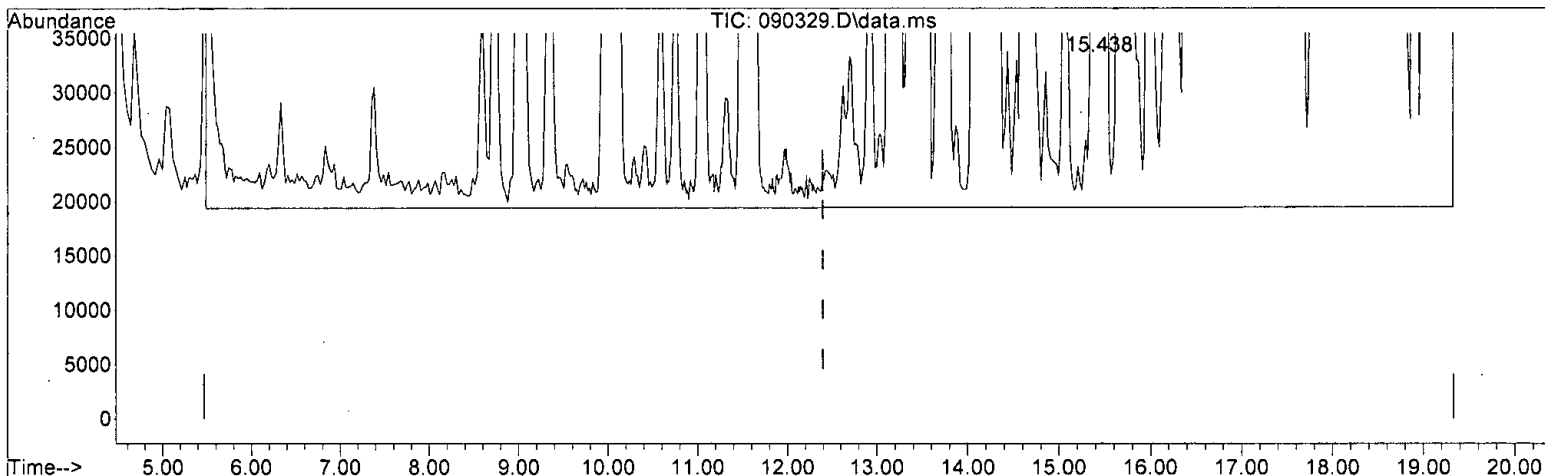
response 52959144

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B. 09/07/21*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq-Meth:TO15DC-M



(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 1866.118 ug/m3 m

response 64980052

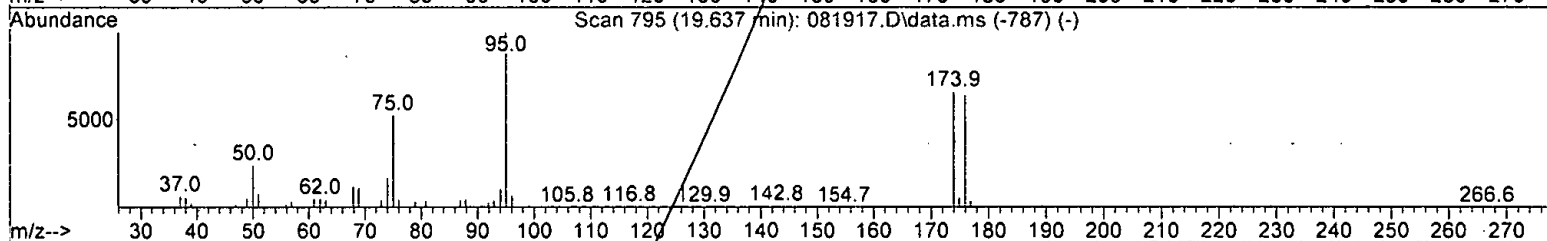
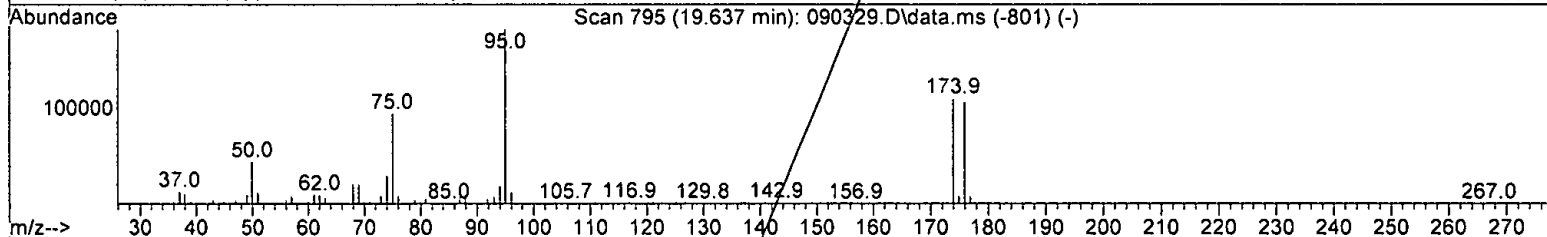
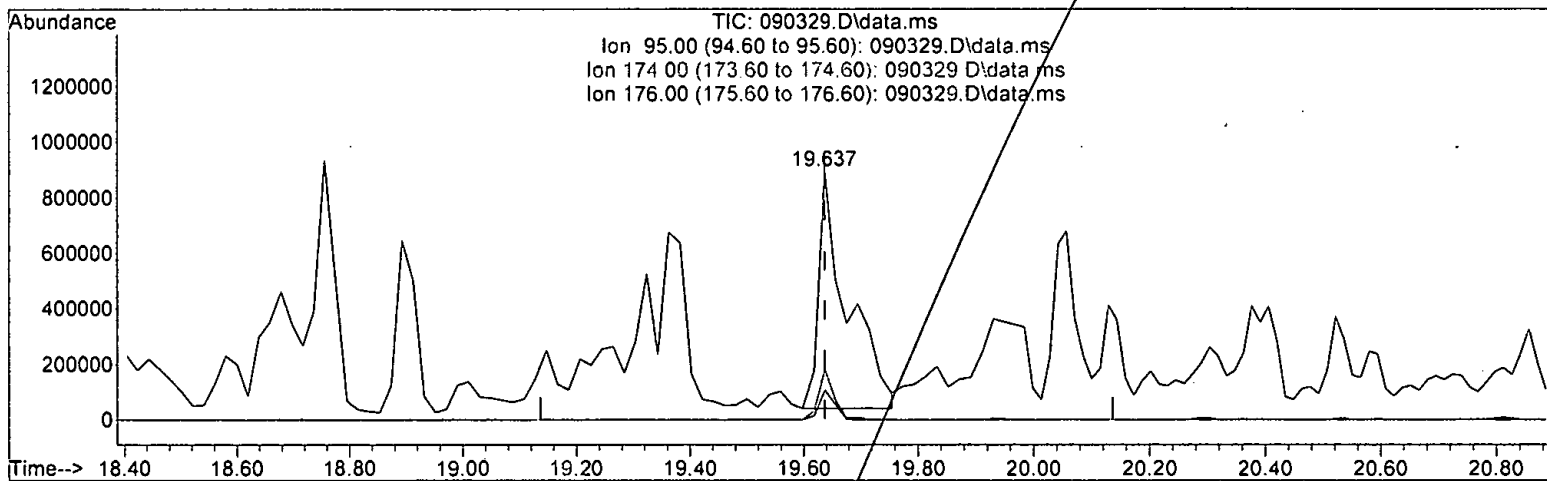
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*R 02/09/24*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 93.859 ug/m3

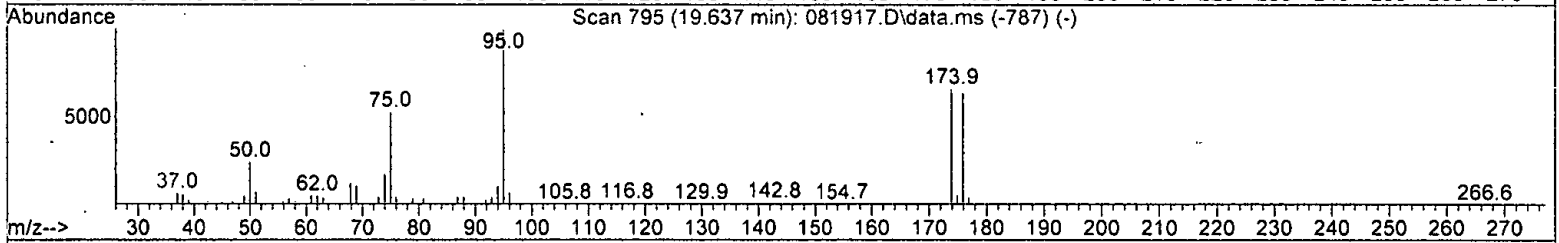
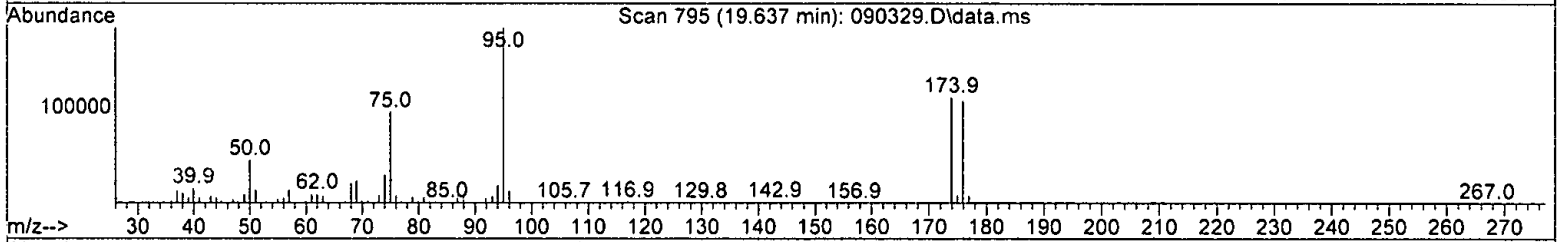
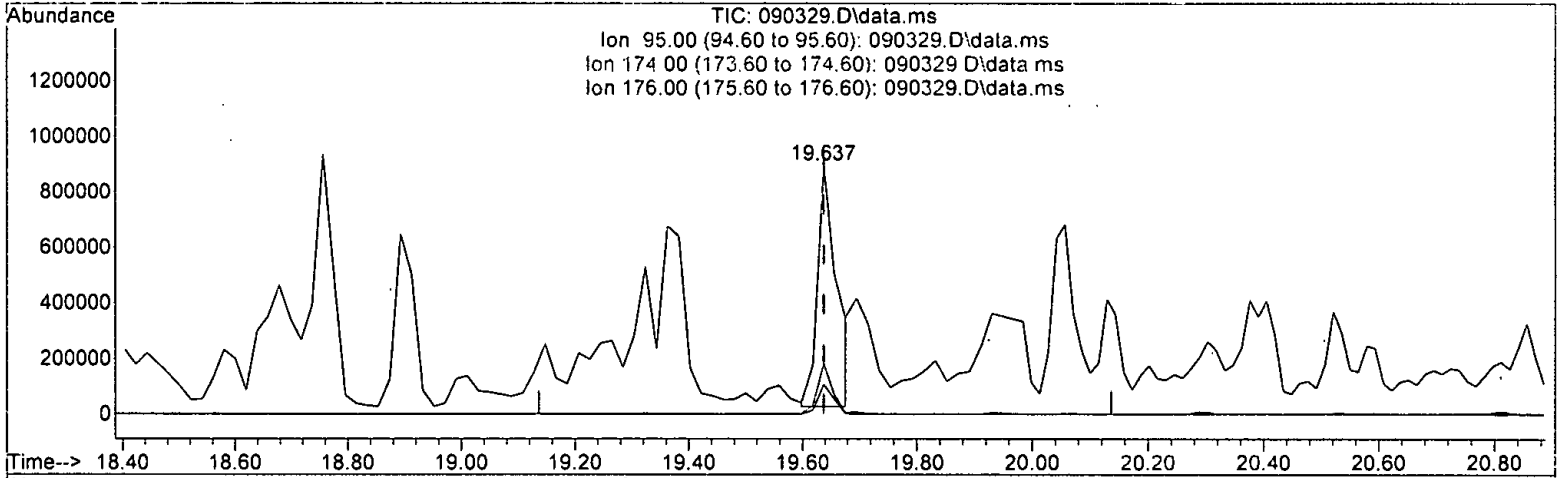
response 3039536

Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	21.30
174.00	19.20	12.87
176.00	18.70	12.43

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 65.799 ug/m3 m

response 2130828

Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	30.38
174.00	19.20	18.36
176.00	18.70	17.74

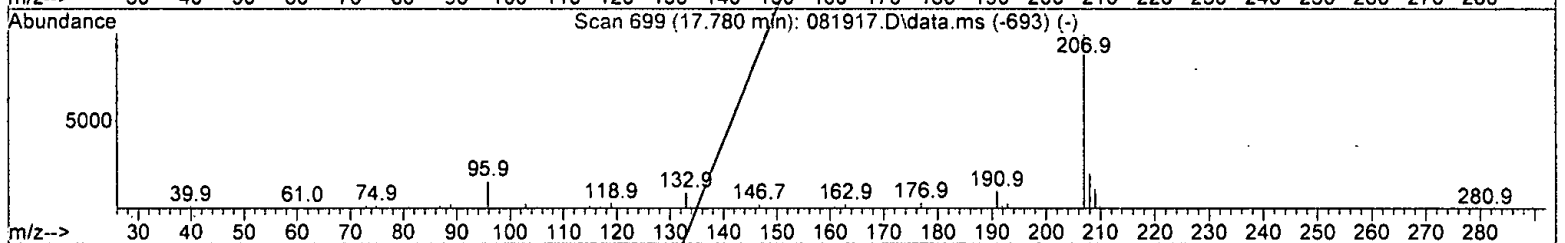
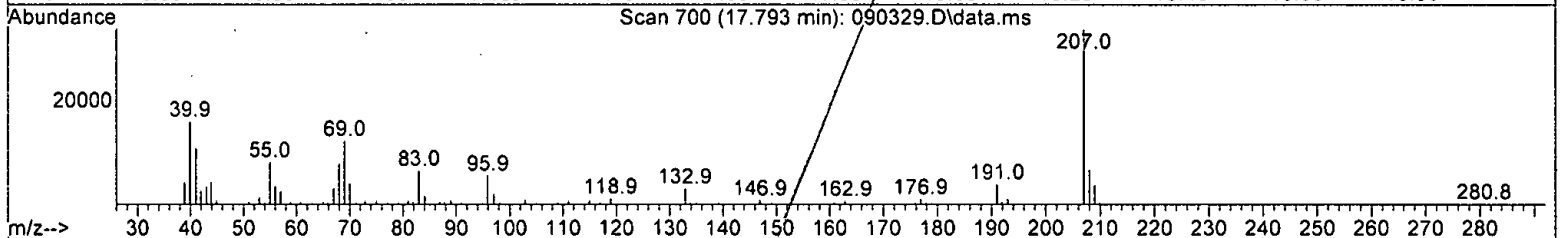
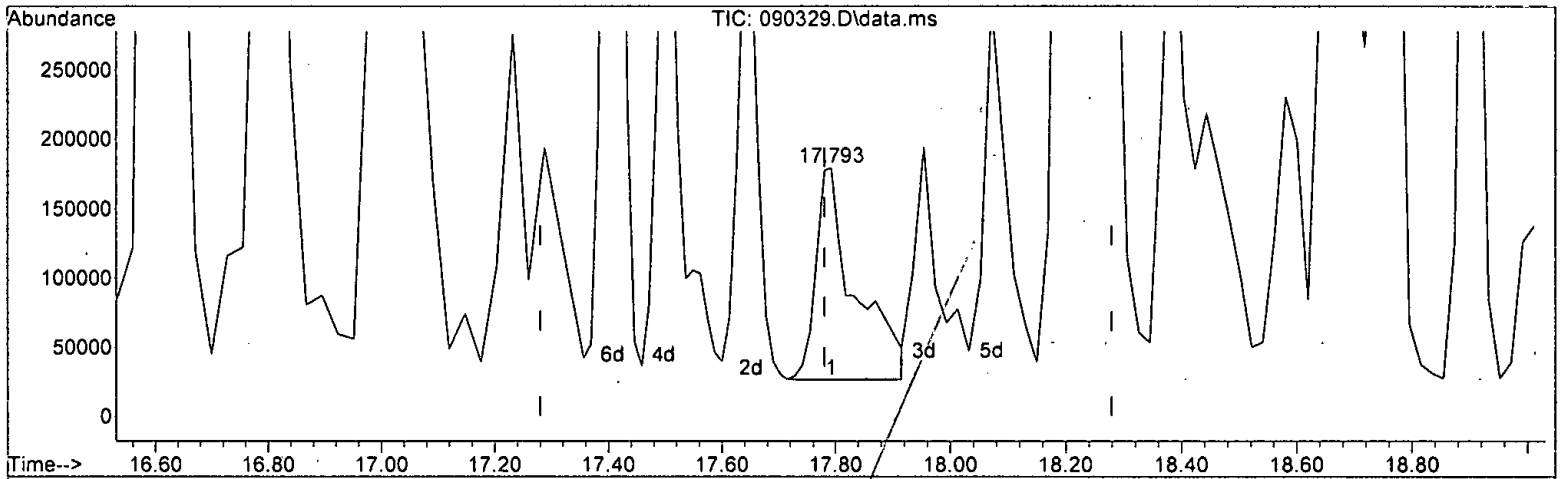
*h  
09/07/21*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
~~Response via: Initial Calibration~~  
 DataAcq Meth: TO15DC.M



(22) Hexamethylcyclotrisiloxane

17.793min (+ 0.013) 98.424 ppbv

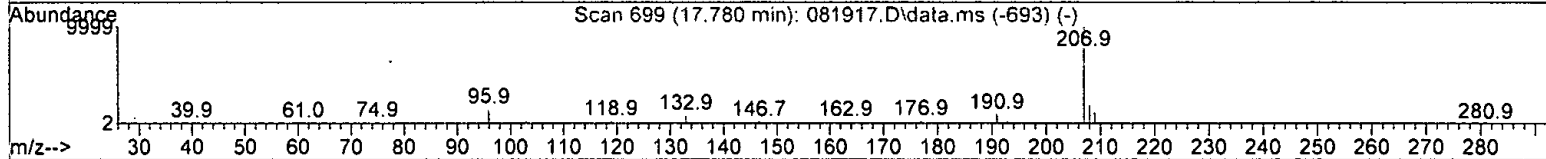
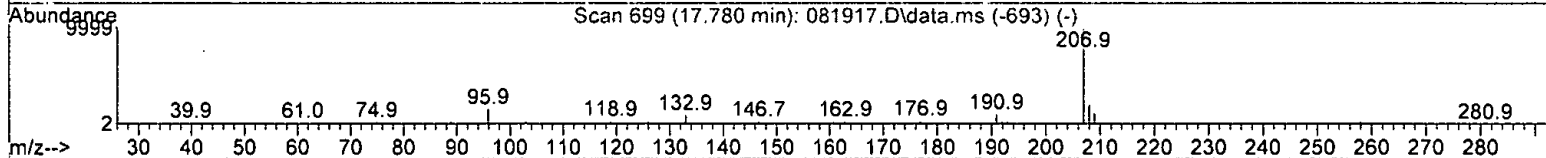
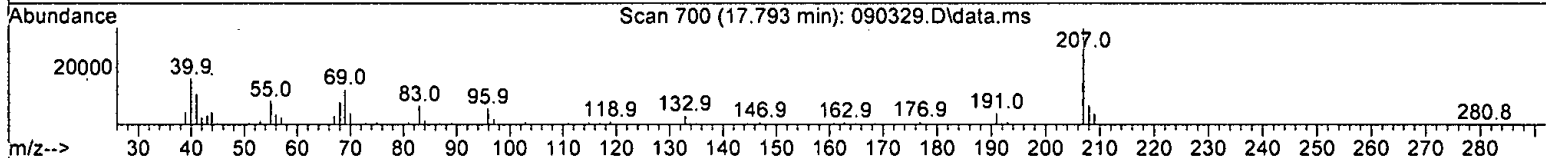
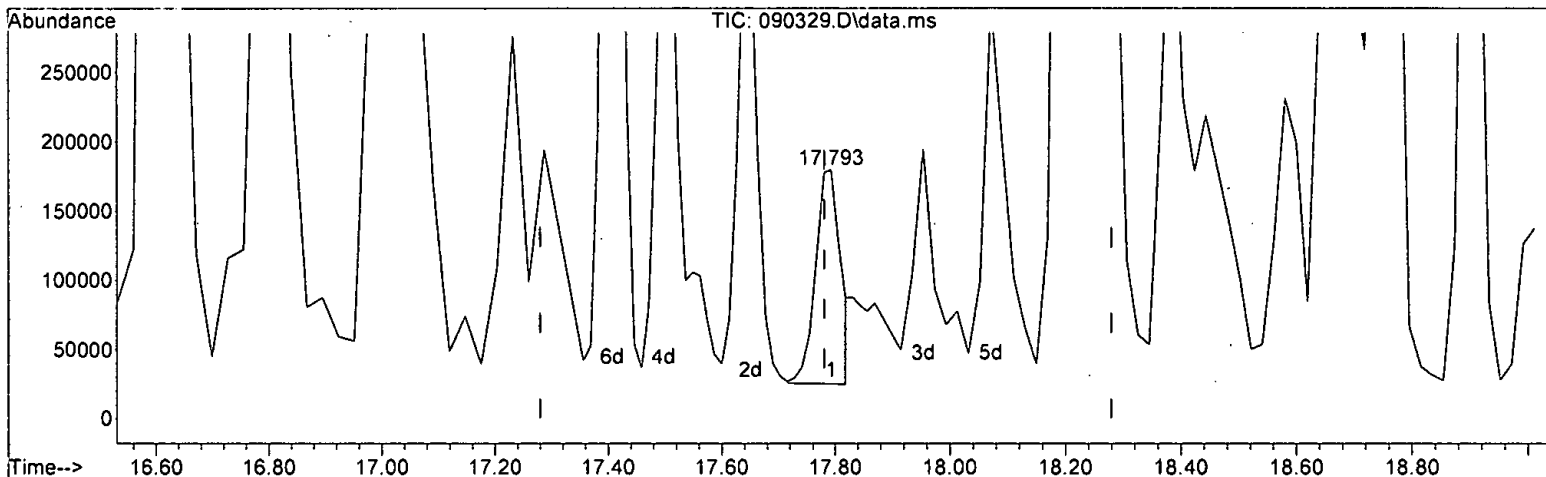
response 785078

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h orlo/ly*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
~~Response via: Initial Calibration~~  
 DataAcq Meth: TO15DC.M



TIC: 090329.D\data.ms

(22) Hexamethylcyclotrisiloxane

17.793min (+ 0.013) 59.885 ppbv m

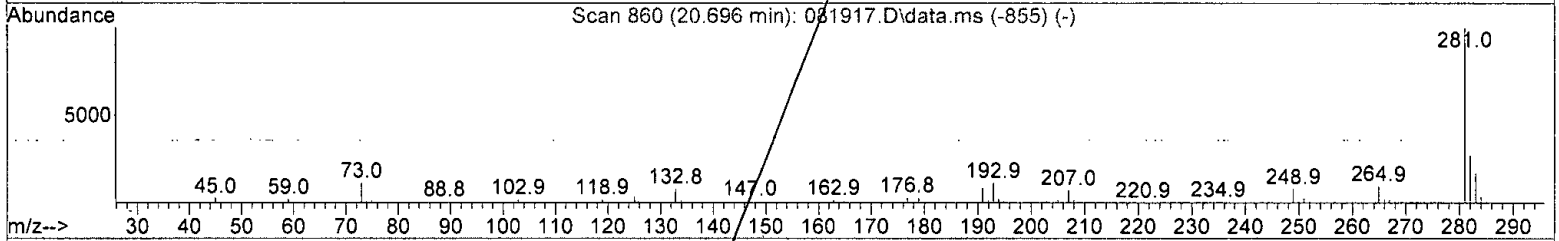
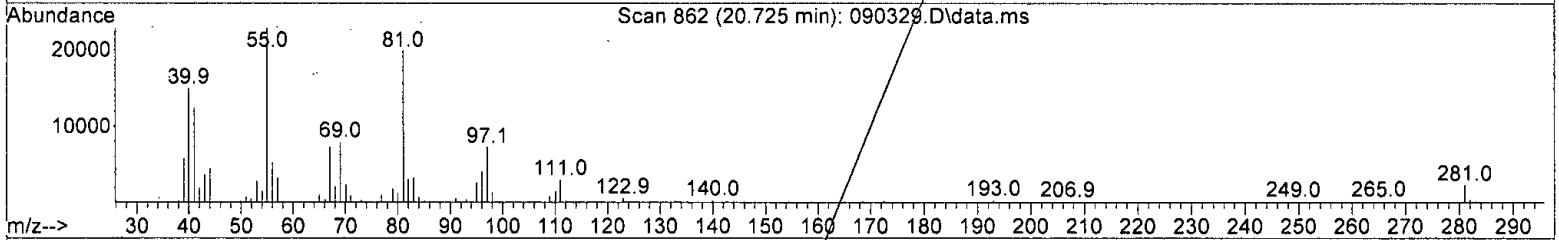
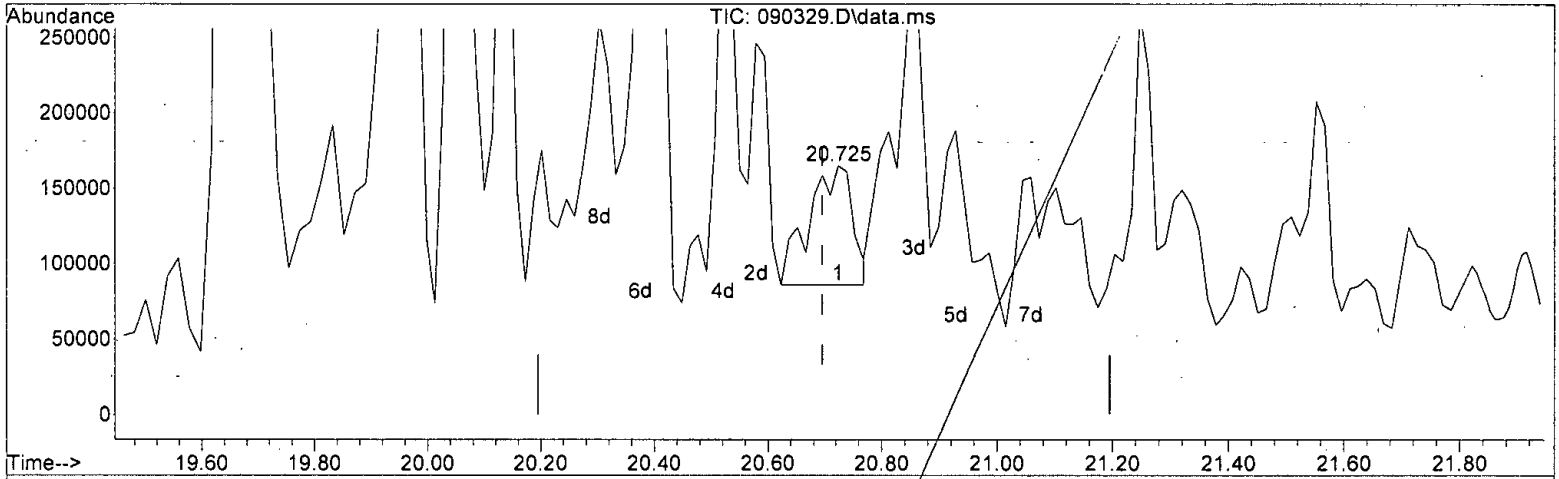
response 477671

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: b. orlo...*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.725min (+ 0.029) 42.533 ppbv

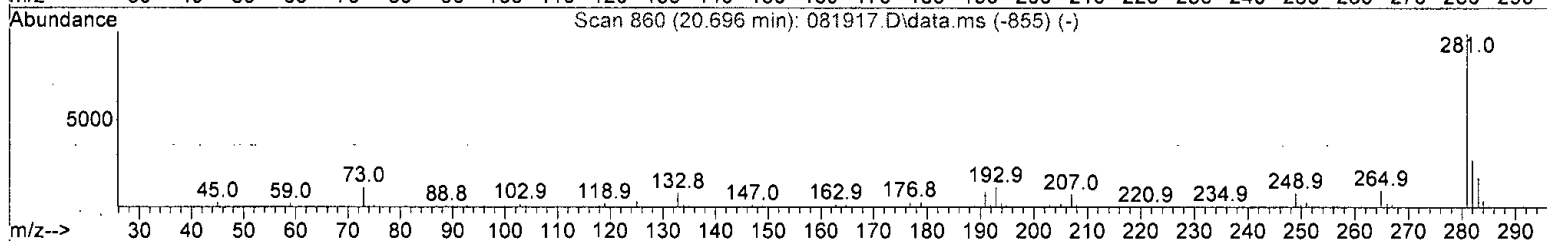
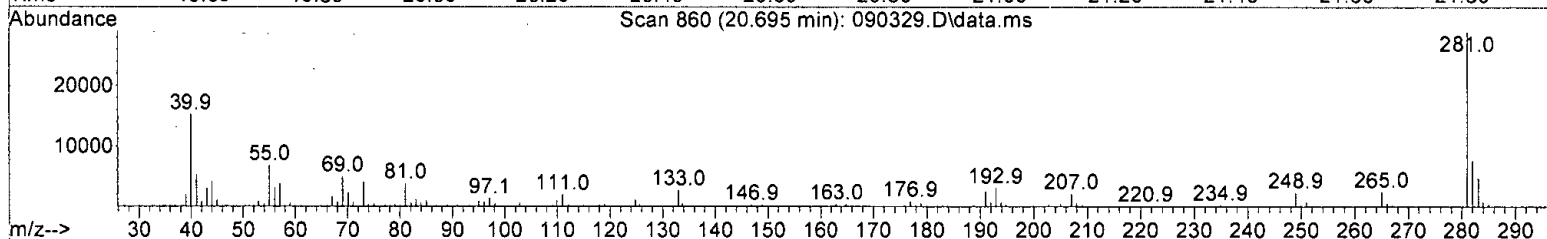
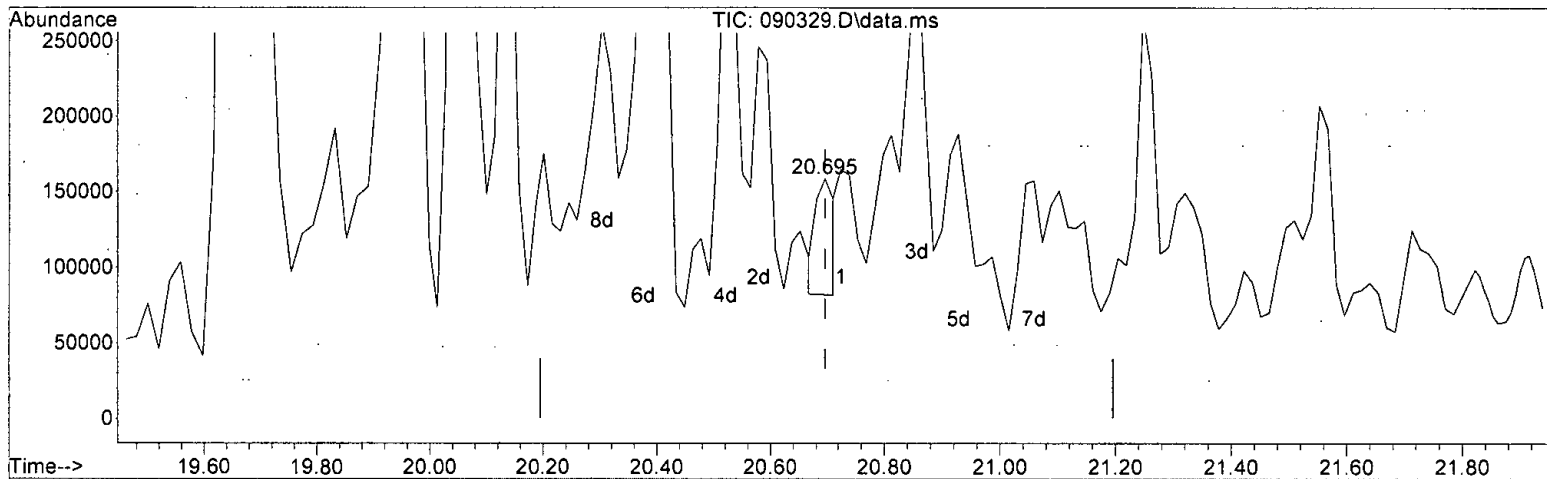
response 423423

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h or only*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.695min (-0.000) 17.761 ppbv m

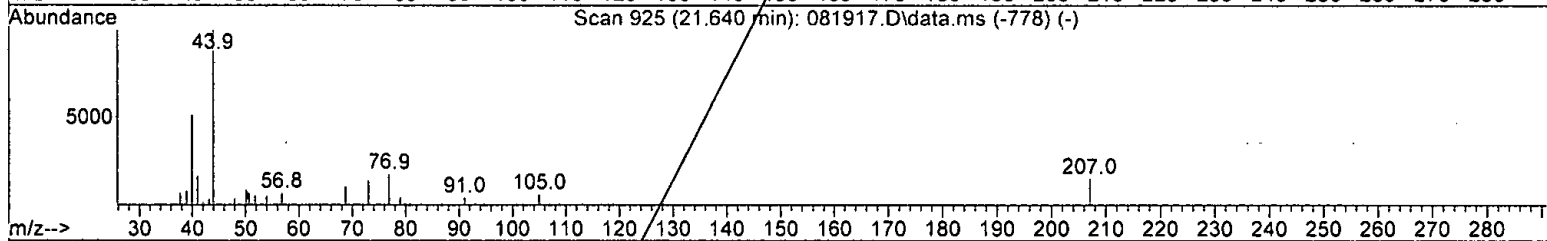
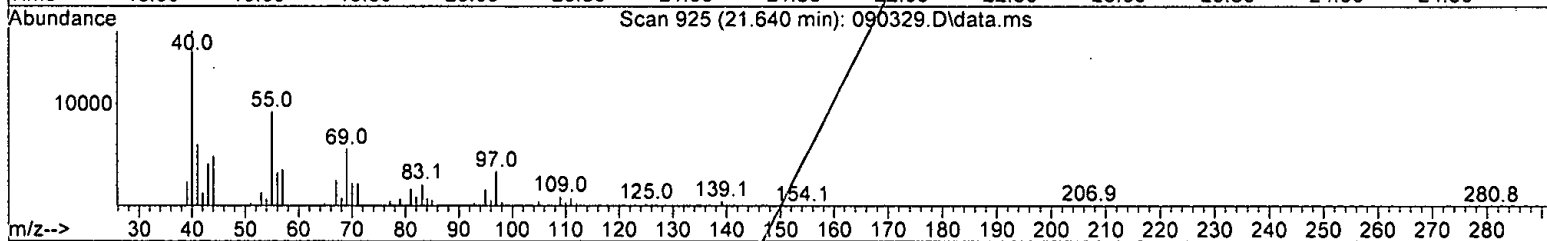
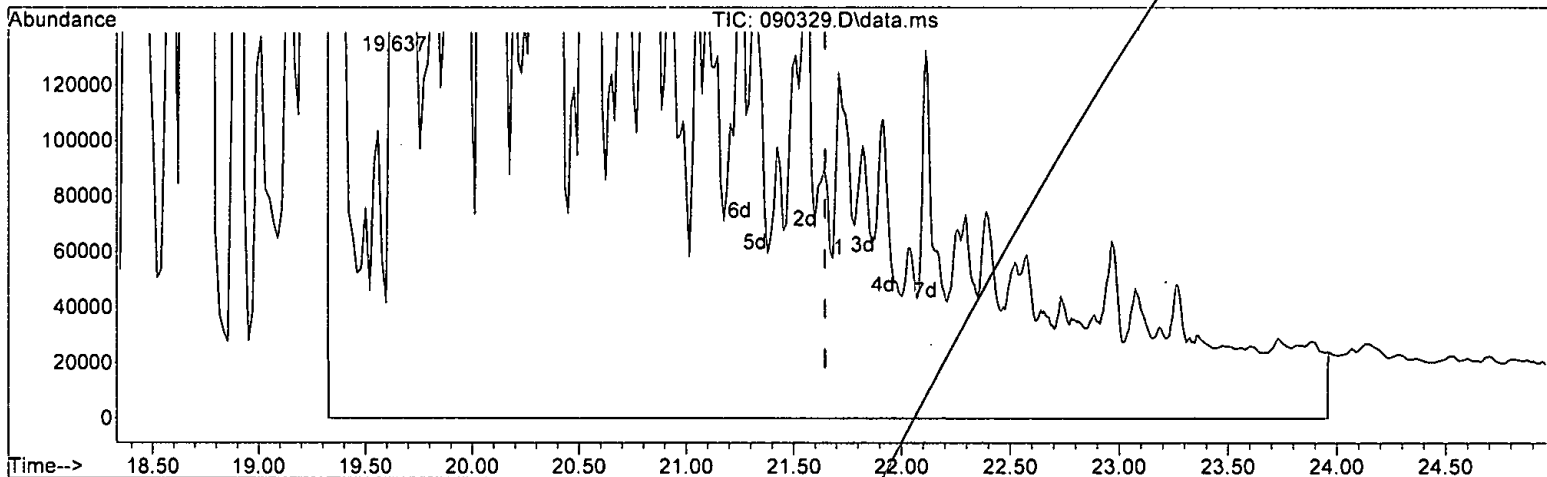
response	176811	
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 328.931 ug/m3  
 response 12909896

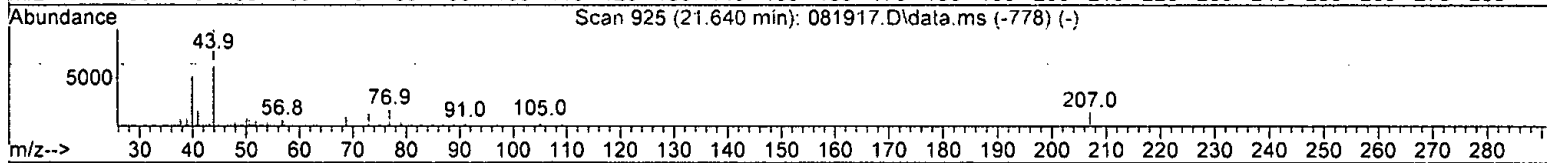
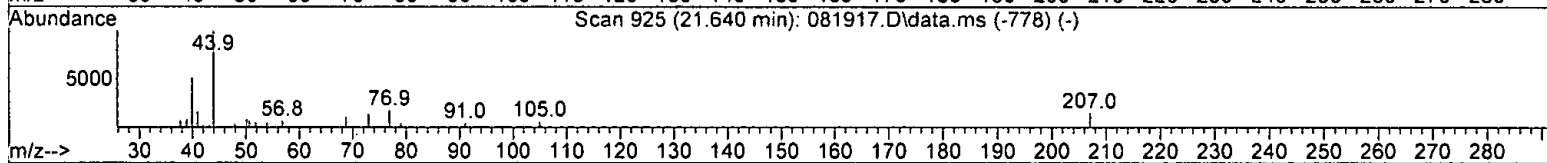
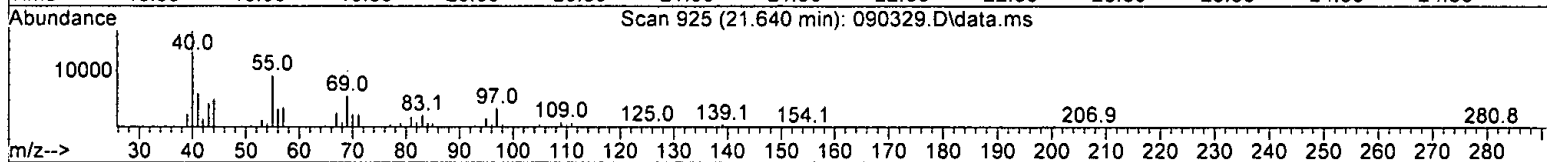
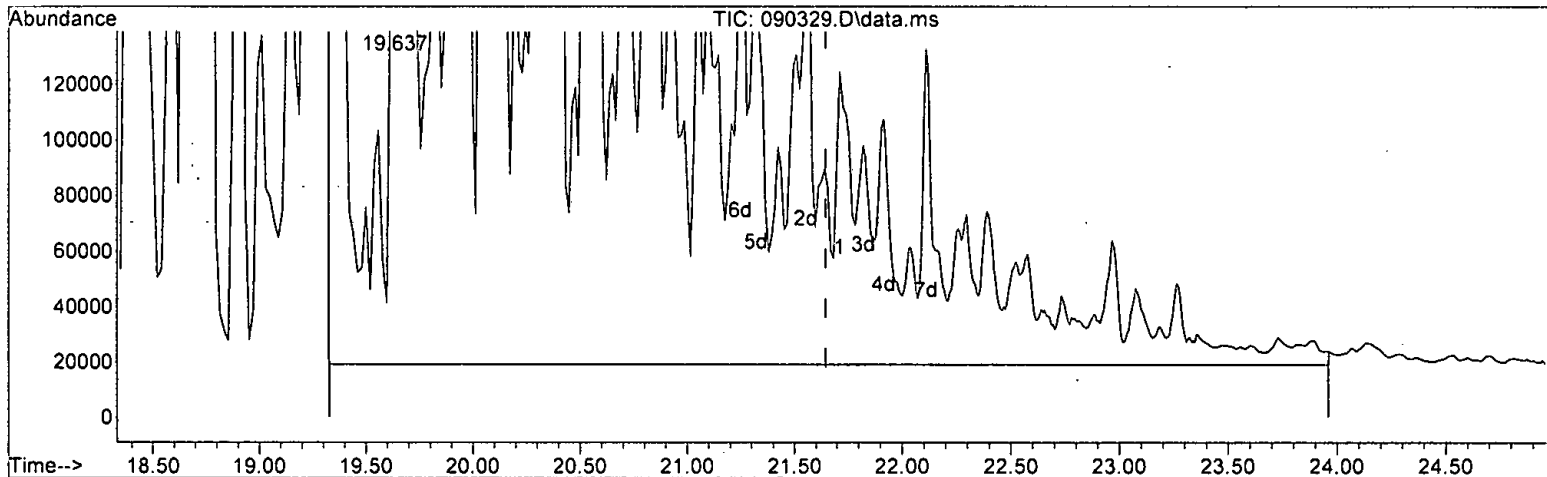
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B*  
*09/07/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcqMeth:TO15DCM



TIC: 090329.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 554.268 ug/m3 m

response 21753960

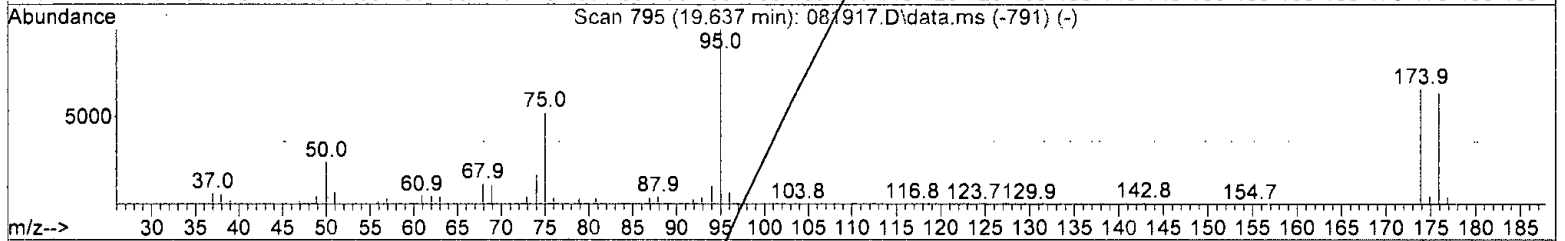
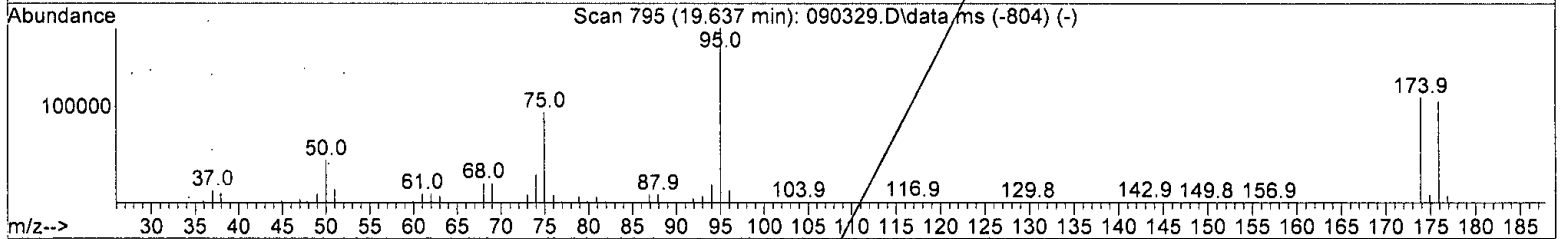
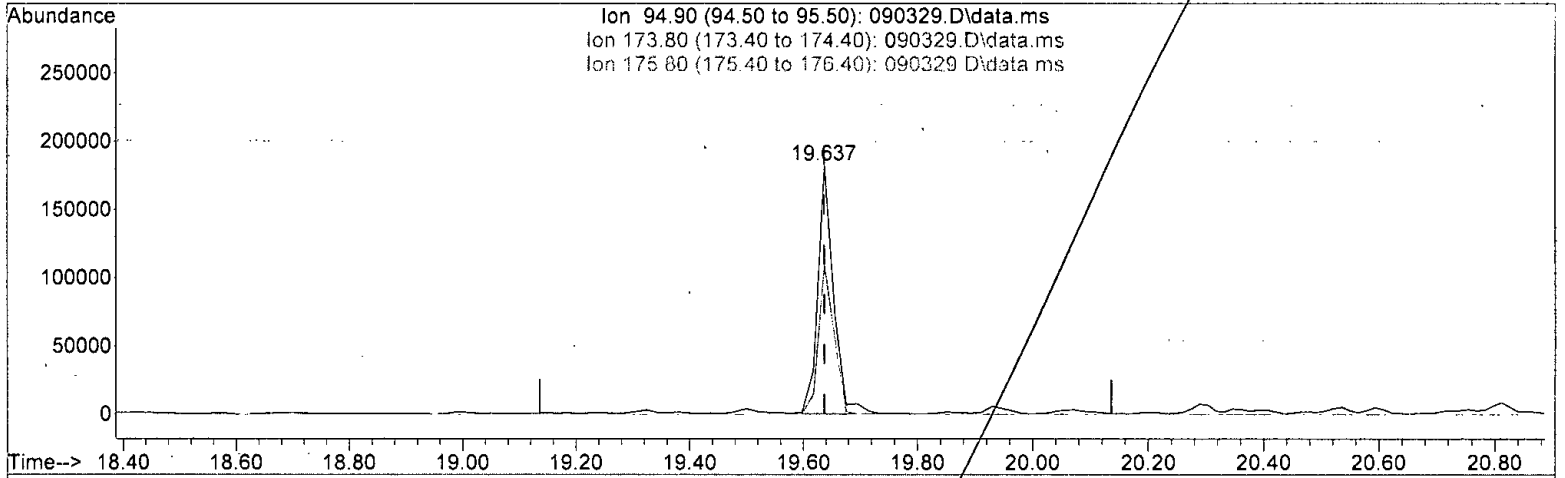
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*M. 09/07/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 74.412 ug/m3

response 357628

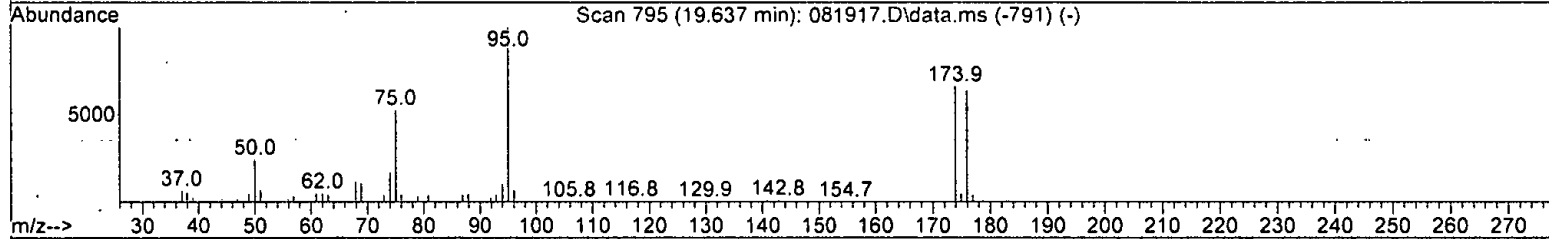
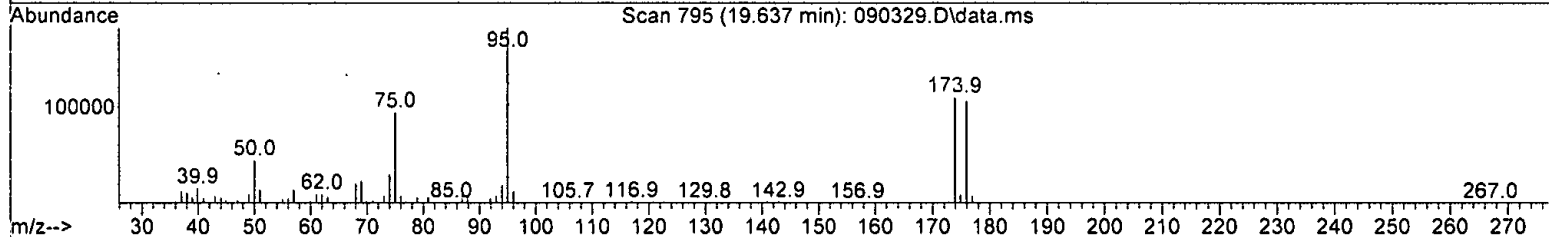
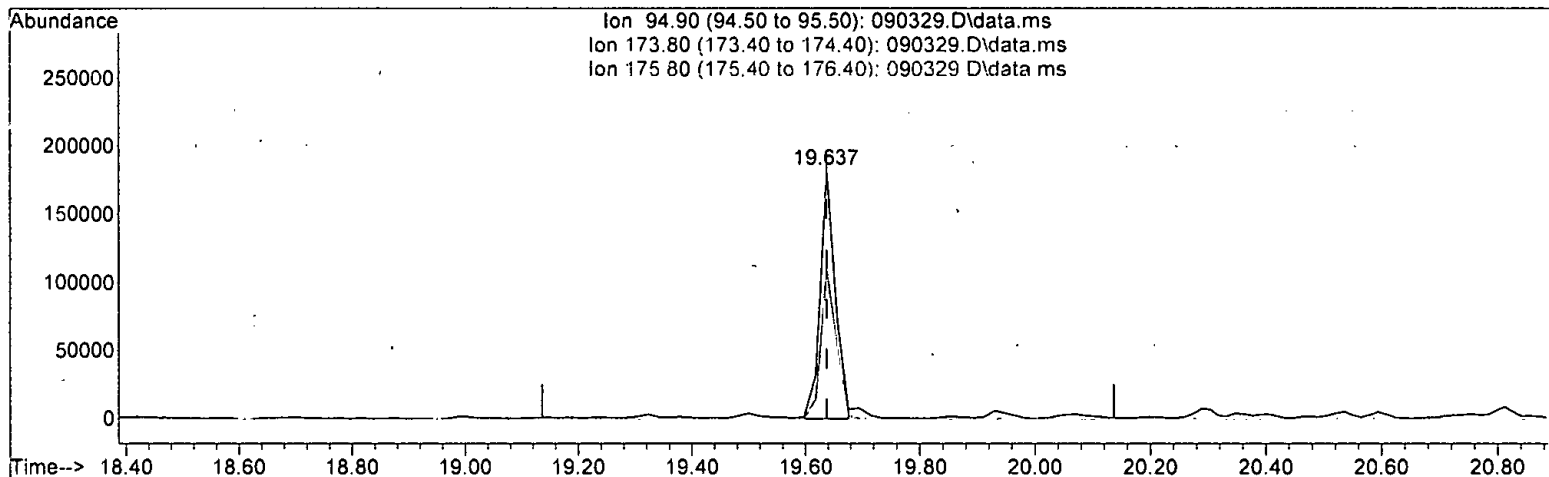
Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	60.35#
175.80	93.50	58.31#
0.00	0.00	0.00

*bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090329.D\data.ms

(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 72.113 ug/m3 m

response 346580

Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	60.27#
175.80	93.50	58.23#
0.00	0.00	0.00

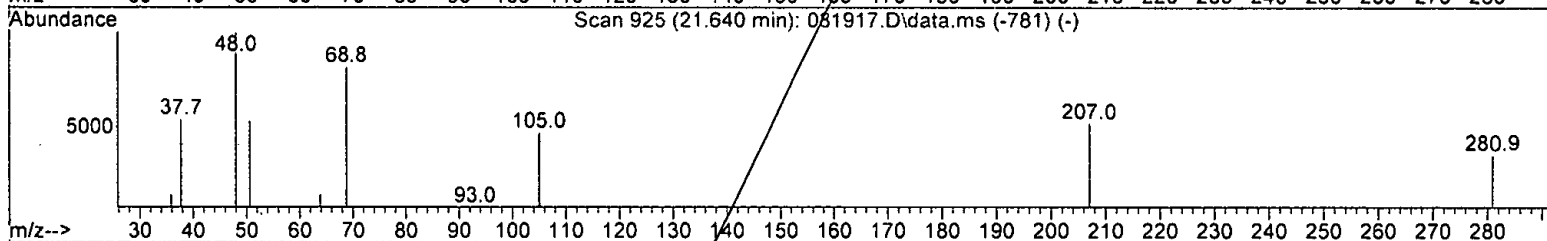
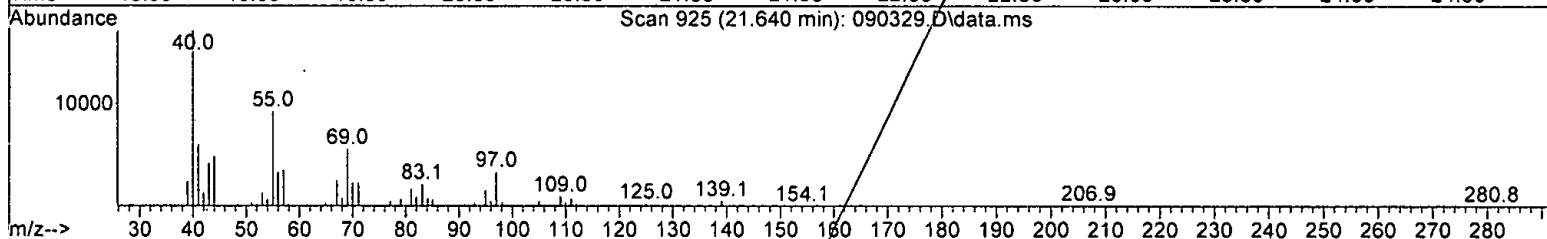
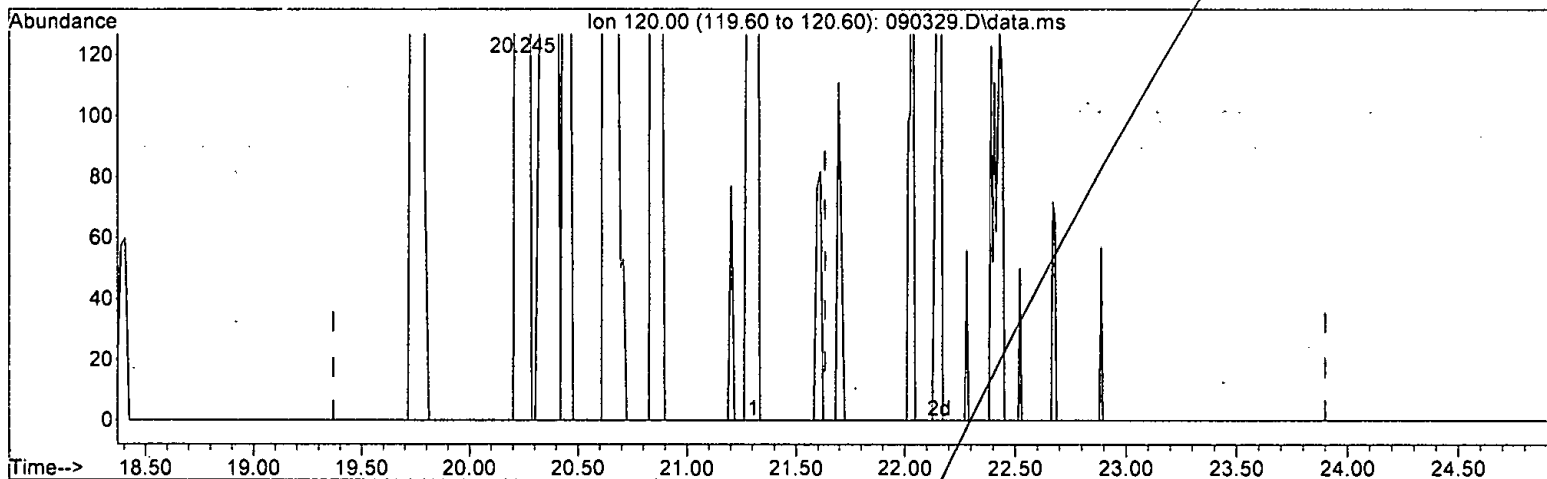
*Handwritten signature/initials*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*K. 09/07/21*

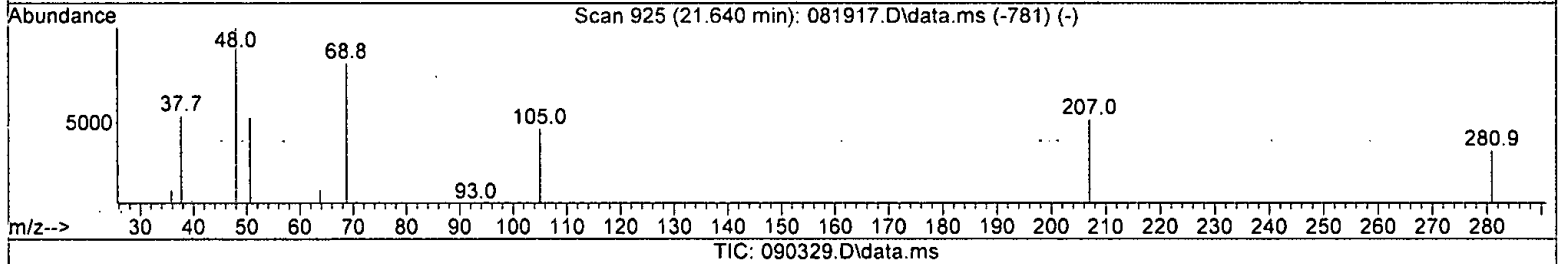
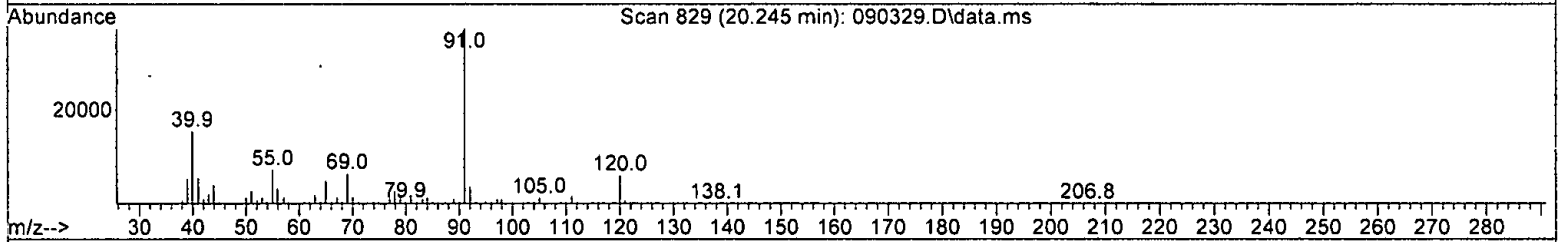
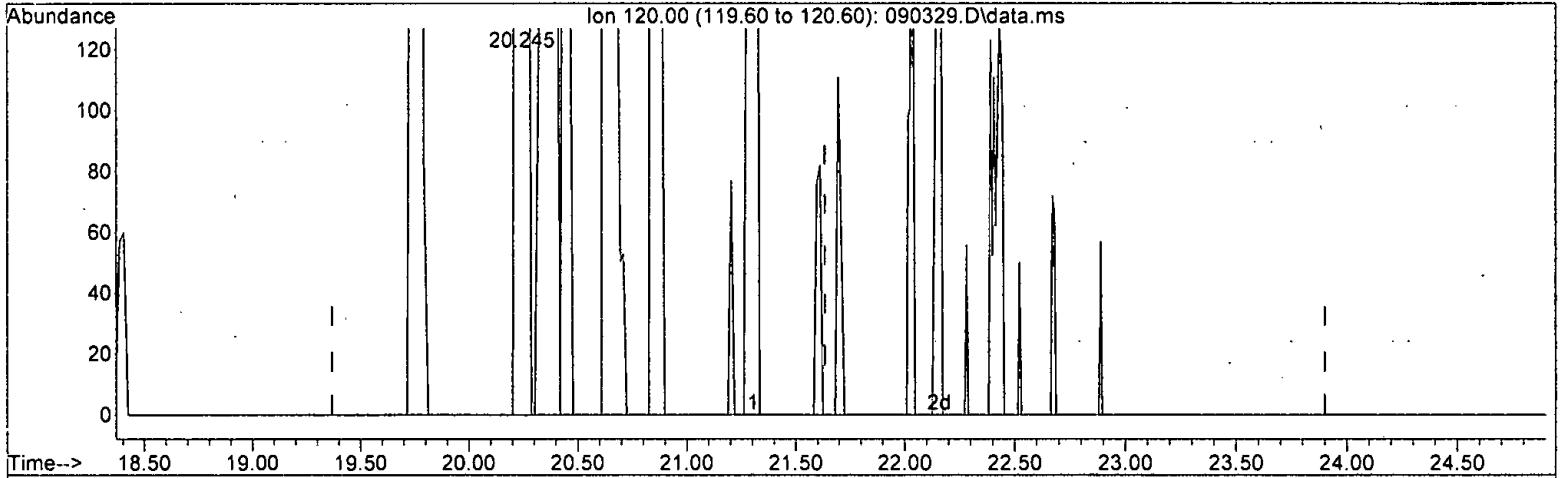
(44) APH EC9-10 aromatics (1) (H)  
 21.635min ( 0.000) -7.166 ug/m3 m  
 response -32747

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 7.236 ug/m3 m

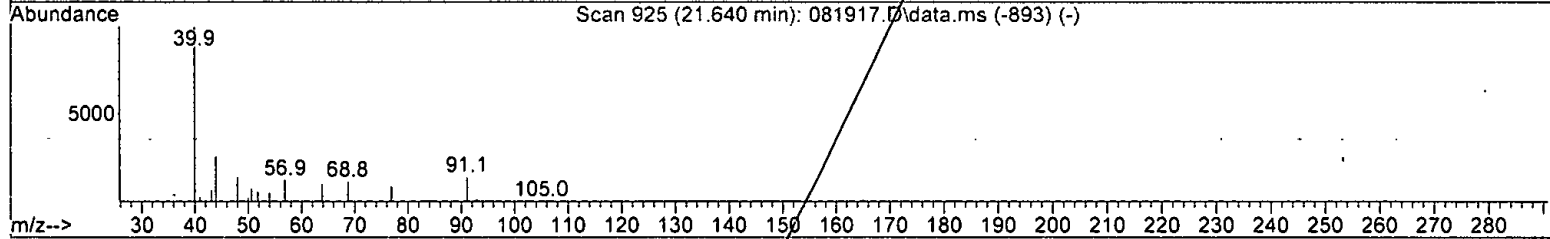
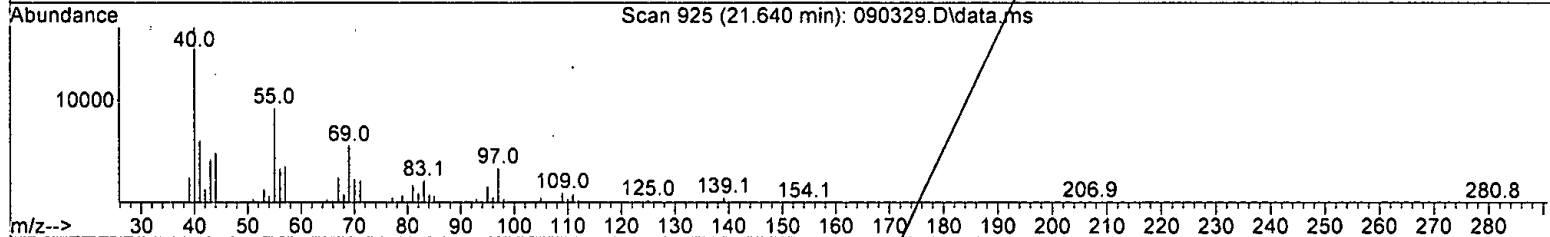
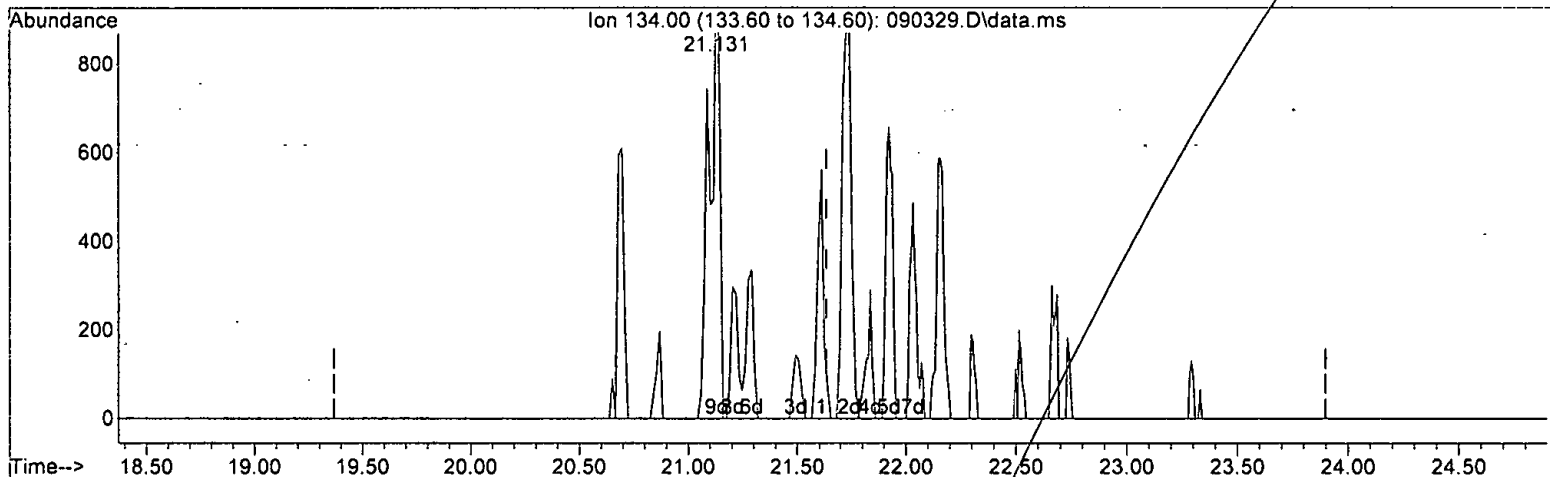
response 33065

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

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09/07/21

Data Path : F:\Proc\_GCMS7\09-03-21\  
Data File : 090329.D  
Acq On : 4 Sep 2021 2:08 am  
Operator : bat  
Sample : 109030-09 1/2200  
Misc : T14  
ALS Vial : 29 Sample Multiplier: 1  
InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
Quant Method : F:\METHODS\Inst7\0819APH7.M  
Quant Title : APH TO-15 method  
QLast Update : Fri Aug 20 08:33:26 2021  
Response via : Initial Calibration  
DataAcq Meth: TO15DC.M



(45) APH EC9-10 aromatics (2) (H)  
21.635min ( 0.000) -21.665 ug/m3 m  
response -56388

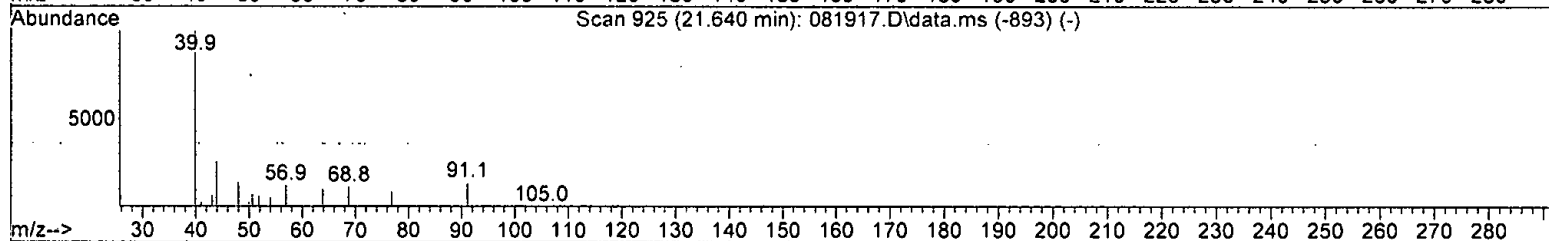
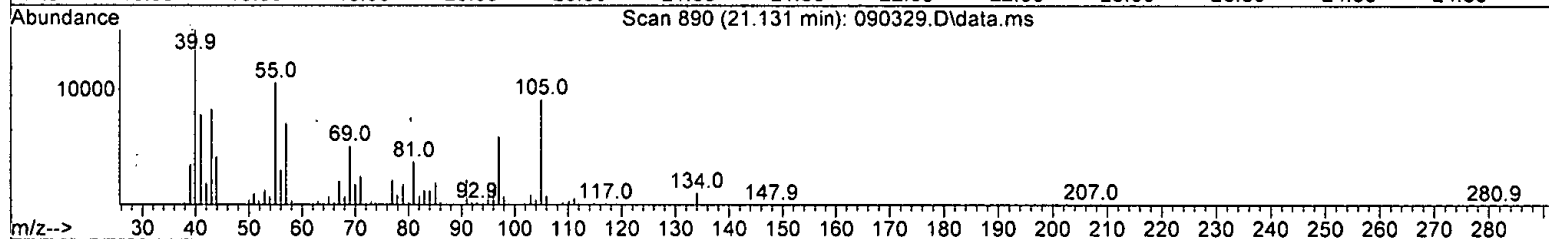
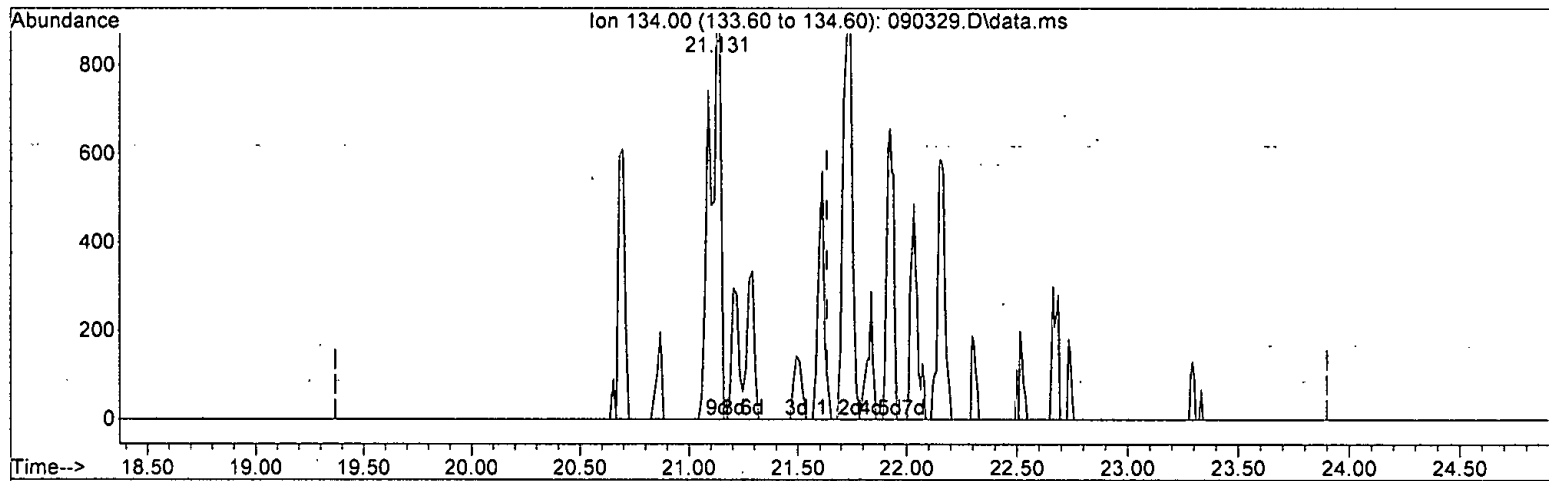
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature:* N 09/07/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:03:17 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 6.701 ug/m3 m

response 17442

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

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 09/07/21

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:06:40 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	92132	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.21	114	438856	50.000	ug/m3	-0.02
20) Chlorobenzene-d5	18.21	117	383606	50.000	ug/m3	# 0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	346580m	72.113	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	101.56%

Target Compounds						Qvalue
2) IS-1 Bromochloromethane	9.97	TIC	1019894	62.696	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.21	TIC	1009029m	43.701	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1681150m	60.029	ug/m3	
5) Methylene chloride	6.83	TIC	29077	35.305	ug/m3	86
6) Acetone	0.00		0	N.D.		
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.20	54	103614	19.098	ug/m3#	1
9) Methyl t-butyl ether	8.54	73	314	0.044	ug/m3	56
11) Benzene	12.71	78	16900	1.133	ug/m3	72
12) Isopentane	0.00		0	N.D.		
13) Hexane	10.10	TIC	347162	11.799	ug/m3	94
14) Cyclohexane	13.16	TIC	1473126	48.358	ug/m3	50
15) 2,3-Dimethylpentane	13.50	TIC	1230496	31.652	ug/m3	94
16) Heptane	14.60	TIC	2944398	92.679	ug/m3	92
17) Octane	17.41	TIC	2392384	54.918	ug/m3	92
18) APH EC5-8 aliphatics T...	0.00	TIC	8387566m	240.877	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	64980052m	1866.118	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	2130828m	65.799	ug/m3	
22) Hexamethylcyclotrisilo...	17.79	TIC	477671m	59.885	ppbv	
23) Octamethylcyclotetrasil...	20.70	TIC	176811m	17.761	ppbv	
24) Toluene	16.39	92	60599	7.363	ug/m3	94
25) Ethylbenzene	18.60	91	117407	6.908	ug/m3	97
26) m,p-Xylene	18.78	106	12053	2.109	ug/m3	97
27) o-Xylene	19.21	106	25575	4.730	ug/m3	84
28) Naphthalene	23.94	128	1101	0.080	ug/m3	68
29) 2,3-Dimethylheptane	18.68	TIC	1671873	43.366	ug/m3#	78
30) Nonane	19.36	TIC	3664194	91.021	ug/m3	76
31) Decane	20.93	TIC	427195	10.682	ug/m3	67
32) Butylcyclohexane	21.55	TIC	544595	11.988	ug/m3	83
33) Undecane	22.39	TIC	111412	2.809	ug/m3	63
34) Dodecane	23.35	TIC	14572	0.448	ug/m3	79
35) APH EC9-12 aliphatics ...	21.55	TIC	6433841m	163.927	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	21753960m	554.268	ug/m3	
38) Isopropylbenzene	19.75	120	6441	2.141	ug/m3	98
39) 1-Methyl-3-ethylbenzene	20.38	120	4605	1.094	ug/m3#	89
40) 1,3,5-Trimethylbenzene	20.45	120	1001	0.188	ug/m3	98
41) p-Isopropyltoluene	21.29	134	764	0.292	ug/m3#	20
42) 1,2,3-Trimethylbenzene	21.31	120	2123	0.340	ug/m3#	49
43) APH EC9-10 aromatics T...	21.55	TIC	14934m	3.609	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	33065m	7.236	ug/m3	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:06:40 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration

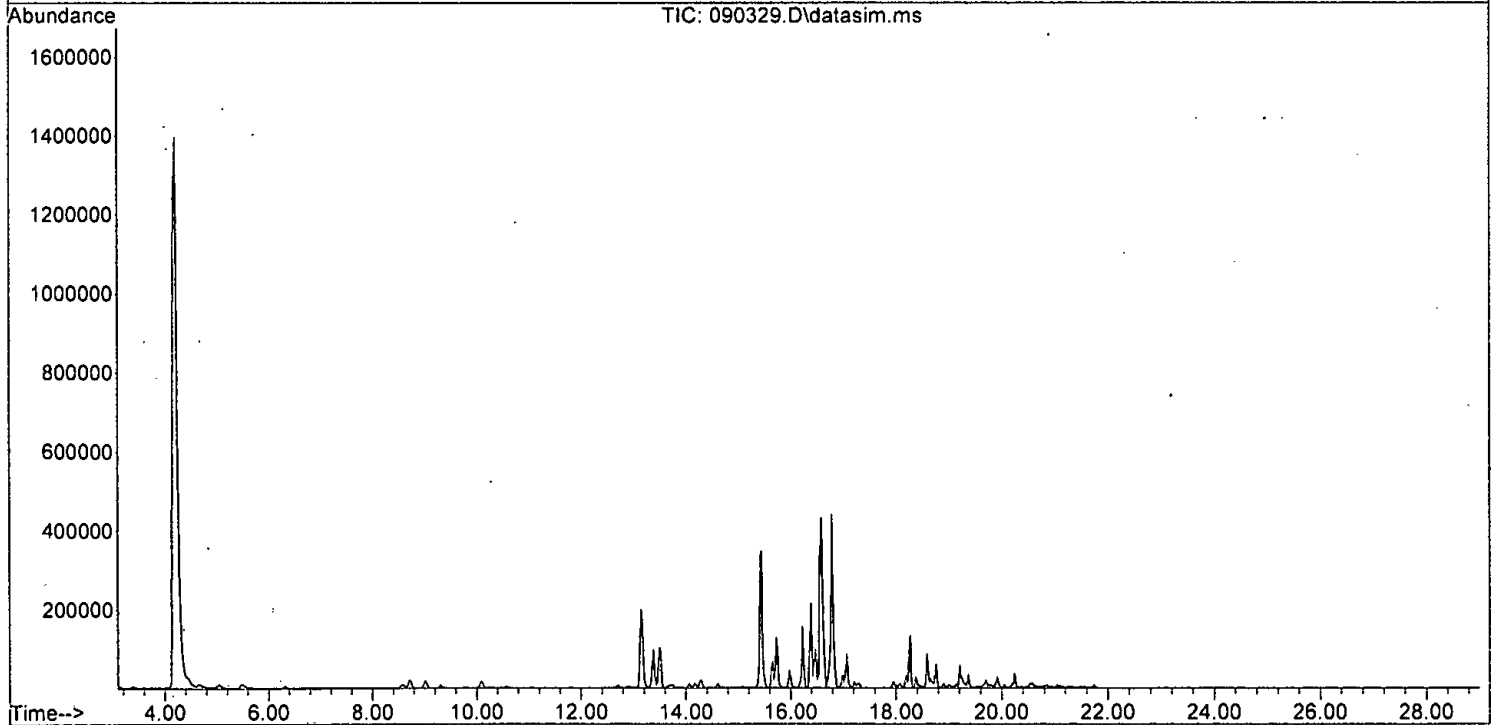
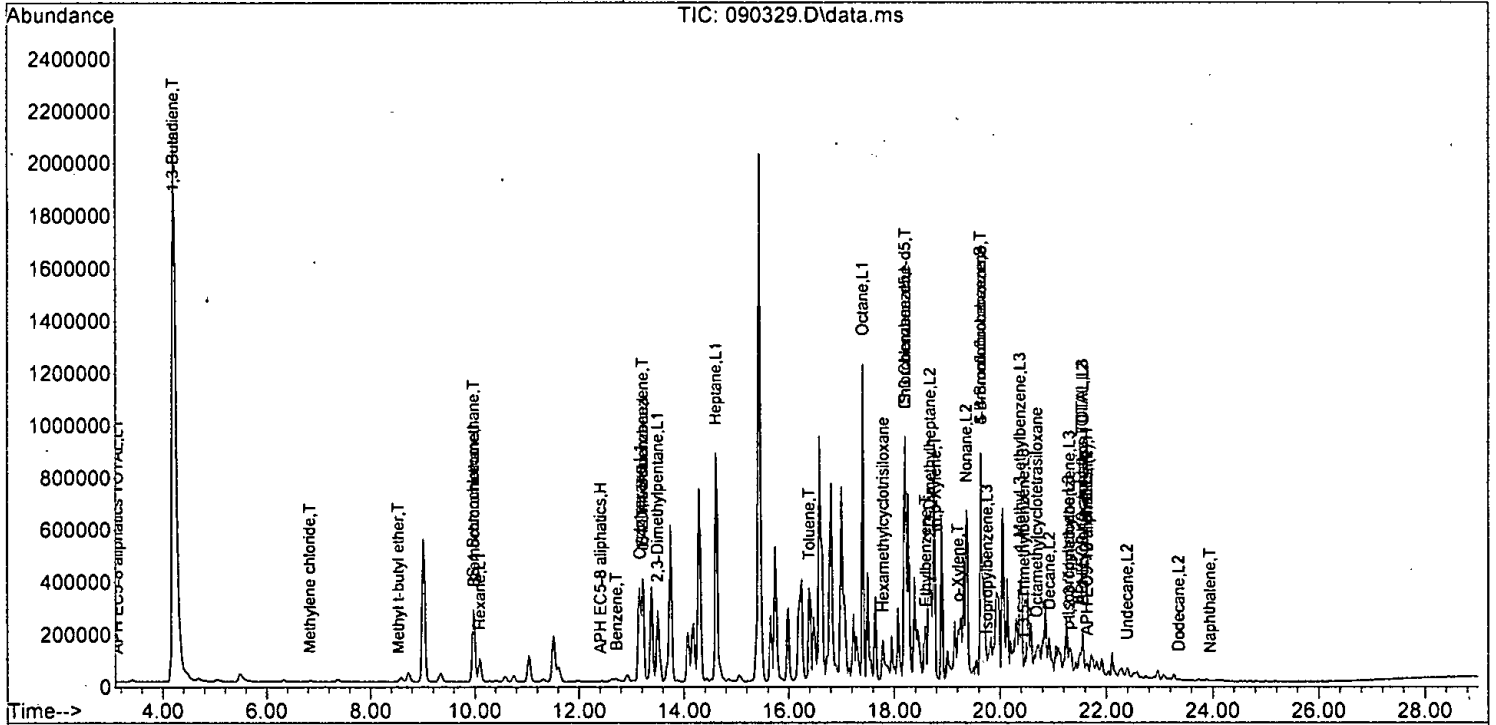
DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	17442m	6.701	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090329.D  
 Acq On : 4 Sep 2021 2:08 am  
 Operator : bat  
 Sample : 109030-09 1/2200  
 Misc : T14  
 ALS Vial : 29 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:06:40 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090321.D  
 Acq On : 3 Sep 2021 8:54 pm  
 Operator : bat  
 Sample : 109030-10 1/5.7  
 Misc : T9  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 14:59:49 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

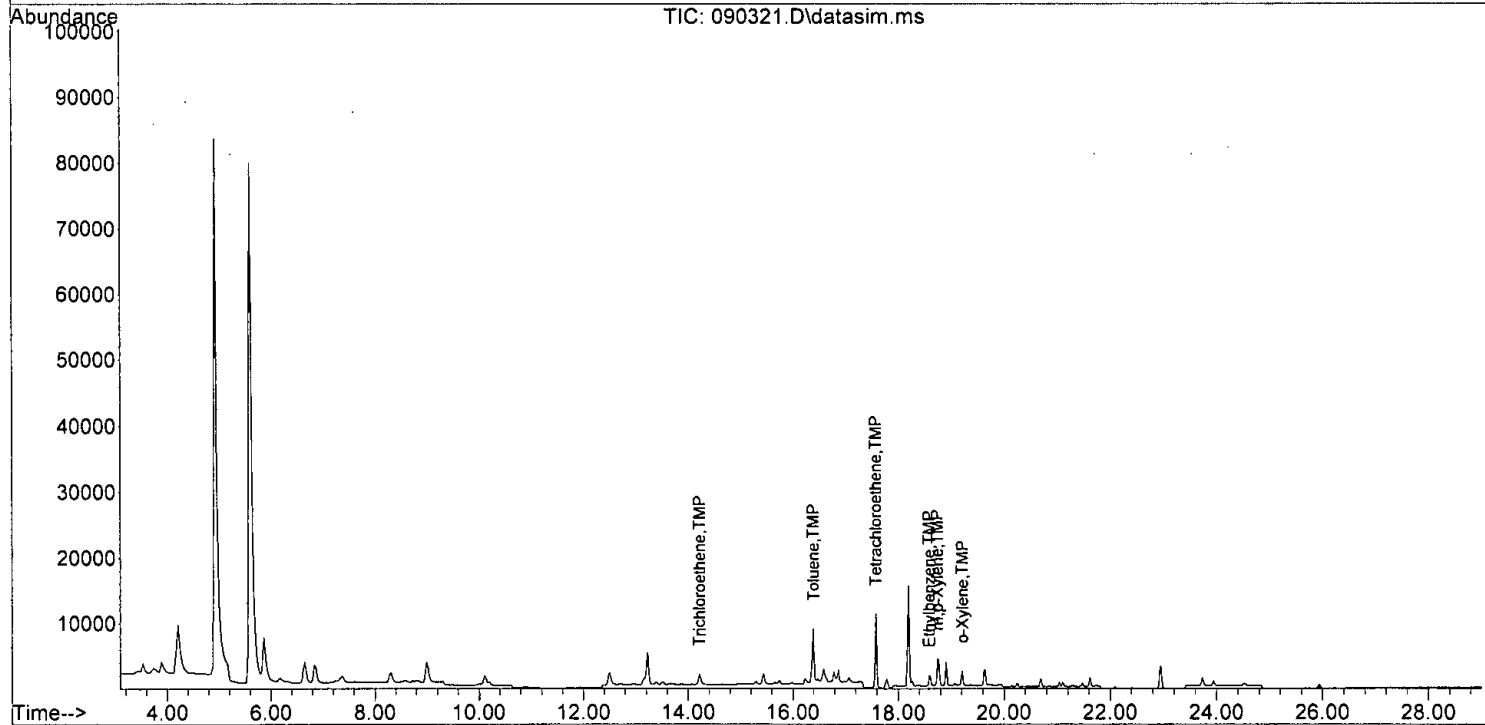
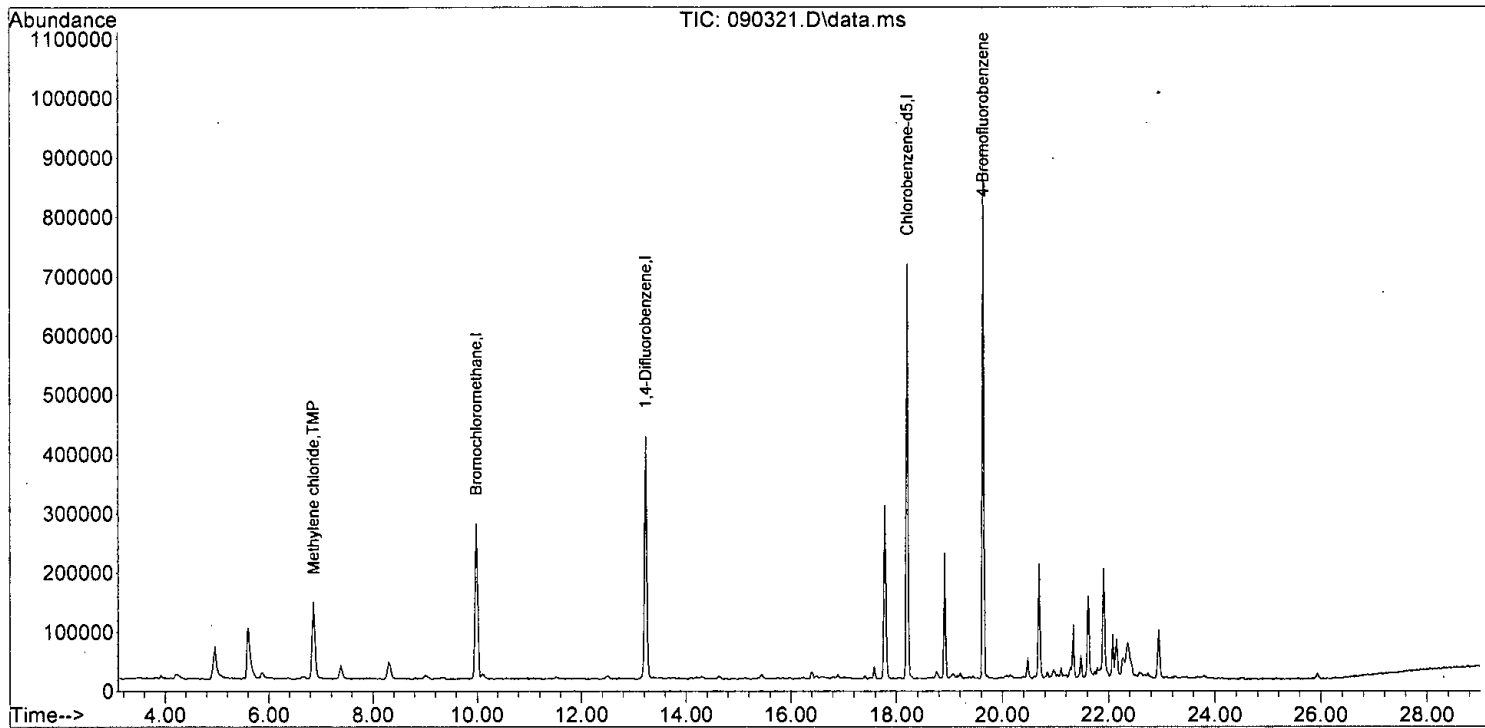
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	97405	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	457925	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	400566	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	348157	9.594	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	95.90%
Target Compounds						
						Qvalue
20) Methylene chloride	6.86	84	95298	5.590	ppbv	# 79
46] Trichloroethene	14.22	95	1413	0.050	ppbv	83
50] Toluene	16.40	92	7021	0.205	ppbv	85
53] Tetrachloroethene	17.58	164	5028	0.288	ppbv	# 81
58] Ethylbenzene	18.59	91	2681	0.030	ppbv	97
65] m,p-Xylene	18.74	106	3051	0.107	ppbv	# 81
66] o-Xylene	19.21	106	1127	0.040	ppbv	92
-----						

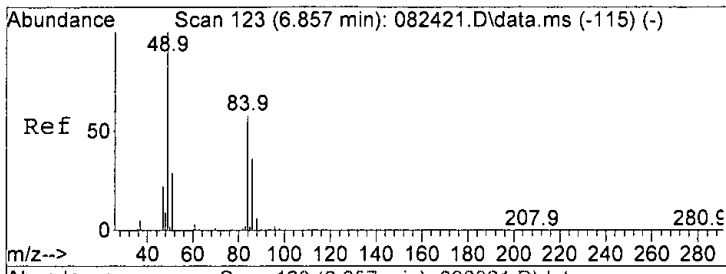
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090321.D  
 Acq On : 3 Sep 2021 8:54 pm  
 Operator : bat  
 Sample : 109030-10 1/5.7  
 Misc : T9  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

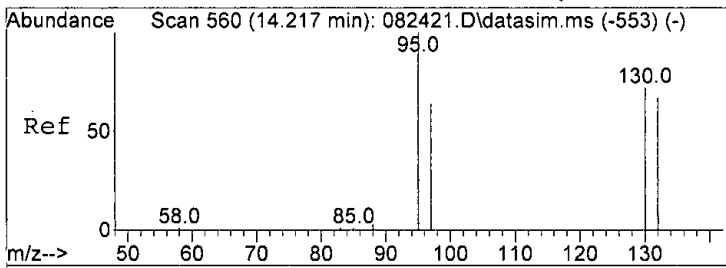
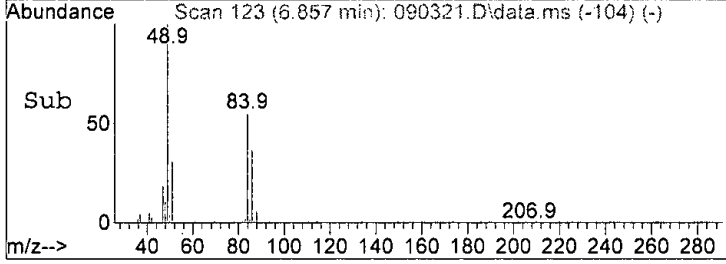
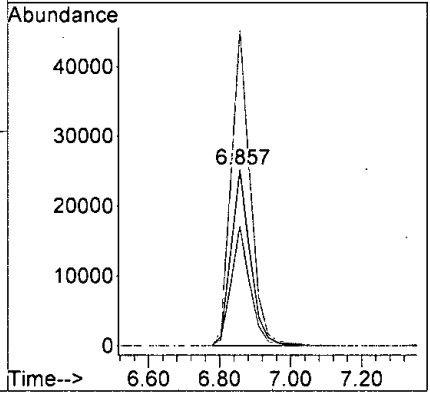
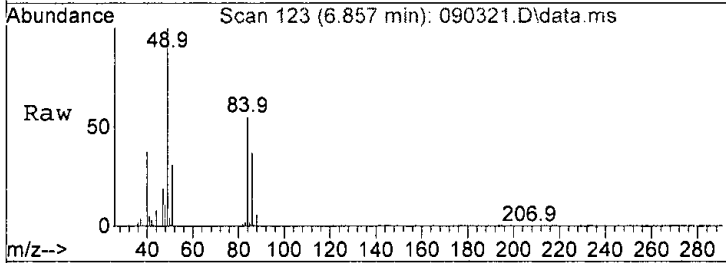
Quant Time: Sep 07 14:59:49 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





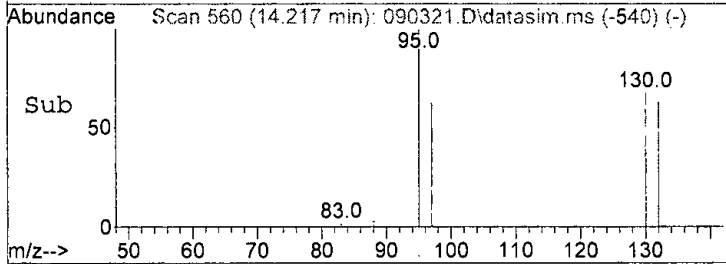
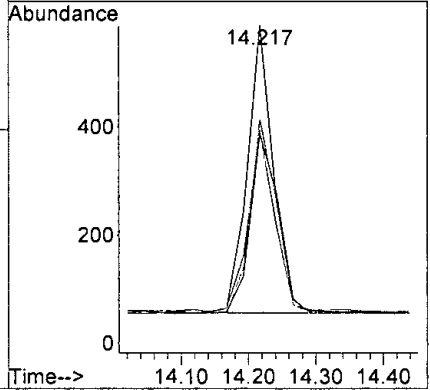
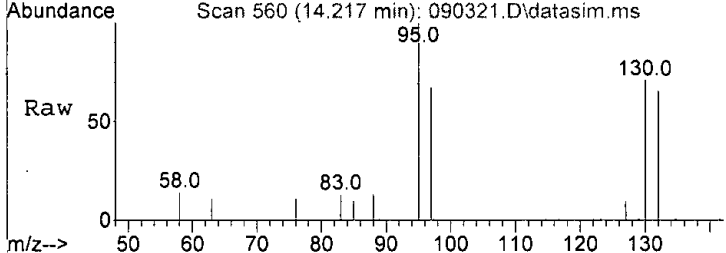
#20  
 Methylene chloride  
 Concen: 5.590 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090321.D  
 Acq: 3 Sep 2021 8:54 pm

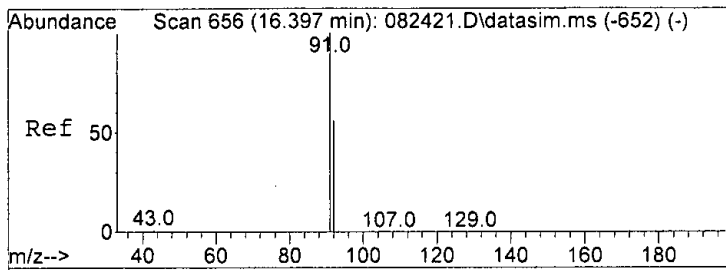
Tgt Ion:	84	Resp:	95298
Ion Ratio	Lower	Upper	
84	100		
86	67.9	33.9	93.9
49	180.9	116.6	176.6#



#46  
 Trichloroethene  
 Concen: 0.050 ppbv  
 RT: 14.22 min Scan# 560  
 Delta R.T. -0.000 min  
 Lab File: 090321.D  
 Acq: 3 Sep 2021 8:54 pm

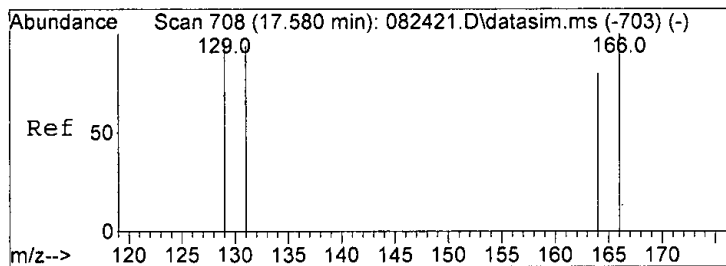
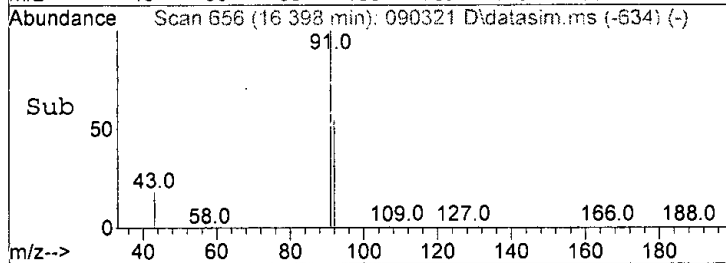
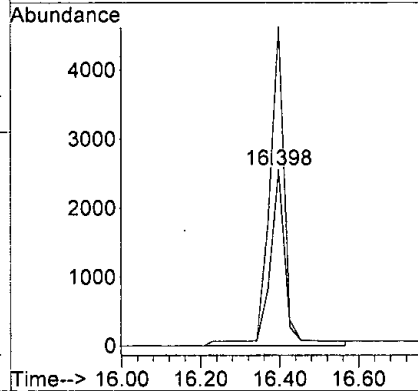
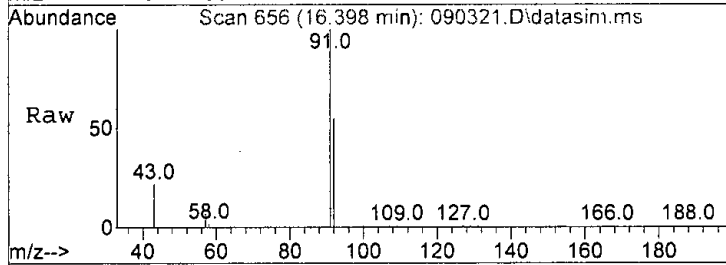
Tgt Ion:	95	Resp:	1413
Ion Ratio	Lower	Upper	
95	100		
97	62.3	37.1	97.1
130	67.8	56.1	116.1
132	62.5	54.3	114.3





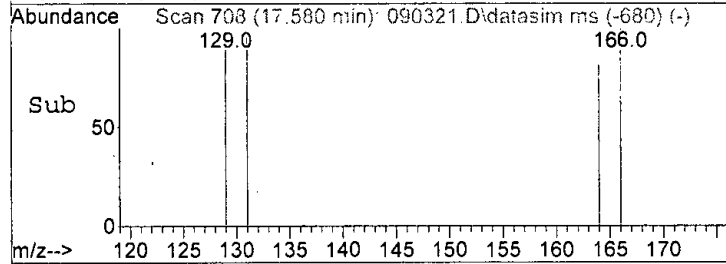
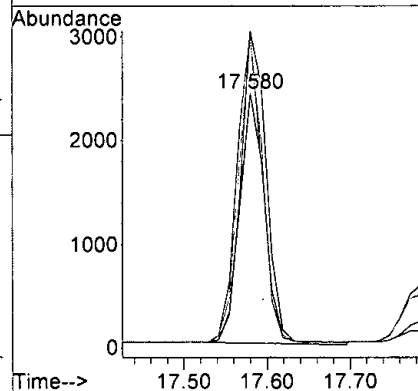
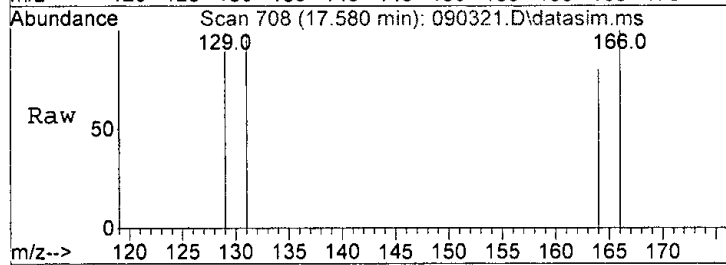
#50  
 Toluene  
 Concen: 0.205 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.001 min  
 Lab File: 090321.D  
 Acq: 3 Sep 2021 8:54 pm

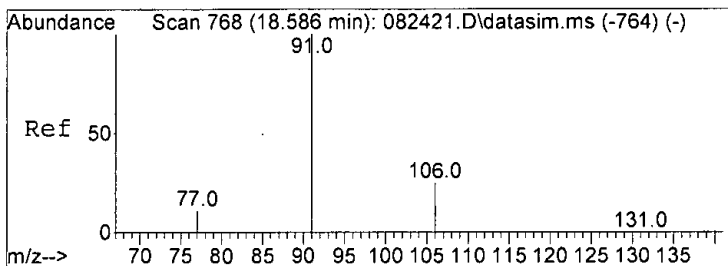
Tgt Ion: 92 Resp: 7021  
 Ion Ratio Lower Upper  
 92 100  
 91 180.9 174.6 234.6



#53  
 Tetrachloroethene  
 Concen: 0.288 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090321.D  
 Acq: 3 Sep 2021 8:54 pm

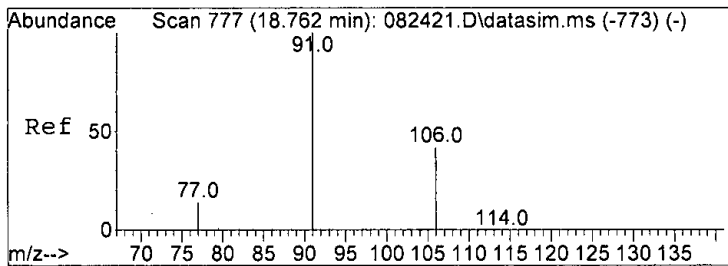
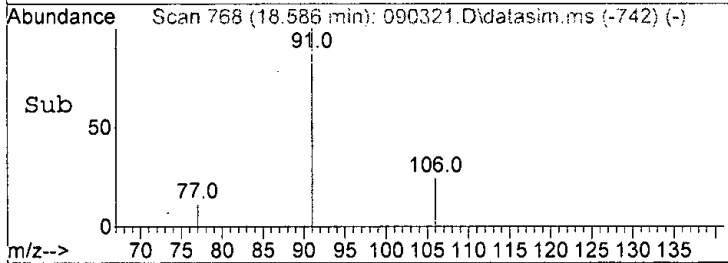
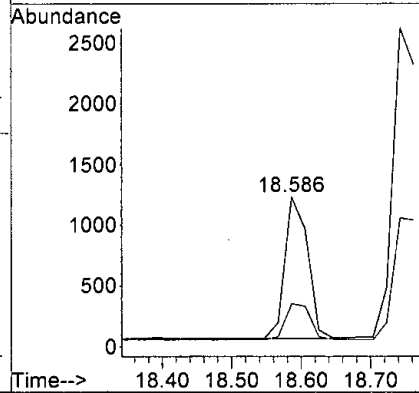
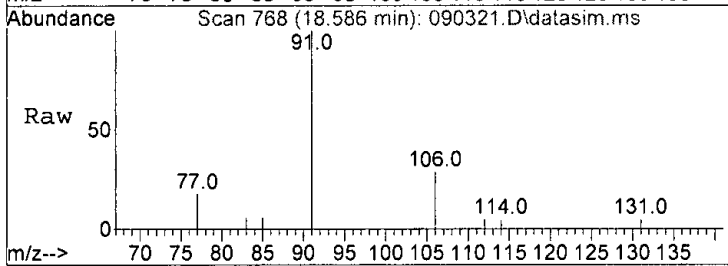
Tgt Ion: 164 Resp: 5028  
 Ion Ratio Lower Upper  
 164 100  
 129 124.1 63.2 123.2#  
 131 121.1 70.7 130.7  
 166 125.3 107.5 167.5





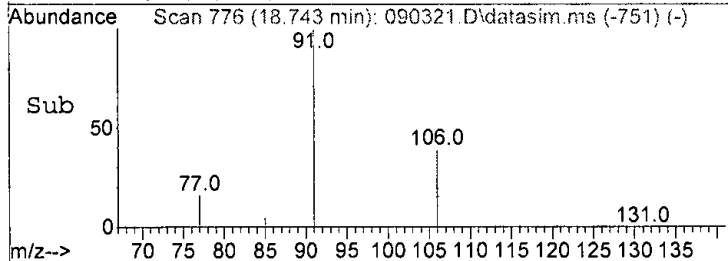
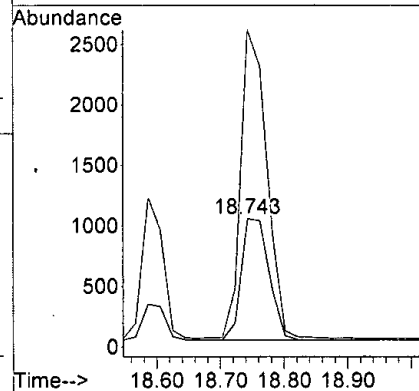
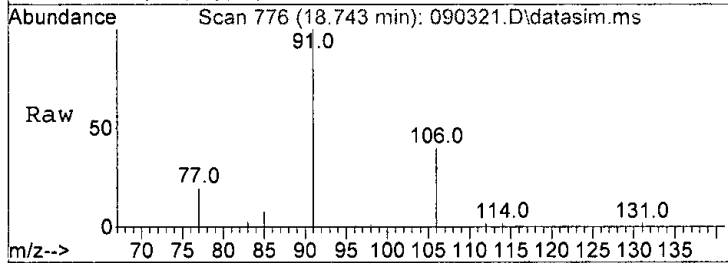
#58  
Ethylbenzene  
Concen: 0.030 ppbv  
RT: 18.59 min Scan# 768  
Delta R.T. 0.000 min  
Lab File: 090321.D  
Acq: 3 Sep 2021 8:54 pm

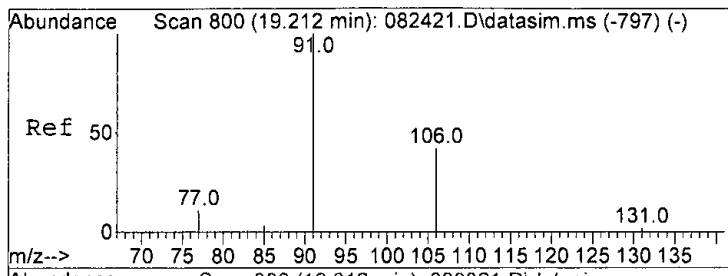
Tgt Ion: 91 Resp: 2681  
Ion Ratio Lower Upper  
91 100  
106 25.4 0.0 57.0



#65  
m,p-Xylene  
Concen: 0.107 ppbv  
RT: 18.74 min Scan# 776  
Delta R.T. -0.019 min  
Lab File: 090321.D  
Acq: 3 Sep 2021 8:54 pm

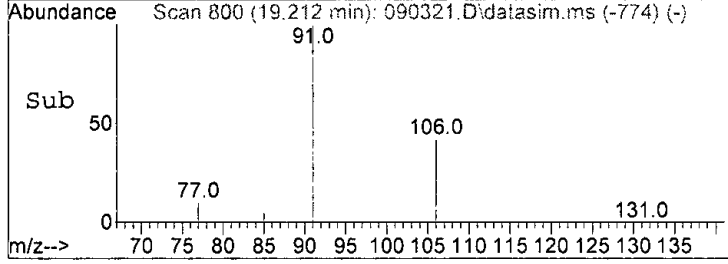
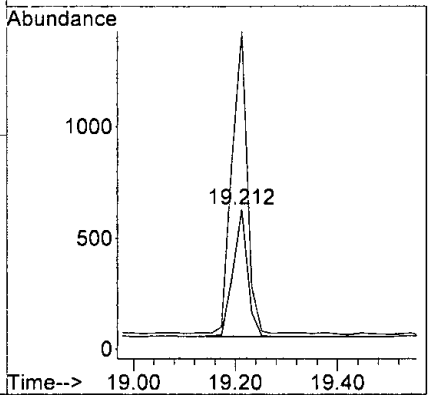
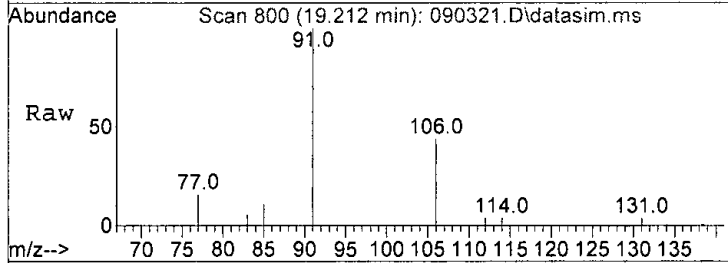
Tgt Ion: 106 Resp: 3051  
Ion Ratio Lower Upper  
106 100  
91 254.3 193.0 253.0#





#66  
 o-Xylene  
 Concen: 0.040 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090321.D  
 Acq: 3 Sep 2021 8:54 pm

Tgt Ion:106 Resp: 1127  
 Ion Ratio Lower Upper  
 106 100  
 91 238.0 194.4 254.4



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090321.D  
 Acq On : 3 Sep 2021 8:54 pm  
 Operator : bat  
 Sample : 109030-10 1/5.7  
 Misc : T9  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 14:59:49 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	97405	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	457925	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	400566	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	348157	9.594	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	95.90%

Target Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)	Qvalue
2) Propene	0.00		0	N.D.	d		
3) Dichlorodifluoromethane	0.00		0	N.D.	d		
4) Chloromethane	0.00		0	N.D.	d		
5) F-114	0.00		0	N.D.			
6) Vinyl chloride	0.00		0	N.D.			
7) 1,3-Butadiene	0.00		0	N.D.	d		
8) Butane	0.00		0	N.D.	d		
9) Bromomethane	0.00		0	N.D.			
10) Chloroethane	0.00		0	N.D.			
11) Vinyl bromide	0.00		0	N.D.	d		
12) Ethanol	0.00		0	N.D.	d		
13) Acrolein	0.00		0	N.D.	d		
14) Pentane	0.00		0	N.D.	d		
15) Trichlorofluoromethane	0.00		0	N.D.	d		
16) Acetone	0.00		0	N.D.	d		
17) 2-Propanol	0.00		0	N.D.	d		
18) 1,1-Dichloroethene	0.00		0	N.D.			
19) trans-1,2-Dichloroethene	8.18	96	101	N.D.			
20) Methylene chloride	6.86	84	95298	5.590	ppbv	#	79
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d		
22) 3-Chloropropene	0.00		0	N.D.	d		
23) CFC-113	0.00		0	N.D.	d		
24) Carbon disulfide	0.00		0	N.D.	d		
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d		
26) Vinyl acetate	0.00		0	N.D.	d		
27) 1,1-Dichloroethane	0.00		0	N.D.			
28) cis-1,2-Dichloroethene	0.00		0	N.D.			
29) Hexane	0.00		0	N.D.	d		
30) Chloroform	0.00		0	N.D.	d		
31) Ethyl acetate	0.00		0	N.D.	d		
32) Tetrahydrofuran	0.00		0	N.D.	d		
33) 2-Butanone (MEK)	0.00		0	N.D.	d		
34) 1,2-Dichloroethane (EDC)	0.00		0	N.D.	d		
35) 1,1,1-Trichloroethane	11.94	97	104	N.D.			
36) Carbon tetrachloride	0.00		0	N.D.	d		
37) Benzene	12.72	78	558	N.D.			
38) Cyclohexane	0.00		0	N.D.	d		
40) 1,2-Dichloropropane	0.00		0	N.D.	d		
41) 1,4-Dioxane	0.00		0	N.D.			
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d		

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090321.D  
 Acq On : 3 Sep 2021 8:54 pm  
 Operator : bat  
 Sample : 109030-10 1/5.7  
 Misc : T9  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

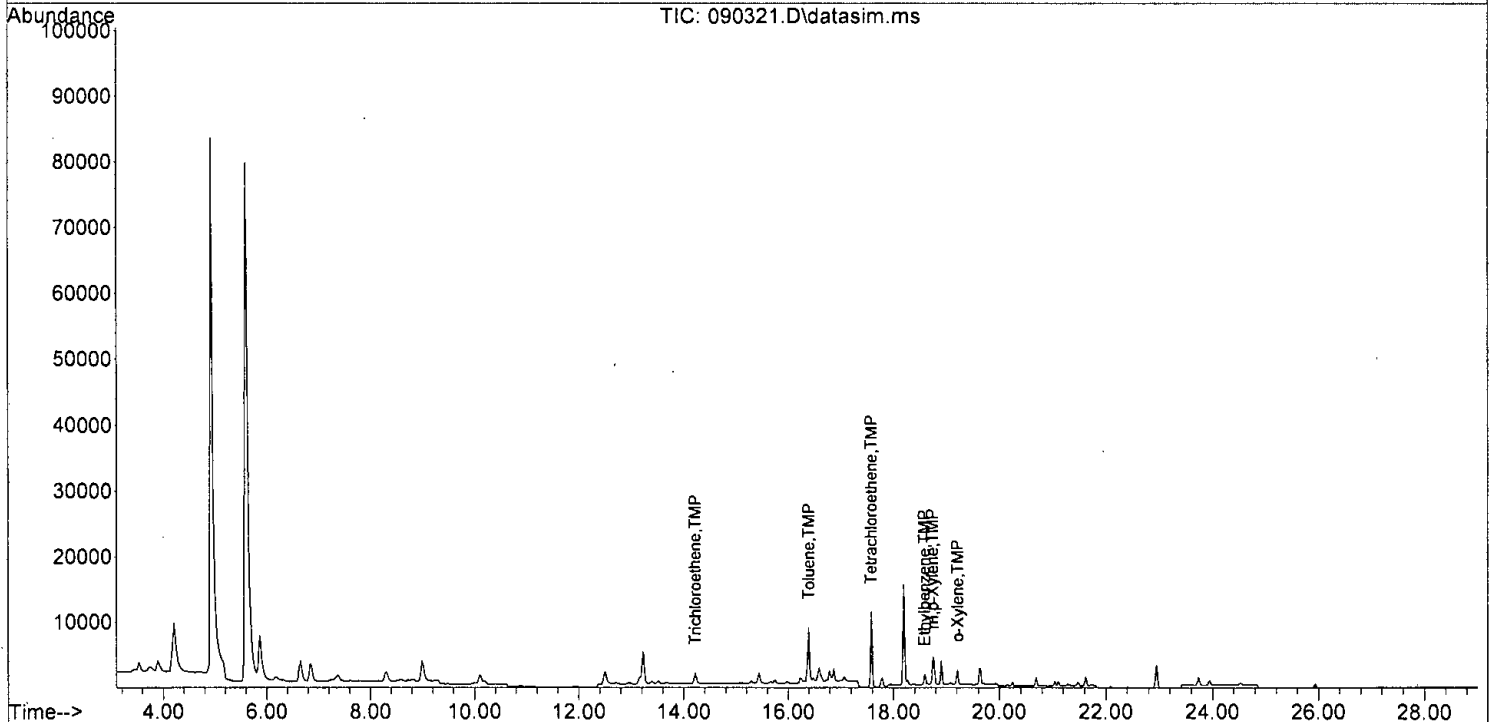
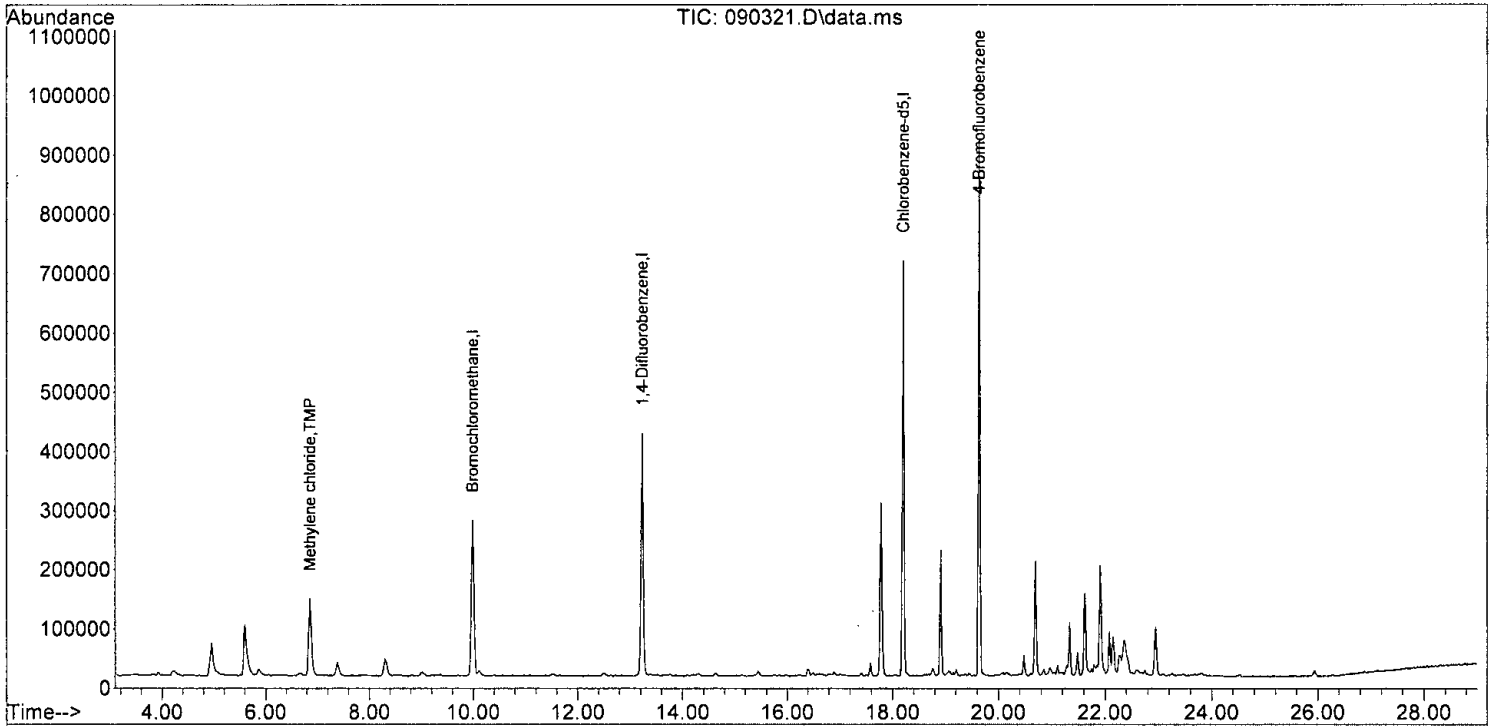
Quant Time: Sep 07 14:59:49 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	1413	0.050	ppbv	83
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	7021	0.205	ppbv	85
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	5028	0.288	ppbv #	81
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	2681	0.030	ppbv	97
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.74	106	3051	0.107	ppbv #	81
66] o-Xylene	19.21	106	1127	0.040	ppbv	92
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77) Naphthalene	23.95	128	1491	N.D.	d	
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090321.D  
 Acq On : 3 Sep 2021 8:54 pm  
 Operator : bat  
 Sample : 109030-10 1/5.7  
 Misc : T9  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

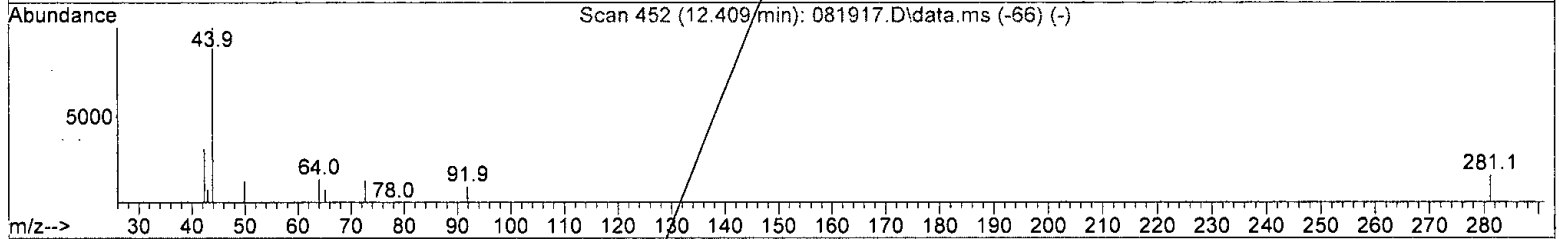
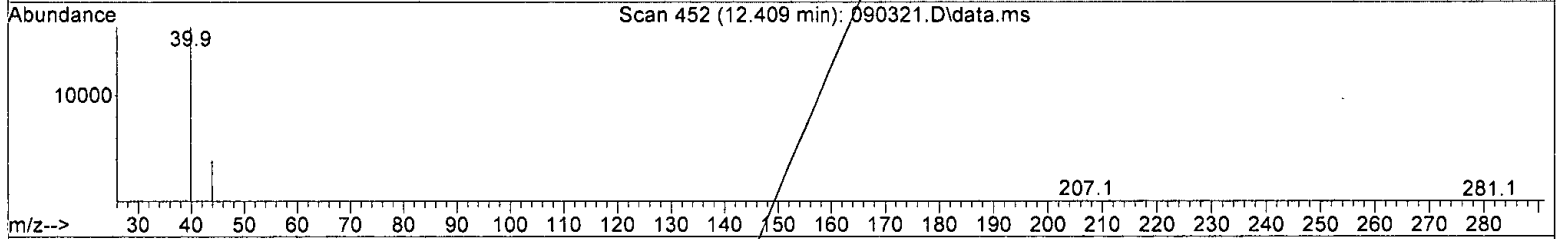
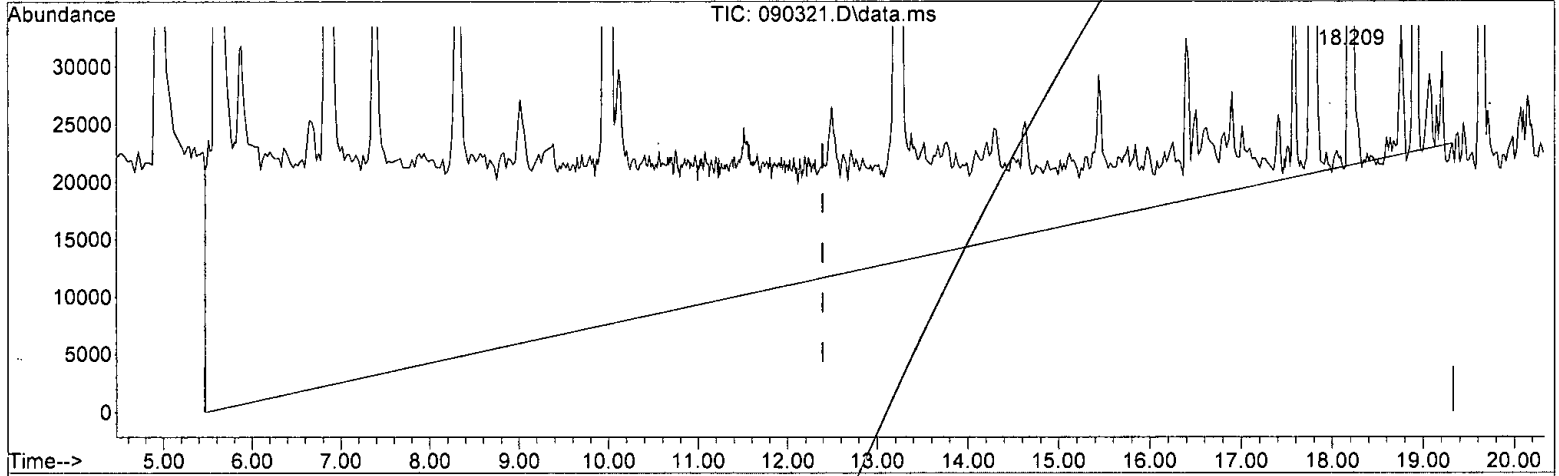
Quant Time: Sep 07 14:59:49 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090321.D  
 Acq On : 3 Sep 2021 8:54 pm  
 Operator : bat  
 Sample : 109030-10 1/5.7  
 Misc : T9  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 14:47:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 70.237 ug/m3 m  
 response 2551998

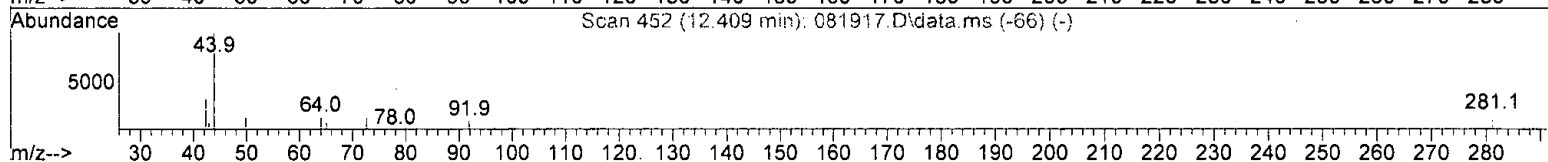
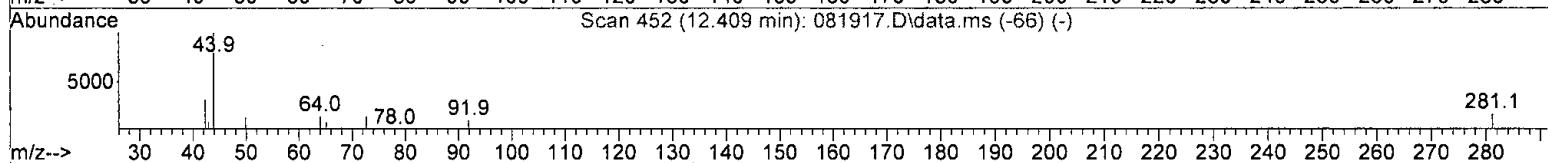
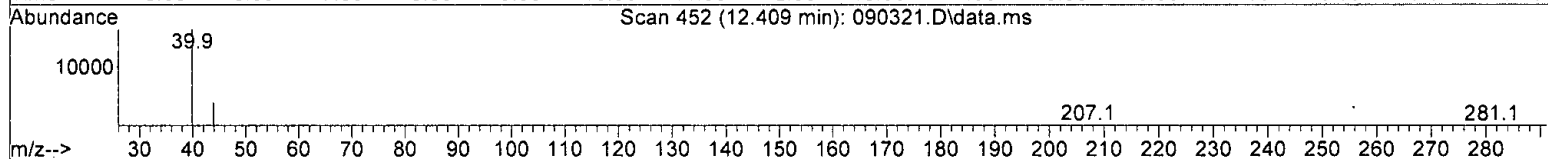
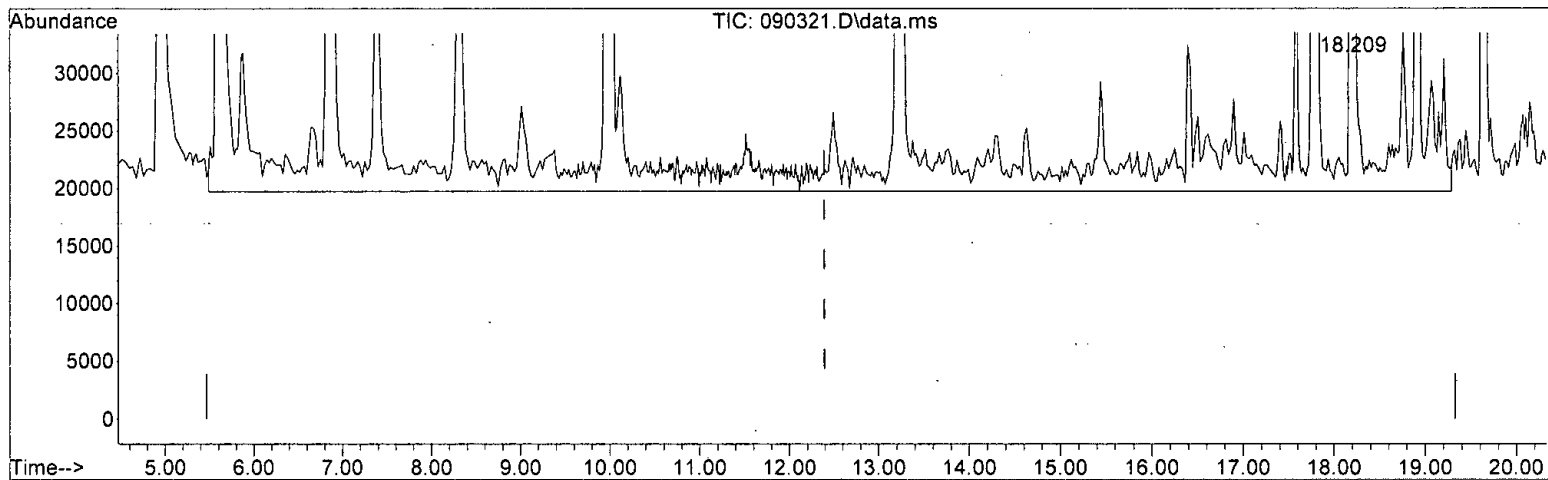
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature and date: bat 09/07/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090321.D  
 Acq On : 3 Sep 2021 8:54 pm  
 Operator : bat  
 Sample : 109030-10 1/5.7  
 Misc : T9  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 14:47:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090321.D\data.ms

(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 231.261 ug/m3 m

response 8402626

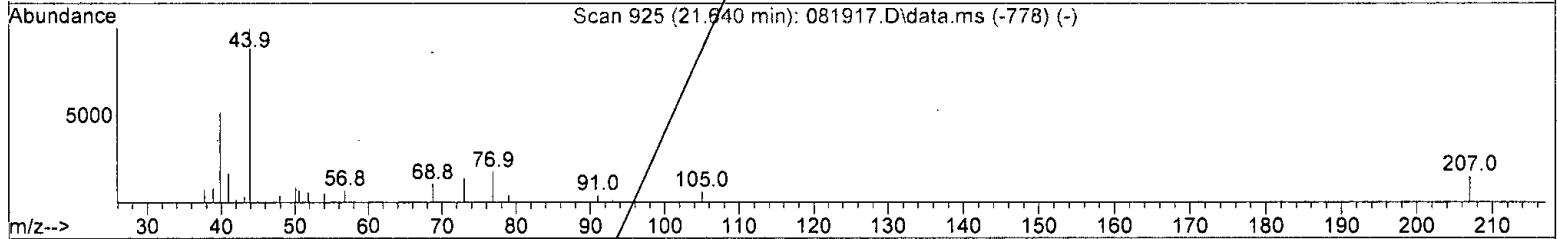
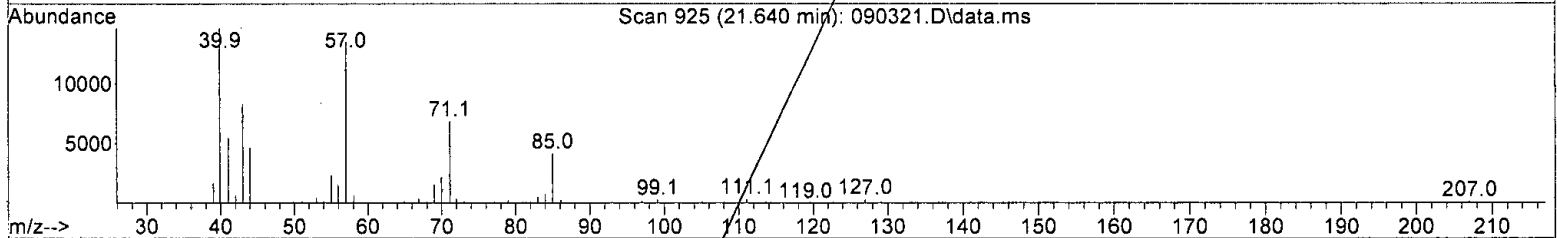
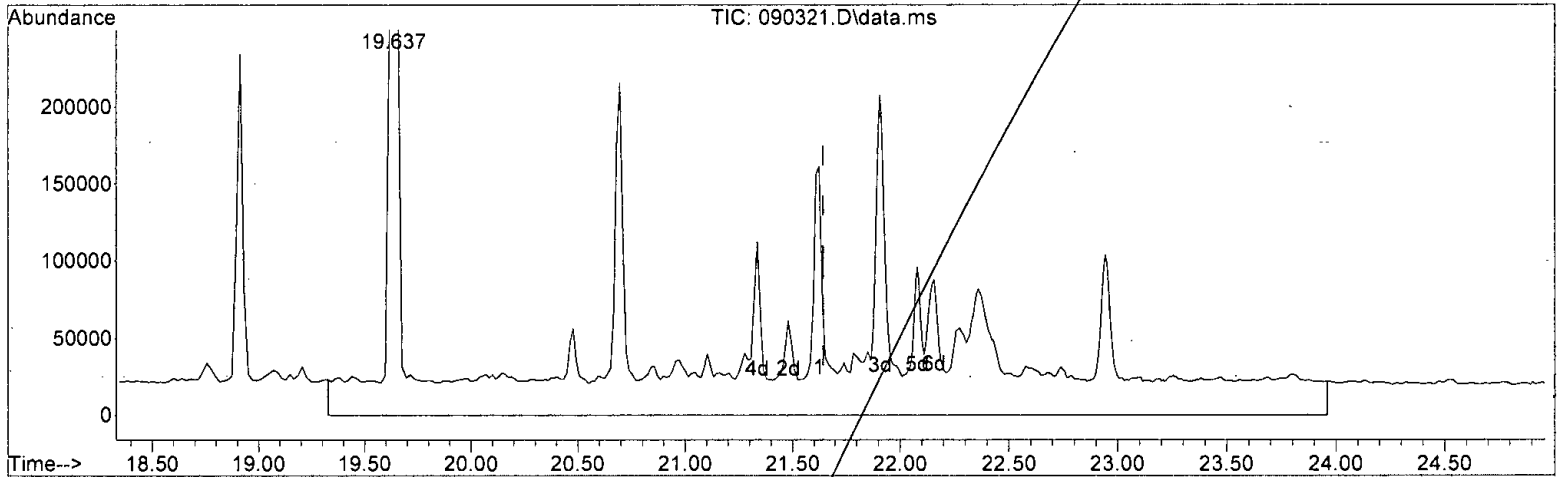
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090321.D  
 Acq On : 3 Sep 2021 8:54 pm  
 Operator : bat  
 Sample : 109030-10 1/5.7  
 Misc : T9  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 14:47:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 66.418 ug/m3 m

response 2722029

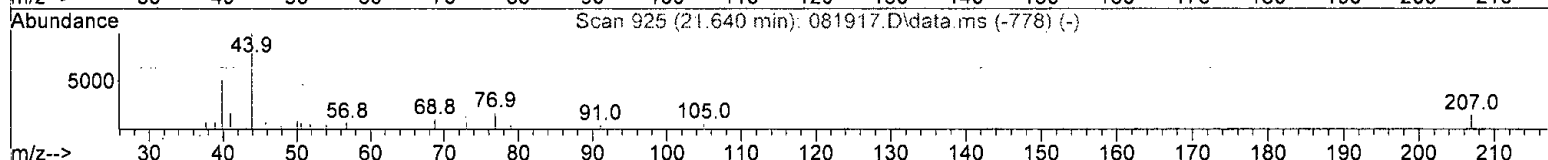
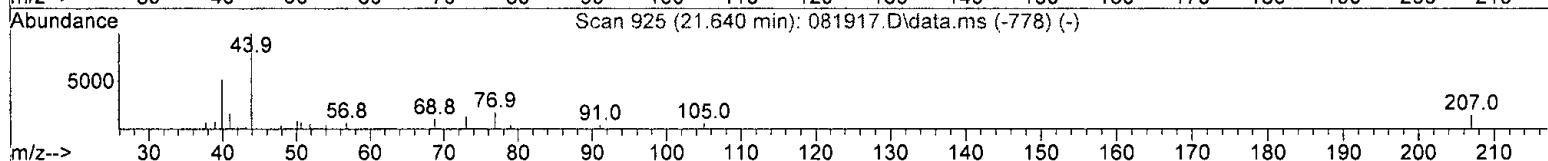
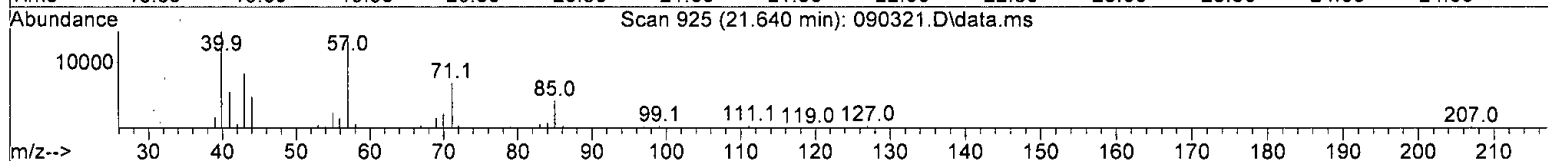
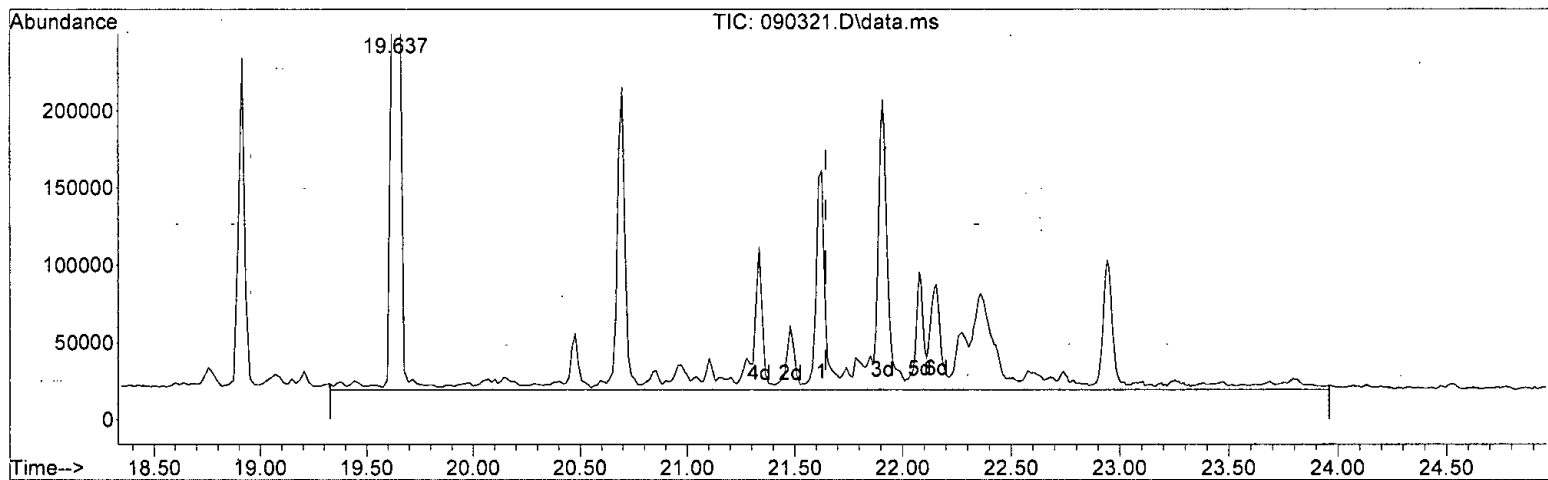
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B. B. B. B.*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090321.D  
 Acq On : 3 Sep 2021 8:54 pm  
 Operator : bat  
 Sample : 109030-10 1/5.7  
 Misc : T9  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 14:47:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*M  
09/07/21*

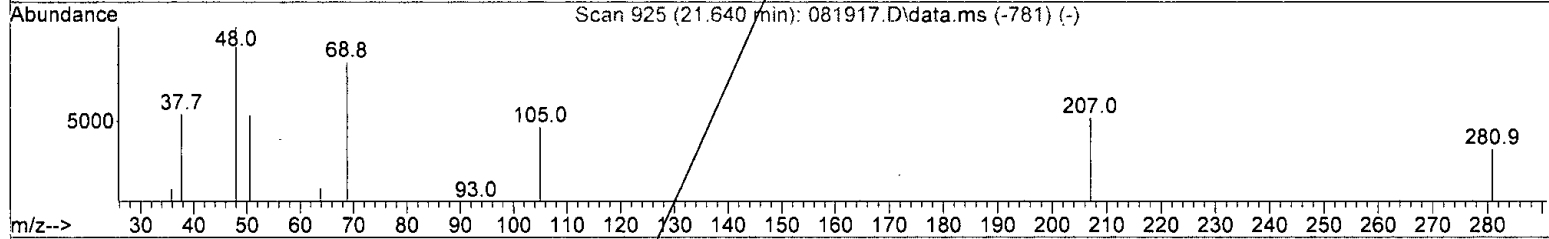
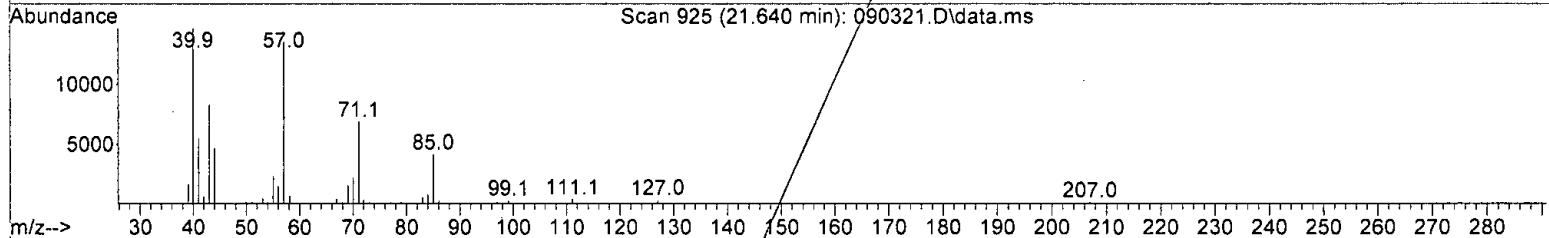
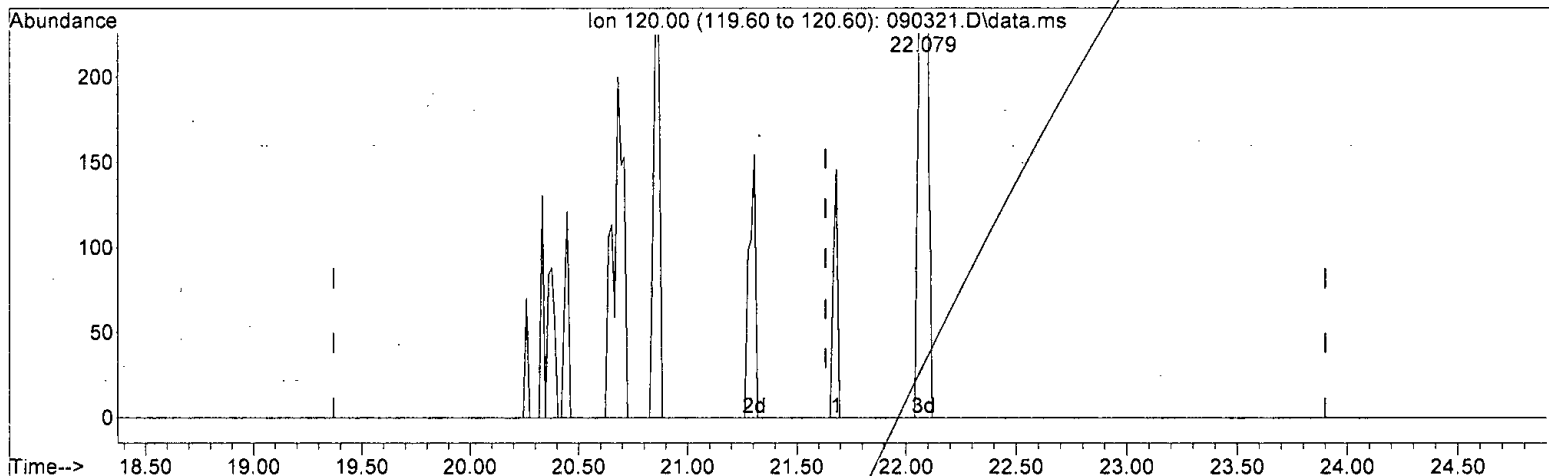
(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 140.515 ug/m3 m

response	Signal	Exp%	Act%
5758762	TIC	100.00	100.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090321.D  
 Acq On : 3 Sep 2021 8:54 pm  
 Operator : bat  
 Sample : 109030-10 1/5.7  
 Misc : T9  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 14:47:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090321.D\data.ms

(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) -14.367 ug/m3 m

response -68556

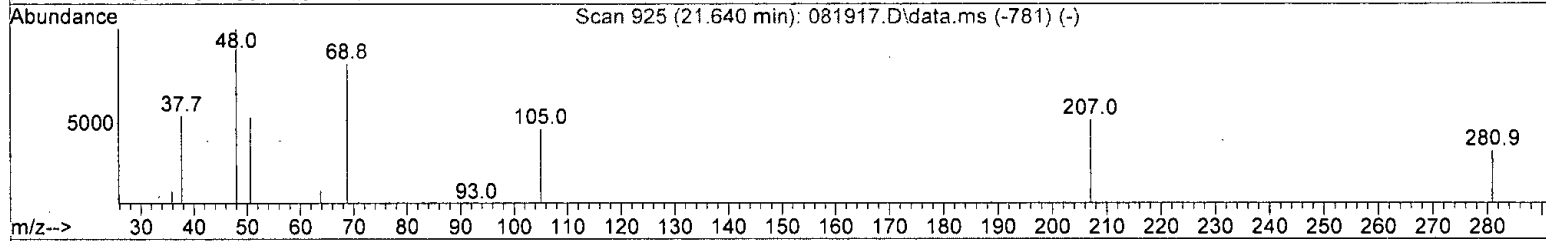
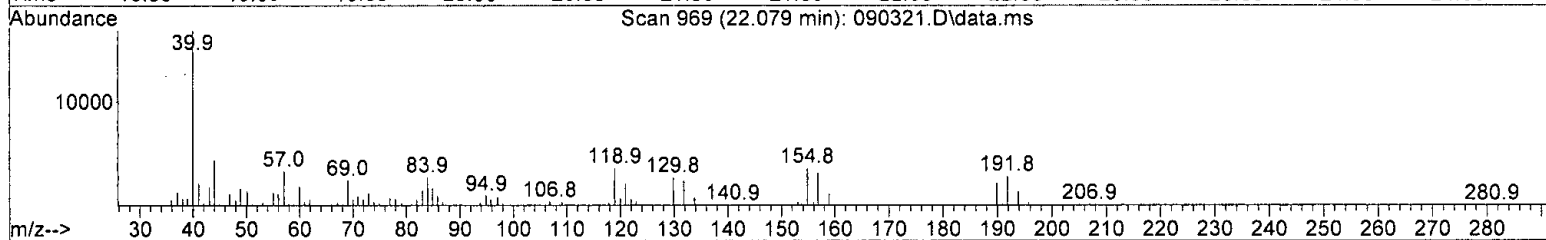
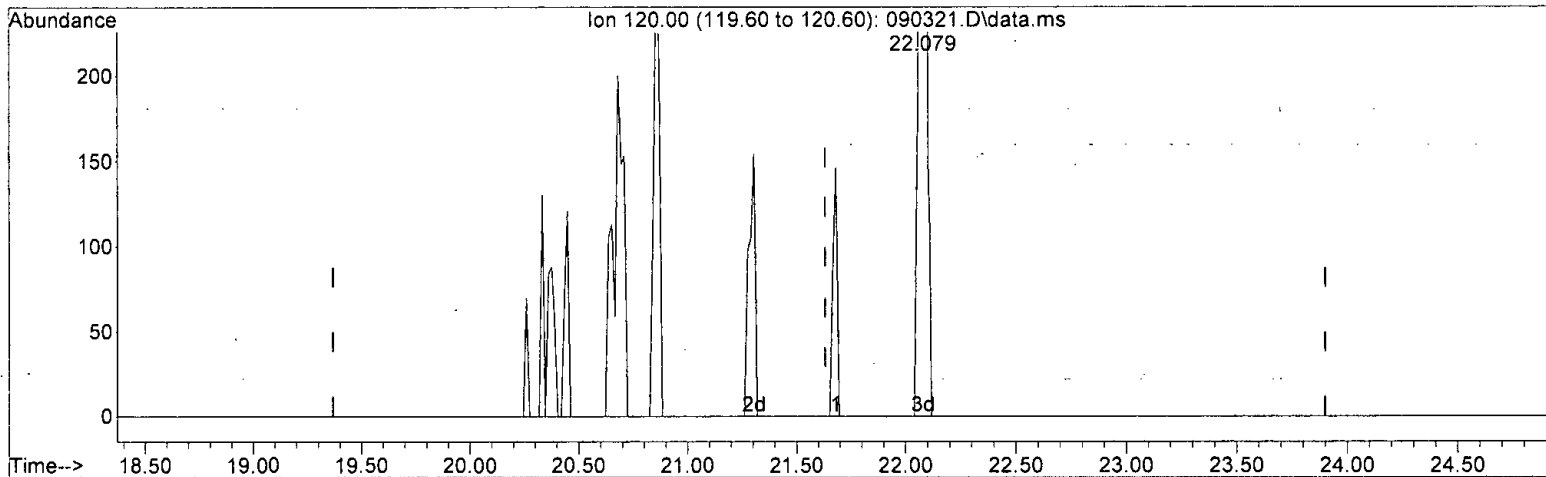
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten:* M 09/07/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090321.D  
 Acq On : 3 Sep 2021 8:54 pm  
 Operator : bat  
 Sample : 109030-10 1/5.7  
 Misc : T9  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 14:47:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*Handwritten signature:* W 09/07/21

(44) APH EC9-10 aromatics (1) (H)

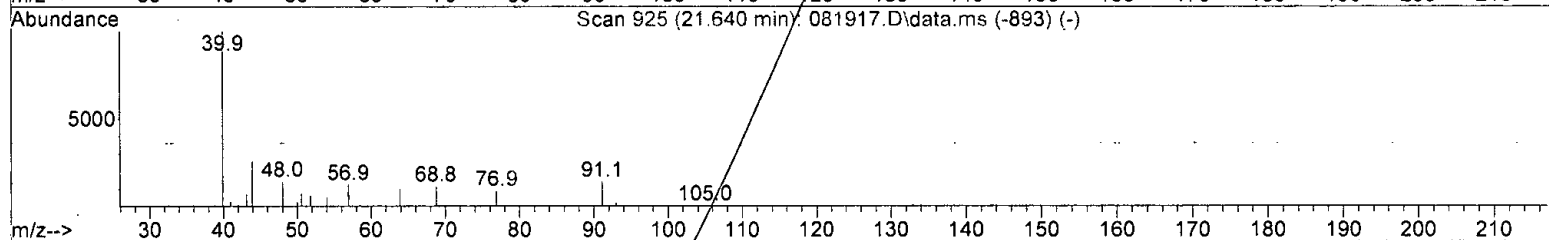
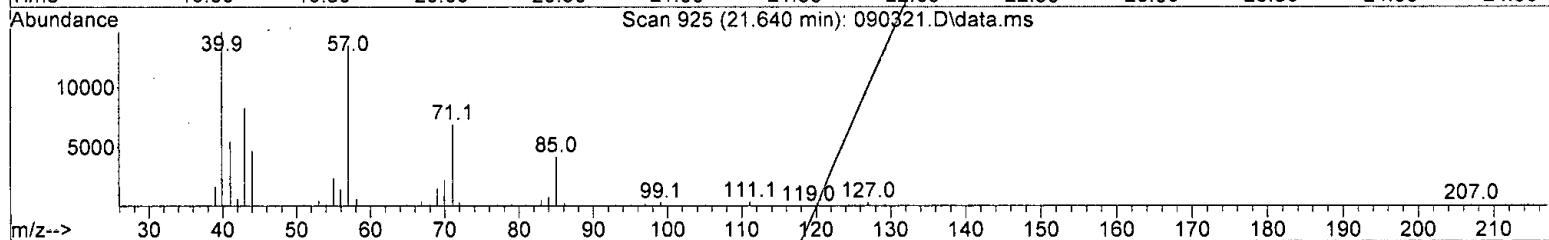
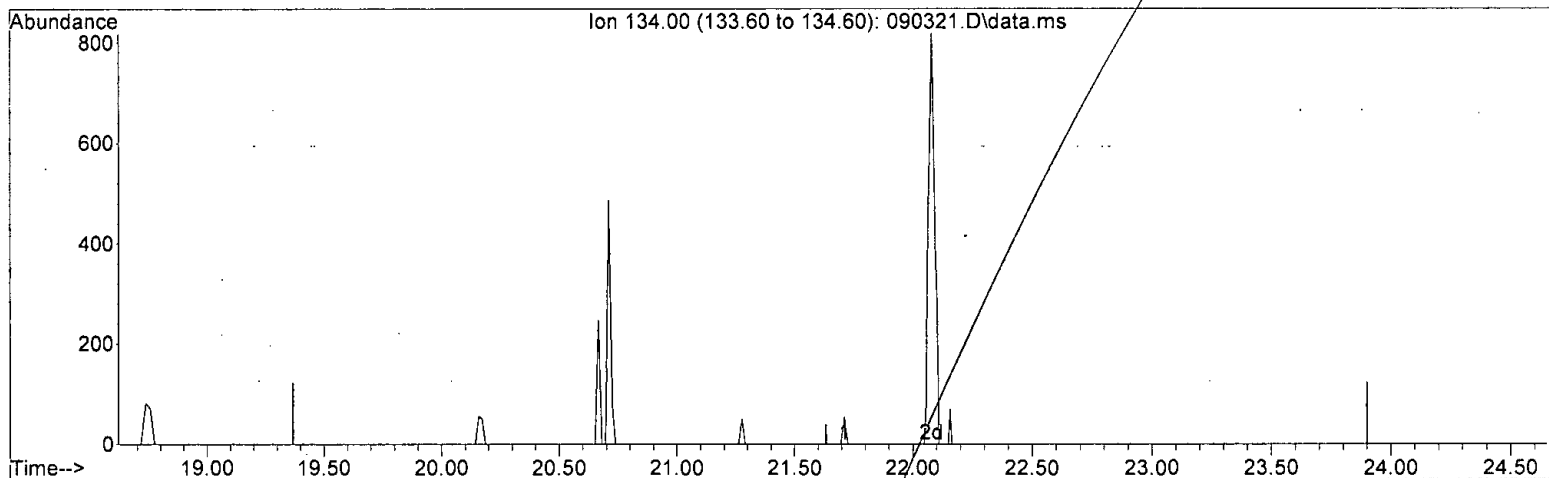
21.635min ( 0.000) 0.955 ug/m3 m

response 4555

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090321.D  
 Acq On : 3 Sep 2021 8:54 pm  
 Operator : bat  
 Sample : 109030-10 1/5.7  
 Misc : T9  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 14:47:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



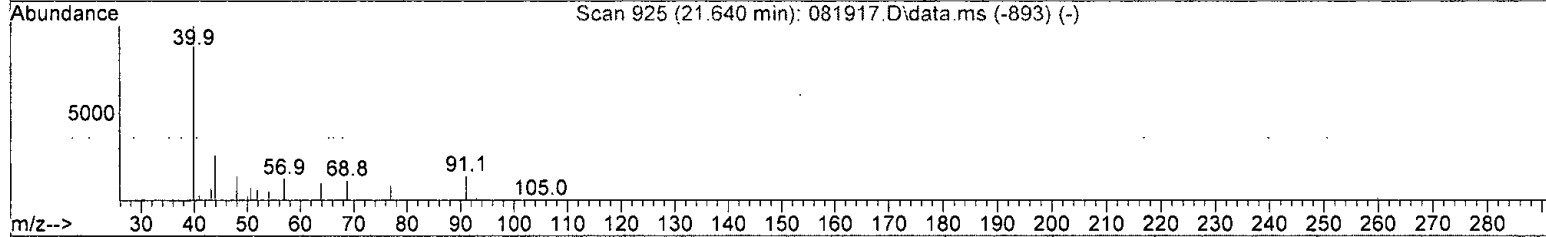
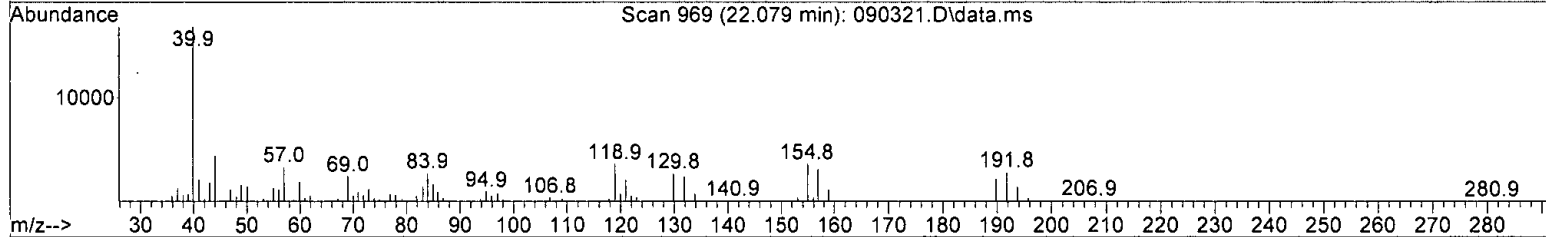
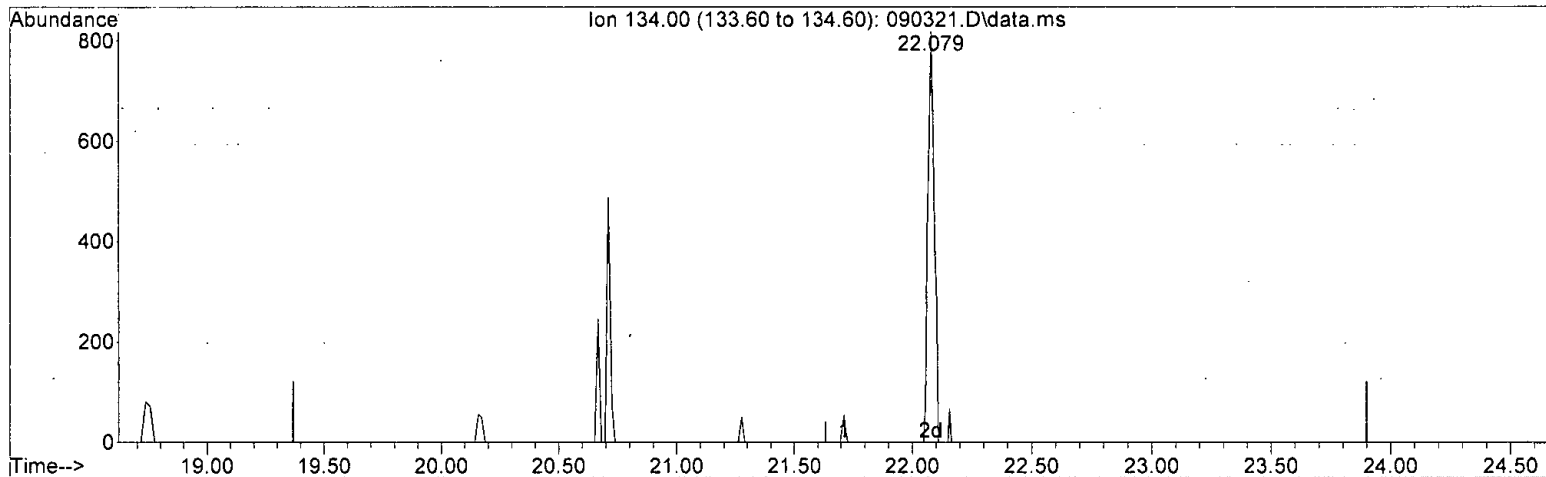
*Handwritten signature:* U. 09/07/21

(45) APH EC9-10 aromatics (2) (H)  
 21.635min ( 0.000) -25.837 ug/m3 m  
 response -70220

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090321.D  
 Acq On : 3 Sep 2021 8:54 pm  
 Operator : bat  
 Sample : 109030-10 1/5.7  
 Misc : T9  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 14:47:18 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090321.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 1.133 ug/m3 m

response 3079

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

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Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090321.D  
 Acq On : 3 Sep 2021 8:54 pm  
 Operator : bat  
 Sample : 109030-10 1/5.7  
 Misc : T9  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 14:57:37 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	97405	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	457925	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	400566	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	348157	69.374	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	97.70%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	925760	53.828	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1275293	52.243	ug/m3	92
4) IS-3 Chlorobenzene-d5	18.21	TIC	1510847	51.028	ug/m3	91
5) Methylene chloride	6.86	TIC	489745	562.451	ug/m3	91
6) Acetone	5.60	TIC	415822	9.053	ppbv	100
7) 2-Propanol	5.88	TIC	80939	303.276	ppbv	100
8) 1,3-Butadiene	4.28	54	355	0.062	ug/m3#	1
9) Methyl t-butyl ether	8.30	73	1036	0.138	ug/m3	76
11) Benzene	12.71	78	704	0.045	ug/m3	61
12) Isopentane	5.60	TIC	415822	13.447	ug/m3#	46
13) Hexane	10.11	TIC	34543	0.921	ug/m3	92
14) Cyclohexane	13.23	TIC	1275293	40.121	ug/m3	94
15) 2,3-Dimethylpentane	13.23	TIC	1275293	31.438	ug/m3	64
16) Heptane	14.63	TIC	20205	0.609	ug/m3	93
17) Octane	17.78	TIC	776098	17.074	ug/m3	62
18) APH EC5-8 aliphatics T...	0.00	TIC	3797254m	104.510	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	8402626m	231.261	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1664164	49.213	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	930807	111.753	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	487757	46.921	ppbv	100
24) Toluene	16.39	92	5392	0.627	ug/m3	93
25) Ethylbenzene	18.60	91	2520	0.142	ug/m3	98
26) m,p-Xylene	18.76	106	3108	0.521	ug/m3#	48
27) o-Xylene	19.21	106	1102	0.195	ug/m3#	67
28) Naphthalene	23.94	128	1397	0.097	ug/m3	68
29) 2,3-Dimethylheptane	18.76	TIC	33375	0.829	ug/m3#	66
30) Nonane	19.64	TIC	1660353	39.498	ug/m3#	60
31) Decane	20.97	TIC	48167	1.153	ug/m3	95
32) Butylcyclohexane	21.63	TIC	372258	7.847	ug/m3	62
33) Undecane	22.27	TIC	108351	2.616	ug/m3	73
34) Dodecane	23.79	TIC	26012	0.765	ug/m3	89
35) APH EC9-12 aliphatics ...	21.63	TIC	2248516m	54.864	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	5758762m	140.515	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	20.68	120	679	0.155	ug/m3#	74
40) 1,3,5-Trimethylbenzene	20.45	120	164	0.029	ug/m3#	30
41) p-Isopropyltoluene	21.28	134	44	0.016	ug/m3#	1
42) 1,2,3-Trimethylbenzene	21.31	120	311	0.048	ug/m3#	83
43) APH EC9-10 aromatics T...	21.63	TIC	1198m	0.277	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	4555m	0.955	ug/m3	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090321.D  
 Acq On : 3 Sep 2021 8:54 pm  
 Operator : bat  
 Sample : 109030-10 1/5.7  
 Misc : T9  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

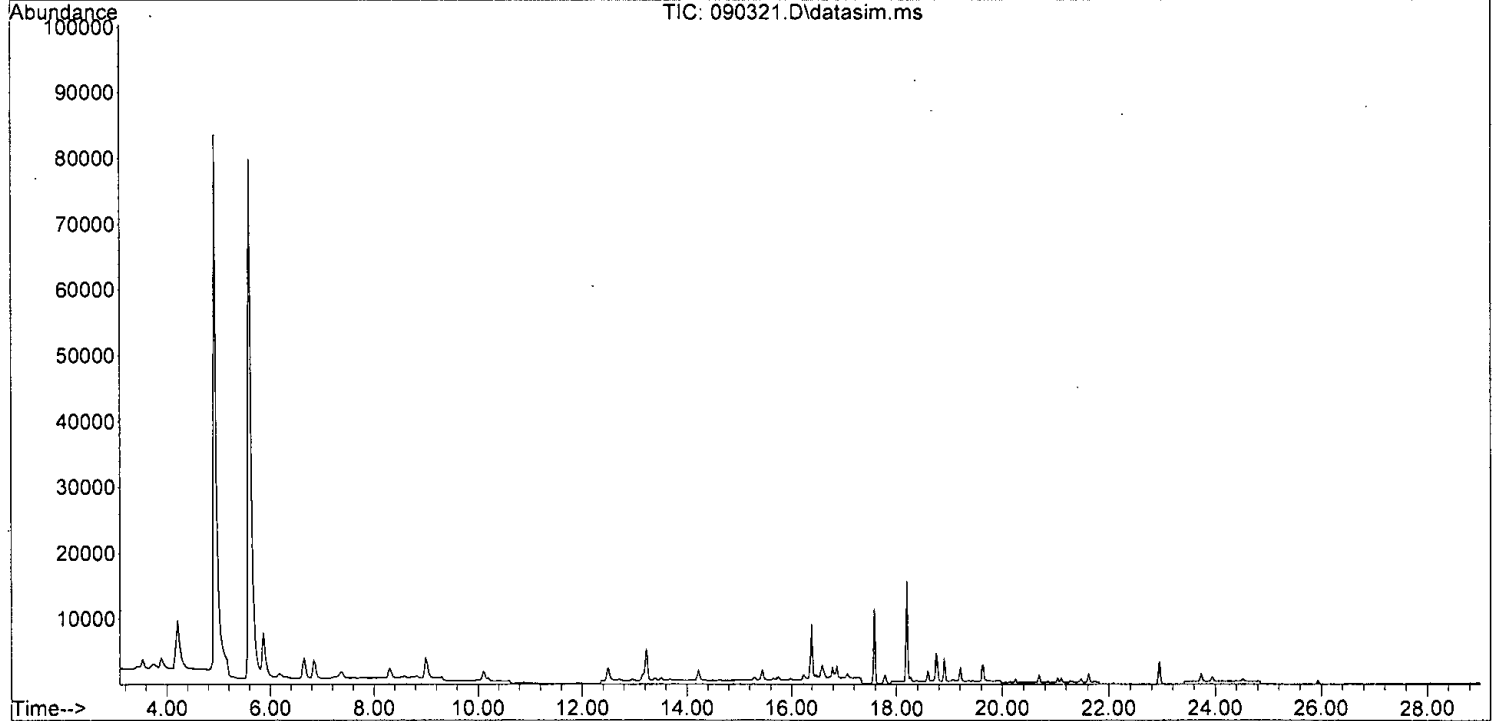
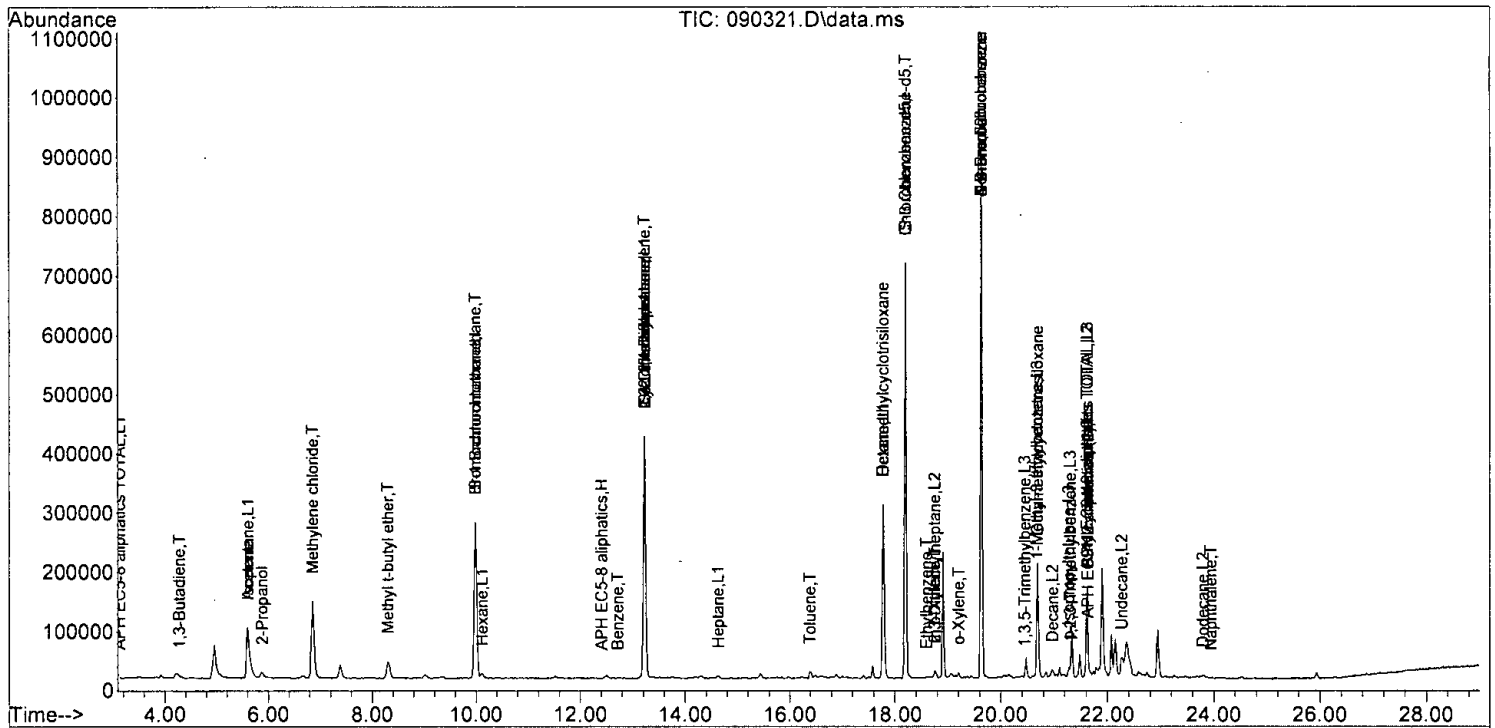
Quant Time: Sep 07 14:57:37 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	3079m	1.133	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090321.D  
 Acq On : 3 Sep 2021 8:54 pm  
 Operator : bat  
 Sample : 109030-10 1/5.7  
 Misc : T9  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 14:57:37 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090315.D  
 Acq On : 3 Sep 2021 4:53 pm  
 Operator : bat  
 Sample : 109030-11 1/5.9  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

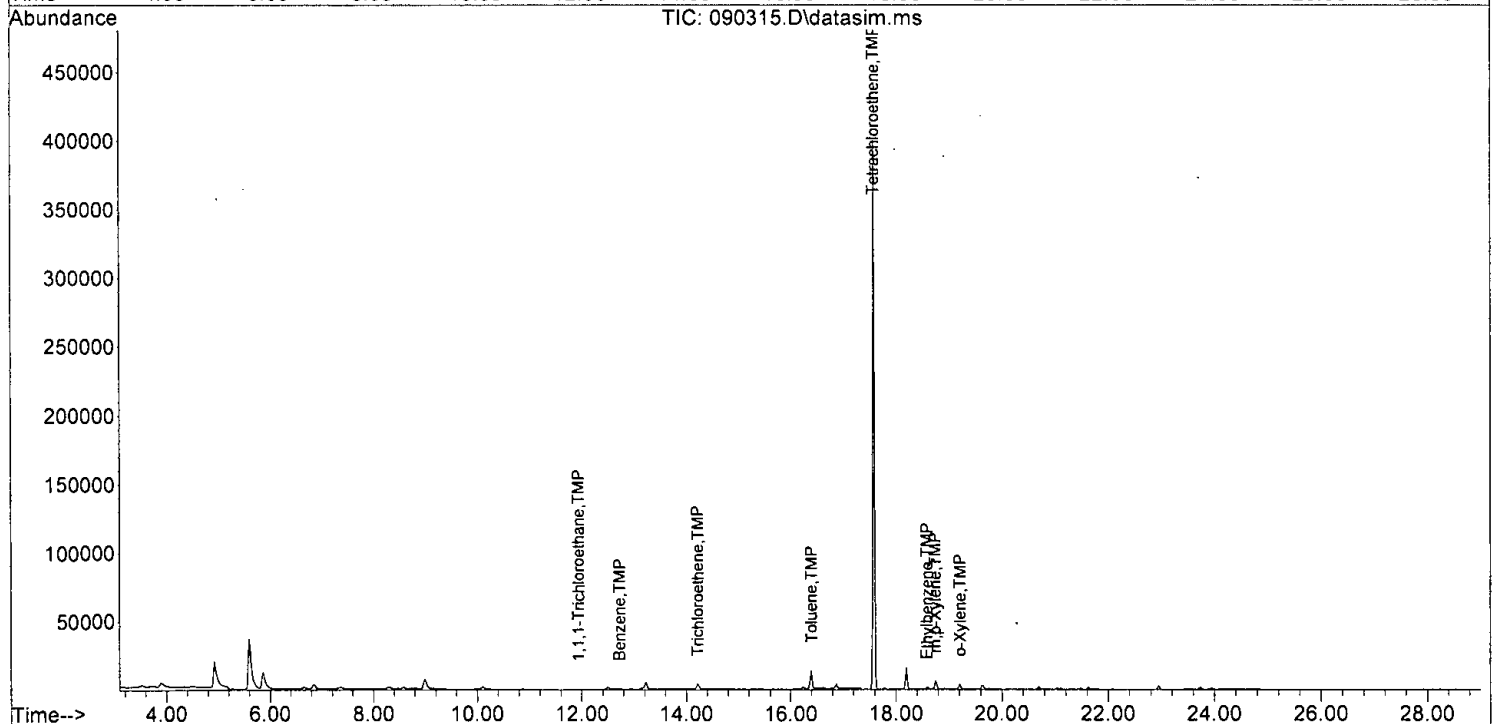
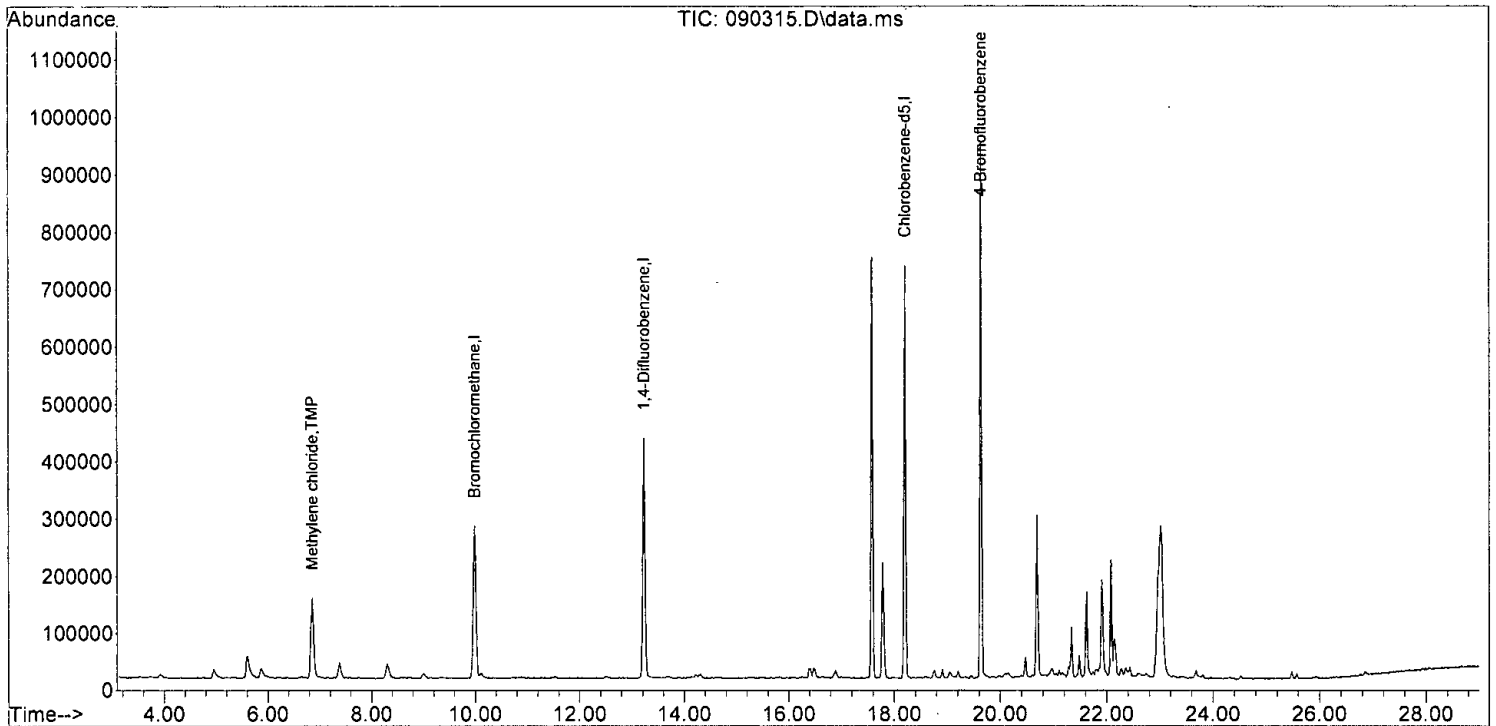
Quant Time: Sep 07 12:02:09 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

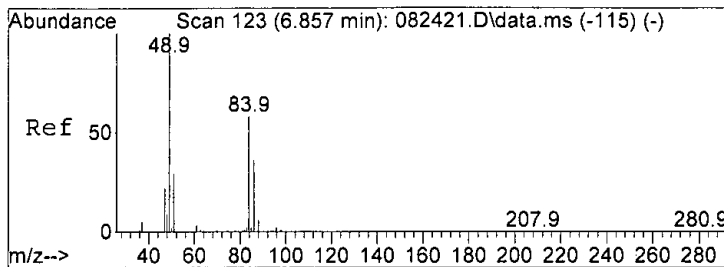
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	99707	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	469630	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	412149	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	356917	9.559	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	95.60%
Target Compounds						
						Qvalue
20) Methylene chloride	6.86	84	103145	5.910	ppbv	# 83
35] 1,1,1-Trichloroethane	11.94	97	563	0.017	ppbv	88
37] Benzene	12.72	78	745	0.012	ppbv	98
46] Trichloroethene	14.22	95	3496	0.120	ppbv	83
50] Toluene	16.40	92	8241	0.234	ppbv	85
53] Tetrachloroethene	17.58	164	174633	9.761	ppbv	# 80
58] Ethylbenzene	18.59	91	2514	0.027	ppbv	97
65] m,p-Xylene	18.74	106	4250	0.145	ppbv	# 80
66] o-Xylene	19.21	106	1833	0.063	ppbv	89
-----						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090315.D  
 Acq On : 3 Sep 2021 4:53 pm  
 Operator : bat  
 Sample : 109030-11 1/5.9  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

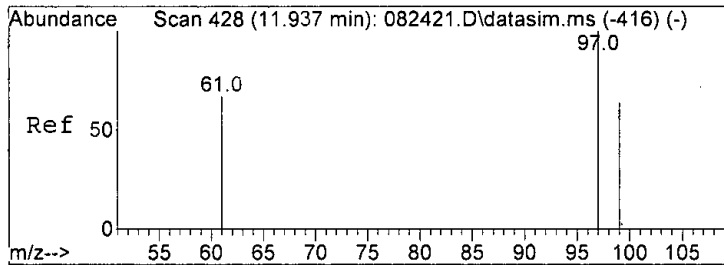
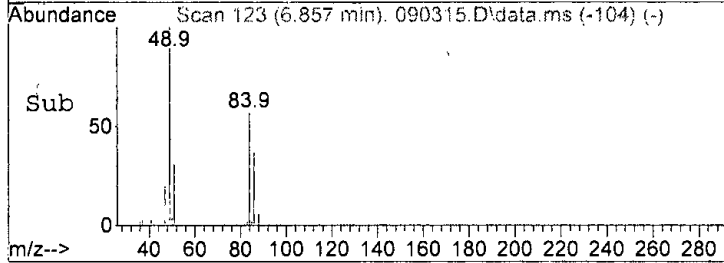
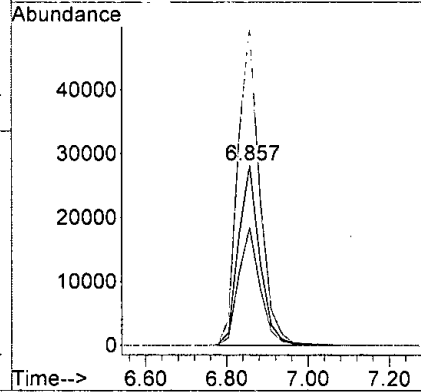
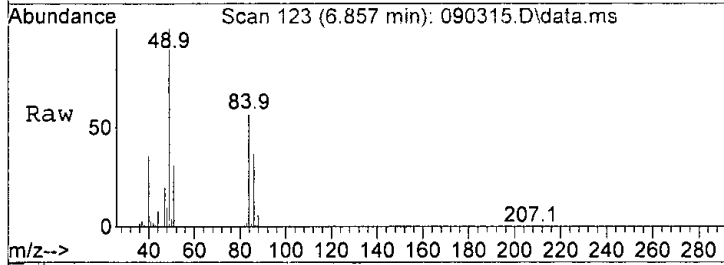
Quant Time: Sep 07 12:02:09 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M





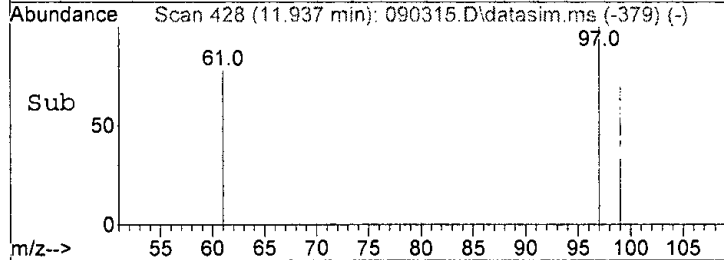
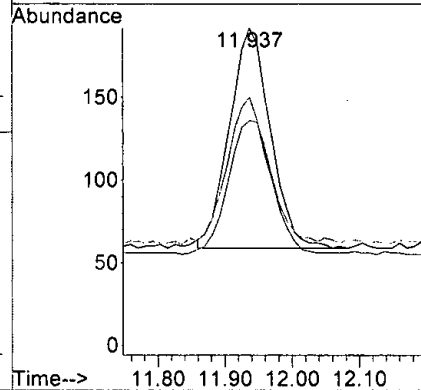
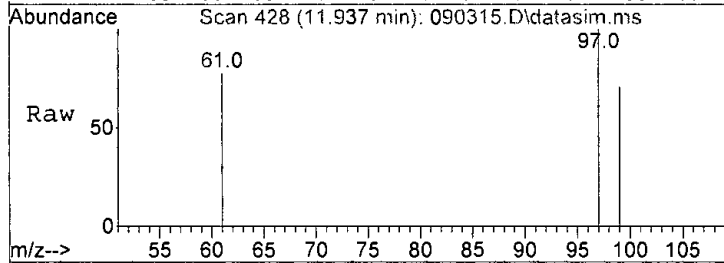
#20  
 Methylene chloride  
 Concen: 5.910 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. -0.000 min  
 Lab File: 090315.D  
 Acq: 3 Sep 2021 4:53 pm

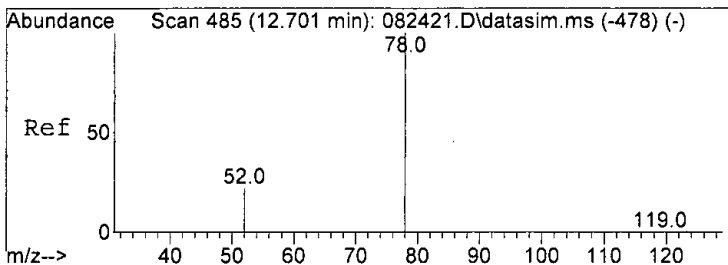
Tgt Ion	Resp	Lower	Upper
84	103145		
84	100		
86	65.4	33.9	93.9
49	177.0	116.6	176.6#



#35  
 1,1,1-Trichloroethane  
 Concen: 0.017 ppbv  
 RT: 11.94 min Scan# 428  
 Delta R.T. -0.000 min  
 Lab File: 090315.D  
 Acq: 3 Sep 2021 4:53 pm

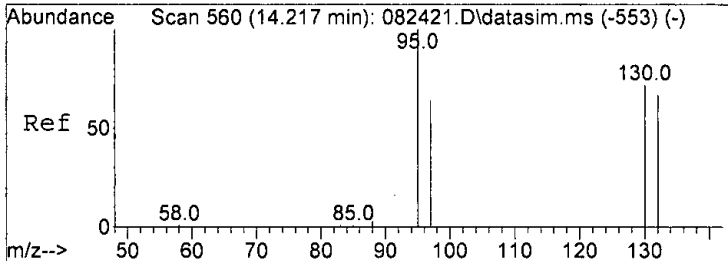
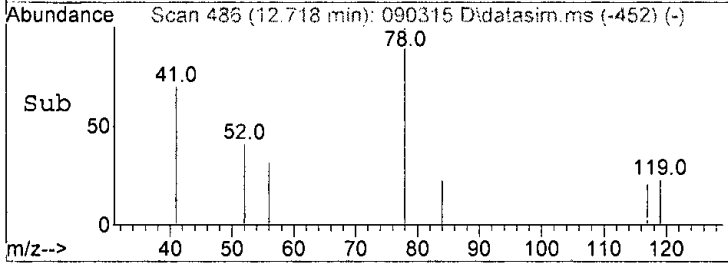
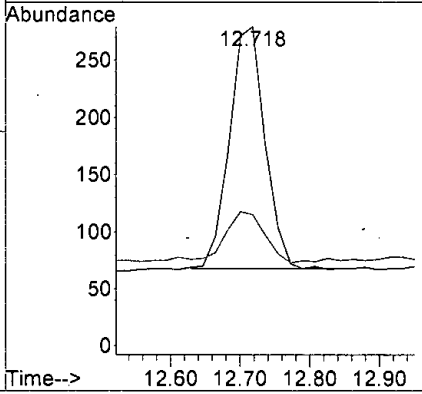
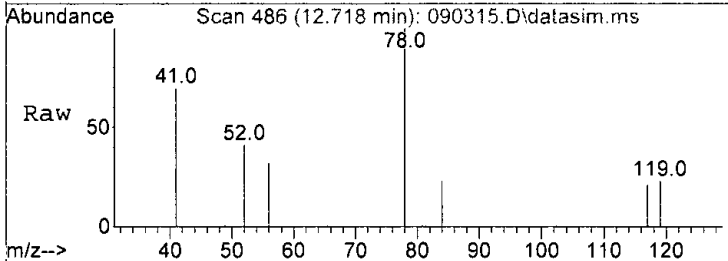
Tgt Ion	Resp	Lower	Upper
97	563		
97	100		
99	60.2	31.7	91.7
61	65.4	19.3	79.3





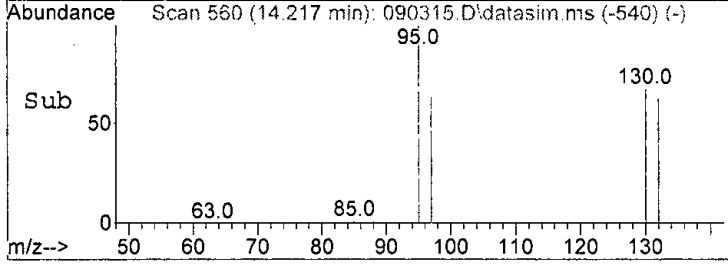
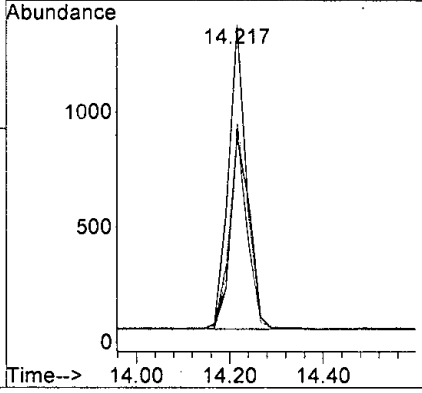
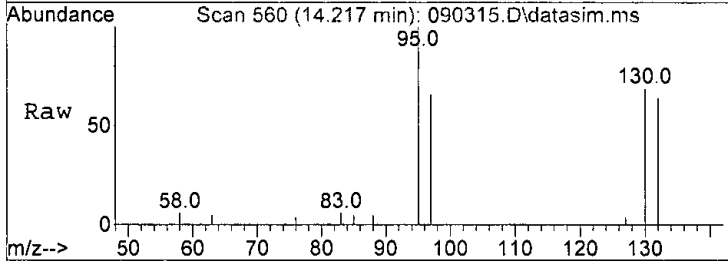
#37  
Benzene  
Concen: 0.012 ppbv  
RT: 12.72 min Scan# 486  
Delta R.T. 0.017 min  
Lab File: 090315.D  
Acq: 3 Sep 2021 4:53 pm

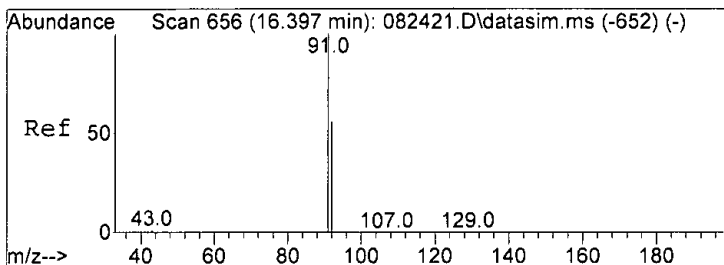
Tgt Ion	Resp	Lower	Upper
78	100		
52	19.0	0.0	49.7



#46  
Trichloroethene  
Concen: 0.120 ppbv  
RT: 14.22 min Scan# 560  
Delta R.T. -0.000 min  
Lab File: 090315.D  
Acq: 3 Sep 2021 4:53 pm

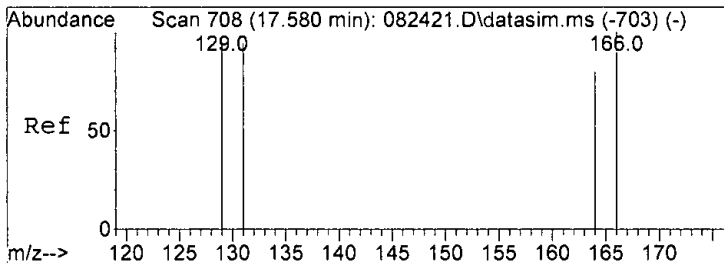
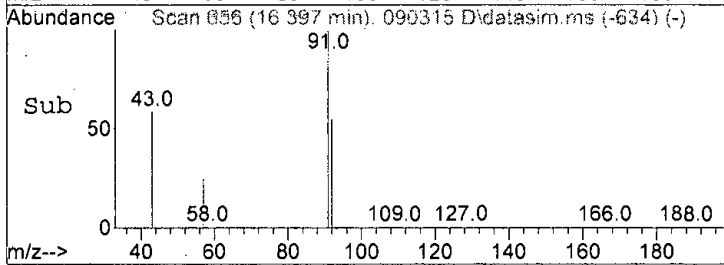
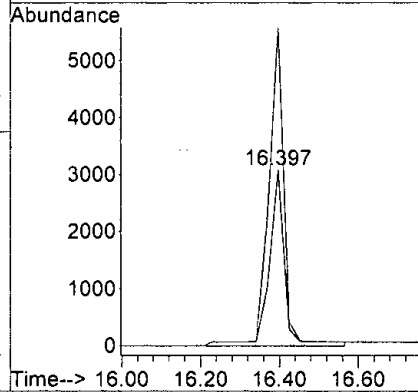
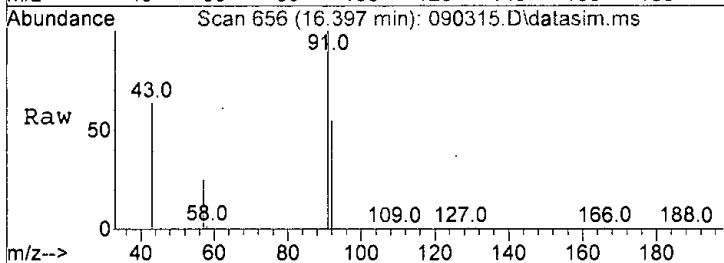
Tgt Ion	Resp	Lower	Upper
95	100		
97	64.3	37.1	97.1
130	67.6	56.1	116.1
132	62.7	54.3	114.3





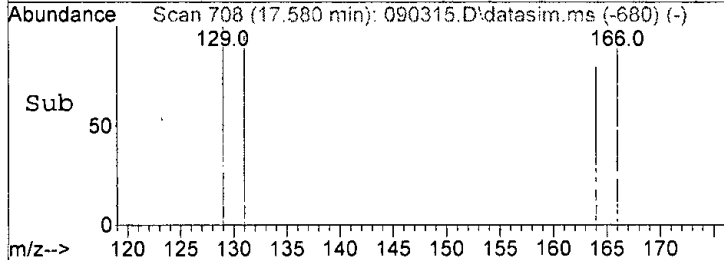
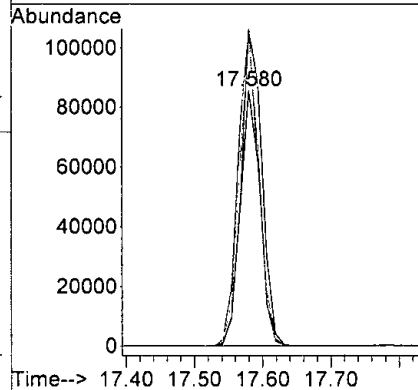
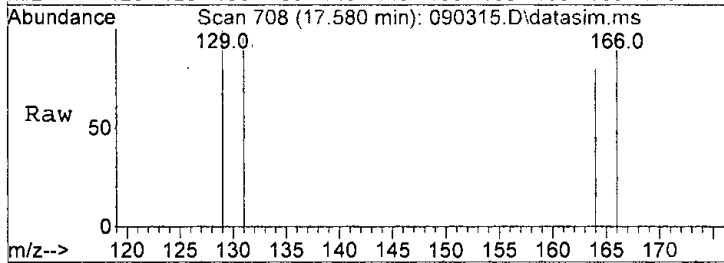
#50  
 Toluene  
 Concen: 0.234 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090315.D  
 Acq: 3 Sep 2021 4:53 pm

Tgt Ion: 92 Resp: 8241  
 Ion Ratio Lower Upper  
 92 100  
 91 181.2 174.6 234.6



#53  
 Tetrachloroethene  
 Concen: 9.761 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090315.D  
 Acq: 3 Sep 2021 4:53 pm

Tgt Ion: 164 Resp: 174633  
 Ion Ratio Lower Upper  
 164 100  
 129 124.5 63.2 123.2#  
 131 120.6 70.7 130.7  
 166 123.6 107.5 167.5

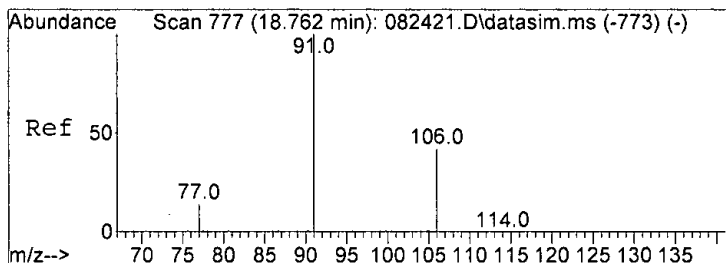
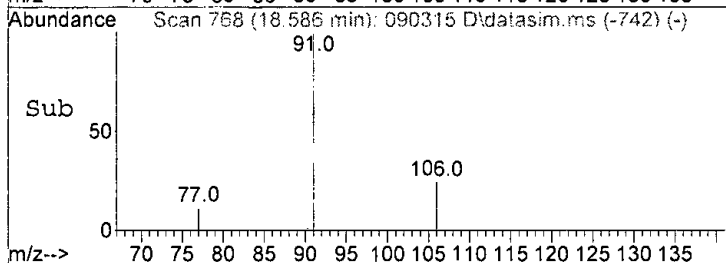
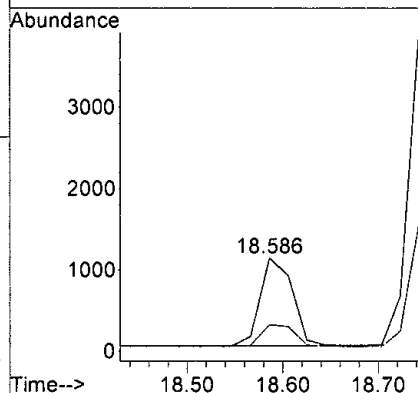
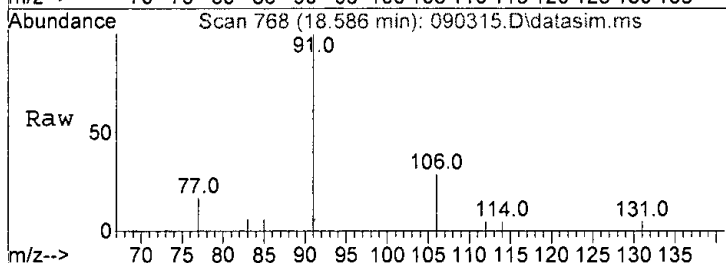






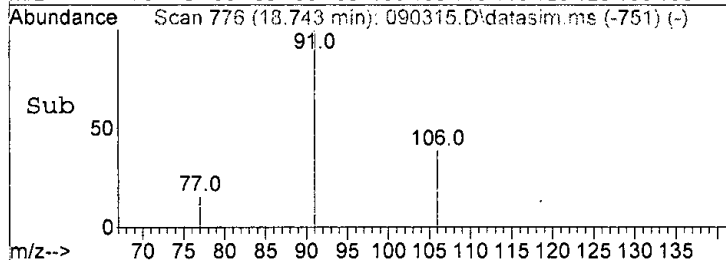
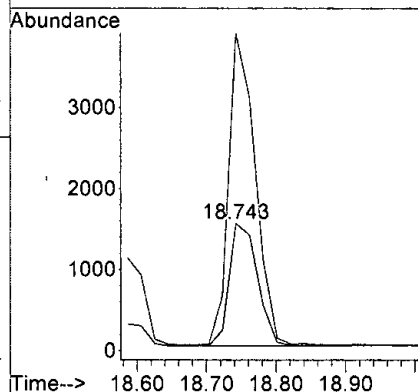
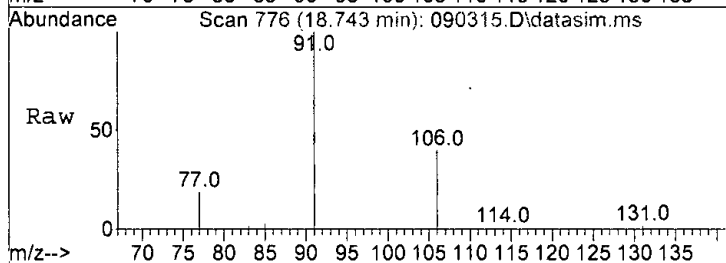
#58  
 Ethylbenzene  
 Concen: 0.027 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090315.D  
 Acq: 3 Sep 2021 4:53 pm

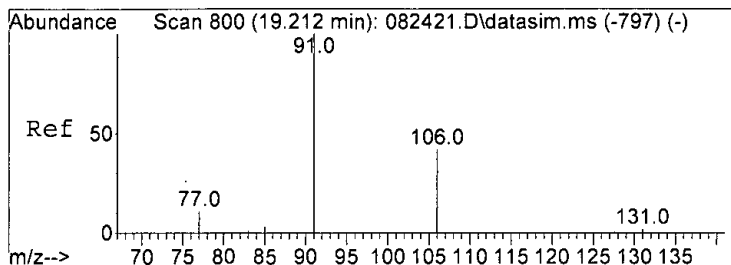
Tgt Ion: 91 Resp: 2514  
 Ion Ratio Lower Upper  
 91 100  
 106 25.3 0.0 57.0



#65  
 m,p-Xylene  
 Concen: 0.145 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.019 min  
 Lab File: 090315.D  
 Acq: 3 Sep 2021 4:53 pm

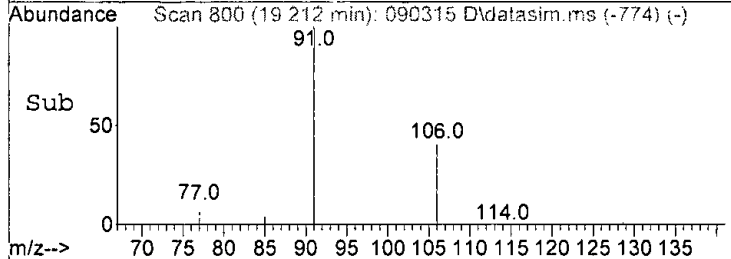
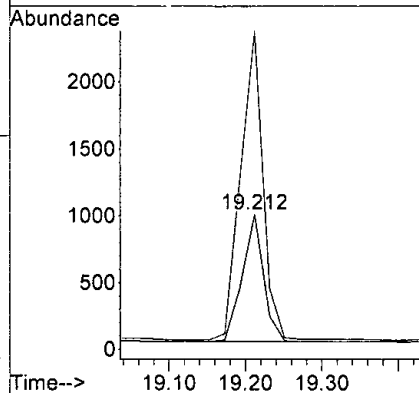
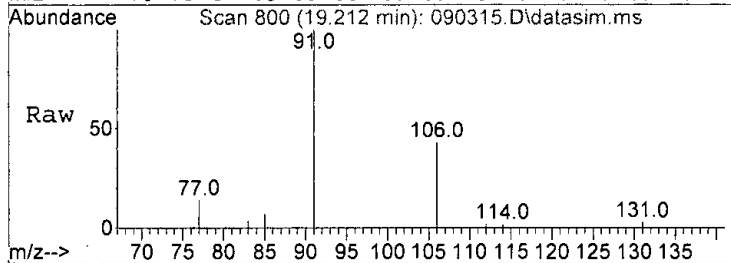
Tgt Ion: 106 Resp: 4250  
 Ion Ratio Lower Upper  
 106 100  
 91 255.0 193.0 253.0#





#66  
 o-Xylene  
 Concen: 0.063 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090315.D  
 Acq: 3 Sep 2021 4:53 pm

Tgt Ion: 106 Resp: 1833  
 Ion Ratio Lower Upper  
 106 100  
 91 241.7 194.4 254.4



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090315.D  
 Acq On : 3 Sep 2021 4:53 pm  
 Operator : bat  
 Sample : 109030-11 1/5.9  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:02:09 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	99707	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	469630	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	412149	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	356917	9.559	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	95.60%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.		
6) Vinyl chloride	0.00		0	N.D.		
7) 1,3-Butadiene	0.00		0	N.D.		
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.		
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.	d	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	0.00		0	N.D.		
19) trans-1,2-Dichloroethene	0.00		0	N.D.		
20) Methylene chloride	6.86	84	103145	5.910	ppbv	# 83
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.		
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	8.44	63	252	N.D.		
28) cis-1,2-Dichloroethene	0.00		0	N.D.		
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	11.18	62	105	N.D.		
35] 1,1,1-Trichloroethane	11.94	97	563	0.017	ppbv	88
36) Carbon tetrachloride	0.00		0	N.D.	d	
37] Benzene	12.72	78	745	0.012	ppbv	98
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090315.D  
 Acq On : 3 Sep 2021 4:53 pm  
 Operator : bat  
 Sample : 109030-11 1/5.9  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

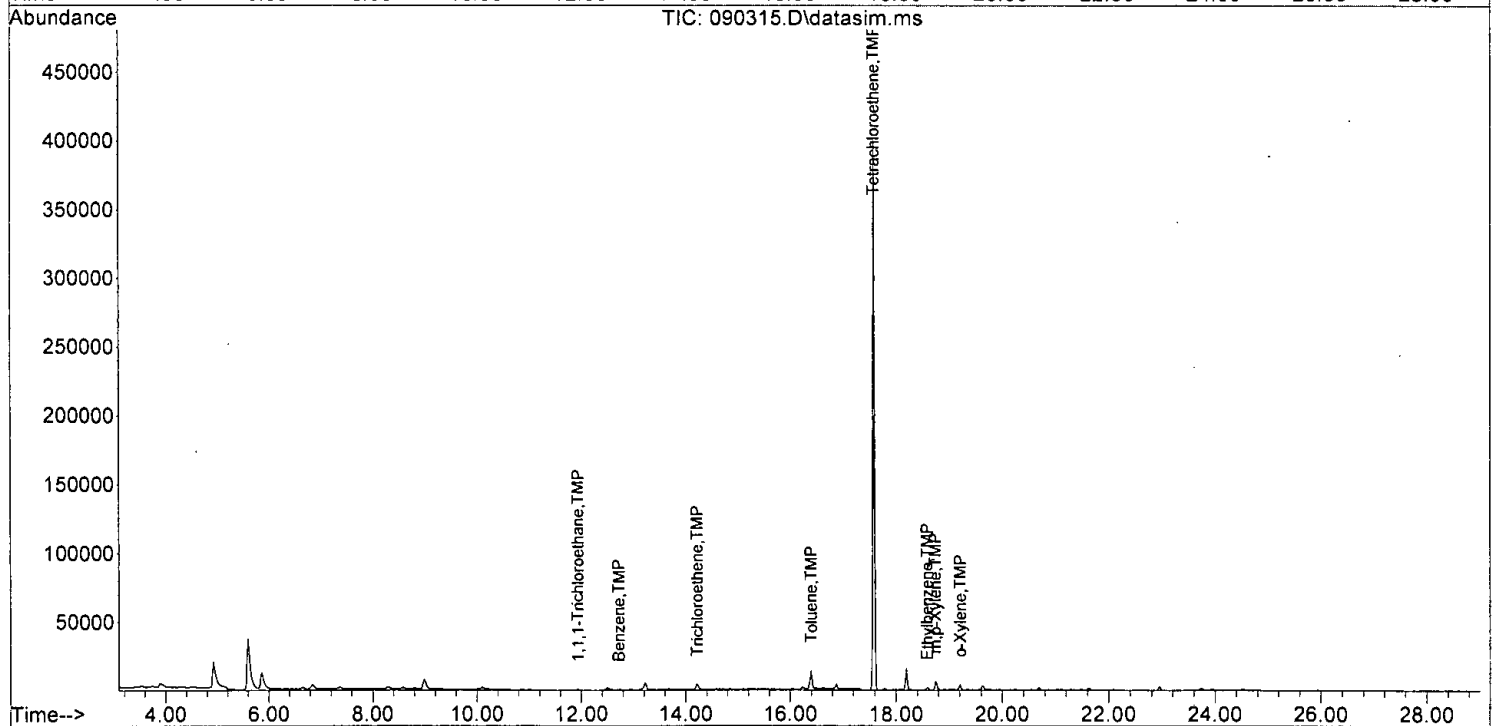
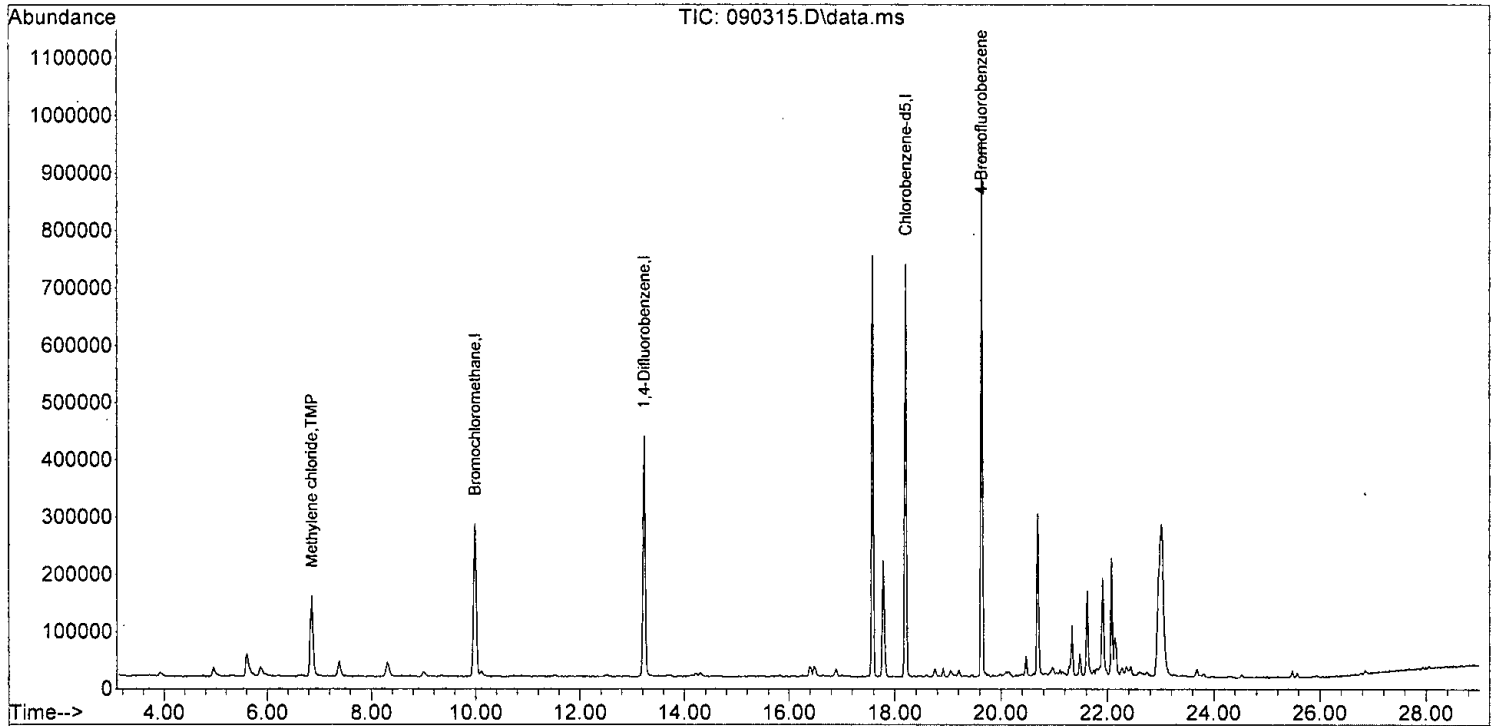
Quant Time: Sep 07 12:02:09 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	3496	0.120	ppbv	83
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	8241	0.234	ppbv	85
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	174633	9.761	ppbv #	80
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	2514	0.027	ppbv	97
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.74	106	4250	0.145	ppbv #	80
66] o-Xylene	19.21	106	1833	0.063	ppbv	89
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77) Naphthalene	23.95	128	1869	N.D.	d	
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

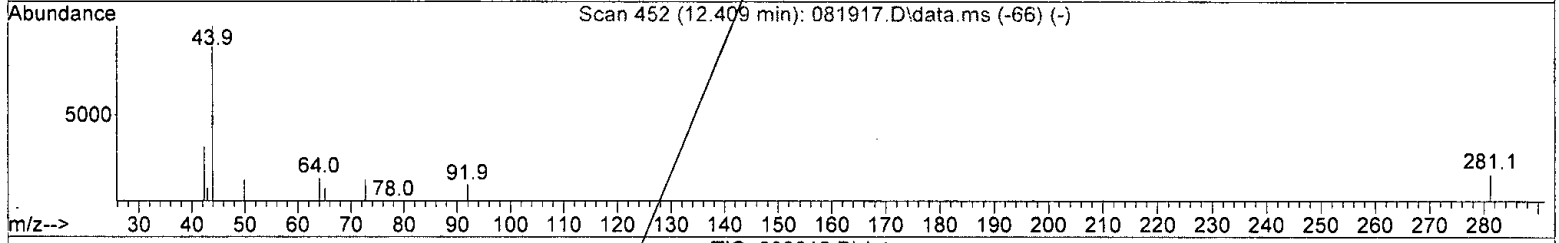
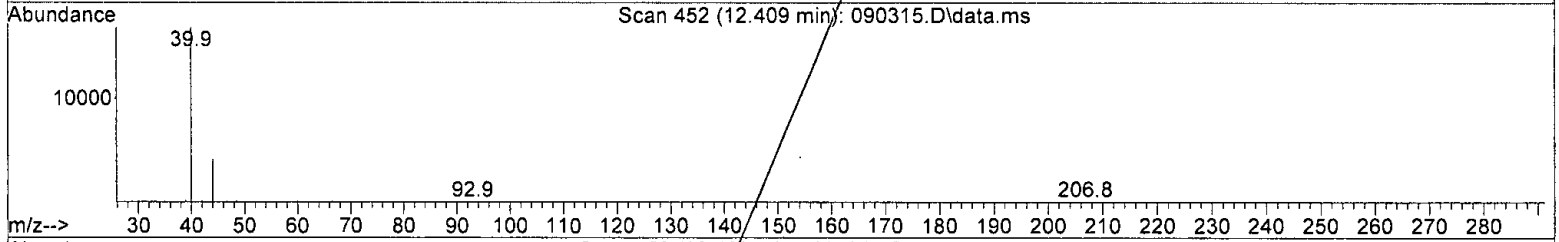
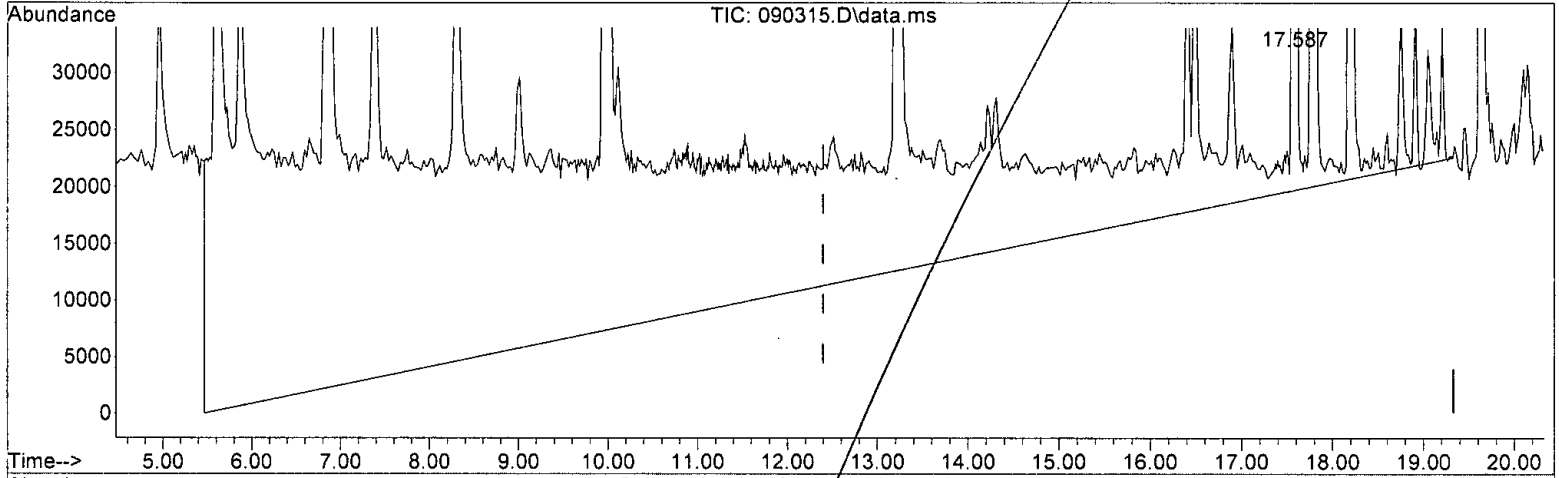
Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090315.D  
 Acq On : 3 Sep 2021 4:53 pm  
 Operator : bat  
 Sample : 109030-11 1/5.9  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 12:02:09 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090315.D  
 Acq On : 3 Sep 2021 4:53 pm  
 Operator : bat  
 Sample : 109030-11 1/5.9  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:50:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 94.199 ug/m3 m

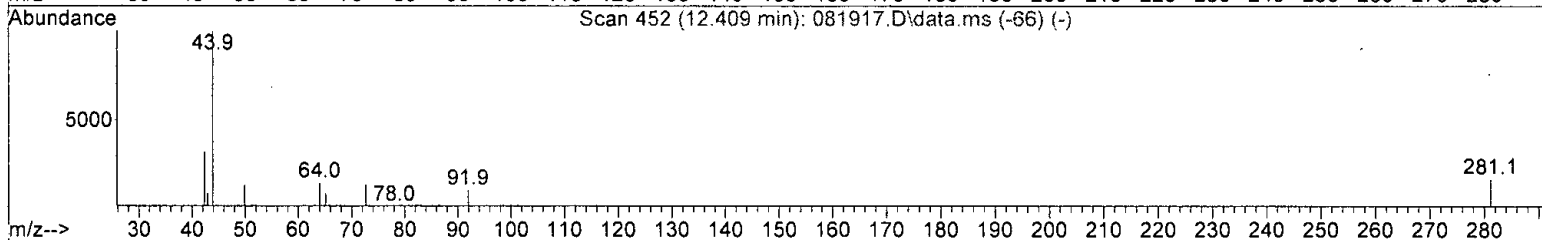
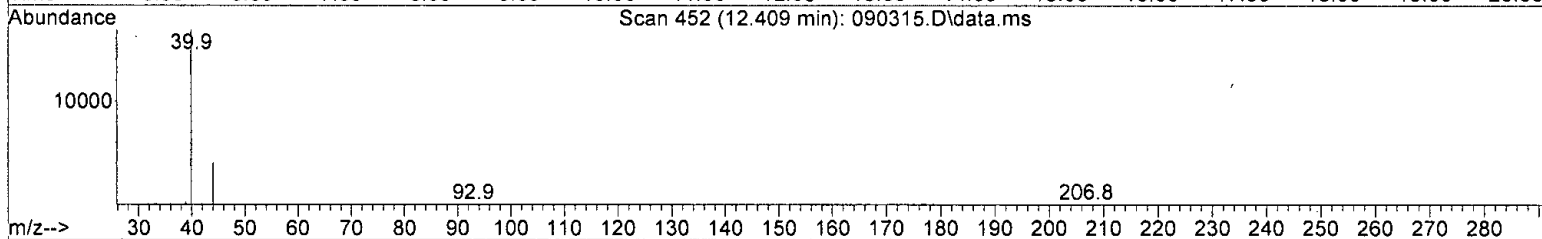
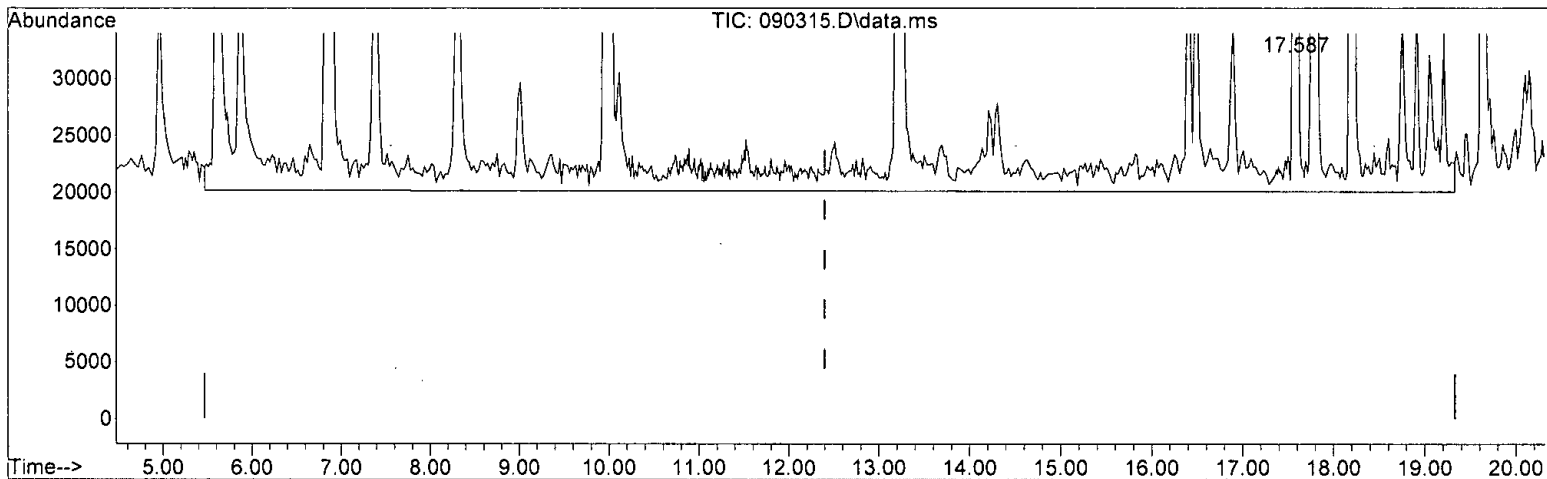
response 3510099

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*M*  
*09/07/21*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090315.D  
 Acq On : 3 Sep 2021 4:53 pm  
 Operator : bat  
 Sample : 109030-11 1/5.9  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:50:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 269.337 ug/m3 m

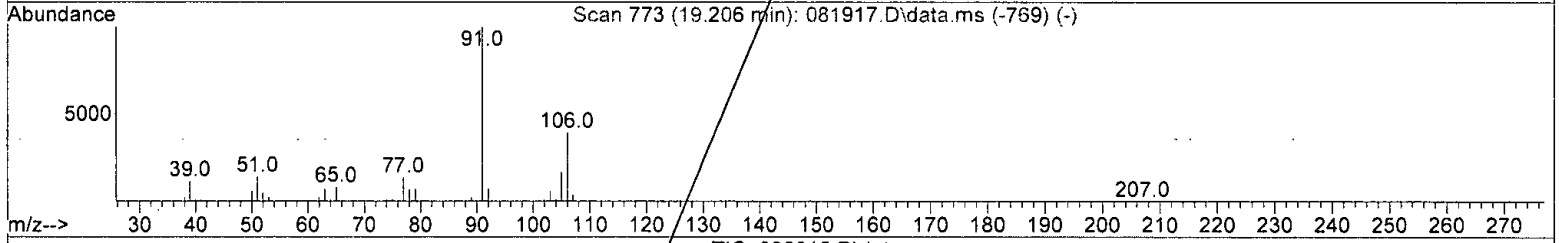
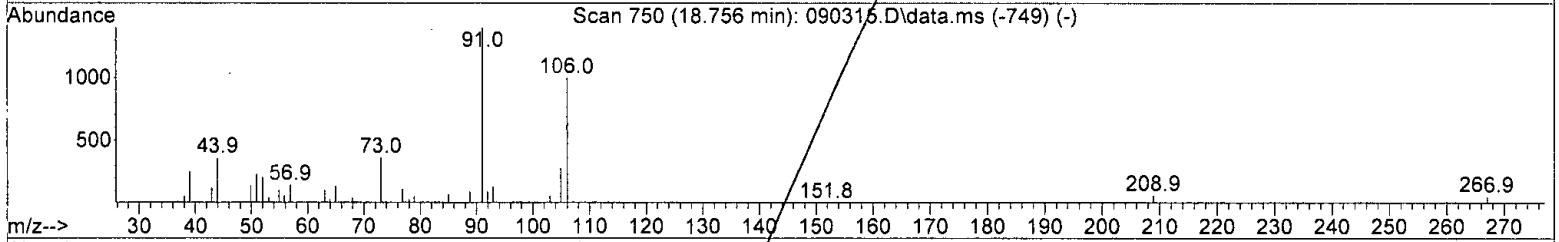
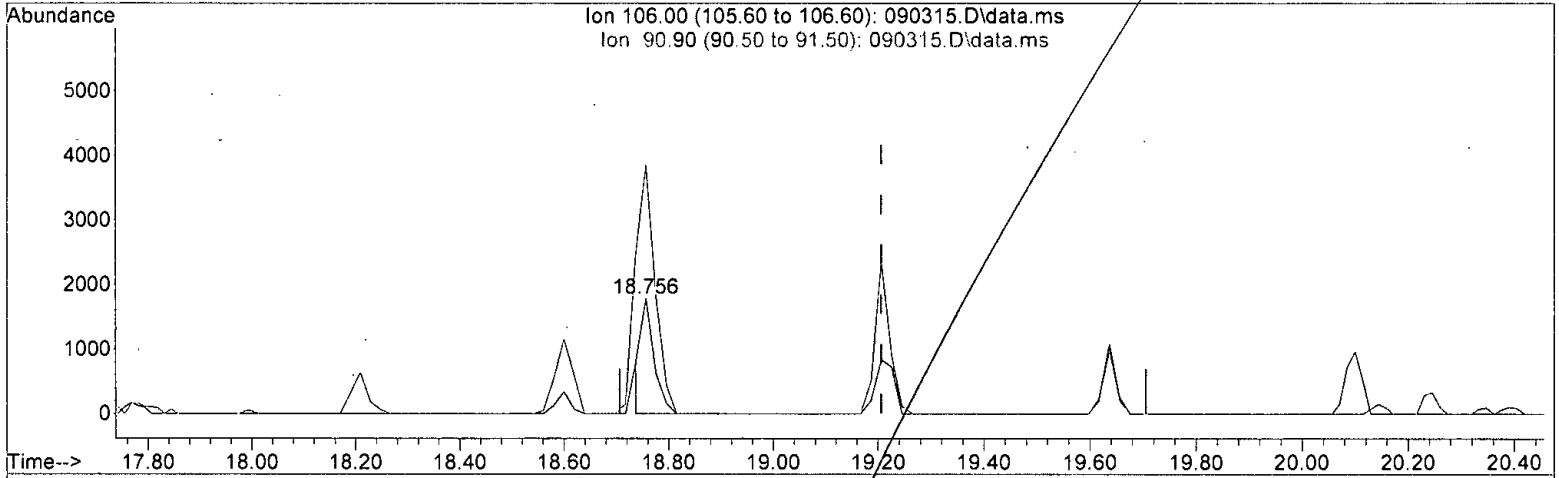
response 10036226

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h orloky*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090315.D  
 Acq On : 3 Sep 2021 4:53 pm  
 Operator : bat  
 Sample : 109030-11 1/5.9  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:50:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090315.D\data.ms

(27) o-Xylene (T)

18.756min (-0.450) 0.519 ug/m3

response 3012

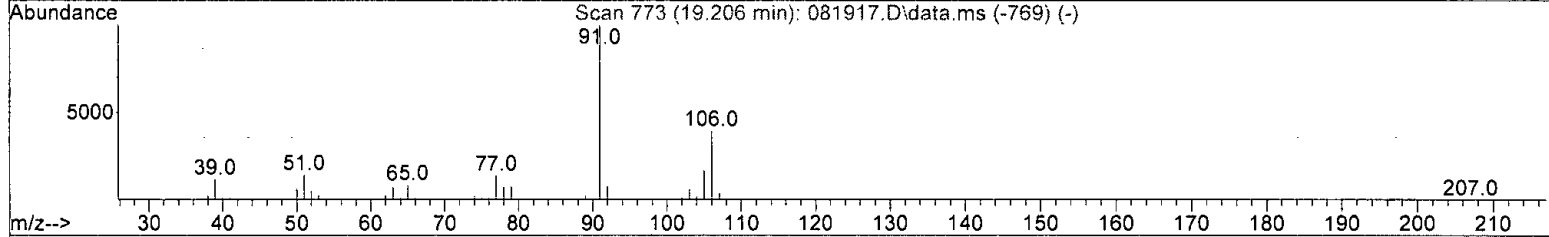
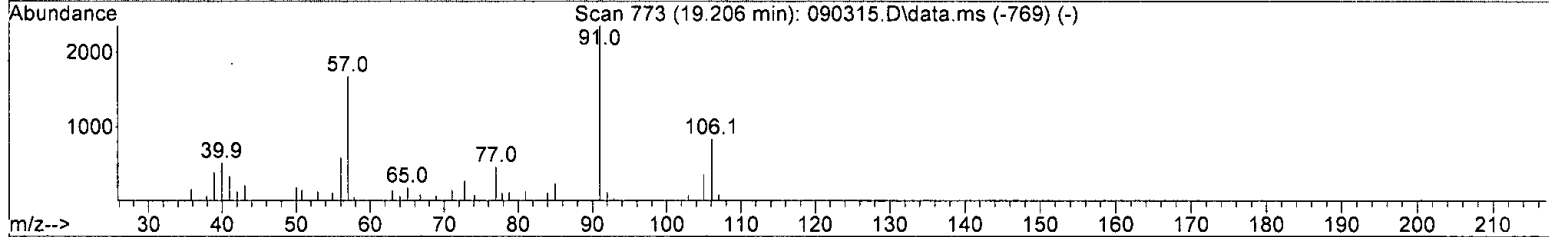
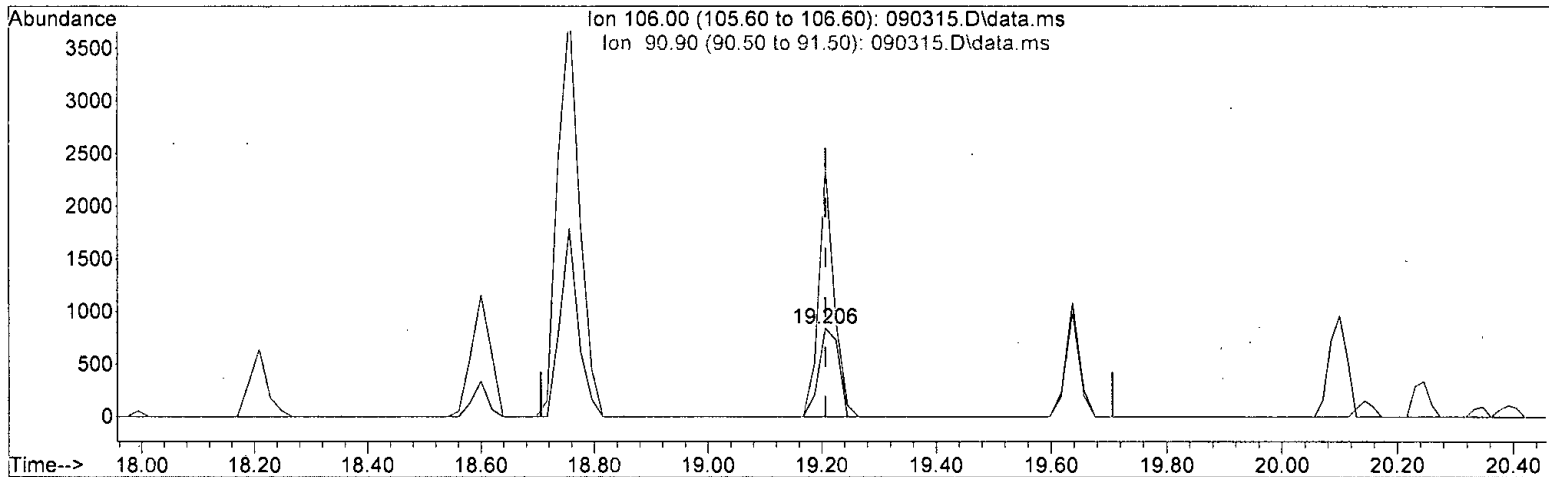
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	215.98
0.00	0.00	0.00
0.00	0.00	0.00

*M. 09/07/21*



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090315.D  
 Acq On : 3 Sep 2021 4:53 pm  
 Operator : bat  
 Sample : 109030-11 1/5.9  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:50:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

19.206min (-0.000) 0.358 ug/m3 m

response 2079

Ion	Exp%	Act%
-----	------	------

106.00	100.00	100.00
--------	--------	--------

90.90	226.40	281.31#
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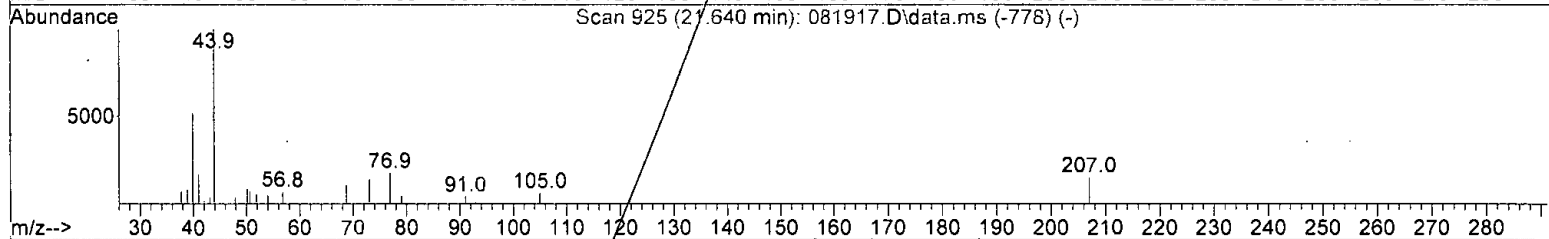
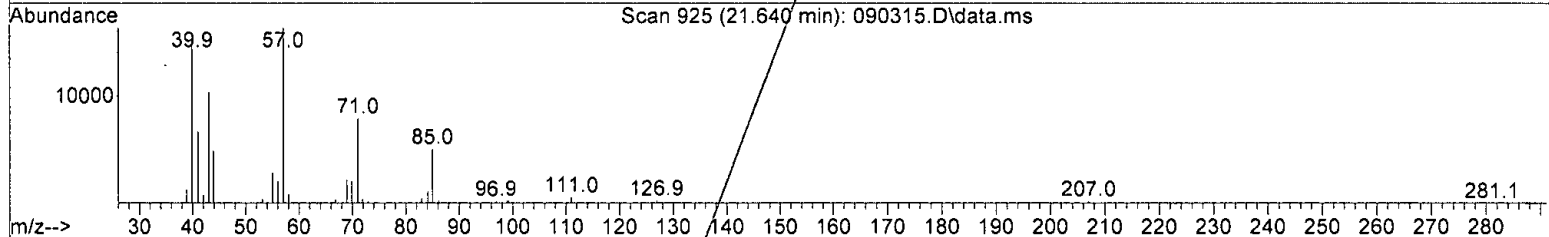
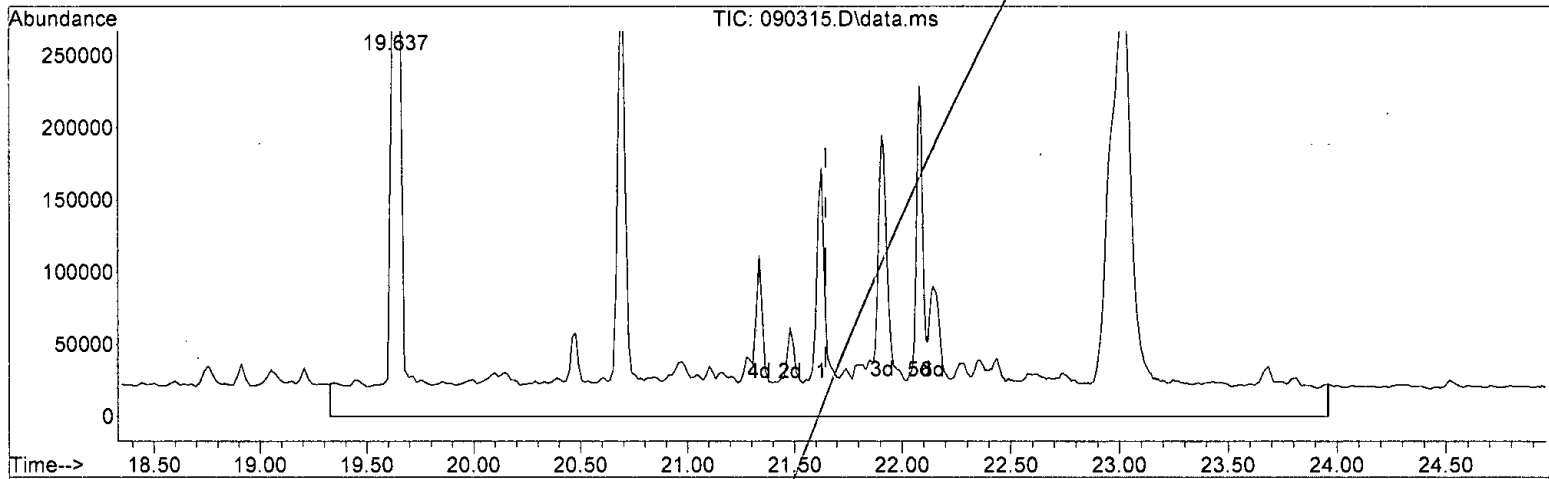
0.00	0.00	0.00
------	------	------

0.00	0.00	0.00
------	------	------

*W  
09/07/21*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090315.D  
 Acq On : 3 Sep 2021 4:53 pm  
 Operator : bat  
 Sample : 109030-11 1/5.9  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:50:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 104.753 ug/m3/m

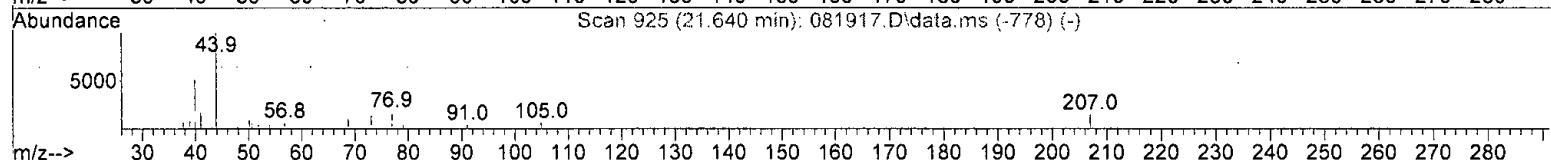
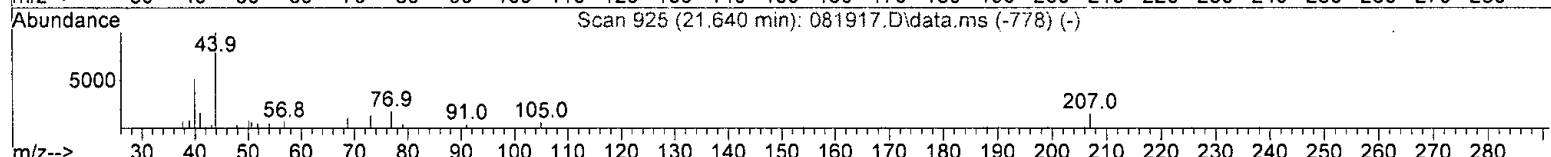
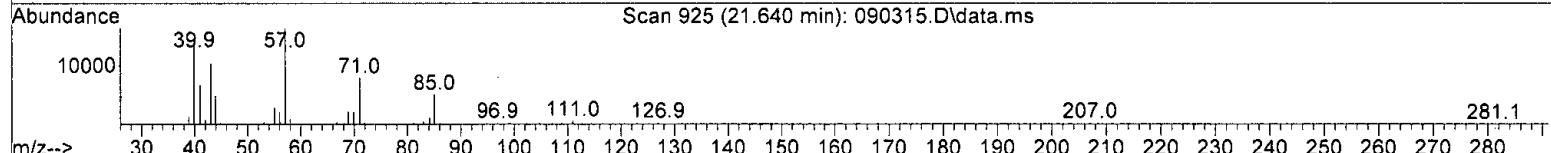
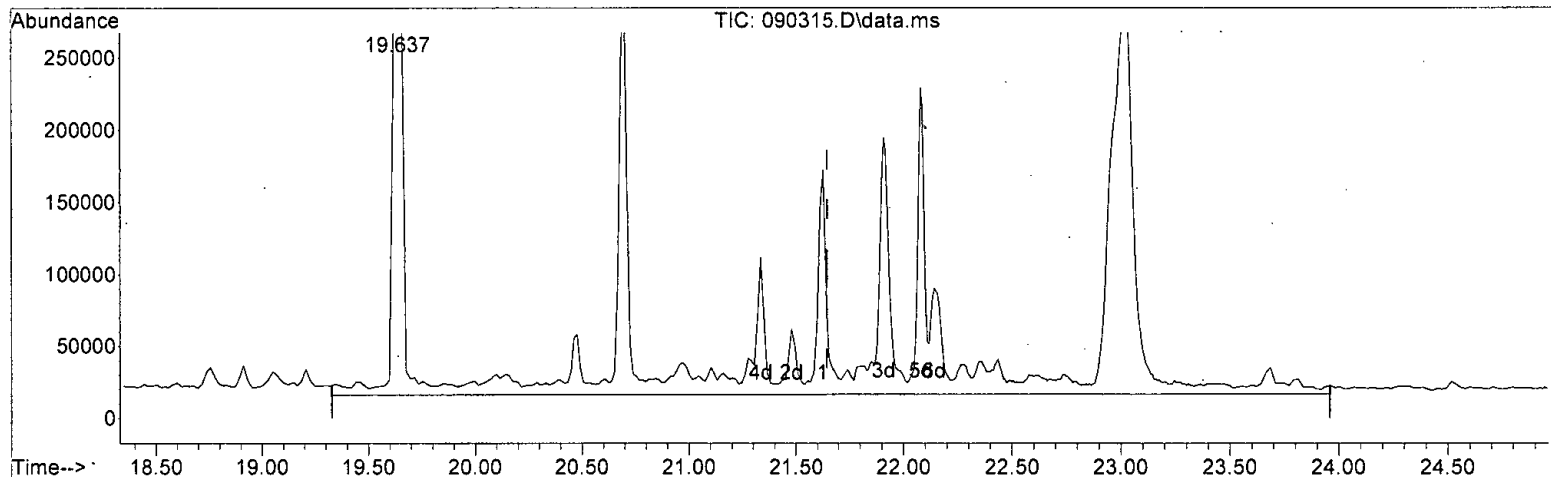
response 4417282

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B*  
*ortho-12*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090315.D  
 Acq On : 3 Sep 2021 4:53 pm  
 Operator : bat  
 Sample : 109030-11 1/5.9  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:50:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090315.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 218.706 ug/m3 m

response 9222493

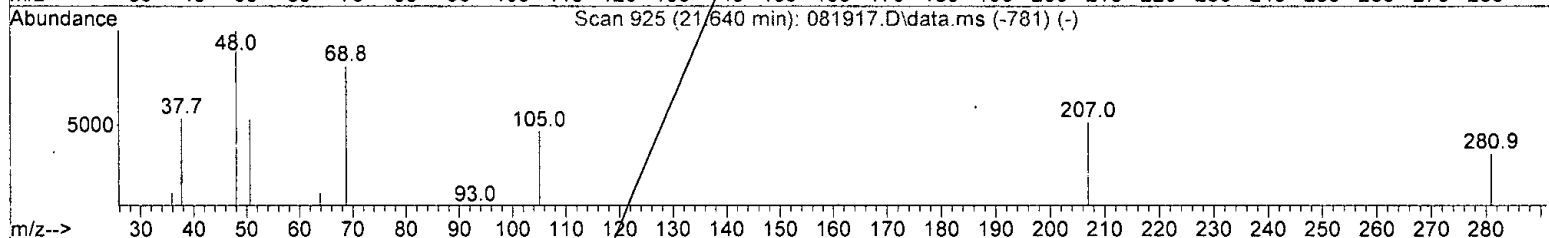
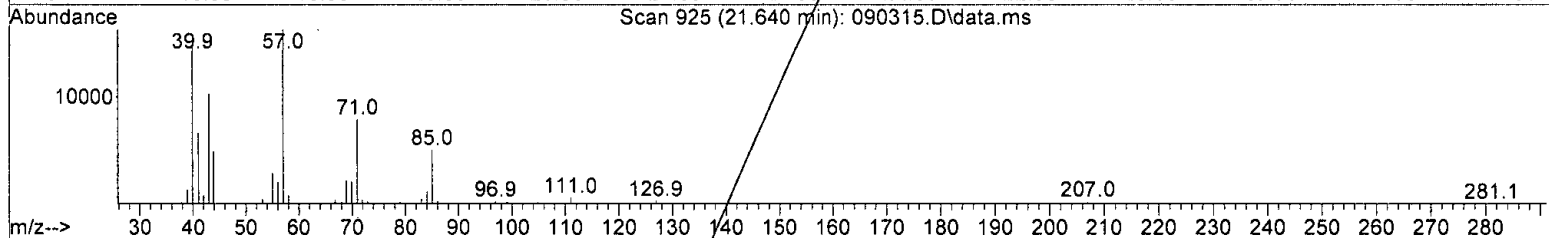
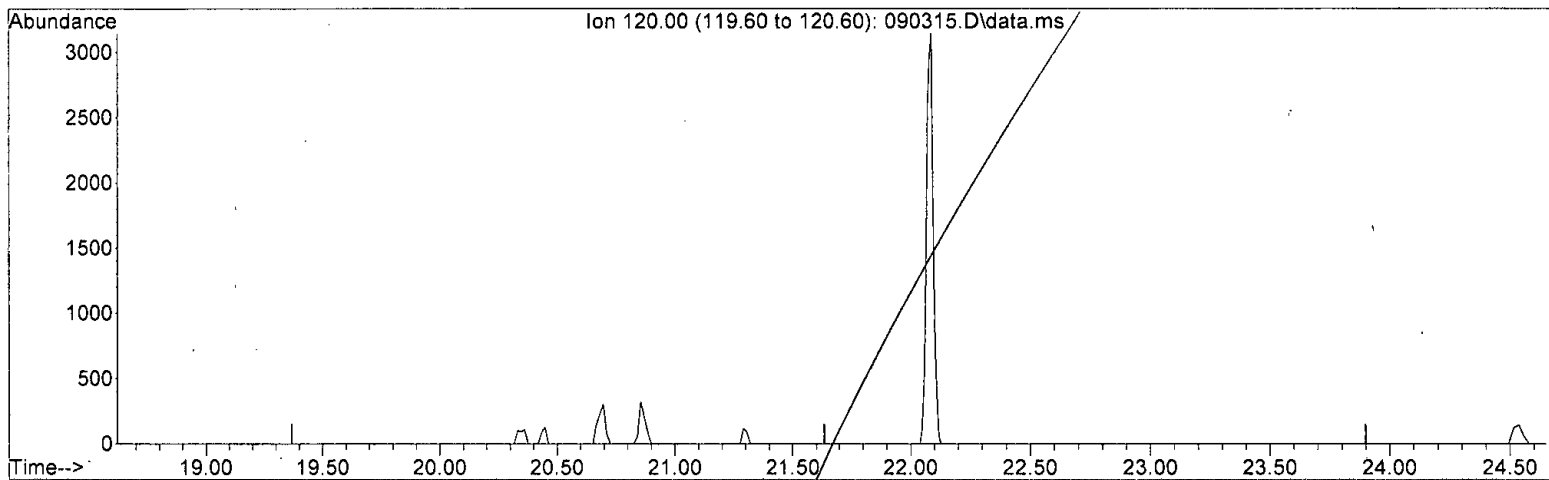
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090315.D  
 Acq On : 3 Sep 2021 4:53 pm  
 Operator : bat  
 Sample : 109030-11 1/5.9  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:50:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090315.D\data.ms

(44) APH EC9-10 aromatics (1) (H)  
 21.635min ( 0.000) -13.493 ug/m3/m  
 response -66244

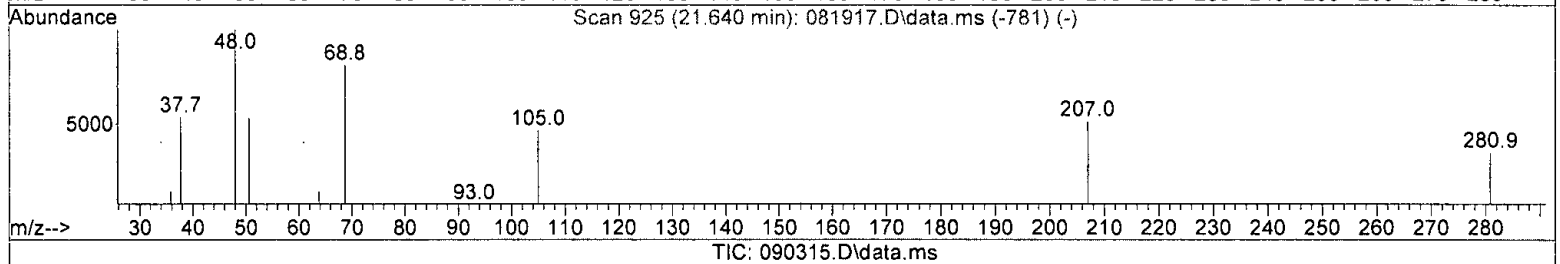
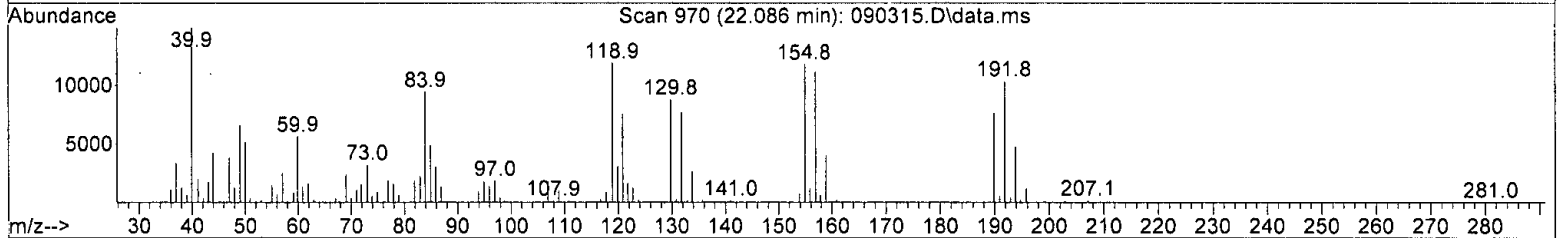
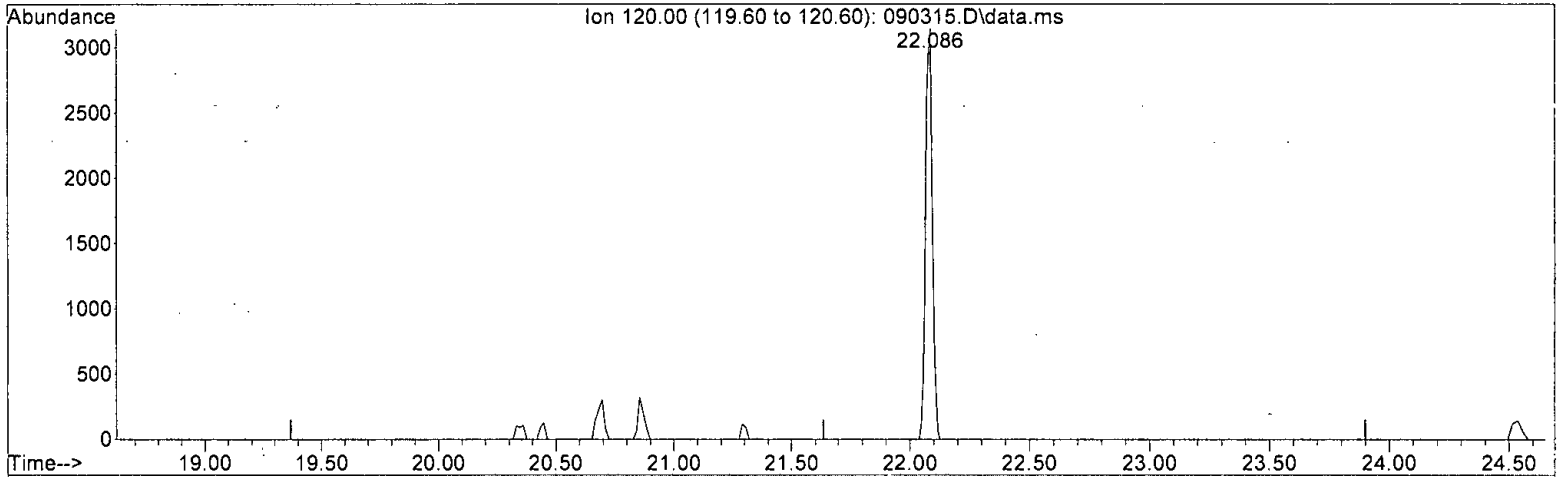
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*W. Oulby*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090315.D  
 Acq On : 3 Sep 2021 4:53 pm  
 Operator : bat  
 Sample : 109030-11 1/5.9  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:50:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 2.262 ug/m3 m

response 11106

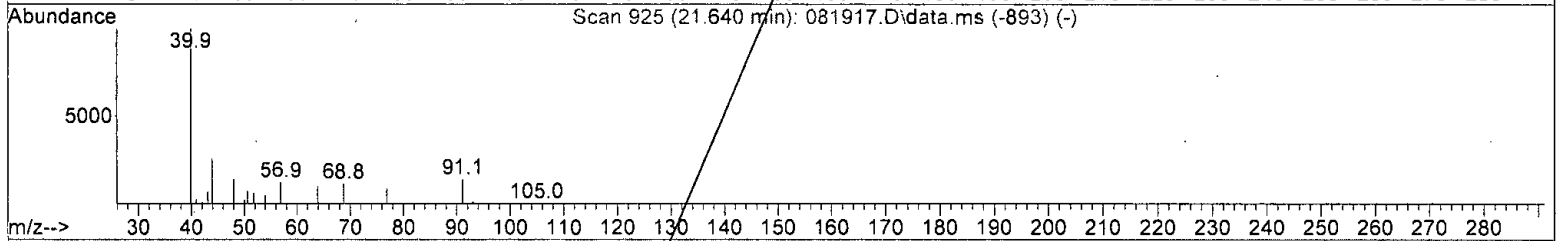
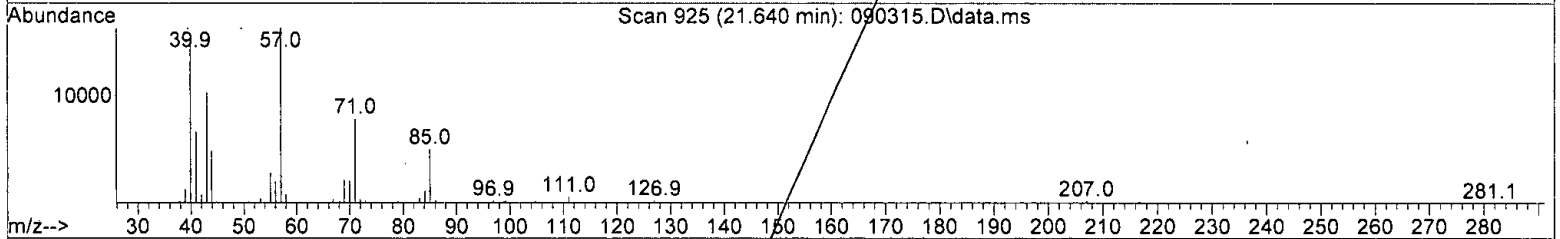
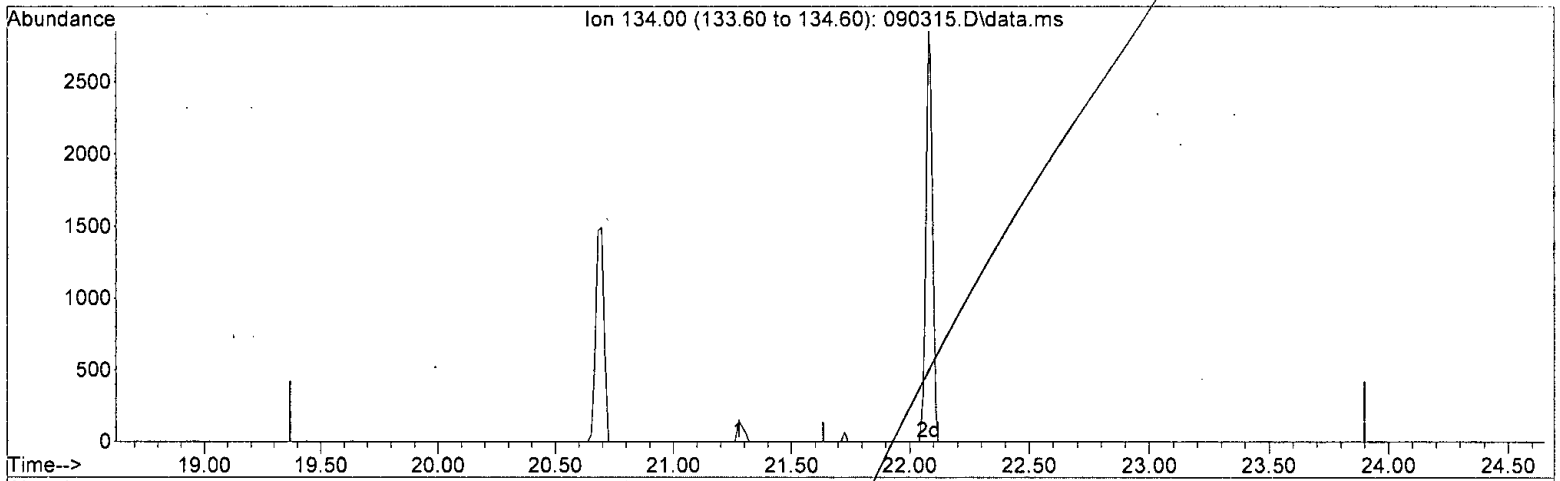
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*U. alorby*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090315.D  
 Acq On : 3 Sep 2021 4:53 pm  
 Operator : bat  
 Sample : 109030-11 1/5.9  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:50:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090315.D\data.ms

(45) APH EC9-10 aromatics (2) (H)  
 21.635min ( 0.000) -23.178 ug/m3 m  
 response -64814

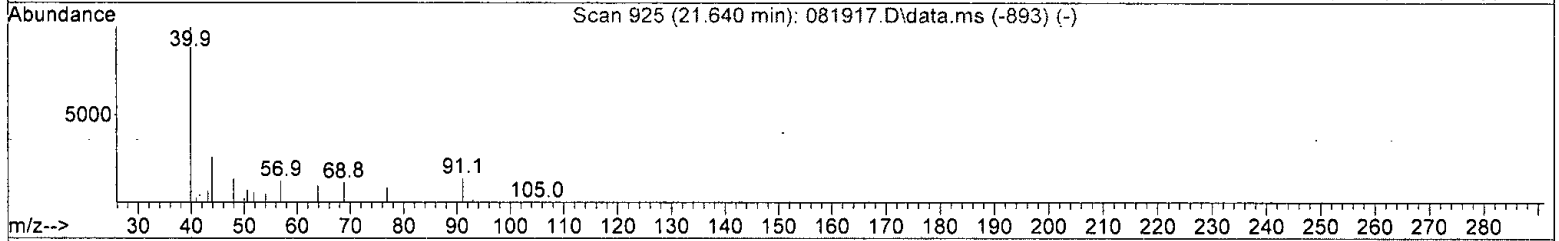
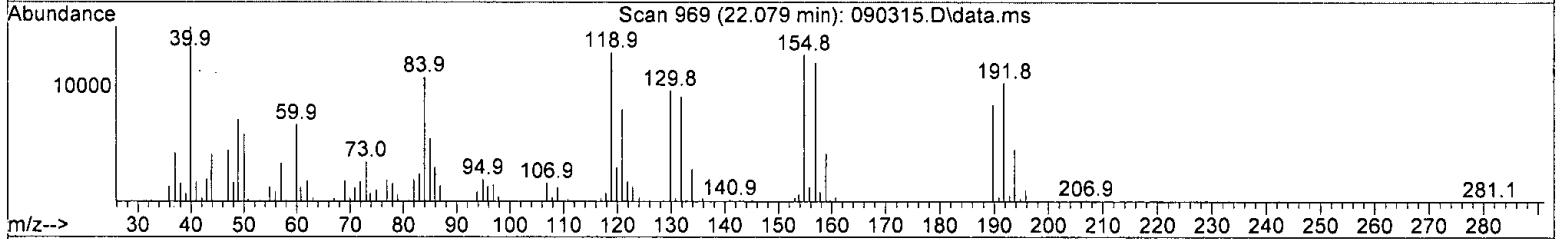
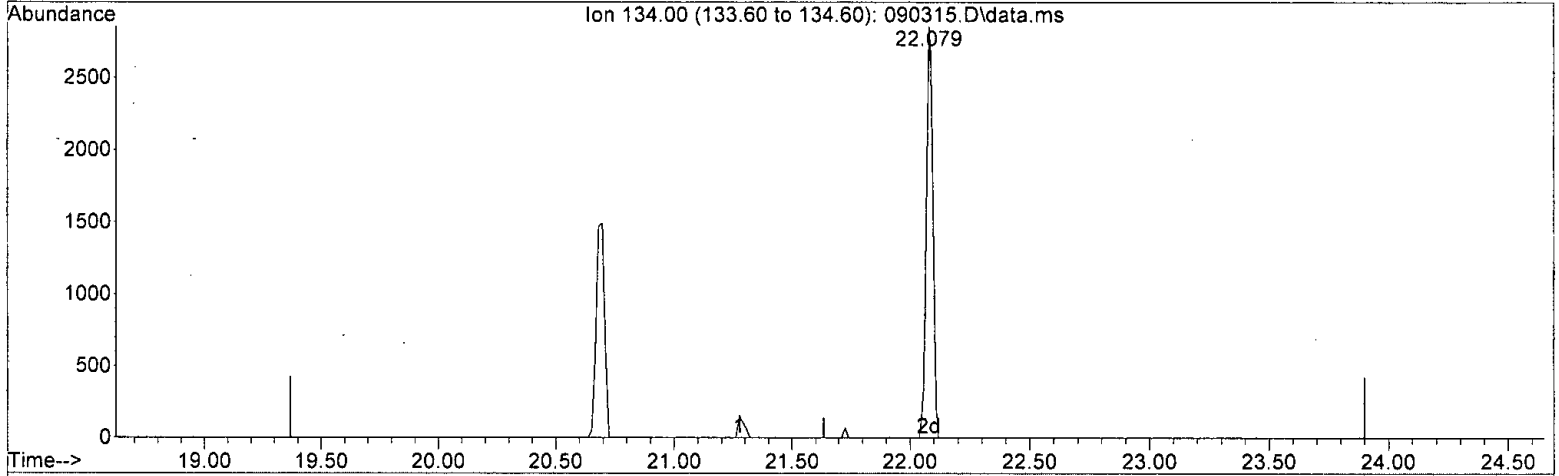
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*U sulfate*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090315.D  
 Acq On : 3 Sep 2021 4:53 pm  
 Operator : bat  
 Sample : 109030-11 1/5.9  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:50:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



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(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 4.162 ug/m3 m

response	11639
Ion	Exp% Act%
134.00	100.00 100.00
0.00	0.00 0.00
0.00	0.00 0.00
0.00	0.00 0.00

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090315.D  
 Acq On : 3 Sep 2021 4:53 pm  
 Operator : bat  
 Sample : 109030-11 1/5.9  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:53:00 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	99707	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	469630	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	412149	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	356917	69.121	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	97.35%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	952588	54.110	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1309332	52.399	ug/m3	92
4) IS-3 Chlorobenzene-d5	18.21	TIC	1530694	50.505	ug/m3	91
5) Methylene chloride	6.86	TIC	544482	610.877	ug/m3	91
6) Acetone	5.60	TIC	192069	4.085	ppbv	100
7) 2-Propanol	5.86	TIC	110443	404.273	ppbv	100
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	8.59	73	88	0.011	ug/m3	56
11) Benzene	12.71	78	736	0.046	ug/m3	61
12) Isopentane	5.60	TIC	192069	6.057	ug/m3#	47
13) Hexane	10.11	TIC	34860	0.903	ug/m3	96
14) Cyclohexane	13.23	TIC	1309332	40.165	ug/m3	94
15) 2,3-Dimethylpentane	13.23	TIC	1309332	31.473	ug/m3	64
16) Heptane	14.63	TIC	13782	0.405	ug/m3	82
17) Octane	17.78	TIC	555600	11.918	ug/m3	62
18) APH EC5-8 aliphatics T...	0.00	TIC	3414975m	91.646	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	10036226m	269.337	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1747945	50.237	ug/m3	91
22) Hexamethylcyclotrisilo...	17.78	TIC	666255	77.743	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	660044	61.710	ppbv	100
24) Toluene	16.39	92	6608	0.747	ug/m3	93
25) Ethylbenzene	18.60	91	2756	0.151	ug/m3	98
26) m,p-Xylene	18.76	106	3935	0.641	ug/m3	99
27) o-Xylene	19.21	106	2079m	0.358	ug/m3	
28) Naphthalene	23.94	128	1721	0.116	ug/m3	95
29) 2,3-Dimethylheptane	18.76	TIC	50633	1.222	ug/m3#	58
30) Nonane	19.64	TIC	1744150	40.325	ug/m3#	60
31) Decane	20.97	TIC	56782	1.322	ug/m3	93
32) Butylcyclohexane	21.63	TIC	378803	7.761	ug/m3	62
33) Undecane	22.28	TIC	41738	0.979	ug/m3	93
34) Dodecane	23.81	TIC	23793	0.680	ug/m3	88
35) APH EC9-12 aliphatics ...	21.63	TIC	2295899m	54.446	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	9222493m	218.706	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	20.36	120	265	0.059	ug/m3#	1
40) 1,3,5-Trimethylbenzene	20.86	120	582	0.102	ug/m3	90
41) p-Isopropyltoluene	21.28	134	286	0.102	ug/m3#	74
42) 1,2,3-Trimethylbenzene	20.86	120	530	0.079	ug/m3	96
43) APH EC9-10 aromatics T...	21.63	TIC	1663m	0.374	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	11106m	2.262	ug/m3	



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090315.D  
 Acq On : 3 Sep 2021 4:53 pm  
 Operator : bat  
 Sample : 109030-11 1/5.9  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

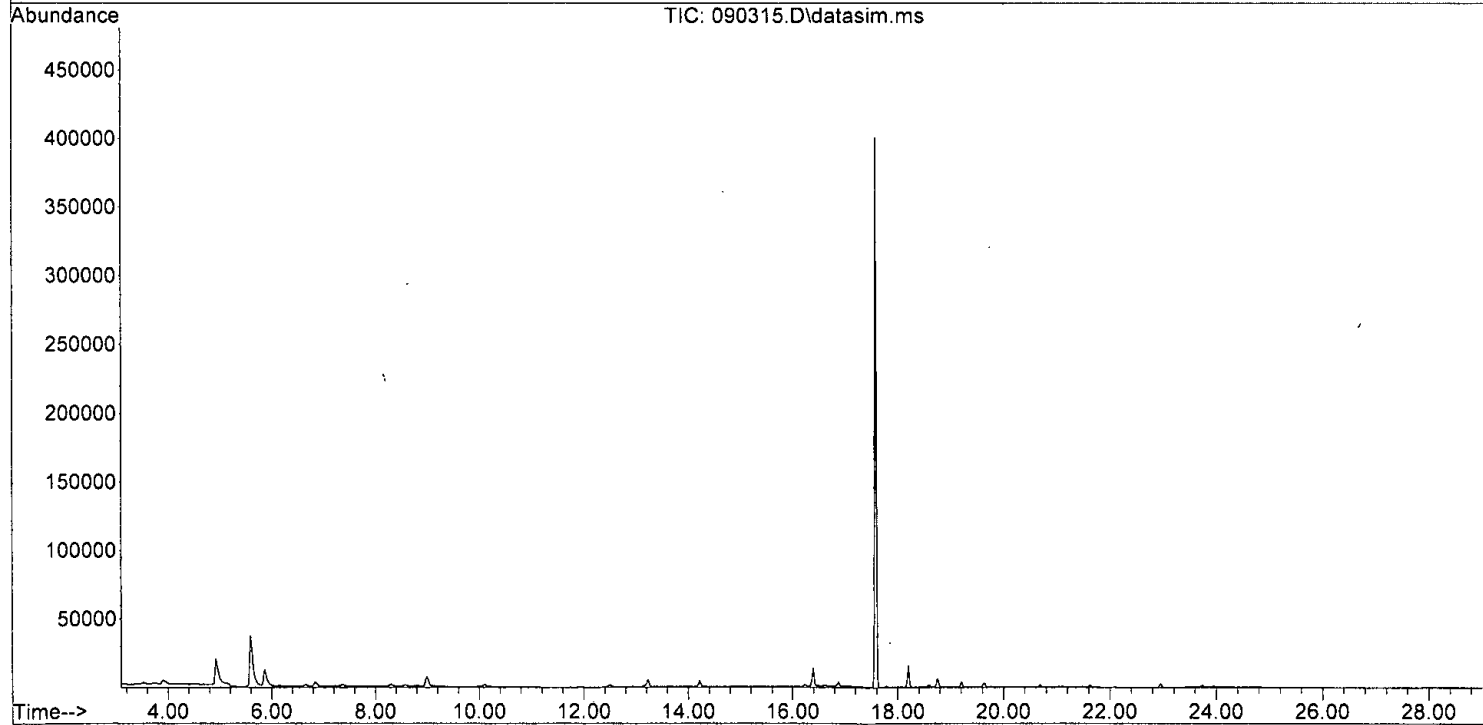
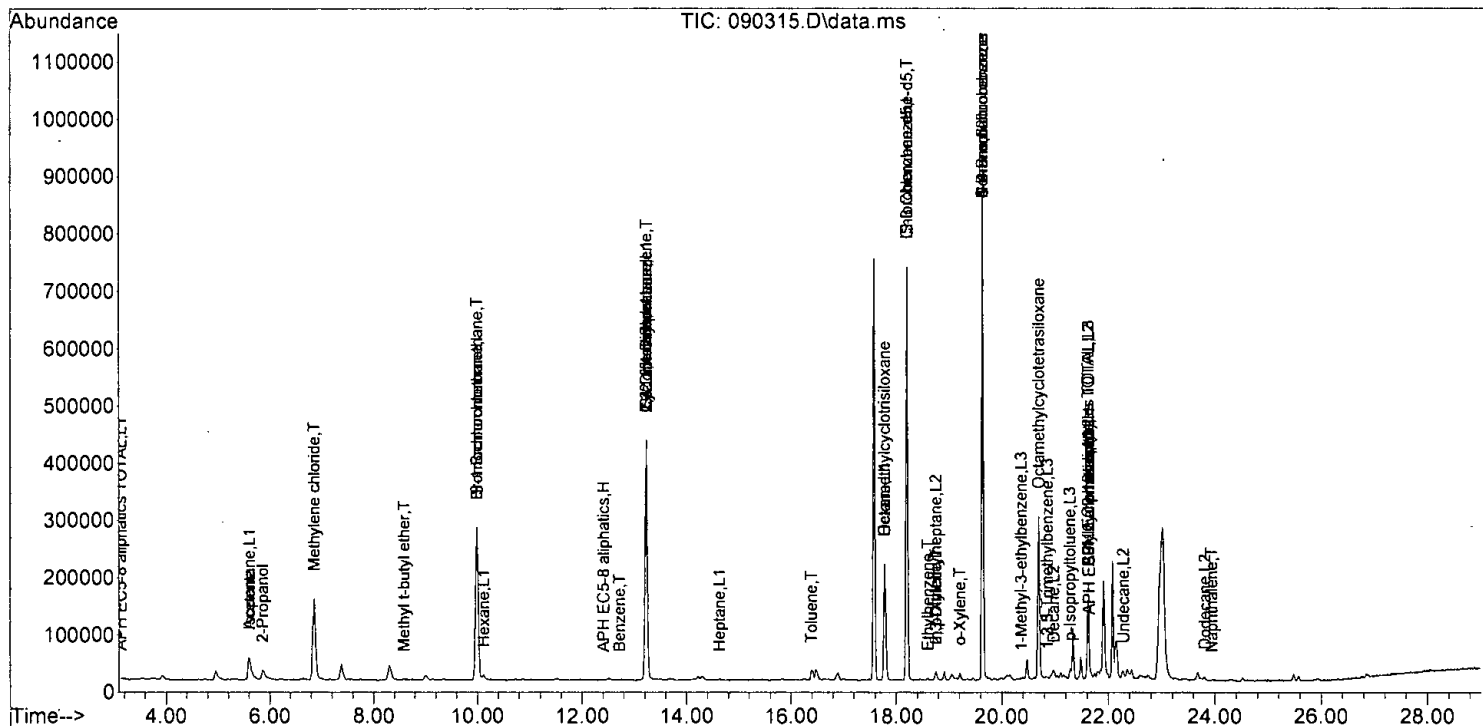
Quant Time: Sep 07 11:53:00 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	11639m	4.162	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

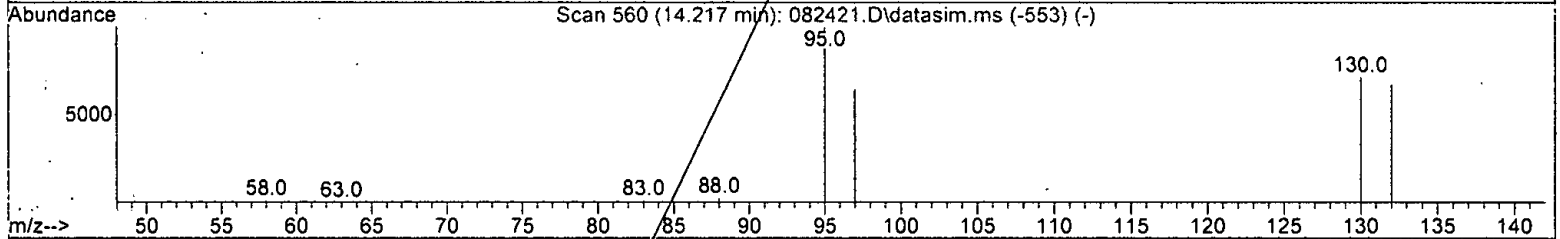
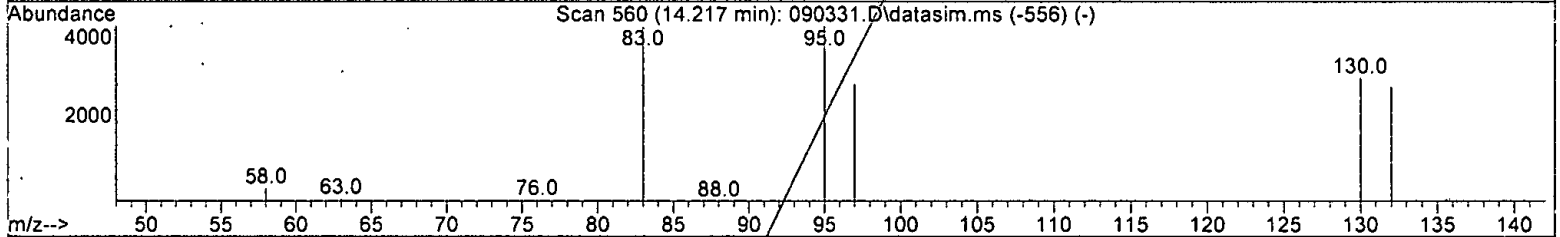
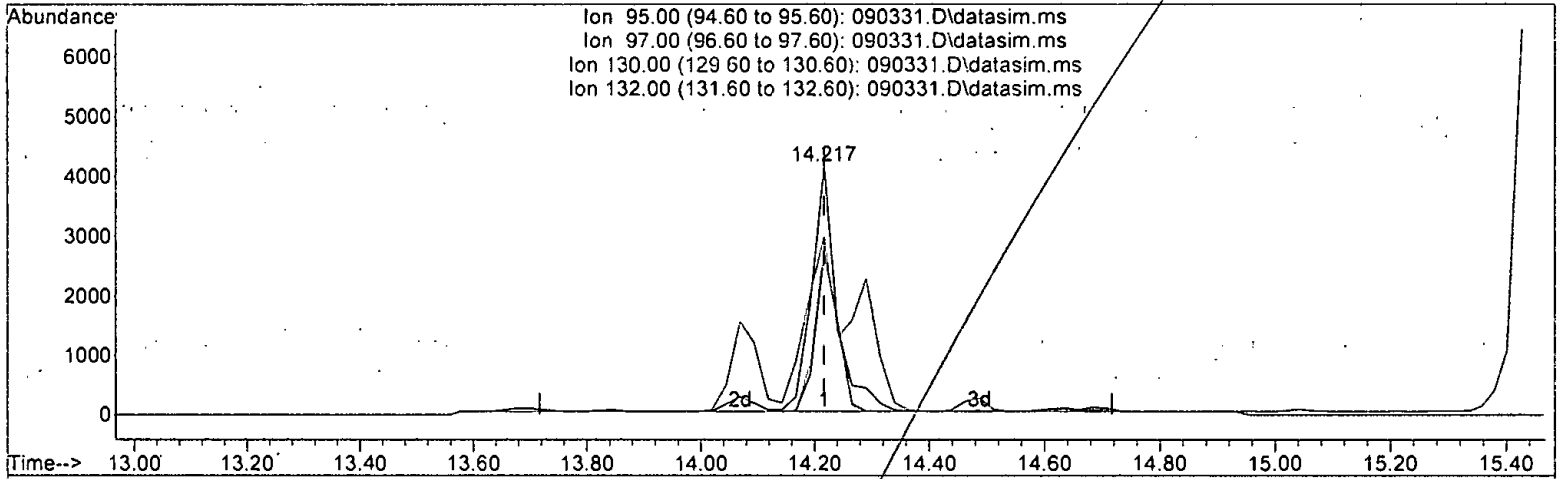
Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090315.D  
 Acq On : 3 Sep 2021 4:53 pm  
 Operator : bat  
 Sample : 109030-11 1/5.9  
 Misc : T5  
 ALS Vial : 15 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 11:53:00 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:05:46 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



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(46) Trichloroethene (TMP)

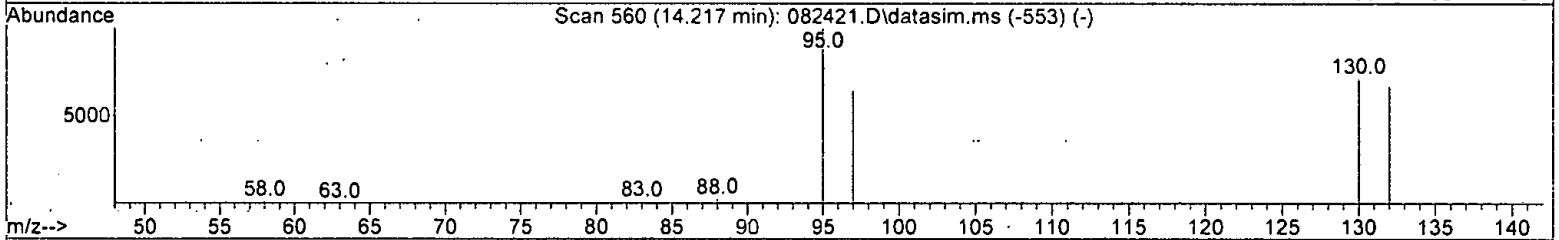
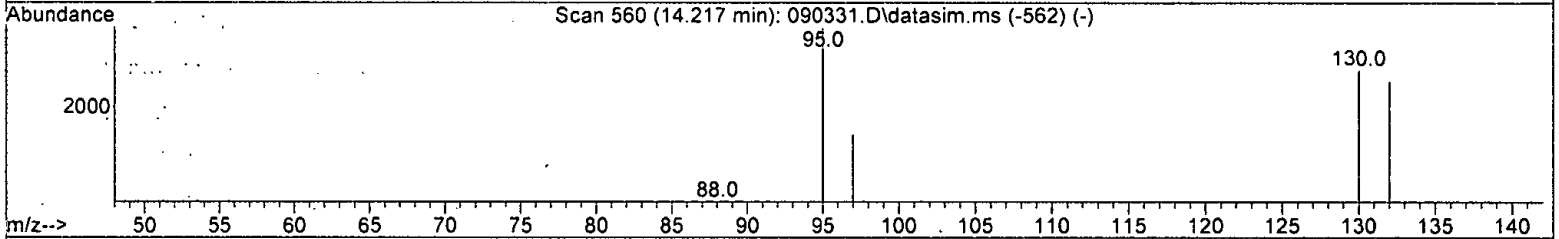
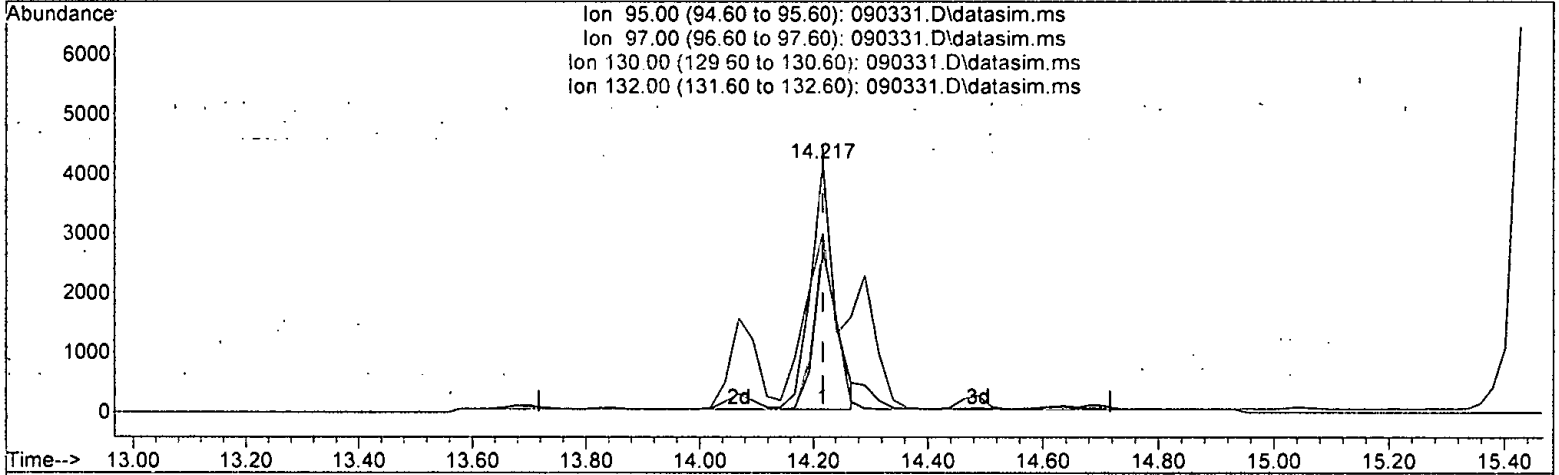
14.217min (-0.000) 0.423 ppbv

response 12761

Ion	Exp%	Act%
95.00	100.00	100.00
97.00	67.10	71.49
130.00	86.10	70.16
132.00	84.30	65.20

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:05:46 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



TIC: 090331.D\data.ms

(46) Trichloroethene (TMP)

14.217min (-0.000) 0.396 ppbv m

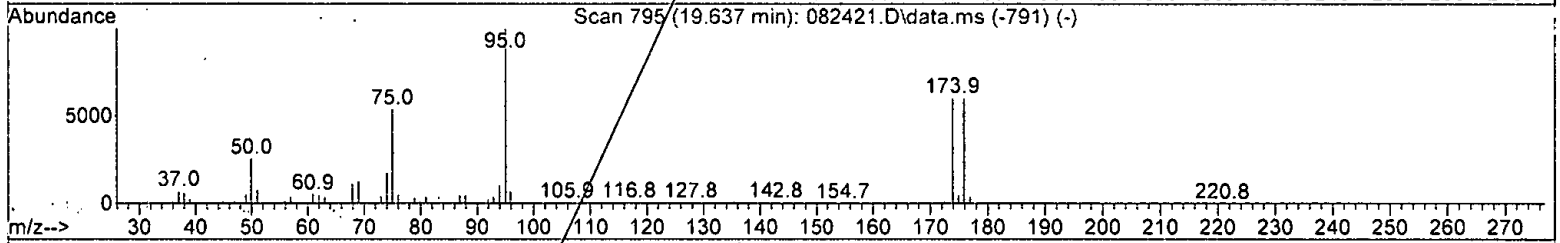
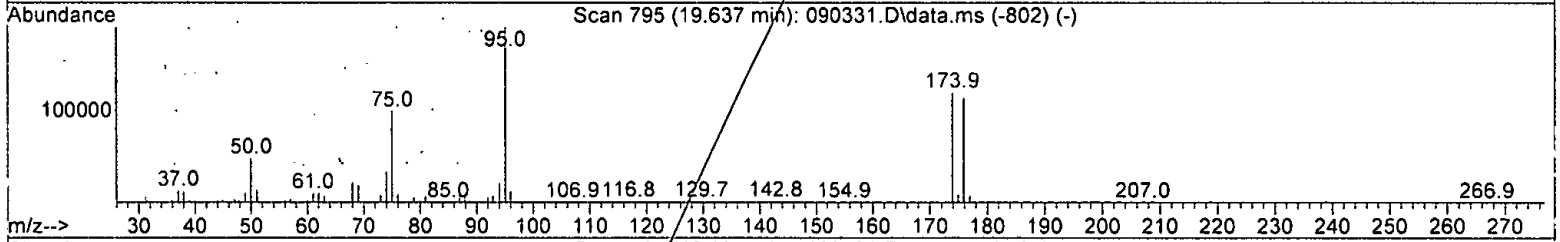
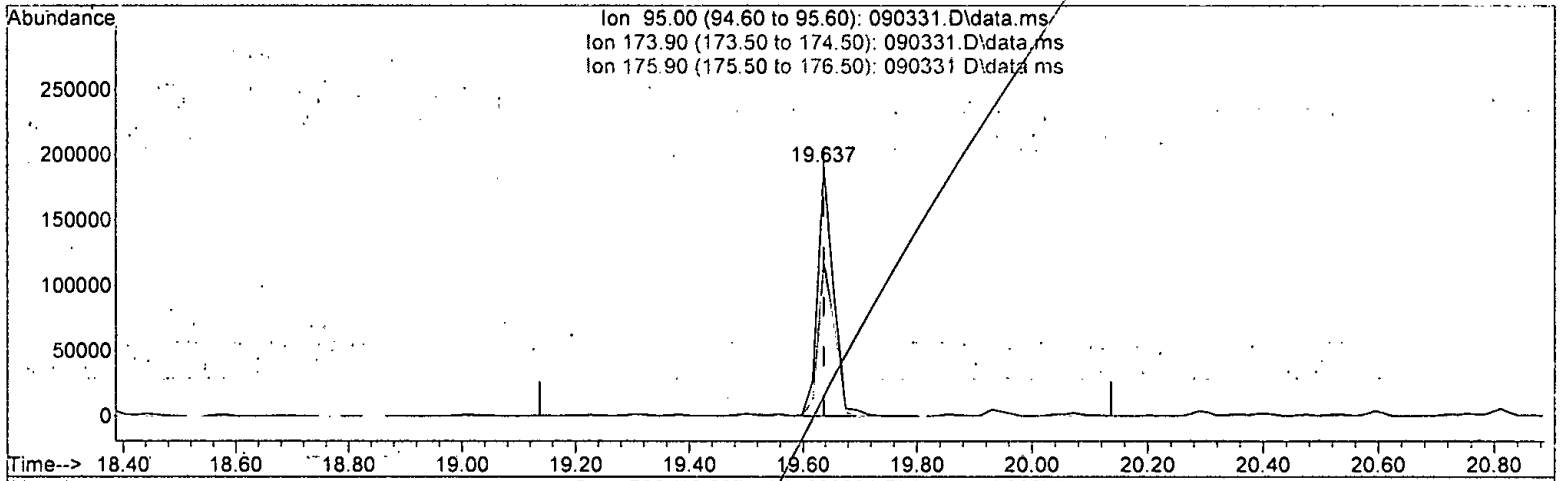
response	11943	
Ion	Exp%	Act%
95.00	100.00	100.00
97.00	67.10	72.04
130.00	86.10	70.44
132.00	84.30	65.60

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:05:46 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(69) 4-Bromofluorobenzene (S)

19.637min (-0.000) 9.542 ppbv

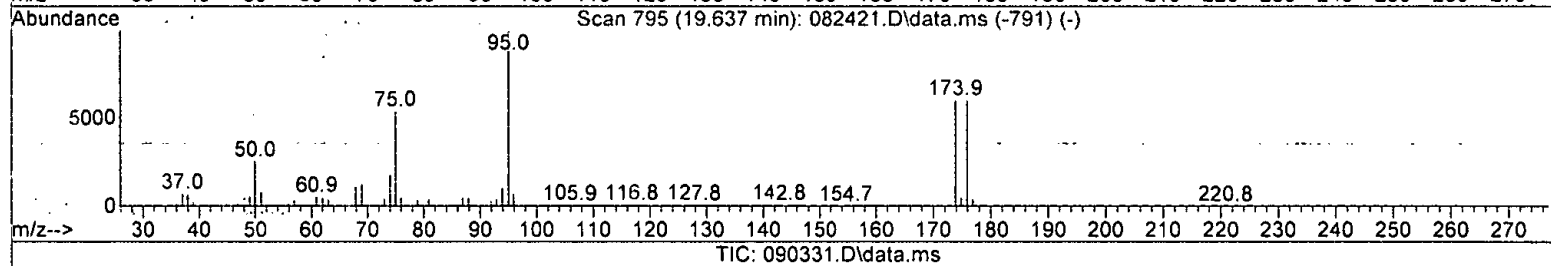
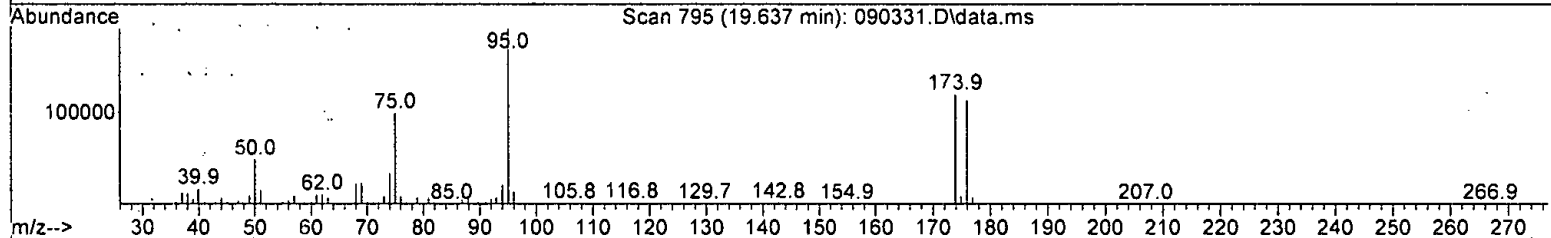
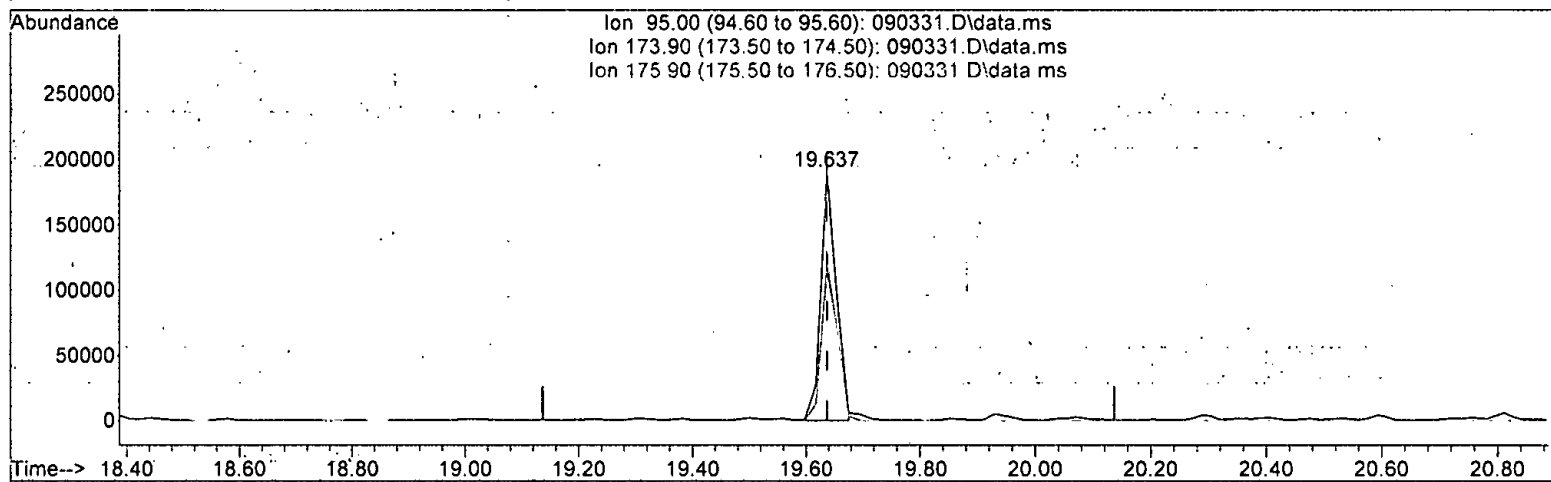
response 375656

Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	62.74
175.90	70.90	59.58
0.00	0.00	0.00

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 09/07/21

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:05:46 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(69) 4-Bromofluorobenzene (S)

19.637min (-0.000) 9.371 ppbv m

response 368930

Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	62.69
175.90	70.90	59.54
0.00	0.00	0.00

*u/aly*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

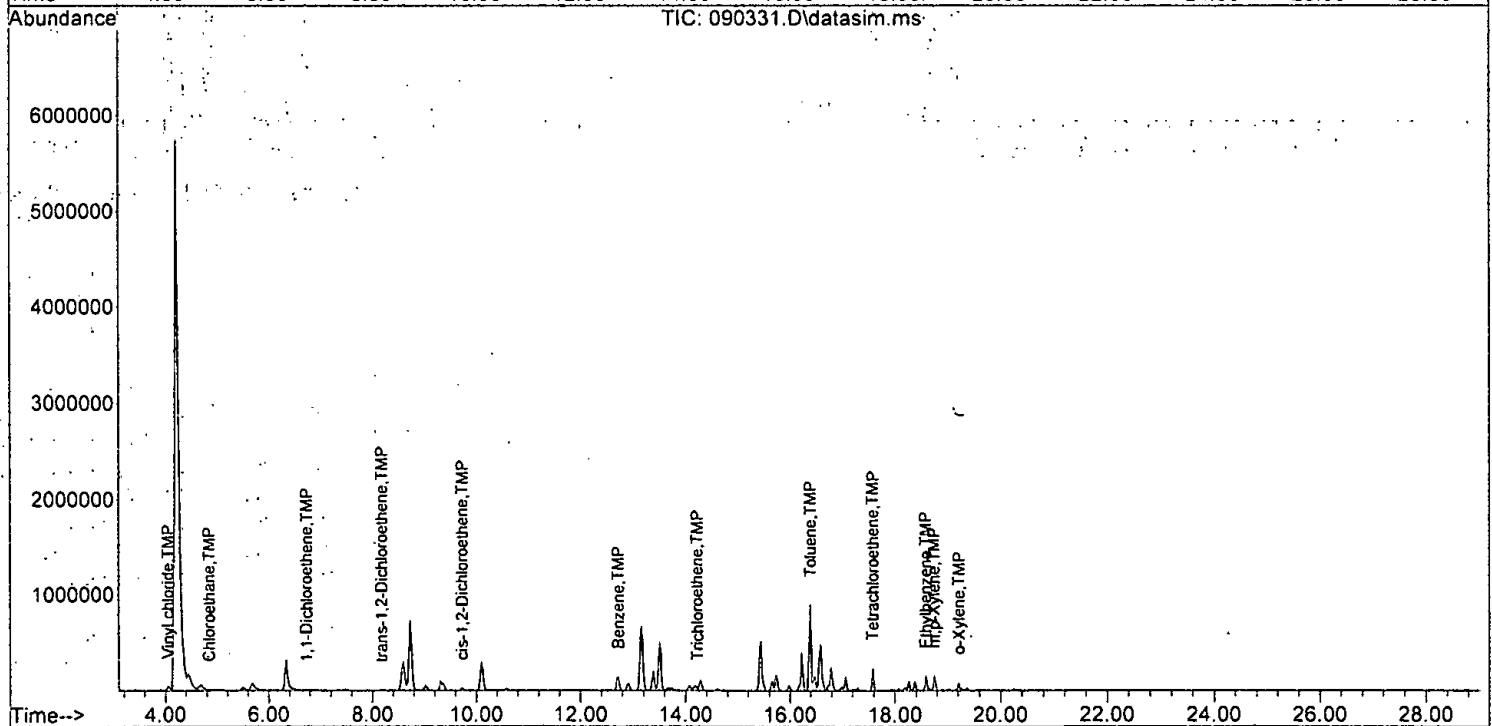
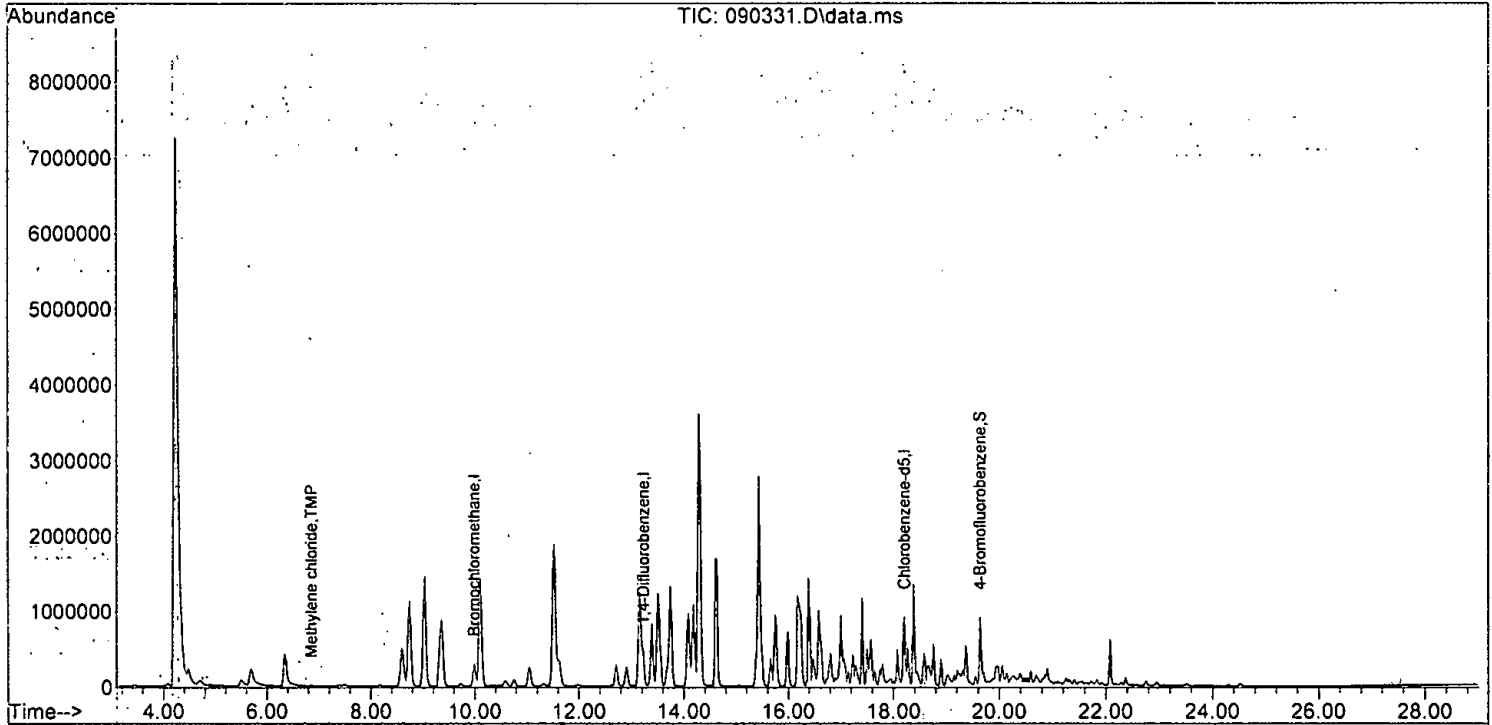
Quant Time: Sep 07 17:32:29 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.99	128	102600	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	488346	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	434571	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	368930m	9.371	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	93.70%
Target Compounds						
6] Vinyl chloride	4.05	62	74750	3.299	ppbv	94
10] Chloroethane	4.84	64	577	0.074	ppbv	95
18] 1,1-Dichloroethene	6.73	96	178	0.011	ppbv	77
19] trans-1,2-Dichloroethene	8.18	96	3436	0.206	ppbv #	76
20] Methylene chloride	6.86	84	3982	0.222	ppbv	93
28] cis-1,2-Dichloroethene	9.73	96	22068	1.208	ppbv #	70
37] Benzene	12.72	78	418312	6.659	ppbv	100
46] Trichloroethene	14.22	95	11943m	0.396	ppbv	
50] Toluene	16.40	92	566214	15.474	ppbv	82
53] Tetrachloroethene	17.58	164	102945	5.533	ppbv	82
58] Ethylbenzene	18.59	91	219240	2.271	ppbv	97
65] m,p-Xylene	18.74	106	93260	3.009	ppbv	82
66] o-Xylene	19.21	106	41303	1.356	ppbv	91

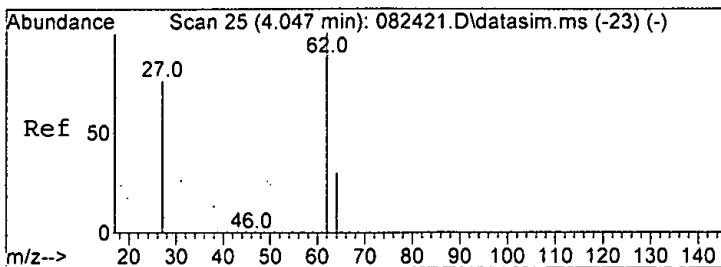
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 17:32:29 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M

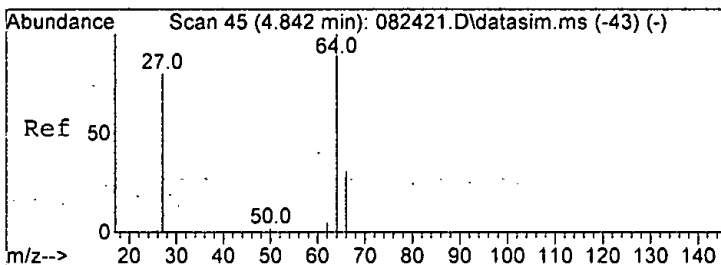
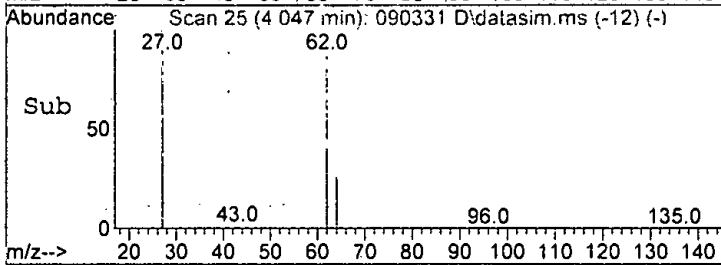
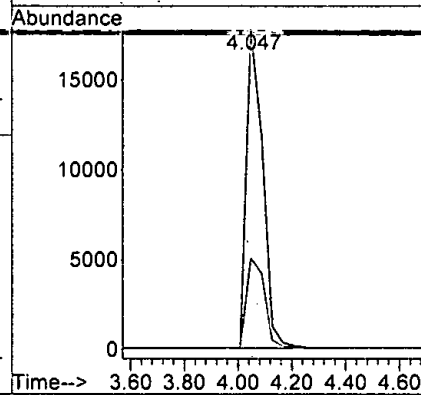
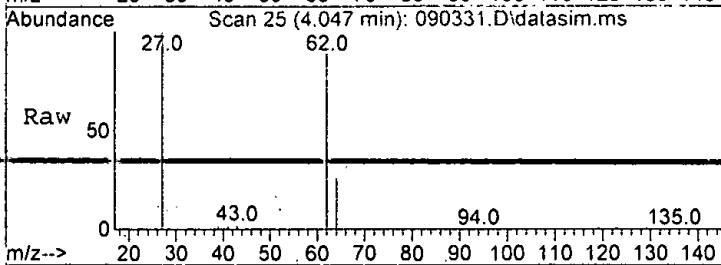






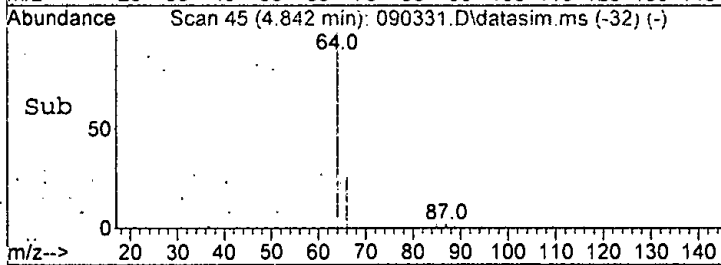
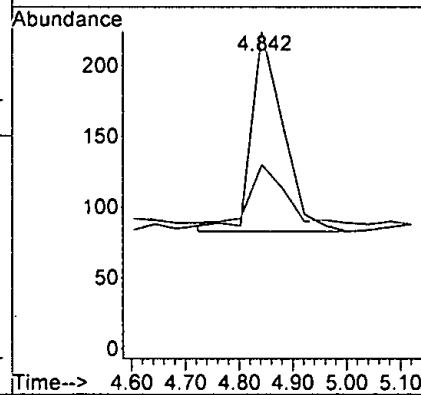
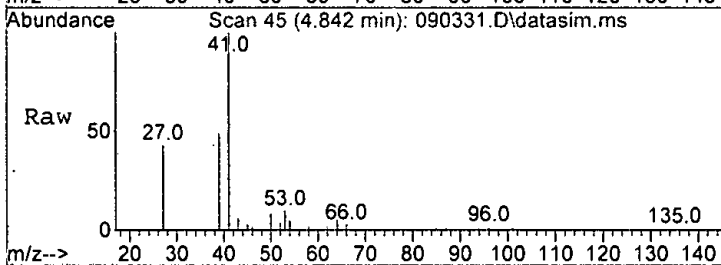
#6  
 Vinyl chloride  
 Concen: 3.299 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090331.D  
 Acq: 4 Sep 2021 3:27 am

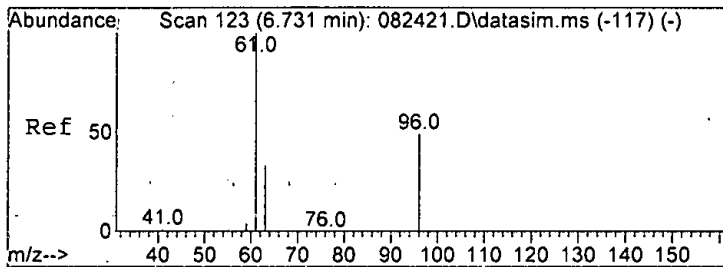
Tgt Ion: 62 Resp: 74750  
 Ion Ratio Lower Upper  
 62 100  
 64 28.3 1.5 61.5



#10  
 Chloroethane  
 Concen: 0.074 ppbv  
 RT: 4.84 min Scan# 45  
 Delta R.T. 0.000 min  
 Lab File: 090331.D  
 Acq: 4 Sep 2021 3:27 am

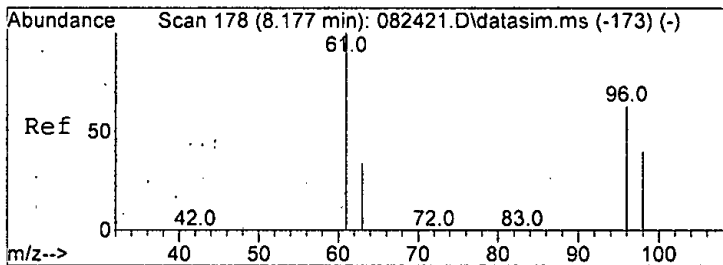
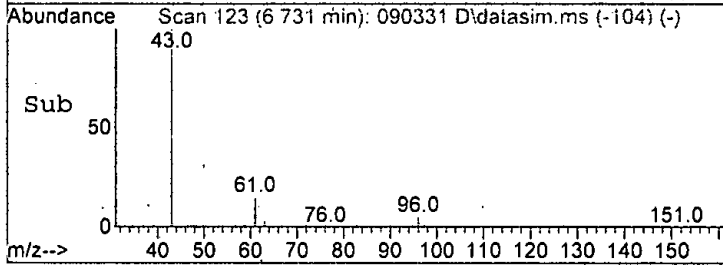
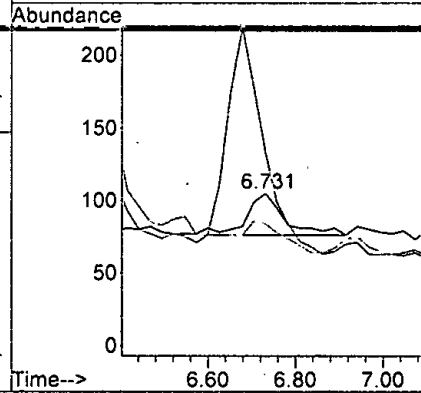
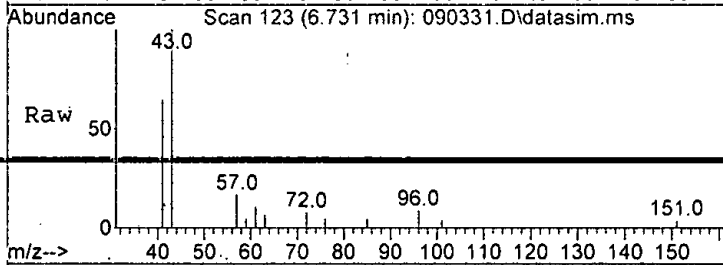
Tgt Ion: 64 Resp: 577  
 Ion Ratio Lower Upper  
 64 100  
 66 29.1 1.8 61.8





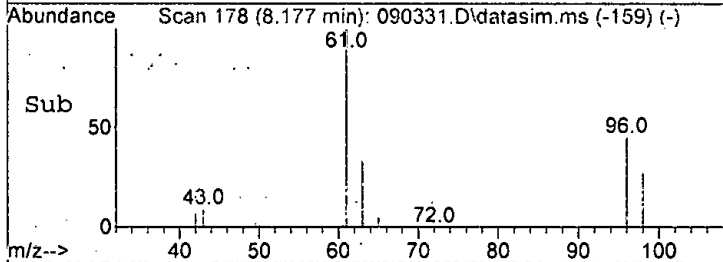
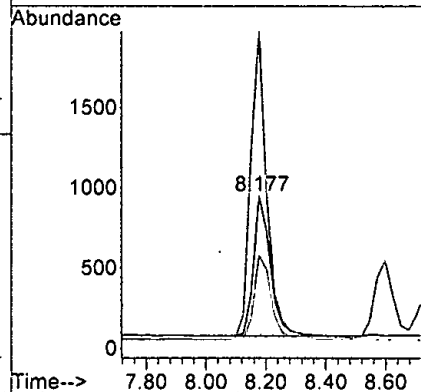
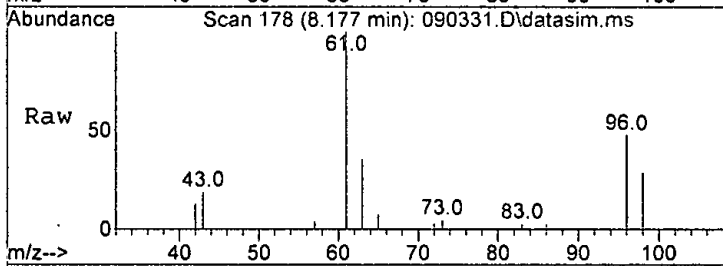
#18  
 1,1-Dichloroethene  
 Concen: 0.011 ppbv  
 RT: 6.73 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090331.D  
 Acq: 4 Sep 2021 3:27 am

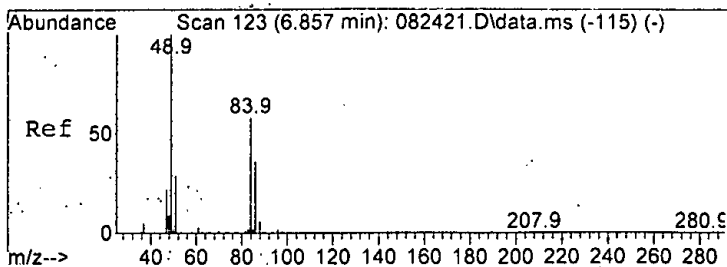
Tgt Ion	Resp	Lower	Upper
96	100		
61	217.2	159.0	219.0
63	34.5	32.0	92.0



#19  
 trans-1,2-Dichloroethene  
 Concen: 0.206 ppbv  
 RT: 8.18 min Scan# 178  
 Delta R.T. 0.000 min  
 Lab File: 090331.D  
 Acq: 4 Sep 2021 3:27 am

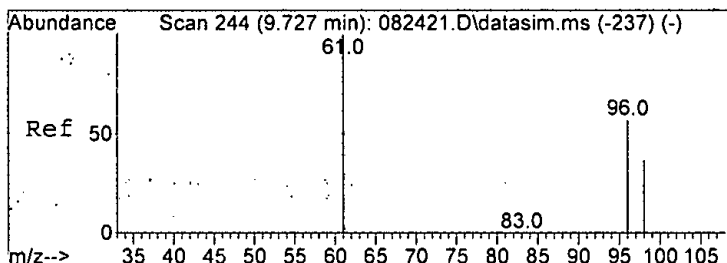
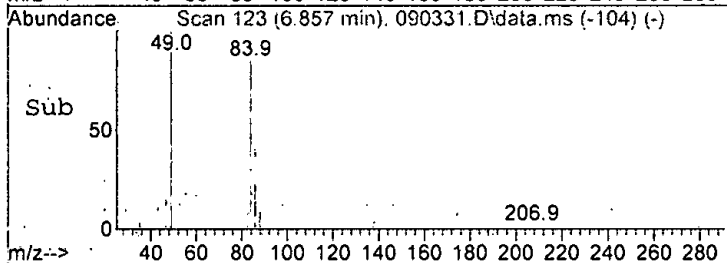
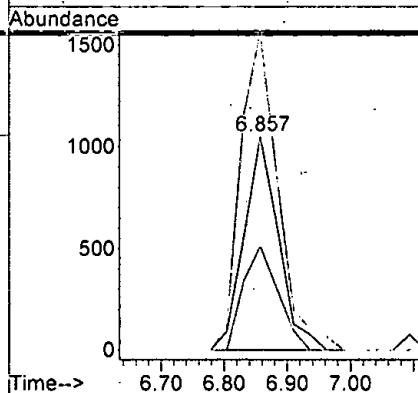
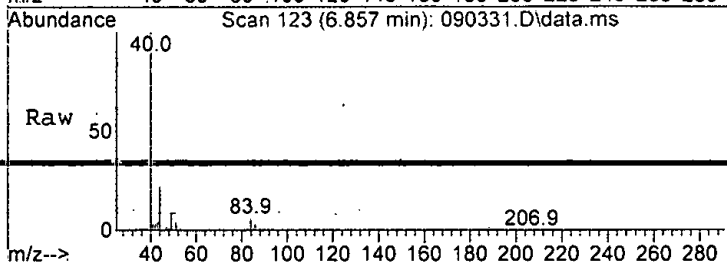
Tgt Ion	Resp	Lower	Upper
96	100		
61	220.4	147.9	207.9#
98	60.1	34.2	94.2





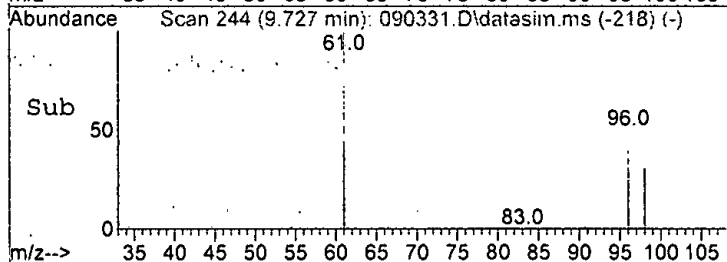
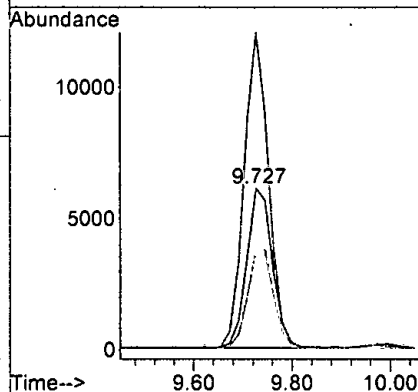
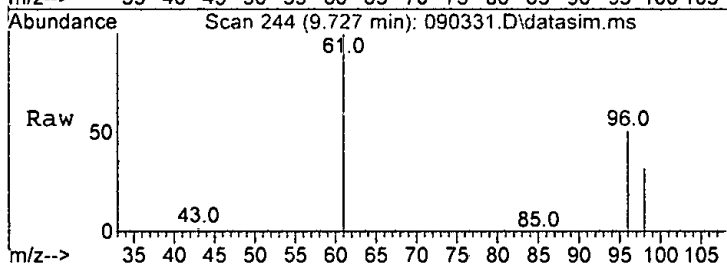
#20  
 Methylene chloride  
 Concen: 0.222 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090331.D  
 Acq: 4 Sep 2021 3:27 am

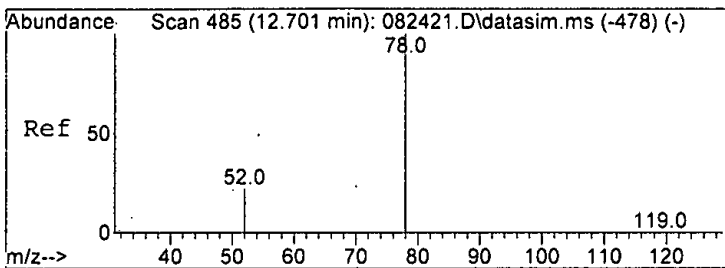
Tgt Ion	84	Resp	3982
Ion Ratio	Lower	Upper	
84	100		
86	48.8	33.9	93.9
49	149.4	116.6	176.6



#28  
 cis-1,2-Dichloroethene  
 Concen: 1.208 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. -0.000 min  
 Lab File: 090331.D  
 Acq: 4 Sep 2021 3:27 am

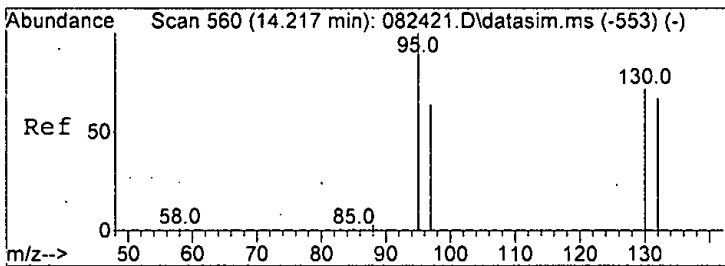
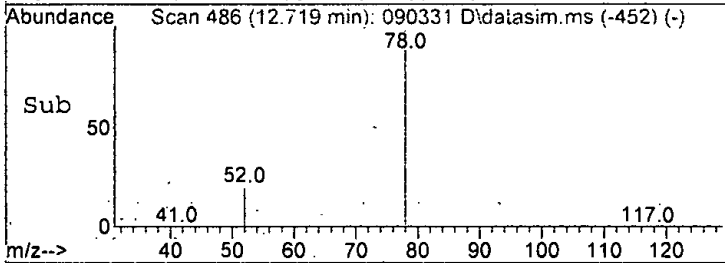
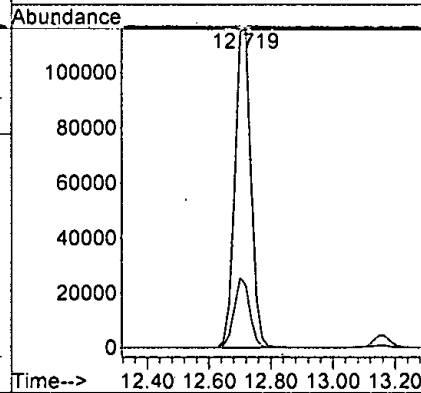
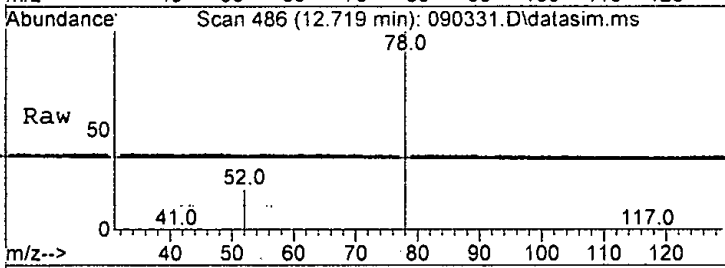
Tgt Ion	96	Resp	22068
Ion Ratio	Lower	Upper	
96	100		
61	198.3	116.0	176.0#
98	62.0	35.2	95.2





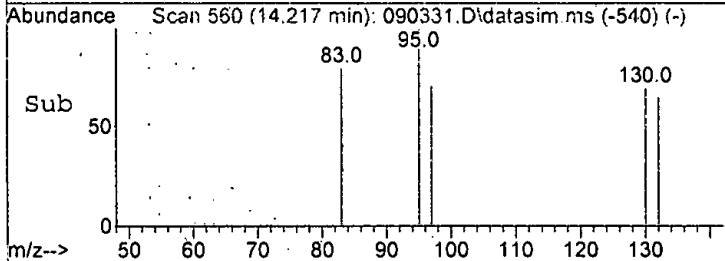
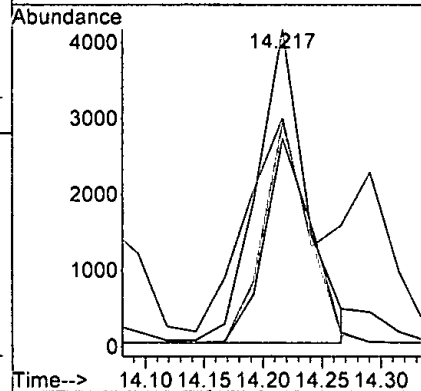
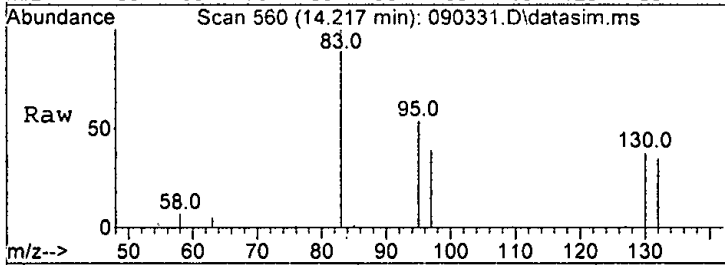
#37  
Benzene  
Concen: 6.659 ppbv  
RT: 12.72 min Scan# 486  
Delta R.T. 0.018 min  
Lab File: 090331.D  
Acq: 4 Sep 2021 3:27 am

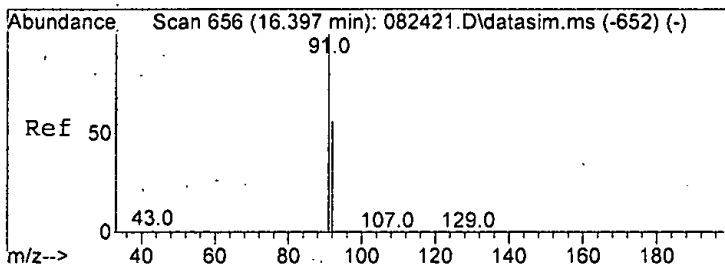
Tgt Ion: 78 Resp: 418312  
Ion Ratio Lower Upper  
78 100  
52 19.7 0.0 49.7



#46  
Trichloroethene  
Concen: 0.396 ppbv m  
RT: 14.22 min Scan# 560  
Delta R.T. -0.000 min  
Lab File: 090331.D  
Acq: 4 Sep 2021 3:27 am

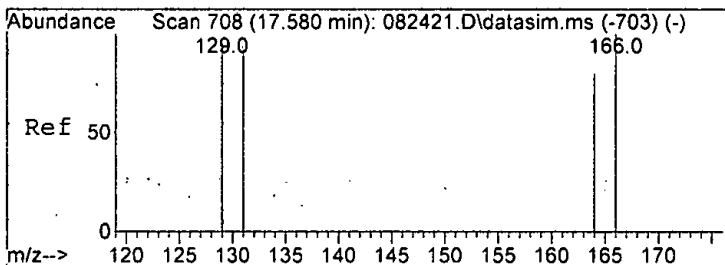
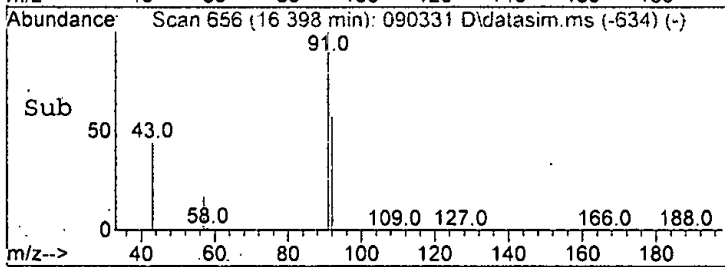
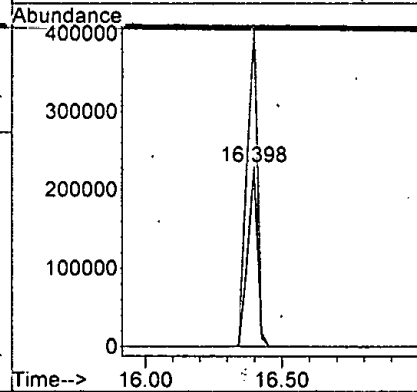
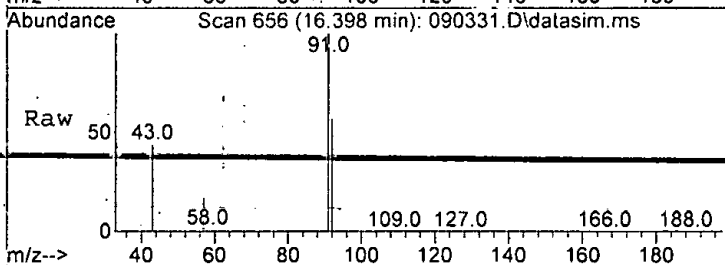
Tgt Ion: 95 Resp: 11943  
Ion Ratio Lower Upper  
95 100  
97 72.0 37.1 97.1  
130 70.4 56.1 116.1  
132 65.6 54.3 114.3





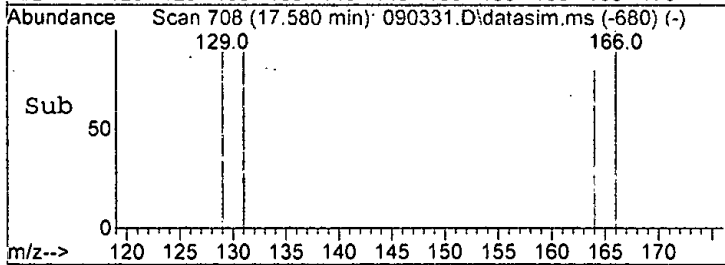
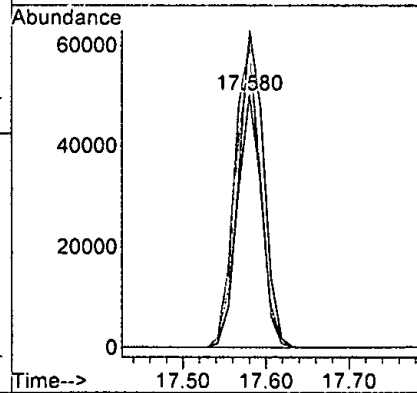
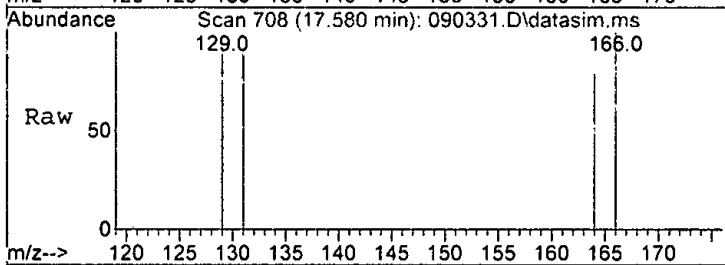
#50  
 Toluene  
 Concen: 15.474 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.001 min  
 Lab File: 090331.D  
 Acq: 4 Sep 2021 3:27 am

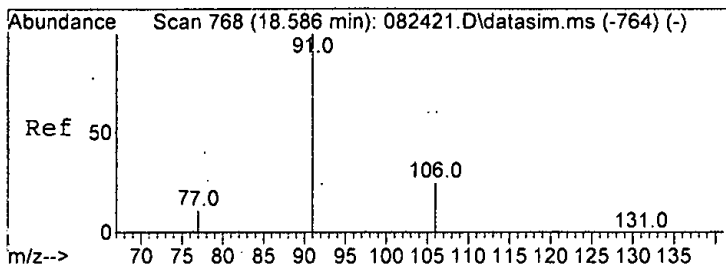
Tgt Ion: 92 Resp: 566214  
 Ion Ratio Lower Upper  
 92 100  
 91 177.0 174.6 234.6



#53  
 Tetrachloroethene  
 Concen: 5.533 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090331.D  
 Acq: 4 Sep 2021 3:27 am

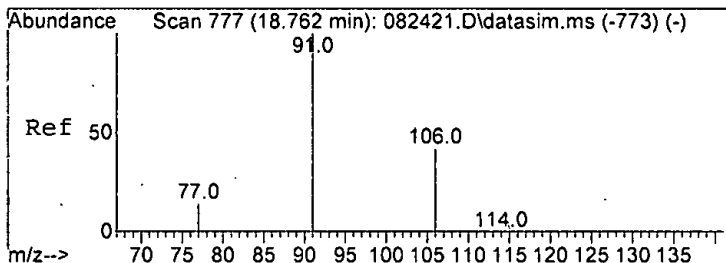
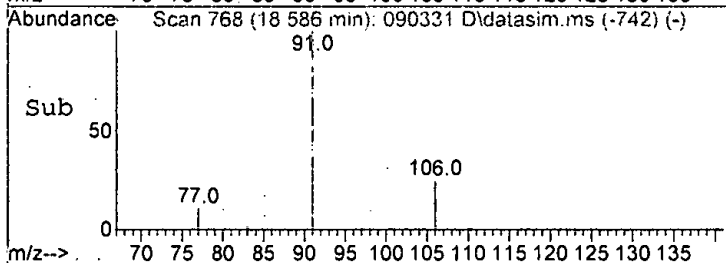
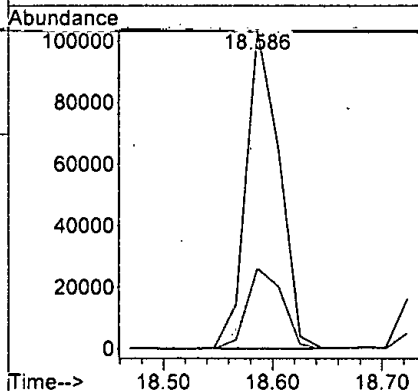
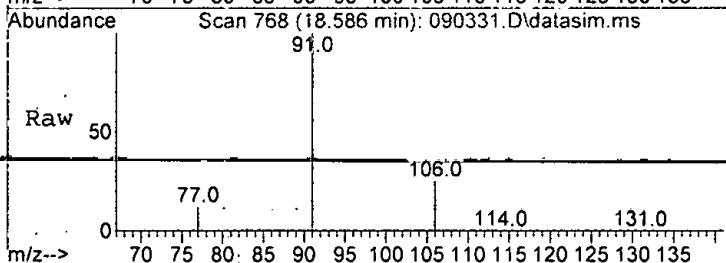
Tgt Ion: 164 Resp: 102945  
 Ion Ratio Lower Upper  
 164 100  
 129 121.1 63.2 123.2  
 131 118.9 70.7 130.7  
 166 125.9 107.5 167.5





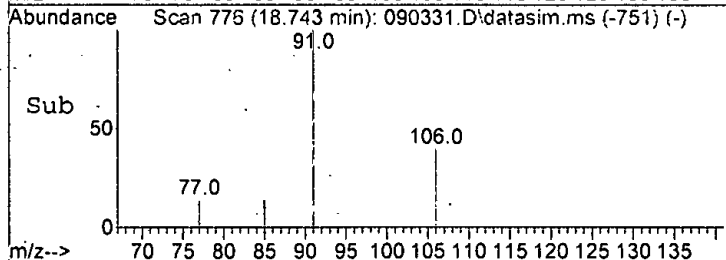
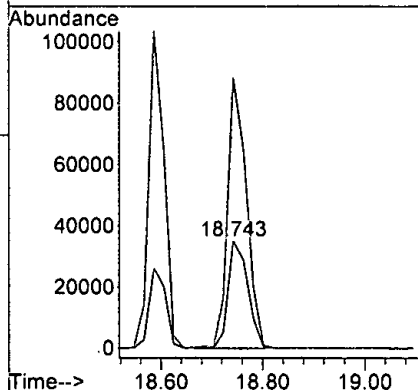
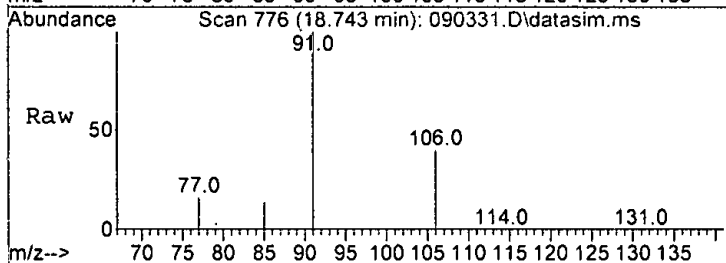
#58  
 Ethylbenzene  
 Concen: 2.271 ppbv  
 RT: 18.59 min Scan# 768  
 Delta R.T. 0.000 min  
 Lab File: 090331.D  
 Acq: 4 Sep 2021 3:27 am

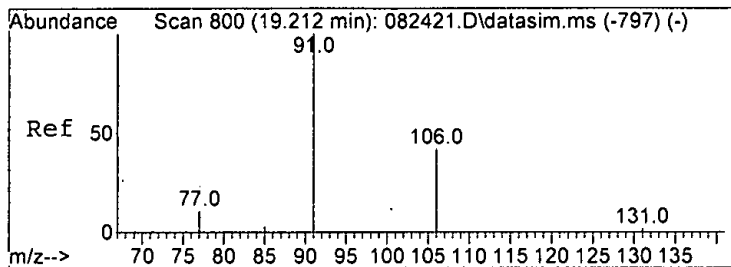
Tgt Ion: 91 Resp: 219240  
 Ion Ratio Lower Upper  
 91 100  
 106 25.4 0.0 57.0



#65  
 m,p-Xylene  
 Concen: 3.009 ppbv  
 RT: 18.74 min Scan# 776  
 Delta R.T. -0.019 min  
 Lab File: 090331.D  
 Acq: 4 Sep 2021 3:27 am

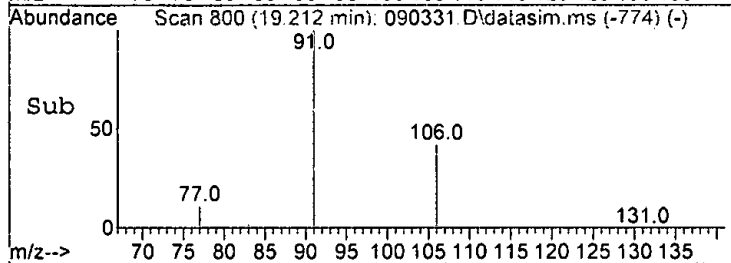
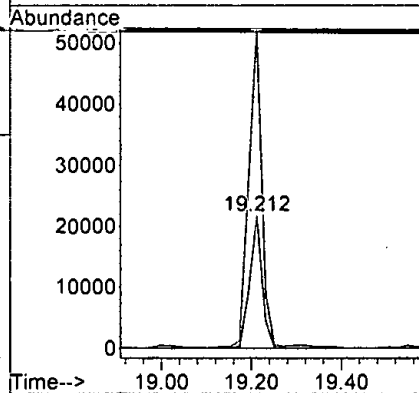
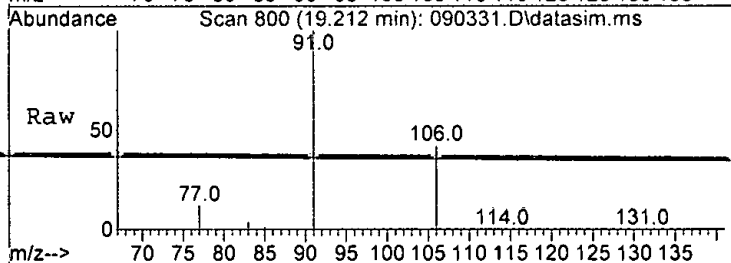
Tgt Ion: 106 Resp: 93260  
 Ion Ratio Lower Upper  
 106 100  
 91 252.2 193.0 253.0





#66  
 o-Xylene  
 Concen: 1.356 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090331.D  
 Acq: 4 Sep 2021 3:27 am

Tgt Ion: 106 Resp: 41303  
 Ion Ratio Lower Upper  
 106 100  
 91 239.8 194.4 254.4



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 17:32:29 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.99	128	102600	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	488346	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	434571	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	368930m	9.371	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	93.70%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.		
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.		
6) Vinyl chloride	4.05	62	74750	3.299	ppbv	94
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	4.84	64	577	0.074	ppbv	95
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.	d	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.		
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	6.73	96	178	0.011	ppbv	77
19) trans-1,2-Dichloroethene	8.18	96	3436	0.206	ppbv #	76
20) Methylene chloride	6.86	84	3982	0.222	ppbv	93
21) t-Butyl alcohol (TBA)	0.00		0	N.D.		
22) 3-Chloropropene	0.00		0	N.D.		
23) CFC-113	0.00		0	N.D.		
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.		
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	8.47	63	274	N.D.		
28) cis-1,2-Dichloroethene	9.73	96	22068	1.208	ppbv #	70
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	0.00		0	N.D.	d	
35) 1,1,1-Trichloroethane	11.68	97	146	N.D.		
36) Carbon tetrachloride	0.00		0	N.D.		
37) Benzene	12.72	78	418312	6.659	ppbv	100
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

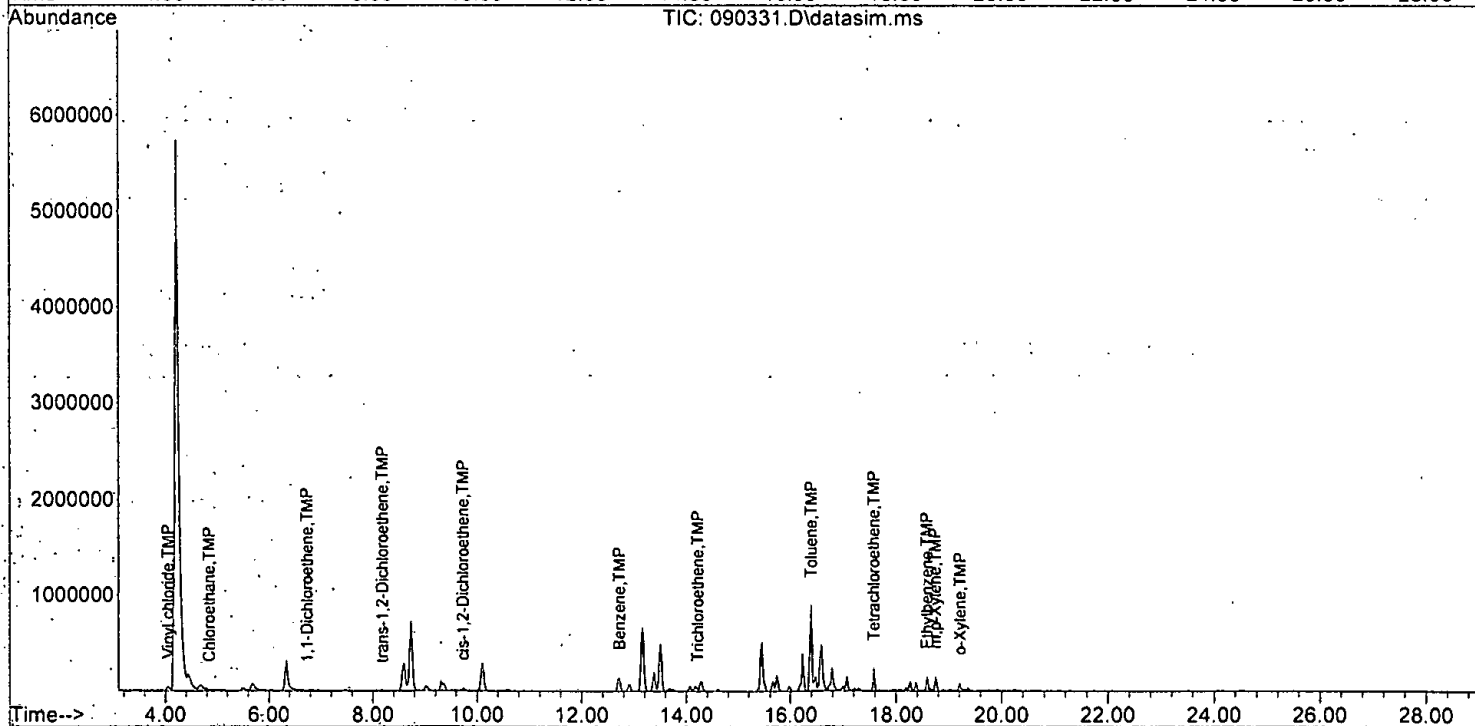
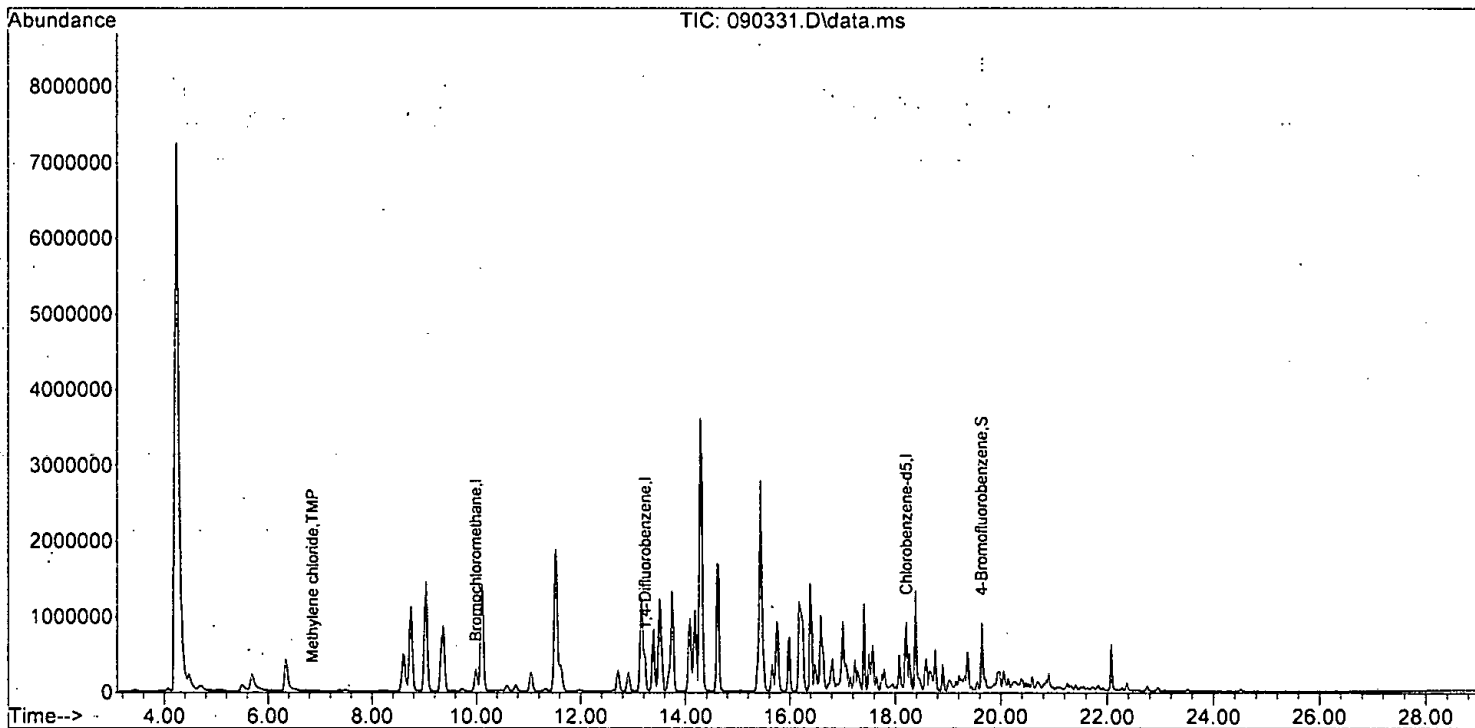
Quant Time: Sep 07 17:32:29 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46) Trichloroethene	14.22	95	11943m	0.396	ppbv	
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50) Toluene	16.40	92	566214	15.474	ppbv	82
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53) Tetrachloroethene	17.58	164	102945	5.533	ppbv	82
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58) Ethylbenzene	18.59	91	219240	2.271	ppbv	97
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65) m,p-Xylene	18.74	106	93260	3.009	ppbv	82
66) o-Xylene	19.21	106	41303	1.356	ppbv	91
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77) Naphthalene	23.93	128	2158	N.D.	d	
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

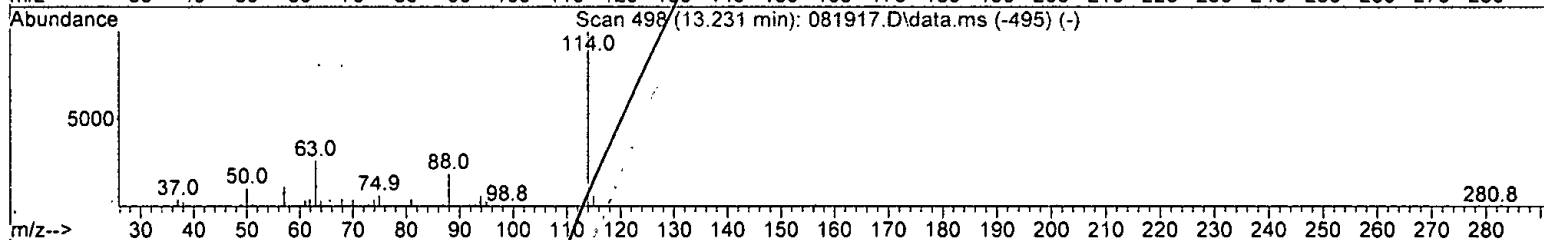
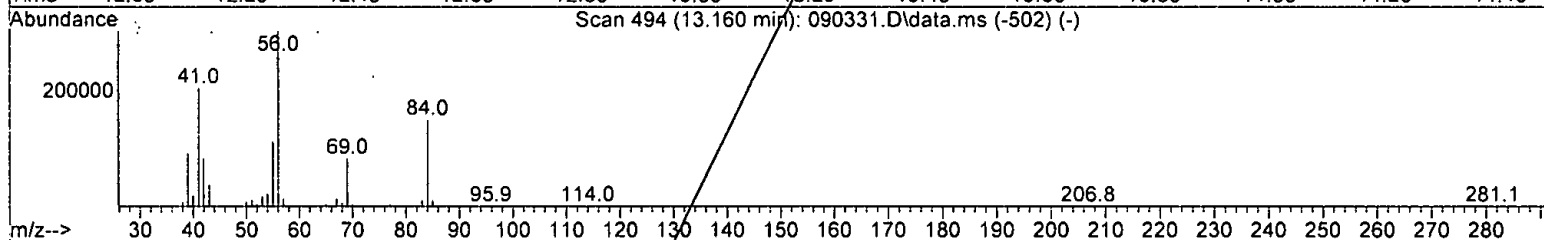
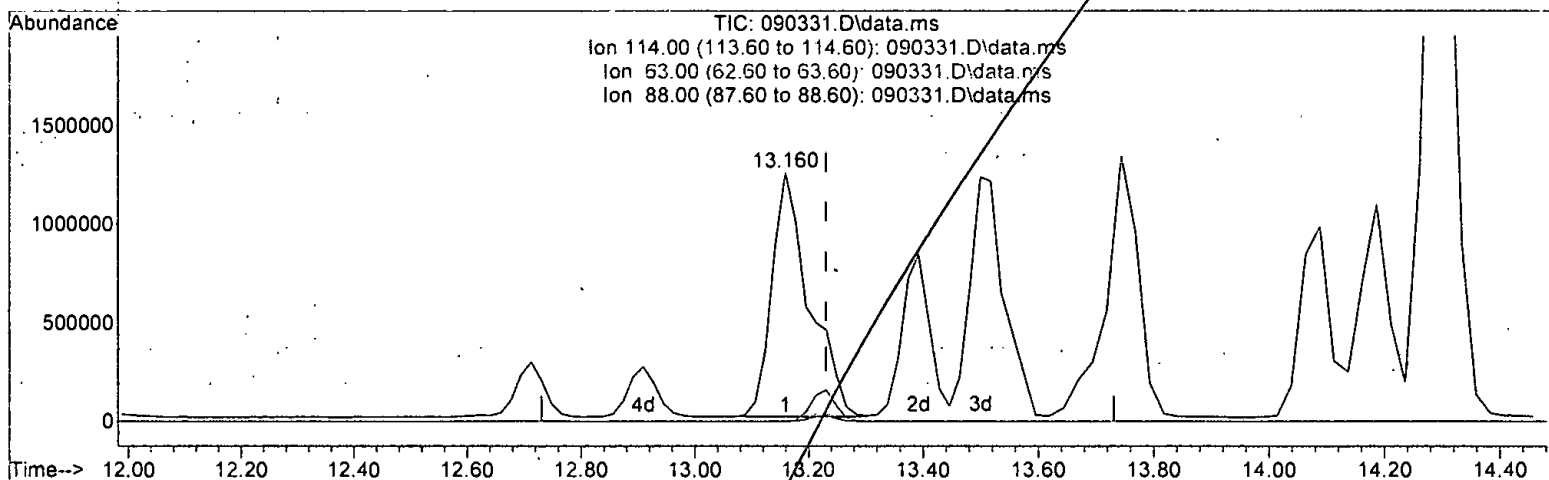
Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 17:32:29 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:52:41 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.160min (-0.071) 219.919 ug/m3

response 5654678

Signal Exp% Act%

TIC 100.00 100.00

114.00 43.50 0.05#

63.00 8.40 0.17

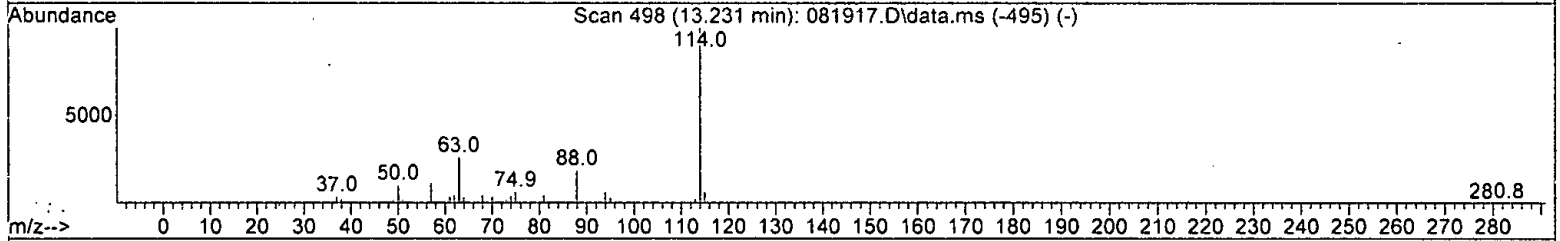
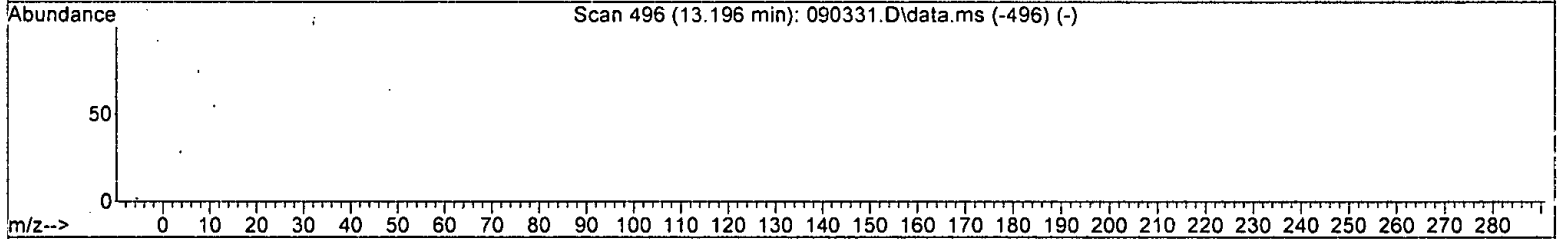
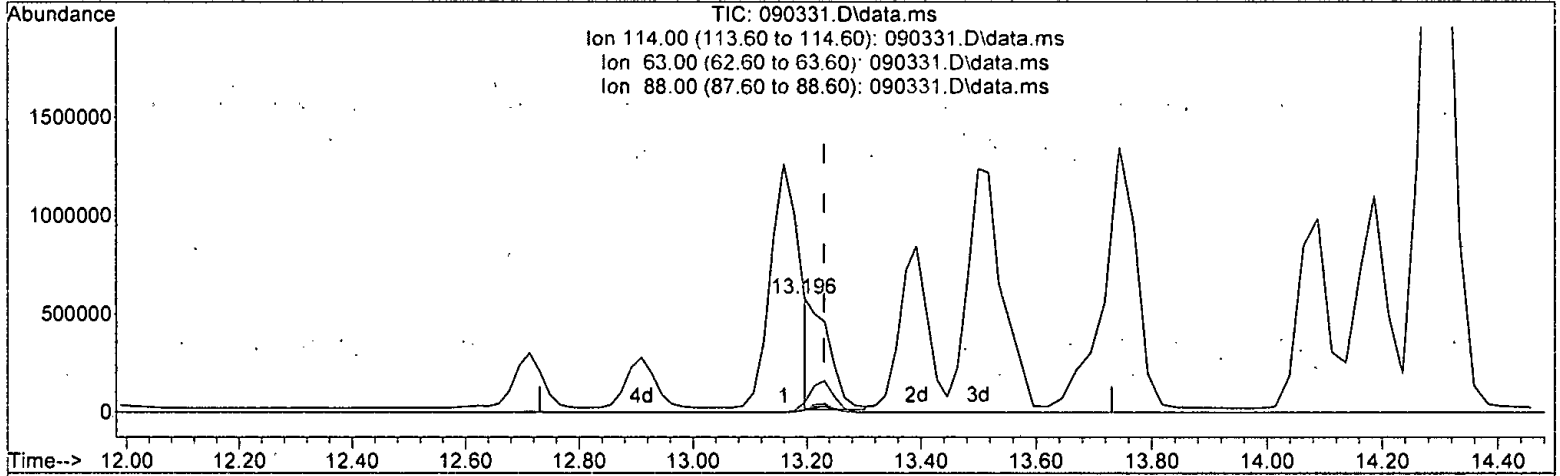
88.00 7.60 0.01

*M. Kelly*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 16:52:41 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)  
 13.196min (-0.035) 52.091 ug/m3 m  
 response 1339394

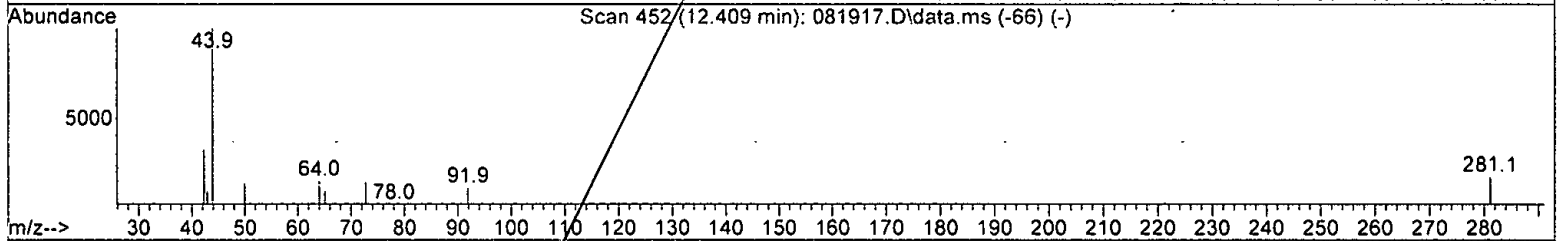
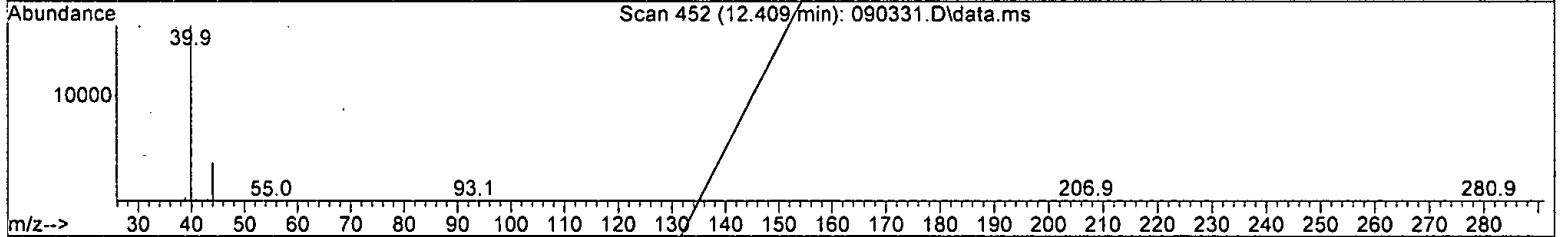
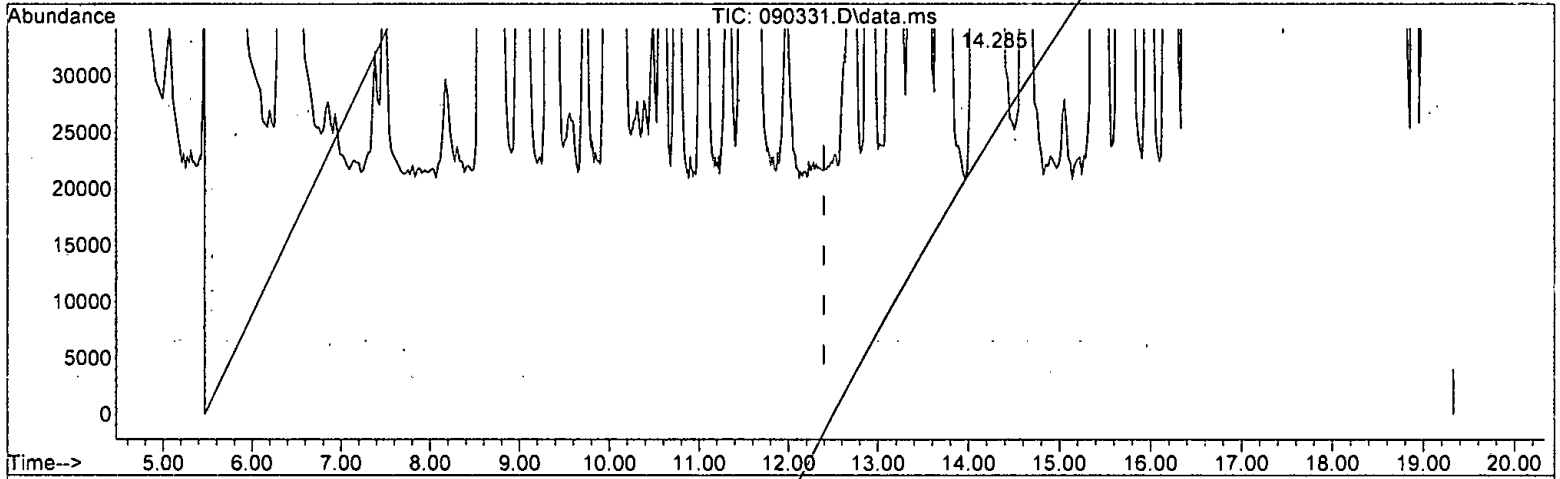
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	0.21#
63.00	8.40	0.71
88.00	7.60	0.04

*h/aly*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 17:20:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 3492.370 ug/m3

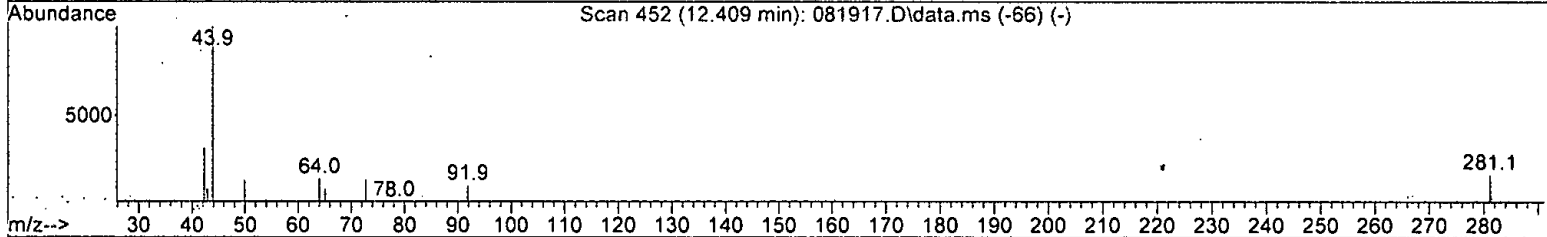
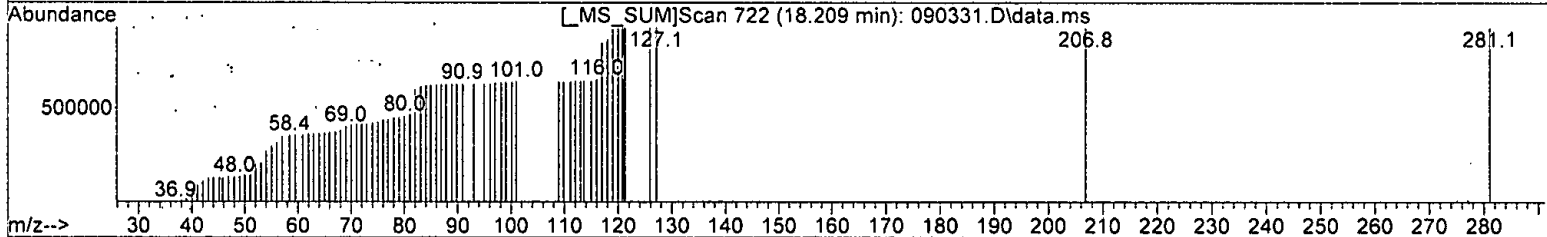
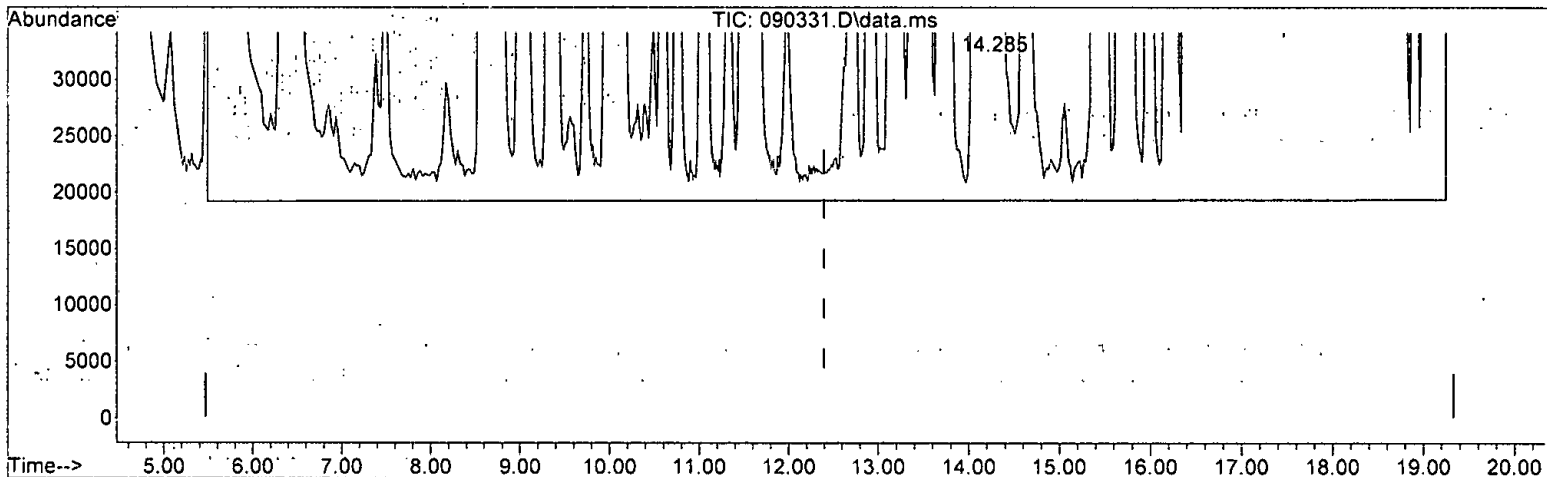
response 135321485

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten note:* N  
09/07/21

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 17:20:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



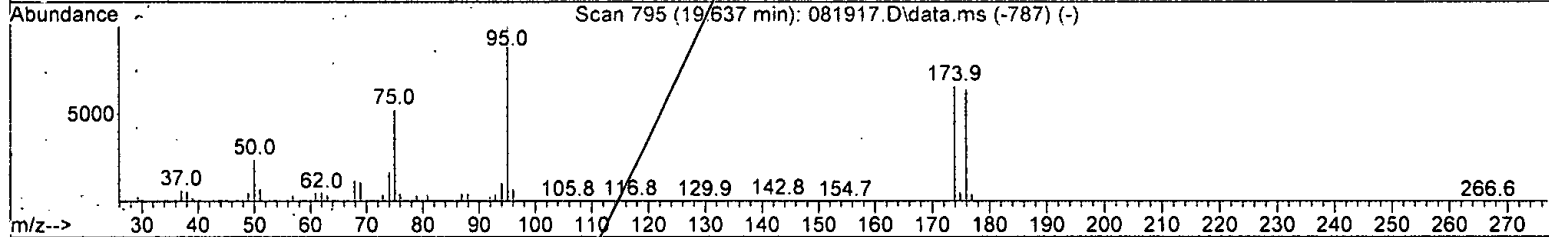
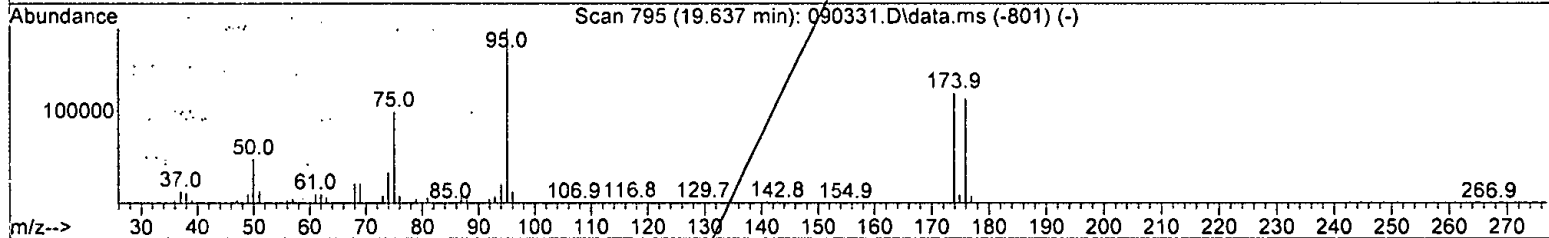
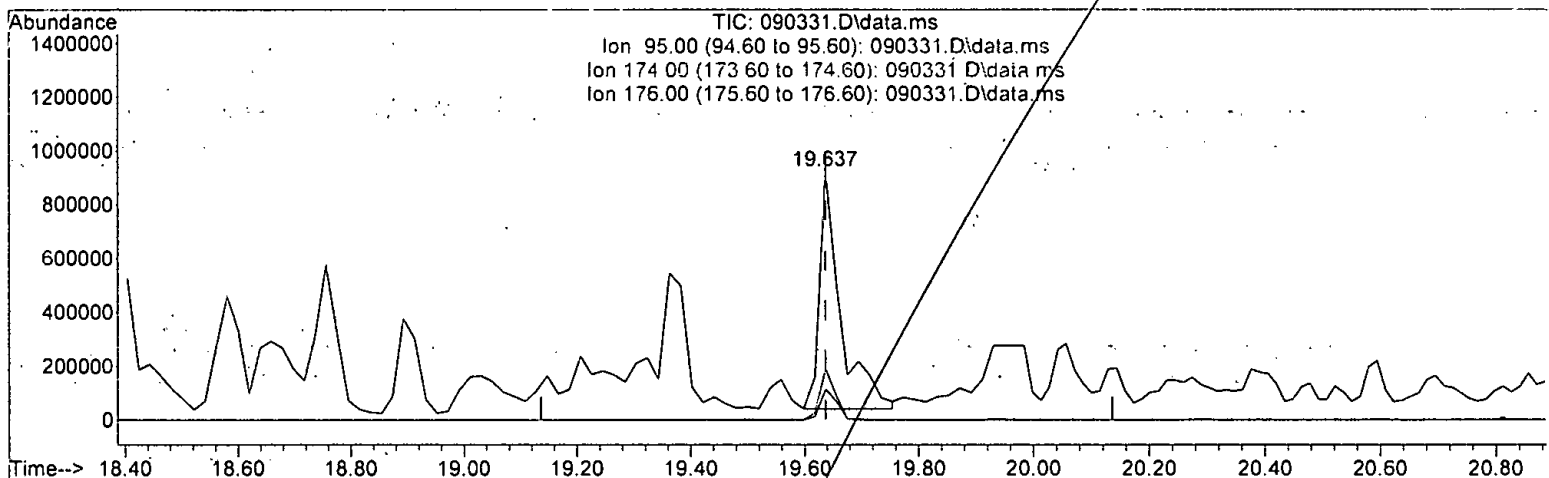
(19) APH EC5-8 aliphatics (H)  
 12.400min ( 0.000) 3732.030 ug/m3 m  
 response 144607766

*Handwritten signature:* M/09/21

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 17:20:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 62.899 ug/m3

response 2307560

Signal Exp% Act%

TIC 100.00 100.00

95.00 20.00 21.54

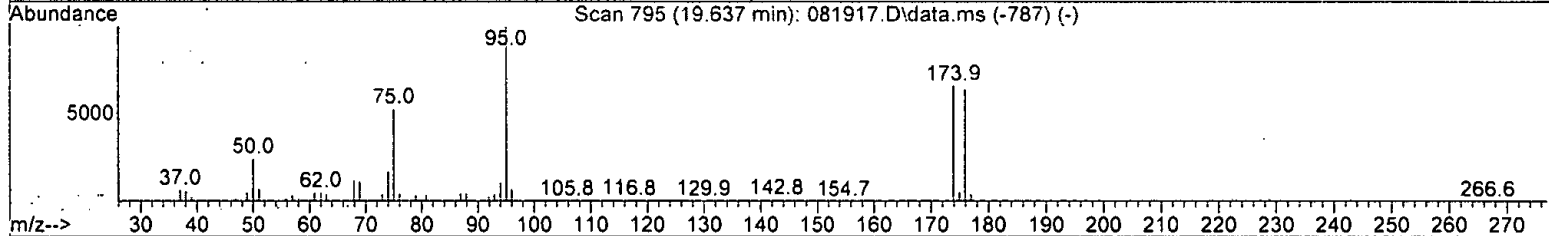
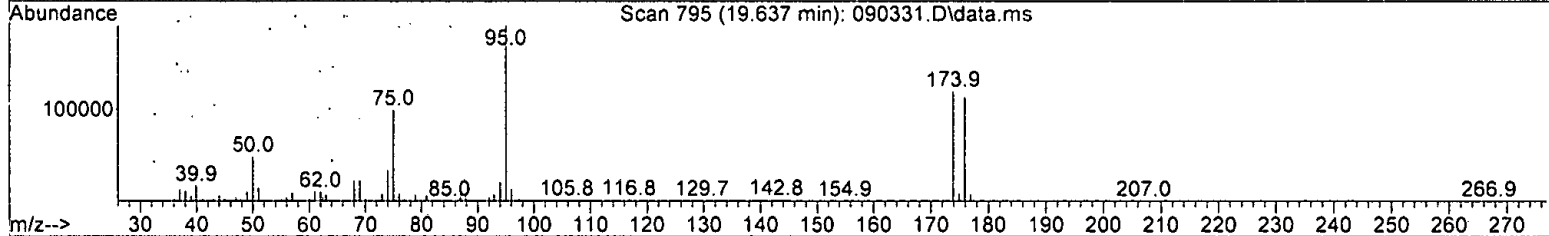
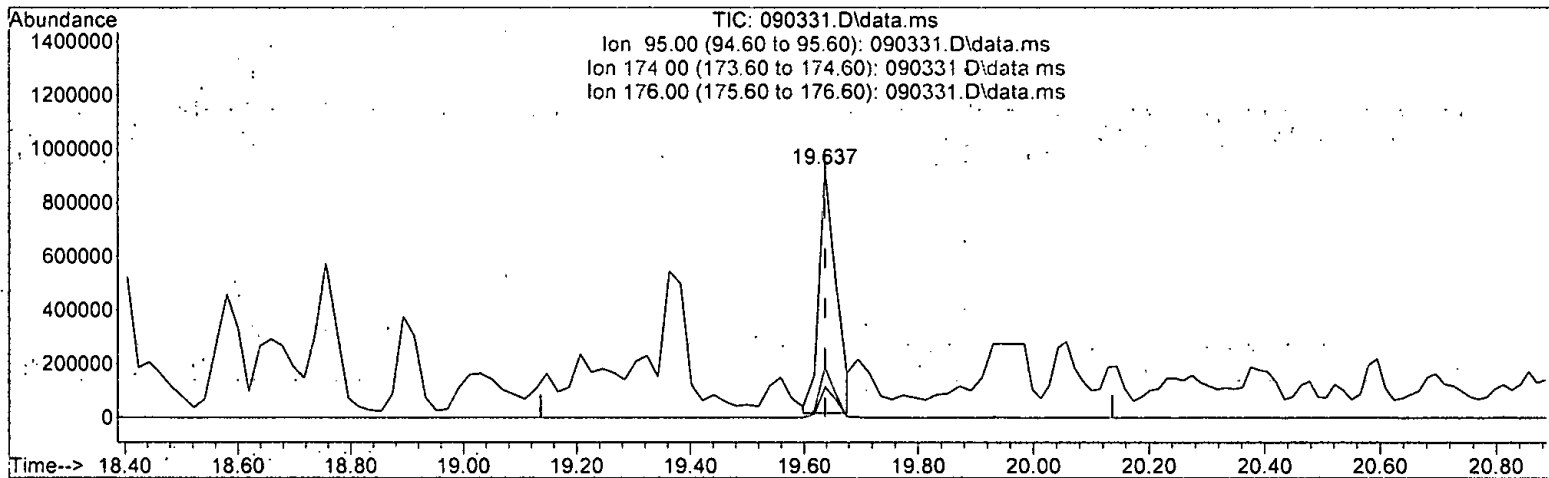
174.00 19.20 13.52

176.00 18.70 12.84

*Handwritten note:* 62.899 ug/m3

Data Path : F:\Proc GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 17:20:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 54.036 ug/m3 m

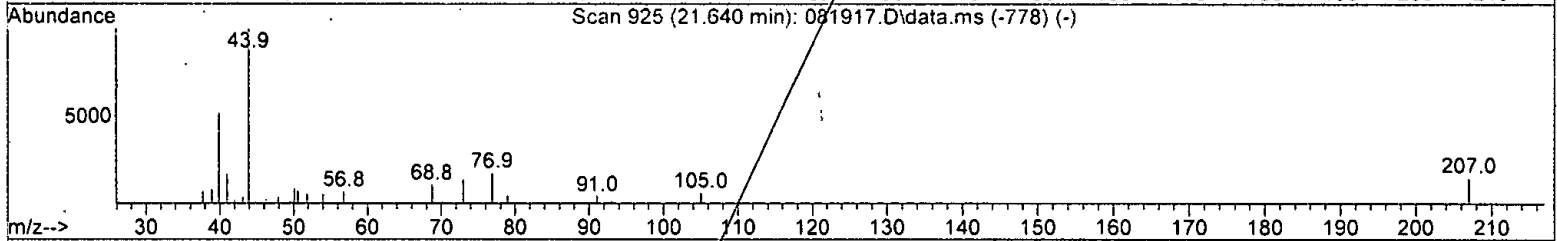
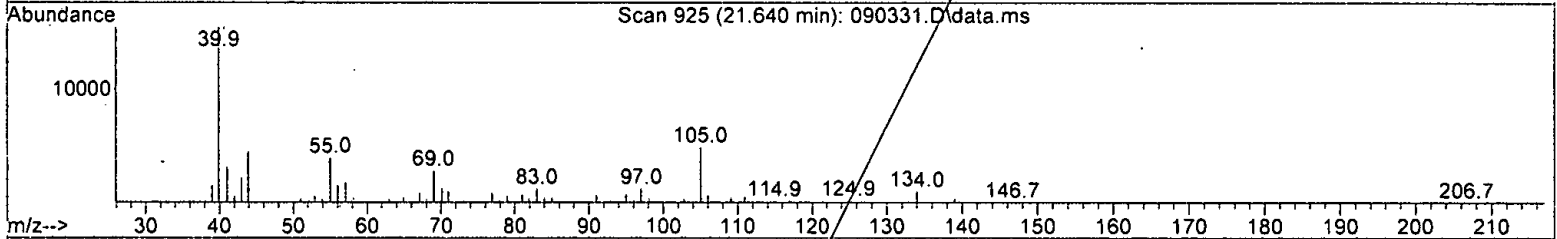
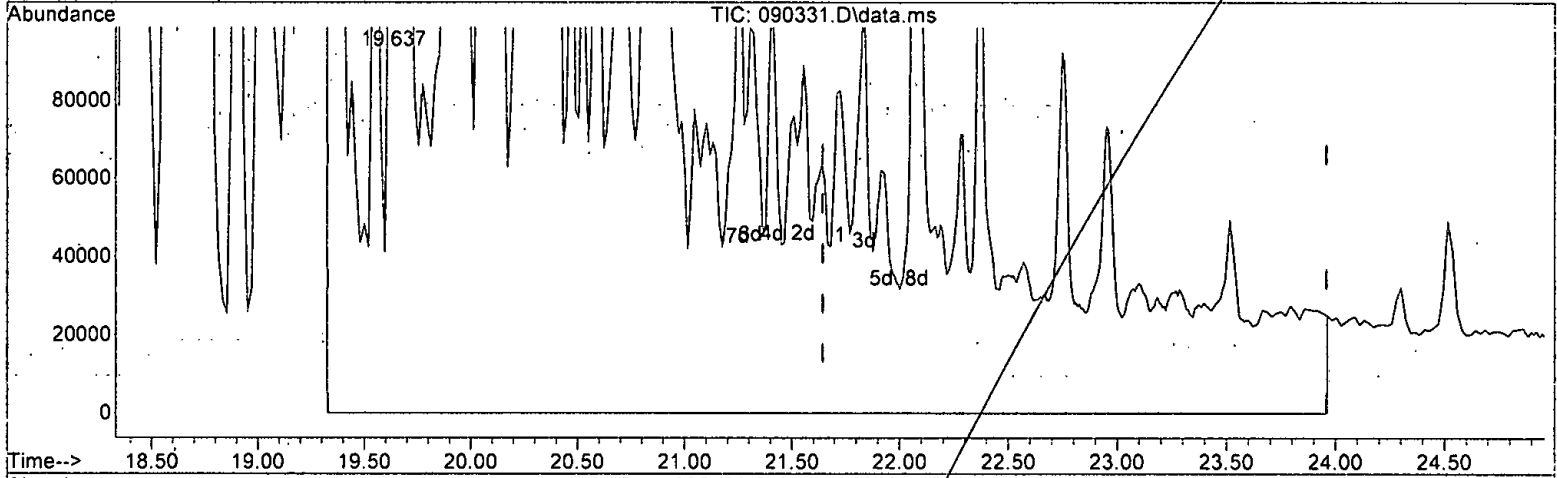
response	1982391
Signal	Exp% Act%
TIC	100.00 100.00
95.00	20.00 25.07
174.00	19.20 15.73
176.00	18.70 14.94

*Handwritten signature/initials*



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 17:20:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 218.225 ug/m3 m

response 9702845

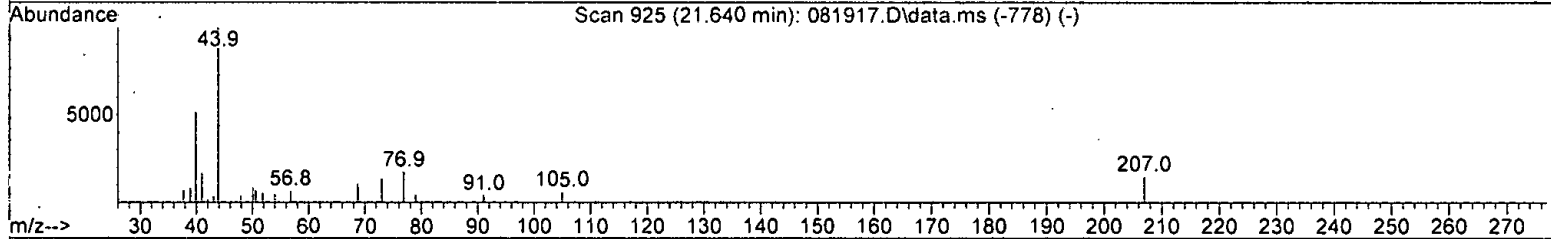
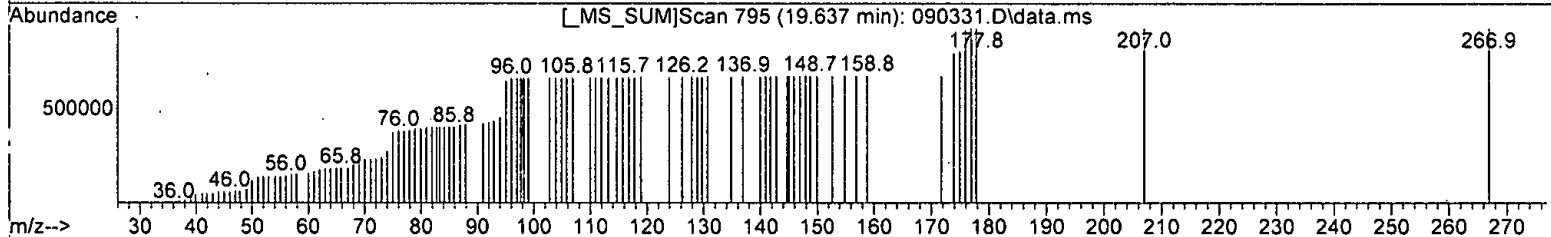
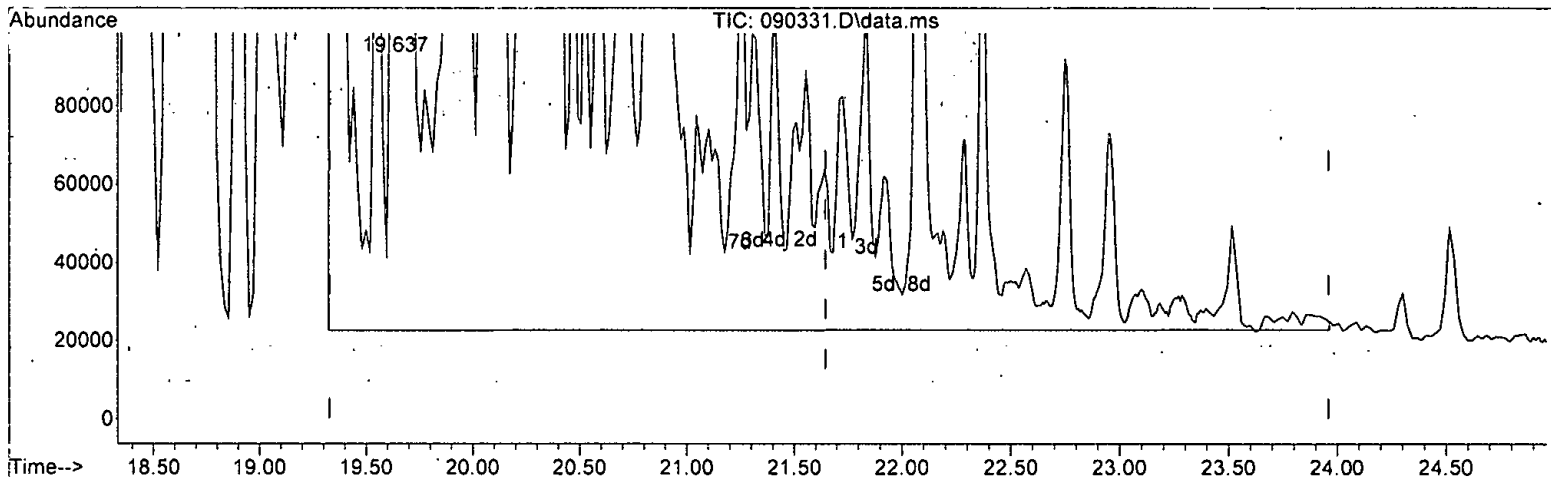
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature and date: 6/10/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 17:20:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



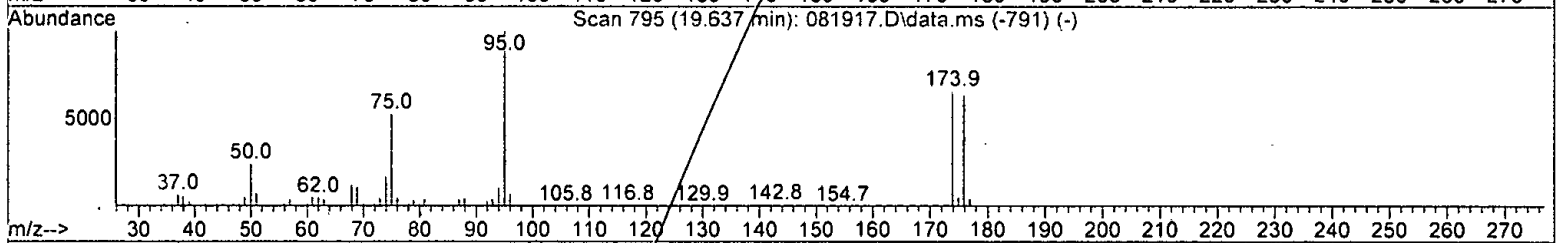
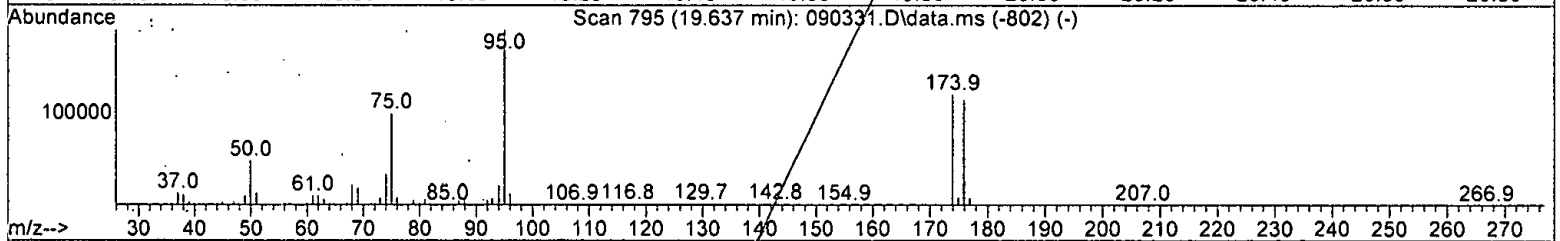
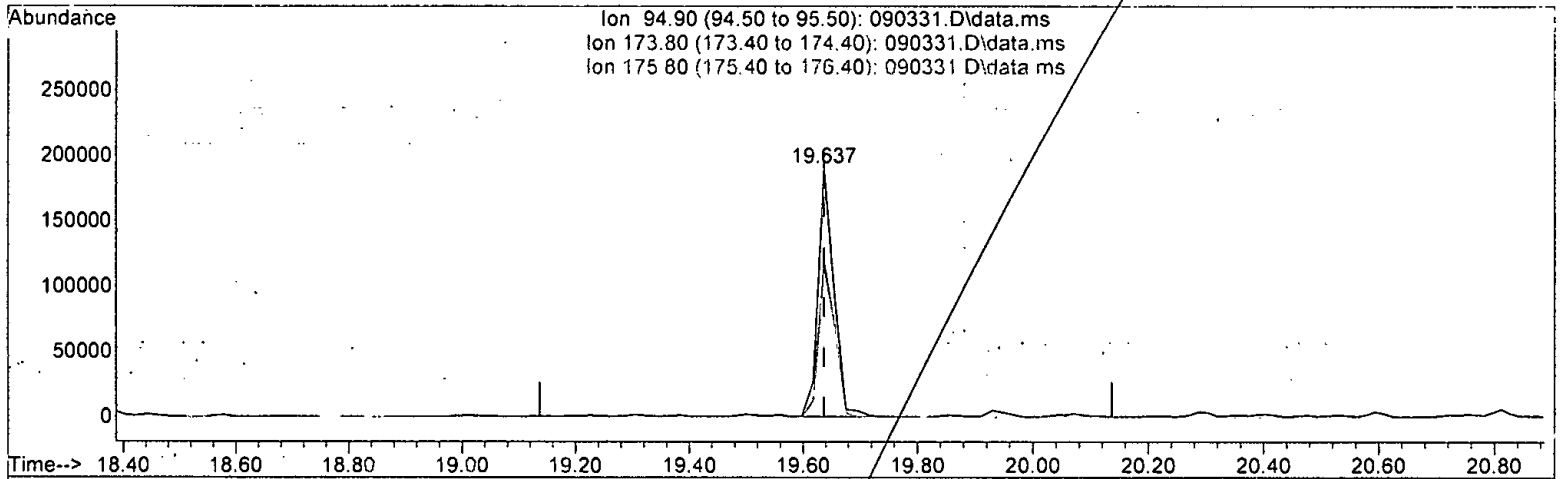
TIC: 090331.D\data.ms

(36) APH EC9-12 aliphatics (H)			
21.645min ( 0.000)	340.682 ug/m3 m		
response	15147570		
Signal	Exp%	Act%	
TIC	100.00	100.00	
0.00	0.00	0.00	
0.00	0.00	0.00	
0.00	0.00	0.00	

W  
09/07/21

Data Path : F:\Proc GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 17:20:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



TIC: 090331.D\data.ms

(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 68.996 ug/m3

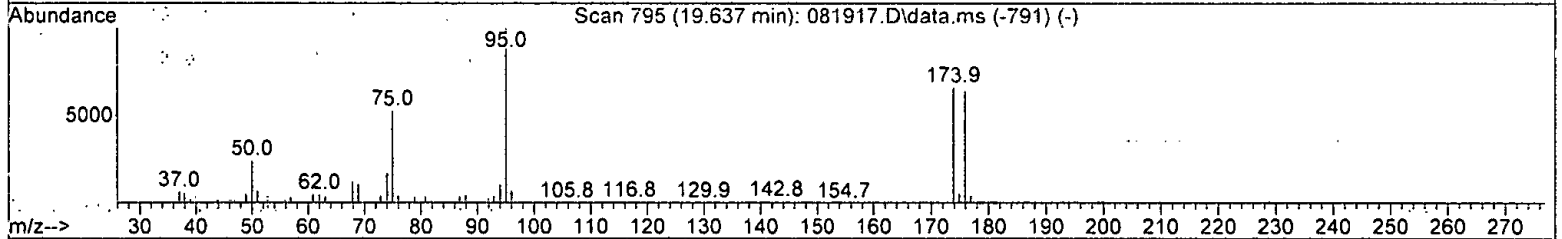
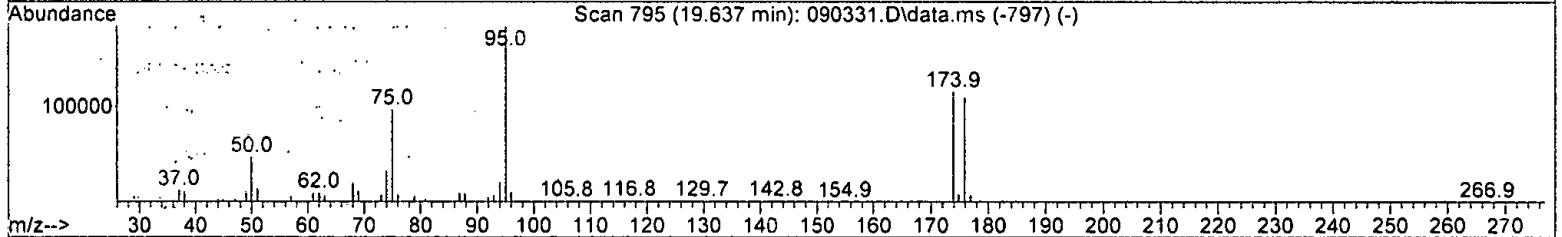
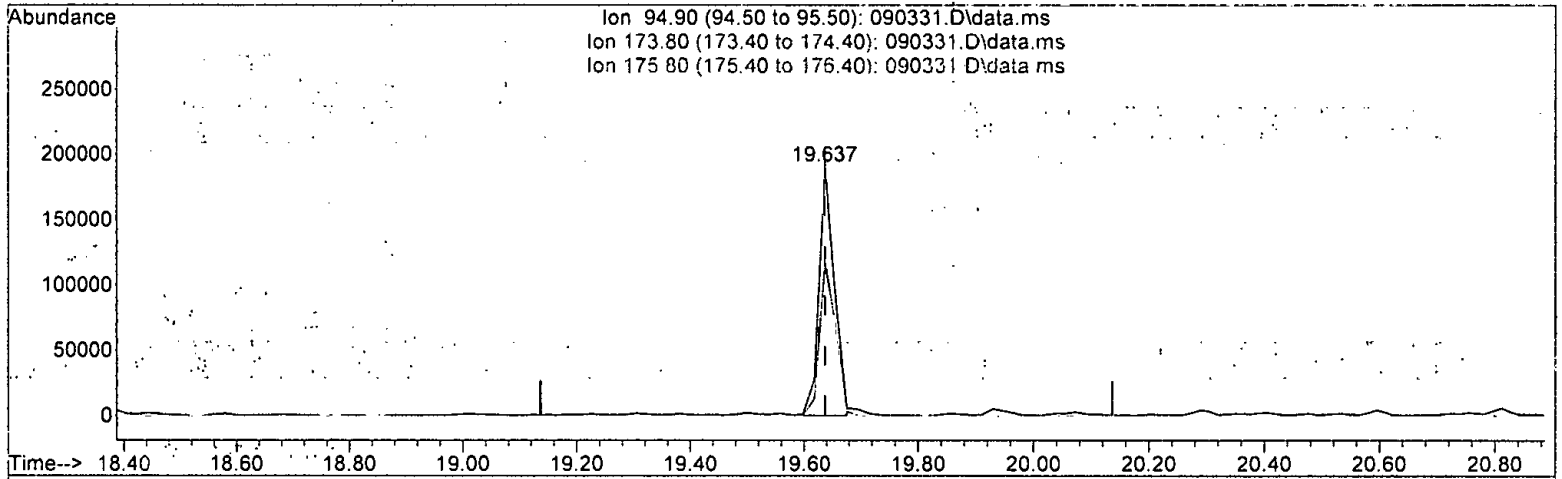
response 375656

Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	62.74#
175.80	93.50	59.58#
0.00	0.00	0.00

*M*  
*6/10/21*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 17:20:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



TIC: 090331.D\data.ms

(37) 4-Bromofluorobenzene (S)

19.637min (-0.000) 67.624 ug/m3 m

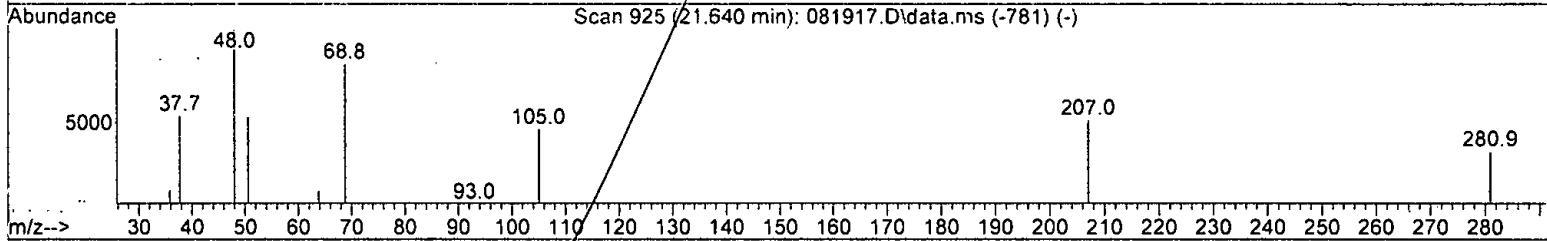
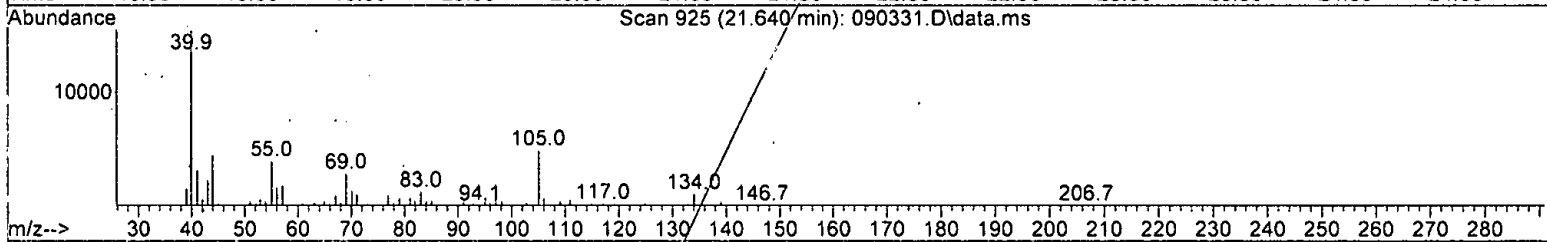
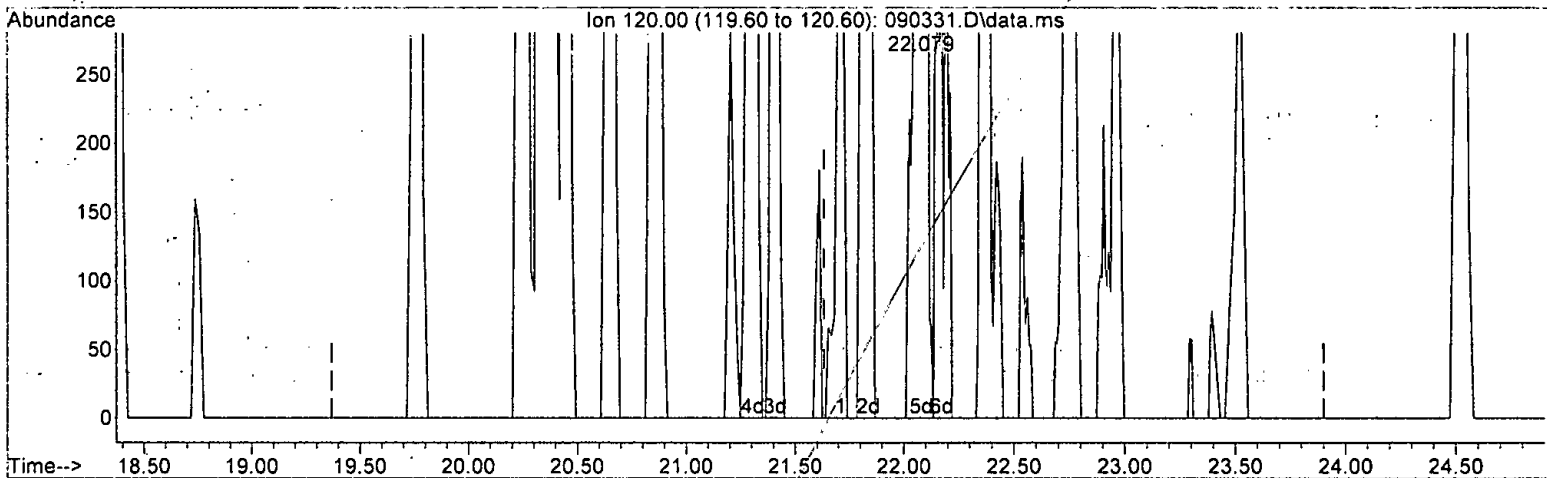
response 368182

Ion	Exp%	Act%
94.90	100.00	100.00
173.80	96.00	62.69#
175.80	93.50	59.54#
0.00	0.00	0.00

*Handwritten signature:* 6/09/07/14

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 17:20:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 2.928 ug/m3 m

response 15160

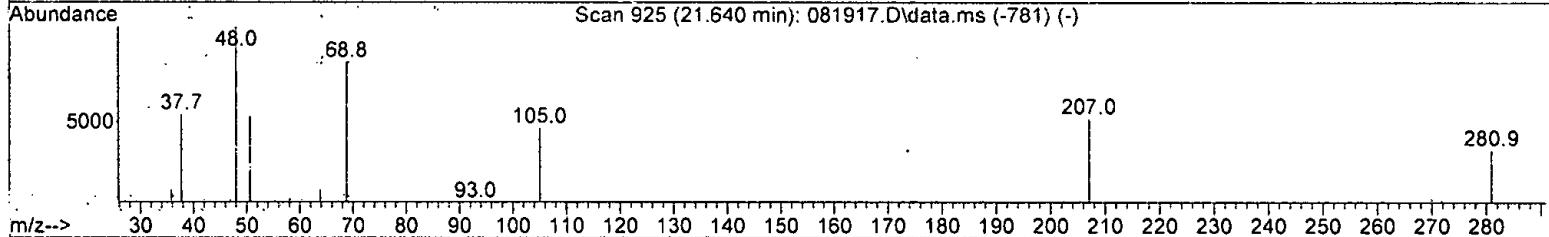
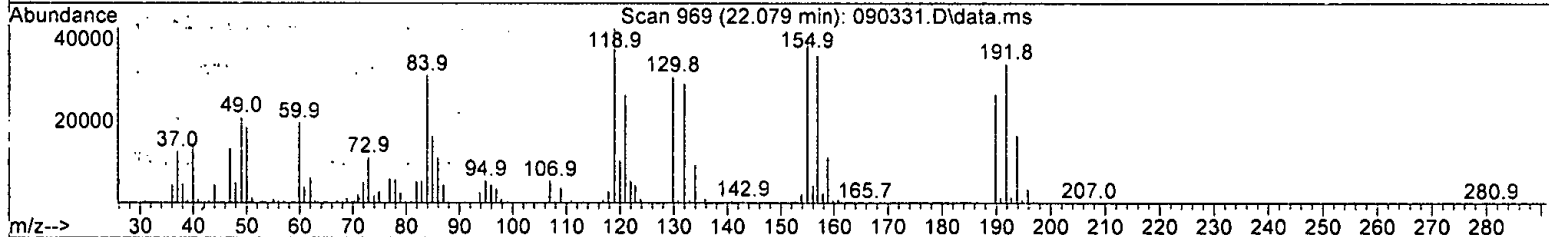
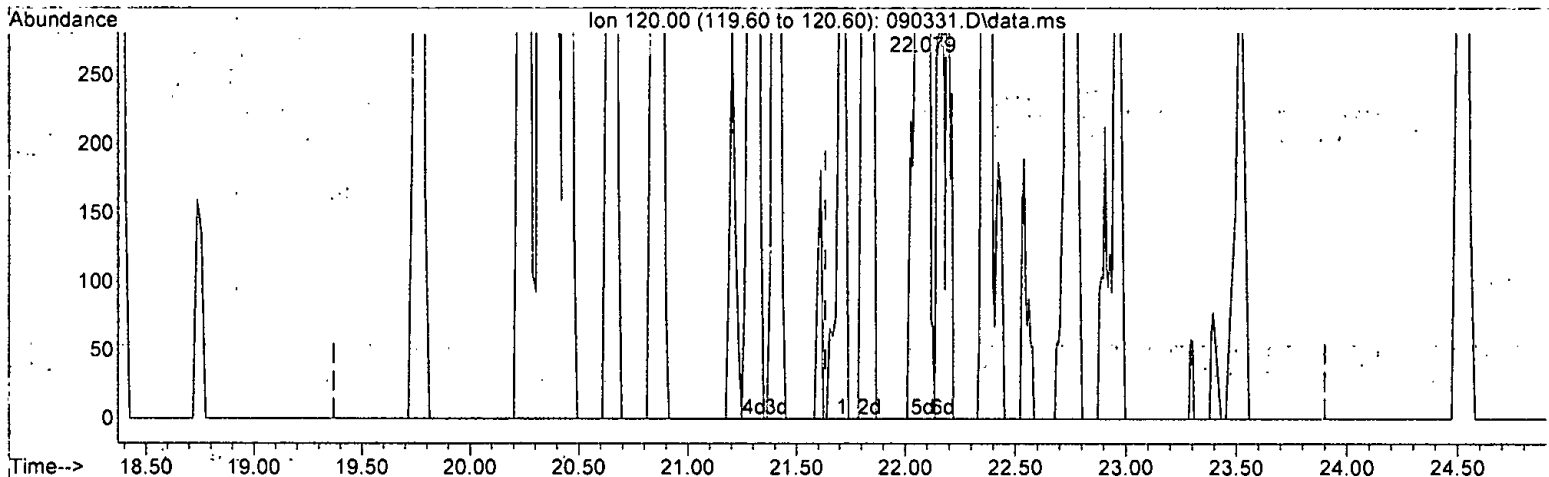
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 17:20:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update: Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



TIC: 090331.D\data.ms

*bat/09/21*

(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 19.190 ug/m3 m

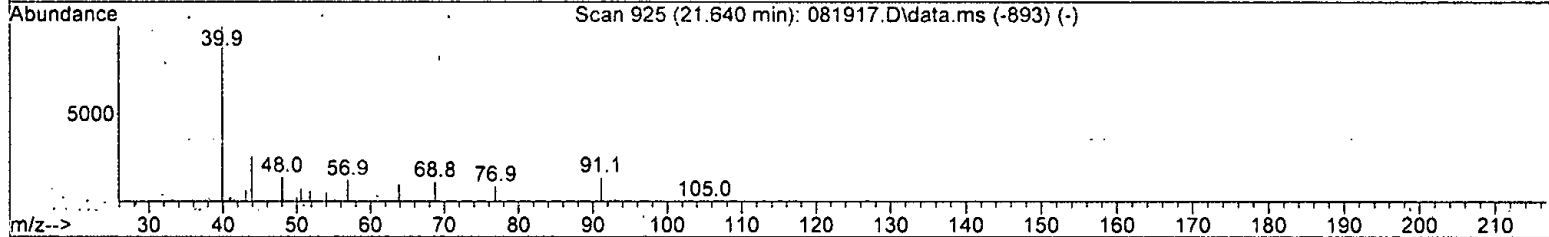
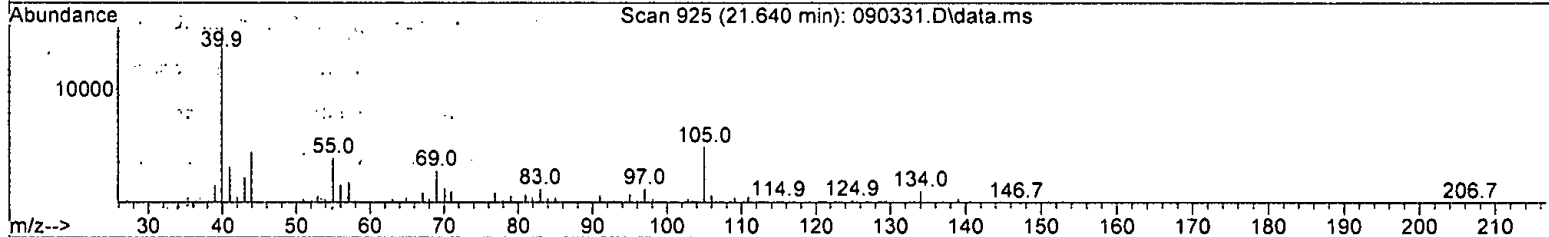
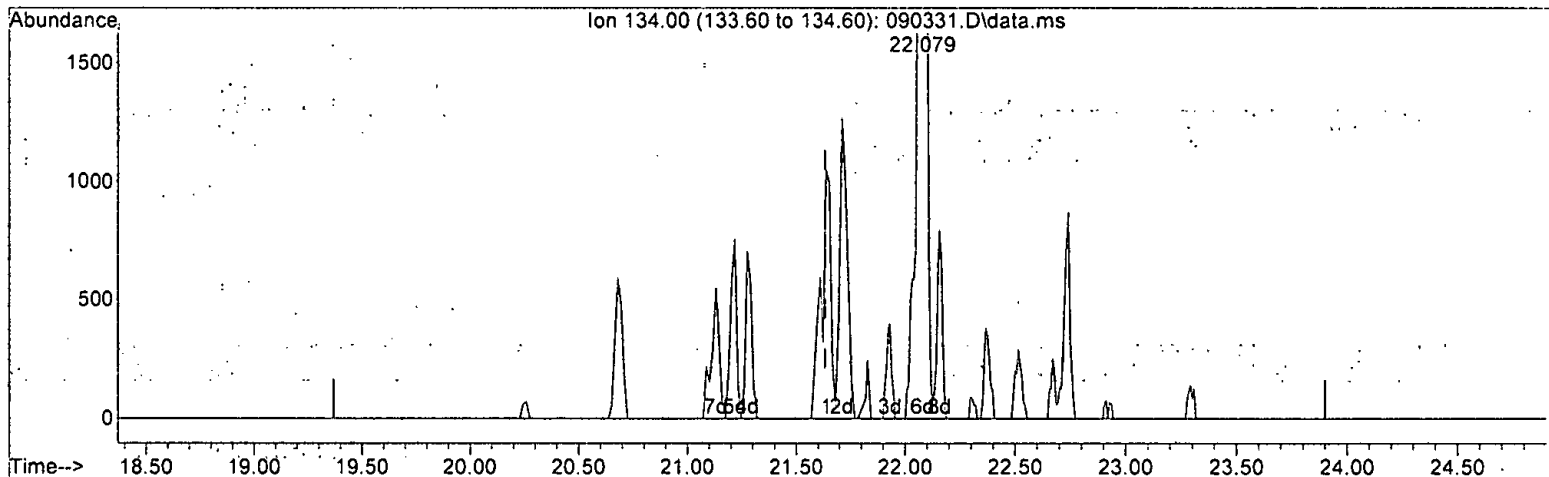
response 99342

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 17:20:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



*Handwritten signature*

(45) APH EC9-10 aromatics (2) (H)

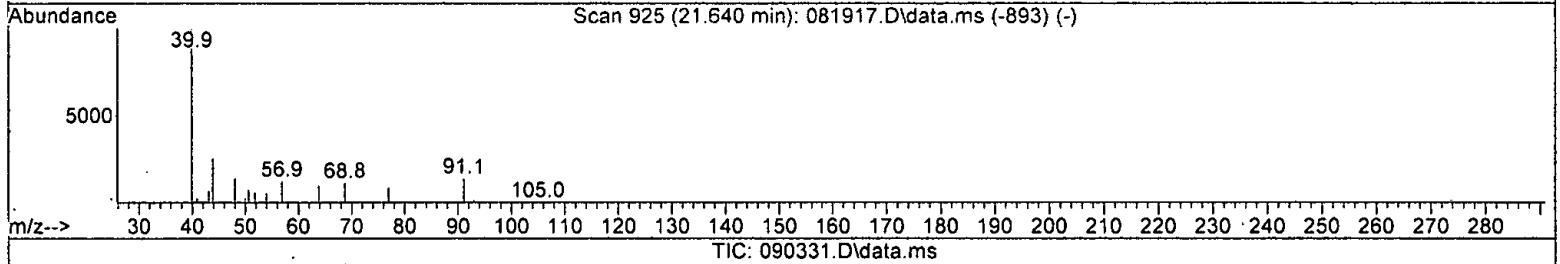
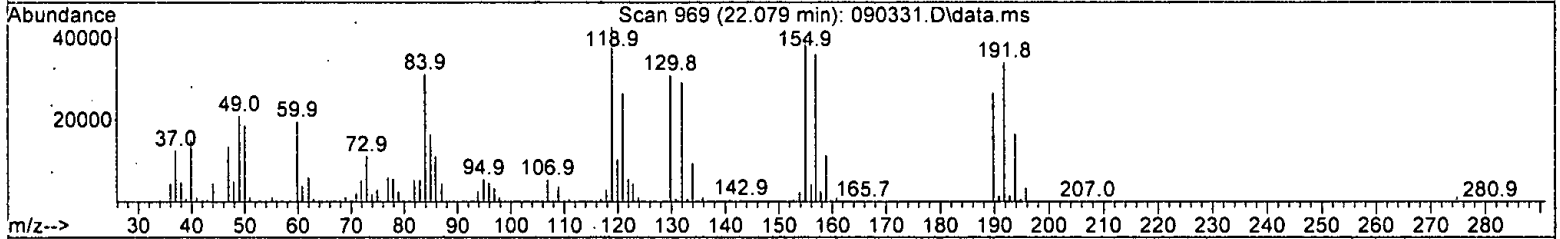
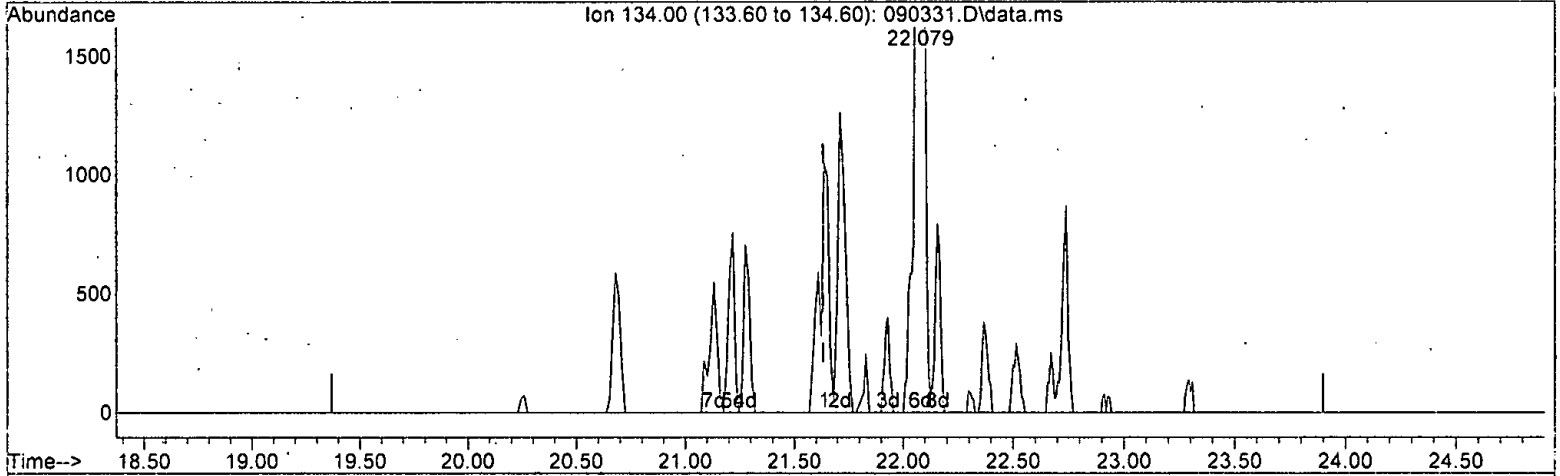
21.635min ( 0.000) -13.909 ug/m3 m

response -41010

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 17:20:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(45) APH EC9-10 aromatics (2) (H)  
 21.635min ( 0.000) 16.682 ug/m3 m

response	49187	
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* M. [unclear]



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 17:26:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	9.99	128	102600	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	488346	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	434571	50.000	ug/m3	# 0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	368182m	67.624	ug/m3	0.00
Spiked Amount	71.000	Range 70 - 130	Recovery	=	95.24%	
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	1044190	57.640	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.20	TIC	1339394m	52.091	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	2484668	79.669	ug/m3	79
5) Methylene chloride	6.86	TIC	54580	59.509	ug/m3	89
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.24	54	368277	60.956	ug/m3#	1
9) Methyl t-butyl ether	0.00		0	N.D.		
11) Benzene	12.71	78	394933	23.786	ug/m3	91
12) Isopentane	5.68	TIC	1577536	47.839	ug/m3	96
13) Hexane	10.11	TIC	5466308	169.927	ug/m3	93
14) Cyclohexane	13.16	TIC	5654678	166.814	ug/m3	48
15) 2,3-Dimethylpentane	13.50	TIC	5870371	135.700	ug/m3	94
16) Heptane	14.60	TIC	5683200	160.757	ug/m3	92
17) Octane	17.41	TIC	2325083	47.964	ug/m3	91
18) APH EC5-8 aliphatics T...	12.71	TIC	26577176m	685.902	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	144607766m	3732.030	ug/m3	
21) S. 4-Bromofluorobenzene	19.64	TIC	1982391m	54.036	ug/m3	
22) Hexamethylcyclotrisilo...	17.79	TIC	718849	79.552	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	351985	31.210	ppbv	100
24) Toluene	16.39	92	544259	58.375	ug/m3	98
25) Ethylbenzene	18.60	91	203367	10.562	ug/m3	95
26) m,p-Xylene	18.76	106	87988	13.590	ug/m3	82
27) o-Xylene	19.21	106	37558	6.132	ug/m3	83
28) Naphthalene	23.94	128	1712	0.109	ug/m3	82
29) 2,3-Dimethylheptane	18.66	TIC	943021	21.592	ug/m3#	92
30) Nonane	19.36	TIC	1854865	40.672	ug/m3	88
31) Decane	20.90	TIC	1090904	24.079	ug/m3	77
32) Butylcyclohexane	21.55	TIC	240198	4.667	ug/m3	74
33) Undecane	22.29	TIC	90384	2.012	ug/m3	86
34) Dodecane	23.79	TIC	15890	0.431	ug/m3	95
35) APH EC9-12 aliphatics ...	21.55	TIC	4235262m	95.255	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	15147570m	340.682	ug/m3	
38) Isopropylbenzene	19.75	120	5163	1.515	ug/m3	89
39) 1-Methyl-3-ethylbenzene	20.33	120	14750	3.094	ug/m3#	81
40) 1,3,5-Trimethylbenzene	20.86	120	11293	1.872	ug/m3	90
41) p-Isopropyltoluene	21.28	134	1339	0.452	ug/m3#	1
42) 1,2,3-Trimethylbenzene	21.31	120	5473	0.773	ug/m3	87
43) APH EC9-10 aromatics T...	21.55	TIC	38018m	8.109	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	99342m	19.190	ug/m3	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 17:26:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration

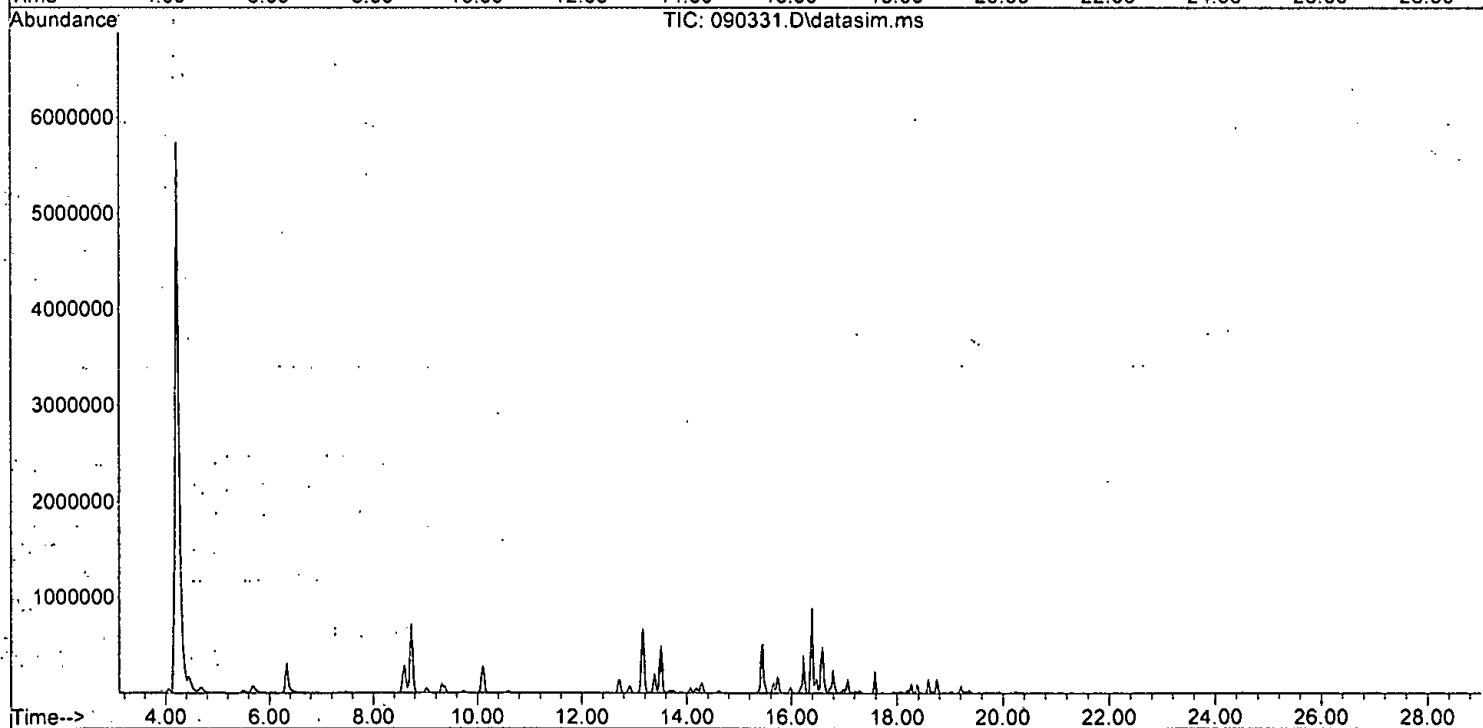
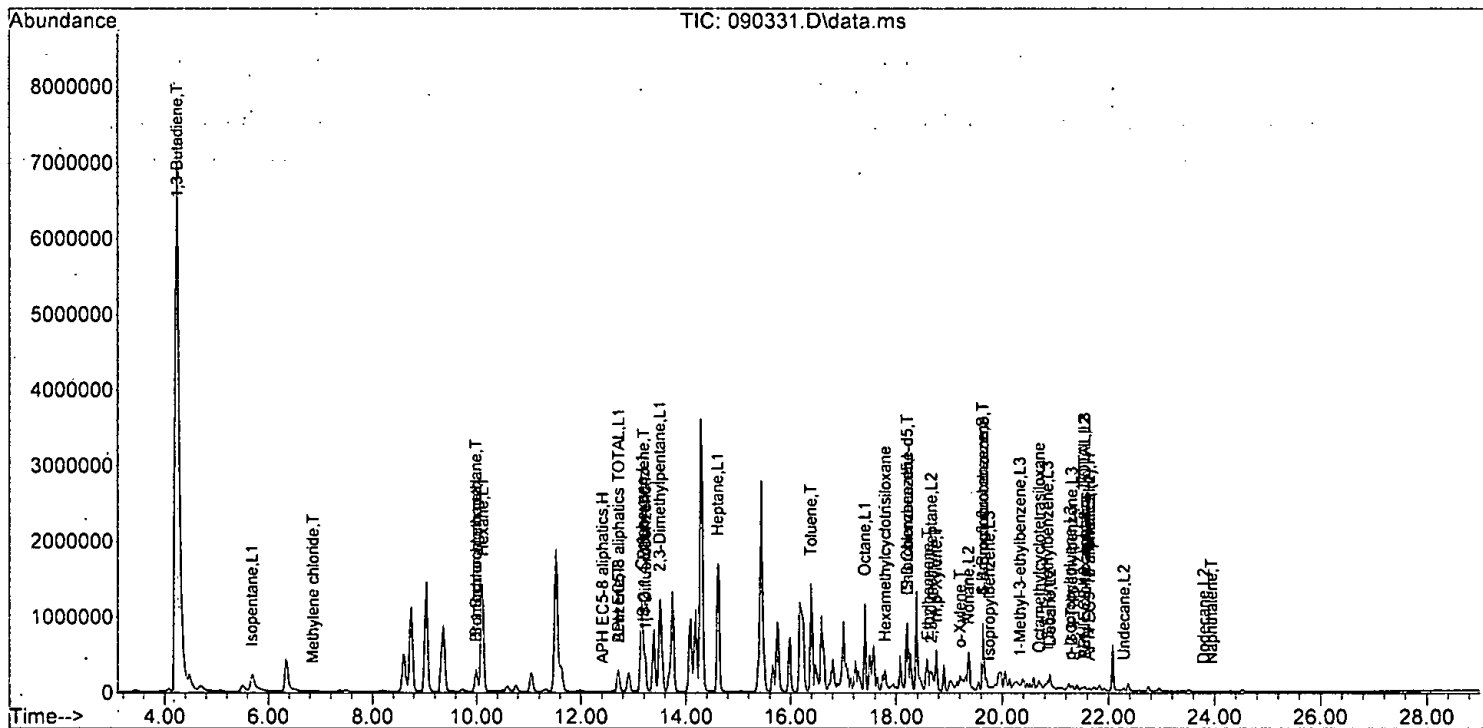
DataAcq Meth: TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	49187m	16.682	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090331.D  
 Acq On : 4 Sep 2021 3:27 am  
 Operator : bat  
 Sample : 109030-12 1/2100  
 Misc : T15  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS7

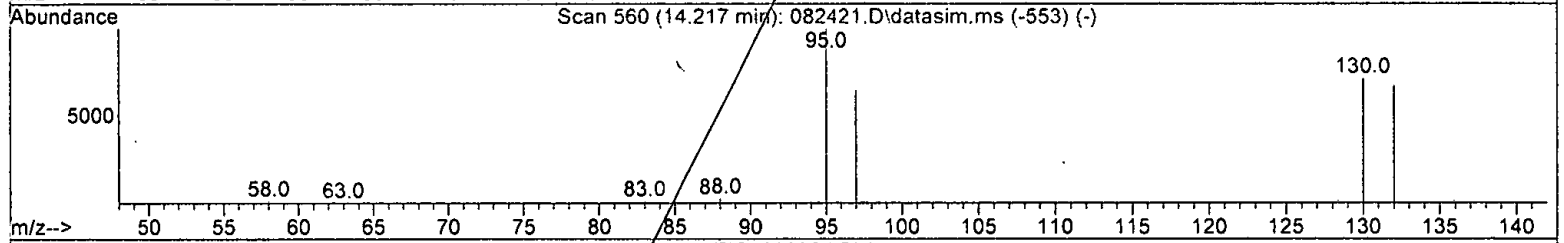
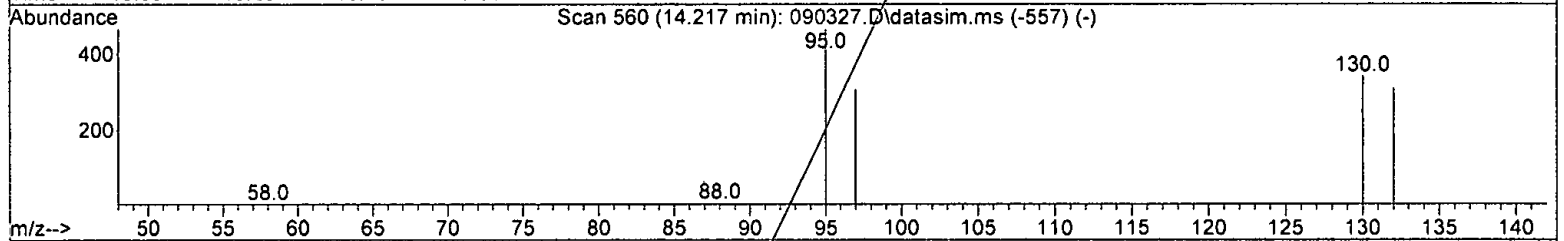
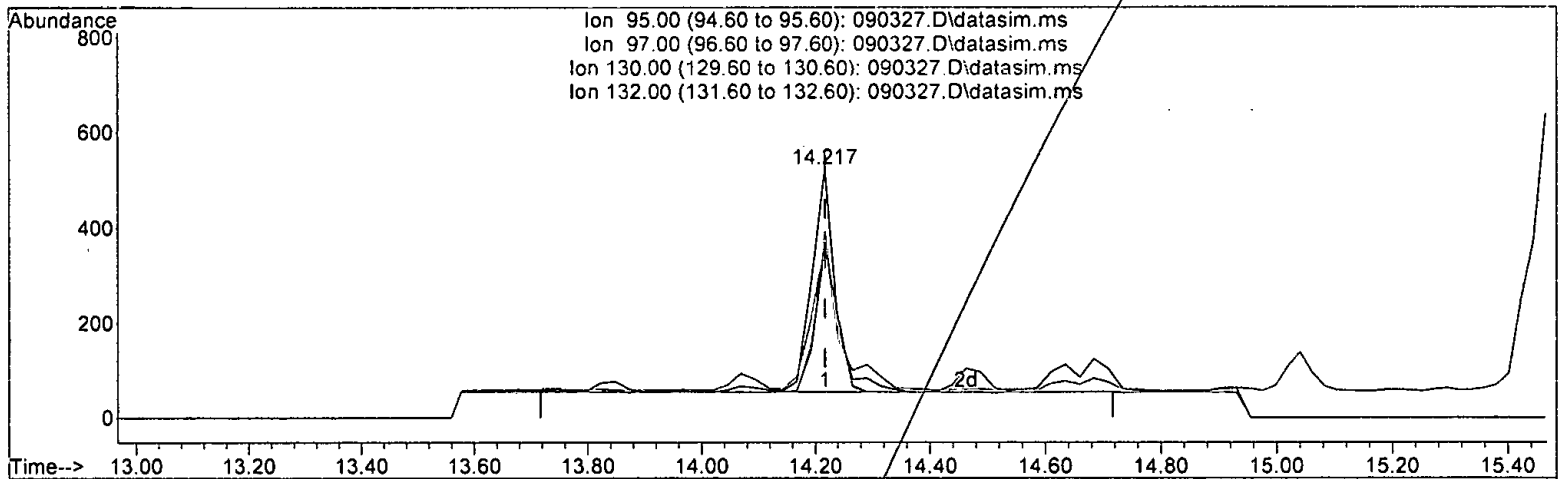
Quant Time: Sep 07 17:26:52 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:05:18 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



*Handwritten signature and date: 09/07/21*

(46) Trichloroethene (TMP)

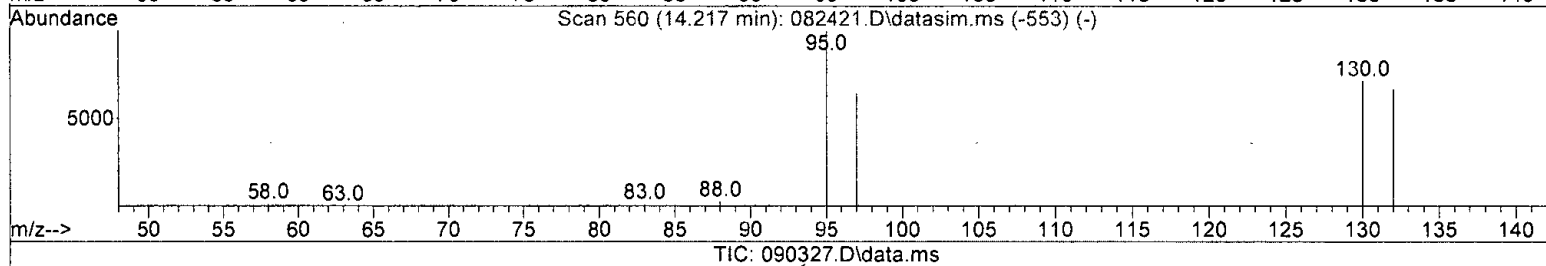
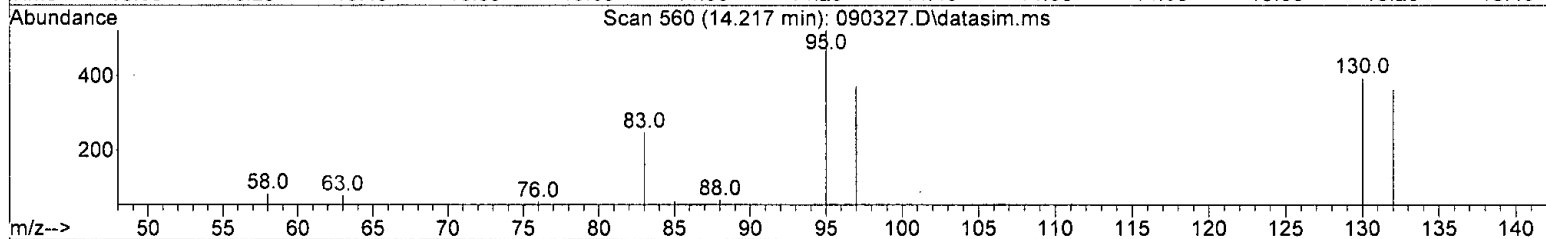
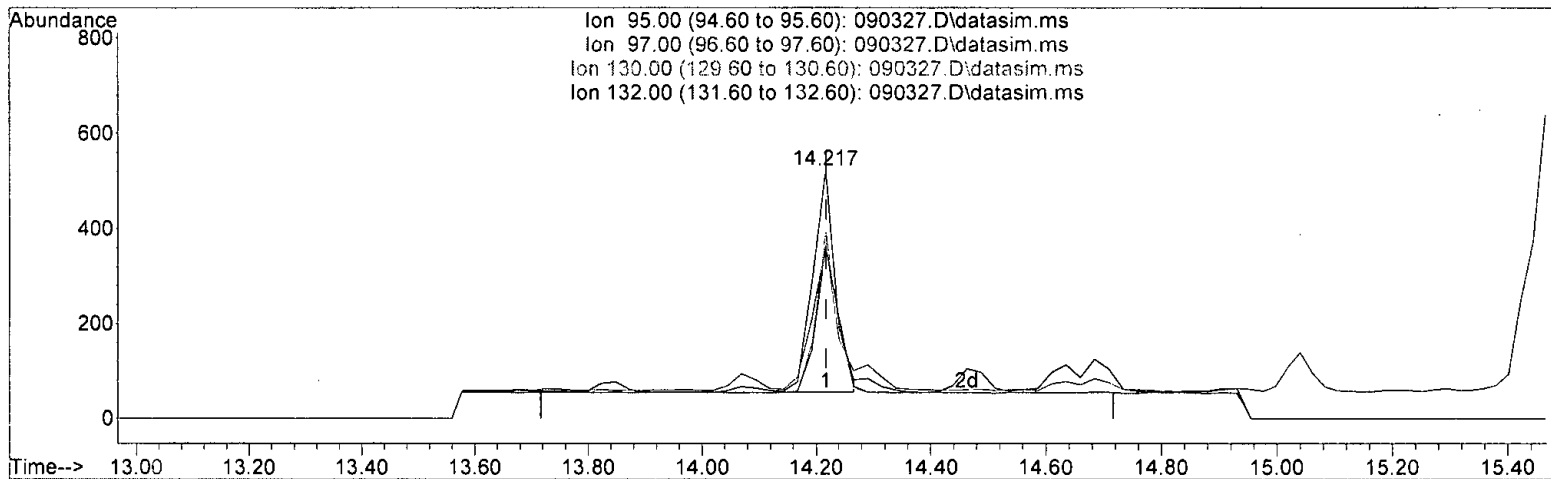
14.217min (-0.000) 0.048 ppbv

response 1373

Ion	Exp%	Act%
95.00	100.00	100.00
97.00	67.10	66.03
130.00	86.10	72.65
132.00	84.30	66.03

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:05:18 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq-Meth: TO15DC.M



(46) Trichloroethene (TMP)

14.217min (-0.000) 0.045 ppbv m

response 1296

Ion	Exp%	Act%
95.00	100.00	100.00
97.00	67.10	70.75
130.00	86.10	75.33
132.00	84.30	69.60

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

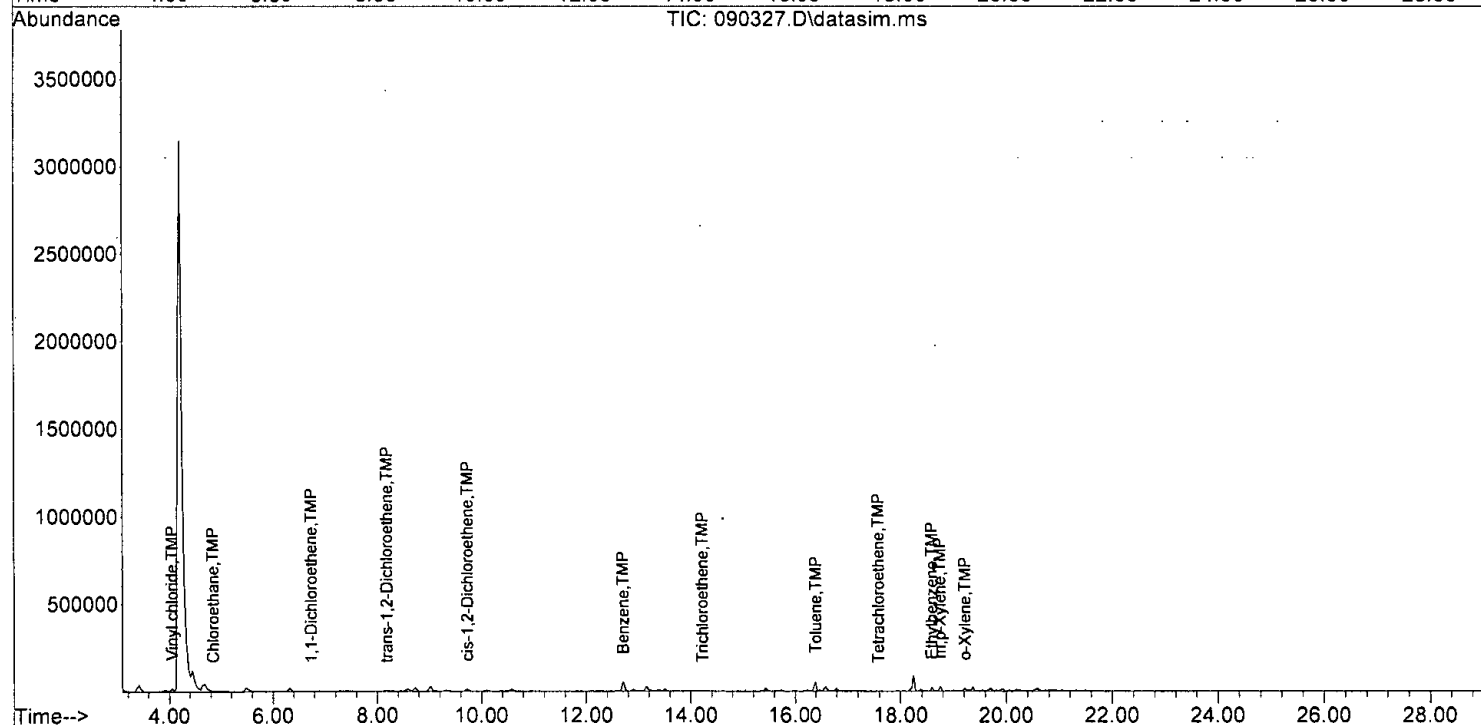
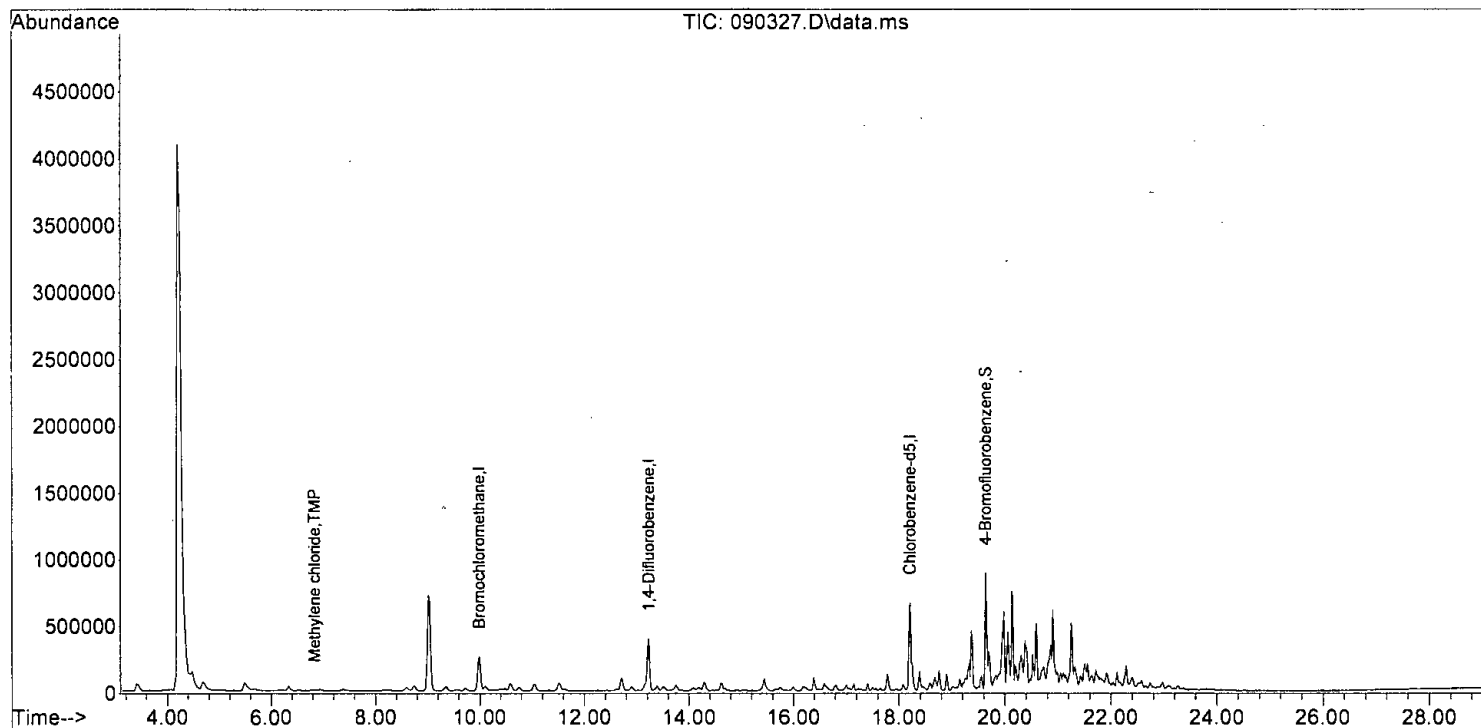
Quant Time: Sep 07 15:56:59 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

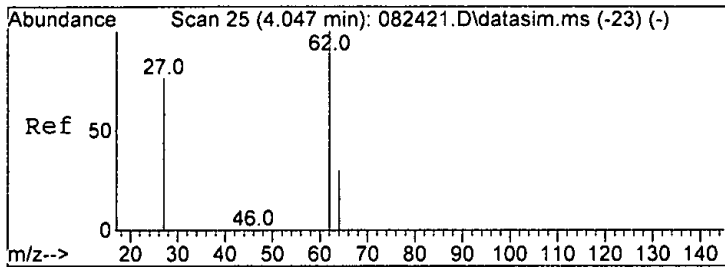
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	99394	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	463500	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	395698	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	354991	9.903	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	99.00%
Target Compounds						
						Qvalue
6] Vinyl chloride	4.05	62	28638	1.305	ppbv	99
10] Chloroethane	4.84	64	162	0.021	ppbv	87
18] 1,1-Dichloroethene	6.73	96	666	0.041	ppbv	98
19] trans-1,2-Dichloroethene	8.18	96	1823	0.113	ppbv	98
20] Methylene chloride	6.83	84	4032	0.232	ppbv	93
28] cis-1,2-Dichloroethene	9.73	96	11685	0.660	ppbv	83
37] Benzene	12.70	78	141930	2.332	ppbv	96
46] Trichloroethene	14.22	95	1296m	0.045	ppbv	
50] Toluene	16.40	92	45287	1.304	ppbv	83
53] Tetrachloroethene	17.58	164	320	0.018	ppbv	84
58] Ethylbenzene	18.59	91	32295	0.367	ppbv	97
65] m,p-Xylene	18.74	106	14608	0.518	ppbv	82
66] o-Xylene	19.21	106	8302	0.299	ppbv	91
-----						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

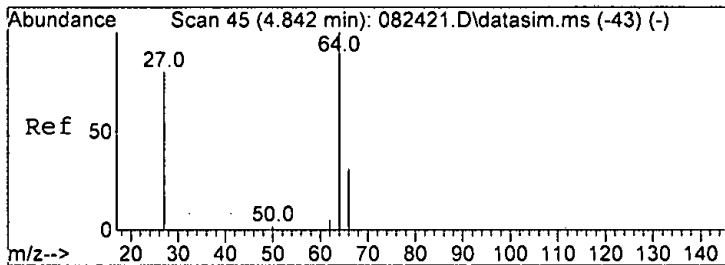
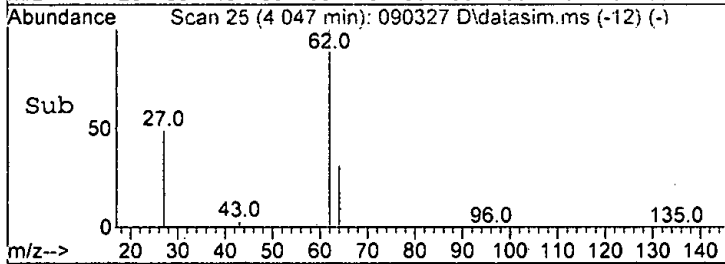
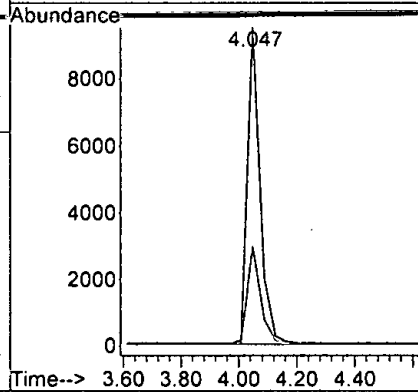
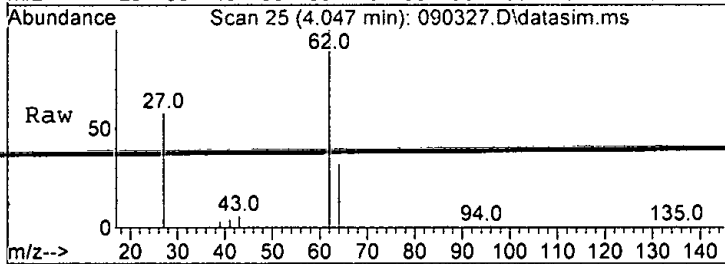
Quant Time: Sep 07 15:56:59 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
~~DataAcq-Meth:TO15DC-M~~





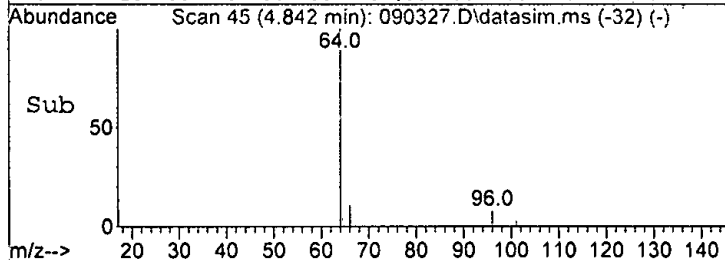
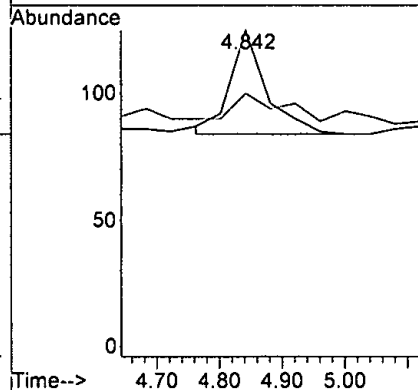
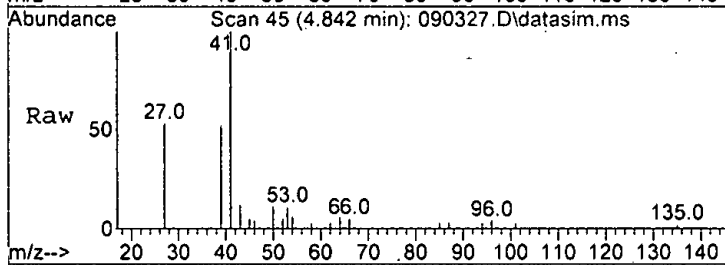
#6  
 Vinyl chloride  
 Concen: 1.305 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090327.D  
 Acq: 4 Sep 2021 12:48 am

Tgt Ion: 62 Resp: 28638  
 Ion Ratio Lower Upper  
 62 100  
 64 30.8 1.5 61.5

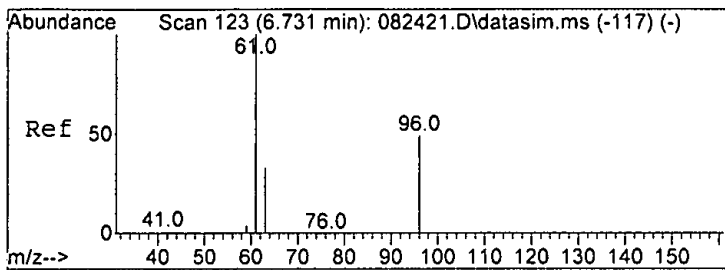


#10  
 Chloroethane  
 Concen: 0.021 ppbv  
 RT: 4.84 min Scan# 45  
 Delta R.T. -0.000 min  
 Lab File: 090327.D  
 Acq: 4 Sep 2021 12:48 am

Tgt Ion: 64 Resp: 162  
 Ion Ratio Lower Upper  
 64 100  
 66 24.4 1.8 61.8

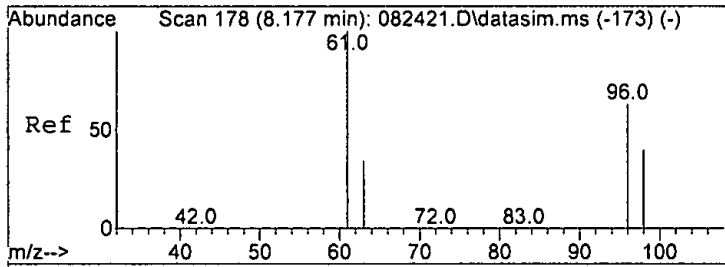
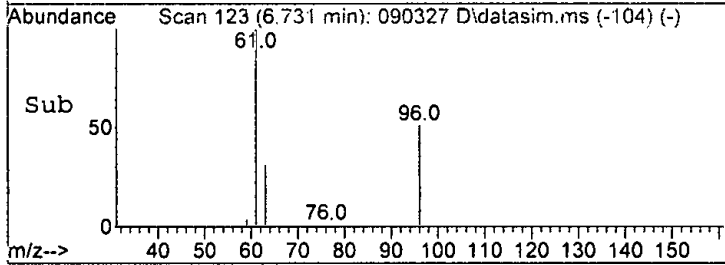
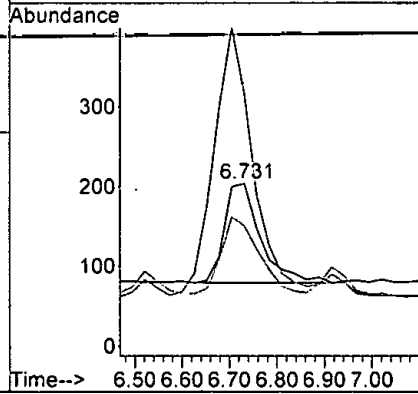
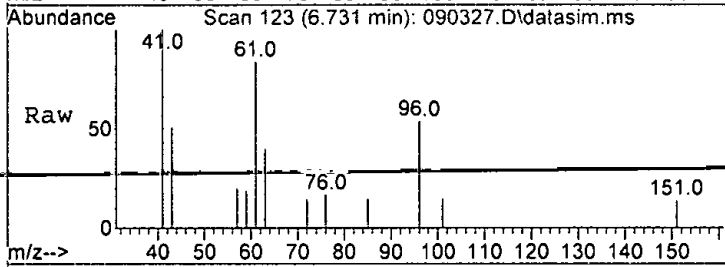






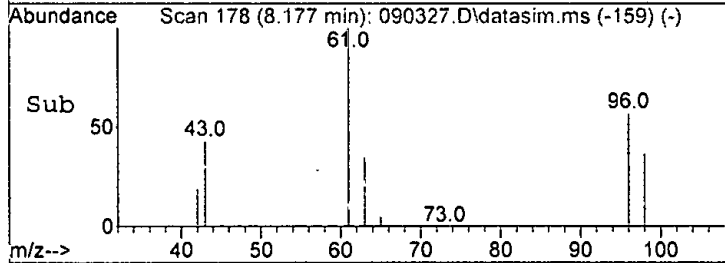
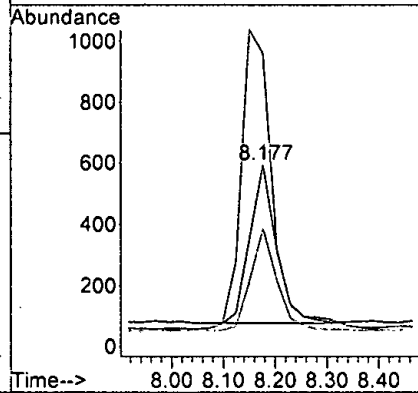
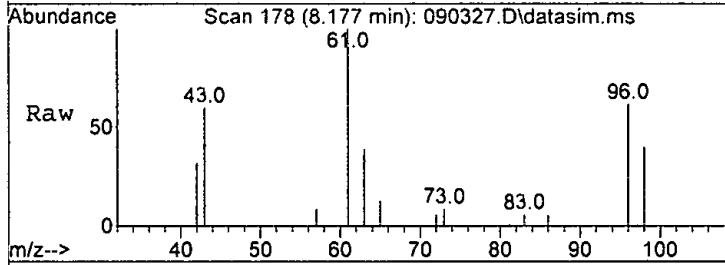
#18  
 1,1-Dichloroethene  
 Concen: 0.041 ppbv  
 RT: 6.73 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090327.D  
 Acq: 4 Sep 2021 12:48 am

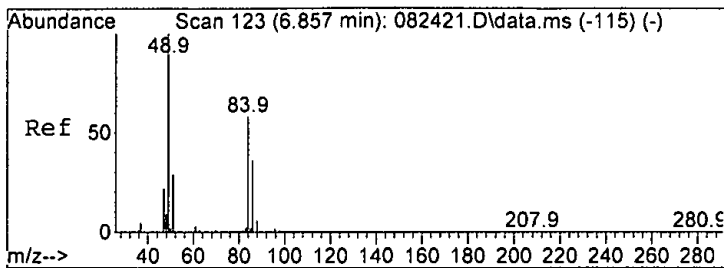
Tgt Ion: 96 Resp: 666  
 Ion Ratio Lower Upper  
 96 100  
 61 188.0 159.0 219.0  
 63 68.0 32.0 92.0



#19  
 trans-1,2-Dichloroethene  
 Concen: 0.113 ppbv  
 RT: 8.18 min Scan# 178  
 Delta R.T. 0.000 min  
 Lab File: 090327.D  
 Acq: 4 Sep 2021 12:48 am

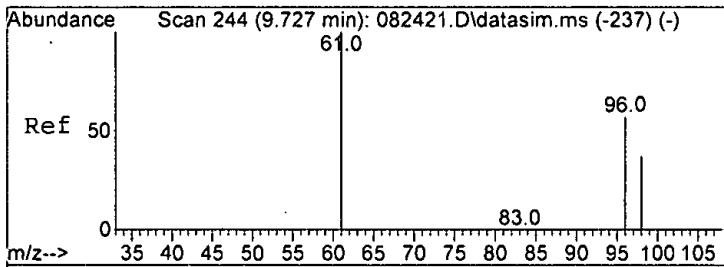
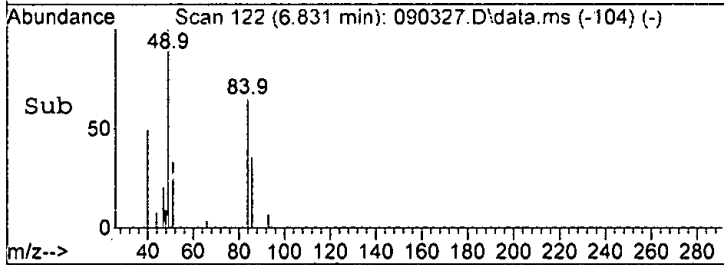
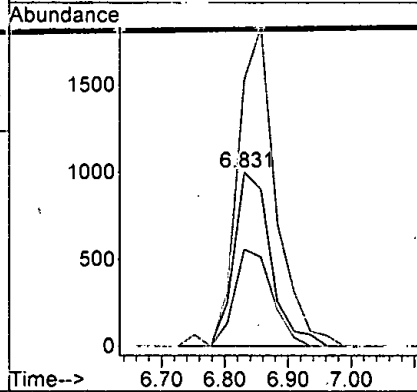
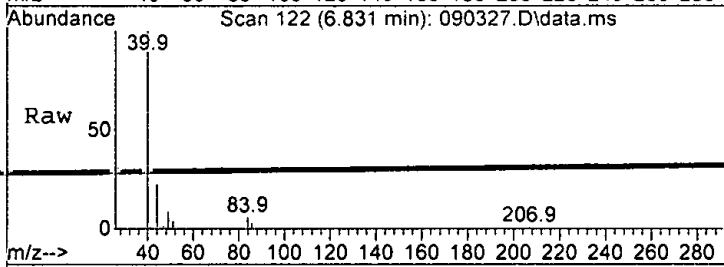
Tgt Ion: 96 Resp: 1823  
 Ion Ratio Lower Upper  
 96 100  
 61 174.1 147.9 207.9  
 98 64.2 34.2 94.2





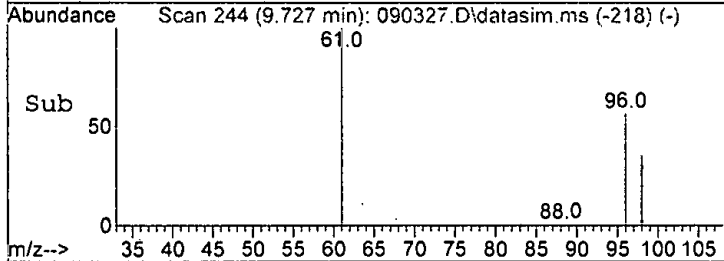
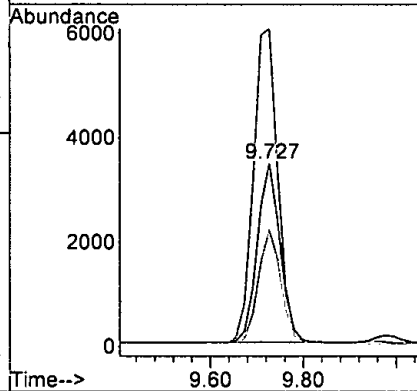
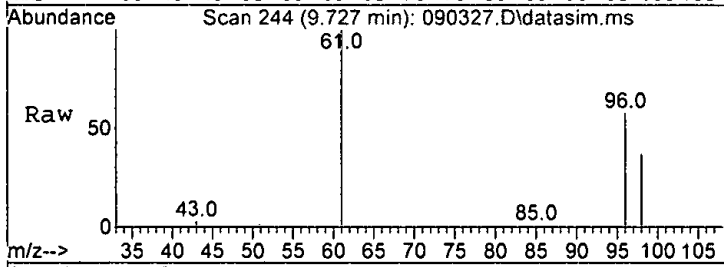
#20  
 Methylene chloride  
 Concen: 0.232 ppbv  
 RT: 6.83 min Scan# 122  
 Delta R.T. -0.026 min  
 Lab File: 090327.D  
 Acq: 4 Sep 2021 12:48 am

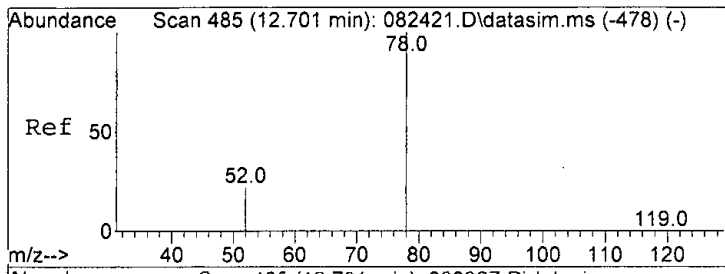
Tgt Ion	Resp	Lower	Upper
84	4032		
86	55.9	33.9	93.9
49	153.8	116.6	176.6



#28  
 cis-1,2-Dichloroethene  
 Concen: 0.660 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. -0.000 min  
 Lab File: 090327.D  
 Acq: 4 Sep 2021 12:48 am

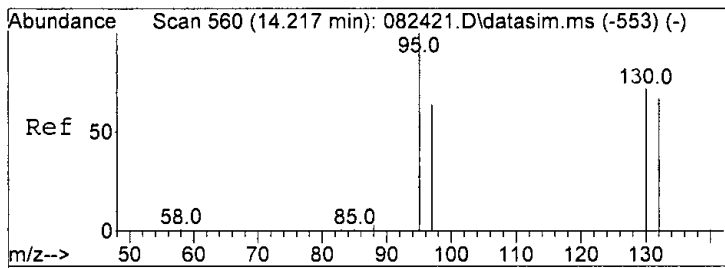
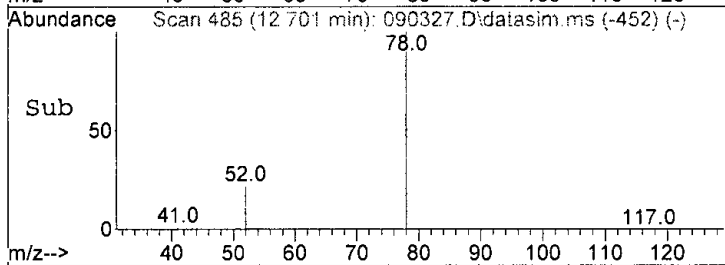
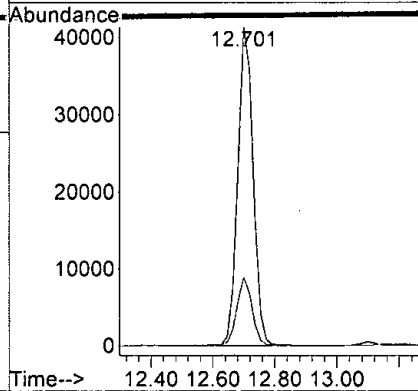
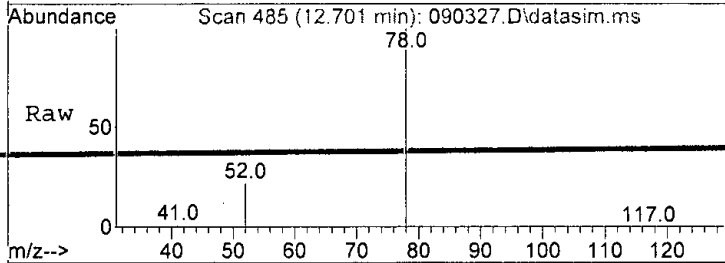
Tgt Ion	Resp	Lower	Upper
96	11685		
61	175.6	116.0	176.0
98	63.6	35.2	95.2





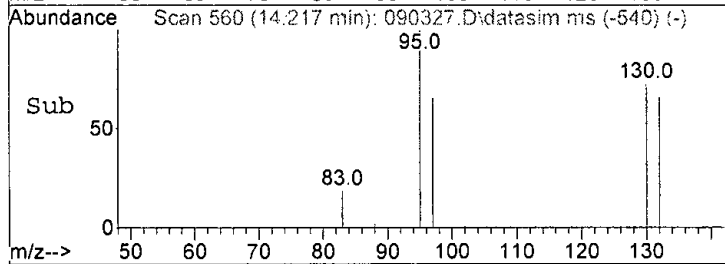
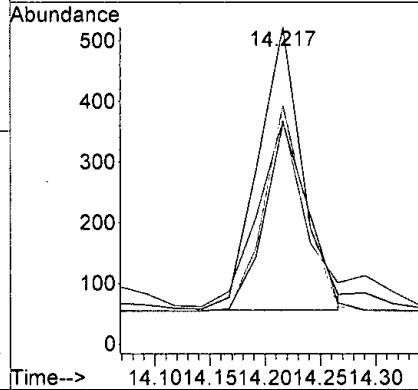
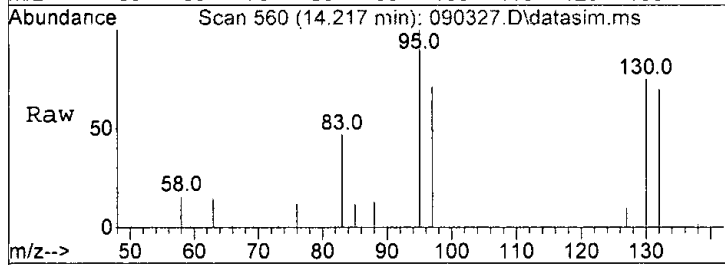
#37  
Benzene  
Concen: 2.332 ppbv  
RT: 12.70 min Scan# 485  
Delta R.T. -0.001 min  
Lab File: 090327.D  
Acq: 4 Sep 2021 12:48 am

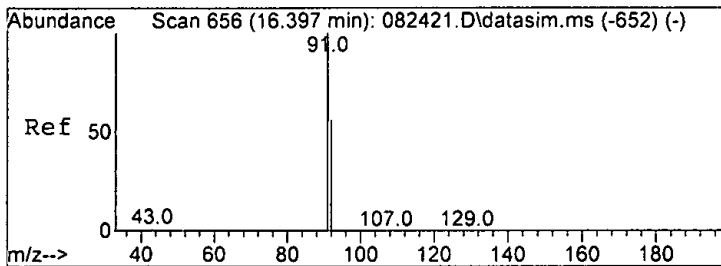
Tgt Ion:	78	Resp:	141930
Ion Ratio	Lower	Upper	
78	100		
52	21.6	0.0	49.7



#46  
Trichloroethene  
Concen: 0.045 ppbv m  
RT: 14.22 min Scan# 560  
Delta R.T. -0.000 min  
Lab File: 090327.D  
Acq: 4 Sep 2021 12:48 am

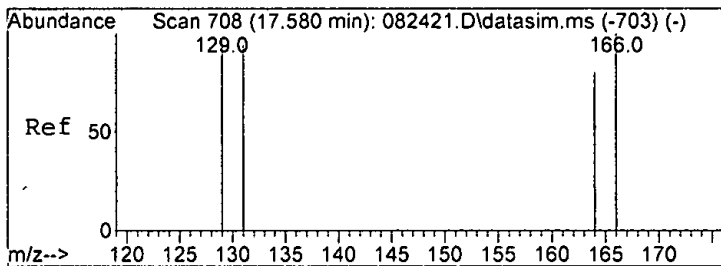
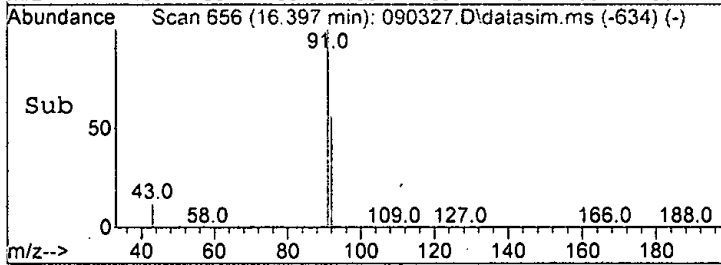
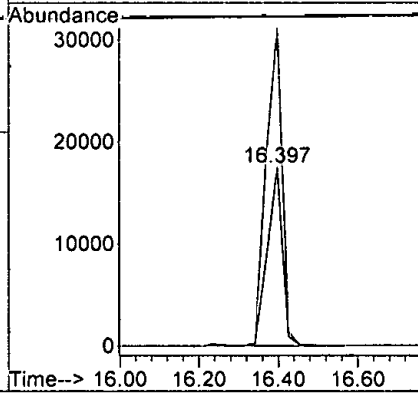
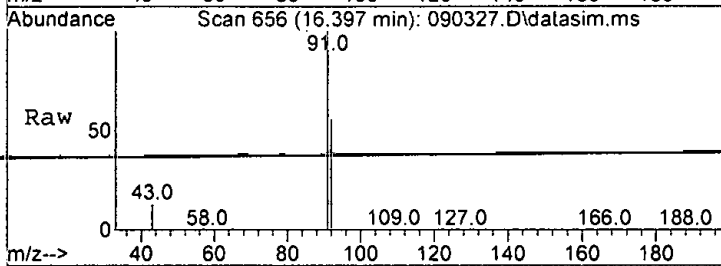
Tgt Ion:	95	Resp:	1296
Ion Ratio	Lower	Upper	
95	100		
97	70.7	37.1	97.1
130	75.3	56.1	116.1
132	69.6	54.3	114.3





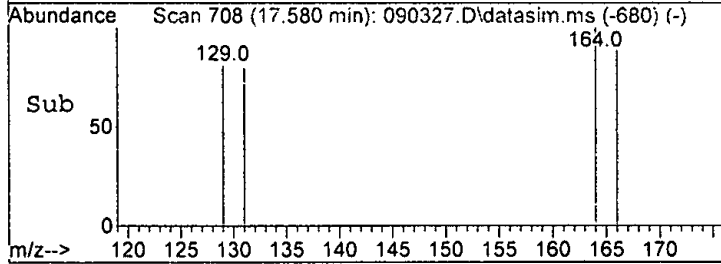
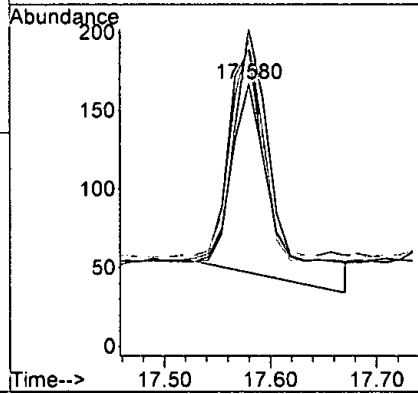
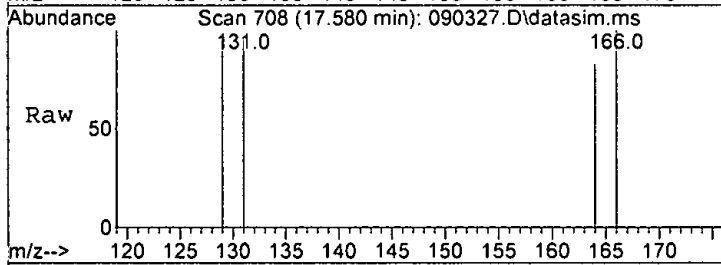
#50  
 Toluene  
 Concen: 1.304 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090327.D  
 Acq: 4 Sep 2021 12:48 am

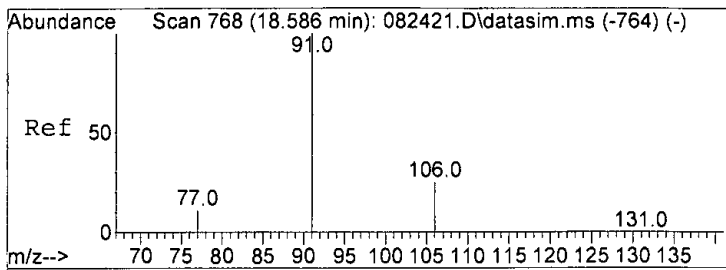
Tgt Ion: 92 Resp: 45287  
 Ion Ratio Lower Upper  
 92 100  
 91 178.4 174.6 234.6



#53  
 Tetrachloroethene  
 Concen: 0.018 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090327.D  
 Acq: 4 Sep 2021 12:48 am

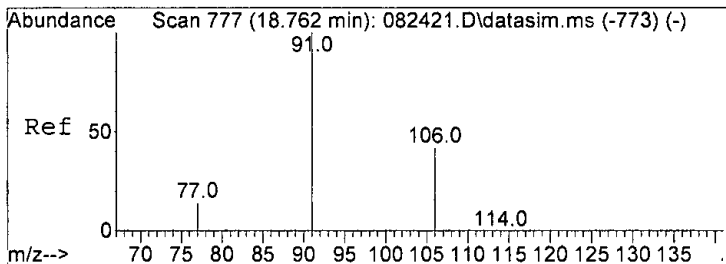
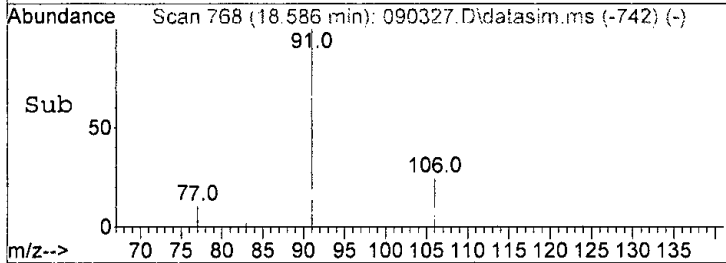
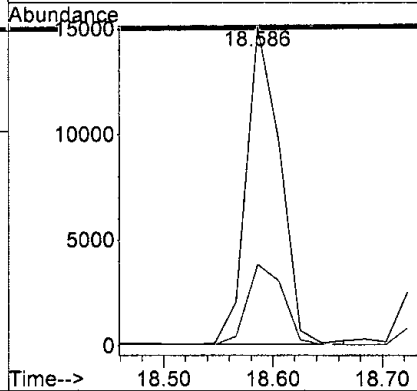
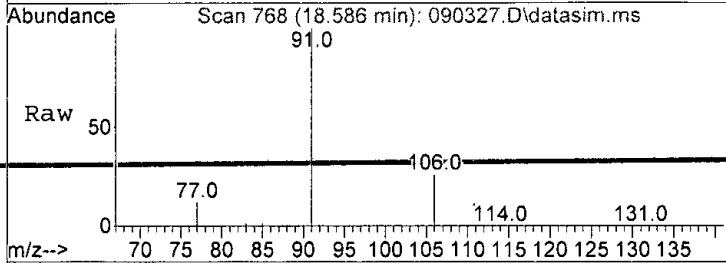
Tgt Ion: 164 Resp: 320  
 Ion Ratio Lower Upper  
 164 100  
 129 119.5 63.2 123.2  
 131 121.2 70.7 130.7  
 166 131.9 107.5 167.5





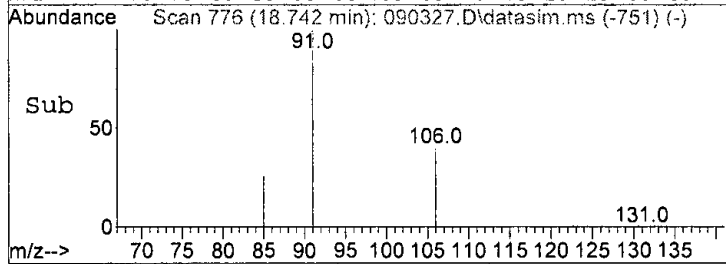
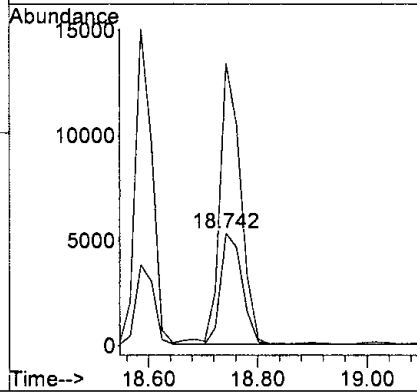
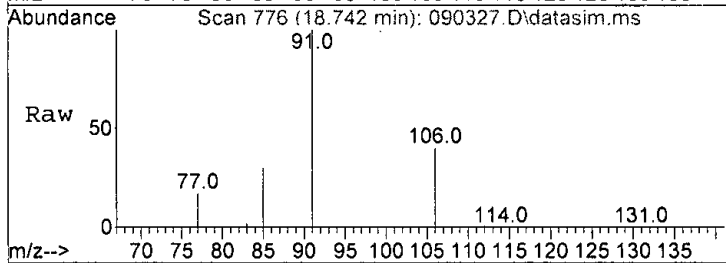
#58  
Ethylbenzene  
Concen: 0.367 ppbv  
RT: 18.59 min Scan# 768  
Delta R.T. -0.000 min  
Lab File: 090327.D  
Acq: 4 Sep 2021 12:48 am

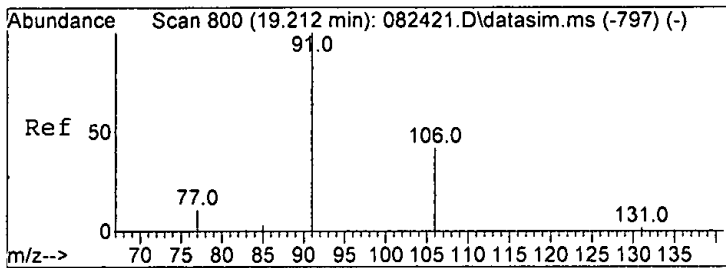
Tgt Ion: 91 Resp: 32295  
Ion Ratio Lower Upper  
91 100  
106 25.3 0.0 57.0



#65  
m,p-Xylene  
Concen: 0.518 ppbv  
RT: 18.74 min Scan# 776  
Delta R.T. -0.020 min  
Lab File: 090327.D  
Acq: 4 Sep 2021 12:48 am

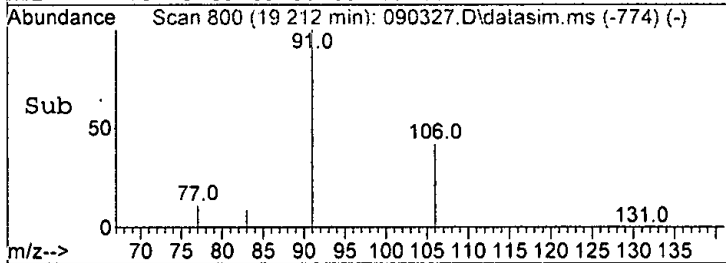
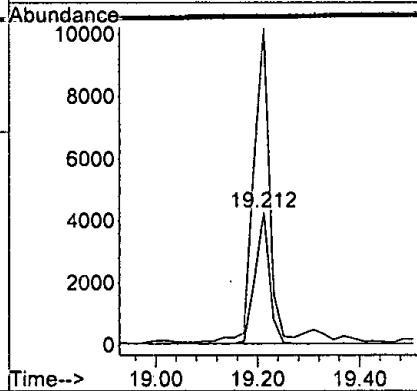
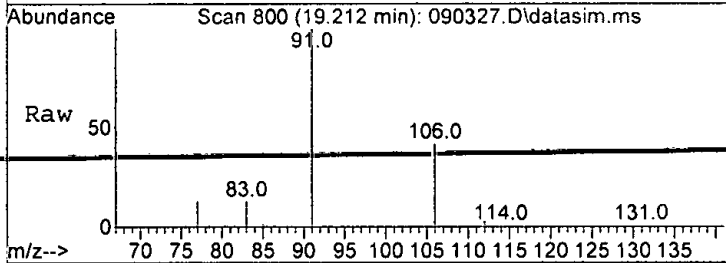
Tgt Ion: 106 Resp: 14608  
Ion Ratio Lower Upper  
106 100  
91 252.0 193.0 253.0





#66  
 o-Xylene  
 Concen: 0.299 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090327.D  
 Acq: 4 Sep 2021 12:48 am

Tgt Ion: 106 Resp: 8302  
 Ion Ratio Lower Upper  
 106 100  
 91 239.1 194.4 254.4



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:56:59 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	99394	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	463500	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	395698	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	354991	9.903	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	99.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.		
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.		
6] Vinyl chloride	4.05	62	28638	1.305	ppbv	99
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10] Chloroethane	4.84	64	162	0.021	ppbv	87
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.	d	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.		
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18] 1,1-Dichloroethene	6.73	96	666	0.041	ppbv	98
19] trans-1,2-Dichloroethene	8.18	96	1823	0.113	ppbv	98
20) Methylene chloride	6.83	84	4032	0.232	ppbv	93
21) t-Butyl alcohol (TBA)	0.00		0	N.D.		
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.		
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.44	63	276	N.D.		
28] cis-1,2-Dichloroethene	9.73	96	11685	0.660	ppbv	83
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34) 1,2-Dichloroethane (EDC)	11.52	62	194	N.D.		
35) 1,1,1-Trichloroethane	11.68	97	146	N.D.		
36) Carbon tetrachloride	0.00		0	N.D.		
37] Benzene	12.70	78	141930	2.332	ppbv	96
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:56:59 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq-Meth:TO15DC-M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	1296m	0.045	ppbv	
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	45287	1.304	ppbv	83
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	320	0.018	ppbv	84
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	32295	0.367	ppbv	97
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.74	106	14608	0.518	ppbv	82
66] o-Xylene	19.21	106	8302	0.299	ppbv	91
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77) Naphthalene	23.95	128	1476	N.D.	d	
78) Hexachlorobutadiene	0.00		0	N.D.	d	

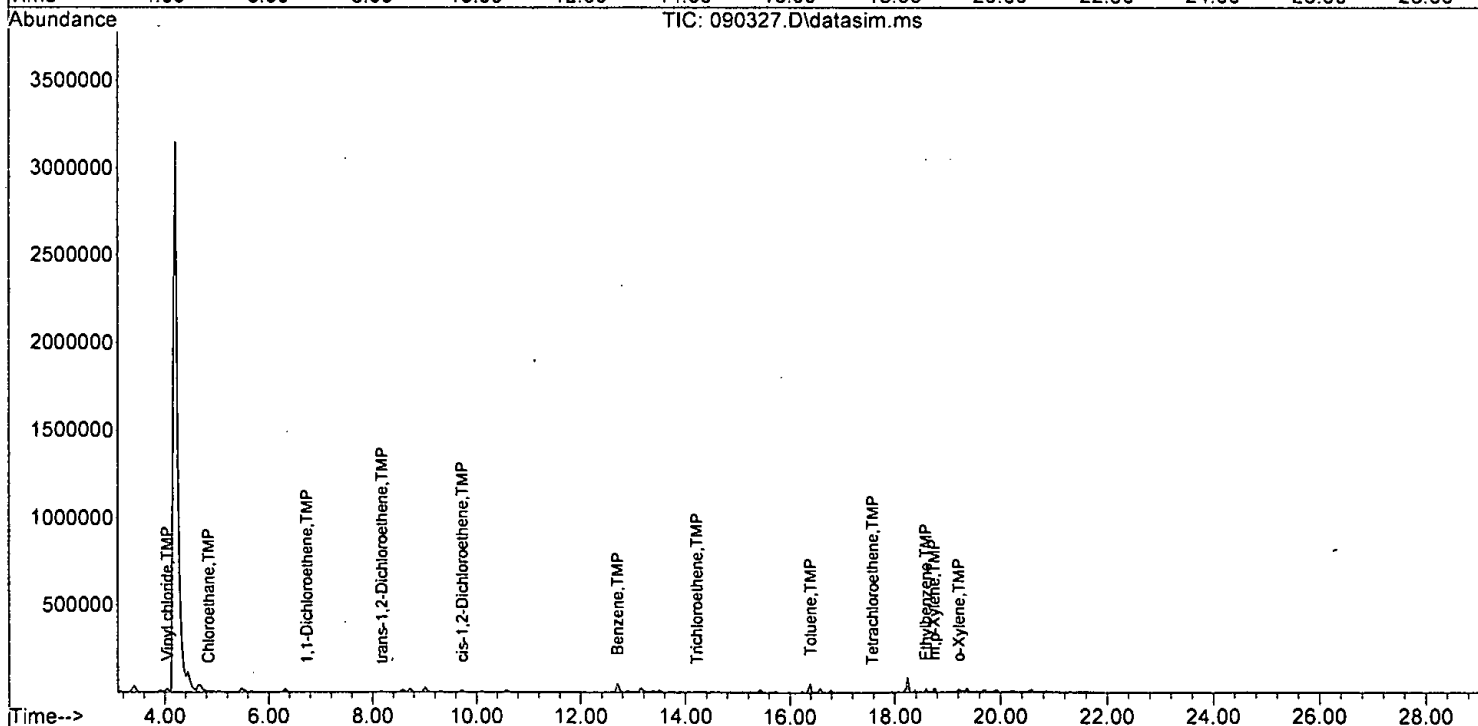
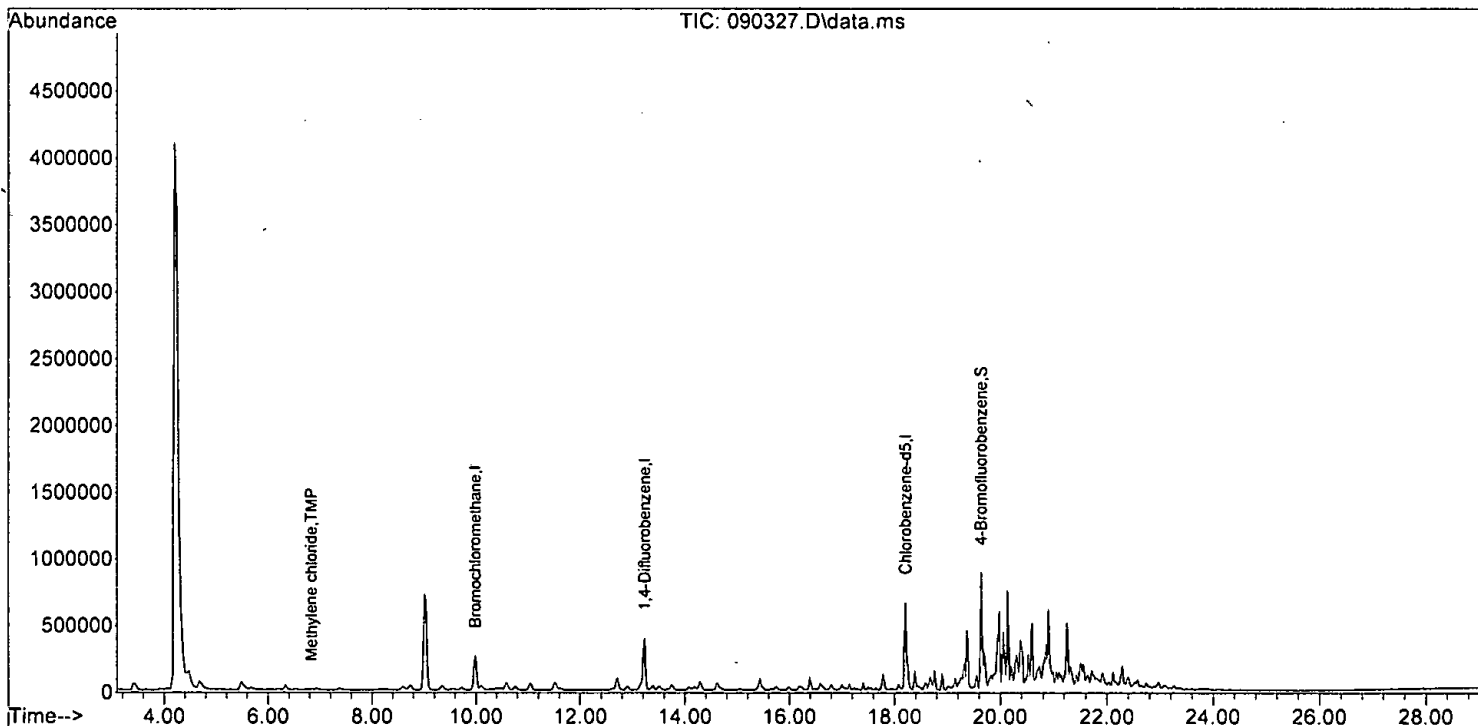
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:56:59 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration

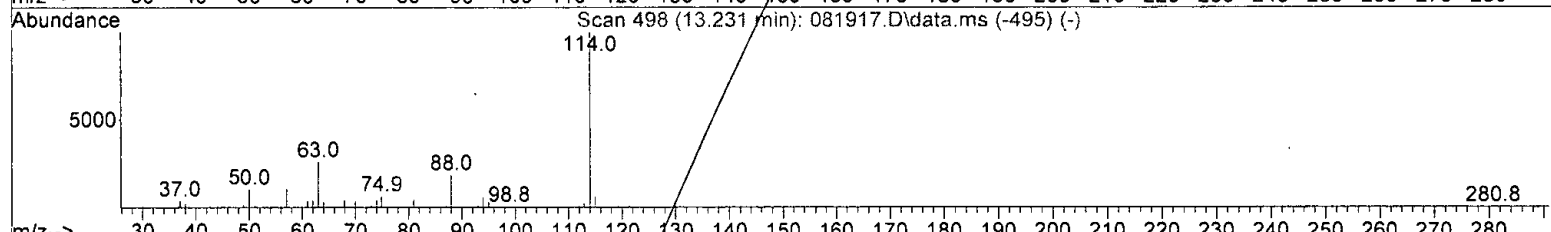
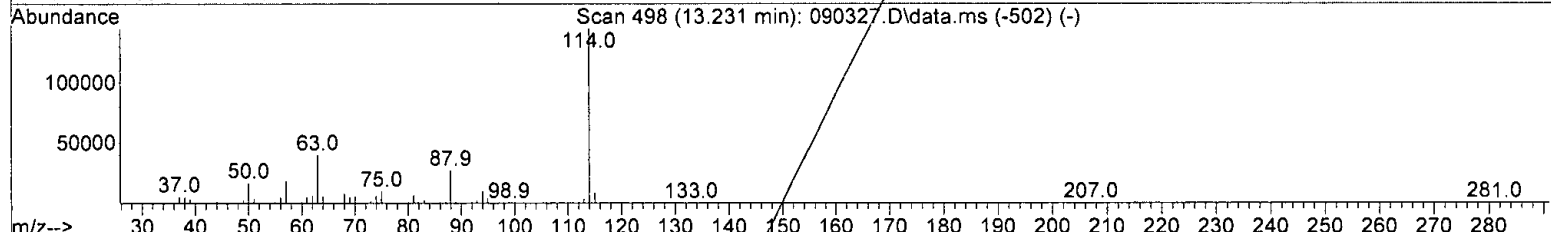
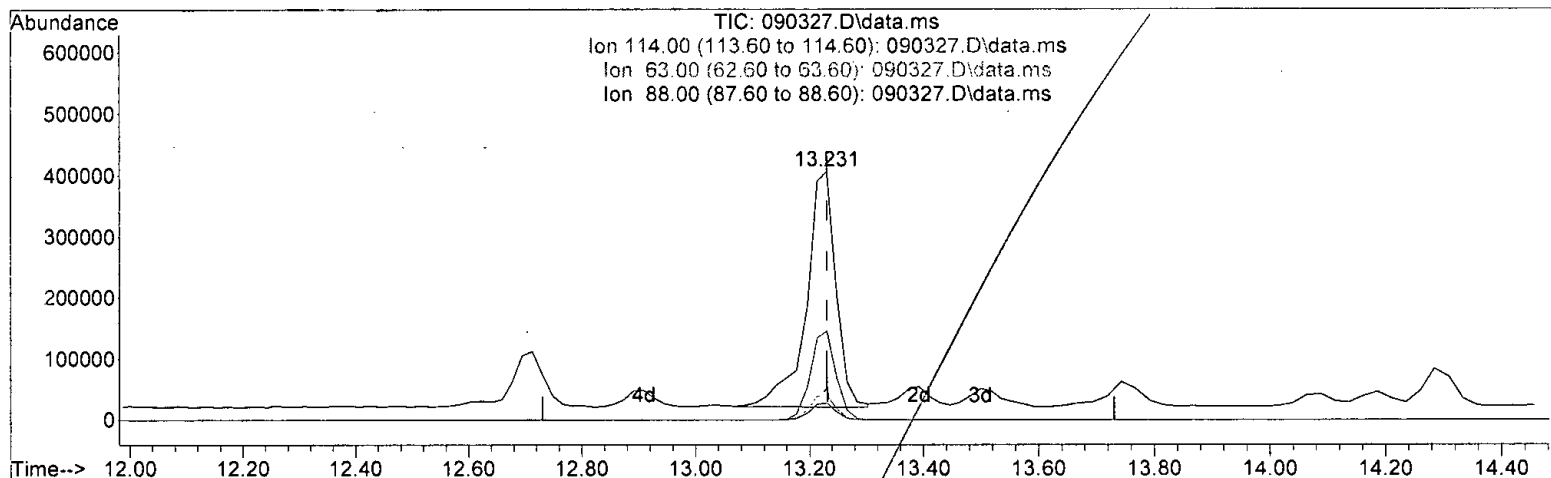
DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:44:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000) 57.063 ug/m3

response 1421377

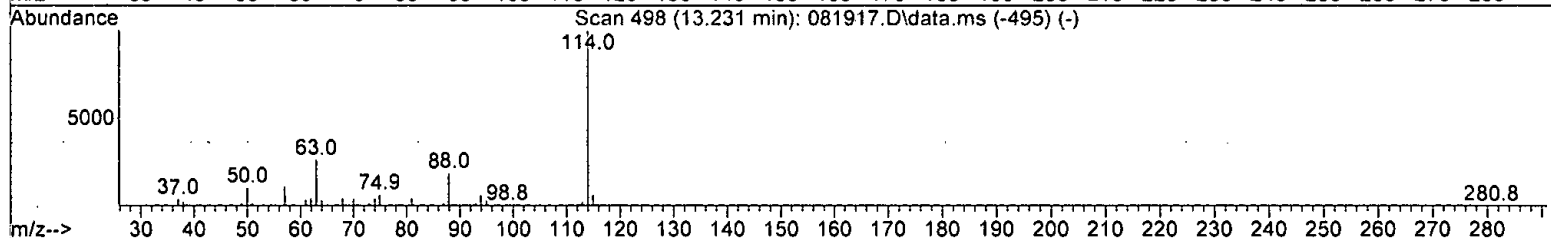
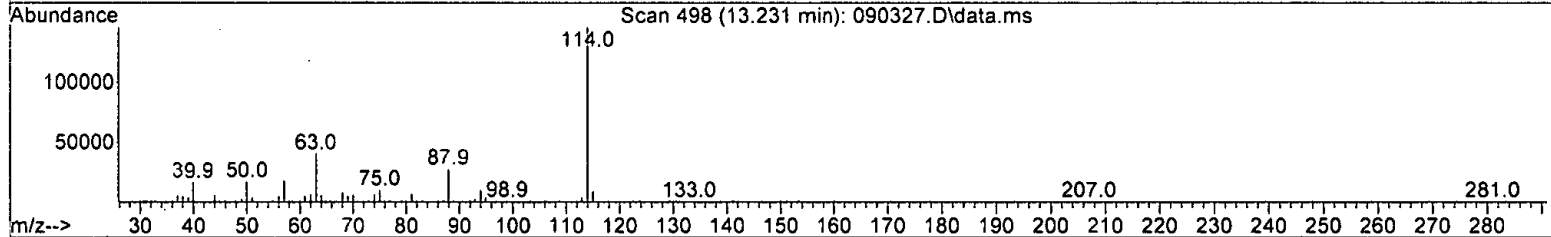
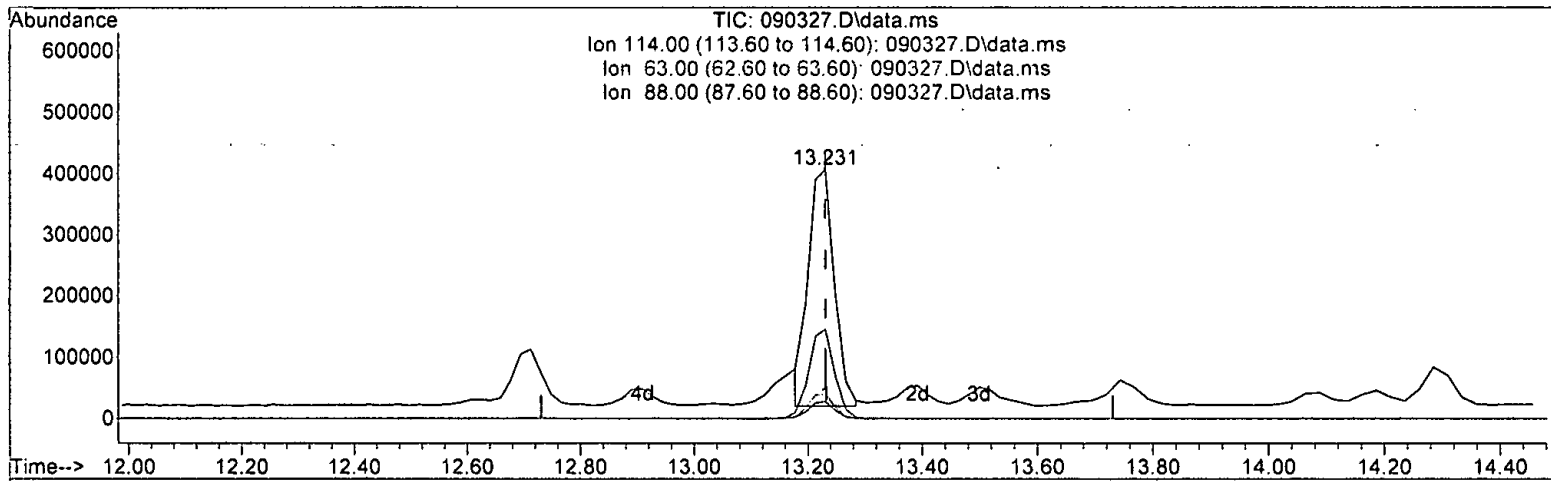
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	37.88
63.00	8.40	10.45
88.00	7.60	7.11

*Handwritten note:* n orlo/2

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:44:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq-Meth: T015DC-M



TIC: 090327.D\data.ms

(3) IS-2 1,4-Difluorobenzene (T)

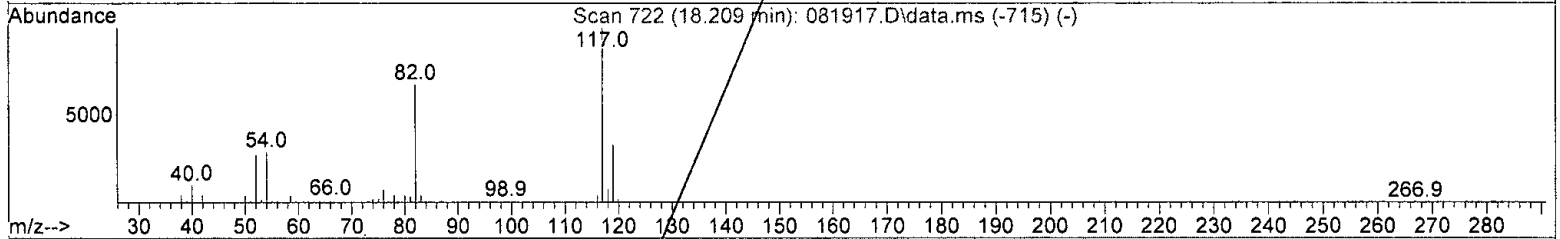
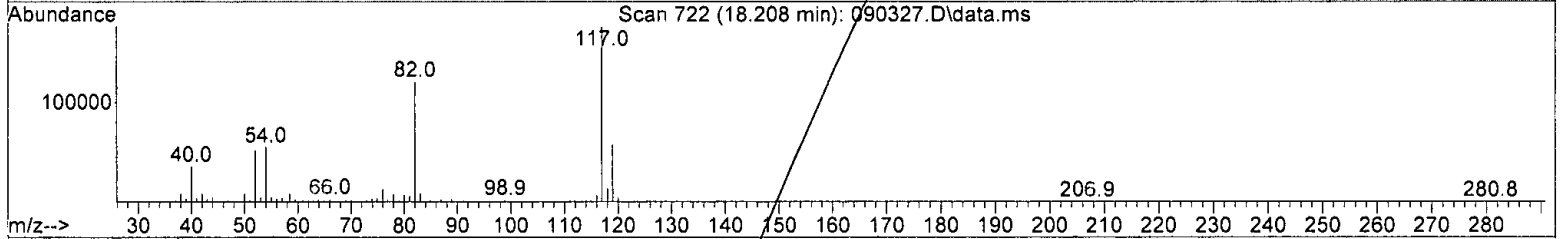
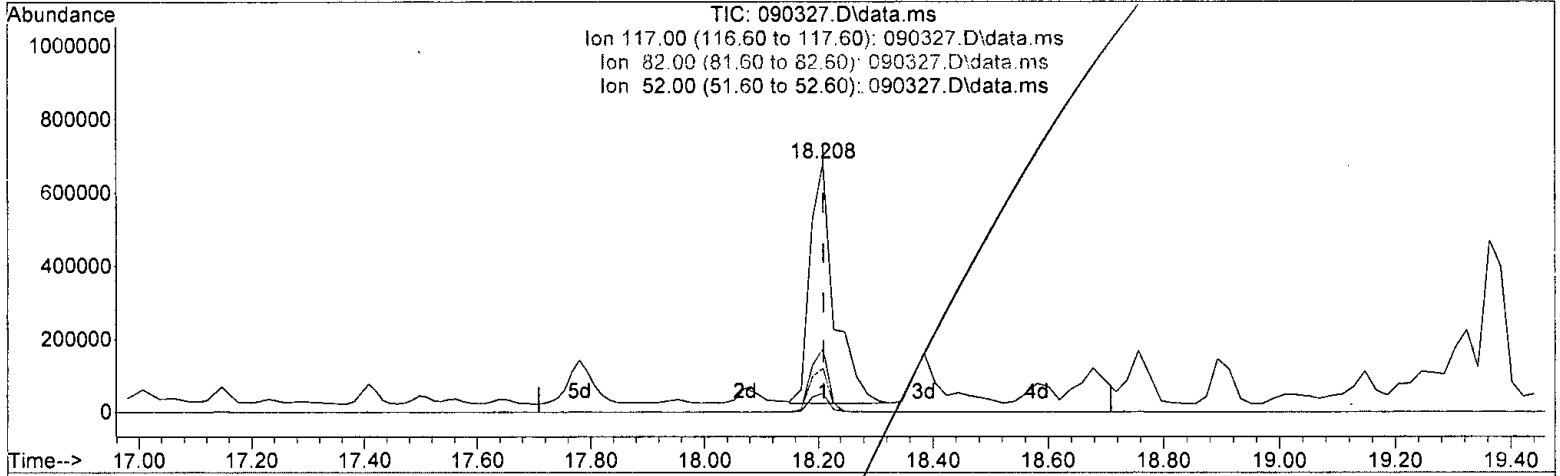
13.231min (+ 0.000) 49.687 ug/m3 m

response	1237662
Signal	Exp% Act%
TIC	100.00 100.00
114.00	43.50 43.51
63.00	8.40 12.00
88.00	7.60 8.17

*h  
 09/07/21*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:44:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.208min (-0.001) 65.801 ug/m3

response 1988037

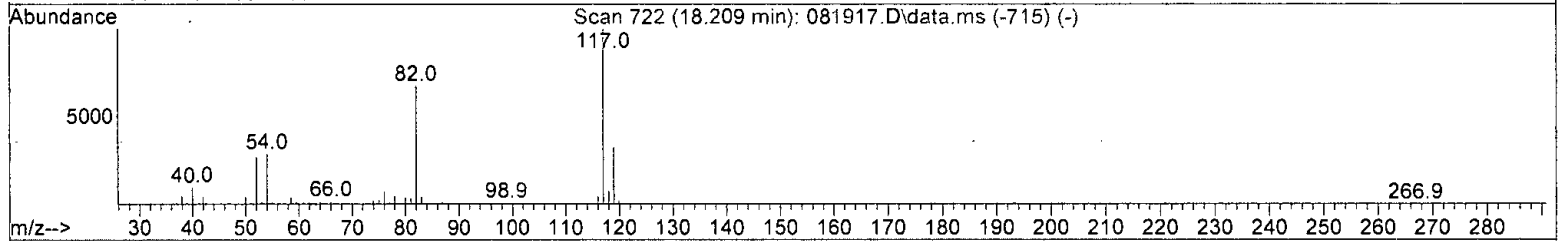
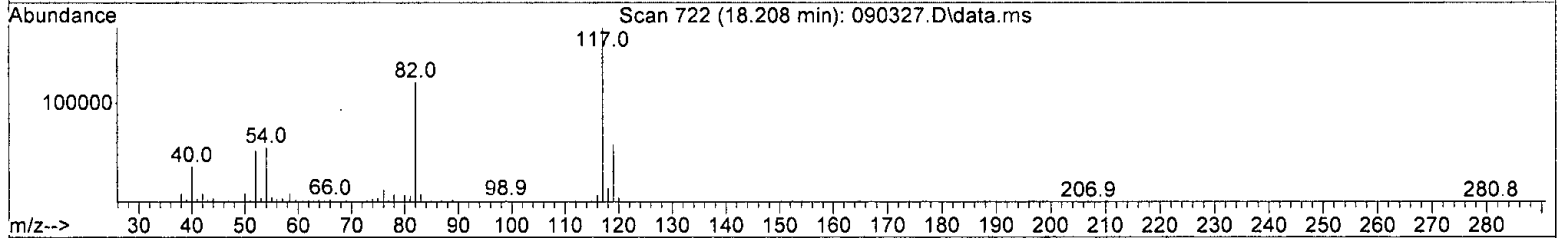
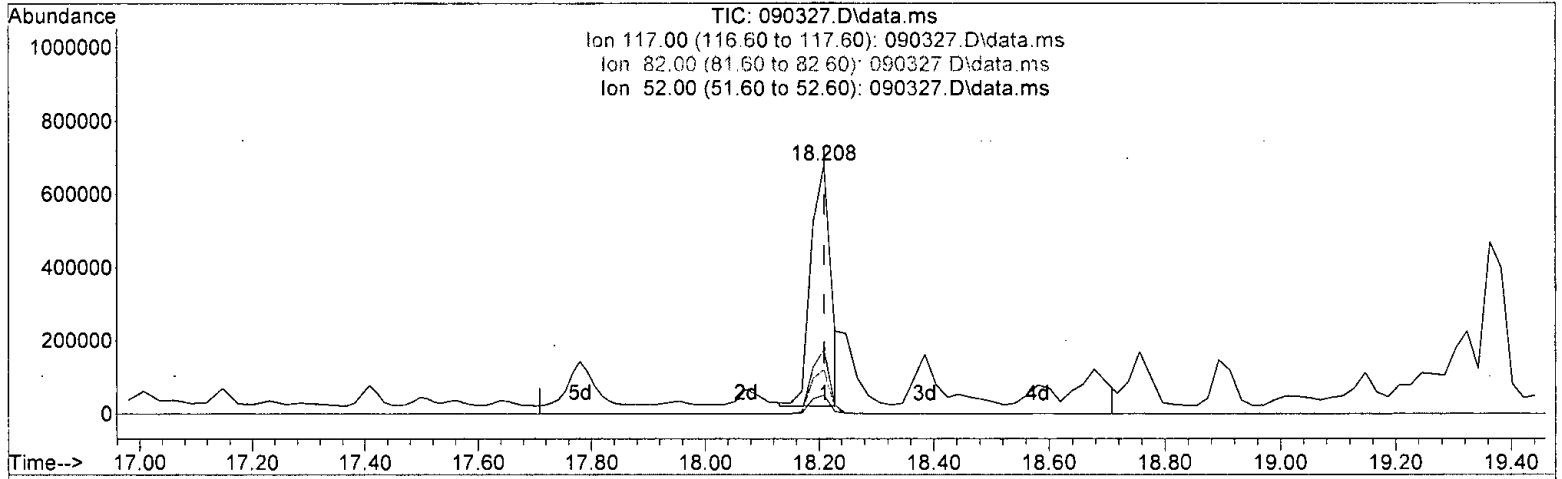
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	19.90
82.00	18.10	14.59
52.00	6.90	6.24

*M. Orlov*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:44:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq-Meth: ~~TO-15DC-M~~



(4) IS-3 Chlorobenzene-d5 (T)

18.208min (-0.001) 54.860 ug/m3 m

response 1657492

Signal Exp% Act%

TIC 100.00 100.00

117.00 34.80 23.87

82.00 18.10 17.50

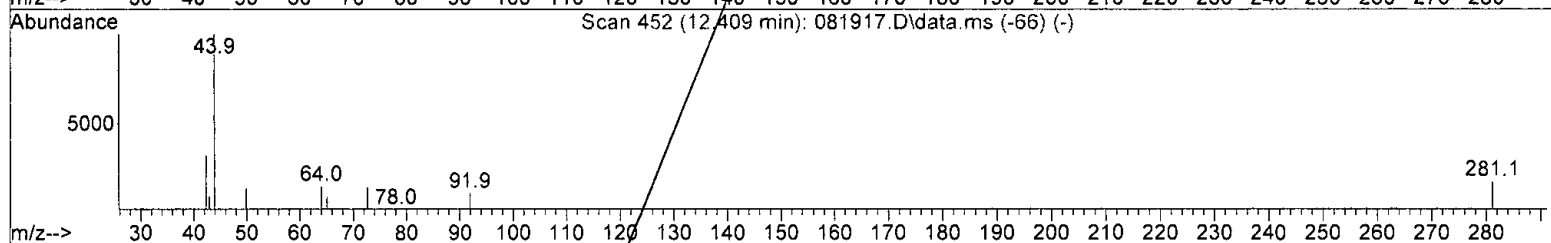
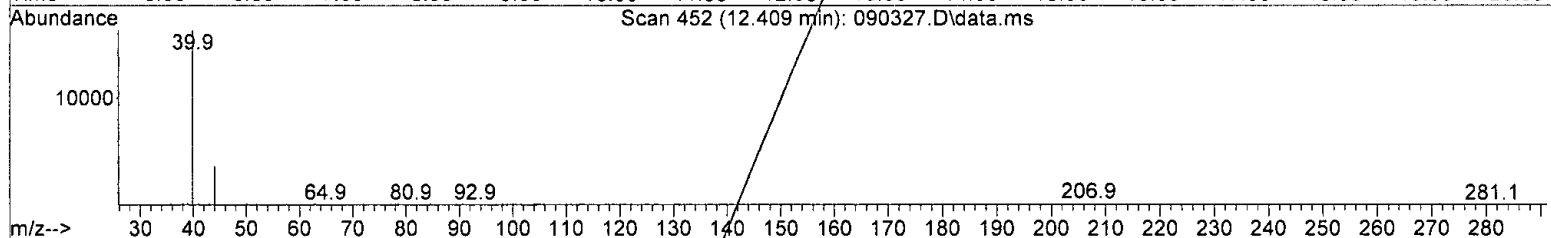
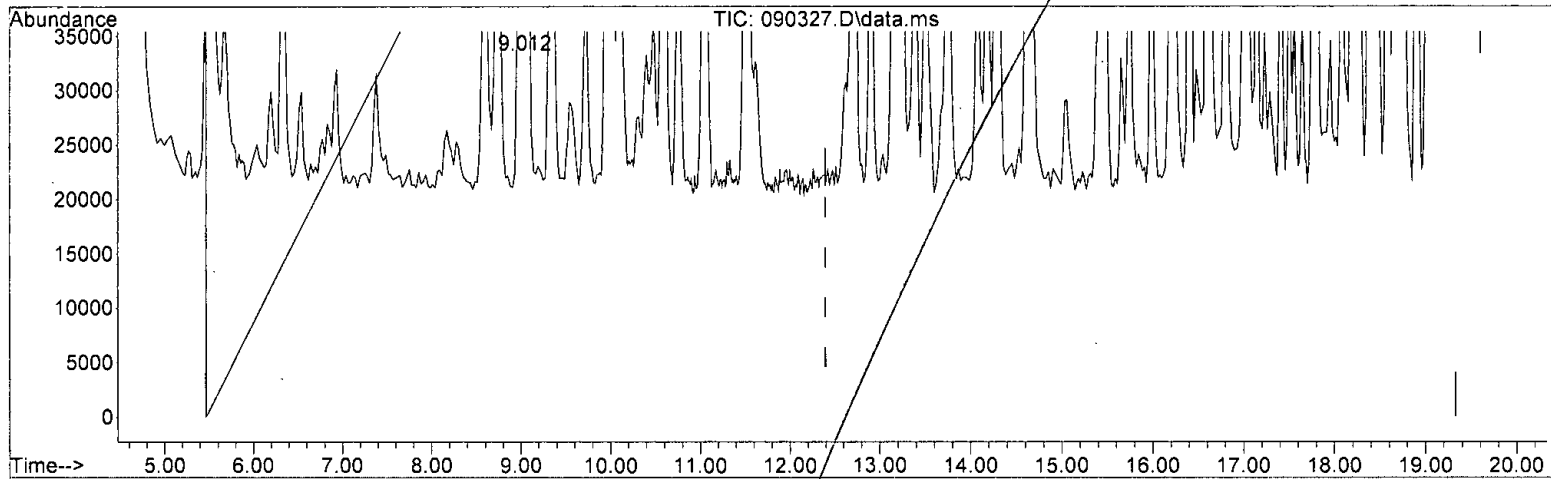
52.00 6.90 7.48

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:44:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq-Meth:TO15DC-M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 275.206 ug/m3

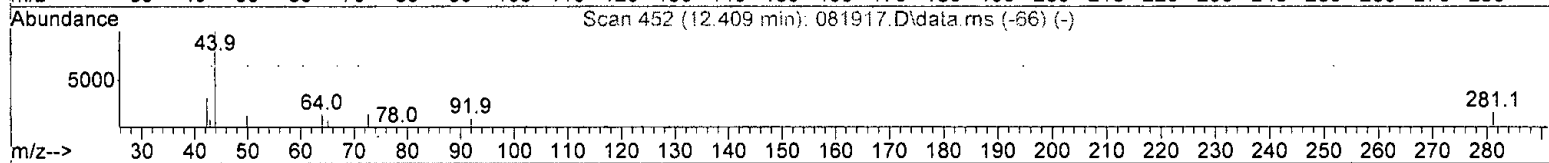
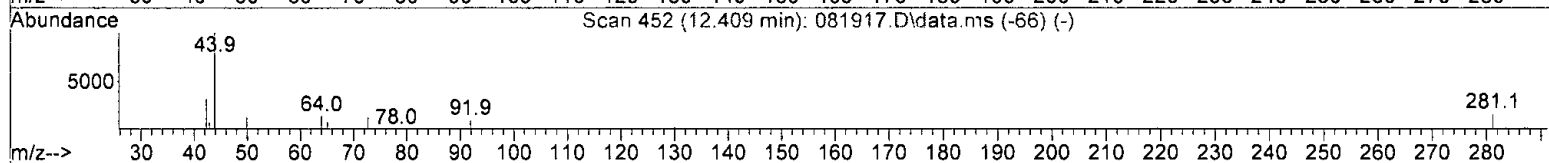
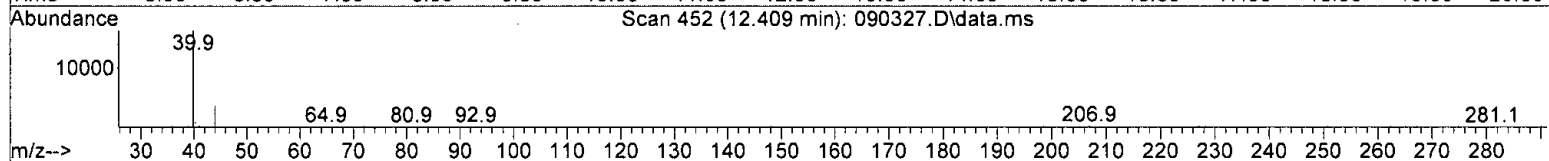
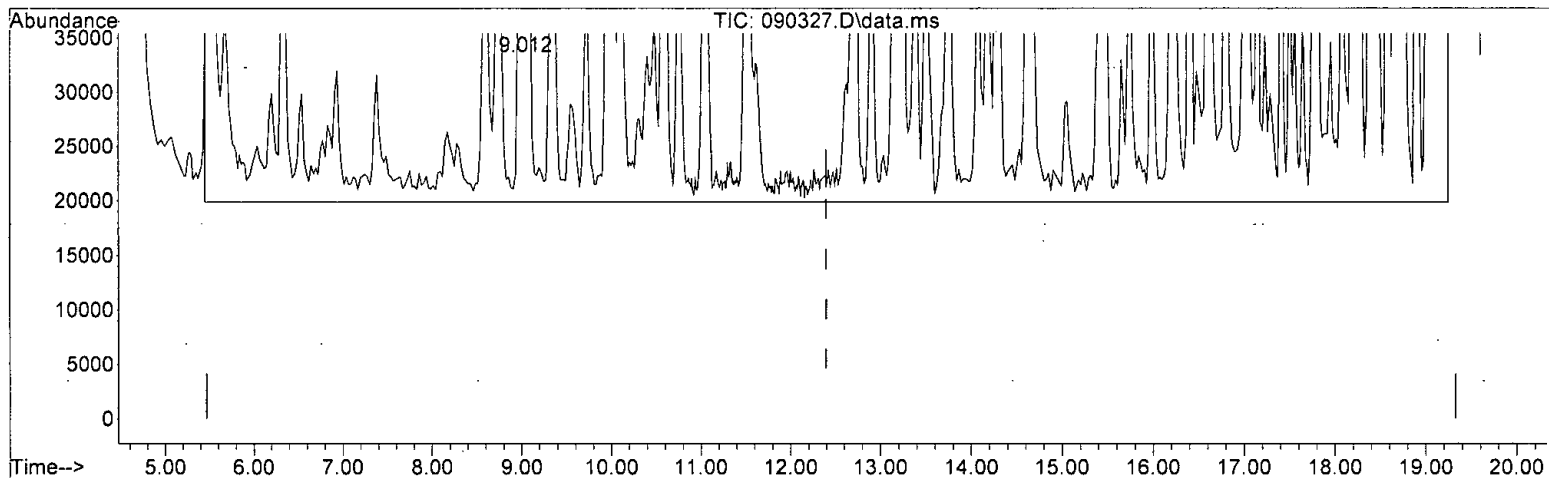
response 10121075

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Bat*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:44:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 458.316 ug/m3 m

response 16855176

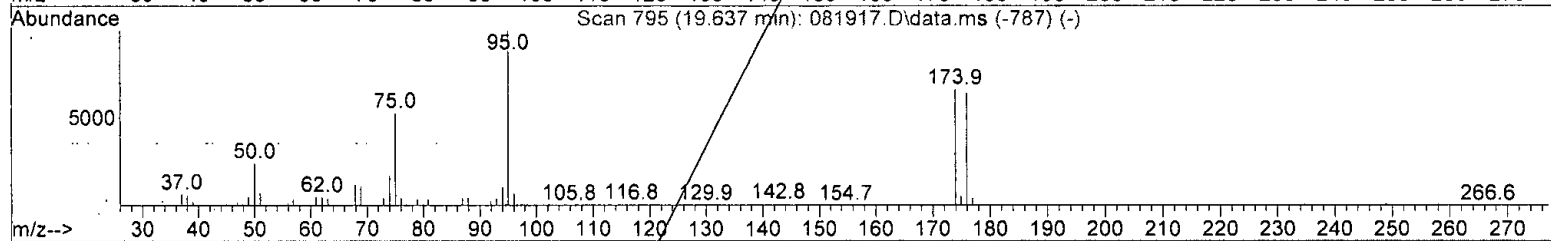
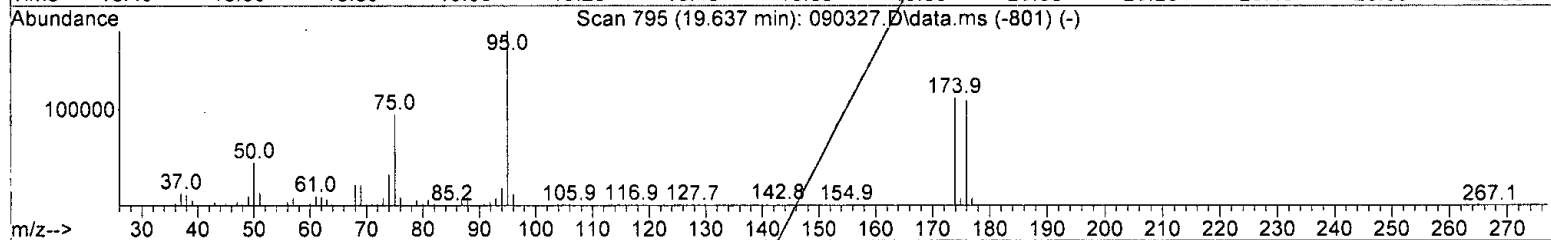
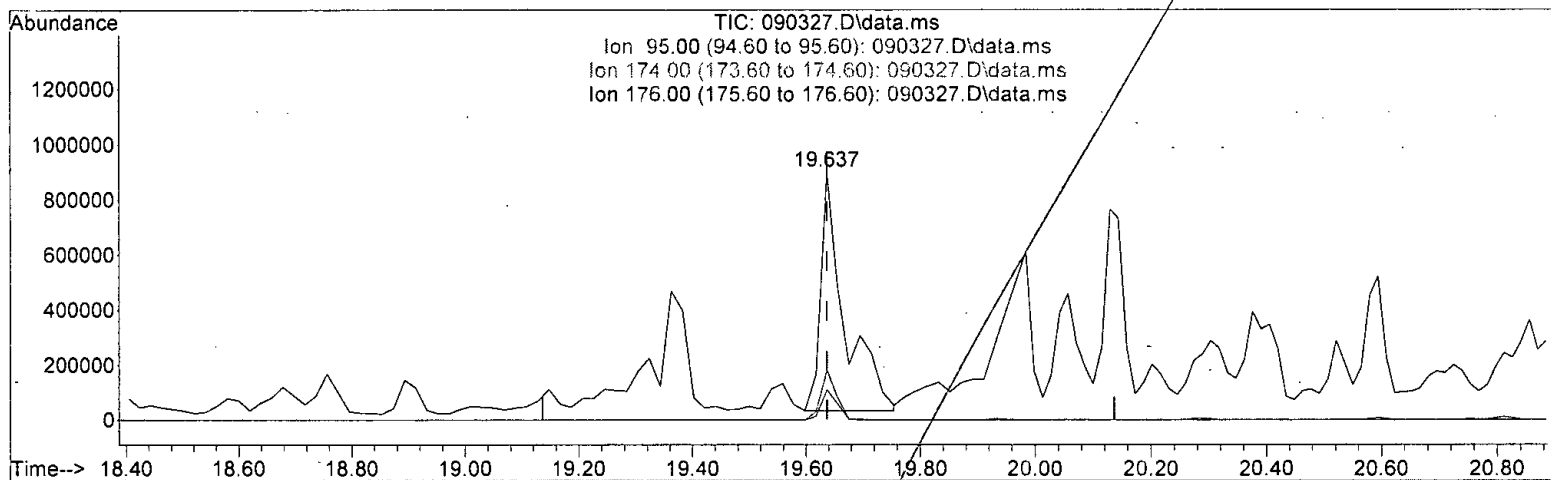
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:44:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
~~DataAcq=Methr:TO15DC-M~~



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 76.766 ug/m3

response 2564355

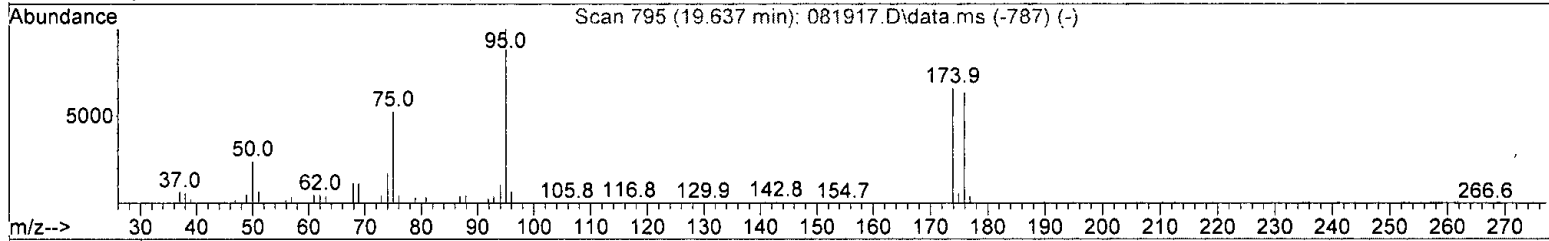
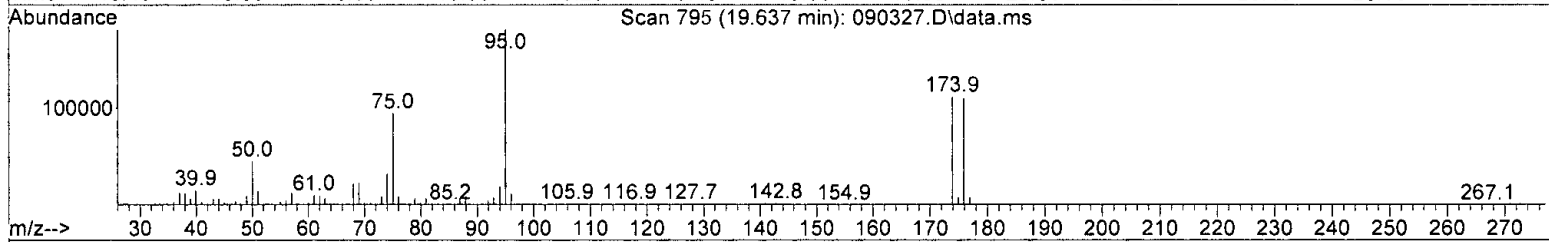
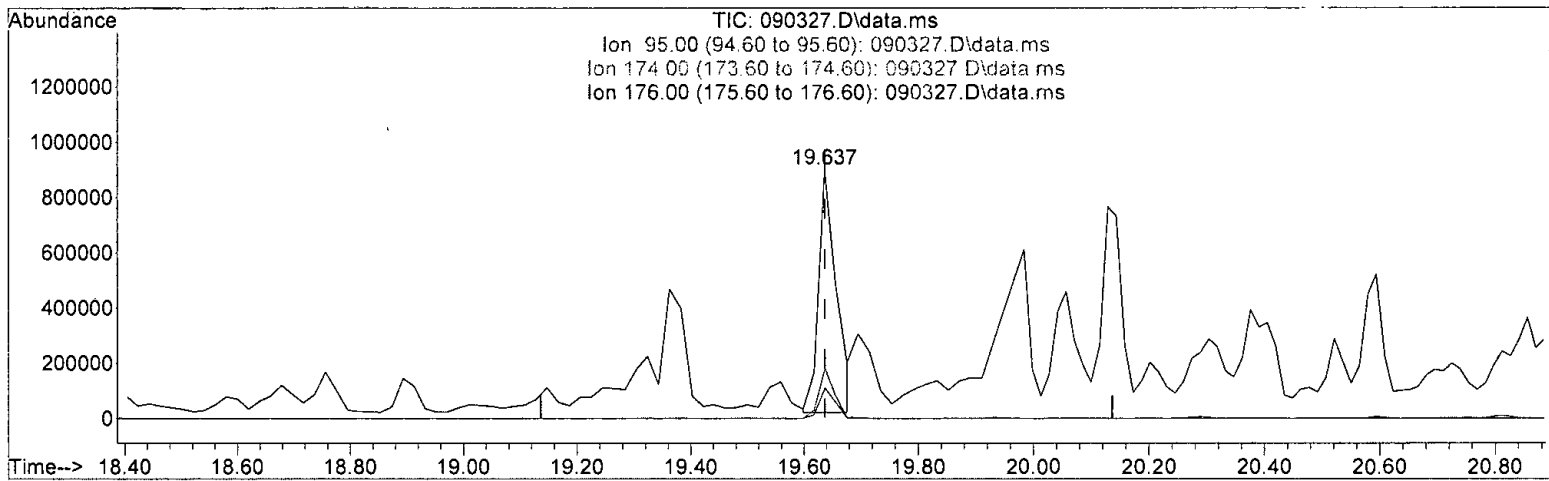
Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	20.97
174.00	19.20	12.92
176.00	18.70	12.71

*Handwritten signature*



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:44:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq-Meth: TO-15DC.M



(21) S 4-Bromofluorobenzene (T)

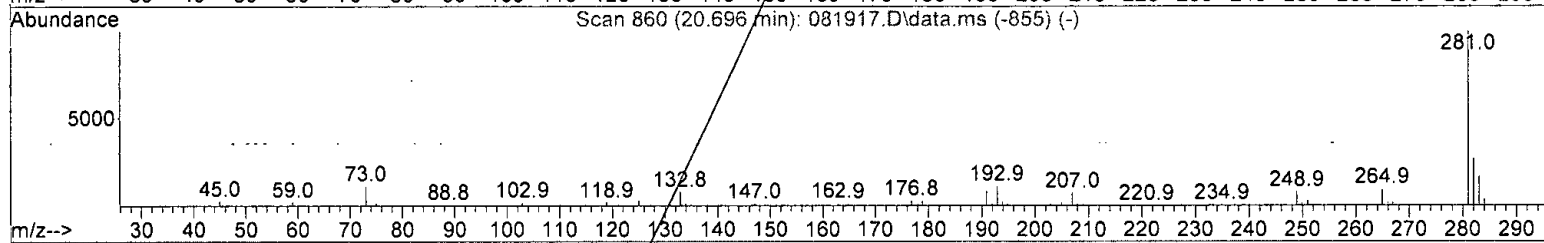
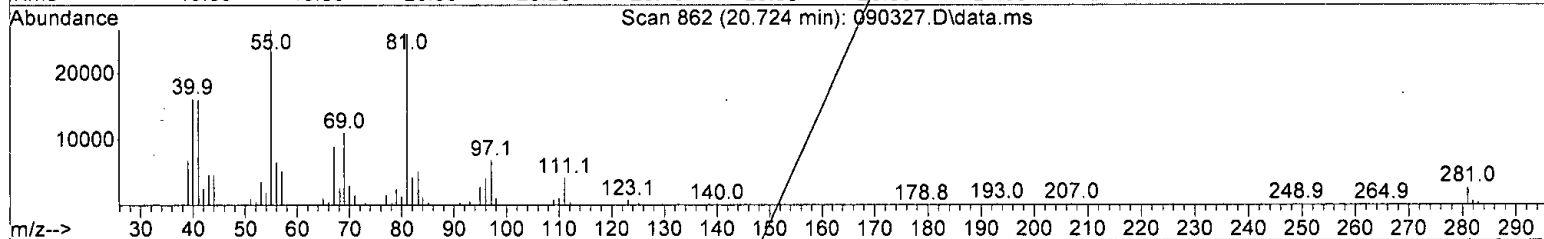
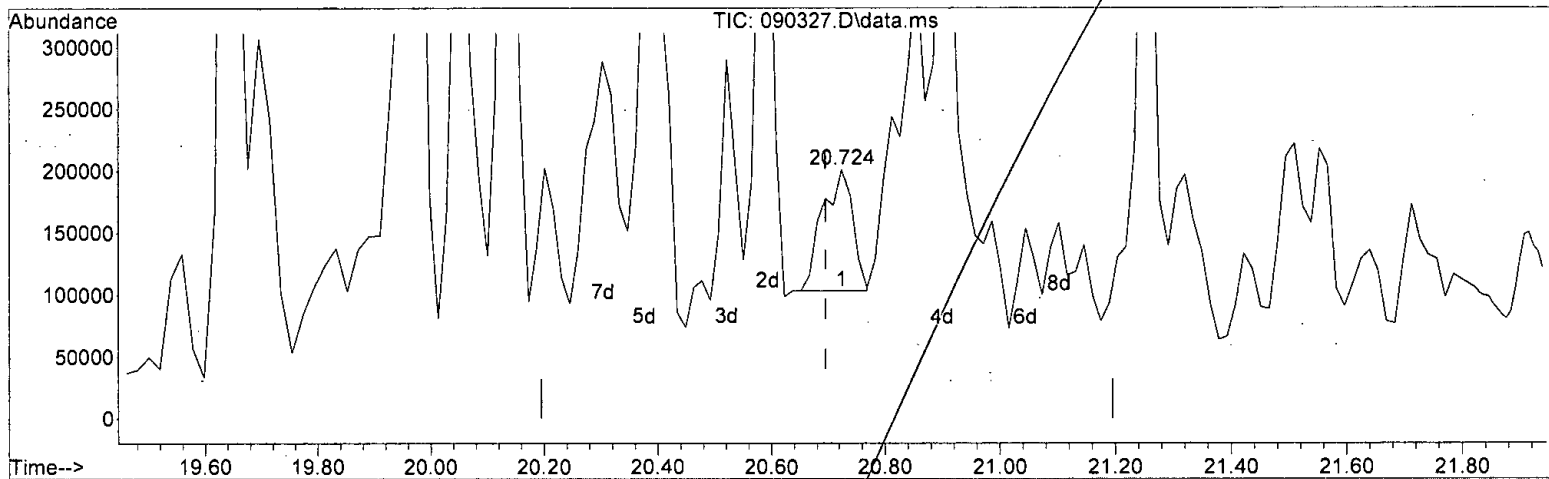
19.637min (-0.000) 58.453 ug/m3 m

response	1952621
Signal	Exp% Act%
TIC	100.00 100.00
95.00	20.00 27.54
174.00	19.20 16.97
176.00	18.70 16.69

*bat*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:44:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq-Meth: TO-15DC.M



(23) Octamethylcyclotetrasiloxane

20.724min (+ 0.029) 35.327 ppbv

response 362774

Signal Exp% Act%

TIC 100.00 100.00

0.00 0.00 0.00

0.00 0.00 0.00

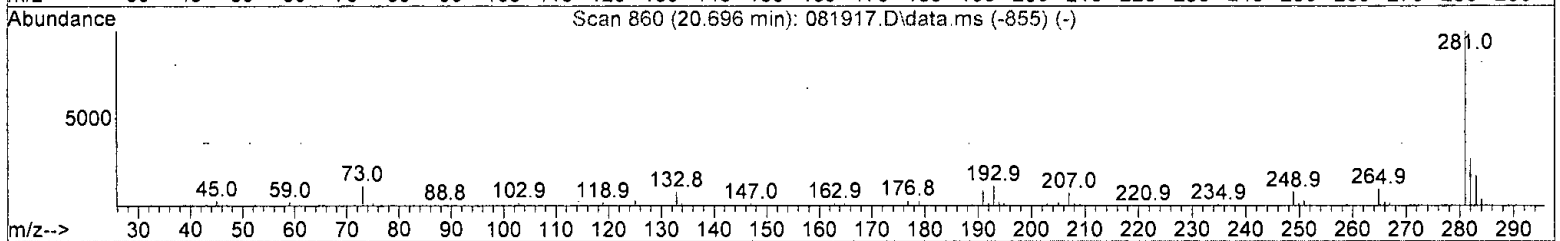
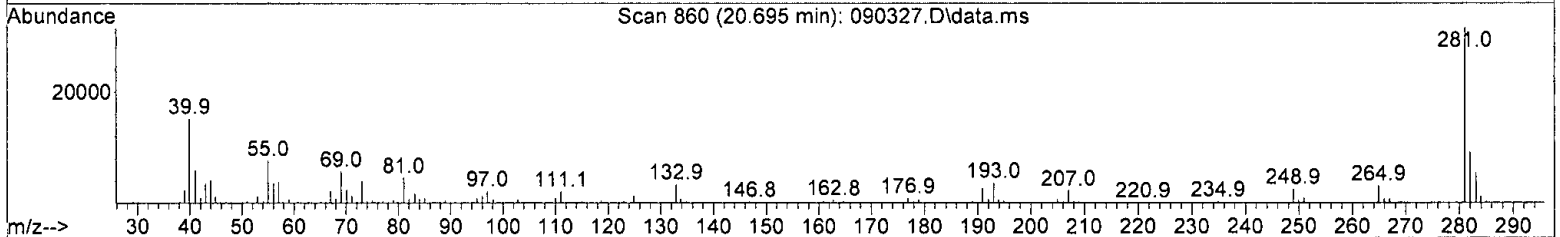
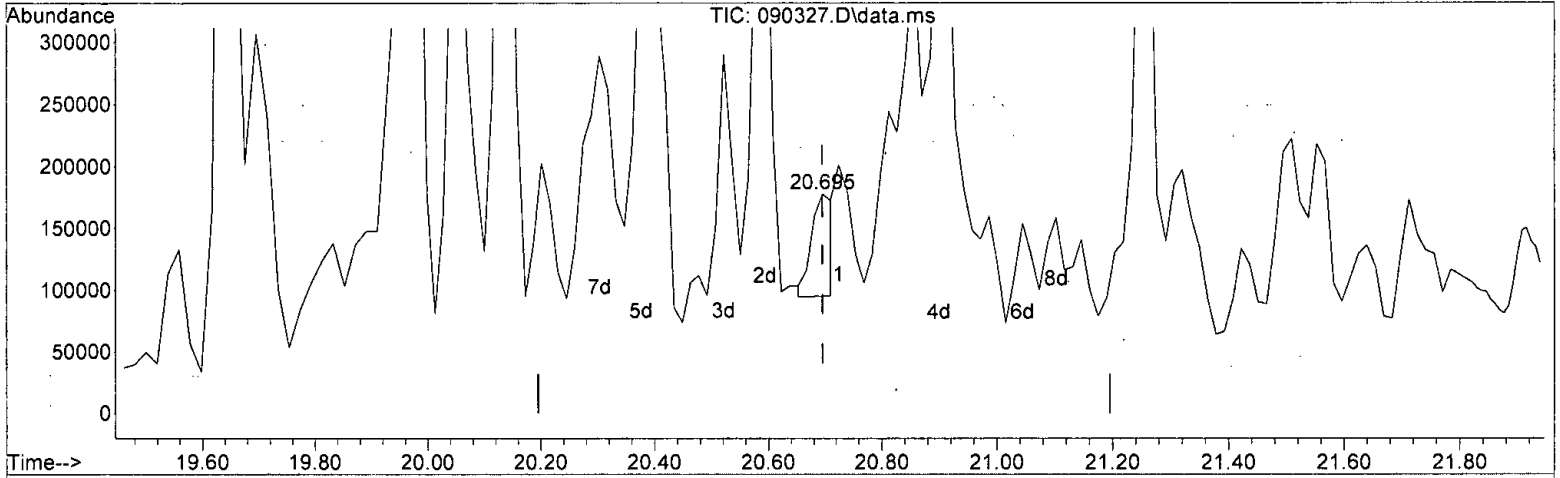
0.00 0.00 0.00

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:44:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq-Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.695min (-0.000) 20.871 ppbv m

response 214327

Signal Exp% Act%

TIC 100.00 100.00

0.00 0.00 0.00

0.00 0.00 0.00

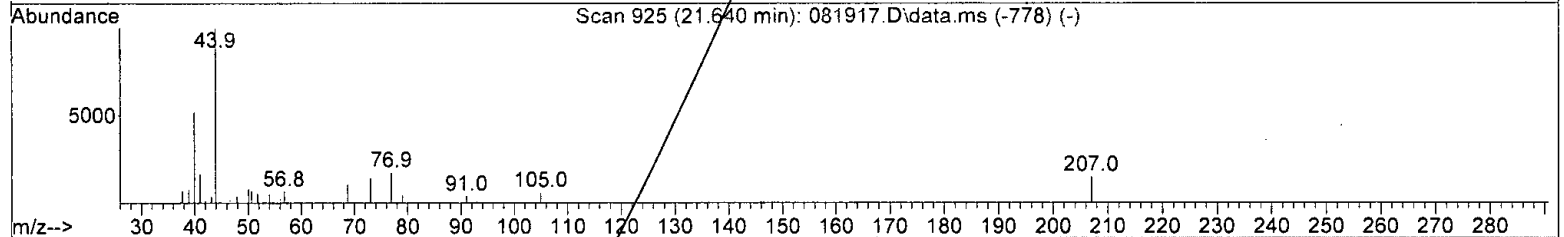
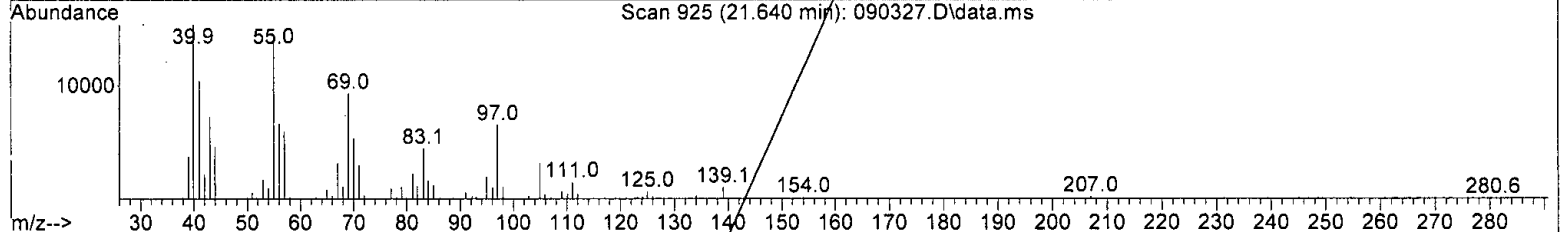
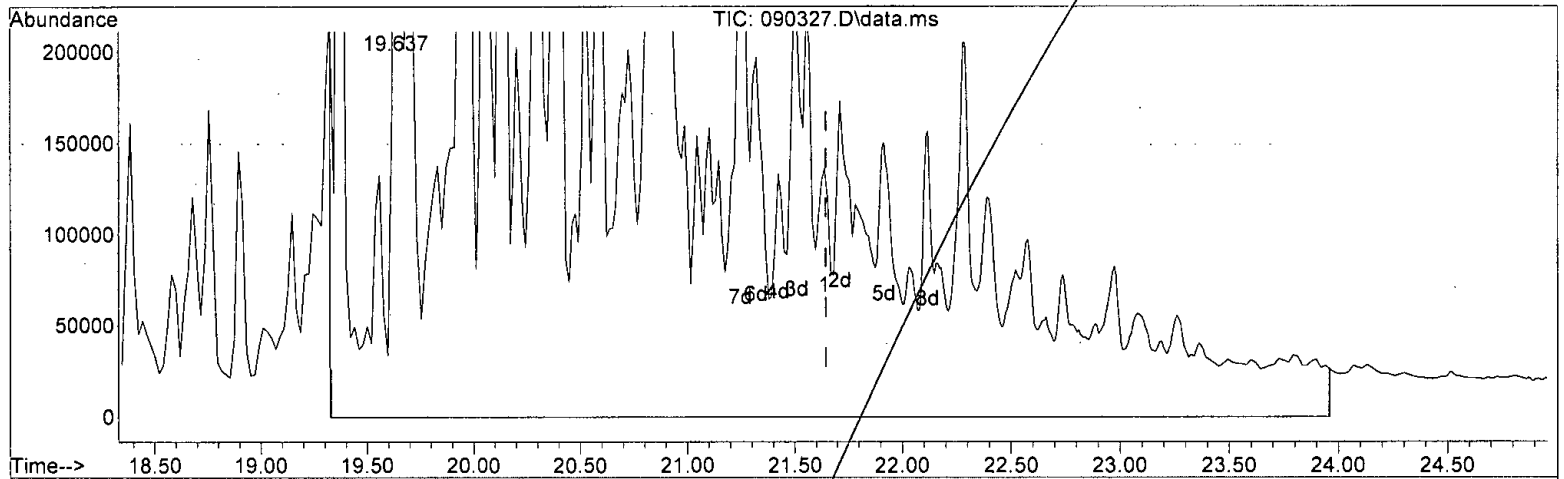
0.00 0.00 0.00

*u alor-h*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:44:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq-Meth: TO15DC-M



(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 484.442 ug/m3 m  
 response 19612777

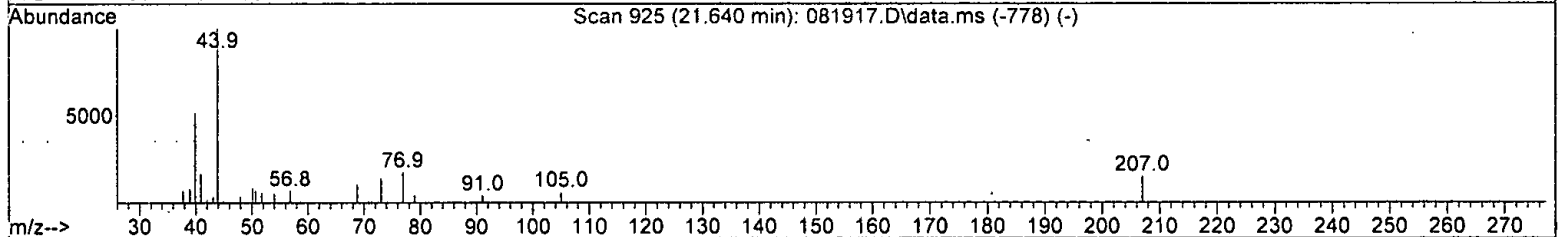
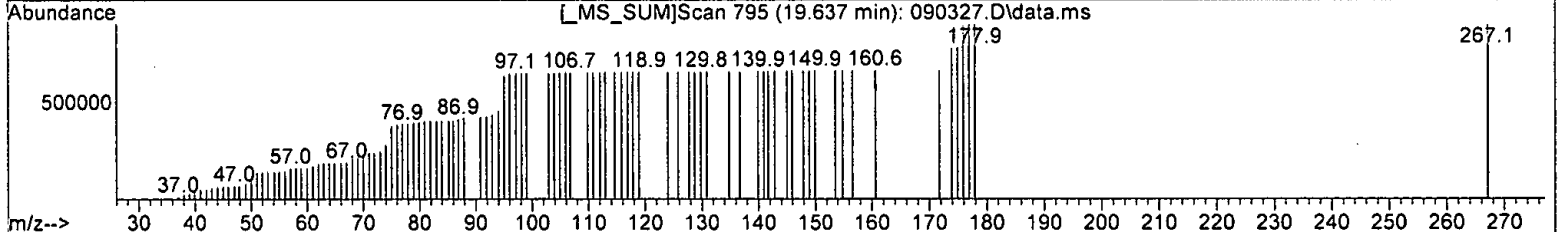
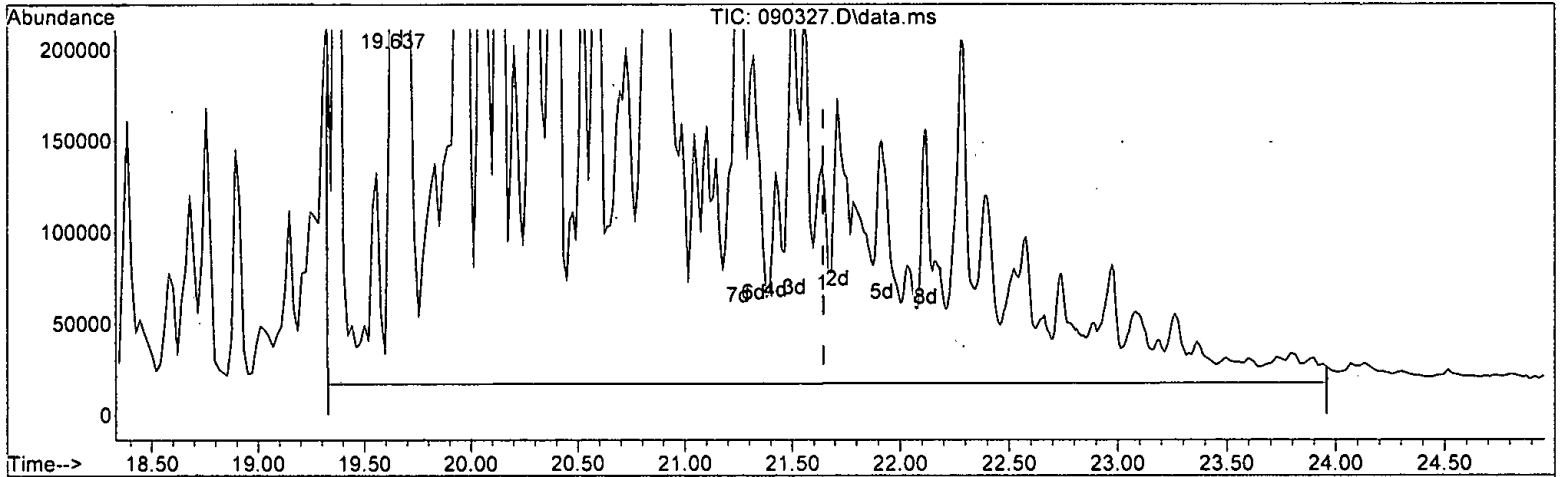
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*M. 09/07/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:44:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcqMeth:TO15DC\*M



(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 677.272 ug/m3 m  
 response 27419545

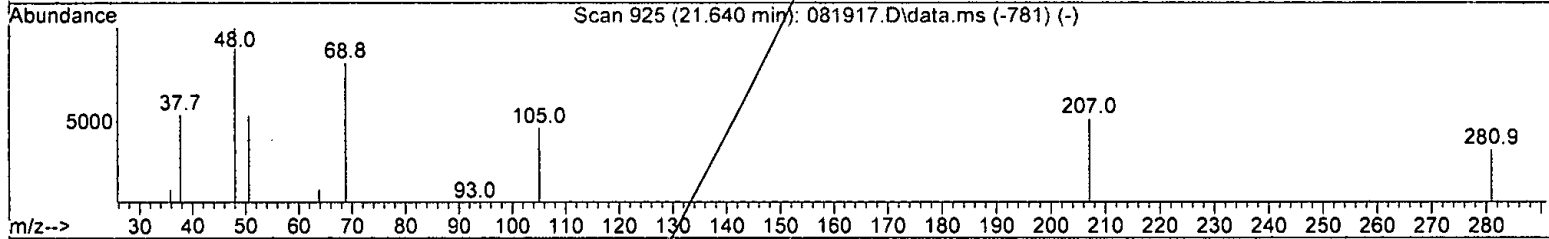
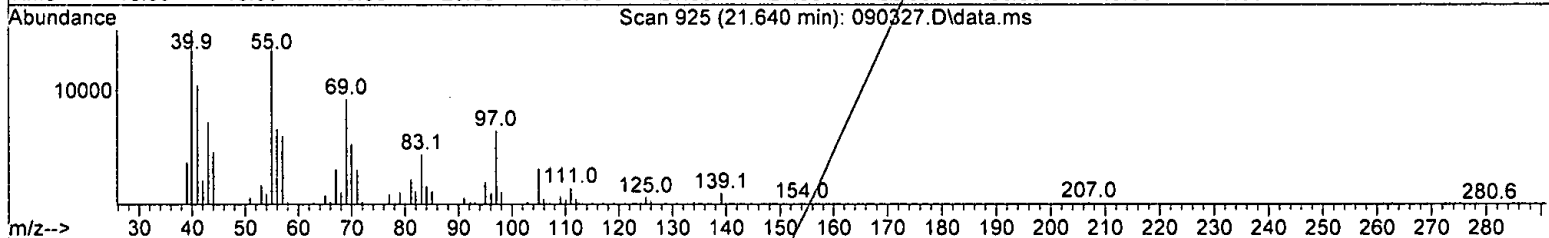
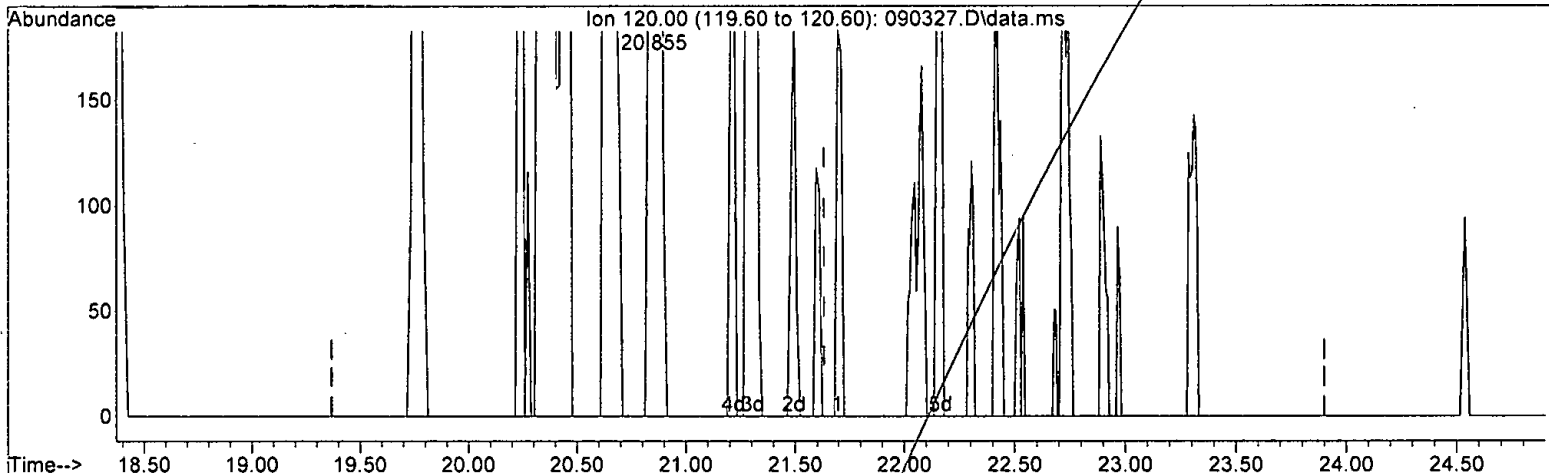
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:44:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq-Meth:TO15DC\*M



TIC: 090327.D\data.ms

(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) -8.396 ug/m3 m

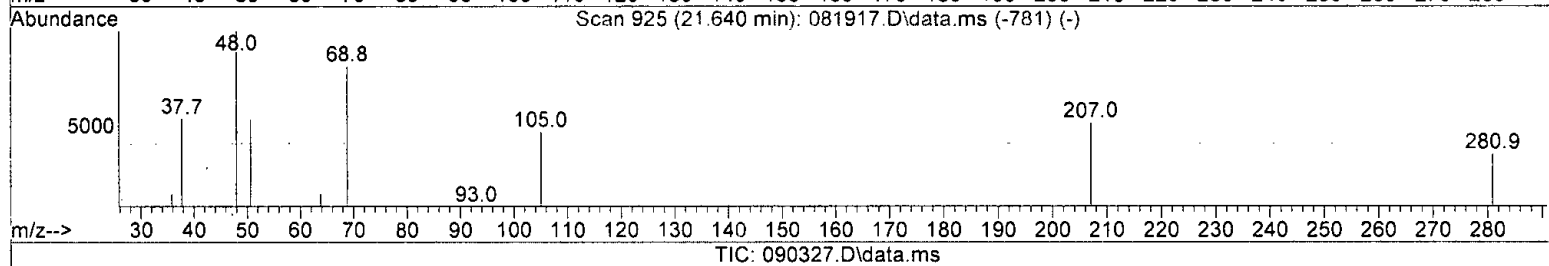
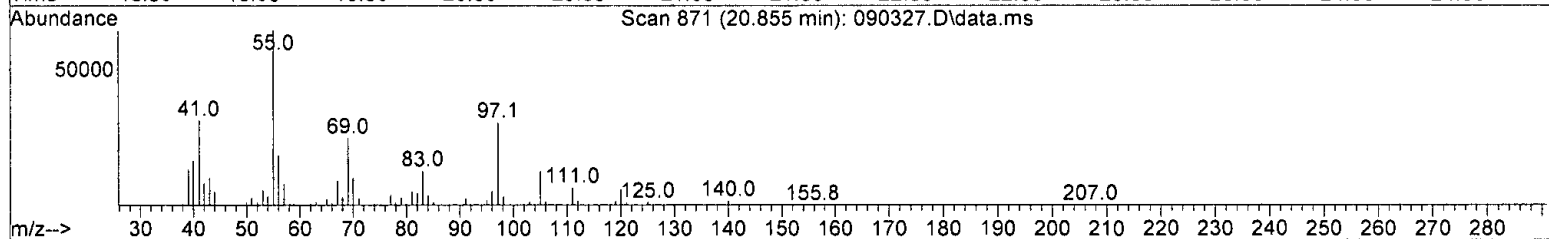
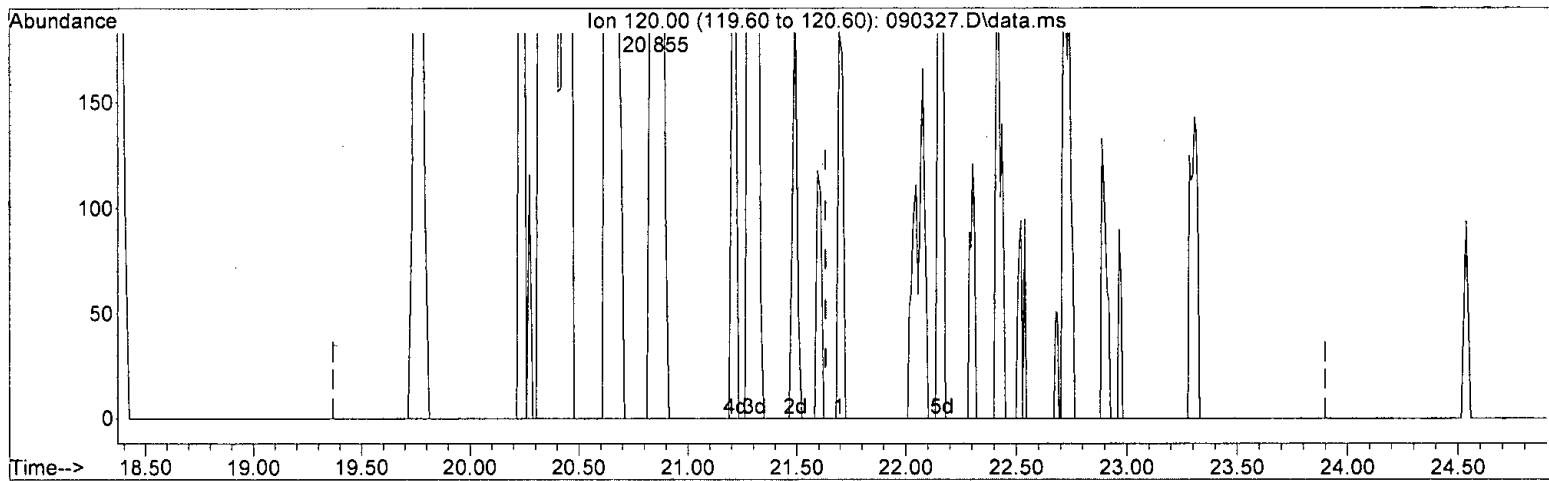
response -39576

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:44:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 6.231 ug/m3 m

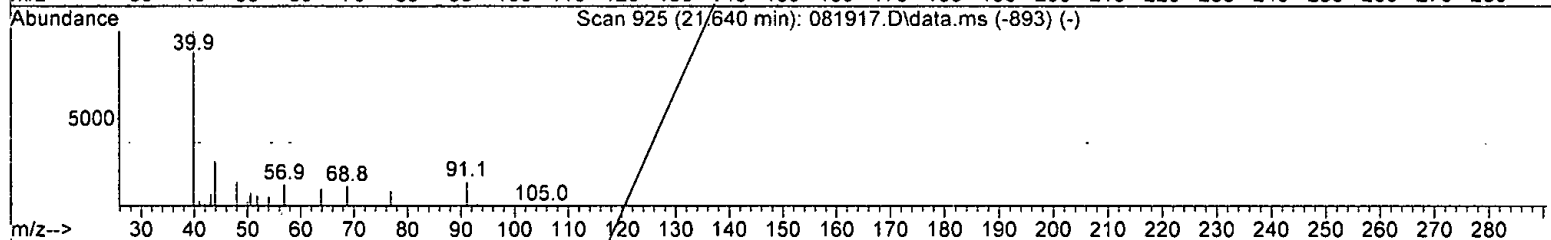
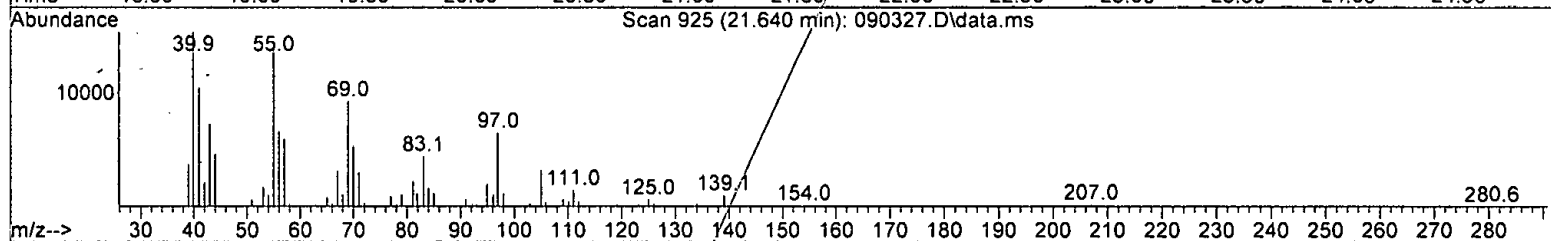
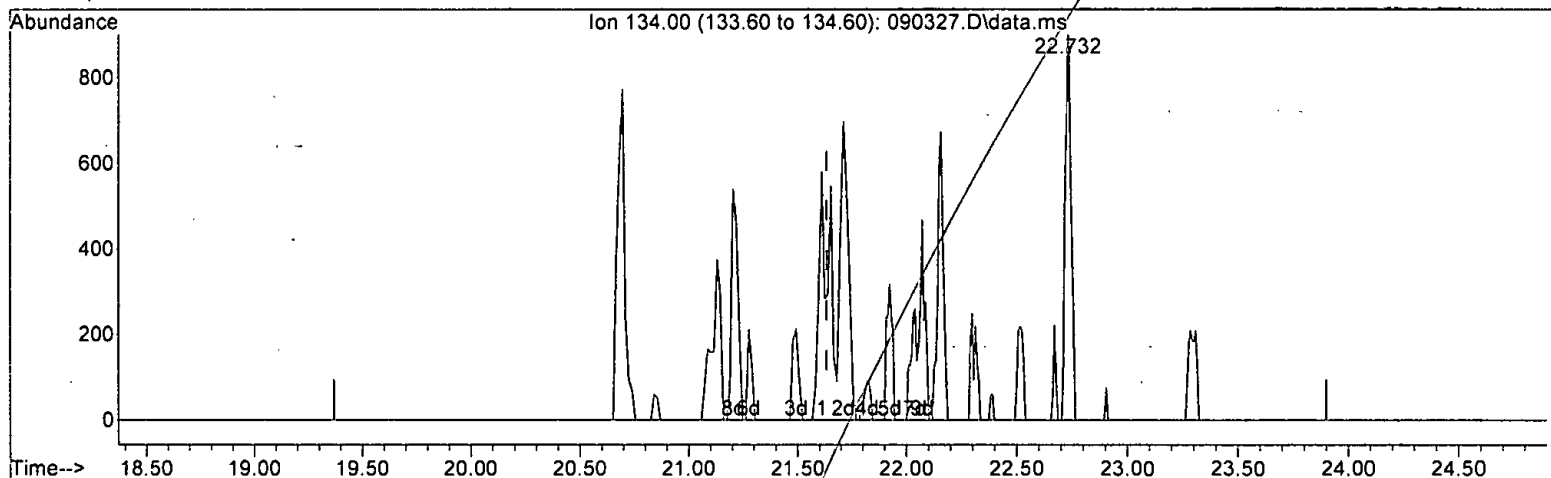
response 29371

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:44:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq-Meth:TO15DC-M



(45) APH EC9-10 aromatics (2) (H)  
 21.635min ( 0.000) -21.078 ug/m<sup>3</sup> m  
 response -56591

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

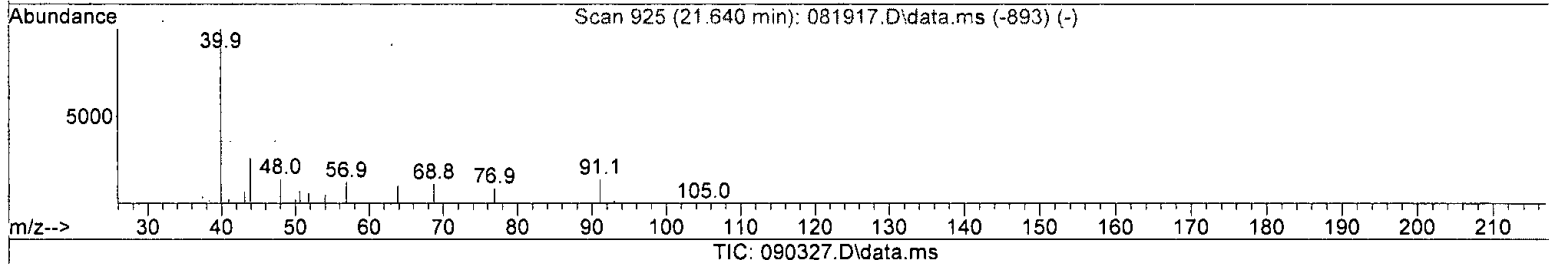
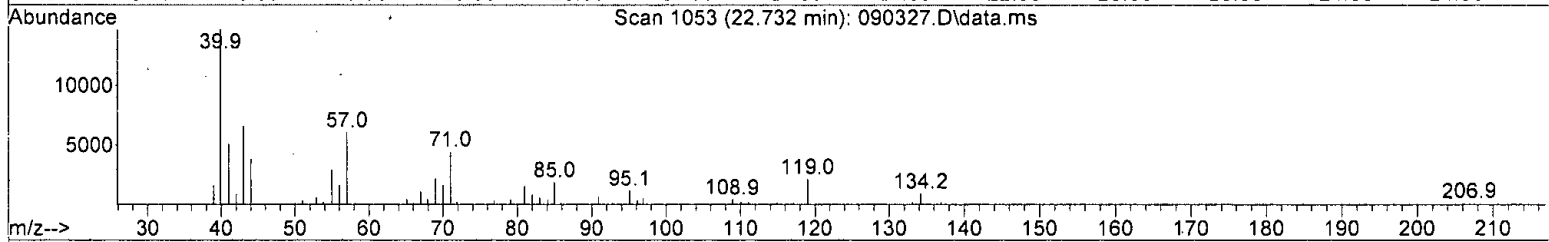
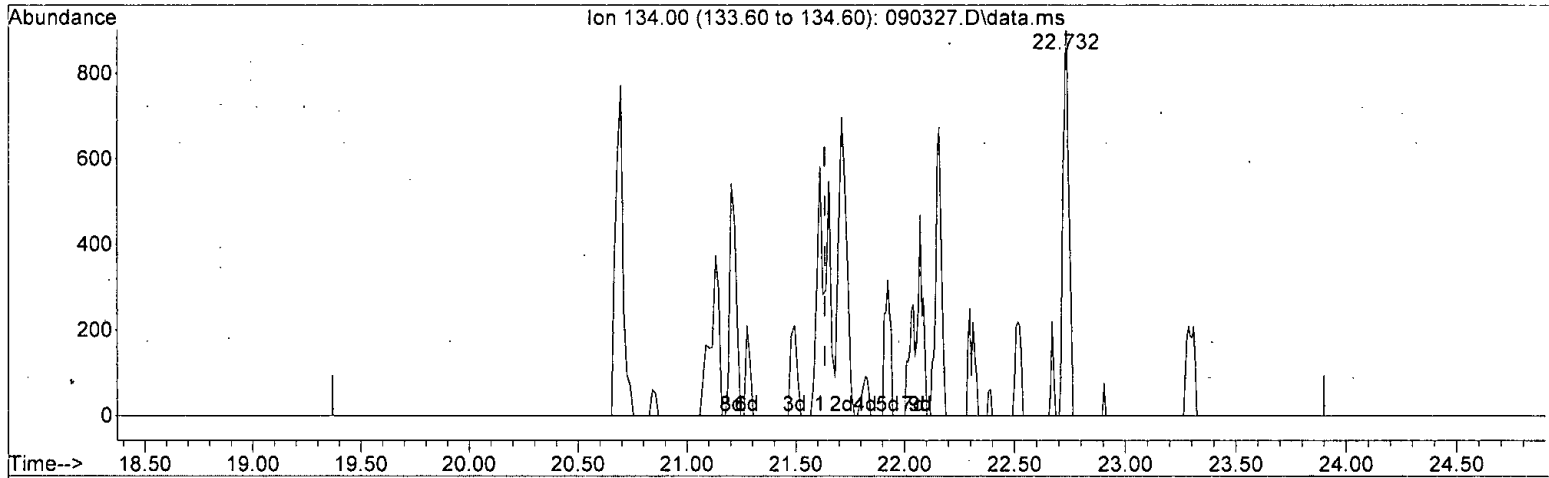
*ba*  
*on/ok*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:44:14 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)

21.635min ( 0.000) 6.383 ug/m3 m

response 17137

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*12/21/21*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:53:39 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	99394	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	463500	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	395698	50.000	ug/m3	# 0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	354991	71.606	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	100.86%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	947193	53.973	ug/m3	86
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1237662m	49.687	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1657492m	54.860	ug/m3	
5) Methylene chloride	6.94	TIC	89463	100.688	ug/m3	52
6) Acetone	5.68	TIC	71546	1.526	ppbv	100
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.24	54	246950	42.193	ug/m3#	1
9) Methyl t-butyl ether	8.49	73	404	0.053	ug/m3	56
11) Benzene	12.71	78	133575	8.476	ug/m3	92
12) Isopentane	5.68	TIC	71546	2.286	ug/m3	84
13) Hexane	10.10	TIC	108036	3.317	ug/m3	94
14) Cyclohexane	13.23	TIC	1404142	43.643	ug/m3	94
15) 2,3-Dimethylpentane	13.50	TIC	138356	3.370	ug/m3	95
16) Heptane	14.60	TIC	241318	7.192	ug/m3	92
17) Octane	17.41	TIC	110488	2.401	ug/m3	93
18) APH EC5-8 aliphatics T...	12.71	TIC	2073886m	56.392	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	16855176m	458.316	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1952621m	58.453	ug/m3	
22) Hexamethylcyclotrisilo...	17.78	TIC	367306	44.641	ppbv	100
23) Octamethylcyclotetrasil...	20.70	TIC	214327m	20.871	ppbv	
24) Toluene	16.39	92	41716	4.914	ug/m3	96
25) Ethylbenzene	18.60	91	31388	1.790	ug/m3	93
26) m,p-Xylene	18.76	106	13080	2.219	ug/m3#	67
27) o-Xylene	19.21	106	7991	1.433	ug/m3	97
28) Naphthalene	23.94	128	1475	0.104	ug/m3	68
29) 2,3-Dimethylheptane	18.68	TIC	301039	7.570	ug/m3#	77
30) Nonane	19.36	TIC	1883584	45.360	ug/m3	83
31) Decane	20.90	TIC	2519738	61.081	ug/m3	79
32) Butylcyclohexane	21.51	TIC	472875	10.091	ug/m3	87
33) Undecane	22.28	TIC	435321	10.640	ug/m3	83
34) Dodecane	23.79	TIC	53578	1.595	ug/m3	84
35) APH EC9-12 aliphatics ...	21.51	TIC	5666135m	139.955	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	27419545m	677.272	ug/m3	
38) Isopropylbenzene	19.75	120	1424	0.459	ug/m3	98
39) 1-Methyl-3-ethylbenzene	20.65	120	5602	1.291	ug/m3	94
40) 1,3,5-Trimethylbenzene	20.45	120	3267	0.595	ug/m3	89
41) p-Isopropyltoluene	21.28	134	287	0.106	ug/m3#	1
42) 1,2,3-Trimethylbenzene	21.31	120	3344	0.519	ug/m3#	55
43) APH EC9-10 aromatics T...	21.51	TIC	13924m	3.262	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	29371m	6.231	ug/m3	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

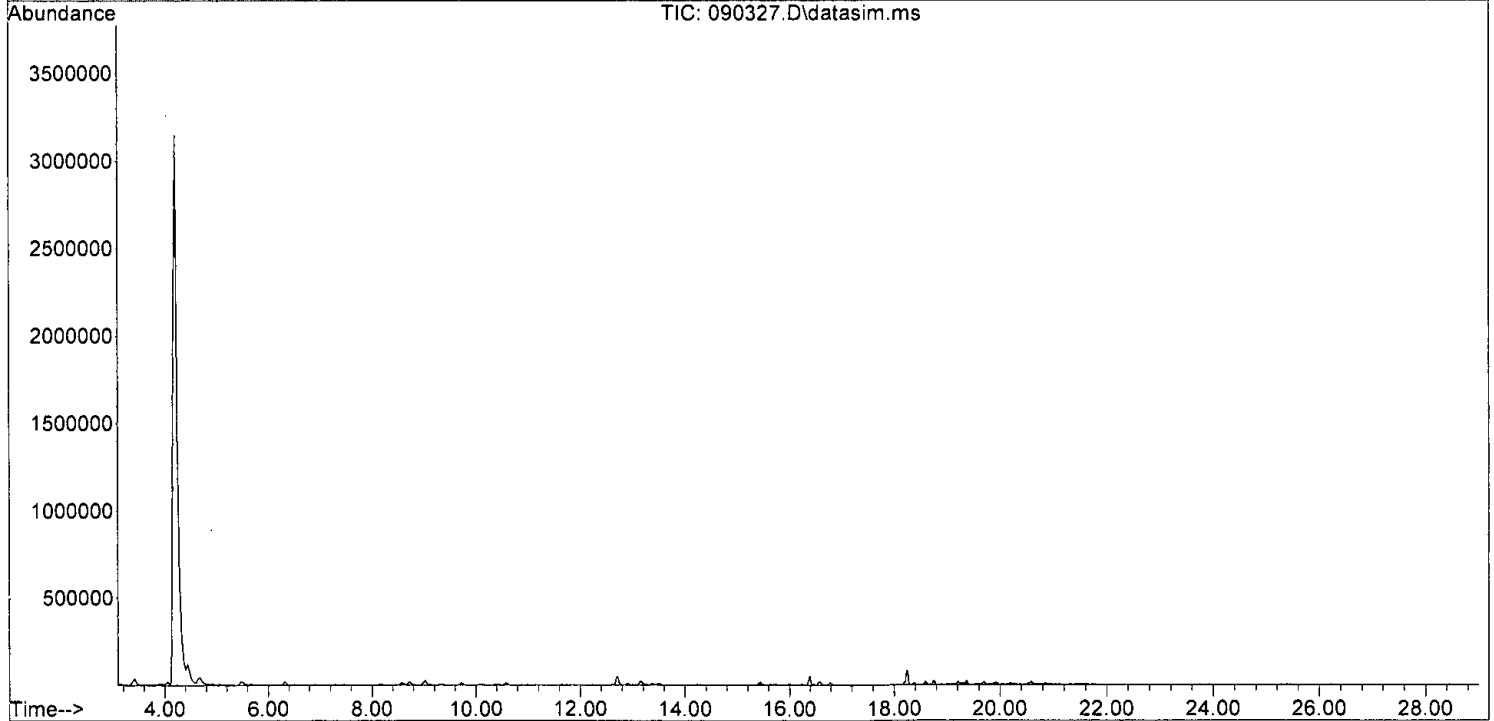
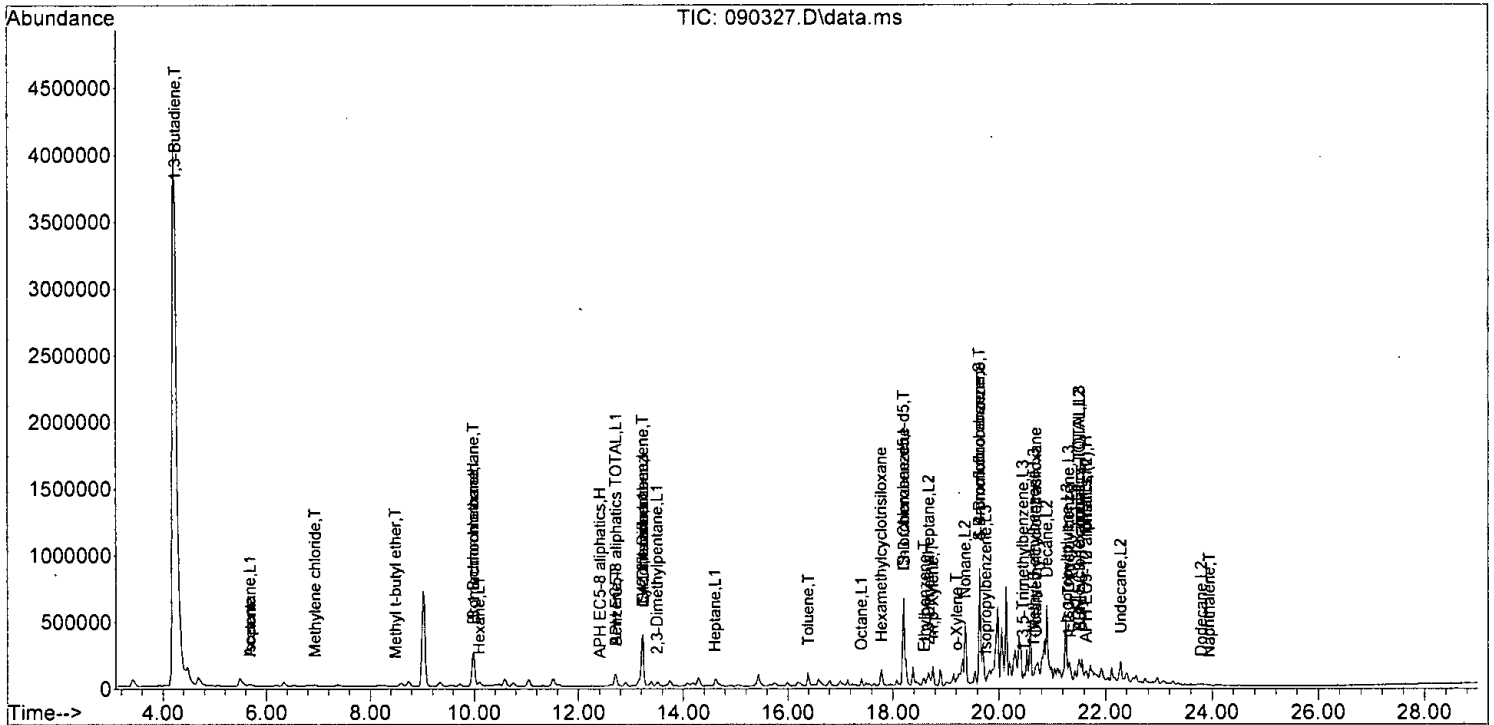
Quant Time: Sep 07 15:53:39 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
~~DataAcq-Meth:TO15DC.M~~

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	17137m	6.383	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090327.D  
 Acq On : 4 Sep 2021 12:48 am  
 Operator : bat  
 Sample : 109030-13 1/1100  
 Misc : T13  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS7

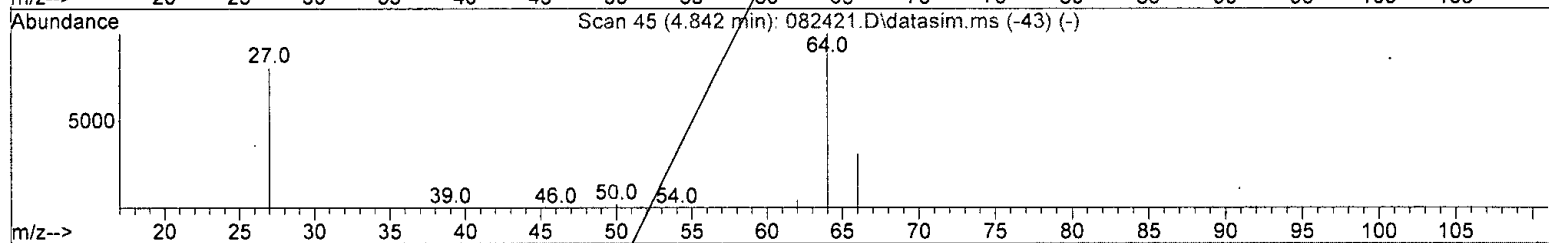
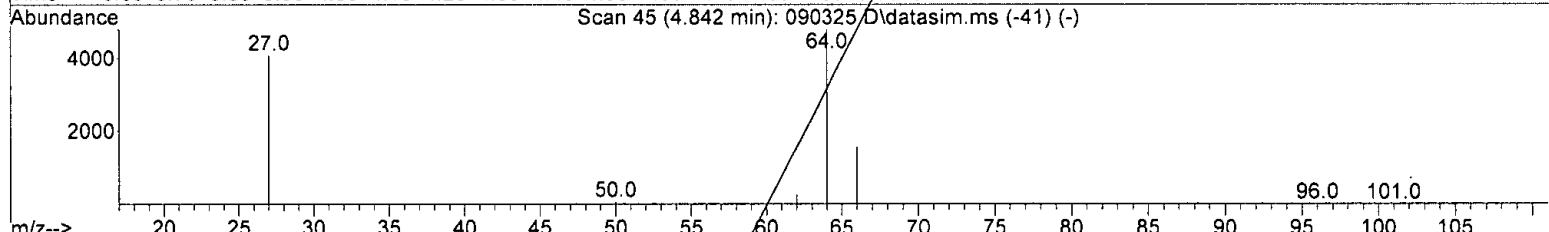
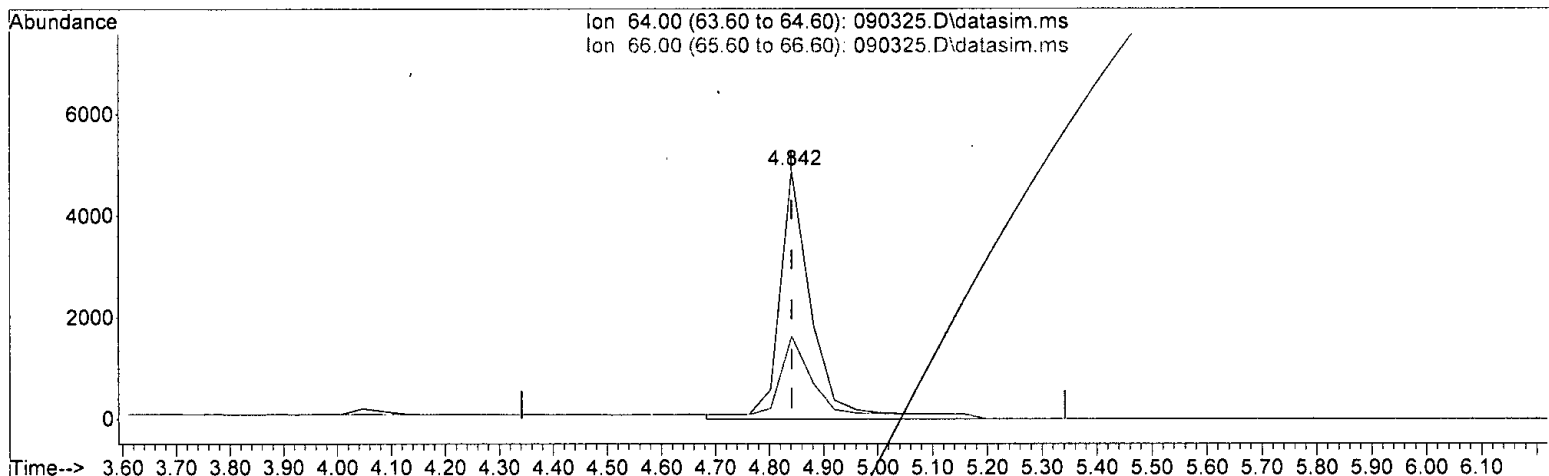
Quant Time: Sep 07 15:53:39 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:05:04 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(10) Chloroethane (TMP)

4.842min (+ 0.000) 2.692 ppbv

response 19671

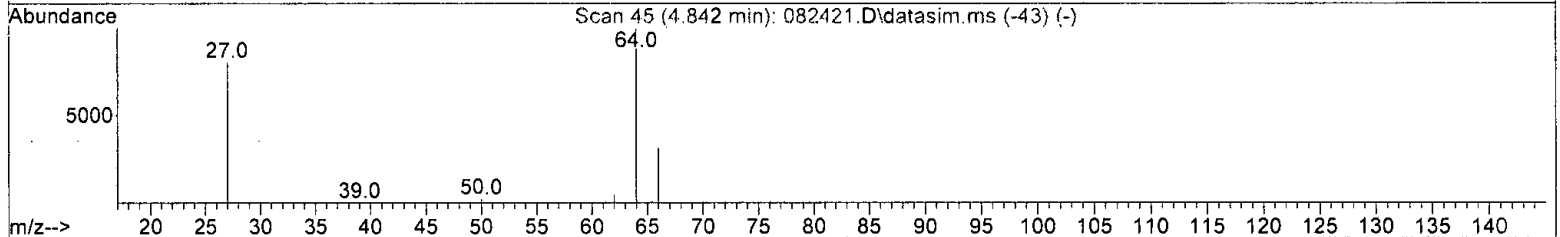
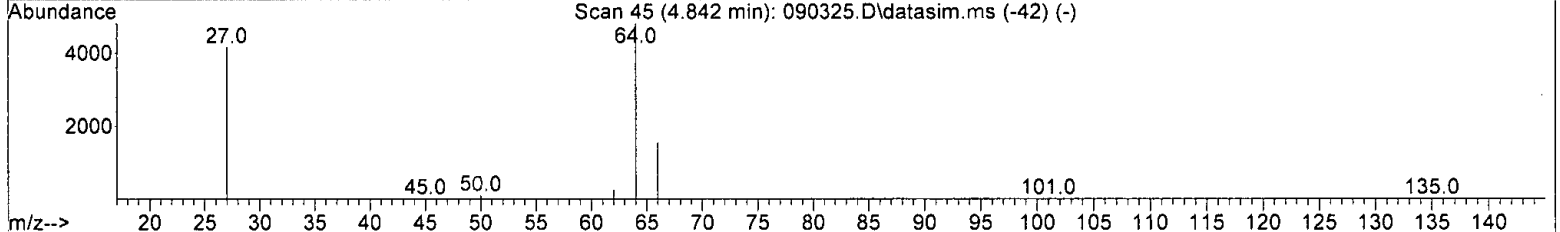
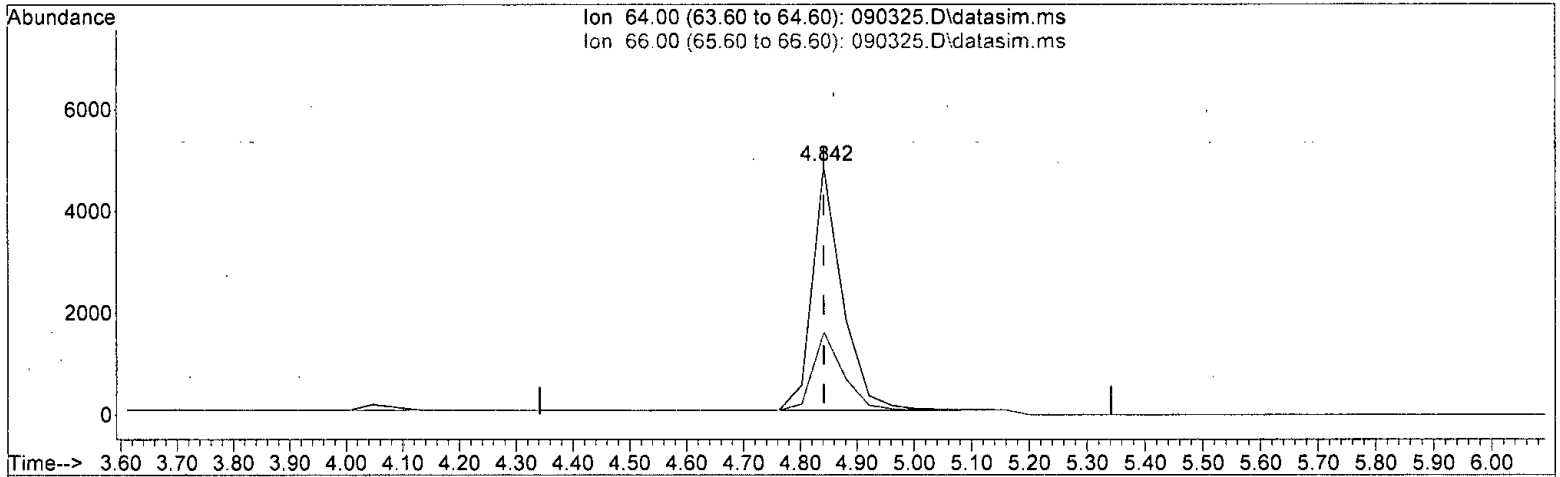
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	33.41
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 10:05:04 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



TIC: 090325.D\data.ms

(10) Chloroethane (TMP)

4.842min (+ 0.000) 2.453 ppbv m

response	17927
Ion	Exp% Act%
64.00	100.00 100.00
66.00	31.80 33.41
0.00	0.00 0.00
0.00	0.00 0.00

*U/ork*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

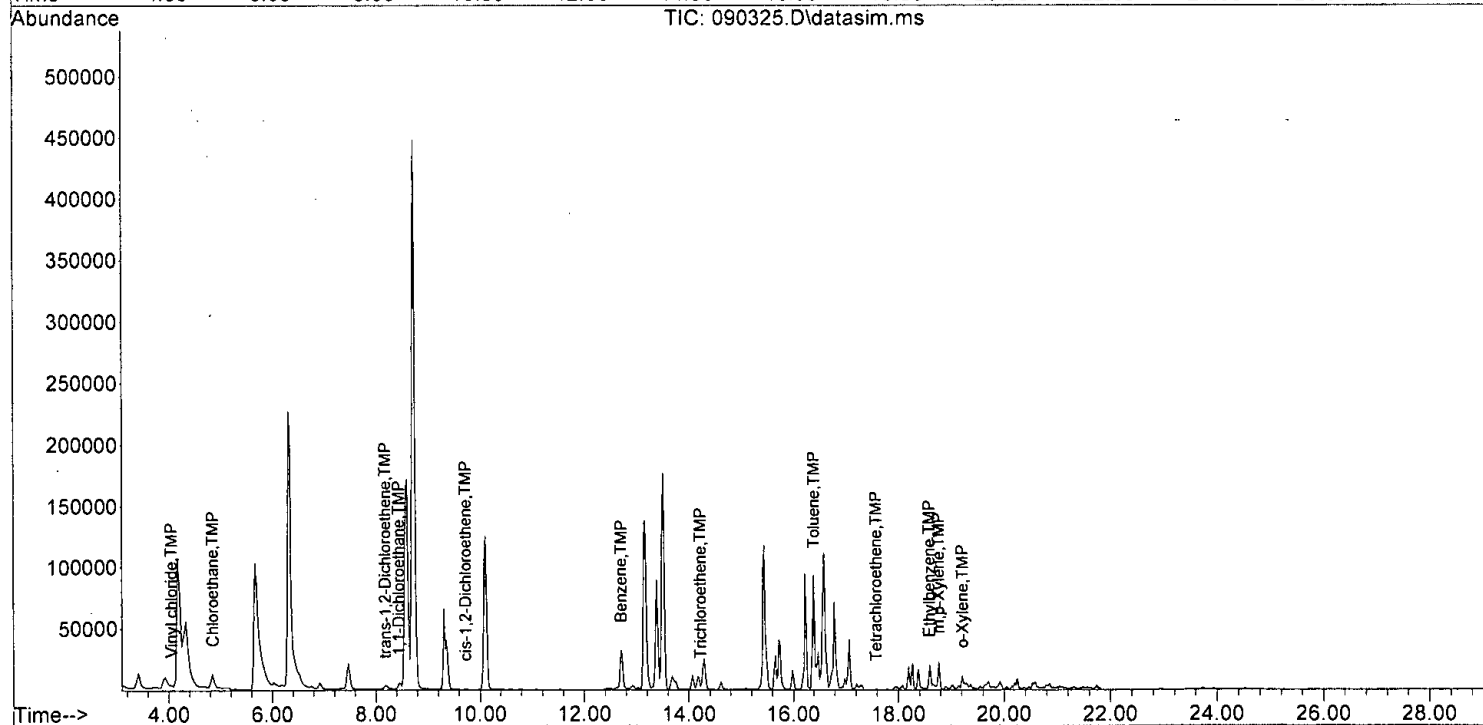
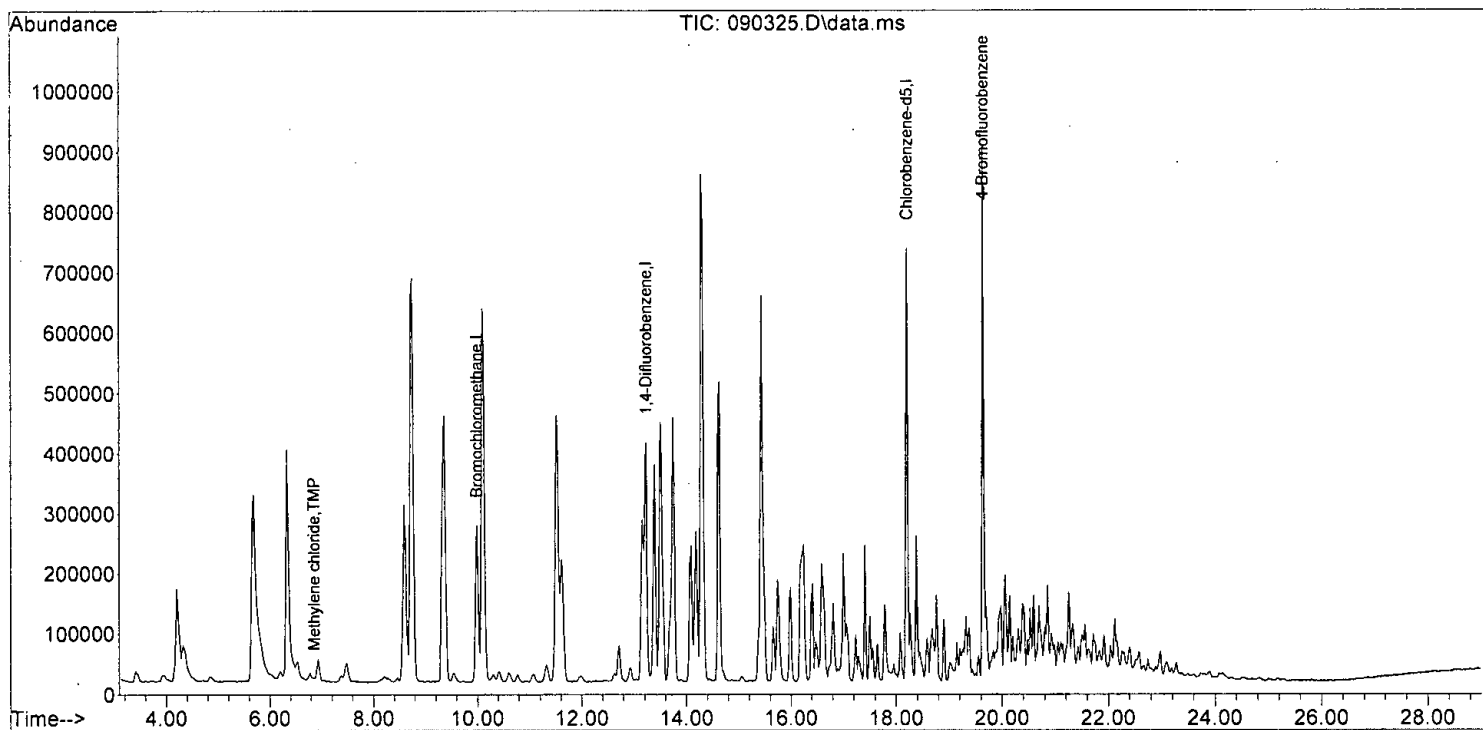
Quant Time: Sep 07 15:40:09 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	96266	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	459419	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	398095	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	347483	9.635	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	96.30%
Target Compounds						
						Qvalue
6] Vinyl chloride	4.05	62	1535	0.072	ppbv	95
10] Chloroethane	4.84	64	17927m	2.453	ppbv	
19] trans-1,2-Dichloroethene	8.18	96	546	0.035	ppbv	87
20] Methylene chloride	6.86	84	2319	0.138	ppbv #	38
27] 1,1-Dichloroethane	8.44	63	12520	0.338	ppbv	95
28] cis-1,2-Dichloroethene	9.73	96	306	0.018	ppbv #	79
37] Benzene	12.70	78	91298	1.549	ppbv	95
46] Trichloroethene	14.22	95	506	0.018	ppbv	81
50] Toluene	16.40	92	4933	0.143	ppbv	87
53] Tetrachloroethene	17.58	164	267	0.015	ppbv	85
58] Ethylbenzene	18.59	91	30735	0.348	ppbv	96
65] m,p-Xylene	18.76	106	10528	0.371	ppbv #	81
66] o-Xylene	19.21	106	4896	0.175	ppbv	89
-----						

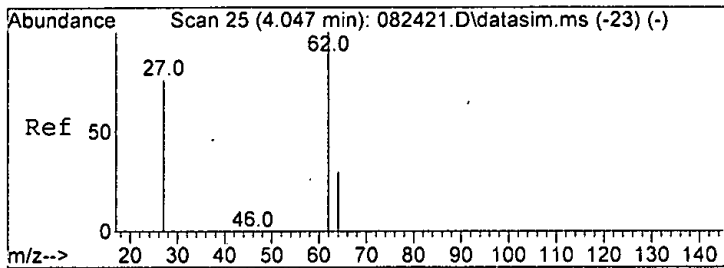
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS7\09-03-21\  
Data File : 090325.D  
Acq On : 3 Sep 2021 11:28 pm  
Operator : bat  
Sample : 109030-14 1/1100  
Misc : T12  
ALS Vial : 25 Sample Multiplier: 1  
InstName : GCMS7

Quant Time: Sep 07 15:40:09 2021  
Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
Quant Title : TO-15 SS method  
QLast Update : Wed Aug 25 09:28:09 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M

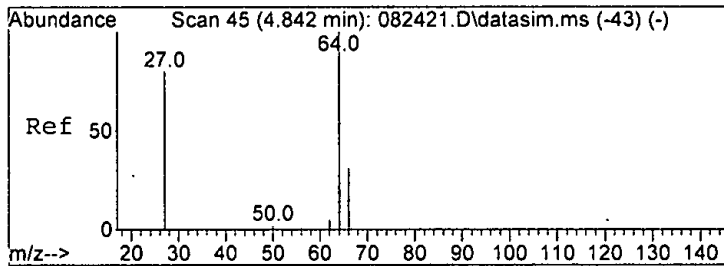
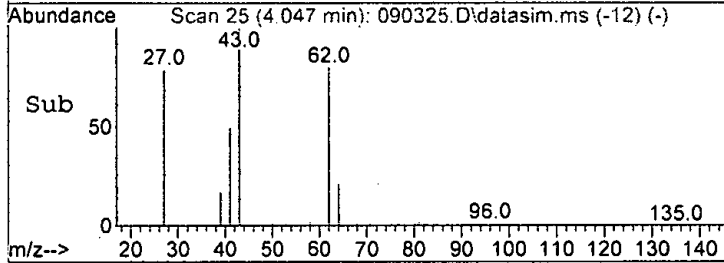
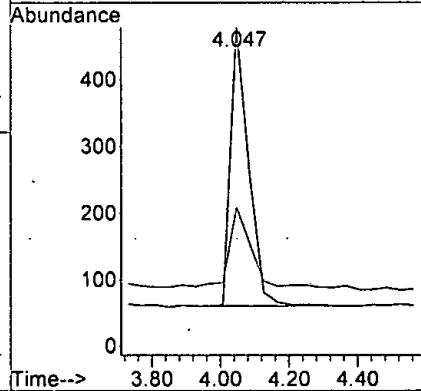
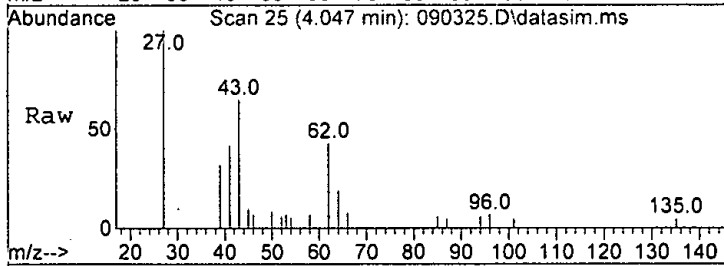






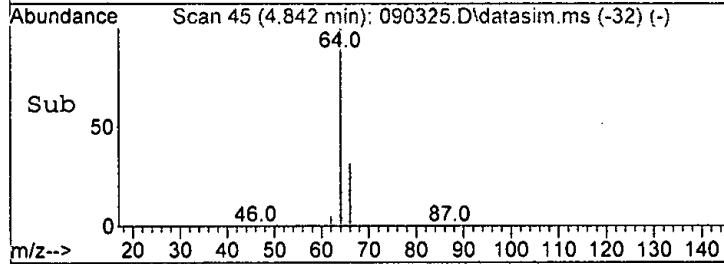
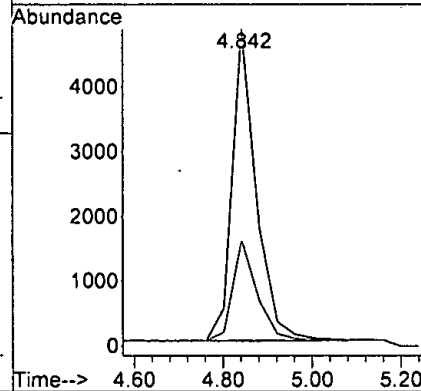
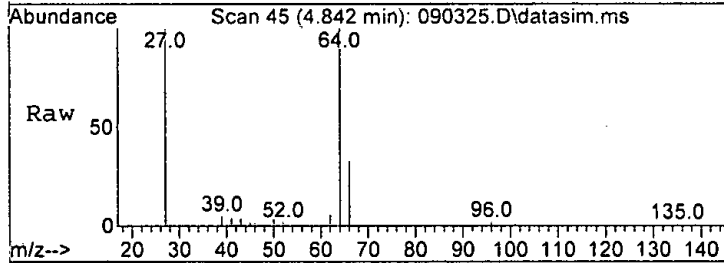
#6  
 Vinyl chloride  
 Concen: 0.072 ppbv  
 RT: 4.05 min Scan# 25  
 Delta R.T. 0.000 min  
 Lab File: 090325.D  
 Acq: 3 Sep 2021 11:28 pm

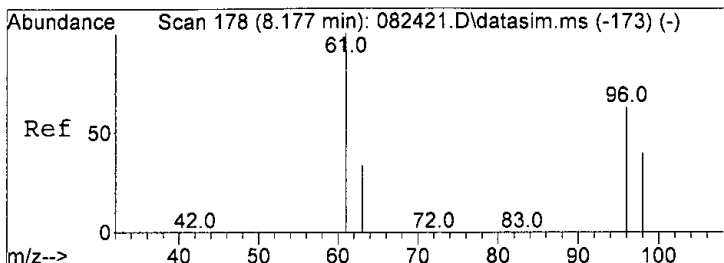
Tgt Ion: 62 Resp: 1535  
 Ion Ratio Lower Upper  
 62 100  
 64 28.5 1.5 61.5



#10  
 Chloroethane  
 Concen: 2.453 ppbv m  
 RT: 4.84 min Scan# 45  
 Delta R.T. 0.000 min  
 Lab File: 090325.D  
 Acq: 3 Sep 2021 11:28 pm

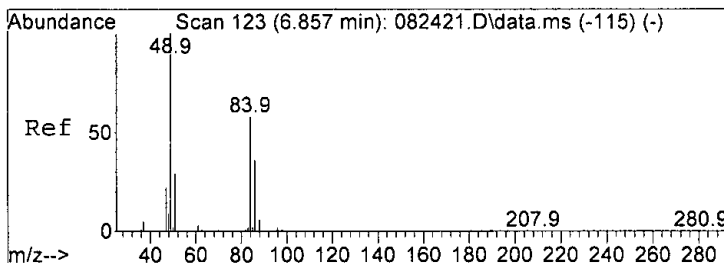
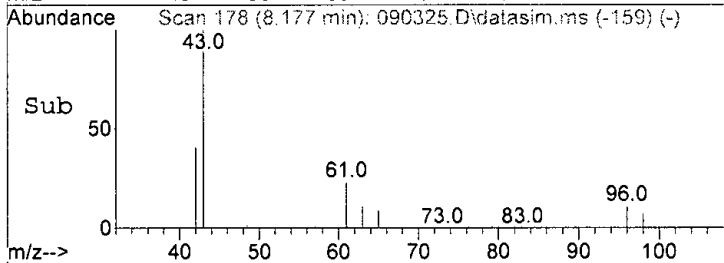
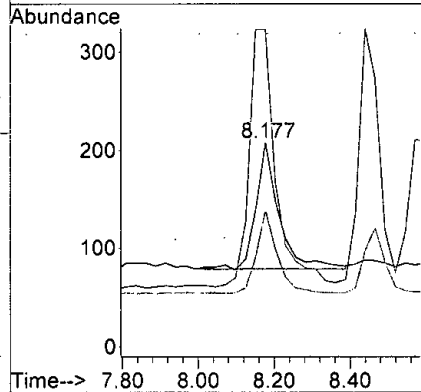
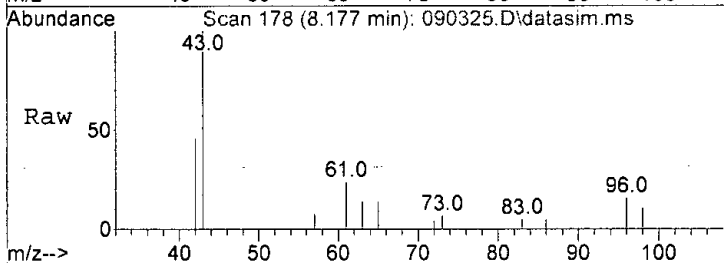
Tgt Ion: 64 Resp: 17927  
 Ion Ratio Lower Upper  
 64 100  
 66 33.4 1.8 61.8





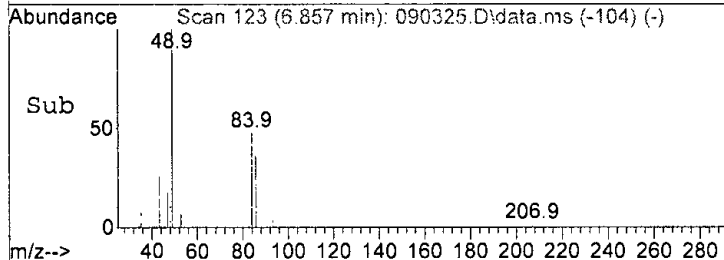
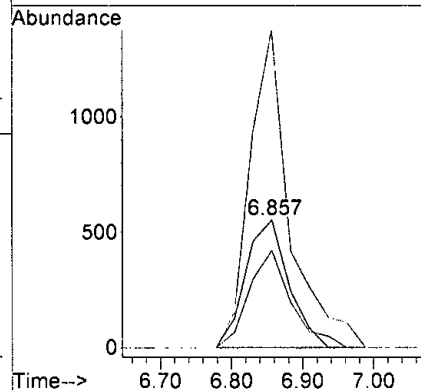
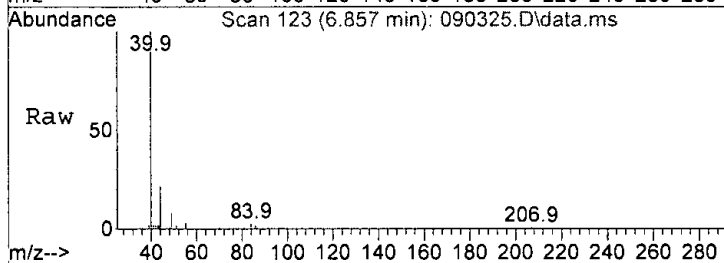
#19  
 trans-1,2-Dichloroethene  
 Concen: 0.035 ppbv  
 RT: 8.18 min Scan# 178  
 Delta R.T. 0.000 min  
 Lab File: 090325.D  
 Acq: 3 Sep 2021 11:28 pm

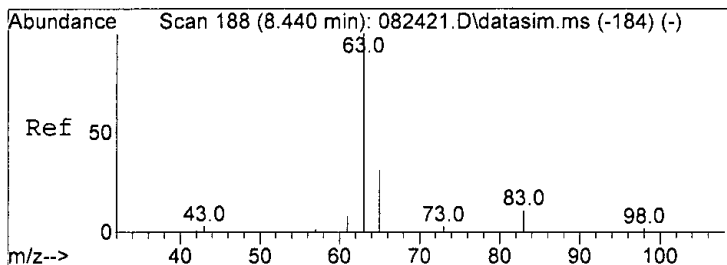
Tgt Ion: 96 Resp: 546  
 Ion Ratio Lower Upper  
 96 100  
 61 202.3 147.9 207.9  
 98 65.1 34.2 94.2



#20  
 Methylene chloride  
 Concen: 0.138 ppbv  
 RT: 6.86 min Scan# 123  
 Delta R.T. 0.000 min  
 Lab File: 090325.D  
 Acq: 3 Sep 2021 11:28 pm

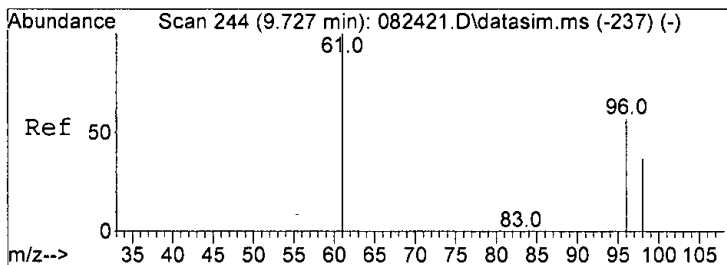
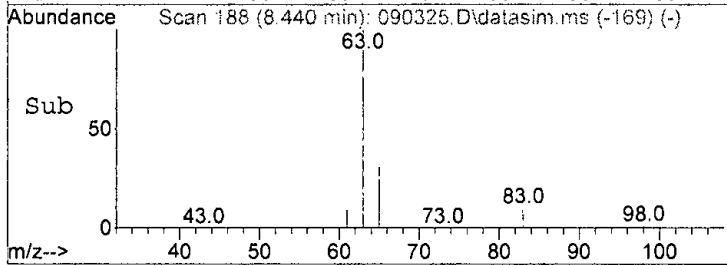
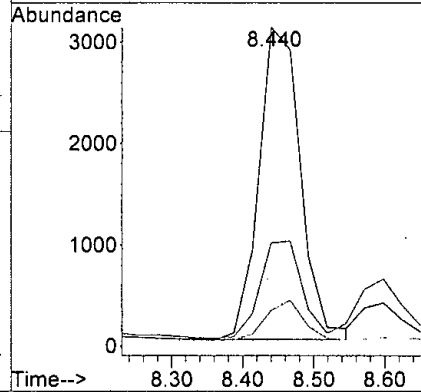
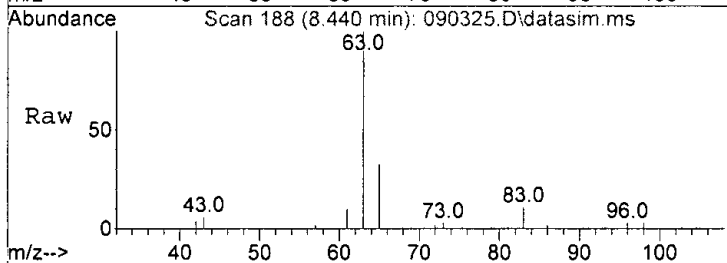
Tgt Ion: 84 Resp: 2319  
 Ion Ratio Lower Upper  
 84 100  
 86 76.1 33.9 93.9  
 49 249.2 116.6 176.6#





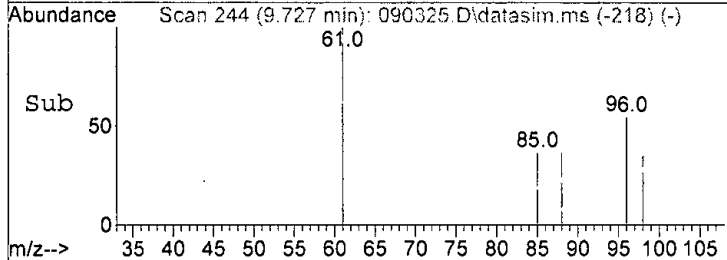
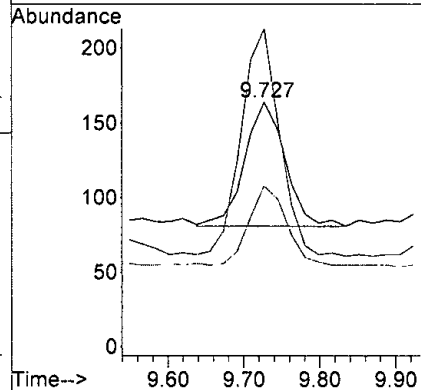
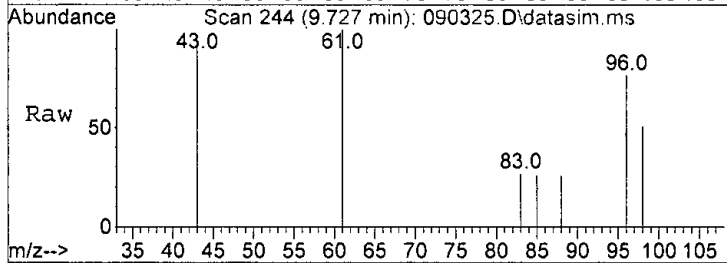
#27  
 1,1-Dichloroethane  
 Concen: 0.338 ppbv  
 RT: 8.44 min Scan# 188  
 Delta R.T. 0.000 min  
 Lab File: 090325.D  
 Acq: 3 Sep 2021 11:28 pm

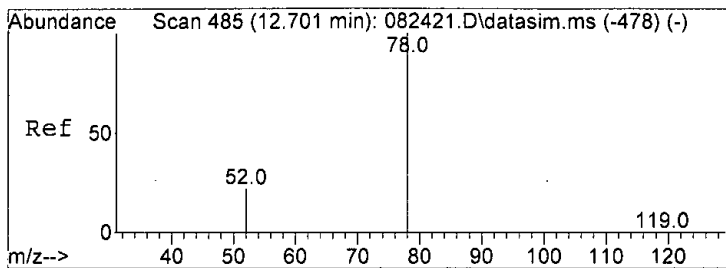
Tgt Ion	Resp	Lower	Upper
63	100		
65	30.6	2.5	62.5
83	9.7	0.0	43.2



#28  
 cis-1,2-Dichloroethene  
 Concen: 0.018 ppbv  
 RT: 9.73 min Scan# 244  
 Delta R.T. -0.000 min  
 Lab File: 090325.D  
 Acq: 3 Sep 2021 11:28 pm

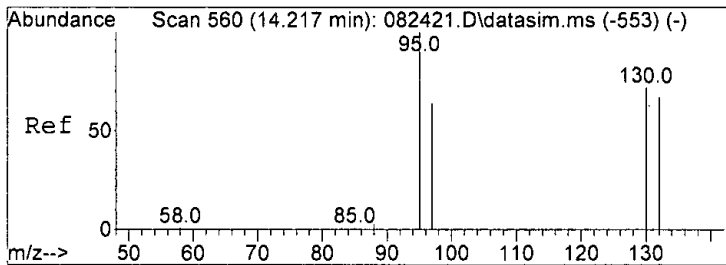
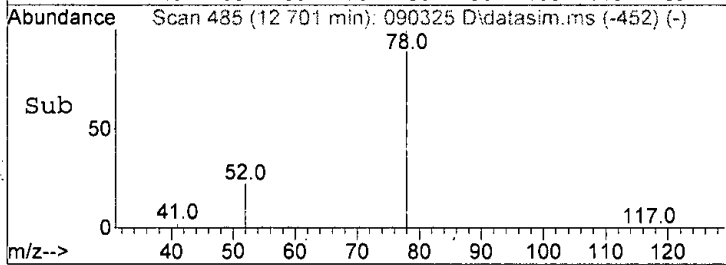
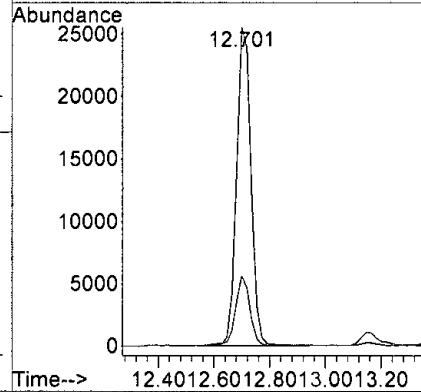
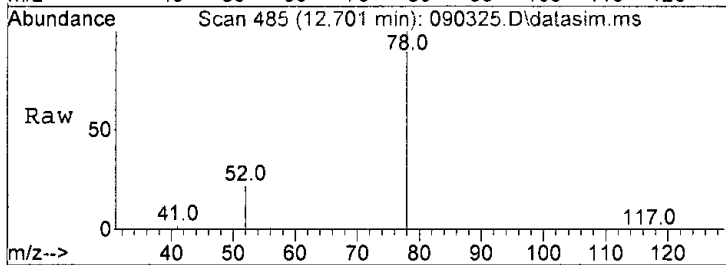
Tgt Ion	Resp	Lower	Upper
96	100		
61	183.1	116.0	176.0#
98	63.9	35.2	95.2





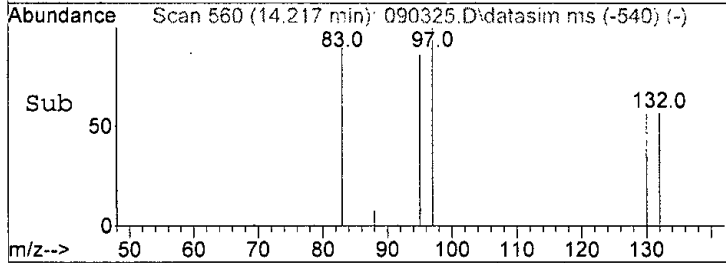
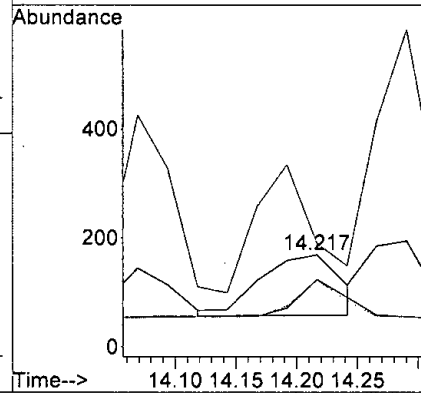
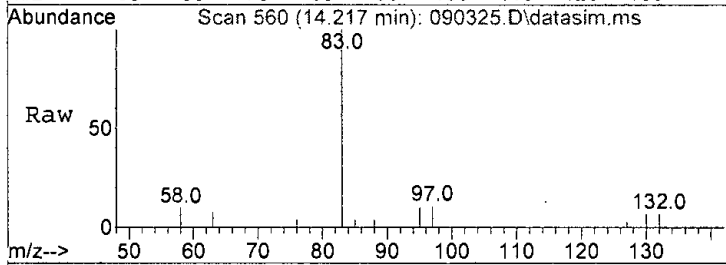
#37  
Benzene  
Concen: 1.549 ppbv  
RT: 12.70 min Scan# 485  
Delta R.T. -0.000 min  
Lab File: 090325.D  
Acq: 3 Sep 2021 11:28 pm

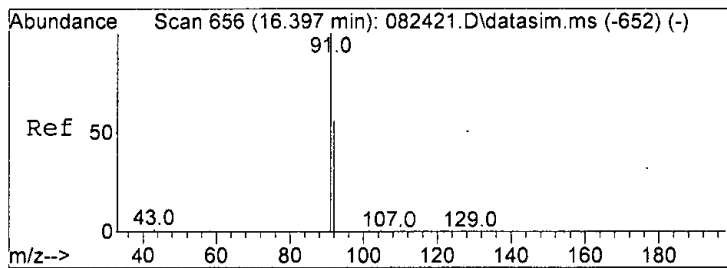
Tgt Ion: 78 Resp: 91298  
Ion Ratio Lower Upper  
78 100  
52 22.0 0.0 49.7



#46  
Trichloroethene  
Concen: 0.018 ppbv  
RT: 14.22 min Scan# 560  
Delta R.T. -0.000 min  
Lab File: 090325.D  
Acq: 3 Sep 2021 11:28 pm

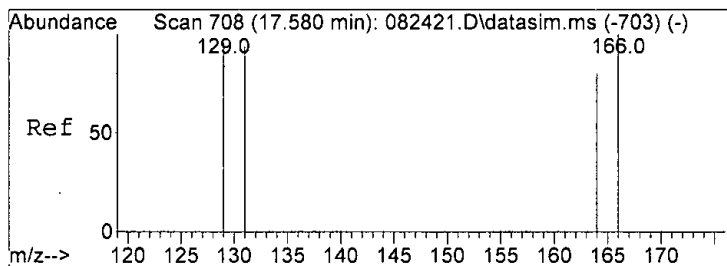
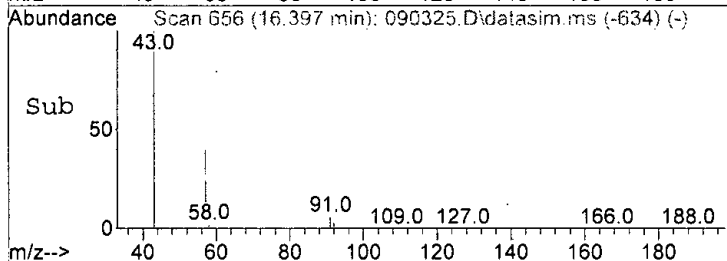
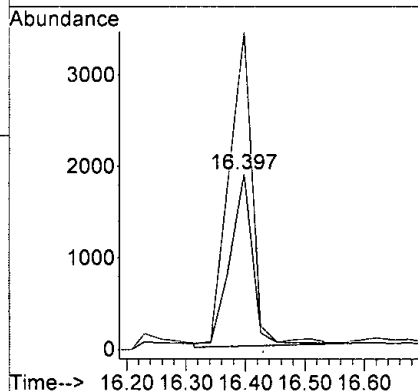
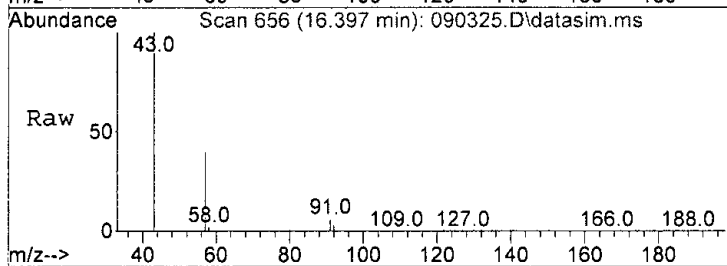
Tgt Ion: 95 Resp: 506  
Ion Ratio Lower Upper  
95 100  
97 78.4 37.1 97.1  
130 66.7 56.1 116.1  
132 66.7 54.3 114.3





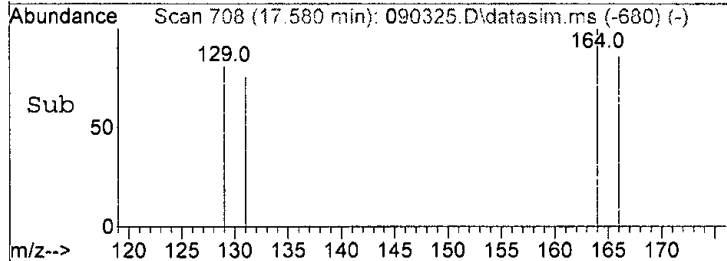
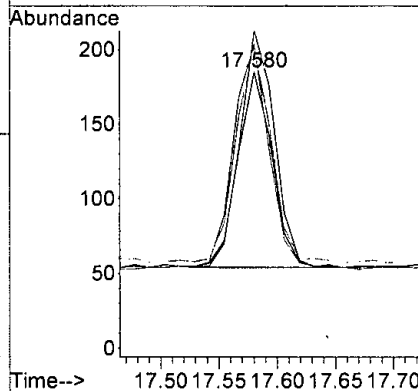
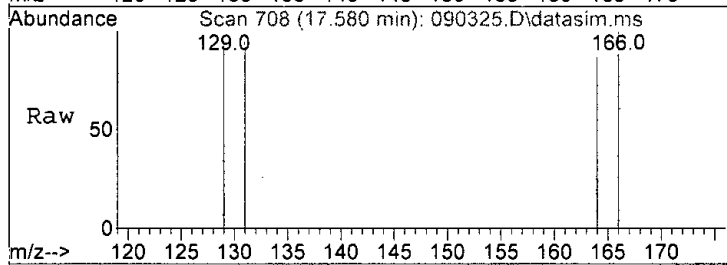
#50  
 Toluene  
 Concen: 0.143 ppbv  
 RT: 16.40 min Scan# 656  
 Delta R.T. 0.000 min  
 Lab File: 090325.D  
 Acq: 3 Sep 2021 11:28 pm

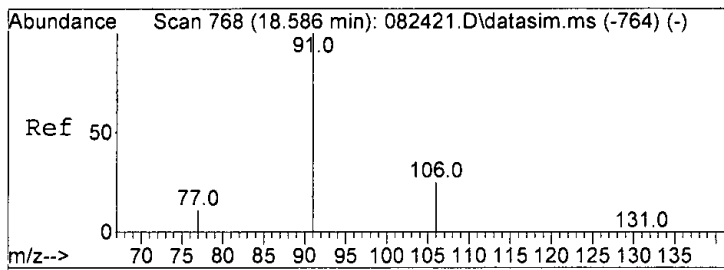
Tgt Ion: 92 Resp: 4933  
 Ion Ratio Lower Upper  
 92 100  
 91 184.4 174.6 234.6



#53  
 Tetrachloroethene  
 Concen: 0.015 ppbv  
 RT: 17.58 min Scan# 708  
 Delta R.T. 0.000 min  
 Lab File: 090325.D  
 Acq: 3 Sep 2021 11:28 pm

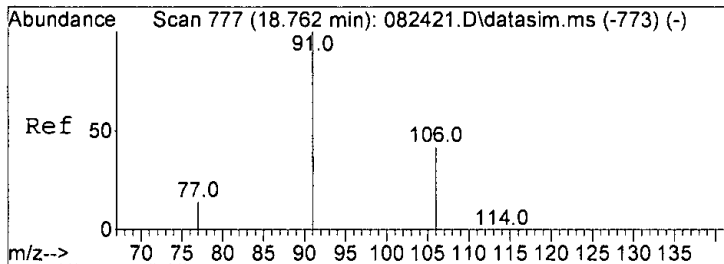
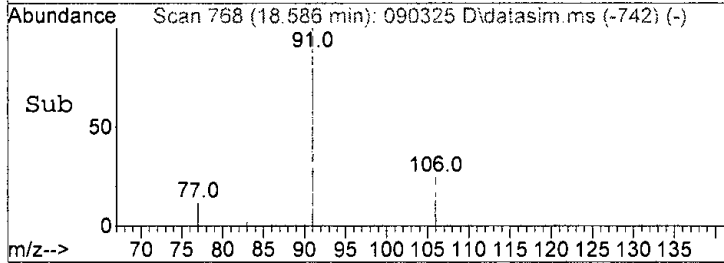
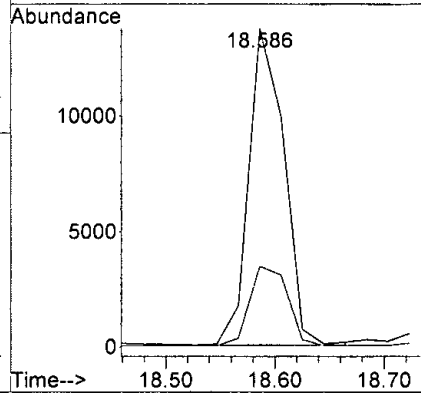
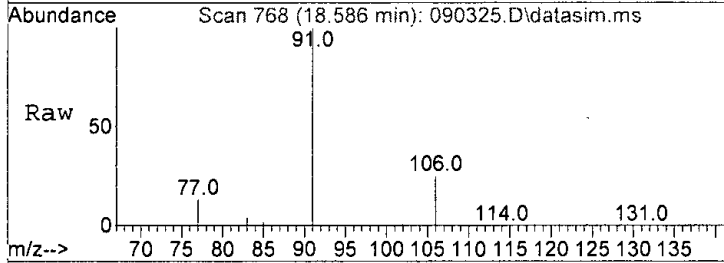
Tgt Ion: 164 Resp: 267  
 Ion Ratio Lower Upper  
 164 100  
 129 114.5 63.2 123.2  
 131 109.9 70.7 130.7  
 166 121.4 107.5 167.5





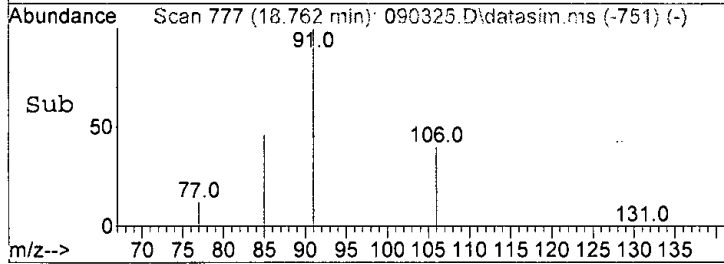
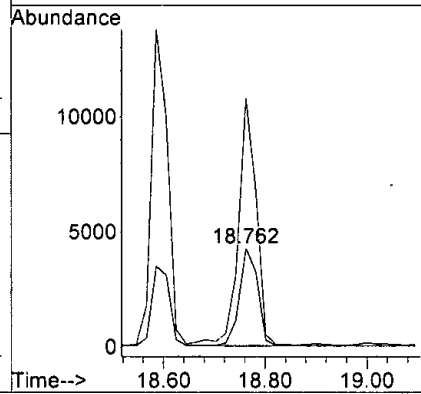
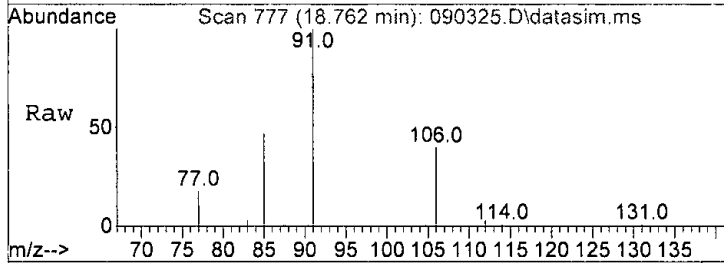
#58  
Ethylbenzene  
Concen: 0.348 ppbv  
RT: 18.59 min Scan# 768  
Delta R.T. 0.000 min  
Lab File: 090325.D  
Acq: 3 Sep 2021 11:28 pm

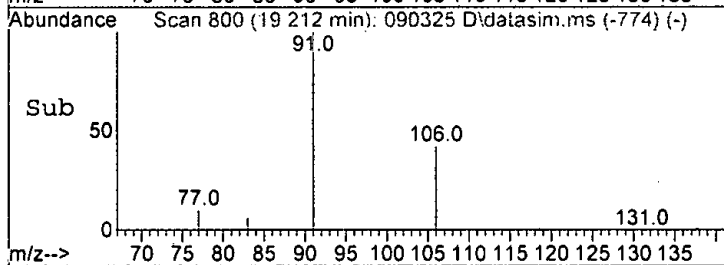
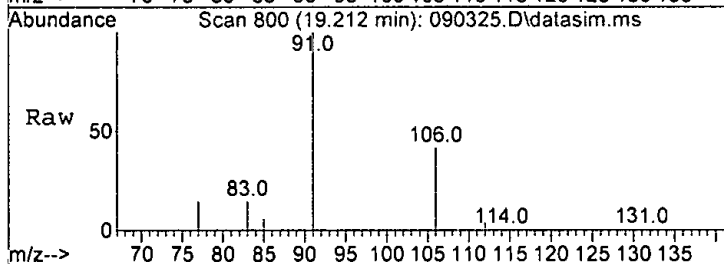
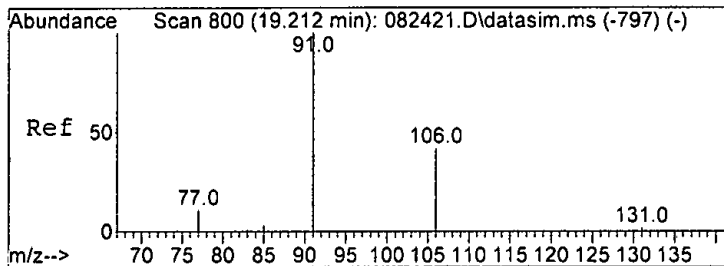
Tgt Ion: 91 Resp: 30735  
Ion Ratio Lower Upper  
91 100  
106 25.2 0.0 57.0



#65  
m,p-Xylene  
Concen: 0.371 ppbv  
RT: 18.76 min Scan# 777  
Delta R.T. 0.000 min  
Lab File: 090325.D  
Acq: 3 Sep 2021 11:28 pm

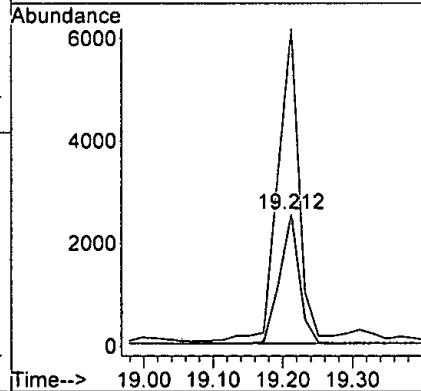
Tgt Ion: 106 Resp: 10528  
Ion Ratio Lower Upper  
106 100  
91 253.4 193.0 253.0#





#66  
 o-Xylene  
 Concen: 0.175 ppbv  
 RT: 19.21 min Scan# 800  
 Delta R.T. 0.000 min  
 Lab File: 090325.D  
 Acq: 3 Sep 2021 11:28 pm

Tgt Ion:106 Resp: 4896  
 Ion Ratio Lower Upper  
 106 100  
 91 241.9 194.4 254.4



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:40:09 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	96266	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	459419	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	398095	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.64	95	347483	9.635	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	96.30%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.		
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.	d	
6] Vinyl chloride	4.05	62	1535	0.072	ppbv	95
7) 1,3-Butadiene	0.00		0	N.D.	d	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.		
10] Chloroethane	4.84	64	17927m	2.453	ppbv	
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13) Acrolein	0.00		0	N.D.		
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.		
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18) 1,1-Dichloroethene	0.00		0	N.D.		
19] trans-1,2-Dichloroethene	8.18	96	546	0.035	ppbv	87
20) Methylene chloride	6.86	84	2319	0.138	ppbv #	38
21) t-Butyl alcohol (TBA)	0.00		0	N.D.		
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.		
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.44	63	12520	0.338	ppbv	95
28] cis-1,2-Dichloroethene	9.73	96	306	0.018	ppbv #	79
29) Hexane	0.00		0	N.D.	d	
30) Chloroform	0.00		0	N.D.	d	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.		
34) 1,2-Dichloroethane (EDC)	0.00		0	N.D.	d	
35) 1,1,1-Trichloroethane	11.93	97	105	N.D.		
36) Carbon tetrachloride	0.00		0	N.D.		
37] Benzene	12.70	78	91298	1.549	ppbv	95
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	0.00		0	N.D.	d	
41) 1,4-Dioxane	0.00		0	N.D.		
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

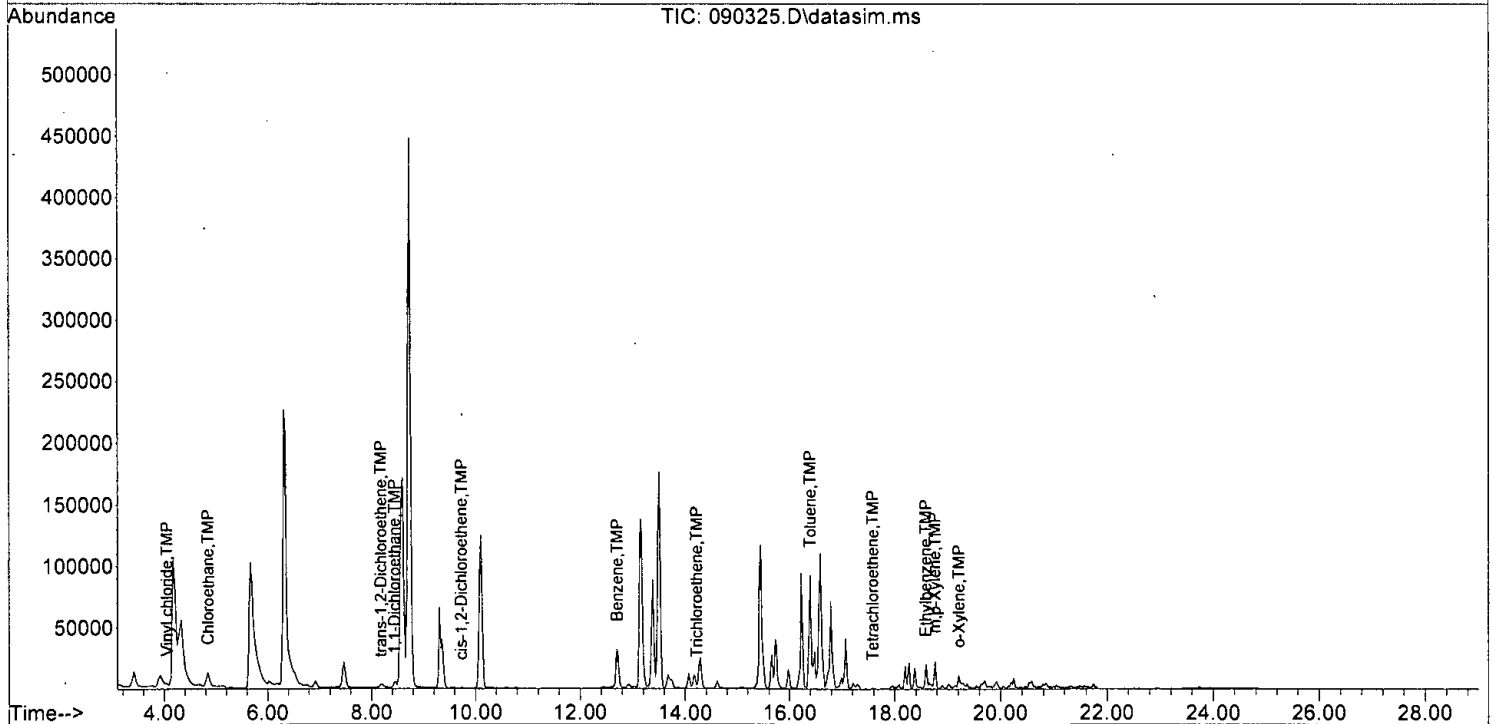
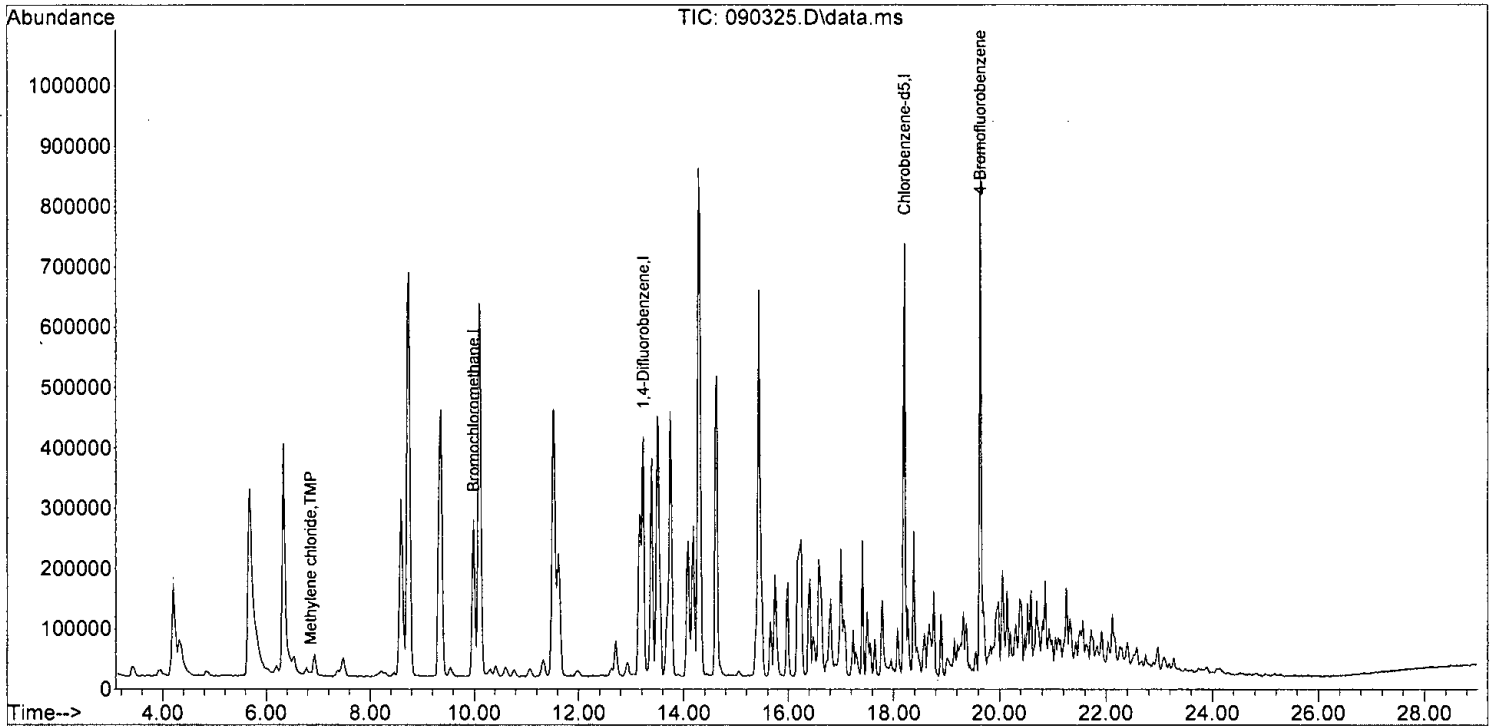
Quant Time: Sep 07 15:40:09 2021  
 Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
 Quant Title : TO-15 SS method  
 QLast Update : Wed Aug 25 09:28:09 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	0.00		0	N.D.	d	
46] Trichloroethene	14.22	95	506	0.018	ppbv	81
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	16.40	92	4933	0.143	ppbv	87
51) 1,1,2-Trichloroethane	0.00		0	N.D.	d	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	267	0.015	ppbv	85
54) Dibromochloromethane	0.00		0	N.D.	d	
55) 1,2-Dibromoethane (EDB)	0.00		0	N.D.	d	
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.59	91	30735	0.348	ppbv	96
59) 1,1,2,2-Tetrachloroethane	0.00		0	N.D.	d	
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.76	106	10528	0.371	ppbv #	81
66] o-Xylene	19.21	106	4896	0.175	ppbv	89
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	0.00		0	N.D.	d	
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77) Naphthalene	23.95	128	1443	N.D.	d	
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

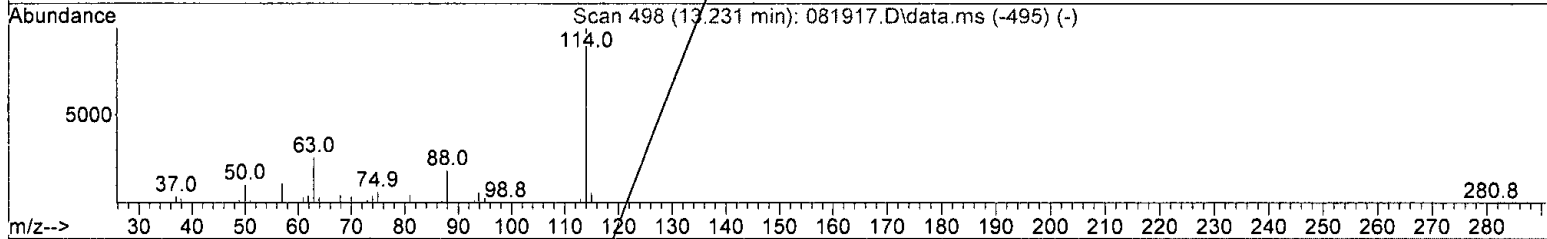
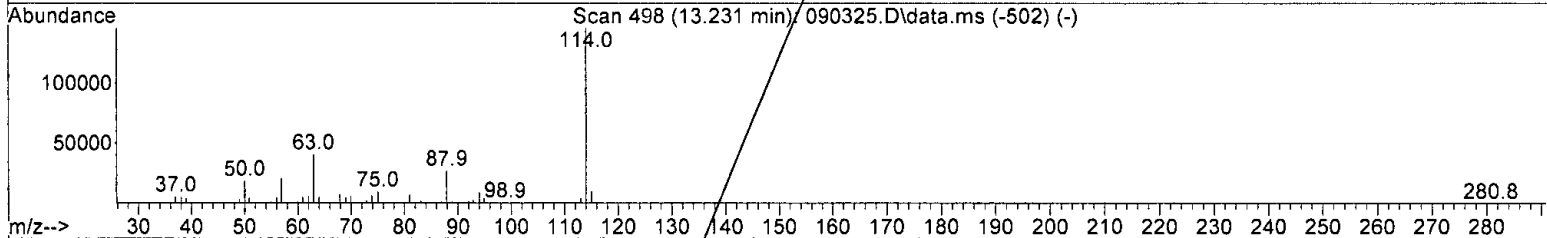
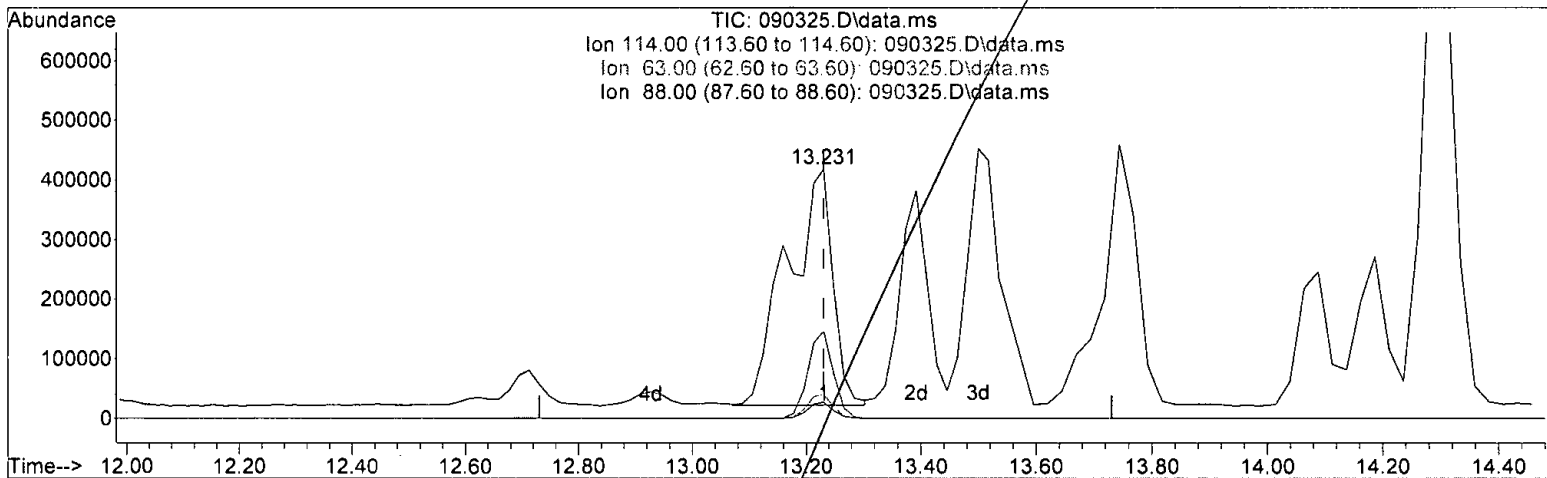
Data Path : F:\Proc\_GCMS7\09-03-21\  
Data File : 090325.D  
Acq On : 3 Sep 2021 11:28 pm  
Operator : bat  
Sample : 109030-14 1/1100  
Misc : T12  
ALS Vial : 25 Sample Multiplier: 1  
InstName : GCMS7

Quant Time: Sep 07 15:40:09 2021  
Quant Method : F:\METHODS\Inst7\0824TO15ss7.M  
Quant Title : TO-15 SS method  
QLast Update : Wed Aug 25 09:28:09 2021  
Response via : Initial Calibration  
DataAcq Meth:TO15DC.M



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000) 91.084 ug/m3

response 2197407

Signal Exp% Act%

TIC 100.00 100.00

114.00 43.50 37.16

63.00 8.40 10.35

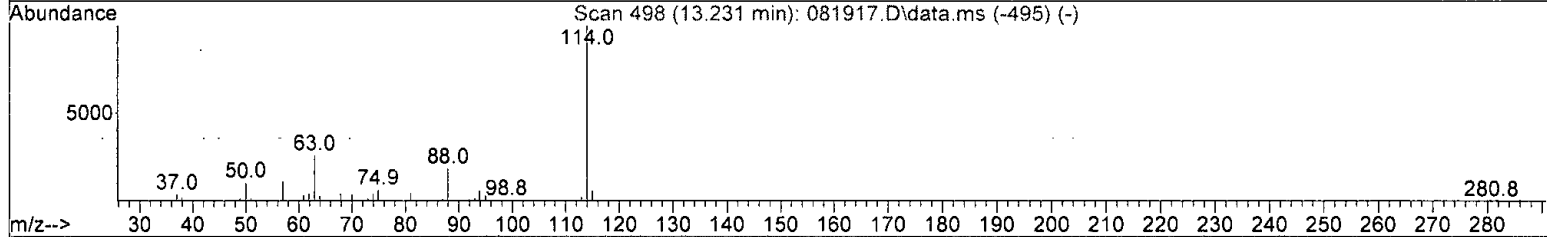
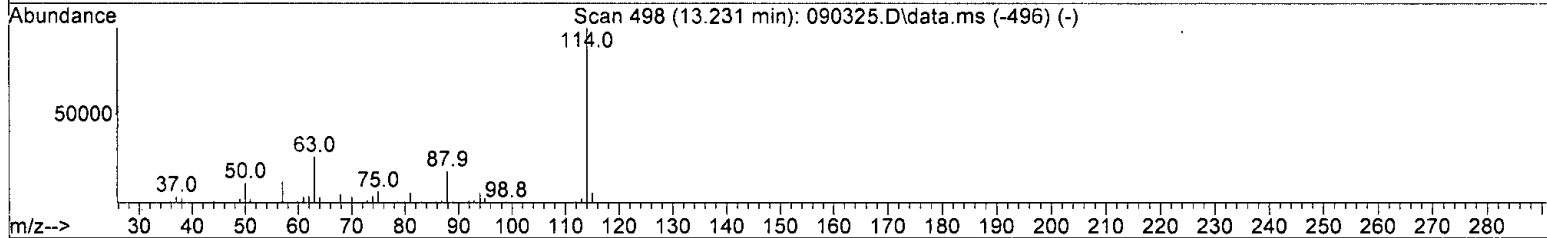
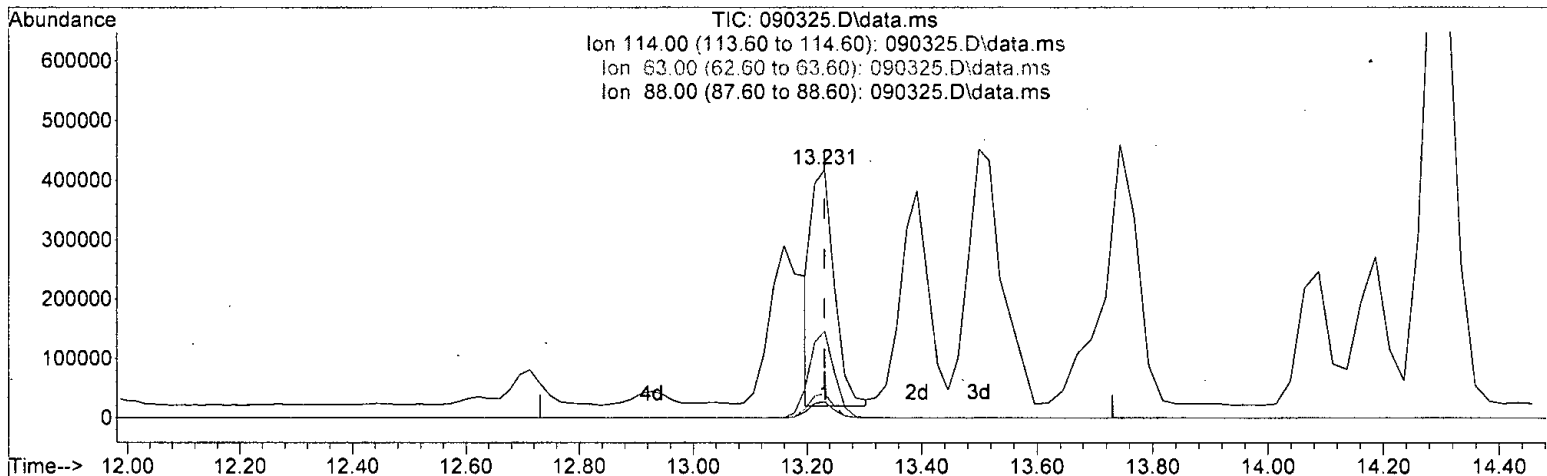
88.00 7.60 6.93

*Handwritten signature:* 09/07/21

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(3) IS-2 1,4-Difluorobenzene (T)

13.231min (+ 0.000) 46.401 ug/m3 m

response 1119442

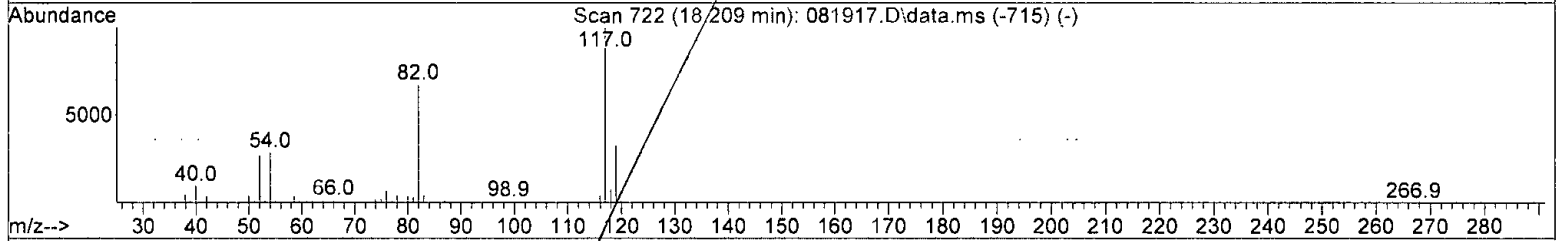
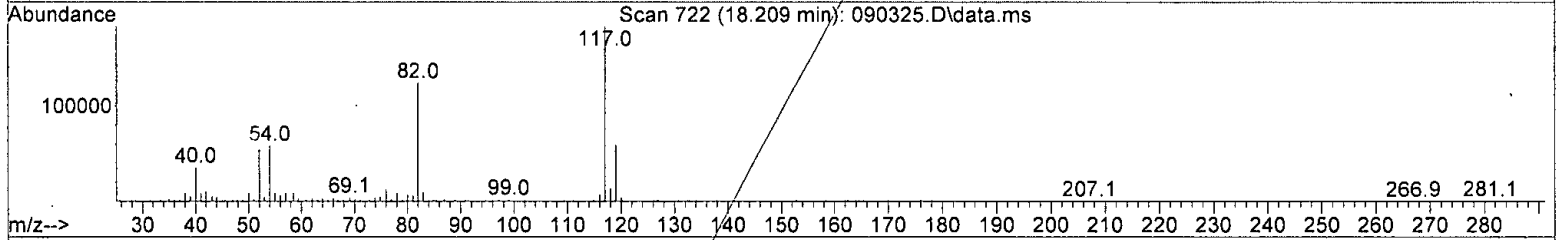
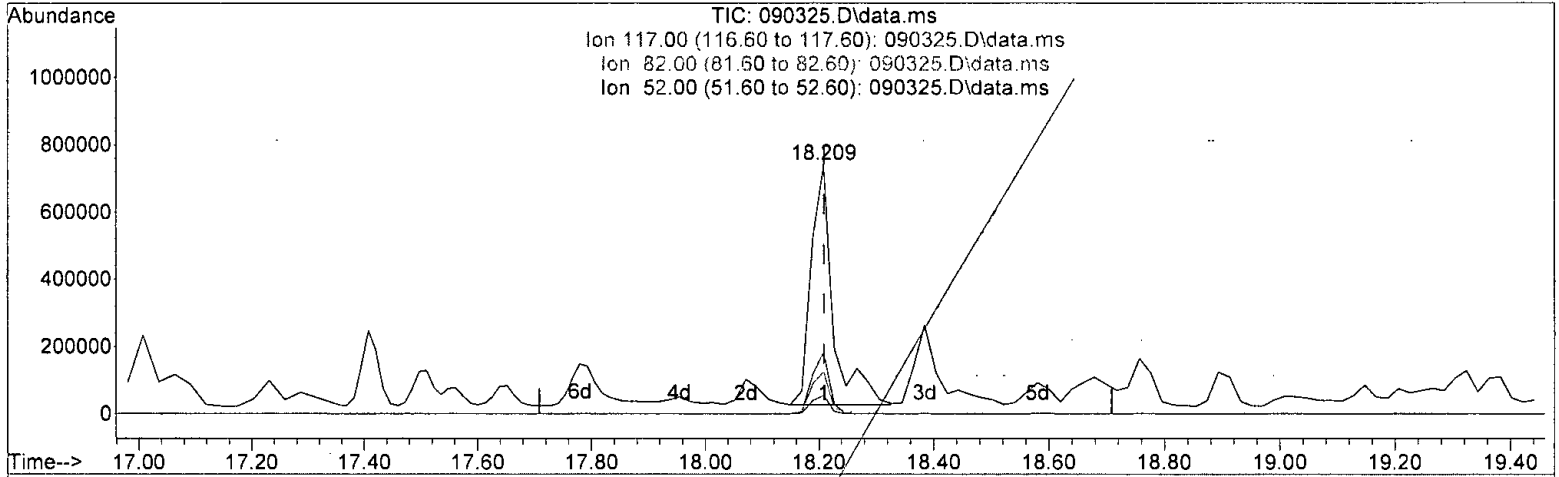
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	43.50	72.93
63.00	8.40	20.32
88.00	7.60	13.61

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 67.176 ug/m3

response 1965721

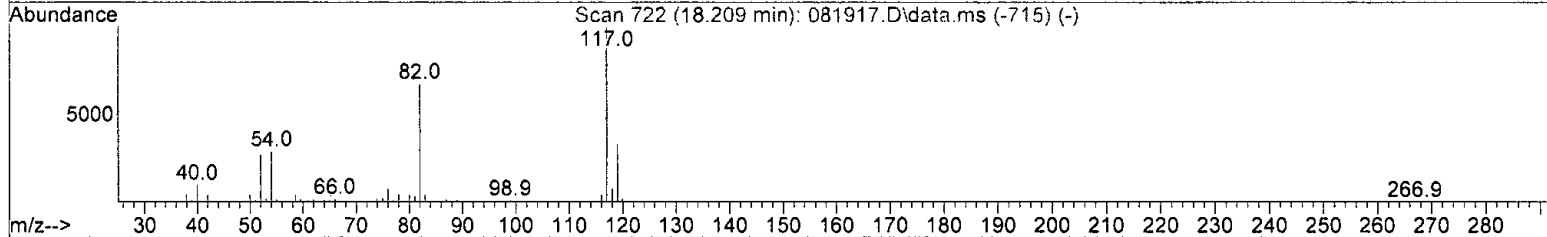
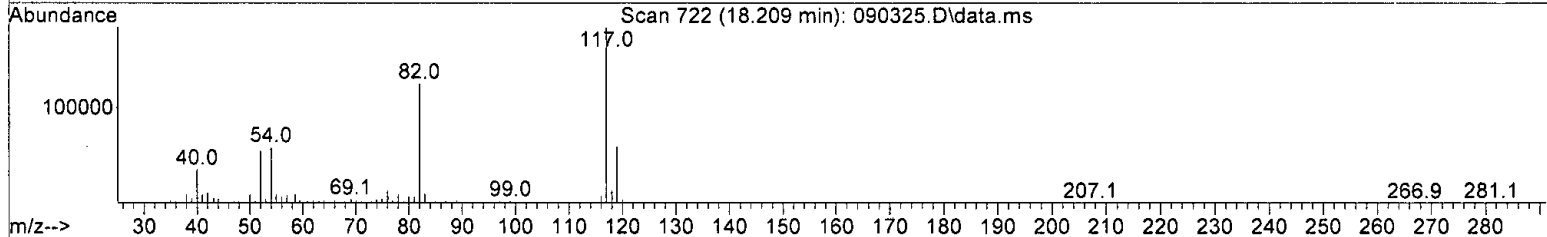
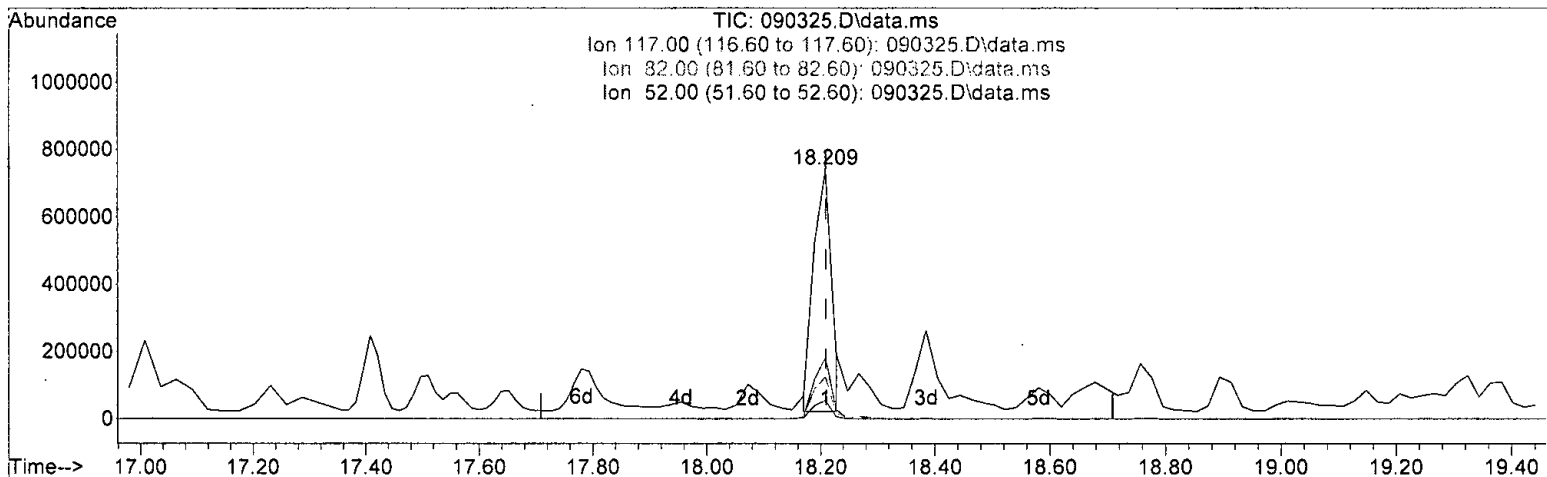
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	20.25
82.00	18.10	15.34
52.00	6.90	6.30

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(4) IS-3 Chlorobenzene-d5 (T)

18.209min (-0.000) 55.911 ug/m3 m

response 1636068

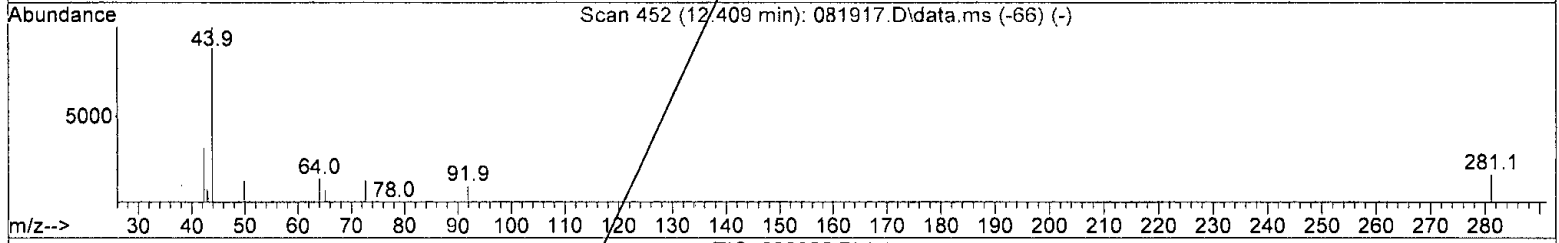
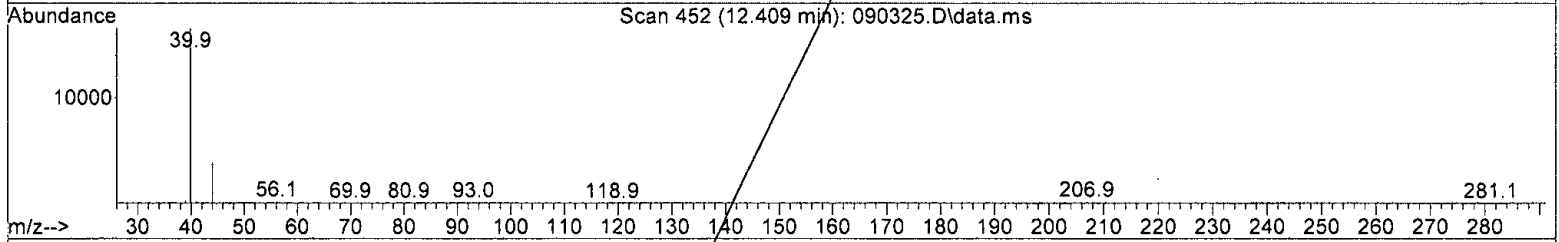
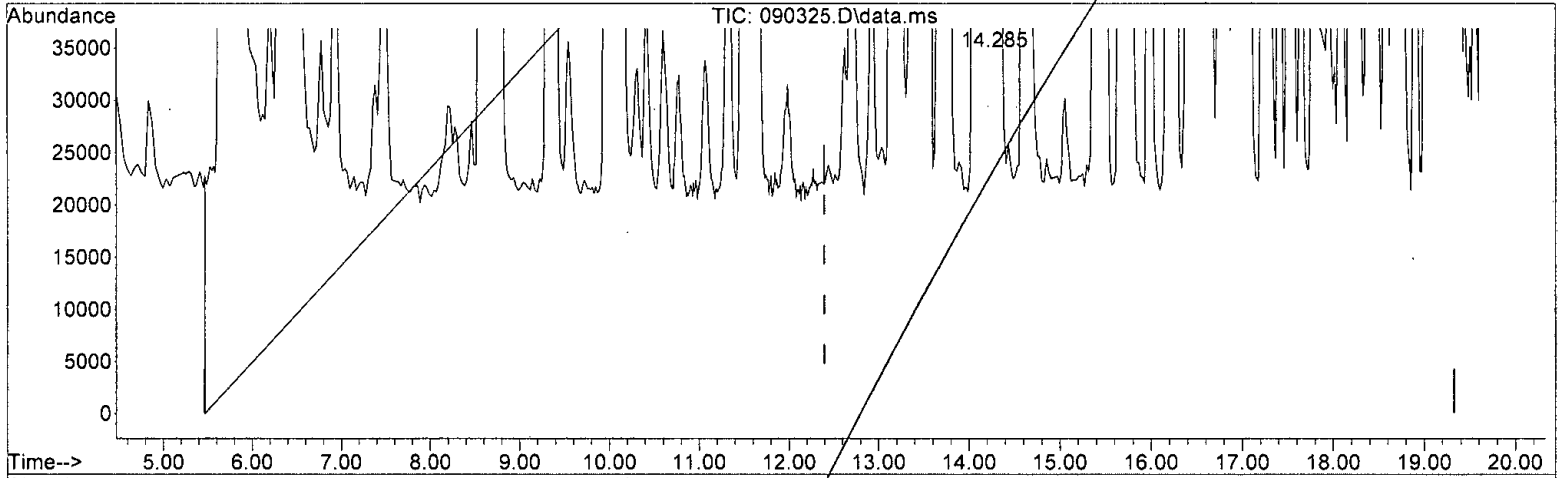
Signal	Exp%	Act%
TIC	100.00	100.00
117.00	34.80	24.33
82.00	18.10	18.43
52.00	6.90	7.57

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 1123.700 ug/m3 m

response 40961721

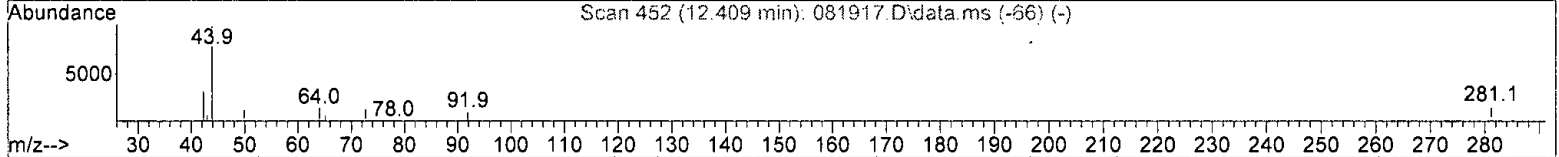
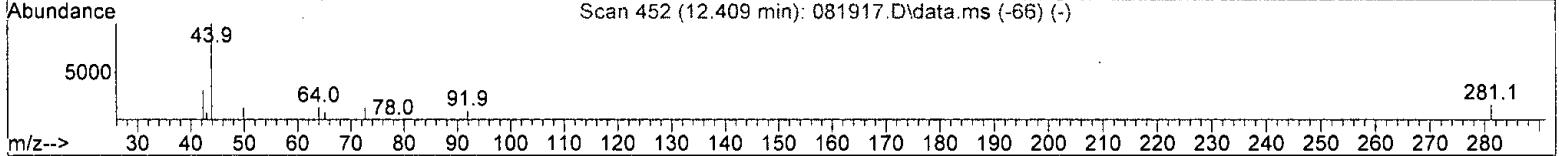
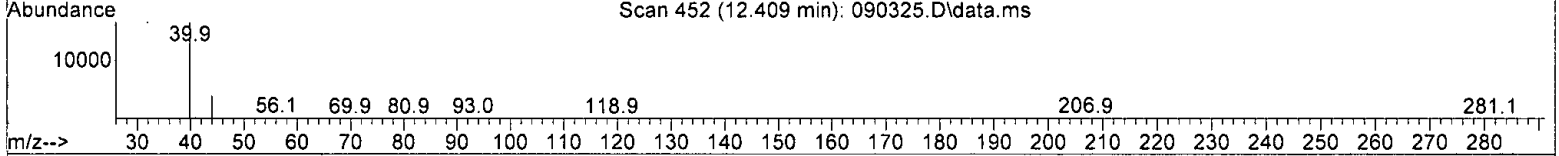
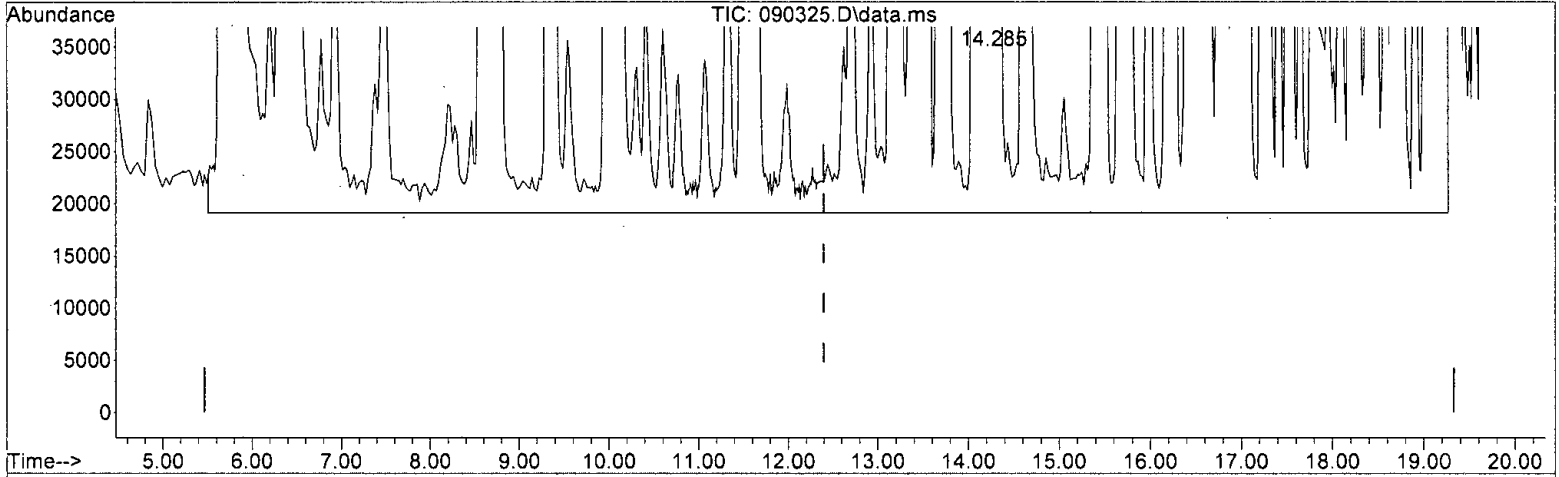
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten notes:*  
 ↓  
 or 10/14

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(19) APH EC5-8 aliphatics (H)

12.400min ( 0.000) 1281.669 ug/m3 m

response 46720080

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

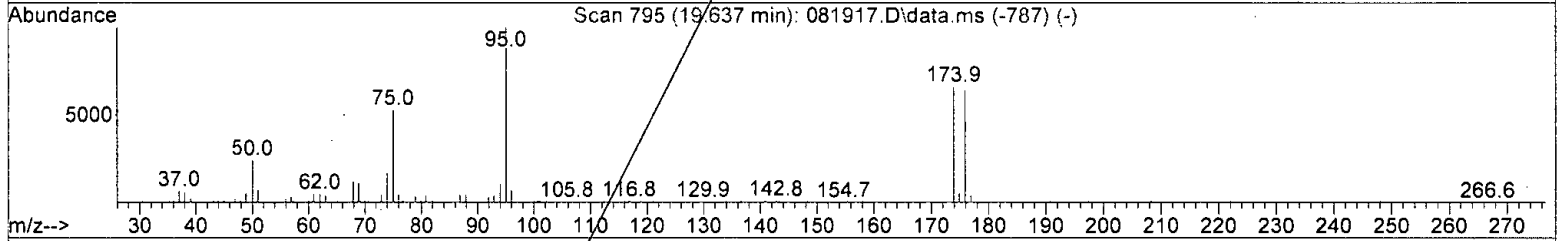
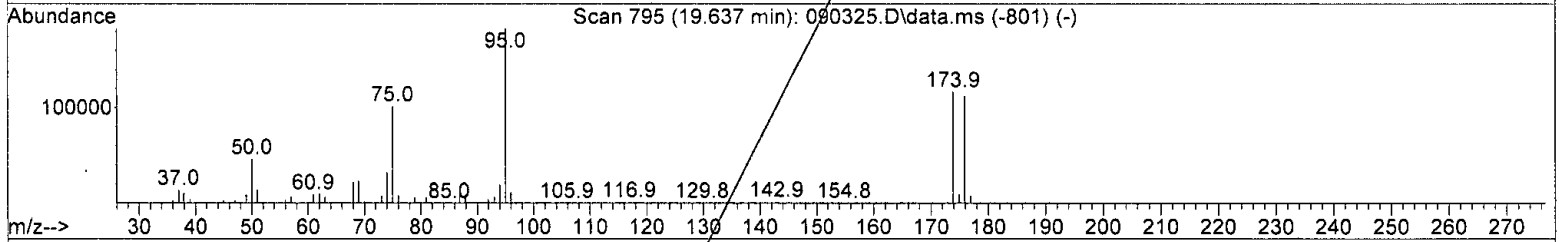
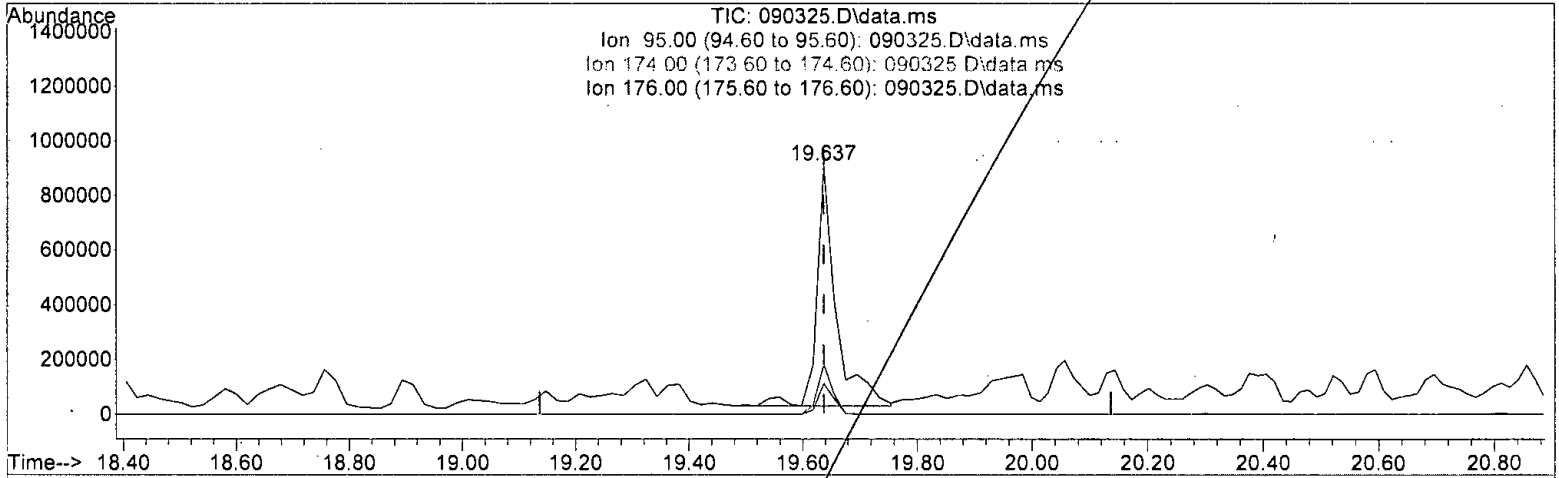
*bat*  
 09/07/21



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)  
 19.637min (-0.000) 63.401 ug/m3  
 response 2130727

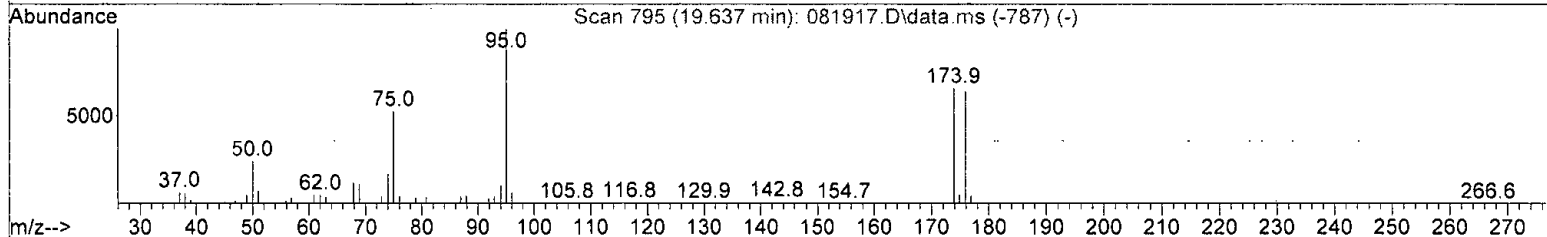
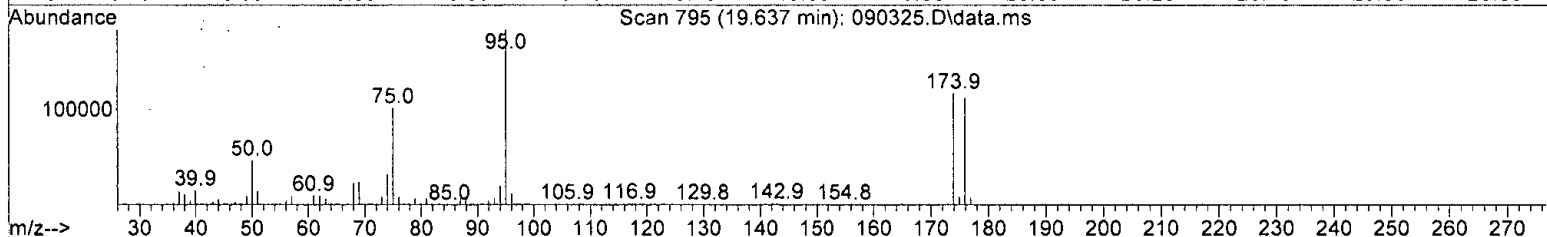
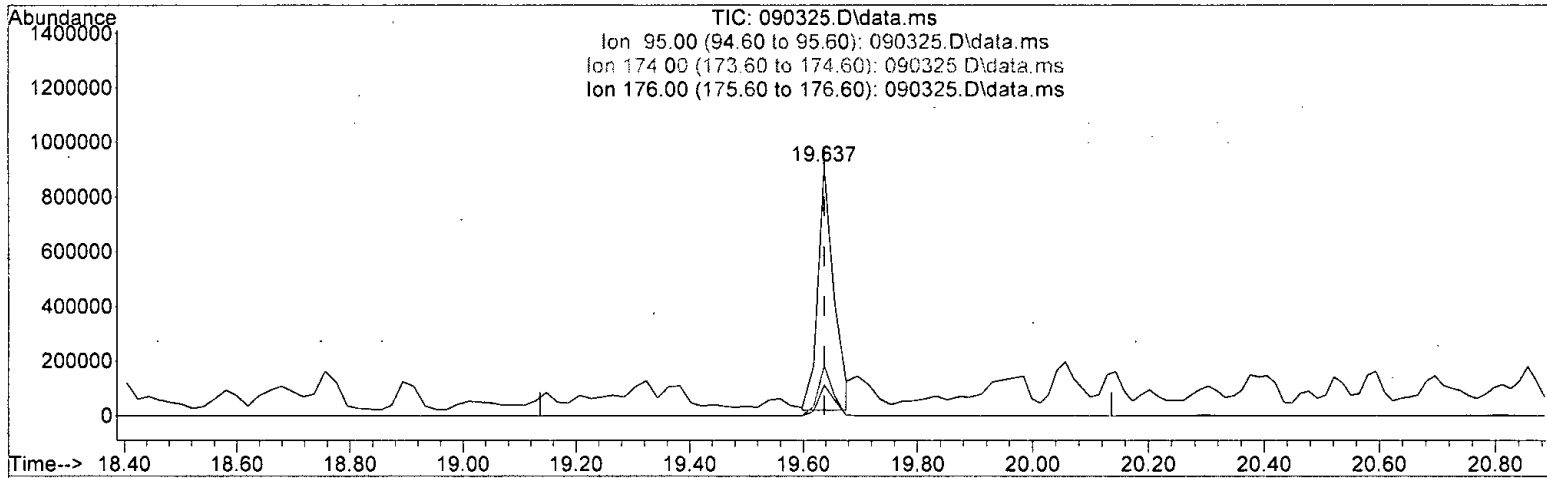
Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	20.84
174.00	19.20	13.26
176.00	18.70	12.79

*Bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(21) S 4-Bromofluorobenzene (T)

19.637min (-0.000) 53.829 ug/m3 m

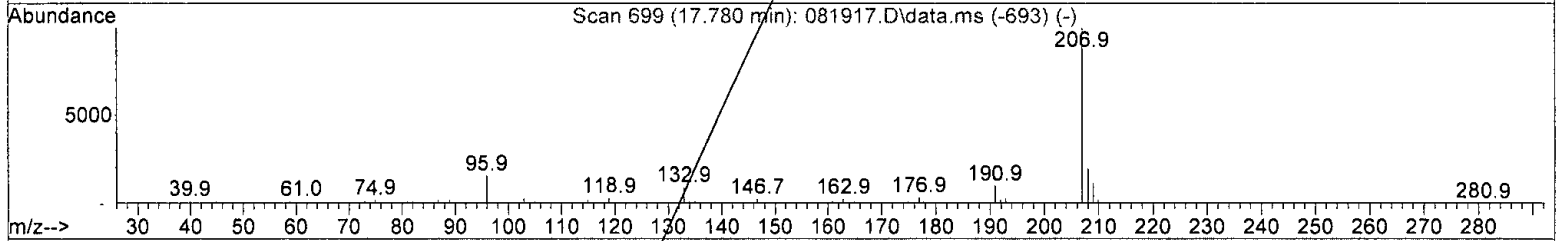
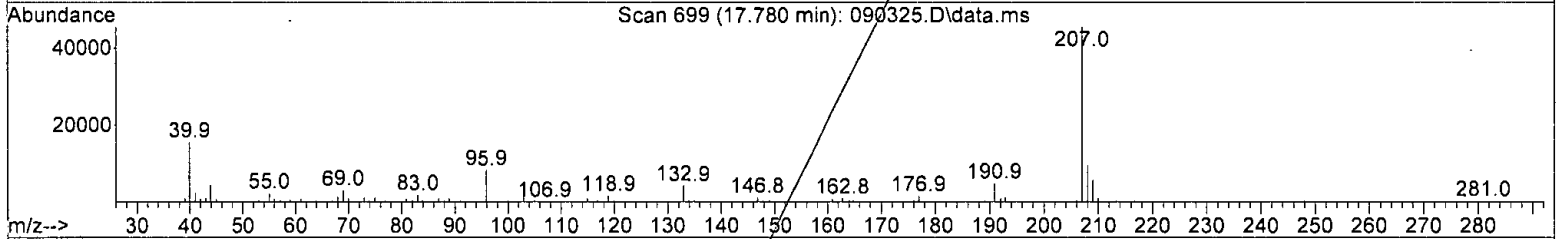
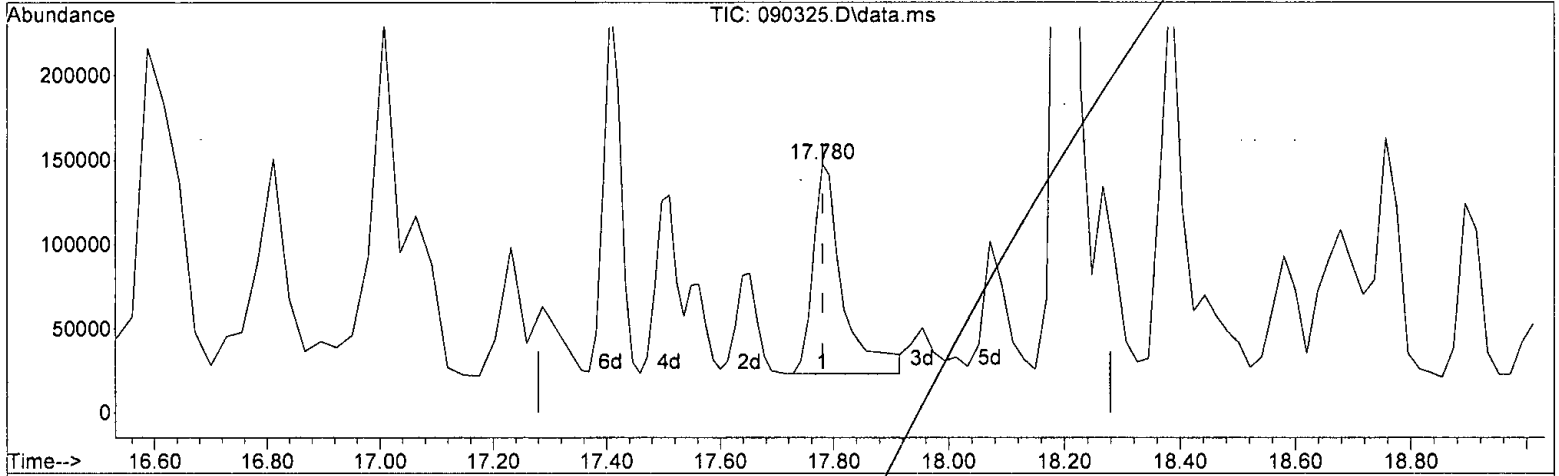
response 1809052

Signal	Exp%	Act%
TIC	100.00	100.00
95.00	20.00	24.54
174.00	19.20	15.62
176.00	18.70	15.07

*W. Orlovsky*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(22) Hexamethylcyclotrisiloxane

17.780min (-0.000) 61.964 ppbv

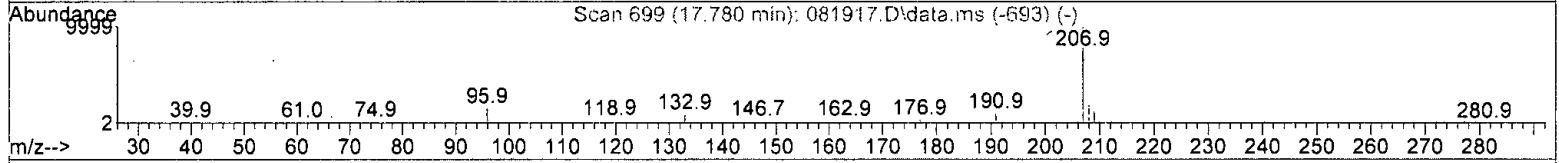
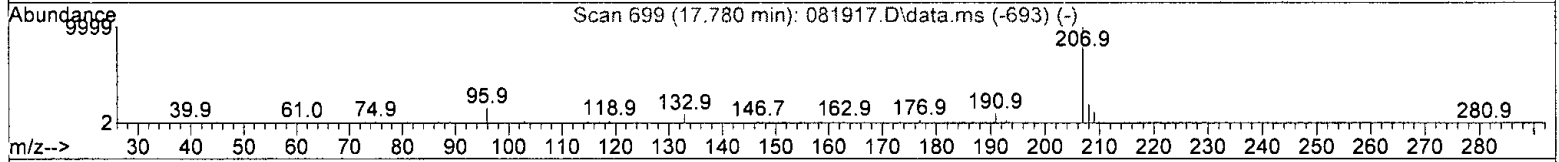
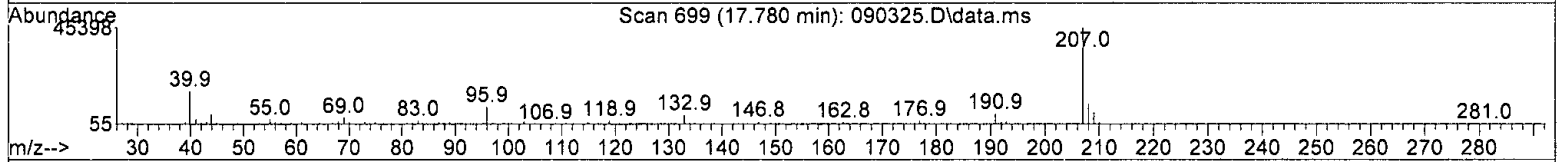
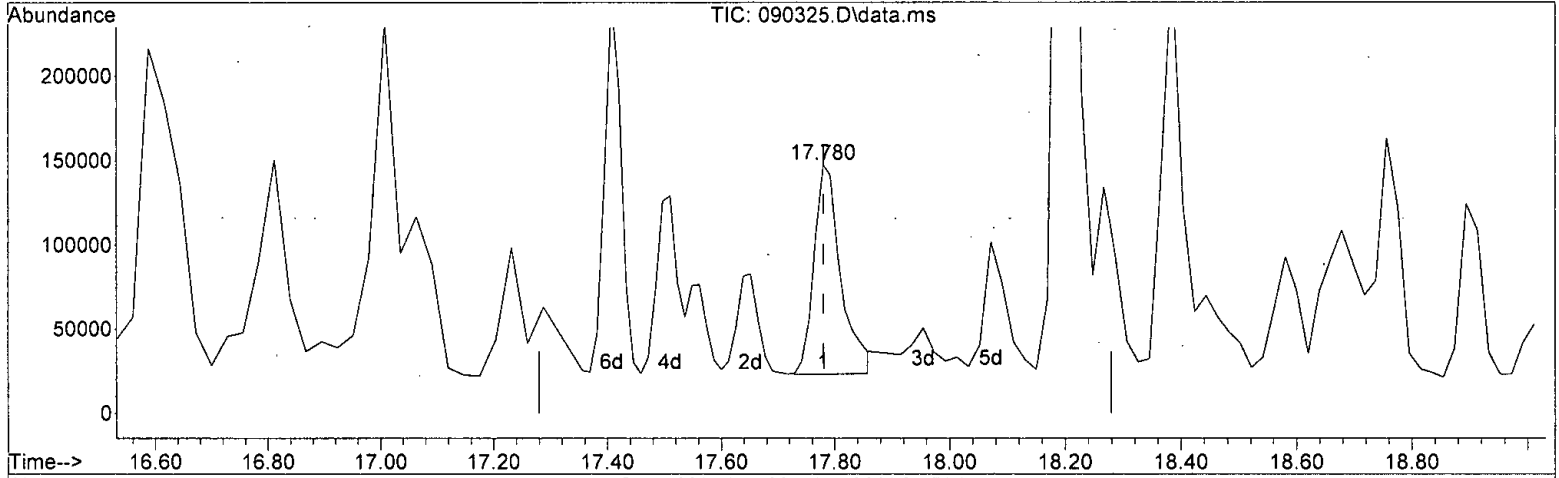
response 512921

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*MS*  
*09/07/21*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(22) Hexamethylcyclotrisiloxane  
 17.780min (-0.000) 49.630 ppbv m  
 response 410823  

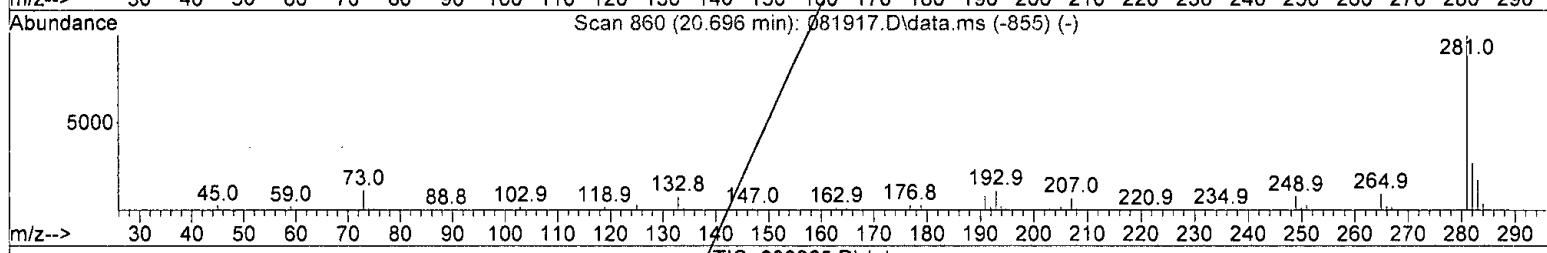
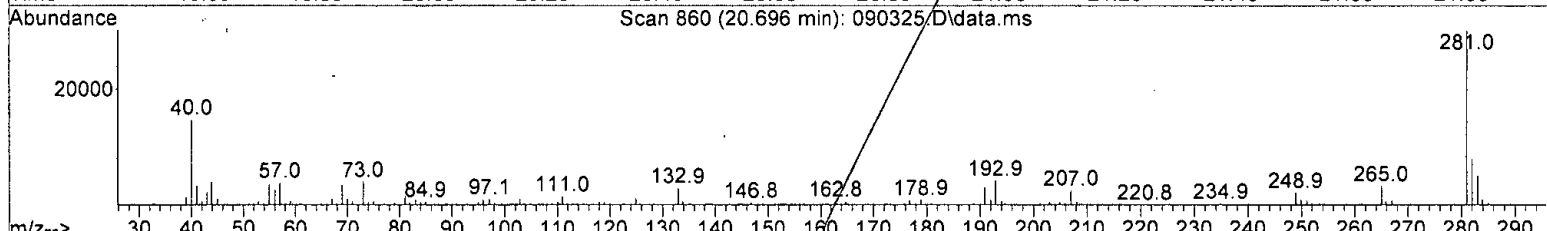
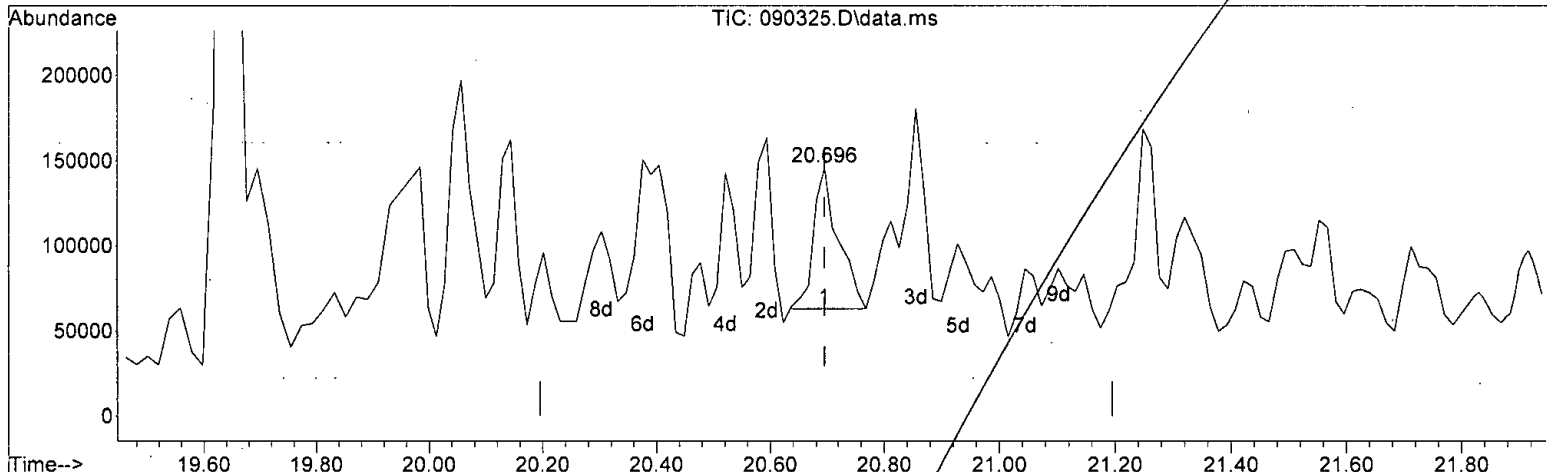
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: K. Balor*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.696min (-0.000) 24.421 ppbv

response 252297

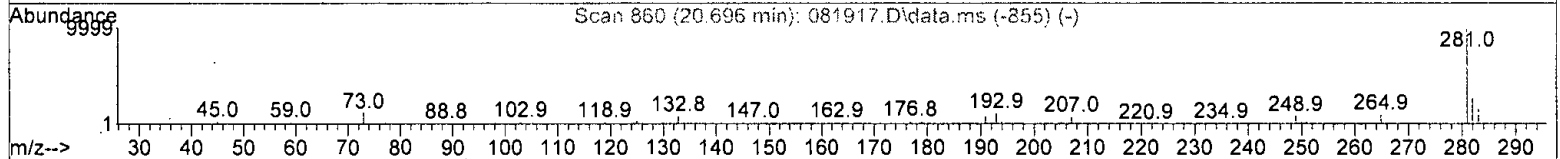
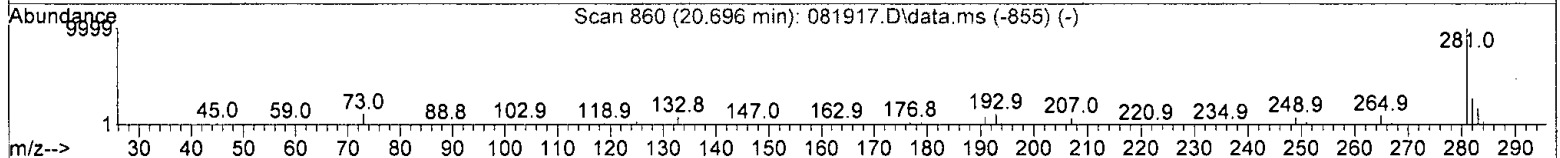
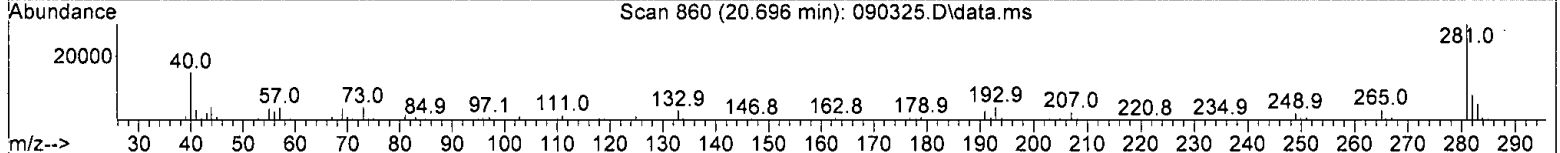
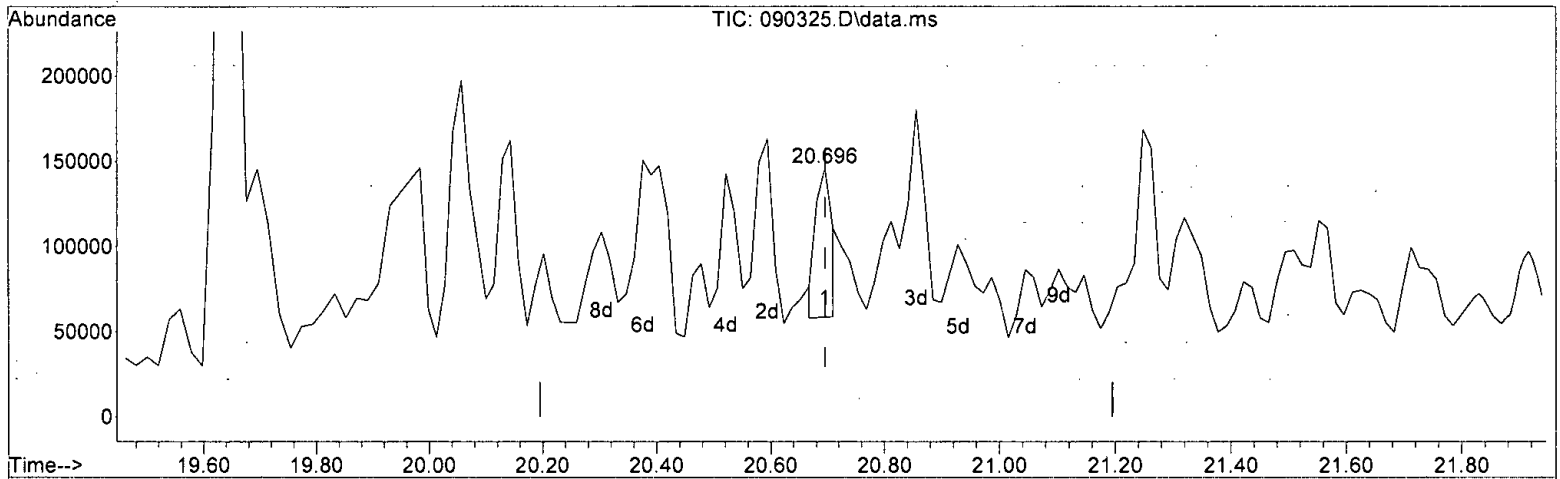
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*K. Oshiki*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: TO15DC.M



(23) Octamethylcyclotetrasiloxane

20.696min (-0.000) 17.517 ppbv m

response 180968

Signal Exp% Act%

TIC 100.00 100.00

0.00 0.00 0.00

0.00 0.00 0.00

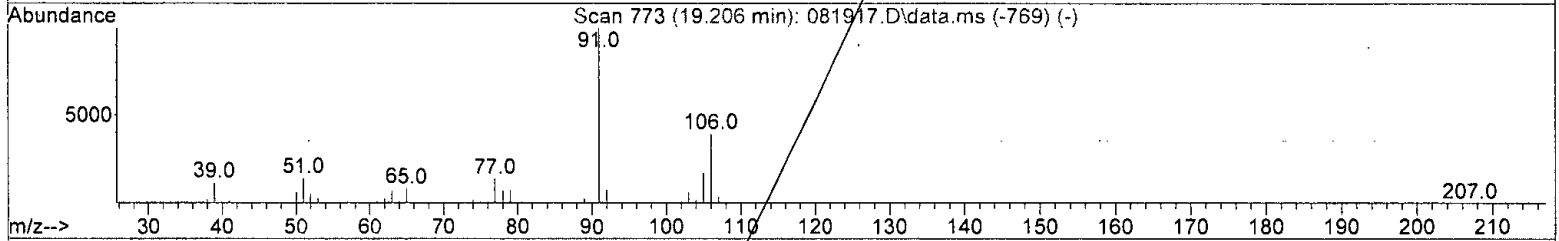
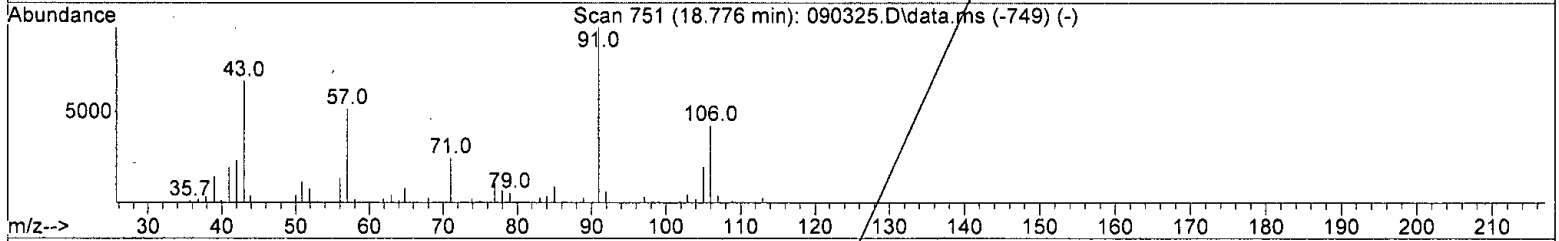
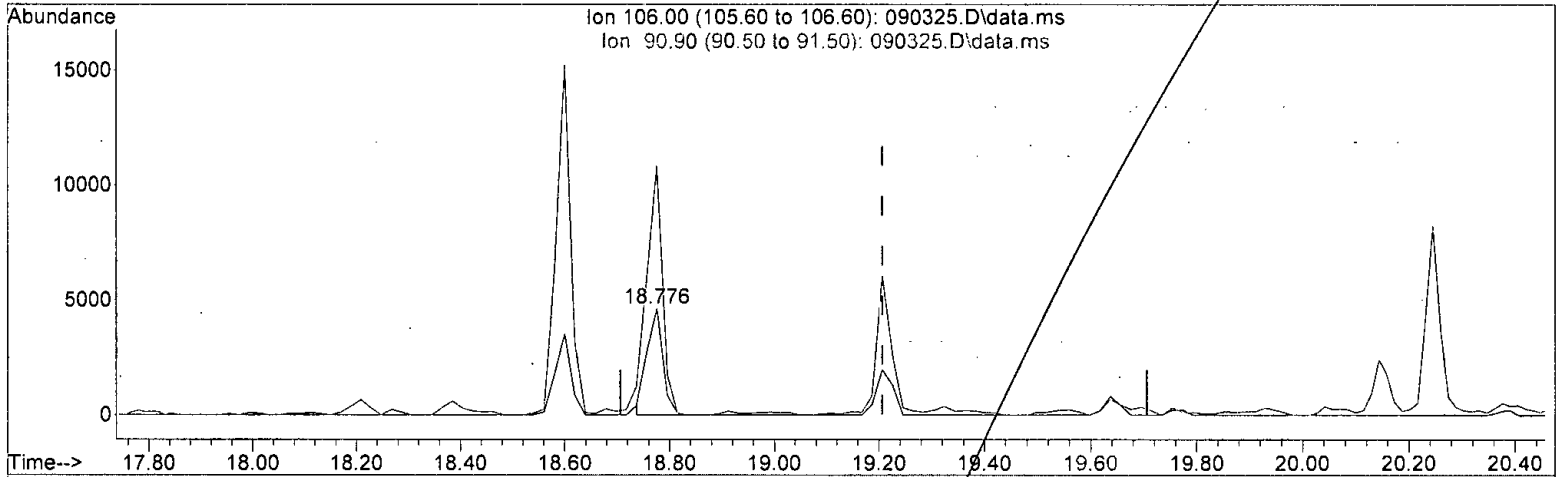
0.00 0.00 0.00

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01/07/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



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(27) o-Xylene (T)

18.776min (-0.430) 1.738 ug/m3

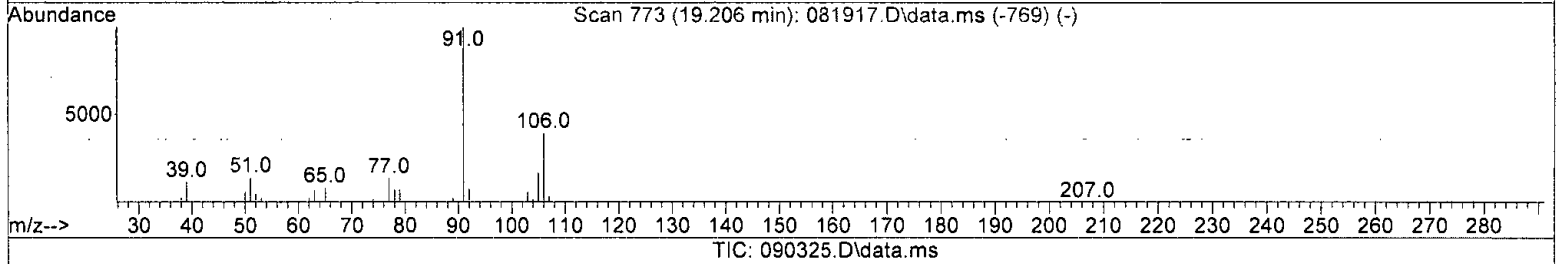
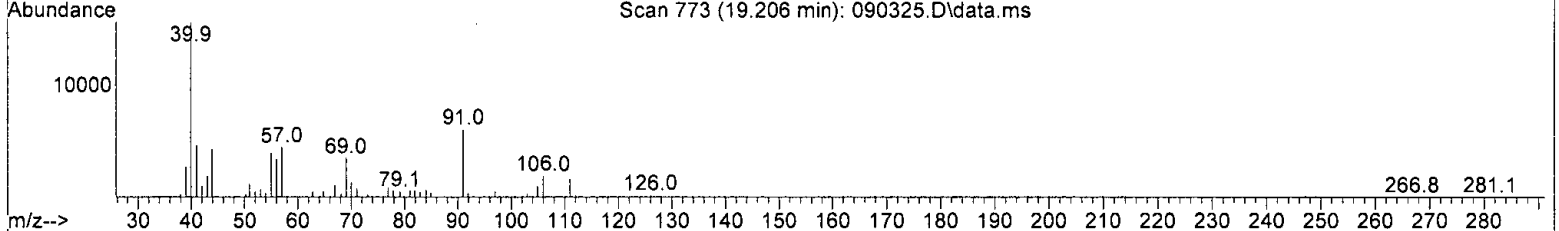
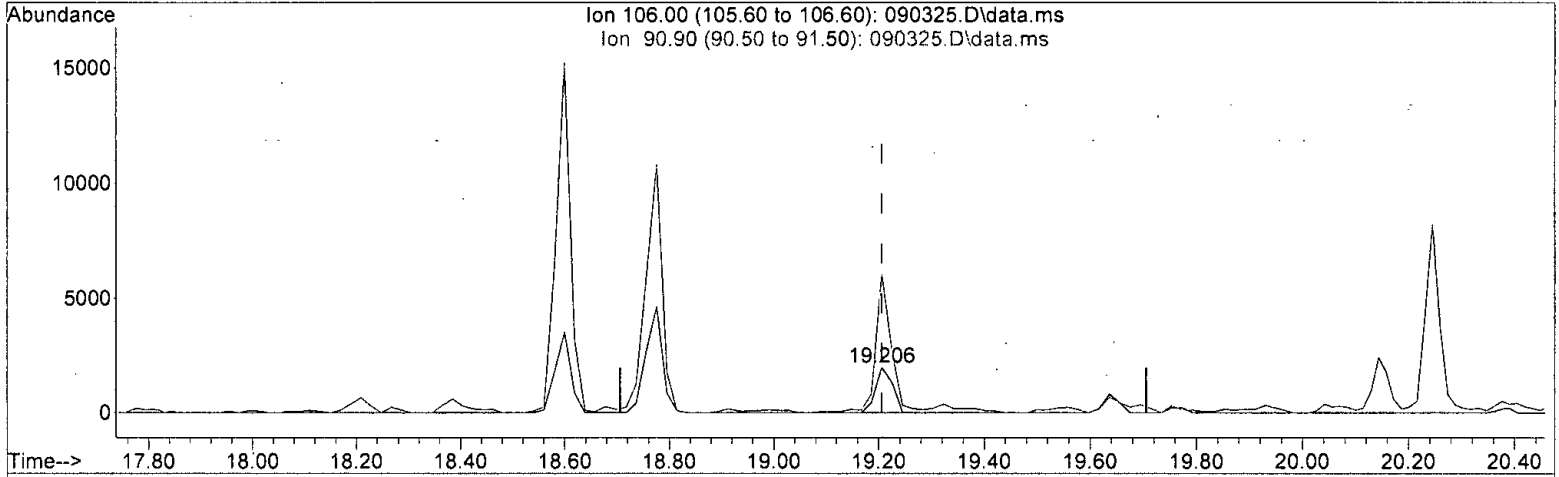
response 9750

Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	233.74
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(27) o-Xylene (T)

19.206min (-0.000) 0.773 ug/m3 m

response 4336

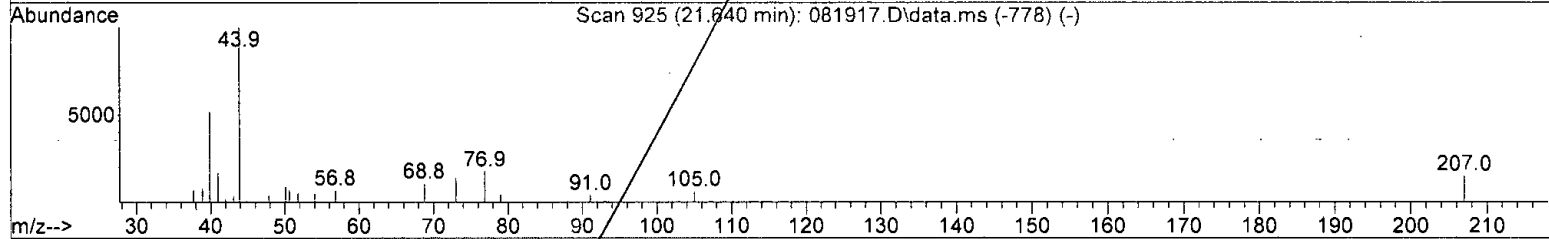
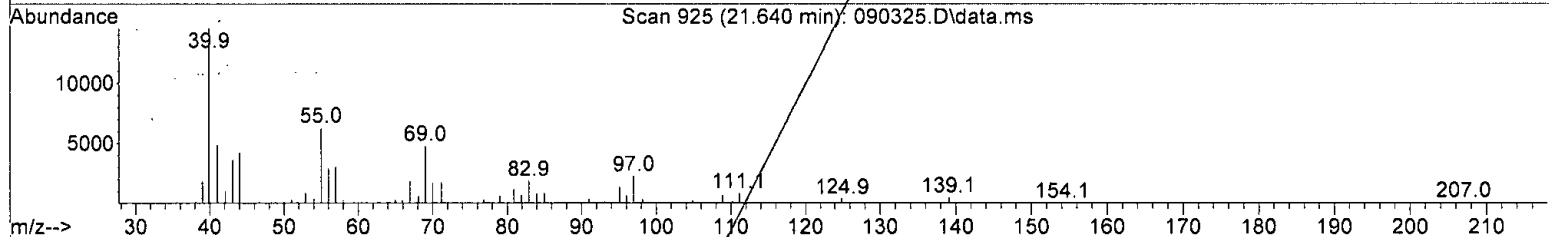
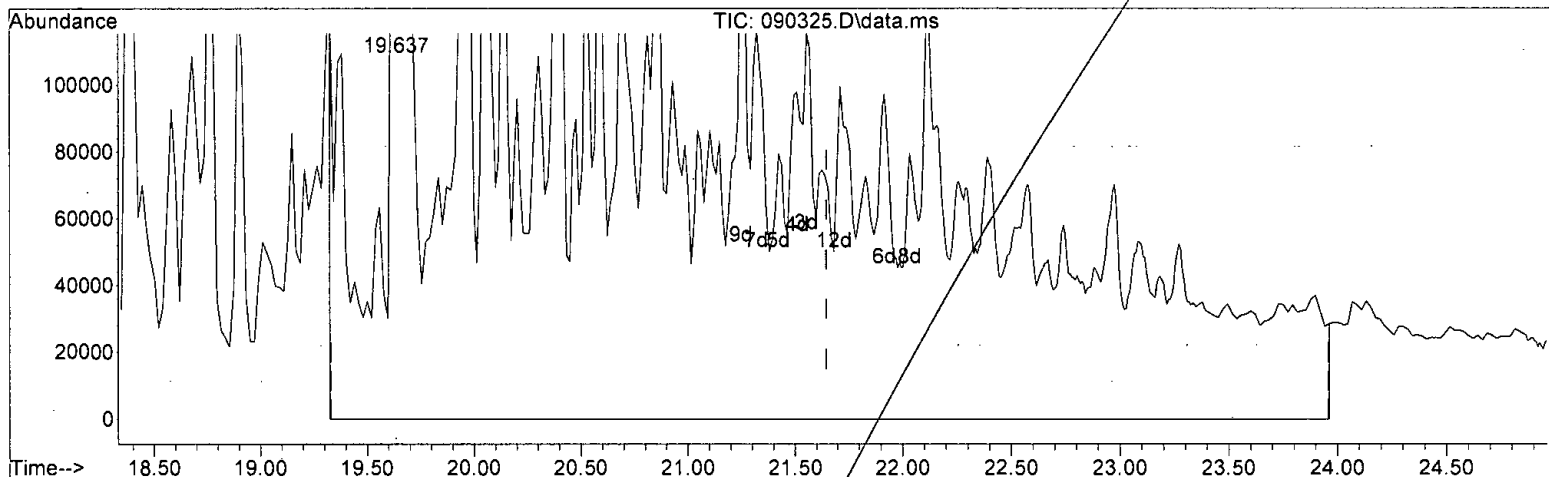
Ion	Exp%	Act%
106.00	100.00	100.00
90.90	226.40	307.61#
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten note:* 4/09/21



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)

21.645min ( 0.000) 145.827 ug/m3 m

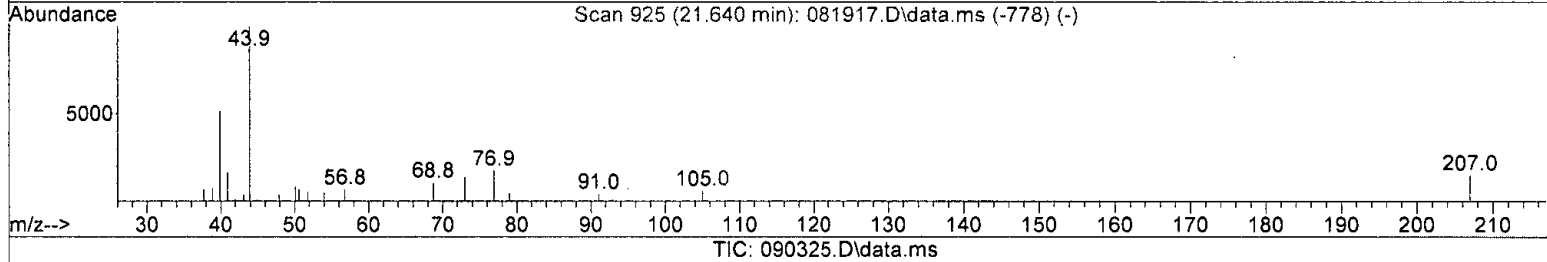
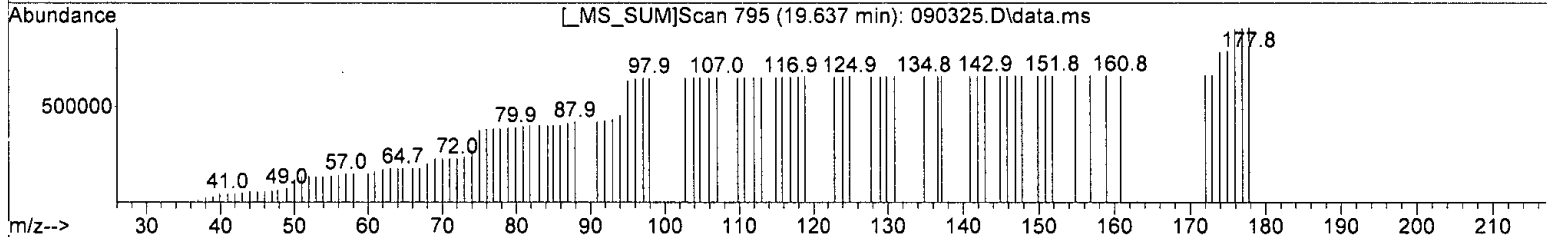
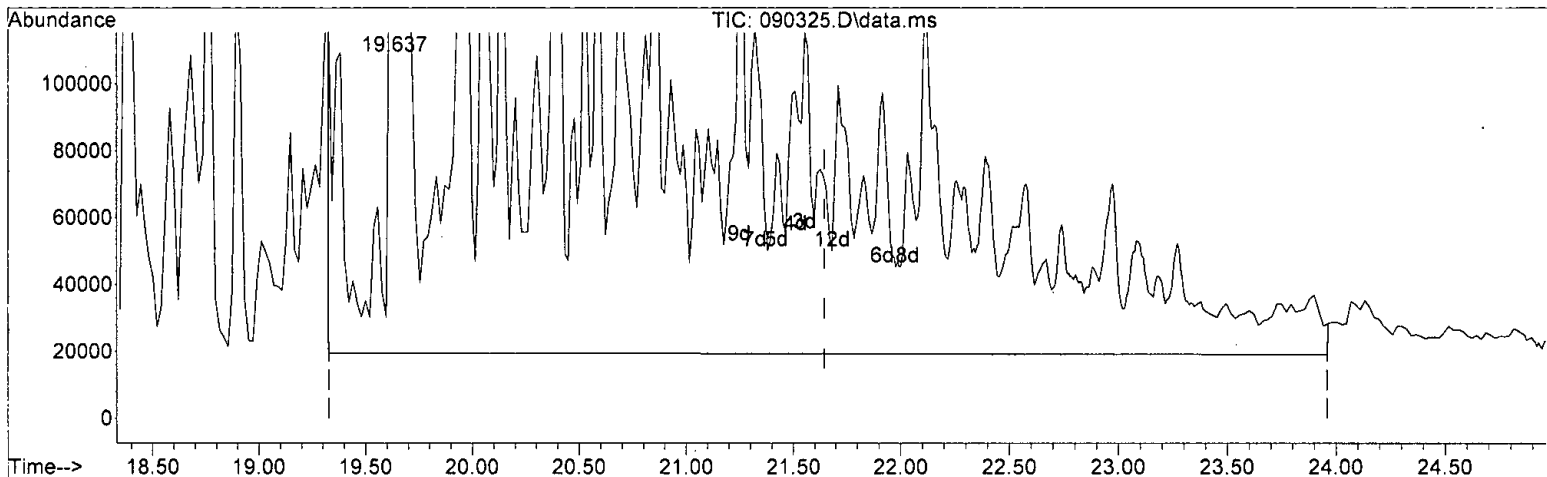
response 5939612

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(36) APH EC9-12 aliphatics (H)  
 21.645min ( 0.000) 334.426 ug/m3 m  
 response 13621345

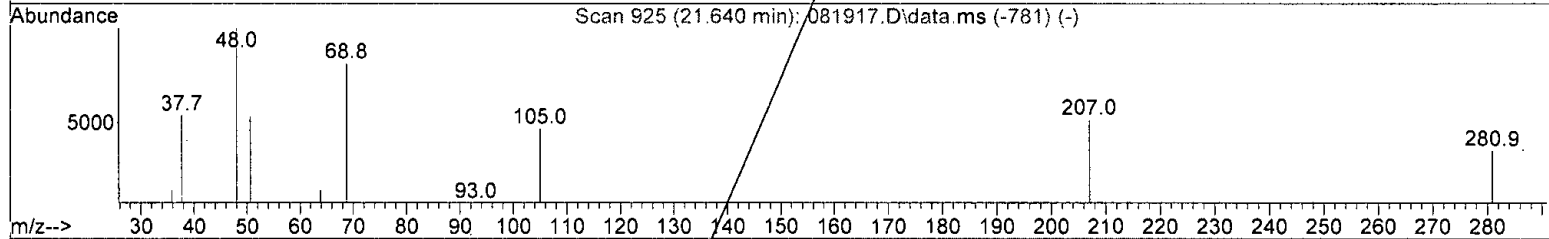
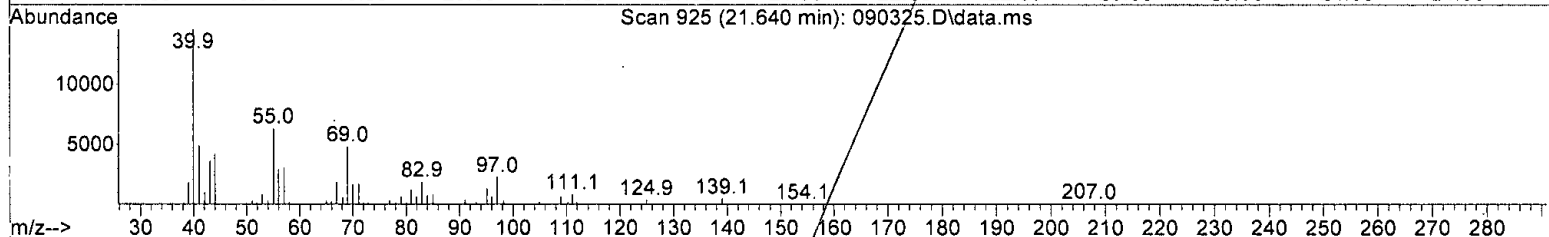
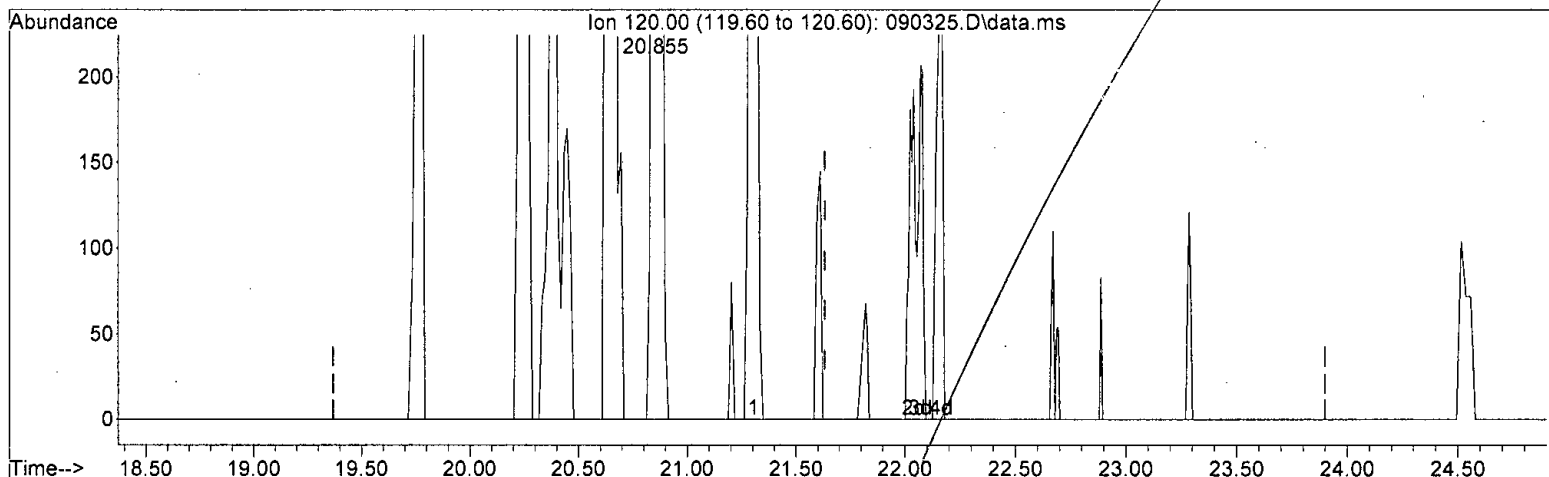
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*W orlaty*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



*B  
 onlooker*

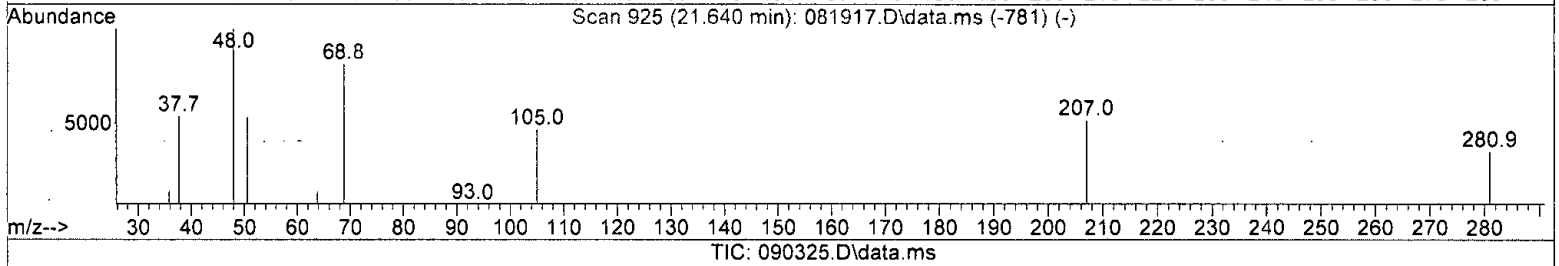
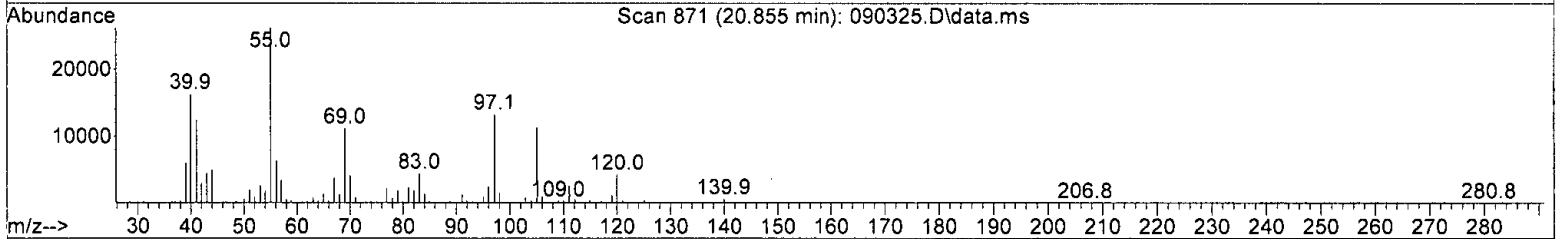
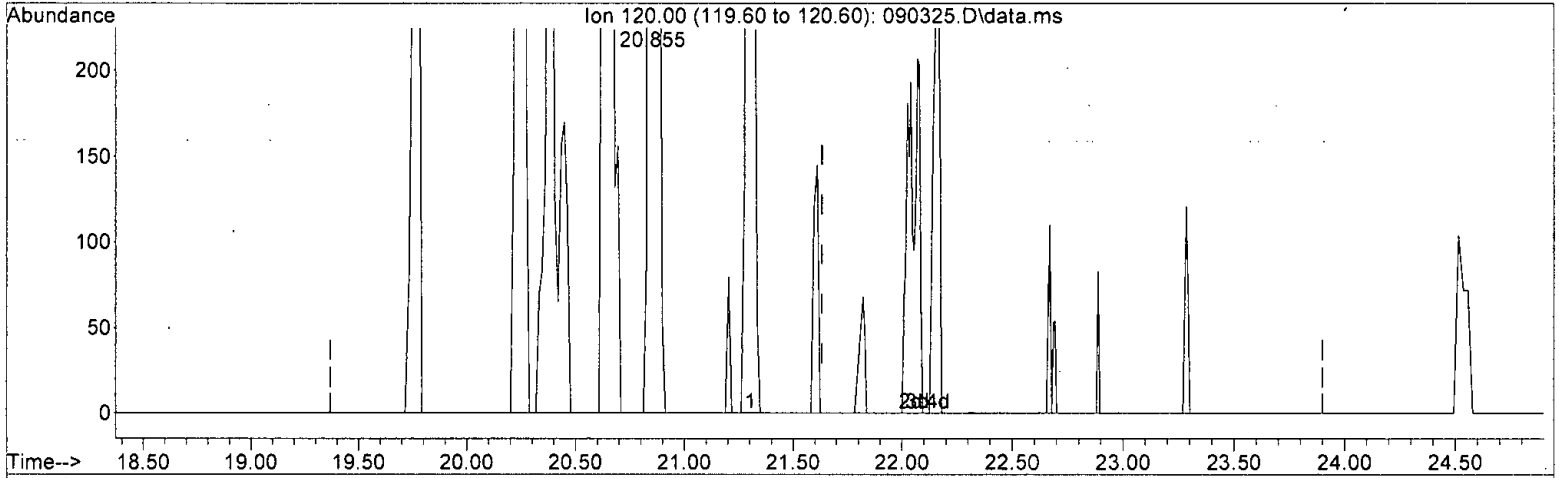
(44) APH EC9-10 aromatics (1) (H)  
 21.635min ( 0.000) -10.206 ug/m3 m  
 response -48400

Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(44) APH EC9-10 aromatics (1) (H)

21.635min ( 0.000) 4.062 ug/m3 m

response 19265

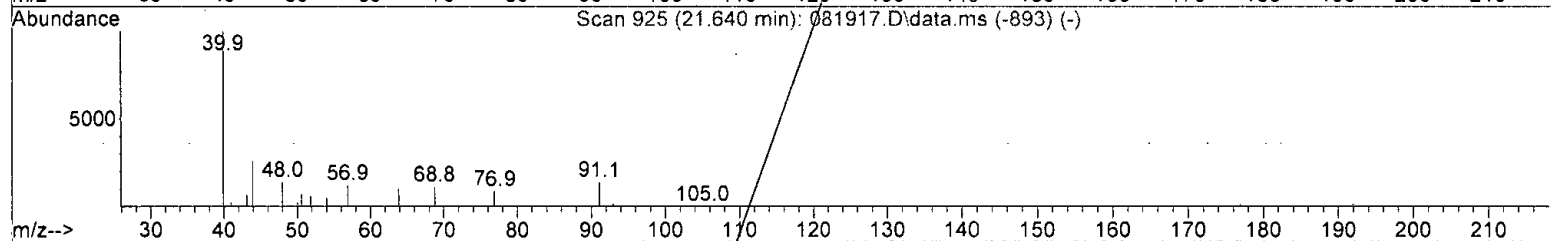
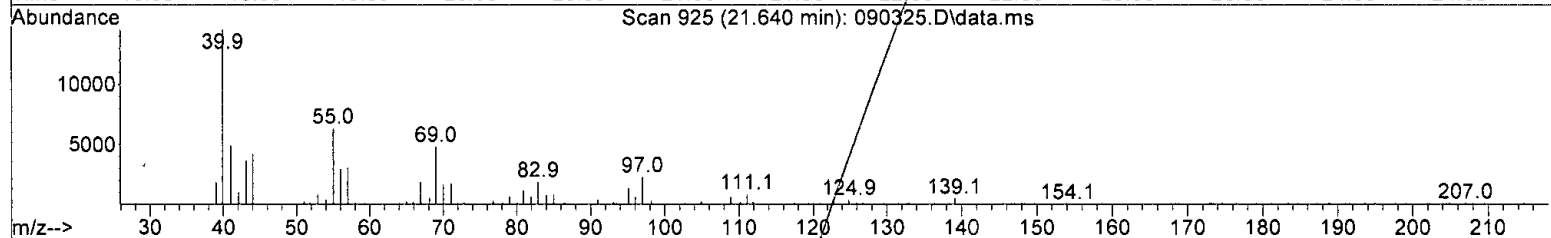
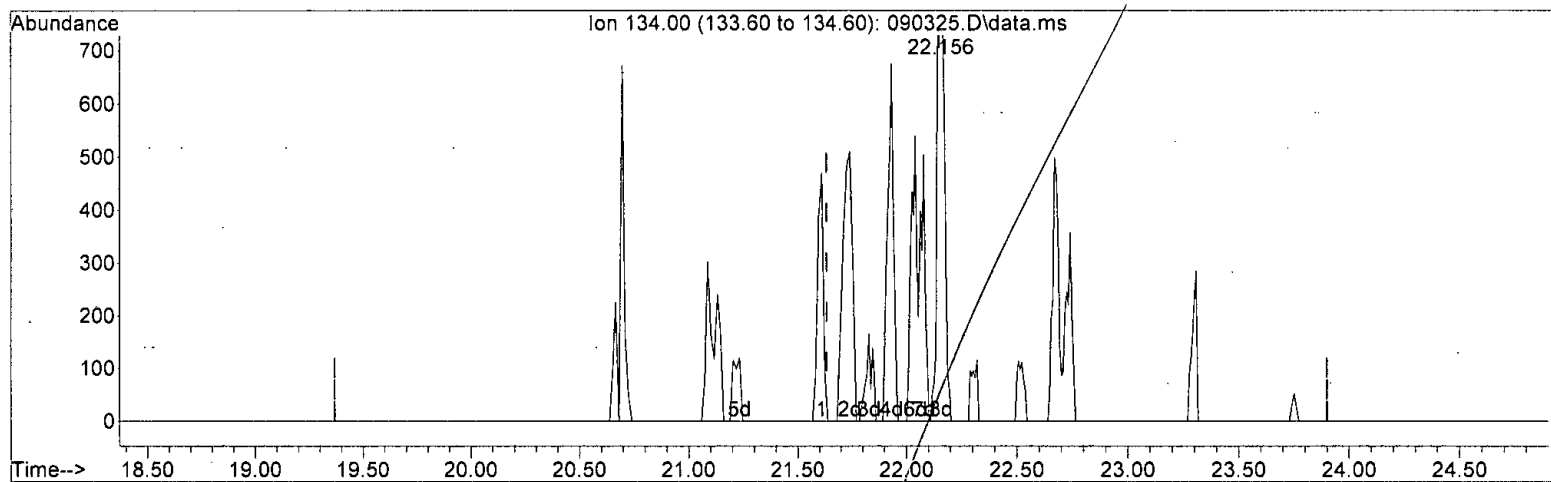
Ion	Exp%	Act%
120.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: H. Orfata*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



(45) APH EC9-10 aromatics (2) (H)  
 21.635min ( 0.000) -21.356 ug/m3 m  
 response -57684

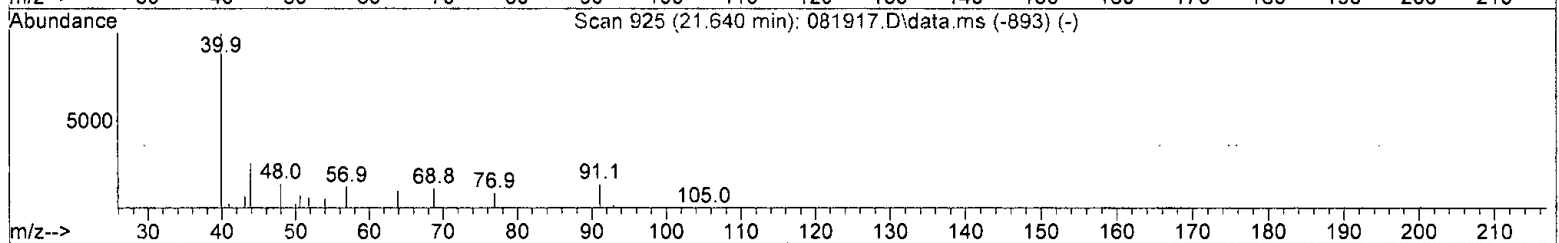
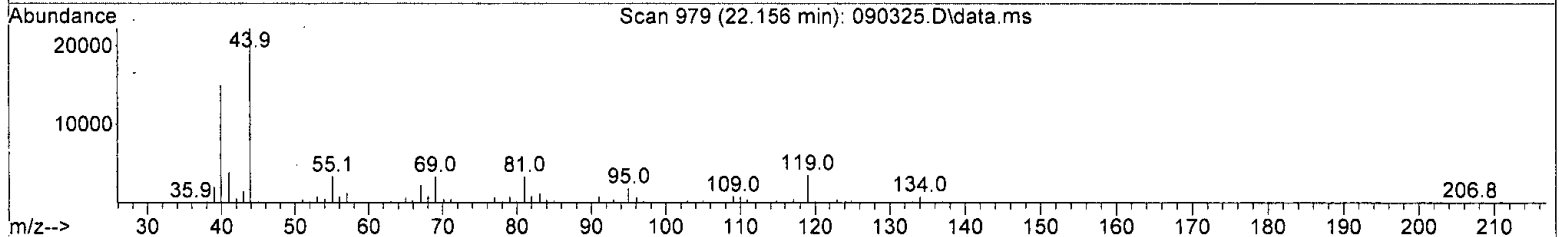
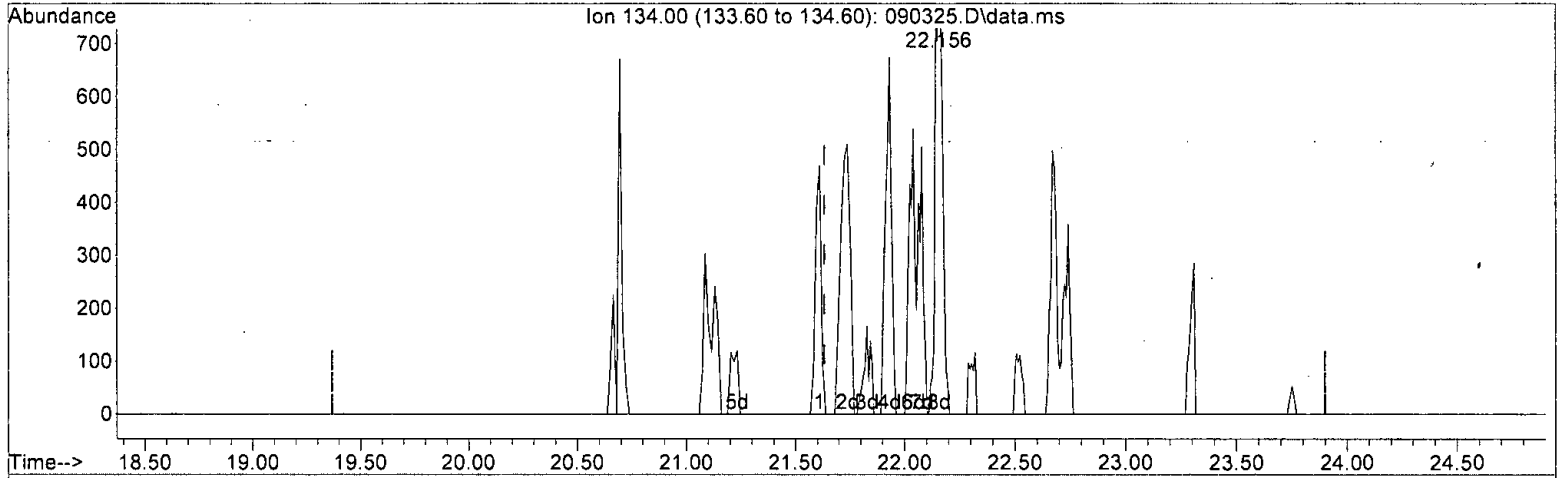
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature: U. K. K.*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:29:30 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M



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09/07/21*

(45) APH EC9-10 aromatics (2) (H)  
 21.635min ( 0.000) 5.893 ug/m3 m  
 response 15916

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:35:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	96266	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	459419	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	398095	50.000	ug/m3	# 0.00
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.64	95	347483	69.670	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	98.13%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	955881	56.237	ug/m3	85
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1119442m	46.401	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1636068m	55.911	ug/m3	
5) Methylene chloride	6.94	TIC	137988	160.348	ug/m3	51
6) Acetone	5.68	TIC	2507319	55.232	ppbv	100
7) 2-Propanol	0.00		0	N.D.	d	
8) 1,3-Butadiene	4.20	54	7231	1.276	ug/m3#	1
9) Methyl t-butyl ether	8.54	73	85	0.011	ug/m3#	1
11) Benzene	12.71	78	84621	5.417	ug/m3	92
12) Isopentane	5.68	TIC	2507319	80.822	ug/m3	96
13) Hexane	10.10	TIC	2445467	80.689	ug/m3	93
14) Cyclohexane	13.23	TIC	2175819	68.228	ug/m3	94
15) 2,3-Dimethylpentane	13.50	TIC	2059797	50.612	ug/m3	94
16) Heptane	14.63	TIC	1687068	50.726	ug/m3	93
17) Octane	17.41	TIC	455277	9.983	ug/m3	92
18) APH EC5-8 aliphatics T...	12.71	TIC	11330747m	310.836	ug/m3	
19) APH EC5-8 aliphatics	12.40	TIC	46720080m	1281.669	ug/m3	
21) S 4-Bromofluorobenzene	19.64	TIC	1809052m	53.829	ug/m3	
22) Hexamethylcyclotrisilo...	17.78	TIC	410823m	49.630	ppbv	
23) Octamethylcyclotetrasil...	20.70	TIC	180968m	17.517	ppbv	
24) Toluene	16.39	92	4715	0.552	ug/m3#	79
25) Ethylbenzene	18.60	91	29701	1.684	ug/m3	87
26) m,p-Xylene	18.78	106	10217	1.723	ug/m3	89
27) o-Xylene	19.21	106	4336m	0.773	ug/m3	
28) Naphthalene	23.94	128	1142	0.080	ug/m3	72
29) 2,3-Dimethylheptane	18.68	TIC	314316	7.856	ug/m3#	80
30) Nonane	19.32	TIC	326020	7.804	ug/m3	80
31) Decane	20.86	TIC	348015	8.385	ug/m3	66
32) Butylcyclohexane	21.55	TIC	136995	2.906	ug/m3	90
33) Undecane	22.26	TIC	63442	1.541	ug/m3	69
34) Dodecane	23.73	TIC	28621	0.847	ug/m3	87
35) APH EC9-12 aliphatics ...	21.55	TIC	1217409m	29.889	ug/m3	
36) APH EC9-12 aliphatics	21.65	TIC	13621345m	334.426	ug/m3	
38) Isopropylbenzene	19.77	120	1144	0.366	ug/m3#	52
39) 1-Methyl-3-ethylbenzene	20.65	120	4530	1.037	ug/m3	99
40) 1,3,5-Trimethylbenzene	20.45	120	384	0.069	ug/m3#	1
41) p-Isopropyltoluene	21.23	134	292	0.108	ug/m3#	16
42) 1,2,3-Trimethylbenzene	21.31	120	2194	0.338	ug/m3#	29
43) APH EC9-10 aromatics T...	21.55	TIC	8544m	1.989	ug/m3	
44) APH EC9-10 aromatics (1)	21.64	120	19265m	4.062	ug/m3	

Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:35:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth:TO15DC.M

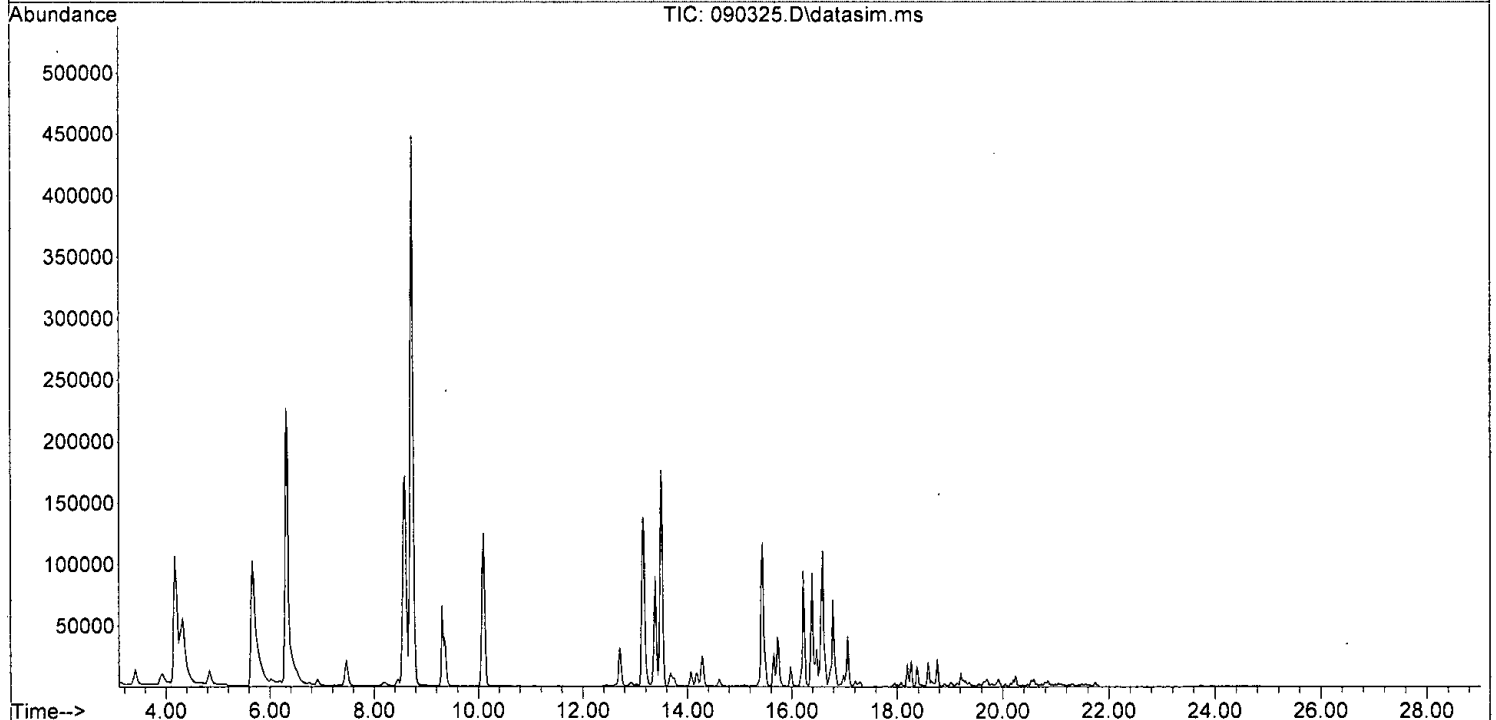
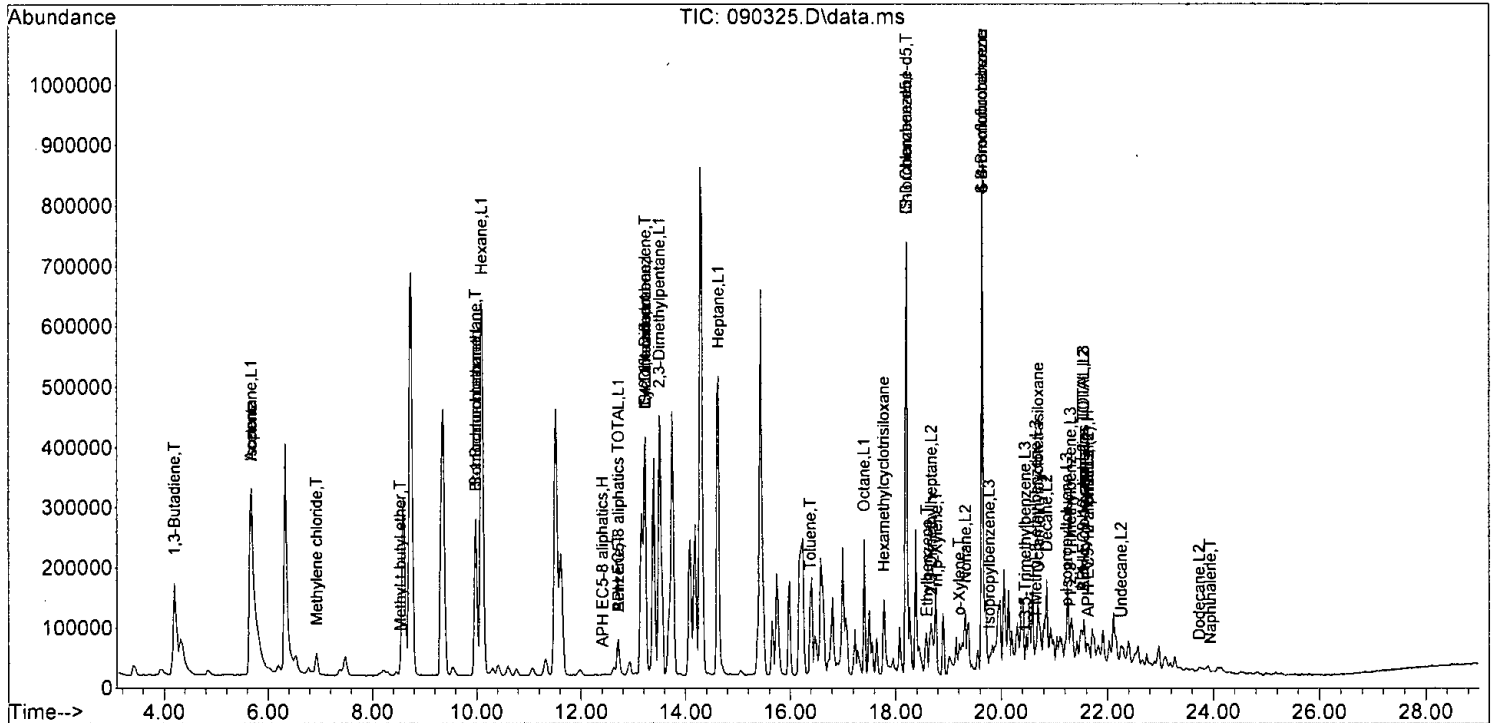
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.64	134	15916m	5.893	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed



Data Path : F:\Proc\_GCMS7\09-03-21\  
 Data File : 090325.D  
 Acq On : 3 Sep 2021 11:28 pm  
 Operator : bat  
 Sample : 109030-14 1/1100  
 Misc : T12  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS7

Quant Time: Sep 07 15:35:47 2021  
 Quant Method : F:\METHODS\Inst7\0819APH7.M  
 Quant Title : APH TO-15 method  
 QLast Update : Fri Aug 20 08:33:26 2021  
 Response via : Initial Calibration  
 DataAcq Meth: T015DC.M



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
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September 14, 2021

Trevor Louviere, Project Manager  
Dalton Olmsted Fuglevand  
1001 SW Klickitat Way, Suite 200B  
Seattle, WA 98134

Dear Mr Louviere:

Included are the results from the testing of material submitted on August 31, 2021 from the TWAFAA, F&BI 108514 project. There are 27 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Tasya Gray, Anthony Cerruti  
DOF0914R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 31, 2020 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAFAA, F&BI 108514 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Dalton Olmsted Fuglevand</u>
108514 -01	TWA-SB5
108514 -02	Trip Blank

The 8270E 2-nitroaniline and the 8260D 2-hexanone calibration standards failed the acceptance criteria. The data were flagged accordingly.

Bromomethane in the 8260D water laboratory control sample exceeded the acceptance criteria. The analyte was not detected in the sample, therefore the data were acceptable.

The 8082A reporting limits for Aroclor 1260 and 1262 were raised due to the presence of interfering compounds.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/14/21  
Date Received: 08/31/21  
Project: TWAFAA, F&BI 108514  
Date Extracted: 09/07/21  
Date Analyzed: 09/07/21

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**

Results Reported on a Dry Weight Basis  
Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 58-139)
TWA-SB5 108514-01 1/10	1,600	ip
Method Blank 01-1926 MB	<5	94

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/14/21  
Date Received: 08/31/21  
Project: TWAFAA, F&BI 108514  
Date Extracted: 09/07/21  
Date Analyzed: 09/07/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
Trip Blank 108514-02	<100	88
Method Blank 01-1927 MB	<100	98

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/14/21  
Date Received: 08/31/21  
Project: TWAFAA, F&BI 108514  
Date Extracted: 09/03/21  
Date Analyzed: 09/03/21

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx**

Results Reported on a Dry Weight Basis  
Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 53-144)
TWA-SB5 108514-01 1/10	1,700	2,300	99
Method Blank 01-2053 MB	<50	<250	95

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-SB5	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAFAA, F&BI 108514
Date Extracted:	09/01/21 11:48	Lab ID:	108514-01
Date Analyzed:	09/01/21	Data File:	108514-01.073
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.26
Cadmium	<1
Copper	13.5
Manganese	101
Mercury	<1
Nickel	7.24
Selenium	<1
Zinc	56.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-SB5	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAFAA, F&BI 108514
Date Extracted:	09/01/21 11:48	Lab ID:	108514-01 x5
Date Analyzed:	09/01/21	Data File:	108514-01 x5.076
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
----------	------------------------------

Chromium	217
Lead	152



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAFAA, F&BI 108514
Date Extracted:	09/01/21 11:48	Lab ID:	I1-543 mb
Date Analyzed:	09/01/21	Data File:	I1-543 mb.071
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<5
Lead	<1
Manganese	<1
Mercury	<1
Nickel	<1
Selenium	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-SB5	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAFAA, F&BI 108514
Date Extracted:	09/02/21	Lab ID:	108514-01 1/250
Date Analyzed:	09/03/21	Data File:	090221.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	94 d	24	111
Phenol-d6	104 d	37	116
Nitrobenzene-d5	110 d	38	117
2-Fluorobiphenyl	100 d	45	117
2,4,6-Tribromophenol	220 d	11	158
Terphenyl-d14	100 d	50	124

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<25	2,6-Dinitrotoluene	<12
Bis(2-chloroethyl) ether	<2.5	3-Nitroaniline	<250
2-Chlorophenol	<25	Acenaphthene	4.6
1,3-Dichlorobenzene	<2.5	2,4-Dinitrophenol	<75
1,4-Dichlorobenzene	<2.5	Dibenzofuran	<2.5
1,2-Dichlorobenzene	<2.5	2,4-Dinitrotoluene	<12
Benzyl alcohol	<25	4-Nitrophenol	<75
2,2'-Oxybis(1-chloropropane)	<2.5	Diethyl phthalate	<25
2-Methylphenol	<25	Fluorene	8.5
Hexachloroethane	<2.5	4-Chlorophenyl phenyl ether	<2.5
N-Nitroso-di-n-propylamine	<2.5	N-Nitrosodiphenylamine	<2.5
3-Methylphenol + 4-Methylphenol	<50	4-Nitroaniline	<250
Nitrobenzene	<2.5	4,6-Dinitro-2-methylphenol	<75
Isophorone	<2.5	4-Bromophenyl phenyl ether	<2.5
2-Nitrophenol	<25	Hexachlorobenzene	<2.5
2,4-Dimethylphenol	<25	Pentachlorophenol	<12
Benzoic acid	<120	Phenanthrene	19
Bis(2-chloroethoxy)methane	<2.5	Anthracene	7.9
2,4-Dichlorophenol	<25	Carbazole	2.6
1,2,4-Trichlorobenzene	<2.5	Di-n-butyl phthalate	<25
Naphthalene	9.6	Fluoranthene	2.0
Hexachlorobutadiene	<2.5	Pyrene	4.6
4-Chloroaniline	<250	Benzyl butyl phthalate	<25
4-Chloro-3-methylphenol	<25	Benz(a)anthracene	1.3
2-Methylnaphthalene	77	Chrysene	1.9
1-Methylnaphthalene	47	Bis(2-ethylhexyl) phthalate	<40
Hexachlorocyclopentadiene	<7.5	Di-n-octyl phthalate	<25
2,4,6-Trichlorophenol	<25	Benzo(a)pyrene	0.71
2,4,5-Trichlorophenol	<25	Benzo(b)fluoranthene	<0.5
2-Chloronaphthalene	<2.5	Benzo(k)fluoranthene	<0.5
2-Nitroaniline	<12 ca	Indeno(1,2,3-cd)pyrene	<0.5
Dimethyl phthalate	<25	Dibenz(a,h)anthracene	<0.5
Acenaphthylene	<0.5	Benzo(g,h,i)perylene	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAFAA, F&BI 108514
Date Extracted:	09/02/21	Lab ID:	01-2061 mb 1/5
Date Analyzed:	09/02/21	Data File:	090208.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	91	24	111
Phenol-d6	104	37	116
Nitrobenzene-d5	101	38	117
2-Fluorobiphenyl	99	45	117
2,4,6-Tribromophenol	93	11	158
Terphenyl-d14	107	50	124

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Phenol	<0.5	2,6-Dinitrotoluene	<0.25
Bis(2-chloroethyl) ether	<0.05	3-Nitroaniline	<5
2-Chlorophenol	<0.5	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.05	2,4-Dinitrophenol	<1.5
1,4-Dichlorobenzene	<0.05	Dibenzofuran	<0.05
1,2-Dichlorobenzene	<0.05	2,4-Dinitrotoluene	<0.25
Benzyl alcohol	<0.5	4-Nitrophenol	<1.5
2,2'-Oxybis(1-chloropropane)	<0.05	Diethyl phthalate	<0.5
2-Methylphenol	<0.5	Fluorene	<0.01
Hexachloroethane	<0.05	4-Chlorophenyl phenyl ether	<0.05
N-Nitroso-di-n-propylamine	<0.05	N-Nitrosodiphenylamine	<0.05
3-Methylphenol + 4-Methylphenol	<1	4-Nitroaniline	<5
Nitrobenzene	<0.05	4,6-Dinitro-2-methylphenol	<1.5
Isophorone	<0.05	4-Bromophenyl phenyl ether	<0.05
2-Nitrophenol	<0.5	Hexachlorobenzene	<0.05
2,4-Dimethylphenol	<0.5	Pentachlorophenol	<0.25
Benzoic acid	<2.5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.05	Anthracene	<0.01
2,4-Dichlorophenol	<0.5	Carbazole	<0.05
1,2,4-Trichlorobenzene	<0.05	Di-n-butyl phthalate	<0.5
Naphthalene	<0.01	Fluoranthene	<0.01
Hexachlorobutadiene	<0.05	Pyrene	<0.01
4-Chloroaniline	<5	Benzyl butyl phthalate	<0.5
4-Chloro-3-methylphenol	<0.5	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.01	Chrysene	<0.01
1-Methylnaphthalene	<0.01	Bis(2-ethylhexyl) phthalate	<0.8
Hexachlorocyclopentadiene	<0.15	Di-n-octyl phthalate	<0.5
2,4,6-Trichlorophenol	<0.5	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<0.5	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.05	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.25 ca	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<0.5	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	TWA-SB5	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAFAA, F&BI 108514
Date Extracted:	09/02/21	Lab ID:	108514-01 1/5
Date Analyzed:	09/02/21	Data File:	090227.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	90	109
Toluene-d8	100	89	112
4-Bromofluorobenzene	98	84	115

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<2.5	1,3-Dichloropropane	<0.25
Chloromethane	<2.5	Tetrachloroethene	<0.12
Vinyl chloride	<0.25	Dibromochloromethane	<0.25
Bromomethane	<2.5	1,2-Dibromoethane (EDB)	<0.25
Chloroethane	<2.5	Chlorobenzene	<0.25
Trichlorofluoromethane	<2.5	Ethylbenzene	2.0
Acetone	<25	1,1,1,2-Tetrachloroethane	<0.25
1,1-Dichloroethene	<0.25	m,p-Xylene	7.6
Hexane	<1.2	o-Xylene	5.3
Methylene chloride	<2.5	Styrene	<0.25
Methyl t-butyl ether (MTBE)	<0.25	Isopropylbenzene	0.87
trans-1,2-Dichloroethene	<0.25	Bromoform	<0.25
1,1-Dichloroethane	<0.25	n-Propylbenzene	2.2
2,2-Dichloropropane	<0.25	Bromobenzene	<0.25
cis-1,2-Dichloroethene	<0.25	1,3,5-Trimethylbenzene	5.4
Chloroform	<0.25	1,1,2,2-Tetrachloroethane	<0.25
2-Butanone (MEK)	<5	1,2,3-Trichloropropane	<0.25
1,2-Dichloroethane (EDC)	<0.25	2-Chlorotoluene	<0.25
1,1,1-Trichloroethane	<0.25	4-Chlorotoluene	<0.25
1,1-Dichloropropene	<0.25	tert-Butylbenzene	<0.25
Carbon tetrachloride	<0.25	1,2,4-Trimethylbenzene	19
Benzene	0.33	sec-Butylbenzene	1.1
Trichloroethene	<0.1	p-Isopropyltoluene	1.3
1,2-Dichloropropane	<0.25	1,3-Dichlorobenzene	<0.25
Bromodichloromethane	<0.25	1,4-Dichlorobenzene	<0.25
Dibromomethane	<0.25	1,2-Dichlorobenzene	0.91
4-Methyl-2-pentanone	<5	1,2-Dibromo-3-chloropropane	<2.5
cis-1,3-Dichloropropene	<0.25	1,2,4-Trichlorobenzene	<1.2
Toluene	0.56	Hexachlorobutadiene	<1.2
trans-1,3-Dichloropropene	<0.25	Naphthalene	3.8
1,1,2-Trichloroethane	<0.25	1,2,3-Trichlorobenzene	<1.2
2-Hexanone	<2.5 ca		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAFAA, F&BI 108514
Date Extracted:	09/02/21	Lab ID:	01-2002 mb
Date Analyzed:	09/02/21	Data File:	090205.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	90	109
Toluene-d8	100	89	112
4-Bromofluorobenzene	99	84	115

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<1	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<1	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5 ca		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAFAA, F&BI 108514
Date Extracted:	09/01/21	Lab ID:	108514-02
Date Analyzed:	09/01/21	Data File:	090126.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	78	126
Toluene-d8	104	87	115
4-Bromofluorobenzene	103	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAFAA, F&BI 108514
Date Extracted:	09/01/21	Lab ID:	01-1997 mb
Date Analyzed:	09/01/21	Data File:	090125.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	78	126
Toluene-d8	103	87	115
4-Bromofluorobenzene	103	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-SB5	Client:	Dalton Olmsted Fuglevand
Date Received:	08/31/21	Project:	TWAFAA, F&BI 108514
Date Extracted:	09/01/21	Lab ID:	108514-01 1/6
Date Analyzed:	09/02/21	Data File:	090218.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	67	23	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	0.19
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.02



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAFAA, F&BI 108514
Date Extracted:	09/01/21	Lab ID:	01-2055 mb 1/6
Date Analyzed:	09/02/21	Data File:	090204.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	79	23	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/14/21

Date Received: 08/31/21

Project: TWAFAA, F&BI 108514

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 109055-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	8	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	100	61-153

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/14/21

Date Received: 08/31/21

Project: TWAFAA, F&BI 108514

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 109064-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	95	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/14/21

Date Received: 08/31/21

Project: TWAFAA, F&BI 108514

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: 108513-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	500	<50	103	96	64-133	7

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	500	94	58-147

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/14/21

Date Received: 08/31/21

Project: TWAFAA, F&BI 108514

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 108514-01 x5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	<5	82	86	75-125	5
Cadmium	mg/kg (ppm)	10	<5	91	88	75-125	3
Chromium	mg/kg (ppm)	50	198	33 b	14 b	75-125	81 b
Copper	mg/kg (ppm)	50	<25	87	88	75-125	1
Lead	mg/kg (ppm)	50	138	0 b	0 b	75-125	0 b
Manganese	mg/kg (ppm)	20	95.2	101 b	257 b	75-125	87 b
Mercury	mg/kg (ppm)	5	<5	91	86	75-125	6
Nickel	mg/kg (ppm)	25	6.94	94	91	75-125	3
Selenium	mg/kg (ppm)	5	<5	91	86	75-125	6
Zinc	mg/kg (ppm)	50	53.6	56 b	46 b	75-125	20 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	90	80-120
Cadmium	mg/kg (ppm)	10	92	80-120
Chromium	mg/kg (ppm)	50	99	80-120
Copper	mg/kg (ppm)	50	95	80-120
Lead	mg/kg (ppm)	50	93	80-120
Manganese	mg/kg (ppm)	20	100	80-120
Mercury	mg/kg (ppm)	5	93	80-120
Nickel	mg/kg (ppm)	25	98	80-120
Selenium	mg/kg (ppm)	5	91	80-120
Zinc	mg/kg (ppm)	50	94	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/14/21

Date Received: 08/31/21

Project: TWAFAA, F&BI 108514

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR SEMIVOLATILES BY EPA METHOD 8270E**

Laboratory Code: 109028-01 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Phenol	mg/kg (ppm)	0.83	<0.5	86	88	39-127	2
Bis(2-chloroethyl) ether	mg/kg (ppm)	0.83	<0.05	73	77	35-117	5
2-Chlorophenol	mg/kg (ppm)	0.83	<0.5	78	80	30-122	3
1,3-Dichlorobenzene	mg/kg (ppm)	0.83	<0.05	67	73	36-106	9
1,4-Dichlorobenzene	mg/kg (ppm)	0.83	<0.05	68	75	36-106	10
1,2-Dichlorobenzene	mg/kg (ppm)	0.83	<0.05	69	74	38-107	7
Benzyl alcohol	mg/kg (ppm)	2.5	<0.5	79	82	36-121	4
2,2'-Oxybis(1-chloropropane)	mg/kg (ppm)	0.83	<0.05	76	79	50-150	4
2-Methylphenol	mg/kg (ppm)	0.83	<0.5	82	84	38-120	2
Hexachloroethane	mg/kg (ppm)	0.83	<0.05	68	72	32-114	6
N-Nitroso-di-n-propylamine	mg/kg (ppm)	0.83	<0.05	85	88	50-150	3
3-Methylphenol + 4-Methylphenol	mg/kg (ppm)	0.83	<1	83	85	39-121	2
Nitrobenzene	mg/kg (ppm)	0.83	<0.05	72	74	42-118	3
Isophorone	mg/kg (ppm)	0.83	<0.05	86	88	30-135	2
2-Nitrophenol	mg/kg (ppm)	0.83	<0.5	88	88	22-137	0
2,4-Dimethylphenol	mg/kg (ppm)	0.83	<0.5	80	81	38-124	1
Benzoic acid	mg/kg (ppm)	2.5	<2.5	68	67	10-101	1
Bis(2-chloroethoxy)methane	mg/kg (ppm)	0.83	<0.05	83	85	37-121	2
2,4-Dichlorophenol	mg/kg (ppm)	0.83	<0.5	87	86	24-130	1
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.83	<0.05	76	78	41-112	3
Naphthalene	mg/kg (ppm)	0.83	<0.01	76	77	34-118	1
Hexachlorobutadiene	mg/kg (ppm)	0.83	<0.05	78	80	39-112	3
4-Chloroaniline	mg/kg (ppm)	2.5	<5	69	74	23-111	7
4-Chloro-3-methylphenol	mg/kg (ppm)	0.83	<0.5	89	88	49-120	1
2-Methylnaphthalene	mg/kg (ppm)	0.83	<0.01	83	82	29-130	1
1-Methylnaphthalene	mg/kg (ppm)	0.83	<0.01	80	79	37-119	1
Hexachlorocyclopentadiene	mg/kg (ppm)	0.83	<0.15	76	78	10-136	3
2,4,6-Trichlorophenol	mg/kg (ppm)	0.83	<0.5	95	92	15-140	3
2,4,5-Trichlorophenol	mg/kg (ppm)	0.83	<0.5	90	92	20-139	2
2-Chloronaphthalene	mg/kg (ppm)	0.83	<0.05	84	83	42-117	1
2-Nitroaniline	mg/kg (ppm)	2.5	<0.25	65	67	50-150	3
Dimethyl phthalate	mg/kg (ppm)	0.83	<0.5	87	89	50-150	2
Acenaphthylene	mg/kg (ppm)	0.83	<0.01	86	86	45-128	0
2,6-Dinitrotoluene	mg/kg (ppm)	0.83	<0.25	87	89	50-150	2
3-Nitroaniline	mg/kg (ppm)	2.5	<5	73	81	36-110	10
Acenaphthene	mg/kg (ppm)	0.83	<0.01	78	78	36-125	0
2,4-Dinitrophenol	mg/kg (ppm)	1.7	<1.5	54	52	10-135	4
Dibenzofuran	mg/kg (ppm)	0.83	<0.05	82	83	44-120	1
2,4-Dinitrotoluene	mg/kg (ppm)	0.83	<0.25	75	74	50-150	1
4-Nitrophenol	mg/kg (ppm)	1.7	<1.5	89	90	25-139	1
Diethyl phthalate	mg/kg (ppm)	0.83	<0.5	87	88	48-126	1
Fluorene	mg/kg (ppm)	0.83	<0.01	85	86	48-121	1
4-Chlorophenyl phenyl ether	mg/kg (ppm)	0.83	<0.05	87	85	50-150	2
N-Nitrosodiphenylamine	mg/kg (ppm)	0.83	<0.05	86	87	50-150	1
4-Nitroaniline	mg/kg (ppm)	2.5	<5	80	84	10-150	5
4,6-Dinitro-2-methylphenol	mg/kg (ppm)	0.83	<1.5	63	63	10-148	0
4-Bromophenyl phenyl ether	mg/kg (ppm)	0.83	<0.05	86	89	50-150	3
Hexachlorobenzene	mg/kg (ppm)	0.83	<0.05	71	74	50-150	4
Pentachlorophenol	mg/kg (ppm)	0.83	<0.25	97	96	23-145	1
Phenanthrene	mg/kg (ppm)	0.83	<0.01	81	84	50-150	4
Anthracene	mg/kg (ppm)	0.83	<0.01	84	85	50-150	1
Carbazole	mg/kg (ppm)	0.83	<0.05	91	92	50-150	1
Di-n-butyl phthalate	mg/kg (ppm)	0.83	<0.5	98	99	43-124	1
Fluoranthene	mg/kg (ppm)	0.83	<0.01	90	92	50-150	2
Pyrene	mg/kg (ppm)	0.83	<0.01	89	87	50-150	2
Benzyl butyl phthalate	mg/kg (ppm)	0.83	<0.5	75	72	50-150	4
Benz(a)anthracene	mg/kg (ppm)	0.83	<0.01	83	84	50-150	1
Chrysene	mg/kg (ppm)	0.83	<0.01	84	84	50-150	0
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.83	<0.8	91	92	45-130	1
Di-n-octyl phthalate	mg/kg (ppm)	0.83	<0.5	103	97	25-160	6
Benzo(a)pyrene	mg/kg (ppm)	0.83	<0.01	104	103	50-150	1
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	<0.01	103	100	50-150	3
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	<0.01	96	94	50-150	2
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	<0.01	77	82	41-134	6
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	<0.01	76	80	44-130	5
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	<0.01	67	71	33-131	6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/14/21

Date Received: 08/31/21

Project: TWAFAA, F&BI 108514

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR SEMIVOLATILES BY EPA METHOD 8270E**

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Phenol	mg/kg (ppm)	0.83	96	47-128
Bis(2-chloroethyl) ether	mg/kg (ppm)	0.83	83	35-131
2-Chlorophenol	mg/kg (ppm)	0.83	85	58-111
1,3-Dichlorobenzene	mg/kg (ppm)	0.83	79	52-105
1,4-Dichlorobenzene	mg/kg (ppm)	0.83	80	53-106
1,2-Dichlorobenzene	mg/kg (ppm)	0.83	79	54-105
Benzyl alcohol	mg/kg (ppm)	2.5	86	36-147
2,2'-Oxybis(1-chloropropane)	mg/kg (ppm)	0.83	85	58-97
2-Methylphenol	mg/kg (ppm)	0.83	86	65-107
Hexachloroethane	mg/kg (ppm)	0.83	80	58-107
N-Nitroso-di-n-propylamine	mg/kg (ppm)	0.83	90	70-130
3-Methylphenol + 4-Methylphenol	mg/kg (ppm)	0.83	90	67-109
Nitrobenzene	mg/kg (ppm)	0.83	79	63-112
Isophorone	mg/kg (ppm)	0.83	89	52-128
2-Nitrophenol	mg/kg (ppm)	0.83	91	62-119
2,4-Dimethylphenol	mg/kg (ppm)	0.83	83	53-119
Benzoic acid	mg/kg (ppm)	3.2	81	13-223
Bis(2-chloroethoxy)methane	mg/kg (ppm)	0.83	87	65-108
2,4-Dichlorophenol	mg/kg (ppm)	0.83	87	67-109
1,2,4-Trichlorobenzene	mg/kg (ppm)	0.83	82	58-109
Naphthalene	mg/kg (ppm)	0.83	81	58-108
Hexachlorobutadiene	mg/kg (ppm)	0.83	80	55-108
4-Chloroaniline	mg/kg (ppm)	2.5	68	10-136
4-Chloro-3-methylphenol	mg/kg (ppm)	0.83	89	70-130
2-Methylnaphthalene	mg/kg (ppm)	0.83	88	67-108
1-Methylnaphthalene	mg/kg (ppm)	0.83	85	66-107
Hexachlorocyclopentadiene	mg/kg (ppm)	0.83	86	46-127
2,4,6-Trichlorophenol	mg/kg (ppm)	0.83	94	65-116
2,4,5-Trichlorophenol	mg/kg (ppm)	0.83	92	67-117
2-Chloronaphthalene	mg/kg (ppm)	0.83	87	67-109
2-Nitroaniline	mg/kg (ppm)	2.5	78	46-148
Dimethyl phthalate	mg/kg (ppm)	0.83	85	70-130
Acenaphthylene	mg/kg (ppm)	0.83	91	70-130
2,6-Dinitrotoluene	mg/kg (ppm)	0.83	91	70-130
Acenaphthene	mg/kg (ppm)	0.83	81	66-112
2,4-Dinitrophenol	mg/kg (ppm)	1.7	105	10-233
Dibenzofuran	mg/kg (ppm)	0.83	77	63-117
2,4-Dinitrotoluene	mg/kg (ppm)	0.83	75	63-137
4-Nitrophenol	mg/kg (ppm)	1.7	100	16-187
Diethyl phthalate	mg/kg (ppm)	0.83	87	64-120
Fluorene	mg/kg (ppm)	0.83	89	67-117
4-Chlorophenyl phenyl ether	mg/kg (ppm)	0.83	88	70-130
N-Nitrosodiphenylamine	mg/kg (ppm)	0.83	89	70-130
4-Nitroaniline	mg/kg (ppm)	2.5	83	45-150
4,6-Dinitro-2-methylphenol	mg/kg (ppm)	0.83	105	51-152
4-Bromophenyl phenyl ether	mg/kg (ppm)	0.83	88	70-130
Hexachlorobenzene	mg/kg (ppm)	0.83	75	70-130
Pentachlorophenol	mg/kg (ppm)	0.83	106	60-133
Phenanthrene	mg/kg (ppm)	0.83	87	70-130
Anthracene	mg/kg (ppm)	0.83	87	70-130
Carbazole	mg/kg (ppm)	0.83	94	70-130
Di-n-butyl phthalate	mg/kg (ppm)	0.83	102	55-123
Fluoranthene	mg/kg (ppm)	0.83	95	70-130
Pyrene	mg/kg (ppm)	0.83	93	70-130
Benzyl butyl phthalate	mg/kg (ppm)	0.83	80	67-119
Benz(a)anthracene	mg/kg (ppm)	0.83	87	70-130
Chrysene	mg/kg (ppm)	0.83	90	70-130
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.83	86	59-116
Di-n-octyl phthalate	mg/kg (ppm)	0.83	78	46-129
Benzo(a)pyrene	mg/kg (ppm)	0.83	107	68-120
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	98	69-125
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	98	70-130
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	97	67-129
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	97	67-128
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	91	64-127

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/14/21

Date Received: 08/31/21

Project: TWAFAA, F&BI 108514

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 109026-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	1	<0.5	20	22	10-142	10
Chloromethane	mg/kg (ppm)	1	<0.5	48	49	10-126	2
Vinyl chloride	mg/kg (ppm)	1	<0.05	50	52	10-138	4
Bromomethane	mg/kg (ppm)	1	<0.5	74	74	10-163	0
Chloroethane	mg/kg (ppm)	1	<0.5	69	68	10-176	1
Trichlorofluoromethane	mg/kg (ppm)	1	<0.5	58	62	10-176	7
Acetone	mg/kg (ppm)	5	<5	90	87	10-163	3
1,1-Dichloroethene	mg/kg (ppm)	1	<0.05	70	71	10-160	1
Hexane	mg/kg (ppm)	1	<0.25	56	61	10-137	9
Methylene chloride	mg/kg (ppm)	1	<0.5	59	63	10-156	7
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	1	<0.05	82	84	21-145	2
trans-1,2-Dichloroethene	mg/kg (ppm)	1	<0.05	78	79	14-137	1
1,1-Dichloroethane	mg/kg (ppm)	1	<0.05	79	80	19-140	1
2,2-Dichloropropane	mg/kg (ppm)	1	<0.05	93	99	10-158	6
cis-1,2-Dichloroethene	mg/kg (ppm)	1	<0.05	88	90	25-135	2
Chloroform	mg/kg (ppm)	1	<0.05	83	86	21-145	4
2-Butanone (MEK)	mg/kg (ppm)	5	<1	87	85	19-147	2
1,2-Dichloroethane (EDC)	mg/kg (ppm)	1	<0.05	83	84	12-160	1
1,1,1-Trichloroethane	mg/kg (ppm)	1	<0.05	82	84	10-156	2
1,1-Dichloropropene	mg/kg (ppm)	1	<0.05	83	84	17-140	1
Carbon tetrachloride	mg/kg (ppm)	1	<0.05	80	84	9-164	5
Benzene	mg/kg (ppm)	1	<0.03	83	86	29-129	4
Trichloroethene	mg/kg (ppm)	1	<0.02	85	84	21-139	1
1,2-Dichloropropane	mg/kg (ppm)	1	<0.05	83	87	30-135	5
Bromodichloromethane	mg/kg (ppm)	1	<0.05	82	82	23-155	0
Dibromomethane	mg/kg (ppm)	1	<0.05	84	87	23-145	4
4-Methyl-2-pentanone	mg/kg (ppm)	5	<1	91	92	24-155	1
cis-1,3-Dichloropropene	mg/kg (ppm)	1	<0.05	89	90	28-144	1
Toluene	mg/kg (ppm)	1	<0.05	85	85	35-130	0
trans-1,3-Dichloropropene	mg/kg (ppm)	1	<0.05	86	88	26-149	2
1,1,2-Trichloroethane	mg/kg (ppm)	1	<0.05	86	87	10-205	1
2-Hexanone	mg/kg (ppm)	5	<0.5	76	71	15-166	7
1,3-Dichloropropane	mg/kg (ppm)	1	<0.05	85	85	31-137	0
Tetrachloroethene	mg/kg (ppm)	1	<0.025	91	90	20-133	1
Dibromochloromethane	mg/kg (ppm)	1	<0.05	80	80	28-150	0
1,2-Dibromoethane (EDB)	mg/kg (ppm)	1	<0.05	85	87	28-142	2
Chlorobenzene	mg/kg (ppm)	1	<0.05	88	87	32-129	1
Ethylbenzene	mg/kg (ppm)	1	<0.05	87	87	32-137	0
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	1	<0.05	83	85	31-143	2
m,p-Xylene	mg/kg (ppm)	2	<0.1	90	89	34-136	1
o-Xylene	mg/kg (ppm)	1	<0.05	87	86	33-134	1
Styrene	mg/kg (ppm)	1	<0.05	89	89	35-137	0
Isopropylbenzene	mg/kg (ppm)	1	<0.05	90	90	31-142	0
Bromoform	mg/kg (ppm)	1	<0.05	88	87	21-156	1
n-Propylbenzene	mg/kg (ppm)	1	<0.05	85	88	23-146	3
Bromobenzene	mg/kg (ppm)	1	<0.05	84	87	34-130	4
1,3,5-Trimethylbenzene	mg/kg (ppm)	1	<0.05	86	89	18-149	3
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	1	<0.05	84	89	28-140	6
1,2,3-Trichloropropane	mg/kg (ppm)	1	<0.05	88	89	25-144	1
2-Chlorotoluene	mg/kg (ppm)	1	<0.05	83	86	31-134	4
4-Chlorotoluene	mg/kg (ppm)	1	<0.05	84	86	31-136	2
tert-Butylbenzene	mg/kg (ppm)	1	<0.05	85	89	30-137	5
1,2,4-Trimethylbenzene	mg/kg (ppm)	1	<0.05	84	86	10-182	2
sec-Butylbenzene	mg/kg (ppm)	1	<0.05	86	89	23-145	3
p-Isopropyltoluene	mg/kg (ppm)	1	<0.05	88	90	21-149	2
1,3-Dichlorobenzene	mg/kg (ppm)	1	<0.05	84	86	30-131	2
1,4-Dichlorobenzene	mg/kg (ppm)	1	<0.05	85	87	29-129	2
1,2-Dichlorobenzene	mg/kg (ppm)	1	<0.05	86	88	31-132	2
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	1	<0.5	79	78	11-161	1
1,2,4-Trichlorobenzene	mg/kg (ppm)	1	<0.25	89	91	22-142	2
Hexachlorobutadiene	mg/kg (ppm)	1	<0.25	94	93	10-142	1
Naphthalene	mg/kg (ppm)	1	<0.05	83	85	14-157	2
1,2,3-Trichlorobenzene	mg/kg (ppm)	1	<0.25	88	86	20-144	2



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/14/21

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Project: TWAFAA, F&BI 108514

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	1	70	10-146
Chloromethane	mg/kg (ppm)	1	81	27-133
Vinyl chloride	mg/kg (ppm)	1	92	22-139
Bromomethane	mg/kg (ppm)	1	102	38-114
Chloroethane	mg/kg (ppm)	1	99	9-163
Trichlorofluoromethane	mg/kg (ppm)	1	102	10-196
Acetone	mg/kg (ppm)	5	92	52-141
1,1-Dichloroethene	mg/kg (ppm)	1	103	47-128
Hexane	mg/kg (ppm)	1	101	43-142
Methylene chloride	mg/kg (ppm)	1	116	10-184
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	1	104	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	1	109	67-129
1,1-Dichloroethane	mg/kg (ppm)	1	104	68-115
2,2-Dichloropropane	mg/kg (ppm)	1	132	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	1	114	72-127
Chloroform	mg/kg (ppm)	1	108	66-120
2-Butanone (MEK)	mg/kg (ppm)	5	79	30-197
1,2-Dichloroethane (EDC)	mg/kg (ppm)	1	102	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	1	108	62-131
1,1-Dichloropropene	mg/kg (ppm)	1	107	69-128
Carbon tetrachloride	mg/kg (ppm)	1	106	60-139
Benzene	mg/kg (ppm)	1	103	71-118
Trichloroethene	mg/kg (ppm)	1	104	63-121
1,2-Dichloropropane	mg/kg (ppm)	1	97	72-127
Bromodichloromethane	mg/kg (ppm)	1	96	57-126
Dibromomethane	mg/kg (ppm)	1	104	62-123
4-Methyl-2-pentanone	mg/kg (ppm)	5	96	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	1	95	67-122
Toluene	mg/kg (ppm)	1	102	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	1	94	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	1	99	64-115
2-Hexanone	mg/kg (ppm)	5	67	33-152
1,3-Dichloropropane	mg/kg (ppm)	1	97	72-130
Tetrachloroethene	mg/kg (ppm)	1	112	72-114
Dibromochloromethane	mg/kg (ppm)	1	93	55-121
1,2-Dibromoethane (EDB)	mg/kg (ppm)	1	99	74-132
Chlorobenzene	mg/kg (ppm)	1	103	76-111
Ethylbenzene	mg/kg (ppm)	1	105	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	1	108	64-121
m,p-Xylene	mg/kg (ppm)	2	108	78-122
o-Xylene	mg/kg (ppm)	1	107	77-124
Styrene	mg/kg (ppm)	1	104	74-126
Isopropylbenzene	mg/kg (ppm)	1	112	76-127
Bromoform	mg/kg (ppm)	1	95	56-132
n-Propylbenzene	mg/kg (ppm)	1	103	74-124
Bromobenzene	mg/kg (ppm)	1	100	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	1	106	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	1	101	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	1	100	61-137
2-Chlorotoluene	mg/kg (ppm)	1	102	74-121
4-Chlorotoluene	mg/kg (ppm)	1	99	75-122
tert-Butylbenzene	mg/kg (ppm)	1	105	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	1	102	76-125
sec-Butylbenzene	mg/kg (ppm)	1	105	71-130
p-Isopropyltoluene	mg/kg (ppm)	1	106	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	1	101	75-121
1,4-Dichlorobenzene	mg/kg (ppm)	1	100	74-117
1,2-Dichlorobenzene	mg/kg (ppm)	1	104	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	1	93	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	1	117	64-135
Hexachlorobutadiene	mg/kg (ppm)	1	111	50-153
Naphthalene	mg/kg (ppm)	1	111	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	1	116	63-138

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/14/21

Date Received: 08/31/21

Project: TWAFAA, F&BI 108514

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 109004-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance Criteria
				Recovery MS	
Dichlorodifluoromethane	ug/L (ppb)	10	<1	113	10-172
Chloromethane	ug/L (ppb)	10	<10	95	25-166
Vinyl chloride	ug/L (ppb)	10	<0.2	102	36-166
Bromomethane	ug/L (ppb)	10	<5	144	47-169
Chloroethane	ug/L (ppb)	10	<1	116	46-160
Trichlorofluoromethane	ug/L (ppb)	10	<1	112	44-165
Acetone	ug/L (ppb)	50	<50	97	10-182
1,1-Dichloroethene	ug/L (ppb)	10	<1	103	58-142
Hexane	ug/L (ppb)	10	<5	58	38-152
Methylene chloride	ug/L (ppb)	10	<5	99	50-145
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	99	61-136
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	102	61-136
1,1-Dichloroethane	ug/L (ppb)	10	<1	97	63-135
2,2-Dichloropropane	ug/L (ppb)	10	<1	120	36-154
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	104	63-134
Chloroform	ug/L (ppb)	10	<1	100	61-135
2-Butanone (MEK)	ug/L (ppb)	50	<20	86	10-129
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<1	97	48-149
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	102	60-146
1,1-Dichloropropene	ug/L (ppb)	10	<1	101	69-133
Carbon tetrachloride	ug/L (ppb)	10	<1	100	56-152
Benzene	ug/L (ppb)	10	<0.35	88	57-135
Trichloroethene	ug/L (ppb)	10	<1	109	66-135
1,2-Dichloropropane	ug/L (ppb)	10	<1	98	59-136
Bromodichloromethane	ug/L (ppb)	10	<1	96	61-150
Dibromomethane	ug/L (ppb)	10	<1	98	66-141
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	93	10-185
cis-1,3-Dichloropropene	ug/L (ppb)	10	<1	102	52-147
Toluene	ug/L (ppb)	10	<1	86	50-137
trans-1,3-Dichloropropene	ug/L (ppb)	10	<1	100	53-142
1,1,2-Trichloroethane	ug/L (ppb)	10	<1	98	68-131
2-Hexanone	ug/L (ppb)	50	<10	66	10-185
1,3-Dichloropropane	ug/L (ppb)	10	<1	96	60-135
Tetrachloroethene	ug/L (ppb)	10	<1	102	10-226
Dibromochloromethane	ug/L (ppb)	10	<1	93	52-145
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	98	62-135
Chlorobenzene	ug/L (ppb)	10	<1	95	63-130
Ethylbenzene	ug/L (ppb)	10	<1	92	60-133
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	97	56-143
m,p-Xylene	ug/L (ppb)	20	<2	86	69-135
o-Xylene	ug/L (ppb)	10	<1	95	60-140
Styrene	ug/L (ppb)	10	<1	94	60-133
Isopropylbenzene	ug/L (ppb)	10	<1	95	65-142
Bromoform	ug/L (ppb)	10	<5	101	54-148
n-Propylbenzene	ug/L (ppb)	10	<1	95	58-144
Bromobenzene	ug/L (ppb)	10	<1	95	61-130
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	92	59-134
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<1	89	51-154
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	100	53-150
2-Chlorotoluene	ug/L (ppb)	10	<1	92	66-127
4-Chlorotoluene	ug/L (ppb)	10	<1	90	65-130
tert-Butylbenzene	ug/L (ppb)	10	<1	96	65-137
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	71	59-146
sec-Butylbenzene	ug/L (ppb)	10	<1	98	64-140
p-Isopropyltoluene	ug/L (ppb)	10	<1	56 vo	65-141
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	96	60-131
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	99	60-129
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	96	60-130
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	92	32-164
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	104	52-138
Hexachlorobutadiene	ug/L (ppb)	10	<1	102	60-143
Naphthalene	ug/L (ppb)	10	<1	80	44-164
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	103	69-148

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/14/21

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Project: TWAFAA, F&BI 108514

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	119	120	25-158	1
Chloromethane	ug/L (ppb)	10	98	98	45-156	0
Vinyl chloride	ug/L (ppb)	10	105	105	50-154	0
Bromomethane	ug/L (ppb)	10	146 vo	143	55-143	2
Chloroethane	ug/L (ppb)	10	119	121	58-146	2
Trichlorofluoromethane	ug/L (ppb)	10	112	114	50-150	2
Acetone	ug/L (ppb)	50	43	43	22-155	0
1,1-Dichloroethene	ug/L (ppb)	10	108	109	67-136	1
Hexane	ug/L (ppb)	10	102	101	57-137	1
Methylene chloride	ug/L (ppb)	10	106	105	19-178	1
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	98	99	64-147	1
trans-1,2-Dichloroethene	ug/L (ppb)	10	104	103	68-128	1
1,1-Dichloroethane	ug/L (ppb)	10	100	98	74-135	2
2,2-Dichloropropane	ug/L (ppb)	10	126	123	55-143	2
cis-1,2-Dichloroethene	ug/L (ppb)	10	107	106	74-136	1
Chloroform	ug/L (ppb)	10	101	101	74-134	0
2-Butanone (MEK)	ug/L (ppb)	50	65	64	37-150	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	98	98	66-129	0
1,1,1-Trichloroethane	ug/L (ppb)	10	105	104	74-142	1
1,1-Dichloropropene	ug/L (ppb)	10	102	103	77-129	1
Carbon tetrachloride	ug/L (ppb)	10	104	104	75-158	0
Benzene	ug/L (ppb)	10	102	100	69-134	2
Trichloroethene	ug/L (ppb)	10	99	100	67-133	1
1,2-Dichloropropane	ug/L (ppb)	10	98	98	71-134	0
Bromodichloromethane	ug/L (ppb)	10	97	97	66-126	0
Dibromomethane	ug/L (ppb)	10	99	101	68-132	2
4-Methyl-2-pentanone	ug/L (ppb)	50	100	99	65-138	1
cis-1,3-Dichloropropene	ug/L (ppb)	10	104	100	74-140	4
Toluene	ug/L (ppb)	10	98	97	72-122	1
trans-1,3-Dichloropropene	ug/L (ppb)	10	102	98	80-136	4
1,1,2-Trichloroethane	ug/L (ppb)	10	98	95	75-124	3
2-Hexanone	ug/L (ppb)	50	80	77	60-136	4
1,3-Dichloropropane	ug/L (ppb)	10	97	94	76-126	3
Tetrachloroethene	ug/L (ppb)	10	105	101	76-121	4
Dibromochloromethane	ug/L (ppb)	10	98	92	84-133	6
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	98	98	82-115	0
Chlorobenzene	ug/L (ppb)	10	99	98	83-114	1
Ethylbenzene	ug/L (ppb)	10	99	98	77-124	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	97	98	84-127	1
m,p-Xylene	ug/L (ppb)	20	101	100	81-112	1
o-Xylene	ug/L (ppb)	10	100	98	81-121	2
Styrene	ug/L (ppb)	10	101	98	84-119	3
Isopropylbenzene	ug/L (ppb)	10	101	100	80-117	1
Bromoform	ug/L (ppb)	10	107	102	69-121	5
n-Propylbenzene	ug/L (ppb)	10	98	98	74-126	0
Bromobenzene	ug/L (ppb)	10	98	98	80-121	0
1,3,5-Trimethylbenzene	ug/L (ppb)	10	99	100	78-123	1
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	103	102	66-126	1
1,2,3-Trichloropropane	ug/L (ppb)	10	100	99	67-124	1
2-Chlorotoluene	ug/L (ppb)	10	96	96	77-127	0
4-Chlorotoluene	ug/L (ppb)	10	96	95	78-128	1
tert-Butylbenzene	ug/L (ppb)	10	98	98	80-123	0
1,2,4-Trimethylbenzene	ug/L (ppb)	10	95	95	79-122	0
sec-Butylbenzene	ug/L (ppb)	10	98	98	80-116	0
p-Isopropyltoluene	ug/L (ppb)	10	98	99	81-123	1
1,3-Dichlorobenzene	ug/L (ppb)	10	97	97	83-113	0
1,4-Dichlorobenzene	ug/L (ppb)	10	98	98	81-112	0
1,2-Dichlorobenzene	ug/L (ppb)	10	98	99	84-112	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	94	92	57-141	2
1,2,4-Trichlorobenzene	ug/L (ppb)	10	101	101	72-130	0
Hexachlorobutadiene	ug/L (ppb)	10	98	101	53-141	3
Naphthalene	ug/L (ppb)	10	99	99	64-133	0
1,2,3-Trichlorobenzene	ug/L (ppb)	10	99	100	65-136	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF SOIL SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: 109026-01 1/6 (Matrix Spike) 1/6

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Control Limits	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.25	<0.02	82	82	29-125	0
Aroclor 1260	mg/kg (ppm)	0.25	<0.02	85	83	25-137	2

Laboratory Code: Laboratory Control Sample 1/6

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	mg/kg (ppm)	0.25	78	55-137
Aroclor 1260	mg/kg (ppm)	0.25	86	51-150

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

108514

SAMPLE CHAIN OF CUSTODY

ME 08/31/21

WVA/US/187

Report To TRAVOR LOWMYER, ANTHONY CELESTIN

Company DOF

Address 1001 SW KLUCKLITZT WAY SUITE 2008

City, State, ZIP SEATTLE, WA 98114

Phone T 206 460 375-0301 Email TRAVOR.L@DOFNW.COM

T LOWMYER (925) 785-6372 ANTHONY@DOFNW.COM

SAMPLERS (signature) Anthony Smith

PROJECT NAME TWAFAA

PO #

REMARKS

INVOICE TO

Project specific RIS? - Yes / No

Page # 1 of 1

TURNAROUND TIME

Standard turnaround

RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

Archive samples

Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED											Notes
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	SVOCs EPA 8270	METALS BY 6020/4047*	METALS: Zn, Mn, Se, As, Cd, Cr, Cu, Pb, Ni, Hg		
TWA-SBS	61A-E	8/31/2021	1345	SOIL	6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
TRIP BLANK	02A-B			WATER	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>							
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SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	<u>Tavor Lowmyer</u>	<u>DOF</u>	<u>8/31/21</u>	<u>1545</u>
<u>[Signature]</u>	<u>VWA</u>	<u>EB</u>	<u>8/31/21</u>	<u>1545</u>
Received by:				
Relinquished by:				
Received by:				
Relinquished by:				

Friedman & Bruya, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029  
Ph. (206) 285-8282

## QA/QC SOLUTIONS, LLC



James J. Mc Ateer, Jr., BS, MRSC  
Managing Member  
7532 Champion Hill Rd. SE  
Salem, Oregon 97306  
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March 1, 2022

Tasya Gray, LG  
DOF Dalton, Olmsted & Fuglevand  
1001 SW Klickitat Way, Suite 200B  
Seattle, Washington 98134

Subject: Taylor Way and Alexander Ave Fill Area (TWAAFA) Site - CleanCare Deep GW and Soil Sampling Data Validation Summary  
Client Project No., Task Order No.: Not Specified, Task No. 2  
QA/QC Solutions, LLC Project No.: 122321.1

Dear Tasya:

This letter documents the results of the data validation summary of selected organic compounds and elements completed on groundwater samples associated with the October and December sampling events associated with the Taylor Way and Alexander Ave Fill Area (TWAAFA) Site - CleanCare Taylor Way and Alexander Ave Fill Area (TWAAFA) Site Deep GW and Soil Sampling located in Tacoma, Washington.

The available data were validated to verify applicable laboratory quality assurance and quality control (QA/QC) measurements were reported, documented, and of sufficient quality to support its intended purpose(s). A summary of the overall assessment of data quality, the data set, a summary of the analytical methods used to complete the chemical analyses, a summary of the data validation procedures used, and a summary of the reasons why data were qualified (including other items noted during data validation) is presented below.

### Overall Assessment of Data Quality

Overall, the data reported are of good quality (with the exception of data that were rejected) and the results for the applicable QA/QC measurements that were used by the laboratories during the analysis of the samples were generally acceptable. Some sample results required qualification during data validation because method-specific QA/QC criteria were not met; results maybe qualified for more than one reason. During data validation the following actions were taken:

- A total of 3 results reported as detected required qualification as estimated and were assigned a *J* data validation qualifier.
- A total of 2 results reported as detected required qualification as estimated with an associated negative bias and were assigned a *J-* data validation qualifier.
- A total of 11 results reported as detected required qualification as tentatively identified and estimated and were assigned a *NJ* data validation qualifier.

- A total of 12 results reported as undetected required qualification as estimated and were assigned a *UJ* data validation qualifier,
- A total of 124 results reported as undetected and 1 result that was restated as undetected required qualification as estimated with an associated negative bias and were assigned a *UJ-* data validation qualifier,
- A total of 9 results reported as detected required restatement as undetected and were assigned a *U* data validation qualifier,
- A total of 52 results reported as undetected required rejection and were assigned a *R* data validation qualifier,

Analytical data that did not meet method- and/or laboratory-established control limits for applicable quality control measurements were qualified as estimated (*J*, *NJ*, *UJ*, or *UJ-*) by the laboratory or during data validation. These qualified data are usable and represent data of good quality and reasonable confidence and have an acceptable degree of uncertainty (i.e., may be less precise or less accurate than unqualified data). Sample results that were rejected (*R*) may not be usable for their intended purpose at the reporting limits reported.

## Data Set

The data set consisted of 10 groundwater, 9 trip blank, and 2 equipment blank samples that were collected on in October and December 2021.

Analyses were completed by Friedman & Bruya, Inc. Environmental Chemists located in Seattle, Washington. The laboratory submitted 10 hardcopy data validation deliverable and electronic data deliverable (EDDs).

## Analytical Methods

The analytical methods used to complete the chemical analyses are listed as follows and are also listed in Table 1.

- Gasoline-range petroleum hydrocarbons by purge and trap and analysis by gas chromatography/flame ionization detection (GC/FID) using the Washington Department of Ecology NWTPH-Gx method (Ecology 1997).
- Diesel- and oil-range petroleum hydrocarbons by extraction and analysis by GC/FID using the Washington Department of Ecology NWTPH-Dx (extended) method (Ecology 1997).
- Total metals (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, nickel, selenium, silver, thallium, vanadium, and zinc) by digestion and analysis by inductively coupled plasma-mass spectrometry (ICP-MS) EPA Method 6020B (U.S. EPA 2021).
- Total mercury by oxidation, purge and trap, and Cold Vapor Atomic Fluorescence Spectrometry by Method 1631, Revision E (U.S. EPA 2002a).
- Volatile organic compounds (VOCs) for 63 target analytes (including co-eluting VOCs) by purge and trap and analysis by GC/MS using U.S. EPA SW-846 Method 8260D, respectively (U.S. EPA 2021).



- Semivolatile organic compounds (SVOCs) for 66 target analytes (including co-eluting SVOCs) by extraction and analysis by gas chromatography/mass spectrometry (GC/MS) using U.S. EPA SW-846 Method 8270E (U.S. EPA 2021).
- Polychlorinated biphenyls (PCBs) for nine Aroclors<sup>®</sup> mixtures by extraction and analysis by gas chromatography/electron capture detection (GC/ECD) using U.S. EPA SW-846 method 8082A (U.S. EPA 2020).

## Data Validation Procedures

Data validation procedures included evaluating a summary of the sample results and applicable quality control results reported by the laboratory; this level of validation is also referred to as an abbreviated data review (equivalent to “Stage 2A/2B” review per U.S. EPA 2009). The analytical data were validated generally following the applicable guidance and requirements:

- Method-specific and laboratory-established quality control requirements, as applicable.
- Guidance on Environmental Data Verification and Validation (U.S. EPA 2002b)
- Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use. OSWER No. 9200.1-85. EPA 540-R-08-005. (U.S. EPA 2009).
- National Functional Guidelines for Organic Superfund Methods Data Review. OLEM 9240.0-51 EPA 540-R-20-005 November 2020 OLEM 9355.0-136. USEPA-540-R-2017-002. June 2017. U.S. Environmental Protection Agency (EPA), Office of Superfund Remediation and Technology Innovation (OSRTI), Washington, DC. (U.S. EPA 2020a).
- National Functional Guidelines for Inorganic Data Superfund Data Review. Final. OLEM 9240.1-66 EPA 542-R-20-006 November 2020. U.S. Environmental Protection Agency (EPA), Office of Superfund Remediation and Technology Innovation (OSRTI), Washington, DC. (U.S. EPA 2020b).

The laboratory data deliverables that were validated and available for review included the following:

- Case narratives discussing analytical problems (if any) and procedures.
- Chain-of-custody documentation to verify completeness of the data set.
- Sample preparation logs or laboratory summary result forms to verify analytical holding times were met.
- Results for applicable method blanks, trip blanks, and equipment blanks to determine whether an analyte that may have been reported as detected in a sample was the result of possible contamination introduced at the laboratory or during transport of samples, respectively.
- Results for applicable surrogate compound, laboratory control sample (LCS) (i.e., blank spike), duplicate LCS, matrix spike (MS), and matrix spike duplicate (MSD) recoveries to assess analytical accuracy.
- Results for applicable laboratory duplicate sample, duplicate LCS, and MSD analyses to assess analytical precision as are applicable
- Laboratory summary of analytical results.

Verification and validation of 100-percent of all applicable laboratory calculations, transcriptions, review of instrument printouts, and review of bench sheets were not completed during the data validation review. There may be analytical problems that could only be identified by reviewing every instrument printout and associated analytical quality control results. Verification of all possible factors that could result in the degradation of data quality was not completed nor should be inferred at this time. The laboratory case narratives did not indicate any significant problems with data that were not reviewed during data validation. The adequacy of the sampling procedures was not completed during the data validation.

Performance based control limits established by the laboratory, applicable control limits specified in the analytical methods, and best professional judgement were used to evaluate data quality and to determine if specific data required qualification. Data qualifiers were assigned during data validation following guidance specified by U.S. EPA (2002b, 2020a, and 2020b) to the EDD when applicable QC measurement criteria were not met and qualification of the data was warranted.

## Reasons for Data Qualification

The reasons for qualification of samples results are summarized in Table 2 (Summary of Qualified Data).

### General Comments:

- Results were reported as not detected at the reporting limit.
- One result was reported as detected at a concentration below the reporting limit.
- Several results reported as detected for diesel- and motor oil-range petroleum hydrocarbons were qualified as tentatively identified and estimated (*NJ*) because the sample chromatographic pattern does not resemble the fuel standard used for quantitation.
- Several results reported for thallium were reported as undetected at reporting limits that were below the lowest instrument calibration standard. There is a greater degree of uncertainty associated with the affected data.
- For the analysis of SVOCs, there is an apparent systematic negative bias associated with the phenols and benzoic acid as determined by the recoveries of 2 of the 3 acid (i.e., phenol) surrogate compounds and three of the acid compound LCS recoveries. A summary of the average sample, method blank, and LCS recoveries for the affected acid compounds is as follows (note, there were several batch method blank and LCS data and were not used in the calculations summarized below).

<b>Compound</b>	<b>No. Data Points</b>	<b>Average Recovery</b>	<b>Standard Deviation</b>	<b>%RSD</b>
2-Fluorophenol (surrogate)	N=24	12.9 percent	3.08	28.5
Phenol-d6 (surrogate)	N=24	9.2 percent	1.35	14.7
Phenol (LCSs)	N=6	7.8 percent	0.75	9.7
Benzoic Acid (LCSs)	N=6	3.7 percent	3.14	11.9
4-Nitrophenol (LCSs)	N=4	6.25 percent	3.0	48

- Based on the apparent systematic negative bias associated with the recoveries for 2 of the 3 acid surrogate compound and the recoveries of

three acid in associated LCSs sample results were qualified based on best professional judgement as undetected and estimated (*UJ*-) and/or rejected (*R*) if the LCS recoveries were <10 percent. A complete summary of the affected data may be found in Table 2.

- Two results reported as detected for diethyl phthalate required reanalysis because the original concentrations exceeded the calibration range of the instrument. Only the reanalysis results were used.

This concludes the data validation review. Should you have any questions regarding the information presented herein, please contact me by telephone at 503.763.6948 or by e-mail at [jjmcateer@msn.com](mailto:jjmcateer@msn.com).

Cordially,



James J. Mc Ateer, Jr., BS, MRSC  
Managing Member

cc: Trevor Louviere, DOF Dalton, Olmsted & Fuglevand, Inc.

Attachment

## References

Ecology. 1997. Analytical methods for petroleum hydrocarbons. June 1997. Washington Department of Ecology, Olympia, WA.

U.S. EPA 2002b. Method 1631, Revision E: Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence Spectrometry. EPA-821-R-02-019. August 2002. U.S. Environmental Protection Agency, Office of Water, Washington, DC

U.S. EPA 2002b. Guidance on Environmental Data Verification and Data Validation. EPA QA/G-8. EPA/240/R-02/004. November 2002. U.S. Environmental Protection Agency, Office of Environmental Information, Washington DC.

U.S. EPA 2009. Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use. OSWER No. 9200.1-85. EPA 540-R-08-005. January 13, 2009. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, DC.

U.S. EPA 2020a. National Functional Guidelines for Organic Superfund Methods Data Review. Final. OLEM 9240.0-51 EPA 542-R-20-007. November 2020. Office of Superfund Remediation and Technology Innovation (OSRTI), U.S. Environmental Protection Agency.

U.S. EPA 2020b. National Functional Guidelines for Inorganic Data Superfund Data Review. Final. OLEM 9240.1-66 EPA 542-R-20-006. November 2020. Office of Superfund Remediation and Technology Innovation (OSRTI), U.S. Environmental Protection Agency.

U.S. EPA 2021. SW-846 on-line. Test methods for evaluating solid wastes, physical/chemical methods. <https://www.epa.gov/hw-sw846/sw-846-compendium> (last updated on July 30, 2021). U.S. Environmental Protection Agency, Office of Solid Waste, Washington, DC.

**Table 1. Summary of Samples Collected and Analyses Completed**

Sample Number	Laboratory ID	Date Collected	Time Collected	Gasoline-Range	Diesel- and Oil-Range	Metals by	Total Mercury	VOCs by SW-	SVOCs by SW-	PCBs by
				Hydrocarbons by WDOE NWTPH-Gx	Hydrocarbons by WDOE NWTPH-Dx, ext. w/ and/or w/o silica gel	SW-846 6020B		846 8260D	846 8270E*	SW-846 8082A
TWA-7_40_42_1221	112142-01	12/08/21	1230	✓	✓	✓	✓	✓	✓	✓
Trip Blank	112142-02	12/08/21	na	-	-	-	-	✓	-	-
TWA-EB1-1021	110326-01	10/15/21	1330	✓	✓	✓	✓	✓	✓	✓
TRIP BLANK	112142-02	10/15/21	na	-	-	-	-	✓	-	-
TWA=9_45_47_1021	110235-01	10/12/21	1130	✓	✓	✓	✓	✓	✓	✓
TWA=9_55_57_1021	110235-02	10/12/21	1430	✓	✓	✓	✓	✓	✓	✓
Trip Blank	110235-03	10/12/21	na	-	-	-	-	✓	-	-
TWA-8_20_22_1021	110266-01	10/13/21	1345	✓	✓	✓	✓	✓	✓	✓
Trip Blank	110266-02	10/13/21	na	-	-	-	-	✓	-	-
TWA-8_40_42_1021	110280-01	10/13/21	1700	✓	✓	✓	✓	✓	✓	✓
TWA-8_50_52_1021	110280-02	10/13/21	1000	✓	✓	✓	✓	✓	✓	✓
Trip Blank	110280-03	10/13/21	na	-	-	-	-	✓	-	-
TWA-9_43_1021	11281-01	10/12/21	0945	-	-	-	-	-	-	✓
TWA-4_40_42_1221	112112-01	12/07/21	1245	✓	-	✓	✓	✓	-	-
Trip Blank	112112-02	12/07/21	na	-	-	-	-	✓	-	-
TWA-4_50_52_1221	112116-01	12/07/21	1300	✓	✓	✓	✓	✓	✓	✓
TRIP BLANK	112116-01	12/07/21	na	-	-	-	-	✓	-	-
TWA-7_55_57_1221	112173-01	12/09/21	1030	✓	✓	✓	✓	✓	✓	✓
TRIP BLANK	112173-01	12/09/21	na	-	-	-	-	✓	-	-
TWA-EB2-1221	112213-01	12/09/21	1500	✓	✓	✓	✓	✓	✓	✓
TRIP BLANK	112213-02	12/09/21	-	-	-	-	-	✓	-	-
<b>Notes</b>				<b>11</b>	<b>10</b>	<b>11</b>		<b>21</b>	<b>10</b>	<b>11</b>

Dx - diesel-range and oil-range hydrocarbons  
Gx - gasoline-range hydrocarbons  
NWTPH - Northwest Total Petroleum Hydrocarbons  
PCBs - polychlorinated biphenyls  
SVOC - semivolatle organic compound  
VOC - volatile organic compound  
WDOE - Washington Department of Ecology  
\* - samples for 8270E analyses were filtered at the laboratory

Table 2. Summary of Qualified Data

Sample ID	Chemical	Concentration	Units	Lab Qualifier	Final DV Qualifier	RL	Reason for Qualification
<b><u>Diesel-Range Extended Hydrocarbons</u></b>							
TWA-4_40-42_1221	Diesel Range TPH w/ SG	66	ug/L	x	NJ	50	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
	Diesel Range TPH w/o SG	140	ug/L	x	NJ	50	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
TWA-7_40-42_1221	Diesel Range TPH w/o SG	130	ug/L	x	NJ	50	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
TWA-7_55-57_1221	Diesel Range TPH w/o SG	75	ug/L	x	NJ	50	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
TWA-8_20-22_1021	Diesel Range TPH w/o SG	790	ug/L	x	NJ	50	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
	Motor Oil Range TPH w/o SG	390	ug/L	x	NJ	250	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
TWA-8_40-42_1021	Diesel Range TPH w/o SG	83	ug/L	x	NJ	50	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
TWA-8_50-52_1021	Diesel Range TPH w/o SG	150	ug/L	x	NJ	50	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
TWA-9_45-47_1021	Diesel Range TPH w/o SG	260	ug/L	x	NJ	50	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
TWA-9_55-57_1021	Diesel Range TPH w/ SG	81	ug/L	x	NJ	50	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
	Diesel Range TPH w/o SG	640	ug/L	x	NJ	250	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
<b><u>Metals</u></b>							
TWA-4_50-52_1221	Selenium	44.8	ug/L		J	50	Concentration below reporting limit
TWA-4_40-42_1221	Thallium	<1.56	ug/L	j	UJ	10	The analyte concentration is reported below the lowest calibration standard.
TWA-8_40-42_1021	Thallium	<0.16	ug/L	j	UJ	1.0	The analyte concentration is reported below the lowest calibration standard.
TWA-8_50-52_1021	Thallium	<0.32	ug/L	j	UJ	2.0	The analyte concentration is reported below the lowest calibration standard.
TWA-EB1-1021	Thallium	<0.16	ug/L	j	UJ	0.16	The analyte concentration is reported below the lowest calibration standard.
TWA-9_45-47_1021	Thallium	<0.16	ug/L	j	UJ	0.16	The analyte concentration is reported below the lowest calibration standard.
TWA-9_55-57_1021	Thallium	<0.16	ug/L	j	UJ	0.16	The analyte concentration is reported below the lowest calibration standard.
<b><u>Polychlorinated Biphenyls</u></b>							
TWA-4_50-52_1221	Aroclor 1016	ND	ug/L	U	UJ-	0.0035	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1221	ND	ug/L	U	UJ-	0.0035	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1232	ND	ug/L	U	UJ-	0.0035	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1242	ND	ug/L	U	UJ-	0.0035	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1248	ND	ug/L	U	UJ-	0.0035	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1254	ND	ug/L	U	UJ-	0.0035	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1260	ND	ug/L	U	UJ-	0.0035	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1262	ND	ug/L	U	UJ-	0.0035	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1268	ND	ug/L	U	UJ-	0.0035	Recovery of surrogate compound below lower control limit of 25%
TWA-7_40-42_1221	Aroclor 1016	ND	ug/L	U	UJ-	0.0035	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1221	ND	ug/L	U	UJ-	0.0035	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1232	ND	ug/L	U	UJ-	0.0035	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1242	ND	ug/L	U	UJ-	0.0035	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1248	ND	ug/L	U	UJ-	0.0035	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1254	ND	ug/L	U	UJ-	0.0035	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1260	ND	ug/L	U	UJ-	0.0035	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1262	ND	ug/L	U	UJ-	0.0035	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1268	ND	ug/L	U	UJ-	0.0035	Recovery of surrogate compound below lower control limit of 25%
TWA-8_40-42_1021	Aroclor 1016	ND	ug/L	U	UJ-	0.0038	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1221	ND	ug/L	U	UJ-	0.0038	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1232	ND	ug/L	U	UJ-	0.0038	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1242	ND	ug/L	U	UJ-	0.0038	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1248	ND	ug/L	U	UJ-	0.0038	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1254	ND	ug/L	U	UJ-	0.0038	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1260	ND	ug/L	U	UJ	0.0037	Recovery of surrogate compound below lower control limit of 25%

**Table 2, continued**

	Aroclor 1262	ND	ug/L	U	UJ-	0.0038	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1268	ND	ug/L	U	UJ-	0.0038	Recovery of surrogate compound below lower control limit of 25%
TWA-9_45-47_1021	Aroclor 1016	ND	ug/L	U	UJ-	0.0037	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1221	ND	ug/L	U	UJ-	0.0037	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1232	ND	ug/L	U	UJ-	0.0037	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1242	ND	ug/L	U	UJ-	0.0037	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1248	ND	ug/L	U	UJ-	0.0037	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1254	ND	ug/L	U	UJ-	0.0037	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1260	ND	ug/L	U	UJ-	0.0037	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1262	ND	ug/L	U	UJ-	0.0037	Recovery of surrogate compound below lower control limit of 25%
	Aroclor 1268	ND	ug/L	U	UJ-	0.0037	Recovery of surrogate compound below lower control limit of 25%
<b><u>Volatile Organic Compounds</u></b>							
TRIP BLANK	Methylene chloride	ND	ug/L	ca	UJ	5.0	Calibration results for this analyte was outside of acceptance criteria as noted by laboratory
TWA-EB1-1021	Methylene chloride	7.3	ug/L	ca lc	J	5.0	Calibration results for this analyte was outside of acceptance criteria and presence of the analyte is likely due to laboratory contamination as noted by laboratory
<b><u>Semivolatile Organic Compounds</u></b>							
TWA-4_50-52_1221	Phenol	ND	ug/L	jl	R	1.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent.
	Benzoic acid	ND	ug/L	jl ca	R	5.0	LCS percent recovery and/or RPD were out of control limits. Recoveries <10 percent. Calibration results for this analyte was outside of acceptance criteria as noted by laboratory
	2-Chlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	4-Nitrophenol	ND	ug/L	U	UJ-	3.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2-Methylphenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	3-Methylphenol + 4-Methylphenol	ND	ug/L	U	UJ-	2.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	4,6-Dinitro-2-methylphenol	ND	ug/L	ca	UJ-	3.0	Calibration results for this analyte was outside of acceptance criteria and Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2-Nitrophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2,4-Dimethylphenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2,4-Dinitrophenol	ND	ug/L	ca	UJ-	3.0	Calibration results for this analyte was outside of acceptance criteria and Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	Pentachlorophenol	ND	ug/L	U	UJ-	0.50	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2,4-Dichlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	4-Chloro-3-methylphenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2,4,6-Trichlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2,4,5-Trichlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	Hexachlorocyclopentadiene	ND	ug/L	ca	UJ	0.30	Calibration results for this analyte was outside of acceptance criteria
TWA-7_40-42_1221	Phenol	ND	ug/L	jl	R	1.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent. Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent
	Benzoic acid	ND	ug/L	jl	R	5.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent. Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent
	Di-n-octyl phthalate	ND	ug/L	ca	UJ	1.0	Calibration results for this analyte was outside of acceptance criteria
	2-Chlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent
	2,4-Dinitrophenol	ND	ug/L	U	UJ-	3.0	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent
	4-Nitrophenol	ND	ug/L	U	UJ-	3.0	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent
	2-Methylphenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent
	3-Methylphenol + 4-Methylphenol	ND	ug/L	U	UJ-	2.0	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent
	4,6-Dinitro-2-methylphenol	ND	ug/L	U	UJ-	3.0	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent
	2-Nitrophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent
	2,4-Dimethylphenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent
	Pentachlorophenol	ND	ug/L	U	UJ-	0.50	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent
	2,4-Dichlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent
	4-Chloro-3-methylphenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent
	2,4,6-Trichlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent
	2,4,5-Trichlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent

**Table 2, continued**

TWA-7_55-57_1221	Phenol	ND	ug/L	jl	R	1.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent. Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent.
	Benzoic acid	ND	ug/L	jl	R	5.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent. Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent.
	2-Chlorophenol	ND	ug/L	U	R	1.0	Recoveries of 2 of 3 acid surrogate compounds <10 percent
	2,4-Dinitrophenol	ND	ug/L	U	R	3.0	Recoveries of 2 of 3 acid surrogate compounds <10 percent
	4-Nitrophenol	ND	ug/L	U	R	3.0	Recoveries of 2 of 3 acid surrogate compounds <10 percent
	2-Methylphenol	ND	ug/L	U	R	1.0	Recoveries of 2 of 3 acid surrogate compounds <10 percent
	3-Methylphenol + 4-Methylphenol	ND	ug/L	U	R	2.0	Recoveries of 2 of 3 acid surrogate compounds <10 percent
	4,6-Dinitro-2-methylphenol	ND	ug/L	U	R	3.0	Recoveries of 2 of 3 acid surrogate compounds <10 percent
	2-Nitrophenol	ND	ug/L	U	R	1.0	Recoveries of 2 of 3 acid surrogate compounds <10 percent
	2,4-Dimethylphenol	ND	ug/L	U	R	1.0	Recoveries of 2 of 3 acid surrogate compounds <10 percent
	Pentachlorophenol	ND	ug/L	U	R	0.50	Recoveries of 2 of 3 acid surrogate compounds <10 percent
	2,4-Dichlorophenol	ND	ug/L	U	R	1.0	Recoveries of 2 of 3 acid surrogate compounds <10 percent
	4-Chloro-3-methylphenol	ND	ug/L	U	R	1.0	Recoveries of 2 of 3 acid surrogate compounds <10 percent
	2,4,6-Trichlorophenol	ND	ug/L	U	R	1.0	Recoveries of 2 of 3 acid surrogate compounds <10 percent
	2,4,5-Trichlorophenol	ND	ug/L	U	R	1.0	Recoveries of 2 of 3 acid surrogate compounds <10 percent
	Di-n-octyl phthalate	ND	ug/L	ca	UJ	1.0	Calibration results for this analyte was outside of acceptance criteria
	TWA-8_20-22_1021	Phenol	ND	ug/L	jl	R	1.0
4-Nitrophenol		ND	ug/L	jl	R	3.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent. Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent.
Benzoic acid		ND	ug/L	jl	R	5.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent. Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent.
2-Chlorophenol		ND	ug/L	U	R	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
2,4-Dinitrophenol		ND	ug/L	U	R	3.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
2-Methylphenol		ND	ug/L	U	R	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
3-Methylphenol + 4-Methylphenol		ND	ug/L	U	R	2.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
4,6-Dinitro-2-methylphenol		ND	ug/L	U	R	3.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
2-Nitrophenol		ND	ug/L	U	R	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
2,4-Dimethylphenol		ND	ug/L	U	R	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
Pentachlorophenol		ND	ug/L	U	R	0.50	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
2,4-Dichlorophenol		ND	ug/L	U	R	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
4-Chloro-3-methylphenol		ND	ug/L	U	R	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
2,4,6-Trichlorophenol		ND	ug/L	U	R	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
2,4,5-Trichlorophenol		ND	ug/L	U	R	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
Diethyl phthalate		9.5	ug/L	jl fb	UJ-	1.0	The analyte was detected in the method blank and LCS percent recovery and/or RPD were out of control limits as noted by laboratory
TWA-8_40-42_1021 f		Phenol	ND	ug/L	jl	R	1.0
	4-Nitrophenol	ND	ug/L	jl	R	3.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent. Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit.
	Benzoic acid	ND	ug/L	jl	R	5.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent. Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit.
	2-Chlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	2,4-Dinitrophenol	ND	ug/L	U	UJ-	3.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	2-Methylphenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	3-Methylphenol + 4-Methylphenol	ND	ug/L	U	UJ-	2.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	4,6-Dinitro-2-methylphenol	ND	ug/L	U	UJ-	3.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	2-Nitrophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	2,4-Dimethylphenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	Pentachlorophenol	ND	ug/L	U	UJ-	0.50	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	2,4-Dichlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	4-Chloro-3-methylphenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	2,4,6-Trichlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	2,4,5-Trichlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	Diethyl phthalate	20	ug/L	jl	J-	10	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Result from this analysis was reported.
	Diethyl phthalate	20	ug/L	ve jl fb	R	1.0	The analyte response exceeded the valid instrument calibration range, LCS percent recovery and/or RPD were out of control limits, and the analyte was detected in the method blank as noted by laboratory.



Table 2, continued

	Di-n-butyl phthalate	5.5	ug/L	fb	U	1.0	
	Bis(2-ethylhexyl) phthalate	1	ug/L	fb	U	1.0	The analyte was detected in the method blank
TWA-8_50-52_1021 f	Phenol	ND	ug/L	jl	R	1.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory
	4-Nitrophenol	ND	ug/L	jl	R	3.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory
	Benzoic acid	ND	ug/L	jl	R	5.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory
	2-Chlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	2,4-Dinitrophenol	ND	ug/L	U	UJ-	3.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	2-Methylphenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	3-Methylphenol + 4-Methylphenol	ND	ug/L	U	UJ-	2.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	4,6-Dinitro-2-methylphenol	ND	ug/L	U	UJ-	3.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	2-Nitrophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	2,4-Dimethylphenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	Pentachlorophenol	ND	ug/L	U	UJ-	0.50	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	2,4-Dichlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	4-Chloro-3-methylphenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	2,4,6-Trichlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	2,4,5-Trichlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds slightly above lower control limit
	Di-n-butyl phthalate	8.5	ug/L	fb ca	J	1.0	The analyte was detected in the method blank and calibration results for this analyte was outside of acceptance criteria as noted by laboratory
	Diethyl phthalate	40	ug/L	ve jl fb	R	1.0	The analyte response exceeded the valid instrument calibration range, LCS percent recovery and/or RPD were out of control limits, and the analyte was detected in the method blank as noted by laboratory
	Diethyl phthalate	38	ug/L	fb jl	J-	10	LCS percent recovery and/or RPD were out of control limits and the analyte was detected in the method blank as noted by laboratory. Result from this analysis was reported.
	Bis(2-ethylhexyl) phthalate	1.9	ug/L	fb	U	1.0	The analyte was detected in the method blank
TWA-9_45-47_1021	Phenol	ND	ug/L	jl	R	1.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent. Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	4-Nitrophenol	ND	ug/L	jl	R	3.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent. Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	Benzoic acid	ND	ug/L	jl	R	5.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent. Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2-Chlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2,4-Dinitrophenol	ND	ug/L	U	UJ-	3.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2-Methylphenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	3-Methylphenol + 4-Methylphenol	ND	ug/L	U	UJ-	2.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	4,6-Dinitro-2-methylphenol	ND	ug/L	U	UJ-	3.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2-Nitrophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2,4-Dimethylphenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	Pentachlorophenol	ND	ug/L	U	UJ-	0.50	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2,4-Dichlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	4-Chloro-3-methylphenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2,4,6-Trichlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2,4,5-Trichlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	Diethyl phthalate	2	ug/L	jl fb	UJ-	1.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory and analyte was detected in the method blank as noted by laboratory
	Bis(2-ethylhexyl) phthalate	0.33	ug/L	j fb	U	1.6	The analyte concentration is reported below the lowest calibration standard and the analyte was detected in the method blank as noted by laboratory
	Di-n-butyl phthalate	1.5	ug/L	fb	U	1.0	The analyte was detected in the method blank
TWA-9_55-57_1021	Phenol	ND	ug/L	jl	R	1.3	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent. Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent.
	4-Nitrophenol	ND	ug/L	jl	R	3.9	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent. Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent.
	Benzoic acid	ND	ug/L	jl	R	6.5	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent. Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent.
	2-Chlorophenol	ND	ug/L	U	UJ-	1.3	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2,4-Dinitrophenol	ND	ug/L	U	UJ-	3.9	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2-Methylphenol	ND	ug/L	U	UJ-	1.3	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	3-Methylphenol + 4-Methylphenol	ND	ug/L	U	UJ-	2.6	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	4,6-Dinitro-2-methylphenol	ND	ug/L	U	UJ-	3.9	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2-Nitrophenol	ND	ug/L	U	UJ-	1.3	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2,4-Dimethylphenol	ND	ug/L	U	UJ-	1.3	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent

**Table 2, continued**

	Pentachlorophenol	ND	ug/L	U	UJ-	0.65	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2,4-Dichlorophenol	ND	ug/L	U	UJ-	1.3	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	4-Chloro-3-methylphenol	ND	ug/L	U	UJ-	1.3	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2,4,6-Trichlorophenol	ND	ug/L	U	UJ-	1.3	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	2,4,5-Trichlorophenol	ND	ug/L	U	UJ-	1.3	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and/or <10 percent
	Diethyl phthalate	4.6	ug/L	jl fb	UJ-	1.3	LCS percent recovery and/or RPD were out of control limits as noted by laboratory
	Bis(2-ethylhexyl) phthalate	0.34	ug/L	j fb	U	2.1	The analyte concentration is reported below the lowest calibration standard and the analyte was detected in the method blank as noted by laboratory
	Di-n-butyl phthalate	3.5	ug/L	fb	U	1.3	The analyte was detected in the method blank
TWA-EB1-1021	Benzoic acid	ND	ug/L	jl	R	5.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent.
	Phenol	ND	ug/L	js jl	R	1.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent.
	2-Chlorophenol	ND	ug/L	js	UJ-	1.0	Recoveries of 1 of 3 acid surrogate compounds slightly above lower control limit and 1 recovery <10 percent
	4-Nitrophenol	ND	ug/L	js	UJ-	3.0	Recoveries of 1 of 3 acid surrogate compounds slightly above lower control limit and 1 recovery <10 percent
	2-Methylphenol	ND	ug/L	js	UJ-	1.0	Recoveries of 1 of 3 acid surrogate compounds slightly above lower control limit and 1 recovery <10 percent
	3-Methylphenol + 4-Methylphenol	ND	ug/L	js	UJ-	2.0	Recoveries of 1 of 3 acid surrogate compounds slightly above lower control limit and 1 recovery <10 percent
	2,4-Dinitrophenol	ND	ug/L	U	UJ-	3.0	Recoveries of 1 of 3 acid surrogate compounds slightly above lower control limit and 1 recovery <10 percent
	4,6-Dinitro-2-methylphenol	ND	ug/L	U	UJ-	3.0	Recoveries of 1 of 3 acid surrogate compounds slightly above lower control limit and 1 recovery <10 percent
	2-Nitrophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 1 of 3 acid surrogate compounds slightly above lower control limit and 1 recovery <10 percent
	2,4-Dimethylphenol	ND	ug/L	U	UJ-	1.0	Recoveries of 1 of 3 acid surrogate compounds slightly above lower control limit and 1 recovery <10 percent
	Pentachlorophenol	ND	ug/L	U	UJ-	0.50	Recoveries of 1 of 3 acid surrogate compounds slightly above lower control limit and 1 recovery <10 percent
	2,4-Dichlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 1 of 3 acid surrogate compounds slightly above lower control limit and 1 recovery <10 percent
	4-Chloro-3-methylphenol	ND	ug/L	U	UJ-	1.0	Recoveries of 1 of 3 acid surrogate compounds slightly above lower control limit and 1 recovery <10 percent
	2,4,6-Trichlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 1 of 3 acid surrogate compounds slightly above lower control limit and 1 recovery <10 percent
	2,4,5-Trichlorophenol	ND	ug/L	U	UJ-	1.0	Recoveries of 1 of 3 acid surrogate compounds slightly above lower control limit and 1 recovery <10 percent
	Bis(2-ethylhexyl) phthalate	0.39	ug/L	j fb	U	1.6	Recoveries of 1 of 3 acid surrogate compounds slightly above lower control limit and 1 recovery <10 percent
	Di-n-butyl phthalate	1.2	ug/L	fb jl	U	1.0	Recoveries of 1 of 3 acid surrogate compounds slightly above lower control limit and 1 recovery <10 percent
TWA-EB2-1221	Phenol	ND	ug/L	jl	R	1.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent.
	Benzoic acid	ND	ug/L	jl	R	5.0	LCS percent recovery and/or RPD were out of control limits as noted by laboratory. Recoveries <10 percent.
	Di-n-octyl phthalate	ND	ug/L	ca	UJ	1.0	Calibration results for this analyte was outside of acceptance criteria

**Notes:**

**Data Validation Assigned Data Qualifiers and Definitions**

J = estimated  
 LCS = laboratory control sample  
 NJ = tentatively identified and estimated  
 QC = quality control  
 R = rejected  
 RL = reporting limit  
 UJ = result restated as undetected at value shown  
 UJ = undetected at value shown and estimated  
 UJ- = undetected at value shown and estimated with negative bias  
 w/ SG = with silica gel cleanup  
 w/o SG = without silica gel cleanup

Total results qualified "J" =	3
Total results qualified "J-" =	2
Total results qualified "NJ" =	11
Total results qualified "UJ" =	12
Total results qualified "UJ-" =	125
Total results qualified "U" =	9
Total results qualified "R" =	52

**ory Assigned Data Qualifiers and Definitions**

ca = calibration results for this analyte were outside of acceptance criteria; result is an estimate  
 fb = The analyte was detected in the method blank.  
 j = The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.  
 jl = The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.  
 js = The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.  
 lc = The presence of the analyte is likely due to laboratory contamination.  
 ve = The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.  
 x = The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

January 6, 2021

Trevor Louviere, Project Manager  
Dalton Olmsted Fuglevand  
1001 SW Klickitat Way, Suite 200B  
Seattle, WA 98134

Dear Mr Louviere:

Included are the amended results from the testing of material submitted on December 8, 2021 from the TWAAFA, F&BI 112142 project. The 6020B molybdenum results were removed and manganese was added.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Tasya Gray  
DOF1222R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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December 22, 2021

Trevor Louviere, Project Manager  
Dalton Olmsted Fuglevand  
1001 SW Klickitat Way, Suite 200B  
Seattle, WA 98134

Dear Mr Louviere:

Included are the results from the testing of material submitted on December 8, 2021 from the TWAAFA, F&BI 112142 project. There are 26 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Tasya Gray  
DOF1222R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 8, 2021 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA, F&BI 112142 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Dalton Olmsted Fuglevand</u>
112142 -01	TWA-7_40-42_1221
112142 -02	Trip Blank

Several compounds in the 8270E laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

The 8082 laboratory control sample and laboratory control sample duplicate failed the relative percent difference for Aroclor 1016 and 1260. PCBs were not detected therefore the data were acceptable.

An 8270 surrogate in the method blank did not pass the acceptance criteria. The affected compounds were qualified accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21  
Date Received: 12/08/21  
Project: TWAAFA, F&BI 112142  
Date Extracted: 12/15/21  
Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TWA-7_40-42_1221 112142-01	<100	84
Method Blank 01-2666 MB	<100	85

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21  
Date Received: 12/08/21  
Project: TWAAFA, F&BI 112142  
Date Extracted: 12/14/21  
Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx  
Sample Extracts Passed Through a  
Silica Gel Column Prior to Analysis  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
TWA-7_40-42_1221 112142-01	<50	<250	53
Method Blank 01-2882 MB	<50	<250	117

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21  
Date Received: 12/08/21  
Project: TWAAFA, F&BI 112142  
Date Extracted: 12/14/21  
Date Analyzed: 12/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 41-152)
TWA-7_40-42_1221 112142-01	130 x	<250	54
Method Blank 01-2882 MB	<50	<250	115



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-7_40-42_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/08/21	Project:	TWAAFA, F&BI 112142
Date Extracted:	12/13/21	Lab ID:	112142-01
Date Analyzed:	12/13/21	Data File:	112142-01.183
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	9.75
Cadmium	<1
Chromium	24.5
Cobalt	4.52
Copper	16.8
Lead	1.70
Manganese	131
Nickel	10.4
Thallium	<1
Vanadium	96.5
Zinc	19.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-7_40-42_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/08/21	Project:	TWAAFA, F&BI 112142
Date Extracted:	12/13/21	Lab ID:	112142-01 x10
Date Analyzed:	12/13/21	Data File:	112142-01 x10.170
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Barium	14.3
Beryllium	<10
Iron	12,800
Silver	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-7_40-42_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/08/21	Project:	TWAAFA, F&BI 112142
Date Extracted:	12/13/21	Lab ID:	112142-01 x20
Date Analyzed:	12/14/21	Data File:	112142-01 x20.134
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Selenium	22.5
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA, F&BI 112142
Date Extracted:	12/13/21	Lab ID:	I1-826 mb
Date Analyzed:	12/13/21	Data File:	I1-826 mb.135
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<2.4
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<1
Silver	<0.2
Thallium	<1
Vanadium	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21  
Date Received: 12/08/21  
Project: TWAAFA, F&BI 112142  
Date Extracted: 12/13/21  
Date Analyzed: 12/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Total Mercury</u>
TWA-7_40-42_1221 112142-01	<0.02
Method Blank i1-827 MB	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-7_40-42_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/08/21	Project:	TWAAFA, F&BI 112142
Date Extracted:	12/08/21	Lab ID:	112142-01
Date Analyzed:	12/08/21	Data File:	120835.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	85	117
Toluene-d8	99	88	112
4-Bromofluorobenzene	99	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	12/08/21	Project:	TWAAFA, F&BI 112142
Date Extracted:	12/08/21	Lab ID:	112142-02
Date Analyzed:	12/08/21	Data File:	120834.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	85	117
Toluene-d8	98	88	112
4-Bromofluorobenzene	99	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA, F&BI 112142
Date Extracted:	12/08/21	Lab ID:	01-2780 mb
Date Analyzed:	12/08/21	Data File:	120807.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	85	117
Toluene-d8	100	88	112
4-Bromofluorobenzene	100	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-7_40-42_1221 f	Client:	Dalton Olmsted Fuglevand
Date Received:	12/08/21	Project:	TWAAFA, F&BI 112142
Date Extracted:	12/14/21	Lab ID:	112142-01 1/0.5
Date Analyzed:	12/15/21	Data File:	121516.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	10 ip	11	65
Phenol-d6	8 ip	11	65
Nitrobenzene-d5	68	50	150
2-Fluorobiphenyl	52	44	108
2,4,6-Tribromophenol	60	10	140
Terphenyl-d14	55	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 jl	Phenanthrene	0.014
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	0.013
Hexachlorobutadiene	<0.1	Pyrene	0.010
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	<1.6
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA, F&BI 112142
Date Extracted:	12/14/21	Lab ID:	01-2875 mb 1/0.5
Date Analyzed:	12/15/21	Data File:	121508.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	17	11	65
Phenol-d6	10 vo	11	65
Nitrobenzene-d5	97	50	150
2-Fluorobiphenyl	97	44	108
2,4,6-Tribromophenol	93	10	140
Terphenyl-d14	105	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 js jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	<1
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js jl	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	<1.6
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-7_40-42_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/08/21	Project:	TWAAFA, F&BI 112142
Date Extracted:	12/13/21	Lab ID:	112142-01 1/0.25
Date Analyzed:	12/14/21	Data File:	121413.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	20 ip ca	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA, F&BI 112142
Date Extracted:	12/13/21	Lab ID:	01-2877 mb 1/0.25
Date Analyzed:	12/14/21	Data File:	121407.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	36	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/08/21

Project: TWAAFA, F&BI 112142

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 112212-06 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	93	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/08/21

Project: TWAAFA, F&BI 112142

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	104	112	61-133	7

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/08/21

Project: TWAAFA, F&BI 112142

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	88	104	63-142	17

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/08/21

Project: TWAAFA, F&BI 112142

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 112210-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	101	106	75-125	5
Arsenic	ug/L (ppb)	10	1.08	92	97	75-125	5
Barium	ug/L (ppb)	50	11.2	99	102	75-125	3
Beryllium	ug/L (ppb)	5	<1	78	80	75-125	3
Cadmium	ug/L (ppb)	5	<1	99	101	75-125	2
Chromium	ug/L (ppb)	20	<1	97	101	75-125	4
Cobalt	ug/L (ppb)	20	<1	97	100	75-125	3
Copper	ug/L (ppb)	20	<5	95	99	75-125	4
Iron	ug/L (ppb)	100	467	85	103	75-125	19
Lead	ug/L (ppb)	10	<1	94	95	75-125	1
Manganese	ug/L (ppb)	20	56.9	93	106	75-125	13
Nickel	ug/L (ppb)	20	1.48	96	100	75-125	4
Selenium	ug/L (ppb)	5	<1	98	106	75-125	8
Silver	ug/L (ppb)	5	<1	91	98	75-125	7
Thallium	ug/L (ppb)	5	<1	93	94	75-125	1
Vanadium	ug/L (ppb)	20	<1	99	102	75-125	3
Zinc	ug/L (ppb)	50	<5	95	98	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	101	80-120
Arsenic	ug/L (ppb)	10	94	80-120
Barium	ug/L (ppb)	50	96	80-120
Beryllium	ug/L (ppb)	5	98	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	98	80-120
Cobalt	ug/L (ppb)	20	99	80-120
Copper	ug/L (ppb)	20	101	80-120
Iron	ug/L (ppb)	100	99	80-120
Lead	ug/L (ppb)	10	98	80-120
Manganese	ug/L (ppb)	20	99	80-120
Nickel	ug/L (ppb)	20	101	80-120
Selenium	ug/L (ppb)	5	99	80-120
Silver	ug/L (ppb)	5	97	80-120
Thallium	ug/L (ppb)	5	96	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	99	80-120



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/08/21

Project: TWAAFA, F&BI 112142

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
TOTAL MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 112175-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	90	100	71-125	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	117	115	78-125	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/08/21

Project: TWAAFA, F&BI 112142

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 112116-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	116	50-150
Chloromethane	ug/L (ppb)	10	<10	105	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	111	16-176
Bromomethane	ug/L (ppb)	10	<5	115	10-193
Chloroethane	ug/L (ppb)	10	<1	108	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	99	50-150
Acetone	ug/L (ppb)	50	<50	100	15-179
1,1-Dichloroethene	ug/L (ppb)	10	<1	99	50-150
Hexane	ug/L (ppb)	10	<5	87	49-161
Methylene chloride	ug/L (ppb)	10	<5	90	40-143
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	100	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	95	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	104	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	89	10-335
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	50-150
Chloroform	ug/L (ppb)	10	<1	98	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	114	34-168
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	102	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	104	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	93	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	100	50-150
Benzene	ug/L (ppb)	10	<0.35	100	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	95	43-133
1,2-Dichloropropane	ug/L (ppb)	10	<1	96	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	100	50-150
Dibromomethane	ug/L (ppb)	10	<1	96	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	112	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	101	48-145
Toluene	ug/L (ppb)	10	<1	100	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	103	37-152
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	102	50-150
2-Hexanone	ug/L (ppb)	50	<10	121	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	98	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	97	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	103	33-164
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	100	50-150
Chlorobenzene	ug/L (ppb)	10	<1	96	50-150
Ethylbenzene	ug/L (ppb)	10	<1	99	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	101	50-150
m,p-Xylene	ug/L (ppb)	20	<2	99	50-150
o-Xylene	ug/L (ppb)	10	<1	98	50-150
Styrene	ug/L (ppb)	10	<1	98	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	99	50-150
Bromoform	ug/L (ppb)	10	<5	105	23-161
n-Propylbenzene	ug/L (ppb)	10	<1	98	50-150
Bromobenzene	ug/L (ppb)	10	<1	95	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	96	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	105	10-235
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	101	33-151
2-Chlorotoluene	ug/L (ppb)	10	<1	96	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	98	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	93	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	96	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	96	46-139
p-Isopropyltoluene	ug/L (ppb)	10	<1	96	46-140
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	96	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	96	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	96	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	106	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	89	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	86	42-150
Naphthalene	ug/L (ppb)	10	<1	97	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	91	44-155

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/08/21

Project: TWAAFA, F&BI 112142

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	101	101	70-130	0
Chloromethane	ug/L (ppb)	10	106	99	70-130	7
Vinyl chloride	ug/L (ppb)	10	109	106	70-130	3
Bromomethane	ug/L (ppb)	10	124	121	28-182	2
Chloroethane	ug/L (ppb)	10	106	102	70-130	4
Trichlorofluoromethane	ug/L (ppb)	10	101	99	70-130	2
Acetone	ug/L (ppb)	50	90	91	42-155	1
1,1-Dichloroethene	ug/L (ppb)	10	109	105	70-130	4
Hexane	ug/L (ppb)	10	88	84	50-161	5
Methylene chloride	ug/L (ppb)	10	105	94	29-192	11
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	102	99	70-130	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	96	93	70-130	3
1,1-Dichloroethane	ug/L (ppb)	10	106	103	70-130	3
2,2-Dichloropropane	ug/L (ppb)	10	87	88	70-130	1
cis-1,2-Dichloroethene	ug/L (ppb)	10	100	97	70-130	3
Chloroform	ug/L (ppb)	10	100	98	70-130	2
2-Butanone (MEK)	ug/L (ppb)	50	112	89	50-157	23 vo
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	102	99	70-130	3
1,1,1-Trichloroethane	ug/L (ppb)	10	106	103	70-130	3
1,1-Dichloropropene	ug/L (ppb)	10	95	94	70-130	1
Carbon tetrachloride	ug/L (ppb)	10	100	99	70-130	1
Benzene	ug/L (ppb)	10	101	97	70-130	4
Trichloroethene	ug/L (ppb)	10	95	93	70-130	2
1,2-Dichloropropane	ug/L (ppb)	10	101	97	70-130	4
Bromodichloromethane	ug/L (ppb)	10	102	95	70-130	7
Dibromomethane	ug/L (ppb)	10	101	98	70-130	3
4-Methyl-2-pentanone	ug/L (ppb)	50	104	100	70-130	4
cis-1,3-Dichloropropene	ug/L (ppb)	10	100	100	70-130	0
Toluene	ug/L (ppb)	10	100	98	70-130	2
trans-1,3-Dichloropropene	ug/L (ppb)	10	98	100	70-130	2
1,1,2-Trichloroethane	ug/L (ppb)	10	104	102	70-130	2
2-Hexanone	ug/L (ppb)	50	106	105	69-130	1
1,3-Dichloropropane	ug/L (ppb)	10	98	101	70-130	3
Tetrachloroethene	ug/L (ppb)	10	100	98	70-130	2
Dibromochloromethane	ug/L (ppb)	10	110	106	63-142	4
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	100	96	70-130	4
Chlorobenzene	ug/L (ppb)	10	99	99	70-130	0
Ethylbenzene	ug/L (ppb)	10	101	99	70-130	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	106	103	70-130	3
m,p-Xylene	ug/L (ppb)	20	101	99	70-130	2
o-Xylene	ug/L (ppb)	10	99	97	70-130	2
Styrene	ug/L (ppb)	10	104	101	70-130	3
Isopropylbenzene	ug/L (ppb)	10	102	100	70-130	2
Bromoform	ug/L (ppb)	10	105	105	50-157	0
n-Propylbenzene	ug/L (ppb)	10	97	96	70-130	1
Bromobenzene	ug/L (ppb)	10	94	88	70-130	7
1,3,5-Trimethylbenzene	ug/L (ppb)	10	96	95	52-150	1
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	99	98	70-130	1
1,2,3-Trichloropropane	ug/L (ppb)	10	98	97	70-130	1
2-Chlorotoluene	ug/L (ppb)	10	95	90	70-130	5
4-Chlorotoluene	ug/L (ppb)	10	97	96	70-130	1
tert-Butylbenzene	ug/L (ppb)	10	97	94	70-130	3
1,2,4-Trimethylbenzene	ug/L (ppb)	10	98	97	70-130	1
sec-Butylbenzene	ug/L (ppb)	10	99	97	70-130	2
p-Isopropyltoluene	ug/L (ppb)	10	99	97	70-130	2
1,3-Dichlorobenzene	ug/L (ppb)	10	96	94	70-130	2
1,4-Dichlorobenzene	ug/L (ppb)	10	96	94	70-130	2
1,2-Dichlorobenzene	ug/L (ppb)	10	97	94	70-130	3
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	95	97	70-130	2
1,2,4-Trichlorobenzene	ug/L (ppb)	10	90	90	70-130	0
Hexachlorobutadiene	ug/L (ppb)	10	91	89	70-130	2
Naphthalene	ug/L (ppb)	10	94	92	70-130	2
1,2,3-Trichlorobenzene	ug/L (ppb)	10	92	93	69-143	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/08/21

Project: TWAFA, F&BI 112142

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E**

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCS	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	2.5	8 vo	9 vo	10-86	7
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	94 vo	88 vo	60-88	6
2-Chlorophenol	ug/L (ppb)	2.5	58	57	10-89	2
1,3-Dichlorobenzene	ug/L (ppb)	2.5	81	77	48-91	5
1,4-Dichlorobenzene	ug/L (ppb)	2.5	81	78	48-91	4
1,2-Dichlorobenzene	ug/L (ppb)	2.5	84	79	52-92	6
Benzyl alcohol	ug/L (ppb)	13	28	26	10-72	7
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	87 vo	83	59-86	5
2-Methylphenol	ug/L (ppb)	2.5	37	38	10-75	3
Hexachloroethane	ug/L (ppb)	2.5	80	77	47-92	4
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	97	91	70-130	6
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	29	30	10-66	3
Nitrobenzene	ug/L (ppb)	2.5	90	86	60-90	5
Isophorone	ug/L (ppb)	2.5	95	95	70-130	0
2-Nitrophenol	ug/L (ppb)	2.5	87	88	27-104	1
2,4-Dimethylphenol	ug/L (ppb)	2.5	62	66	10-84	6
Benzoic acid	ug/L (ppb)	23	5 vo	4 vo	10-102	22 vo
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	95	92	55-103	3
2,4-Dichlorophenol	ug/L (ppb)	2.5	82	81	23-103	1
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	85	82	56-93	4
Naphthalene	ug/L (ppb)	2.5	86	83	62-90	4
Hexachlorobutadiene	ug/L (ppb)	2.5	81	77	48-85	5
4-Chloroaniline	ug/L (ppb)	13	45	43	35-108	5
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	76	76	18-109	0
2-Methylnaphthalene	ug/L (ppb)	2.5	88	83	64-93	6
1-Methylnaphthalene	ug/L (ppb)	2.5	87	82	64-93	6
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	79	79	49-112	0
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	90	90	16-112	0
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	90	90	26-113	0
2-Chloronaphthalene	ug/L (ppb)	2.5	93	89	67-97	4
2-Nitroaniline	ug/L (ppb)	13	121	114	31-168	7
Dimethyl phthalate	ug/L (ppb)	2.5	100	97	70-130	3
Acenaphthylene	ug/L (ppb)	2.5	97	92	70-130	5
2,6-Dinitrotoluene	ug/L (ppb)	2.5	100	99	70-130	1
3-Nitroaniline	ug/L (ppb)	13	59	59	33-120	0
Acenaphthene	ug/L (ppb)	2.5	94	90	70-130	4
2,4-Dinitrophenol	ug/L (ppb)	5	77	73	10-120	5
Dibenzofuran	ug/L (ppb)	2.5	88	83	67-107	6
2,4-Dinitrotoluene	ug/L (ppb)	2.5	86	82	53-132	5
4-Nitrophenol	ug/L (ppb)	5	12	13	10-89	8
Diethyl phthalate	ug/L (ppb)	2.5	97	89	70-130	9
Fluorene	ug/L (ppb)	2.5	96	90	70-130	6
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	98	93	70-130	5
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	95	94	70-130	1
4-Nitroaniline	ug/L (ppb)	13	70	69	32-122	1
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	88	89	10-139	1
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	91	93	70-130	2
Hexachlorobenzene	ug/L (ppb)	2.5	91	91	65-95	0
Pentachlorophenol	ug/L (ppb)	2.5	77	83	10-129	7
Phenanthrene	ug/L (ppb)	2.5	92	90	70-130	2
Anthracene	ug/L (ppb)	2.5	90	92	70-130	2
Carbazole	ug/L (ppb)	2.5	97	96	70-130	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	93	94	28-147	1
Fluoranthene	ug/L (ppb)	2.5	92	89	70-130	3
Pyrene	ug/L (ppb)	2.5	103	102	70-130	1
Benzyl butyl phthalate	ug/L (ppb)	2.5	79	78	34-142	1
Benz(a)anthracene	ug/L (ppb)	2.5	94	93	70-130	1
Chrysene	ug/L (ppb)	2.5	96	95	70-130	1
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	88	85	53-133	3
Di-n-octyl phthalate	ug/L (ppb)	2.5	73	70	49-119	4
Benzo(a)pyrene	ug/L (ppb)	2.5	98	98	70-130	0
Benzo(b)fluoranthene	ug/L (ppb)	2.5	98	112	70-130	13
Benzo(k)fluoranthene	ug/L (ppb)	2.5	98	93	70-130	5
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	102	107	70-130	5
Dibenzo(a,h)anthracene	ug/L (ppb)	2.5	99	105	70-130	6
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	99	103	70-130	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/08/21

Project: TWAAFA, F&BI 112142

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.063	46	58	25-165	23 vo
Aroclor 1260	ug/L (ppb)	0.063	56	69	25-163	21 vo

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

112142

SAMPLE CHAIN OF CUSTODY

ME 12-08-21

Page # 1 of 1

Report To Trevor Louviere/Tasya Gray

Company DOF

Address 1001 SW Klickitat Way

City, State, ZIP Seattle, WA 98134

Phone 425-785-6322 Email tlouviere@dofnw.com

SAMPLERS (signature)

PROJECT NAME TWAFPA

TWAFPA

REMARKS SVOCs lab filtered at 0.7 micron before analysis

Project Specific RIs (Yes/No)

PO # TWAFPA-001

INVOICE TO DOF

TURNAROUND TIME (min) X Standard Turnaround X RUSH 24h (VOC only) RUSH charges authorized by T. Louviere

SAMPLE DISPOSAL Dispose after 30 days Archive Samples Other

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-Diesel w/SG	TPH-Diesel	TPH-Gasoline	VOCs by 8260D	SVOCs by 8270E	LL PCBs by 8082	T Metals by 6020/1631E	Notes
TWA-7-40-42-1221	01A-L	12/8/21	1230	WTFN	12	X	X	X	X	X	X	X	
TRIP BLANK	02A-B	12/8/21	-	WTFN	2				X				
<del>_____</del>													

Samples received at 4 °C

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-3382

SIGNATURE

Relinquished by:

Received by:

PRINT NAME

Relinquished by:

Received by:

COMPANY

Relinquished by:

Received by:

DATE

Relinquished by:

Received by:

TIME

Relinquished by:

Received by:

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

October 26, 2021

Trevor Louviere, Project Manager  
Dalton Olmsted Fuglevand  
1001 SW Klickitat Way, Suite 200B  
Seattle, WA 98134

Dear Mr Louviere:

Included are the results from the testing of material submitted on October 15, 2021 from the TWAAFA TWAAFA-001, F&BI 110326 project. There are 25 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Tasya Gray  
DOF1026R.DOC



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 15, 2021 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA TWAAFA-001, F&BI 110326 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Dalton Olmsted Fuglevand</u>
110326 -01	TWA-EB1-1021
110326 -02	TRIP BLANK

The 8270E samples were filtered at Friedman & Bruya on 10/18/21. The data were flagged accordingly.

Thallium was reported between the 6020 method detection limit and the reporting limit. The data were flagged accordingly.

Methylene chloride was detected in the 8260D analysis of sample TWA-EB1-1021. The data were flagged as due to laboratory contamination.

The 8260D calibration standard failed the acceptance criteria for methylene chloride. The data were flagged accordingly.

Diethyl phthalate, di-n-butyl phthalate, and bis(2-ethylhexyl)phthalate were detected in the 8270E analysis of samples TWA-8\_40-42\_1021, TWA-8\_50-52\_1021, and the method blank. The data were flagged as likely due to laboratory contamination.

Several compounds in the 8270E laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

An 8270E surrogate failed the laboratory acceptance criteria in the method blank. The data were flagged accordingly.

The 8082 laboratory control sample and laboratory control sample duplicate failed the relative percent difference for Aroclor 1016. PCBs associated with Aroclor 1016 were not detected therefore the data were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21  
Date Received: 10/15/21  
Project: TWAAFA TWAAFA-001, F&BI 110326  
Date Extracted: 10/20/21  
Date Analyzed: 10/20/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TWA-EB1-1021 110326-01	<100	95
Method Blank 01-2309 MB	<100	99

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21  
Date Received: 10/15/21  
Project: TWAAFA TWAAFA-001, F&BI 110326  
Date Extracted: 10/18/21  
Date Analyzed: 10/18/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>  
Sample Extracts Passed Through a  
Silica Gel Column Prior to Analysis  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
TWA-EB1-1021 110326-01	<50	<250	107
Method Blank 01-2422 MB	<50	<250	125

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21  
Date Received: 10/15/21  
Project: TWAAFA TWAAFA-001, F&BI 110326  
Date Extracted: 10/18/21  
Date Analyzed: 10/18/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
TWA-EB1-1021 110326-01	<50	<250	119
Method Blank 01-2422 MB	<50	<250	116

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-EB1-1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/15/21	Project:	TWAAFA-001, F&BI 110326
Date Extracted:	10/18/21	Lab ID:	110326-01
Date Analyzed:	10/18/21	Data File:	110326-01.077
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	1.16
Cadmium	<1
Chromium	1.65
Cobalt	<1
Copper	2.21
Iron	440
Lead	<1
Manganese	16.1
Nickel	1.06
Selenium	<3
Silver	<1
Thallium	<0.16 j
Vanadium	2.28
Zinc	6.72

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-EB1-1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/15/21	Project:	TWAAFA-001, F&BI 110326
Date Extracted:	10/18/21	Lab ID:	110326-01 x10
Date Analyzed:	10/18/21	Data File:	110326-01 x10.073
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Beryllium	<2
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA-001, F&BI 110326
Date Extracted:	10/18/21	Lab ID:	I1-660 mb
Date Analyzed:	10/18/21	Data File:	I1-660 mb.038
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<0.2
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<1
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<3
Silver	<1
Thallium	<0.16 j
Vanadium	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/15/21

Project: TWAAFA TWAAFA-001, F&BI 110326

Date Extracted: 10/18/21

Date Analyzed: 10/20/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Total Mercury</u>
TWA-EB1-1021 110326-01	<0.02
Method Blank i1-662 MB	<0.02



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-EB1-1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/15/21	Project:	TWAAFA-001, F&BI 110326
Date Extracted:	10/18/21	Lab ID:	110326-01
Date Analyzed:	10/18/21	Data File:	101810.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	111	78	126
Toluene-d8	108	87	115
4-Bromofluorobenzene	108	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	7.3 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TRIP BLANK	Client:	Dalton Olmsted Fuglevand
Date Received:	10/15/21	Project:	TWAAFA-001, F&BI 110326
Date Extracted:	10/18/21	Lab ID:	110326-02
Date Analyzed:	10/18/21	Data File:	101809.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	78	126
Toluene-d8	98	87	115
4-Bromofluorobenzene	113	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5 ca	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 110326
Date Extracted:	10/18/21	Lab ID:	01-2375 mb
Date Analyzed:	10/18/21	Data File:	101807.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	111	78	126
Toluene-d8	106	87	115
4-Bromofluorobenzene	109	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5 ca	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-EB1-1021 f	Client:	Dalton Olmsted Fuglevand
Date Received:	10/15/21	Project:	TWAAFA-001, F&BI 110326
Date Extracted:	10/19/21	Lab ID:	110326-01 1/0.5
Date Analyzed:	10/19/21	Data File:	101909.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	13	11	65
Phenol-d6	10 vo	11	65
Nitrobenzene-d5	93	50	150
2-Fluorobiphenyl	94	44	108
2,4,6-Tribromophenol	72	10	140
Terphenyl-d14	97	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 js jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3 jl
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	2.0 fb
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 jl	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	1.2 fb jl
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	0.39 j fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 110326
Date Extracted:	10/19/21	Lab ID:	01-2425 mb2 1/0.5
Date Analyzed:	10/19/21	Data File:	101908.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	13	11	65
Phenol-d6	9 yo	11	65
Nitrobenzene-d5	87	50	150
2-Fluorobiphenyl	88	44	108
2,4,6-Tribromophenol	86	10	140
Terphenyl-d14	91	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 js jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3 jl
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	2.0 lc
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 jl	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	1.1 lc jl
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	0.34 j lc
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-EB1-1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/15/21	Project:	TWAAFA-001, F&BI 110326
Date Extracted:	10/18/21	Lab ID:	110326-01 1/0.26
Date Analyzed:	10/19/21	Data File:	101907.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	40	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0036
Aroclor 1232	<0.0036
Aroclor 1016	<0.0036
Aroclor 1242	<0.0036
Aroclor 1248	<0.0036
Aroclor 1254	<0.0036
Aroclor 1260	<0.0036
Aroclor 1262	<0.0036
Aroclor 1268	<0.0036

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 110326
Date Extracted:	10/18/21	Lab ID:	01-2423 mb 1/0.25
Date Analyzed:	10/19/21	Data File:	101906.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	36	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/15/21

Project: TWAAFA TWAAFA-001, F&BI 110326

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 110357-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	103	69-134



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/15/21

Project: TWAAFA TWAAFA-001, F&BI 110326

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	112	108	61-133	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/15/21

Project: TWAAFA TWAAFA-001, F&BI 110326

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	112	108	61-133	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/15/21

Project: TWAAFA TWAAFA-001, F&BI 110326

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 110314-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	103	103	75-125	0
Arsenic	ug/L (ppb)	10	5.23	102	99	75-125	3
Barium	ug/L (ppb)	50	18.1	105	105	75-125	0
Beryllium	ug/L (ppb)	5	<1	102	101	75-125	1
Cadmium	ug/L (ppb)	5	<1	96	97	75-125	1
Chromium	ug/L (ppb)	20	<1	101	101	75-125	0
Cobalt	ug/L (ppb)	20	<1	99	101	75-125	2
Copper	ug/L (ppb)	20	<5	92	93	75-125	1
Iron	ug/L (ppb)	100	175	89	93	75-125	4
Lead	ug/L (ppb)	10	<1	96	96	75-125	0
Manganese	ug/L (ppb)	20	7.21	102	105	75-125	3
Nickel	ug/L (ppb)	20	2.48	96	97	75-125	1
Selenium	ug/L (ppb)	5	<1	100	97	75-125	3
Silver	ug/L (ppb)	5	<1	90	91	75-125	1
Thallium	ug/L (ppb)	5	<1	99	100	75-125	1
Vanadium	ug/L (ppb)	20	1.29	107	107	75-125	0
Zinc	ug/L (ppb)	50	<5	94	94	75-125	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	101	80-120
Arsenic	ug/L (ppb)	10	97	80-120
Barium	ug/L (ppb)	50	99	80-120
Beryllium	ug/L (ppb)	5	100	80-120
Cadmium	ug/L (ppb)	5	97	80-120
Chromium	ug/L (ppb)	20	97	80-120
Cobalt	ug/L (ppb)	20	97	80-120
Copper	ug/L (ppb)	20	93	80-120
Iron	ug/L (ppb)	100	94	80-120
Lead	ug/L (ppb)	10	101	80-120
Manganese	ug/L (ppb)	20	98	80-120
Nickel	ug/L (ppb)	20	96	80-120
Selenium	ug/L (ppb)	5	101	80-120
Silver	ug/L (ppb)	5	98	80-120
Thallium	ug/L (ppb)	5	102	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	95	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/15/21

Project: TWAAFA TWAAFA-001, F&BI 110326

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
TOTAL MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 110334-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	91	97	71-125	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	89	91	78-125	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/15/21

Project: TWAFA TWAFA-001, F&BI 110326

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 110326-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance Criteria
				Recovery MS	
Dichlorodifluoromethane	ug/L (ppb)	10	<10	107	50-150
Chloromethane	ug/L (ppb)	10	<10	111	50-150
Vinyl chloride	ug/L (ppb)	10	<0.2	116	50-150
Bromomethane	ug/L (ppb)	10	<1	96	50-150
Chloroethane	ug/L (ppb)	10	<1	104	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	107	50-150
Acetone	ug/L (ppb)	50	<10	65	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	89	50-150
Hexane	ug/L (ppb)	10	<1	105	50-150
Methylene chloride	ug/L (ppb)	10	<5	128	50-150
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	99	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	95	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	100	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	89	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	97	50-150
Chloroform	ug/L (ppb)	10	<1	93	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<10	96	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<1	103	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	105	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	98	50-150
Carbon tetrachloride	ug/L (ppb)	10	<1	120	50-150
Benzene	ug/L (ppb)	10	<0.35	97	50-150
Trichloroethene	ug/L (ppb)	10	<1	97	50-150
1,2-Dichloropropane	ug/L (ppb)	10	<1	101	50-150
Bromodichloromethane	ug/L (ppb)	10	<1	112	50-150
Dibromomethane	ug/L (ppb)	10	<1	96	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	107	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<1	103	50-150
Toluene	ug/L (ppb)	10	<1	90	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<1	94	50-150
1,1,2-Trichloroethane	ug/L (ppb)	10	<1	98	50-150
2-Hexanone	ug/L (ppb)	50	<10	102	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	96	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	92	50-150
Dibromochloromethane	ug/L (ppb)	10	<1	94	50-150
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	91	50-150
Chlorobenzene	ug/L (ppb)	10	<1	94	50-150
Ethylbenzene	ug/L (ppb)	10	<1	92	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	96	50-150
m,p-Xylene	ug/L (ppb)	20	<2	92	50-150
o-Xylene	ug/L (ppb)	10	<1	90	50-150
Styrene	ug/L (ppb)	10	<1	91	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	88	50-150
Bromoform	ug/L (ppb)	10	<1	97	50-150
n-Propylbenzene	ug/L (ppb)	10	<1	91	50-150
Bromobenzene	ug/L (ppb)	10	<1	88	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	103	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<1	91	50-150
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	88	50-150
2-Chlorotoluene	ug/L (ppb)	10	<1	92	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	91	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	90	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	95	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	89	50-150
p-Isopropyltoluene	ug/L (ppb)	10	<1	91	50-150
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	94	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	91	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	92	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	92	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	84	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<1	85	50-150
Naphthalene	ug/L (ppb)	10	<1	85	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	82	50-150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/15/21

Project: TWAFA TWAFA-001, F&BI 110326

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	88	84	46-206	5
Chloromethane	ug/L (ppb)	10	96	90	70-142	6
Vinyl chloride	ug/L (ppb)	10	105	99	70-130	6
Bromomethane	ug/L (ppb)	10	110	92	56-197	8
Chloroethane	ug/L (ppb)	10	99	91	70-130	8
Trichlorofluoromethane	ug/L (ppb)	10	102	93	70-130	9
Acetone	ug/L (ppb)	50	68	63	10-140	8
1,1-Dichloroethene	ug/L (ppb)	10	84	79	70-130	6
Hexane	ug/L (ppb)	10	76	72	54-136	5
Methylene chloride	ug/L (ppb)	10	102	90	43-134	12
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	99	94	70-130	5
trans-1,2-Dichloroethene	ug/L (ppb)	10	91	84	70-130	8
1,1-Dichloroethane	ug/L (ppb)	10	98	92	70-130	6
2,2-Dichloropropane	ug/L (ppb)	10	87	81	70-130	7
cis-1,2-Dichloroethene	ug/L (ppb)	10	97	91	70-130	6
Chloroform	ug/L (ppb)	10	92	89	70-130	3
2-Butanone (MEK)	ug/L (ppb)	50	93	96	17-154	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	99	97	70-130	2
1,1,1-Trichloroethane	ug/L (ppb)	10	103	98	70-130	5
1,1-Dichloropropene	ug/L (ppb)	10	95	92	70-130	3
Carbon tetrachloride	ug/L (ppb)	10	120	113	70-130	6
Benzene	ug/L (ppb)	10	91	90	70-130	1
Trichloroethene	ug/L (ppb)	10	92	90	70-130	2
1,2-Dichloropropane	ug/L (ppb)	10	96	98	70-130	2
Bromodichloromethane	ug/L (ppb)	10	113	94	70-130	18
Dibromomethane	ug/L (ppb)	10	96	96	70-130	0
4-Methyl-2-pentanone	ug/L (ppb)	50	100	106	68-130	6
cis-1,3-Dichloropropene	ug/L (ppb)	10	100	100	69-131	0
Toluene	ug/L (ppb)	10	87	88	70-130	1
trans-1,3-Dichloropropene	ug/L (ppb)	10	94	94	70-130	0
1,1,2-Trichloroethane	ug/L (ppb)	10	95	98	70-130	3
2-Hexanone	ug/L (ppb)	50	93	99	45-138	6
1,3-Dichloropropane	ug/L (ppb)	10	91	93	70-130	2
Tetrachloroethene	ug/L (ppb)	10	85	86	70-130	1
Dibromochloromethane	ug/L (ppb)	10	96	96	60-148	0
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	87	91	70-130	4
Chlorobenzene	ug/L (ppb)	10	91	91	70-130	0
Ethylbenzene	ug/L (ppb)	10	90	91	70-130	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	99	96	70-130	3
m,p-Xylene	ug/L (ppb)	20	89	90	70-130	1
o-Xylene	ug/L (ppb)	10	90	89	70-130	1
Styrene	ug/L (ppb)	10	89	89	70-130	0
Isopropylbenzene	ug/L (ppb)	10	89	88	70-130	1
Bromoform	ug/L (ppb)	10	103	102	69-138	1
n-Propylbenzene	ug/L (ppb)	10	94	92	70-130	2
Bromobenzene	ug/L (ppb)	10	93	91	70-130	2
1,3,5-Trimethylbenzene	ug/L (ppb)	10	101	97	70-130	4
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	99	98	70-130	1
1,2,3-Trichloropropane	ug/L (ppb)	10	94	93	70-130	1
2-Chlorotoluene	ug/L (ppb)	10	96	95	70-130	1
4-Chlorotoluene	ug/L (ppb)	10	92	92	70-130	0
tert-Butylbenzene	ug/L (ppb)	10	94	94	70-130	0
1,2,4-Trimethylbenzene	ug/L (ppb)	10	102	97	70-130	5
sec-Butylbenzene	ug/L (ppb)	10	96	93	70-130	3
p-Isopropyltoluene	ug/L (ppb)	10	96	93	70-130	3
1,3-Dichlorobenzene	ug/L (ppb)	10	96	97	70-130	1
1,4-Dichlorobenzene	ug/L (ppb)	10	96	95	70-130	1
1,2-Dichlorobenzene	ug/L (ppb)	10	101	98	70-130	3
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	107	101	70-130	6
1,2,4-Trichlorobenzene	ug/L (ppb)	10	89	89	70-130	0
Hexachlorobutadiene	ug/L (ppb)	10	83	81	70-130	2
Naphthalene	ug/L (ppb)	10	99	97	70-130	2
1,2,3-Trichlorobenzene	ug/L (ppb)	10	92	92	70-130	0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/15/21

Project: TWAFA TWAFA-001, F&BI 110326

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E**

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	5	7 vo	8 vo	10-86	13
Bis(2-chloroethyl) ether	ug/L (ppb)	5	83	87	60-88	5
2-Chlorophenol	ug/L (ppb)	5	29	47	10-89	47 vo
1,3-Dichlorobenzene	ug/L (ppb)	5	75	72	48-91	4
1,4-Dichlorobenzene	ug/L (ppb)	5	76	73	48-91	4
1,2-Dichlorobenzene	ug/L (ppb)	5	77	75	52-92	3
Benzyl alcohol	ug/L (ppb)	15	26	30	10-72	14
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	84	83	59-86	1
2-Methylphenol	ug/L (ppb)	5	23	31	10-75	30 vo
Hexachloroethane	ug/L (ppb)	5	72	70	47-92	3
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	92	95	70-130	3
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	18	24	10-66	29 vo
Nitrobenzene	ug/L (ppb)	5	81	91 vo	60-90	12
Isophorone	ug/L (ppb)	5	89	94	70-130	5
2-Nitrophenol	ug/L (ppb)	5	61	82	27-104	29 vo
2,4-Dimethylphenol	ug/L (ppb)	5	42	60	10-84	35 vo
Benzoic acid	ug/L (ppb)	40	5 vo	8 vo	10-102	46 vo
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	88	92	55-103	4
2,4-Dichlorophenol	ug/L (ppb)	5	47	73	23-103	43 vo
1,2,4-Trichlorobenzene	ug/L (ppb)	5	79	77	56-93	3
Naphthalene	ug/L (ppb)	5	80	81	62-90	1
Hexachlorobutadiene	ug/L (ppb)	5	73	69	48-85	6
4-Chloroaniline	ug/L (ppb)	15	61	61	35-108	0
4-Chloro-3-methylphenol	ug/L (ppb)	5	37	58	18-109	44 vo
2-Methylnaphthalene	ug/L (ppb)	5	82	85	64-93	4
1-Methylnaphthalene	ug/L (ppb)	5	81	85	64-93	5
Hexachlorocyclopentadiene	ug/L (ppb)	5	71	69	49-112	3
2,4,6-Trichlorophenol	ug/L (ppb)	5	58	82	16-112	34 vo
2,4,5-Trichlorophenol	ug/L (ppb)	5	61	86	26-113	34 vo
2-Chloronaphthalene	ug/L (ppb)	5	85	85	67-97	0
2-Nitroaniline	ug/L (ppb)	15	65	70	31-168	7
Dimethyl phthalate	ug/L (ppb)	5	91	94	70-130	3
Acenaphthylene	ug/L (ppb)	5	90	92	70-130	2
2,6-Dinitrotoluene	ug/L (ppb)	5	94	100	70-130	6
3-Nitroaniline	ug/L (ppb)	15	59	64	33-120	8
Acenaphthene	ug/L (ppb)	5	86	88	70-130	2
2,4-Dinitrophenol	ug/L (ppb)	10	35	72	10-120	69 vo
Dibenzofuran	ug/L (ppb)	5	93	96	67-107	3
2,4-Dinitrotoluene	ug/L (ppb)	5	78	105	53-132	30 vo
4-Nitrophenol	ug/L (ppb)	10	7 vo	10	10-89	35 vo
Diethyl phthalate	ug/L (ppb)	5	90	96	70-130	6
Fluorene	ug/L (ppb)	5	89	93	70-130	4
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	86	88	70-130	2
N-Nitrosodiphenylamine	ug/L (ppb)	5	90	93	70-130	3
4-Nitroaniline	ug/L (ppb)	15	57	65	32-122	13
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	56	85	10-139	41 vo
4-Bromophenyl phenyl ether	ug/L (ppb)	5	91	93	70-130	2
Hexachlorobenzene	ug/L (ppb)	5	86	89	65-95	3
Pentachlorophenol	ug/L (ppb)	5	54	79	10-129	38 vo
Phenanthrene	ug/L (ppb)	5	92	93	70-130	1
Anthracene	ug/L (ppb)	5	90	96	70-130	6
Carbazole	ug/L (ppb)	5	99	102	70-130	3
Di-n-butyl phthalate	ug/L (ppb)	5	89	116	28-147	26 vo
Fluoranthene	ug/L (ppb)	5	96	98	70-130	2
Pyrene	ug/L (ppb)	5	98	105	70-130	7
Benzyl butyl phthalate	ug/L (ppb)	5	88	110	34-142	22 vo
Benz(a)anthracene	ug/L (ppb)	5	96	99	70-130	3
Chrysene	ug/L (ppb)	5	96	98	70-130	2
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	96	99	53-133	3
Di-n-octyl phthalate	ug/L (ppb)	5	87	84	49-119	4
Benzo(a)pyrene	ug/L (ppb)	5	97	99	70-130	2
Benzo(b)fluoranthene	ug/L (ppb)	5	98	98	70-130	0
Benzo(k)fluoranthene	ug/L (ppb)	5	97	95	70-130	2
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	99	103	70-130	4
Dibenz(a,h)anthracene	ug/L (ppb)	5	96	103	70-130	7
Benzo(g,h,i)perylene	ug/L (ppb)	5	93	100	70-130	7

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/15/21

Project: TWAAFA TWAAFA-001, F&BI 110326

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.13	56	62	25-111	10
Aroclor 1260	ug/L (ppb)	0.13	69	77	23-123	11



# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

110324

SAMPLE CHAIN OF CUSTODY

10-15-21 VW2/E03/1A1

Report To Trevor Louviere/Tasya Gray

Company DOF

Address 1001 SW Klickitat Way

City, State, ZIP Seattle, WA 98134

Phone 425-785-6322 Email tlouviere@dofnw.com

SAMPLERS (signature)	
PROJECT NAME <u>TWAAFA</u>	PO # <u>TWAAFA-001</u>
REMARKS SVOCs lab filtered at 0.7 micron before analysis Project Specific RIs <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No	INVOICE TO <u>DOF</u>

Page # <u>1</u> of <u>1</u>
TURNAROUND TIME X Standard Turnaround X RUSH <u>24h</u> (VOC only) Rush charges authorized by: <u>T. Louviere</u>
SAMPLE DISPOSAL Dispose after 30 days Archive Samples Other _____

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes
						TPH-Diesel w/SG	TPH-Diesel	TPH-Gasoline	VOCs by 8260D	SVOCs by 8270E	LL PCBs by 8082	T Metals by 6020/1631E	
TWA-EB1-1021	S/A-C	10/15/2021	1330	W	12	X	X	X	X	X	X	X	
TRIP BLANK	ORA-B			W	2								
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Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

Relinquished by:	SIGNATURE	PRINT NAME <u>ANTHONY GARUTI</u>	COMPANY <u>DOF</u>	DATE <u>10/15/21</u>	TIME <u>1455</u>
Received by:		<u>VINVA</u>	<u>DOF</u>	<u>10/15/21</u>	<u>1455</u>
Relinquished by:					
Received by:					
Samples received at <u>4</u> °C					

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

October 26, 2021

Trevor Louviere, Project Manager  
Dalton Olmsted Fuglevand  
1001 SW Klickitat Way, Suite 200B  
Seattle, WA 98134

Dear Mr Louviere:

Included are the results from the testing of material submitted on October 12, 2021 from the TWAAFA-001, F&BI 110235 project. There are 31 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Tasya Gray  
DOF1026R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 12, 2021 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 110235 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Dalton Olmsted Fuglevand</u>
110235 -01	TWA-9_45-47_1021
110235 -02	TWA-9_55-57_1021
110235 -03	Trip Blank

The 8270E samples were filtered at Friedman & Bruya on 10/14/21. The data were flagged accordingly.

Thallium was reported between the 6020 method detection limit and the reporting limit. The data were flagged accordingly.

Diethyl phthalate, di-n-butyl phthalate, and bis(2-ethylhexyl)phthalate were detected in the 8270E analysis of samples TWA-9\_45-47\_1021, TWA-9\_55-57\_1021, and the method blank. The data were flagged as likely due to laboratory contamination.

Several compounds in the 8270E laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

An 8270E surrogate failed the laboratory acceptance criteria in the method blank. The data were flagged accordingly.

The 8082 laboratory control sample and laboratory control sample duplicate failed the relative percent difference for Aroclor 1016. PCBs associated with Aroclor 1016 were not detected therefore the data were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21  
Date Received: 10/12/21  
Project: TWAAFA-001, F&BI 110235  
Date Extracted: 10/15/21  
Date Analyzed: 10/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TWA-9_45-47_1021 110235-01	<100	99
TWA-9_55-57_1021 110235-02	<100	100
Method Blank 01-2303 MB	<100	98

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21  
Date Received: 10/12/21  
Project: TWAAFA-001, F&BI 110235  
Date Extracted: 10/14/21  
Date Analyzed: 10/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>  
Sample Extracts Passed Through a  
Silica Gel Column Prior to Analysis  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
TWA-9_45-47_1021 110235-01	<50	<250	100
TWA-9_55-57_1021 110235-02	81 x	1,100	47
Method Blank 01-2365 MB	<50	<250	131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21  
Date Received: 10/12/21  
Project: TWAAFA-001, F&BI 110235  
Date Extracted: 10/14/21  
Date Analyzed: 10/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 51-134)
TWA-9_45-47_1021 110235-01	260 x	<250	106
TWA-9_55-57_1021 110235-02	640 x	1,600	ip
Method Blank 01-2365 MB	<50	<250	137

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-9_45-47_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/12/21	Project:	TWAAFA-001, F&BI 110235
Date Extracted:	10/18/21	Lab ID:	110235-01
Date Analyzed:	10/18/21	Data File:	110235-01.081
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Chromium	17.3
Cobalt	2.43
Copper	7.36
Iron	4,640
Lead	<1
Manganese	102
Nickel	8.70
Thallium	<0.16 j
Vanadium	69.0
Zinc	12.6



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-9_45-47_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/12/21	Project:	TWAAFA-001, F&BI 110235
Date Extracted:	10/18/21	Lab ID:	110235-01 x2
Date Analyzed:	10/18/21	Data File:	110235-01 x2.088
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<2
Arsenic	8.07
Barium	11.5
Cadmium	<2
Selenium	16.9
Silver	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-9_45-47_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/12/21	Project:	TWAAFA-001, F&BI 110235
Date Extracted:	10/18/21	Lab ID:	110235-01 x10
Date Analyzed:	10/18/21	Data File:	110235-01 x10.069
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Beryllium	<2
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-9_55-57_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/12/21	Project:	TWAAFA-001, F&BI 110235
Date Extracted:	10/18/21	Lab ID:	110235-02
Date Analyzed:	10/18/21	Data File:	110235-02.082
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Chromium	62.0
Cobalt	12.6
Copper	37.6
Lead	8.72
Manganese	377
Nickel	32.4
Thallium	<0.16 j
Vanadium	104
Zinc	96.3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-9_55-57_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/12/21	Project:	TWAAFA-001, F&BI 110235
Date Extracted:	10/18/21	Lab ID:	110235-02 x2
Date Analyzed:	10/18/21	Data File:	110235-02 x2.093
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<2
Arsenic	19.5
Barium	72.1
Cadmium	<2
Selenium	12.3
Silver	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-9_55-57_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/12/21	Project:	TWAAFA-001, F&BI 110235
Date Extracted:	10/18/21	Lab ID:	110235-02 x10
Date Analyzed:	10/18/21	Data File:	110235-02 x10.070
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Beryllium	<2
Iron	47,800

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA-001, F&BI 110235
Date Extracted:	10/18/21	Lab ID:	I1-660 mb
Date Analyzed:	10/18/21	Data File:	I1-660 mb.038
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<0.2
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<1
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<3
Silver	<1
Thallium	<0.16 j
Vanadium	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21  
Date Received: 10/12/21  
Project: TWAAFA-001, F&BI 110235  
Date Extracted: 10/13/21  
Date Analyzed: 10/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Total Mercury</u>
TWA-9_45-47_1021 110235-01	<0.02
TWA-9_55-57_1021 110235-02	<0.02
Method Blank i1-652 MB	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-9_45-47_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/12/21	Project:	TWAAFA-001, F&BI 110235
Date Extracted:	10/13/21	Lab ID:	110235-01
Date Analyzed:	10/13/21	Data File:	101312.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	78	126
Toluene-d8	102	87	115
4-Bromofluorobenzene	110	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-9_55-57_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/12/21	Project:	TWAAFA-001, F&BI 110235
Date Extracted:	10/13/21	Lab ID:	110235-02
Date Analyzed:	10/13/21	Data File:	101313.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	78	126
Toluene-d8	96	87	115
4-Bromofluorobenzene	106	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	4.3	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 110235
Date Extracted:	10/13/21	Lab ID:	01-2239 mb
Date Analyzed:	10/13/21	Data File:	101307.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	78	126
Toluene-d8	100	87	115
4-Bromofluorobenzene	102	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-9_45-47_1021 f	Client:	Dalton Olmsted Fuglevand
Date Received:	10/12/21	Project:	TWAAFA-001, F&BI 110235
Date Extracted:	10/14/21	Lab ID:	110235-01 1/0.5
Date Analyzed:	10/16/21	Data File:	101537.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	10 ip	11	65
Phenol-d6	8 ip	11	65
Nitrobenzene-d5	47 ip	50	150
2-Fluorobiphenyl	36 ip	44	108
2,4,6-Tribromophenol	49	10	140
Terphenyl-d14	44 ip	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3 jl
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	2.0 jl fb
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 jl	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	1.5 fb
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	0.33 j fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-9_55-57_1021 f	Client:	Dalton Olmsted Fuglevand
Date Received:	10/12/21	Project:	TWAAFA-001, F&BI 110235
Date Extracted:	10/14/21	Lab ID:	110235-02 1/0.65
Date Analyzed:	10/16/21	Data File:	101538.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	15	11	65
Phenol-d6	11	11	65
Nitrobenzene-d5	79	50	150
2-Fluorobiphenyl	80	44	108
2,4,6-Tribromophenol	65	10	140
Terphenyl-d14	89	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1.3 jl	2,6-Dinitrotoluene	<0.65
Bis(2-chloroethyl) ether	<0.13	3-Nitroaniline	<13
2-Chlorophenol	<1.3	Acenaphthene	<0.013
1,3-Dichlorobenzene	<0.13	2,4-Dinitrophenol	<3.9
1,4-Dichlorobenzene	<0.13	Dibenzofuran	<0.13
1,2-Dichlorobenzene	<0.13	2,4-Dinitrotoluene	<0.65
Benzyl alcohol	<1.3	4-Nitrophenol	<3.9 jl
2,2'-Oxybis(1-chloropropane)	<0.13	Diethyl phthalate	4.6 jl fb
2-Methylphenol	<1.3	Fluorene	<0.013
Hexachloroethane	<0.13	4-Chlorophenyl phenyl ether	<0.13
N-Nitroso-di-n-propylamine	<0.13	N-Nitrosodiphenylamine	<0.13
3-Methylphenol + 4-Methylphenol	<2.6	4-Nitroaniline	<13
Nitrobenzene	<0.13	4,6-Dinitro-2-methylphenol	<3.9
Isophorone	<0.13	4-Bromophenyl phenyl ether	<0.13
2-Nitrophenol	<1.3	Hexachlorobenzene	<0.13
2,4-Dimethylphenol	<1.3	Pentachlorophenol	<0.65
Benzoic acid	<6.5 jl	Phenanthrene	<0.013
Bis(2-chloroethoxy)methane	<0.13	Anthracene	<0.013
2,4-Dichlorophenol	<1.3	Carbazole	<0.13
1,2,4-Trichlorobenzene	<0.13	Di-n-butyl phthalate	3.5 fb
Naphthalene	<0.13	Fluoranthene	<0.013
Hexachlorobutadiene	<0.13	Pyrene	<0.013
4-Chloroaniline	<13	Benzyl butyl phthalate	<1.3
4-Chloro-3-methylphenol	<1.3	Benz(a)anthracene	<0.013
2-Methylnaphthalene	<0.13	Chrysene	<0.013
1-Methylnaphthalene	<0.13	Bis(2-ethylhexyl) phthalate	0.34 j fb
Hexachlorocyclopentadiene	<0.39	Di-n-octyl phthalate	<1.3
2,4,6-Trichlorophenol	<1.3	Benzo(a)pyrene	<0.013
2,4,5-Trichlorophenol	<1.3	Benzo(b)fluoranthene	<0.013
2-Chloronaphthalene	<0.13	Benzo(k)fluoranthene	<0.013
2-Nitroaniline	<0.65	Indeno(1,2,3-cd)pyrene	<0.013
Dimethyl phthalate	<1.3	Dibenz(a,h)anthracene	<0.013
Acenaphthylene	<0.013	Benzo(g,h,i)perylene	<0.026

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 110235
Date Extracted:	10/14/21	Lab ID:	01-2367 mb 1/0.5
Date Analyzed:	10/16/21	Data File:	101536.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	12	11	65
Phenol-d6	8 vo	11	65
Nitrobenzene-d5	87	50	150
2-Fluorobiphenyl	84	44	108
2,4,6-Tribromophenol	80	10	140
Terphenyl-d14	96	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 jl js	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3 jl
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	1.8 jl lc
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 jl	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	1.7 lc
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	0.19 lc j
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-9_45-47_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/12/21	Project:	TWAAFA-001, F&BI 110235
Date Extracted:	10/14/21	Lab ID:	110235-01 1/0.26
Date Analyzed:	10/14/21	Data File:	101411.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	19 ip	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0037
Aroclor 1232	<0.0037
Aroclor 1016	<0.0037
Aroclor 1242	<0.0037
Aroclor 1248	<0.0037
Aroclor 1254	<0.0037
Aroclor 1260	<0.0037
Aroclor 1262	<0.0037
Aroclor 1268	<0.0037

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-9_55-57_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/12/21	Project:	TWAAFA-001, F&BI 110235
Date Extracted:	10/14/21	Lab ID:	110235-02 1/0.29
Date Analyzed:	10/14/21	Data File:	101412.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	30	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0041
Aroclor 1232	<0.0041
Aroclor 1016	<0.0041
Aroclor 1242	<0.0041
Aroclor 1248	<0.0041
Aroclor 1254	<0.0041
Aroclor 1260	<0.0041
Aroclor 1262	<0.0041
Aroclor 1268	<0.0041

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 110235
Date Extracted:	10/14/21	Lab ID:	01-2366 mb 1/0.25
Date Analyzed:	10/14/21	Data File:	101410.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	34	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/12/21

Project: TWAAFA-001, F&BI 110235

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 110280-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	100	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/12/21

Project: TWAAFA-001, F&BI 110235

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	92	100	61-133	8

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/12/21

Project: TWAAFA-001, F&BI 110235

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	84	96	58-134	13

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

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Project: TWAAFA-001, F&BI 110235

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 110314-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	103	103	75-125	0
Arsenic	ug/L (ppb)	10	5.23	102	99	75-125	3
Barium	ug/L (ppb)	50	18.1	105	105	75-125	0
Beryllium	ug/L (ppb)	5	<1	102	101	75-125	1
Cadmium	ug/L (ppb)	5	<1	96	97	75-125	1
Chromium	ug/L (ppb)	20	<1	101	101	75-125	0
Cobalt	ug/L (ppb)	20	<1	99	101	75-125	2
Copper	ug/L (ppb)	20	<5	92	93	75-125	1
Iron	ug/L (ppb)	100	175	89	93	75-125	4
Lead	ug/L (ppb)	10	<1	96	96	75-125	0
Manganese	ug/L (ppb)	20	7.21	102	105	75-125	3
Nickel	ug/L (ppb)	20	2.48	96	97	75-125	1
Selenium	ug/L (ppb)	5	<1	100	97	75-125	3
Silver	ug/L (ppb)	5	<1	90	91	75-125	1
Thallium	ug/L (ppb)	5	<1	99	100	75-125	1
Vanadium	ug/L (ppb)	20	1.29	107	107	75-125	0
Zinc	ug/L (ppb)	50	<5	94	94	75-125	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	101	80-120
Arsenic	ug/L (ppb)	10	97	80-120
Barium	ug/L (ppb)	50	99	80-120
Beryllium	ug/L (ppb)	5	100	80-120
Cadmium	ug/L (ppb)	5	97	80-120
Chromium	ug/L (ppb)	20	97	80-120
Cobalt	ug/L (ppb)	20	97	80-120
Copper	ug/L (ppb)	20	93	80-120
Iron	ug/L (ppb)	100	94	80-120
Lead	ug/L (ppb)	10	101	80-120
Manganese	ug/L (ppb)	20	98	80-120
Nickel	ug/L (ppb)	20	96	80-120
Selenium	ug/L (ppb)	5	101	80-120
Silver	ug/L (ppb)	5	98	80-120
Thallium	ug/L (ppb)	5	102	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	95	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
TOTAL MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 110228-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	77	82	71-125	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	93	96	78-125	3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 110235-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance Criteria
				Recovery MS	
Dichlorodifluoromethane	ug/L (ppb)	10	<1	99	50-150
Chloromethane	ug/L (ppb)	10	<10	96	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	113	50-150
Bromomethane	ug/L (ppb)	10	<5	97	50-150
Chloroethane	ug/L (ppb)	10	<1	102	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	99	50-150
Acetone	ug/L (ppb)	50	<50	58	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	96	50-150
Hexane	ug/L (ppb)	10	<5	101	50-150
Methylene chloride	ug/L (ppb)	10	<5	104	50-150
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	98	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	93	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	96	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	92	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	95	50-150
Chloroform	ug/L (ppb)	10	<1	92	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	82	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	96	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	101	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	93	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	109	50-150
Benzene	ug/L (ppb)	10	<0.35	91	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	92	50-150
1,2-Dichloropropane	ug/L (ppb)	10	<1	91	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	105	50-150
Dibromomethane	ug/L (ppb)	10	<1	92	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	99	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	92	50-150
Toluene	ug/L (ppb)	10	<1	95	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	101	50-150
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	98	50-150
2-Hexanone	ug/L (ppb)	50	<10	95	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	95	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	98	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	100	50-150
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	92	50-150
Chlorobenzene	ug/L (ppb)	10	<1	96	50-150
Ethylbenzene	ug/L (ppb)	10	<1	95	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	102	50-150
m,p-Xylene	ug/L (ppb)	20	<2	94	50-150
o-Xylene	ug/L (ppb)	10	<1	95	50-150
Styrene	ug/L (ppb)	10	<1	94	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	95	50-150
Bromoform	ug/L (ppb)	10	<5	102	50-150
n-Propylbenzene	ug/L (ppb)	10	<1	93	50-150
Bromobenzene	ug/L (ppb)	10	<1	87	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	99	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	92	50-150
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	88	50-150
2-Chlorotoluene	ug/L (ppb)	10	<1	94	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	90	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	93	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	98	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	95	50-150
p-Isopropyltoluene	ug/L (ppb)	10	<1	95	50-150
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	96	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	93	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	97	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	97	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	91	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	87	50-150
Naphthalene	ug/L (ppb)	10	<1	92	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	88	50-150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	99	97	46-206	2
Chloromethane	ug/L (ppb)	10	101	103	70-142	2
Vinyl chloride	ug/L (ppb)	10	113	110	70-130	3
Bromomethane	ug/L (ppb)	10	99	107	56-197	8
Chloroethane	ug/L (ppb)	10	100	100	70-130	0
Trichlorofluoromethane	ug/L (ppb)	10	106	105	70-130	1
Acetone	ug/L (ppb)	50	64	64	10-140	0
1,1-Dichloroethene	ug/L (ppb)	10	85	95	70-130	11
Hexane	ug/L (ppb)	10	94	91	54-136	3
Methylene chloride	ug/L (ppb)	10	96	100	43-134	4
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	96	96	70-130	0
trans-1,2-Dichloroethene	ug/L (ppb)	10	91	90	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	94	93	70-130	1
2,2-Dichloropropane	ug/L (ppb)	10	89	92	70-130	3
cis-1,2-Dichloroethene	ug/L (ppb)	10	93	93	70-130	0
Chloroform	ug/L (ppb)	10	90	87	70-130	3
2-Butanone (MEK)	ug/L (ppb)	50	87	95	17-154	9
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	94	92	70-130	2
1,1,1-Trichloroethane	ug/L (ppb)	10	99	98	70-130	1
1,1-Dichloropropene	ug/L (ppb)	10	91	91	70-130	0
Carbon tetrachloride	ug/L (ppb)	10	109	106	70-130	3
Benzene	ug/L (ppb)	10	89	88	70-130	1
Trichloroethene	ug/L (ppb)	10	89	88	70-130	1
1,2-Dichloropropane	ug/L (ppb)	10	90	89	70-130	1
Bromodichloromethane	ug/L (ppb)	10	87	101	70-130	15
Dibromomethane	ug/L (ppb)	10	88	89	70-130	1
4-Methyl-2-pentanone	ug/L (ppb)	50	94	91	68-130	3
cis-1,3-Dichloropropene	ug/L (ppb)	10	92	88	69-131	4
Toluene	ug/L (ppb)	10	92	94	70-130	2
trans-1,3-Dichloropropene	ug/L (ppb)	10	95	96	70-130	1
1,1,2-Trichloroethane	ug/L (ppb)	10	96	98	70-130	2
2-Hexanone	ug/L (ppb)	50	95	96	45-138	1
1,3-Dichloropropane	ug/L (ppb)	10	92	95	70-130	3
Tetrachloroethene	ug/L (ppb)	10	95	96	70-130	1
Dibromochloromethane	ug/L (ppb)	10	96	99	60-148	3
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	90	91	70-130	1
Chlorobenzene	ug/L (ppb)	10	93	94	70-130	1
Ethylbenzene	ug/L (ppb)	10	93	95	70-130	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	101	101	70-130	0
m,p-Xylene	ug/L (ppb)	20	92	94	70-130	2
o-Xylene	ug/L (ppb)	10	93	96	70-130	3
Styrene	ug/L (ppb)	10	91	90	70-130	1
Isopropylbenzene	ug/L (ppb)	10	92	93	70-130	1
Bromoform	ug/L (ppb)	10	100	100	69-138	0
n-Propylbenzene	ug/L (ppb)	10	93	93	70-130	0
Bromobenzene	ug/L (ppb)	10	88	88	70-130	0
1,3,5-Trimethylbenzene	ug/L (ppb)	10	98	100	70-130	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	92	94	70-130	2
1,2,3-Trichloropropane	ug/L (ppb)	10	93	89	70-130	4
2-Chlorotoluene	ug/L (ppb)	10	92	96	70-130	4
4-Chlorotoluene	ug/L (ppb)	10	90	92	70-130	2
tert-Butylbenzene	ug/L (ppb)	10	94	94	70-130	0
1,2,4-Trimethylbenzene	ug/L (ppb)	10	97	97	70-130	0
sec-Butylbenzene	ug/L (ppb)	10	95	95	70-130	0
p-Isopropyltoluene	ug/L (ppb)	10	94	96	70-130	2
1,3-Dichlorobenzene	ug/L (ppb)	10	95	96	70-130	1
1,4-Dichlorobenzene	ug/L (ppb)	10	93	93	70-130	0
1,2-Dichlorobenzene	ug/L (ppb)	10	95	97	70-130	2
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	98	103	70-130	5
1,2,4-Trichlorobenzene	ug/L (ppb)	10	89	88	70-130	1
Hexachlorobutadiene	ug/L (ppb)	10	86	87	70-130	1
Naphthalene	ug/L (ppb)	10	91	91	70-130	0
1,2,3-Trichlorobenzene	ug/L (ppb)	10	88	88	70-130	0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E**

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCS/D	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	5	8 vo	7 vo	10-86	13
Bis(2-chloroethyl) ether	ug/L (ppb)	5	86	82	60-88	5
2-Chlorophenol	ug/L (ppb)	5	44	40	10-89	10
1,3-Dichlorobenzene	ug/L (ppb)	5	84	78	48-91	7
1,4-Dichlorobenzene	ug/L (ppb)	5	84	77	48-91	9
1,2-Dichlorobenzene	ug/L (ppb)	5	85	78	52-92	9
Benzyl alcohol	ug/L (ppb)	15	30	29	10-72	3
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	86	81	59-86	6
2-Methylphenol	ug/L (ppb)	5	32	34	10-75	6
Hexachloroethane	ug/L (ppb)	5	81	76	47-92	6
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	92	88	70-130	4
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	26	27	10-66	4
Nitrobenzene	ug/L (ppb)	5	95 vo	87	60-90	9
Isophorone	ug/L (ppb)	5	90	87	70-130	3
2-Nitrophenol	ug/L (ppb)	5	72	54	27-104	29 vo
2,4-Dimethylphenol	ug/L (ppb)	5	56	55	10-84	2
Benzoic acid	ug/L (ppb)	40	0 vo	0 vo	10-102	nm
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	90	85	55-103	6
2,4-Dichlorophenol	ug/L (ppb)	5	66	55	23-103	18
1,2,4-Trichlorobenzene	ug/L (ppb)	5	89	81	56-93	9
Naphthalene	ug/L (ppb)	5	88	81	62-90	8
Hexachlorobutadiene	ug/L (ppb)	5	83	75	48-85	10
4-Chloroaniline	ug/L (ppb)	15	52	53	35-108	2
4-Chloro-3-methylphenol	ug/L (ppb)	5	59	61	18-109	3
2-Methylnaphthalene	ug/L (ppb)	5	92	85	64-93	8
1-Methylnaphthalene	ug/L (ppb)	5	91	84	64-93	8
Hexachlorocyclopentadiene	ug/L (ppb)	5	79	76	49-112	4
2,4,6-Trichlorophenol	ug/L (ppb)	5	60	38	16-112	45 vo
2,4,5-Trichlorophenol	ug/L (ppb)	5	72	50	26-113	36 vo
2-Chloronaphthalene	ug/L (ppb)	5	92	85	67-97	8
2-Nitroaniline	ug/L (ppb)	15	92	94	31-168	2
Dimethyl phthalate	ug/L (ppb)	5	101	96	70-130	5
Acenaphthylene	ug/L (ppb)	5	96	90	70-130	6
2,6-Dinitrotoluene	ug/L (ppb)	5	104	101	70-130	3
3-Nitroaniline	ug/L (ppb)	15	63	66	33-120	5
Acenaphthene	ug/L (ppb)	5	93	88	70-130	6
2,4-Dinitrophenol	ug/L (ppb)	10	25	22	10-120	13
Dibenzofuran	ug/L (ppb)	5	101	97	67-107	4
2,4-Dinitrotoluene	ug/L (ppb)	5	111	106	53-132	5
4-Nitrophenol	ug/L (ppb)	10	5 vo	3 vo	10-89	50 vo
Diethyl phthalate	ug/L (ppb)	5	34 vo	28 vo	70-130	19
Fluorene	ug/L (ppb)	5	99	93	70-130	6
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	97	91	70-130	6
N-Nitrosodiphenylamine	ug/L (ppb)	5	94	89	70-130	5
4-Nitroaniline	ug/L (ppb)	15	66	68	32-122	3
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	51	40	10-139	24 vo
4-Bromophenyl phenyl ether	ug/L (ppb)	5	92	90	70-130	2
Hexachlorobenzene	ug/L (ppb)	5	90	88	65-95	2
Pentachlorophenol	ug/L (ppb)	5	44	29	10-129	41 vo
Phenanthrene	ug/L (ppb)	5	95	91	70-130	4
Anthracene	ug/L (ppb)	5	96	90	70-130	6
Carbazole	ug/L (ppb)	5	81	78	70-130	4
Di-n-butyl phthalate	ug/L (ppb)	5	50	45	28-147	11
Fluoranthene	ug/L (ppb)	5	98	94	70-130	4
Pyrene	ug/L (ppb)	5	96	94	70-130	2
Benzyl butyl phthalate	ug/L (ppb)	5	99	94	34-142	5
Benz(a)anthracene	ug/L (ppb)	5	98	96	70-130	2
Chrysene	ug/L (ppb)	5	98	96	70-130	2
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	108	101	53-133	7
Di-n-octyl phthalate	ug/L (ppb)	5	80	77	49-119	4
Benzo(a)pyrene	ug/L (ppb)	5	99	96	70-130	3
Benzo(b)fluoranthene	ug/L (ppb)	5	96	94	70-130	2
Benzo(k)fluoranthene	ug/L (ppb)	5	99	96	70-130	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	102	102	70-130	0
Dibenz(a,h)anthracene	ug/L (ppb)	5	103	101	70-130	2
Benzo(g,h,i)perylene	ug/L (ppb)	5	100	99	70-130	1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.5	47	59	25-111	23 vo
Aroclor 1260	ug/L (ppb)	0.5	65	69	23-123	6

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

110235

SAMPLE CHAIN OF CUSTODY

ME 10-12-21

VW3

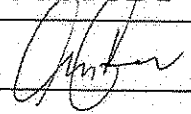
Report To Trevor Louviere/Tasya Gray

Company DOF

Address 1001 SW Klickitat Way

City, State, ZIP Seattle, WA 98134

Phone 425-785-6322 Email tlouviere@dofnw.com

SAMPLERS (signature) 

PROJECT NAME TWAAFA PO # TWAAFA-001

REMARKS SVOCs lab filtered at 0.7 micron before analysis INVOICE TO DOF

Project Specific RLs (Yes/No) (Yes) / No

Page # 1 of 1

TURNAROUND TIME AI2

Standard Turnaround

RUSH 24h (VOC only) \*

Rush charges authorized by: T. Louviere E04

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other

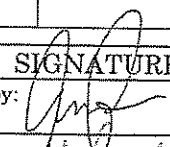
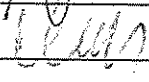
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes
						TPH-Diesel w/SG	TPH-Diesel	TPH-Gasoline	VOCs by 8260D	SVOCs by 8270E	LL PCBs by 8082	T Metals by 6020/1631E	
TWA-9_45-47-1021	01A-L	10/12/21	1130	W	12	X	X	X	X	X	X	X	
TWA-9_55-57-1021	02	10/12/21	1430	W	12	X	X	X	X	X	X	X	
TRIP BLANK	03A-B				2				X				
Samples received at <u>4</u> °C													

Friedman & Bruya, Inc.

3012 16<sup>th</sup> Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	ANTHONY CERUTI	DOF	10/12/21	1500
Received by: 	V. V. H.	FBI	10/12/21	1500
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

October 26, 2021

Trevor Louviere, Project Manager  
Dalton Olmsted Fuglevand  
1001 SW Klickitat Way, Suite 200B  
Seattle, WA 98134

Dear Mr Louviere:

Included are the results from the testing of material submitted on October 13, 2021 from the TWAAFA-001, F&BI 110266 project. There are 28 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Tasya Gray  
DOF1026R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 13, 2021 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 110266 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Dalton Olmsted Fuglevand</u>
110266 -01	TWA-8_20-22_1021
110266 -02	Trip Blank

The 8270E samples were filtered at Friedman & Bruya on 10/14/21. The data were flagged accordingly.

Thallium was reported between the 6020 method detection limit and the reporting limit. The data were flagged accordingly.

Diethyl phthalate, di-n-butyl phthalate, and bis(2-ethylhexyl)phthalate were detected in the 8270E analysis of sample TWA-8\_20-22\_1021 and the method blank. The data were flagged as likely due to laboratory contamination.

Several compounds in the 8270E laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

An 8270E surrogate failed the laboratory acceptance criteria in the method blank. The data were flagged accordingly.

The 8082 laboratory control sample and laboratory control sample duplicate failed the relative percent difference for Aroclor 1016. PCBs associated with Aroclor 1016 were not detected therefore the data were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21  
Date Received: 10/13/21  
Project: TWAAFA-001, F&BI 110266  
Date Extracted: 10/15/21  
Date Analyzed: 10/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TWA-8_20-22_1021 110266-01	<100	97
Method Blank 01-2303 MB	<100	98

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21  
Date Received: 10/13/21  
Project: TWAAFA-001, F&BI 110266  
Date Extracted: 10/14/21  
Date Analyzed: 10/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx  
Sample Extracts Passed Through a  
Silica Gel Column Prior to Analysis  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
TWA-8_20-22_1021 110266-01	<50	<250	122
Method Blank 01-2365 MB	<50	<250	131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21  
Date Received: 10/13/21  
Project: TWAAFA-001, F&BI 110266  
Date Extracted: 10/14/21  
Date Analyzed: 10/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TWA-8_20-22_1021 110266-01	790 x	390 x	118
Method Blank 01-2365 MB	<50	<250	137



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-8_20-22_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/13/21	Project:	TWAAFA-001, F&BI 110266
Date Extracted:	10/18/21	Lab ID:	110266-01
Date Analyzed:	10/18/21	Data File:	110266-01.079
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	15.3
Thallium	0.254

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-8_20-22_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/13/21	Project:	TWAAFA-001, F&BI 110266
Date Extracted:	10/18/21	Lab ID:	110266-01 x2
Date Analyzed:	10/18/21	Data File:	110266-01 x2.092
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<2
Arsenic	25.8
Barium	124
Cadmium	<2
Silver	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-8_20-22_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/13/21	Project:	TWAAFA-001, F&BI 110266
Date Extracted:	10/18/21	Lab ID:	110266-01 x10
Date Analyzed:	10/18/21	Data File:	110266-01 x10.068
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Beryllium	<2
Selenium	10.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-8_20-22_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/13/21	Project:	TWAAFA-001, F&BI 110266
Date Extracted:	10/18/21	Lab ID:	110266-01 x20
Date Analyzed:	10/18/21	Data File:	110266-01 x20.078
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Chromium	44.8
Cobalt	40.8
Copper	72.1
Manganese	1,030
Nickel	88.1
Vanadium	120
Zinc	129

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-8_20-22_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/13/21	Project:	TWAAFA-001, F&BI 110266
Date Extracted:	10/18/21	Lab ID:	110266-01 x500
Date Analyzed:	10/19/21	Data File:	110266-01 x500.163
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	173,000

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA-001, F&BI 110266
Date Extracted:	10/18/21	Lab ID:	I1-660 mb
Date Analyzed:	10/18/21	Data File:	I1-660 mb.038
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<0.2
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<1
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<1
Silver	<1
Thallium	<0.16 j
Vanadium	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21  
Date Received: 10/13/21  
Project: TWAAFA-001, F&BI 110266  
Date Extracted: 10/18/21  
Date Analyzed: 10/20/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Total Mercury</u>
TWA-8_20-22_1021 110266-01	<0.02
Method Blank i1-662 MB	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-8_20-22_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/13/21	Project:	TWAAFA-001, F&BI 110266
Date Extracted:	10/14/21	Lab ID:	110266-01
Date Analyzed:	10/14/21	Data File:	101409.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	78	126
Toluene-d8	97	87	115
4-Bromofluorobenzene	103	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	10/13/21	Project:	TWAAFA-001, F&BI 110266
Date Extracted:	10/14/21	Lab ID:	110266-02
Date Analyzed:	10/14/21	Data File:	101410.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	78	126
Toluene-d8	99	87	115
4-Bromofluorobenzene	104	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 110266
Date Extracted:	10/14/21	Lab ID:	01-2244 mb
Date Analyzed:	10/14/21	Data File:	101407.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	113	78	126
Toluene-d8	102	87	115
4-Bromofluorobenzene	108	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-8_20-22_1021 f	Client:	Dalton Olmsted Fuglevand
Date Received:	10/13/21	Project:	TWAAFA-001, F&BI 110266
Date Extracted:	10/14/21	Lab ID:	110266-01 1/0.5
Date Analyzed:	10/16/21	Data File:	101539.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	8 ip	11	65
Phenol-d6	9 ip	11	65
Nitrobenzene-d5	79	50	150
2-Fluorobiphenyl	83	44	108
2,4,6-Tribromophenol	41	10	140
Terphenyl-d14	89	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3 jl
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	9.5 jl fb
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 jl	Phenanthrene	0.010
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	8.7 fb
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	2.2 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 110266
Date Extracted:	10/14/21	Lab ID:	01-2367 mb 1/0.5
Date Analyzed:	10/16/21	Data File:	101536.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	12	11	65
Phenol-d6	8 vo	11	65
Nitrobenzene-d5	87	50	150
2-Fluorobiphenyl	84	44	108
2,4,6-Tribromophenol	80	10	140
Terphenyl-d14	96	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 jl js	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3 jl
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	1.8 jl lc
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 jl	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	1.7 lc
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	0.19 lc j
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-8_20-22_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/13/21	Project:	TWAAFA-001, F&BI 110266
Date Extracted:	10/14/21	Lab ID:	110266-01 1/0.28
Date Analyzed:	10/14/21	Data File:	101413.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	31	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0039
Aroclor 1232	<0.0039
Aroclor 1016	<0.0039
Aroclor 1242	<0.0039
Aroclor 1248	<0.0039
Aroclor 1254	<0.0039
Aroclor 1260	0.013
Aroclor 1262	<0.0039
Aroclor 1268	<0.0039

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 110266
Date Extracted:	10/14/21	Lab ID:	01-2366 mb 1/0.25
Date Analyzed:	10/14/21	Data File:	101410.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	34	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/13/21

Project: TWAAFA-001, F&BI 110266

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 110280-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	100	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/13/21

Project: TWAAFA-001, F&BI 110266

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	92	100	61-133	8



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/13/21

Project: TWAAFA-001, F&BI 110266

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	84	96	58-134	13

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/13/21

Project: TWAAFA-001, F&BI 110266

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 110314-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	103	103	75-125	0
Arsenic	ug/L (ppb)	10	5.23	102	99	75-125	3
Barium	ug/L (ppb)	50	18.1	105	105	75-125	0
Beryllium	ug/L (ppb)	5	<1	102	101	75-125	1
Cadmium	ug/L (ppb)	5	<1	96	97	75-125	1
Chromium	ug/L (ppb)	20	<1	101	101	75-125	0
Cobalt	ug/L (ppb)	20	<1	99	101	75-125	2
Copper	ug/L (ppb)	20	<5	92	93	75-125	1
Iron	ug/L (ppb)	100	175	89	93	75-125	4
Lead	ug/L (ppb)	10	<1	96	96	75-125	0
Manganese	ug/L (ppb)	20	7.21	102	105	75-125	3
Nickel	ug/L (ppb)	20	2.48	96	97	75-125	1
Selenium	ug/L (ppb)	5	<1	100	97	75-125	3
Silver	ug/L (ppb)	5	<1	90	91	75-125	1
Thallium	ug/L (ppb)	5	<1	99	100	75-125	1
Vanadium	ug/L (ppb)	20	1.29	107	107	75-125	0
Zinc	ug/L (ppb)	50	<5	94	94	75-125	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	101	80-120
Arsenic	ug/L (ppb)	10	97	80-120
Barium	ug/L (ppb)	50	99	80-120
Beryllium	ug/L (ppb)	5	100	80-120
Cadmium	ug/L (ppb)	5	97	80-120
Chromium	ug/L (ppb)	20	97	80-120
Cobalt	ug/L (ppb)	20	97	80-120
Copper	ug/L (ppb)	20	93	80-120
Iron	ug/L (ppb)	100	94	80-120
Lead	ug/L (ppb)	10	101	80-120
Manganese	ug/L (ppb)	20	98	80-120
Nickel	ug/L (ppb)	20	96	80-120
Selenium	ug/L (ppb)	5	101	80-120
Silver	ug/L (ppb)	5	98	80-120
Thallium	ug/L (ppb)	5	102	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	95	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/13/21

Project: TWAAFA-001, F&BI 110266

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
TOTAL MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 110334-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	91	97	71-125	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	89	91	78-125	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/13/21

Project: TWAAFA-001, F&BI 110266

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 110266-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance Criteria
				Recovery MS	
Dichlorodifluoromethane	ug/L (ppb)	10	<1	124	50-150
Chloromethane	ug/L (ppb)	10	<10	120	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	144	50-150
Bromomethane	ug/L (ppb)	10	<5	134	50-150
Chloroethane	ug/L (ppb)	10	<1	126	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	132	50-150
Acetone	ug/L (ppb)	50	<50	74	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	103	50-150
Hexane	ug/L (ppb)	10	<5	109	50-150
Methylene chloride	ug/L (ppb)	10	<5	123	50-150
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	113	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	110	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	112	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	115	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	112	50-150
Chloroform	ug/L (ppb)	10	<1	105	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	93	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	108	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	120	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	107	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	134	50-150
Benzene	ug/L (ppb)	10	<0.35	102	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	103	50-150
1,2-Dichloropropane	ug/L (ppb)	10	<1	99	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	102	50-150
Dibromomethane	ug/L (ppb)	10	<1	101	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	105	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	99	50-150
Toluene	ug/L (ppb)	10	<1	98	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	101	50-150
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	102	50-150
2-Hexanone	ug/L (ppb)	50	<10	97	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	97	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	103	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	105	50-150
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	94	50-150
Chlorobenzene	ug/L (ppb)	10	<1	98	50-150
Ethylbenzene	ug/L (ppb)	10	<1	100	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	114	50-150
m,p-Xylene	ug/L (ppb)	20	<2	100	50-150
o-Xylene	ug/L (ppb)	10	<1	103	50-150
Styrene	ug/L (ppb)	10	<1	96	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	104	50-150
Bromoform	ug/L (ppb)	10	<5	108	50-150
n-Propylbenzene	ug/L (ppb)	10	<1	96	50-150
Bromobenzene	ug/L (ppb)	10	<1	88	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	103	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	96	50-150
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	89	50-150
2-Chlorotoluene	ug/L (ppb)	10	<1	98	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	91	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	99	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	102	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	100	50-150
p-Isopropyltoluene	ug/L (ppb)	10	<1	101	50-150
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	97	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	97	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	98	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	107	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	96	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	91	50-150
Naphthalene	ug/L (ppb)	10	<1	97	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	94	50-150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/13/21

Project: TWAAFA-001, F&BI 110266

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	107	109	46-206	2
Chloromethane	ug/L (ppb)	10	112	114	70-142	2
Vinyl chloride	ug/L (ppb)	10	122	123	70-130	1
Bromomethane	ug/L (ppb)	10	109	111	56-197	2
Chloroethane	ug/L (ppb)	10	109	111	70-130	2
Trichlorofluoromethane	ug/L (ppb)	10	114	116	70-130	2
Acetone	ug/L (ppb)	50	68	69	10-140	1
1,1-Dichloroethene	ug/L (ppb)	10	93	93	70-130	0
Hexane	ug/L (ppb)	10	116	99	54-136	16
Methylene chloride	ug/L (ppb)	10	115	105	43-134	9
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	106	106	70-130	0
trans-1,2-Dichloroethene	ug/L (ppb)	10	100	100	70-130	0
1,1-Dichloroethane	ug/L (ppb)	10	104	104	70-130	0
2,2-Dichloropropane	ug/L (ppb)	10	99	103	70-130	4
cis-1,2-Dichloroethene	ug/L (ppb)	10	103	102	70-130	1
Chloroform	ug/L (ppb)	10	97	98	70-130	1
2-Butanone (MEK)	ug/L (ppb)	50	97	96	17-154	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	104	104	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	10	110	109	70-130	1
1,1-Dichloropropene	ug/L (ppb)	10	102	101	70-130	1
Carbon tetrachloride	ug/L (ppb)	10	122	121	70-130	1
Benzene	ug/L (ppb)	10	98	98	70-130	0
Trichloroethene	ug/L (ppb)	10	98	99	70-130	1
1,2-Dichloropropane	ug/L (ppb)	10	103	99	70-130	4
Bromodichloromethane	ug/L (ppb)	10	114	115	70-130	1
Dibromomethane	ug/L (ppb)	10	99	98	70-130	1
4-Methyl-2-pentanone	ug/L (ppb)	50	104	102	68-130	2
cis-1,3-Dichloropropene	ug/L (ppb)	10	103	100	69-131	3
Toluene	ug/L (ppb)	10	93	95	70-130	2
trans-1,3-Dichloropropene	ug/L (ppb)	10	99	96	70-130	3
1,1,2-Trichloroethane	ug/L (ppb)	10	99	100	70-130	1
2-Hexanone	ug/L (ppb)	50	94	96	45-138	2
1,3-Dichloropropane	ug/L (ppb)	10	96	94	70-130	2
Tetrachloroethene	ug/L (ppb)	10	95	96	70-130	1
Dibromochloromethane	ug/L (ppb)	10	101	101	60-148	0
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	92	94	70-130	2
Chlorobenzene	ug/L (ppb)	10	95	96	70-130	1
Ethylbenzene	ug/L (ppb)	10	94	95	70-130	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	105	103	70-130	2
m,p-Xylene	ug/L (ppb)	20	93	94	70-130	1
o-Xylene	ug/L (ppb)	10	94	96	70-130	2
Styrene	ug/L (ppb)	10	91	93	70-130	2
Isopropylbenzene	ug/L (ppb)	10	93	94	70-130	1
Bromoform	ug/L (ppb)	10	106	98	69-138	8
n-Propylbenzene	ug/L (ppb)	10	92	94	70-130	2
Bromobenzene	ug/L (ppb)	10	90	92	70-130	2
1,3,5-Trimethylbenzene	ug/L (ppb)	10	98	101	70-130	3
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	94	97	70-130	3
1,2,3-Trichloropropane	ug/L (ppb)	10	92	93	70-130	1
2-Chlorotoluene	ug/L (ppb)	10	93	98	70-130	5
4-Chlorotoluene	ug/L (ppb)	10	90	93	70-130	3
tert-Butylbenzene	ug/L (ppb)	10	93	96	70-130	3
1,2,4-Trimethylbenzene	ug/L (ppb)	10	97	101	70-130	4
sec-Butylbenzene	ug/L (ppb)	10	95	97	70-130	2
p-Isopropyltoluene	ug/L (ppb)	10	96	97	70-130	1
1,3-Dichlorobenzene	ug/L (ppb)	10	96	97	70-130	1
1,4-Dichlorobenzene	ug/L (ppb)	10	93	96	70-130	3
1,2-Dichlorobenzene	ug/L (ppb)	10	97	98	70-130	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	97	104	70-130	7
1,2,4-Trichlorobenzene	ug/L (ppb)	10	90	91	70-130	1
Hexachlorobutadiene	ug/L (ppb)	10	87	88	70-130	1
Naphthalene	ug/L (ppb)	10	92	94	70-130	2
1,2,3-Trichlorobenzene	ug/L (ppb)	10	90	92	70-130	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/13/21

Project: TWAFA-001, F&BI 110266

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E**

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	5	8 vo	7 vo	10-86	13
Bis(2-chloroethyl) ether	ug/L (ppb)	5	86	82	60-88	5
2-Chlorophenol	ug/L (ppb)	5	44	40	10-89	10
1,3-Dichlorobenzene	ug/L (ppb)	5	84	78	48-91	7
1,4-Dichlorobenzene	ug/L (ppb)	5	84	77	48-91	9
1,2-Dichlorobenzene	ug/L (ppb)	5	85	78	52-92	9
Benzyl alcohol	ug/L (ppb)	15	30	29	10-72	3
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	86	81	59-86	6
2-Methylphenol	ug/L (ppb)	5	32	34	10-75	6
Hexachloroethane	ug/L (ppb)	5	81	76	47-92	6
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	92	88	70-130	4
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	26	27	10-66	4
Nitrobenzene	ug/L (ppb)	5	95 vo	87	60-90	9
Isophorone	ug/L (ppb)	5	90	87	70-130	3
2-Nitrophenol	ug/L (ppb)	5	72	54	27-104	29 vo
2,4-Dimethylphenol	ug/L (ppb)	5	56	55	10-84	2
Benzoic acid	ug/L (ppb)	40	0 vo	0 vo	10-102	nm
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	90	85	55-103	6
2,4-Dichlorophenol	ug/L (ppb)	5	66	55	23-103	18
1,2,4-Trichlorobenzene	ug/L (ppb)	5	89	81	56-93	9
Naphthalene	ug/L (ppb)	5	88	81	62-90	8
Hexachlorobutadiene	ug/L (ppb)	5	83	75	48-85	10
4-Chloroaniline	ug/L (ppb)	15	52	53	35-108	2
4-Chloro-3-methylphenol	ug/L (ppb)	5	59	61	18-109	3
2-Methylnaphthalene	ug/L (ppb)	5	92	85	64-93	8
1-Methylnaphthalene	ug/L (ppb)	5	91	84	64-93	8
Hexachlorocyclopentadiene	ug/L (ppb)	5	79	76	49-112	4
2,4,6-Trichlorophenol	ug/L (ppb)	5	60	38	16-112	45 vo
2,4,5-Trichlorophenol	ug/L (ppb)	5	72	50	26-113	36 vo
2-Chloronaphthalene	ug/L (ppb)	5	92	85	67-97	8
2-Nitroaniline	ug/L (ppb)	15	92	94	31-168	2
Dimethyl phthalate	ug/L (ppb)	5	101	96	70-130	5
Acenaphthylene	ug/L (ppb)	5	96	90	70-130	6
2,6-Dinitrotoluene	ug/L (ppb)	5	104	101	70-130	3
3-Nitroaniline	ug/L (ppb)	15	63	66	33-120	5
Acenaphthene	ug/L (ppb)	5	93	88	70-130	6
2,4-Dinitrophenol	ug/L (ppb)	10	25	22	10-120	13
Dibenzofuran	ug/L (ppb)	5	101	97	67-107	4
2,4-Dinitrotoluene	ug/L (ppb)	5	111	106	53-132	5
4-Nitrophenol	ug/L (ppb)	10	5 vo	3 vo	10-89	50 vo
Diethyl phthalate	ug/L (ppb)	5	34 vo	28 vo	70-130	19
Fluorene	ug/L (ppb)	5	99	93	70-130	6
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	97	91	70-130	6
N-Nitrosodiphenylamine	ug/L (ppb)	5	94	89	70-130	5
4-Nitroaniline	ug/L (ppb)	15	66	68	32-122	3
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	51	40	10-139	24 vo
4-Bromophenyl phenyl ether	ug/L (ppb)	5	92	90	70-130	2
Hexachlorobenzene	ug/L (ppb)	5	90	88	65-95	2
Pentachlorophenol	ug/L (ppb)	5	44	29	10-129	41 vo
Phenanthrene	ug/L (ppb)	5	95	91	70-130	4
Anthracene	ug/L (ppb)	5	96	90	70-130	6
Carbazole	ug/L (ppb)	5	81	78	70-130	4
Di-n-butyl phthalate	ug/L (ppb)	5	50	45	28-147	11
Fluoranthene	ug/L (ppb)	5	98	94	70-130	4
Pyrene	ug/L (ppb)	5	96	94	70-130	2
Benzyl butyl phthalate	ug/L (ppb)	5	99	94	34-142	5
Benz(a)anthracene	ug/L (ppb)	5	98	96	70-130	2
Chrysene	ug/L (ppb)	5	98	96	70-130	2
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	108	101	53-133	7
Di-n-octyl phthalate	ug/L (ppb)	5	80	77	49-119	4
Benzo(a)pyrene	ug/L (ppb)	5	99	96	70-130	3
Benzo(b)fluoranthene	ug/L (ppb)	5	96	94	70-130	2
Benzo(k)fluoranthene	ug/L (ppb)	5	99	96	70-130	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	102	102	70-130	0
Dibenz(a,h)anthracene	ug/L (ppb)	5	103	101	70-130	2
Benzo(g,h,i)perylene	ug/L (ppb)	5	100	99	70-130	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/13/21

Project: TWAAFA-001, F&BI 110266

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.13	47	59	25-111	23 vo
Aroclor 1260	ug/L (ppb)	0.13	65	69	23-123	6

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



110266

SAMPLE CHAIN OF CUSTODY

10-13-21

AL/vwi/EO3

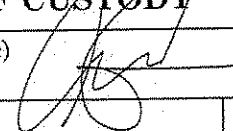
Report To Trevor Louviere/Tasya Grav

Company DOF

Address 1001 SW Klickitat Way

City, State, ZIP Seattle, WA 98134

Phone 425-785-6322 Email tlouviere@dofnw.com

SAMPLERS (signature) 

PROJECT NAME TWAIFA

PO # TWAIFA-001

REMARKS SVOCs lab filtered at 0.7 micron before analysis

INVOICE TO DOF

Project Specific RLs (Yes) / No

Page # of

TURNAROUND TIME

X Standard Turnaround

X RUSH 24h (VOC only)

Rush charges authorized by: T. Louviere

SAMPLE DISPOSAL

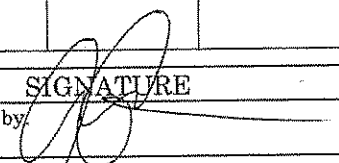
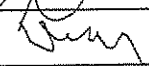
Dispose after 30 days

Archive Samples

Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes
						TPH-Diesel w/SG	TPH-Diesel	TPH-Gasoline	VOCs by 8260D	SVOCs by 8270E	LL PCBs by 8082	T Metals by 6020/1631E	
TWA-8-20-22-1021	01A-L	10/13/21	1345	W	12	X	X	X	X	X	X	X	
TRIP BLANK	02A-B	10/13/21	—	—	2				X				
<del>Empty rows</del>													

Friedman & Bruya, Inc.  
 3012 16<sup>th</sup> Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
	ANTHONY CERRETI	DOF	10/13/21	1500
	VINH H	FBI	10/13/21	1500
		Samples received at 4 °C		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

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Seattle, WA 98119-2029  
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October 26, 2021

Trevor Louviere, Project Manager  
Dalton Olmsted Fuglevand  
1001 SW Klickitat Way, Suite 200B  
Seattle, WA 98134

Dear Mr Louviere:

Included are the results from the testing of material submitted on October 14, 2021 from the TWAAFA-01, F&BI 110280 project. There are 33 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Tasya Gray  
DOF1026R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 14, 2021 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-01, F&BI 110280 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Dalton Olmsted Fuglevand</u>
110280 -01	TWA-8_40-42_1021
110280 -02	TWA-8_50-52_1021
110280 -03	Trip Blank

The 8270E samples were filtered at Friedman & Bruya on 10/14/21. The data were flagged accordingly.

Thallium was reported between the 6020 method detection limit and the reporting limit. The data were flagged accordingly.

Diethyl phthalate, di-n-butyl phthalate, and bis(2-ethylhexyl)phthalate were detected in the 8270E analysis of samples TWA-8\_40-42\_1021, TWA-8\_50-52\_1021, and the method blank. The data were flagged as likely due to laboratory contamination.

Several compounds in the 8270E laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

An 8270E surrogate failed the laboratory acceptance criteria in the method blank. The data were flagged accordingly.

The 8082 laboratory control sample and laboratory control sample duplicate failed the relative percent difference for Aroclor 1016. PCBs associated with Aroclor 1016 were not detected therefore the data were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21  
Date Received: 10/14/21  
Project: TWAAFA-01, F&BI 110280  
Date Extracted: 10/15/21  
Date Analyzed: 10/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TWA-8_40-42_1021 110280-01	<100	97
TWA-8_50-52_1021 110280-02	<100	97
Method Blank 01-2303 MB	<100	98

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21  
Date Received: 10/14/21  
Project: TWAAFA-01, F&BI 110280  
Date Extracted: 10/14/21  
Date Analyzed: 10/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>  
Sample Extracts Passed Through a  
Silica Gel Column Prior to Analysis  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
TWA-8_40-42_1021 110280-01	<50	<250	57
TWA-8_50-52_1021 110280-02	<50	<250	107
Method Blank 01-2365 MB	<50	<250	131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21  
Date Received: 10/14/21  
Project: TWAAFA-01, F&BI 110280  
Date Extracted: 10/14/21  
Date Analyzed: 10/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 51-134)
TWA-8_40-42_1021 110280-01	83 x	<250	58
TWA-8_50-52_1021 110280-02	150 x	<250	106
Method Blank 01-2365 MB	<50	<250	137

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-8_40-42_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/14/21	Project:	TWAAFA-01, F&BI 110280
Date Extracted:	10/18/21	Lab ID:	110280-01
Date Analyzed:	10/18/21	Data File:	110280-01.083
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	10.1
Barium	31.1
Cadmium	<1
Chromium	21.6
Cobalt	5.83
Copper	13.2
Lead	1.82
Manganese	139
Nickel	11.5
Selenium	21.7
Silver	<1
Thallium	<0.16 j
Vanadium	74.5
Zinc	17.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-8_40-42_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/14/21	Project:	TWAAFA-01, F&BI 110280
Date Extracted:	10/18/21	Lab ID:	110280-01 x10
Date Analyzed:	10/18/21	Data File:	110280-01 x10.071
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Beryllium	<2
Iron	12,400



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-8_50-52_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/14/21	Project:	TWAAFA-01, F&BI 110280
Date Extracted:	10/18/21	Lab ID:	110280-02
Date Analyzed:	10/18/21	Data File:	110280-02.087
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Chromium	20.5
Cobalt	8.21
Copper	26.3
Manganese	303
Nickel	15.8
Vanadium	62.3
Zinc	31.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-8_50-52_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/14/21	Project:	TWAAFA-01, F&BI 110280
Date Extracted:	10/18/21	Lab ID:	110280-02 x2
Date Analyzed:	10/18/21	Data File:	110280-02 x2.089
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<2
Arsenic	19.0
Barium	42.9
Cadmium	<2
Lead	4.63
Selenium	25.7
Silver	<2
Thallium	<0.32 j

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-8_50-52_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/14/21	Project:	TWAAFA-01, F&BI 110280
Date Extracted:	10/18/21	Lab ID:	110280-02 x10
Date Analyzed:	10/18/21	Data File:	110280-02 x10.072
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Beryllium	<2
Iron	35,200

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA-01, F&BI 110280
Date Extracted:	10/18/21	Lab ID:	I1-660 mb
Date Analyzed:	10/18/21	Data File:	I1-660 mb.038
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<0.2
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<1
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<3
Silver	<1
Thallium	<0.16 j
Vanadium	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21  
Date Received: 10/14/21  
Project: TWAAFA-01, F&BI 110280  
Date Extracted: 10/18/21  
Date Analyzed: 10/20/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Total Mercury</u>
TWA-8_40-42_1021 110280-01	<0.020
TWA-8_50-52_1021 110280-02	0.021
Method Blank i1-662 MB	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-8_40-42_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/14/21	Project:	TWAAFA-01, F&BI 110280
Date Extracted:	10/14/21	Lab ID:	110280-01
Date Analyzed:	10/14/21	Data File:	101415.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	78	126
Toluene-d8	103	87	115
4-Bromofluorobenzene	108	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-8_50-52_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/14/21	Project:	TWAAFA-01, F&BI 110280
Date Extracted:	10/14/21	Lab ID:	110280-02
Date Analyzed:	10/14/21	Data File:	101416.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	78	126
Toluene-d8	102	87	115
4-Bromofluorobenzene	105	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	1.5	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	10/14/21	Project:	TWAAFA-01, F&BI 110280
Date Extracted:	10/14/21	Lab ID:	110280-03
Date Analyzed:	10/14/21	Data File:	101414.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	113	78	126
Toluene-d8	99	87	115
4-Bromofluorobenzene	107	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-01, F&BI 110280
Date Extracted:	10/14/21	Lab ID:	01-2244 mb
Date Analyzed:	10/14/21	Data File:	101407.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	113	78	126
Toluene-d8	102	87	115
4-Bromofluorobenzene	108	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-8_40-42_1021 f	Client:	Dalton Olmsted Fuglevand
Date Received:	10/14/21	Project:	TWAAFA-01, F&BI 110280
Date Extracted:	10/14/21	Lab ID:	110280-01 1/0.5
Date Analyzed:	10/16/21	Data File:	101540.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	14	11	65
Phenol-d6	11	11	65
Nitrobenzene-d5	57	50	150
2-Fluorobiphenyl	46	44	108
2,4,6-Tribromophenol	57	10	140
Terphenyl-d14	49 ip	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3 jl
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	20 ve jl fb
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 jl	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	5.5 fb
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.0 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-8_40-42_1021 f	Client:	Dalton Olmsted Fuglevand
Date Received:	10/14/21	Project:	TWAAFA-01, F&BI 110280
Date Extracted:	10/14/21	Lab ID:	110280-01 1/5
Date Analyzed:	10/18/21	Data File:	101811.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	11 d	11	65
Phenol-d6	9 d	11	65
Nitrobenzene-d5	55 d	50	150
2-Fluorobiphenyl	47 d	44	108
2,4,6-Tribromophenol	45 d	10	140
Terphenyl-d14	46 d	50	150

Compounds:	Concentration ug/L (ppb)
Diethyl phthalate	20 fb jl

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-8_50-52_1021 f	Client:	Dalton Olmsted Fuglevand
Date Received:	10/14/21	Project:	TWAAFA-01, F&BI 110280
Date Extracted:	10/14/21	Lab ID:	110280-02 1/0.5
Date Analyzed:	10/16/21	Data File:	101541.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	15	11	65
Phenol-d6	12	11	65
Nitrobenzene-d5	77	50	150
2-Fluorobiphenyl	79	44	108
2,4,6-Tribromophenol	72	10	140
Terphenyl-d14	79	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	0.010
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3 jl
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	40 ve jl fb
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 jl	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	8.5 fb ca
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.3 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-8_50-52_1021 f	Client:	Dalton Olmsted Fuglevand
Date Received:	10/14/21	Project:	TWAAFA-01, F&BI 110280
Date Extracted:	10/14/21	Lab ID:	110280-02 1/5
Date Analyzed:	10/18/21	Data File:	101812.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	13 d	11	65
Phenol-d6	11 d	11	65
Nitrobenzene-d5	71 d	50	150
2-Fluorobiphenyl	78 d	44	108
2,4,6-Tribromophenol	59 d	10	140
Terphenyl-d14	74 d	50	150

Compounds:	Concentration ug/L (ppb)
Diethyl phthalate	38 fb jl

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-01, F&BI 110280
Date Extracted:	10/14/21	Lab ID:	01-2367 mb 1/0.5
Date Analyzed:	10/16/21	Data File:	101536.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	12	11	65
Phenol-d6	8 vo	11	65
Nitrobenzene-d5	87	50	150
2-Fluorobiphenyl	84	44	108
2,4,6-Tribromophenol	80	10	140
Terphenyl-d14	96	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 jl js	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3 jl
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	1.8 jl lc
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 jl	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	1.7 lc
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	0.19 lc j
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-8_40-42_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/14/21	Project:	TWAAFA-01, F&BI 110280
Date Extracted:	10/14/21	Lab ID:	110280-01 1/0.27
Date Analyzed:	10/15/21	Data File:	101520.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	18 ip	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0038
Aroclor 1232	<0.0038
Aroclor 1016	<0.0038
Aroclor 1242	<0.0038
Aroclor 1248	<0.0038
Aroclor 1254	<0.0038
Aroclor 1260	0.0099
Aroclor 1262	<0.0038
Aroclor 1268	<0.0038

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-8_50-52_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/14/21	Project:	TWAAFA-01, F&BI 110280
Date Extracted:	10/14/21	Lab ID:	110280-02 1/0.27
Date Analyzed:	10/15/21	Data File:	101521.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	36	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0038
Aroclor 1232	<0.0038
Aroclor 1016	<0.0038
Aroclor 1242	<0.0038
Aroclor 1248	<0.0038
Aroclor 1254	<0.0038
Aroclor 1260	0.019
Aroclor 1262	<0.0038
Aroclor 1268	<0.0038



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-01, F&BI 110280
Date Extracted:	10/14/21	Lab ID:	01-2366 mb 1/0.25
Date Analyzed:	10/14/21	Data File:	101410.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	34	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/14/21

Project: TWAAFA-01, F&BI 110280

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 110280-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	100	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/14/21

Project: TWAAFA-01, F&BI 110280

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	92	100	61-133	8

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

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Project: TWAAFA-01, F&BI 110280

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	84	96	58-134	13

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

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Project: TWAAFA-01, F&BI 110280

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 110314-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	103	103	75-125	0
Arsenic	ug/L (ppb)	10	5.23	102	99	75-125	3
Barium	ug/L (ppb)	50	18.1	105	105	75-125	0
Beryllium	ug/L (ppb)	5	<1	102	101	75-125	1
Cadmium	ug/L (ppb)	5	<1	96	97	75-125	1
Chromium	ug/L (ppb)	20	<1	101	101	75-125	0
Cobalt	ug/L (ppb)	20	<1	99	101	75-125	2
Copper	ug/L (ppb)	20	<5	92	93	75-125	1
Iron	ug/L (ppb)	100	175	89	93	75-125	4
Lead	ug/L (ppb)	10	<1	96	96	75-125	0
Manganese	ug/L (ppb)	20	7.21	102	105	75-125	3
Nickel	ug/L (ppb)	20	2.48	96	97	75-125	1
Selenium	ug/L (ppb)	5	<1	100	97	75-125	3
Silver	ug/L (ppb)	5	<1	90	91	75-125	1
Thallium	ug/L (ppb)	5	<1	99	100	75-125	1
Vanadium	ug/L (ppb)	20	1.29	107	107	75-125	0
Zinc	ug/L (ppb)	50	<5	94	94	75-125	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	101	80-120
Arsenic	ug/L (ppb)	10	97	80-120
Barium	ug/L (ppb)	50	99	80-120
Beryllium	ug/L (ppb)	5	100	80-120
Cadmium	ug/L (ppb)	5	97	80-120
Chromium	ug/L (ppb)	20	97	80-120
Cobalt	ug/L (ppb)	20	97	80-120
Copper	ug/L (ppb)	20	93	80-120
Iron	ug/L (ppb)	100	94	80-120
Lead	ug/L (ppb)	10	101	80-120
Manganese	ug/L (ppb)	20	98	80-120
Nickel	ug/L (ppb)	20	96	80-120
Selenium	ug/L (ppb)	5	101	80-120
Silver	ug/L (ppb)	5	98	80-120
Thallium	ug/L (ppb)	5	102	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	95	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

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Project: TWAAFA-01, F&BI 110280

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
TOTAL MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 110334-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	91	97	71-125	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	89	91	78-125	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

Date Received: 10/14/21

Project: TWAAFA-01, F&BI 110280

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 110266-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	
				Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	124	50-150
Chloromethane	ug/L (ppb)	10	<10	120	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	144	50-150
Bromomethane	ug/L (ppb)	10	<5	134	50-150
Chloroethane	ug/L (ppb)	10	<1	126	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	132	50-150
Acetone	ug/L (ppb)	50	<50	74	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	103	50-150
Hexane	ug/L (ppb)	10	<5	109	50-150
Methylene chloride	ug/L (ppb)	10	<5	123	50-150
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	113	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	110	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	112	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	115	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	112	50-150
Chloroform	ug/L (ppb)	10	<1	105	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	93	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	108	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	120	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	107	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	134	50-150
Benzene	ug/L (ppb)	10	<0.35	102	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	103	50-150
1,2-Dichloropropane	ug/L (ppb)	10	<1	99	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	102	50-150
Dibromomethane	ug/L (ppb)	10	<1	101	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	105	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	99	50-150
Toluene	ug/L (ppb)	10	<1	98	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	101	50-150
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	102	50-150
2-Hexanone	ug/L (ppb)	50	<10	97	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	97	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	103	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	105	50-150
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	94	50-150
Chlorobenzene	ug/L (ppb)	10	<1	98	50-150
Ethylbenzene	ug/L (ppb)	10	<1	100	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	114	50-150
m,p-Xylene	ug/L (ppb)	20	<2	100	50-150
o-Xylene	ug/L (ppb)	10	<1	103	50-150
Styrene	ug/L (ppb)	10	<1	96	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	104	50-150
Bromoform	ug/L (ppb)	10	<5	108	50-150
n-Propylbenzene	ug/L (ppb)	10	<1	96	50-150
Bromobenzene	ug/L (ppb)	10	<1	88	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	103	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	96	50-150
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	89	50-150
2-Chlorotoluene	ug/L (ppb)	10	<1	98	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	91	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	99	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	102	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	100	50-150
p-Isopropyltoluene	ug/L (ppb)	10	<1	101	50-150
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	97	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	97	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	98	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	107	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	96	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	91	50-150
Naphthalene	ug/L (ppb)	10	<1	97	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	94	50-150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

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Project: TWAAFA-01, F&BI 110280

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	107	109	46-206	2
Chloromethane	ug/L (ppb)	10	112	114	70-142	2
Vinyl chloride	ug/L (ppb)	10	122	123	70-130	1
Bromomethane	ug/L (ppb)	10	109	111	56-197	2
Chloroethane	ug/L (ppb)	10	109	111	70-130	2
Trichlorofluoromethane	ug/L (ppb)	10	114	116	70-130	2
Acetone	ug/L (ppb)	50	68	69	10-140	1
1,1-Dichloroethene	ug/L (ppb)	10	93	93	70-130	0
Hexane	ug/L (ppb)	10	116	99	54-136	16
Methylene chloride	ug/L (ppb)	10	115	105	43-134	9
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	106	106	70-130	0
trans-1,2-Dichloroethene	ug/L (ppb)	10	100	100	70-130	0
1,1-Dichloroethane	ug/L (ppb)	10	104	104	70-130	0
2,2-Dichloropropane	ug/L (ppb)	10	99	103	70-130	4
cis-1,2-Dichloroethene	ug/L (ppb)	10	103	102	70-130	1
Chloroform	ug/L (ppb)	10	97	98	70-130	1
2-Butanone (MEK)	ug/L (ppb)	50	97	96	17-154	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	104	104	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	10	110	109	70-130	1
1,1-Dichloropropene	ug/L (ppb)	10	102	101	70-130	1
Carbon tetrachloride	ug/L (ppb)	10	122	121	70-130	1
Benzene	ug/L (ppb)	10	98	98	70-130	0
Trichloroethene	ug/L (ppb)	10	98	99	70-130	1
1,2-Dichloropropane	ug/L (ppb)	10	103	99	70-130	4
Bromodichloromethane	ug/L (ppb)	10	114	115	70-130	1
Dibromomethane	ug/L (ppb)	10	99	98	70-130	1
4-Methyl-2-pentanone	ug/L (ppb)	50	104	102	68-130	2
cis-1,3-Dichloropropene	ug/L (ppb)	10	103	100	69-131	3
Toluene	ug/L (ppb)	10	93	95	70-130	2
trans-1,3-Dichloropropene	ug/L (ppb)	10	99	96	70-130	3
1,1,2-Trichloroethane	ug/L (ppb)	10	99	100	70-130	1
2-Hexanone	ug/L (ppb)	50	94	96	45-138	2
1,3-Dichloropropane	ug/L (ppb)	10	96	94	70-130	2
Tetrachloroethene	ug/L (ppb)	10	95	96	70-130	1
Dibromochloromethane	ug/L (ppb)	10	101	101	60-148	0
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	92	94	70-130	2
Chlorobenzene	ug/L (ppb)	10	95	96	70-130	1
Ethylbenzene	ug/L (ppb)	10	94	95	70-130	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	105	103	70-130	2
m,p-Xylene	ug/L (ppb)	20	93	94	70-130	1
o-Xylene	ug/L (ppb)	10	94	96	70-130	2
Styrene	ug/L (ppb)	10	91	93	70-130	2
Isopropylbenzene	ug/L (ppb)	10	93	94	70-130	1
Bromoform	ug/L (ppb)	10	106	98	69-138	8
n-Propylbenzene	ug/L (ppb)	10	92	94	70-130	2
Bromobenzene	ug/L (ppb)	10	90	92	70-130	2
1,3,5-Trimethylbenzene	ug/L (ppb)	10	98	101	70-130	3
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	94	97	70-130	3
1,2,3-Trichloropropane	ug/L (ppb)	10	92	93	70-130	1
2-Chlorotoluene	ug/L (ppb)	10	93	98	70-130	5
4-Chlorotoluene	ug/L (ppb)	10	90	93	70-130	3
tert-Butylbenzene	ug/L (ppb)	10	93	96	70-130	3
1,2,4-Trimethylbenzene	ug/L (ppb)	10	97	101	70-130	4
sec-Butylbenzene	ug/L (ppb)	10	95	97	70-130	2
p-Isopropyltoluene	ug/L (ppb)	10	96	97	70-130	1
1,3-Dichlorobenzene	ug/L (ppb)	10	96	97	70-130	1
1,4-Dichlorobenzene	ug/L (ppb)	10	93	96	70-130	3
1,2-Dichlorobenzene	ug/L (ppb)	10	97	98	70-130	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	97	104	70-130	7
1,2,4-Trichlorobenzene	ug/L (ppb)	10	90	91	70-130	1
Hexachlorobutadiene	ug/L (ppb)	10	87	88	70-130	1
Naphthalene	ug/L (ppb)	10	92	94	70-130	2
1,2,3-Trichlorobenzene	ug/L (ppb)	10	90	92	70-130	2



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Project: TWAAFA-01, F&BI 110280

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E**

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCS/D	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	5	8 vo	7 vo	10-86	13
Bis(2-chloroethyl) ether	ug/L (ppb)	5	86	82	60-88	5
2-Chlorophenol	ug/L (ppb)	5	44	40	10-89	10
1,3-Dichlorobenzene	ug/L (ppb)	5	84	78	48-91	7
1,4-Dichlorobenzene	ug/L (ppb)	5	84	77	48-91	9
1,2-Dichlorobenzene	ug/L (ppb)	5	85	78	52-92	9
Benzyl alcohol	ug/L (ppb)	15	30	29	10-72	3
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	86	81	59-86	6
2-Methylphenol	ug/L (ppb)	5	32	34	10-75	6
Hexachloroethane	ug/L (ppb)	5	81	76	47-92	6
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	92	88	70-130	4
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	26	27	10-66	4
Nitrobenzene	ug/L (ppb)	5	95 vo	87	60-90	9
Isophorone	ug/L (ppb)	5	90	87	70-130	3
2-Nitrophenol	ug/L (ppb)	5	72	54	27-104	29 vo
2,4-Dimethylphenol	ug/L (ppb)	5	56	55	10-84	2
Benzoic acid	ug/L (ppb)	40	0 vo	0 vo	10-102	nm
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	90	85	55-103	6
2,4-Dichlorophenol	ug/L (ppb)	5	66	55	23-103	18
1,2,4-Trichlorobenzene	ug/L (ppb)	5	89	81	56-93	9
Naphthalene	ug/L (ppb)	5	88	81	62-90	8
Hexachlorobutadiene	ug/L (ppb)	5	83	75	48-85	10
4-Chloroaniline	ug/L (ppb)	15	52	53	35-108	2
4-Chloro-3-methylphenol	ug/L (ppb)	5	59	61	18-109	3
2-Methylnaphthalene	ug/L (ppb)	5	92	85	64-93	8
1-Methylnaphthalene	ug/L (ppb)	5	91	84	64-93	8
Hexachlorocyclopentadiene	ug/L (ppb)	5	79	76	49-112	4
2,4,6-Trichlorophenol	ug/L (ppb)	5	60	38	16-112	45 vo
2,4,5-Trichlorophenol	ug/L (ppb)	5	72	50	26-113	36 vo
2-Chloronaphthalene	ug/L (ppb)	5	92	85	67-97	8
2-Nitroaniline	ug/L (ppb)	15	92	94	31-168	2
Dimethyl phthalate	ug/L (ppb)	5	101	96	70-130	5
Acenaphthylene	ug/L (ppb)	5	96	90	70-130	6
2,6-Dinitrotoluene	ug/L (ppb)	5	104	101	70-130	3
3-Nitroaniline	ug/L (ppb)	15	63	66	33-120	5
Acenaphthene	ug/L (ppb)	5	93	88	70-130	6
2,4-Dinitrophenol	ug/L (ppb)	10	25	22	10-120	13
Dibenzofuran	ug/L (ppb)	5	101	97	67-107	4
2,4-Dinitrotoluene	ug/L (ppb)	5	111	106	53-132	5
4-Nitrophenol	ug/L (ppb)	10	5 vo	3 vo	10-89	50 vo
Diethyl phthalate	ug/L (ppb)	5	34 vo	28 vo	70-130	19
Fluorene	ug/L (ppb)	5	99	93	70-130	6
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	97	91	70-130	6
N-Nitrosodiphenylamine	ug/L (ppb)	5	94	89	70-130	5
4-Nitroaniline	ug/L (ppb)	15	66	68	32-122	3
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	51	40	10-139	24 vo
4-Bromophenyl phenyl ether	ug/L (ppb)	5	92	90	70-130	2
Hexachlorobenzene	ug/L (ppb)	5	90	88	65-95	2
Pentachlorophenol	ug/L (ppb)	5	44	29	10-129	41 vo
Phenanthrene	ug/L (ppb)	5	95	91	70-130	4
Anthracene	ug/L (ppb)	5	96	90	70-130	6
Carbazole	ug/L (ppb)	5	81	78	70-130	4
Di-n-butyl phthalate	ug/L (ppb)	5	50	45	28-147	11
Fluoranthene	ug/L (ppb)	5	98	94	70-130	4
Pyrene	ug/L (ppb)	5	96	94	70-130	2
Benzyl butyl phthalate	ug/L (ppb)	5	99	94	34-142	5
Benz(a)anthracene	ug/L (ppb)	5	98	96	70-130	2
Chrysene	ug/L (ppb)	5	98	96	70-130	2
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	108	101	53-133	7
Di-n-octyl phthalate	ug/L (ppb)	5	80	77	49-119	4
Benzo(a)pyrene	ug/L (ppb)	5	99	96	70-130	3
Benzo(b)fluoranthene	ug/L (ppb)	5	96	94	70-130	2
Benzo(k)fluoranthene	ug/L (ppb)	5	99	96	70-130	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	102	102	70-130	0
Dibenz(a,h)anthracene	ug/L (ppb)	5	103	101	70-130	2
Benzo(g,h,i)perylene	ug/L (ppb)	5	100	99	70-130	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/21

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Project: TWAAFA-01, F&BI 110280

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.13	47	59	25-111	23 vo
Aroclor 1260	ug/L (ppb)	0.13	65	69	23-123	6

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

110280

SAMPLE CHAIN OF CUSTODY

ME 10/14/21 VW3/E03/AI2

Report To Trevor Louviere/Tasya Gray
Company DOF
Address 1001 SW Klickitat Way
City, State, ZIP Seattle, WA 98134
Phone 425-785-6322 Email tlouviere@dofnw.com

SAMPLERS (signature)
PROJECT NAME TWAIFA
PO# TWAAFA-001
REMARKS SVOCs lab filtered at 0.7 micron before analysis
Project Specific RLs (Yes) / No

TURNAROUND TIME
X Standard Turnaround
X RUSH 24h (VOC only)
Rush charges authorized by: T. Louviere
SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

Table with columns: Sample ID, Lab ID, Date Sampled, Time Sampled, Sample Type, # of Jars, ANALYSES REQUESTED (TPH-Diesel w/SG, TPH-Diesel, TPH-Gasoline, VOCs by 8260D, SVOCs by 8270E, LL PCBs by 8082, T Metals by 6020/1631E), Notes. Includes rows for TWA-8\_40-42\_1021, TWA-8\_50-52\_1021, and TRIP BLANK.

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

Signature and Chain of Custody table with columns: SIGNATURE, PRINT NAME, COMPANY, DATE, TIME. Includes entries for Relinquished by (Anthony Carruti) and Received by (Vincent).

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

November 16, 2021

Trevor Louviere, Project Manager  
Dalton Olmsted Fuglevand  
1001 SW Klickitat Way, Suite 200B  
Seattle, WA 98134

Dear Mr Louviere:

Included are the results from the testing of material submitted on October 14, 2021 from the TWAAFA-001, F&BI 110281 project. There are 5 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Tasya Gray

DOF1116R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on October 14, 2020 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 110281 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID

110281 -01

Dalton Olmsted Fuglevand

TWA-9\_43\_1021

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-9_43_1021	Client:	Dalton Olmsted Fuglevand
Date Received:	10/14/21	Project:	TWAAFA-001, F&BI 110281
Date Extracted:	11/02/21	Lab ID:	110281-01 1/0.2
Date Analyzed:	11/02/21	Data File:	110206.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	39	23	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.00040
Aroclor 1232	<0.00040
Aroclor 1016	<0.00040
Aroclor 1242	<0.00040
Aroclor 1248	<0.00040
Aroclor 1254	<0.00040
Aroclor 1260	<0.00040
Aroclor 1262	<0.00040
Aroclor 1268	<0.00040

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 110281
Date Extracted:	11/02/21	Lab ID:	01-2515 mb3 1/0.2
Date Analyzed:	11/02/21	Data File:	110205.D
Matrix:	Soil	Instrument:	GC7
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	49	23	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.00040
Aroclor 1232	<0.00040
Aroclor 1016	<0.00040
Aroclor 1242	<0.00040
Aroclor 1248	<0.00040
Aroclor 1254	<0.00040
Aroclor 1260	<0.00040
Aroclor 1262	<0.00040
Aroclor 1268	<0.00040



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 11/16/21

Date Received: 10/14/21

Project: TWAAFA-001, F&BI 110281

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF SOIL SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: 110590-03 1/6 (Matrix Spike) 1/6

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Control Limits	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.25	<0.02	94	95	29-125	1
Aroclor 1260	mg/kg (ppm)	0.25	<0.02	96	100	25-137	4

Laboratory Code: Laboratory Control Sample 1/6

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	mg/kg (ppm)	0.25	112	55-137
Aroclor 1260	mg/kg (ppm)	0.25	119	51-150

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

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jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

110281

SAMPLE CHAIN OF CUSTODY

ME 10-14-21

Page # 1 of 1 (01)

Report To Trevor Louviere/Tasya Gray

Company DOF

Address 1001 SW Klickitat Way

City, State, ZIP Seattle, WA 98134

Phone 425-785-6322 Email tlouviere@dofnw.com

SAMPLERS (signature) *[Signature]*

PROJECT NAME TWAIFA PO# TWAIFA-001

REMARKS INVOICE TO DOF

Project Specific RLs (Yes) / No

TURNAROUND TIME VSJ

Standard Turnaround \_\_\_\_\_

RUSH \_\_\_\_\_

Rush charges authorized by: T. Louviere

SAMPLE DISPOSAL

Dispose after 30 days \_\_\_\_\_

Archive Samples \_\_\_\_\_

Other \_\_\_\_\_

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED		Notes
						VOCs by 8260D	ALL PCBs by 8082	
TWA-9_43_1021	DIA-F	10/12/2021	0945	SOIL	6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Analyze per JL <b>HOLD</b> 10/29
Samples received at 4 C								

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<i>[Signature]</i>	ANTHONY GARUTI	DOF	10/14/2021	10:20
<i>[Signature]</i>	VINNY	FBI	10/14/21	10:50
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

December 17, 2021

Trevor Louviere, Project Manager  
Dalton Olmsted Fuglevand  
1001 SW Klickitat Way, Suite 200B  
Seattle, WA 98134

Dear Mr Louviere:

Included are the results from the testing of material submitted on December 7, 2021 from the TWAAFA-001, F&BI 112112 project. There are 16 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Tasya Gray  
DOF1217R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 7, 2021 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 112112 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Dalton Olmsted Fuglevand</u>
112112 -01	TWA-4_40-42_1221
112112 -02	Trip Blank

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/17/21  
Date Received: 12/07/21  
Project: TWAAFA-001, F&BI 112112  
Date Extracted: 12/15/21  
Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TWA-4_40-42_1221 112112-01	150	86
Method Blank 01-2666 MB	<100	85

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-4_40-42_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/07/21	Project:	TWAAFA-001, F&BI 112112
Date Extracted:	12/13/21	Lab ID:	112112-01
Date Analyzed:	12/13/21	Data File:	112112-01.181
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Cadmium	<1
Silver	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-4_40-42_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/07/21	Project:	TWAAFA-001, F&BI 112112
Date Extracted:	12/13/21	Lab ID:	112112-01 x10
Date Analyzed:	12/13/21	Data File:	112112-01 x10.168
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	13.1
Barium	207
Beryllium	<10
Chromium	86.7
Cobalt	22.2
Copper	103
Lead	36.0
Manganese	889
Nickel	55.4
Selenium	<10
Thallium	<1.56 j
Vanadium	124
Zinc	210



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-4_40-42_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/07/21	Project:	TWAAFA-001, F&BI 112112
Date Extracted:	12/13/21	Lab ID:	112112-01 x100
Date Analyzed:	12/13/21	Data File:	112112-01 x100.156
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Iron	77,800
------	--------

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA-001, F&BI 112112
Date Extracted:	12/13/21	Lab ID:	I1-826 mb
Date Analyzed:	12/13/21	Data File:	I1-826 mb.135
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<2.4
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<1
Silver	<1
Thallium	<0.156 j
Vanadium	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/17/21  
Date Received: 12/07/21  
Project: TWAAFA-001, F&BI 112112  
Date Extracted: 12/13/21  
Date Analyzed: 12/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Total Mercury</u>
TWA-4_40-42_1221 112112-01 1/10	0.023
Method Blank i1-827 MB	<0.002

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-4_40-42_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/07/21	Project:	TWAAFA-001, F&BI 112112
Date Extracted:	12/07/21	Lab ID:	112112-01
Date Analyzed:	12/07/21	Data File:	120736.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	85	117
Toluene-d8	101	88	112
4-Bromofluorobenzene	100	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	4.4	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	0.82	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	12/07/21	Project:	TWAAFA-001, F&BI 112112
Date Extracted:	12/07/21	Lab ID:	112112-02
Date Analyzed:	12/07/21	Data File:	120735.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	85	117
Toluene-d8	97	88	112
4-Bromofluorobenzene	102	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 112112
Date Extracted:	12/07/21	Lab ID:	01-2779 mb
Date Analyzed:	12/07/21	Data File:	120707.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	85	117
Toluene-d8	100	88	112
4-Bromofluorobenzene	101	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/17/21

Date Received: 12/07/21

Project: TWAAFA-001, F&BI 112112

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 112212-06 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	93	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/17/21

Date Received: 12/07/21

Project: TWAAFA-001, F&BI 112112

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 112210-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	101	106	75-125	5
Arsenic	ug/L (ppb)	10	1.08	92	97	75-125	5
Barium	ug/L (ppb)	50	11.2	99	102	75-125	3
Beryllium	ug/L (ppb)	5	<1	78	80	75-125	3
Cadmium	ug/L (ppb)	5	<1	99	101	75-125	2
Chromium	ug/L (ppb)	20	<1	97	101	75-125	4
Cobalt	ug/L (ppb)	20	<1	97	100	75-125	3
Copper	ug/L (ppb)	20	<5	95	99	75-125	4
Iron	ug/L (ppb)	100	467	85	103	75-125	19
Lead	ug/L (ppb)	10	<1	94	95	75-125	1
Manganese	ug/L (ppb)	20	56.9	93	106	75-125	13
Nickel	ug/L (ppb)	20	1.48	96	100	75-125	4
Selenium	ug/L (ppb)	5	<1	98	106	75-125	8
Silver	ug/L (ppb)	5	<1	91	98	75-125	7
Thallium	ug/L (ppb)	5	<1	93	94	75-125	1
Vanadium	ug/L (ppb)	20	<1	99	102	75-125	3
Zinc	ug/L (ppb)	50	<5	95	98	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	101	80-120
Arsenic	ug/L (ppb)	10	94	80-120
Barium	ug/L (ppb)	50	96	80-120
Beryllium	ug/L (ppb)	5	98	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	98	80-120
Cobalt	ug/L (ppb)	20	99	80-120
Copper	ug/L (ppb)	20	101	80-120
Iron	ug/L (ppb)	100	99	80-120
Lead	ug/L (ppb)	10	98	80-120
Manganese	ug/L (ppb)	20	99	80-120
Nickel	ug/L (ppb)	20	101	80-120
Selenium	ug/L (ppb)	5	99	80-120
Silver	ug/L (ppb)	5	97	80-120
Thallium	ug/L (ppb)	5	96	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	99	80-120



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/17/21

Date Received: 12/07/21

Project: TWAAFA-001, F&BI 112112

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
TOTAL MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 112175-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	0.0027	90	100	71-125	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	117	115	78-125	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/17/21

Date Received: 12/07/21

Project: TWAAFA-001, F&BI 112112

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 112078-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	99	50-150
Chloromethane	ug/L (ppb)	10	<10	103	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	105	16-176
Bromomethane	ug/L (ppb)	10	<5	104	10-193
Chloroethane	ug/L (ppb)	10	<1	103	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	94	50-150
Acetone	ug/L (ppb)	50	<50	91	15-179
1,1-Dichloroethene	ug/L (ppb)	10	<1	105	50-150
Hexane	ug/L (ppb)	10	<5	85	49-161
Methylene chloride	ug/L (ppb)	10	<5	99	40-143
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	98	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	93	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	103	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	97	10-335
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	97	50-150
Chloroform	ug/L (ppb)	10	<1	100	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	90	34-168
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	100	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	103	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	90	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	99	50-150
Benzene	ug/L (ppb)	10	<0.35	98	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	92	43-133
1,2-Dichloropropane	ug/L (ppb)	10	<1	101	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	100	50-150
Dibromomethane	ug/L (ppb)	10	<1	95	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	103	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	100	48-145
Toluene	ug/L (ppb)	10	<1	97	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	95	37-152
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	103	50-150
2-Hexanone	ug/L (ppb)	50	<10	104	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	104	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	97	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	108	33-164
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	95	50-150
Chlorobenzene	ug/L (ppb)	10	<1	98	50-150
Ethylbenzene	ug/L (ppb)	10	<1	98	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	104	50-150
m,p-Xylene	ug/L (ppb)	20	<2	99	50-150
o-Xylene	ug/L (ppb)	10	<1	97	50-150
Styrene	ug/L (ppb)	10	<1	100	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	98	50-150
Bromoform	ug/L (ppb)	10	<5	103	23-161
n-Propylbenzene	ug/L (ppb)	10	<1	97	50-150
Bromobenzene	ug/L (ppb)	10	<1	94	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	96	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	100	10-235
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	97	33-151
2-Chlorotoluene	ug/L (ppb)	10	<1	94	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	97	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	96	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	98	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	100	46-139
p-Isopropyltoluene	ug/L (ppb)	10	<1	98	46-140
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	96	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	95	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	96	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	101	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	93	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	92	42-150
Naphthalene	ug/L (ppb)	10	<1	94	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	95	44-155

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/17/21

Date Received: 12/07/21

Project: TWAAFA-001, F&BI 112112

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	108	108	70-130	0
Chloromethane	ug/L (ppb)	10	104	102	70-130	2
Vinyl chloride	ug/L (ppb)	10	107	106	70-130	1
Bromomethane	ug/L (ppb)	10	106	107	28-182	1
Chloroethane	ug/L (ppb)	10	104	102	70-130	2
Trichlorofluoromethane	ug/L (ppb)	10	99	98	70-130	1
Acetone	ug/L (ppb)	50	91	89	42-155	2
1,1-Dichloroethene	ug/L (ppb)	10	98	89	70-130	10
Hexane	ug/L (ppb)	10	85	83	50-161	2
Methylene chloride	ug/L (ppb)	10	104	108	29-192	4
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	98	98	70-130	0
trans-1,2-Dichloroethene	ug/L (ppb)	10	92	91	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	102	100	70-130	2
2,2-Dichloropropane	ug/L (ppb)	10	88	87	70-130	1
cis-1,2-Dichloroethene	ug/L (ppb)	10	97	95	70-130	2
Chloroform	ug/L (ppb)	10	97	96	70-130	1
2-Butanone (MEK)	ug/L (ppb)	50	87	96	50-157	10
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	98	97	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	10	103	101	70-130	2
1,1-Dichloropropene	ug/L (ppb)	10	94	89	70-130	5
Carbon tetrachloride	ug/L (ppb)	10	99	96	70-130	3
Benzene	ug/L (ppb)	10	98	97	70-130	1
Trichloroethene	ug/L (ppb)	10	92	90	70-130	2
1,2-Dichloropropane	ug/L (ppb)	10	99	98	70-130	1
Bromodichloromethane	ug/L (ppb)	10	100	95	70-130	5
Dibromomethane	ug/L (ppb)	10	97	92	70-130	5
4-Methyl-2-pentanone	ug/L (ppb)	50	97	99	70-130	2
cis-1,3-Dichloropropene	ug/L (ppb)	10	99	97	70-130	2
Toluene	ug/L (ppb)	10	100	96	70-130	4
trans-1,3-Dichloropropene	ug/L (ppb)	10	100	101	70-130	1
1,1,2-Trichloroethane	ug/L (ppb)	10	102	97	70-130	5
2-Hexanone	ug/L (ppb)	50	101	97	69-130	4
1,3-Dichloropropane	ug/L (ppb)	10	102	97	70-130	5
Tetrachloroethene	ug/L (ppb)	10	97	93	70-130	4
Dibromochloromethane	ug/L (ppb)	10	102	103	63-142	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	95	92	70-130	3
Chlorobenzene	ug/L (ppb)	10	97	95	70-130	2
Ethylbenzene	ug/L (ppb)	10	98	95	70-130	3
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	102	99	70-130	3
m,p-Xylene	ug/L (ppb)	20	99	95	70-130	4
o-Xylene	ug/L (ppb)	10	98	94	70-130	4
Styrene	ug/L (ppb)	10	101	97	70-130	4
Isopropylbenzene	ug/L (ppb)	10	101	96	70-130	5
Bromoform	ug/L (ppb)	10	104	101	50-157	3
n-Propylbenzene	ug/L (ppb)	10	97	97	70-130	0
Bromobenzene	ug/L (ppb)	10	91	92	70-130	1
1,3,5-Trimethylbenzene	ug/L (ppb)	10	97	97	52-150	0
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	100	99	70-130	1
1,2,3-Trichloropropane	ug/L (ppb)	10	97	96	70-130	1
2-Chlorotoluene	ug/L (ppb)	10	95	94	70-130	1
4-Chlorotoluene	ug/L (ppb)	10	97	97	70-130	0
tert-Butylbenzene	ug/L (ppb)	10	96	95	70-130	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	97	98	70-130	1
sec-Butylbenzene	ug/L (ppb)	10	98	99	70-130	1
p-Isopropyltoluene	ug/L (ppb)	10	98	96	70-130	2
1,3-Dichlorobenzene	ug/L (ppb)	10	98	95	70-130	3
1,4-Dichlorobenzene	ug/L (ppb)	10	96	94	70-130	2
1,2-Dichlorobenzene	ug/L (ppb)	10	96	97	70-130	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	94	99	70-130	5
1,2,4-Trichlorobenzene	ug/L (ppb)	10	91	89	70-130	2
Hexachlorobutadiene	ug/L (ppb)	10	89	89	70-130	0
Naphthalene	ug/L (ppb)	10	95	94	70-130	1
1,2,3-Trichlorobenzene	ug/L (ppb)	10	94	92	69-143	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

**Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

112112

SAMPLE CHAIN OF CUSTODY

ME 12/14/21

AI/VWZ

Report To Trevor Louviere/Tasya Gray

Company DOF

Address 1001 SW Klakrat Way

City, State, ZIP Seattle, WA 98134

Phone 425-785-6322 Email tlouviere@dofnw.com

SAMPLERS (signature) [Signature]

PROJECT NAME

TWAAFA

PO # TWAAFA-001

REMARKS

SVOCs lab filtered at 0.7 micron before analysis

INVOICE TO

DOF

Protect Specific PIs Yes / No

TURNAROUND TIME

X Standard Turnaround

X RUSH 24h (VOC only)

Rush charges authorized by: T. Louviere

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED						Notes	
						TPH-Diesel w/SG	TPH-Diesel	TPH-Gasoline	VOCs by 8260D	SVOCs by 8270E	LL PCBs by 8082		T Metals by 6020/1631E
TWA-4, 40-42, 1221	01A-G	12/7/21	1245	WTFM	7			X	X			X	
711 <sup>st</sup> BLANK	02A-B	12/7/21	—						X				
<del>_____</del>													

Friedman & Bryya, Inc.

3012 16th Avenue West

Seattle, WA 98119-3029

Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	<u>R. Cooper</u>	<u>DOF</u>	<u>12/7/21</u>	<u>1415</u>
Received by: <u>[Signature]</u>	<u>VINA</u>	<u>DOF</u>	<u>12/7/21</u>	<u>1415</u>
Relinquished by:				
Received by:				
Received by:		Samples received at	<u>4</u>	<u>00</u>

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
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December 22, 2021

Trevor Louviere, Project Manager  
Dalton Olmsted Fuglevand  
1001 SW Klickitat Way, Suite 200B  
Seattle, WA 98134

Dear Mr Louviere:

Included are the results from the testing of material submitted on December 7, 2021 from the TWAAFA-001, F&BI 112116 project. There are 27 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Tasya Gray  
DOF1222R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 7, 2021 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 112116 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Dalton Olmsted Fuglevand</u>
112116 -01	TWA-4_50-52_1221
112116 -02	TRIP BLANK

The 8260D laboratory control sample and laboratory control sample duplicate failed the relative percent difference for 2-butanone (MEK). The analyte was not detected therefore the data were acceptable.

The 8270E calibration standard failed the acceptance criteria for several analytes. The data were flagged accordingly.

Several compounds in the 8270E laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

An 8270 surrogate in the method blank did not pass the acceptance criteria. The affected compounds were qualified accordingly.

The 8082 laboratory control sample and laboratory control sample duplicate failed the relative percent difference for Aroclor 1016 and 1260. PCBs were not detected therefore the data were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21  
Date Received: 12/07/21  
Project: TWAAFA-001, F&BI 112116  
Date Extracted: 12/15/21  
Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TWA-4_50-52_1221 112116-01	<100	85
Method Blank 01-2666 MB	<100	85



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21  
Date Received: 12/07/21  
Project: TWAAFA-001, F&BI 112116  
Date Extracted: 12/14/21  
Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx  
Sample Extracts Passed Through a  
Silica Gel Column Prior to Analysis  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
TWA-4_50-52_1221 112116-01	66 x	<250	85
Method Blank 01-2882 MB	<50	<250	117

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21  
Date Received: 12/07/21  
Project: TWAAFA-001, F&BI 112116  
Date Extracted: 12/14/21  
Date Analyzed: 12/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 41-152)
TWA-4_50-52_1221 112116-01	140 x	<250	87
Method Blank 01-2882 MB	<50	<250	115

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-4_50-52_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/07/21	Project:	TWAAFA-001, F&BI 112116
Date Extracted:	12/13/21	Lab ID:	112116-01
Date Analyzed:	12/13/21	Data File:	112116-01.182
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	7.37
Thallium	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-4_50-52_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/07/21	Project:	TWAAFA-001, F&BI 112116
Date Extracted:	12/13/21	Lab ID:	112116-01 x10
Date Analyzed:	12/13/21	Data File:	112116-01 x10.169
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<10
Arsenic	28.4
Barium	143
Beryllium	<10
Cadmium	<10
Chromium	64.2
Cobalt	19.3
Copper	65.2
Manganese	747
Nickel	45.5
Silver	<2
Vanadium	109
Zinc	106

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-4_50-52_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/07/21	Project:	TWAAFA-001, F&BI 112116
Date Extracted:	12/13/21	Lab ID:	112116-01 x50
Date Analyzed:	12/14/21	Data File:	112116-01 x50.125
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Selenium	44.8
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-4_50-52_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/07/21	Project:	TWAAFA-001, F&BI 112116
Date Extracted:	12/13/21	Lab ID:	112116-01 x100
Date Analyzed:	12/13/21	Data File:	112116-01 x100.157
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	77,100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA-001, F&BI 112116
Date Extracted:	12/13/21	Lab ID:	I1-826 mb
Date Analyzed:	12/13/21	Data File:	I1-826 mb.135
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<2.4
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<0.5
Silver	<0.2
Thallium	<1
Vanadium	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21  
Date Received: 12/07/21  
Project: TWAAFA-001, F&BI 112116  
Date Extracted: 12/13/21  
Date Analyzed: 12/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Total Mercury</u>
TWA-4_50-52_1221 112116-01	<0.02
Method Blank i1-827 MB	<0.02



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-4_50-52_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/07/21	Project:	TWAAFA-001, F&BI 112116
Date Extracted:	12/08/21	Lab ID:	112116-01
Date Analyzed:	12/08/21	Data File:	120810.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	85	117
Toluene-d8	102	88	112
4-Bromofluorobenzene	99	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TRIP BLANK	Client:	Dalton Olmsted Fuglevand
Date Received:	12/07/21	Project:	TWAAFA-001, F&BI 112116
Date Extracted:	12/08/21	Lab ID:	112116-02
Date Analyzed:	12/08/21	Data File:	120809.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	85	117
Toluene-d8	98	88	112
4-Bromofluorobenzene	104	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 112116
Date Extracted:	12/08/21	Lab ID:	01-2780 mb
Date Analyzed:	12/08/21	Data File:	120807.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	85	117
Toluene-d8	100	88	112
4-Bromofluorobenzene	100	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-4_50-52_1221 f	Client:	Dalton Olmsted Fuglevand
Date Received:	12/07/21	Project:	TWAAFA-001, F&BI 112116
Date Extracted:	12/14/21	Lab ID:	112116-01 1/0.5
Date Analyzed:	12/16/21	Data File:	121606.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	11	11	65
Phenol-d6	9 ip	11	65
Nitrobenzene-d5	100	50	150
2-Fluorobiphenyl	95	44	108
2,4,6-Tribromophenol	45	10	140
Terphenyl-d14	98	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3 ca
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3 ca
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 jl ca	Phenanthrene	0.065
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	0.029
Hexachlorobutadiene	<0.1	Pyrene	0.023
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	<1.6
Hexachlorocyclopentadiene	<0.3 ca	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 112116
Date Extracted:	12/14/21	Lab ID:	01-2875 mb 1/0.5
Date Analyzed:	12/15/21	Data File:	121508.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	17	11	65
Phenol-d6	10 vo	11	65
Nitrobenzene-d5	97	50	150
2-Fluorobiphenyl	97	44	108
2,4,6-Tribromophenol	93	10	140
Terphenyl-d14	105	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 js jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	<1
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 jl	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	<1.6
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-4_50-52_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/07/21	Project:	TWAAFA-001, F&BI 112116
Date Extracted:	12/13/21	Lab ID:	112116-01 1/0.25
Date Analyzed:	12/14/21	Data File:	121412.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	12 ip ca	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 112116
Date Extracted:	12/13/21	Lab ID:	01-2877 mb 1/0.25
Date Analyzed:	12/14/21	Data File:	121407.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	36	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/07/21

Project: TWAAFA-001, F&BI 112116

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 112212-06 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	93	69-134



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/07/21

Project: TWAAFA-001, F&BI 112116

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	104	112	61-133	7

FRIEDMAN & BRUYA, INC.

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**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	88	104	63-142	17

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

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Project: TWAAFA-001, F&BI 112116

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 112210-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	101	106	75-125	5
Arsenic	ug/L (ppb)	10	1.08	92	97	75-125	5
Barium	ug/L (ppb)	50	11.2	99	102	75-125	3
Beryllium	ug/L (ppb)	5	<1	78	80	75-125	3
Cadmium	ug/L (ppb)	5	<1	99	101	75-125	2
Chromium	ug/L (ppb)	20	<1	97	101	75-125	4
Cobalt	ug/L (ppb)	20	<1	97	100	75-125	3
Copper	ug/L (ppb)	20	<5	95	99	75-125	4
Iron	ug/L (ppb)	100	467	85	103	75-125	19
Lead	ug/L (ppb)	10	<1	94	95	75-125	1
Manganese	ug/L (ppb)	20	56.9	93	106	75-125	13
Nickel	ug/L (ppb)	20	1.48	96	100	75-125	4
Selenium	ug/L (ppb)	5	<1	98	106	75-125	8
Silver	ug/L (ppb)	5	<1	91	98	75-125	7
Thallium	ug/L (ppb)	5	<1	93	94	75-125	1
Vanadium	ug/L (ppb)	20	<1	99	102	75-125	3
Zinc	ug/L (ppb)	50	<5	95	98	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	101	80-120
Arsenic	ug/L (ppb)	10	94	80-120
Barium	ug/L (ppb)	50	96	80-120
Beryllium	ug/L (ppb)	5	98	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	98	80-120
Cobalt	ug/L (ppb)	20	99	80-120
Copper	ug/L (ppb)	20	101	80-120
Iron	ug/L (ppb)	100	99	80-120
Lead	ug/L (ppb)	10	98	80-120
Manganese	ug/L (ppb)	20	99	80-120
Nickel	ug/L (ppb)	20	101	80-120
Selenium	ug/L (ppb)	5	99	80-120
Silver	ug/L (ppb)	5	97	80-120
Thallium	ug/L (ppb)	5	96	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	99	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

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Project: TWAAFA-001, F&BI 112116

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
TOTAL MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 112175-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	90	100	71-125	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	117	115	78-125	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/07/21

Project: TWAAFA-001, F&BI 112116

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 112116-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	116	50-150
Chloromethane	ug/L (ppb)	10	<10	105	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	111	16-176
Bromomethane	ug/L (ppb)	10	<5	115	10-193
Chloroethane	ug/L (ppb)	10	<1	108	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	99	50-150
Acetone	ug/L (ppb)	50	<50	100	15-179
1,1-Dichloroethene	ug/L (ppb)	10	<1	99	50-150
Hexane	ug/L (ppb)	10	<5	87	49-161
Methylene chloride	ug/L (ppb)	10	<5	90	40-143
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	100	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	95	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	104	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	89	10-335
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	50-150
Chloroform	ug/L (ppb)	10	<1	98	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	114	34-168
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	102	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	104	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	93	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	100	50-150
Benzene	ug/L (ppb)	10	<0.35	100	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	95	43-133
1,2-Dichloropropane	ug/L (ppb)	10	<1	96	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	100	50-150
Dibromomethane	ug/L (ppb)	10	<1	96	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	112	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	101	48-145
Toluene	ug/L (ppb)	10	<1	100	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	103	37-152
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	102	50-150
2-Hexanone	ug/L (ppb)	50	<10	121	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	98	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	97	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	103	33-164
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	100	50-150
Chlorobenzene	ug/L (ppb)	10	<1	96	50-150
Ethylbenzene	ug/L (ppb)	10	<1	99	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	101	50-150
m,p-Xylene	ug/L (ppb)	20	<2	99	50-150
o-Xylene	ug/L (ppb)	10	<1	98	50-150
Styrene	ug/L (ppb)	10	<1	98	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	99	50-150
Bromoform	ug/L (ppb)	10	<5	105	23-161
n-Propylbenzene	ug/L (ppb)	10	<1	98	50-150
Bromobenzene	ug/L (ppb)	10	<1	95	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	96	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	105	10-235
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	101	33-151
2-Chlorotoluene	ug/L (ppb)	10	<1	96	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	98	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	93	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	96	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	96	46-139
p-Isopropyltoluene	ug/L (ppb)	10	<1	96	46-140
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	96	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	96	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	96	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	106	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	89	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	86	42-150
Naphthalene	ug/L (ppb)	10	<1	97	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	91	44-155

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/07/21

Project: TWAAFA-001, F&BI 112116

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	101	101	70-130	0
Chloromethane	ug/L (ppb)	10	106	99	70-130	7
Vinyl chloride	ug/L (ppb)	10	109	106	70-130	3
Bromomethane	ug/L (ppb)	10	124	121	28-182	2
Chloroethane	ug/L (ppb)	10	106	102	70-130	4
Trichlorofluoromethane	ug/L (ppb)	10	101	99	70-130	2
Acetone	ug/L (ppb)	50	90	91	42-155	1
1,1-Dichloroethene	ug/L (ppb)	10	109	105	70-130	4
Hexane	ug/L (ppb)	10	88	84	50-161	5
Methylene chloride	ug/L (ppb)	10	105	94	29-192	11
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	102	99	70-130	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	96	93	70-130	3
1,1-Dichloroethane	ug/L (ppb)	10	106	103	70-130	3
2,2-Dichloropropane	ug/L (ppb)	10	87	88	70-130	1
cis-1,2-Dichloroethene	ug/L (ppb)	10	100	97	70-130	3
Chloroform	ug/L (ppb)	10	100	98	70-130	2
2-Butanone (MEK)	ug/L (ppb)	50	112	89	50-157	23 vo
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	102	99	70-130	3
1,1,1-Trichloroethane	ug/L (ppb)	10	106	103	70-130	3
1,1-Dichloropropene	ug/L (ppb)	10	95	94	70-130	1
Carbon tetrachloride	ug/L (ppb)	10	100	99	70-130	1
Benzene	ug/L (ppb)	10	101	97	70-130	4
Trichloroethene	ug/L (ppb)	10	95	93	70-130	2
1,2-Dichloropropane	ug/L (ppb)	10	101	97	70-130	4
Bromodichloromethane	ug/L (ppb)	10	102	95	70-130	7
Dibromomethane	ug/L (ppb)	10	101	98	70-130	3
4-Methyl-2-pentanone	ug/L (ppb)	50	104	100	70-130	4
cis-1,3-Dichloropropene	ug/L (ppb)	10	100	100	70-130	0
Toluene	ug/L (ppb)	10	100	98	70-130	2
trans-1,3-Dichloropropene	ug/L (ppb)	10	98	100	70-130	2
1,1,2-Trichloroethane	ug/L (ppb)	10	104	102	70-130	2
2-Hexanone	ug/L (ppb)	50	106	105	69-130	1
1,3-Dichloropropane	ug/L (ppb)	10	98	101	70-130	3
Tetrachloroethene	ug/L (ppb)	10	100	98	70-130	2
Dibromochloromethane	ug/L (ppb)	10	110	106	63-142	4
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	100	96	70-130	4
Chlorobenzene	ug/L (ppb)	10	99	99	70-130	0
Ethylbenzene	ug/L (ppb)	10	101	99	70-130	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	106	103	70-130	3
m,p-Xylene	ug/L (ppb)	20	101	99	70-130	2
o-Xylene	ug/L (ppb)	10	99	97	70-130	2
Styrene	ug/L (ppb)	10	104	101	70-130	3
Isopropylbenzene	ug/L (ppb)	10	102	100	70-130	2
Bromoform	ug/L (ppb)	10	105	105	50-157	0
n-Propylbenzene	ug/L (ppb)	10	97	96	70-130	1
Bromobenzene	ug/L (ppb)	10	94	88	70-130	7
1,3,5-Trimethylbenzene	ug/L (ppb)	10	96	95	52-150	1
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	99	98	70-130	1
1,2,3-Trichloropropane	ug/L (ppb)	10	98	97	70-130	1
2-Chlorotoluene	ug/L (ppb)	10	95	90	70-130	5
4-Chlorotoluene	ug/L (ppb)	10	97	96	70-130	1
tert-Butylbenzene	ug/L (ppb)	10	97	94	70-130	3
1,2,4-Trimethylbenzene	ug/L (ppb)	10	98	97	70-130	1
sec-Butylbenzene	ug/L (ppb)	10	99	97	70-130	2
p-Isopropyltoluene	ug/L (ppb)	10	99	97	70-130	2
1,3-Dichlorobenzene	ug/L (ppb)	10	96	94	70-130	2
1,4-Dichlorobenzene	ug/L (ppb)	10	96	94	70-130	2
1,2-Dichlorobenzene	ug/L (ppb)	10	97	94	70-130	3
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	95	97	70-130	2
1,2,4-Trichlorobenzene	ug/L (ppb)	10	90	90	70-130	0
Hexachlorobutadiene	ug/L (ppb)	10	91	89	70-130	2
Naphthalene	ug/L (ppb)	10	94	92	70-130	2
1,2,3-Trichlorobenzene	ug/L (ppb)	10	92	93	69-143	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/07/21

Project: TWAAFA-001, F&BI 112116

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E**

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCS/D	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	2.5	8 vo	9 vo	10-86	7
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	94 vo	88 vo	60-88	6
2-Chlorophenol	ug/L (ppb)	2.5	58	57	10-89	2
1,3-Dichlorobenzene	ug/L (ppb)	2.5	81	77	48-91	5
1,4-Dichlorobenzene	ug/L (ppb)	2.5	81	78	48-91	4
1,2-Dichlorobenzene	ug/L (ppb)	2.5	84	79	52-92	6
Benzyl alcohol	ug/L (ppb)	13	28	26	10-72	7
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	87 vo	83	59-86	5
2-Methylphenol	ug/L (ppb)	2.5	37	38	10-75	3
Hexachloroethane	ug/L (ppb)	2.5	80	77	47-92	4
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	97	91	70-130	6
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	29	30	10-66	3
Nitrobenzene	ug/L (ppb)	2.5	90	86	60-90	5
Isophorone	ug/L (ppb)	2.5	95	95	70-130	0
2-Nitrophenol	ug/L (ppb)	2.5	87	88	27-104	1
2,4-Dimethylphenol	ug/L (ppb)	2.5	62	66	10-84	6
Benzoic acid	ug/L (ppb)	23	5 vo	4 vo	10-102	22 vo
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	95	92	55-103	3
2,4-Dichlorophenol	ug/L (ppb)	2.5	82	81	23-103	1
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	85	82	56-93	4
Naphthalene	ug/L (ppb)	2.5	86	83	62-90	4
Hexachlorobutadiene	ug/L (ppb)	2.5	81	77	48-85	5
4-Chloroaniline	ug/L (ppb)	13	45	43	35-108	5
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	76	76	18-109	0
2-Methylnaphthalene	ug/L (ppb)	2.5	88	83	64-93	6
1-Methylnaphthalene	ug/L (ppb)	2.5	87	82	64-93	6
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	79	79	49-112	0
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	90	90	16-112	0
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	90	90	26-113	0
2-Chloronaphthalene	ug/L (ppb)	2.5	93	89	67-97	4
2-Nitroaniline	ug/L (ppb)	13	121	114	31-168	7
Dimethyl phthalate	ug/L (ppb)	2.5	100	97	70-130	3
Acenaphthylene	ug/L (ppb)	2.5	97	92	70-130	5
2,6-Dinitrotoluene	ug/L (ppb)	2.5	100	99	70-130	1
3-Nitroaniline	ug/L (ppb)	13	59	59	33-120	0
Acenaphthene	ug/L (ppb)	2.5	94	90	70-130	4
2,4-Dinitrophenol	ug/L (ppb)	5	77	73	10-120	5
Dibenzofuran	ug/L (ppb)	2.5	88	83	67-107	6
2,4-Dinitrotoluene	ug/L (ppb)	2.5	86	82	53-132	5
4-Nitrophenol	ug/L (ppb)	5	12	13	10-89	8
Diethyl phthalate	ug/L (ppb)	2.5	97	89	70-130	9
Fluorene	ug/L (ppb)	2.5	96	90	70-130	6
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	98	93	70-130	5
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	95	94	70-130	1
4-Nitroaniline	ug/L (ppb)	13	70	69	32-122	1
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	88	89	10-139	1
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	91	93	70-130	2
Hexachlorobenzene	ug/L (ppb)	2.5	91	91	65-95	0
Pentachlorophenol	ug/L (ppb)	2.5	77	83	10-129	7
Phenanthrene	ug/L (ppb)	2.5	92	90	70-130	2
Anthracene	ug/L (ppb)	2.5	90	92	70-130	2
Carbazole	ug/L (ppb)	2.5	97	96	70-130	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	93	94	28-147	1
Fluoranthene	ug/L (ppb)	2.5	92	89	70-130	3
Pyrene	ug/L (ppb)	2.5	103	102	70-130	1
Benzyl butyl phthalate	ug/L (ppb)	2.5	79	78	34-142	1
Benz(a)anthracene	ug/L (ppb)	2.5	94	93	70-130	1
Chrysene	ug/L (ppb)	2.5	96	95	70-130	1
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	88	85	53-133	3
Di-n-octyl phthalate	ug/L (ppb)	2.5	73	70	49-119	4
Benzo(a)pyrene	ug/L (ppb)	2.5	98	98	70-130	0
Benzo(b)fluoranthene	ug/L (ppb)	2.5	98	112	70-130	13
Benzo(k)fluoranthene	ug/L (ppb)	2.5	98	93	70-130	5
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	102	107	70-130	5
Dibenzo(a,h)anthracene	ug/L (ppb)	2.5	99	105	70-130	6
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	99	103	70-130	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

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Project: TWAAFA-001, F&BI 112116

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.063	46	58	25-165	23 vo
Aroclor 1260	ug/L (ppb)	0.063	56	69	25-163	21 vo



# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

1/2/11

SAMPLE CHAIN OF CUSTODY

12-07-21

E03/VW2/A11

Report To Trevor Louviere/Tasya Gray

Company DOF

Address 1001 SW Klickitat Way

City, State, ZIP Seattle, WA 98134

Phone 425-785-6322 Email tlouviere@dofnw.com

SAMPLERS (signature)

PROJECT NAME

TWAAFA

PO #

TWAAFA-001

REMARKS

SVOCs lab filtered at 0.7 micron before analysis

INVOICE TO

DOF

Project Specific RI's  Yes /  No

Page # 1 of 1

TURNAROUND TIME

Standard Turnaround  
 RUSH 24h (VOC only)  
Rush charges authorized by: T. Louviere

SAMPLE DISPOSAL

Dispose after 30 days  
Archive Samples  
Other

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-Diesel w/SG	TPH-Diesel	TPH-Gasoline	VOCs by 8260D	SVOCs by 8270E	LL PCBs by 8082	T Metals by 6020/1631E	Notes
TWA-4-SD-52-1221	01A-L	12/7/21	1500	WETA	12	X	X	X	X	X	X	X	
<del>TRIP BLANK</del>	<del>02A-B</del>	<del>12/7/21</del>	<del>-</del>	<del>WETA</del>	<del>2</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del></del>

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Relinquished by: Michael West

Michael West

DOF

12/7/21

1745

Received by: Michael West

Michael West

FIRM

12/7/21

1743

Seattle, WA 98119-2029

Ph. (206) 285-8282

Received by:

Samples received at 4 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

December 22, 2021

Trevor Louviere, Project Manager  
Dalton Olmsted Fuglevand  
1001 SW Klickitat Way, Suite 200B  
Seattle, WA 98134

Dear Mr Louviere:

Included are the results from the testing of material submitted on December 9, 2021 from the TWAAFA-001, F&BI 112173 project. There are 26 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Tasya Gray  
DOF1222R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 9, 2021 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 112173 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Dalton Olmsted Fuglevand</u>
112173 -01	TWA-7_55-57_1221
112173 -02	Trip Blank

Several compounds in the 8270E laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

The 8082 laboratory control sample and laboratory control sample duplicate failed the relative percent difference for Aroclor 1016 and 1260. PCBs were not detected therefore the data were acceptable.

An 8270 surrogate in the method blank did not pass the acceptance criteria. The affected compounds were qualified accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21  
Date Received: 12/09/21  
Project: TWAAFA-001, F&BI 112173  
Date Extracted: 12/15/21  
Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TWA-7_55-57_1221 112173-01	<100	87
Method Blank 01-2666 MB	<100	85

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21  
Date Received: 12/09/21  
Project: TWAAFA-001, F&BI 112173  
Date Extracted: 12/14/21  
Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx  
Sample Extracts Passed Through a  
Silica Gel Column Prior to Analysis  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
TWA-7_55-57_1221 112173-01	<50	<250	113
Method Blank 01-2882 MB	<50	<250	117

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21  
Date Received: 12/09/21  
Project: TWAAFA-001, F&BI 112173  
Date Extracted: 12/14/21  
Date Analyzed: 12/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 41-152)
TWA-7_55-57_1221 112173-01	75 x	<250	112
Method Blank 01-2882 MB	<50	<250	115

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-7_55-57_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/09/21	Project:	TWAAFA-001, F&BI 112173
Date Extracted:	12/13/21	Lab ID:	112173-01
Date Analyzed:	12/13/21	Data File:	112173-01.184
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	6.64
Cadmium	<1
Chromium	6.25
Cobalt	1.66
Copper	7.34
Lead	<1
Manganese	127
Nickel	5.24
Thallium	<1
Vanadium	11.6
Zinc	7.77



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-7_55-57_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/09/21	Project:	TWAAFA-001, F&BI 112173
Date Extracted:	12/13/21	Lab ID:	112173-01 x10
Date Analyzed:	12/13/21	Data File:	112173-01 x10.171
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Barium	14.4
Beryllium	<10
Iron	8,050
Silver	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-7_55-57_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/09/21	Project:	TWAAFA-001, F&BI 112173
Date Extracted:	12/13/21	Lab ID:	112173-01 x10
Date Analyzed:	12/14/21	Data File:	112173-01 x10.135
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Selenium	12.1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA-001, F&BI 112173
Date Extracted:	12/13/21	Lab ID:	I1-826 mb
Date Analyzed:	12/13/21	Data File:	I1-826 mb.135
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<2.4
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<1
Silver	<0.2
Thallium	<1
Vanadium	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21  
Date Received: 12/09/21  
Project: TWAAFA-001, F&BI 112173  
Date Extracted: 12/13/21  
Date Analyzed: 12/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Total Mercury</u>
TWA-7_55-57_1221 112173-01	<0.02
Method Blank i1-827 MB	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-7_55-57_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/09/21	Project:	TWAAFA-001, F&BI 112173
Date Extracted:	12/09/21	Lab ID:	112173-01
Date Analyzed:	12/09/21	Data File:	120924.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	78	126
Toluene-d8	97	87	115
4-Bromofluorobenzene	97	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	12/09/21	Project:	TWAAFA-001, F&BI 112173
Date Extracted:	12/09/21	Lab ID:	112173-02
Date Analyzed:	12/09/21	Data File:	120923.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	111	78	126
Toluene-d8	100	87	115
4-Bromofluorobenzene	101	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 112173
Date Extracted:	12/09/21	Lab ID:	01-2813 mb
Date Analyzed:	12/09/21	Data File:	120907.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	78	126
Toluene-d8	98	87	115
4-Bromofluorobenzene	98	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-7_55-57_1221 f	Client:	Dalton Olmsted Fuglevand
Date Received:	12/09/21	Project:	TWAAFA-001, F&BI 112173
Date Extracted:	12/14/21	Lab ID:	112173-01 1/0.5
Date Analyzed:	12/15/21	Data File:	121517.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	7 ip	11	65
Phenol-d6	8 ip	11	65
Nitrobenzene-d5	88	50	150
2-Fluorobiphenyl	87	44	108
2,4,6-Tribromophenol	39	10	140
Terphenyl-d14	92	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	0.017
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 jl	Phenanthrene	0.26
Bis(2-chloroethoxy)methane	<0.1	Anthracene	0.041
2,4-Dichlorophenol	<1	Carbazole	0.28
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	0.21
Hexachlorobutadiene	<0.1	Pyrene	0.18
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	0.019
2-Methylnaphthalene	<0.1	Chrysene	0.027
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	<1.6
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	0.012	Benzo(g,h,i)perylene	<0.02



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 112173
Date Extracted:	12/14/21	Lab ID:	01-2875 mb 1/0.5
Date Analyzed:	12/15/21	Data File:	121508.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	17	11	65
Phenol-d6	10 vo	11	65
Nitrobenzene-d5	97	50	150
2-Fluorobiphenyl	97	44	108
2,4,6-Tribromophenol	93	10	140
Terphenyl-d14	105	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 js jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	<1
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js jl	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	<1.6
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-7_55-57_1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/09/21	Project:	TWAAFA-001, F&BI 112173
Date Extracted:	12/13/21	Lab ID:	112173-01 1/0.25
Date Analyzed:	12/14/21	Data File:	121414.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	26 ca	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 112173
Date Extracted:	12/13/21	Lab ID:	01-2877 mb 1/0.25
Date Analyzed:	12/14/21	Data File:	121407.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	36	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/09/21

Project: TWAAFA-001, F&BI 112173

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 112212-06 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	93	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/09/21

Project: TWAAFA-001, F&BI 112173

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	104	112	61-133	7

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/09/21

Project: TWAAFA-001, F&BI 112173

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	88	104	63-142	17

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/09/21

Project: TWAAFA-001, F&BI 112173

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 112210-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	101	106	75-125	5
Arsenic	ug/L (ppb)	10	1.08	92	97	75-125	5
Barium	ug/L (ppb)	50	11.2	99	102	75-125	3
Beryllium	ug/L (ppb)	5	<1	78	80	75-125	3
Cadmium	ug/L (ppb)	5	<1	99	101	75-125	2
Chromium	ug/L (ppb)	20	<1	97	101	75-125	4
Cobalt	ug/L (ppb)	20	<1	97	100	75-125	3
Copper	ug/L (ppb)	20	<5	95	99	75-125	4
Iron	ug/L (ppb)	100	467	85	103	75-125	19
Lead	ug/L (ppb)	10	<1	94	95	75-125	1
Manganese	ug/L (ppb)	20	56.9	93	106	75-125	13
Nickel	ug/L (ppb)	20	1.48	96	100	75-125	4
Selenium	ug/L (ppb)	5	<1	98	106	75-125	8
Silver	ug/L (ppb)	5	<1	91	98	75-125	7
Thallium	ug/L (ppb)	5	<1	93	94	75-125	1
Vanadium	ug/L (ppb)	20	<1	99	102	75-125	3
Zinc	ug/L (ppb)	50	<5	95	98	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	101	80-120
Arsenic	ug/L (ppb)	10	94	80-120
Barium	ug/L (ppb)	50	96	80-120
Beryllium	ug/L (ppb)	5	98	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	98	80-120
Cobalt	ug/L (ppb)	20	99	80-120
Copper	ug/L (ppb)	20	101	80-120
Iron	ug/L (ppb)	100	99	80-120
Lead	ug/L (ppb)	10	98	80-120
Manganese	ug/L (ppb)	20	99	80-120
Nickel	ug/L (ppb)	20	101	80-120
Selenium	ug/L (ppb)	5	99	80-120
Silver	ug/L (ppb)	5	97	80-120
Thallium	ug/L (ppb)	5	96	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	99	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/09/21

Project: TWAAFA-001, F&BI 112173

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
TOTAL MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 112175-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	90	100	71-125	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	117	115	78-125	2



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/09/21

Project: TWAAFA-001, F&BI 112173

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 112173-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	115	50-150
Chloromethane	ug/L (ppb)	10	<10	105	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	111	50-150
Bromomethane	ug/L (ppb)	10	<5	107	50-150
Chloroethane	ug/L (ppb)	10	<1	115	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	96	50-150
Acetone	ug/L (ppb)	50	<50	83	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	106	50-150
Hexane	ug/L (ppb)	10	<5	94	50-150
Methylene chloride	ug/L (ppb)	10	<5	101	50-150
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	99	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	99	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	101	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	104	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	50-150
Chloroform	ug/L (ppb)	10	<1	102	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	100	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	111	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	100	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	99	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	98	50-150
Benzene	ug/L (ppb)	10	<0.35	97	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	92	50-150
1,2-Dichloropropane	ug/L (ppb)	10	<1	95	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	114	50-150
Dibromomethane	ug/L (ppb)	10	<1	98	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	103	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	96	50-150
Toluene	ug/L (ppb)	10	<1	97	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	92	50-150
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	98	50-150
2-Hexanone	ug/L (ppb)	50	<10	95	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	92	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	105	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	102	50-150
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	97	50-150
Chlorobenzene	ug/L (ppb)	10	<1	101	50-150
Ethylbenzene	ug/L (ppb)	10	<1	98	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	101	50-150
m,p-Xylene	ug/L (ppb)	20	<2	97	50-150
o-Xylene	ug/L (ppb)	10	<1	98	50-150
Styrene	ug/L (ppb)	10	<1	102	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	101	50-150
Bromoform	ug/L (ppb)	10	<5	102	50-150
n-Propylbenzene	ug/L (ppb)	10	<1	99	50-150
Bromobenzene	ug/L (ppb)	10	<1	94	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	97	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	97	50-150
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	96	50-150
2-Chlorotoluene	ug/L (ppb)	10	<1	96	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	96	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	95	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	99	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	97	50-150
p-Isopropyltoluene	ug/L (ppb)	10	<1	100	50-150
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	96	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	96	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	97	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	104	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	98	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	93	50-150
Naphthalene	ug/L (ppb)	10	<1	100	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	99	50-150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/09/21

Project: TWAAFA-001, F&BI 112173

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	103	102	46-206	1
Chloromethane	ug/L (ppb)	10	93	94	70-142	1
Vinyl chloride	ug/L (ppb)	10	102	104	70-130	2
Bromomethane	ug/L (ppb)	10	111	105	56-197	6
Chloroethane	ug/L (ppb)	10	106	108	70-130	2
Trichlorofluoromethane	ug/L (ppb)	10	92	88	70-130	4
Acetone	ug/L (ppb)	50	77	93	10-140	19
1,1-Dichloroethene	ug/L (ppb)	10	91	100	70-130	9
Hexane	ug/L (ppb)	10	89	89	54-136	0
Methylene chloride	ug/L (ppb)	10	97	100	43-134	3
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	95	96	70-130	1
trans-1,2-Dichloroethene	ug/L (ppb)	10	93	94	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	94	97	70-130	3
2,2-Dichloropropane	ug/L (ppb)	10	97	97	70-130	0
cis-1,2-Dichloroethene	ug/L (ppb)	10	93	95	70-130	2
Chloroform	ug/L (ppb)	10	96	96	70-130	0
2-Butanone (MEK)	ug/L (ppb)	50	89	92	17-154	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	103	106	70-130	3
1,1,1-Trichloroethane	ug/L (ppb)	10	95	96	70-130	1
1,1-Dichloropropene	ug/L (ppb)	10	90	93	70-130	3
Carbon tetrachloride	ug/L (ppb)	10	91	91	70-130	0
Benzene	ug/L (ppb)	10	92	93	70-130	1
Trichloroethene	ug/L (ppb)	10	86	87	70-130	1
1,2-Dichloropropane	ug/L (ppb)	10	87	94	70-130	8
Bromodichloromethane	ug/L (ppb)	10	92	95	70-130	3
Dibromomethane	ug/L (ppb)	10	95	98	70-130	3
4-Methyl-2-pentanone	ug/L (ppb)	50	93	98	68-130	5
cis-1,3-Dichloropropene	ug/L (ppb)	10	93	93	69-131	0
Toluene	ug/L (ppb)	10	92	92	70-130	0
trans-1,3-Dichloropropene	ug/L (ppb)	10	91	92	70-130	1
1,1,2-Trichloroethane	ug/L (ppb)	10	89	90	70-130	1
2-Hexanone	ug/L (ppb)	50	89	91	45-138	2
1,3-Dichloropropane	ug/L (ppb)	10	92	92	70-130	0
Tetrachloroethene	ug/L (ppb)	10	98	97	70-130	1
Dibromochloromethane	ug/L (ppb)	10	98	97	60-148	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	92	92	70-130	0
Chlorobenzene	ug/L (ppb)	10	94	94	70-130	0
Ethylbenzene	ug/L (ppb)	10	91	92	70-130	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	96	98	70-130	2
m,p-Xylene	ug/L (ppb)	20	91	91	70-130	0
o-Xylene	ug/L (ppb)	10	92	92	70-130	0
Styrene	ug/L (ppb)	10	95	96	70-130	1
Isopropylbenzene	ug/L (ppb)	10	95	96	70-130	1
Bromoform	ug/L (ppb)	10	104	96	69-138	8
n-Propylbenzene	ug/L (ppb)	10	94	94	70-130	0
Bromobenzene	ug/L (ppb)	10	88	96	70-130	5
1,3,5-Trimethylbenzene	ug/L (ppb)	10	91	91	70-130	0
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	92	93	70-130	1
1,2,3-Trichloropropane	ug/L (ppb)	10	91	94	70-130	3
2-Chlorotoluene	ug/L (ppb)	10	94	95	70-130	1
4-Chlorotoluene	ug/L (ppb)	10	92	93	70-130	1
tert-Butylbenzene	ug/L (ppb)	10	93	93	70-130	0
1,2,4-Trimethylbenzene	ug/L (ppb)	10	94	95	70-130	1
sec-Butylbenzene	ug/L (ppb)	10	93	94	70-130	1
p-Isopropyltoluene	ug/L (ppb)	10	94	97	70-130	3
1,3-Dichlorobenzene	ug/L (ppb)	10	90	92	70-130	2
1,4-Dichlorobenzene	ug/L (ppb)	10	91	93	70-130	2
1,2-Dichlorobenzene	ug/L (ppb)	10	93	95	70-130	2
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	91	96	70-130	5
1,2,4-Trichlorobenzene	ug/L (ppb)	10	92	93	70-130	1
Hexachlorobutadiene	ug/L (ppb)	10	91	89	70-130	2
Naphthalene	ug/L (ppb)	10	92	95	70-130	3
1,2,3-Trichlorobenzene	ug/L (ppb)	10	93	94	70-130	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/09/21

Project: TWAAFA-001, F&BI 112173

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E**

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	2.5	8 vo	9 vo	10-86	7
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	94 vo	88 vo	60-88	6
2-Chlorophenol	ug/L (ppb)	2.5	58	57	10-89	2
1,3-Dichlorobenzene	ug/L (ppb)	2.5	81	77	48-91	5
1,4-Dichlorobenzene	ug/L (ppb)	2.5	81	78	48-91	4
1,2-Dichlorobenzene	ug/L (ppb)	2.5	84	79	52-92	6
Benzyl alcohol	ug/L (ppb)	13	28	26	10-72	7
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	87 vo	83	59-86	5
2-Methylphenol	ug/L (ppb)	2.5	37	38	10-75	3
Hexachloroethane	ug/L (ppb)	2.5	80	77	47-92	4
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	97	91	70-130	6
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	29	30	10-66	3
Nitrobenzene	ug/L (ppb)	2.5	90	86	60-90	5
Isophorone	ug/L (ppb)	2.5	95	95	70-130	0
2-Nitrophenol	ug/L (ppb)	2.5	87	88	27-104	1
2,4-Dimethylphenol	ug/L (ppb)	2.5	62	66	10-84	6
Benzoic acid	ug/L (ppb)	23	5 vo	4 vo	10-102	22 vo
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	95	92	55-103	3
2,4-Dichlorophenol	ug/L (ppb)	2.5	82	81	23-103	1
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	85	82	56-93	4
Naphthalene	ug/L (ppb)	2.5	86	83	62-90	4
Hexachlorobutadiene	ug/L (ppb)	2.5	81	77	48-85	5
4-Chloroaniline	ug/L (ppb)	13	45	43	35-108	5
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	76	76	18-109	0
2-Methylnaphthalene	ug/L (ppb)	2.5	88	83	64-93	6
1-Methylnaphthalene	ug/L (ppb)	2.5	87	82	64-93	6
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	79	79	49-112	0
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	90	90	16-112	0
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	90	90	26-113	0
2-Chloronaphthalene	ug/L (ppb)	2.5	93	89	67-97	4
2-Nitroaniline	ug/L (ppb)	13	121	114	31-168	7
Dimethyl phthalate	ug/L (ppb)	2.5	100	97	70-130	3
Acenaphthylene	ug/L (ppb)	2.5	97	92	70-130	5
2,6-Dinitrotoluene	ug/L (ppb)	2.5	100	99	70-130	1
3-Nitroaniline	ug/L (ppb)	13	59	59	33-120	0
Acenaphthene	ug/L (ppb)	2.5	94	90	70-130	4
2,4-Dinitrophenol	ug/L (ppb)	5	77	73	10-120	5
Dibenzofuran	ug/L (ppb)	2.5	88	83	67-107	6
2,4-Dinitrotoluene	ug/L (ppb)	2.5	86	82	53-132	5
4-Nitrophenol	ug/L (ppb)	5	12	13	10-89	8
Diethyl phthalate	ug/L (ppb)	2.5	97	89	70-130	9
Fluorene	ug/L (ppb)	2.5	96	90	70-130	6
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	98	93	70-130	5
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	95	94	70-130	1
4-Nitroaniline	ug/L (ppb)	13	70	69	32-122	1
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	88	89	10-139	1
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	91	93	70-130	2
Hexachlorobenzene	ug/L (ppb)	2.5	91	91	65-95	0
Pentachlorophenol	ug/L (ppb)	2.5	77	83	10-129	7
Phenanthrene	ug/L (ppb)	2.5	92	90	70-130	2
Anthracene	ug/L (ppb)	2.5	90	92	70-130	2
Carbazole	ug/L (ppb)	2.5	97	96	70-130	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	93	94	28-147	1
Fluoranthene	ug/L (ppb)	2.5	92	89	70-130	3
Pyrene	ug/L (ppb)	2.5	103	102	70-130	1
Benzyl butyl phthalate	ug/L (ppb)	2.5	79	78	34-142	1
Benz(a)anthracene	ug/L (ppb)	2.5	94	93	70-130	1
Chrysene	ug/L (ppb)	2.5	96	95	70-130	1
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	88	85	53-133	3
Di-n-octyl phthalate	ug/L (ppb)	2.5	73	70	49-119	4
Benzo(a)pyrene	ug/L (ppb)	2.5	98	98	70-130	0
Benzo(b)fluoranthene	ug/L (ppb)	2.5	98	112	70-130	13
Benzo(k)fluoranthene	ug/L (ppb)	2.5	98	93	70-130	5
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	102	107	70-130	5
Dibenzo(a,h)anthracene	ug/L (ppb)	2.5	99	105	70-130	6
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	99	103	70-130	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/09/21

Project: TWAAFA-001, F&BI 112173

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.063	46	58	25-165	23 vo
Aroclor 1260	ug/L (ppb)	0.063	56	69	25-163	21 vo

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

112173

SAMPLE CHAIN OF CUSTODY

ME 12/9/21 E03/VW2/AI3

Report To Trevor Louviere/Tasya Gray  
 Company DOF  
 Address 1001 SW Klickitat Way  
 City, State, ZIP Seattle, WA 98134  
 Phone 425-785-6322 Email tlouviere@dofnw.com

SAMPLERS (signature) EB

PROJECT NAME TWAAFA PO# TWAAFA-001

REMARKS SVOCs lab filtered at 0.7 micron before analysis INVOICE TO DOF

Project Specific RLs (Yes) / No

Page # 1 of 1

TURNAROUND TIME  
 X Standard Turnaround  
 X RUSH 24h (VOC only)  
 Rush charges authorized by:  
T. Louviere

SAMPLE DISPOSAL  
 Dispose after 30 days  
 Archive Samples  
 Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes
						TPH-Diesel w/SG	TPH-Diesel	TPH-Gasoline	VOCs by 8260D	SVOCs by 8270E	LL PCBs by 8082	T Metals by 6020/1631E	
TWA-7-55-67-1221	01 A-M	12/9/21	1030	W	13	X	X	X	X	X	X	X	
TRIP BLANK	02 A B			W	2				X				Ⓢ added per TL 12/10/21 ME
<del>EB</del>													
												Samples received at <u>4</u> °C	

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>EB</u>	<u>EBRA BEAVER</u>	<u>DOF</u>	<u>12/9/21</u>	<u>1400</u>
Received by: <u>HONG</u>	<u>HONG NGUYEN</u>	<u>DOF</u>	<u>12/9/21</u>	<u>15:00</u>
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

December 22, 2021

Trevor Louviere, Project Manager  
Dalton Olmsted Fuglevand  
1001 SW Klickitat Way, Suite 200B  
Seattle, WA 98134

Dear Mr Louviere:

Included are the results from the testing of material submitted on December 10, 2021 from the TWAAFA-001, F&BI 112213 project. There are 25 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Tasya Gray  
DOF1222R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 10, 2020 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 112213 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Dalton Olmsted Fuglevand</u>
112213 -01	TWA-EB2-1221
112213 -02	TRIP BLANK

Several compounds in the 8270E laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

The 8082 laboratory control sample and laboratory control sample duplicate failed the relative percent difference for Aroclor 1016 and 1260. PCBs were not detected therefore the data were acceptable.

An 8270 surrogate in the method blank did not pass the acceptance criteria. The affected compounds were qualified accordingly.

All other quality control requirements were acceptable.



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21  
Date Received: 12/10/21  
Project: TWAAFA-001, F&BI 112213  
Date Extracted: 12/15/21  
Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TWA-EB2-1221 112213-01	<100	86
Method Blank 01-2666 MB	<100	85

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21  
Date Received: 12/10/21  
Project: TWAAFA-001, F&BI 112213  
Date Extracted: 12/14/21  
Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>  
Sample Extracts Passed Through a  
Silica Gel Column Prior to Analysis  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
TWA-EB2-1221 112213-01	<50	<250	114
Method Blank 01-2882 MB	<50	<250	117

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21  
Date Received: 12/10/21  
Project: TWAAFA-001, F&BI 112213  
Date Extracted: 12/14/21  
Date Analyzed: 12/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 41-152)
TWA-EB2-1221 112213-01	<50	<250	109
Method Blank 01-2882 MB	<50	<250	115

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-EB2-1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/10/21	Project:	TWAAFA-001, F&BI 112213
Date Extracted:	12/13/21	Lab ID:	112213-01
Date Analyzed:	12/13/21	Data File:	112213-01.185
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<5
Iron	145
Lead	<1
Manganese	3.64
Nickel	<1
Thallium	<1
Vanadium	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-EB2-1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/10/21	Project:	TWAAFA-001, F&BI 112213
Date Extracted:	12/13/21	Lab ID:	112213-01 x10
Date Analyzed:	12/13/21	Data File:	112213-01 x10.172
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Selenium	<10
Silver	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA-001, F&BI 112213
Date Extracted:	12/13/21	Lab ID:	I1-826 mb
Date Analyzed:	12/13/21	Data File:	I1-826 mb.135
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<2.4
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<1
Silver	<0.2
Thallium	<1
Vanadium	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21  
Date Received: 12/10/21  
Project: TWAAFA-001, F&BI 112213  
Date Extracted: 12/13/21  
Date Analyzed: 12/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Total Mercury</u>
TWA-EB2-1221 112213-01	<0.02
Method Blank i1-827 MB	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-EB2-1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/10/21	Project:	TWAAFA-001, F&BI 112213
Date Extracted:	12/13/21	Lab ID:	112213-01
Date Analyzed:	12/15/21	Data File:	121515.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	85	117
Toluene-d8	99	88	112
4-Bromofluorobenzene	100	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TRIP BLANK	Client:	Dalton Olmsted Fuglevand
Date Received:	12/10/21	Project:	TWAAFA-001, F&BI 112213
Date Extracted:	12/13/21	Lab ID:	112213-02
Date Analyzed:	12/13/21	Data File:	121322.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	85	117
Toluene-d8	99	88	112
4-Bromofluorobenzene	99	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 112213
Date Extracted:	12/13/21	Lab ID:	01-2824 mb
Date Analyzed:	12/13/21	Data File:	121307.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	85	117
Toluene-d8	92	88	112
4-Bromofluorobenzene	103	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-EB2-1221 f	Client:	Dalton Olmsted Fuglevand
Date Received:	12/10/21	Project:	TWAAFA-001, F&BI 112213
Date Extracted:	12/14/21	Lab ID:	112213-01 1/0.5
Date Analyzed:	12/15/21	Data File:	121519.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	18	11	65
Phenol-d6	11	11	65
Nitrobenzene-d5	94	50	150
2-Fluorobiphenyl	95	44	108
2,4,6-Tribromophenol	101	10	140
Terphenyl-d14	95	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 jl	Phenanthrene	0.029
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	0.016
Hexachlorobutadiene	<0.1	Pyrene	0.016
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	<1.6
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 112213
Date Extracted:	12/14/21	Lab ID:	01-2875 mb 1/0.5
Date Analyzed:	12/15/21	Data File:	121508.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	17	11	65
Phenol-d6	10 vo	11	65
Nitrobenzene-d5	97	50	150
2-Fluorobiphenyl	97	44	108
2,4,6-Tribromophenol	93	10	140
Terphenyl-d14	105	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 js jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	<1
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js jl	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	<1.6
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-EB2-1221	Client:	Dalton Olmsted Fuglevand
Date Received:	12/10/21	Project:	TWAAFA-001, F&BI 112213
Date Extracted:	12/13/21	Lab ID:	112213-01 1/0.25
Date Analyzed:	12/14/21	Data File:	121416.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	31 ca	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 112213
Date Extracted:	12/13/21	Lab ID:	01-2877 mb 1/0.25
Date Analyzed:	12/14/21	Data File:	121407.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	36	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/10/21

Project: TWAAFA-001, F&BI 112213

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 112212-06 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	93	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/10/21

Project: TWAAFA-001, F&BI 112213

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	104	112	61-133	7



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/10/21

Project: TWAAFA-001, F&BI 112213

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	88	104	63-142	17

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/10/21

Project: TWAAFA-001, F&BI 112213

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 112210-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	101	106	75-125	5
Arsenic	ug/L (ppb)	10	1.08	92	97	75-125	5
Barium	ug/L (ppb)	50	11.2	99	102	75-125	3
Beryllium	ug/L (ppb)	5	<1	78	80	75-125	3
Cadmium	ug/L (ppb)	5	<1	99	101	75-125	2
Chromium	ug/L (ppb)	20	<1	97	101	75-125	4
Cobalt	ug/L (ppb)	20	<1	97	100	75-125	3
Copper	ug/L (ppb)	20	<5	95	99	75-125	4
Iron	ug/L (ppb)	100	467	85	103	75-125	19
Lead	ug/L (ppb)	10	<1	94	95	75-125	1
Manganese	ug/L (ppb)	20	56.9	93	106	75-125	13
Nickel	ug/L (ppb)	20	1.48	96	100	75-125	4
Selenium	ug/L (ppb)	5	<1	98	106	75-125	8
Silver	ug/L (ppb)	5	<1	91	98	75-125	7
Thallium	ug/L (ppb)	5	<1	93	94	75-125	1
Vanadium	ug/L (ppb)	20	<1	99	102	75-125	3
Zinc	ug/L (ppb)	50	<5	95	98	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	101	80-120
Arsenic	ug/L (ppb)	10	94	80-120
Barium	ug/L (ppb)	50	96	80-120
Beryllium	ug/L (ppb)	5	98	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	98	80-120
Cobalt	ug/L (ppb)	20	99	80-120
Copper	ug/L (ppb)	20	101	80-120
Iron	ug/L (ppb)	100	99	80-120
Lead	ug/L (ppb)	10	98	80-120
Manganese	ug/L (ppb)	20	99	80-120
Nickel	ug/L (ppb)	20	101	80-120
Selenium	ug/L (ppb)	5	99	80-120
Silver	ug/L (ppb)	5	97	80-120
Thallium	ug/L (ppb)	5	96	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	99	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/10/21

Project: TWAAFA-001, F&BI 112213

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
TOTAL MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 112175-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	90	100	71-125	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	117	115	78-125	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/10/21

Project: TWAAFA-001, F&BI 112213

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 112227-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	111	50-150
Chloromethane	ug/L (ppb)	10	<10	104	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	117	16-176
Bromomethane	ug/L (ppb)	10	<5	122	10-193
Chloroethane	ug/L (ppb)	10	<1	113	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	106	50-150
Acetone	ug/L (ppb)	50	<50	104	15-179
1,1-Dichloroethene	ug/L (ppb)	10	<1	112	50-150
Hexane	ug/L (ppb)	10	<5	92	49-161
Methylene chloride	ug/L (ppb)	10	<5	115	40-143
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	103	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	108	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	102	10-335
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	101	50-150
Chloroform	ug/L (ppb)	10	<1	101	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	103	34-168
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	106	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	109	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	96	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	103	50-150
Benzene	ug/L (ppb)	10	<0.35	103	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	99	43-133
1,2-Dichloropropane	ug/L (ppb)	10	<1	102	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	104	50-150
Dibromomethane	ug/L (ppb)	10	<1	99	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	113	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	102	48-145
Toluene	ug/L (ppb)	10	<1	102	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	110	37-152
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	107	50-150
2-Hexanone	ug/L (ppb)	50	<10	120	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	103	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	100	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	104	33-164
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	103	50-150
Chlorobenzene	ug/L (ppb)	10	<1	99	50-150
Ethylbenzene	ug/L (ppb)	10	<1	101	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	106	50-150
m,p-Xylene	ug/L (ppb)	20	<2	101	50-150
o-Xylene	ug/L (ppb)	10	<1	99	50-150
Styrene	ug/L (ppb)	10	<1	103	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	100	50-150
Bromoform	ug/L (ppb)	10	<5	106	23-161
n-Propylbenzene	ug/L (ppb)	10	<1	98	50-150
Bromobenzene	ug/L (ppb)	10	<1	93	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	96	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	104	10-235
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	100	33-151
2-Chlorotoluene	ug/L (ppb)	10	<1	93	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	99	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	95	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	97	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	98	46-139
p-Isopropyltoluene	ug/L (ppb)	10	<1	98	46-140
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	97	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	97	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	98	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	100	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	93	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	94	42-150
Naphthalene	ug/L (ppb)	10	<1	97	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	93	44-155

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/10/21

Project: TWAAFA-001, F&BI 112213

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	112	115	70-130	3
Chloromethane	ug/L (ppb)	10	110	109	70-130	1
Vinyl chloride	ug/L (ppb)	10	112	115	70-130	3
Bromomethane	ug/L (ppb)	10	123	129	28-182	5
Chloroethane	ug/L (ppb)	10	107	110	70-130	3
Trichlorofluoromethane	ug/L (ppb)	10	98	103	70-130	5
Acetone	ug/L (ppb)	50	100	96	42-155	4
1,1-Dichloroethene	ug/L (ppb)	10	108	112	70-130	4
Hexane	ug/L (ppb)	10	72	74	50-161	3
Methylene chloride	ug/L (ppb)	10	110	109	29-192	1
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	101	102	70-130	1
trans-1,2-Dichloroethene	ug/L (ppb)	10	94	94	70-130	0
1,1-Dichloroethane	ug/L (ppb)	10	105	105	70-130	0
2,2-Dichloropropane	ug/L (ppb)	10	89	93	70-130	4
cis-1,2-Dichloroethene	ug/L (ppb)	10	99	99	70-130	0
Chloroform	ug/L (ppb)	10	100	100	70-130	0
2-Butanone (MEK)	ug/L (ppb)	50	96	97	50-157	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	103	103	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	10	106	107	70-130	1
1,1-Dichloropropene	ug/L (ppb)	10	93	93	70-130	0
Carbon tetrachloride	ug/L (ppb)	10	103	101	70-130	2
Benzene	ug/L (ppb)	10	101	100	70-130	1
Trichloroethene	ug/L (ppb)	10	93	94	70-130	1
1,2-Dichloropropane	ug/L (ppb)	10	101	99	70-130	2
Bromodichloromethane	ug/L (ppb)	10	102	101	70-130	1
Dibromomethane	ug/L (ppb)	10	101	97	70-130	4
4-Methyl-2-pentanone	ug/L (ppb)	50	104	103	70-130	1
cis-1,3-Dichloropropene	ug/L (ppb)	10	100	103	70-130	3
Toluene	ug/L (ppb)	10	98	101	70-130	3
trans-1,3-Dichloropropene	ug/L (ppb)	10	106	103	70-130	3
1,1,2-Trichloroethane	ug/L (ppb)	10	104	105	70-130	1
2-Hexanone	ug/L (ppb)	50	115	115	69-130	0
1,3-Dichloropropane	ug/L (ppb)	10	101	102	70-130	1
Tetrachloroethene	ug/L (ppb)	10	95	95	70-130	0
Dibromochloromethane	ug/L (ppb)	10	104	107	63-142	3
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	99	101	70-130	2
Chlorobenzene	ug/L (ppb)	10	98	99	70-130	1
Ethylbenzene	ug/L (ppb)	10	99	100	70-130	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	104	102	70-130	2
m,p-Xylene	ug/L (ppb)	20	99	100	70-130	1
o-Xylene	ug/L (ppb)	10	97	99	70-130	2
Styrene	ug/L (ppb)	10	101	104	70-130	3
Isopropylbenzene	ug/L (ppb)	10	98	99	70-130	1
Bromoform	ug/L (ppb)	10	109	111	50-157	2
n-Propylbenzene	ug/L (ppb)	10	97	97	70-130	0
Bromobenzene	ug/L (ppb)	10	96	93	70-130	3
1,3,5-Trimethylbenzene	ug/L (ppb)	10	95	97	52-150	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	103	104	70-130	1
1,2,3-Trichloropropane	ug/L (ppb)	10	100	100	70-130	0
2-Chlorotoluene	ug/L (ppb)	10	94	93	70-130	1
4-Chlorotoluene	ug/L (ppb)	10	97	98	70-130	1
tert-Butylbenzene	ug/L (ppb)	10	95	96	70-130	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	97	98	70-130	1
sec-Butylbenzene	ug/L (ppb)	10	97	98	70-130	1
p-Isopropyltoluene	ug/L (ppb)	10	95	96	70-130	1
1,3-Dichlorobenzene	ug/L (ppb)	10	95	95	70-130	0
1,4-Dichlorobenzene	ug/L (ppb)	10	95	95	70-130	0
1,2-Dichlorobenzene	ug/L (ppb)	10	97	97	70-130	0
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	101	102	70-130	1
1,2,4-Trichlorobenzene	ug/L (ppb)	10	88	92	70-130	4
Hexachlorobutadiene	ug/L (ppb)	10	85	89	70-130	5
Naphthalene	ug/L (ppb)	10	93	97	70-130	4
1,2,3-Trichlorobenzene	ug/L (ppb)	10	93	95	69-143	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/10/21

Project: TWAFA-001, F&BI 112213

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E**

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	2.5	8 vo	9 vo	10-86	7
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	94 vo	88 vo	60-88	6
2-Chlorophenol	ug/L (ppb)	2.5	58	57	10-89	2
1,3-Dichlorobenzene	ug/L (ppb)	2.5	81	77	48-91	5
1,4-Dichlorobenzene	ug/L (ppb)	2.5	81	78	48-91	4
1,2-Dichlorobenzene	ug/L (ppb)	2.5	84	79	52-92	6
Benzyl alcohol	ug/L (ppb)	13	28	26	10-72	7
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	87 vo	83	59-86	5
2-Methylphenol	ug/L (ppb)	2.5	37	38	10-75	3
Hexachloroethane	ug/L (ppb)	2.5	80	77	47-92	4
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	97	91	70-130	6
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	29	30	10-66	3
Nitrobenzene	ug/L (ppb)	2.5	90	86	60-90	5
Isophorone	ug/L (ppb)	2.5	95	95	70-130	0
2-Nitrophenol	ug/L (ppb)	2.5	87	88	27-104	1
2,4-Dimethylphenol	ug/L (ppb)	2.5	62	66	10-84	6
Benzoic acid	ug/L (ppb)	23	5 vo	4 vo	10-102	22 vo
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	95	92	55-103	3
2,4-Dichlorophenol	ug/L (ppb)	2.5	82	81	23-103	1
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	85	82	56-93	4
Naphthalene	ug/L (ppb)	2.5	86	83	62-90	4
Hexachlorobutadiene	ug/L (ppb)	2.5	81	77	48-85	5
4-Chloroaniline	ug/L (ppb)	13	45	43	35-108	5
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	76	76	18-109	0
2-Methylnaphthalene	ug/L (ppb)	2.5	88	83	64-93	6
1-Methylnaphthalene	ug/L (ppb)	2.5	87	82	64-93	6
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	79	79	49-112	0
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	90	90	16-112	0
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	90	90	26-113	0
2-Chloronaphthalene	ug/L (ppb)	2.5	93	89	67-97	4
2-Nitroaniline	ug/L (ppb)	13	121	114	31-168	7
Dimethyl phthalate	ug/L (ppb)	2.5	100	97	70-130	3
Acenaphthylene	ug/L (ppb)	2.5	97	92	70-130	5
2,6-Dinitrotoluene	ug/L (ppb)	2.5	100	99	70-130	1
3-Nitroaniline	ug/L (ppb)	13	59	59	33-120	0
Acenaphthene	ug/L (ppb)	2.5	94	90	70-130	4
2,4-Dinitrophenol	ug/L (ppb)	5	77	73	10-120	5
Dibenzofuran	ug/L (ppb)	2.5	88	83	67-107	6
2,4-Dinitrotoluene	ug/L (ppb)	2.5	86	82	53-132	5
4-Nitrophenol	ug/L (ppb)	5	12	13	10-89	8
Diethyl phthalate	ug/L (ppb)	2.5	97	89	70-130	9
Fluorene	ug/L (ppb)	2.5	96	90	70-130	6
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	98	93	70-130	5
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	95	94	70-130	1
4-Nitroaniline	ug/L (ppb)	13	70	69	32-122	1
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	88	89	10-139	1
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	91	93	70-130	2
Hexachlorobenzene	ug/L (ppb)	2.5	91	91	65-95	0
Pentachlorophenol	ug/L (ppb)	2.5	77	83	10-129	7
Phenanthrene	ug/L (ppb)	2.5	92	90	70-130	2
Anthracene	ug/L (ppb)	2.5	90	92	70-130	2
Carbazole	ug/L (ppb)	2.5	97	96	70-130	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	93	94	28-147	1
Fluoranthene	ug/L (ppb)	2.5	92	89	70-130	3
Pyrene	ug/L (ppb)	2.5	103	102	70-130	1
Benzyl butyl phthalate	ug/L (ppb)	2.5	79	78	34-142	1
Benz(a)anthracene	ug/L (ppb)	2.5	94	93	70-130	1
Chrysene	ug/L (ppb)	2.5	96	95	70-130	1
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	88	85	53-133	3
Di-n-octyl phthalate	ug/L (ppb)	2.5	73	70	49-119	4
Benzo(a)pyrene	ug/L (ppb)	2.5	98	98	70-130	0
Benzo(b)fluoranthene	ug/L (ppb)	2.5	98	112	70-130	13
Benzo(k)fluoranthene	ug/L (ppb)	2.5	98	93	70-130	5
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	102	107	70-130	5
Dibenzo(a,h)anthracene	ug/L (ppb)	2.5	99	105	70-130	6
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	99	103	70-130	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/10/21

Project: TWAAFA-001, F&BI 112213

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.063	46	58	25-165	23 vo
Aroclor 1260	ug/L (ppb)	0.063	56	69	25-163	21 vo

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



112213

SAMPLE CHAIN OF CUSTODY

ME 12-16-21

Page # 1 of 1 AI2

Report To Trevor Louviere/Tasya Gray

Company DOF

Address 1001 SW Klickitat Way

City, State, ZIP Seattle, WA 98134

Phone 425-785-6322 Email tlouviere@dofnw.com

SAMPLERS (signature)	
PROJECT NAME TWAafa	PO # TWAafa-001
REMARKS SVOCs lab filtered at 0.7 micron before analysis	INVOICE TO DOF
Project Specific RLs <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No	

TURNAROUND TIME X Standard Turnaround X <del>RUSH</del> (VOC only) <i>vw2</i>
Rush charges authorized by: T. Louviere
SAMPLE DISPOSAL Dispose after 30 days Archive Samples Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes
						TPH-Diesel w/SG	TPH-Diesel	TPH-Gasoline	VOCs by 8260D	SVOCs by 8270E	LL PCBs by 8082	T Metals by 6020/1631E	
TWA-EB2-1221	01A-M	12/9/21	1500	WATER	13	X	X	X	X	X	X	X	
TRIP BLANK	02A-B	12/10/21	-	WATER	2				X				
Samples received at 4 °C													

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <i>[Signature]</i>	<i>[Signature]</i>	DOF	12/10/21	1405
Received by: <i>[Signature]</i>	ERIC CLAW	Fe/B	12/10/21	1455
Relinquished by:				
Received by:				

# DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

PROJECT NO. M0615.20.001 | APRIL 1, 2022 | PORT OF TACOMA

Maul Foster & Alongi, Inc. (MFA), conducted an independent review of the quality of analytical results for groundwater samples and associated quality control samples collected at the Taylor Way and Alexander Avenue Fill Area in December 2021.

Friedman & Bruya, Inc. (FBI), performed the analyses. FBI report numbers 112209-amended, 112227, 112245, and 112244 were reviewed. The analyses performed and samples analyzed are listed below. Additional samples submitted on hold are also listed below.

Analysis	Reference
Diesel- and oil-range hydrocarbons	NWTPH-Dx
Diesel- and oil-range hydrocarbons with silica-gel clean up	NWTPH-DX-SG
Gasoline-range hydrocarbons	NWTPH-Gx
Polychlorinated biphenyls	EPA 8082A
Semivolatile organic compounds	EPA 8270E
Total and dissolved metals	EPA 6020B
Total and dissolved mercury	EPA 1631E
Volatile organic compounds	EPA 8260D
NOTES: EPA = U.S. Environmental Protection Agency. NWTPH = Northwest Total Petroleum Hydrocarbons. SG = silica-gel clean up.	

Samples Analyzed		
Report 112209-amended	Report 112227	Report 112244
TWA-10_20-25-1210	TWA-10-30-35-1210	TWA-10_44-45-1213 (hold)
Report 112245	TWA-10-39-49-1210 (hold)	TWA-10_45-50-1213
TWA-10_51-56_1213	Trip Blank	Trip Blank

## DATA QUALIFICATION

Analytical results were evaluated according to applicable sections of U.S. Environmental Protection Agency (EPA) guidelines for data review (EPA, 2020a,b) and appropriate laboratory- and method-specific guidelines (EPA, 1986; FBI, 2019).

Data validation procedures were modified, as appropriate, to accommodate quality control requirements for methods that EPA data review procedures do not specifically address (e.g., NWTPH-Dx).

FBI noted that they filtered all samples submitted for EPA Method 8270E analysis prior to analysis. No action was required by the reviewer.

Based on the results of the data quality review procedures described below, the data are considered acceptable for their intended use, with the appropriate final data qualifiers assigned. Final data qualifiers represent qualifiers originating from the laboratory and accepted by the reviewer, as well as data qualifiers assigned by the reviewer during validation.

- Final data qualifiers:
  - J = result is estimated.
  - U = result is non-detect at the method reporting limit (MRL).
  - UJ = result is non-detect with an estimated MRL.
  - R = result is rejected.

According to reports 112209-amended, 112245, 112227, and 112244, the NWTPH-Dx silica gel extraction diesel- and oil-range hydrocarbons results from TWA-10\_20-25-1210, TWA-10\_51-56\_1213, TWA-10-30-35-1210, and TWA-10\_45-50-1213 were flagged by the laboratory due to chromatographic patterns not resembling the fuel standards used for quantitation. These results were reported as diesel- and/or oil-range hydrocarbons instead of specific fuel products; thus, qualification was not required.

## TOTAL AND DISSOLVED COMPOUNDS

Total and dissolved metals results were compared. Sample results were qualified if dissolved results were greater than associated total results, except when the relative percent difference (RPD) was less than 20 percent. All detected total metals results were greater than their associated dissolved metals results or met the RPD acceptance criteria.

## HOLDING TIMES, PRESERVATION, AND SAMPLE STORAGE

### Holding Times

Extractions and analyses were performed within the recommended holding time criteria.

### Preservation and Sample Storage

The samples were preserved and stored appropriately.

## BLANKS

### Method Blanks

Laboratory method blanks are used to assess whether laboratory contamination was introduced during sample preparation and analysis. Laboratory method blank analyses were

performed at the required frequencies. For purposes of data qualification, the laboratory method blanks were associated with all samples prepared in the analytical batch.

All laboratory method blank results were non-detect to MRL for all target analytes.

### Equipment Rinsate Blanks

Equipment rinsate blanks are used to evaluate field equipment decontamination. These blanks were not required for this sampling event, as all samples were collected using dedicated, single-use equipment.

### Trip Blanks

Trip blanks are used to evaluate whether volatile organic compound contamination was introduced during sample storage and shipment between the sampling location and the laboratory.

One trip blank was submitted with each of the sample delivery group 112227 and 112244 for EPA Method 8260D analysis. The trip blanks were non-detect to MRL for all target analytes.

## LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RESULTS

A laboratory control sample (LCS) and a laboratory control sample duplicate (LCSD) are spiked with target analytes to provide information about laboratory precision and accuracy. When LCSD results were not reported, batch precision was evaluated based on laboratory duplicate or matrix spike (MS) and matrix spike duplicate (MSD) relative percent difference (RPDs). The reported LCS/LCSD samples were extracted and analyzed at the required frequency.

According to reports 112209-amended, 112245, 112227, and 112244, the EPA Method 8270E LCS and LCSD results for phenol and benzoic acid were below the lower percent recovery acceptance limit of 10 percent, ranging from 9 percent to 4 percent. Additionally, the RPD between the LCS and LCSD exceeded the 20 percent limit, at 22 percent, for benzoic acid. The reviewer rejected the associated non-detect sample results, as shown in the table below. The LCS and LCSD results for bis(2-chloroethyl) ether and 2,2'-oxybis(1-chloropropane) were above their respective upper percent recovery acceptance limits, at 88 percent, 94 percent, and 87 percent. Bis(2-chloroethyl) ether and 2,2'-oxybis(1-chloropropane) were non-detect in the associated samples; thus, no qualifications were necessary.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
112209-amended	TWA-10_20-25-1210	Phenol	1 U	R
		Benzoic acid	5 U	R
112227	TWA-10-30-35-1210	Phenol	1 U	R

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
		Benzoic acid	5 U	R
112244	TWA-10_45-50-1213	Phenol	1 U	R
		Benzoic acid	5 U	R
112245	TWA-10_51-56_1213	Phenol	1 U	R
		Benzoic acid	5 U	R
NOTES: R = result is rejected. U = result is non-detect at the method reporting limit. ug/L = micrograms per liter.				

According to reports 112209-amended, 112245, 112227, and 112244, the EPA Method 8082A RPD between the LCS and LCSD exceeded the 20 percent limit, at 23 percent and 21 percent, respectively, for Aroclor 1016 and Aroclor 1260. The associated sample results were non-detect; thus, no qualifications were necessary

All remaining LCS/LCSD results were within acceptance limits for percent recovery and relative percent difference (RPD).

## LABORATORY DUPLICATE RESULTS

Laboratory duplicate results are used to evaluate laboratory precision. No duplicates were analyzed, and batch precision and accuracy were evaluated based on MS/MSD RPDs.

## MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

Matrix spike/matrix spike duplicate (MS/MSD) results are used to evaluate laboratory precision and accuracy as well as the effect of the sample matrix on sample preparation and analysis. All MS/MSD samples were prepared and analyzed at the required frequency. When MS/MSD percent recoveries and RPDs were outside acceptance limits because of high concentrations of analyte in the sample, no qualifications were made by the reviewer.

MS/MSD percent recovery and RPD control limit exceedances did not require qualification in cases where the MS/MSD had been prepared by the laboratory with samples from unrelated projects because MS/MSD with these sample matrices were not representative of project sample matrices.

According to report 112227, the EPA Method 8260D MS results for hexane, ethylbenzene, m,p-xylene, o-xylene, styrene, isopropylbenzene, n-propylbenzene, bromobenzene, 1,3,5-trimethylbenzene, 2-chlorotoluene, 4-chlorotoluene, tert-butylbenzene, 1,2,4-trimethylbenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichlorobenzene, 1,2,4-trichlorobenzene, and naphthalene recovered below the lower acceptance limit of 50 percent, ranging from 43 percent to 49 percent. The reviewer qualified the associated source sample

non-detect results with “UJ” as non-detect with an estimated reporting limit, as shown in the table below.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
112227	TWA-10-30-35-1210	Hexane	5 U	5 UJ
		Ethylbenzene	1 U	1 UJ
		m,p-Xylene	2 U	2 UJ
		o-Xylene	1 U	1 UJ
		Styrene	1 U	1 UJ
		Isopropylbenzene	1 U	1 UJ
		n-Propylbenzene	1 U	1 UJ
		Bromobenzene	1 U	1 UJ
		1,3,5-Trimethylbenzene	1 U	1 UJ
		2-Chlorotoluene	1 U	1 UJ
		4-Chlorotoluene	1 U	1 UJ
		tert-Butylbenzene	1 U	1 UJ
		1,2,4-Trimethylbenzene	1 U	1 UJ
		1,3-Dichlorobenzene	1 U	1 UJ
		1,4-Dichlorobenzene	1 U	1 UJ
		1,2-Dichlorobenzene	1 U	1 UJ
		1,2,4-Trichlorobenzene	1 U	1 UJ
Naphthalene	1 U	1 UJ		
NOTES: U = result is non-detect at the method reporting limit. ug/L = micrograms per liter. UJ = result is non-detect with an estimated reporting limit.				

All MS/MSD results were within acceptance limits for percent recovery and RPD.

## SURROGATE RECOVERY RESULTS

The samples were spiked with surrogate compounds to evaluate laboratory performance for individual samples. The laboratory appropriately documented and qualified surrogate outliers. The reviewer took no action based on surrogate percent recoveries that were outside acceptance limits because of dilutions necessary to quantify high concentrations of target analytes present in the samples. The reviewer confirmed that batch quality assurance/quality control results for samples with surrogate outliers were within acceptance limits.

According to reports 112209-amended, 112245, 112227, and 112244, the EPA Method 8270E laboratory method blank surrogate compound phenol-d6 recovery was below the lower

acceptance limit of 11 percent, at 10 percent. Batch quality control does not require qualifiers by the reviewer; thus, no qualifications were made.

According to report 112209, the EPA Method 8082A surrogate compound tetrachloro-m-xylene (TCMX) recovery was below the lower acceptance limit of 25 percent, at 7 percent for TWA-10\_20-25-1210. The associated sample results were qualified with “R” and rejected, as shown in the table below.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
112209	TWA-10_20-25-1210	Aroclor 1221	0.0035 U	R
		Aroclor 1232	0.0035 U	R
		Aroclor 1016	0.0035 U	R
		Aroclor 1242	0.0035 U	R
		Aroclor 1248	0.0035 U	R
		Aroclor 1254	0.0035 U	R
		Aroclor 1260	0.0035 U	R
		Aroclor 1262	0.0035 U	R
		Aroclor 1268	0.0035 U	R
NOTES: R = result is rejected. U = result is non-detect at the method reporting limit. ug/L = micrograms per liter.				

According to reports 112227 and 112245, the EPA Method 8270E surrogate compound phenol-d6 was below the lower acceptance limit of 11 percent, at 10 percent for both samples TWA-10-51-56\_1213 and TWA-10-30-35-1210. The reviewer confirmed with the laboratory that phenol, 2-chlorophenol, benzyl alcohol, 2-methylphenol, and 3-methylphenol + 4-methylphenol results are associated with the surrogate compound phenol-d6. As shown in the table below, the associated sample results were qualified by the reviewer with “R,” as rejected. Some results were already qualified as rejected based on LCS and LCSD recoveries; additional qualification was not required.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
112245	TWA-10-51-56_1213	2-Chlorophenol	1.0 U	R
		Benzyl alcohol	1.0 U	R
		2-Methylphenol	1.0 U	R
		3-Methylphenol + 4-Methylphenol	2.0 U	R
112227	TWA-10-30-35-1210	2-Chlorophenol	1.0 U	R
		Benzyl alcohol	1.0 U	R

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
		2-Methylphenol	1.0 U	R
		3-Methylphenol + 4-Methylphenol	2.0 U	R
NOTES: R = result is rejected. U = result is non-detect at the method reporting limit. ug/L = micrograms per liter.				

According to report 112227, the EPA Method 8082A surrogate compound TCMX recovery was below the lower acceptance limit of 25 percent, at 17 percent for TWA-10-30-35-1210. The laboratory also flagged the TCMX result due to calibration exceedances. The associated sample results were qualified with “UJ” as non-detect with an estimated reporting limit, as shown in the table below.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
112227	TWA-10_30-35-1210	Aroclor 1221	0.0035 U	0.0035 UJ
		Aroclor 1232	0.0035 U	0.0035 UJ
		Aroclor 1016	0.0035 U	0.0035 UJ
		Aroclor 1242	0.0035 U	0.0035 UJ
		Aroclor 1248	0.0035 U	0.0035 UJ
		Aroclor 1254	0.0035 U	0.0035 UJ
		Aroclor 1260	0.0035 U	0.0035 UJ
		Aroclor 1262	0.0035 U	0.0035 UJ
		Aroclor 1268	0.0035 U	0.0035 UJ
NOTES: U = result is non-detect at the method reporting limit. ug/L = micrograms per liter. UJ = result is non-detect with an estimated reporting limit.				

According to reports 112244, 112227, 112209, and 112245, the laboratory method blanks were flagged by the laboratory due to low phenol-d6 recovery. Basic fractions were flagged by the laboratory based to retention time grouping but the reviewer confirmed with the laboratory that only acidic fractions would be affected by the phenol-d6 exceedance. The reviewer did not require qualification on batch quality control.

All surrogate results were within percent recovery acceptance limits.

## CONTINUING CALIBRATION VERIFICATION RESULTS

Continuing calibration verification (CCV) results are used to demonstrate instrument precision and accuracy through the end of the sample batch. CCV results were not required for



validation but were reviewed when provided. Surrogate or batch quality control results flagged by the laboratory based on CCV exceedances, but meeting percent recovery and/or RPD acceptance criteria, required no action from the reviewer.

According to reports 112209-amended, 112245, 112227, and 112244, the laboratory flagged EPA Method 8270E di-n-octyl phthalate results as estimated due to the calibration results being outside of acceptable criteria. The reviewer qualified the non-detect di-n-octyl phthalate results with “UJ” as non-detect with an estimated reporting limit, as shown in the table below.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
112209-amended	TWA-10_20-25-1210	Di-n-octyl phthalate	1 U	1 UJ
112227	TWA-10-30-35-1210		1 U	1 UJ
112244	TWA-10_45-50-1213		1 U	1 UJ
112245	TWA-10_51-56_1213		1 U	1 UJ
NOTES: U = result is non-detect at the method reporting limit. ug/L = micrograms per liter. UJ = result is non-detect with an estimated reporting limit.				

## FIELD DUPLICATE RESULTS

Field duplicate samples measure both field and laboratory precision. No field duplicates were submitted with reports 112209-amended, 112245, 112227, and 112244.

## REPORTING LIMITS

FBI used routine reporting limits for non-detect results, except for samples requiring dilutions because of high analyte concentrations and/or matrix interferences. The reviewer confirmed that when samples were diluted for analysis, the dilution factor was provided by the laboratory at the end of the laboratory sample identification number.

## DATA PACKAGE

The data package was reviewed for transcription errors, omissions, and anomalies.

Report 112209 was amended and reissued on December 29, 2021, to separate a waste soil sample to a separate report. No further action was required by the reviewer.

Sample TWA-10\_44-45\_1213 was submitted with report 112244 for volatile organic compound analysis but was placed on hold once the samples were received by the laboratory. No further action was required by the reviewer.

Sample TWA-10\_39-40\_1210 was submitted with report 112227 for VOC analysis but was placed on hold once the samples were received by the laboratory. No further action was required by the reviewer.

Samples TWA-10\_45-50-1213 and TWA-10\_51-56\_1213 were flagged by the laboratory as potential laboratory contamination. The reviewer confirmed the samples were reanalyzed with consistent concentrations and the laboratory method blank and other quality control blank samples were non-detect; thus, the reviewer did not add qualifications due to potential contamination.

The reviewer confirmed that samples TWA-10\_20-25-1210, TWA-10-30-35-1210, TWA-10\_45-50-1213 and TWA-10\_51-56\_1213 provided with sample delivery groups 112209-amended, 112227, 112244, and 112245 were collected from monitoring well TWA-10D. The sample names included in laboratory report 112209-amended, 112227, 112244, and 112245 are consistent with those provided on the associated COC forms.

No additional issues were found.

## REFERENCES

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EPA. 1986. Test methods for evaluating solid waste, physical/chemical methods. EPA publication SW-846. 3d ed. U.S. Environmental Protection Agency. Final updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), V (2015), VI phase I (2017), VI phase II (2018), VI phase III (2019).

EPA. 2020a. EPA contract laboratory program, national functional guidelines for inorganic Superfund methods data review. EPA 542-R-20-006. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. November.

EPA. 2020b. EPA contract laboratory program, national functional guidelines for organic Superfund methods data review. EPA 540-R-20-005. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. November.

FBI. 2019. Quality assurance manual. Revision 17. Friedman & Bruya, Inc. Seattle, Washington. November 6.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
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December 29, 2021

Audrey Hackett, Project Manager  
Maul Foster Alongi  
2815 2<sup>nd</sup> Ave, Suite 540  
Seattle, WA 98121

Dear Ms Hackett:

Included is the amended report from the testing of material submitted on December 10, 2021 from the TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209 project. Per your request, the soil and water results were split into separate reports.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Carolyn Wise, Mary Benzinger  
MFA1223R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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December 23, 2021

Audrey Hackett, Project Manager  
Maul Foster Alongi  
2815 2<sup>nd</sup> Ave, Suite 540  
Seattle, WA 98121

Dear Ms Hackett:

Included are the water results from the testing of material submitted on December 10, 2021 from the TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209 project. There are 31 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Carolyn Wise  
MFA1223R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 10, 2021 by Friedman & Bruya, Inc. from the Maul Foster Alongi TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Maul Foster Alongi</u>
112209 -01	TWA-10_20-25-1210

Several compounds in the 8270E laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

An 8270 surrogate in the method blank did not pass the acceptance criteria. The affected compounds were qualified accordingly.

The 8082 laboratory control sample and laboratory control sample duplicate failed the relative percent difference for Aroclor 1016 and 1260. PCBs were not detected therefore the data were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209

Date Extracted: 12/15/21

Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TWA-10_20-25-1210 112209-01	<100	87
Method Blank 01-2666 MB	<100	85

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209

Date Extracted: 12/14/21

Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>  
Sample Extracts Passed Through a  
Silica Gel Column Prior to Analysis  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
TWA-10_20-25-1210 112209-01	<50	<250	75
Method Blank 01-2882 MB	<50	<250	117



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209

Date Extracted: 12/14/21

Date Analyzed: 12/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 41-152)
TWA-10_20-25-1210 112209-01	410 x	270 x	62
Method Blank 01-2882 MB	<50	<250	115

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-10_20-25-1210	Client:	Maul Foster Alongi
Date Received:	12/10/21	Project:	0615.20.01-03, F&BI 112209
Date Extracted:	12/13/21	Lab ID:	112209-01
Date Analyzed:	12/13/21	Data File:	112209-01.187
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	3.90
Cadmium	<1
Chromium	13.2
Cobalt	3.56
Copper	18.0
Lead	6.18
Manganese	275
Nickel	17.8
Selenium	<1
Thallium	<1
Vanadium	64.5
Zinc	111

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-10_20-25-1210	Client:	Maul Foster Alongi
Date Received:	12/10/21	Project:	0615.20.01-03, F&BI 112209
Date Extracted:	12/13/21	Lab ID:	112209-01 x10
Date Analyzed:	12/13/21	Data File:	112209-01 x10.175
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Barium	37.5
Beryllium	<10
Iron	17,500
Silver	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	0615.20.01-03, F&BI 112209
Date Extracted:	12/13/21	Lab ID:	I1-826 mb
Date Analyzed:	12/13/21	Data File:	I1-826 mb.135
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<2.4
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<1
Silver	<0.2
Thallium	<1
Vanadium	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-10_20-25-1210	Client:	Maul Foster Alongi
Date Received:	12/10/21	Project:	0615.20.01-03, F&BI 112209
Date Extracted:	12/13/21	Lab ID:	112209-01
Date Analyzed:	12/13/21	Data File:	112209-01.189
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Cadmium	1.60
Lead	29.9
Thallium	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-10_20-25-1210	Client:	Maul Foster Alongi
Date Received:	12/10/21	Project:	0615.20.01-03, F&BI 112209
Date Extracted:	12/13/21	Lab ID:	112209-01 x10
Date Analyzed:	12/13/21	Data File:	112209-01 x10.176
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	21.4
Barium	217
Chromium	95.2
Cobalt	33.4
Copper	176
Manganese	730
Nickel	81.4
Selenium	<10
Silver	<10
Vanadium	181
Zinc	369

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-10_20-25-1210	Client:	Maul Foster Alongi
Date Received:	12/10/21	Project:	0615.20.01-03, F&BI 112209
Date Extracted:	12/13/21	Lab ID:	112209-01 x100
Date Analyzed:	12/13/21	Data File:	112209-01 x100.162
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Beryllium	<100
Iron	94,300

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	0615.20.01-03, F&BI 112209
Date Extracted:	12/13/21	Lab ID:	I1-826 mb
Date Analyzed:	12/13/21	Data File:	I1-826 mb.135
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<2.4
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<1
Silver	<0.2
Thallium	<1
Vanadium	<1
Zinc	<5



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209

Date Extracted: 12/13/21

Date Analyzed: 12/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR DISSOLVED MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Dissolved Mercury</u>
TWA-10_20-25-1210 112209-01	<0.02
Method Blank i1-827 MB	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209

Date Extracted: 12/13/21

Date Analyzed: 12/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Total Mercury</u>
TWA-10_20-25-1210 112209-01 1/50	0.10
Method Blank i1-827 MB	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-10_20-25-1210	Client:	Maul Foster Alongi
Date Received:	12/10/21	Project:	0615.20.01-03, F&BI 112209
Date Extracted:	12/10/21	Lab ID:	112209-01
Date Analyzed:	12/10/21	Data File:	121027.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	111	85	117
Toluene-d8	100	88	112
4-Bromofluorobenzene	103	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	1.3	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.01-03, F&BI 112209
Date Extracted:	12/10/21	Lab ID:	01-2820 mb
Date Analyzed:	12/10/21	Data File:	121007.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	85	117
Toluene-d8	96	88	112
4-Bromofluorobenzene	101	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-10_20-25-1210 f	Client:	Maul Foster Alongi
Date Received:	12/10/21	Project:	0615.20.01-03, F&BI 112209
Date Extracted:	12/14/21	Lab ID:	112209-01 1/0.5
Date Analyzed:	12/15/21	Data File:	121518.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	15	11	65
Phenol-d6	11	11	65
Nitrobenzene-d5	74	50	150
2-Fluorobiphenyl	62	44	108
2,4,6-Tribromophenol	71	10	140
Terphenyl-d14	55	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 jl	Phenanthrene	0.016
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	<1.6
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.01-03, F&BI 112209
Date Extracted:	12/14/21	Lab ID:	01-2875 mb 1/0.5
Date Analyzed:	12/15/21	Data File:	121508.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	17	11	65
Phenol-d6	10 vo	11	65
Nitrobenzene-d5	97	50	150
2-Fluorobiphenyl	97	44	108
2,4,6-Tribromophenol	93	10	140
Terphenyl-d14	105	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 js jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	<1
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js jl	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	<1.6
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-10_20-25-1210	Client:	Maul Foster Alongi
Date Received:	12/10/21	Project:	0615.20.01-03, F&BI 112209
Date Extracted:	12/13/21	Lab ID:	112209-01 1/0.25
Date Analyzed:	12/14/21	Data File:	121415.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	7 ip ca	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.01-03, F&BI 112209
Date Extracted:	12/13/21	Lab ID:	01-2877 mb 1/0.25
Date Analyzed:	12/14/21	Data File:	121407.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	36	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 112212-06 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	93	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	104	112	61-133	7

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	88	104	63-142	17

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR DISSOLVED METALS USING EPA METHOD 6020B**

Laboratory Code: 112210-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	101	106	75-125	5
Arsenic	ug/L (ppb)	10	1.08	92	97	75-125	5
Barium	ug/L (ppb)	50	11.2	99	102	75-125	3
Beryllium	ug/L (ppb)	5	<1	78	80	75-125	3
Cadmium	ug/L (ppb)	5	<1	99	101	75-125	2
Chromium	ug/L (ppb)	20	<1	97	101	75-125	4
Cobalt	ug/L (ppb)	20	<1	97	100	75-125	3
Copper	ug/L (ppb)	20	<5	95	99	75-125	4
Iron	ug/L (ppb)	100	467	85	103	75-125	19
Lead	ug/L (ppb)	10	<1	94	95	75-125	1
Manganese	ug/L (ppb)	20	56.9	93	106	75-125	13
Nickel	ug/L (ppb)	20	1.48	96	100	75-125	4
Selenium	ug/L (ppb)	5	<1	98	106	75-125	8
Silver	ug/L (ppb)	5	<1	91	98	75-125	7
Thallium	ug/L (ppb)	5	<1	93	94	75-125	1
Vanadium	ug/L (ppb)	20	<1	99	102	75-125	3
Zinc	ug/L (ppb)	50	<5	95	98	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	101	80-120
Arsenic	ug/L (ppb)	10	94	80-120
Barium	ug/L (ppb)	50	96	80-120
Beryllium	ug/L (ppb)	5	98	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	98	80-120
Cobalt	ug/L (ppb)	20	99	80-120
Copper	ug/L (ppb)	20	101	80-120
Iron	ug/L (ppb)	100	99	80-120
Lead	ug/L (ppb)	10	98	80-120
Manganese	ug/L (ppb)	20	99	80-120
Nickel	ug/L (ppb)	20	101	80-120
Selenium	ug/L (ppb)	5	99	80-120
Silver	ug/L (ppb)	5	97	80-120
Thallium	ug/L (ppb)	5	96	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	99	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 112210-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	101	106	75-125	5
Arsenic	ug/L (ppb)	10	1.08	92	97	75-125	5
Barium	ug/L (ppb)	50	11.2	99	102	75-125	3
Beryllium	ug/L (ppb)	5	<1	78	80	75-125	3
Cadmium	ug/L (ppb)	5	<1	99	101	75-125	2
Chromium	ug/L (ppb)	20	<1	97	101	75-125	4
Cobalt	ug/L (ppb)	20	<1	97	100	75-125	3
Copper	ug/L (ppb)	20	<5	95	99	75-125	4
Iron	ug/L (ppb)	100	467	85	103	75-125	19
Lead	ug/L (ppb)	10	<1	94	95	75-125	1
Manganese	ug/L (ppb)	20	56.9	93	106	75-125	13
Nickel	ug/L (ppb)	20	1.48	96	100	75-125	4
Selenium	ug/L (ppb)	5	<1	98	106	75-125	8
Silver	ug/L (ppb)	5	<1	91	98	75-125	7
Thallium	ug/L (ppb)	5	<1	93	94	75-125	1
Vanadium	ug/L (ppb)	20	<1	99	102	75-125	3
Zinc	ug/L (ppb)	50	<5	95	98	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	101	80-120
Arsenic	ug/L (ppb)	10	94	80-120
Barium	ug/L (ppb)	50	96	80-120
Beryllium	ug/L (ppb)	5	98	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	98	80-120
Cobalt	ug/L (ppb)	20	99	80-120
Copper	ug/L (ppb)	20	101	80-120
Iron	ug/L (ppb)	100	99	80-120
Lead	ug/L (ppb)	10	98	80-120
Manganese	ug/L (ppb)	20	99	80-120
Nickel	ug/L (ppb)	20	101	80-120
Selenium	ug/L (ppb)	5	99	80-120
Silver	ug/L (ppb)	5	97	80-120
Thallium	ug/L (ppb)	5	96	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	99	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
DISSOLVED MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 112175-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	90	100	71-125	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	117	115	78-125	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
TOTAL MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 112175-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	90	100	71-125	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	117	115	78-125	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 112209-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	
				Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	118	50-150
Chloromethane	ug/L (ppb)	10	<10	108	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	116	16-176
Bromomethane	ug/L (ppb)	10	<5	117	10-193
Chloroethane	ug/L (ppb)	10	<1	111	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	102	50-150
Acetone	ug/L (ppb)	50	<50	97	15-179
1,1-Dichloroethene	ug/L (ppb)	10	<1	107	50-150
Hexane	ug/L (ppb)	10	<5	88	49-161
Methylene chloride	ug/L (ppb)	10	<5	89	40-143
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	101	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	96	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	107	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	90	10-335
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	99	50-150
Chloroform	ug/L (ppb)	10	<1	101	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	112	34-168
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	105	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	106	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	94	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	98	50-150
Benzene	ug/L (ppb)	10	<0.35	102	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	96	43-133
1,2-Dichloropropane	ug/L (ppb)	10	<1	101	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	102	50-150
Dibromomethane	ug/L (ppb)	10	<1	101	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	108	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	97	48-145
Toluene	ug/L (ppb)	10	1.3	102	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	104	37-152
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	105	50-150
2-Hexanone	ug/L (ppb)	50	<10	117	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	101	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	98	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	98	33-164
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	101	50-150
Chlorobenzene	ug/L (ppb)	10	<1	101	50-150
Ethylbenzene	ug/L (ppb)	10	<1	100	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	102	50-150
m,p-Xylene	ug/L (ppb)	20	<2	100	50-150
o-Xylene	ug/L (ppb)	10	<1	98	50-150
Styrene	ug/L (ppb)	10	<1	101	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	99	50-150
Bromoform	ug/L (ppb)	10	<5	103	23-161
n-Propylbenzene	ug/L (ppb)	10	<1	98	50-150
Bromobenzene	ug/L (ppb)	10	<1	95	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	98	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	106	10-235
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	104	33-151
2-Chlorotoluene	ug/L (ppb)	10	<1	94	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	98	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	95	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	99	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	98	46-139
p-Isopropyltoluene	ug/L (ppb)	10	<1	99	46-140
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	98	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	97	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	99	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	104	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	91	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	89	42-150
Naphthalene	ug/L (ppb)	10	<1	95	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	93	44-155



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	128	121	70-130	6
Chloromethane	ug/L (ppb)	10	114	109	70-130	4
Vinyl chloride	ug/L (ppb)	10	120	115	70-130	4
Bromomethane	ug/L (ppb)	10	122	119	28-182	2
Chloroethane	ug/L (ppb)	10	115	110	70-130	4
Trichlorofluoromethane	ug/L (ppb)	10	107	103	70-130	4
Acetone	ug/L (ppb)	50	103	95	42-155	8
1,1-Dichloroethene	ug/L (ppb)	10	98	97	70-130	1
Hexane	ug/L (ppb)	10	89	90	50-161	1
Methylene chloride	ug/L (ppb)	10	114	111	29-192	3
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	102	100	70-130	2
trans-1,2-Dichloroethene	ug/L (ppb)	10	98	95	70-130	3
1,1-Dichloroethane	ug/L (ppb)	10	108	104	70-130	4
2,2-Dichloropropane	ug/L (ppb)	10	95	89	70-130	7
cis-1,2-Dichloroethene	ug/L (ppb)	10	101	98	70-130	3
Chloroform	ug/L (ppb)	10	103	101	70-130	2
2-Butanone (MEK)	ug/L (ppb)	50	97	98	50-157	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	104	102	70-130	2
1,1,1-Trichloroethane	ug/L (ppb)	10	109	106	70-130	3
1,1-Dichloropropene	ug/L (ppb)	10	95	91	70-130	4
Carbon tetrachloride	ug/L (ppb)	10	100	97	70-130	3
Benzene	ug/L (ppb)	10	102	100	70-130	2
Trichloroethene	ug/L (ppb)	10	97	95	70-130	2
1,2-Dichloropropane	ug/L (ppb)	10	101	101	70-130	0
Bromodichloromethane	ug/L (ppb)	10	103	101	70-130	2
Dibromomethane	ug/L (ppb)	10	100	100	70-130	0
4-Methyl-2-pentanone	ug/L (ppb)	50	107	104	70-130	3
cis-1,3-Dichloropropene	ug/L (ppb)	10	102	96	70-130	6
Toluene	ug/L (ppb)	10	101	103	70-130	2
trans-1,3-Dichloropropene	ug/L (ppb)	10	103	107	70-130	4
1,1,2-Trichloroethane	ug/L (ppb)	10	103	105	70-130	2
2-Hexanone	ug/L (ppb)	50	110	111	69-130	1
1,3-Dichloropropane	ug/L (ppb)	10	100	106	70-130	6
Tetrachloroethene	ug/L (ppb)	10	99	99	70-130	0
Dibromochloromethane	ug/L (ppb)	10	104	109	63-142	5
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	99	101	70-130	2
Chlorobenzene	ug/L (ppb)	10	99	101	70-130	2
Ethylbenzene	ug/L (ppb)	10	100	101	70-130	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	105	104	70-130	1
m,p-Xylene	ug/L (ppb)	20	101	101	70-130	0
o-Xylene	ug/L (ppb)	10	98	99	70-130	1
Styrene	ug/L (ppb)	10	101	101	70-130	0
Isopropylbenzene	ug/L (ppb)	10	100	101	70-130	1
Bromoform	ug/L (ppb)	10	109	110	50-157	1
n-Propylbenzene	ug/L (ppb)	10	96	99	70-130	3
Bromobenzene	ug/L (ppb)	10	91	93	70-130	2
1,3,5-Trimethylbenzene	ug/L (ppb)	10	96	98	52-150	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	102	102	70-130	0
1,2,3-Trichloropropane	ug/L (ppb)	10	98	101	70-130	3
2-Chlorotoluene	ug/L (ppb)	10	94	96	70-130	2
4-Chlorotoluene	ug/L (ppb)	10	99	99	70-130	0
tert-Butylbenzene	ug/L (ppb)	10	95	97	70-130	2
1,2,4-Trimethylbenzene	ug/L (ppb)	10	97	98	70-130	1
sec-Butylbenzene	ug/L (ppb)	10	99	101	70-130	2
p-Isopropyltoluene	ug/L (ppb)	10	97	99	70-130	2
1,3-Dichlorobenzene	ug/L (ppb)	10	97	97	70-130	0
1,4-Dichlorobenzene	ug/L (ppb)	10	97	97	70-130	0
1,2-Dichlorobenzene	ug/L (ppb)	10	95	95	70-130	0
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	95	100	70-130	5
1,2,4-Trichlorobenzene	ug/L (ppb)	10	92	91	70-130	1
Hexachlorobutadiene	ug/L (ppb)	10	92	94	70-130	2
Naphthalene	ug/L (ppb)	10	92	95	70-130	3
1,2,3-Trichlorobenzene	ug/L (ppb)	10	94	95	69-143	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E**

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	2.5	8 vo	9 vo	10-86	7
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	94 vo	88 vo	60-88	6
2-Chlorophenol	ug/L (ppb)	2.5	58	57	10-89	2
1,3-Dichlorobenzene	ug/L (ppb)	2.5	81	77	48-91	5
1,4-Dichlorobenzene	ug/L (ppb)	2.5	81	78	48-91	4
1,2-Dichlorobenzene	ug/L (ppb)	2.5	84	79	52-92	6
Benzyl alcohol	ug/L (ppb)	13	28	26	10-72	7
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	87 vo	83	59-86	5
2-Methylphenol	ug/L (ppb)	2.5	37	38	10-75	3
Hexachloroethane	ug/L (ppb)	2.5	80	77	47-92	4
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	97	91	70-130	6
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	29	30	10-66	3
Nitrobenzene	ug/L (ppb)	2.5	90	86	60-90	5
Isophorone	ug/L (ppb)	2.5	95	95	70-130	0
2-Nitrophenol	ug/L (ppb)	2.5	87	88	27-104	1
2,4-Dimethylphenol	ug/L (ppb)	2.5	62	66	10-84	6
Benzoic acid	ug/L (ppb)	23	5 vo	4 vo	10-102	22 vo
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	95	92	55-103	3
2,4-Dichlorophenol	ug/L (ppb)	2.5	82	81	23-103	1
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	85	82	56-93	4
Naphthalene	ug/L (ppb)	2.5	86	83	62-90	4
Hexachlorobutadiene	ug/L (ppb)	2.5	81	77	48-85	5
4-Chloroaniline	ug/L (ppb)	13	45	43	35-108	5
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	76	76	18-109	0
2-Methylnaphthalene	ug/L (ppb)	2.5	88	83	64-93	6
1-Methylnaphthalene	ug/L (ppb)	2.5	87	82	64-93	6
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	79	79	49-112	0
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	90	90	16-112	0
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	90	90	26-113	0
2-Chloronaphthalene	ug/L (ppb)	2.5	93	89	67-97	4
2-Nitroaniline	ug/L (ppb)	13	121	114	31-168	7
Dimethyl phthalate	ug/L (ppb)	2.5	100	97	70-130	3
Acenaphthylene	ug/L (ppb)	2.5	97	92	70-130	5
2,6-Dinitrotoluene	ug/L (ppb)	2.5	100	99	70-130	1
3-Nitroaniline	ug/L (ppb)	13	59	59	33-120	0
Acenaphthene	ug/L (ppb)	2.5	94	90	70-130	4
2,4-Dinitrophenol	ug/L (ppb)	5	77	73	10-120	5
Dibenzofuran	ug/L (ppb)	2.5	88	83	67-107	6
2,4-Dinitrotoluene	ug/L (ppb)	2.5	86	82	53-132	5
4-Nitrophenol	ug/L (ppb)	5	12	13	10-89	8
Diethyl phthalate	ug/L (ppb)	2.5	97	89	70-130	9
Fluorene	ug/L (ppb)	2.5	96	90	70-130	6
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	98	93	70-130	5
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	95	94	70-130	1
4-Nitroaniline	ug/L (ppb)	13	70	69	32-122	1
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	88	89	10-139	1
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	91	93	70-130	2
Hexachlorobenzene	ug/L (ppb)	2.5	91	91	65-95	0
Pentachlorophenol	ug/L (ppb)	2.5	77	83	10-129	7
Phenanthrene	ug/L (ppb)	2.5	92	90	70-130	2
Anthracene	ug/L (ppb)	2.5	90	92	70-130	2
Carbazole	ug/L (ppb)	2.5	97	96	70-130	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	93	94	28-147	1
Fluoranthene	ug/L (ppb)	2.5	92	89	70-130	3
Pyrene	ug/L (ppb)	2.5	103	102	70-130	1
Benzyl butyl phthalate	ug/L (ppb)	2.5	79	78	34-142	1
Benz(a)anthracene	ug/L (ppb)	2.5	94	93	70-130	1
Chrysene	ug/L (ppb)	2.5	96	95	70-130	1
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	88	85	53-133	3
Di-n-octyl phthalate	ug/L (ppb)	2.5	73	70	49-119	4
Benzo(a)pyrene	ug/L (ppb)	2.5	98	98	70-130	0
Benzo(b)fluoranthene	ug/L (ppb)	2.5	98	112	70-130	13
Benzo(k)fluoranthene	ug/L (ppb)	2.5	98	93	70-130	5
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	102	107	70-130	5
Dibenzo(a,h)anthracene	ug/L (ppb)	2.5	99	105	70-130	6
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	99	103	70-130	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112209

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.063	46	58	25-165	23 vo
Aroclor 1260	ug/L (ppb)	0.063	56	69	25-163	21 vo

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

112209

SAMPLE CHAIN OF CUSTODY

ME

12/10/21

COI/VW2/AI1

Report To: Audrey Hackett/Carolyn Wise

Company: Maul Foster Longi, Inc.

Address: 2815 2nd Avenue, Suite 540

City, State, ZIP: Seattle WA 98121

Phone: 206-331-1835 Email: ahackett@maulfoster.com

SAMPLERS (signature) <i>[Signature]</i>	
PROJECT NAME TWAafa - Taylor Way	PO # 0615.20.01-03
REMARKS SVOCs lab filtered at 0.7 micron before analysis Project Specific RLs - (Yes) No	INVOICE TO A. Hackett, MFA

Page # 1 of 1 E03 VS1

TURNAROUND TIME  
 Standard Turnaround  
 RUSH 24h (VOC only)  
 Rush charges authorized by:  
 A. Hackett

SAMPLE DISPOSAL  
 Dispose after 30 days  
 Archive Samples  
 Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes
						TPH-Diesel w/SG	TPH-Diesel	TPH-Gasoline	VOCs by 8260D	SVOCs by 8270E	LL PCBs by 8082	T Metals by 6020/1631E	D Metals by 6020/1631E	PCRA 6		
TWA-10-20-25-1210		12/10/21	1115	W	14	X	X	X	X	X	X	X	X			Rush VOCs only
DRUMCI-TWA-10-0-125-1210		12/10/21	1130	S	6		X	X	X							Hold per AH 12/15/21 MC

Samples received at 4:00

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <i>[Signature]</i>	Audrey Hackett	MFA	12/10/21	13:20
Received by: <i>[Signature]</i>	Khoi Hoang	FBE	12/10/21	13:20
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

December 23, 2021

Audrey Hackett, Project Manager  
Maul Foster Alongi  
2815 2<sup>nd</sup> Ave, Suite 540  
Seattle, WA 98121

Dear Ms Hackett:

Included are the results from the testing of material submitted on December 10, 2021 from the TWAAFA-Taylor 0615.20.01.03, F&BI 112227 project. There are 33 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Carolyn Wise  
MFA1223R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 10, 2020 by Friedman & Bruya, Inc. from the Maul Foster Alongi TWAAFA-Taylor 0615.20.01.03 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Maul Foster Alongi</u>
112227 -01	TWA-10-30-35-1210
112227 -02	TWA-10-39-40-1210
112227 -03	Trip Blank

Several 8260D compounds failed below the acceptance criteria in the matrix spike samples. The laboratory control samples met the acceptance criteria, therefore the data were likely due to sample matrix effect.

Several compounds in the 8270E laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

An 8270 surrogate in the method blank did not pass the acceptance criteria. The affected compounds were qualified accordingly.

The 8082 laboratory control sample and laboratory control sample duplicate failed the relative percent difference for Aroclor 1016 and 1260. PCBs were not detected therefore the data were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor 0615.20.01.03, F&BI 112227

Date Extracted: 12/15/21

Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TWA-10-30-35-1210 112227-01	<100	83
Method Blank 01-2666 MB	<100	85



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor 0615.20.01.03, F&BI 112227

Date Extracted: 12/14/21

Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>  
Sample Extracts Passed Through a  
Silica Gel Column Prior to Analysis  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
TWA-10-30-35-1210 112227-01	<50	<250	55
Method Blank 01-2882 MB	<50	<250	117

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor 0615.20.01.03, F&BI 112227

Date Extracted: 12/14/21

Date Analyzed: 12/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 41-152)
TWA-10-30-35-1210 112227-01	140 x	<250	51
Method Blank 01-2882 MB	<50	<250	115

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-10-30-35-1210	Client:	Maul Foster Alongi
Date Received:	12/10/21	Project:	0615.20.01.03, F&BI 112227
Date Extracted:	12/13/21	Lab ID:	112227-01
Date Analyzed:	12/13/21	Data File:	112227-01.186
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Cadmium	<1
Lead	<1
Thallium	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-10-30-35-1210	Client:	Maul Foster Alongi
Date Received:	12/10/21	Project:	0615.20.01.03, F&BI 112227
Date Extracted:	12/13/21	Lab ID:	112227-01 x10
Date Analyzed:	12/13/21	Data File:	112227-01 x10.173
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	13.3
Barium	39.3
Beryllium	<10
Chromium	<10
Cobalt	<10
Copper	10.6
Iron	8,510
Manganese	422
Nickel	<10
Silver	<2
Vanadium	15.0
Zinc	<50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-10-30-35-1210	Client:	Maul Foster Alongi
Date Received:	12/10/21	Project:	0615.20.01.03, F&BI 112227
Date Extracted:	12/13/21	Lab ID:	112227-01 x20
Date Analyzed:	12/14/21	Data File:	112227-01 x20.136
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Selenium	23.7
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	0615.20.01.03, F&BI 112227
Date Extracted:	12/13/21	Lab ID:	I1-826 mb
Date Analyzed:	12/13/21	Data File:	I1-826 mb.135
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<1
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<1
Silver	<0.2
Thallium	<1
Vanadium	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-10-30-35-1210	Client:	Maul Foster Alongi
Date Received:	12/10/21	Project:	0615.20.01.03, F&BI 112227
Date Extracted:	12/13/21	Lab ID:	112227-01
Date Analyzed:	12/13/21	Data File:	112227-01.188
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Cadmium	<1
Lead	4.71
Thallium	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-10-30-35-1210	Client:	Maul Foster Alongi
Date Received:	12/10/21	Project:	0615.20.01.03, F&BI 112227
Date Extracted:	12/13/21	Lab ID:	112227-01 x10
Date Analyzed:	12/13/21	Data File:	112227-01 x10.174
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	18.8
Barium	80.5
Beryllium	<10
Chromium	33.6
Cobalt	<10
Copper	55.2
Iron	31,000
Manganese	599
Nickel	21.7
Silver	<2
Vanadium	62.3
Zinc	73.5



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-10-30-35-1210	Client:	Maul Foster Alongi
Date Received:	12/10/21	Project:	0615.20.01.03, F&BI 112227
Date Extracted:	12/13/21	Lab ID:	112227-01 x20
Date Analyzed:	12/14/21	Data File:	112227-01 x20.137
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Selenium	22.9
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	0615.20.01.03, F&BI 112227
Date Extracted:	12/13/21	Lab ID:	I1-826 mb
Date Analyzed:	12/13/21	Data File:	I1-826 mb.135
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<1
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<1
Silver	<0.2
Thallium	<1
Vanadium	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor 0615.20.01.03, F&BI 112227

Date Extracted: 12/13/21

Date Analyzed: 12/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR DISSOLVED MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

Sample ID

Laboratory ID

Dissolved Mercury

TWA-10-30-35-1210

112227-01

<0.02

Method Blank

i1-827 MB

<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor 0615.20.01.03, F&BI 112227

Date Extracted: 12/13/21

Date Analyzed: 12/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Total Mercury</u>
TWA-10-30-35-1210 112227-01	<0.02
Method Blank i1-827 MB	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-10-30-35-1210	Client:	Maul Foster Alongi
Date Received:	12/10/21	Project:	0615.20.01.03, F&BI 112227
Date Extracted:	12/13/21	Lab ID:	112227-01
Date Analyzed:	12/13/21	Data File:	121310.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	85	117
Toluene-d8	100	88	112
4-Bromofluorobenzene	99	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank	Client:	Maul Foster Alongi
Date Received:	12/10/21	Project:	0615.20.01.03, F&BI 112227
Date Extracted:	12/13/21	Lab ID:	112227-03
Date Analyzed:	12/13/21	Data File:	121309.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	85	117
Toluene-d8	98	88	112
4-Bromofluorobenzene	102	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.01.03, F&BI 112227
Date Extracted:	12/13/21	Lab ID:	01-2824 mb
Date Analyzed:	12/13/21	Data File:	121307.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	85	117
Toluene-d8	92	88	112
4-Bromofluorobenzene	103	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-10-30-35-1210 f	Client:	Maul Foster Alongi
Date Received:	12/10/21	Project:	0615.20.01.03, F&BI 112227
Date Extracted:	12/14/21	Lab ID:	112227-01 1/0.5
Date Analyzed:	12/15/21	Data File:	121520.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	13	11	65
Phenol-d6	10 ip	11	65
Nitrobenzene-d5	70	50	150
2-Fluorobiphenyl	68	44	108
2,4,6-Tribromophenol	70	10	140
Terphenyl-d14	83	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 jl	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	<1.6
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.01.03, F&BI 112227
Date Extracted:	12/14/21	Lab ID:	01-2875 mb 1/0.5
Date Analyzed:	12/15/21	Data File:	121508.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	17	11	65
Phenol-d6	10 vo	11	65
Nitrobenzene-d5	97	50	150
2-Fluorobiphenyl	97	44	108
2,4,6-Tribromophenol	93	10	140
Terphenyl-d14	105	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 js jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	<1
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js jl	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	<1.6
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-10-30-35-1210	Client:	Maul Foster Alongi
Date Received:	12/10/21	Project:	0615.20.01.03, F&BI 112227
Date Extracted:	12/13/21	Lab ID:	112227-01 1/0.25
Date Analyzed:	12/14/21	Data File:	121417.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	17 ip ca	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.01.03, F&BI 112227
Date Extracted:	12/13/21	Lab ID:	01-2877 mb 1/0.25
Date Analyzed:	12/14/21	Data File:	121407.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	36	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor 0615.20.01.03, F&BI 112227

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 112212-06 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	93	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor 0615.20.01.03, F&BI 112227

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	104	112	61-133	7

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor 0615.20.01.03, F&BI 112227

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	88	104	63-142	17

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor 0615.20.01.03, F&BI 112227

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR DISSOLVED METALS USING EPA METHOD 6020B**

Laboratory Code: 112210-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	101	106	75-125	5
Arsenic	ug/L (ppb)	10	1.08	92	97	75-125	5
Barium	ug/L (ppb)	50	11.2	99	102	75-125	3
Beryllium	ug/L (ppb)	5	<1	78	80	75-125	3
Cadmium	ug/L (ppb)	5	<1	99	101	75-125	2
Chromium	ug/L (ppb)	20	<1	97	101	75-125	4
Cobalt	ug/L (ppb)	20	<1	97	100	75-125	3
Copper	ug/L (ppb)	20	<5	95	99	75-125	4
Iron	ug/L (ppb)	100	467	85	103	75-125	19
Lead	ug/L (ppb)	10	<1	94	95	75-125	1
Manganese	ug/L (ppb)	20	56.9	93	106	75-125	13
Nickel	ug/L (ppb)	20	1.48	96	100	75-125	4
Selenium	ug/L (ppb)	5	<1	98	106	75-125	8
Silver	ug/L (ppb)	5	<1	91	98	75-125	7
Thallium	ug/L (ppb)	5	<1	93	94	75-125	1
Vanadium	ug/L (ppb)	20	<1	99	102	75-125	3
Zinc	ug/L (ppb)	50	<5	95	98	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	101	80-120
Arsenic	ug/L (ppb)	10	94	80-120
Barium	ug/L (ppb)	50	96	80-120
Beryllium	ug/L (ppb)	5	98	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	98	80-120
Cobalt	ug/L (ppb)	20	99	80-120
Copper	ug/L (ppb)	20	101	80-120
Iron	ug/L (ppb)	100	99	80-120
Lead	ug/L (ppb)	10	98	80-120
Manganese	ug/L (ppb)	20	99	80-120
Nickel	ug/L (ppb)	20	101	80-120
Selenium	ug/L (ppb)	5	99	80-120
Silver	ug/L (ppb)	5	97	80-120
Thallium	ug/L (ppb)	5	96	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	99	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Project: TWAAFA-Taylor 0615.20.01.03, F&BI 112227

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 112210-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	101	106	75-125	5
Arsenic	ug/L (ppb)	10	1.08	92	97	75-125	5
Barium	ug/L (ppb)	50	11.2	99	102	75-125	3
Beryllium	ug/L (ppb)	5	<1	78	80	75-125	3
Cadmium	ug/L (ppb)	5	<1	99	101	75-125	2
Chromium	ug/L (ppb)	20	<1	97	101	75-125	4
Cobalt	ug/L (ppb)	20	<1	97	100	75-125	3
Copper	ug/L (ppb)	20	<5	95	99	75-125	4
Iron	ug/L (ppb)	100	467	85	103	75-125	19
Lead	ug/L (ppb)	10	<1	94	95	75-125	1
Manganese	ug/L (ppb)	20	56.9	93	106	75-125	13
Nickel	ug/L (ppb)	20	1.48	96	100	75-125	4
Selenium	ug/L (ppb)	5	<1	98	106	75-125	8
Silver	ug/L (ppb)	5	<1	91	98	75-125	7
Thallium	ug/L (ppb)	5	<1	93	94	75-125	1
Vanadium	ug/L (ppb)	20	<1	99	102	75-125	3
Zinc	ug/L (ppb)	50	<5	95	98	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	101	80-120
Arsenic	ug/L (ppb)	10	94	80-120
Barium	ug/L (ppb)	50	96	80-120
Beryllium	ug/L (ppb)	5	98	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	98	80-120
Cobalt	ug/L (ppb)	20	99	80-120
Copper	ug/L (ppb)	20	101	80-120
Iron	ug/L (ppb)	100	99	80-120
Lead	ug/L (ppb)	10	98	80-120
Manganese	ug/L (ppb)	20	99	80-120
Nickel	ug/L (ppb)	20	101	80-120
Selenium	ug/L (ppb)	5	99	80-120
Silver	ug/L (ppb)	5	97	80-120
Thallium	ug/L (ppb)	5	96	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	99	80-120



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**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
DISSOLVED MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 112175-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	90	100	71-125	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	117	115	78-125	2

FRIEDMAN & BRUYA, INC.

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**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
TOTAL MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 112175-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	90	100	71-125	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	117	115	78-125	2

FRIEDMAN & BRUYA, INC.

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Project: TWAAFA-Taylor 0615.20.01.03, F&BI 112227

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 112227-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	60	50-150
Chloromethane	ug/L (ppb)	10	<10	60	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	64	16-176
Bromomethane	ug/L (ppb)	10	<5	71	10-193
Chloroethane	ug/L (ppb)	10	<1	61	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	53	50-150
Acetone	ug/L (ppb)	50	<50	52	15-179
1,1-Dichloroethene	ug/L (ppb)	10	<1	52	50-150
Hexane	ug/L (ppb)	10	<5	43 vo	49-161
Methylene chloride	ug/L (ppb)	10	<5	57	40-143
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	52	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	53	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	57	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	51	10-335
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	53	50-150
Chloroform	ug/L (ppb)	10	<1	53	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	55	34-168
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	56	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	56	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	51	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	53	50-150
Benzene	ug/L (ppb)	10	<0.35	53	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	51	43-133
1,2-Dichloropropane	ug/L (ppb)	10	<1	52	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	54	50-150
Dibromomethane	ug/L (ppb)	10	<1	55	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	56	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	53	48-145
Toluene	ug/L (ppb)	10	<1	51	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	54	37-152
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	53	50-150
2-Hexanone	ug/L (ppb)	50	<10	59	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	54	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	50	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	52	33-164
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	51	50-150
Chlorobenzene	ug/L (ppb)	10	<1	51	50-150
Ethylbenzene	ug/L (ppb)	10	<1	49 vo	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	53	50-150
m,p-Xylene	ug/L (ppb)	20	<2	48 vo	50-150
o-Xylene	ug/L (ppb)	10	<1	47 vo	50-150
Styrene	ug/L (ppb)	10	<1	49 vo	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	47 vo	50-150
Bromoform	ug/L (ppb)	10	<5	54	23-161
n-Propylbenzene	ug/L (ppb)	10	<1	48 vo	50-150
Bromobenzene	ug/L (ppb)	10	<1	49 vo	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	47 vo	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	54	10-235
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	53	33-151
2-Chlorotoluene	ug/L (ppb)	10	<1	48 vo	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	49 vo	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	45 vo	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	46 vo	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	47	46-139
p-Isopropyltoluene	ug/L (ppb)	10	<1	46	46-140
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	49 vo	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	48 vo	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	49 vo	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	58	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	46 vo	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	46	42-150
Naphthalene	ug/L (ppb)	10	<1	47 vo	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	47	44-155

FRIEDMAN & BRUYA, INC.

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**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	112	115	70-130	3
Chloromethane	ug/L (ppb)	10	110	109	70-130	1
Vinyl chloride	ug/L (ppb)	10	112	115	70-130	3
Bromomethane	ug/L (ppb)	10	123	129	28-182	5
Chloroethane	ug/L (ppb)	10	107	110	70-130	3
Trichlorofluoromethane	ug/L (ppb)	10	98	103	70-130	5
Acetone	ug/L (ppb)	50	100	96	42-155	4
1,1-Dichloroethene	ug/L (ppb)	10	108	112	70-130	4
Hexane	ug/L (ppb)	10	72	74	50-161	3
Methylene chloride	ug/L (ppb)	10	110	109	29-192	1
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	101	102	70-130	1
trans-1,2-Dichloroethene	ug/L (ppb)	10	94	94	70-130	0
1,1-Dichloroethane	ug/L (ppb)	10	105	105	70-130	0
2,2-Dichloropropane	ug/L (ppb)	10	89	93	70-130	4
cis-1,2-Dichloroethene	ug/L (ppb)	10	99	99	70-130	0
Chloroform	ug/L (ppb)	10	100	100	70-130	0
2-Butanone (MEK)	ug/L (ppb)	50	96	97	50-157	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	103	103	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	10	106	107	70-130	1
1,1-Dichloropropene	ug/L (ppb)	10	93	93	70-130	0
Carbon tetrachloride	ug/L (ppb)	10	103	101	70-130	2
Benzene	ug/L (ppb)	10	101	100	70-130	1
Trichloroethene	ug/L (ppb)	10	93	94	70-130	1
1,2-Dichloropropane	ug/L (ppb)	10	101	99	70-130	2
Bromodichloromethane	ug/L (ppb)	10	102	101	70-130	1
Dibromomethane	ug/L (ppb)	10	101	97	70-130	4
4-Methyl-2-pentanone	ug/L (ppb)	50	104	103	70-130	1
cis-1,3-Dichloropropene	ug/L (ppb)	10	100	103	70-130	3
Toluene	ug/L (ppb)	10	98	101	70-130	3
trans-1,3-Dichloropropene	ug/L (ppb)	10	106	103	70-130	3
1,1,2-Trichloroethane	ug/L (ppb)	10	104	105	70-130	1
2-Hexanone	ug/L (ppb)	50	115	115	69-130	0
1,3-Dichloropropane	ug/L (ppb)	10	101	102	70-130	1
Tetrachloroethene	ug/L (ppb)	10	95	95	70-130	0
Dibromochloromethane	ug/L (ppb)	10	104	107	63-142	3
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	99	101	70-130	2
Chlorobenzene	ug/L (ppb)	10	98	99	70-130	1
Ethylbenzene	ug/L (ppb)	10	99	100	70-130	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	104	102	70-130	2
m,p-Xylene	ug/L (ppb)	20	99	100	70-130	1
o-Xylene	ug/L (ppb)	10	97	99	70-130	2
Styrene	ug/L (ppb)	10	101	104	70-130	3
Isopropylbenzene	ug/L (ppb)	10	98	99	70-130	1
Bromoform	ug/L (ppb)	10	109	111	50-157	2
n-Propylbenzene	ug/L (ppb)	10	97	97	70-130	0
Bromobenzene	ug/L (ppb)	10	96	93	70-130	3
1,3,5-Trimethylbenzene	ug/L (ppb)	10	95	97	52-150	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	103	104	70-130	1
1,2,3-Trichloropropane	ug/L (ppb)	10	100	100	70-130	0
2-Chlorotoluene	ug/L (ppb)	10	94	93	70-130	1
4-Chlorotoluene	ug/L (ppb)	10	97	98	70-130	1
tert-Butylbenzene	ug/L (ppb)	10	95	96	70-130	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	97	98	70-130	1
sec-Butylbenzene	ug/L (ppb)	10	97	98	70-130	1
p-Isopropyltoluene	ug/L (ppb)	10	95	96	70-130	1
1,3-Dichlorobenzene	ug/L (ppb)	10	95	95	70-130	0
1,4-Dichlorobenzene	ug/L (ppb)	10	95	95	70-130	0
1,2-Dichlorobenzene	ug/L (ppb)	10	97	97	70-130	0
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	101	102	70-130	1
1,2,4-Trichlorobenzene	ug/L (ppb)	10	88	92	70-130	4
Hexachlorobutadiene	ug/L (ppb)	10	85	89	70-130	5
Naphthalene	ug/L (ppb)	10	93	97	70-130	4
1,2,3-Trichlorobenzene	ug/L (ppb)	10	93	95	69-143	2

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**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E**

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCS/D	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	2.5	8 vo	9 vo	10-86	7
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	94 vo	88 vo	60-88	6
2-Chlorophenol	ug/L (ppb)	2.5	58	57	10-89	2
1,3-Dichlorobenzene	ug/L (ppb)	2.5	81	77	48-91	5
1,4-Dichlorobenzene	ug/L (ppb)	2.5	81	78	48-91	4
1,2-Dichlorobenzene	ug/L (ppb)	2.5	84	79	52-92	6
Benzyl alcohol	ug/L (ppb)	13	28	26	10-72	7
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	87 vo	83	59-86	5
2-Methylphenol	ug/L (ppb)	2.5	37	38	10-75	3
Hexachloroethane	ug/L (ppb)	2.5	80	77	47-92	4
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	97	91	70-130	6
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	29	30	10-66	3
Nitrobenzene	ug/L (ppb)	2.5	90	86	60-90	5
Isophorone	ug/L (ppb)	2.5	95	95	70-130	0
2-Nitrophenol	ug/L (ppb)	2.5	87	88	27-104	1
2,4-Dimethylphenol	ug/L (ppb)	2.5	62	66	10-84	6
Benzoic acid	ug/L (ppb)	23	5 vo	4 vo	10-102	22 vo
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	95	92	55-103	3
2,4-Dichlorophenol	ug/L (ppb)	2.5	82	81	23-103	1
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	85	82	56-93	4
Naphthalene	ug/L (ppb)	2.5	86	83	62-90	4
Hexachlorobutadiene	ug/L (ppb)	2.5	81	77	48-85	5
4-Chloroaniline	ug/L (ppb)	13	45	43	35-108	5
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	76	76	18-109	0
2-Methylnaphthalene	ug/L (ppb)	2.5	88	83	64-93	6
1-Methylnaphthalene	ug/L (ppb)	2.5	87	82	64-93	6
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	79	79	49-112	0
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	90	90	16-112	0
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	90	90	26-113	0
2-Chloronaphthalene	ug/L (ppb)	2.5	93	89	67-97	4
2-Nitroaniline	ug/L (ppb)	13	121	114	31-168	7
Dimethyl phthalate	ug/L (ppb)	2.5	100	97	70-130	3
Acenaphthylene	ug/L (ppb)	2.5	97	92	70-130	5
2,6-Dinitrotoluene	ug/L (ppb)	2.5	100	99	70-130	1
3-Nitroaniline	ug/L (ppb)	13	59	59	33-120	0
Acenaphthene	ug/L (ppb)	2.5	94	90	70-130	4
2,4-Dinitrophenol	ug/L (ppb)	5	77	73	10-120	5
Dibenzofuran	ug/L (ppb)	2.5	88	83	67-107	6
2,4-Dinitrotoluene	ug/L (ppb)	2.5	86	82	53-132	5
4-Nitrophenol	ug/L (ppb)	5	12	13	10-89	8
Diethyl phthalate	ug/L (ppb)	2.5	97	89	70-130	9
Fluorene	ug/L (ppb)	2.5	96	90	70-130	6
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	98	93	70-130	5
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	95	94	70-130	1
4-Nitroaniline	ug/L (ppb)	13	70	69	32-122	1
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	88	89	10-139	1
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	91	93	70-130	2
Hexachlorobenzene	ug/L (ppb)	2.5	91	91	65-95	0
Pentachlorophenol	ug/L (ppb)	2.5	77	83	10-129	7
Phenanthrene	ug/L (ppb)	2.5	92	90	70-130	2
Anthracene	ug/L (ppb)	2.5	90	92	70-130	2
Carbazole	ug/L (ppb)	2.5	97	96	70-130	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	93	94	28-147	1
Fluoranthene	ug/L (ppb)	2.5	92	89	70-130	3
Pyrene	ug/L (ppb)	2.5	103	102	70-130	1
Benzyl butyl phthalate	ug/L (ppb)	2.5	79	78	34-142	1
Benz(a)anthracene	ug/L (ppb)	2.5	94	93	70-130	1
Chrysene	ug/L (ppb)	2.5	96	95	70-130	1
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	88	85	53-133	3
Di-n-octyl phthalate	ug/L (ppb)	2.5	73	70	49-119	4
Benzo(a)pyrene	ug/L (ppb)	2.5	98	98	70-130	0
Benzo(b)fluoranthene	ug/L (ppb)	2.5	98	112	70-130	13
Benzo(k)fluoranthene	ug/L (ppb)	2.5	98	93	70-130	5
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	102	107	70-130	5
Dibenzo(a,h)anthracene	ug/L (ppb)	2.5	99	105	70-130	6
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	99	103	70-130	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/23/21

Date Received: 12/10/21

Project: TWAAFA-Taylor 0615.20.01.03, F&BI 112227

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.063	46	58	25-165	23 vo
Aroclor 1260	ug/L (ppb)	0.063	56	69	25-163	21 vo

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

112227

SAMPLE CHAIN OF CUSTODY

12-10-21

BT/VS1/ESJ/vw/AT2

Report To: Audrey Hackett/Carolyn Wise  
 Company: Maul Foster Alongi, Inc.  
 Address: 2815 2nd Avenue, Suite 540  
 City, State, ZIP: Seattle WA 98121  
 Phone: 206-331-1835 Email: ahackett@maulfoster.com

SAMPLERS (signature)		PROJECT NAME	
<i>Carolyn Wise</i>		TWAAPA - Taylor Way	
PO #		REMARKS	
0615.20.01-03		SVOCs lab filtered at 0.7 micron before analysis	
INVOICE TO		Project Specific Ris. <input checked="" type="radio"/> Yes <input type="radio"/> No	
A Hackett, MFA			

TURNAROUND TIME	SAMPLE DISPOSAL
<input checked="" type="checkbox"/> Standard Turnaround <input checked="" type="checkbox"/> RUSH 24h (VOC only) Rush charges authorized by: A. Hackett	Dispose after 30 days Archive Samples Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes
						TPH-Diesel w/SG	TPH-Diesel	TPH-Gasoline	VOCs by 8260D	SVOCs by 8270E	LL PCBs by 8082	T Metals by 6020/1631E	
TWA-10-36-35-1210	01A-N	12/10/21	1530	W	14	X	X	X	X	X	X	X	Rush Voc only
TWA-10-39-40-1210	02A-E	12/10/21	1630	S	5	X	X	X	X	X	X	X	Standard TAT Hold soil part
Trip Blank	03A-B	12/10/21	NA	W	2	X	X	X	X	X	X	X	Standard TAT

12/10/21  
ME

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
<i>Carol Bly</i>		Amanda Bixby		MFA		12/10/21	1730
Received by:		<i>Felic Lantz</i>		FELIC LANTZ		12/10/21	1930
Received by:				Samples received at		4	°C

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

December 22, 2021

Audrey Hackett, Project Manager  
Maul Foster Alongi  
2815 2<sup>nd</sup> Ave, Suite 540  
Seattle, WA 98121

Dear Ms Hackett:

Included are the results from the testing of material submitted on December 13, 2021 from the TWAAFA-Taylor Way 0615.20.01-03, F&BI 112244 project. There are 33 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Carolyn Wise  
MFA1222R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 13, 2021 by Friedman & Bruya, Inc. from the Maul Foster Alongi TWAAFA-Taylor Way 0615.20.01-03, F&BI 112244 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Maul Foster Alongi</u>
112244 -01	TWA-10_44-45_1213
112244 -02	TWA-10_45-50-1213
112244 -03	Trip Blanks

Methylene chloride was detected in sample TWA-10\_45-50-1213. The sample was reanalyzed from two separate VOAs with similar levels of methylene chloride. The data were flagged accordingly.

Several compounds in the 8270E laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

The 8082 laboratory control sample and laboratory control sample duplicate failed the relative percent difference for Aroclor 1016 and 1260. PCBs were not detected therefore the data were acceptable.

An 8270 surrogate in the method blank did not pass the acceptance criteria. The affected compounds were qualified accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112244

Date Extracted: 12/20/21

Date Analyzed: 12/20/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TWA-10_45-50-1213 112244-02	<100	83
Method Blank 01-2673 MB	<100	87

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112244

Date Extracted: 12/14/21

Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>  
Sample Extracts Passed Through a  
Silica Gel Column Prior to Analysis  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
TWA-10_45-50-1213 112244-02	<50	<250	116
Method Blank 01-2882 MB	<50	<250	117

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112244

Date Extracted: 12/14/21

Date Analyzed: 12/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 41-152)
TWA-10_45-50-1213 112244-02	220 x	<250	109
Method Blank 01-2882 MB	<50	<250	115

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-10_45-50-1213	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112244
Date Extracted:	12/14/21	Lab ID:	112244-02
Date Analyzed:	12/14/21	Data File:	112244-02.150
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	10.4
Chromium	1.73
Cobalt	<1
Copper	<2.4
Lead	<1
Manganese	51.1
Nickel	4.18
Thallium	<1
Vanadium	2.93
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-10_45-50-1213	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112244
Date Extracted:	12/14/21	Lab ID:	112244-02 x10
Date Analyzed:	12/14/21	Data File:	112244-02 x10.138
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<10
Barium	24.2
Cadmium	<10
Iron	745
Selenium	15.1
Silver	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-10_45-50-1213	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112244
Date Extracted:	12/14/21	Lab ID:	112244-02 x100
Date Analyzed:	12/14/21	Data File:	112244-02 x100.126
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Beryllium	<100
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	0615.20.01-03, F&BI 112244
Date Extracted:	12/14/21	Lab ID:	I1-826 mb2
Date Analyzed:	12/14/21	Data File:	I1-826 mb2.124
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<2.4
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<1
Silver	<0.2
Thallium	<1
Vanadium	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-10_45-50-1213	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112244
Date Extracted:	12/14/21	Lab ID:	112244-02
Date Analyzed:	12/14/21	Data File:	112244-02.151
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	15.5
Chromium	19.6
Cobalt	5.01
Copper	22.8
Lead	3.76
Manganese	145
Nickel	12.9
Thallium	<1
Vanadium	34.8
Zinc	35.6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-10_45-50-1213	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112244
Date Extracted:	12/14/21	Lab ID:	112244-02 x10
Date Analyzed:	12/14/21	Data File:	112244-02 x10.139
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<10
Barium	59.7
Cadmium	<10
Selenium	<10
Silver	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-10_45-50-1213	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112244
Date Extracted:	12/14/21	Lab ID:	112244-02 x100
Date Analyzed:	12/14/21	Data File:	112244-02 x100.127
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Beryllium	<100
Iron	24,700

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	0615.20.01-03, F&BI 112244
Date Extracted:	12/14/21	Lab ID:	I1-826 mb2
Date Analyzed:	12/14/21	Data File:	I1-826 mb2.124
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<2.4
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<1
Silver	<0.2
Thallium	<1
Vanadium	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112244

Date Extracted: 12/14/21

Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR DISSOLVED MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

Sample ID

Laboratory ID

Dissolved Mercury

TWA-10\_45-50-1213  
112244-02

<0.02

Method Blank  
i1-827 MB

<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112244

Date Extracted: 12/14/21

Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Total Mercury</u>
TWA-10_45-50-1213 112244-02	0.021
Method Blank i1-827 MB	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-10_45-50-1213	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112244
Date Extracted:	12/13/21	Lab ID:	112244-02
Date Analyzed:	12/13/21	Data File:	121337.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	85	117
Toluene-d8	102	88	112
4-Bromofluorobenzene	102	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	10 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blanks	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112244
Date Extracted:	12/13/21	Lab ID:	112244-03
Date Analyzed:	12/13/21	Data File:	121336.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	85	117
Toluene-d8	97	88	112
4-Bromofluorobenzene	100	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.01-03, F&BI 112244
Date Extracted:	12/13/21	Lab ID:	01-2824 mb
Date Analyzed:	12/13/21	Data File:	121307.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	85	117
Toluene-d8	92	88	112
4-Bromofluorobenzene	103	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-10_45-50-1213 f	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112244
Date Extracted:	12/14/21	Lab ID:	112244-02 1/0.5
Date Analyzed:	12/15/21	Data File:	121521.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	14	11	65
Phenol-d6	12	11	65
Nitrobenzene-d5	85	50	150
2-Fluorobiphenyl	89	44	108
2,4,6-Tribromophenol	52	10	140
Terphenyl-d14	90	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 jl	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	1.3
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	<1.6
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.01-03, F&BI 112244
Date Extracted:	12/14/21	Lab ID:	01-2875 mb 1/0.5
Date Analyzed:	12/15/21	Data File:	121508.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	17	11	65
Phenol-d6	10 vo	11	65
Nitrobenzene-d5	97	50	150
2-Fluorobiphenyl	97	44	108
2,4,6-Tribromophenol	93	10	140
Terphenyl-d14	105	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 js jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	<1
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js jl	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	<1.6
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-10_45-50-1213	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112244
Date Extracted:	12/14/21	Lab ID:	112244-02 1/0.25
Date Analyzed:	12/14/21	Data File:	121418.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	45 ca	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.01-03, F&BI 112244
Date Extracted:	12/14/21	Lab ID:	01-2877 mb3 1/0.25
Date Analyzed:	12/14/21	Data File:	121408.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	26	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112244

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 112368-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	91	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112244

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	104	112	61-133	7



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112244

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	88	104	63-142	17

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112244

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR DISSOLVED METALS USING EPA METHOD 6020B**

Laboratory Code: 112210-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	101	106	75-125	5
Arsenic	ug/L (ppb)	10	1.08	92	97	75-125	5
Barium	ug/L (ppb)	50	11.2	99	102	75-125	3
Beryllium	ug/L (ppb)	5	<1	78	80	75-125	3
Cadmium	ug/L (ppb)	5	<1	99	101	75-125	2
Chromium	ug/L (ppb)	20	<1	97	101	75-125	4
Cobalt	ug/L (ppb)	20	<1	97	100	75-125	3
Copper	ug/L (ppb)	20	<5	95	99	75-125	4
Iron	ug/L (ppb)	100	467	85	103	75-125	19
Lead	ug/L (ppb)	10	<1	94	95	75-125	1
Manganese	ug/L (ppb)	20	56.9	93	106	75-125	13
Nickel	ug/L (ppb)	20	1.48	96	100	75-125	4
Selenium	ug/L (ppb)	5	<1	98	106	75-125	8
Silver	ug/L (ppb)	5	<1	91	98	75-125	7
Thallium	ug/L (ppb)	5	<1	93	94	75-125	1
Vanadium	ug/L (ppb)	20	<1	99	102	75-125	3
Zinc	ug/L (ppb)	50	<5	95	98	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	101	80-120
Arsenic	ug/L (ppb)	10	94	80-120
Barium	ug/L (ppb)	50	96	80-120
Beryllium	ug/L (ppb)	5	98	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	98	80-120
Cobalt	ug/L (ppb)	20	99	80-120
Copper	ug/L (ppb)	20	101	80-120
Iron	ug/L (ppb)	100	99	80-120
Lead	ug/L (ppb)	10	98	80-120
Manganese	ug/L (ppb)	20	99	80-120
Nickel	ug/L (ppb)	20	101	80-120
Selenium	ug/L (ppb)	5	99	80-120
Silver	ug/L (ppb)	5	97	80-120
Thallium	ug/L (ppb)	5	96	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	99	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112244

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 112210-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	101	106	75-125	5
Arsenic	ug/L (ppb)	10	1.08	92	97	75-125	5
Barium	ug/L (ppb)	50	11.2	99	102	75-125	3
Beryllium	ug/L (ppb)	5	<1	78	80	75-125	3
Cadmium	ug/L (ppb)	5	<1	99	101	75-125	2
Chromium	ug/L (ppb)	20	<1	97	101	75-125	4
Cobalt	ug/L (ppb)	20	<1	97	100	75-125	3
Copper	ug/L (ppb)	20	<5	95	99	75-125	4
Iron	ug/L (ppb)	100	467	85	103	75-125	19
Lead	ug/L (ppb)	10	<1	94	95	75-125	1
Manganese	ug/L (ppb)	20	56.9	93	106	75-125	13
Nickel	ug/L (ppb)	20	1.48	96	100	75-125	4
Selenium	ug/L (ppb)	5	<1	98	106	75-125	8
Silver	ug/L (ppb)	5	<1	91	98	75-125	7
Thallium	ug/L (ppb)	5	<1	93	94	75-125	1
Vanadium	ug/L (ppb)	20	<1	99	102	75-125	3
Zinc	ug/L (ppb)	50	<5	95	98	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	101	80-120
Arsenic	ug/L (ppb)	10	94	80-120
Barium	ug/L (ppb)	50	96	80-120
Beryllium	ug/L (ppb)	5	98	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	98	80-120
Cobalt	ug/L (ppb)	20	99	80-120
Copper	ug/L (ppb)	20	101	80-120
Iron	ug/L (ppb)	100	99	80-120
Lead	ug/L (ppb)	10	98	80-120
Manganese	ug/L (ppb)	20	99	80-120
Nickel	ug/L (ppb)	20	101	80-120
Selenium	ug/L (ppb)	5	99	80-120
Silver	ug/L (ppb)	5	97	80-120
Thallium	ug/L (ppb)	5	96	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	99	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112244

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
FOR DISSOLVED MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 112175-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	0.0027	90	100	71-125	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	117	115	78-125	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112244

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
TOTAL MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 112175-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	0.0027	90	100	71-125	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	117	115	78-125	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112244

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 112227-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	111	50-150
Chloromethane	ug/L (ppb)	10	<10	104	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	117	16-176
Bromomethane	ug/L (ppb)	10	<5	122	10-193
Chloroethane	ug/L (ppb)	10	<1	113	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	106	50-150
Acetone	ug/L (ppb)	50	<50	104	15-179
1,1-Dichloroethene	ug/L (ppb)	10	<1	112	50-150
Hexane	ug/L (ppb)	10	<5	92	49-161
Methylene chloride	ug/L (ppb)	10	<5	115	40-143
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	103	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	108	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	102	10-335
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	101	50-150
Chloroform	ug/L (ppb)	10	<1	101	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	103	34-168
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	106	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	109	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	96	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	103	50-150
Benzene	ug/L (ppb)	10	<0.35	103	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	99	43-133
1,2-Dichloropropane	ug/L (ppb)	10	<1	102	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	104	50-150
Dibromomethane	ug/L (ppb)	10	<1	99	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	113	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	102	48-145
Toluene	ug/L (ppb)	10	<1	102	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	110	37-152
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	107	50-150
2-Hexanone	ug/L (ppb)	50	<10	120	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	103	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	100	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	104	33-164
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	103	50-150
Chlorobenzene	ug/L (ppb)	10	<1	99	50-150
Ethylbenzene	ug/L (ppb)	10	<1	101	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	106	50-150
m,p-Xylene	ug/L (ppb)	20	<2	101	50-150
o-Xylene	ug/L (ppb)	10	<1	99	50-150
Styrene	ug/L (ppb)	10	<1	103	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	100	50-150
Bromoform	ug/L (ppb)	10	<5	106	23-161
n-Propylbenzene	ug/L (ppb)	10	<1	98	50-150
Bromobenzene	ug/L (ppb)	10	<1	93	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	96	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	104	10-235
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	100	33-151
2-Chlorotoluene	ug/L (ppb)	10	<1	93	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	99	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	95	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	97	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	98	46-139
p-Isopropyltoluene	ug/L (ppb)	10	<1	98	46-140
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	97	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	97	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	98	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	100	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	93	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	94	42-150
Naphthalene	ug/L (ppb)	10	<1	97	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	93	44-155

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112244

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	112	115	70-130	3
Chloromethane	ug/L (ppb)	10	110	109	70-130	1
Vinyl chloride	ug/L (ppb)	10	112	115	70-130	3
Bromomethane	ug/L (ppb)	10	123	129	28-182	5
Chloroethane	ug/L (ppb)	10	107	110	70-130	3
Trichlorofluoromethane	ug/L (ppb)	10	98	103	70-130	5
Acetone	ug/L (ppb)	50	100	96	42-155	4
1,1-Dichloroethene	ug/L (ppb)	10	108	112	70-130	4
Hexane	ug/L (ppb)	10	72	74	50-161	3
Methylene chloride	ug/L (ppb)	10	110	109	29-192	1
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	101	102	70-130	1
trans-1,2-Dichloroethene	ug/L (ppb)	10	94	94	70-130	0
1,1-Dichloroethane	ug/L (ppb)	10	105	105	70-130	0
2,2-Dichloropropane	ug/L (ppb)	10	89	93	70-130	4
cis-1,2-Dichloroethene	ug/L (ppb)	10	99	99	70-130	0
Chloroform	ug/L (ppb)	10	100	100	70-130	0
2-Butanone (MEK)	ug/L (ppb)	50	96	97	50-157	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	103	103	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	10	106	107	70-130	1
1,1-Dichloropropene	ug/L (ppb)	10	93	93	70-130	0
Carbon tetrachloride	ug/L (ppb)	10	103	101	70-130	2
Benzene	ug/L (ppb)	10	101	100	70-130	1
Trichloroethene	ug/L (ppb)	10	93	94	70-130	1
1,2-Dichloropropane	ug/L (ppb)	10	101	99	70-130	2
Bromodichloromethane	ug/L (ppb)	10	102	101	70-130	1
Dibromomethane	ug/L (ppb)	10	101	97	70-130	4
4-Methyl-2-pentanone	ug/L (ppb)	50	104	103	70-130	1
cis-1,3-Dichloropropene	ug/L (ppb)	10	100	103	70-130	3
Toluene	ug/L (ppb)	10	98	101	70-130	3
trans-1,3-Dichloropropene	ug/L (ppb)	10	106	103	70-130	3
1,1,2-Trichloroethane	ug/L (ppb)	10	104	105	70-130	1
2-Hexanone	ug/L (ppb)	50	115	115	69-130	0
1,3-Dichloropropane	ug/L (ppb)	10	101	102	70-130	1
Tetrachloroethene	ug/L (ppb)	10	95	95	70-130	0
Dibromochloromethane	ug/L (ppb)	10	104	107	63-142	3
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	99	101	70-130	2
Chlorobenzene	ug/L (ppb)	10	98	99	70-130	1
Ethylbenzene	ug/L (ppb)	10	99	100	70-130	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	104	102	70-130	2
m,p-Xylene	ug/L (ppb)	20	99	100	70-130	1
o-Xylene	ug/L (ppb)	10	97	99	70-130	2
Styrene	ug/L (ppb)	10	101	104	70-130	3
Isopropylbenzene	ug/L (ppb)	10	98	99	70-130	1
Bromoform	ug/L (ppb)	10	109	111	50-157	2
n-Propylbenzene	ug/L (ppb)	10	97	97	70-130	0
Bromobenzene	ug/L (ppb)	10	96	93	70-130	3
1,3,5-Trimethylbenzene	ug/L (ppb)	10	95	97	52-150	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	103	104	70-130	1
1,2,3-Trichloropropane	ug/L (ppb)	10	100	100	70-130	0
2-Chlorotoluene	ug/L (ppb)	10	94	93	70-130	1
4-Chlorotoluene	ug/L (ppb)	10	97	98	70-130	1
tert-Butylbenzene	ug/L (ppb)	10	95	96	70-130	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	97	98	70-130	1
sec-Butylbenzene	ug/L (ppb)	10	97	98	70-130	1
p-Isopropyltoluene	ug/L (ppb)	10	95	96	70-130	1
1,3-Dichlorobenzene	ug/L (ppb)	10	95	95	70-130	0
1,4-Dichlorobenzene	ug/L (ppb)	10	95	95	70-130	0
1,2-Dichlorobenzene	ug/L (ppb)	10	97	97	70-130	0
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	101	102	70-130	1
1,2,4-Trichlorobenzene	ug/L (ppb)	10	88	92	70-130	4
Hexachlorobutadiene	ug/L (ppb)	10	85	89	70-130	5
Naphthalene	ug/L (ppb)	10	93	97	70-130	4
1,2,3-Trichlorobenzene	ug/L (ppb)	10	93	95	69-143	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112244

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E**

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	2.5	8 vo	9 vo	10-86	7
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	94 vo	88 vo	60-88	6
2-Chlorophenol	ug/L (ppb)	2.5	58	57	10-89	2
1,3-Dichlorobenzene	ug/L (ppb)	2.5	81	77	48-91	5
1,4-Dichlorobenzene	ug/L (ppb)	2.5	81	78	48-91	4
1,2-Dichlorobenzene	ug/L (ppb)	2.5	84	79	52-92	6
Benzyl alcohol	ug/L (ppb)	13	28	26	10-72	7
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	87 vo	83	59-86	5
2-Methylphenol	ug/L (ppb)	2.5	37	38	10-75	3
Hexachloroethane	ug/L (ppb)	2.5	80	77	47-92	4
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	97	91	70-130	6
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	29	30	10-66	3
Nitrobenzene	ug/L (ppb)	2.5	90	86	60-90	5
Isophorone	ug/L (ppb)	2.5	95	95	70-130	0
2-Nitrophenol	ug/L (ppb)	2.5	87	88	27-104	1
2,4-Dimethylphenol	ug/L (ppb)	2.5	62	66	10-84	6
Benzoic acid	ug/L (ppb)	23	5 vo	4 vo	10-102	22 vo
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	95	92	55-103	3
2,4-Dichlorophenol	ug/L (ppb)	2.5	82	81	23-103	1
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	85	82	56-93	4
Naphthalene	ug/L (ppb)	2.5	86	83	62-90	4
Hexachlorobutadiene	ug/L (ppb)	2.5	81	77	48-85	5
4-Chloroaniline	ug/L (ppb)	13	45	43	35-108	5
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	76	76	18-109	0
2-Methylnaphthalene	ug/L (ppb)	2.5	88	83	64-93	6
1-Methylnaphthalene	ug/L (ppb)	2.5	87	82	64-93	6
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	79	79	49-112	0
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	90	90	16-112	0
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	90	90	26-113	0
2-Chloronaphthalene	ug/L (ppb)	2.5	93	89	67-97	4
2-Nitroaniline	ug/L (ppb)	13	121	114	31-168	7
Dimethyl phthalate	ug/L (ppb)	2.5	100	97	70-130	3
Acenaphthylene	ug/L (ppb)	2.5	97	92	70-130	5
2,6-Dinitrotoluene	ug/L (ppb)	2.5	100	99	70-130	1
3-Nitroaniline	ug/L (ppb)	13	59	59	33-120	0
Acenaphthene	ug/L (ppb)	2.5	94	90	70-130	4
2,4-Dinitrophenol	ug/L (ppb)	5	77	73	10-120	5
Dibenzofuran	ug/L (ppb)	2.5	88	83	67-107	6
2,4-Dinitrotoluene	ug/L (ppb)	2.5	86	82	53-132	5
4-Nitrophenol	ug/L (ppb)	5	12	13	10-89	8
Diethyl phthalate	ug/L (ppb)	2.5	97	89	70-130	9
Fluorene	ug/L (ppb)	2.5	96	90	70-130	6
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	98	93	70-130	5
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	95	94	70-130	1
4-Nitroaniline	ug/L (ppb)	13	70	69	32-122	1
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	88	89	10-139	1
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	91	93	70-130	2
Hexachlorobenzene	ug/L (ppb)	2.5	91	91	65-95	0
Pentachlorophenol	ug/L (ppb)	2.5	77	83	10-129	7
Phenanthrene	ug/L (ppb)	2.5	92	90	70-130	2
Anthracene	ug/L (ppb)	2.5	90	92	70-130	2
Carbazole	ug/L (ppb)	2.5	97	96	70-130	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	93	94	28-147	1
Fluoranthene	ug/L (ppb)	2.5	92	89	70-130	3
Pyrene	ug/L (ppb)	2.5	103	102	70-130	1
Benzyl butyl phthalate	ug/L (ppb)	2.5	79	78	34-142	1
Benz(a)anthracene	ug/L (ppb)	2.5	94	93	70-130	1
Chrysene	ug/L (ppb)	2.5	96	95	70-130	1
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	88	85	53-133	3
Di-n-octyl phthalate	ug/L (ppb)	2.5	73	70	49-119	4
Benzo(a)pyrene	ug/L (ppb)	2.5	98	98	70-130	0
Benzo(b)fluoranthene	ug/L (ppb)	2.5	98	112	70-130	13
Benzo(k)fluoranthene	ug/L (ppb)	2.5	98	93	70-130	5
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	102	107	70-130	5
Dibenzo(a,h)anthracene	ug/L (ppb)	2.5	99	105	70-130	6
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	99	103	70-130	4



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112244

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.063	46	58	25-165	23 vo
Aroclor 1260	ug/L (ppb)	0.063	56	69	25-163	21 vo

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

112244

SAMPLE CHAIN OF CUSTODY

ME

12/13/21

Col  
A13


Report To: Audrey Hackett/Carolyn Wise

Company: Maul Foster Alongi, Inc.

Address: 2815 2nd Avenue, Suite 540

City, State, ZIP: Seattle WA 98121

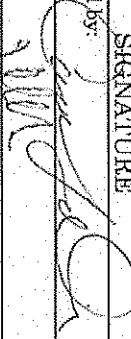

Phone: 206-331-1835 Email: ahackett@maulfoster.com

SAMPLEPLERS (signature) 		PO # 0615.20.01-03
PROJECT NAME TWAAPA - Taylor Way		INVOICE TO A Hackett, MFA
REMARKS SVOCs lab filtered at 0.7 micron before analysis		
Project Specific Rls (Yes/No) <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No		

Page # 1 of 1	TURNOURND TIME X Standard Turnaround X RUSH 24h (VOC only)
SAMPLE DISPOSAL Dispose after 30 days Archive Samples Other	Rush charge authorized by: A. Hackett

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes	
						TPH-Diesel w/SG	TPH-Diesel	TPH-Gasoline	VOCs by 8260D	SVOCs by 8270E	LL PCBs by 8082	T Metals by 6020/1631E	D Metals by 6020/1631E				
TWA-10-44-45-1213	01 A-E	12/13/21	940	S	5 <sup>10</sup>				X								Standard TWA
TWA-10-45-50-1213	02 A-P	12/13/21	1100	W	10 <sup>B2</sup>				X								VOCs RUSH
Twp Blanks	03 A-K			W	2 <sup>B2</sup>				X								Standard TWA

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

Relinquished by:		PRINT NAME	Carolyn Wise	COMPANY	NFA	DATE	12/13/21	TIME	1440
Received by:		PRINT NAME	V. N. H.	COMPANY	FE B1	DATE	12/13/21	TIME	1420
Relinquished by:									
Received by:									

Samples received at 4 °C

Hold  
Soil  
pe-att  
ME

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

December 22, 2021

Audrey Hackett, Project Manager  
Maul Foster Alongi  
2815 2<sup>nd</sup> Ave, Suite 540  
Seattle, WA 98121

Dear Ms Hackett:

Included are the results from the testing of material submitted on December 13, 2021 from the TWAAFA-Taylor Way 0615.20.01-03, F&BI 112245 project. There are 33 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Carolyn Wise  
MFA1222R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 13, 2021 by Friedman & Bruya, Inc. from the Maul Foster Alongi TWAAFA-Taylor Way 0615.20.01-03, F&BI 112245 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Maul Foster Alongi</u>
112245 -01	TWA-10_51-56_1213

Several compounds in the 8270E laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

Methylene chloride was detected in sample TWA-10\_51-56\_1213. The data were qualified as possible laboratory contamination.

The 8082 laboratory control sample and laboratory control sample duplicate failed the relative percent difference for Aroclor 1016 and 1260. PCBs were not detected therefore the data were acceptable.

An 8270 surrogate in the method blank did not pass the acceptance criteria. The affected compounds were qualified accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112245

Date Extracted: 12/20/21

Date Analyzed: 12/20/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TWA-10_51-56_1213 112245-01	<100	86
Method Blank 01-2673 MB	<100	87

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112245

Date Extracted: 12/14/21

Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-D<sub>x</sub>  
Sample Extracts Passed Through a  
Silica Gel Column Prior to Analysis  
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
TWA-10_51-56_1213 112245-01	<50	<250	82
Method Blank 01-2882 MB	<50	<250	117

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112245

Date Extracted: 12/14/21

Date Analyzed: 12/14/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 41-152)
TWA-10_51-56_1213 112245-01	280 x	410 x	82
Method Blank 01-2882 MB	<50	<250	115



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-10_51-56_1213	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112245
Date Extracted:	12/14/21	Lab ID:	112245-01
Date Analyzed:	12/14/21	Data File:	112245-01.152
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	13.5
Chromium	8.10
Cobalt	1.43
Copper	10.3
Lead	<1
Manganese	87.7
Nickel	6.91
Thallium	<1
Vanadium	26.3
Zinc	57.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-10_51-56_1213	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112245
Date Extracted:	12/14/21	Lab ID:	112245-01 x10
Date Analyzed:	12/14/21	Data File:	112245-01 x10.140
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<10
Barium	48.4
Cadmium	<10
Iron	4,460
Selenium	<10
Silver	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	TWA-10_51-56_1213	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112245
Date Extracted:	12/14/21	Lab ID:	112245-01 x100
Date Analyzed:	12/14/21	Data File:	112245-01 x100.128
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Beryllium	<100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	0615.20.01-03, F&BI 112245
Date Extracted:	12/14/21	Lab ID:	I1-826 mb2
Date Analyzed:	12/14/21	Data File:	I1-826 mb2.124
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<2.4
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<1
Silver	<0.2
Thallium	<1
Vanadium	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-10_51-56_1213	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112245
Date Extracted:	12/14/21	Lab ID:	112245-01
Date Analyzed:	12/14/21	Data File:	112245-01.153
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	9.94
Thallium	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-10_51-56_1213	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112245
Date Extracted:	12/14/21	Lab ID:	112245-01 x10
Date Analyzed:	12/14/21	Data File:	112245-01 x10.141
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<10
Arsenic	35.5
Barium	168
Cadmium	<10
Chromium	87.0
Cobalt	22.9
Copper	91.3
Manganese	457
Nickel	48.7
Selenium	<10
Silver	<2
Vanadium	131
Zinc	297

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-10_51-56_1213	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112245
Date Extracted:	12/14/21	Lab ID:	112245-01 x100
Date Analyzed:	12/14/21	Data File:	112245-01 x100.129
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Beryllium	<100
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-10_51-56_1213	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112245
Date Extracted:	12/14/21	Lab ID:	112245-01 x500
Date Analyzed:	12/16/21	Data File:	112245-01 x500.066
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	95,300



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	0615.20.01-03, F&BI 112245
Date Extracted:	12/14/21	Lab ID:	I1-826 mb2
Date Analyzed:	12/14/21	Data File:	I1-826 mb2.124
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<2.4
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<1
Silver	<0.2
Thallium	<1
Vanadium	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112245

Date Extracted: 12/14/21

Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR DISSOLVED MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Dissolved Mercury</u>
TWA-10_51-56_1213 112245-01	<0.02
Method Blank i1-827 MB	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112245

Date Extracted: 12/14/21

Date Analyzed: 12/15/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Total Mercury</u>
TWA-10_51-56_1213 112245-01	0.028
Method Blank i1-827 MB	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-10_51-56_1213	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112245
Date Extracted:	12/13/21	Lab ID:	112245-01
Date Analyzed:	12/13/21	Data File:	121338.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	85	117
Toluene-d8	100	88	112
4-Bromofluorobenzene	103	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	11 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.01-03, F&BI 112245
Date Extracted:	12/13/21	Lab ID:	01-2824 mb
Date Analyzed:	12/13/21	Data File:	121307.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	85	117
Toluene-d8	92	88	112
4-Bromofluorobenzene	103	90	111

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-10_51-56_1213 f	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112245
Date Extracted:	12/14/21	Lab ID:	112245-01 1/0.5
Date Analyzed:	12/15/21	Data File:	121522.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	14	11	65
Phenol-d6	10 ip	11	65
Nitrobenzene-d5	68	50	150
2-Fluorobiphenyl	77	44	108
2,4,6-Tribromophenol	61	10	140
Terphenyl-d14	83	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 jl	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	2.3
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.9 fc
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.01-03, F&BI 112245
Date Extracted:	12/14/21	Lab ID:	01-2875 mb 1/0.5
Date Analyzed:	12/15/21	Data File:	121508.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	17	11	65
Phenol-d6	10 vo	11	65
Nitrobenzene-d5	97	50	150
2-Fluorobiphenyl	97	44	108
2,4,6-Tribromophenol	93	10	140
Terphenyl-d14	105	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 js jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	<1
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js jl	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	<1.6
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-10_51-56_1213	Client:	Maul Foster Alongi
Date Received:	12/13/21	Project:	0615.20.01-03, F&BI 112245
Date Extracted:	12/14/21	Lab ID:	112245-01 1/0.25
Date Analyzed:	12/14/21	Data File:	121419.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	28 ca	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.01-03, F&BI 112245
Date Extracted:	12/14/21	Lab ID:	01-2877 mb3 1/0.25
Date Analyzed:	12/14/21	Data File:	121408.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	26	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112245

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-G<sub>x</sub>**

Laboratory Code: 112368-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	91	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112245

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	104	112	61-133	7

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112245

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	88	104	63-142	17

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR DISSOLVED METALS USING EPA METHOD 6020B**

Laboratory Code: 112210-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	101	106	75-125	5
Arsenic	ug/L (ppb)	10	1.08	92	97	75-125	5
Barium	ug/L (ppb)	50	11.2	99	102	75-125	3
Beryllium	ug/L (ppb)	5	<1	78	80	75-125	3
Cadmium	ug/L (ppb)	5	<1	99	101	75-125	2
Chromium	ug/L (ppb)	20	<1	97	101	75-125	4
Cobalt	ug/L (ppb)	20	<1	97	100	75-125	3
Copper	ug/L (ppb)	20	<5	95	99	75-125	4
Iron	ug/L (ppb)	100	467	85	103	75-125	19
Lead	ug/L (ppb)	10	<1	94	95	75-125	1
Manganese	ug/L (ppb)	20	56.9	93	106	75-125	13
Nickel	ug/L (ppb)	20	1.48	96	100	75-125	4
Selenium	ug/L (ppb)	5	<1	98	106	75-125	8
Silver	ug/L (ppb)	5	<1	91	98	75-125	7
Thallium	ug/L (ppb)	5	<1	93	94	75-125	1
Vanadium	ug/L (ppb)	20	<1	99	102	75-125	3
Zinc	ug/L (ppb)	50	<5	95	98	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	101	80-120
Arsenic	ug/L (ppb)	10	94	80-120
Barium	ug/L (ppb)	50	96	80-120
Beryllium	ug/L (ppb)	5	98	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	98	80-120
Cobalt	ug/L (ppb)	20	99	80-120
Copper	ug/L (ppb)	20	101	80-120
Iron	ug/L (ppb)	100	99	80-120
Lead	ug/L (ppb)	10	98	80-120
Manganese	ug/L (ppb)	20	99	80-120
Nickel	ug/L (ppb)	20	101	80-120
Selenium	ug/L (ppb)	5	99	80-120
Silver	ug/L (ppb)	5	97	80-120
Thallium	ug/L (ppb)	5	96	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	99	80-120

FRIEDMAN & BRUYA, INC.

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**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 112210-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	101	106	75-125	5
Arsenic	ug/L (ppb)	10	1.08	92	97	75-125	5
Barium	ug/L (ppb)	50	11.2	99	102	75-125	3
Beryllium	ug/L (ppb)	5	<1	78	80	75-125	3
Cadmium	ug/L (ppb)	5	<1	99	101	75-125	2
Chromium	ug/L (ppb)	20	<1	97	101	75-125	4
Cobalt	ug/L (ppb)	20	<1	97	100	75-125	3
Copper	ug/L (ppb)	20	<5	95	99	75-125	4
Iron	ug/L (ppb)	100	467	85	103	75-125	19
Lead	ug/L (ppb)	10	<1	94	95	75-125	1
Manganese	ug/L (ppb)	20	56.9	93	106	75-125	13
Nickel	ug/L (ppb)	20	1.48	96	100	75-125	4
Selenium	ug/L (ppb)	5	<1	98	106	75-125	8
Silver	ug/L (ppb)	5	<1	91	98	75-125	7
Thallium	ug/L (ppb)	5	<1	93	94	75-125	1
Vanadium	ug/L (ppb)	20	<1	99	102	75-125	3
Zinc	ug/L (ppb)	50	<5	95	98	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	101	80-120
Arsenic	ug/L (ppb)	10	94	80-120
Barium	ug/L (ppb)	50	96	80-120
Beryllium	ug/L (ppb)	5	98	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	98	80-120
Cobalt	ug/L (ppb)	20	99	80-120
Copper	ug/L (ppb)	20	101	80-120
Iron	ug/L (ppb)	100	99	80-120
Lead	ug/L (ppb)	10	98	80-120
Manganese	ug/L (ppb)	20	99	80-120
Nickel	ug/L (ppb)	20	101	80-120
Selenium	ug/L (ppb)	5	99	80-120
Silver	ug/L (ppb)	5	97	80-120
Thallium	ug/L (ppb)	5	96	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	99	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112245

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
FOR DISSOLVED MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 112175-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	0.0027	90	100	71-125	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	117	115	78-125	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

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**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
TOTAL MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 112175-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	0.0027	90	100	71-125	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	117	115	78-125	2



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112245

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: 112227-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	111	50-150
Chloromethane	ug/L (ppb)	10	<10	104	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	117	16-176
Bromomethane	ug/L (ppb)	10	<5	122	10-193
Chloroethane	ug/L (ppb)	10	<1	113	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	106	50-150
Acetone	ug/L (ppb)	50	<50	104	15-179
1,1-Dichloroethene	ug/L (ppb)	10	<1	112	50-150
Hexane	ug/L (ppb)	10	<5	92	49-161
Methylene chloride	ug/L (ppb)	10	<5	115	40-143
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	103	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	108	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	102	10-335
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	101	50-150
Chloroform	ug/L (ppb)	10	<1	101	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	103	34-168
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	106	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	109	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	96	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	103	50-150
Benzene	ug/L (ppb)	10	<0.35	103	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	99	43-133
1,2-Dichloropropane	ug/L (ppb)	10	<1	102	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	104	50-150
Dibromomethane	ug/L (ppb)	10	<1	99	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	113	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	102	48-145
Toluene	ug/L (ppb)	10	<1	102	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	110	37-152
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	107	50-150
2-Hexanone	ug/L (ppb)	50	<10	120	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	103	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	100	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	104	33-164
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	103	50-150
Chlorobenzene	ug/L (ppb)	10	<1	99	50-150
Ethylbenzene	ug/L (ppb)	10	<1	101	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	106	50-150
m,p-Xylene	ug/L (ppb)	20	<2	101	50-150
o-Xylene	ug/L (ppb)	10	<1	99	50-150
Styrene	ug/L (ppb)	10	<1	103	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	100	50-150
Bromoform	ug/L (ppb)	10	<5	106	23-161
n-Propylbenzene	ug/L (ppb)	10	<1	98	50-150
Bromobenzene	ug/L (ppb)	10	<1	93	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	96	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	104	10-235
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	100	33-151
2-Chlorotoluene	ug/L (ppb)	10	<1	93	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	99	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	95	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	97	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	98	46-139
p-Isopropyltoluene	ug/L (ppb)	10	<1	98	46-140
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	97	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	97	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	98	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	100	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	93	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	94	42-150
Naphthalene	ug/L (ppb)	10	<1	97	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	93	44-155

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**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260D**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	112	115	70-130	3
Chloromethane	ug/L (ppb)	10	110	109	70-130	1
Vinyl chloride	ug/L (ppb)	10	112	115	70-130	3
Bromomethane	ug/L (ppb)	10	123	129	28-182	5
Chloroethane	ug/L (ppb)	10	107	110	70-130	3
Trichlorofluoromethane	ug/L (ppb)	10	98	103	70-130	5
Acetone	ug/L (ppb)	50	100	96	42-155	4
1,1-Dichloroethene	ug/L (ppb)	10	108	112	70-130	4
Hexane	ug/L (ppb)	10	72	74	50-161	3
Methylene chloride	ug/L (ppb)	10	110	109	29-192	1
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	101	102	70-130	1
trans-1,2-Dichloroethene	ug/L (ppb)	10	94	94	70-130	0
1,1-Dichloroethane	ug/L (ppb)	10	105	105	70-130	0
2,2-Dichloropropane	ug/L (ppb)	10	89	93	70-130	4
cis-1,2-Dichloroethene	ug/L (ppb)	10	99	99	70-130	0
Chloroform	ug/L (ppb)	10	100	100	70-130	0
2-Butanone (MEK)	ug/L (ppb)	50	96	97	50-157	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	103	103	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	10	106	107	70-130	1
1,1-Dichloropropene	ug/L (ppb)	10	93	93	70-130	0
Carbon tetrachloride	ug/L (ppb)	10	103	101	70-130	2
Benzene	ug/L (ppb)	10	101	100	70-130	1
Trichloroethene	ug/L (ppb)	10	93	94	70-130	1
1,2-Dichloropropane	ug/L (ppb)	10	101	99	70-130	2
Bromodichloromethane	ug/L (ppb)	10	102	101	70-130	1
Dibromomethane	ug/L (ppb)	10	101	97	70-130	4
4-Methyl-2-pentanone	ug/L (ppb)	50	104	103	70-130	1
cis-1,3-Dichloropropene	ug/L (ppb)	10	100	103	70-130	3
Toluene	ug/L (ppb)	10	98	101	70-130	3
trans-1,3-Dichloropropene	ug/L (ppb)	10	106	103	70-130	3
1,1,2-Trichloroethane	ug/L (ppb)	10	104	105	70-130	1
2-Hexanone	ug/L (ppb)	50	115	115	69-130	0
1,3-Dichloropropane	ug/L (ppb)	10	101	102	70-130	1
Tetrachloroethene	ug/L (ppb)	10	95	95	70-130	0
Dibromochloromethane	ug/L (ppb)	10	104	107	63-142	3
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	99	101	70-130	2
Chlorobenzene	ug/L (ppb)	10	98	99	70-130	1
Ethylbenzene	ug/L (ppb)	10	99	100	70-130	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	104	102	70-130	2
m,p-Xylene	ug/L (ppb)	20	99	100	70-130	1
o-Xylene	ug/L (ppb)	10	97	99	70-130	2
Styrene	ug/L (ppb)	10	101	104	70-130	3
Isopropylbenzene	ug/L (ppb)	10	98	99	70-130	1
Bromoform	ug/L (ppb)	10	109	111	50-157	2
n-Propylbenzene	ug/L (ppb)	10	97	97	70-130	0
Bromobenzene	ug/L (ppb)	10	96	93	70-130	3
1,3,5-Trimethylbenzene	ug/L (ppb)	10	95	97	52-150	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	103	104	70-130	1
1,2,3-Trichloropropane	ug/L (ppb)	10	100	100	70-130	0
2-Chlorotoluene	ug/L (ppb)	10	94	93	70-130	1
4-Chlorotoluene	ug/L (ppb)	10	97	98	70-130	1
tert-Butylbenzene	ug/L (ppb)	10	95	96	70-130	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	97	98	70-130	1
sec-Butylbenzene	ug/L (ppb)	10	97	98	70-130	1
p-Isopropyltoluene	ug/L (ppb)	10	95	96	70-130	1
1,3-Dichlorobenzene	ug/L (ppb)	10	95	95	70-130	0
1,4-Dichlorobenzene	ug/L (ppb)	10	95	95	70-130	0
1,2-Dichlorobenzene	ug/L (ppb)	10	97	97	70-130	0
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	101	102	70-130	1
1,2,4-Trichlorobenzene	ug/L (ppb)	10	88	92	70-130	4
Hexachlorobutadiene	ug/L (ppb)	10	85	89	70-130	5
Naphthalene	ug/L (ppb)	10	93	97	70-130	4
1,2,3-Trichlorobenzene	ug/L (ppb)	10	93	95	69-143	2

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ENVIRONMENTAL CHEMISTS

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**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E**

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	2.5	8 vo	9 vo	10-86	7
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	94 vo	88 vo	60-88	6
2-Chlorophenol	ug/L (ppb)	2.5	58	57	10-89	2
1,3-Dichlorobenzene	ug/L (ppb)	2.5	81	77	48-91	5
1,4-Dichlorobenzene	ug/L (ppb)	2.5	81	78	48-91	4
1,2-Dichlorobenzene	ug/L (ppb)	2.5	84	79	52-92	6
Benzyl alcohol	ug/L (ppb)	13	28	26	10-72	7
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	87 vo	83	59-86	5
2-Methylphenol	ug/L (ppb)	2.5	37	38	10-75	3
Hexachloroethane	ug/L (ppb)	2.5	80	77	47-92	4
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	97	91	70-130	6
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	29	30	10-66	3
Nitrobenzene	ug/L (ppb)	2.5	90	86	60-90	5
Isophorone	ug/L (ppb)	2.5	95	95	70-130	0
2-Nitrophenol	ug/L (ppb)	2.5	87	88	27-104	1
2,4-Dimethylphenol	ug/L (ppb)	2.5	62	66	10-84	6
Benzoic acid	ug/L (ppb)	23	5 vo	4 vo	10-102	22 vo
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	95	92	55-103	3
2,4-Dichlorophenol	ug/L (ppb)	2.5	82	81	23-103	1
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	85	82	56-93	4
Naphthalene	ug/L (ppb)	2.5	86	83	62-90	4
Hexachlorobutadiene	ug/L (ppb)	2.5	81	77	48-85	5
4-Chloroaniline	ug/L (ppb)	13	45	43	35-108	5
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	76	76	18-109	0
2-Methylnaphthalene	ug/L (ppb)	2.5	88	83	64-93	6
1-Methylnaphthalene	ug/L (ppb)	2.5	87	82	64-93	6
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	79	79	49-112	0
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	90	90	16-112	0
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	90	90	26-113	0
2-Chloronaphthalene	ug/L (ppb)	2.5	93	89	67-97	4
2-Nitroaniline	ug/L (ppb)	13	121	114	31-168	7
Dimethyl phthalate	ug/L (ppb)	2.5	100	97	70-130	3
Acenaphthylene	ug/L (ppb)	2.5	97	92	70-130	5
2,6-Dinitrotoluene	ug/L (ppb)	2.5	100	99	70-130	1
3-Nitroaniline	ug/L (ppb)	13	59	59	33-120	0
Acenaphthene	ug/L (ppb)	2.5	94	90	70-130	4
2,4-Dinitrophenol	ug/L (ppb)	5	77	73	10-120	5
Dibenzofuran	ug/L (ppb)	2.5	88	83	67-107	6
2,4-Dinitrotoluene	ug/L (ppb)	2.5	86	82	53-132	5
4-Nitrophenol	ug/L (ppb)	5	12	13	10-89	8
Diethyl phthalate	ug/L (ppb)	2.5	97	89	70-130	9
Fluorene	ug/L (ppb)	2.5	96	90	70-130	6
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	98	93	70-130	5
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	95	94	70-130	1
4-Nitroaniline	ug/L (ppb)	13	70	69	32-122	1
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	88	89	10-139	1
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	91	93	70-130	2
Hexachlorobenzene	ug/L (ppb)	2.5	91	91	65-95	0
Pentachlorophenol	ug/L (ppb)	2.5	77	83	10-129	7
Phenanthrene	ug/L (ppb)	2.5	92	90	70-130	2
Anthracene	ug/L (ppb)	2.5	90	92	70-130	2
Carbazole	ug/L (ppb)	2.5	97	96	70-130	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	93	94	28-147	1
Fluoranthene	ug/L (ppb)	2.5	92	89	70-130	3
Pyrene	ug/L (ppb)	2.5	103	102	70-130	1
Benzyl butyl phthalate	ug/L (ppb)	2.5	79	78	34-142	1
Benz(a)anthracene	ug/L (ppb)	2.5	94	93	70-130	1
Chrysene	ug/L (ppb)	2.5	96	95	70-130	1
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	88	85	53-133	3
Di-n-octyl phthalate	ug/L (ppb)	2.5	73	70	49-119	4
Benzo(a)pyrene	ug/L (ppb)	2.5	98	98	70-130	0
Benzo(b)fluoranthene	ug/L (ppb)	2.5	98	112	70-130	13
Benzo(k)fluoranthene	ug/L (ppb)	2.5	98	93	70-130	5
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	102	107	70-130	5
Dibenzo(a,h)anthracene	ug/L (ppb)	2.5	99	105	70-130	6
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	99	103	70-130	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/22/21

Date Received: 12/13/21

Project: TWAAFA-Taylor Way 0615.20.01-03, F&BI 112245

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
POLYCHLORINATED BIPHENYLS AS  
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.063	46	58	25-165	23 vo
Aroclor 1260	ug/L (ppb)	0.063	56	69	25-163	21 vo

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

112245

**SAMPLE CHAIN OF CUSTODY**

ME 12/13/21

104 W3

Report To: Audrey Hackett/Carolyn Wise

Company: Maui Foster Alongi, Inc.

Address: 2815 2nd Avenue, Suite 540

City, State, ZIP: Seattle WA 98121

Phone: 206-331-1835 Email: ahackett@maulfoster.com

SAMPLERS (signature)		PROJECT NAME	
<i>[Signature]</i>		TWAAPA - Taylor Way	
PO #		INVOICE TO	
0615-20-01-08		A Hackett, MFA	
REMARKS		ANALYSES REQUESTED	
SVOCs lab filtered at 0.7 micron before analysis		TPH-Diesel w/SG	
Protect Specific RIs: Yes/No		TPH-Diesel	
		TPH-Gasoline	
		VOCs by 8260D	
		SVOCs by 8270E	
		LL PCBs by 8082	
		T Metals by 6020/1631E	
		D Metals by 6020/1631E	

TURNAROUND TIME	DATE
X-Standard Turnaround	12/13/21 16:18
X RUSH (24h VOC only)	12/13/21 16:18
Rush charges authorized by:	
A. Hackett	
SAMPLE DISPOSAL	
Dispose after 30 days	
Archive Samples	
Other	

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-Diesel w/SG	TPH-Diesel	TPH-Gasoline	VOCs by 8260D	SVOCs by 8270E	LL PCBs by 8082	T Metals by 6020/1631E	D Metals by 6020/1631E	Notes
TWA-10-51-56-1213	01 AN	12/13/21	1440	CSU	16	X	X	X	X	X	X	X	X	VOCs RUSH TAT
				W	14									
				W	13									

Friedman & Bryca, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282

SIGNATURES	PRINT NAME	COMPANY	DATE	TIME
<i>[Signature]</i>	Christina Snyder	MFA	12/13/21	16:18
<i>[Signature]</i>	Yaeli Hovav	FBI	12/13/21	16:18

Samples received at 4:00

## QA/QC SOLUTIONS, LLC



James J. Mc Ateer, Jr., BS, MRSC  
Managing Member

7532 Champion Hill Rd. SE  
Salem, Oregon 97306

Telephone: 503.763.6948

Facsimile: 503.566.2114

Cellular: 503.881.1501

email: jjmcateer@msn.com

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September 1, 2022

Tasya Gray, LG  
DOF Dalton, Olmsted & Fuglevand  
1001 SW Klickitat Way, Suite 200B  
Seattle, Washington 98134

Subject: Taylor Way and Alexander Ave Fill Area (TWAAFA) Site - Burlington Property Soil Vapor Samples Data Validation Summary  
Client Project No., Task Order No.: Not Specified, Task No. 5  
QA/QC Solutions, LLC Project No.: 080522.1

Dear Tasya:

This letter documents the results of the data validation completed for the analyses of selected organic compounds on soil vapor samples associated with Taylor Way and Alexander Ave Fill Area (TWAAFA) Site located in Tacoma, Washington sampling events.

The available data were validated to verify applicable laboratory quality assurance and quality control (QA/QC) measurements were reported, documented, and of sufficient quality to support its intended purpose(s). A summary of the overall assessment of data quality, the data set, a summary of the analytical methods used to complete the chemical analyses, a summary of the data validation procedures used, and a summary of the reasons why data were qualified (including other items noted during data validation) is presented below.

### Overall Assessment of Data Quality

Overall, the data reported are of good quality and the results for the applicable QA/QC measurements that were used by the laboratories during the analysis of the samples were generally acceptable. Some sample results required qualification during data validation because method-specific QA/QC criteria were not met; results maybe qualified for more than one reason.

During data validation two results reported as detected for methylene chloride required qualification as estimated (*J*); see *Reasons for Data Qualification* section below for additional details.

Analytical data that did not meet method- and/or laboratory-established control limits for applicable quality control measurements were qualified by the laboratory or during data validation. These qualified data are usable and represent data of good quality and reasonable confidence and have an acceptable degree of uncertainty (i.e., may be less precise or less accurate than unqualified data).

## Data Set

The data set consisted of eight soil vapor samples and one field duplicate soil vapor sample that were collected during two sampling events completed on March 1, 2022 and July 27, 2022. A summary of the samples collected and the analyses completed is summarized in Table 1.

Analyses were completed by Friedman & Bruya, Inc. Environmental Chemists located in Seattle, Washington. The laboratory submitted two (2) data summary packages and electronic data deliverable (EDDs).

## Analytical Methods

The analytical methods used to complete the chemical analyses on all samples listed in Table 1 are as follows:

- Air phase hydrocarbon (APH) ranges for APH EC5-8 and EC9-12 Aliphatics and APH EC9-10 Aromatics by the Method for the Determination of Air Phase Hydrocarbons (MA APH) prepared by the Massachusetts Department of Environmental Protection using gas chromatography/mass spectrometry (GC/MS) (MA APH 2009)
- Volatile organic compounds (VOCs) for 11 target compounds (including co-eluting VOCs) by GC/MS using EPA Method TO-15 (U.S. EPA 1999).

## Data Validation Procedures

Data validation procedures included evaluating a summary of the sample results and applicable quality control results reported by the laboratory; this level of validation is also referred to as an abbreviated data review (equivalent to “Stage 2A/2B” review per U.S. EPA 2009). The analytical data were validated generally following the applicable guidance and requirements:

- Method-specific and laboratory-established quality control requirements, as applicable.
- Guidance on Environmental Data Verification and Validation (U.S. EPA 2002)
- Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use. OSWER No. 9200.1-85. EPA 540-R-08-005. (U.S. EPA 2009).
- *National Functional Guidelines for Organic Superfund Methods Data Review*. Final. OLEM 9240.0-51. EPA 542-R-20-007. November 2020. Office of Superfund Remediation and Technology Innovation (OSRTI), U.S. Environmental Protection Agency. (U.S. EPA 2020).

The laboratory data deliverables that were validated and available for review included the following:

- Case narratives discussing analytical problems (if any) and procedures.
- Chain-of-custody documentation to verify completeness of the data set.
- Sample preparation logs or laboratory summary result forms to verify analytical holding times were met.
- Results for applicable method blanks to determine whether an analyte that may have been reported as detected in a sample was the result of possible



contamination introduced at the laboratory, during sampling, and/or during transport of samples, respectively.

- Results for applicable surrogate compound, laboratory control sample (LCS) (i.e., blank spike), duplicate LCS, matrix spike (MS), and matrix spike duplicate (MSD) recoveries to assess analytical accuracy.
- Results for applicable laboratory duplicate sample, duplicate LCS, and MSD analyses to assess analytical precision as are applicable.
- Results for the field duplicate samples to provide additional information.
- Laboratory summaries of analytical results reported for the analyses completed.

Verification and validation of 100-percent of all applicable laboratory calculations, transcriptions, review of instrument printouts, and review of bench sheets were not completed during the data validation review. There may be analytical problems that could only be identified by reviewing every instrument printout and associated analytical quality control results. Verification of all possible factors that could result in the degradation of data quality was not completed nor should be inferred at this time. The laboratory case narratives did not indicate any significant problems with data that were not reviewed during data validation. The adequacy of the sampling procedures was not completed during the data validation.

Performance based control limits established by the laboratory, applicable control limits specified in the analytical methods, and best professional judgement were used to evaluate data quality and to determine if specific data required qualification. Data qualifiers were assigned during data validation following guidance specified by U.S. EPA (2002 and 2020) to the EDD when applicable QC measurement criteria were not met and qualification of the data was warranted.

## Reasons for Data Qualification

During data validation two results reported as detected for methylene chloride required qualification as estimated (*J*) because the concentration reported was above the upper instrument calibration range. The affected samples included TWA-SV-LP-D-1-030122 (methylene chloride at 510 ug/m<sup>3</sup>) and TWA-SV-LP-B-1-030122 (methylene chloride at 530 ug/m<sup>3</sup>).

## General Comments:

- Data users should refer to the laboratory data packages for complete information pertinent to the analyses completed.
- Results were reported as not detected were at the applicable method reporting limit (MRL).
- All reported detections of methylene chloride were assigned a *lc* laboratory data flag to indicate the presence of this VOC is likely due to laboratory contamination. This VOC was not present in the associated method blank (i.e., reported as not detected); therefore, no sample results required qualification for this reason.

Tasya Gray, LG  
September 1, 2022  
Page 4

**Confidential & Privileged Client  
Communication and Work**

This concludes the data validation review. Should you have any questions regarding the information presented herein, please contact me by telephone at 503.763.6948 or by e-mail at [jjmcateer@msn.com](mailto:jjmcateer@msn.com).

Cordially,



James J. Mc Ateer, Jr., BS, MRSC  
Managing Member

cc: Trevor Louviere, DOF Dalton, Olmsted & Fuglevand, Inc.

Attachments

MA APH 2009. Method for the Determination of Air Phase Hydrocarbons (APH). December 2009. Final, Revision 1. Massachusetts Department of Environmental Protection. Office of Research and Standards. Bureau of Waste Site Cleanup. Commonwealth of Massachusetts

U.S. EPA. 1999. Compendium of methods for the determination of toxic organic compounds in ambient air. EPA/625/R-96/010b. Second Edition. January 1999. U.S. Environmental Protection Agency, Center for Environmental Research Information, Office of Research and Development, Cincinnati, OH.

U.S. EPA 2002. Guidance on Environmental Data Verification and Data Validation. EPA QA/G-8. EPA/240/R-02/004. November 2002. U.S. Environmental Protection Agency, Office of Environmental Information, Washington DC.

U.S. EPA 2009. Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use. OSWER No. 9200.1-85. EPA 540-R-08-005. January 13, 2009. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, DC.

U.S. EPA 2020. *National Functional Guidelines for Organic Superfund Methods Data Review*. Final. OLEM 9240.0-51 EPA 542-R-20-007. November 2020. Office of Superfund Remediation and Technology Innovation (OSRTI), U.S. Environmental Protection Agency.

**Table 1. Summary of Samples Collected and Analyses Completed**

Sample Number	Laboratory ID	Matrix	Date Collected	Time Collected	APH EC5-8 and EC9-10 Aliphatics and APH EC9-10 Aromatics by MA-APH	VOCs by TO-15
TWA-SV-LP-E-1-030122	203054-01	Air	3/1/22	Not provided	✓	✓
TWA-SV-LP-D-1-030122	203054-02	Air	3/1/22	Not provided	✓	✓
TWA-SV-LP-C-2-030122	203054-03	Air	3/1/22	Not provided	✓	✓
TWA-SV-LP-A-2-030122	203054-04	Air	3/1/22	Not provided	✓	✓
TWA-SV-LP-B-1-030122	207479-01	Air	3/1/22	Not provided	✓	✓
TWA-SV-33-072722	207479-01	Air	7/27/22	Not provided	✓	✓
TWA-SV-34-072722	207479-02	Air	7/27/22	Not provided	✓	✓
TWA-SV-32-072722	207479-03	Air	7/27/22	Not provided	✓	✓
TWA-SV-32-072722-D	207479-04	Air	7/27/22	Not provided	✓	✓
<b>Total Number of Samples:</b>					<b>9</b>	<b>9</b>

**Notes**

APH - air phase hydrocarbon ranges  
VOC - volatile organic compound

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Vineta Mills, M.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

March 21, 2022

Tasya Gray, Project Manager  
Dalton Olmsted Fuglevand  
1001 SW Klickitat Way, Suite 200B  
Seattle, WA 98134

Dear Mr Gray:

Included are the results from the testing of material submitted on March 2, 2022 from the CE Tacoma-Lab Pack Soil Vapor TWAAFA-001, F&BI 203054 project. There are 16 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Trevor Louviere  
DOF0321R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 2, 2022 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand CE Tacoma-Lab Pack Soil Vapor TWAAFA-001, F&BI 203054 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Dalton Olmsted Fuglevand</u>
203054 -01	TWA-SV-LP-E-1-030122
203054 -02	TWA-SV-LP-D-1-030122
203054 -03	TWA-SV-LP-C-2-030122
203054 -04	TWA-SV-LP-A-2-030122
203054 -05	TWA-SV-LP-B-1-030122

Non-petroleum compounds identified in the air phase hydrocarbon (APH) ranges were subtracted per the MA-APH method.

Methylene chloride was detected in the TO-15 analysis of samples TWA-SV-LP-D-1-030122, TWA-SV-LP-C-2-030122, and TWA-SV-LP-B-1-030122. The data were flagged as due to laboratory contamination.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-LP-E-1-030122	Client:	Dalton Olmsted Fuglevand
Date Received:	03/02/22	Project:	TWAAFA-001, F&BI 203054
Date Collected:	03/17/22	Lab ID:	203054-01 1/5.9
Date Analyzed:	03/17/22	Data File:	031717.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<440
APH EC9-12 aliphatics	240
APH EC9-10 aromatics	<150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-LP-D-1-030122	Client:	Dalton Olmsted Fuglevand
Date Received:	03/02/22	Project:	TWAAFA-001, F&BI 203054
Date Collected:	03/17/22	Lab ID:	203054-02 1/6.2
Date Analyzed:	03/17/22	Data File:	031718.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	86	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<460
APH EC9-12 aliphatics	200
APH EC9-10 aromatics	<150



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-LP-C-2-030122	Client:	Dalton Olmsted Fuglevand
Date Received:	03/02/22	Project:	TWAAFA-001, F&BI 203054
Date Collected:	03/17/22	Lab ID:	203054-03 1/5.7
Date Analyzed:	03/17/22	Data File:	031719.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	87	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<430
APH EC9-12 aliphatics	<140
APH EC9-10 aromatics	<140

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-LP-A-2-030122	Client:	Dalton Olmsted Fuglevand
Date Received:	03/02/22	Project:	TWAAFA-001, F&BI 203054
Date Collected:	03/17/22	Lab ID:	203054-04 1/5.9
Date Analyzed:	03/17/22	Data File:	031720.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	88	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<440
APH EC9-12 aliphatics	270
APH EC9-10 aromatics	<150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-LP-B-1-030122	Client:	Dalton Olmsted Fuglevand
Date Received:	03/02/22	Project:	TWAAFA-001, F&BI 203054
Date Collected:	03/17/22	Lab ID:	203054-05 1/6.1
Date Analyzed:	03/17/22	Data File:	031721.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	500
APH EC9-12 aliphatics	240
APH EC9-10 aromatics	<150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 203054
Date Collected:	Not Applicable	Lab ID:	02-0457 MB
Date Analyzed:	03/17/22	Data File:	031716.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	87	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-LP-E-1-030122	Client:	Dalton Olmsted Fuglevand
Date Received:	03/02/22	Project:	TWAAFA-001, F&BI 203054
Date Collected:	03/17/22	Lab ID:	203054-01 1/5.9
Date Analyzed:	03/17/22	Data File:	031717.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.5	<0.59
Methylene chloride	<200	<59
cis-1,2-Dichloroethene	<2.3	<0.59
Benzene	<1.9	<0.59
Trichloroethene	<0.63	<0.12
Toluene	<110	<29
Tetrachloroethene	<40	<5.9
Ethylbenzene	<2.6	<0.59
m,p-Xylene	<5.1	<1.2
o-Xylene	<2.6	<0.59
Naphthalene	<1.5	<0.29

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-LP-D-1-030122	Client:	Dalton Olmsted Fuglevand
Date Received:	03/02/22	Project:	TWAAFA-001, F&BI 203054
Date Collected:	03/17/22	Lab ID:	203054-02 1/6.2
Date Analyzed:	03/17/22	Data File:	031718.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	86	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.6	<0.62
Methylene chloride	510 ve lc	150 ve lc
cis-1,2-Dichloroethene	<2.5	<0.62
Benzene	<2	<0.62
Trichloroethene	<0.67	<0.12
Toluene	<120	<31
Tetrachloroethene	<42	<6.2
Ethylbenzene	<2.7	<0.62
m,p-Xylene	7.3	1.7
o-Xylene	<2.7	<0.62
Naphthalene	<1.6	<0.31

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-LP-C-2-030122	Client:	Dalton Olmsted Fuglevand
Date Received:	03/02/22	Project:	TWAAFA-001, F&BI 203054
Date Collected:	03/17/22	Lab ID:	203054-03 1/5.7
Date Analyzed:	03/17/22	Data File:	031719.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	% Recovery:	Lower Limit:	Upper Limit:
Surrogates:			
4-Bromofluorobenzene	87	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.5	<0.57
Methylene chloride	280 lc	82 lc
cis-1,2-Dichloroethene	<2.3	<0.57
Benzene	<1.8	<0.57
Trichloroethene	<0.61	<0.11
Toluene	<110	<28
Tetrachloroethene	<39	<5.7
Ethylbenzene	<2.5	<0.57
m,p-Xylene	<5	<1.1
o-Xylene	<2.5	<0.57
Naphthalene	<1.5	<0.28

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-LP-A-2-030122	Client:	Dalton Olmsted Fuglevand
Date Received:	03/02/22	Project:	TWAAFA-001, F&BI 203054
Date Collected:	03/17/22	Lab ID:	203054-04 1/5.9
Date Analyzed:	03/17/22	Data File:	031720.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	% Recovery:	Lower Limit:	Upper Limit:
Surrogates:			
4-Bromofluorobenzene	88	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.5	<0.59
Methylene chloride	<200	<59
cis-1,2-Dichloroethene	<2.3	<0.59
Benzene	<1.9	<0.59
Trichloroethene	<0.63	<0.12
Toluene	<110	<29
Tetrachloroethene	<40	<5.9
Ethylbenzene	<2.6	<0.59
m,p-Xylene	<5.1	<1.2
o-Xylene	<2.6	<0.59
Naphthalene	<1.5	<0.29



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-LP-B-1-030122	Client:	Dalton Olmsted Fuglevand
Date Received:	03/02/22	Project:	TWAAFA-001, F&BI 203054
Date Collected:	03/17/22	Lab ID:	203054-05 1/6.1
Date Analyzed:	03/17/22	Data File:	031721.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	% Recovery:	Lower Limit:	Upper Limit:
Surrogates:			
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.6	<0.61
Methylene chloride	530 ve lc	150 ve lc
cis-1,2-Dichloroethene	<2.4	<0.61
Benzene	<1.9	<0.61
Trichloroethene	<0.66	<0.12
Toluene	<110	<30
Tetrachloroethene	<41	<6.1
Ethylbenzene	<2.6	<0.61
m,p-Xylene	<5.3	<1.2
o-Xylene	<2.6	<0.61
Naphthalene	<1.6	<0.3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 203054
Date Collected:	Not Applicable	Lab ID:	02-0457 MB
Date Analyzed:	03/17/22	Data File:	031716.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	87	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Methylene chloride	<35	<10
cis-1,2-Dichloroethene	<0.4	<0.1
Benzene	<0.32	<0.1
Trichloroethene	<0.11	<0.02
Toluene	<19	<5
Tetrachloroethene	<6.8	<1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.26	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/21/22

Date Received: 03/02/22

Project: CE Tacoma-Lab Pack Soil Vapor TWAAFA-001, F&BI 203054

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD MA-APH**

Laboratory Code: 203054-01 1/5.9 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	780	960	21
APH EC9-12 aliphatics	ug/m3	460	490	6
APH EC9-10 aromatics	ug/m3	<150	<150	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	89	70-130
APH EC9-12 aliphatics	ug/m3	67	107	70-130
APH EC9-10 aromatics	ug/m3	67	111	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/21/22

Date Received: 03/02/22

Project: CE Tacoma-Lab Pack Soil Vapor TWAAFA-001, F&BI 203054

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD TO-15**

Laboratory Code: 203054-01 1/5.9 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<1.5	<1.5	nm
Methylene chloride	ug/m3	<200	<200	nm
cis-1,2-Dichloroethene	ug/m3	<2.3	<2.3	nm
Benzene	ug/m3	<1.9	<1.9	nm
Trichloroethene	ug/m3	<0.63	<0.63	nm
Toluene	ug/m3	<110	<110	nm
Tetrachloroethene	ug/m3	<40	<40	nm
Ethylbenzene	ug/m3	<2.6	<2.6	nm
m,p-Xylene	ug/m3	<5.1	<5.1	nm
o-Xylene	ug/m3	<2.6	<2.6	nm
Naphthalene	ug/m3	<1.5	<1.5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	Acceptance
			Recovery LCS	Criteria
Vinyl chloride	ug/m3	35	86	70-130
Methylene chloride	ug/m3	94	86	70-130
cis-1,2-Dichloroethene	ug/m3	54	95	70-130
Benzene	ug/m3	43	97	70-130
Trichloroethene	ug/m3	73	95	70-130
Toluene	ug/m3	51	91	70-130
Tetrachloroethene	ug/m3	92	103	70-130
Ethylbenzene	ug/m3	59	92	70-130
m,p-Xylene	ug/m3	120	92	70-130
o-Xylene	ug/m3	59	98	70-130
Naphthalene	ug/m3	71	102	70-130

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

# Chain of Custody, Shipping & Receiving Documents, Sample Condition Checklist

F&B Project 203054

**SAMPLE CHAIN OF CUSTODY** 03-02-22

203084


Report To TASHYA GRAY

Company DOF

Address 1001 SW KICKAPAT WAY STE 200B

City, State, ZIP SEATTLE, WA 98134

Phone 206.375.6211 Email NGRAY@DOF.WA.COM

SAMPLERS (signature) 

PROJECT NAME & ADDRESS

CIE TACOMA - LABS PACK

SOIL MARK

PO #

TWAAFA-001

NOTES: PLEASE SEE TWAAFA

REPORT FOR VOL LIST NEEDED

INVOICE TO

DOF

Page # 1 of 1  
TURNAROUND TIME

Standard

RUSH

Rush charges authorized by: \_\_\_\_\_

\* SAMPLE DISPOSAL

Default: Clean after 3 days


Archive (Fee may apply)

**SAMPLE INFORMATION**

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	ANALYSIS REQUESTED	Notes
LP_E-1	01	4178	17	IA / <u>SG</u>	3/1/22	30	1055	5	1101	<input checked="" type="checkbox"/> TO15 Full Scan <input checked="" type="checkbox"/> TO15 BTEXN <input checked="" type="checkbox"/> TO15 cVOCs <input checked="" type="checkbox"/> APH <input checked="" type="checkbox"/> Helium	
LP_D-1	02	8394	01	IA / <u>SG</u>	3/1/22	29	1155	5	1201	<input checked="" type="checkbox"/> TO15 Full Scan <input checked="" type="checkbox"/> TO15 BTEXN <input checked="" type="checkbox"/> TO15 cVOCs <input checked="" type="checkbox"/> APH <input checked="" type="checkbox"/> Helium	
LP_C-2	03	8531	88	IA / <u>SG</u>	3/1/22	28	1350	5	1357	<input checked="" type="checkbox"/> TO15 Full Scan <input checked="" type="checkbox"/> TO15 BTEXN <input checked="" type="checkbox"/> TO15 cVOCs <input checked="" type="checkbox"/> APH <input checked="" type="checkbox"/> Helium	
LP_A-2	04	8209	02	IA / <u>SG</u>	3/1/22	29	1440	5	1448	<input checked="" type="checkbox"/> TO15 Full Scan <input checked="" type="checkbox"/> TO15 BTEXN <input checked="" type="checkbox"/> TO15 cVOCs <input checked="" type="checkbox"/> APH <input checked="" type="checkbox"/> Helium	
LP_B-1	05	8529	18	IA / <u>SG</u>	3/1/22	30	1605	5	1612	<input checked="" type="checkbox"/> TO15 Full Scan <input checked="" type="checkbox"/> TO15 BTEXN <input checked="" type="checkbox"/> TO15 cVOCs <input checked="" type="checkbox"/> APH <input checked="" type="checkbox"/> Helium	
				IA / SG							
				IA / SG							
				IA / SG							

Samples received at 17°C

**SIGNATURE**

Relinquished by: 

EGRA BEANER

PRINT NAME

COMPANY

DATE

TIME

Received by: 

NOORH WEISS

DOF

3/2/22

1330

Relinquished by: 

NOORH WEISS

DOF

3/2/22

1735

Received by: 

Eric Friedman

DOF

3/2/22

1735

**SIGNATURE**

Relinquished by: 

EGRA BEANER

PRINT NAME

COMPANY

DATE

TIME

Received by: 

NOORH WEISS

DOF

3/2/22

1330

Relinquished by: 

NOORH WEISS

DOF

3/2/22

1735

Received by: 

Eric Friedman

DOF

3/2/22

1735

Friedman & Bruya, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029

Ph. (206) 285-8282  
Fax (206) 283-5044

# CANISTER ORDER/TRACKING FORM

**PREPARE ON: DATE** 2/28 **READY TIME:** 10 AM

**Company** DOF **Contact** ERIN BEAVER

**Project Name** T015 **Sampling Date:** 2/28  Match w/ containers

**Analytes:**  cVOCs  BTEXN  Full List  APH  Unknown  Other \_\_\_\_\_

**Ship by:**  Sameday  Ground  F&B Courier **OR**  Lab Pick Up \_\_\_\_\_

**Notes/Delivery Address:** \_\_\_\_\_

## CANISTERS/FLOW CONTROLLERS REQUESTED

#	Size/Controller	Certification
<u>7</u>	<input checked="" type="checkbox"/> 1L SG	<input checked="" type="checkbox"/> Ind <input type="checkbox"/> Batch <input type="checkbox"/> 150 cc/min (red) <input type="checkbox"/> 200 cc/min (yellow)
_____	<input type="checkbox"/> 6L SG	<input type="checkbox"/> Ind <input type="checkbox"/> Batch <input type="checkbox"/> OK to sub for 1L
_____	<input type="checkbox"/> 6L 8hr IA	<input type="checkbox"/> Ind <input type="checkbox"/> Batch
_____	<input type="checkbox"/> 6L 24hr IA	<input type="checkbox"/> Ind <input type="checkbox"/> Batch
_____	<input type="checkbox"/> 6L Purge Can (\$30 each)	

(SG = Soil Gas; IA = Indoor Air)  
**Soil Gas Manifolds:**  Y  N How many? 7 (\$40 each)  
**Additional Tubing:**  Y  N How long? \_\_\_\_\_ ft (\$4 per foot)  
**Tedlar Bags:**  Y  N How many? \_\_\_\_\_ (\$13 each)  
**Additional Ferrules:**  Y  N How many? \_\_\_\_\_ (No fee)  
**Other Item:** \_\_\_\_\_ How many? \_\_\_\_\_ (\$\_\_\_\_\_ each)

## CHECK OUT

Time can/controllers assembled 2/28 5:20  Vacuum Check >28" Hg, reset to 0"

0" on gauge after 30 min OK

Entered Can Controller IDs into Database

Nuts/Ferrules Included on Ring

Put Canister in Box

Included in Box:  COC  ID Tags

If requested:  Manifolds  Extra Tubing  Tedlar Bags  Addtl Ferrules

Manifold Billing Sheet to Mike's Box

## Canisters (# Returned/Date) | Flow Controllers (# Returned/Date)

6L 1L 5 | IA SG 5 |  OK  Damage 3/3 JB

6L 1L | IA SG |  OK  Damage \_\_\_\_\_

G:\forms\LAB\Vapor Canister Order.doc

*2 canisters outstanding JB 3/3*

*C 8526 Full  
C 82798 FR*



**SAMPLE CONDITION UPON RECEIPT CHECKLIST**

PROJECT # 203084 CLIENT DOF

INITIALS/ DATE: MB 3-2-22

If custody seals are present on cooler, are they intact?  NA  YES  NO

Cooler/Sample temperature 17 °C

Were samples received on ice/cold packs?  YES  NO

How did samples arrive?  
 Over the Counter  
 Picked up by F&BI  
 FedEx/UPS/GSO

Number of days samples have been sitting prior to receipt at laboratory 1 days

Is there a Chain-of-Custody\* (COC)?  YES  NO  
\*or other representative documents, letters, and/or shipping memos

Are the samples clearly identified? (explain "no" answer below)  YES  NO

Is the following information provided on the COC\* ? (explain "no" answer below)

Sample ID's	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	# of Containers	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Date Sampled	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Relinquished	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Time Sampled	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Requested analysis	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below)  YES  NO

Were appropriate sample containers used?  YES  NO  Unknown

If custody seals are present on samples, are they intact?  NA  YES  NO

Are samples requiring no headspace, headspace free?  NA  YES  NO

Air Samples: Were any additional canisters received?  NA  YES  NO

If Yes, number of unused 1L canisters \_\_\_\_\_

number of unused 6L canisters \_\_\_\_\_

Explain "no" items from above (use the back if needed)

EPA TO-15  
Laboratory Worksheets

F&B Project 203054

# BATCH ORGANIC EXTRACTION WORKSHEET

Date Extracted: 03-09-22 8:28 Technician: Bul

QA Batch: **02-0457**

- |   |   |  |  |
|---|---|--|--|
| Matrix  | Solvent                                     | Analysis   |  |
| <input type="checkbox"/> Soil                       | <input type="checkbox"/> Methylene Chloride | <input type="checkbox"/> Diesel  | <input type="checkbox"/> 8270 SIM <input type="checkbox"/> PCB         |
| <input type="checkbox"/> Water                      | <input type="checkbox"/> Acetone            | <input type="checkbox"/> Gas/BTEX  | <input type="checkbox"/> 8270 <input type="checkbox"/> Organic Lead    |
| <input type="checkbox"/> Product                    | <input type="checkbox"/> Methanol           | <input type="checkbox"/> HClD  | <input type="checkbox"/> 8260 <input type="checkbox"/> Methamphetamine |
| <input type="checkbox"/> Wipe                       | <input type="checkbox"/> Hexane             |  | <input type="checkbox"/> Other <u>TO15/APH/Gx</u>                      |
| <input checked="" type="checkbox"/> Other <u>Ai</u> | <input type="checkbox"/> Other _____        | Clean Up: <input type="checkbox"/> Florsil (FL) <input type="checkbox"/> Copper (Cu)   |  |
|   |   | <input type="checkbox"/> Silica <input type="checkbox"/> Filtration <input type="checkbox"/> H <sub>2</sub> SO <sub>4</sub> <input type="checkbox"/> Other _____ |  |

Sample ID	pH Waters only	Sample Weight/Volume	Extraction Solvent Volume	Final Volume	Dilutions		Clean Up (Circle)			Observations
					Amt. Extract	Amt. Solvent	Silica	FL Filter	Cu H <sub>2</sub> SO <sub>4</sub>	
MB		25g								
LCS (TO15)		25								
LCS (APH)		150								
LCS (Gx)		20								
203054-01		75								
203054-01 Dup		75								
<u>R</u> 03/09/22										

Initials \_\_\_\_\_

### Samples in Batch

203085-01	203054-02	203115-01	203071-02	
-02	-03	-02	203030-01	
-03	-04	-03	02	
203054-01	-05	203071-01		

Matrix Spikes:		Date/Initials
<u>25cc</u> $\mu$ L of <u>25ppbv</u> ppm of <u>TO15 cc/LCS</u>	Lot # <u>65-189a</u>	<u>03/09/22</u> <u>Bul</u>
Amount Concentration Analytes and Solvent		
Matrix Spikes:		
<u>150cc</u> $\mu$ L of <u>112.5ug/L</u> ppm of <u>APH LCS</u>	Lot # <u>65-172C</u>	
Amount Concentration Analytes and Solvent		
MS Surrogates:		
<u>20cc</u> $\mu$ L of <u>1000ppbv</u> ppm of <u>Gx cc/LCS</u>	Lot # <u>65-188C</u>	
Amount Concentration Analytes and Solvent		
Internal Standards:		
<u>50cc</u> $\mu$ L of <u>50ppbv</u> ppm of <u>TO15 IS/SURK/BFB</u>	Lot # <u>65-192a</u>	
Amount Concentration Analytes and Solvent		

Notes: \_\_\_\_\_

Matrix	Collected	Analyzed	Data File	Client ID	Lab ID	Concentration
Air	03/01/22	03/10/22 01:54	030919.D	QQQ-01	203054-01 1/5.9	<1.5
Air	03/01/22	03/10/22 03:19	030921.D	QQQ-02	203054-02 1/6.2	<1.6
Air	03/01/22	03/10/22 04:01	030922.D	QQQ-03	203054-03 1/5.7	<1.5
Air	03/01/22	03/10/22 04:43	030923.D	QQQ-04	203054-04 1/5.9	<1.5
Air	03/01/22	03/10/22 05:25	030924.D	QQQ-05	203054-05 1/6.1	<1.6
Air	03/09/22	03/09/22 22:14	030914.D	Method Blank	02-0457 MB	<0.26

Sample Extracted and Analyzed

3/09/22 13:28      3/10/22 01:54

Duplicate Sample Extracted and Analyzed

03/09/22 13:28      03/10/22 02:36

LCS Extracted and Analyzed

03/09/22 13:28      03/09/22 14:37

LCSD Extracted and Analyzed

LCSD Not Analyzed

ata File	Lab ID	Matrix	Dil Factor	Calc Factor	Init	Cal Limit	Position	Cleaning Procedure
030919.D	203054-01	1/5.9	Air	5.9	1	88.5	19	**STANDARD**
030921.D	203054-02	1/6.2	Air	6.2	1	93	21	**STANDARD**
030922.D	203054-03	1/5.7	Air	5.7	1	85.5	22	**STANDARD**
030923.D	203054-04	1/5.9	Air	5.9	1	88.5	23	**STANDARD**
030924.D	203054-05	1/6.1	Air	6.1	1	91.5	24	**STANDARD**
030914.D	02-0457 MB	Air	1	1	15		14	**STANDARD**

ata File	Lab ID	Matrix	Dil Factor	Calc Factor	Init Cal	Limit	Position	Cleaning Procedure
030919.D	203054-01	1/5.9	Air	5.9	1	3392.5	*****	*****
030921.D	203054-02	1/6.2	Air	6.2	1	3565	*****	*****
030922.D	203054-03	1/5.7	Air	5.7	1	3277.5	*****	*****
030923.D	203054-04	1/5.9	Air	5.9	1	3392.5	*****	*****
030924.D	203054-05	1/6.1	Air	6.1	1	3507.5	*****	*****
030914.D	02-0457 MB	Air	1	1	575		*****	*****

**TO-15 EXTRACTION WORKSHEET (AIR)**

Project #: 203054  
 Client: DOF-TWAFAA  
 QC Batch ID: 02-0457  
 Samples checked against COC k

HT \_\_\_\_\_  
 Date Received: 3/2/22  
 Date Extracted: 3/9/22  
 Date Analyzed: \_\_\_\_\_  
 GCMS  7  8, Seq. Date \_\_\_\_\_

<b>Sample Type:</b> <input checked="" type="checkbox"/> Soil Gas <input type="checkbox"/> Indoor Air <input type="checkbox"/> Other _____  Due Date: <u>3/16</u>	<b>Requested Analytes:</b> <input type="checkbox"/> TO-15 Full List (sDF=3.3) <input checked="" type="checkbox"/> BTEX (sDF=33) <input type="checkbox"/> cVOCs (sDF=10) <input checked="" type="checkbox"/> Naphthalene (sDF=3.3) <input checked="" type="checkbox"/> APH (sDF=39) <input checked="" type="checkbox"/> cis-1,2-DCE <input type="checkbox"/> _____ <input checked="" type="checkbox"/> PCE, TCE, VC, MeCl2 <small>sDF = Acceptable Dilution Factor For Soil Gas                  iDF = Acceptable Dilution Factor For Indoor Air</small>	<b>Reporting Units:</b> <input checked="" type="checkbox"/> µg/m3 <input type="checkbox"/> Other _____  <input type="checkbox"/> ve's not Acceptable <input type="checkbox"/> Dilutions Not Acceptable for Non-Detects <input checked="" type="checkbox"/> Screen Samples First
---	--	---

Sample ID	Canister ID	Initial Vacuum (Pi)	Final Vacuum (Pf)	Initial Dilution Factor	Volume Injected (cc)	Final Dilution Factor	Observations
01	4178	11.21	20.12	1.79	75	1/5.9	
02	8394	10.87	20.29	1.87	75	1/6.2	
03	8531	11.63	20.26	1.74	75	1/5.7	
04	8209	11.13	19.98	1.8	75	1/5.9	
05	8529	11.81	21.85	1.85	75	1/6.1	
<u>k</u>	<u>03/09/22</u>						

Initials \_\_\_\_\_

✓	Volume	Conc. (ppm)	Compound(s)	Lot #	Initials	Date
	NA	NA	NA			
Other						
Internal Standard(s)/ Surrogate(s)	50 cc	50 ppbv	TO-15 IS/Surr Mix	65-1902	<u>k</u>	<u>3/09</u>
Other						

Project Leader Initials: \_\_\_\_\_  
 NOTES: TIER IV DATA PACKAGE

Calculated by: k 3/11/22 Reviewed by: YA 03/14/22

EPA TO-15  
MDLs

F&B Project 203054



Reported MDL Data and Calculations

Analyst fill in all below (attach extraction

Analysis: TO-15  
Matrix: Air  
Instrument ID: GCMS #8  
Reporting Units: ppbv

Standard(s) spiked:  
Volume spiked:  
Date(s) Extracted:  
Date(s) Analyzed:  
Date Calculated:  
Calculation Analyst:

Compound Name	MDL (ppbv)	Peak #	Retention Time (min)	Area	Height	Width	Integration	Notes
Acetone	0.05	1	1.2	10000	1000	0.1	10000	
Acetaldehyde	0.05	2	1.5	10000	1000	0.1	10000	
Acrolein	0.05	3	1.8	10000	1000	0.1	10000	
Acrylonitrile	0.05	4	2.1	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	5	2.4	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	6	2.7	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	7	3.0	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	8	3.3	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	9	3.6	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	10	3.9	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	11	4.2	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	12	4.5	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	13	4.8	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	14	5.1	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	15	5.4	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	16	5.7	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	17	6.0	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	18	6.3	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	19	6.6	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	20	6.9	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	21	7.2	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	22	7.5	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	23	7.8	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	24	8.1	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	25	8.4	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	26	8.7	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	27	9.0	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	28	9.3	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	29	9.6	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	30	9.9	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	31	10.2	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	32	10.5	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	33	10.8	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	34	11.1	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	35	11.4	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	36	11.7	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	37	12.0	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	38	12.3	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	39	12.6	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	40	12.9	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	41	13.2	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	42	13.5	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	43	13.8	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	44	14.1	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	45	14.4	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	46	14.7	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	47	15.0	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	48	15.3	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	49	15.6	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	50	15.9	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	51	16.2	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	52	16.5	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	53	16.8	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	54	17.1	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	55	17.4	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	56	17.7	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	57	18.0	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	58	18.3	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	59	18.6	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	60	18.9	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	61	19.2	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	62	19.5	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	63	19.8	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	64	20.1	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	65	20.4	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	66	20.7	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	67	21.0	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	68	21.3	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	69	21.6	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	70	21.9	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	71	22.2	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	72	22.5	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	73	22.8	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	74	23.1	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	75	23.4	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	76	23.7	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	77	24.0	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	78	24.3	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	79	24.6	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	80	24.9	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	81	25.2	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	82	25.5	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	83	25.8	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	84	26.1	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	85	26.4	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	86	26.7	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	87	27.0	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	88	27.3	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	89	27.6	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	90	27.9	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	91	28.2	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	92	28.5	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	93	28.8	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	94	29.1	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	95	29.4	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	96	29.7	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	97	30.0	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	98	30.3	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	99	30.6	10000	1000	0.1	10000	
Acrylonitrile Oxide	0.05	100	30.9	10000	1000	0.1	10000	

## Reported MDL Data and Calculations

Converted from Reported Air MDLs ppb

Analysis: TO-15  
 Matrix: Air  
 Instrument ID: GCMS #8  
 Reporting Units: ug/m3

Standard(s) spiked:  
 Volume spiked:  
 Date(s) Extracted:  
 Date(s) Analyzed:  
 Date Calculated:  
 Calculation Analyst:

Analyte	(StdDev*2.998) MDL	(2*MDL) PQL	(5*MDL) PQL	Std Dev	Mean	Spike Level	% Rec.
Propene	0.2180	0.4360	1.0901	0.0727	0.2560	0.1721	149
Dichlorodifluoromethane	0.1645	0.3290	0.8226	0.0549	0.5415	0.4945	110
Chloromethane	0.0819	0.1638	0.4095	0.0273	0.1546	0.2065	75
F-114	0.3254	0.6508	1.6270	0.1085	0.5191	0.3495	149
Vinyl chloride	0.0135	0.0271	0.0677	0.0045	0.0553	0.0511	108
1,3-Butadiene	0.0224	0.0448	0.1121	0.0075	0.0454	0.0442	103
Butane	1.0739	2.1478	5.3695	0.3582	5.1001	4.7542	107
Bromomethane	0.3088	0.6176	1.5439	0.1030	0.4975	0.3883	128
Chloroethane	0.0580	0.1161	0.2902	0.0194	0.2695	0.2638	102
Vinyl Bromide	0.0740	0.1480	0.3700	0.0247	0.4325	0.4375	99
Ethanol	2.7423	5.4846	13.7115	0.9147	4.4494	3.7685	118
Acrolein	0.0198	0.0396	0.0989	0.0066	0.0653	0.0459	143
Pentane	0.9403	1.8805	4.7013	0.3136	6.5647	5.9018	111
Trichlorofluoromethane	0.1736	0.3473	0.8682	0.0579	0.5471	0.5618	97
Acetone	0.9145	1.8289	4.5723	0.3050	4.8560	4.7509	102
2-Propanol	0.7669	1.5339	3.8346	0.2558	5.2846	4.9162	107
1,1-Dichloroethene	0.0475	0.0950	0.2376	0.0159	0.0966	0.0793	122
trans-1,2-Dichloroethene	0.0487	0.0974	0.2435	0.0162	0.0942	0.0793	119
Methylene chloride	1.6309	3.2618	8.1546	0.5440	7.6272	6.9472	110
t-Butyl alcohol (TBA)	0.7077	1.4155	3.5386	0.2361	5.7894	6.0630	95
3-Chloropropene	1.0504	2.1007	5.2519	0.3504	6.4080	6.2601	102
CFC-113	0.2132	0.4265	1.0661	0.0711	0.7884	0.7664	103
Carbon disulfide	1.2708	2.5417	6.3542	0.4239	6.9986	6.2282	112
Methyl t-butyl ether (...)	0.2110	0.4220	1.0551	0.0704	0.4088	0.3605	113
Vinyl acetate	1.0993	2.1985	5.4963	0.3667	7.3766	7.0421	105
1,1-Dichloroethane	0.0251	0.0502	0.1256	0.0084	0.0911	0.0809	113
cis-1,2-Dichloroethene	0.0384	0.0767	0.1918	0.0128	0.0947	0.0793	119
Hexane	0.7613	1.5225	3.8063	0.2539	7.5196	7.0495	107
Chloroform	0.0171	0.0341	0.0853	0.0057	0.1038	0.0977	106
Ethyl acetate	1.7354	3.4708	8.6771	0.5789	7.1682	7.2074	99
Tetrahydrofuran	0.2216	0.4433	1.1081	0.0739	0.3617	0.2949	123
2-Butanone (MEK)	1.2440	2.4879	6.2198	0.4149	5.7249	5.8986	97
1,2-Dichloroethane (EDC)	0.0181	0.0361	0.0903	0.0060	0.0840	0.0809	104
1,1,1-Trichloroethane	0.0269	0.0537	0.1343	0.0090	0.1084	0.1091	99
Carbon tetrachloride	0.0098	0.0195	0.0488	0.0033	0.1298	0.1258	103
Benzene	0.0102	0.0203	0.0508	0.0034	0.0715	0.0639	112
Cyclohexane	1.4289	2.8579	7.1447	0.4766	6.9053	6.8843	100
1,2-Dichloropropane	0.0202	0.0404	0.1010	0.0067	0.1022	0.0924	111

1,4-Dioxane	0.0931	0.1862	0.4656	0.0311	0.3802	0.3604	106
2,2,4-Trimethylpentane	1.7583	3.5166	8.7915	0.5865	9.8129	9.3440	105
Methyl methacrylate	1.3974	2.7949	6.9872	0.4661	8.1959	8.1898	100
Heptane	2.3177	4.6355	11.5887	0.7731	8.8155	8.1971	108
Bromodichloromethane	0.0208	0.0416	0.1040	0.0069	0.1390	0.1340	104
Trichloroethene	0.0143	0.0286	0.0714	0.0048	0.1303	0.1075	121
cis-1,3-Dichloropropene	0.3790	0.7581	1.8951	0.1264	0.5798	0.4539	128
4-Methyl-2-pentanone	2.3488	4.6977	11.7442	0.7835	8.2642	8.1930	101
trans-1,3-Dichloropropene	0.1208	0.2416	0.6041	0.0403	0.4749	0.4539	105
Toluene	0.1171	0.2342	0.5855	0.0391	0.4315	0.3769	115
1,1,2-Trichloroethane	0.0137	0.0273	0.0683	0.0046	0.1153	0.1091	106
2-Hexanone	1.3030	2.6060	6.5151	0.4346	8.2565	8.1930	101
Tetrachloroethene	0.1968	0.3937	0.9842	0.0657	0.7427	0.6782	110
Dibromochloromethane	0.0333	0.0665	0.1663	0.0111	0.1587	0.1704	93
1,2-Dibromoethane (EDB)	0.0259	0.0519	0.1297	0.0087	0.1681	0.1537	109
Chlorobenzene	0.0374	0.0749	0.1872	0.0125	0.4914	0.4604	107
Ethylbenzene	0.0267	0.0534	0.1336	0.0089	0.4592	0.4342	106
1,1,2,2-Tetrachloroethane	0.0172	0.0344	0.0859	0.0057	0.1519	0.1373	111
Nonane	1.6243	3.2485	8.1213	0.5418	11.3742	10.4916	108
Isopropylbenzene	1.4326	2.8651	7.1629	0.4778	10.5050	9.8315	107
2-Chlorotoluene	1.0543	2.1087	5.2717	0.3517	10.8190	10.3550	104
Propylbenzene	1.2863	2.5727	6.4317	0.4291	10.9203	9.8315	111
4-Ethyltoluene	0.8709	1.7419	4.3547	0.2905	10.2063	9.8315	104
m,p-Xylene	0.0565	0.1131	0.2827	0.0189	0.9097	0.8685	105
o-Xylene	0.0220	0.0440	0.1100	0.0073	0.4538	0.4342	105
Styrene	0.1074	0.2148	0.5369	0.0358	0.4510	0.4260	106
Bromoform	0.1543	0.3086	0.7714	0.0515	0.6900	1.0337	67
Benzyl chloride	0.0186	0.0371	0.0928	0.0062	0.0984	0.1035	95
1,3,5-Trimethylbenzene	1.5266	3.0532	7.6330	0.5092	10.5013	9.8315	107
1,2,4-Trimethylbenzene	1.2573	2.5146	6.2864	0.4194	10.1916	9.8315	104
1,3-Dichlorobenzene	0.0372	0.0745	0.1862	0.0124	0.6471	0.6012	108
1,4-Dichlorobenzene	0.0417	0.0834	0.2086	0.0139	0.6358	0.6012	106
1,2-Dichlorobenzene	0.0442	0.0883	0.2208	0.0147	0.6644	0.6012	111
1,2,4-Trichlorobenzene	0.1153	0.2306	0.5765	0.0385	0.8906	0.7421	120
Naphthalene	0.0564	0.1127	0.2818	0.0188	0.2962	0.2621	113
Hexachlorobutadiene	0.0565	0.1130	0.2826	0.0189	0.6359	0.5333	119

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EPA TO-15  
Sequence Tables

F&B Project 203054

Sequence Name: C:\msdchem\1\sequence\03-04-22.s

Comment:

Operator: bat

Data Path: D:\GCMS8\GCMS8 DATA\03-04-22\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run                    Sequence Barcode Options  
(X) Full Method                            (X) On Mismatch, Inject Anyway  
( ) Reprocessing Only                    ( ) On Mismatch, Don't Inject  
    ( ) Barcode Disabled

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Line	Sample Name/Misc Info
1) Sample	1 030401 TO15NA rinse
2) Pause	
3) Sample	2 030402 TO15NA BFB 65-190a
4) Sample	3 030403 TO15NA 0.1 ppbv prime
5) Pause	
6) Sample	3 030403a TO15NA 0.1 ppbv prime
7) Sample	4 030404 TO15NA BFB 65-190a
8) Sample	5 030405 TO15NA SCV 25 ppbv prime
9) Sample	6 030406 TO15NA 25 ppbv prime
10) Sample	7 030407 TO15NA 1.0 ppbv prime
11) Sample	8 030408 TO15NA 0.1 ppbv prime
12) Sample	9 030409 SRINSE short rinse
13) Sample	10 030410 SRINSE short rinse
14) Sample	11 030411 SRINSE short rinse
15) Sample	12 030412 TO15NA rinse
16) Sample	13 030413 TO15NA rinse
17) Sample	14 030414 TO15NA rinse
18) Sample	15 030415 TO15NA 0.01 ppbv TO15 , 65-194c
19) Sample	16 030416 TO15NA 0.01 ppbv , 65-194c
20) Sample	17 030417 TO15NA 0.02 ppbv , 65-194
21) Sample	18 030418 TO15NA 0.05 ppbv , 65-194c
22) Sample	19 030419 TO15NA 0.1 ppbv , 65-194c
23) Sample	20 030420 TO15NA 0.2 ppbv , 65-194B
24) Sample	21 030421 TO15NA 0.5 ppbv , 65-194B
25) Sample	22 030422 TO15NA 1.0 ppbv , 65-194B
26) Sample	23 030423 TO15NA 2.5 ppbv , 65-194a
27) Sample	24 030424 TO15NA 4.0 ppbv , 65-194a
28) Sample	25 030425 TO15NA 5.0 ppbv , 65-194a
29) Sample	26 030426 TO15NA 8.0 ppbv , 65-194a
30) Sample	27 030427 TO15NA 10 ppbv , 65-194
31) Sample	28 030428 TO15NA 15 ppbv , 65-194a
32) Sample	29 030429 TO15NA rinse
33) Sample	30 030430 TO15NA rinse
34) Sample	31 030431 TO15NA SCV 2.5 ppbv , 65-189a
35) Sample	32 030432 TO15NA rinse
36) Sample	33 030433 TO15NA APH 25 ppbv prime
37) Sample	34 030434 TO15NA APH 2.5 ppbv prime
38) Sample	35 030435 TO15NA APH SCV prime
39) Sample	36 030436 TO15NA rinse
40) Sample	37 030437 TO15NA BFB 65-190a
41) Sample	38 030438 TO15NA short, rinse
42) Sample	39 030439 TO15NA short, rinse
43) Sample	40 030440 TO15NA short, rinse

Line Type	Vial	DataFile	Method	Sample Name	
44)	Sample	41	030441	TO15NA	rinse
45)	Sample	42	030442	TO15NA	rinse
46)	Sample	43	030443	TO15NA	rinse
47)	Sample	44	030444	TO15NA	0.2 ppbv APH 66-1b
48)	Sample	45	030445	TO15NA	0.2 ppbv APH 66-1b
49)	Sample	46	030446	TO15NA	0.5 ppbv APH 66-1b
50)	Sample	47	030447	TO15NA	1.0 ppbv APH 66-1b
51)	Sample	48	030448	TO15NA	2.5 ppbv APH 66-1b
52)	Sample	49	030449	TO15NA	5.0 ppbv APH 66-1a
53)	Sample	50	030450	TO15NA	10.0 ppbv APH 66-1a
54)	Sample	51	030451	TO15NA	25.0 ppbv APH 66-1a
55)	Sample	52	030452	TO15NA	rinse
56)	Sample	53	030453	TO15NA	rinse
57)	Sample	54	030454	TO15NA	67 ug/ml ppbv SCV 65-172c
58)	Sample	55	030455	TO15NA	short, rinse
59)	Sample	56	030456	TO15NA	short, rinse
60)	Sample	57	030457	TO15NA	short, rinse
61)	Sample	58	030458	TO15NA	rinse
62)	Sample	59	030459	TO15NA	rinse
63)	Sample	60	030460	TO15NA	3676
64)	Sample	61	030461	TO15NA	3675
65)	Sample	62	030462	TO15NA	3669
66)	Sample	63	030463	TO15NA	3254
67)	Sample	64	030464	TO15NA	3251
68)	Sample	65	030465	TO15NA	2305
69)	Sample	66	030466	TO15NA	21453
70)	Sample	67	030467	TO15NA	8536
71)	Sample	68	030468	TO15NA	8533
72)	Sample	69	030469	TO15NA	8532
73)	Sample	70	030470	TO15NA	8525
74)	Sample	71	030471	TO15NA	8207
75)	Sample	72	030472	TO15NA	rinse

Injection Log

Data Directory: F:\Proc\_GCMS8\03-04-22\.

SampleName	MiscInfo	Vial	Multiplier	Injection Time
1) 030403.D No data found			0.000	N/A
2) 030472.D No data found			0.000	N/A
3) 030401.D rinse	T1	1	1.000	4 Mar 2022 5:03 pm
4) 030402.D BFB 65-190a	50	2	1.000	4 Mar 2022 5:40 pm
5) 030403a.D 0.1 ppbv prime	T2	3	1.000	4 Mar 2022 6:23 pm
6) 030404.D BFB 65-190a	50	4	1.000	4 Mar 2022 7:01 pm
7) 030405.D SCV 25 ppbv prime	cal line	5	1.000	4 Mar 2022 7:40 pm
8) 030406.D 25 ppbv prime	T4	6	1.000	4 Mar 2022 8:18 pm
9) 030407.D 1.0 ppbv prime	T3	7	1.000	4 Mar 2022 8:58 pm
10) 030408.D 0.1 ppbv prime	T2	8	1.000	4 Mar 2022 9:42 pm
11) 030409.D short rinse	T1	9	1.000	4 Mar 2022 10:26 pm
12) 030410.D short rinse	T1	10	1.000	4 Mar 2022 11:09 pm
13) 030411.D short rinse	T1	11	1.000	4 Mar 2022 11:52 pm
14) 030412.D rinse	T1	12	1.000	5 Mar 2022 12:42 am
15) 030413.D rinse	T1	13	1.000	5 Mar 2022 1:33 am
16) 030414.D rinse	T1	14	1.000	5 Mar 2022 2:24 am
17) 030415.D 0.01 ppbv TO15 , 65- T2		15	1.000	5 Mar 2022 3:03 am
18) 030416.D 0.01 ppbv , 65-194c T2		16	1.000	5 Mar 2022 3:42 am
19) 030417.D 0.02 ppbv , 65-194 T2		17	1.000	5 Mar 2022 4:22 am
20) 030418.D 0.05 ppbv , 65-194c T2		18	1.000	5 Mar 2022 5:06 am
21) 030419.D				

*Handwritten:* 1/2/22

0.1 ppbv , 65-194c	T2	19	1.000	5 Mar 2022	5:57 am
22) 030420.D					
0.2 ppbv , 65-194B	T3	20	1.000	5 Mar 2022	6:37 am
23) 030421.D					
0.5 ppbv , 65-194B	T3	21	1.000	5 Mar 2022	7:22 am
24) 030422.D					
1.0 ppbv , 65-194B	T3	22	1.000	5 Mar 2022	8:12 am
25) 030423.D					
2.5 ppbv , 65-194a	T4	23	1.000	5 Mar 2022	8:52 am
26) 030424.D					
4.0 ppbv , 65-194a	T4	24	1.000	5 Mar 2022	9:32 am
27) 030425.D					
5.0 ppbv , 65-194a	T4	25	1.000	5 Mar 2022	10:12 am
28) 030426.D					
8.0 ppbv , 65-194a	T4	26	1.000	5 Mar 2022	10:53 am
29) 030427.D					
10 ppbv , 65-194	T4	27	1.000	5 Mar 2022	11:36 am
30) 030428.D					
15 ppbv , 65-194a	T4	28	1.000	5 Mar 2022	12:22 pm
31) 030429.D					
rinse	T1	29	1.000	5 Mar 2022	1:12 pm
32) 030430.D					
rinse	T1	30	1.000	5 Mar 2022	2:03 pm
33) 030431.D					
SCV 2.5 ppbv , 65-1 cal line		31	1.000	5 Mar 2022	2:43 pm
34) 030432.D					
rinse	T1	32	1.000	5 Mar 2022	3:25 pm
35) 030433.D					
APH 25 ppbv prime	line 2	33	1.000	5 Mar 2022	4:06 pm
36) 030434.D					
APH 2.5 ppbv prime	line 4	34	1.000	5 Mar 2022	4:56 pm
37) 030435.D					
APH SCV prime	line 3	35	1.000	5 Mar 2022	5:42 pm
38) 030436.D					
rinse	T1	36	1.000	5 Mar 2022	6:26 pm
39) 030437.D					
BFB 65-190a	T1	37	1.000	5 Mar 2022	7:04 pm
40) 030438.D					
short, rinse	T1	38	1.000	5 Mar 2022	7:46 pm
41) 030439.D					
short, rinse	T1	39	1.000	5 Mar 2022	8:29 pm
42) 030440.D					
short, rinse	T1	40	1.000	5 Mar 2022	9:12 pm
43) 030441.D					
rinse	T1	41	1.000	5 Mar 2022	10:03 pm



44) 030442.D rinse	T1	42	1.000	5 Mar 2022	10:54 pm
45) 030443.D rinse	T1	43	1.000	5 Mar 2022	11:45 pm
46) 030444.D 0.2 ppbv APH 66-1b line 4		44	1.000	6 Mar 2022	12:25 am
47) 030445.D 0.2 ppbv APH 66-1b line 4		45	1.000	6 Mar 2022	1:03 am
48) 030446.D 0.5 ppbv APH 66-1b line 4		46	1.000	6 Mar 2022	1:43 am
49) 030447.D 1.0 ppbv APH 66-1b line 4		47	1.000	6 Mar 2022	2:26 am
50) 030448.D 2.5 ppbv APH 66-1b line 4		48	1.000	6 Mar 2022	3:17 am
51) 030449.D 5.0 ppbv APH 66-1a line 2		49	1.000	6 Mar 2022	3:58 am
52) 030450.D 10.0 ppbv APH 66-1a line 2		50	1.000	6 Mar 2022	4:41 am
53) 030451.D 25.0 ppbv APH 66-1a line 2		51	1.000	6 Mar 2022	5:31 am
54) 030452.D rinse	T1	52	1.000	6 Mar 2022	6:22 am
55) 030453.D rinse	T1	53	1.000	6 Mar 2022	7:13 am
56) 030454.D 67 ug/ml ppbv SCV 65 line 3		54	1.000	6 Mar 2022	8:00 am
57) 030455.D short, rinse	T1	55	1.000	6 Mar 2022	8:43 am
58) 030456.D short, rinse	T1	56	1.000	6 Mar 2022	9:26 am
59) 030457.D short, rinse	T1	57	1.000	6 Mar 2022	10:09 am
60) 030458.D rinse	T1	58	1.000	6 Mar 2022	11:00 am
61) 030459.D rinse	T1	59	1.000	6 Mar 2022	11:51 am
62) 030460.D 3676	T5	60	1.000	6 Mar 2022	12:41 pm
63) 030461.D 3675	T6	61	1.000	6 Mar 2022	1:32 pm
64) 030462.D 3669	T7	62	1.000	6 Mar 2022	2:23 pm
65) 030463.D 3254	T8	63	1.000	6 Mar 2022	3:14 pm
66) 030464.D 3251	T9	64	1.000	6 Mar 2022	4:05 pm

u  
2/7/22

Chloroform  
0-011

Chloroform  
0-023

67) 030465.D 2305	T10	65	1.000	6 Mar 2022	4:57 pm
68) 030466.D 21453	T11	66	1.000	6 Mar 2022	5:48 pm
69) 030467.D 8536	T12	67	1.000	6 Mar 2022	6:39 pm
70) 030468.D 8533	T13	68	1.000	6 Mar 2022	7:30 pm
71) 030469.D 8532	T14	69	1.000	6 Mar 2022	8:21 pm
72) 030470.D 8525	T15	70	1.000	7 Mar 2022	6:17 am
73) 030471.D 8207	T16	71	1.000	7 Mar 2022	7:08 am

2/7/22

Chloroform  
0.072

Chloroform  
0.046

# TO15 Sequence Procedure

## 7016D Previous Run

<input checked="" type="checkbox"/>	Print sequence from Chemstation (colored and white paper).
<input checked="" type="checkbox"/>	Compare Entech and Chemstation sequences
<input checked="" type="checkbox"/>	Check Entech position and canister #: Position <u>5</u> to <u>16</u> Position _____ to _____
<input checked="" type="checkbox"/>	<b>GCMS 8 ONLY:</b> Close Entech software and restart computer

## TO15 Tear Down (previous day samples done running)

<input checked="" type="checkbox"/>	Close all canisters (blue valves)
<input checked="" type="checkbox"/>	Remove canisters on tree- EXCEPT Rinse (Position 1) loosten nut closest to tree.
<b>If hissing occurs. List cans below under "Canisters Vented".</b>	
<input checked="" type="checkbox"/>	Handtighten caps onto canisters
<input checked="" type="checkbox"/>	Place canisters on floor next to tree
<input checked="" type="checkbox"/>	If certified canisters, check starting pressure. Record any less than 20 PSI below

*Completed  
TWC  
3/7*

## TO15 Start Up

<input checked="" type="checkbox"/>	Check all canisters closed: Rinse, Cal, IS, and lines 2,3, 4 <i>(Cans on counter + under counter behind)</i>
<input checked="" type="checkbox"/>	Cleaning System ~1hr Flush x2: (O) <u>✓ 10:59</u> (C) <u>✓ 11:35</u> (If only can cert was ran x1, closed) Leak check : <u>✓ 12:56</u>
<input checked="" type="checkbox"/>	Clean Lines ~35min <u>✓ 13:53</u> Entech: Load Morning System Condition
<input checked="" type="checkbox"/>	Entech: Load sequence: TO15MorningSTARTUP Change name to month, day, and sample: (080501) Chemstation: Load TO15Morning sequence Change name, data path, and batch number Run Sequence
<input checked="" type="checkbox"/>	Open all cans attached: Rinse, Cal, IS, and lines 2,3, 4 Run sequence on Entech

*TWC*

<p><b>Certified Canisters with starting pressure below 20 PSI</b></p> <p style="text-align: center;"><input checked="" type="checkbox"/> Check if none</p> <p style="text-align: center;"><u>TWC 3/7/22</u></p>	<p><b>Canisters Vented</b></p> <p style="text-align: center;"><input checked="" type="checkbox"/> Check if none</p> <p style="text-align: center;"><u>TWC 3/7/22</u></p>
<p><b>Notes:</b> _____</p>	
<p><b>Initials/Date:</b> <u>TWC 3/7/22</u></p>	

Sequence Name: C:\msdchem\1\sequence\03-09-22.s

Comment:

Operator: bat

Data Path: D:\GCMS8\GCMS8 DATA\03-09-22\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run      Sequence Barcode Options  
(X) Full Method              (X) On Mismatch, Inject Anyway  
( ) Reprocessing Only        ( ) On Mismatch, Don't Inject  
                                  ( ) Barcode Disabled

-----

Line	Sample Name/Misc Info
1) Sample	1 030901 TO15NA rinse
2) Sample	2 030902 TO15NA rinse
3) Sample	3 030903 TO15NA BFB 65-190a
4) Sample	4 030904 TO15NA BFB 65-190a
5) Sample	5 030905 TO15NA 02-0457 lcs/ 2.5 ppbv, 65-189
6) Sample	6 030906 TO15NA 5 ppbv APH 66-1a
7) Sample	7 030907 TO15NA 02-0457 lcs/ 67 ug/m3, 65-172
8) Sample	8 030908 TO15NA 02-0457 lcs/ 80ppbv Gx, 65-18
9) Sample	9 030909 SRINSE rinse,short
10) Sample	9 030909a SRINSE rinse,short
11) Sample	10 030910 SRINSE rinse,short
12) Sample	11 030911 TO15NA rinse
13) Sample	12 030912 TO15NA rinse
14) Sample	13 030913 TO15NA rinse
15) Sample	14 030914 TO15NA 02-0457 MB
16) Sample	15 030915 TO15NA 203085-01 1/5.8
17) Sample	16 030916 TO15NA 203085-02 1/5.5
18) Sample	17 030917 TO15NA 203085-03 1/5.5
19) Sample	18 030918 TO15NA rinse
20) Sample	19 030919 TO15NA 203054-01 1/5.9
21) Sample	20 030920 TO15NA 203054-01 dup 1/5.9
22) Sample	21 030921 TO15NA 203054-02 1/6.2
23) Sample	22 030922 TO15NA 203054-03 1/5.7
24) Sample	23 030923 TO15NA 203054-04 1/5.9
25) Sample	24 030924 TO15NA 203054-05 1/6.1
26) Sample	25 030925 TO15NA rinse
27) Sample	26 030926 TO15NA 203115-03 1/5.7
28) Sample	27 030927 TO15NA 203115-02 1/5.9
29) Sample	28 030928 TO15NA 203115-01 1/43
30) Sample	29 030929 TO15NA rinse
31) Sample	30 030930 TO15NA rinse
32) Sample	31 030931 TO15NA 203071-02 1/17
33) Sample	32 030932 TO15NA 203071-01 1/260
34) Sample	33 030933 TO15NA rinse
35) Pause	
36) Sample	34 030934 TO15NA 203030-01 1/15
37) Sample	35 030935 TO15NA 203030-02 1/230
38) Sample	36 030936 TO15NA rinse

} canceled  
TWC 3/10

Sample	1	rinse	TO15NA	30901	T1
Sample	2	rinse	TO15NA	30902	T1
Sample	3	BFB 65-190a	TO15NA	30903	50
Sample	4	BFB 65-190a	TO15NA	30904	50
Sample	5	02-0457 lcs/ 2.5 ppbv, 65-189a	TO15NA	30905	cal line,25cc
Sample	6	5 ppbv APH 66-1a	TO15NA	30906	line 2
Sample	7	02-0457 lcs/ 67 ug/m3, 65-172c	TO15NA	30907	line 3
Sample	8	02-0457 lcs/ 80ppbv Gx, 65-188c	TO15NA	30908	line 3
Sample	9	rinse,short	SRINSE	30909	T1
Sample	9	rinse,short	SRINSE	030909a	T1
Sample	10	rinse,short	SRINSE	30910	T1
Sample	11	rinse	TO15NA	30911	T1
Sample	12	rinse	TO15NA	30912	T1
Sample	13	rinse	TO15NA	30913	T1
Sample	14	02-0457 MB	TO15NA	30914	T1
Sample	15	203085-01 1/5.8	TO15NA	30915	T2
Sample	16	203085-02 1/5.5	TO15NA	30916	T3
Sample	17	203085-03 1/5.5	TO15NA	30917	T4
Sample	18	rinse	TO15NA	30918	T1
Sample	19	203054-01 1/5.9	TO15NA	30919	T5
Sample	20	203054-01 dup 1/5.9	TO15NA	30920	T5
Sample	21	203054-02 1/6.2	TO15NA	30921	T6
Sample	22	203054-03 1/5.7	TO15NA	30922	T7
Sample	23	203054-04 1/5.9	TO15NA	30923	T8
Sample	24	203054-05 1/6.1	TO15NA	30924	T9
Sample	25	rinse	TO15NA	30925	T1
Sample	26	203115-03 1/5.7	TO15NA	30926	T10
Sample	27	203115-02 1/5.9	TO15NA	30927	T11
Sample	28	203115-01 1/43	TO15NA	30928	T12
Sample	29	rinse	TO15NA	30929	T1
Sample	30	rinse	TO15NA	30930	T1
Sample	31	203071-02 1/17	TO15NA	30931	T13
Sample	32	203071-01 1/260	TO15NA	30932	T14
Sample	33	rinse	TO15NA	30933	T1
Sample	34	rinse	TO15NA	30934	T1
Sample	35	203030-01 1/15	TO15NA	30935	T15
Sample	36	203030-02 1/230	TO15NA	30936	T16
Sample	37	rinse	TO15NA	30937	T1

B 3/9/22

## TO15 Sequence Procedure

### 7016D Previous Run

<input checked="" type="checkbox"/>	Print sequence from Chemstation (colored and white paper).
<input checked="" type="checkbox"/>	Compare Entech and Chemstation sequences
<input checked="" type="checkbox"/>	Check Entech position and canister #: Position <u>2</u> to <u>16</u> Position _____ to _____
<input checked="" type="checkbox"/>	<b>GCMS 8 ONLY:</b> Close Entech software and restart computer

### TO15 Tear Down (previous day samples done running)

<input checked="" type="checkbox"/>	Close all canisters (blue valves)
<input checked="" type="checkbox"/>	Remove canisters on tree- EXCEPT Rinse (Position 1) loosten nut closest to tree. <b>If hissing occurs. List cans below under "Canisters Vented".</b>
<input checked="" type="checkbox"/>	Handtighten caps onto canisters
<input checked="" type="checkbox"/>	Place canisters on floor next to tree
<input type="checkbox"/>	If certified canisters, check starting pressure. Record any less than 20 PSI below

### TO15 Start Up

<input checked="" type="checkbox"/>	Check all canisters closed: Rinse, Cal, IS, and lines 2,3, 4
<input checked="" type="checkbox"/>	Cleaning System ~1hr Flush x2: (O) <u>✓ 14:01</u> (C) <u>✓ 14:29</u> (If only can cert was ran x1, closed) Leak check : _____
<input checked="" type="checkbox"/>	Clean Lines ~35min _____ Entech: Load Morning System Condition
<input checked="" type="checkbox"/>	Entech: Load sequence: TO15MorningSTARTUP Change name to month, day, and sample: (080501) Chemstation: Load TO15Morning sequence Change name, data path, and batch number Run Sequence
<input checked="" type="checkbox"/>	Open all cans attached: Rinse, Cal, IS, and lines 2,3, 4 Run sequence on Entech

<p><b>Certified Canisters with starting pressure below 20 PSI</b></p> <p style="text-align: center;"><input type="checkbox"/> Check if none</p> <p>_____</p> <p>_____</p>	<p style="text-align: center;"><b>Canisters Vented</b></p> <p style="text-align: center;"><input checked="" type="checkbox"/> Check if none</p> <p>_____</p> <p>_____</p>
<p><b>Notes:</b> _____</p> <p>_____</p>	
<p><b>Initials/Date:</b> _____</p>	

Injection Log

Data Directory: F:\Proc\_GCMS8\03-09-22\

SampleName	MiscInfo	Vial	Multiplier	Injection Time
1) 030901.D rinse	T1	1	1.000	9 Mar 2022 12:01 pm
2) 030902.D rinse	T1	2	1.000	9 Mar 2022 12:43 pm
3) 030903.D BFB 65-190a	50	3	1.000	9 Mar 2022 1:21 pm
4) 030904.D BFB 65-190a	50	4	1.000	9 Mar 2022 1:58 pm
5) 030905.D 02-0457 lcs/ 2.5 ppb cal line, 25cc		5	1.000	9 Mar 2022 2:37 pm
6) 030906.D 5 ppbv APH 66-1a	line 2	6	1.000	9 Mar 2022 3:17 pm
7) 030907.D 02-0457 lcs/ 67 ug/m line 3		7	1.000	9 Mar 2022 4:03 pm
8) 030908.D 02-0457 lcs/ 80ppbv	line 3	8	1.000	9 Mar 2022 4:43 pm
9) 030909.D rinse, short	T1	9	1.000	9 Mar 2022 5:43 pm
10) 030909a.D rinse, short	T1	9	1.000	9 Mar 2022 6:07 pm
11) 030910.D rinse, short	T1	10	1.000	9 Mar 2022 6:49 pm
12) 030911.D rinse	T1	11	1.000	9 Mar 2022 7:40 pm
13) 030912.D rinse	T1	12	1.000	9 Mar 2022 8:32 pm
14) 030913.D rinse	T1	13	1.000	9 Mar 2022 9:23 pm
15) 030914.D 02-0457 MB	T1	14	1.000	9 Mar 2022 10:14 pm
16) 030915.D 203085-01 1/5.8	T2	15	1.000	9 Mar 2022 10:57 pm
17) 030916.D 203085-02 1/5.5	T3	16	1.000	9 Mar 2022 11:39 pm
18) 030917.D 203085-03 1/5.5	T4	17	1.000	10 Mar 2022 12:21 am
19) 030918.D rinse	T1	18	1.000	10 Mar 2022 1:11 am
20) 030919.D 203054-01 1/5.9	T5	19	1.000	10 Mar 2022 1:54 am
21) 030920.D				

*h  
3/10/22*

*TOT  
FL*

*AVH  
+  
MTE  
OC5-1/200E  
PCE, TCE, VC  
meth*

Job ID	Task	Duration	Start Date	Start Time
203054-01 dup 1/5.9	T5	20	10 Mar 2022	2:36 am
22) 030921.D				
203054-02 1/6.2	T6	21	10 Mar 2022	3:19 am
23) 030922.D				
203054-03 1/5.7	T7	22	10 Mar 2022	4:01 am
24) 030923.D				
203054-04 1/5.9	T8	23	10 Mar 2022	4:43 am
25) 030924.D				
203054-05 1/6.1	T9	24	10 Mar 2022	5:25 am
26) 030925.D				
rinse	T1	25	10 Mar 2022	6:16 am
27) 030926.D				
203115-03 1/5.7	T10	26	10 Mar 2022	6:59 am
28) 030927.D				
203115-02 1/5.9	T11	27	10 Mar 2022	7:42 am
29) 030928.D				
203115-01 1/43	T12	28	10 Mar 2022	8:21 am
30) 030929.D				
rinse	T1	29	10 Mar 2022	9:39 am
31) 030930.D				
rinse	T1	30	10 Mar 2022	10:43 am
32) 030931.D				
203071-02 1/17	T13	31	10 Mar 2022	11:22 am
33) 030932.D				
203071-01 1/260	T14	32	10 Mar 2022	12:03 pm
34) 030933.D				
rinse	T1	33	10 Mar 2022	1:16 pm

*Qc* *3/19/22*

*AKK*  
*x*  
*T05A*

*W0*



EPA TO-15  
Checklists

F&B Project 203054

1015

### GC/MS ICAL Checklist

Instrument: GC/MS 8 Sequence Date: 03-04-22 Shift # 1

Item	Initial	Date
Shift and Batch		
Initial Calibration Analyzed, Evaluated and Passed	✓ <u>BJT</u>	<u>3/7/22</u>
2 <sup>nd</sup> source passed	✓	
Analyte retention time checked	✓	
Tune passed	✓	
Non-Conformance Report filled out (if needed)	<u>NA</u>	

Notes: Ethanol lowest point is 2.5 ppb ✓

Attach this sheet to raw data package.

YA 03/07/22  
Supervisor Initials and Date

**TO-15/TO-17  
Daily Checklist**

Instrument: GC/MS 8

Sequence Date: 3-4-22

Shift # 1

Item	Initial	Date
*Shift and Batch*		
All samples analyzed within 24 hour shift	✓ <u>R</u>	<u>3/7/22</u>
Internal Standards within limits 60%-140% of the CCV	✓	
Surrogate recoveries within limits (TO-15 only)	✓	
Laboratory control sample (LCS) recoveries within limits	NA	
Tune Analyzed and Passed	✓	
Continuing Calibration Analyzed, Evaluated and Passed	NA	
Non-Conformance Report filled out (if needed)	NA	

Notes:

---

Attach this sheet to raw data package.

YA 03/07/22  
Supervisor Initials and Date

APH

### GC/MS ICAL Checklist

Instrument: GC/MS 8      Sequence Date: 3-04-22      Shift # 2

Item	Initial	Date
Shift and Batch		
Initial Calibration Analyzed, Evaluated and Passed	✓ <u>RL</u>	<u>3-08-22</u>
2 <sup>nd</sup> source passed	✓	
Analyte retention time checked	✓	
Tune passed	✓	
Non-Conformance Report filled out (if needed)	NA	

Notes: \_\_\_\_\_

Attach this sheet to raw data package.

YA 03/08/22  
Supervisor Initials and Date

## TO-15/TO-17 Daily Checklist

Instrument: GC/MS 8      Sequence Date: 03-09-22      Shift # 1

Item	Initial	Date
Shift and Batch		
All samples analyzed within 24 hour shift	✓ <u>Bent</u>	<u>03-10-22</u>
Internal Standards within limits 60%-140% of the CCV	✓	
Surrogate recoveries within limits (TO-15 only)	✓	
Laboratory control sample (LCS) recoveries within limits	✓	
Tune Analyzed and Passed	✓	
Continuing Calibration Analyzed, Evaluated and Passed	✓	
Non-Conformance Report filled out (if needed)	<u>NA</u>	

Notes: \_\_\_\_\_  
 \_\_\_\_\_

Attach this sheet to raw data package.

YA 03/11/22

Supervisor Initials and Date

EPA TO-15  
Internal Standard/Surrogate Summaries

F&B Project 203054

Tune File : F:\Proc\_GCMS8\03-04-22\030404.D  
 Tune Time : 4 Mar 2022 7:01 pm

Daily Calibration File : F:\Proc\_GCMS8\03-04-22\030423.D

*R*  
*3/15/22*

(BFB)

115134 457460 429887

File	Sample	Surrogate Recovery %	Internal Standard Responses
030416.D	0.01 ppbv	92	113453 443140 432236
030417.D	0.02 ppbv	95	108997 446482 428214
030418.D	0.05 ppbv	95	113373 505326 432818
030419.D	0.1 ppbv ,	94	111648 503894 438004
030420.D	0.2 ppbv ,	96	112334 511941 437134
030421.D	0.5 ppbv ,	98	113446 445465 435827
030422.D	1.0 ppbv ,	98	111680 457104 450460
030423.D	2.5 ppbv ,	104	115134 457460 429887
030424.D	4.0 ppbv ,	103	115731 519801 442750
030425.D	5.0 ppbv ,	102	110888 469276 448536
030426.D	8.0 ppbv ,	109	115141 482462 438967
030427.D	10 ppbv ,	108	114853 480516 441904
030428.D	15 ppbv ,	108	113458 534351 456827
030431.D	SCV 2.5 p	103	113525 527786 433145

(fails) - fails 24hr time check \* - fails criteria

Created: Tue Mar 15 13:55:06 2022 GCMS8

GC/MS QA-QC Check Report

Tune File : F:\Proc\_GCMS8\03-04-22\030437.D

Tune Time : 5 Mar 2022 7:04 pm

Daily Calibration File : F:\Proc\_GCMS8\03-04-22\030449.D

(BFB)

116850 483695 449292

File	Sample	Surrogate Recovery %	Internal	Standard	Responses
030445.D	0.2 ppbv A	100	116933	499841	432363
030446.D	0.5 ppbv A	97	115200	505960	439220
030447.D	1.0 ppbv A	96	114096	521371	452567
030448.D	2.5 ppbv A	99	119037	461816	454392
030449.D	5.0 ppbv A	104	116850	483695	449292
030450.D	10.0 ppbv	101	114172	493708	466001
030451.D	25.0 ppbv	103	117449	502748	467777
030454.D	67 ug/ml p	98	112685	464209	435250

(fails) - fails 24hr time check \* - fails criteria

Created: Tue Mar 08 17:34:19 2022 GCMS8



GC/MS QA-QC Check Report

Tune File : F:\Proc\_GCMS8\03-09-22\030903.D

Tune Time : 9 Mar 2022 1:21 pm

Daily Calibration File : F:\Proc\_GCMS8\03-09-22\030905.D

Tois

page 10/2

3/10/22

(BFB) 110364 474317 409278

File	Sample	Surrogate Recovery %	Internal	Standard	Responses
030911.D	rinse	90	97246	365761	366526
030912.D	rinse	89	94352	358637	367584
030913.D	rinse	88	95668	346840	368436
030914.D	02-0457 MB	88	95690	355113	378371
030915.D	203085-01	90	100835	370025	380200
030916.D	203085-02	89	98823	433098	388470
030917.D	203085-03	93	99443	434806	378939
030918.D	rinse	89	103232	419160	391935
030919.D	203054-01	88	103478	427871	393438
030920.D	203054-01	90	102023	384603	386454
030921.D	203054-02	91	103156	449581	400398
030922.D	203054-03	92	101766	449966	388766
030923.D	203054-04	89	104842	437480	399923
030924.D	203054-05	92	107207	446553	396579
030925.D	rinse	91	103382	367604	400826
030926.D	203115-03	88	106567	458207	414304
030927.D	203115-02	90	111752	521850	426919
030928.D	203115-01	97	115191	455544	433829
030930.D	rinse	86	112335	396100	429242

030931.D	203071-02	87	113022	442615	413461
030932.D	203071-01	90	103031	405305	406950
030933.D	rinse	87	110307	459064	416557

(fails) - fails 24hr time check \* - fails criteria

Created: Thu Mar 10 19:11:45 2022 GCMS8

*Tois*  
*page 2 of 2*  
*3/10/22*

GC/MS QA-QC Check Report

Tune File : F:\Proc\_GCMS8\03-09-22\030903.D  
 Tune Time : 9 Mar 2022 1:21 pm

APLH

Daily Calibration File : F:\Proc\_GCMS8\03-09-22\030906.D

3/10/22

(BFB)

113490 438599 423503

File	Sample	Surrogate Recovery %	Internal Standard Responses		
030907.D	02-0457 lc	91	111966	432698	415893
030914.D	02-0457 MB	90	95690	355052	378371
030919.D	203054-01	90	103478	427871	393438
030920.D	203054-01	91	102023	384603	386454
030921.D	203054-02	92	103156	449581	400398
030922.D	203054-03	93	101766	449966	388766
030923.D	203054-04	90	104842	437480	399923
030924.D	203054-05	94	107207	446553	396571
030926.D	203115-03	89	106567	458207	414304
030927.D	203115-02	92	111752	521850	426919
030928.D	203115-01	99	115191	455497	433829

(fails) - fails 24hr time check \* - fails criteria

Created: Thu Mar 10 19:14:35 2022 GCMS8

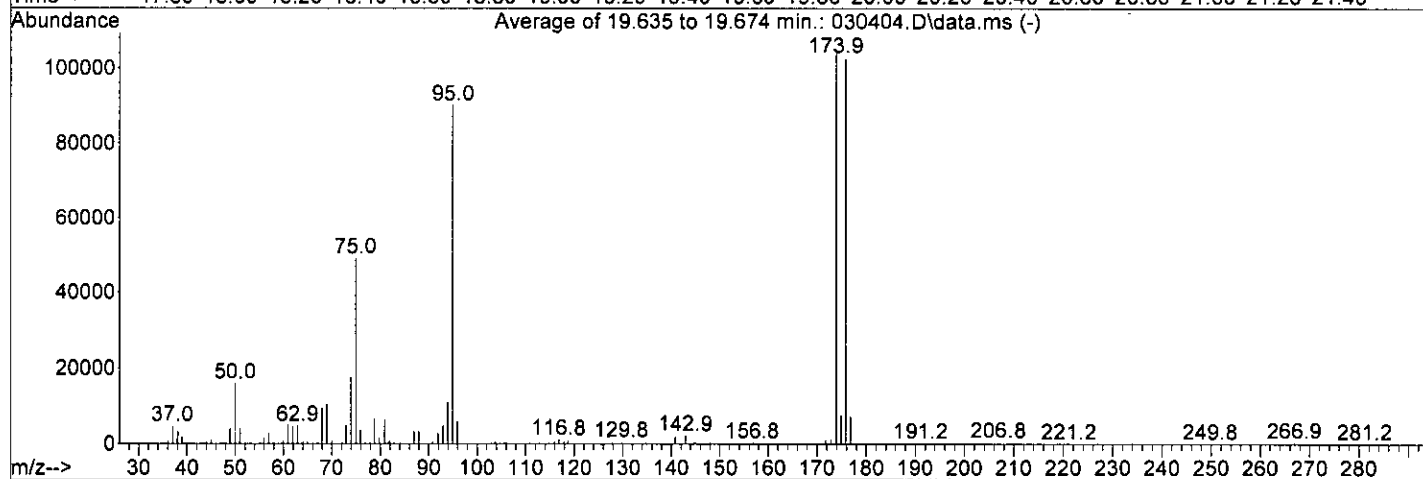
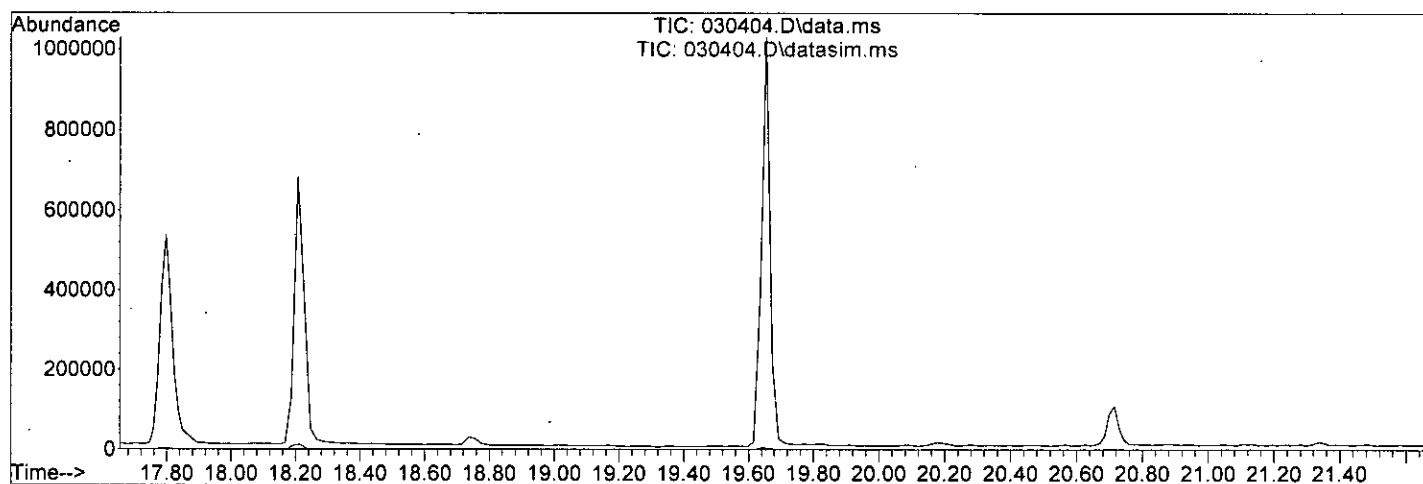
EPA TO-15  
Tune Summaries

F&B Project 203054

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030404.D  
 Acq On : 4 Mar 2022 7:01 pm  
 Operator : bat  
 Sample : BFB 65-190a  
 Misc : 50  
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: rteint.p  
 Integration File signal 2: rteint2.p

Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Title : TO-15 SS method  
 Last Update : Fri Mar 04 14:01:42 2022



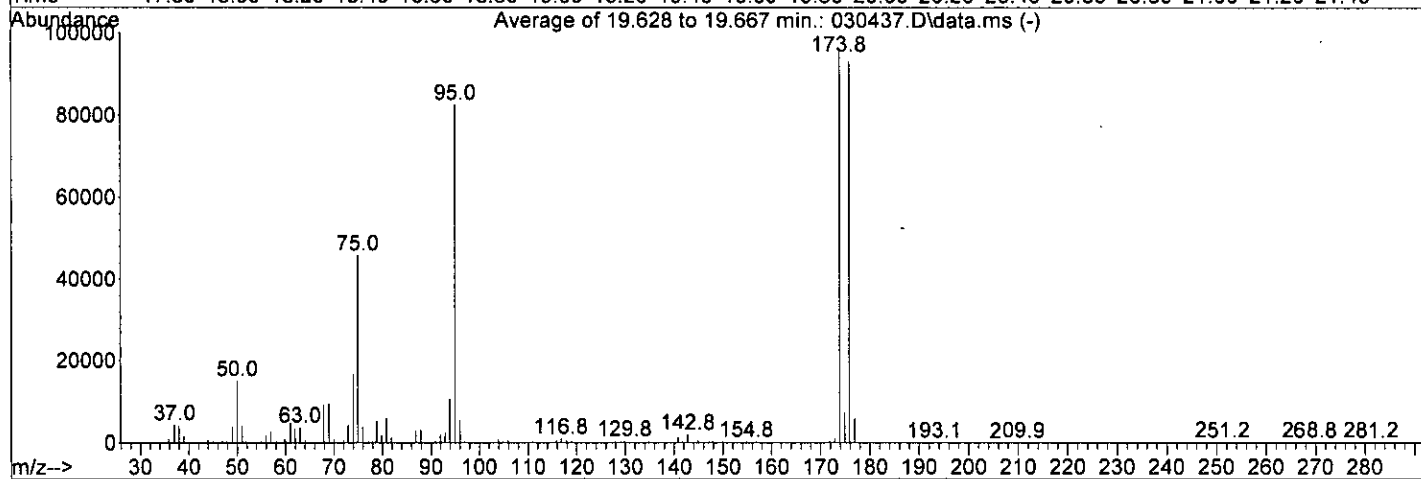
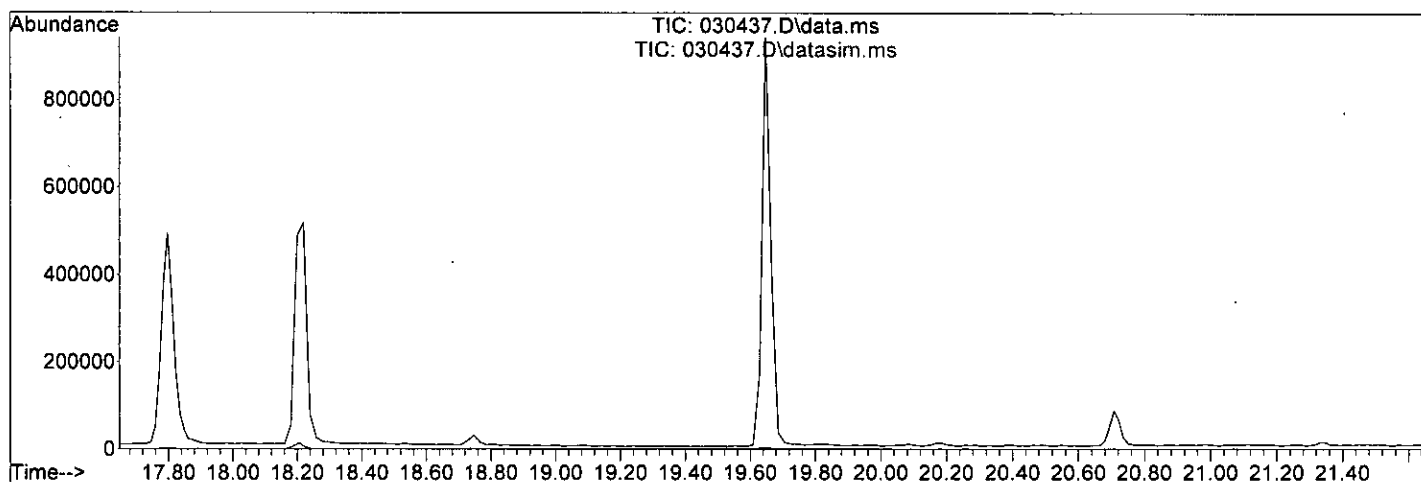
AutoFind: Scans 806, 807, 808; Background Corrected with Scan 801

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.6	15884	PASS
75	95	30	66	54.5	49151	PASS
95	95	100	100	100.0	90139	PASS
96	95	5	9	6.5	5891	PASS
173	174	0.00	2	1.2	1297	PASS
174	95	50	120	115.5	104128	PASS
175	174	4	9	7.2	7542	PASS
176	174	93	101	98.4	102496	PASS
177	176	5	9	7.0	7198	PASS

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030437.D  
 Acq On : 5 Mar 2022 7:04 pm  
 Operator : bat  
 Sample : BFB 65-190a  
 Misc : T1  
 ALS Vial : 37 Sample Multiplier: 1

Integration File signal 1: rteint.p  
 Integration File signal 2: rteint2.p

Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Title : TO-15 SS method  
 Last Update : Mon Mar 07 12:56:32 2022



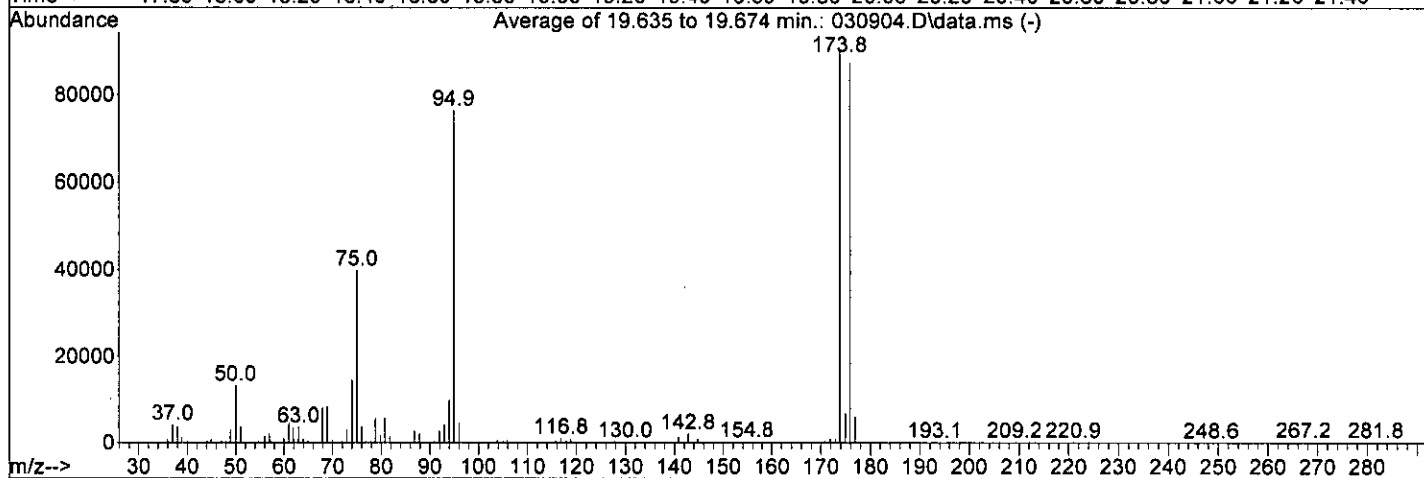
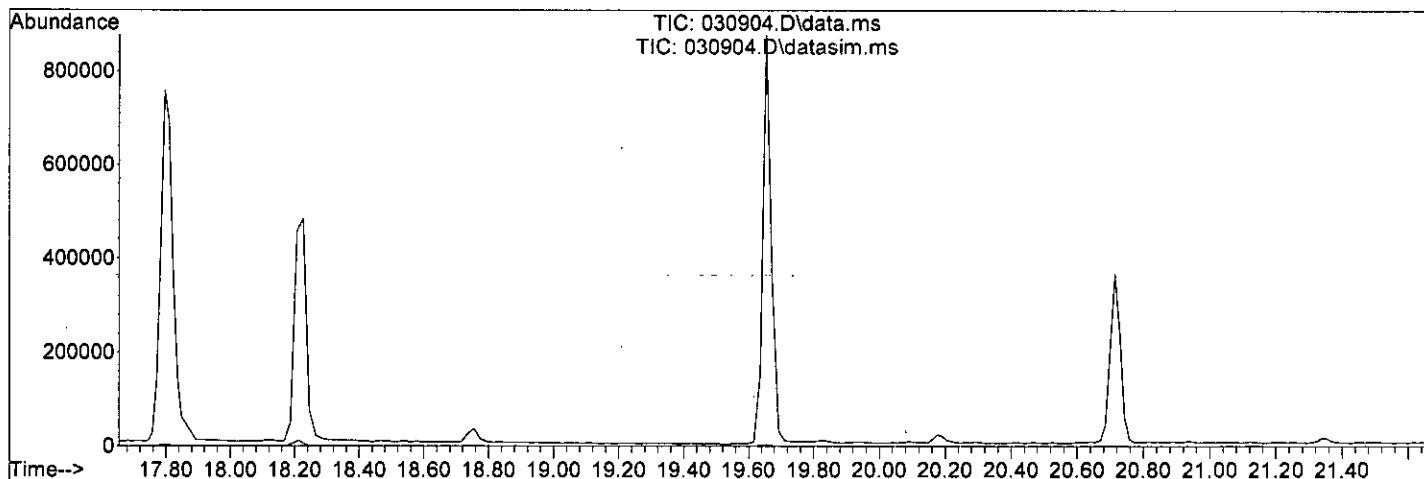
AutoFind: Scans 806, 807, 808; Background Corrected with Scan 803

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.2	15021	PASS
75	95	30	66	55.6	45949	PASS
95	95	100	100	100.0	82637	PASS
96	95	5	9	6.6	5420	PASS
173	174	0.00	2	1.1	1081	PASS
174	95	50	120	115.5	95445	PASS
175	174	4	9	7.6	7267	PASS
176	174	93	101	97.7	93245	PASS
177	176	5	9	6.3	5829	PASS

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030904.D  
 Acq On : 9 Mar 2022 1:58 pm  
 Operator : bat  
 Sample : BFB 65-190a  
 Misc : 50  
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: rteint.p  
 Integration File signal 2: rteint2.p

Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Title : TO-15 SS method  
 Last Update : Mon Mar 07 12:56:32 2022



AutoFind: Scans 806, 807, 808; Background Corrected with Scan 802

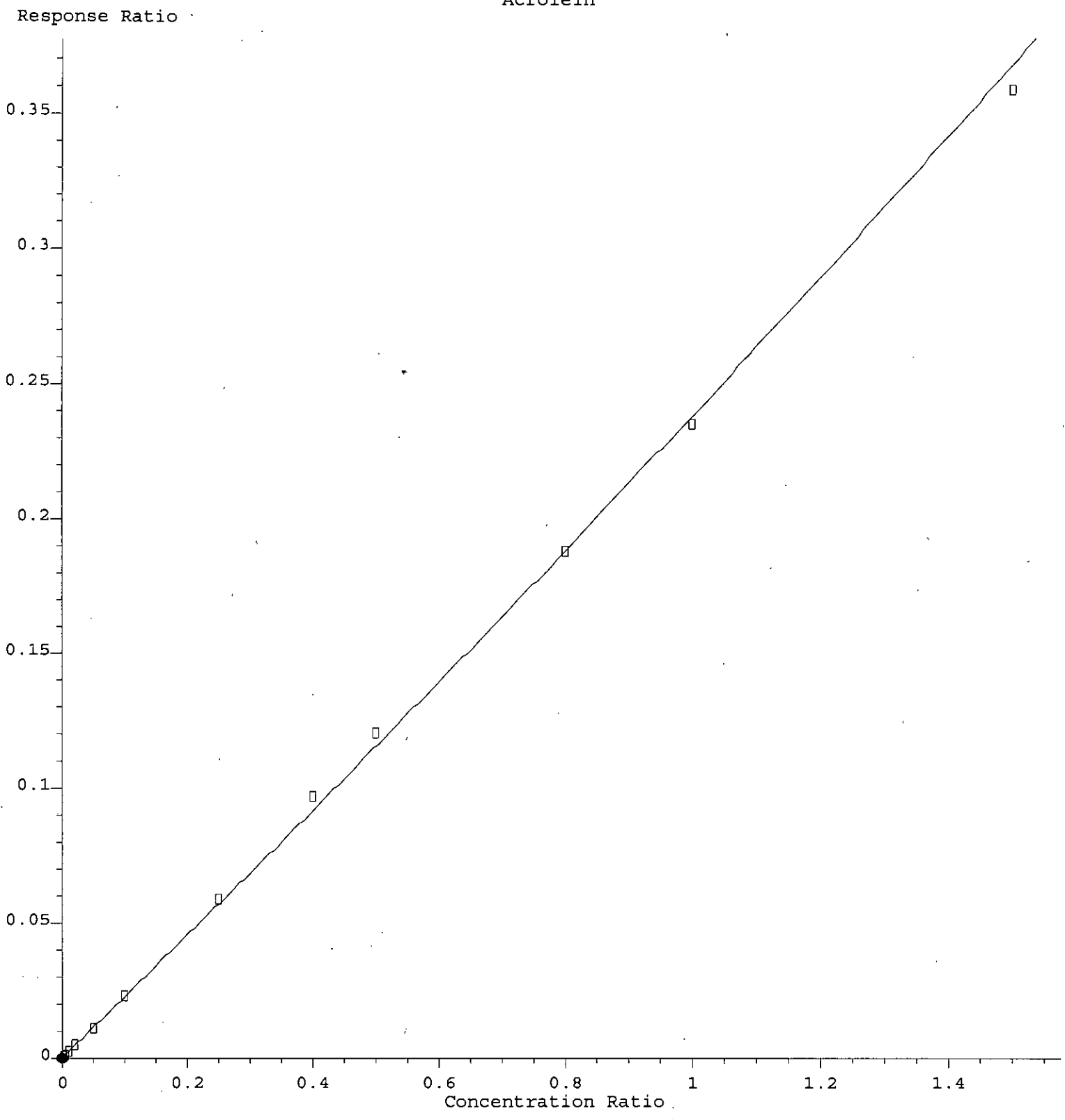
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.4	13305	PASS
75	95	30	66	52.1	39828	PASS
95	95	100	100	100.0	76408	PASS
96	95	5	9	6.1	4648	PASS
173	174	0.00	2	1.1	982	PASS
174	95	50	120	117.7	89931	PASS
175	174	4	9	7.6	6870	PASS
176	174	93	101	97.3	87477	PASS
177	176	5	9	6.8	5982	PASS

EPA TO-15  
Initial Calibrations

F&B Project 203054



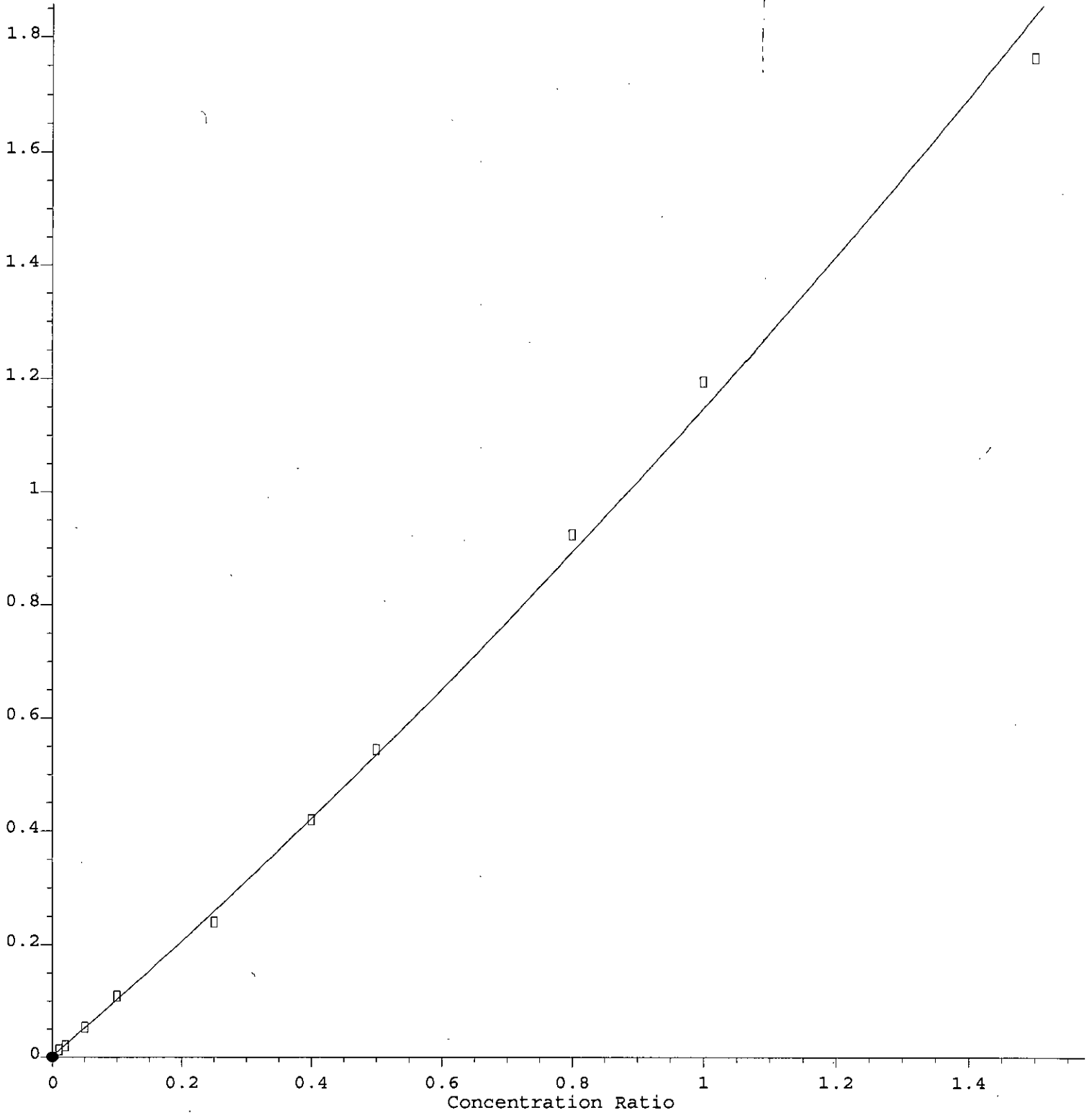
Acrolein



R = 1.56e-002 A\*A + 2.22e-001 A + 3.21e-004  
Coef of Det (r^2) = 0.991 Curve Fit: Quadratic w(1/a^2)  
Method Name: F:\METHODS\Inst8\0304T015ss8.M  
Calibration Table Last Updated: Mon Mar 07 12:56:32 2022

1,2,4-Trichlorobenzene

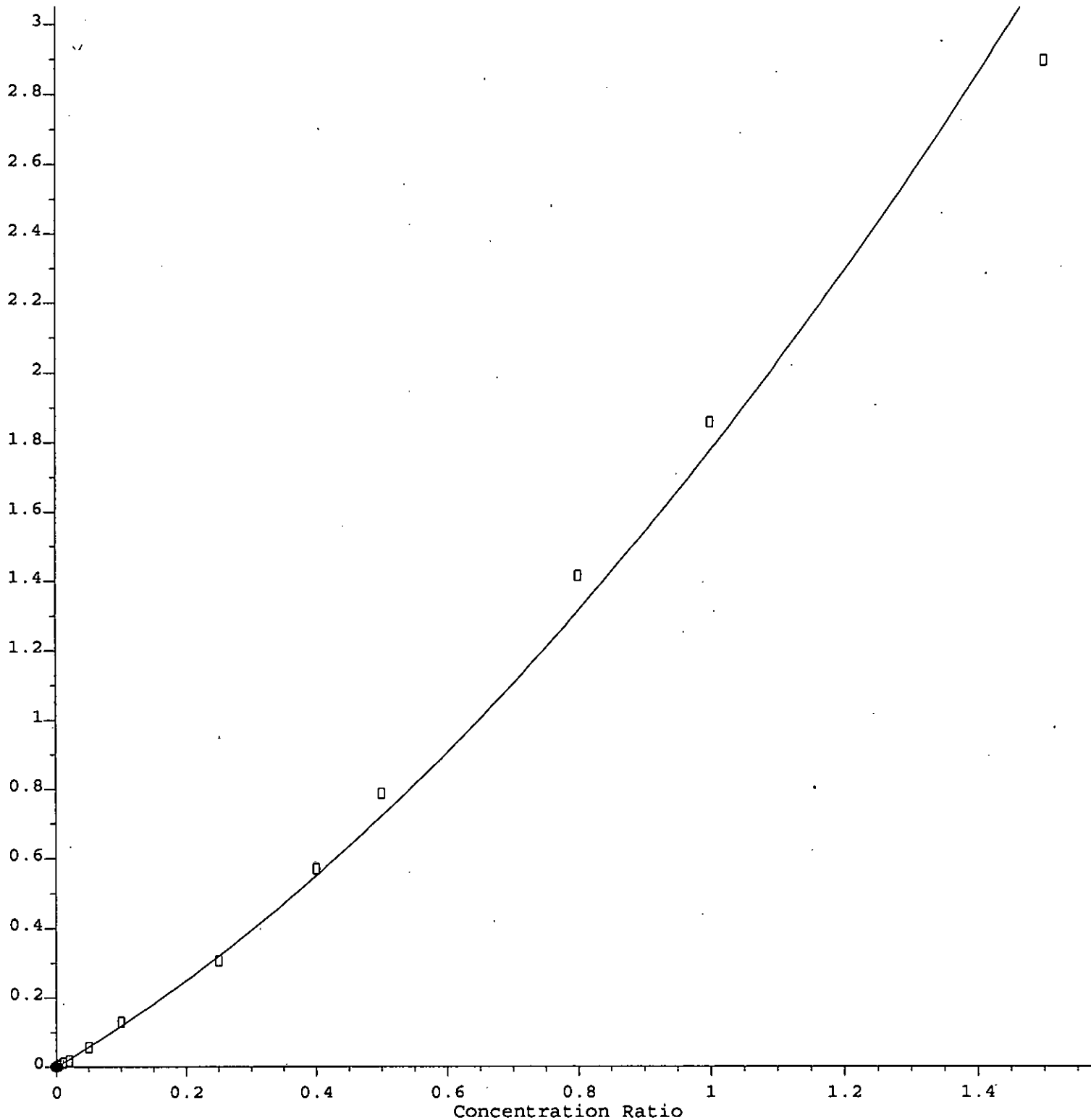
Response Ratio



$R = 1.64e-001 A^2 + 9.83e-001 A + 2.66e-003$   
Coef of Det ( $r^2$ ) = 0.996 Curve Fit: Quadratic w(1/a<sup>2</sup>)  
Method Name: F:\METHODS\Inst8\0304TO15ss8.M  
Calibration Table Last Updated: Mon Mar 07 12:56:32 2022

# Naphthalene

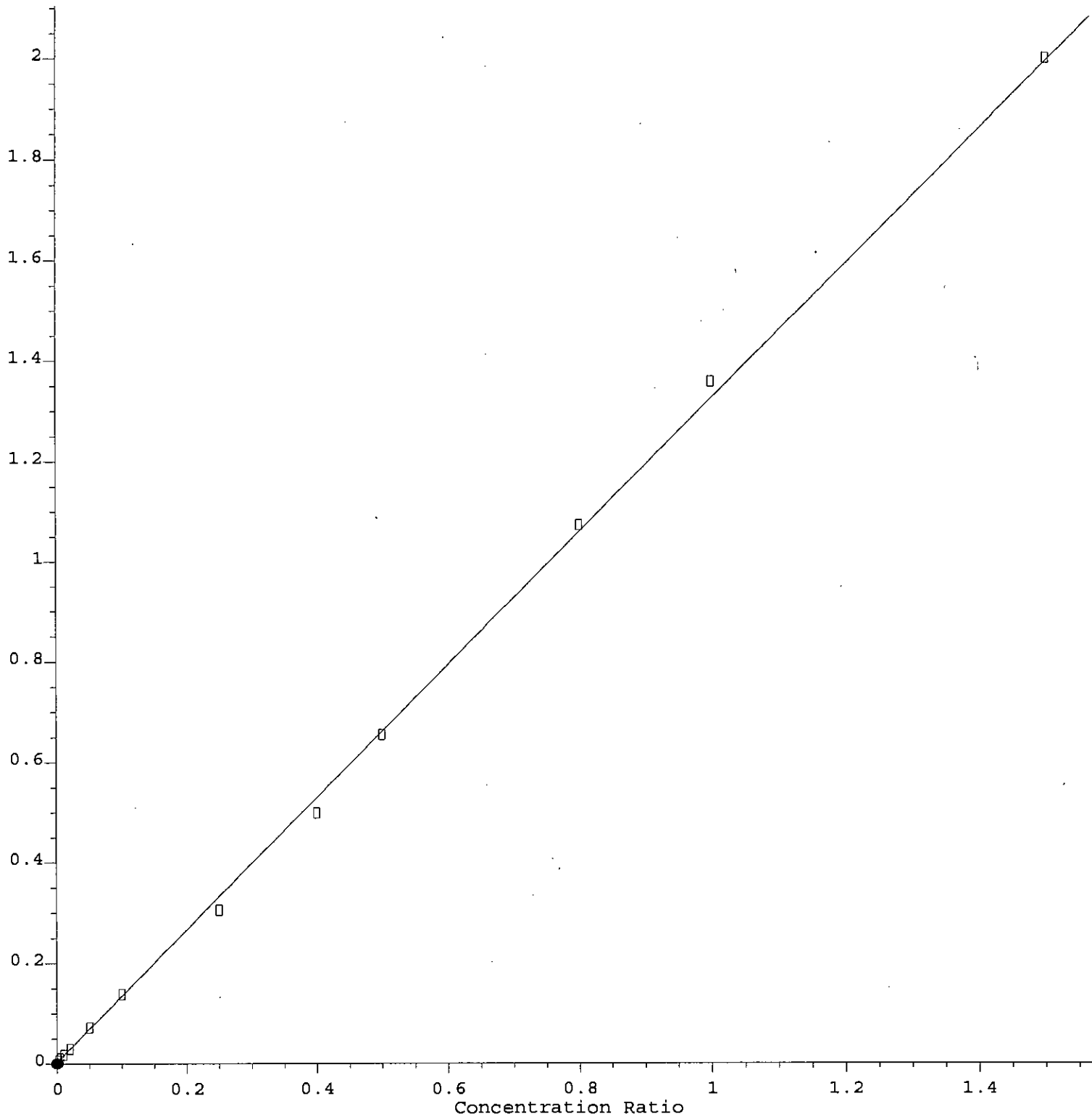
Response Ratio



$R = 6.70e-001 A^2 + 1.11e+000 A + 6.48e-004$   
Coef of Det ( $r^2$ ) = 0.993 Curve Fit: Quadratic w( $1/a^2$ )  
Method Name: F:\METHODS\Inst8\0304TO15ss8.M  
Calibration Table Last Updated: Mon Mar 07 12:56:32 2022

Hexachlorobutadiene

Response Ratio



R = 1.42e-002 A\*A + 1.31e+000 A + 3.96e-003  
Coef of Det (r^2) = 0.998 Curve Fit: Quadratic w(1/a^2)  
Method Name: F:\METHODS\Inst8\0304TO15ss8.M  
Calibration Table Last Updated: Mon Mar 07 12:56:32 2022

Calibration Status Report GCMS8

Method Path : F:\METHODS\Inst8\  
 Method File : 0304TO15ss8.M  
 Title : TO-15 SS method  
 Last Update : Mon Mar 07 12:56:32 2022  
 Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.01	-1	10	F:\Proc_GCMS8\03-04-22\030416.D
2	0.02	0	10	F:\Proc_GCMS8\03-04-22\030417.D
3	0.05	0	10	F:\Proc_GCMS8\03-04-22\030418.D
4	0.1	0	10	F:\Proc_GCMS8\03-04-22\030419.D
5	0.2	0	10	F:\Proc_GCMS8\03-04-22\030420.D
6	0.5	1	10	F:\Proc_GCMS8\03-04-22\030421.D
7	1	1	10	F:\Proc_GCMS8\03-04-22\030422.D
8	2.5	3	10	F:\Proc_GCMS8\03-04-22\030423.D
9	4	4	10	F:\Proc_GCMS8\03-04-22\030424.D
10	5	5	10	F:\Proc_GCMS8\03-04-22\030425.D
11	8	8	10	F:\Proc_GCMS8\03-04-22\030426.D
12	10	10	10	F:\Proc_GCMS8\03-04-22\030427.D
13	15	15	10	F:\Proc_GCMS8\03-04-22\030428.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.01	Mar 07 12:08 2022	Mar 07 11:12 2022	5 Mar 2022 3:42 am
2	0.02	Mar 07 12:08 2022	Mar 07 11:14 2022	5 Mar 2022 4:22 am
3	0.05	Mar 07 12:08 2022	Mar 07 11:16 2022	5 Mar 2022 5:06 am
4	0.1	Mar 07 12:08 2022	Mar 07 11:19 2022	5 Mar 2022 5:57 am
5	0.2	Mar 07 12:08 2022	Mar 07 11:20 2022	5 Mar 2022 6:37 am
6	0.5	Mar 07 12:08 2022	Mar 07 11:23 2022	5 Mar 2022 7:22 am
7	1	Mar 07 12:08 2022	Mar 07 11:27 2022	5 Mar 2022 8:12 am
8	2.5	Mar 07 12:08 2022	Mar 07 11:28 2022	5 Mar 2022 8:52 am
9	4	Mar 07 12:08 2022	Mar 07 11:49 2022	5 Mar 2022 9:32 am
10	5	Mar 07 12:08 2022	Mar 07 11:56 2022	5 Mar 2022 10:12 am
11	8	Mar 07 12:08 2022	Mar 07 11:53 2022	5 Mar 2022 10:53 am
12	10	Mar 07 12:08 2022	Mar 07 11:55 2022	5 Mar 2022 11:36 am
13	15	Mar 07 12:09 2022	Mar 07 11:55 2022	5 Mar 2022 12:22 pm

0304TO15ss8.M Mon Mar 07 16:19:45 2022

## Compound List Report GCMS8

Method Path : F:\METHODS\Inst8\  
 Method File : 0304TO15ss8.M  
 Title : TO-15 SS method  
 Last Update : Mon Mar 07 12:56:32 2022  
 Response Via : Initial Calibration

Total Cpnds : 78

PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I Bromochloromethane	128	9.98	1.000	A	2	A	B
2	T Propene	41	3.47	0.348	A	2	A	B
3	T Dichlorodifluoromethane	85	3.55	0.356	A	1	A	B
4	T Chloromethane	-50	3.80	0.381	A	1	A	B
5	T F-114	85	3.91	0.392	A	2	A	B
6	T Vinyl chloride	-62	4.08	0.408	A	1	A	B
7	T 1,3-Butadiene	-54	4.27	0.428	A	3	A	B
8	T Butane	43	4.35	0.436	A	1	A	B
9	T Bromomethane	94	4.67	0.468	A	1	A	B
10	T Chloroethane	-64	4.87	0.488	A	1	A	B
11	T Vinyl bromide	-106	5.34	0.536	A	1	A	B
12	T Ethanol	45	4.98	0.500	A	1	A	B
13	T Acrolein	-56	5.46	0.548	Q	1	A	B
14	T Pentane	43	6.35	0.637	A	2	A	B
15	T Trichlorofluoromethane	101	5.89	0.590	A	1	A	B
16	T Acetone	58	5.63	0.565	A	1	A	B
17	T 2-Propanol	45	5.89	0.590	A	2	A	B
18	T 1,1-Dichloroethene	-96	6.72	0.674	A	2	A	B
19	T trans-1,2-Dichloroethene	-96	8.17	0.819	A	2	A	B
20	T Methylene chloride	84	6.85	0.687	A	2	A	B
21	T t-Butyl alcohol (TBA)	59	6.67	0.668	A	1	A	B
22	T 3-Chloropropene	41	7.04	0.705	A	1	A	B
23	T CFC-113	101	7.25	0.726	A	2	A	B
24	T Carbon disulfide	76	7.04	0.705	A	2	A	B
25	T Methyl t-butyl ether (MTBE)	73	8.53	0.855	A	1	A	B
26	T Vinyl acetate	43	8.64	0.866	A	1	A	B
27	T 1,1-Dichloroethane	-63	8.46	0.848	A	2	A	B
28	T cis-1,2-Dichloroethene	-96	9.73	0.975	A	2	A	B
29	T Hexane	57	10.10	1.013	A	2	A	B
30	T Chloroform	-83	10.18	1.020	A	1	A	B
31	T Ethyl acetate	43	10.03	1.005	A	1	A	B
32	T Tetrahydrofuran	42	10.86	1.088	A	1	A	B
33	T 2-Butanone (MEK)	72	9.01	0.903	A	3	A	B
34	T 1,2-Dichloroethane (EDC)	-62	11.44	1.147	A	1	A	B
35	T 1,1,1-Trichloroethane	-97	11.92	1.195	A	2	A	B
36	T Carbon tetrachloride	-117	12.95	1.298	A	1	A	B
37	T Benzene	-78	12.69	1.272	A	1	A	B
38	T Cyclohexane	84	13.15	1.319	A	2	A	B
39	I 1,4-Difluorobenzene	114	13.21	1.000	A	2	A	B
40	T 1,2-Dichloropropane	-63	13.88	1.051	A	1	A	B
41	T 1,4-Dioxane	-88	14.18	1.073	A	1	A	B
42	T 2,2,4-Trimethylpentane	57	14.29	1.082	A	2	A	B
43	T Methyl methacrylate	41	14.44	1.093	A	2	A	B
44	T Heptane	43	14.61	1.106	A	3	A	B
45	T Bromodichloromethane	-83	14.13	1.070	A	2	A	B
46	T Trichloroethene	-95	14.20	1.075	A	3	A	B
47	T cis-1,3-Dichloropropene	75	15.28	1.157	A	2	A	B
48	T 4-Methyl-2-pentanone	100	15.30	1.158	A	3	A	B
49	T trans-1,3-Dichloropropene	-75	15.85	1.200	A	2	A	B
50	T Toluene	-92	16.38	1.241	A	1	A	B
51	T 1,1,2-Trichloroethane	-83	16.07	1.217	A	2	A	B
52	T 2-Hexanone	43	16.63	1.259	A	3	A	B
53	T Tetrachloroethene	-164	17.59	1.331	A	3	A	B
54	T Dibromochloromethane	-129	16.83	1.274	A	2	A	B
55	T 1,2-Dibromoethane (EDB)	-107	17.11	1.296	A	2	A	B

56	I	Chlorobenzene-d5	117	18.21	1.000	A	2	A	B
57	T	Chlorobenzene	112	18.25	1.002	A	2	A	B
58	T	Ethylbenzene	-91	18.60	1.022	A	1	A	B
59	T	1,1,2,2-Tetrachloroethane	-83	19.19	1.054	A	2	A	B
60	T	Nonane	43	19.38	1.064	A	3	A	B
61	T	Isopropylbenzene	105	19.77	1.086	A	1	A	B
62	T	2-Chlorotoluene	126	20.23	1.111	A	1	A	B
63	T	Propylbenzene	91	20.25	1.112	A	1	A	B
64	T	4-Ethyltoluene	105	20.39	1.120	A	1	A	B
65	T	m,p-Xylene	-106	18.78	1.031	A	1	A	B
66	T	o-Xylene	-106	19.23	1.056	A	1	A	B
67	T	Styrene	104	19.11	1.049	A	1	A	B
68	T	Bromoform	173	18.87	1.037	A	2	A	B
69	S	4-Bromofluorobenzene	95	19.66	1.080	A	2	A	B
70	T	Benzyl chloride	-91	21.01	1.154	A	1	A	B
71	T	1,3,5-Trimethylbenzene	105	20.45	1.123	A	1	A	B
72	T	1,2,4-Trimethylbenzene	105	20.87	1.146	A	1	A	B
73	T	1,3-Dichlorobenzene	-146	21.05	1.156	A	2	A	B
74	T	1,4-Dichlorobenzene	-146	21.11	1.160	A	2	A	B
75	T	1,2-Dichlorobenzene	-146	21.49	1.180	A	2	A	B
76	T	1,2,4-Trichlorobenzene	180	23.75	1.305	Q	2	A	B
77	T	Naphthalene	-128	23.95	1.315	Q	2	A	B
78	T	Hexachlorobutadiene	-225	24.55	1.348	Q	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin  
#Qual = number of qualifiers  
A/H = Area or Height  
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

0304T015ss8.M Mon Mar 07 16:19:52 2022

Response Factor Report GCMS8

Method Path : F:\METHODS\Inst8\  
 Method File : 0304TO15SS8.M  
 Title : TO-15 SS method  
 Last Update : Mon Mar 07 12:56:32 2022  
 Response Via : Initial Calibration

Calibration Files  
 0.01=030416.D 0.02=030417.D 0.05=030418.D 0.1=030419.D 0.2=030420.D 0.5=030421.D 1=030422.D 2.5=030423.D  
 4=030424.D 5=030425.D 8=030426.D 10=030427.D 15=030428.D

Compound	ISTD															AVG	%RSD				
	0.01	0.02	0.05	0.1	0.2	0.5	1	2.5	4	5	8	10	15								
1) I Bromochloromethane																					
2) TMP Propene				0.596	0.563	0.444	0.683	0.565	0.433	0.609	0.516	0.543	0.566	0.552	13.48						
3) TMP Dichlorodifluo...		4.724	5.200	5.258	4.724	4.652	4.277	4.313	4.409	4.169	4.174	4.312	4.565	8.45							
4) TMP Chloromethane			0.967	0.823	0.774	0.886	0.715	0.687	0.705	0.701	0.734	0.772	0.776	11.76							
5) TMP F-114			3.562	3.874	4.009	4.058	3.087	3.274	3.169	3.308	3.074	3.150	3.040	3.419	11.42						
6) TMP Vinyl chloride			1.445	1.212	1.102	1.024	1.045	1.116	1.000	0.976	1.001	1.004	1.017	1.043	1.082	12.18					
7) TMP 1,3-Butadiene			0.656	0.686	0.665	0.616	0.567	0.588	0.586	0.568	0.605	0.568	0.573	0.586	0.605	6.90					
8) TMP Butane							1.232	1.263	1.122	1.104	1.201	1.108	1.112	1.143	1.161	5.40					
9) TMP Bromomethane							1.243	1.232	1.190	1.181	1.229	1.169	1.160	1.196	2.84						
10) TMP Chloroethane							0.435	0.449	0.416	0.396	0.387	0.366	0.406	0.363	0.366	0.395	7.87				
11) TMP Vinyl bromide			1.281	1.340	1.279	1.257	1.266	1.256	1.219	1.383	1.216	1.317	1.337	1.286	4.07						
12) TMP Ethanol							0.184	0.174	0.174	0.193	0.155	0.142	0.195	0.174	12.34						
13) TMP Acrolein		0.404	0.229	0.260	0.251	0.223	0.231	0.236	0.243	0.241	0.235	0.235	0.240	0.252	19.28						
14) TMP Pentane							1.206	0.977	1.289	1.131	1.243	1.088	1.109	1.080	1.140	8.83					
15) TMP Trichlorofluor...			4.719	4.356	5.213	5.552	5.390	5.161	5.366	5.040	4.937	4.955	5.069	6.95							
16) TMP Acetone					0.403	0.460	0.514	0.373	0.374	0.365	0.361	0.383	0.404	13.50							
17) TMP 2-Propanol					1.650	1.446	1.625	1.311	1.745	1.538	1.578	1.613	1.563	8.54							
18) TMP 1,1-Dichloroet...		1.729	1.378	1.296	1.355	1.161	1.175	1.205	1.160	1.197	1.130	1.135	1.139	1.255	13.71						
19) TMP trans-1,2-Dich...		1.642	1.346	1.192	1.173	1.130	1.125	1.169	1.116	1.159	1.089	1.096	1.103	1.195	13.11						
20) TMP Methylene chlo...						1.427	1.280	1.242	1.043	1.078	1.030	1.032	0.999	1.141	13.63						
21) TMP t-Butyl alcho...						2.164	2.064	2.035	1.983	2.117	1.982	2.105	2.090	2.068	3.13						
22) TMP 3-Chloropropene						1.217	1.270	1.293	1.147	1.192	1.200	1.218	1.186	1.222	6.98						
23) TMP CFC-113			4.170	3.195	4.051	3.347	3.086	3.145	3.155	3.315	3.015	3.064	2.875	3.311	12.61						
24) TMP Carbon disulfide					0.598	0.569	0.536	0.585	0.519	0.488	0.493	0.517	0.538	7.72							
25) TMP Methyl t-butyl...					3.890	3.003	2.950	2.697	2.853	2.842	2.829	2.856	2.917	2.982	11.78						
26) TMP Vinyl acetate					1.323	1.142	0.854	0.886	0.929	0.942	0.948	1.077	1.012	15.61							
27) TMP 1,1-Dichloroet...		2.330	2.300	2.175	2.258	2.149	2.153	2.238	2.134	2.248	2.083	2.094	2.086	2.186	3.88						
28) TMP cis-1,2-Dichlo...		1.876	1.247	1.206	1.265	1.082	1.112	1.019	1.063	1.100	1.170	1.185	1.191	1.262	15.56						
29) TMP Hexane						1.082	1.112	1.019	1.063	1.100	1.104	1.215	1.174	1.109	5.55						
30) TMP Chloroform		3.596	3.404	3.209	3.767	3.183	3.176	3.262	3.111	3.253	3.035	3.038	3.008	3.255	6.82						
31) TMP Ethyl acetate						2.452	2.675	2.725	2.662	2.896	2.876	2.890	2.984	2.770	6.27						
32) TMP Tetrahydrofuran					0.911	1.049	0.919	0.807	0.845	0.768	0.867	0.820	0.858	0.876	0.872	8.88					
33) TMP 2-Butanone (MEK)						0.306	0.512	0.559	0.485	0.466	0.472	0.425	0.446	0.459	16.17						
34) TMP 1,2-Dichloroet...		2.256	2.321	2.225	2.241	2.206	2.190	2.309	2.193	2.307	2.160	2.180	2.237	2.64							
35) TMP 1,1,1-Trichlor...			3.647	3.615	3.600	3.505	3.518	3.556	3.445	3.639	3.425	3.458	3.463	3.544	2.41						
36) TMP Carbon tetrach...			4.642	4.306	4.219	4.265	4.104	4.100	4.078	3.959	4.182	3.944	3.985	3.964	4.146	4.80					
37) TMP Benzene			4.188	3.553	3.635	3.574	3.429	3.456	3.433	3.346	3.537	3.369	3.425	3.458	3.534	6.31					
38) TMP Cyclohexane						1.028	1.071	0.945	0.886	0.989	0.962	1.004	0.991	0.985	5.65						



Response Factor Report GCMS8

Method Path : F:\METHODS\Inst8\  
 Method File : 0304T015SS8.M  
 Title : TO-15 SS method

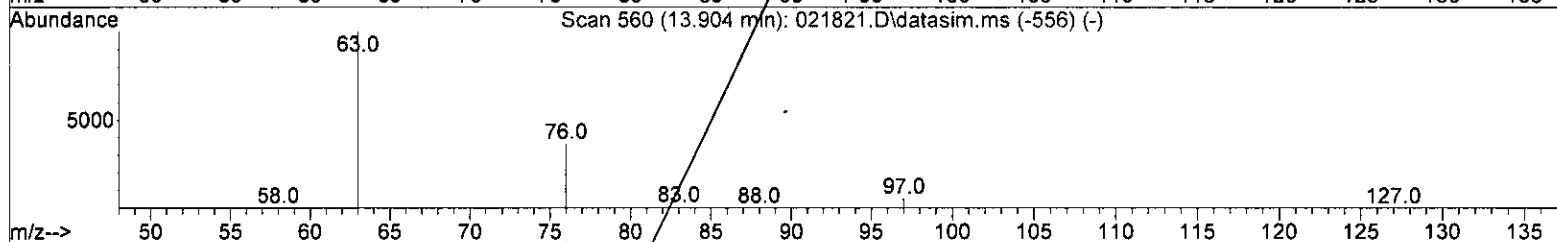
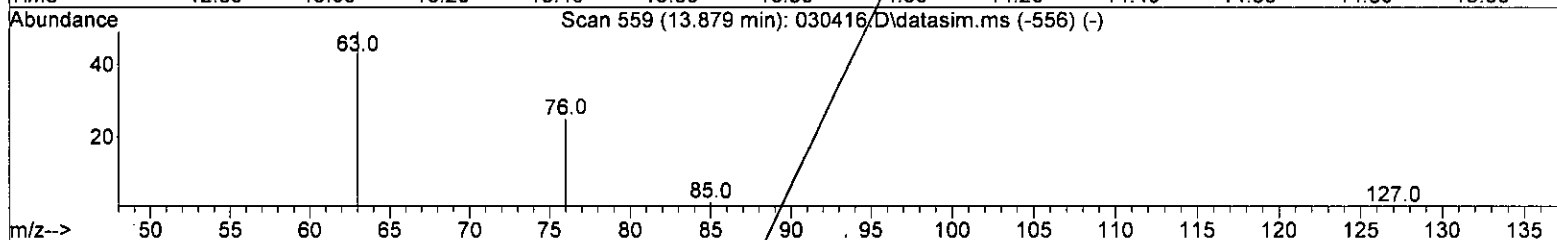
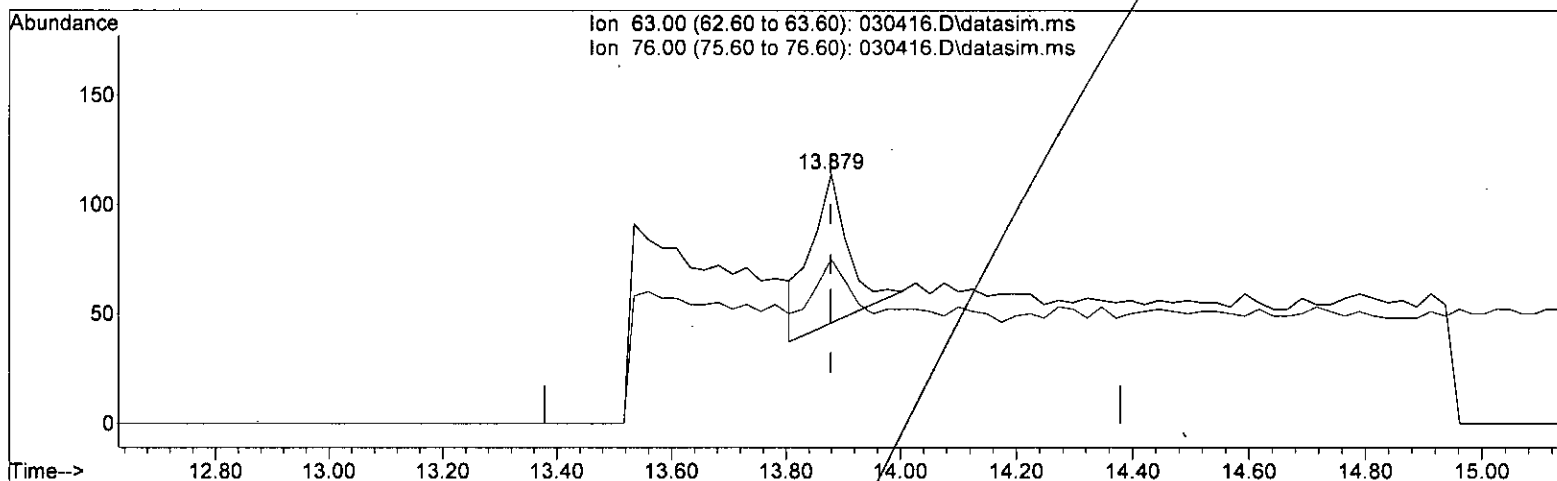
	-----ISTD-----																	
39) I	1,4-Difluorobenzene																	
40) TMP	1,2-Dichloropr...	0.417	0.389	0.332	0.307	0.325	0.352	0.335	0.325	0.278	0.318	0.308	0.315	0.283	0.330	11.72		
41) TMP	1,4-Dioxane			0.187	0.167	0.178	0.181	0.181	0.182	0.156	0.178	0.176	0.179	0.163	0.175	5.34		
42) TMP	2,2,4-Trimethy...						0.976	0.888	0.870	0.740	0.848	0.855	0.890	0.823	0.861	7.75		
43) TMP	Methyl methacr...						0.298	0.316	0.306	0.261	0.305	0.297	0.296	0.288	0.296	5.56		
44) TMP	Heptane						0.356	0.365	0.316	0.298	0.311	0.324	0.335	0.311	0.327	7.17		
45) TMP	Bromodichlorom...	1.040	0.899	0.783	0.791	0.778	0.871	0.842	0.854	0.728	0.826	0.795	0.802	0.721	0.825	10.02		
46) TMP	Trichloroethene	0.706	0.615	0.493	0.483	0.458	0.510	0.492	0.501	0.429	0.491	0.468	0.474	0.422	0.503	15.26		
47) TMP	cis-1,3-Dichlo...				0.574	0.559	0.608	0.532	0.534	0.450	0.528	0.506	0.527	0.474	0.529	8.69		
48) TMP	4-Methyl-2-pen...						0.030	0.039	0.041	0.035	0.040	0.041	0.044	0.035	0.038	12.12		
49) TMP	trans-1,3-Dich...				0.575	0.547	0.458	0.521	0.516	0.506	0.443	0.514	0.506	0.522	0.476	7.44		
50) TMP	Toluene				0.547	0.525	0.470	0.572	0.534	0.519	0.447	0.512	0.509	0.527	0.482	6.94		
51) TMP	1,1,2-Trichlor...	0.481	0.411	0.344	0.349	0.332	0.386	0.408	0.376	0.329	0.371	0.360	0.364	0.326	0.372	11.47		
52) TMP	2-Hexanone						0.505	0.473	0.485	0.425	0.504	0.497	0.504	0.482	0.484	5.51		
53) TMP	Tetrachloroethene						0.534	0.502	0.557	0.544	0.531	0.453	0.512	0.494	0.503	7.08		
54) TMP	Dibromochlorom...	1.065	0.993	0.861	0.855	0.833	0.954	0.949	0.932	0.812	0.915	0.903	0.921	0.829	0.909	7.95		
55) TMP	1,2-Dibromoeth...	0.842	0.778	0.639	0.627	0.593	0.703	0.686	0.647	0.561	0.640	0.626	0.640	0.577	0.658	11.96		
56) I	Chlorobenzene-d5																	
57) TMP	Chlorobenzene						0.864	1.080	0.922	0.946	0.954	0.906	0.927	0.920	0.912	0.902	0.933	6.15
58) TMP	Ethylbenzene	1.906	1.583	1.426	1.407	1.365	1.341	1.332	1.409	1.347	1.365	1.413	1.434	1.412	1.442	10.66		
59) TMP	1,1,2,2-Tetrac...	1.228	1.112	0.999	0.966	0.969	0.961	0.931	1.006	0.959	0.951	0.959	0.954	0.917	0.993	8.59		
60) TMP	Nonane						0.509	0.495	0.553	0.568	0.572	0.600	0.604	0.588	0.561	7.18		
61) TMP	Isopropylbenzene						1.514	1.577	1.741	1.670	1.651	1.710	1.740	1.840	1.680	6.07		
62) TMP	2-Chlorotoluene						0.395	0.400	0.443	0.450	0.454	0.443	0.443	0.431	0.432	5.20		
63) TMP	Propylbenzene						2.903	2.804	3.206	3.120	3.126	3.189	3.208	3.141	3.087	4.88		
64) TMP	4-Ethyltoluene						1.403	1.402	1.654	1.622	1.628	1.662	1.717	1.676	1.595	7.69		
65) TMP	m,p-Xylene	0.732	0.610	0.544	0.500	0.481	0.478	0.518	0.506	0.513	0.533	0.534	0.544	0.535	0.541	12.83		
66) TMP	o-Xylene	0.585	0.492	0.473	0.462	0.451	0.456	0.451	0.521	0.512	0.511	0.528	0.532	0.521	0.504	7.71		
67) TMP	Styrene						0.705	0.749	0.735	0.682	0.756	0.783	0.753	0.793	0.807	5.54		
68) TMP	Bromoform						1.046	1.228	1.296	1.244	1.333	1.297	1.313	1.348	1.350	7.19		
69) S	4-Bromofluorob...	0.693	0.707	0.704	0.693	0.699	0.723	0.725	0.771	0.763	0.757	0.810	0.804	0.798	0.742	5.91		
70) TMP	Benzyl chloride	1.353	1.287	1.193	1.188	1.132	1.160	1.163	1.296	1.285	1.309	1.356	1.360	1.338	1.263	6.64		
71) TMP	1,3,5-Trimethy...						1.265	1.230	1.515	1.425	1.481	1.521	1.542	1.493	1.434	8.41		
72) TMP	1,2,4-Trimethy...						1.160	1.163	1.391	1.381	1.371	1.458	1.473	1.473	1.359	9.46		
73) TMP	1,3-Dichlorobe...						1.322	1.222	1.122	1.149	1.111	1.237	1.219	1.195	1.202	5.02		
74) TMP	1,4-Dichlorobe...	1.694	1.325	1.201	1.094	1.067	1.075	1.075	1.200	1.146	1.171	1.198	1.199	1.199	1.160	13.82		
75) TMP	1,2-Dichlorobe...						1.337	1.220	1.105	1.130	1.080	1.162	1.128	1.131	1.146	6.14		
76) TMP	1,2,4-Trichlor...						1.297	1.008	1.067	1.088	0.960	1.050	1.090	1.157	1.198	8.97		
77) TMP	Naphthalene	1.478	1.186	1.164	0.917	1.133	1.133	1.293	1.227	1.427	1.575	1.771	1.861	1.938	1.414	22.58		
78) TMP	Hexachlorobuta...	3.265	2.131	1.770	1.469	1.451	1.388	1.221	1.249	1.311	1.343	1.360	1.360	1.337	1.608	36.10		

(#) = Out of Range

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030416.D  
 Acq On : 5 Mar 2022 3:42 am  
 Operator : bat  
 Sample : 0.01 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:34 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



*N*  
*03/07/22*

(40) 1,2-Dichloropropane (TMP)

13.879min (+ 0.000) 0.022 ppbv

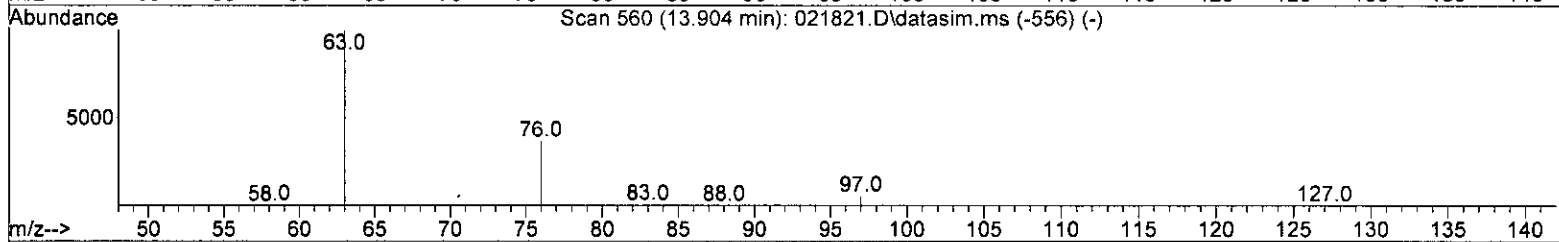
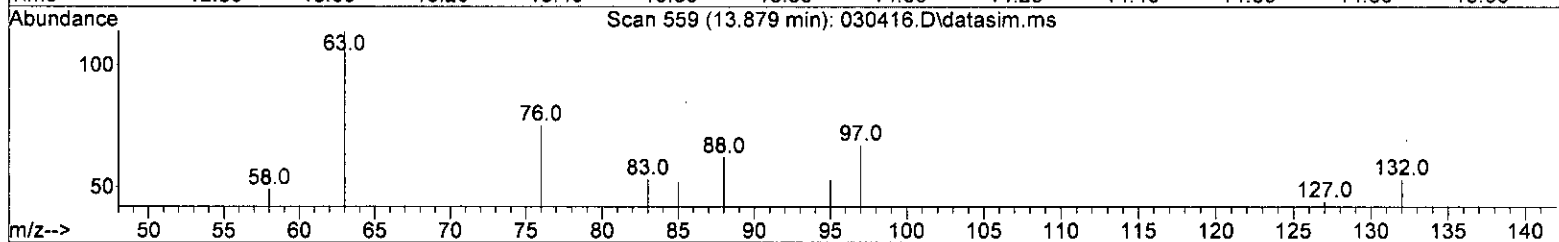
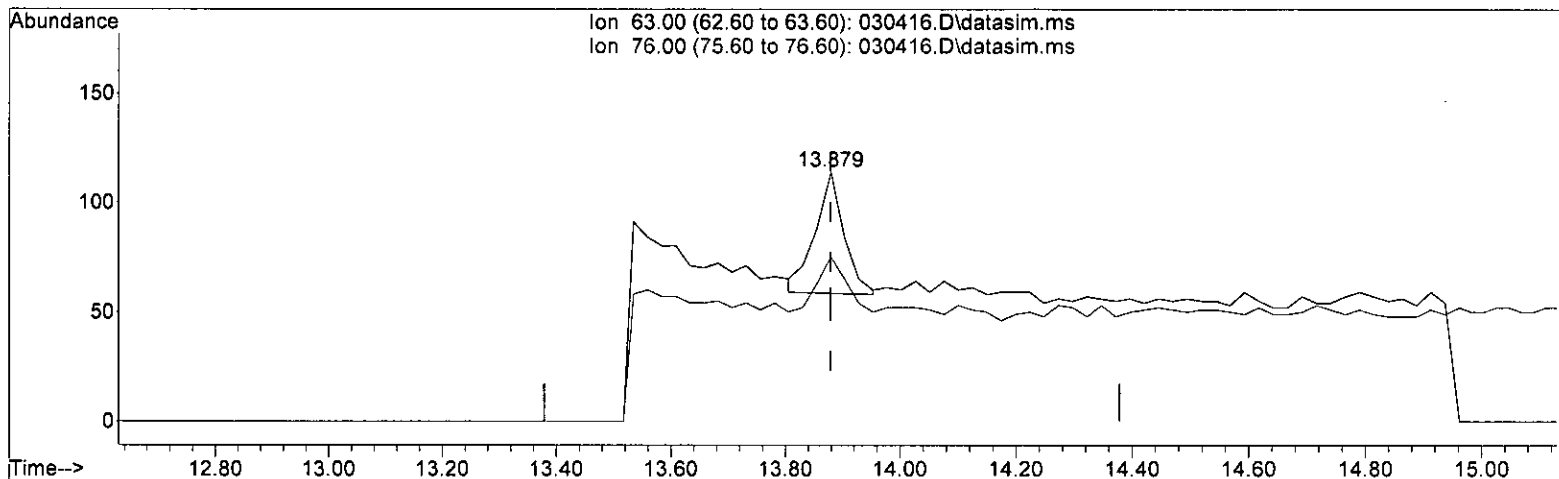
response 317

Ion	Exp%	Act%
63.00	100.00	100.00
76.00	25.70	46.30
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030416.D  
 Acq On : 5 Mar 2022 3:42 am  
 Operator : bat  
 Sample : 0.01 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:34 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030416.D\data.ms

(40) 1,2-Dichloropropane (TMP)

13.879min (+ 0.000) 0.013 ppbv m

response 193

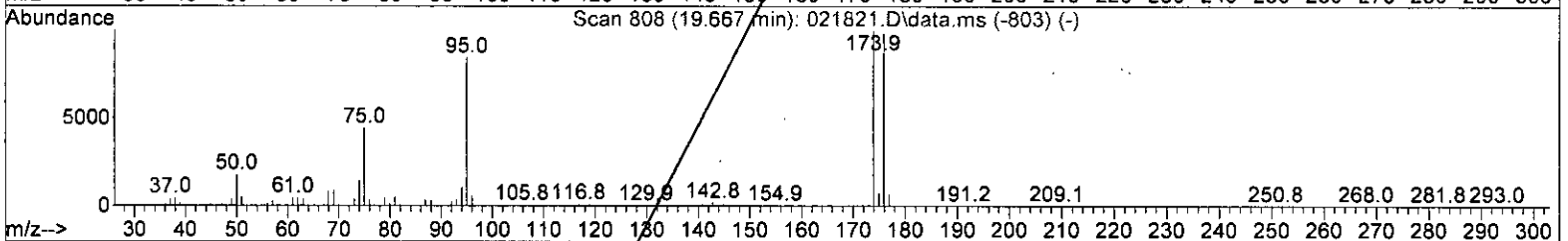
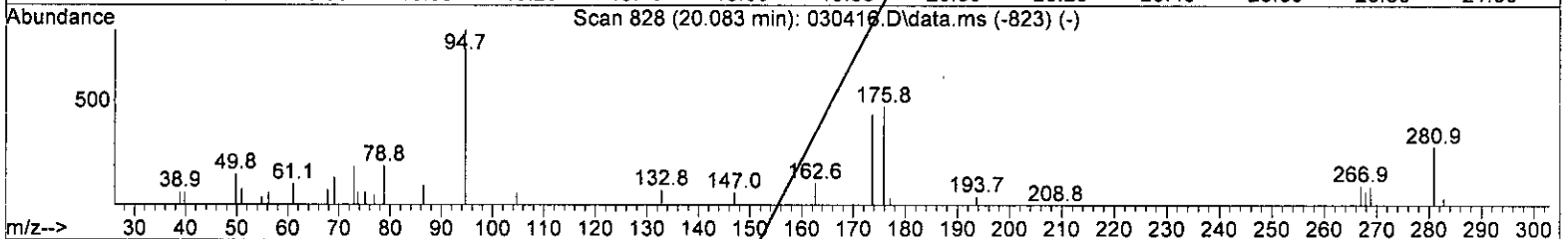
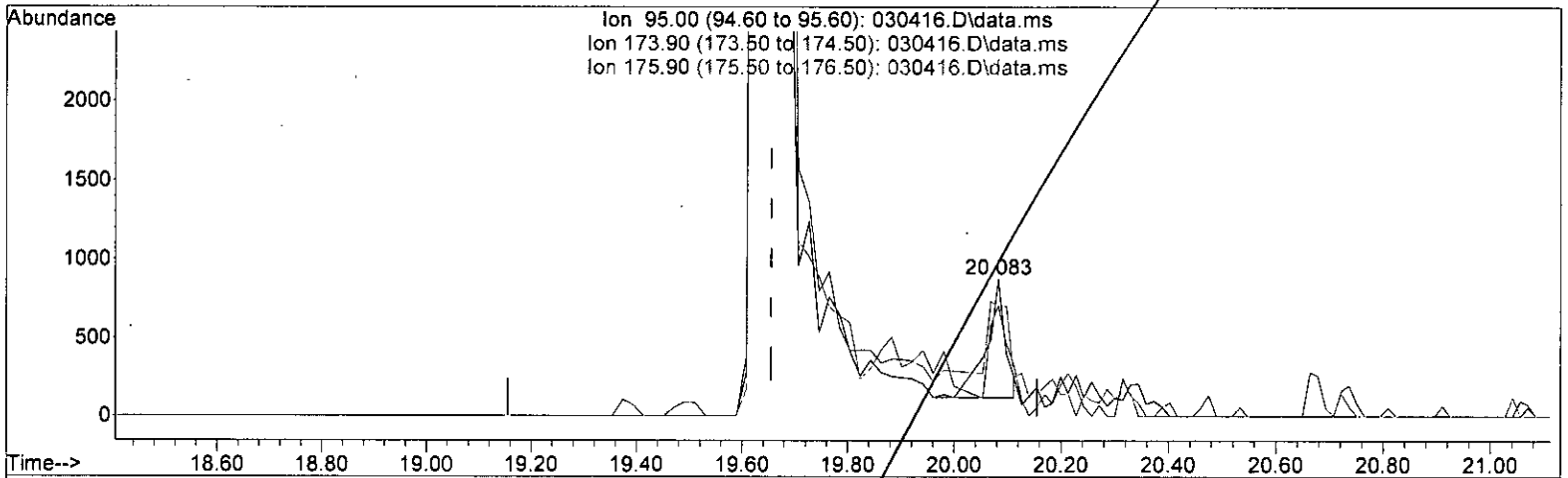
Ion	Exp%	Act%
63.00	100.00	100.00
76.00	25.70	65.79#
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* 03/07/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030416.D  
 Acq On : 5 Mar 2022 3:42 am  
 Operator : bat  
 Sample : 0.01 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:34 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030416.D\data.ms

(69) 4-Bromofluorobenzene (S)

20.083min (+ 0.428) 0.073 ppbv

response 2346

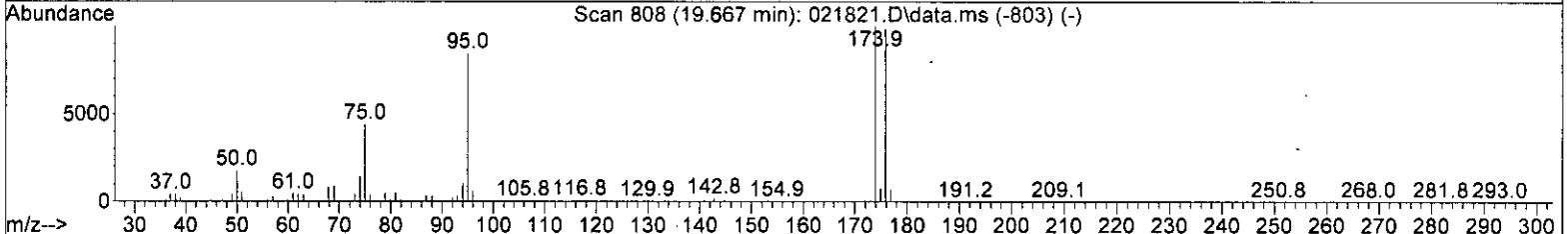
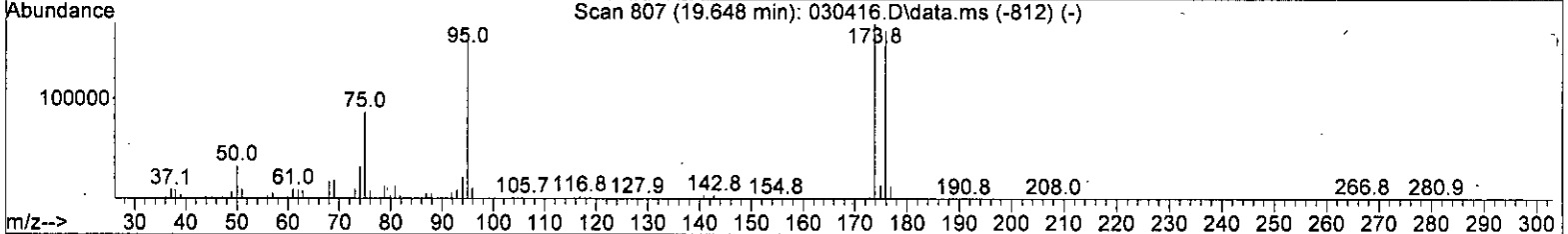
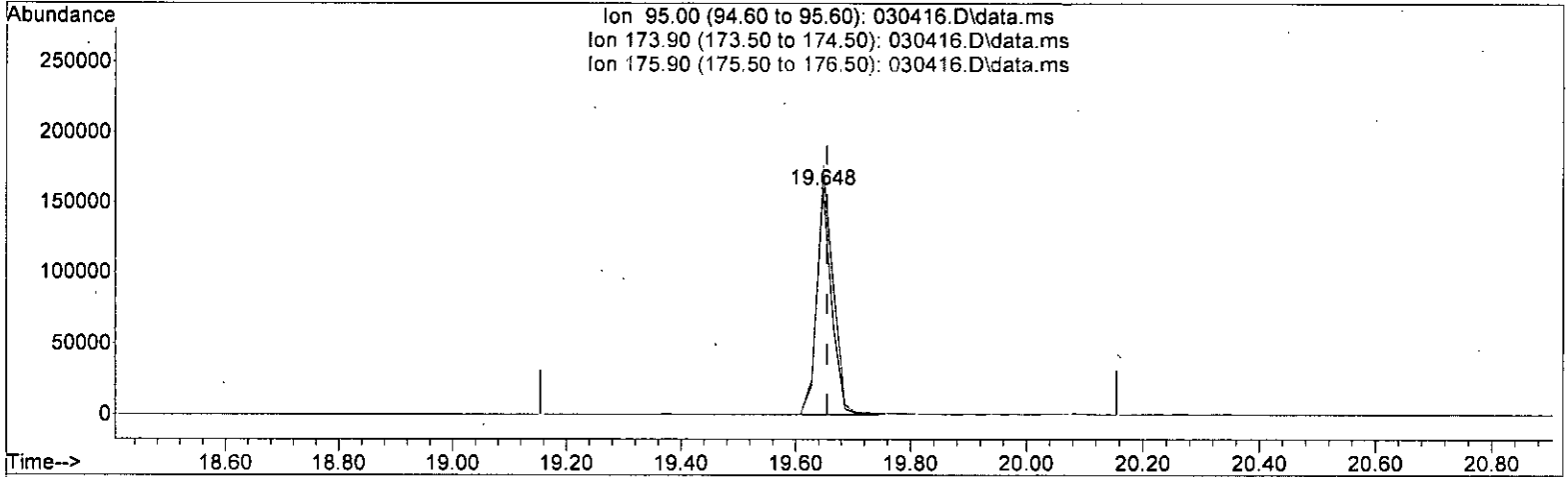
Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	57.88
175.90	70.90	62.78
0.00	0.00	0.00

*Handwritten signature: H. Dalatu*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030416.D  
 Acq On : 5 Mar 2022 3:42 am  
 Operator : bat  
 Sample : 0.01 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:34 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030416.D\data.ms

(69) 4-Bromofluorobenzene (S)

19.648min (-0.007) 9.198 ppbv m

response	Exp%	Act%
295043		
Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	110.89#
175.90	70.90	106.19#
0.00	0.00	0.00

*Handwritten signature:* 03/07/22

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030416.D  
 Acq On : 5 Mar 2022 3:42 am  
 Operator : bat  
 Sample : 0.01 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:58:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.98	128	113453	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	443140	10.000	ppbv	0.02
56) Chlorobenzene-d5	18.22	117	432236	10.000	ppbv	0.01

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.65	95	295043m	9.198	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	92.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.		
6) Vinyl chloride	0.00		0	N.D.	d	
7) 1,3-Butadiene	0.00		0	N.D.		
8) Butane	0.00		0	N.D.		
9) Bromomethane	0.00		0	N.D.		
10) Chloroethane	0.00		0	N.D.	d	
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.		
13) Acrolein	0.00		0	N.D.		
14) Pentane	0.00		0	N.D.		
15) Trichlorofluoromethane	5.89	101	370	N.D.		
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.		
18) 1,1-Dichloroethene	0.00		0	N.D.	d	
19) trans-1,2-Dichloroethene	0.00		0	N.D.	d	
20) Methylene chloride	0.00		0	N.D.	d	
21) t-Butyl alcohol (TBA)	0.00		0	N.D.		
22) 3-Chloropropene	0.00		0	N.D.		
23) CFC-113	0.00		0	N.D.		
24) Carbon disulfide	0.00		0	N.D.		
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27) 1,1-Dichloroethane	0.00		0	N.D.	d	
28) cis-1,2-Dichloroethene	0.00		0	N.D.	d	
29) Hexane	0.00		0	N.D.		
30) Chloroform	10.18	83	408	0.011	ppbv	97
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.		
33) 2-Butanone (MEK)	0.00		0	N.D.		
34) 1,2-Dichloroethane (EDC)	11.44	62	256	0.010	ppbv	96
35) 1,1,1-Trichloroethane	0.00		0	N.D.	d	
36) Carbon tetrachloride	0.00		0	N.D.	d	
37) Benzene	0.00		0	N.D.	d	
38) Cyclohexane	0.00		0	N.D.	d	
40) 1,2-Dichloropropane	13.88	63	193m	0.013	ppbv	
41) 1,4-Dioxane	0.00		0	N.D.	d	
42) 2,2,4-Trimethylpentane	14.32	57	217	N.D.		

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030416.D  
 Acq On : 5 Mar 2022 3:42 am  
 Operator : bat  
 Sample : 0.01 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS8

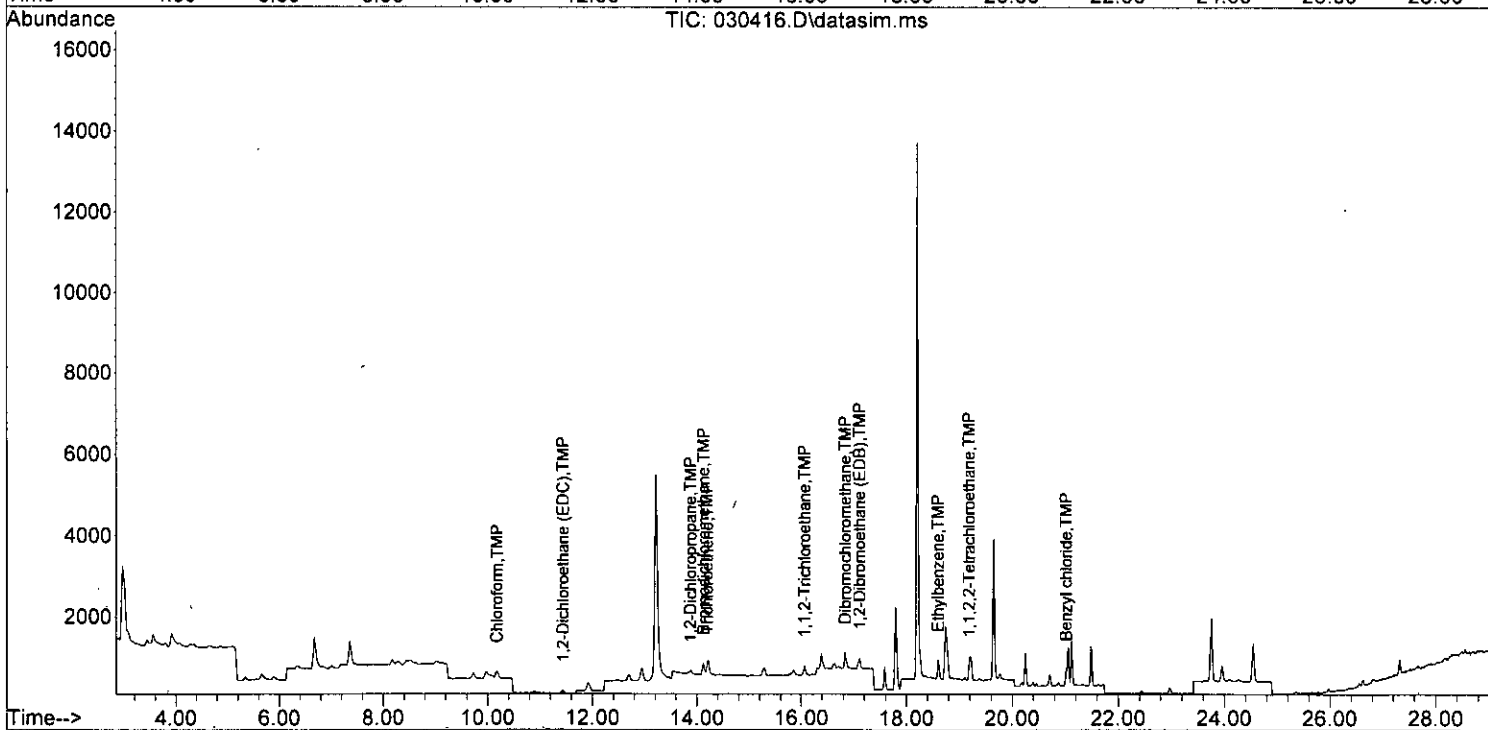
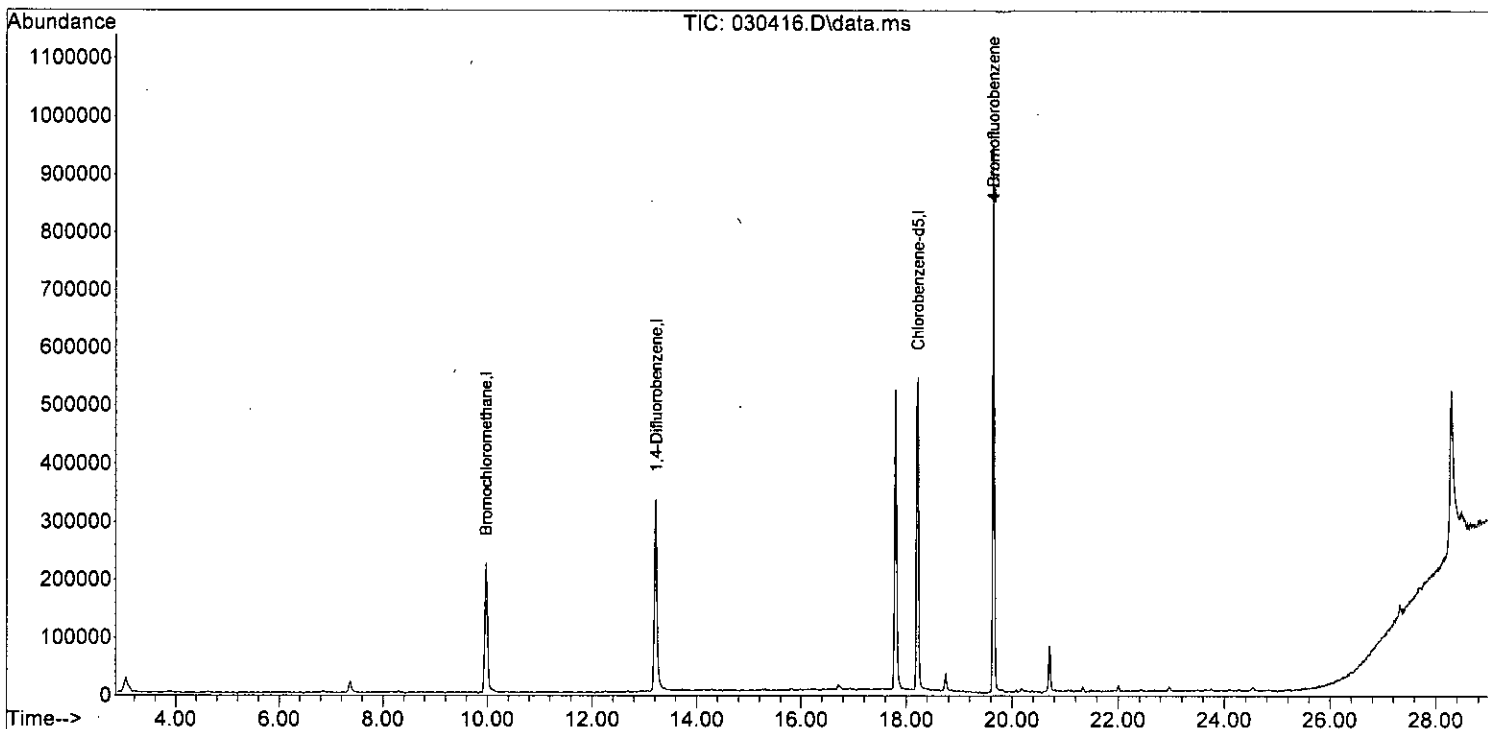
Quant Time: Mar 07 15:58:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45] Bromodichloromethane	14.13	83	461	0.013	ppbv	96
46] Trichloroethene	14.20	95	313	0.014	ppbv	85
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50) Toluene	0.00		0	N.D.	d	
51] 1,1,2-Trichloroethane	16.07	83	213	0.013	ppbv	82
52) 2-Hexanone	0.00		0	N.D.	d	
53) Tetrachloroethene	0.00		0	N.D.	d	
54] Dibromochloromethane	16.83	129	472	0.012	ppbv	99
55] 1,2-Dibromoethane (EDB)	17.11	107	373	0.013	ppbv	99
57) Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.60	91	824	0.013	ppbv	98
59] 1,1,2,2-Tetrachloroethane	19.18	83	531	0.012	ppbv	89
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65) m,p-Xylene	0.00		0	N.D.	d	
66) o-Xylene	0.00		0	N.D.	d	
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70] Benzyl chloride	21.02	91	585	0.011	ppbv	100
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74) 1,4-Dichlorobenzene	0.00		0	N.D.	d	
75) 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77) Naphthalene	0.00		0	N.D.	d	
78) Hexachlorobutadiene	0.00		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030416.D  
 Acq On : 5 Mar 2022 3:42 am  
 Operator : bat  
 Sample : 0.01 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:58:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M





Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030416.D  
 Acq On : 5 Mar 2022 3:42 am  
 Operator : bat  
 Sample : 0.01 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:58:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	-1.000	0.000	0.0	0	-3.47#
3 TMP	Dichlorodifluoromethane	-1.000	0.000	0.0	0	-3.55#
4 TMP	Chloromethane	-1.000	0.000	0.0	0	-3.80#
5 TMP	F-114	-1.000	0.000	0.0	0	-3.91#
6 TMP	Vinyl chloride	-1.000	0.000	0.0	0	-4.08#
7 TMP	1,3-Butadiene	-1.000	0.000	0.0	0	-4.27#
8 TMP	Butane	-1.000	0.000	0.0	0	-4.35#
9 TMP	Bromomethane	-1.000	0.000	0.0	0	-4.67#
10 TMP	Chloroethane	-1.000	0.000	0.0	0	-4.87#
11 TMP	Vinyl bromide	-1.000	0.000	0.0	0	-5.34#
12 TMP	Ethanol	-1.000	0.000	0.0	0	-4.98#
13 TMP	Acrolein	-1.000	0.000	0.0	0	-5.46#
14 TMP	Pentane	-1.000	0.000	0.0	0	-6.35#
15 TMP	Trichlorofluoromethane	-1.000	0.006	0.0	0	0.00
16 TMP	Acetone	-1.000	0.000	0.0	0	-5.63#
17 TMP	2-Propanol	-1.000	0.000	0.0	0	-5.89#
18 TMP	1,1-Dichloroethene	-1.000	0.000	0.0	0	-6.72#
19 TMP	trans-1,2-Dichloroethene	-1.000	0.000	0.0	0	-8.17#
20 TMP	Methylene chloride	-1.000	0.000	0.0	0	-6.85#
21 TMP	t-Butyl alcohol (TBA)	-1.000	0.000	0.0	0	-6.67#
22 TMP	3-Chloropropene	-1.000	0.000	0.0	0	-7.04#
23 TMP	CFC-113	-1.000	0.000	0.0	0	-7.25#
24 TMP	Carbon disulfide	-1.000	0.000	0.0	0	-7.04#
25 TMP	Methyl t-butyl ether (MTBE)	-1.000	0.000	0.0	0	-8.53#
26 TMP	Vinyl acetate	-1.000	0.000	0.0	0	-8.64#
27 TMP	1,1-Dichloroethane	-1.000	0.000	0.0	0	-8.46#
28 TMP	cis-1,2-Dichloroethene	-1.000	0.000	0.0	0	-9.73#
29 TMP	Hexane	-1.000	0.000	0.0	0	-10.10#
30 TMP	Chloroform	0.010	0.011	-10.0	100	0.00
31 TMP	Ethyl acetate	-1.000	0.000	0.0	0	-10.03#
32 TMP	Tetrahydrofuran	-1.000	0.000	0.0	0	-10.86#
33 TMP	2-Butanone (MEK)	-1.000	0.000	0.0	0	-9.01#
34 TMP	1,2-Dichloroethane (EDC)	0.010	0.010	0.0	100	0.00
35 TMP	1,1,1-Trichloroethane	-1.000	0.000	0.0	0	-11.92#
36 TMP	Carbon tetrachloride	-1.000	0.000	0.0	0	-12.95#
37 TMP	Benzene	-1.000	0.000	0.0	0	-12.69#
38 TMP	Cyclohexane	-1.000	0.000	0.0	0	-13.15#
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.02
40 TMP	1,2-Dichloropropane	0.010	0.013	-30.0	104	0.00
41 TMP	1,4-Dioxane	-1.000	0.000	0.0	0	-14.18#
42 TMP	2,2,4-Trimethylpentane	-1.000	0.006	0.0	0	0.02
43 TMP	Methyl methacrylate	-1.000	0.000	0.0	0	-14.44#
44 TMP	Heptane	-1.000	0.000	0.0	0	-14.61#
45 TMP	Bromodichloromethane	0.010	0.013	-30.0	100	0.00

Evaluate Continuing Calibration Report.

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030416.D  
 Acq On : 5 Mar 2022 3:42 am  
 Operator : bat  
 Sample : 0.01 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:58:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.010	0.014	-40.0#	100	0.00
47 TMP cis-1,3-Dichloropropene	-1.000	0.000	0.0	0	-15.28#
48 TMP 4-Methyl-2-pentanone	-1.000	0.000	0.0	0	-15.30#
49 TMP trans-1,3-Dichloropropene	-1.000	0.000	0.0	0	-15.85#
50 TMP Toluene	-1.000	0.000	0.0	0	-16.38#
51 TMP 1,1,2-Trichloroethane	0.010	0.013	-30.0	100	0.00
52 TMP 2-Hexanone	-1.000	0.000	0.0	0	-16.63#
53 TMP Tetrachloroethene	-1.000	0.000	0.0	0	-17.59#
54 TMP Dibromochloromethane	0.010	0.012	-20.0	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.010	0.013	-30.0	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.01
57 TMP Chlorobenzene	-1.000	0.000	0.0	0	-18.25#
58 TMP Ethylbenzene	0.010	0.013	-30.0	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.010	0.012	-20.0	100	0.00
60 TMP Nonane	-1.000	0.000	0.0	0	-19.38#
61 TMP Isopropylbenzene	-1.000	0.000	0.0	0	-19.77#
62 TMP 2-Chlorotoluene	-1.000	0.000	0.0	0	-20.23#
63 TMP Propylbenzene	-1.000	0.000	0.0	0	-20.25#
64 TMP 4-Ethyltoluene	-1.000	0.000	0.0	0	-20.39#
65 TMP m,p-Xylene	-1.000	0.000	0.0	0	-18.78#
66 TMP o-Xylene	-1.000	0.000	0.0	0	-19.23#
67 TMP Styrene	-1.000	0.000	0.0	0	-19.11#
68 TMP Bromoform	-1.000	0.000	0.0	0	-18.87#
69 S 4-Bromofluorobenzene	10.000	9.198	8.0	98	0.00
70 TMP Benzyl chloride	0.010	0.011	-10.0	100	0.00
71 TMP 1,3,5-Trimethylbenzene	-1.000	0.000	0.0	0	-20.45#
72 TMP 1,2,4-Trimethylbenzene	-1.000	0.000	0.0	0	-20.87#
73 TMP 1,3-Dichlorobenzene	-1.000	0.000	0.0	0	-21.05#
74 TMP 1,4-Dichlorobenzene	-1.000	0.000	0.0	0	-21.11#
75 TMP 1,2-Dichlorobenzene	-1.000	0.000	0.0	0	-21.49#
76 TMP 1,2,4-Trichlorobenzene	-1.000	0.000	0.0	0	-23.75#
77 TMP Naphthalene	-1.000	0.000	0.0	0	-23.95#
78 TMP Hexachlorobutadiene	-1.000	0.000	0.0	0	-24.55#

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030416.D  
 Acq On : 5 Mar 2022 3:42 am  
 Operator : bat  
 Sample : 0.01 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:58:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP Propene	0.552	0.000	100.0#	0#	-3.47#
3 TMP Dichlorodifluoromethane	4.565	0.000#	100.0#	0#	-3.55#
4 TMP Chloromethane	0.776	0.000#	100.0#	0#	-3.80#
5 TMP F-114	3.419	0.000	100.0#	0#	-3.91#
6 TMP Vinyl chloride	1.082	0.000#	100.0#	0#	-4.08#
7 TMP 1,3-Butadiene	0.605	0.000	100.0#	0#	-4.27#
8 TMP Butane	1.161	0.000	100.0#	0#	-4.35#
9 TMP Bromomethane	1.196	0.000#	100.0#	0#	-4.67#
10 TMP Chloroethane	0.395	0.000#	100.0#	0#	-4.87#
11 TMP Vinyl bromide	1.286	0.000	100.0#	0#	-5.34#
12 TMP Ethanol	0.174	0.000	100.0#	0#	-4.98#
13 TMP Acrolein	0.252	0.000	100.0#	0#	-5.46#
14 TMP Pentane	1.140	0.000#	100.0#	0#	-6.35#
15 TMP Trichlorofluoromethane	5.069	0.000#	100.0#	0#	0.00
16 TMP Acetone	0.404	0.000#	100.0#	0#	-5.63#
17 TMP 2-Propanol	1.563	0.000	100.0#	0#	-5.89#
18 TMP 1,1-Dichloroethene	1.255	0.000#	100.0#	0#	-6.72#
19 TMP trans-1,2-Dichloroethene	1.195	0.000	100.0#	0#	-8.17#
20 TMP Methylene chloride	1.141	0.000#	100.0#	0#	-6.85#
21 TMP t-Butyl alcohol (TBA)	2.068	0.000	100.0#	0#	-6.67#
22 TMP 3-Chloropropene	1.240	0.000	100.0#	0#	-7.04#
23 TMP CFC-113	3.311	0.000	100.0#	0#	-7.25#
24 TMP Carbon disulfide	0.538	0.000	100.0#	0#	-7.04#
25 TMP Methyl t-butyl ether (MTBE)	2.982	0.000#	100.0#	0#	-8.53#
26 TMP Vinyl acetate	1.012	0.000#	100.0#	0#	-8.64#
27 TMP 1,1-Dichloroethane	2.186	0.000#	100.0#	0#	-8.46#
28 TMP cis-1,2-Dichloroethene	1.262	0.000#	100.0#	0#	-9.73#
29 TMP Hexane	1.109	0.000	100.0#	0#	-10.10#
30 TMP Chloroform	3.255	3.596	-10.5	100	0.00
31 TMP Ethyl acetate	2.770	0.000	100.0#	0#	-10.03#
32 TMP Tetrahydrofuran	0.872	0.000	100.0#	0#	-10.86#
33 TMP 2-Butanone (MEK)	0.459	0.000	100.0#	0#	-9.01#
34 TMP 1,2-Dichloroethane (EDC)	2.237	2.256	-0.8	100	0.00
35 TMP 1,1,1-Trichloroethane	3.544	0.000#	100.0#	0#	-11.92#
36 TMP Carbon tetrachloride	4.146	0.000#	100.0#	0#	-12.95#
37 TMP Benzene	3.534	0.000#	100.0#	0#	-12.69#
38 TMP Cyclohexane	0.985	0.000	100.0#	0#	-13.15#
39 I 1,4-Difluorobenzene	1.000	1.000	0.0	100	0.02
40 TMP 1,2-Dichloropropane	0.330	0.436	-32.1#	104	0.00
41 TMP 1,4-Dioxane	0.175	0.000	100.0#	0#	-14.18#
42 TMP 2,2,4-Trimethylpentane	0.861	0.000	100.0#	0#	0.02
43 TMP Methyl methacrylate	0.296	0.000	100.0#	0#	-14.44#
44 TMP Heptane	0.327	0.000	100.0#	0#	-14.61#
45 TMP Bromodichloromethane	0.825	1.040	-26.1	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030416.D  
 Acq On : 5 Mar 2022 3:42 am  
 Operator : bat  
 Sample : 0.01 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 16 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:58:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area	% Dev (min)
46 TMP Trichloroethene	0.503	0.706	-40.4#	100	0.00
47 TMP cis-1,3-Dichloropropene	0.529	0.000	100.0#	0#	-15.28#
48 TMP 4-Methyl-2-pentanone	0.038	0.000	100.0#	0#	-15.30#
49 TMP trans-1,3-Dichloropropene	0.508	0.000	100.0#	0#	-15.85#
50 TMP Toluene	0.513	0.000	100.0#	0#	-16.38#
51 TMP 1,1,2-Trichloroethane	0.372	0.481	-29.3	100	0.00
52 TMP 2-Hexanone	0.484	0.000#	100.0#	0#	-16.63#
53 TMP Tetrachloroethene	0.508	0.000#	100.0#	0#	-17.59#
54 TMP Dibromochloromethane	0.909	1.065	-17.2	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.658	0.842	-28.0	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.01
57 TMP Chlorobenzene	0.933	0.000#	100.0#	0#	-18.25#
58 TMP Ethylbenzene	1.442	1.906	-32.2#	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.993	1.228	-23.7	100	0.00
60 TMP Nonane	0.561	0.000	100.0#	0#	-19.38#
61 TMP Isopropylbenzene	1.680	0.000	100.0#	0#	-19.77#
62 TMP 2-Chlorotoluene	0.432	0.000	100.0#	0#	-20.23#
63 TMP Propylbenzene	3.087	0.000	100.0#	0#	-20.25#
64 TMP 4-Ethyltoluene	1.595	0.000	100.0#	0#	-20.39#
65 TMP m,p-Xylene	0.541	0.000#	100.0#	0#	-18.78#
66 TMP o-Xylene	0.504	0.000#	100.0#	0#	-19.23#
67 TMP Styrene	0.757	0.000#	100.0#	0#	-19.11#
68 TMP Bromoform	1.279	0.000#	100.0#	0#	-18.87#
69 S 4-Bromofluorobenzene	0.742	0.683	8.0	98	0.00
70 TMP Benzyl chloride	1.263	1.353	-7.1	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.434	0.000	100.0#	0#	-20.45#
72 TMP 1,2,4-Trimethylbenzene	1.359	0.000	100.0#	0#	-20.87#
73 TMP 1,3-Dichlorobenzene	1.193	0.000	100.0#	0#	-21.05#
74 TMP 1,4-Dichlorobenzene	1.211	0.000	100.0#	0#	-21.11#
75 TMP 1,2-Dichlorobenzene	1.153	0.000	100.0#	0#	-21.49#
76 TMP 1,2,4-Trichlorobenzene	1.110	0.000	100.0#	0#	-23.75#
77 TMP Naphthalene	1.414	0.000	100.0#	0#	-23.95#
78 TMP Hexachlorobutadiene	1.608	0.000	100.0#	0#	-24.55#

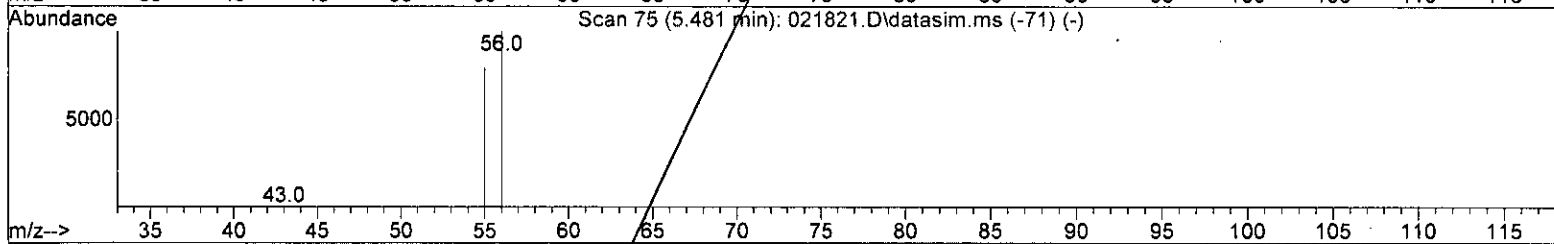
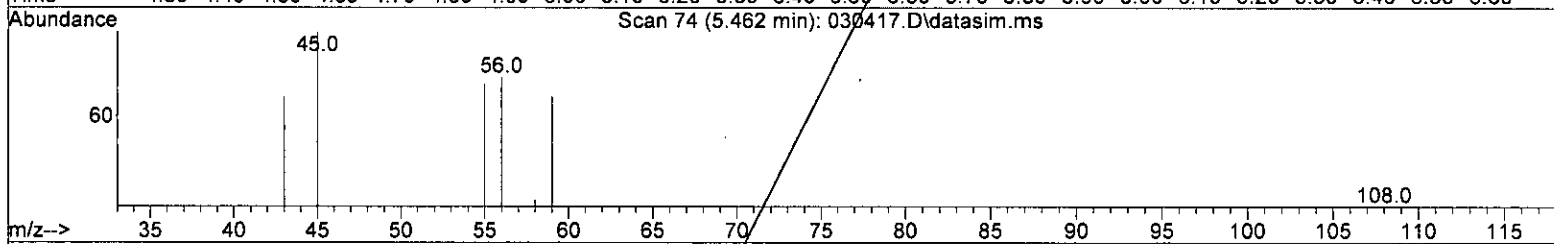
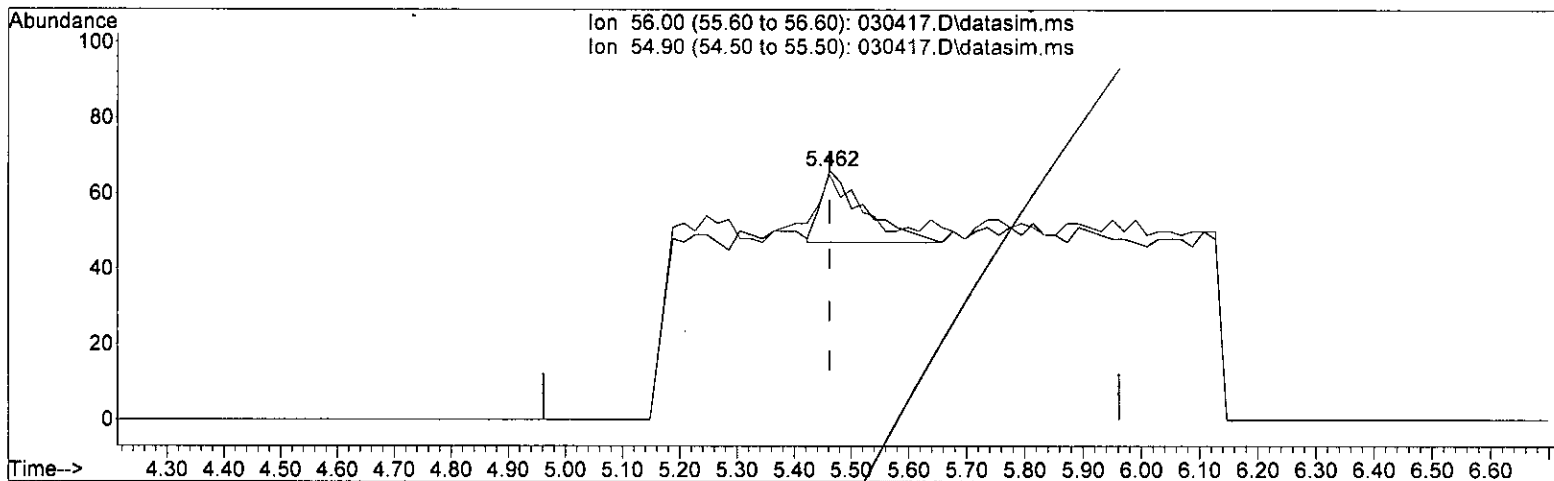
(#) = Out of Range

SPCC's out = 24 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030417.D  
 Acq On : 5 Mar 2022 4:22 am  
 Operator : bat  
 Sample : 0.02 ppbv , 65-194  
 Misc : T2  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:42 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030417.D\data.ms

(13) Acrolein (TMP)

5.462min (-0.000) 0.027 ppbv

response 100

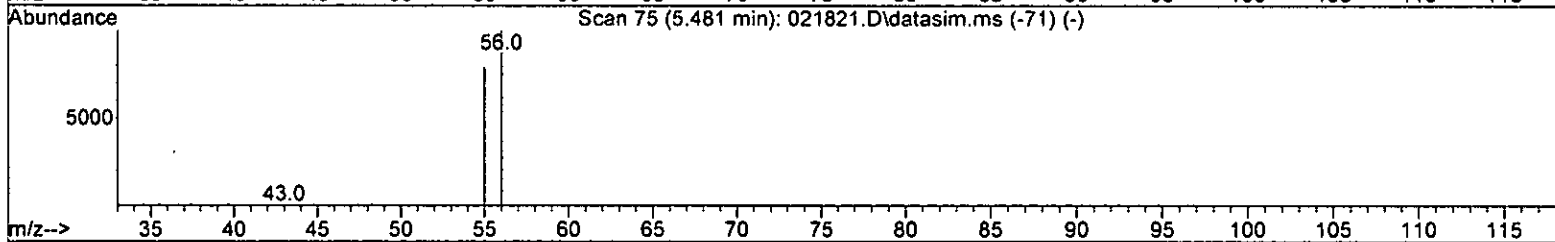
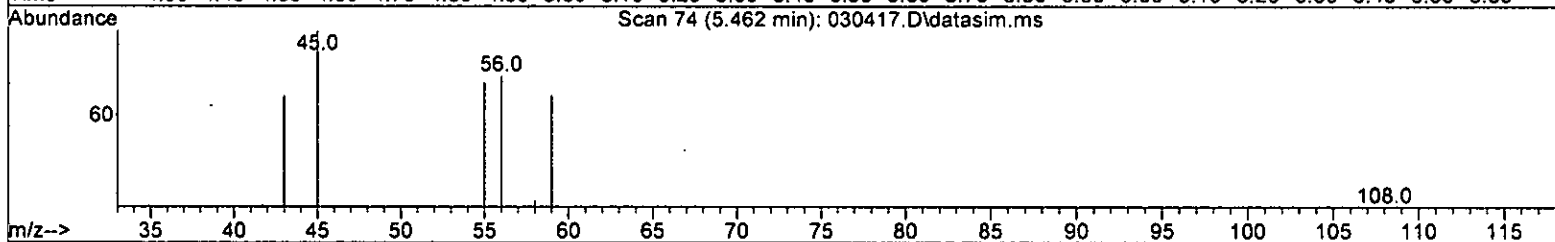
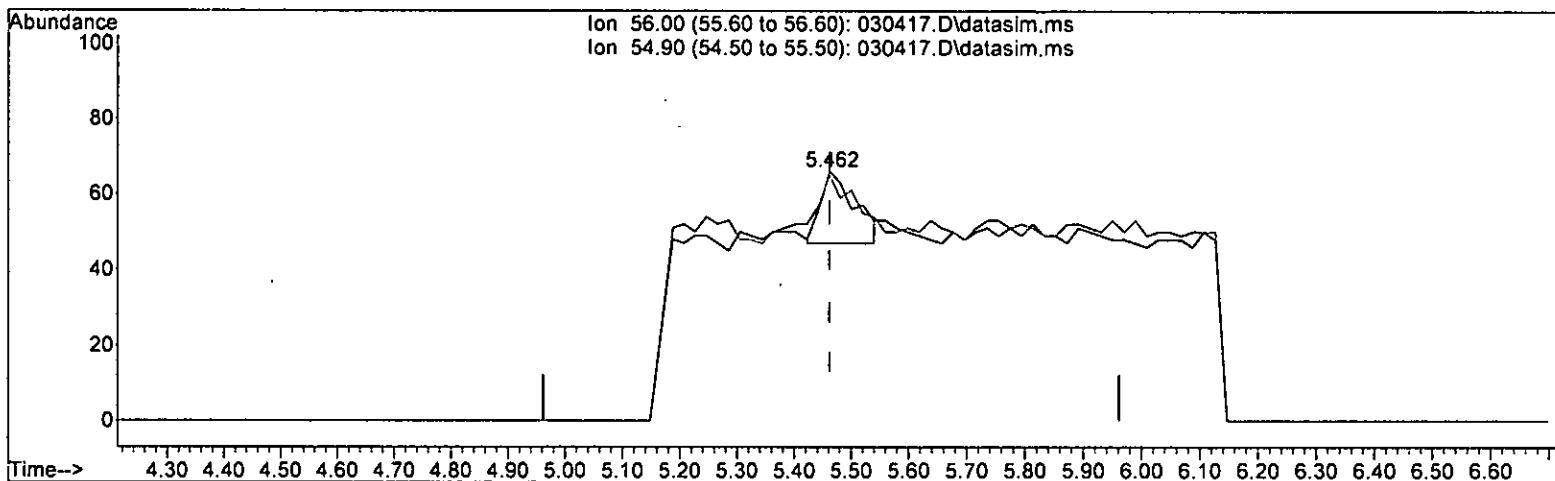
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

*bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030417.D  
 Acq On : 5 Mar 2022 4:22 am  
 Operator : bat  
 Sample : 0.02 ppbv , 65-194  
 Misc : T2  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:42 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030417.D\data.ms

(13) Acrolein (TMP)

5.462min (-0.000) 0.019 ppbv m

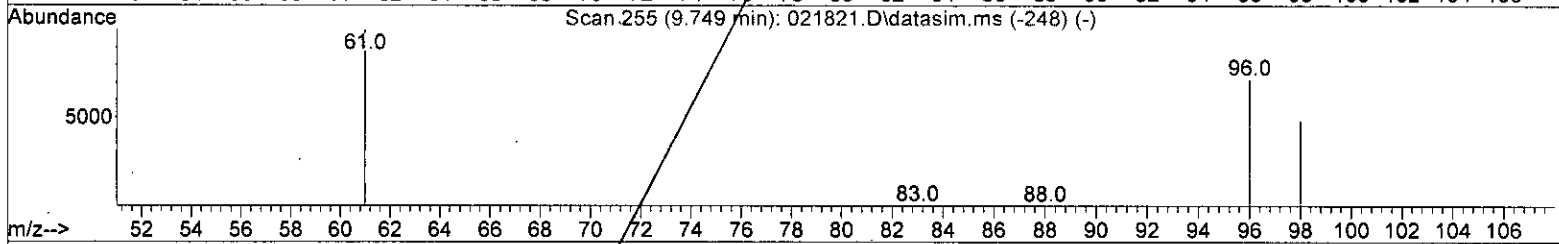
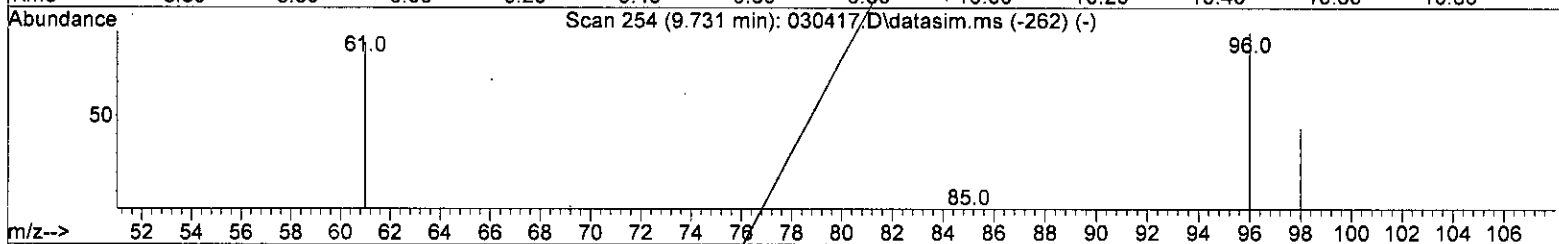
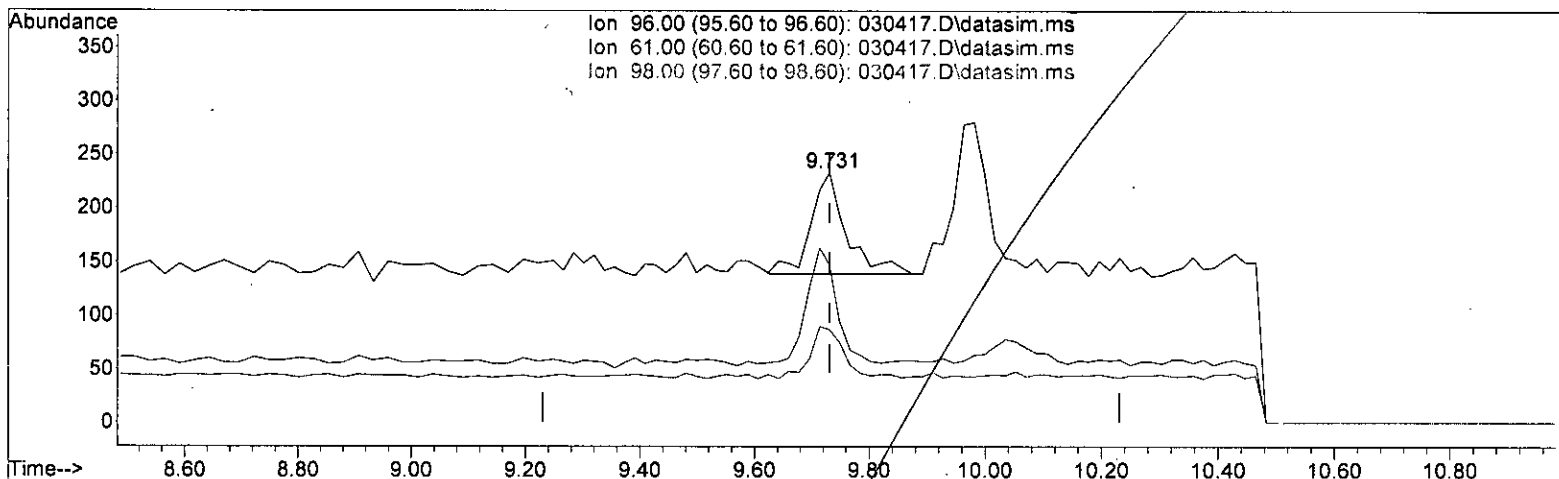
response	81
Ion	Exp% Act%
56.00	100.00 100.00
54.90	81.00 79.01
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten signature:* u / 03/07/22

Quantitation Report (Qedit)

Data Path : F:\Proc GCMS8\03-04-22\  
 Data File : 030417.D  
 Acq On : 5 Mar 2022 4:22 am  
 Operator : bat  
 Sample : 0.02 ppbv , 65-194  
 Misc : T2  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:42 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(28) cis-1,2-Dichloroethene (TMP)

9.731min (+ 0.000) 0.030 ppbv

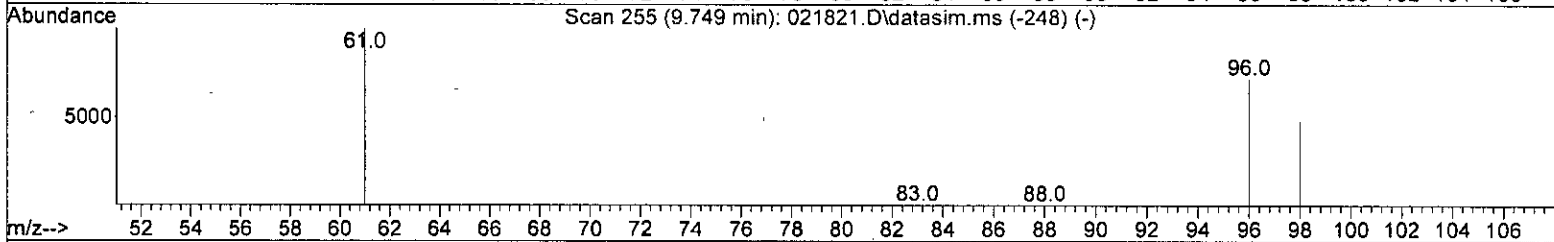
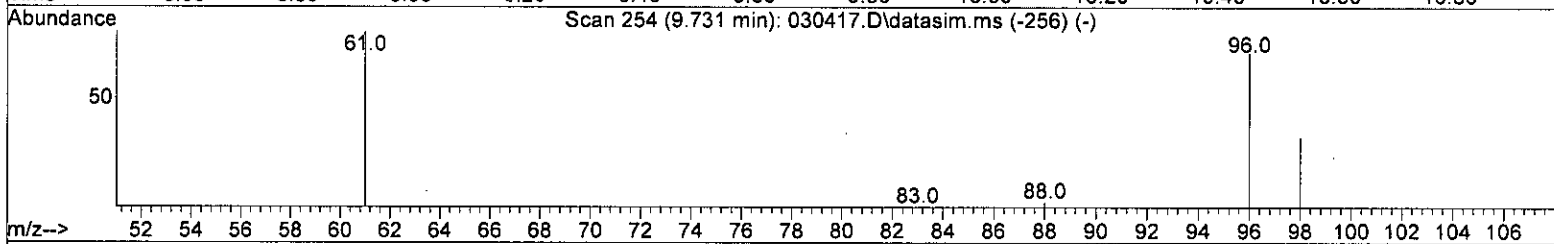
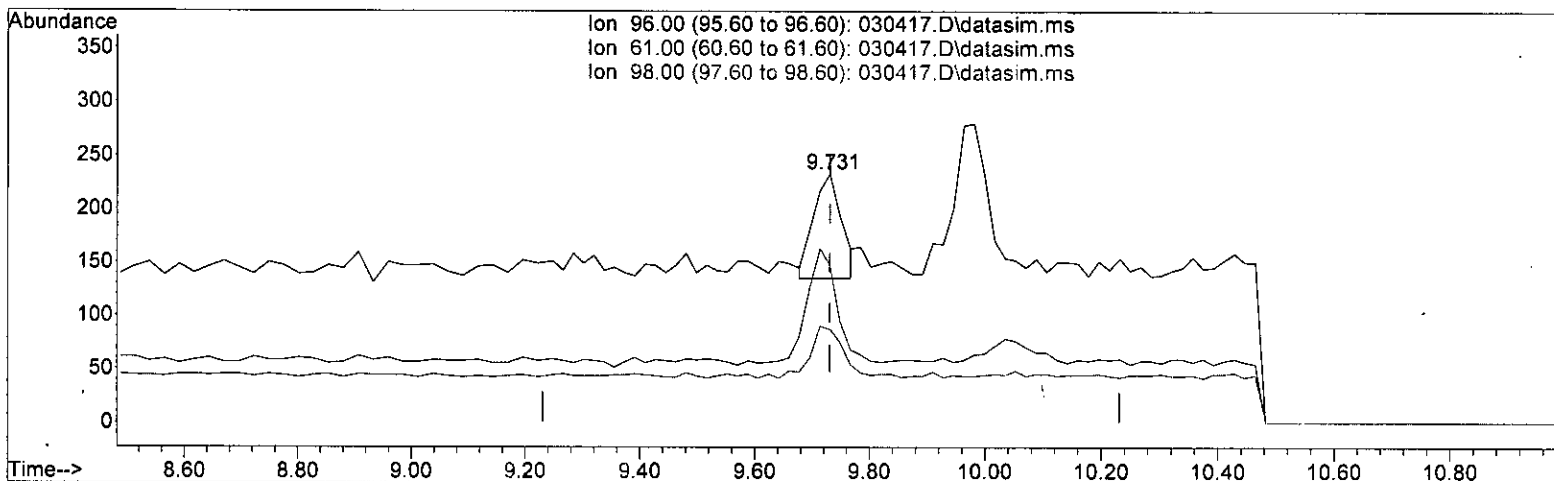
response 409

Ion	Exp%	Act%
96.00	100.00	100.00
61.00	146.00	96.81#
98.00	65.20	46.81
0.00	0.00	0.00

*Handwritten note:* ✓ 03/07/22

Data Path : F:\Proc GCMS8\03-04-22\  
 Data File : 030417.D  
 Acq On : 5 Mar 2022 4:22 am  
 Operator : bat  
 Sample : 0.02 ppbv , 65-194  
 Misc : T2  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:42 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030417.D\data.ms

(28) cis-1,2-Dichloroethene (TMP)

9.731min (+ 0.000) 0.024 ppbv m

response 336

Ion	Exp%	Act%
96.00	100.00	100.00
61.00	146.00	63.09#
98.00	65.20	37.34
0.00	0.00	0.00

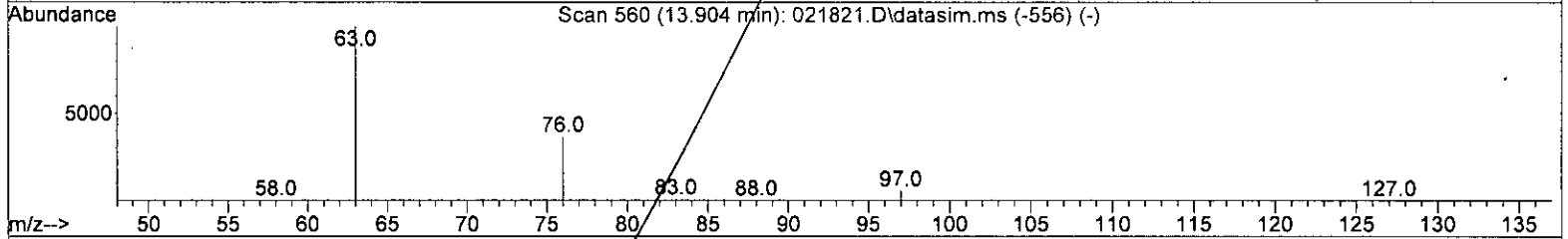
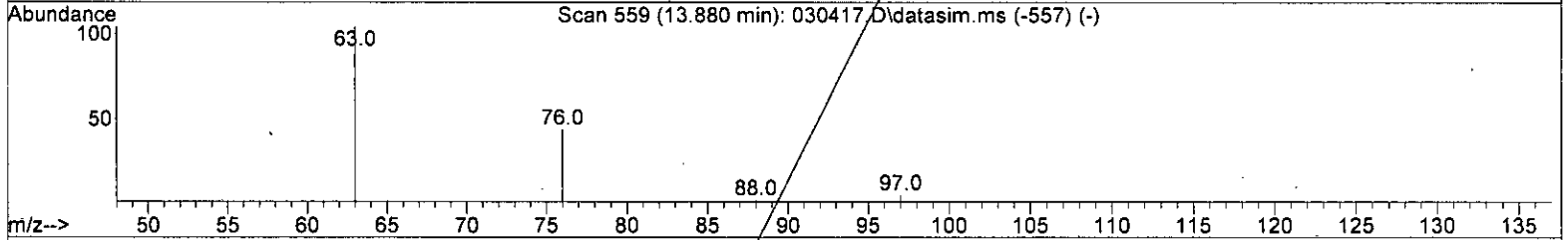
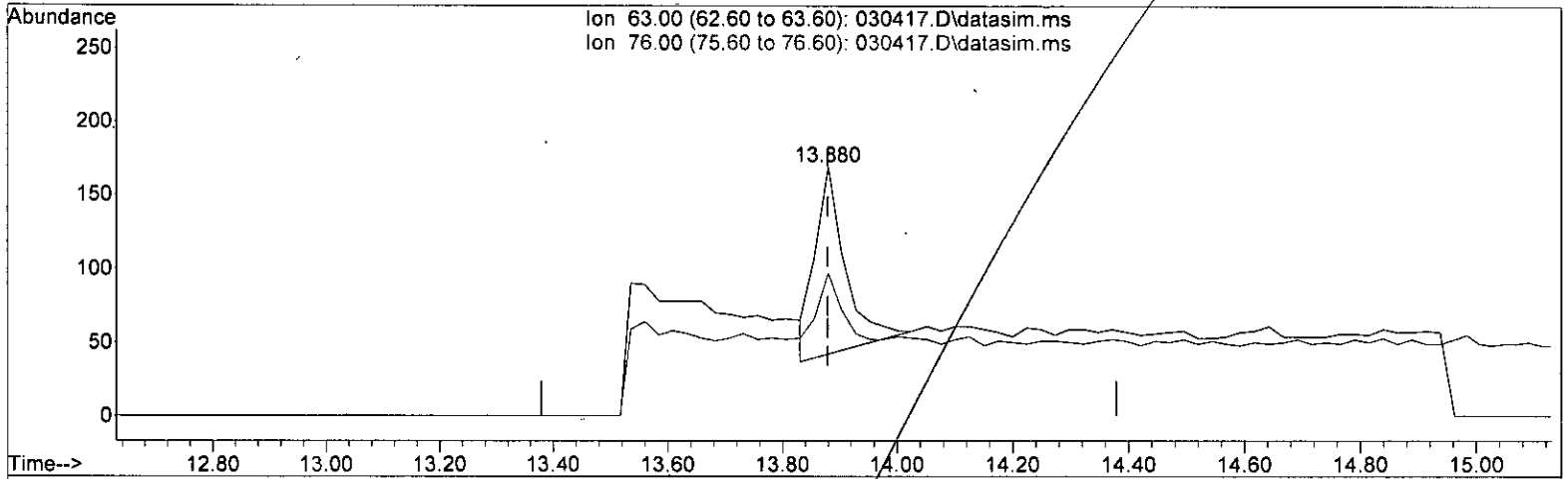
*Handwritten signature/initials*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030417.D  
 Acq On : 5 Mar 2022 4:22 am  
 Operator : bat  
 Sample : 0.02 ppbv , 65-194  
 Misc : T2  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:42 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030417.D\data.ms

(40) 1,2-Dichloropropane (TMP)

13.880min (+ 0.001) 0.032 ppbv

response 471

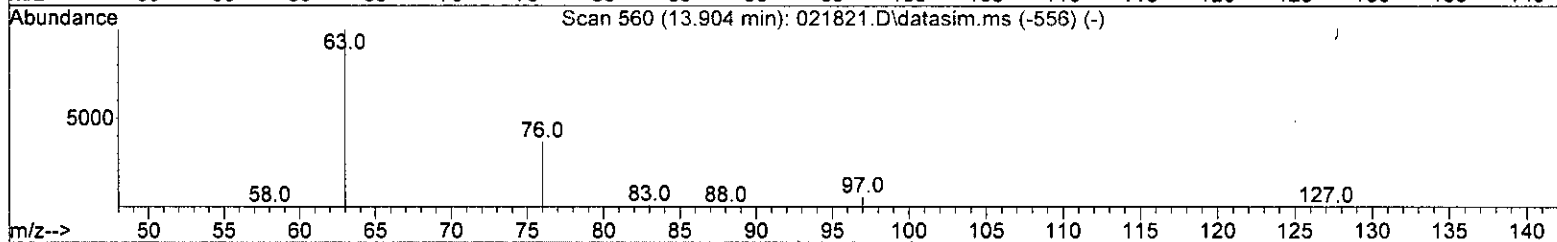
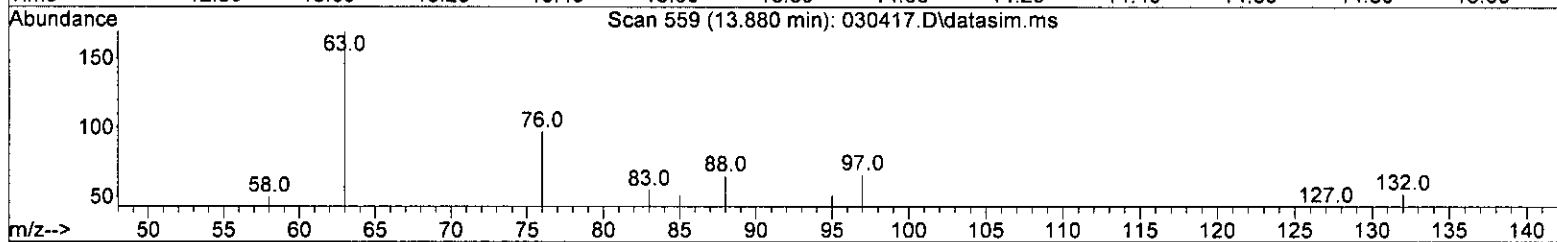
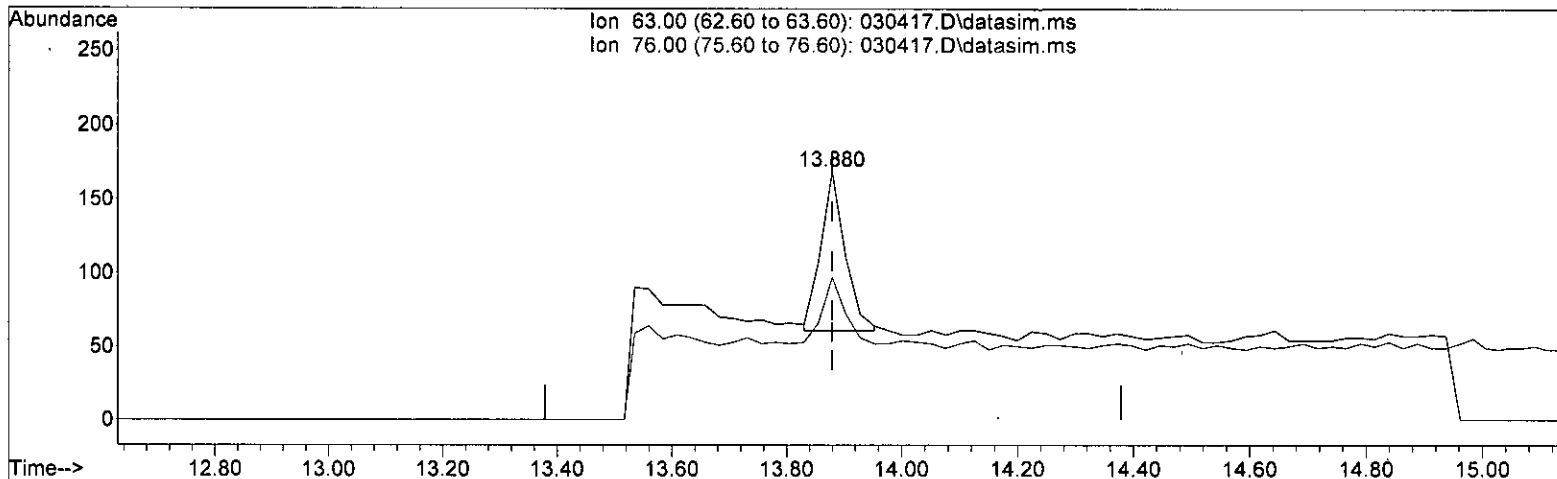
Ion	Exp%	Act%
63.00	100.00	100.00
76.00	25.70	39.64
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc GCMS8\03-04-22\  
 Data File : 030417.D  
 Acq On : 5 Mar 2022 4:22 am  
 Operator : bat  
 Sample : 0.02 ppbv , 65-194  
 Misc : T2  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:42 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030417.D\data.ms

(40) 1,2-Dichloropropane (TMP)

13.880min (+ 0.001) 0.022 ppbv m

response 320

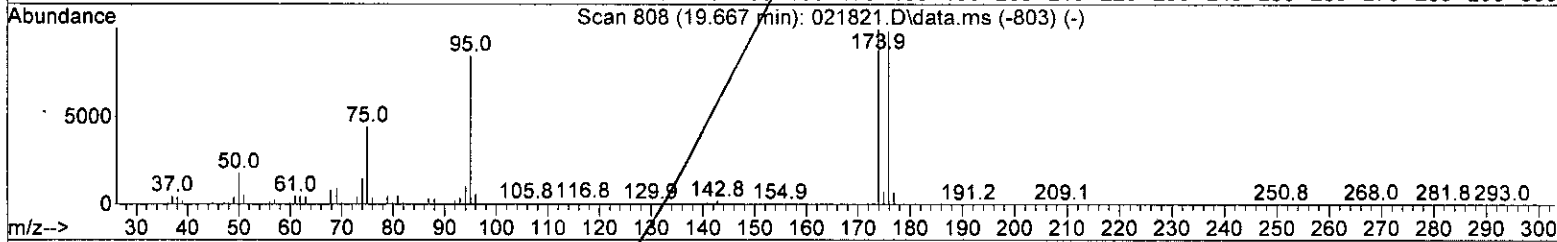
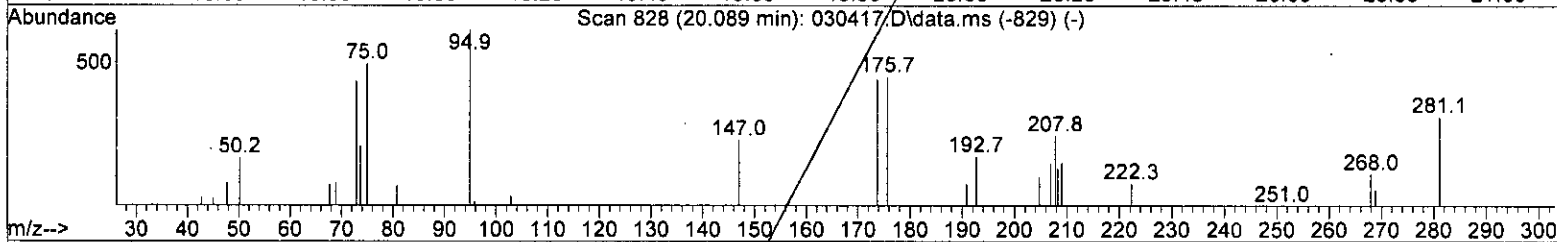
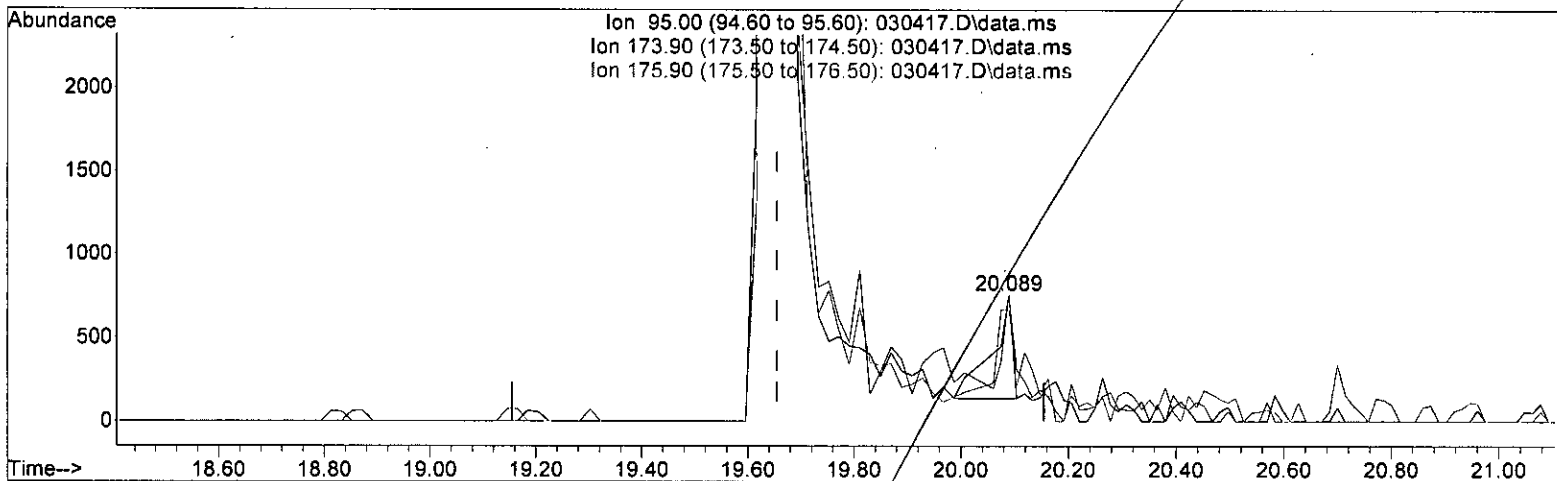
Ion	Exp%	Act%
63.00	100.00	100.00
76.00	25.70	57.40#
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* U 03/07/22

Quantitation Report (Qedit)

Data Path : F:\Proc GCMS8\03-04-22\  
 Data File : 030417.D  
 Acq On : 5 Mar 2022 4:22 am  
 Operator : bat  
 Sample : 0.02 ppbv , 65-194  
 Misc : T2  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:42 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030417.D\data.ms

(69) 4-Bromofluorobenzene (S)

20.089min (+ 0.434) 0.058 ppbv

response 1852

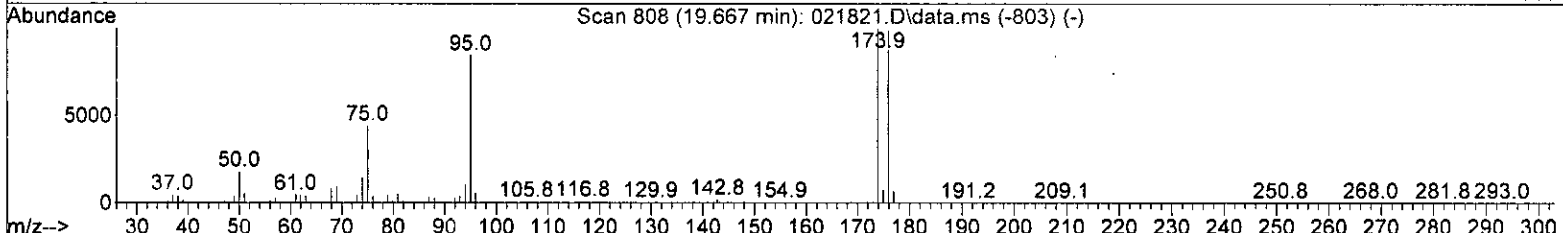
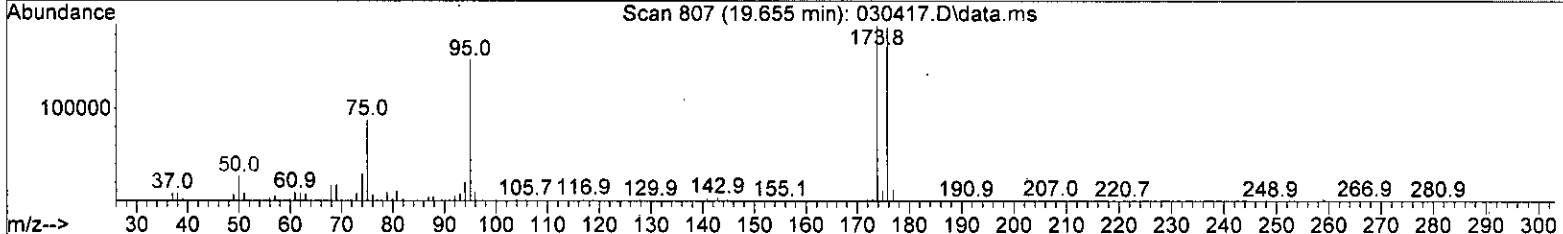
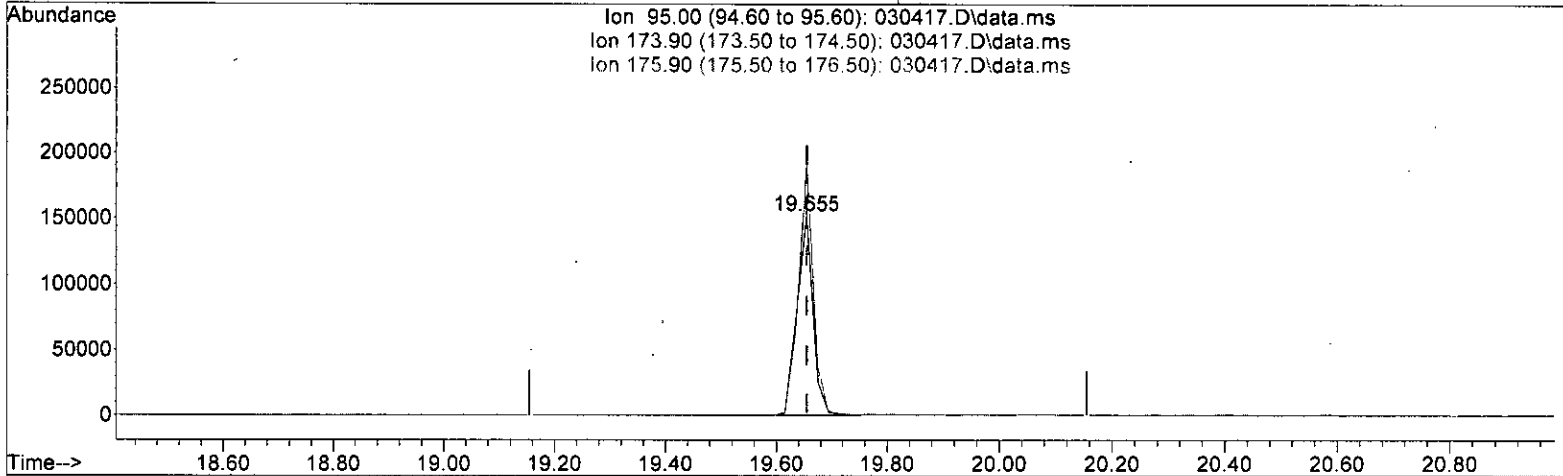
Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	83.71
175.90	70.90	83.88
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030417.D  
 Acq On : 5 Mar 2022 4:22 am  
 Operator : bat  
 Sample : 0.02 ppbv , 65-194  
 Misc : T2  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:42 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030417.D\data.ms

(69) 4-Bromofluorobenzene (S)

19.655min (-0.000) 9.455 ppbv m

response	300481
Ion	Exp% Act%
95.00	100.00 100.00
173.90	73.50 125.27#
175.90	70.90 123.47#
0.00	0.00 0.00

*Handwritten signature:* 4/1/2022

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030417.D  
 Acq On : 5 Mar 2022 4:22 am  
 Operator : bat  
 Sample : 0.02 ppbv , 65-194  
 Misc : T2  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:07:43 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.98	128	108997	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	446482	10.000	ppbv	0.02
56) Chlorobenzene-d5	18.21	117	428214	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.65	95	300481m	9.455	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	94.60%
Target Compounds						
2) Propene	0.00		0	N.D.		Qvalue
3) Dichlorodifluoromethane	0.00		0	N.D.	d	
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	0.00		0	N.D.	d	
6] Vinyl chloride	4.08	62	315	0.027	ppbv	99
7] 1,3-Butadiene	4.27	54	143	0.022	ppbv #	65
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.	d	
10) Chloroethane	0.00		0	N.D.	d	
11) Vinyl bromide	0.00		0	N.D.	d	
12) Ethanol	0.00		0	N.D.	d	
13] Acrolein	5.46	56	81m	0.019	ppbv	
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18] 1,1-Dichloroethene	6.73	96	377	0.028	ppbv	81
19] trans-1,2-Dichloroethene	8.17	96	358	0.027	ppbv #	75
20) Methylene chloride	0.00		0	N.D.	d	
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	0.00		0	N.D.	d	
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.46	63	508	0.021	ppbv	91
28] cis-1,2-Dichloroethene	9.73	96	336m	0.024	ppbv	
29) Hexane	0.00		0	N.D.	d	
30] Chloroform	10.18	83	742	0.021	ppbv	96
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34] 1,2-Dichloroethane (EDC)	11.43	62	506	0.021	ppbv	97
35] 1,1,1-Trichloroethane	11.92	97	835m	0.022	ppbv	
36] Carbon tetrachloride	12.94	117	1012	0.022	ppbv	98
37] Benzene	12.69	78	913	0.024	ppbv	88
38) Cyclohexane	0.00		0	N.D.	d	
40] 1,2-Dichloropropane	13.88	63	320m	0.022	ppbv	
41) 1,4-Dioxane	0.00		0	N.D.	d	
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc GCMS8\03-04-22\  
 Data File : 030417.D  
 Acq On : 5 Mar 2022 4:22 am  
 Operator : bat  
 Sample : 0.02 ppbv , 65-194  
 Misc : T2  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS8

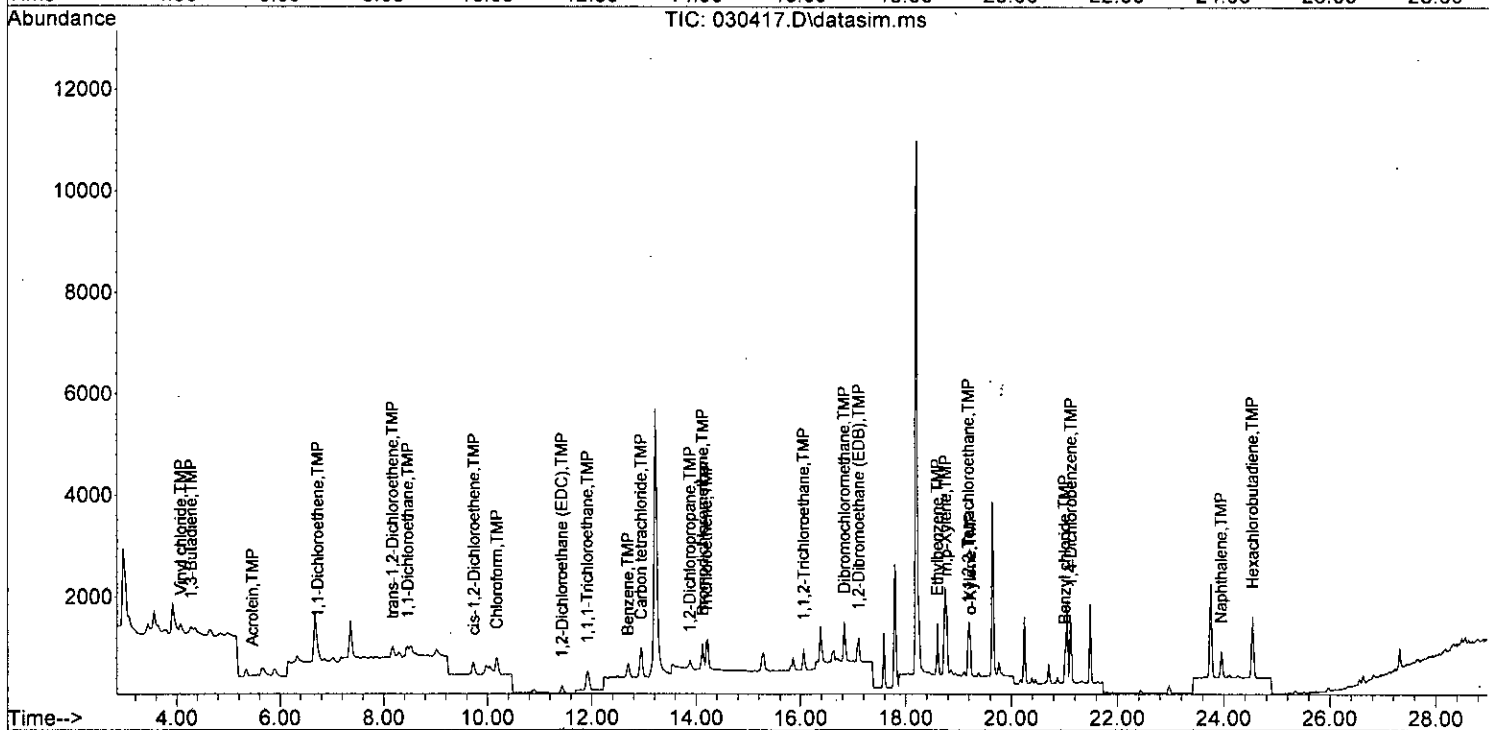
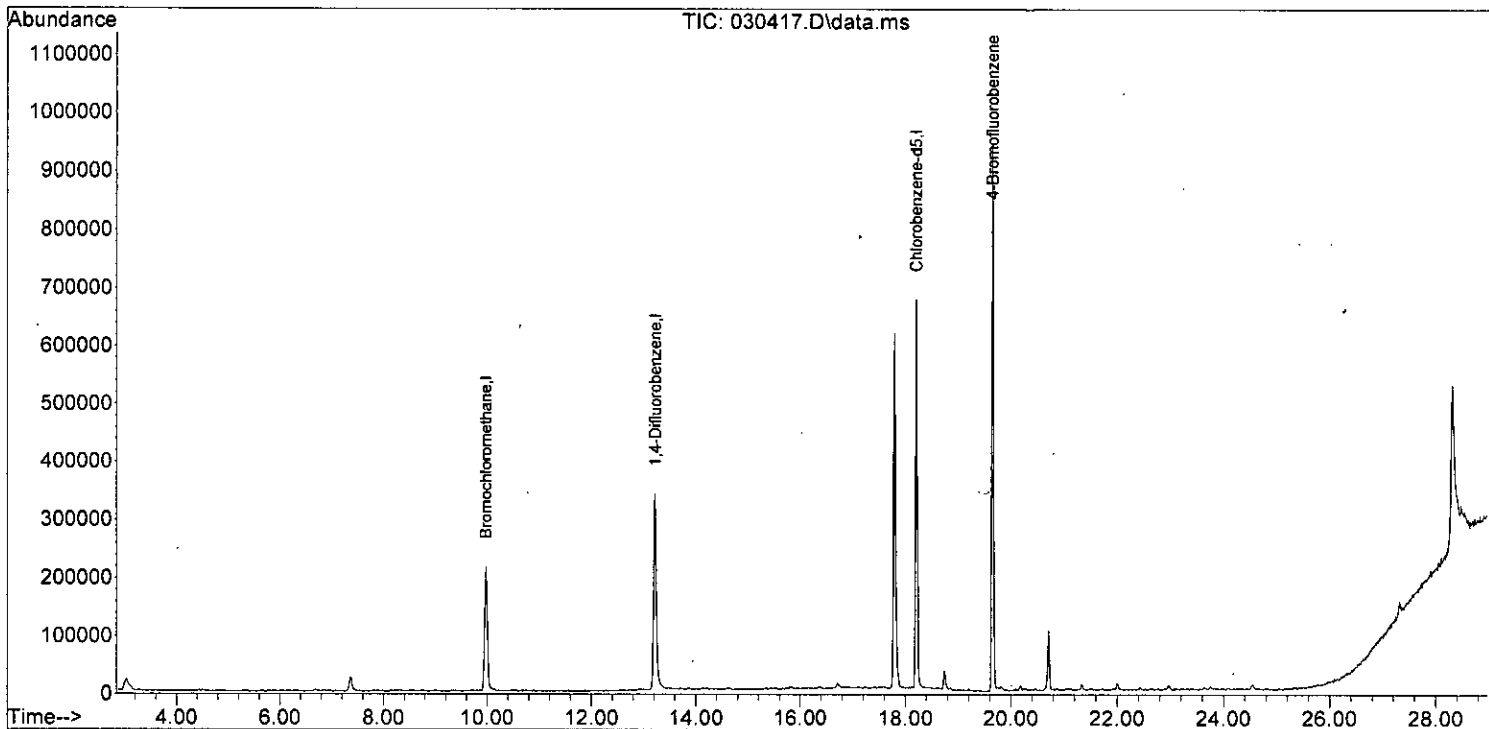
Quant Time: Mar 07 16:07:43 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43] Methyl methacrylate	0.00		0	N.D.	d	
44] Heptane	0.00		0	N.D.	d	
45] Bromodichloromethane	14.13	83	803	0.022	ppbv	93
46] Trichloroethene	14.20	95	549	0.024	ppbv	89
47] cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48] 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49] trans-1,3-Dichloropropene	0.00		0	N.D.	d	
50] Toluene	0.00		0	N.D.	d	
51] 1,1,2-Trichloroethane	16.07	83	367	0.022	ppbv	86
52] 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	0.00		0	N.D.	d	
54] Dibromochloromethane	16.83	129	887	0.022	ppbv	99
55] 1,2-Dibromoethane (EDB)	17.11	107	695	0.024	ppbv	90
57] Chlorobenzene	0.00		0	N.D.	d	
58] Ethylbenzene	18.60	91	1356	0.022	ppbv	94
59] 1,1,2,2-Tetrachloroethane	19.19	83	952	0.022	ppbv	99
60] Nonane	0.00		0	N.D.	d	
61] Isopropylbenzene	0.00		0	N.D.	d	
62] 2-Chlorotoluene	0.00		0	N.D.	d	
63] Propylbenzene	0.00		0	N.D.	d	
64] 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.76	106	1253	0.054	ppbv	85
66] o-Xylene	19.23	106	501	0.023	ppbv	83
67] Styrene	0.00		0	N.D.	d	
68] Bromoform	0.00		0	N.D.	d	
70] Benzyl chloride	21.01	91	1102	0.020	ppbv	91
71] 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72] 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73] 1,3-Dichlorobenzene	0.00		0	N.D.	d	
74] 1,4-Dichlorobenzene	21.13	146	1451	0.028	ppbv	95
75] 1,2-Dichlorobenzene	0.00		0	N.D.	d	
76] 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77] Naphthalene	23.95	128	1266	0.021	ppbv	98
78] Hexachlorobutadiene	24.54	225	2796	0.020	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc GCMS8\03-04-22\  
 Data File : 030417.D  
 Acq On : 5 Mar 2022 4:22 am  
 Operator : bat  
 Sample : 0.02 ppbv , 65-194  
 Misc : T2  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:07:43 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc GCMS8\03-04-22\  
 Data File : 030417.D  
 Acq On : 5 Mar 2022 4:22 am  
 Operator : bat  
 Sample : 0.02 ppbv , 65-194  
 Misc : T2  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:07:43 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15sss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I Bromochloromethane	10.000	10.000	0.0	100	0.00
2	TMP Propene	-1.000	0.000	0.0	0	-3.47#
3	TMP Dichlorodifluoromethane	-1.000	0.000	0.0	0	-3.55#
4	TMP Chloromethane	-1.000	0.000	0.0	0	-3.80#
5	TMP F-114	-1.000	0.000	0.0	0	-3.91#
6	TMP Vinyl chloride	0.020	0.027	-35.0#	100	0.00
7	TMP 1,3-Butadiene	0.020	0.022	-10.0	100	0.00
8	TMP Butane	-1.000	0.000	0.0	0	-4.35#
9	TMP Bromomethane	-1.000	0.000	0.0	0	-4.67#
10	TMP Chloroethane	-1.000	0.000	0.0	0	-4.87#
11	TMP Vinyl bromide	-1.000	0.000	0.0	0	-5.34#
12	TMP Ethanol	-1.000	0.000	0.0	0	-4.98#
13	TMP Acrolein	0.020	0.019	5.0	92	0.00
14	TMP Pentane	-1.000	0.000	0.0	0	-6.35#
15	TMP Trichlorofluoromethane	-1.000	0.000	0.0	0	-5.89#
16	TMP Acetone	-1.000	0.000	0.0	0	-5.63#
17	TMP 2-Propanol	-1.000	0.000	0.0	0	-5.89#
18	TMP 1,1-Dichloroethene	0.020	0.028	-40.0#	100	0.00
19	TMP trans-1,2-Dichloroethene	0.020	0.027	-35.0#	100	0.00
20	TMP Methylene chloride	-1.000	0.000	0.0	0	-6.85#
21	TMP t-Butyl alcohol (TBA)	-1.000	0.000	0.0	0	-6.67#
22	TMP 3-Chloropropene	-1.000	0.000	0.0	0	-7.04#
23	TMP CFC-113	-1.000	0.000	0.0	0	-7.25#
24	TMP Carbon disulfide	-1.000	0.000	0.0	0	-7.04#
25	TMP Methyl t-butyl ether (MTBE)	-1.000	0.000	0.0	0	-8.53#
26	TMP Vinyl acetate	-1.000	0.000	0.0	0	-8.64#
27	TMP 1,1-Dichloroethane	0.020	0.021	-5.0	100	0.00
28	TMP cis-1,2-Dichloroethene	0.020	0.024	-20.0	82	0.00
29	TMP Hexane	-1.000	0.000	0.0	0	-10.10#
30	TMP Chloroform	0.020	0.021	-5.0	100	0.00
31	TMP Ethyl acetate	-1.000	0.000	0.0	0	-10.03#
32	TMP Tetrahydrofuran	-1.000	0.000	0.0	0	-10.86#
33	TMP 2-Butanone (MEK)	-1.000	0.000	0.0	0	-9.01#
34	TMP 1,2-Dichloroethane (EDC)	0.020	0.021	-5.0	100	0.00
35	TMP 1,1,1-Trichloroethane	0.020	0.022	-10.0	105	0.00
36	TMP Carbon tetrachloride	0.020	0.022	-10.0	100	0.00
37	TMP Benzene	0.020	0.024	-20.0	100	0.00
38	TMP Cyclohexane	-1.000	0.000	0.0	0	-13.15#
39	I 1,4-Difluorobenzene	10.000	10.000	0.0	100	0.02
40	TMP 1,2-Dichloropropane	0.020	0.022	-10.0	92	0.00
41	TMP 1,4-Dioxane	-1.000	0.000	0.0	0	-14.18#
42	TMP 2,2,4-Trimethylpentane	-1.000	0.000	0.0	0	-14.29#
43	TMP Methyl methacrylate	-1.000	0.000	0.0	0	-14.44#
44	TMP Heptane	-1.000	0.000	0.0	0	-14.61#
45	TMP Bromodichloromethane	0.020	0.022	-10.0	100	0.00



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030417.D  
 Acq On : 5 Mar 2022 4:22 am  
 Operator : bat  
 Sample : 0.02 ppbv , 65-194  
 Misc : T2  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:07:43 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.020	0.024	-20.0	100	0.00
47 TMP cis-1,3-Dichloropropene	-1.000	0.000	0.0	0	-15.28#
48 TMP 4-Methyl-2-pentanone	-1.000	0.000	0.0	0	-15.30#
49 TMP trans-1,3-Dichloropropene	-1.000	0.000	0.0	0	-15.85#
50 TMP Toluene	-1.000	0.000	0.0	0	-16.38#
51 TMP 1,1,2-Trichloroethane	0.020	0.022	-10.0	100	0.00
52 TMP 2-Hexanone	-1.000	0.000	0.0	0	-16.63#
53 TMP Tetrachloroethene	-1.000	0.000	0.0	0	-17.59#
54 TMP Dibromochloromethane	0.020	0.022	-10.0	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.020	0.024	-20.0	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	-1.000	0.000	0.0	0	-18.25#
58 TMP Ethylbenzene	0.020	0.022	-10.0	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.020	0.022	-10.0	100	0.00
60 TMP Nonane	-1.000	0.000	0.0	0	-19.38#
61 TMP Isopropylbenzene	-1.000	0.000	0.0	0	-19.77#
62 TMP 2-Chlorotoluene	-1.000	0.000	0.0	0	-20.23#
63 TMP Propylbenzene	-1.000	0.000	0.0	0	-20.25#
64 TMP 4-Ethyltoluene	-1.000	0.000	0.0	0	-20.39#
65 TMP m,p-Xylene	0.040	0.054	-35.0#	100	-0.02
66 TMP o-Xylene	0.020	0.023	-15.0	100	0.00
67 TMP Styrene	-1.000	0.000	0.0	0	-19.11#
68 TMP Bromoform	-1.000	0.000	0.0	0	-18.87#
69 S 4-Bromofluorobenzene	10.000	9.455	5.4	99	0.00
70 TMP Benzyl chloride	0.020	0.020	0.0	100	0.00
71 TMP 1,3,5-Trimethylbenzene	-1.000	0.000	0.0	0	-20.45#
72 TMP 1,2,4-Trimethylbenzene	-1.000	0.000	0.0	0	-20.87#
73 TMP 1,3-Dichlorobenzene	-1.000	0.000	0.0	0	-21.05#
74 TMP 1,4-Dichlorobenzene	0.020	0.028	-40.0#	100	0.01
75 TMP 1,2-Dichlorobenzene	-1.000	0.000	0.0	0	-21.49#
76 TMP 1,2,4-Trichlorobenzene	-1.000	0.000	0.0	0	-23.75#
77 TMP Naphthalene	0.020	0.021	-5.0	100	0.00
78 TMP Hexachlorobutadiene	0.020	0.020	0.0	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030417.D  
 Acq On : 5 Mar 2022 4:22 am  
 Operator : bat  
 Sample : 0.02 ppbv , 65-194  
 Misc : T2  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:07:43 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP Propene	0.552	0.000	100.0#	0#	-3.47#
3 TMP Dichlorodifluoromethane	4.565	0.000#	100.0#	0#	-3.55#
4 TMP Chloromethane	0.776	0.000#	100.0#	0#	-3.80#
5 TMP F-114	3.419	0.000	100.0#	0#	-3.91#
6 TMP Vinyl chloride	1.082	1.445	-33.5#	100	0.00
7 TMP 1,3-Butadiene	0.605	0.656	-8.4	100	0.00
8 TMP Butane	1.161	0.000	100.0#	0#	-4.35#
9 TMP Bromomethane	1.196	0.000#	100.0#	0#	-4.67#
10 TMP Chloroethane	0.395	0.000#	100.0#	0#	-4.87#
11 TMP Vinyl bromide	1.286	0.000	100.0#	0#	-5.34#
12 TMP Ethanol	0.174	0.000	100.0#	0#	-4.98#
13 TMP Acrolein	0.252	0.372	-47.6#	92	0.00
14 TMP Pentane	1.140	0.000#	100.0#	0#	-6.35#
15 TMP Trichlorofluoromethane	5.069	0.000#	100.0#	0#	-5.89#
16 TMP Acetone	0.404	0.000#	100.0#	0#	-5.63#
17 TMP 2-Propanol	1.563	0.000	100.0#	0#	-5.89#
18 TMP 1,1-Dichloroethene	1.255	1.729	-37.8#	100	0.00
19 TMP trans-1,2-Dichloroethene	1.195	1.642	-37.4#	100	0.00
20 TMP Methylene chloride	1.141	0.000#	100.0#	0#	-6.85#
21 TMP t-Butyl alcohol (TBA)	2.068	0.000	100.0#	0#	-6.67#
22 TMP 3-Chloropropene	1.240	0.000	100.0#	0#	-7.04#
23 TMP CFC-113	3.311	0.000	100.0#	0#	-7.25#
24 TMP Carbon disulfide	0.538	0.000	100.0#	0#	-7.04#
25 TMP Methyl t-butyl ether (MTBE)	2.982	0.000#	100.0#	0#	-8.53#
26 TMP Vinyl acetate	1.012	0.000#	100.0#	0#	-8.64#
27 TMP 1,1-Dichloroethane	2.186	2.330	-6.6	100	0.00
28 TMP cis-1,2-Dichloroethene	1.262	1.541	-22.1	82	0.00
29 TMP Hexane	1.109	0.000	100.0#	0#	-10.10#
30 TMP Chloroform	3.255	3.404	-4.6	100	0.00
31 TMP Ethyl acetate	2.770	0.000	100.0#	0#	-10.03#
32 TMP Tetrahydrofuran	0.872	0.000	100.0#	0#	-10.86#
33 TMP 2-Butanone (MEK)	0.459	0.000	100.0#	0#	-9.01#
34 TMP 1,2-Dichloroethane (EDC)	2.237	2.321	-3.8	100	0.00
35 TMP 1,1,1-Trichloroethane	3.544	3.830	-8.1	105	0.00
36 TMP Carbon tetrachloride	4.146	4.642	-12.0	100	0.00
37 TMP Benzene	3.534	4.188	-18.5	100	0.00
38 TMP Cyclohexane	0.985	0.000	100.0#	0#	-13.15#
39 I 1,4-Difluorobenzene	1.000	1.000	0.0	100	0.02
40 TMP 1,2-Dichloropropane	0.330	0.358	-8.5	92	0.00
41 TMP 1,4-Dioxane	0.175	0.000	100.0#	0#	-14.18#
42 TMP 2,2,4-Trimethylpentane	0.861	0.000	100.0#	0#	-14.29#
43 TMP Methyl methacrylate	0.296	0.000	100.0#	0#	-14.44#
44 TMP Heptane	0.327	0.000	100.0#	0#	-14.61#
45 TMP Bromodichloromethane	0.825	0.899	-9.0	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030417.D  
 Acq On : 5 Mar 2022 4:22 am  
 Operator : bat  
 Sample : 0.02 ppbv , 65-194  
 Misc : T2  
 ALS Vial : 17 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:07:43 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev (min)
46 TMP Trichloroethene	0.503	0.615	-22.3	100	0.00
47 TMP cis-1,3-Dichloropropene	0.529	0.000	100.0#	0#	-15.28#
48 TMP 4-Methyl-2-pentanone	0.038	0.000	100.0#	0#	-15.30#
49 TMP trans-1,3-Dichloropropene	0.508	0.000	100.0#	0#	-15.85#
50 TMP Toluene	0.513	0.000	100.0#	0#	-16.38#
51 TMP 1,1,2-Trichloroethane	0.372	0.411	-10.5	100	0.00
52 TMP 2-Hexanone	0.484	0.000#	100.0#	0#	-16.63#
53 TMP Tetrachloroethene	0.508	0.000#	100.0#	0#	-17.59#
54 TMP Dibromochloromethane	0.909	0.993	-9.2	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.658	0.778	-18.2	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	0.933	0.000#	100.0#	0#	-18.25#
58 TMP Ethylbenzene	1.442	1.583	-9.8	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.993	1.112	-12.0	100	0.00
60 TMP Nonane	0.561	0.000	100.0#	0#	-19.38#
61 TMP Isopropylbenzene	1.680	0.000	100.0#	0#	-19.77#
62 TMP 2-Chlorotoluene	0.432	0.000	100.0#	0#	-20.23#
63 TMP Propylbenzene	3.087	0.000	100.0#	0#	-20.25#
64 TMP 4-Ethyltoluene	1.595	0.000	100.0#	0#	-20.39#
65 TMP m,p-Xylene	0.541	0.732	-35.3#	100	-0.02
66 TMP o-Xylene	0.504	0.585	-16.1	100	0.00
67 TMP Styrene	0.757	0.000#	100.0#	0#	-19.11#
68 TMP Bromoform	1.279	0.000#	100.0#	0#	-18.87#
69 S 4-Bromofluorobenzene	0.742	0.702	5.4	99	0.00
70 TMP Benzyl chloride	1.263	1.287	-1.9	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.434	0.000	100.0#	0#	-20.45#
72 TMP 1,2,4-Trimethylbenzene	1.359	0.000	100.0#	0#	-20.87#
73 TMP 1,3-Dichlorobenzene	1.193	0.000	100.0#	0#	-21.05#
74 TMP 1,4-Dichlorobenzene	1.211	1.694	-39.9#	100	0.01
75 TMP 1,2-Dichlorobenzene	1.153	0.000	100.0#	0#	-21.49#
76 TMP 1,2,4-Trichlorobenzene	1.110	0.000	100.0#	0#	-23.75#
77 TMP Naphthalene	1.414	1.478	-4.5	100	0.00
78 TMP Hexachlorobutadiene	1.608	3.265	-103.0#	100	0.00

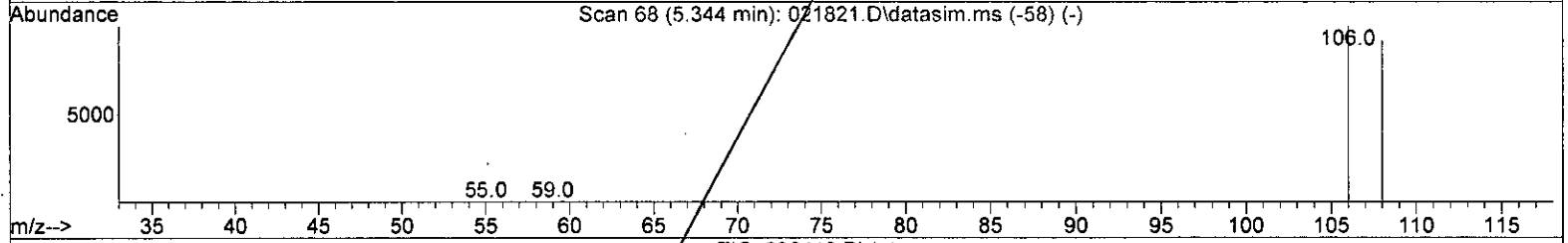
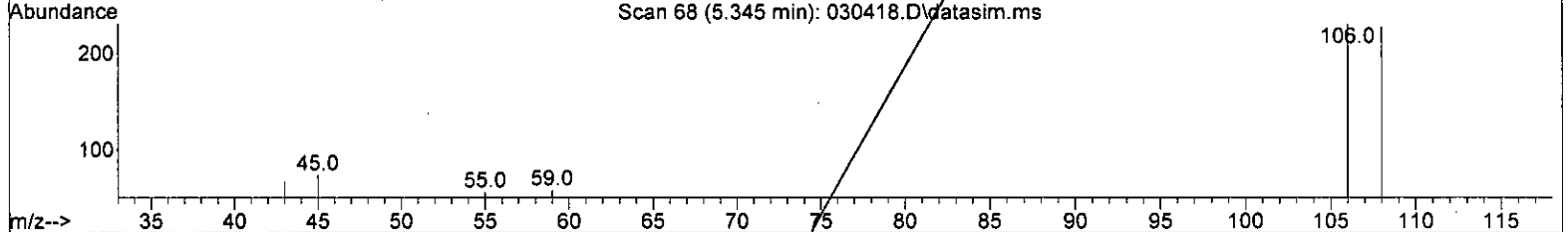
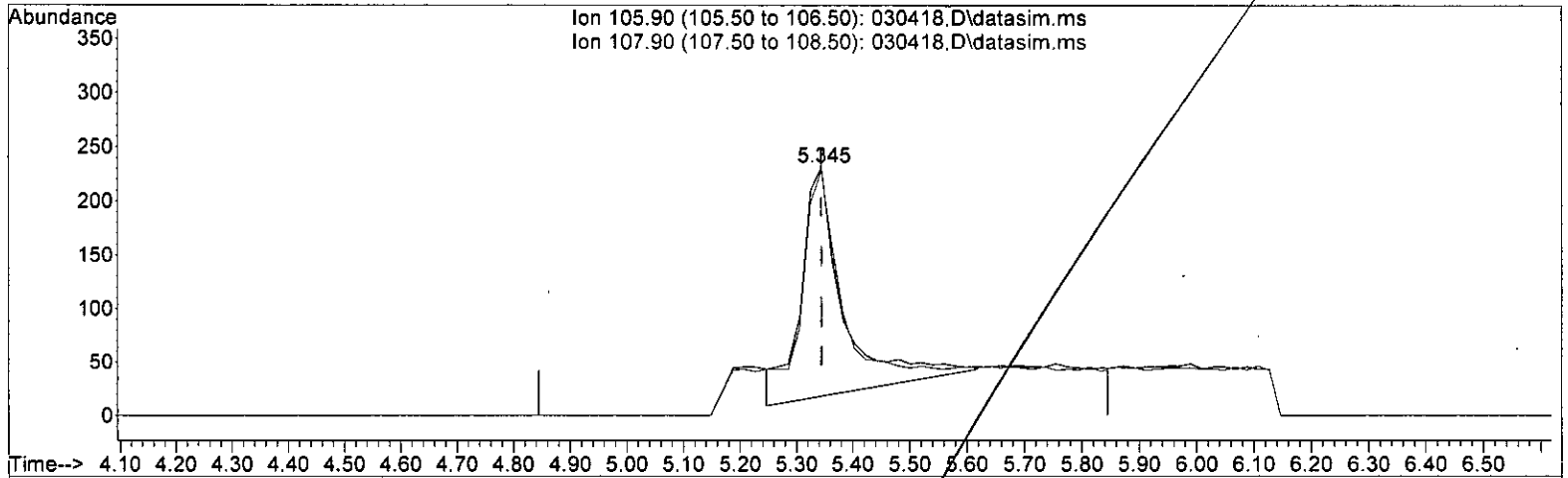
(#) = Out of Range

SPCC's out = 15 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:50 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(11) Vinyl bromide (TMP)

5.345min (-0.000) 0.078 ppbv

response 1134

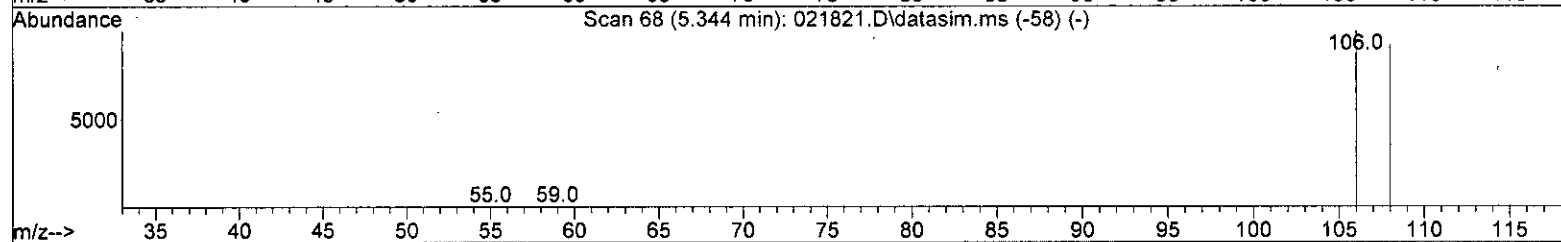
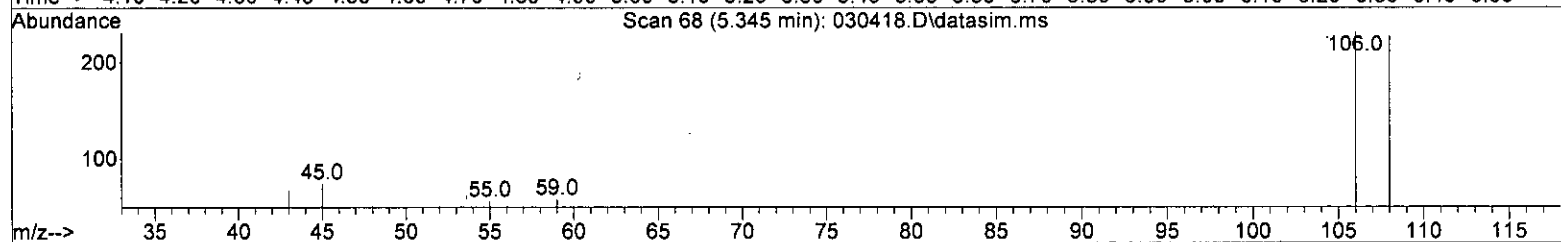
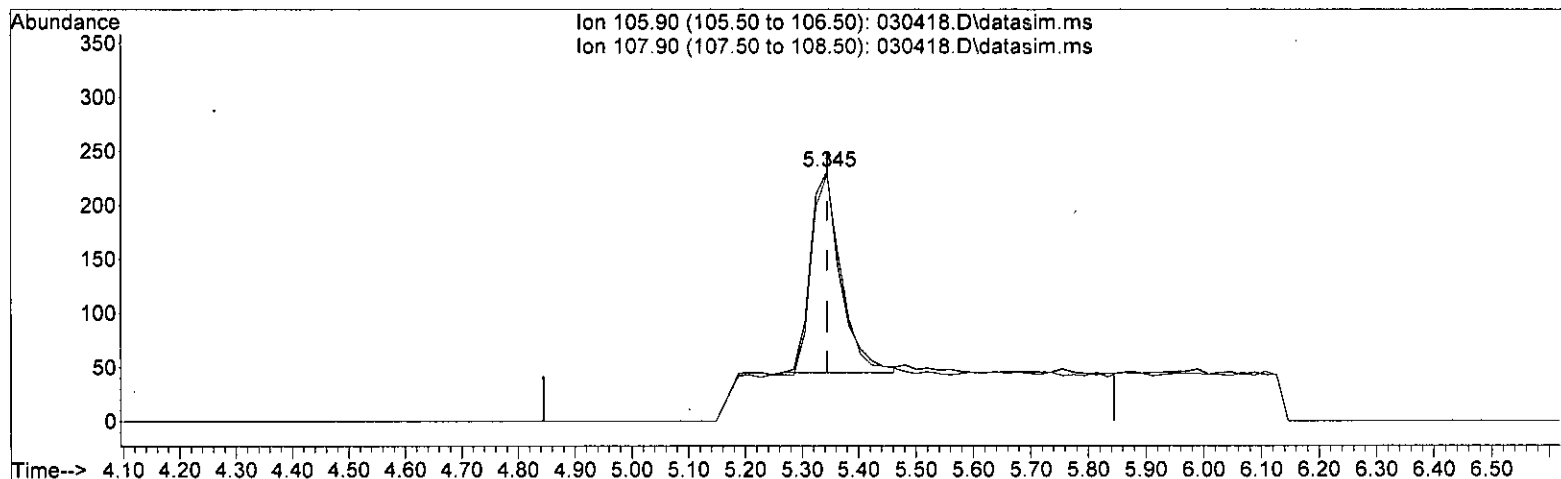
Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	85.54
0.00	0.00	0.00
0.00	0.00	0.00

*B 3/2/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:50 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030418.D\data.ms

(11) Vinyl bromide (TMP)  
 5.345min (-0.000) 0.047 ppbv m

response 687

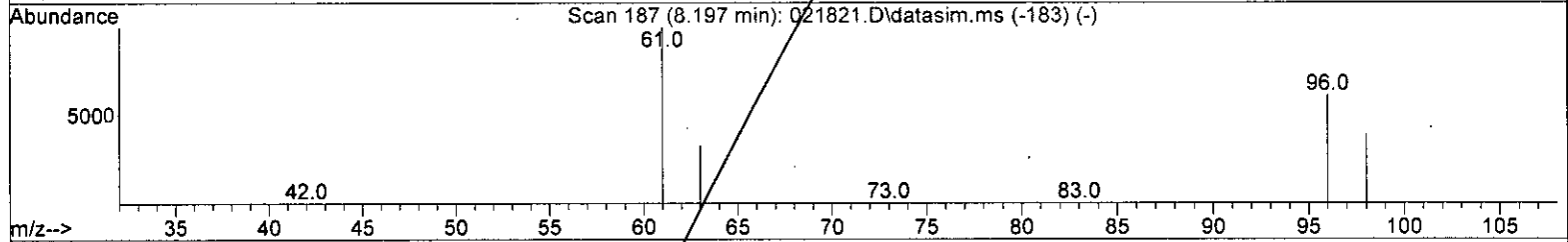
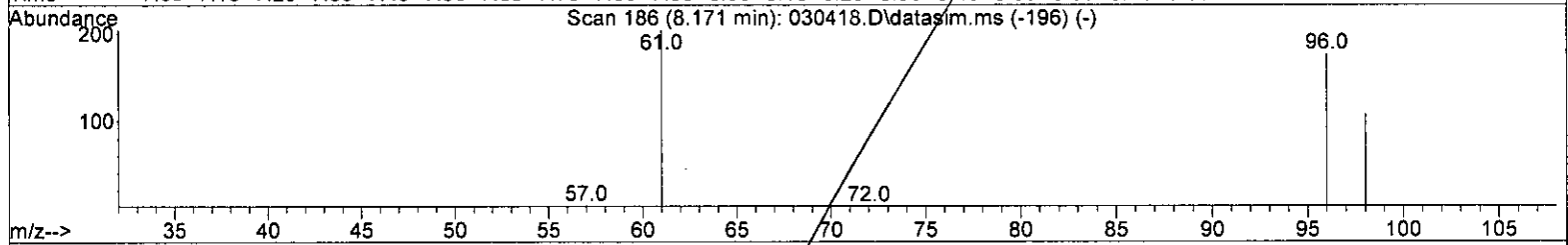
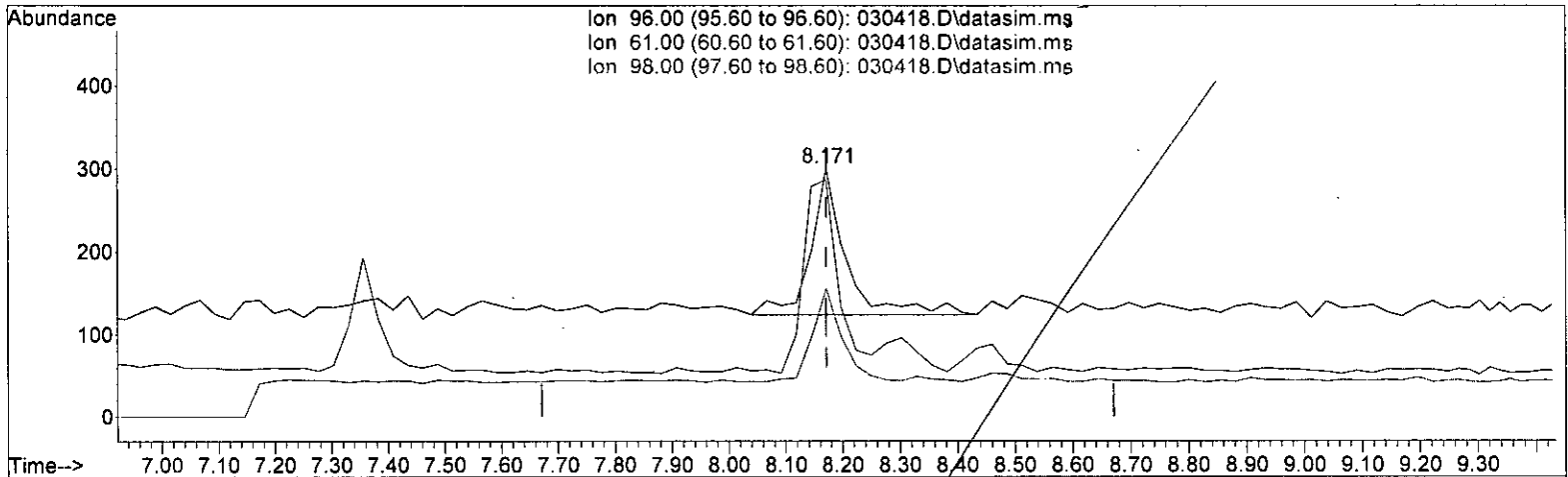
Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	141.19#
0.00	0.00	0.00
0.00	0.00	0.00

*h*  
*2/7/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:50 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030418.D\data.ms

(19) trans-1,2-Dichloroethene (TMP)

8.171min (-0.000) 0.056 ppbv

response 763

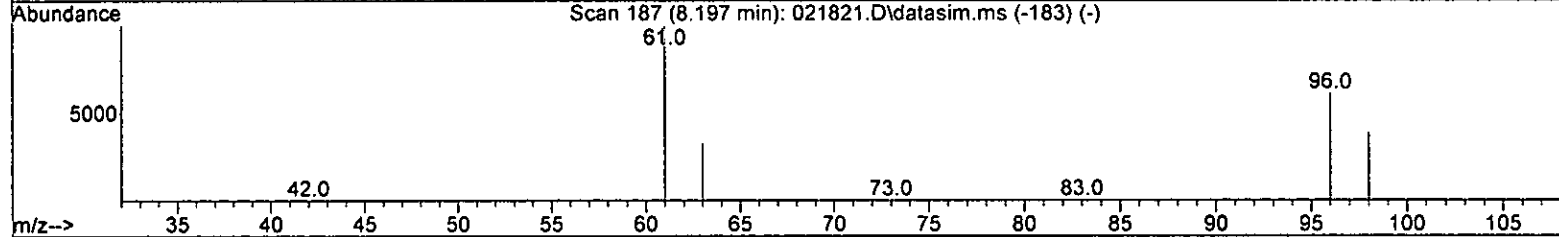
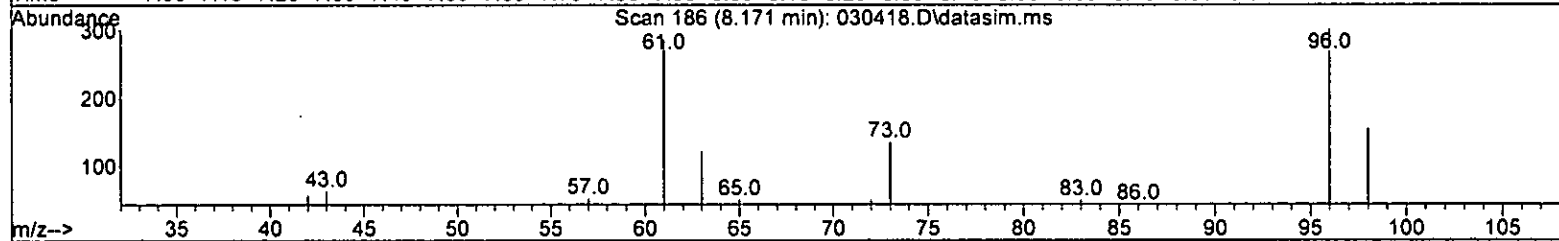
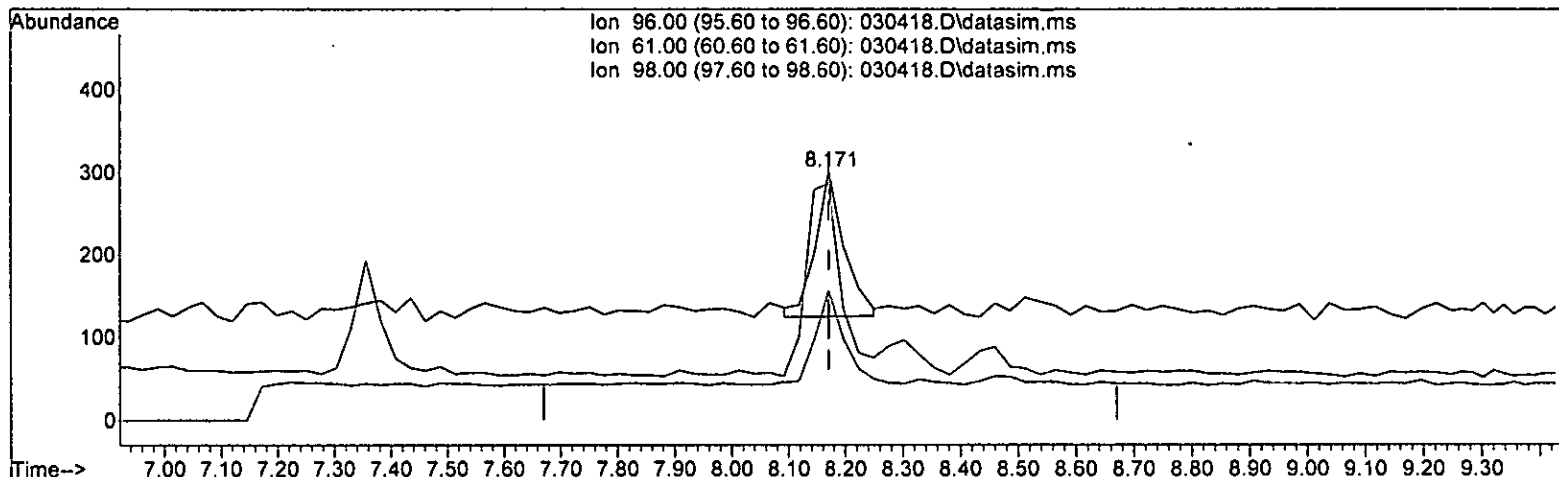
Ion	Exp%	Act%
96.00	100.00	100.00
61.00	177.90	130.51#
98.00	64.20	63.84
0.00	0.00	0.00

*u*  
*7/12*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:50 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030418.D\data.ms

(19) trans-1,2-Dichloroethene (TMP)

8.171min (-0.000) 0.046 ppbv m

response 624

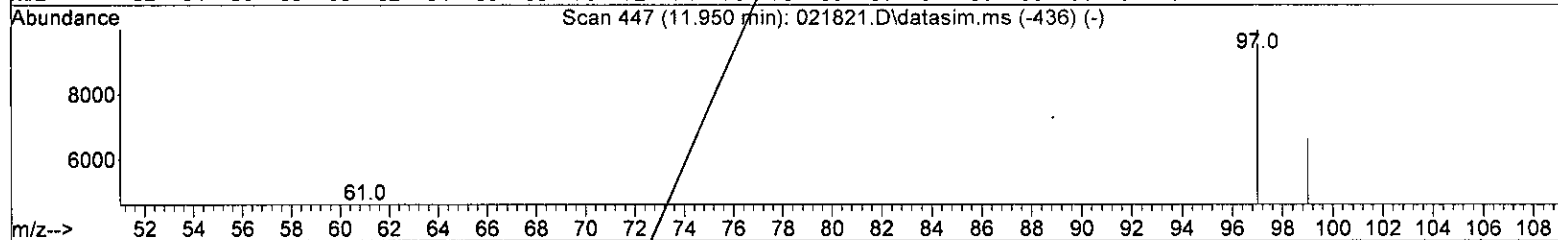
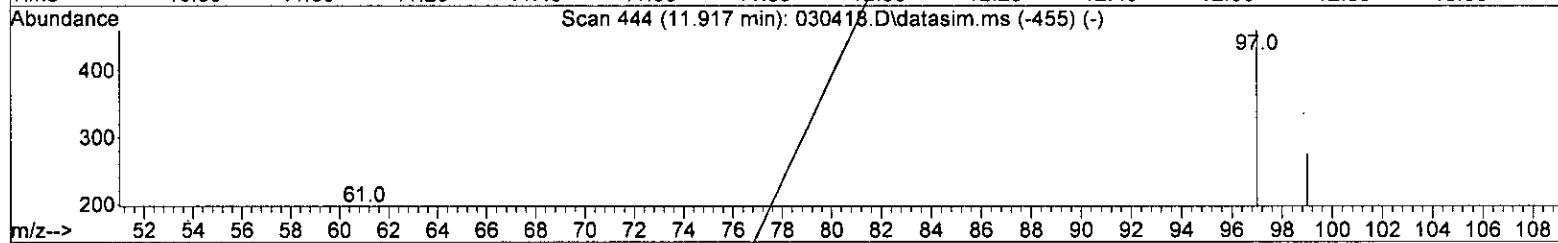
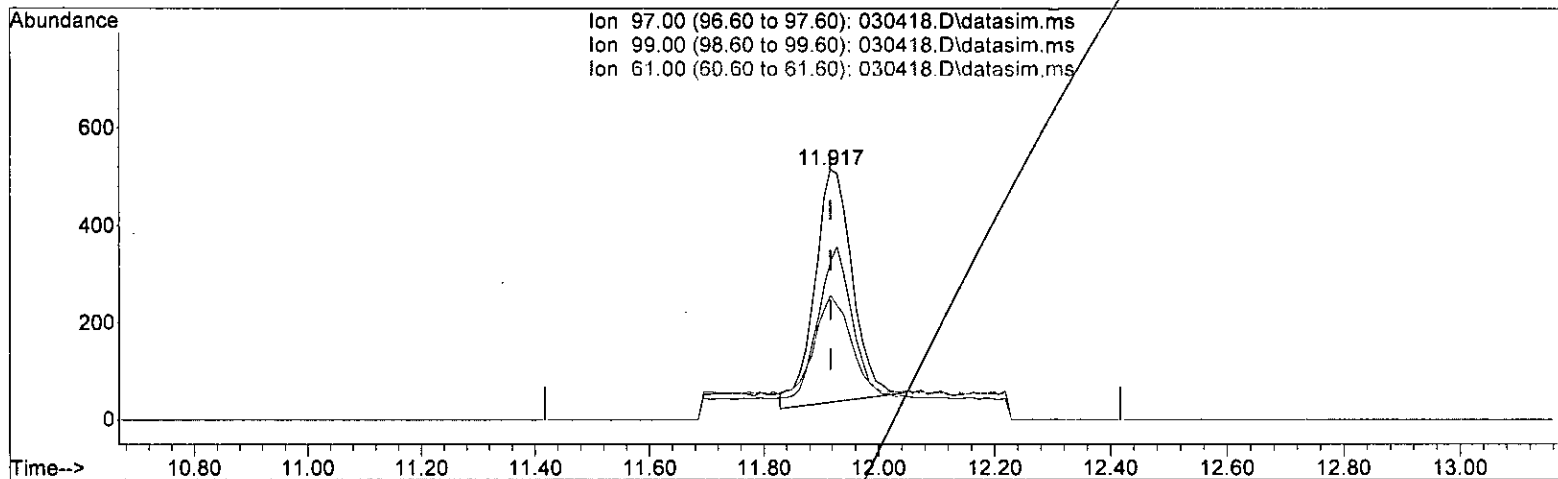
Ion	Exp%	Act%
96.00	100.00	100.00
61.00	177.90	95.35#
98.00	64.20	51.83
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:50 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030418.D\data.ms

(35) 1,1,1-Trichloroethane (TMP)

11.917min (+ 0.000) 0.055 ppbv

response 2194

Ion	Exp%	Act%
97.00	100.00	100.00
99.00	61.70	61.09
61.00	49.30	44.35
0.00	0.00	0.00

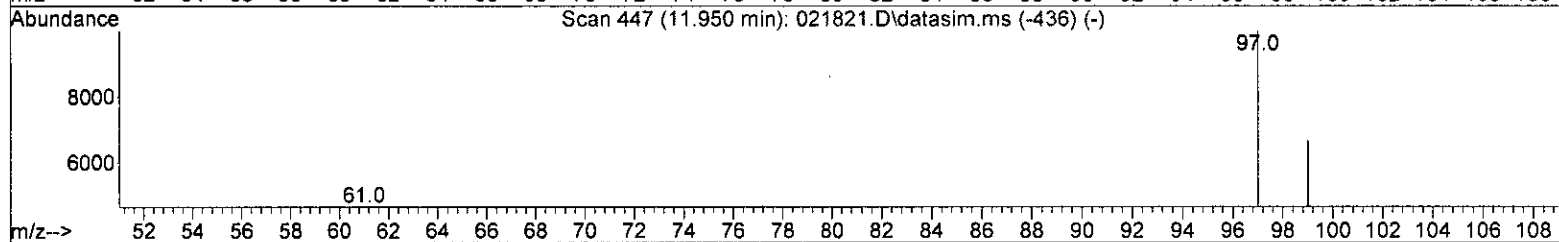
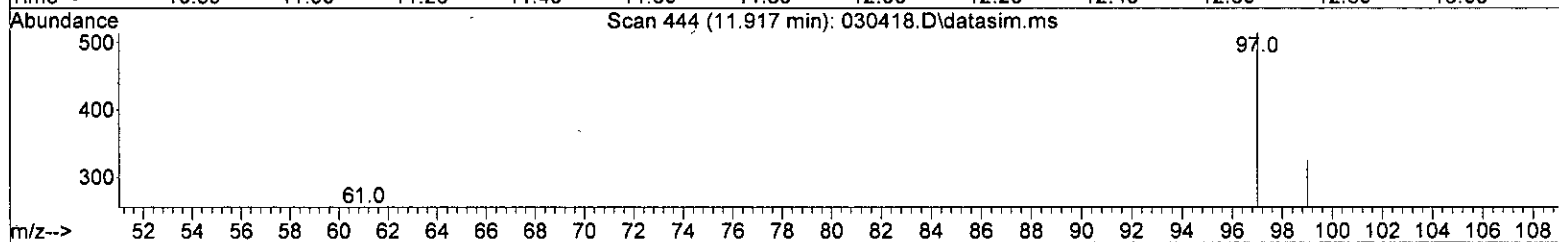
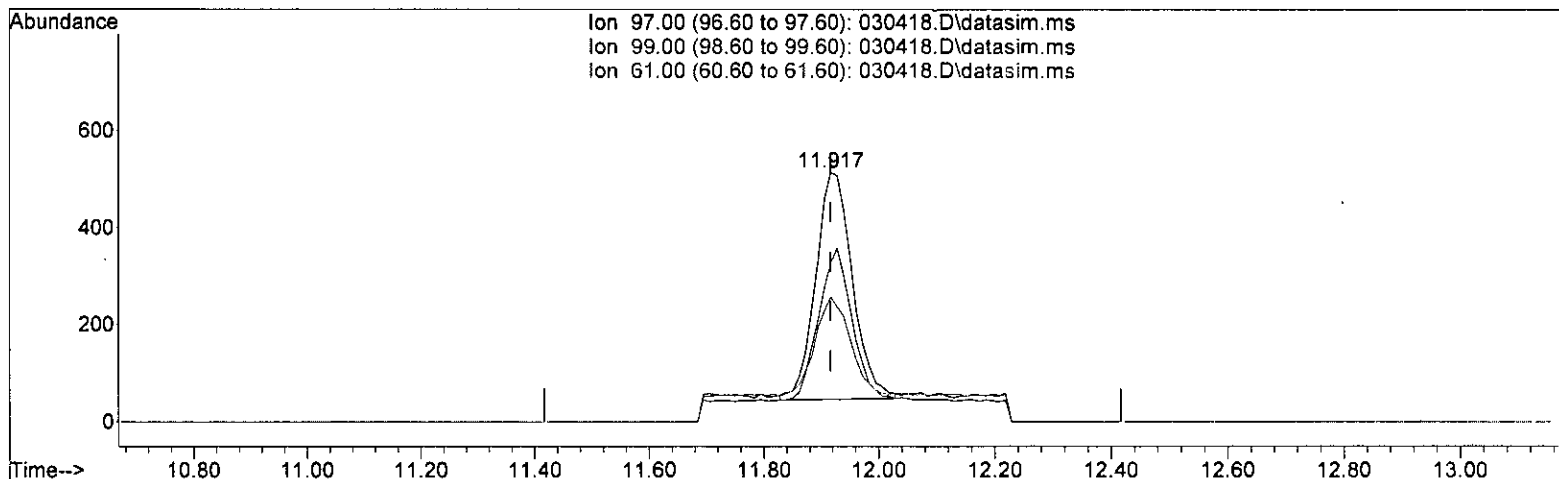
*Handwritten signature: K. J. [unclear]*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:50 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030418.D\data.ms

(35) 1,1,1-Trichloroethane (TMP)

11.917min (+ 0.000) 0.052 ppbv m

response 2086

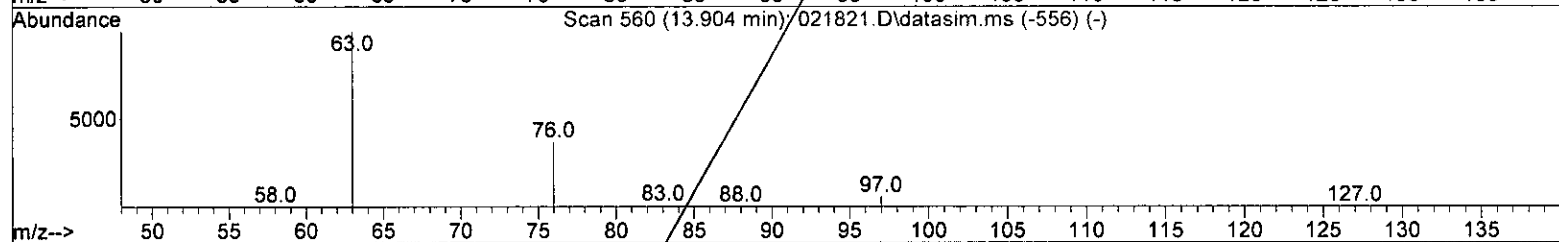
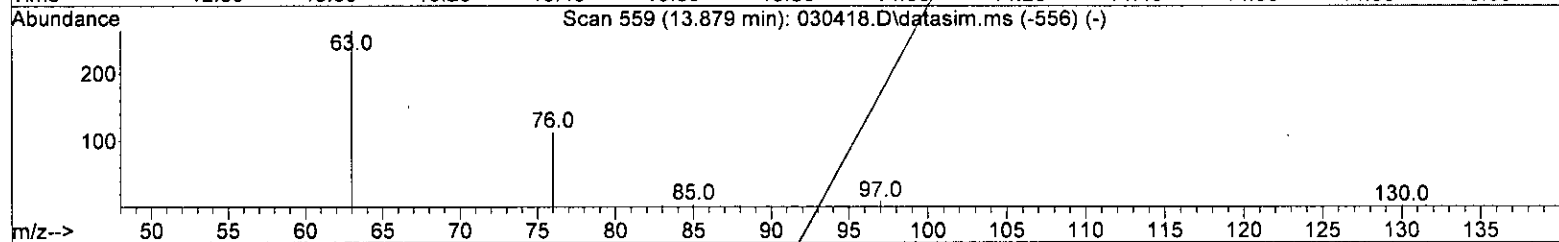
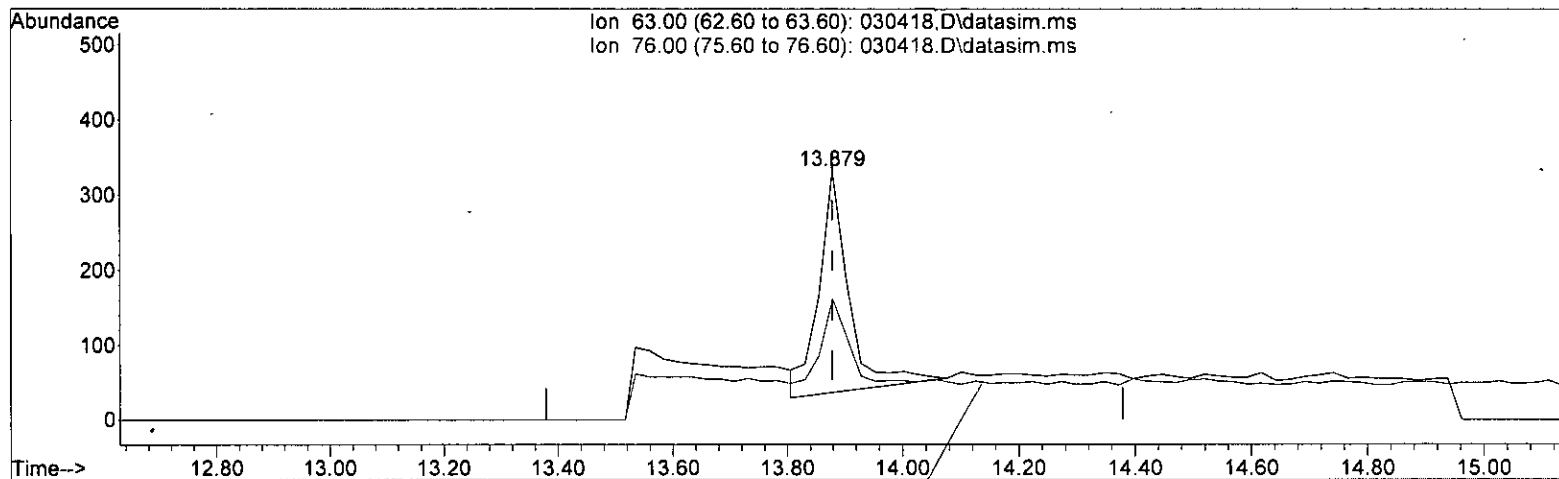
Ion	Exp%	Act%
97.00	100.00	100.00
99.00	61.70	63.42
61.00	49.30	49.81
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:50 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030418.D\data.ms

(40) 1,2-Dichloropropane (TMP)

13.879min (+ 0.000) 0.064 ppbv

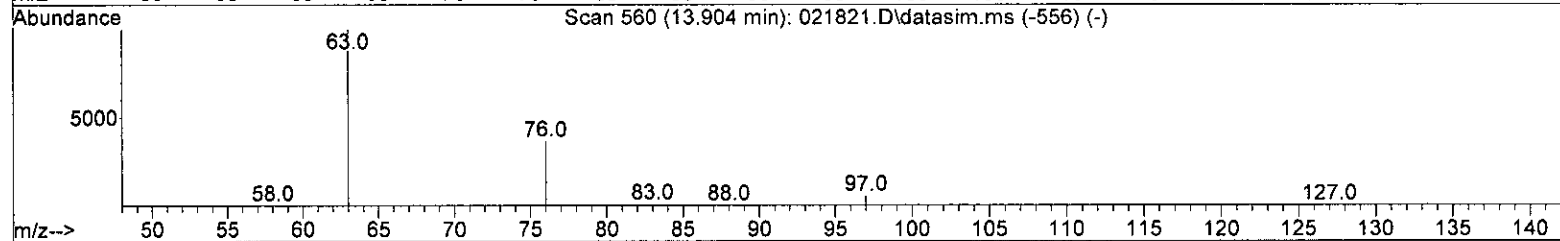
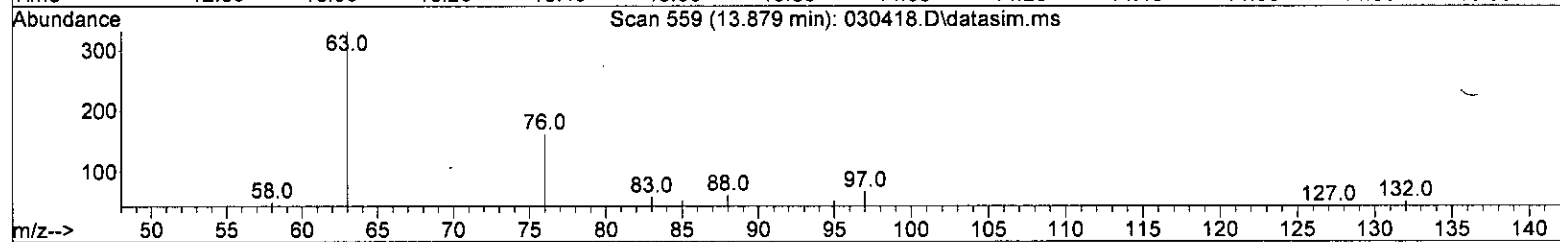
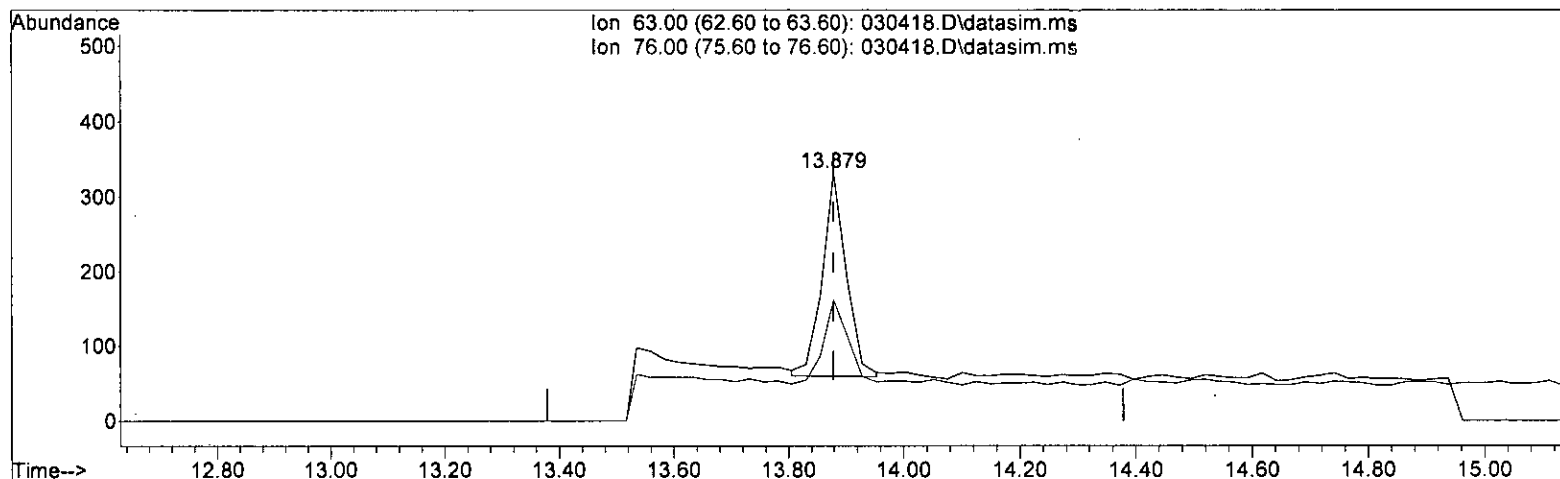
Ion	Exp%	Act%
63.00	100.00	100.00
76.00	25.70	40.94
0.00	0.00	0.00
0.00	0.00	0.00

*M/T2*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:50 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030418.D\data.ms

(40) 1,2-Dichloropropane (TMP)

13.879min (+ 0.000) 0.048 ppbv m

response 797

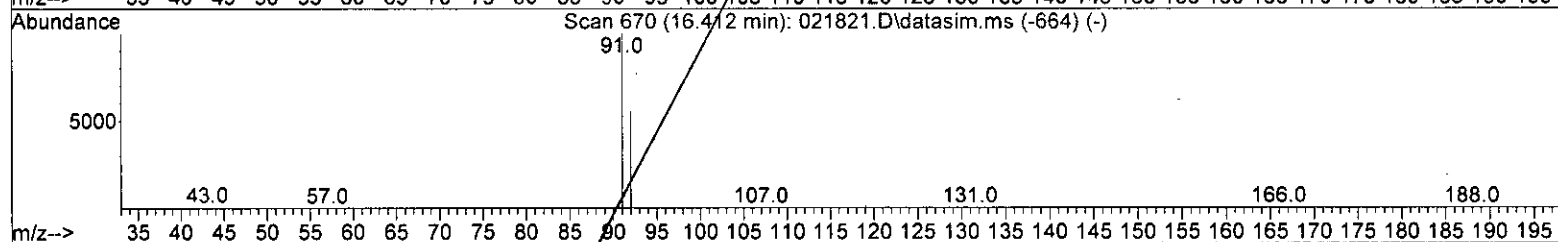
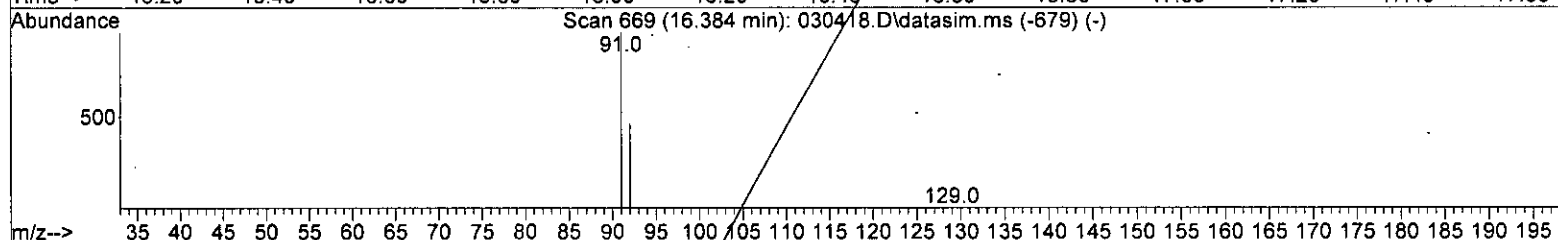
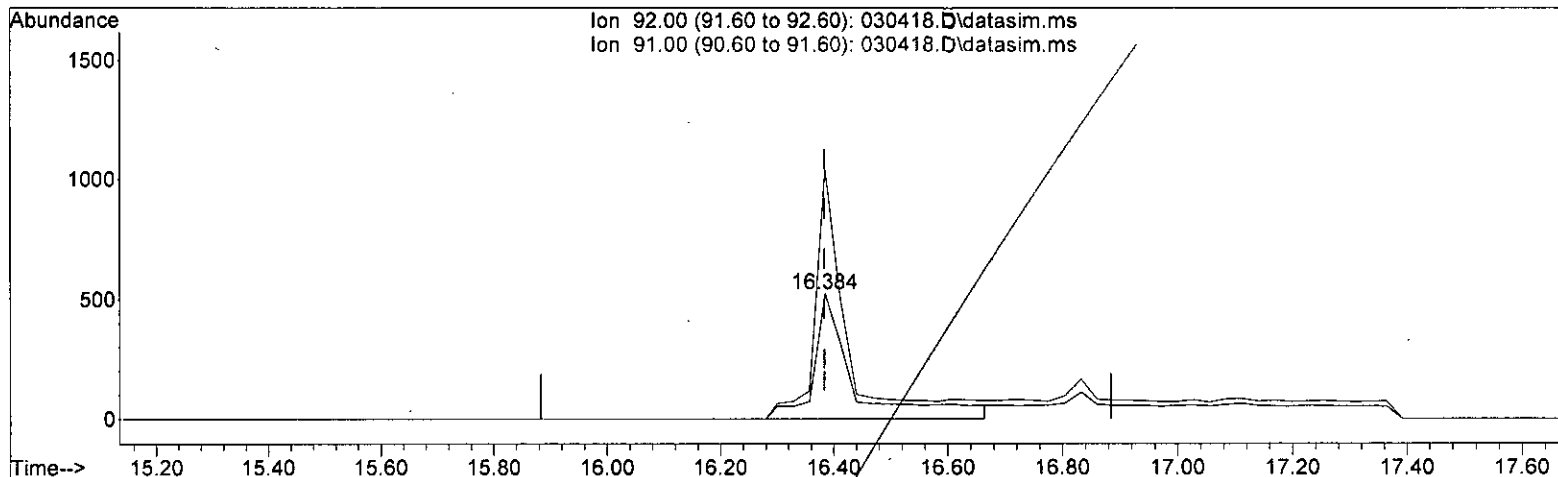
Ion	Exp%	Act%
63.00	100.00	100.00
76.00	25.70	48.80
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:50 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



*Handwritten note:* 4 3/2/22

(50) Toluene (TMP)

16.384min (+ 0.000) 0.098 ppbv

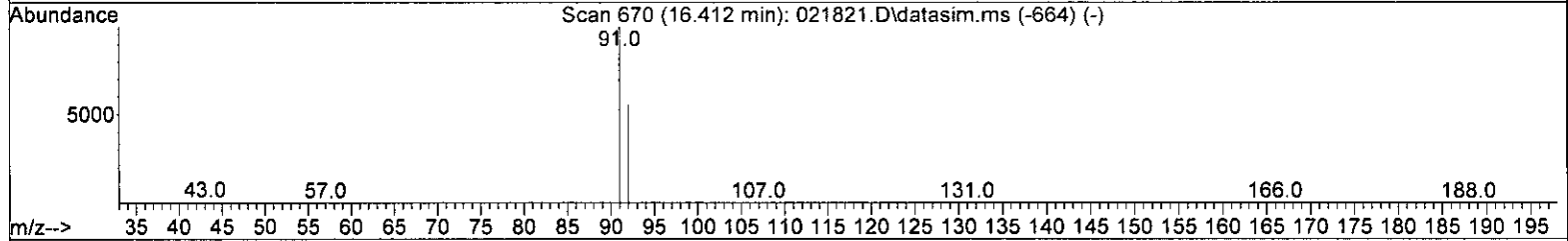
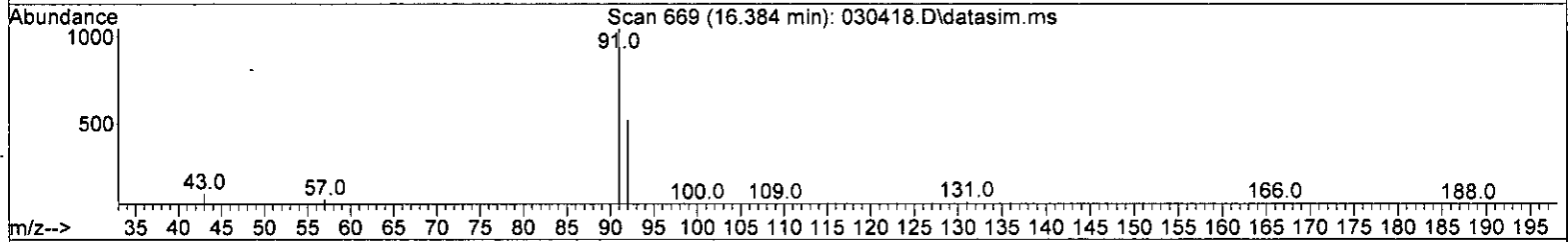
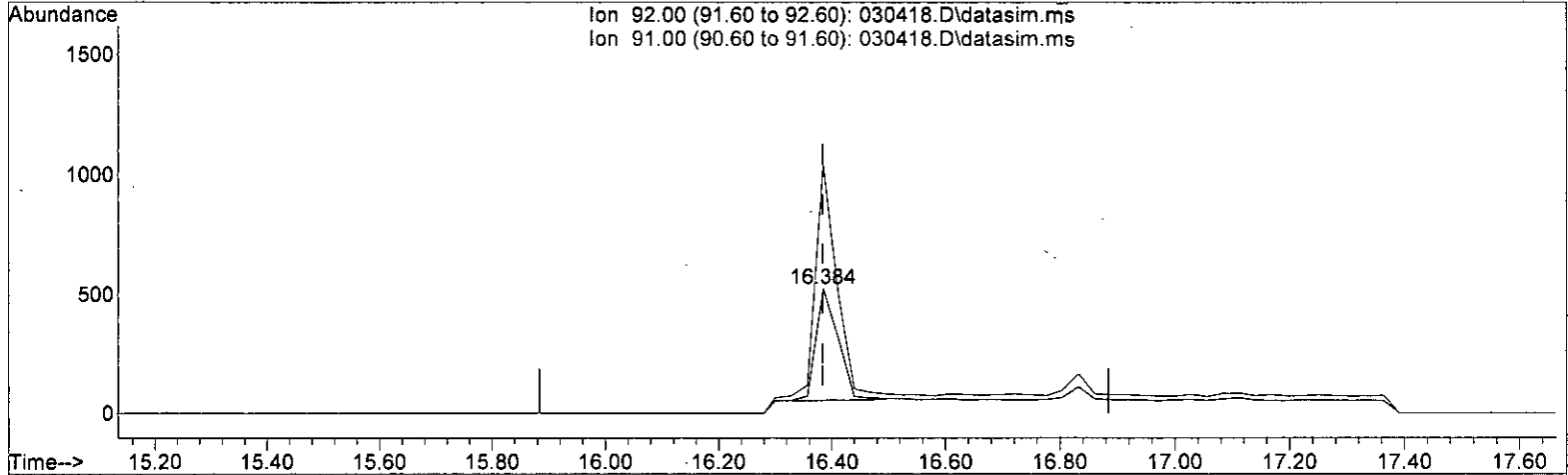
response 2545

Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	199.43
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:50 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030418.D\data.ms

(50) Toluene (TMP)

16.384min (+ 0.000) 0.051 ppbv m

response 1312

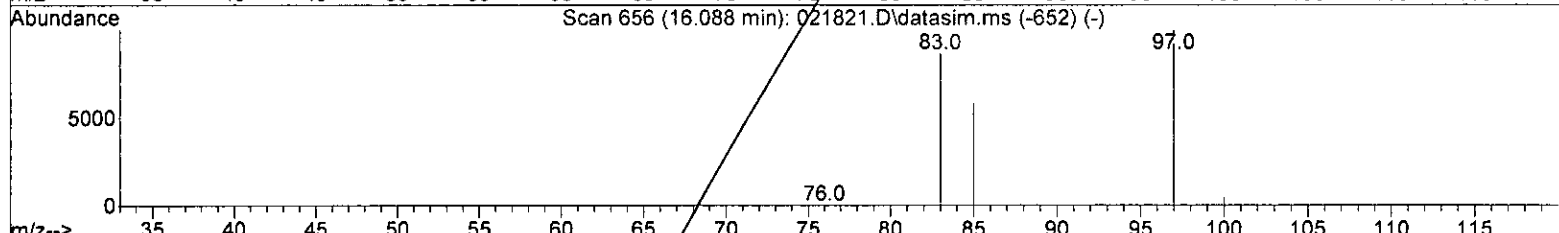
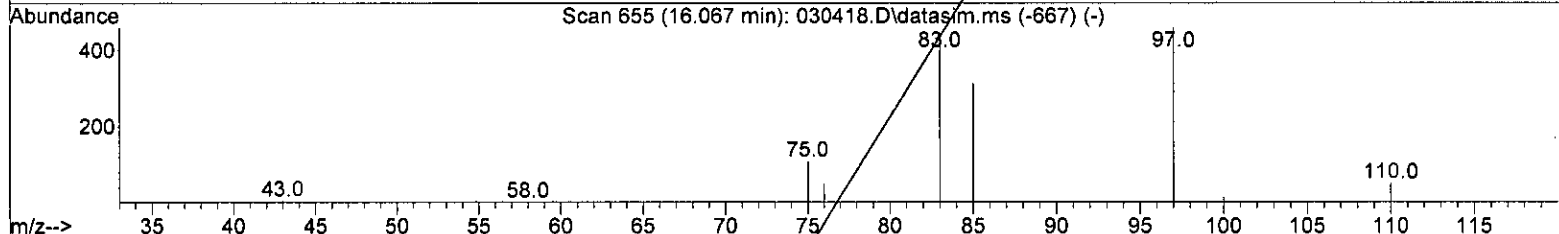
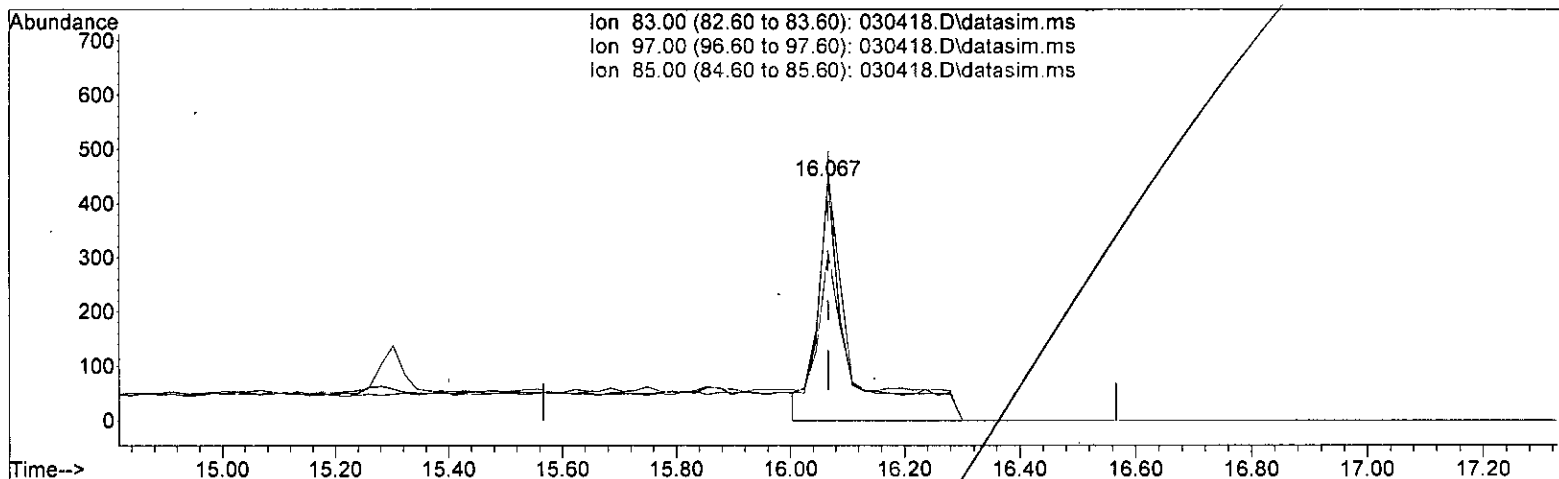
Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	199.43
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* 6/3/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:50 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030418.D\data.ms

(51) 1,1,2-Trichloroethane (TMP)

16.067min (-0.000) 0.092 ppbv

response 1726

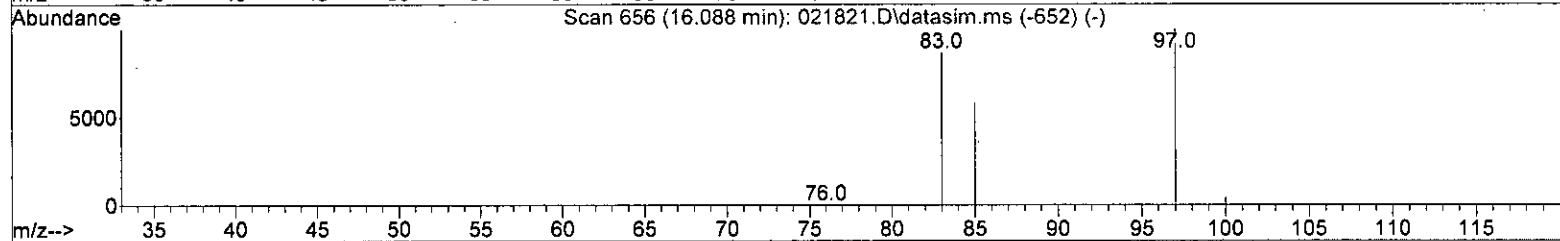
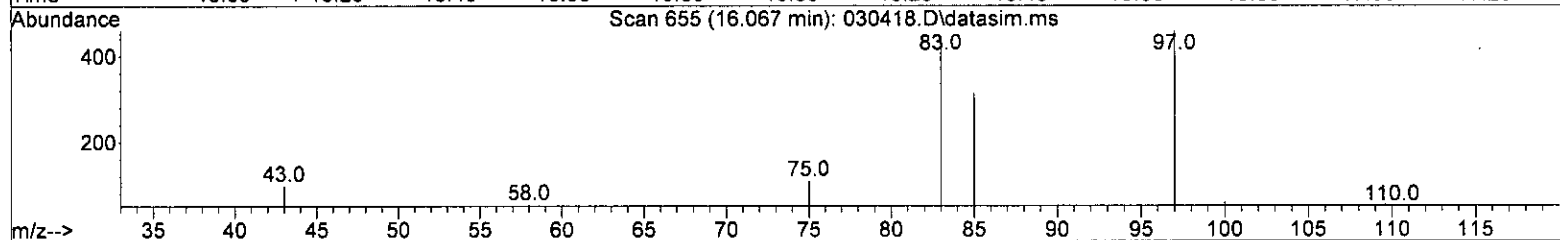
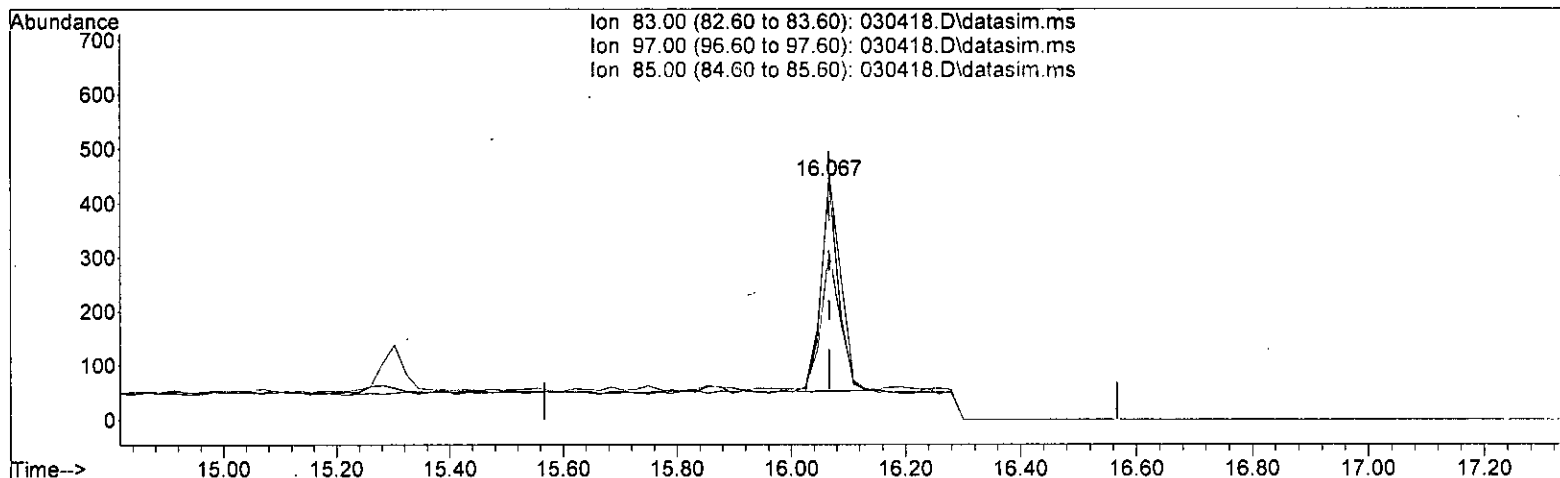
Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	103.85
85.00	60.50	71.04
0.00	0.00	0.00

*B*  
*3/7/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:50 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030418.D\data.ms

(51) 1,1,2-Trichloroethane (TMP)

16.067min (-0.000) 0.044 ppbv m

response 836

Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	103.85
85.00	60.50	71.04
0.00	0.00	0.00

*h  
3/7/22*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:25:54 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	9.98	128	113373	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	505326	10.000	ppbv	0.02
56) Chlorobenzene-d5	18.21	117.	432818	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.65	95	304808	9.490	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	94.90%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0	N.D.	d	
3) Dichlorodifluoromethane	3.55	85	2678	0.052	ppbv	94
4) Chloromethane	0.00		0	N.D.	d	
5) F-114	3.91	85	2019	0.052	ppbv	# 61
6] Vinyl chloride	4.08	62	687	0.056	ppbv	96
7] 1,3-Butadiene	4.27	54	389	0.057	ppbv	# 77
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.	d	
10) Chloroethane	0.00		0	N.D.	d	
11] Vinyl bromide	5.34	106	687m	0.047	ppbv	
12) Ethanol	0.00		0	N.D.	d	
13] Acrolein	5.46	56	147	0.044	ppbv	97
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	0.00		0	N.D.	d	
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18] 1,1-Dichloroethane	6.73	96	781	0.055	ppbv	91
19] trans-1,2-Dichloroethene	8.17	96	624m	0.046	ppbv	
20) Methylene chloride	0.00		0	N.D.	d	
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23) CFC-113	7.25	101	2364	0.063	ppbv	85
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.46	63	1304	0.053	ppbv	95
28] cis-1,2-Dichloroethene	9.73	96	707	0.049	ppbv	# 75
29) Hexane	0.00		0	N.D.	d	
30] Chloroform	10.18	83	1819	0.049	ppbv	93
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	0.00		0	N.D.	d	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34] 1,2-Dichloroethane (EDC)	11.43	62	1261	0.050	ppbv	96
35] 1,1,1-Trichloroethane	11.92	97	2086m	0.052	ppbv	
36] Carbon tetrachloride	12.94	117	2441	0.052	ppbv	99
37] Benzene	12.69	78	2014	0.050	ppbv	88
38) Cyclohexane	0.00		0	N.D.	d	
40] 1,2-Dichloropropane	13.88	63	797m	0.048	ppbv	
41] 1,4-Dioxane	14.20	88	472	0.053	ppbv	74
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	



Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS8

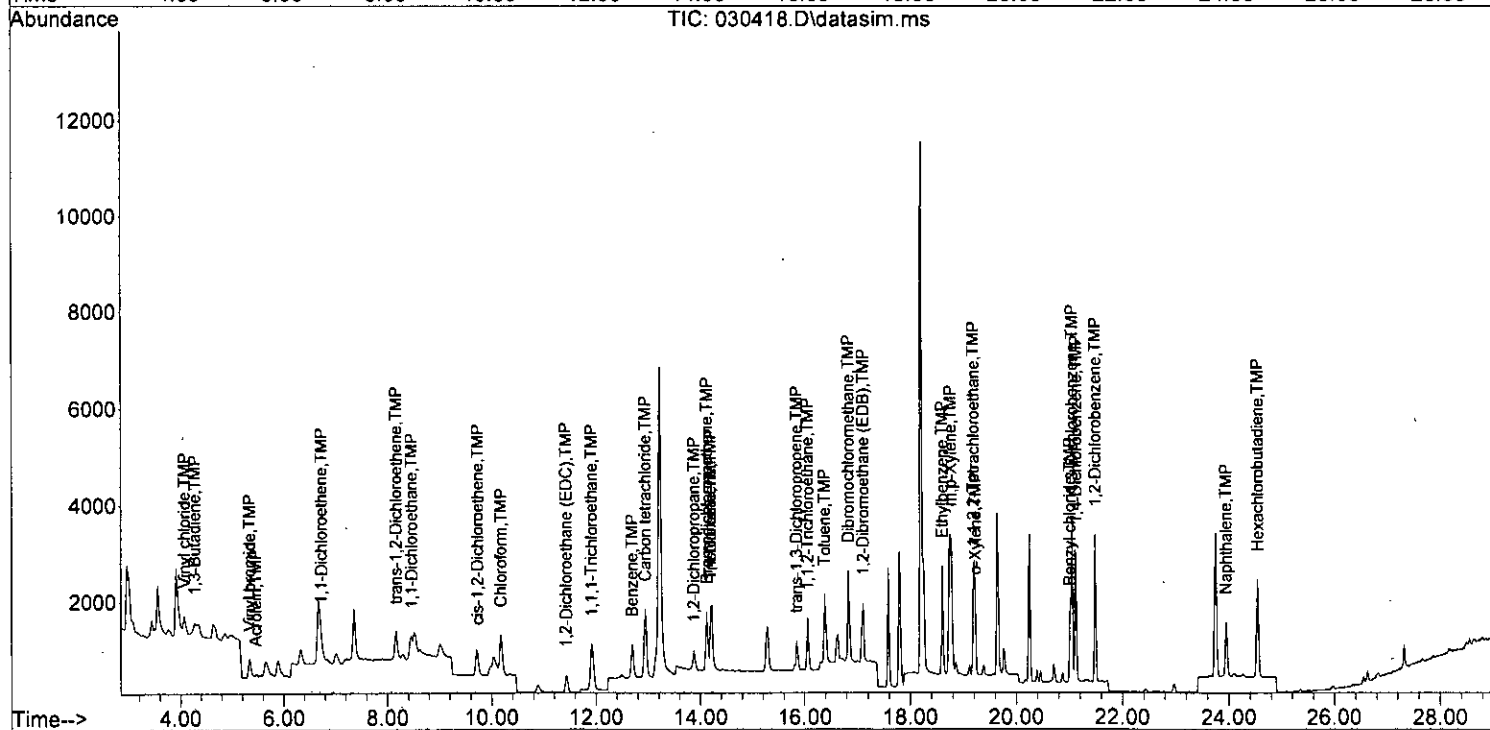
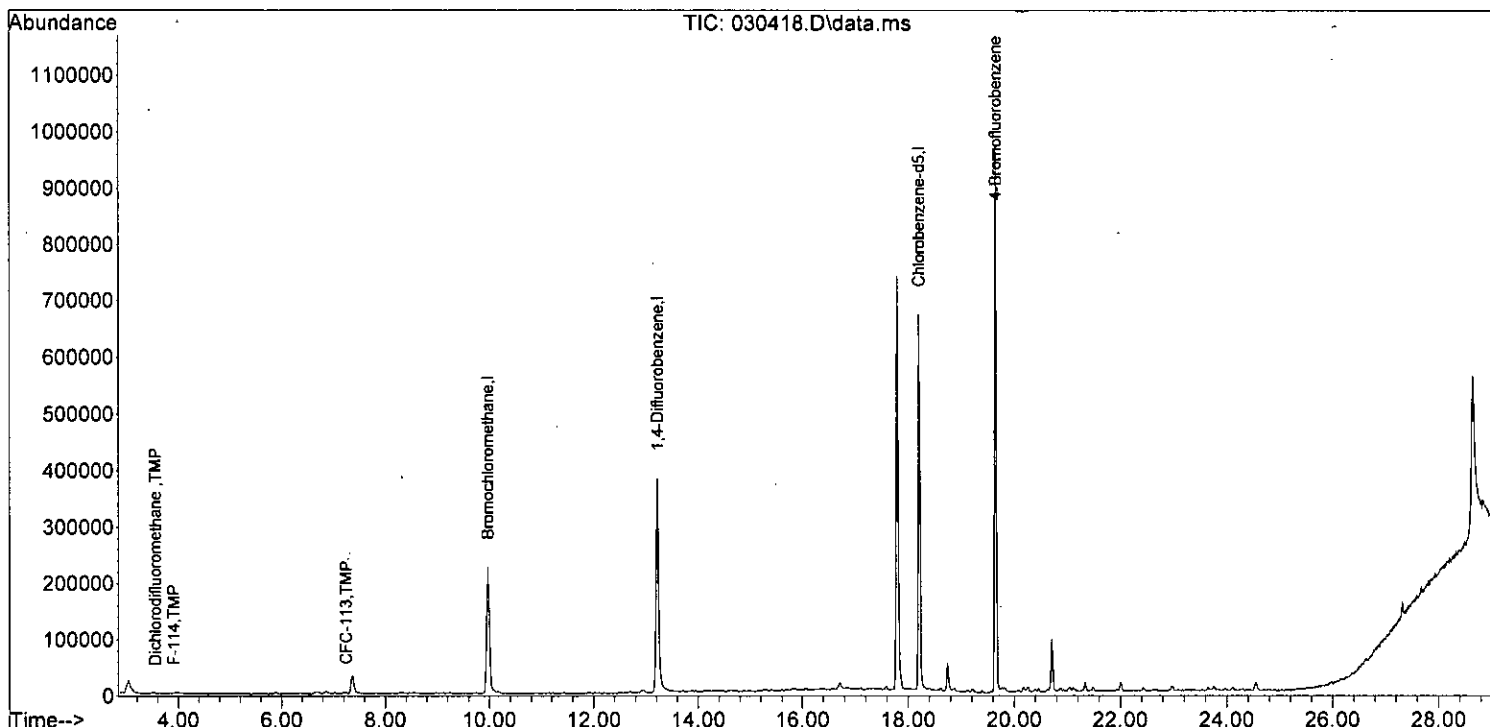
Quant Time: Mar 07 16:25:54 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45) Bromodichloromethane	14.13	83	1978	0.047	ppbv	94
46) Trichloroethene	14.20	95	1246	0.049	ppbv	82
47) cis-1,3-Dichloropropene	0.00		0	N.D.	d	
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49) trans-1,3-Dichloropropene	15.85	75	1454	0.057	ppbv	86
50) Toluene	16.38	92	1312m	0.051	ppbv	
51) 1,1,2-Trichloroethane	16.07	83	836m	0.044	ppbv	
52) 2-Hexanone	0.00		0	N.D.	d	
53) Tetrachloroethene	0.00		0	N.D.	d	
54) Dibromochloromethane	16.83	129	2176	0.047	ppbv	99
55) 1,2-Dibromoethane (EDB)	17.11	107	1615	0.049	ppbv	97
57) Chlorobenzene	0.00		0	N.D.	d	
58) Ethylbenzene	18.60	91	3085	0.049	ppbv	94
59) 1,1,2,2-Tetrachloroethane	19.19	83	2162	0.050	ppbv	100
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65) m,p-Xylene	18.76	106	2641	0.113	ppbv	93
66) o-Xylene	19.23	106	1065	0.049	ppbv	93
67) Styrene	0.00		0	N.D.	d	
68) Bromoform	0.00		0	N.D.	d	
70) Benzyl chloride	21.01	91	2581	0.047	ppbv	92
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73) 1,3-Dichlorobenzene	21.05	146	2861	0.055	ppbv	93
74) 1,4-Dichlorobenzene	21.13	146	2867	0.055	ppbv	96
75) 1,2-Dichlorobenzene	21.49	146	2893	0.058	ppbv	94
76) 1,2,4-Trichlorobenzene	0.00		0	N.D.	d	
77) Naphthalene	23.95	128	2567	0.048	ppbv	95
78) Hexachlorobutadiene	24.54	225	4611	0.051	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:25:54 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
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 InstName : GCMS8

Quant Time: Mar 07 16:25:54 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	-1.000	0.000	0.0	0	-3.47#
3 TMP	Dichlorodifluoromethane	0.050	0.052	-4.0	100	0.00
4 TMP	Chloromethane	-1.000	0.000	0.0	0	-3.80#
5 TMP	F-114	0.050	0.052	-4.0	100	0.00
6 TMP	Vinyl chloride	0.050	0.056	-12.0	100	0.00
7 TMP	1,3-Butadiene	0.050	0.057	-14.0	100	0.00
8 TMP	Butane	-1.000	0.000	0.0	0	-4.35#
9 TMP	Bromomethane	-1.000	0.000	0.0	0	-4.67#
10 TMP	Chloroethane	-1.000	0.000	0.0	0	-4.87#
11 TMP	Vinyl bromide	0.050	0.047	6.0	95	0.00
12 TMP	Ethanol	-1.000	0.000	0.0	0	-4.98#
13 TMP	Acrolein	0.050	0.044	12.0	113	0.00
14 TMP	Pentane	-1.000	0.000	0.0	0	-6.35#
15 TMP	Trichlorofluoromethane	-1.000	0.000	0.0	0	-5.89#
16 TMP	Acetone	-1.000	0.000	0.0	0	-5.63#
17 TMP	2-Propanol	-1.000	0.000	0.0	0	-5.89#
18 TMP	1,1-Dichloroethene	0.050	0.055	-10.0	100	0.00
19 TMP	trans-1,2-Dichloroethene	0.050	0.046	8.0	82	0.00
20 TMP	Methylene chloride	-1.000	0.000	0.0	0	-6.85#
21 TMP	t-Butyl alcohol (TBA)	-1.000	0.000	0.0	0	-6.67#
22 TMP	3-Chloropropene	-1.000	0.000	0.0	0	-7.04#
23 TMP	CFC-113	0.050	0.063	-26.0	100	0.00
24 TMP	Carbon disulfide	-1.000	0.000	0.0	0	-7.04#
25 TMP	Methyl t-butyl ether (MTBE)	-1.000	0.000	0.0	0	-8.53#
26 TMP	Vinyl acetate	-1.000	0.000	0.0	0	-8.64#
27 TMP	1,1-Dichloroethane	0.050	0.053	-6.0	100	0.00
28 TMP	cis-1,2-Dichloroethene	0.050	0.049	2.0	100	0.00
29 TMP	Hexane	-1.000	0.000	0.0	0	-10.10#
30 TMP	Chloroform	0.050	0.049	2.0	100	0.00
31 TMP	Ethyl acetate	-1.000	0.000	0.0	0	-10.03#
32 TMP	Tetrahydrofuran	-1.000	0.000	0.0	0	-10.86#
33 TMP	2-Butanone (MEK)	-1.000	0.000	0.0	0	-9.01#
34 TMP	1,2-Dichloroethane (EDC)	0.050	0.050	0.0	100	0.00
35 TMP	1,1,1-Trichloroethane	0.050	0.052	-4.0	102	0.00
36 TMP	Carbon tetrachloride	0.050	0.052	-4.0	100	0.00
37 TMP	Benzene	0.050	0.050	0.0	100	0.00
38 TMP	Cyclohexane	-1.000	0.000	0.0	0	-13.15#
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.02
40 TMP	1,2-Dichloropropane	0.050	0.048	4.0	95	0.00
41 TMP	1,4-Dioxane	0.050	0.053	-6.0	100	0.02
42 TMP	2,2,4-Trimethylpentane	-1.000	0.000	0.0	0	-14.29#
43 TMP	Methyl methacrylate	-1.000	0.000	0.0	0	-14.44#
44 TMP	Heptane	-1.000	0.000	0.0	0	-14.61#
45 TMP	Bromodichloromethane	0.050	0.047	6.0	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:25:54 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	0.050	0.049	2.0	100	0.00
47	TMP cis-1,3-Dichloropropene	-1.000	0.000	0.0	0	-15.28#
48	TMP 4-Methyl-2-pentanone	-1.000	0.000	0.0	0	-15.30#
49	TMP trans-1,3-Dichloropropene	0.050	0.057	-14.0	100	0.00
50	TMP Toluene	0.050	0.051	-2.0	95	0.00
51	TMP 1,1,2-Trichloroethane	0.050	0.044	12.0	96	0.00
52	TMP 2-Hexanone	-1.000	0.000	0.0	0	-16.63#
53	TMP Tetrachloroethene	-1.000	0.000	0.0	0	-17.59#
54	TMP Dibromochloromethane	0.050	0.047	6.0	100	0.00
55	TMP 1,2-Dibromoethane (EDB)	0.050	0.049	2.0	100	0.00
56	I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57	TMP Chlorobenzene	-1.000	0.000	0.0	0	-18.25#
58	TMP Ethylbenzene	0.050	0.049	2.0	100	0.00
59	TMP 1,1,2,2-Tetrachloroethane	0.050	0.050	0.0	100	0.00
60	TMP Nonane	-1.000	0.000	0.0	0	-19.38#
61	TMP Isopropylbenzene	-1.000	0.000	0.0	0	-19.77#
62	TMP 2-Chlorotoluene	-1.000	0.000	0.0	0	-20.23#
63	TMP Propylbenzene	-1.000	0.000	0.0	0	-20.25#
64	TMP 4-Ethyltoluene	-1.000	0.000	0.0	0	-20.39#
65	TMP m,p-Xylene	0.100	0.113	-13.0	100	-0.02
66	TMP o-Xylene	0.050	0.049	2.0	100	0.00
67	TMP Styrene	-1.000	0.000	0.0	0	-19.11#
68	TMP Bromoform	-1.000	0.000	0.0	0	-18.87#
69	S 4-Bromofluorobenzene	10.000	9.490	5.1	100	0.00
70	TMP Benzyl chloride	0.050	0.047	6.0	100	0.00
71	TMP 1,3,5-Trimethylbenzene	-1.000	0.000	0.0	0	-20.45#
72	TMP 1,2,4-Trimethylbenzene	-1.000	0.000	0.0	0	-20.87#
73	TMP 1,3-Dichlorobenzene	0.050	0.055	-10.0	100	0.00
74	TMP 1,4-Dichlorobenzene	0.050	0.055	-10.0	100	0.01
75	TMP 1,2-Dichlorobenzene	0.050	0.058	-16.0	100	0.00
76	TMP 1,2,4-Trichlorobenzene	-1.000	0.000	0.0	0	-23.75#
77	TMP Naphthalene	0.050	0.048	4.0	100	0.00
78	TMP Hexachlorobutadiene	0.050	0.051	-2.0	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:25:54 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP Propene	0.552	0.000	100.0#	0#	-3.47#
3 TMP Dichlorodifluoromethane	4.565	4.724	-3.5	100	0.00
4 TMP Chloromethane	0.776	0.000#	100.0#	0#	-3.80#
5 TMP F-114	3.419	3.562	-4.2	100	0.00
6 TMP Vinyl chloride	1.082	1.212	-12.0	100	0.00
7 TMP 1,3-Butadiene	0.605	0.686	-13.4	100	0.00
8 TMP Butane	1.161	0.000	100.0#	0#	-4.35#
9 TMP Bromomethane	1.196	0.000#	100.0#	0#	-4.67#
10 TMP Chloroethane	0.395	0.000#	100.0#	0#	-4.87#
11 TMP Vinyl bromide	1.286	1.212	5.8	95	0.00
12 TMP Ethanol	0.174	0.000	100.0#	0#	-4.98#
13 TMP Acrolein	0.252	0.259	-2.8	113	0.00
14 TMP Pentane	1.140	0.000#	100.0#	0#	-6.35#
15 TMP Trichlorofluoromethane	5.069	0.000#	100.0#	0#	-5.89#
16 TMP Acetone	0.404	0.000#	100.0#	0#	-5.63#
17 TMP 2-Propanol	1.563	0.000	100.0#	0#	-5.89#
18 TMP 1,1-Dichloroethene	1.255	1.378	-9.8	100	0.00
19 TMP trans-1,2-Dichloroethene	1.195	1.101	7.9	82	0.00
20 TMP Methylene chloride	1.141	0.000#	100.0#	0#	-6.85#
21 TMP t-Butyl alcohol (TBA)	2.068	0.000	100.0#	0#	-6.67#
22 TMP 3-Chloropropene	1.240	0.000	100.0#	0#	-7.04#
23 TMP CFC-113	3.311	4.170	-25.9	100	0.00
24 TMP Carbon disulfide	0.538	0.000	100.0#	0#	-7.04#
25 TMP Methyl t-butyl ether (MTBE)	2.982	0.000#	100.0#	0#	-8.53#
26 TMP Vinyl acetate	1.012	0.000#	100.0#	0#	-8.64#
27 TMP 1,1-Dichloroethane	2.186	2.300	-5.2	100	0.00
28 TMP cis-1,2-Dichloroethene	1.262	1.247	1.2	100	0.00
29 TMP Hexane	1.109	0.000	100.0#	0#	-10.10#
30 TMP Chloroform	3.255	3.209	1.4	100	0.00
31 TMP Ethyl acetate	2.770	0.000	100.0#	0#	-10.03#
32 TMP Tetrahydrofuran	0.872	0.000	100.0#	0#	-10.86#
33 TMP 2-Butanone (MEK)	0.459	0.000	100.0#	0#	-9.01#
34 TMP 1,2-Dichloroethane (EDC)	2.237	2.225	0.5	100	0.00
35 TMP 1,1,1-Trichloroethane	3.544	3.680	-3.8	102	0.00
36 TMP Carbon tetrachloride	4.146	4.306	-3.9	100	0.00
37 TMP Benzene	3.534	3.553	-0.5	100	0.00
38 TMP Cyclohexane	0.985	0.000	100.0#	0#	-13.15#
39 I 1,4-Difluorobenzene	1.000	1.000	0.0	100	0.02
40 TMP 1,2-Dichloropropane	0.330	0.315	4.5	95	0.00
41 TMP 1,4-Dioxane	0.175	0.187	-6.9	100	0.02
42 TMP 2,2,4-Trimethylpentane	0.861	0.000	100.0#	0#	-14.29#
43 TMP Methyl methacrylate	0.296	0.000	100.0#	0#	-14.44#
44 TMP Heptane	0.327	0.000	100.0#	0#	-14.61#
45 TMP Bromodichloromethane	0.825	0.783	5.1	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030418.D  
 Acq On : 5 Mar 2022 5:06 am  
 Operator : bat  
 Sample : 0.05 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 18 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:25:54 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.503	0.493	2.0	100	0.00
47 TMP cis-1,3-Dichloropropene	0.529	0.000	100.0#	0#	-15.28#
48 TMP 4-Methyl-2-pentanone	0.038	0.000	100.0#	0#	-15.30#
49 TMP trans-1,3-Dichloropropene	0.508	0.575	-13.2	100	0.00
50 TMP Toluene	0.513	0.519	-1.2	95	0.00
51 TMP 1,1,2-Trichloroethane	0.372	0.331	11.0	96	0.00
52 TMP 2-Hexanone	0.484	0.000#	100.0#	0#	-16.63#
53 TMP Tetrachloroethene	0.508	0.000#	100.0#	0#	-17.59#
54 TMP Dibromochloromethane	0.909	0.861	5.3	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.658	0.639	2.9	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	0.933	0.000#	100.0#	0#	-18.25#
58 TMP Ethylbenzene	1.442	1.426	1.1	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.993	0.999	-0.6	100	0.00
60 TMP Nonane	0.561	0.000	100.0#	0#	-19.38#
61 TMP Isopropylbenzene	1.680	0.000	100.0#	0#	-19.77#
62 TMP 2-Chlorotoluene	0.432	0.000	100.0#	0#	-20.23#
63 TMP Propylbenzene	3.087	0.000	100.0#	0#	-20.25#
64 TMP 4-Ethyltoluene	1.595	0.000	100.0#	0#	-20.39#
65 TMP m,p-Xylene	0.541	0.610	-12.8	100	-0.02
66 TMP o-Xylene	0.504	0.492	2.4	100	0.00
67 TMP Styrene	0.757	0.000#	100.0#	0#	-19.11#
68 TMP Bromoform	1.279	0.000#	100.0#	0#	-18.87#
69 S 4-Bromofluorobenzene	0.742	0.704	5.1	100	0.00
70 TMP Benzyl chloride	1.263	1.193	5.5	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.434	0.000	100.0#	0#	-20.45#
72 TMP 1,2,4-Trimethylbenzene	1.359	0.000	100.0#	0#	-20.87#
73 TMP 1,3-Dichlorobenzene	1.193	1.322	-10.8	100	0.00
74 TMP 1,4-Dichlorobenzene	1.211	1.325	-9.4	100	0.01
75 TMP 1,2-Dichlorobenzene	1.153	1.337	-16.0	100	0.00
76 TMP 1,2,4-Trichlorobenzene	1.110	0.000	100.0#	0#	-23.75#
77 TMP Naphthalene	1.414	1.186	16.1	100	0.00
78 TMP Hexachlorobutadiene	1.608	2.131	-32.5#	100	0.00

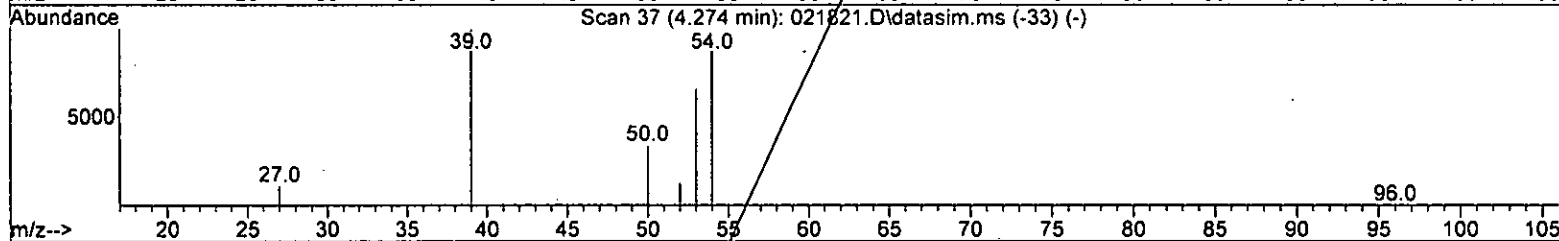
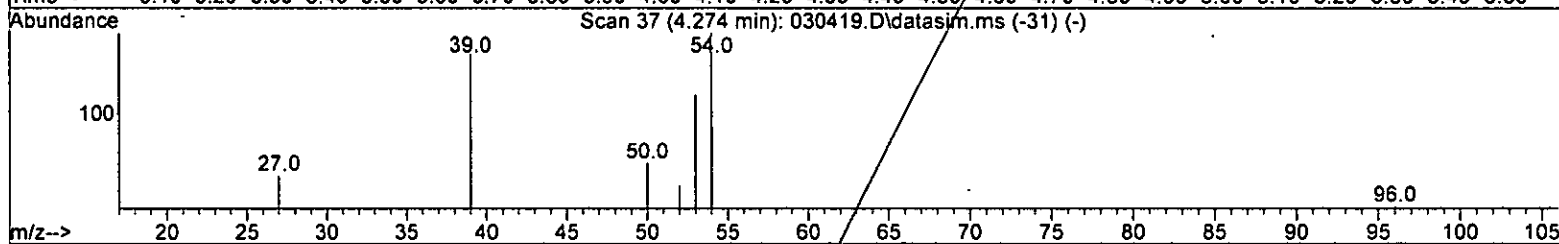
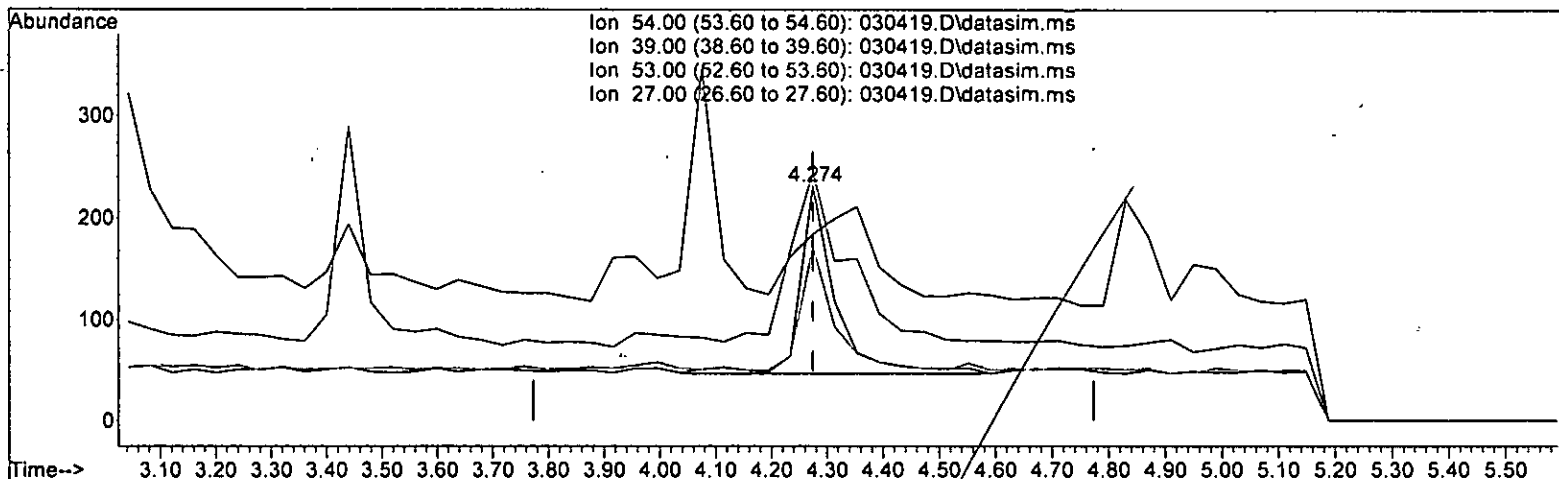
(#) = Out of Range

SPCC's out = 14 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(7) 1,3-Butadiene (TMP)

4.274min (+ 0.000) 0.120 ppbv

response 811

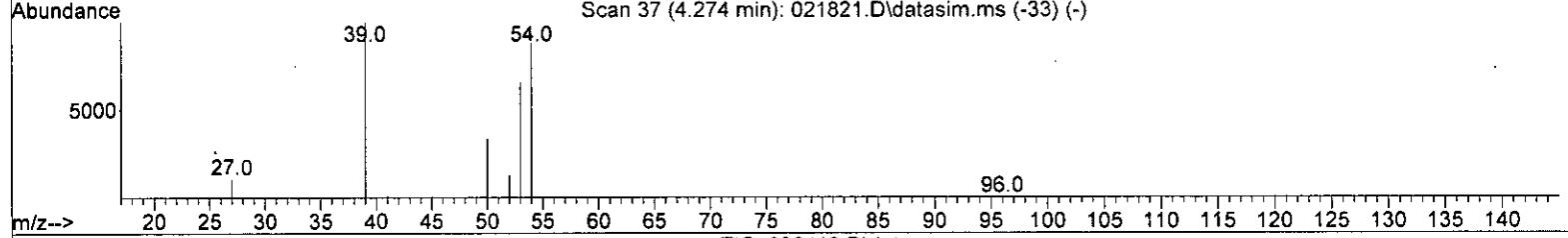
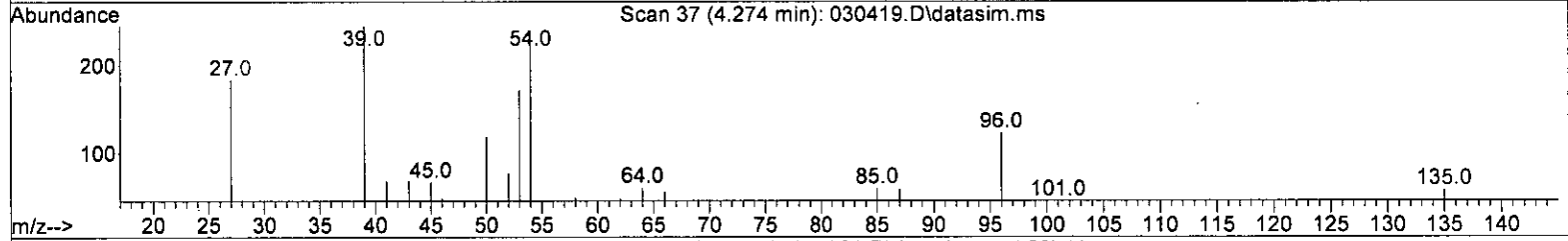
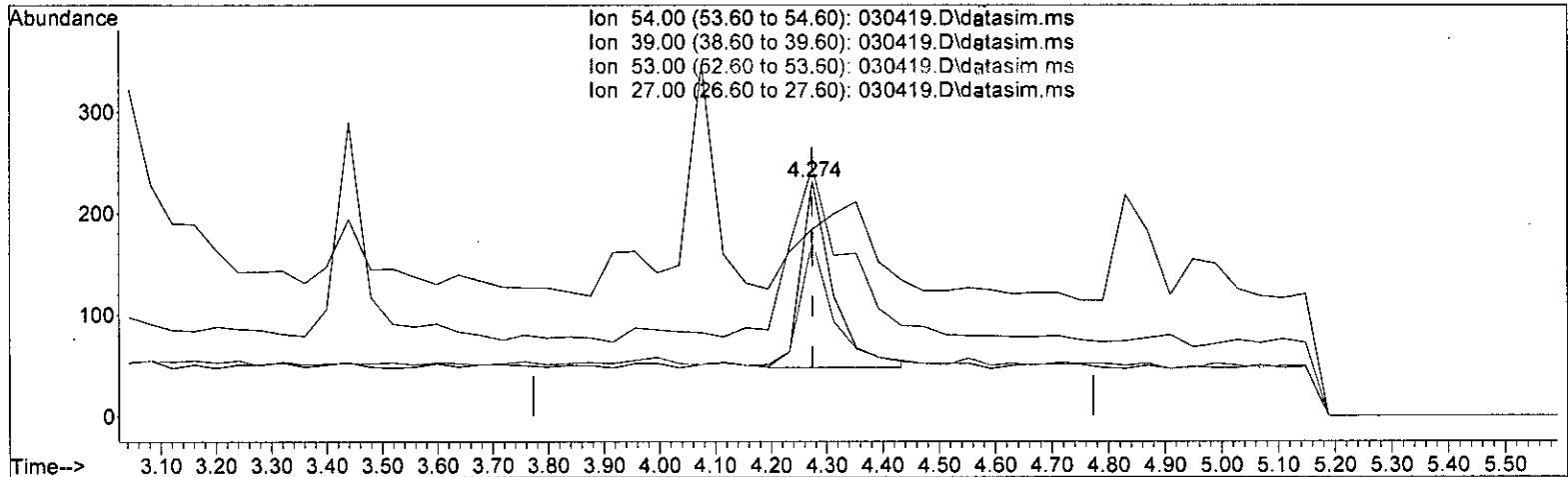
Ion	Exp%	Act%
54.00	100.00	100.00
39.00	127.60	90.22#
53.00	72.40	66.30
27.00	0.00	32.61#

*h/2/b*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030419.D\data.ms

(7) 1,3-Butadiene (TMP)

4.274min (+ 0.000) 0.107 ppbv m

response 725

Ion	Exp%	Act%
54.00	100.00	100.00
39.00	127.60	106.06
53.00	72.40	74.46
27.00	0.00	79.65#

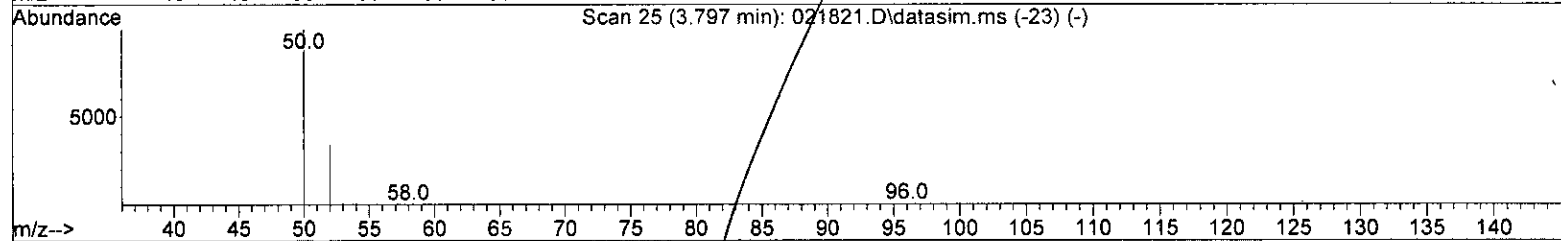
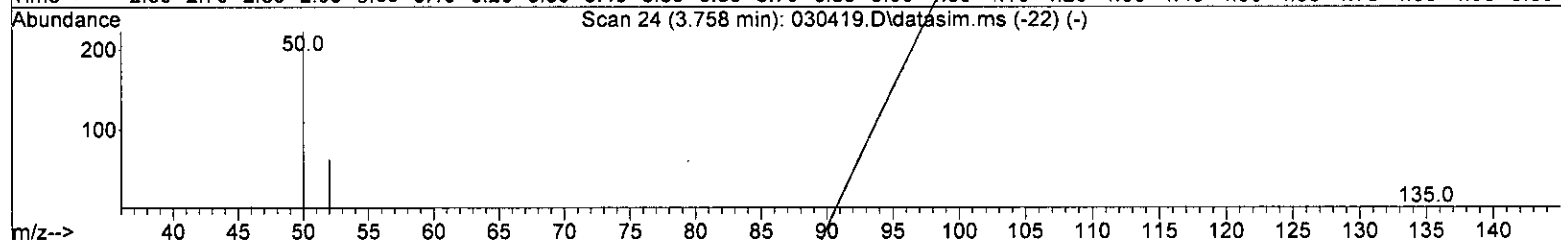
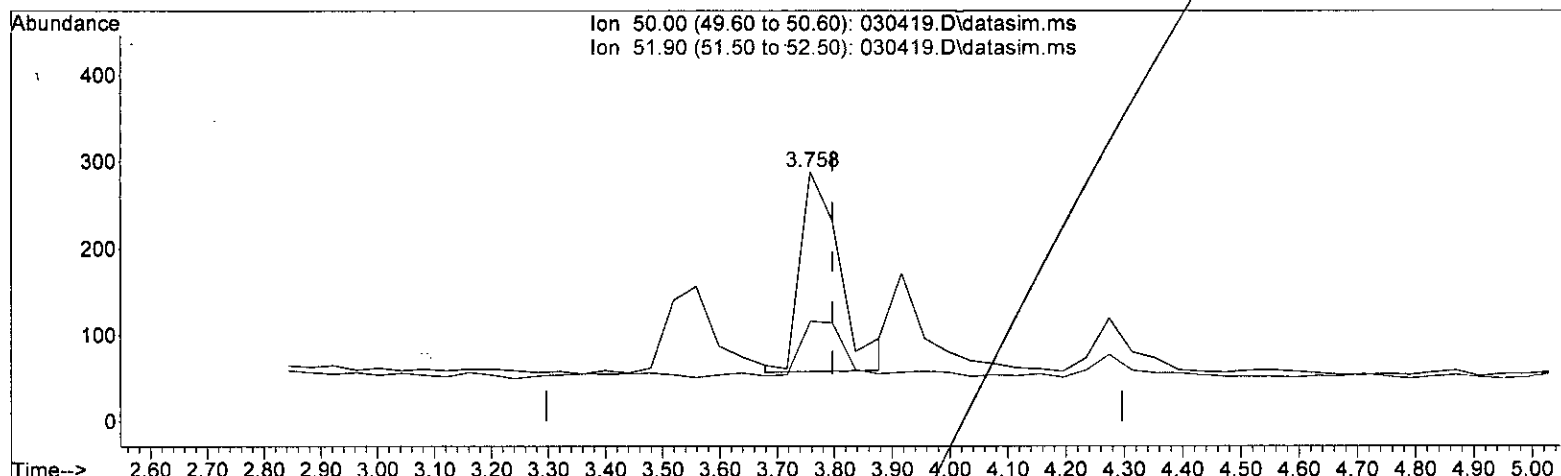
*h  
m/z*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(4) Chloromethane (TMP)

3.758min (-0.039) 0.128 ppbv

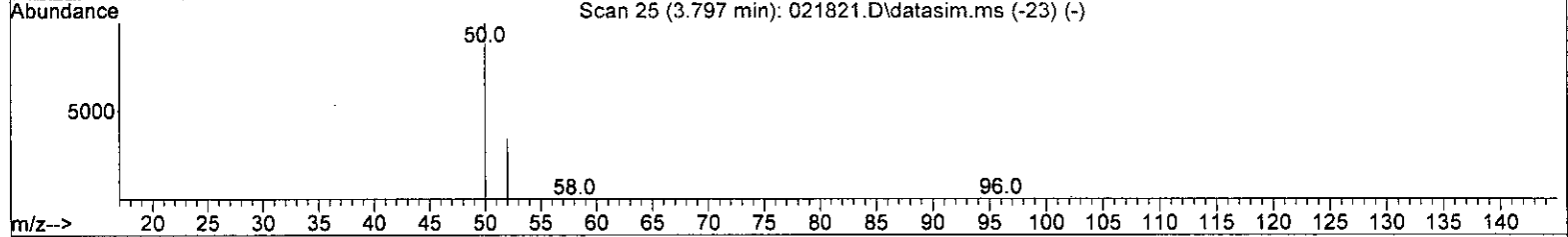
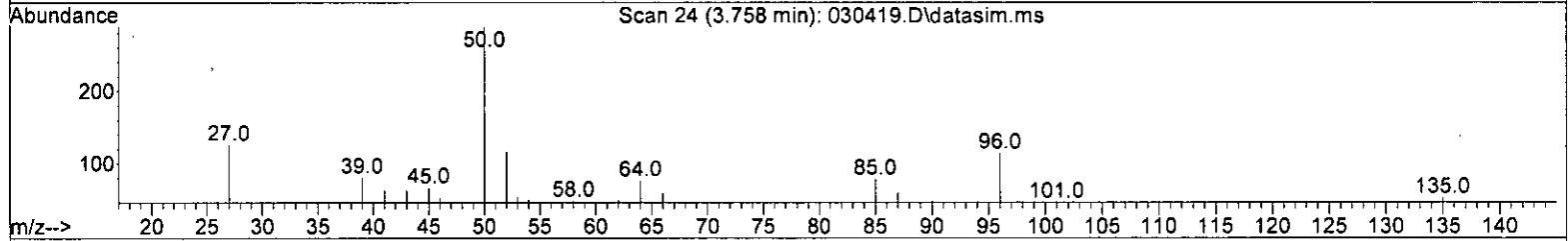
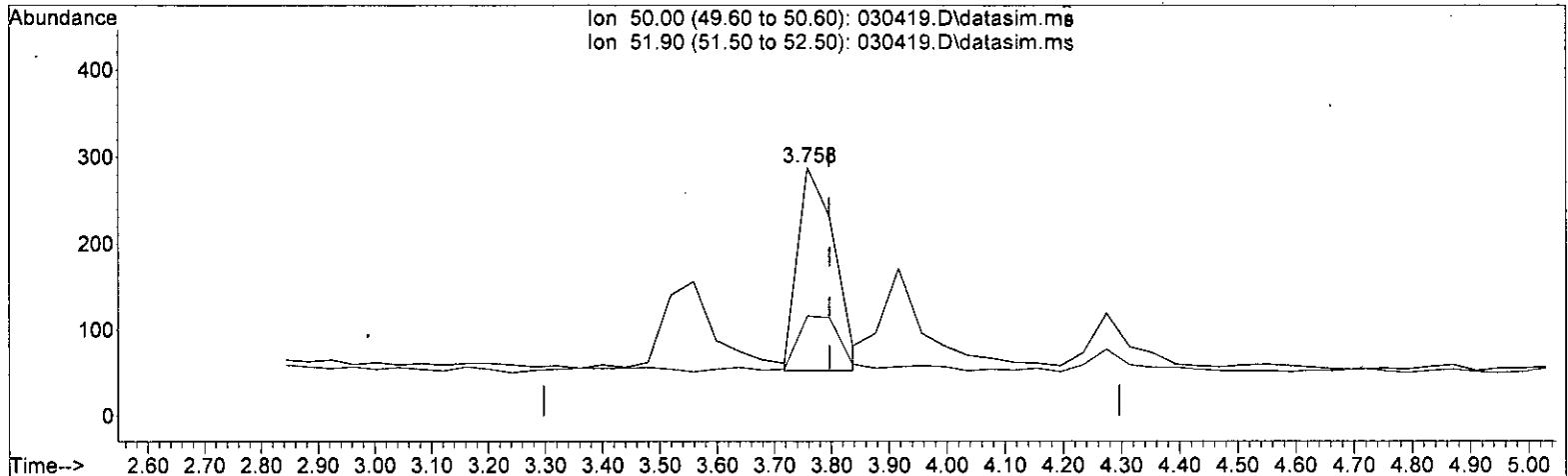
response	1113
Ion	Exp% Act%
50.00	100.00 100.00
51.90	25.30 28.25
0.00	0.00 0.00
0.00	0.00 0.00

*h*  
*3/7/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(4) Chloromethane (TMP)

3.758min (-0.039) 0.122 ppbv m

response 1059

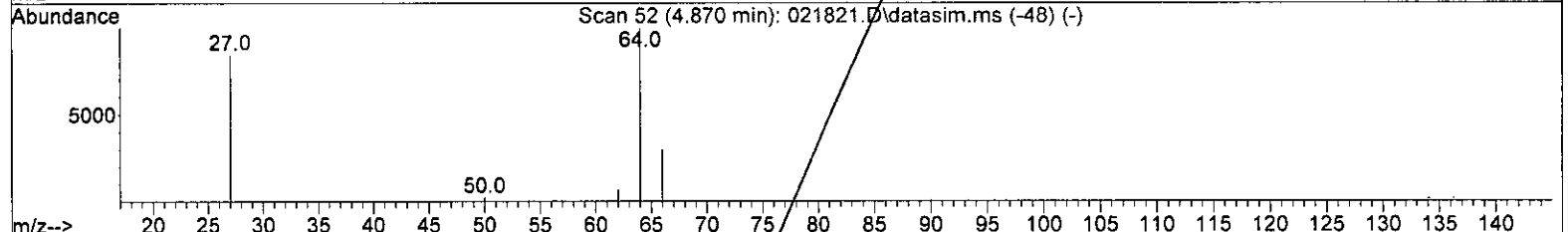
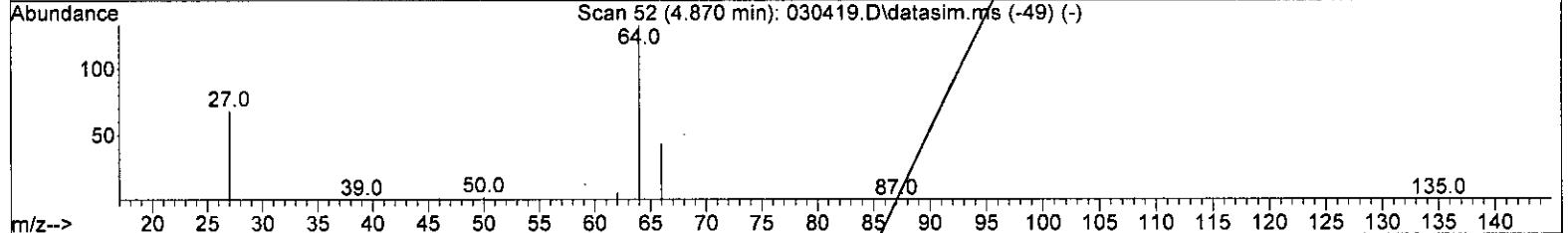
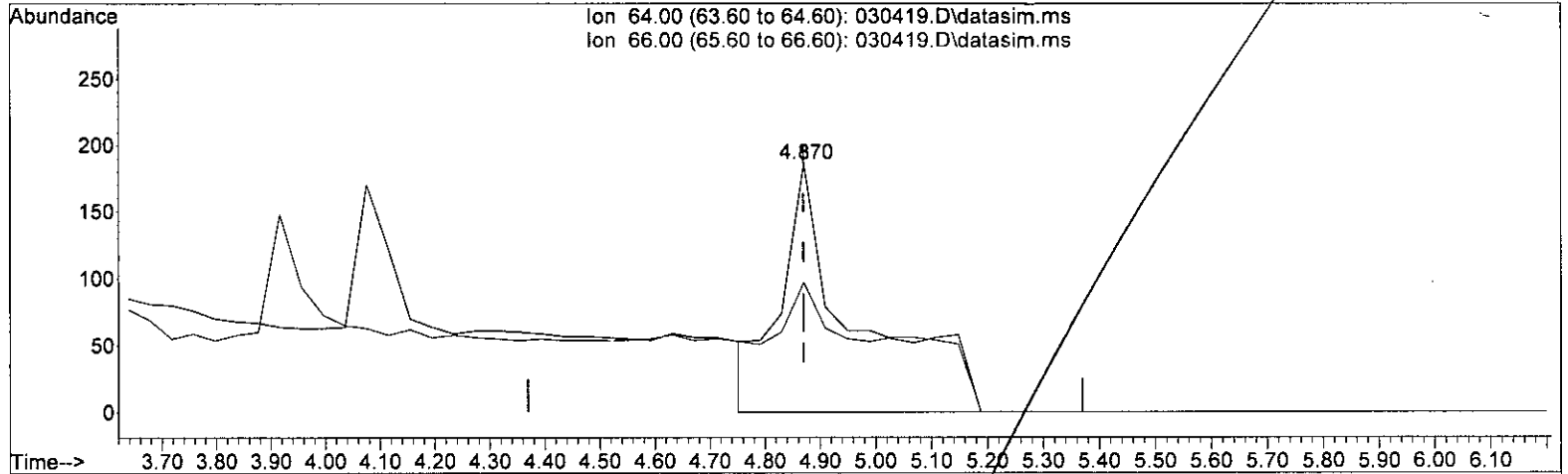
Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	40.28
0.00	0.00	0.00
0.00	0.00	0.00

*h  
3/7/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030419.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 0.381 ppbv

response 1681

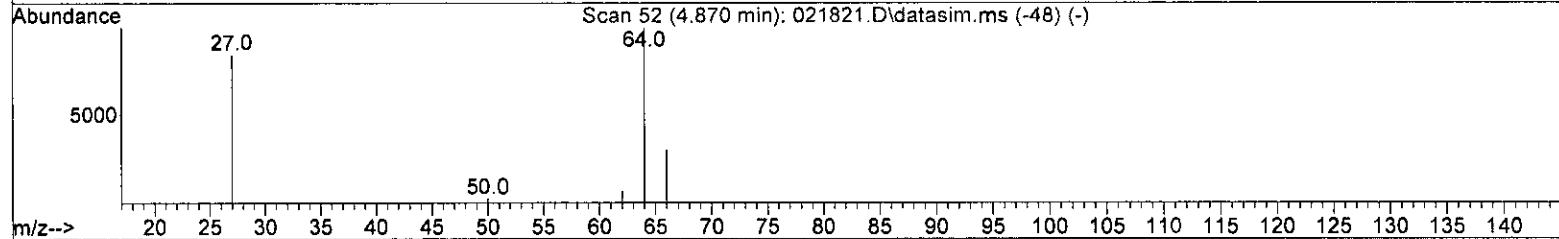
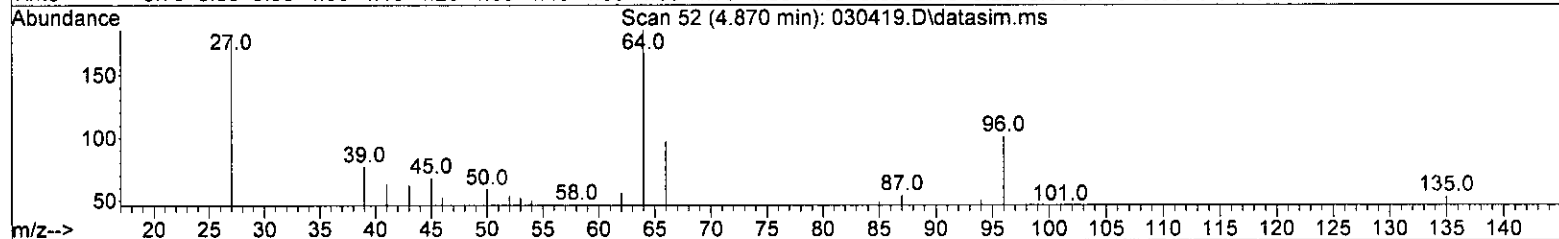
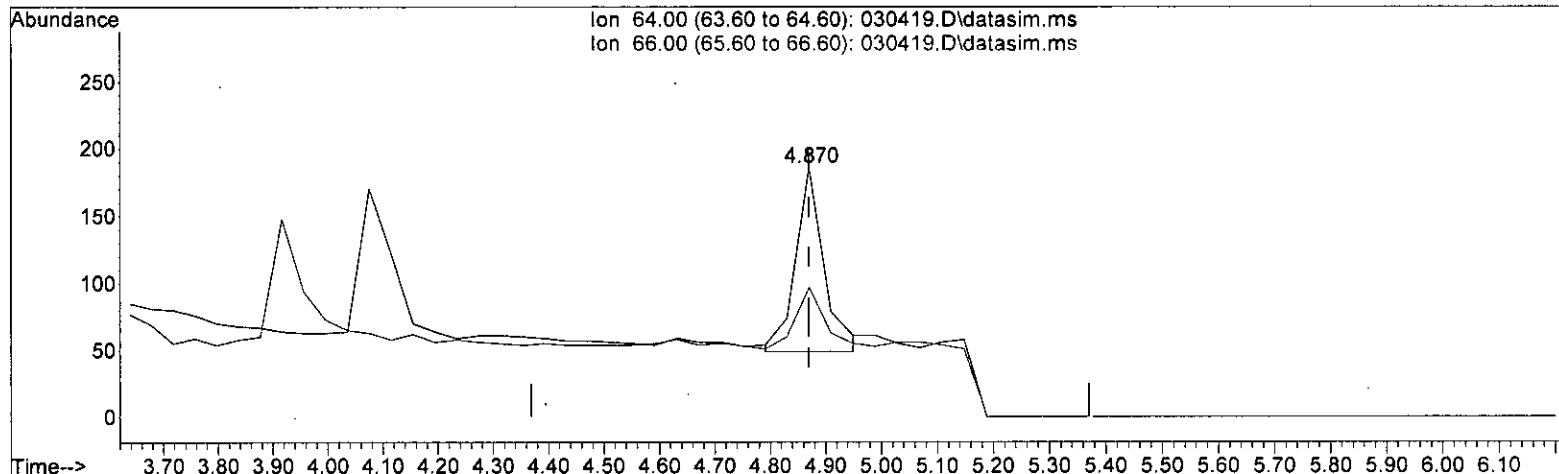
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	52.15
0.00	0.00	0.00
0.00	0.00	0.00

*h/f*  
*3/7/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030419.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 0.110 ppbv m

response 486

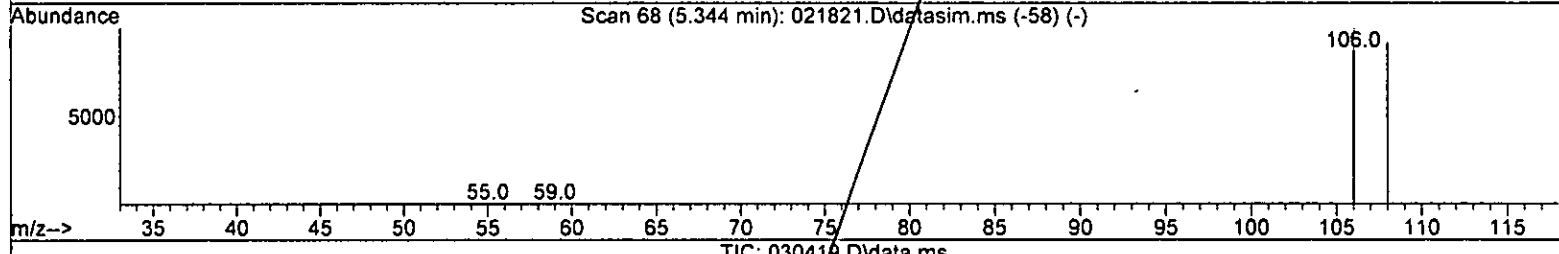
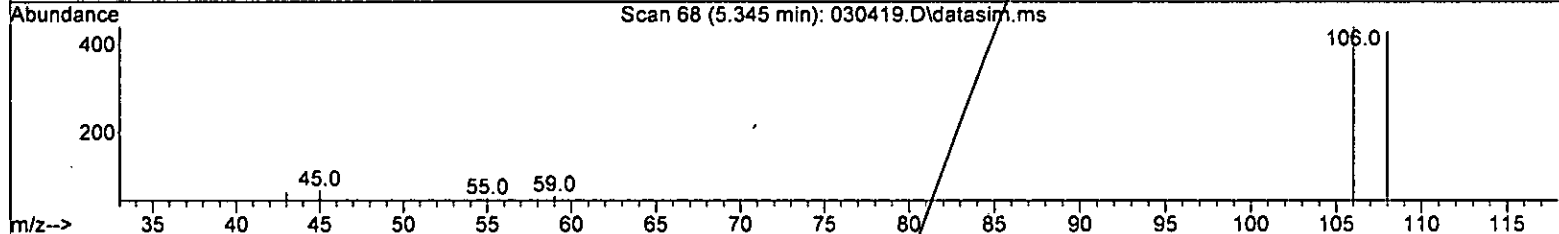
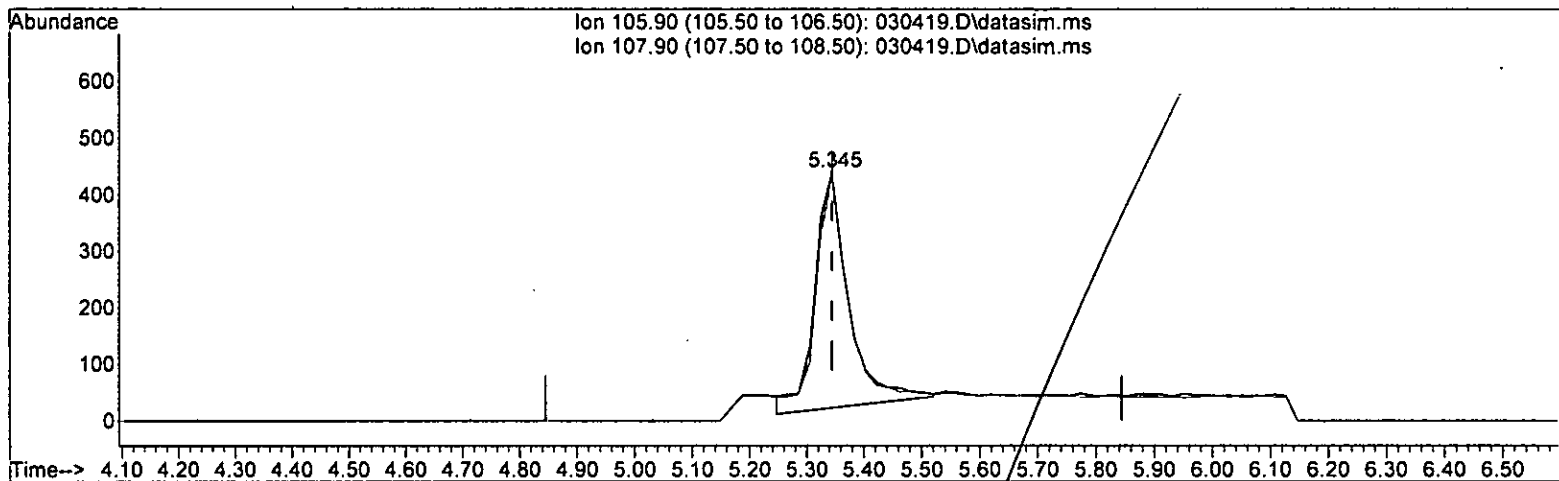
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	52.15
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(11) Vinyl bromide (TMP)

5.345min (-0.000) 0.121 ppbv

response 1739

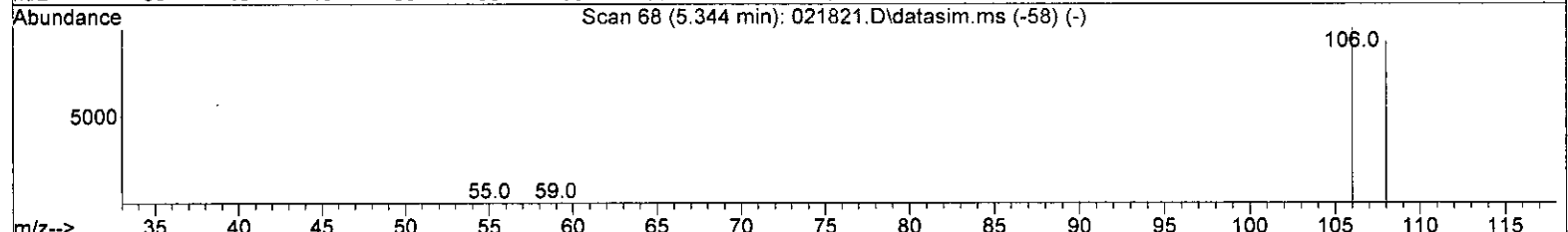
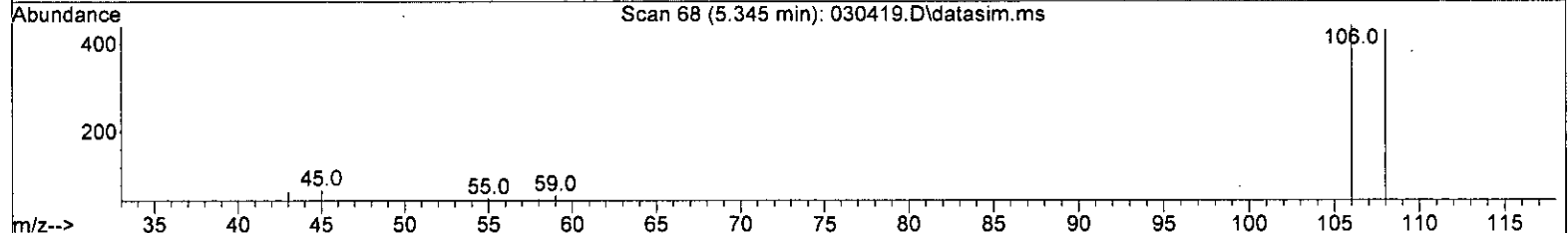
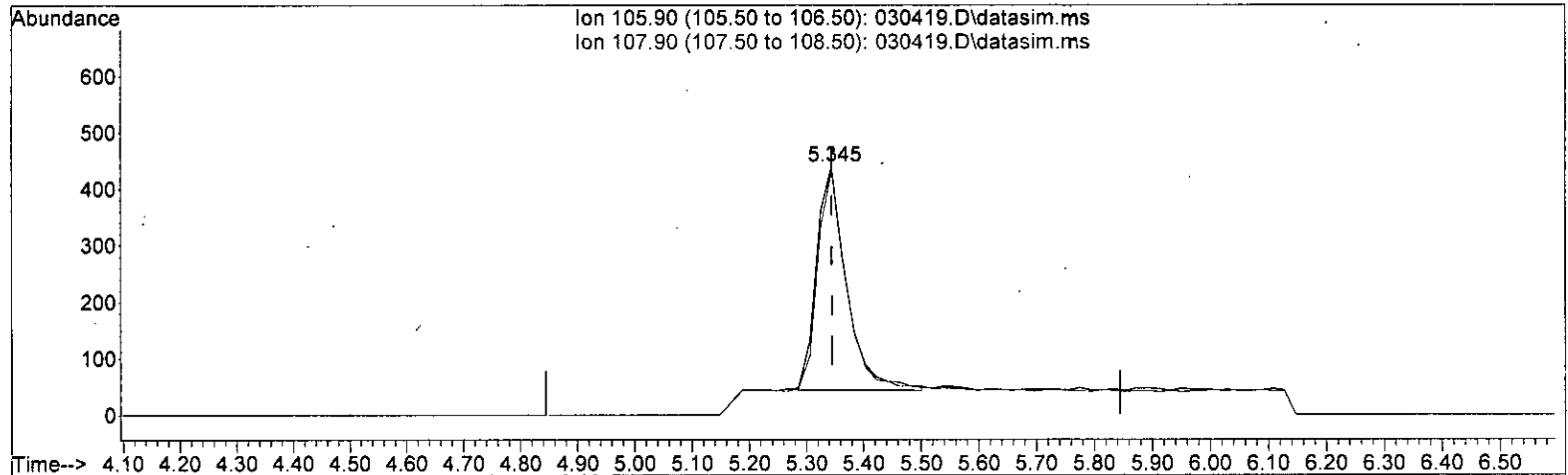
Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	99.42
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(11) Vinyl bromide (TMP)

5.345min (-0.000) 0.102 ppbv m

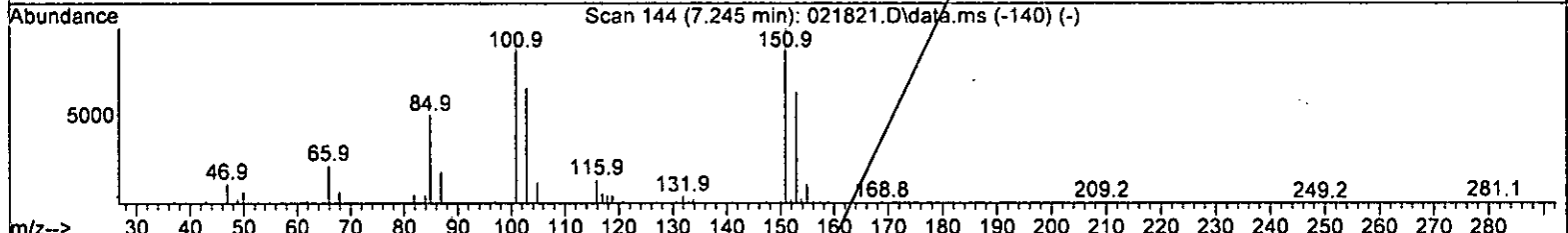
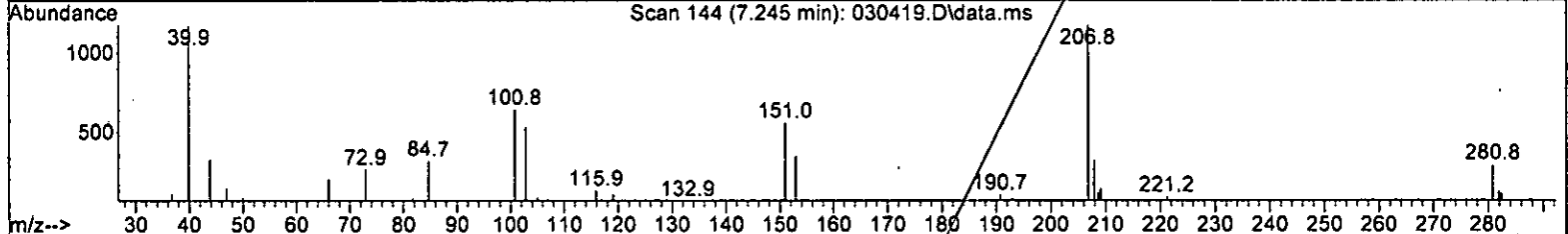
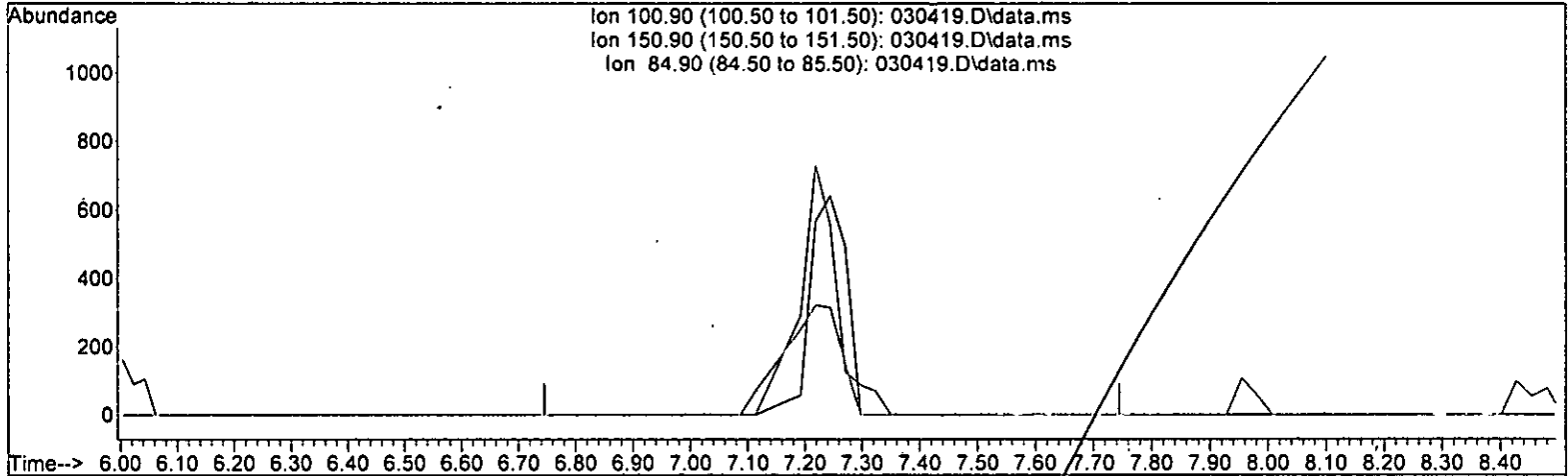
Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	118.51#
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030419.D\data.ms

(23) CFC-113 (TMP)

7.245min 0.000 ppbv d

response 0

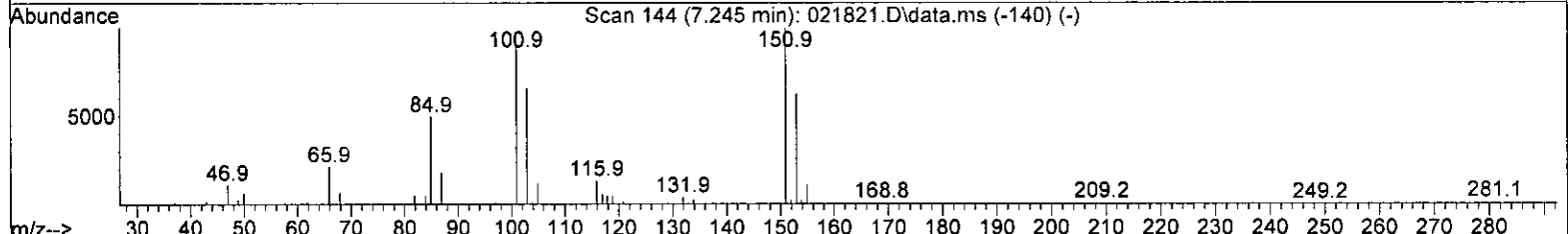
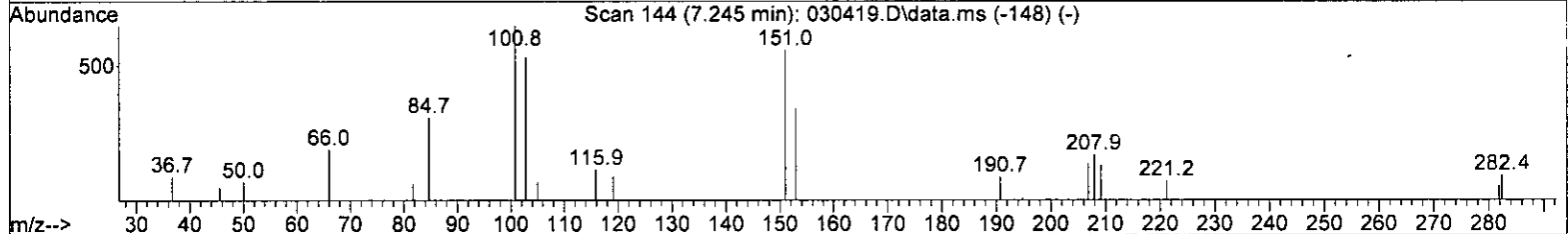
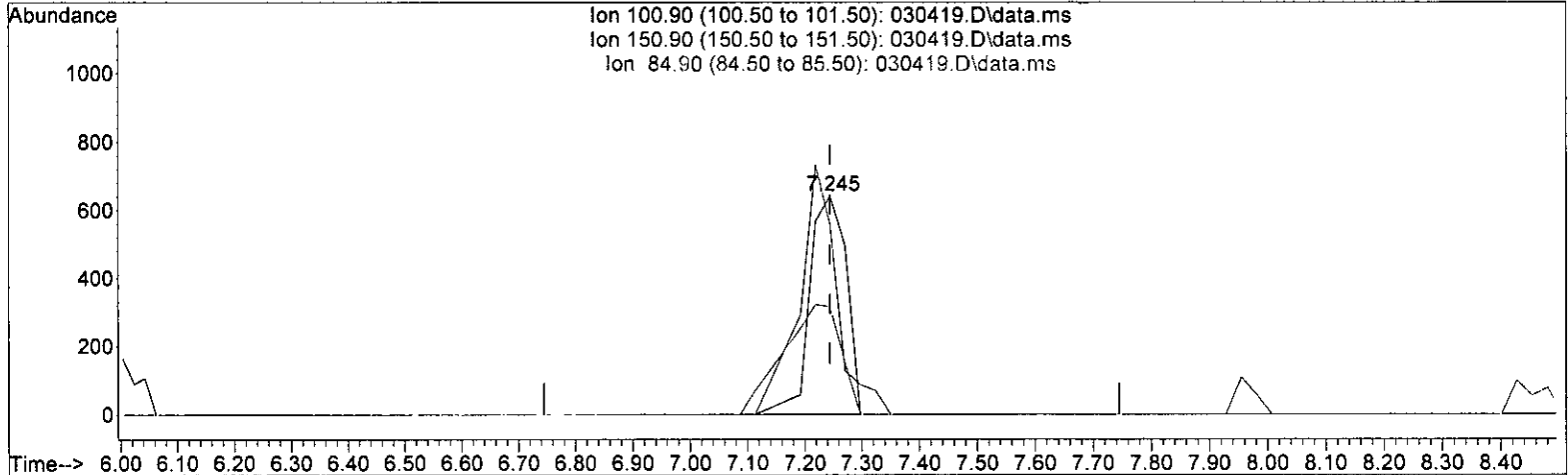
Ion	Exp%	Act%
100.90	100.00	0.00
150.90	80.70	0.00
84.90	48.20	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030419.D\data.ms

(23) CFC-113 (TMP)

7.245min (+ 0.000) 0.094 ppbv m

response 3468

Ion	Exp%	Act%
100.90	100.00	100.00
150.90	80.70	86.90
84.90	48.20	49.14
0.00	0.00	0.00

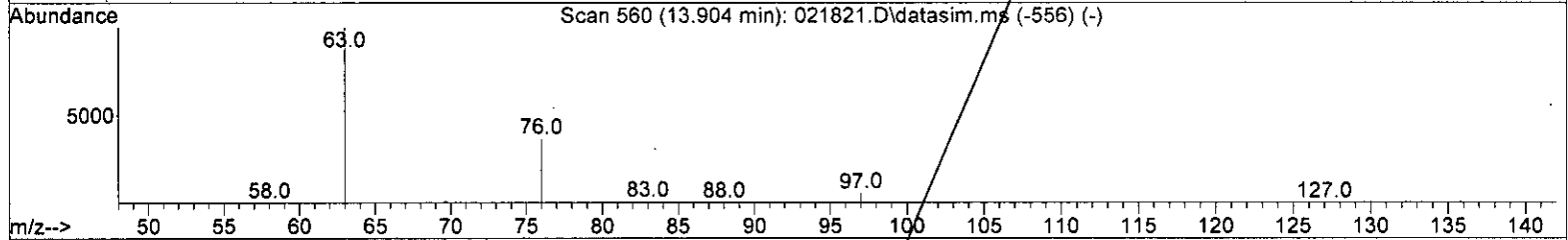
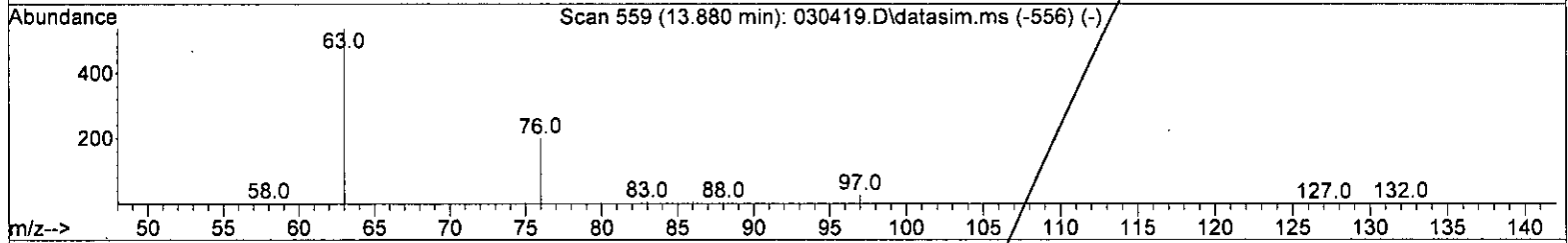
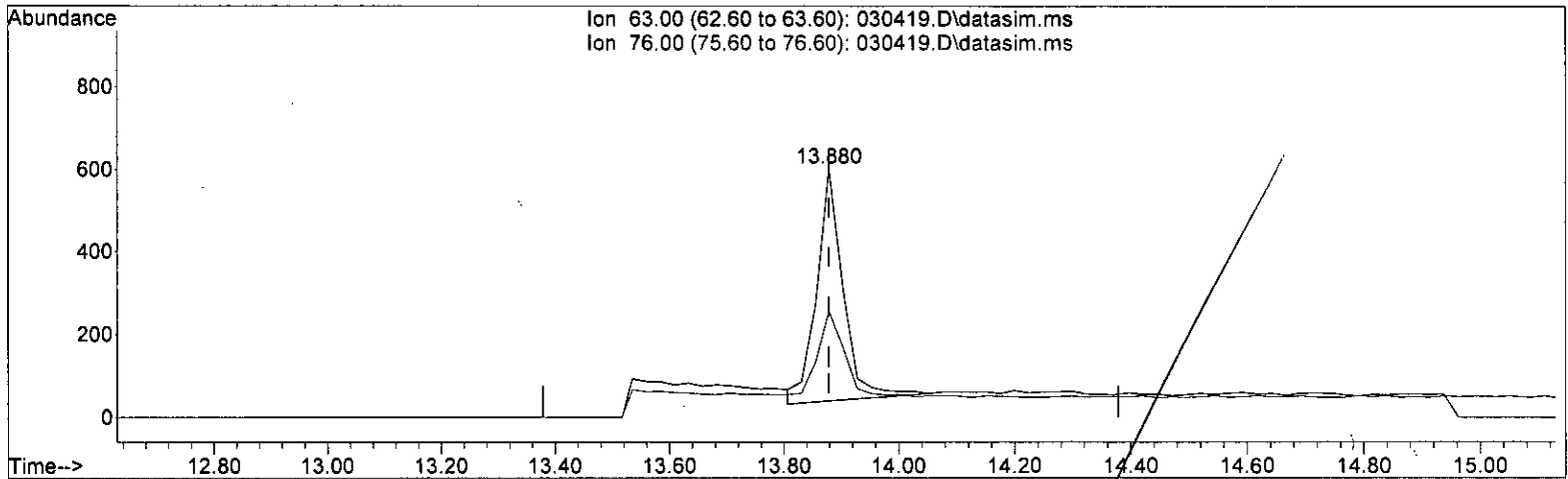
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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030419.D\data.ms

(40) 1,2-Dichloropropane (TMP)

13.880min (+ 0.001) 0.110 ppbv

response 1822

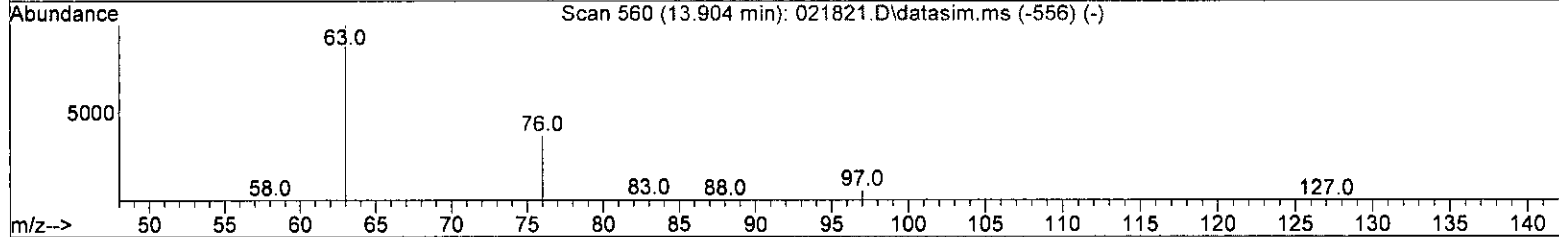
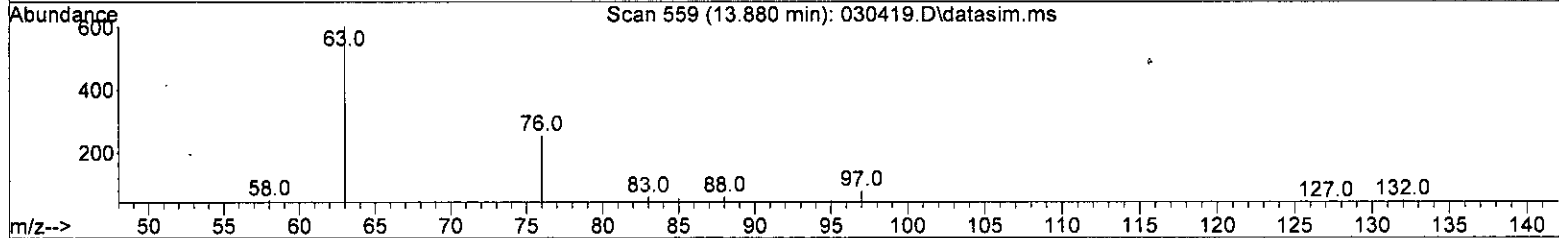
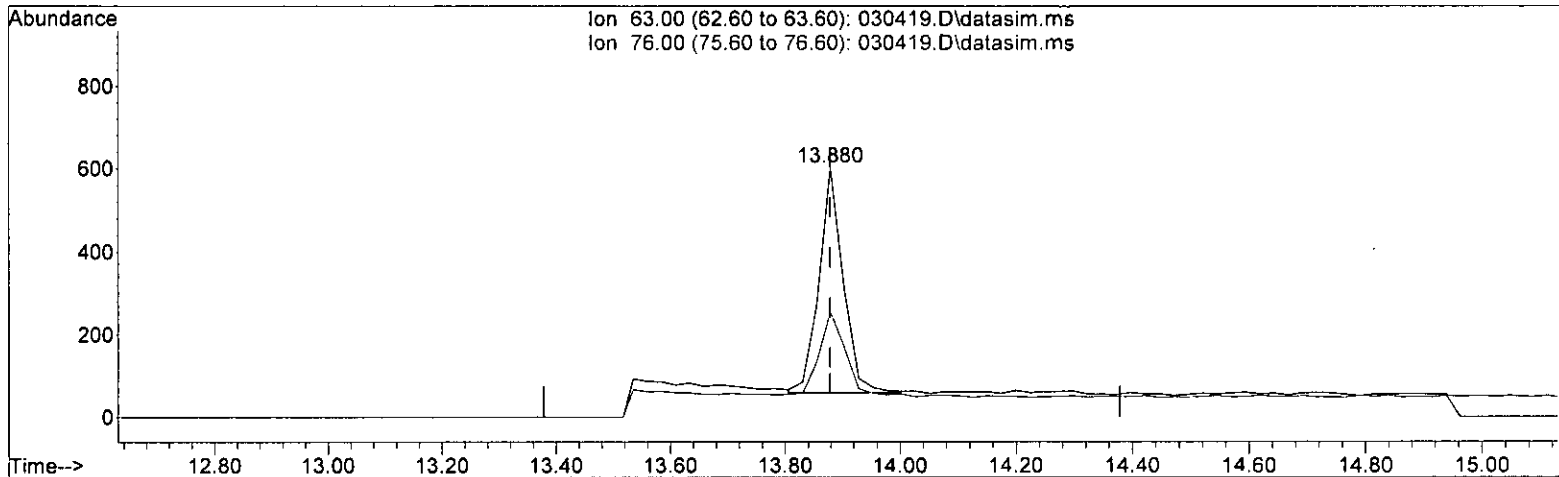
Ion	Exp%	Act%
63.00	100.00	100.00
76.00	25.70	37.18
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030419.D\data.ms

(40) 1,2-Dichloropropane (TMP)

13.880min (+ 0.001) 0.097 ppbv m

response 1605

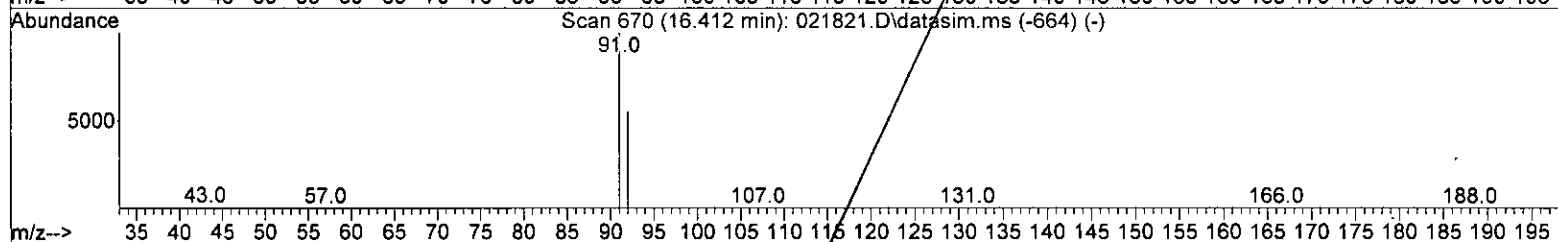
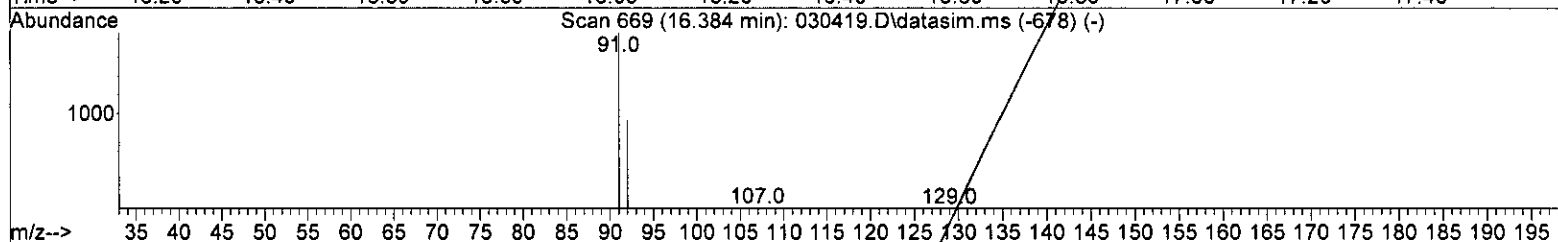
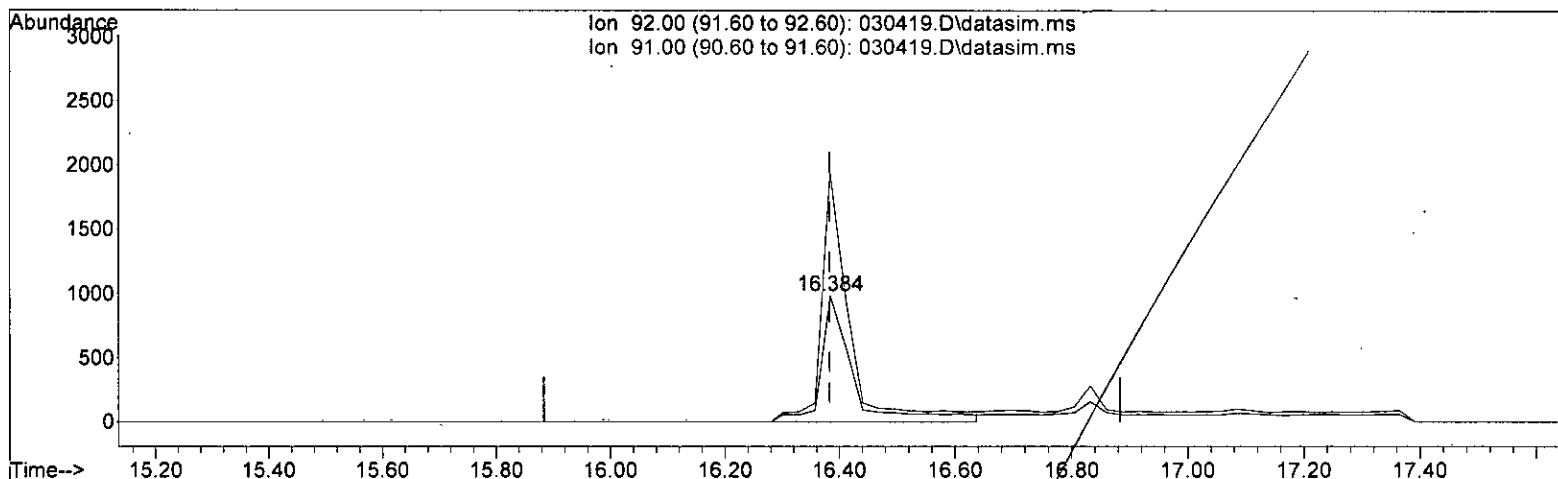
Ion	Exp%	Act%
63.00	100.00	100.00
76.00	25.70	42.45
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030419.D\data.ms

(50) Toluene (TMP)

16.384min (+ 0.000) 0.143 ppbv

response 3689

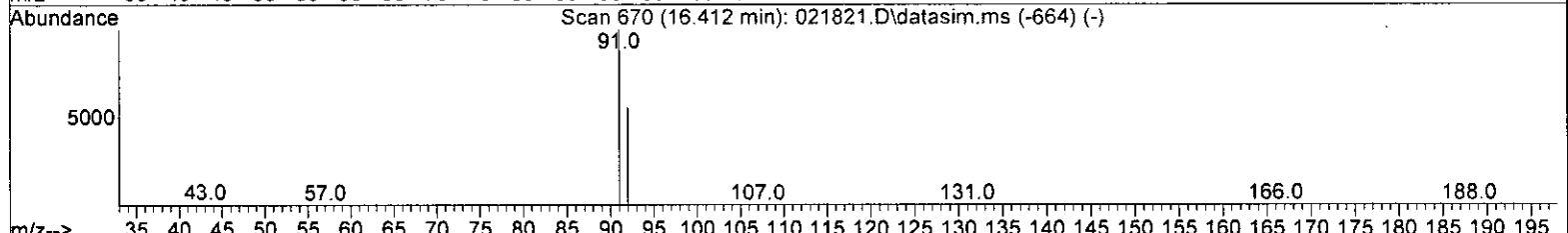
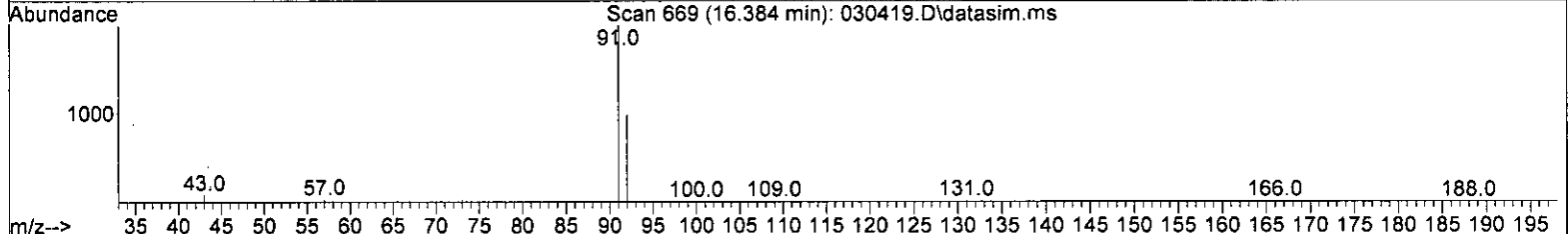
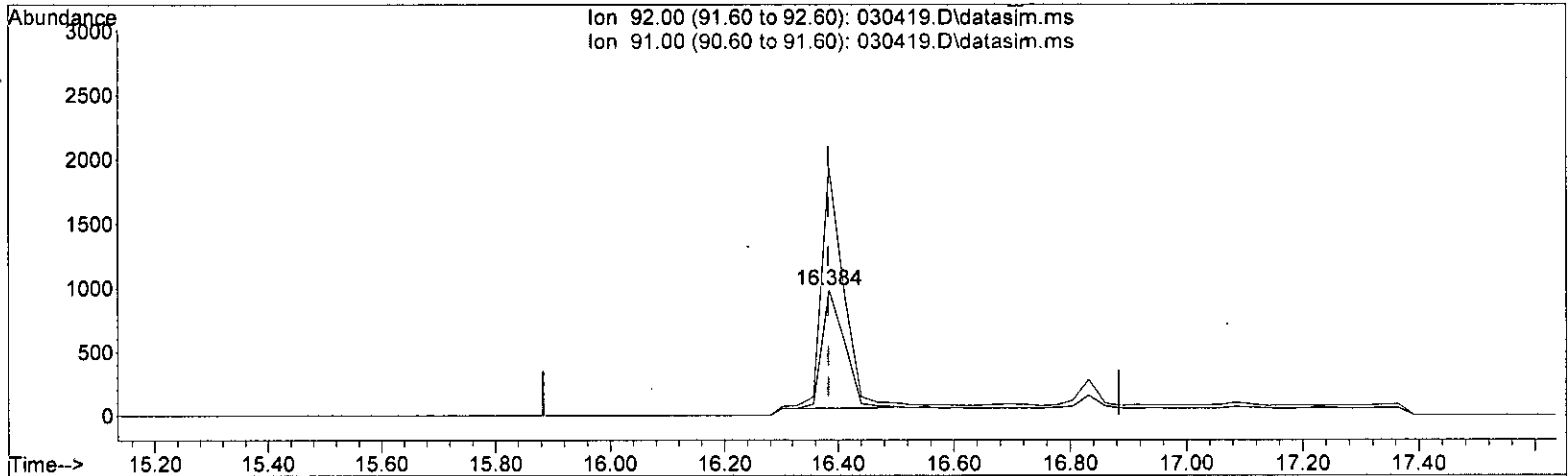
Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	197.66
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030419.D\data.ms

(50) Toluene (TMP)

16.384min (+ 0.000) 0.099 ppbv m

response 2571

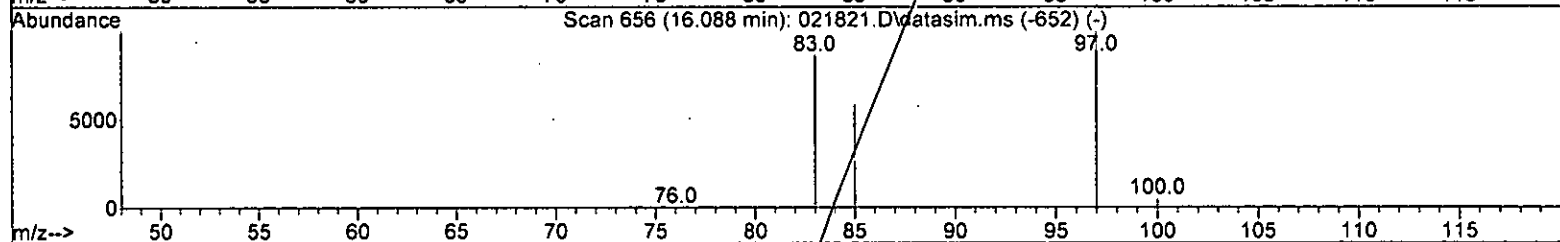
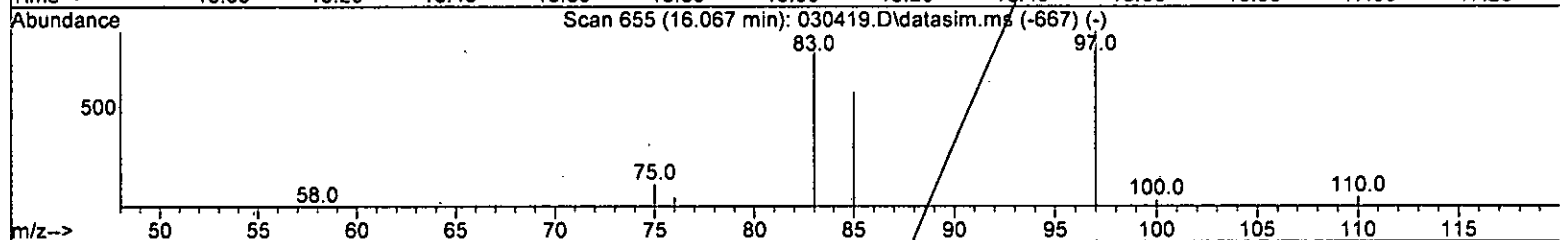
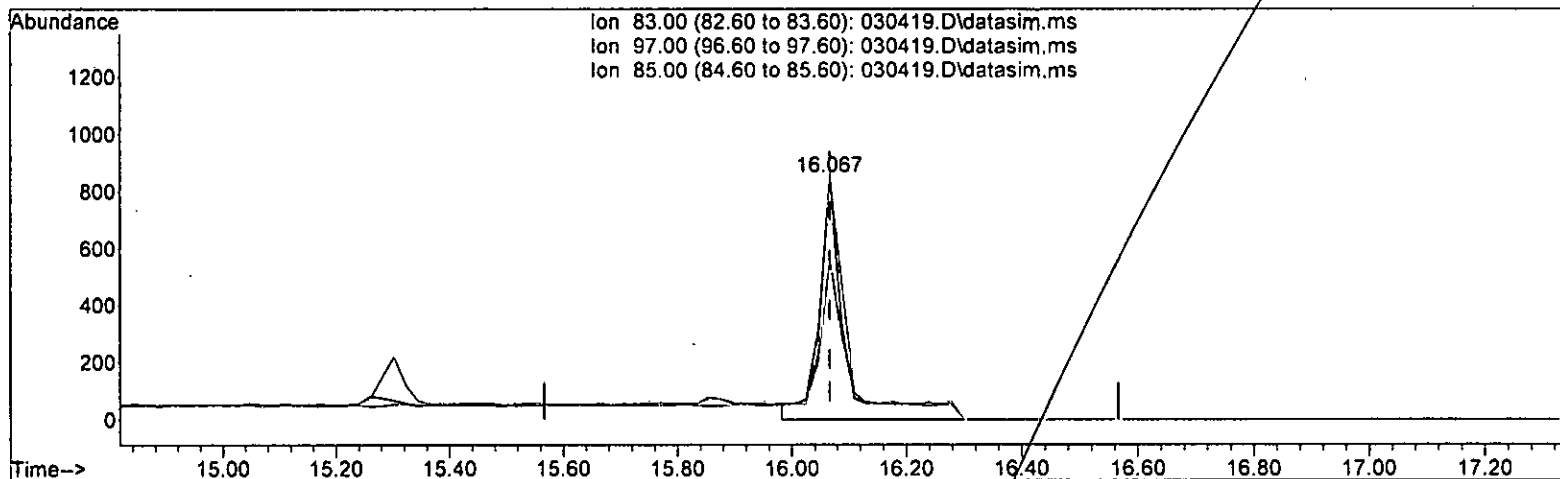
Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	197.66
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030419.D\data.ms

(51) 1,1,2-Trichloroethane (TMP)

16.067min (-0.000) 0.147 ppbv

response 2748

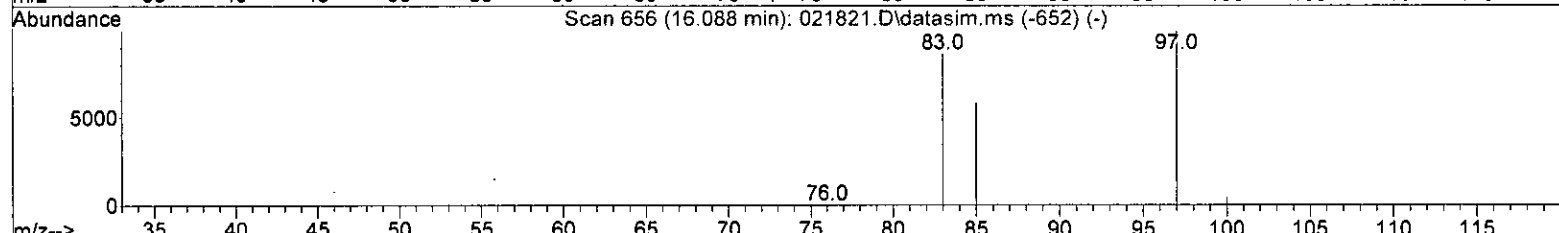
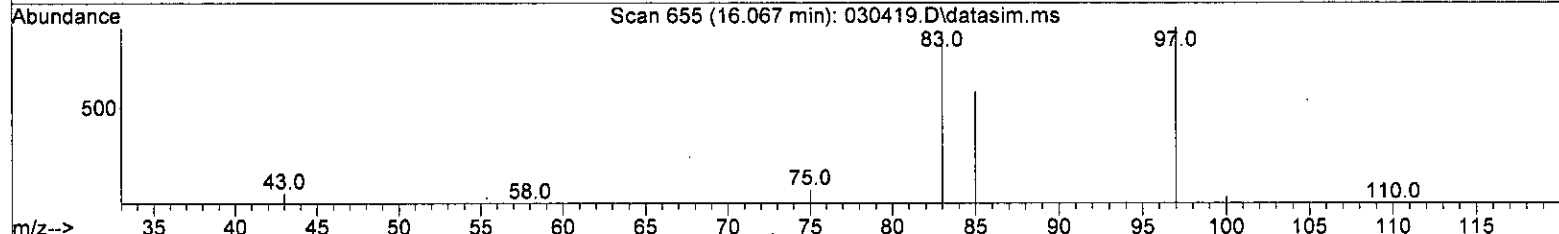
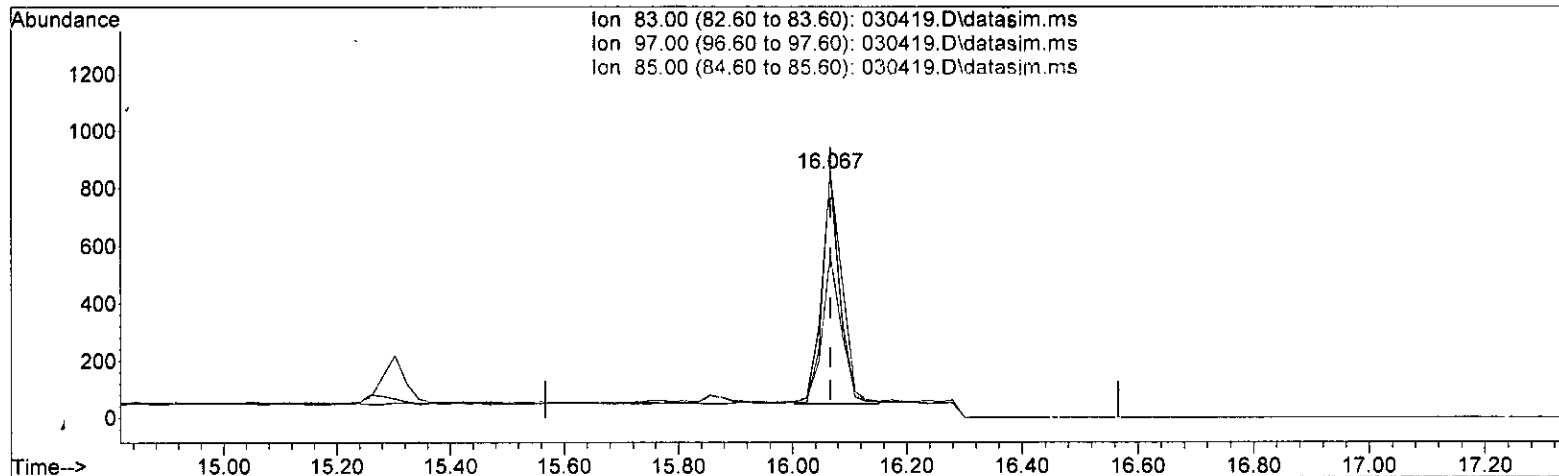
Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	102.35
85.00	60.50	67.33
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030419.D\data.ms

(51) 1,1,2-Trichloroethane (TMP)

16.067min (-0.000) 0.096 ppbv m

response 1798

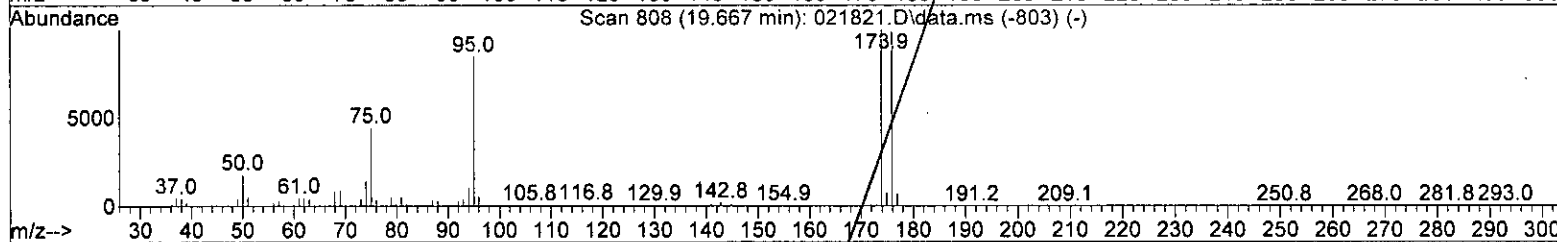
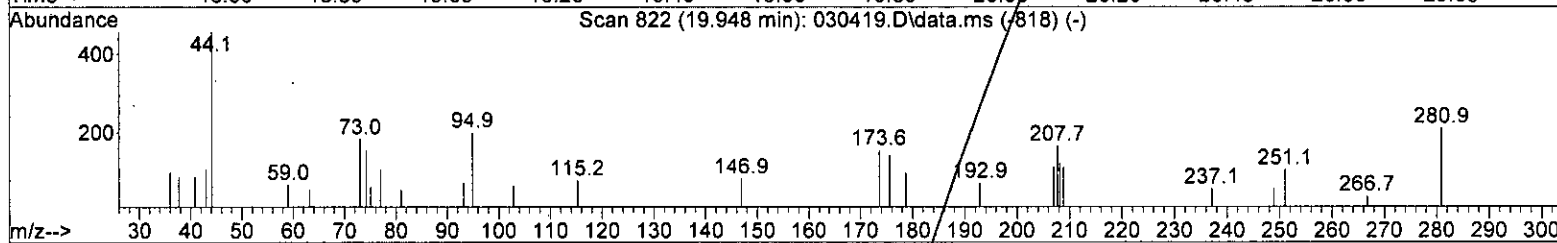
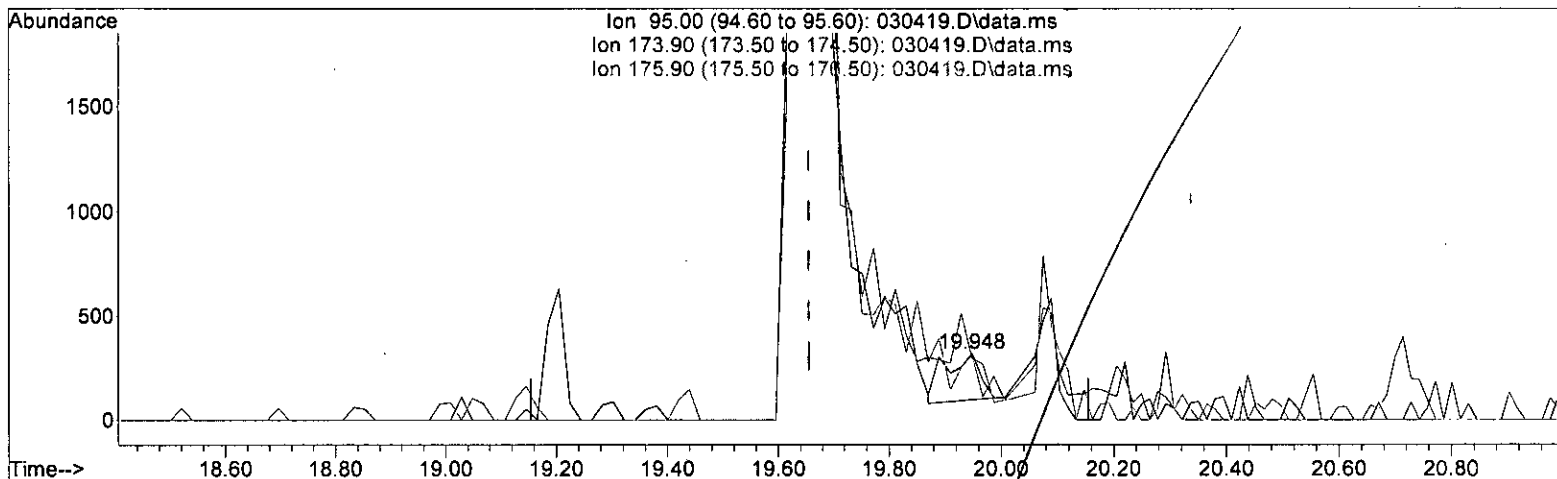
Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	102.35
85.00	60.50	67.33
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(69) 4-Bromofluorobenzene (S)

19.948min (+ 0.293) 0.030 ppbv

response 990

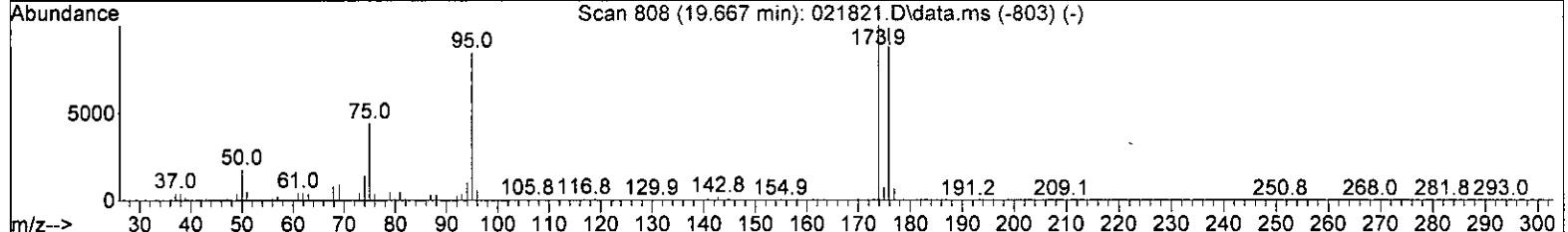
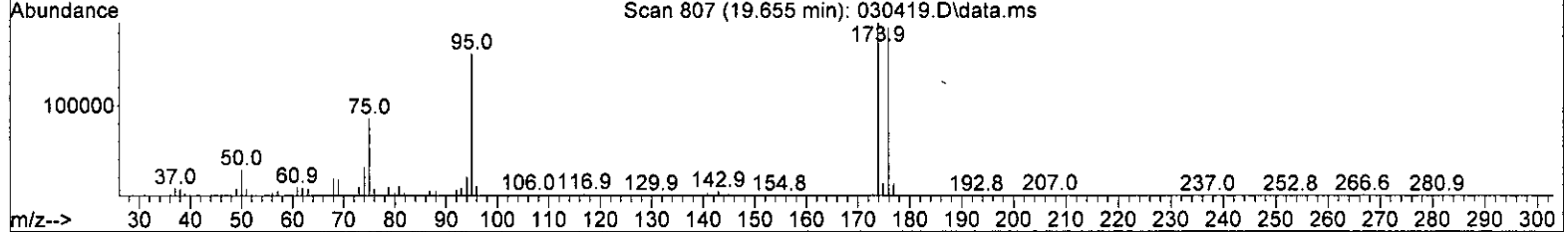
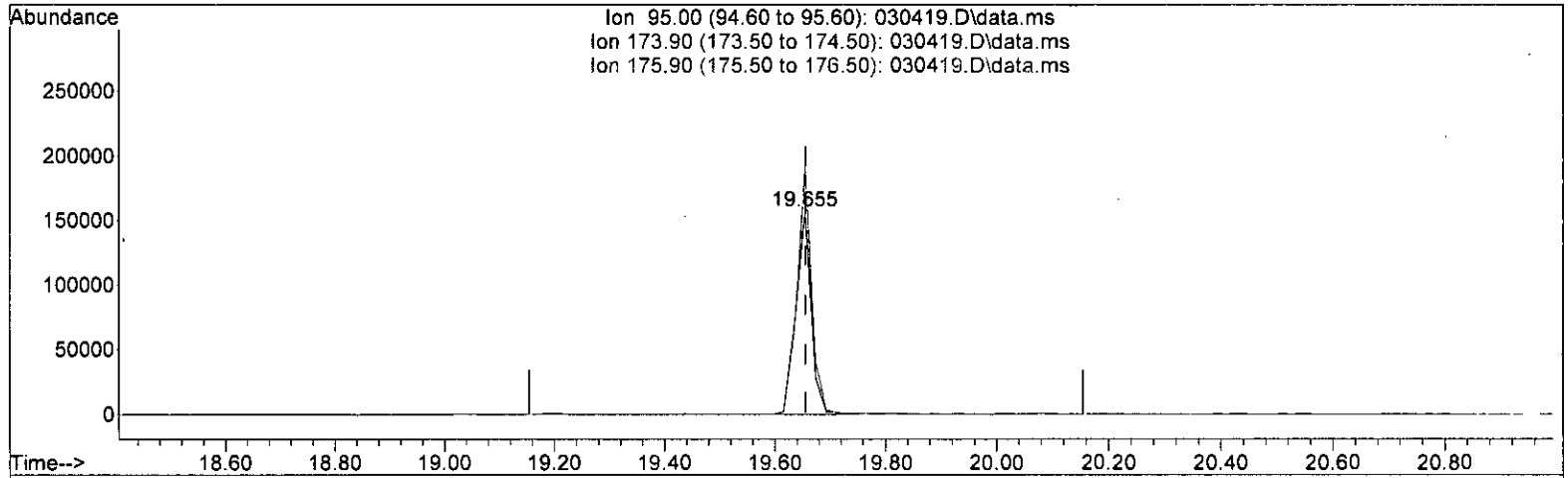
Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	99.07
175.90	70.90	45.79
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030419.D\data.ms

(69) 4-Bromofluorobenzene (S)

19.655min (-0.000) 9.360 ppbv m

response	304244
Ion	Exp% Act%
95.00	100.00 100.00
173.90	73.50 122.16#
175.90	70.90 118.45#
0.00	0.00 0.00

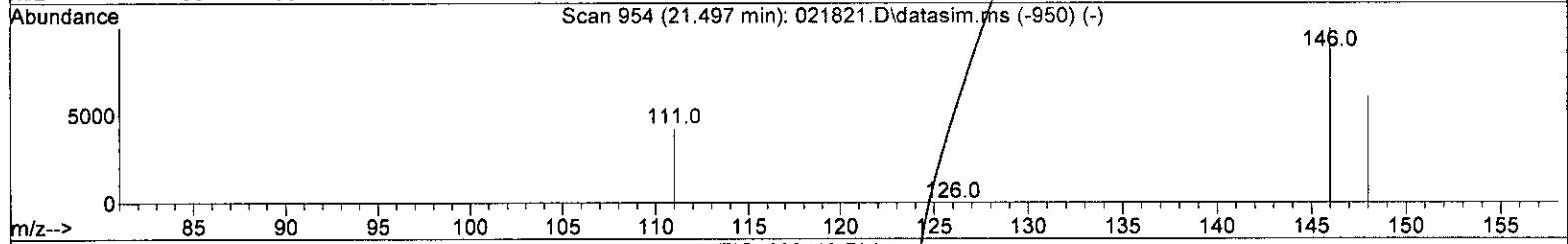
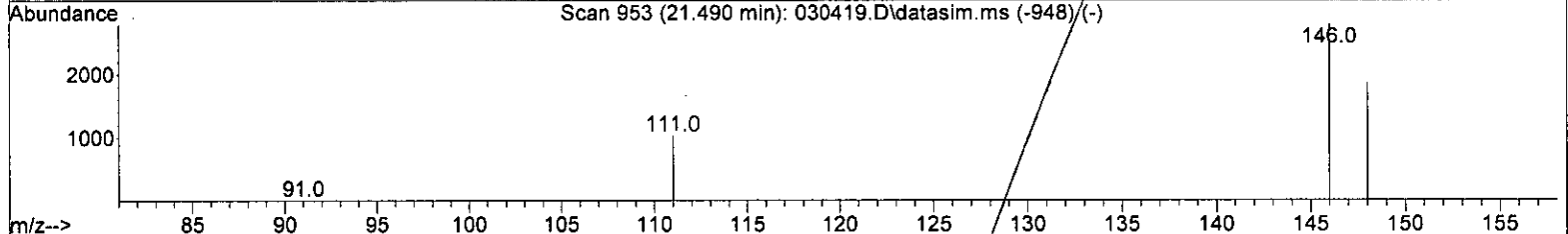
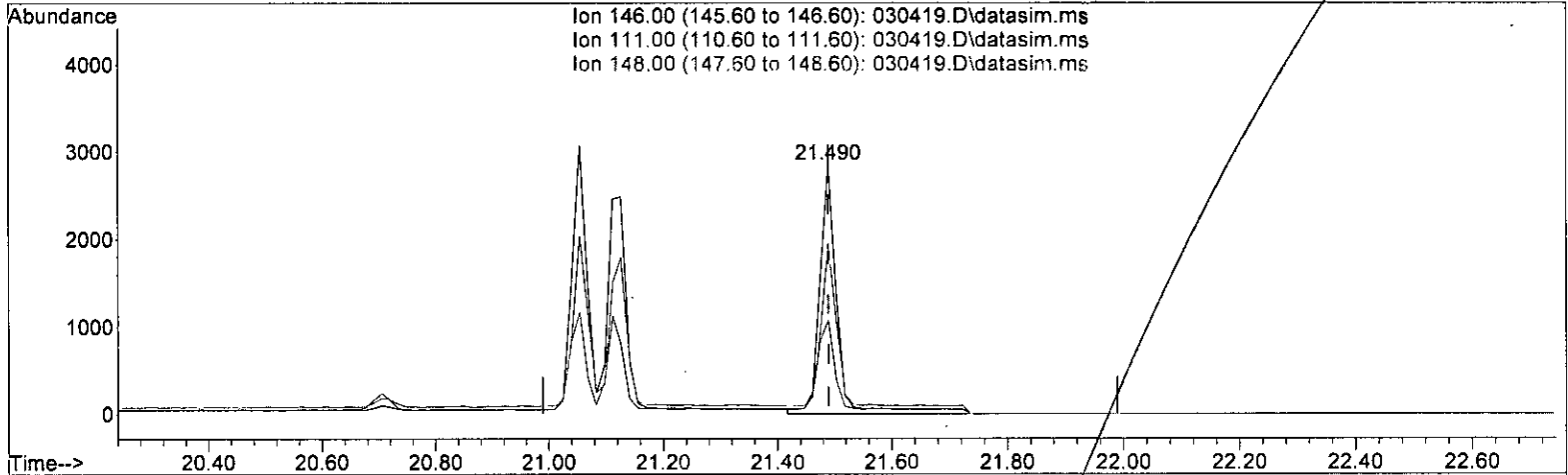
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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(75) 1,2-Dichlorobenzene (TMP)

21.490min (-0.000) 0.121 ppbv

response 6093

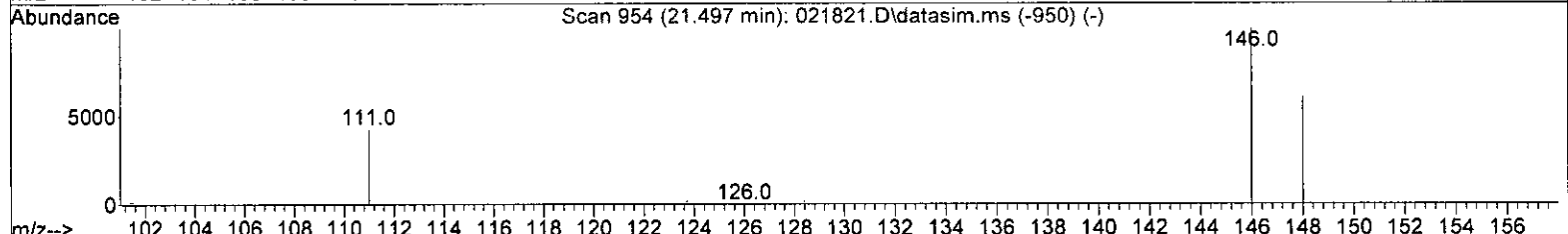
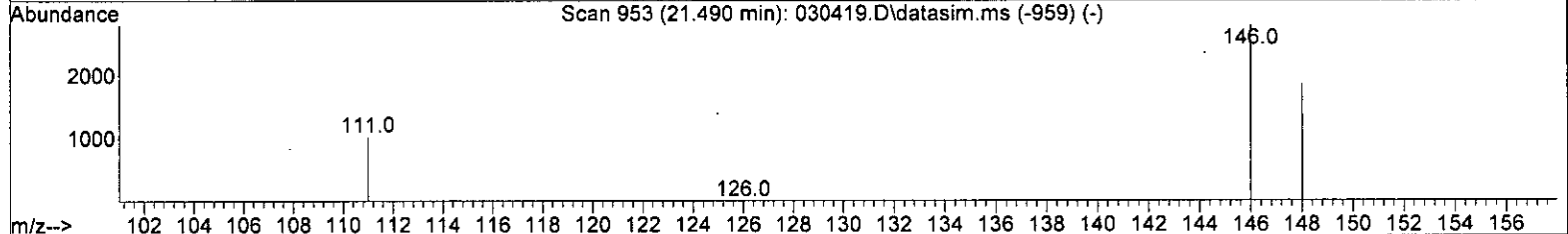
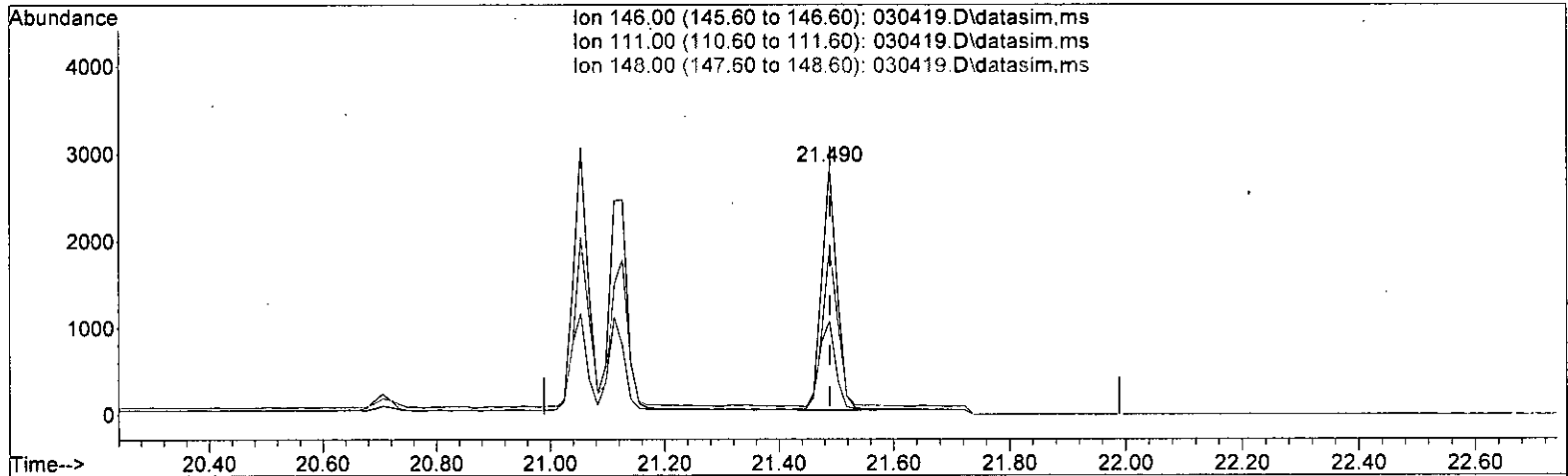
Ion	Exp%	Act%
146.00	100.00	100.00
111.00	42.90	37.78
148.00	63.20	68.56
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:43:58 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030419.D\data.ms

(75) 1,2-Dichlorobenzene (TMP)

21.490min (-0.000) 0.104 ppbv m

Ion	Exp%	Act%
146.00	100.00	100.00
111.00	42.90	37.78
148.00	63.20	68.56
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:34:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	9.98	128	111648	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	503894	10.000	ppbv	0.02
56) Chlorobenzene-d5	18.21	117	438004	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.65	95	304244m	9.360	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	93.60%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.43	41	665	0.108	ppbv	# 12
3) Dichlorodifluoromethane	3.55	85	5806	0.114	ppbv	90
4) Chloromethane	3.76	50	1059m	0.122	ppbv	
5) F-114	3.91	85	4325	0.113	ppbv	95
6] Vinyl chloride	4.08	62	1292	0.107	ppbv	98
7] 1,3-Butadiene	4.27	54	725m	0.107	ppbv	
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.	d	
10] Chloroethane	4.87	64	486m	0.110	ppbv	
11] Vinyl bromide	5.34	106	1459m	0.102	ppbv	
12) Ethanol	0.00		0	N.D.	d	
13] Acrolein	5.46	56	290	0.102	ppbv	94
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	5.89	101	5269	0.093	ppbv	99
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18] 1,1-Dichloroethene	6.73	96	1447	0.103	ppbv	95
19] trans-1,2-Dichloroethene	8.17	96	1331	0.100	ppbv	# 72
20] Methylene chloride	6.85	84	3820	0.300	ppbv	# 72
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	0.00		0	N.D.	d	
23] CFC-113	7.25	101	3468m	0.094	ppbv	
24) Carbon disulfide	0.00		0	N.D.	d	
25) Methyl t-butyl ether (...)	0.00		0	N.D.	d	
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.43	63	2428	0.099	ppbv	96
28] cis-1,2-Dichloroethene	9.71	96	1347	0.096	ppbv	99
29) Hexane	0.00		0	N.D.	d	
30] Chloroform	10.18	83	3651	0.100	ppbv	97
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	10.89	42	1017	0.104	ppbv	# 41
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34] 1,2-Dichloroethane (EDC)	11.44	62	2502	0.100	ppbv	96
35] 1,1,1-Trichloroethane	11.92	97	4019	0.102	ppbv	94
36] Carbon tetrachloride	12.94	117	4710	0.102	ppbv	98
37] Benzene	12.69	78	4058	0.103	ppbv	87
38) Cyclohexane	0.00		0	N.D.	d	
40] 1,2-Dichloropropane	13.88	63	1605m	0.097	ppbv	
41] 1,4-Dioxane	14.20	88	839	0.095	ppbv	67
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

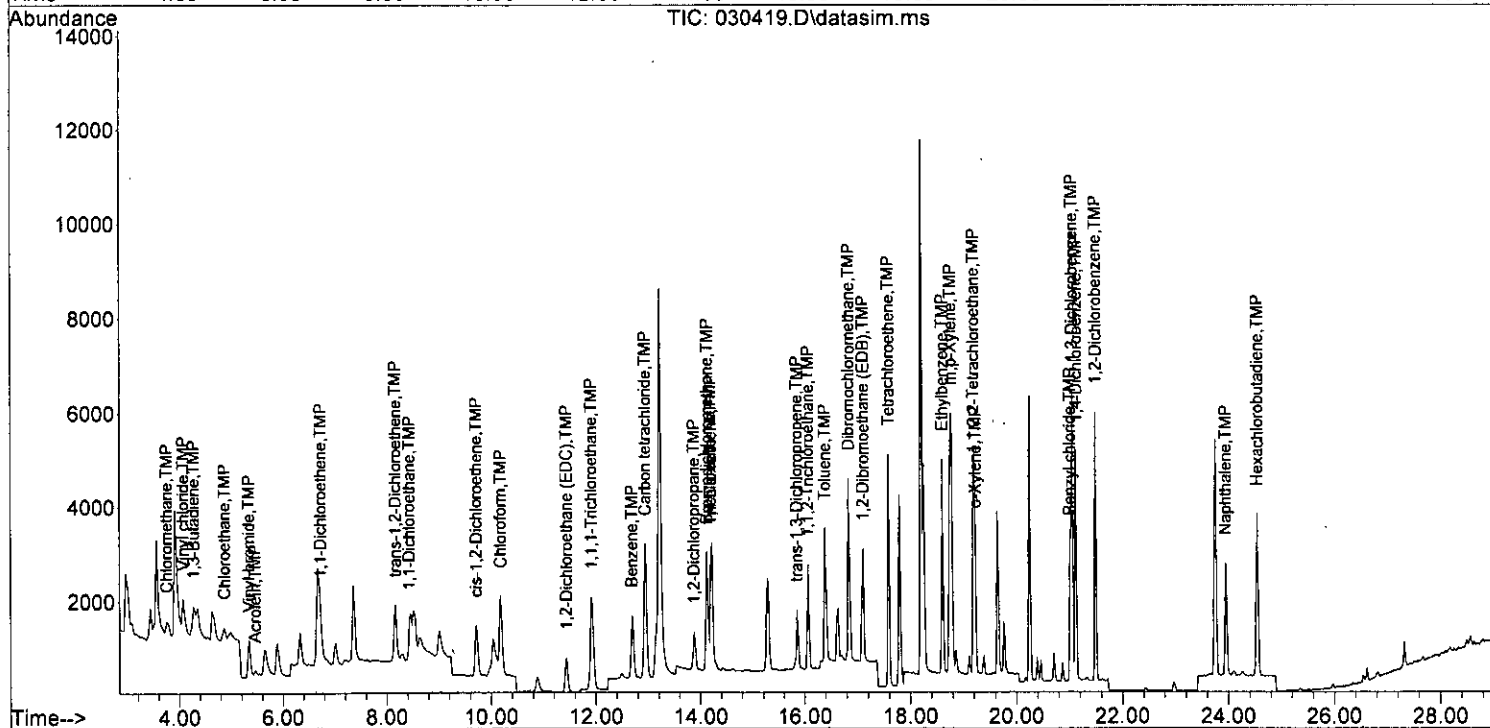
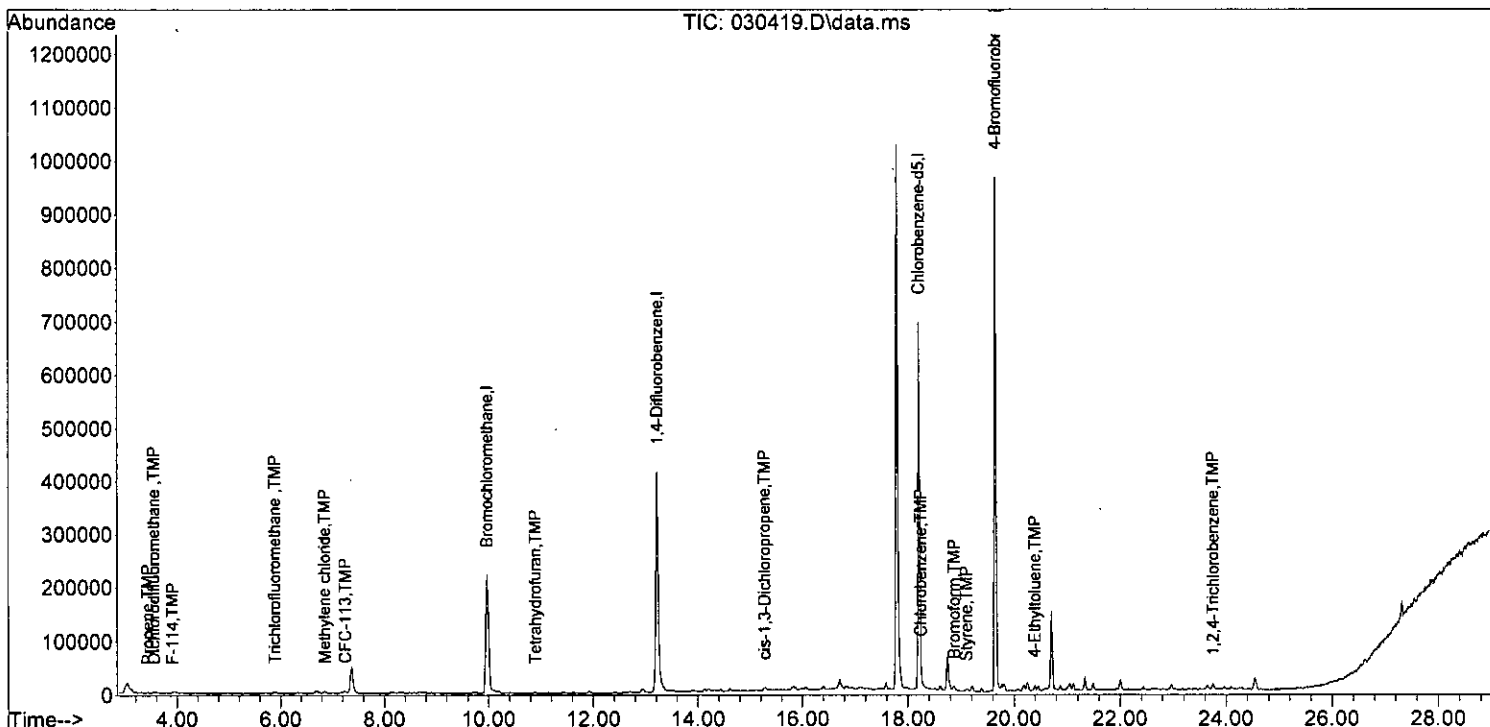
Quant Time: Mar 07 16:34:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45] Bromodichloromethane	14.13	83	3985	0.096	ppbv	95
46] Trichloroethene	14.20	95	2435	0.096	ppbv	83
47) cis-1,3-Dichloropropene	15.28	75	2894	0.108	ppbv	62
48) 4-Methyl-2-pentanone	0.00		0	N.D.		
49] trans-1,3-Dichloropropene	15.85	75	2756	0.108	ppbv	86
50] Toluene	16.38	92	2571m	0.099	ppbv	
51] 1,1,2-Trichloroethane	16.07	83	1798m	0.096	ppbv	
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	2690	0.105	ppbv	91
54] Dibromochloromethane	16.83	129	4307	0.094	ppbv	99
55] 1,2-Dibromoethane (EDB)	17.11	107	3157	0.095	ppbv	97
57] Chlorobenzene	18.25	112	3783	0.093	ppbv #	62
58] Ethylbenzene	18.60	91	6162	0.098	ppbv	93
59] 1,1,2,2-Tetrachloroethane	19.19	83	4230	0.097	ppbv	99
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	20.39	105	7203	0.103	ppbv	92
65] m,p-Xylene	18.76	106	4762	0.201	ppbv	99
66] o-Xylene	19.23	106	2071	0.094	ppbv	91
67) Styrene	19.11	104	3090	0.093	ppbv	99
68) Bromoform	18.87	173	4582	0.082	ppbv	89
70] Benzyl chloride	21.01	91	5202	0.094	ppbv	91
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73] 1,3-Dichlorobenzene	21.05	146	5351	0.102	ppbv	94
74] 1,4-Dichlorobenzene	21.13	146	5261	0.099	ppbv	96
75] 1,2-Dichlorobenzene	21.49	146	5269m	0.104	ppbv	
76) 1,2,4-Trichlorobenzene	23.75	180	5682	0.105	ppbv	95
77] Naphthalene	23.95	128	5100	0.099	ppbv	96
78] Hexachlorobutadiene	24.54	225	7754	0.105	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:34:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:34:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I Bromochloromethane	10.000	10.000	0.0	100	0.00
2	TMP Propene	0.100	0.108	-8.0	100	-0.04
3	TMP Dichlorodifluoromethane	0.100	0.114	-14.0	100	0.00
4	TMP Chloromethane	0.100	0.122	-22.0	98	-0.04
5	TMP F-114	0.100	0.113	-13.0	100	0.00
6	TMP Vinyl chloride	0.100	0.107	-7.0	105	0.00
7	TMP 1,3-Butadiene	0.100	0.107	-7.0	98	0.00
8	TMP Butane	-1.000	0.000	0.0	0	-4.35#
9	TMP Bromomethane	-1.000	0.000	0.0	0	-4.67#
10	TMP Chloroethane	0.100	0.110	-10.0	100	0.00
11	TMP Vinyl bromide	0.100	0.102	-2.0	98	0.00
12	TMP Ethanol	-1.000	0.000	0.0	0	-4.98#
13	TMP Acrolein	0.100	0.102	-2.0	100	0.00
14	TMP Pentane	-1.000	0.000	0.0	0	-6.35#
15	TMP Trichlorofluoromethane	0.100	0.093	7.0	100	0.00
16	TMP Acetone	-1.000	0.000	0.0	0	-5.63#
17	TMP 2-Propanol	-1.000	0.000	0.0	0	-5.89#
18	TMP 1,1-Dichloroethene	0.100	0.103	-3.0	100	0.00
19	TMP trans-1,2-Dichloroethene	0.100	0.100	0.0	100	0.00
20	TMP Methylene chloride	-1.000	0.300	0.0	0	0.00
21	TMP t-Butyl alcohol (TBA)	-1.000	0.000	0.0	0	-6.67#
22	TMP 3-Chloropropene	-1.000	0.000	0.0	0	-7.04#
23	TMP CFC-113	0.100	0.094	6.0	97	0.00
24	TMP Carbon disulfide	-1.000	0.000	0.0	0	-7.04#
25	TMP Methyl t-butyl ether (MTBE)	-1.000	0.000	0.0	0	-8.53#
26	TMP Vinyl acetate	-1.000	0.000	0.0	0	-8.64#
27	TMP 1,1-Dichloroethane	0.100	0.099	1.0	100	-0.03
28	TMP cis-1,2-Dichloroethene	0.100	0.096	4.0	100	-0.02
29	TMP Hexane	-1.000	0.000	0.0	0	-10.10#
30	TMP Chloroform	0.100	0.100	0.0	100	0.00
31	TMP Ethyl acetate	-1.000	0.000	0.0	0	-10.03#
32	TMP Tetrahydrofuran	0.100	0.104	-4.0	100	0.04
33	TMP 2-Butanone (MEK)	-1.000	0.000	0.0	0	-9.01#
34	TMP 1,2-Dichloroethane (EDC)	0.100	0.100	0.0	100	0.00
35	TMP 1,1,1-Trichloroethane	0.100	0.102	-2.0	100	0.00
36	TMP Carbon tetrachloride	0.100	0.102	-2.0	100	0.00
37	TMP Benzene	0.100	0.103	-3.0	100	0.00
38	TMP Cyclohexane	-1.000	0.000	0.0	0	-13.15#
39	I 1,4-Difluorobenzene	10.000	10.000	0.0	100	0.02
40	TMP 1,2-Dichloropropane	0.100	0.097	3.0	104	0.00
41	TMP 1,4-Dioxane	0.100	0.095	5.0	100	0.02
42	TMP 2,2,4-Trimethylpentane	-1.000	0.000	0.0	0	-14.29#
43	TMP Methyl methacrylate	-1.000	0.000	0.0	0	-14.44#
44	TMP Heptane	-1.000	0.000	0.0	0	-14.61#
45	TMP Bromodichloromethane	0.100	0.096	4.0	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:34:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	0.100	0.096	4.0	100	0.00
47	TMP cis-1,3-Dichloropropene	0.100	0.108	-8.0	100	0.00
48	TMP 4-Methyl-2-pentanone	-1.000	0.000	0.0	0	-15.30#
49	TMP trans-1,3-Dichloropropene	0.100	0.108	-8.0	100	0.00
50	TMP Toluene	0.100	0.099	1.0	97	0.00
51	TMP 1,1,2-Trichloroethane	0.100	0.096	4.0	102	0.00
52	TMP 2-Hexanone	-1.000	0.000	0.0	0	-16.63#
53	TMP Tetrachloroethene	0.100	0.105	-5.0	100	0.00
54	TMP Dibromochloromethane	0.100	0.094	6.0	100	0.00
55	TMP 1,2-Dibromoethane (EDB)	0.100	0.095	5.0	100	0.00
56	I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57	TMP Chlorobenzene	0.100	0.093	7.0	100	0.00
58	TMP Ethylbenzene	0.100	0.098	2.0	100	0.00
59	TMP 1,1,2,2-Tetrachloroethane	0.100	0.097	3.0	100	0.00
60	TMP Nonane	-1.000	0.000	0.0	0	-19.38#
61	TMP Isopropylbenzene	-1.000	0.000	0.0	0	-19.77#
62	TMP 2-Chlorotoluene	-1.000	0.000	0.0	0	-20.23#
63	TMP Propylbenzene	-1.000	0.000	0.0	0	-20.25#
64	TMP 4-Ethyltoluene	-1.000	0.103	0.0	0	0.00
65	TMP m,p-Xylene	0.200	0.201	-0.5	100	-0.02
66	TMP o-Xylene	0.100	0.094	6.0	100	0.00
67	TMP Styrene	0.100	0.093	7.0	100	0.00
68	TMP Bromoform	0.100	0.082	18.0	100	0.00
69	S 4-Bromofluorobenzene	10.000	9.360	6.4	100	0.00
70	TMP Benzyl chloride	0.100	0.094	6.0	100	0.00
71	TMP 1,3,5-Trimethylbenzene	-1.000	0.000	0.0	0	-20.45#
72	TMP 1,2,4-Trimethylbenzene	-1.000	0.000	0.0	0	-20.87#
73	TMP 1,3-Dichlorobenzene	0.100	0.102	-2.0	100	0.00
74	TMP 1,4-Dichlorobenzene	0.100	0.099	1.0	100	0.01
75	TMP 1,2-Dichlorobenzene	0.100	0.104	-4.0	99	0.00
76	TMP 1,2,4-Trichlorobenzene	0.100	0.105	-5.0	100	0.00
77	TMP Naphthalene	0.100	0.099	1.0	100	0.00
78	TMP Hexachlorobutadiene	0.100	0.105	-5.0	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:34:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	0.552	0.596	-8.0	100	-0.04
3 TMP	Dichlorodifluoromethane	4.565	5.200	-13.9	100	0.00
4 TMP	Chloromethane	0.776	0.949	-22.3	98	-0.04
5 TMP	F-114	3.419	3.874	-13.3	100	0.00
6 TMP	Vinyl chloride	1.082	1.157	-6.9	105	0.00
7 TMP	1,3-Butadiene	0.605	0.649	-7.3	98	0.00
8 TMP	Butane	1.161	0.000	100.0#	0#	-4.35#
9 TMP	Bromomethane	1.196	0.000#	100.0#	0#	-4.67#
10 TMP	Chloroethane	0.395	0.435	-10.1	100	0.00
11 TMP	Vinyl bromide	1.286	1.307	-1.6	98	0.00
12 TMP	Ethanol	0.174	0.000	100.0#	0#	-4.98#
13 TMP	Acrolein	0.252	0.260	-3.2	100	0.00
14 TMP	Pentane	1.140	0.000#	100.0#	0#	-6.35#
15 TMP	Trichlorofluoromethane	5.069	4.719	6.9	100	0.00
16 TMP	Acetone	0.404	0.000#	100.0#	0#	-5.63#
17 TMP	2-Propanol	1.563	0.000	100.0#	0#	-5.89#
18 TMP	1,1-Dichloroethene	1.255	1.296	-3.3	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.195	1.192	0.3	100	0.00
20 TMP	Methylene chloride	1.141	0.000#	100.0#	0#	0.00
21 TMP	t-Butyl alcohol (TBA)	2.068	0.000	100.0#	0#	-6.67#
22 TMP	3-Chloropropene	1.240	0.000	100.0#	0#	-7.04#
23 TMP	CFC-113	3.311	3.106	6.2	97	0.00
24 TMP	Carbon disulfide	0.538	0.000	100.0#	0#	-7.00#
25 TMP	Methyl t-butyl ether (MTBE)	2.982	0.000#	100.0#	0#	-8.53#
26 TMP	Vinyl acetate	1.012	0.000#	100.0#	0#	-8.64#
27 TMP	1,1-Dichloroethane	2.186	2.175	0.5	100	-0.03
28 TMP	cis-1,2-Dichloroethene	1.262	1.206	4.4	100	-0.02
29 TMP	Hexane	1.109	0.000	100.0#	0#	-10.10#
30 TMP	Chloroform	3.255	3.270	-0.5	100	0.00
31 TMP	Ethyl acetate	2.770	0.000	100.0#	0#	-10.03#
32 TMP	Tetrahydrofuran	0.872	0.911	-4.5	100	0.04
33 TMP	2-Butanone (MEK)	0.459	0.000	100.0#	0#	-9.01#
34 TMP	1,2-Dichloroethane (EDC)	2.237	2.241	-0.2	100	0.00
35 TMP	1,1,1-Trichloroethane	3.544	3.600	-1.6	100	0.00
36 TMP	Carbon tetrachloride	4.146	4.219	-1.8	100	0.00
37 TMP	Benzene	3.534	3.635	-2.9	100	0.00
38 TMP	Cyclohexane	0.985	0.000	100.0#	0#	-13.15#
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.02
40 TMP	1,2-Dichloropropane	0.330	0.319	3.3	104	0.00
41 TMP	1,4-Dioxane	0.175	0.167	4.6	100	0.02
42 TMP	2,2,4-Trimethylpentane	0.861	0.000	100.0#	0#	-14.29#
43 TMP	Methyl methacrylate	0.296	0.000	100.0#	0#	-14.44#
44 TMP	Heptane	0.327	0.000	100.0#	0#	-14.61#
45 TMP	Bromodichloromethane	0.825	0.791	4.1	100	0.00



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030419.D  
 Acq On : 5 Mar 2022 5:57 am  
 Operator : bat  
 Sample : 0.1 ppbv , 65-194c  
 Misc : T2  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:34:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.503	0.483	4.0	100	0.00
47 TMP cis-1,3-Dichloropropene	0.529	0.574	-8.5	100	0.00
48 TMP 4-Methyl-2-pentanone	0.038	0.000	100.0#	0#	-15.30#
49 TMP trans-1,3-Dichloropropene	0.508	0.547	-7.7	100	0.00
50 TMP Toluene	0.513	0.510	0.6	97	0.00
51 TMP 1,1,2-Trichloroethane	0.372	0.357	4.0	102	0.00
52 TMP 2-Hexanone	0.484	0.000#	100.0#	0#	-16.63#
53 TMP Tetrachloroethene	0.508	0.534	-5.1	100	0.00
54 TMP Dibromochloromethane	0.909	0.855	5.9	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.658	0.627	4.7	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	0.933	0.864	7.4	100	0.00
58 TMP Ethylbenzene	1.442	1.407	2.4	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.993	0.966	2.7	100	0.00
60 TMP Nonane	0.561	0.000	100.0#	0#	-19.38#
61 TMP Isopropylbenzene	1.680	0.000	100.0#	0#	-19.77#
62 TMP 2-Chlorotoluene	0.432	0.000	100.0#	0#	-20.23#
63 TMP Propylbenzene	3.087	0.000	100.0#	0#	-20.25#
64 TMP 4-Ethyltoluene	1.595	0.000	100.0#	0#	0.00
65 TMP m,p-Xylene	0.541	0.544	-0.6	100	-0.02
66 TMP o-Xylene	0.504	0.473	6.2	100	0.00
67 TMP Styrene	0.757	1.075	6.9	100	0.00
68 TMP Bromoform	1.279	1.046	18.2	100	0.00
69 S 4-Bromofluorobenzene	0.742	0.695	6.3	100	0.00
70 TMP Benzyl chloride	1.263	1.188	5.9	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.434	0.000	100.0#	0#	-20.45#
72 TMP 1,2,4-Trimethylbenzene	1.359	0.000	100.0#	0#	-20.87#
73 TMP 1,3-Dichlorobenzene	1.193	1.222	-2.4	100	0.00
74 TMP 1,4-Dichlorobenzene	1.211	1.201	0.8	100	0.01
75 TMP 1,2-Dichlorobenzene	1.153	1.203	-4.3	99	0.00
76 TMP 1,2,4-Trichlorobenzene	1.110	1.297	-16.8	100	0.00
77 TMP Naphthalene	1.414	1.164	17.7	100	0.00
78 TMP Hexachlorobutadiene	1.608	1.770	-10.1	100	0.00

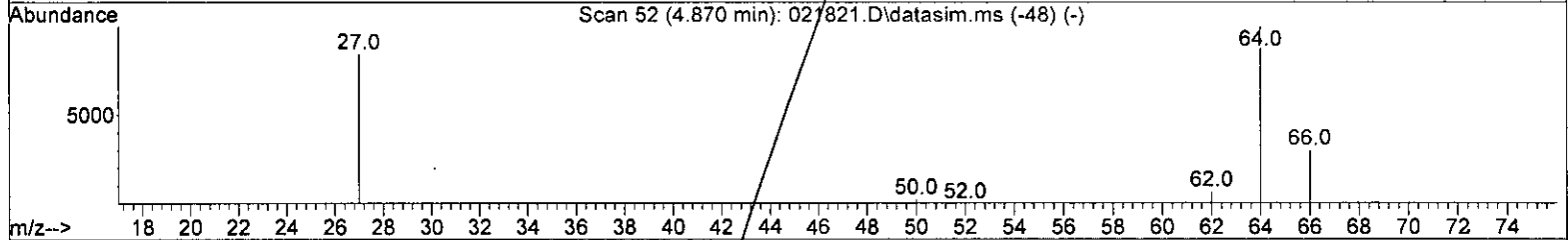
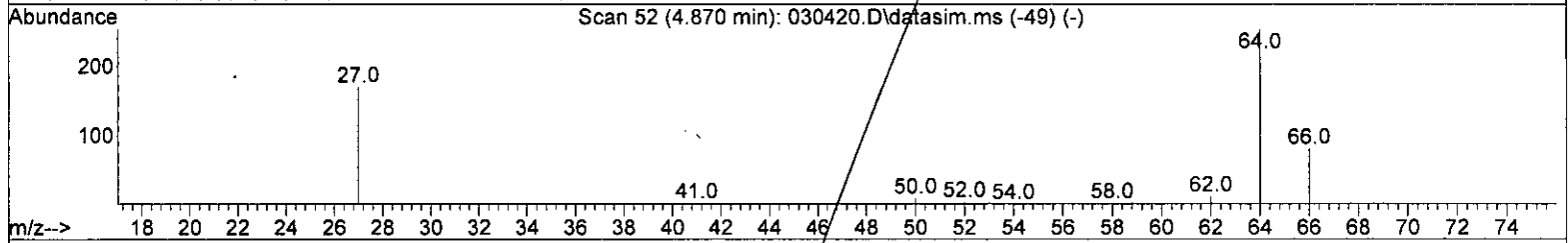
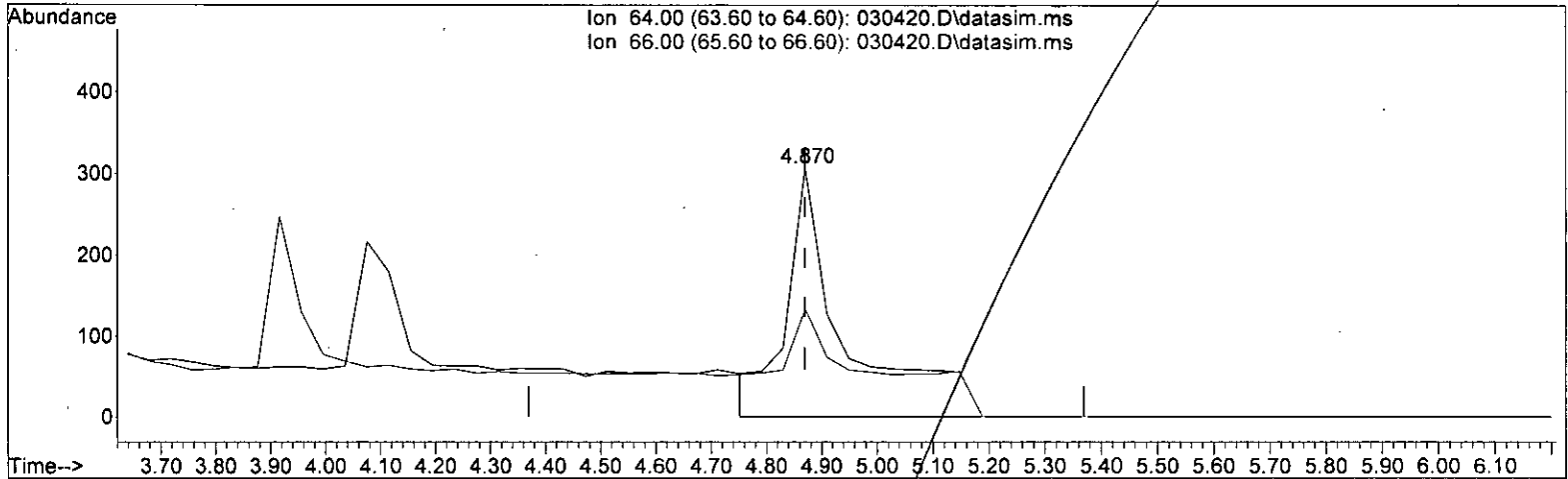
(#) = Out of Range

SPCC's out = 7 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030420.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 0.483 ppbv

response 2144

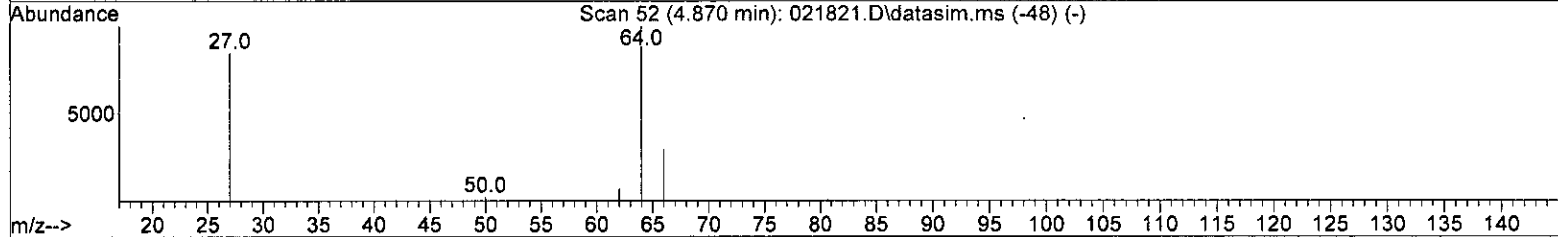
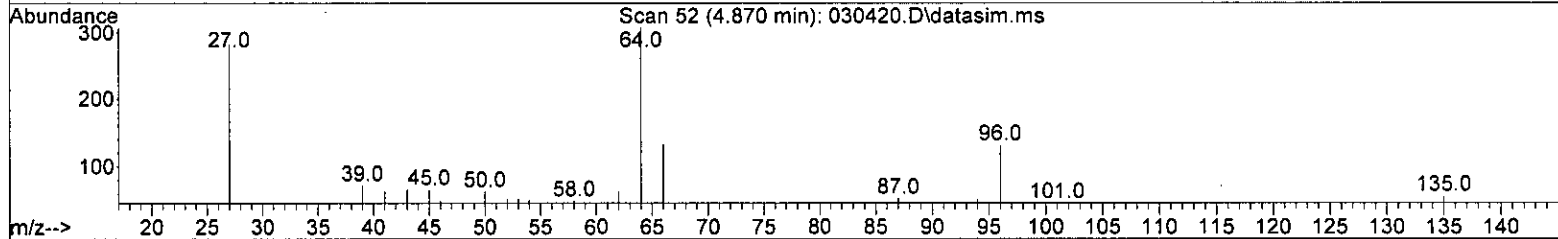
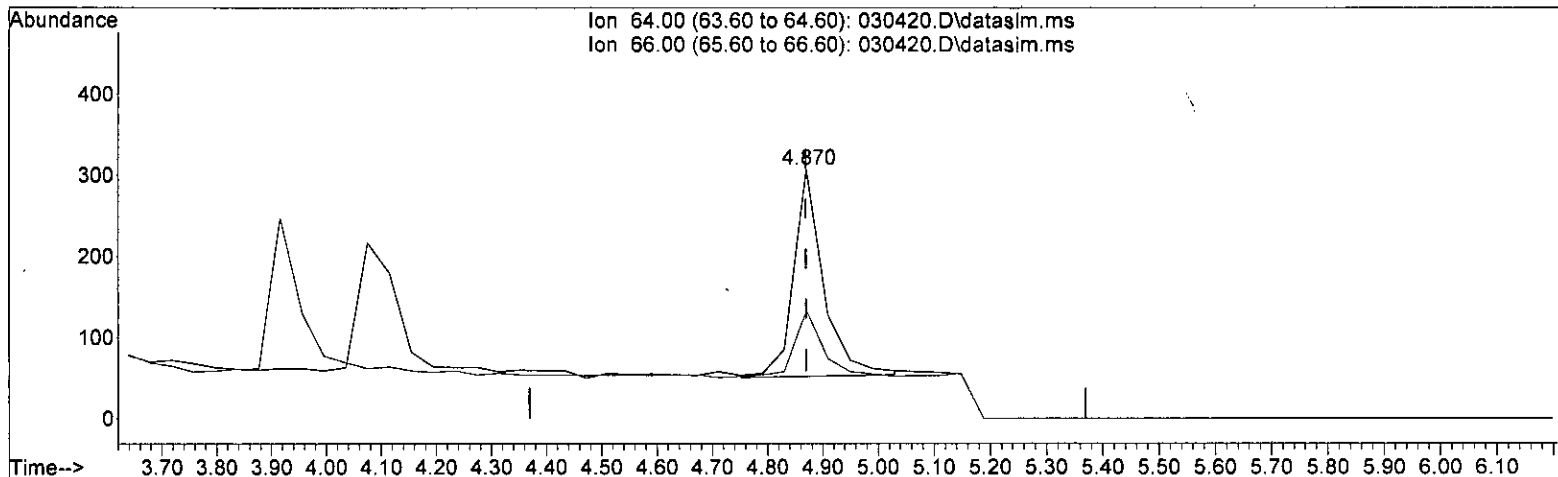
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	43.32
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030420.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 0.216 ppbv m

response 957

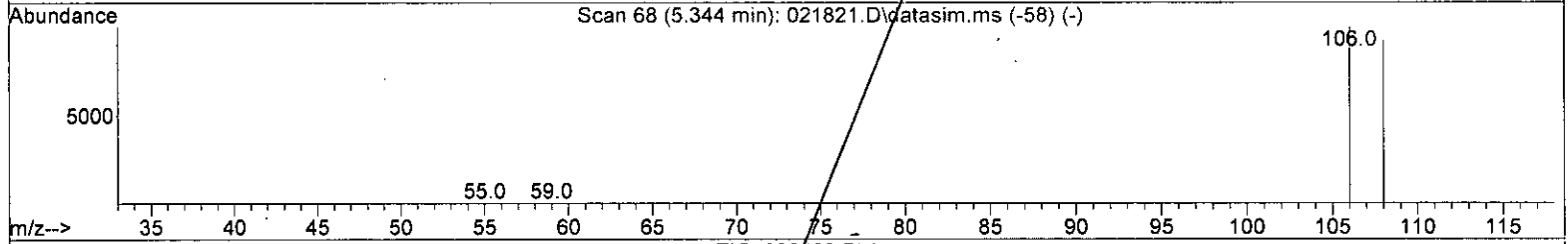
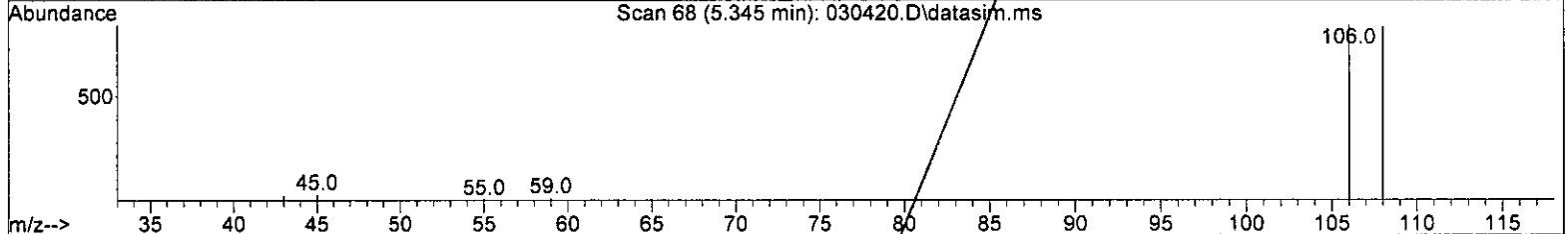
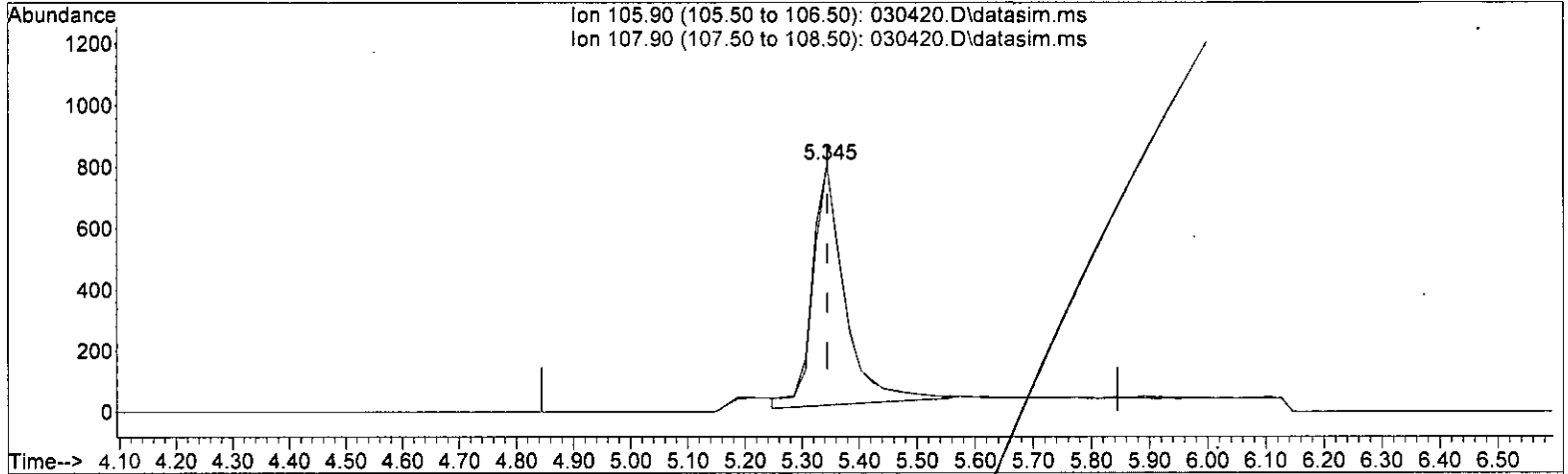
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	43.32
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030420.D\data.ms

(11) Vinyl bromide (TMP)

5.345min (-0.000) 0.218 ppbv

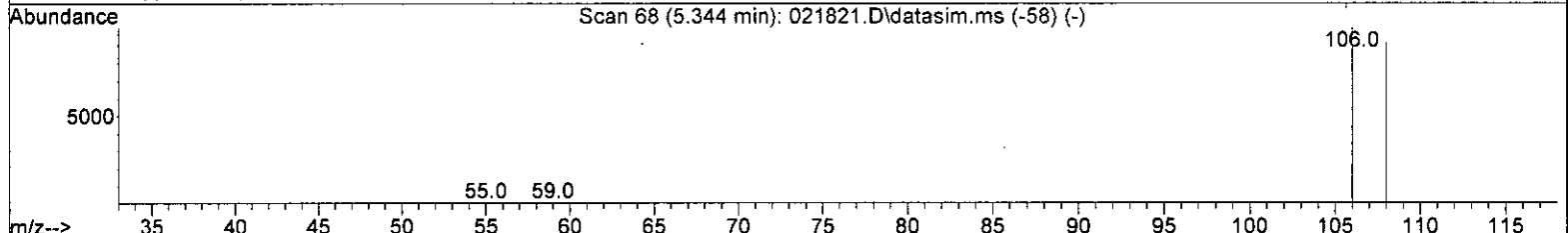
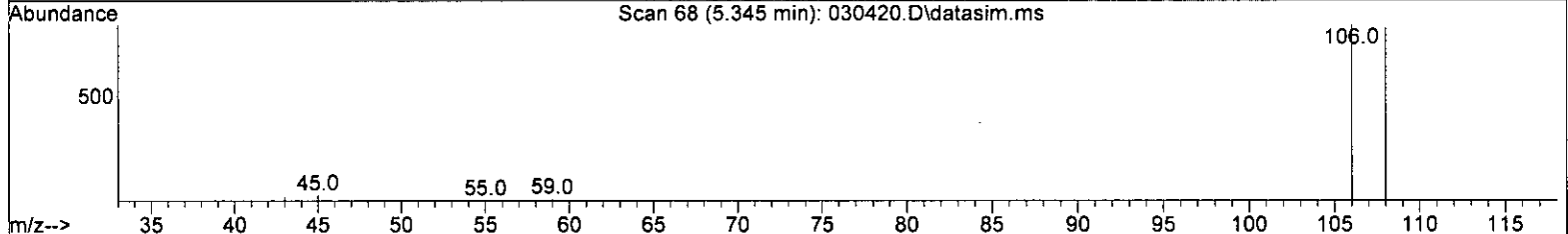
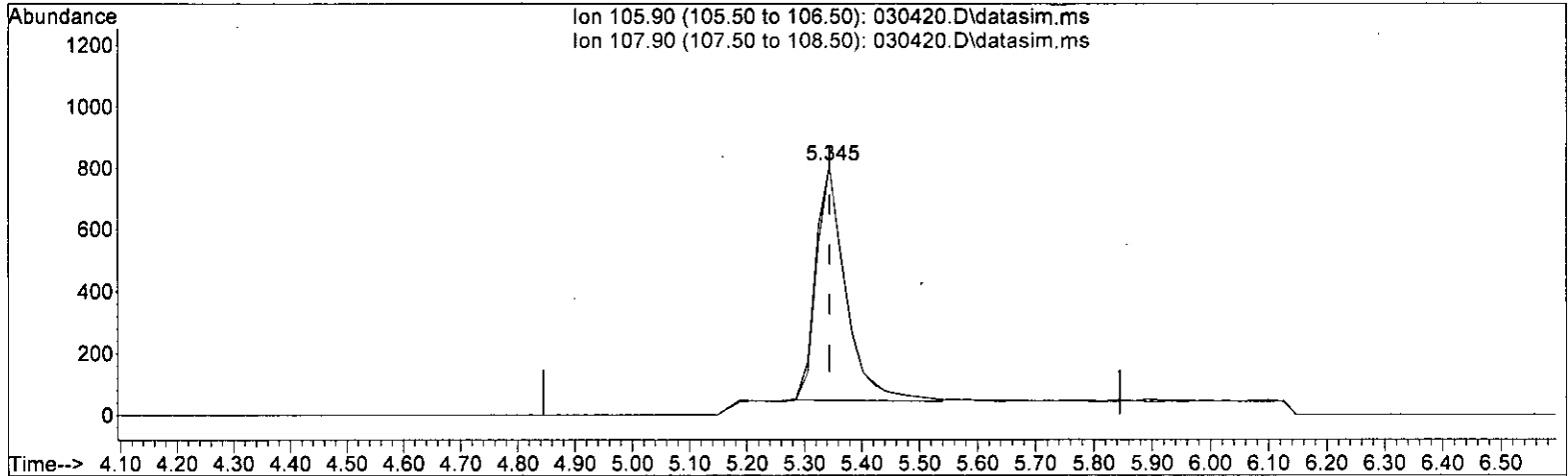
response	3147
Ion	Exp% Act%
105.90	100.00 100.00
107.90	94.10 99.87
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten signature: 3/7/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030420.D\data.ms

(11) Vinyl bromide (TMP)

5.345min (-0.000) 0.193 ppbv m

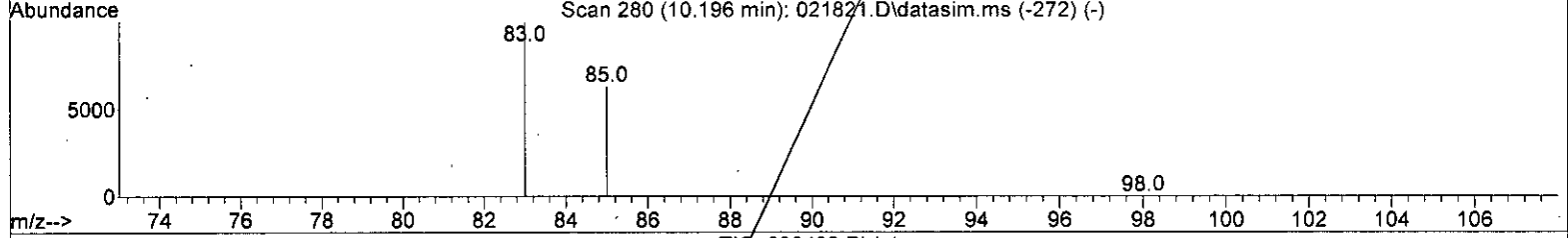
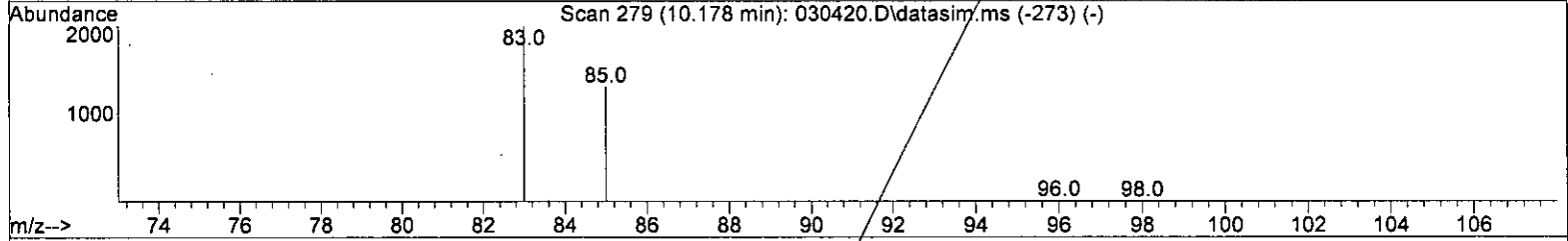
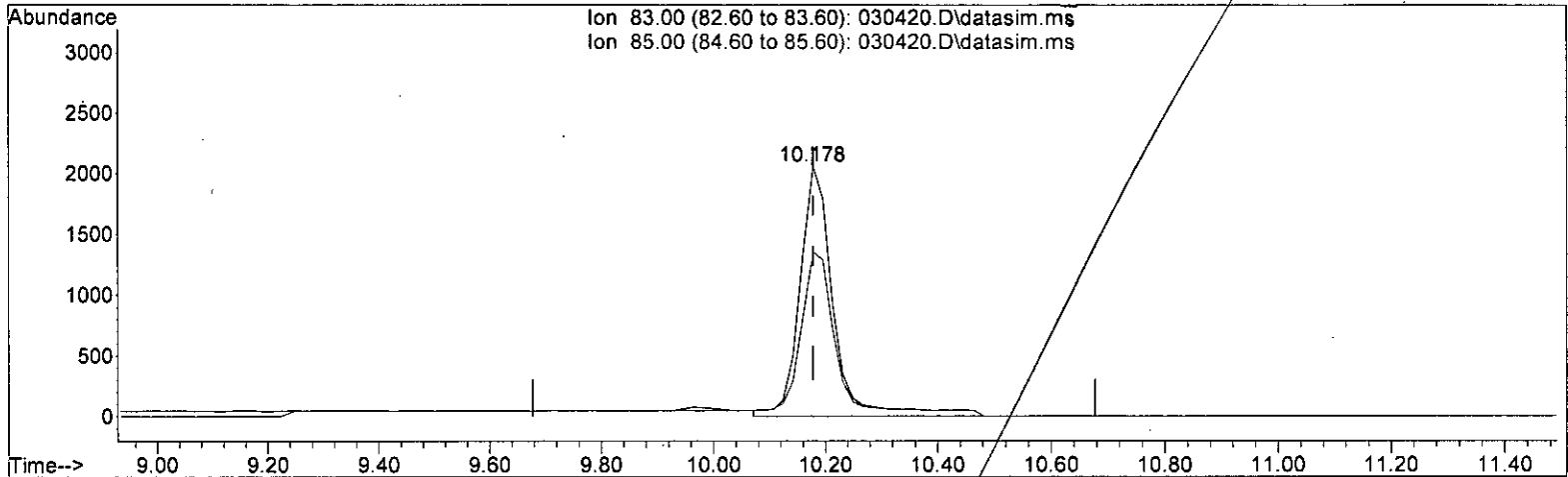
response	2790
Ion	Exp% Act%
105.90	100.00 100.00
107.90	94.10 112.65
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(30) Chloroform (TMP)

10.178min (-0.000) 0.231 ppbv

response 8463

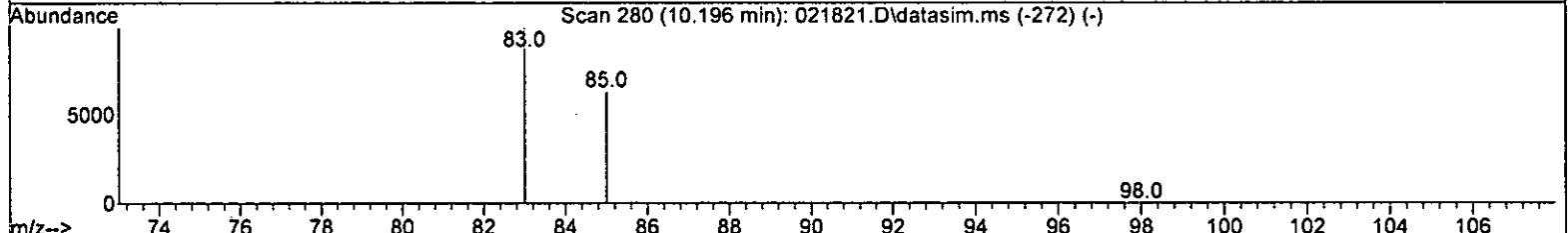
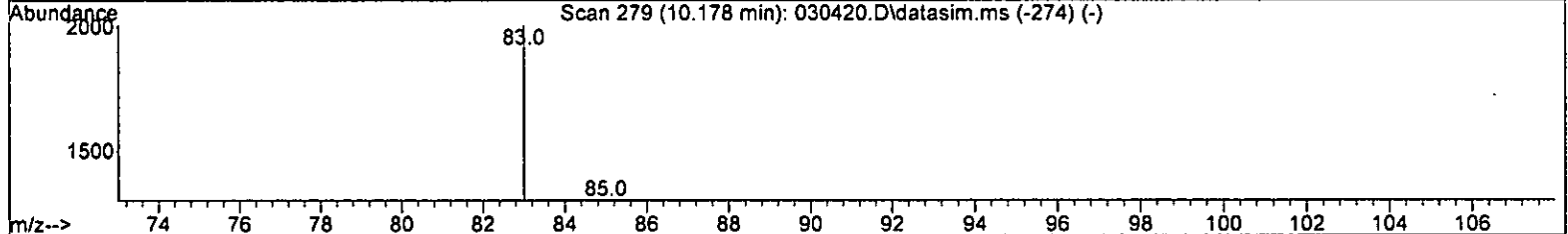
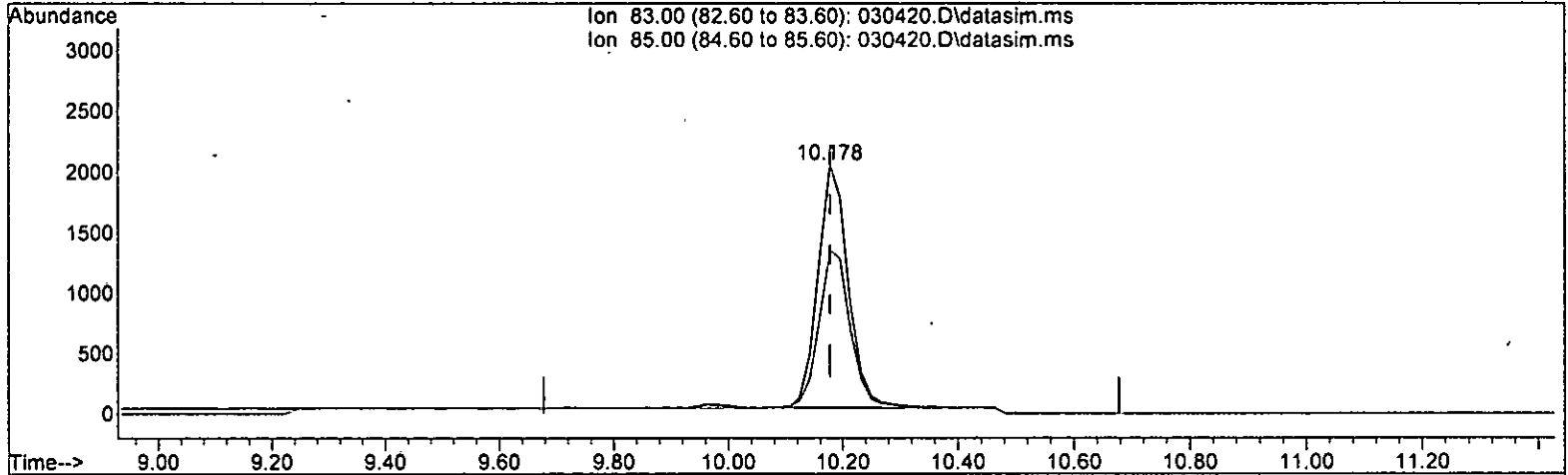
Ion	Exp%	Act%
83.00	100.00	100.00
85.00	66.30	65.76
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature and date: 3/7/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030420.D\data.ms

(30) Chloroform (TMP)

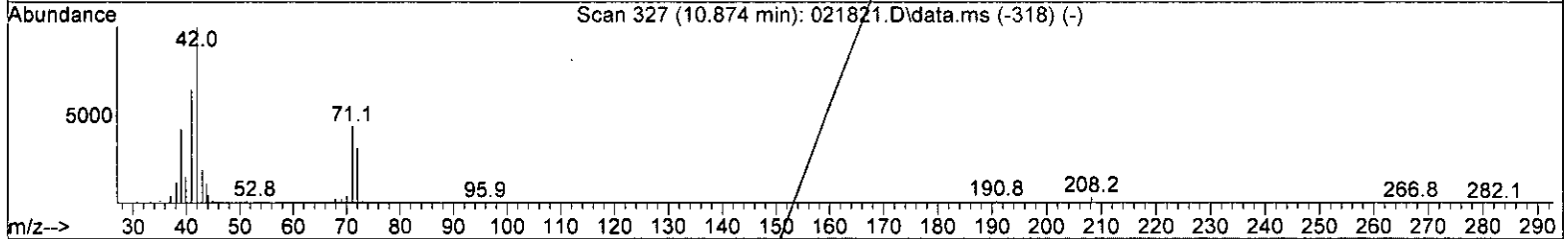
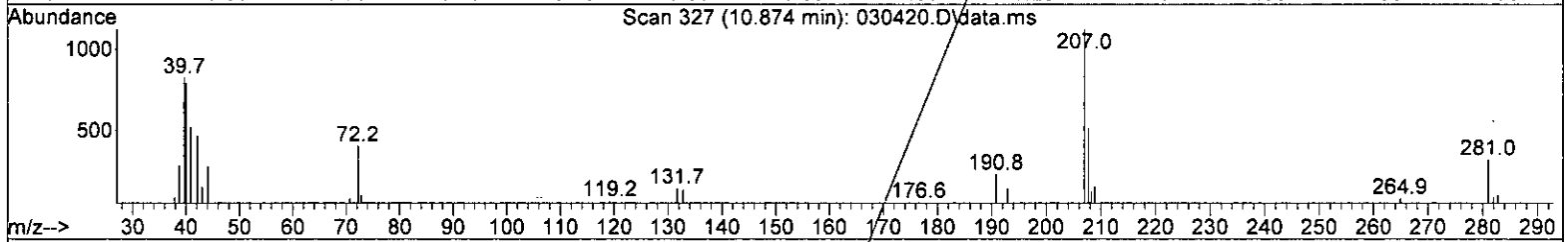
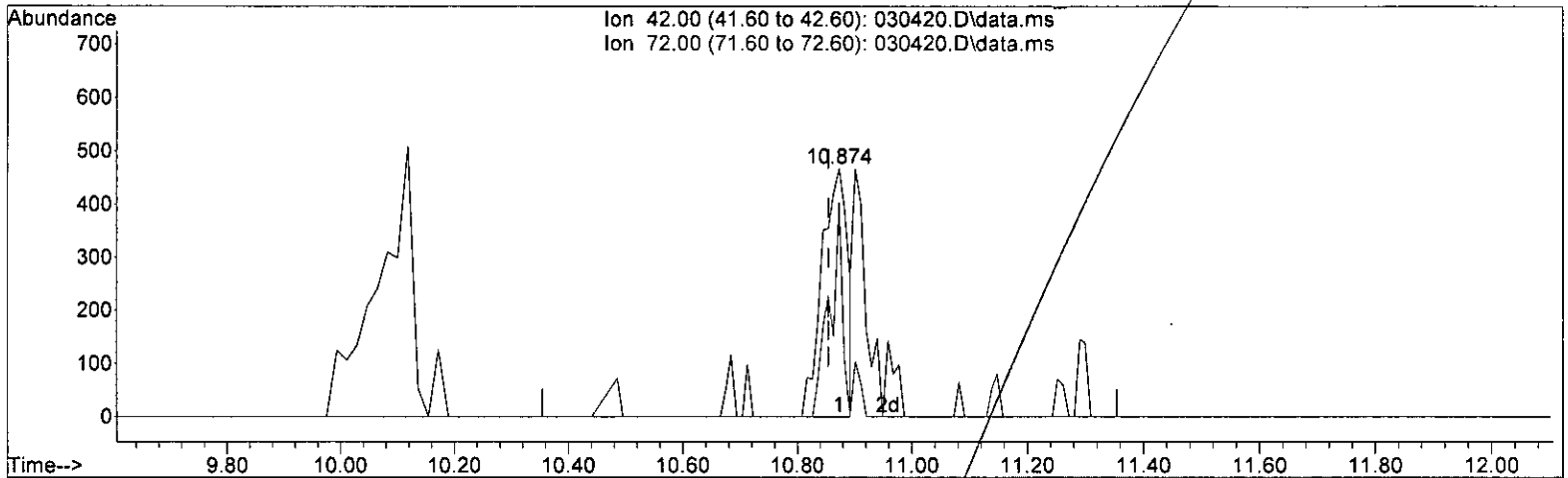
10.178min (-0.000) 0.205 ppbv m

response	7490
Ion	Exp% Act%
83.00	100.00 100.00
85.00	66.30 65.76
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030420.D\data.ms

(32) Tetrahydrofuran (TMP)

10.874min (+ 0.019) 0.149 ppbv

response 1456

Ion	Exp%	Act%
42.00	100.00	100.00
72.00	33.70	43.89
0.00	0.00	0.00
0.00	0.00	0.00

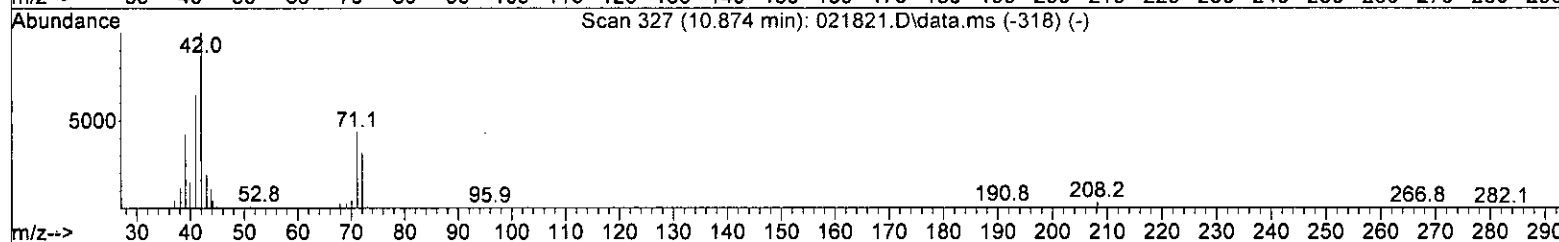
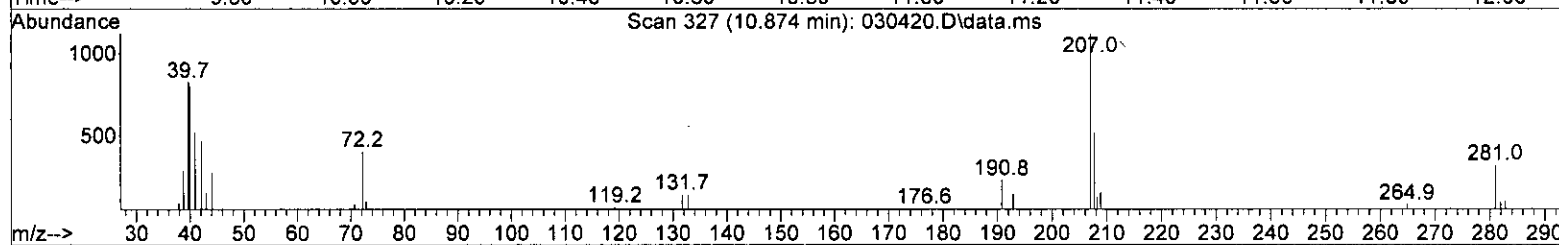
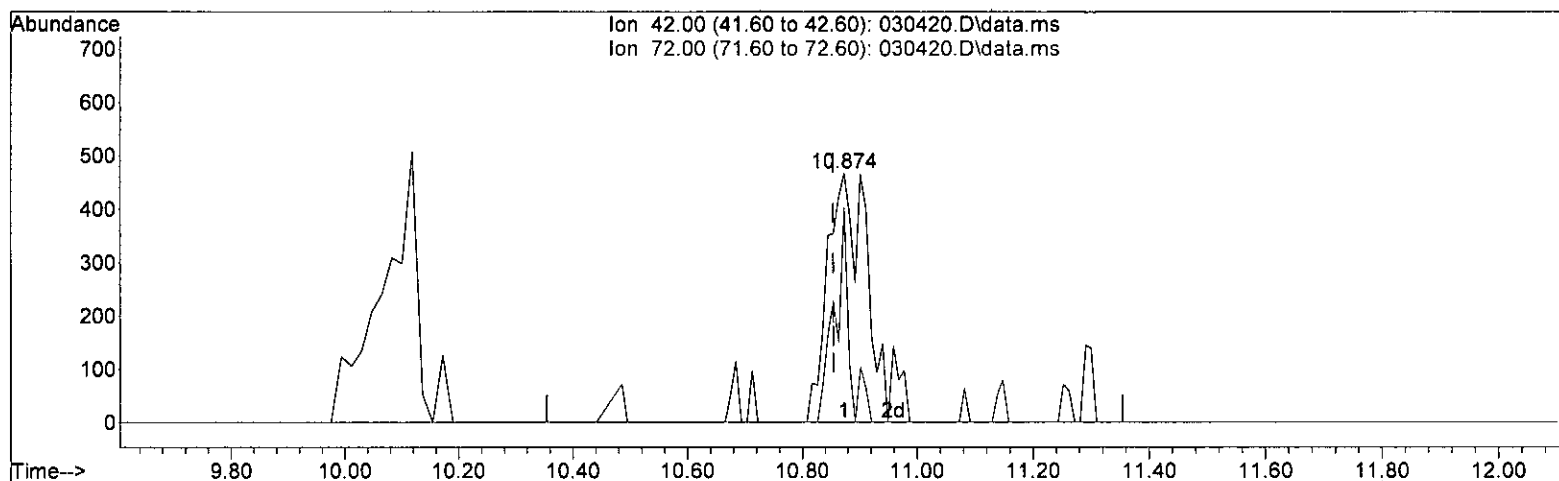
*h/b*  
*3/7/22*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(32) Tetrahydrofuran (TMP)

10.874min (+ 0.019) 0.222 ppbv m

response 2175

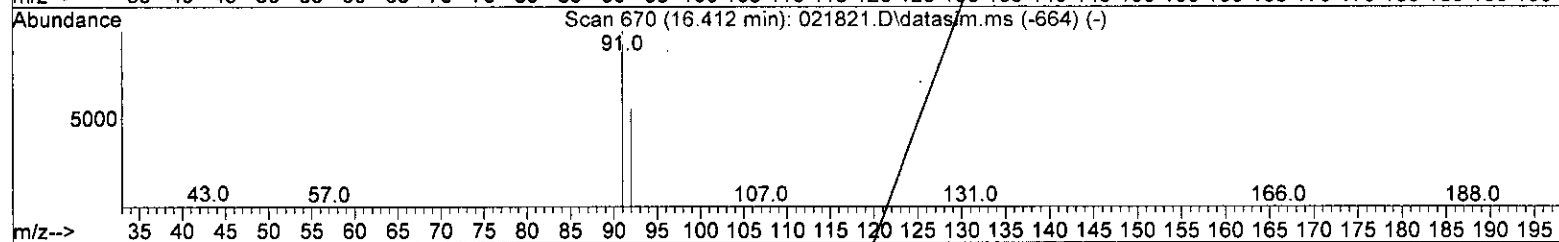
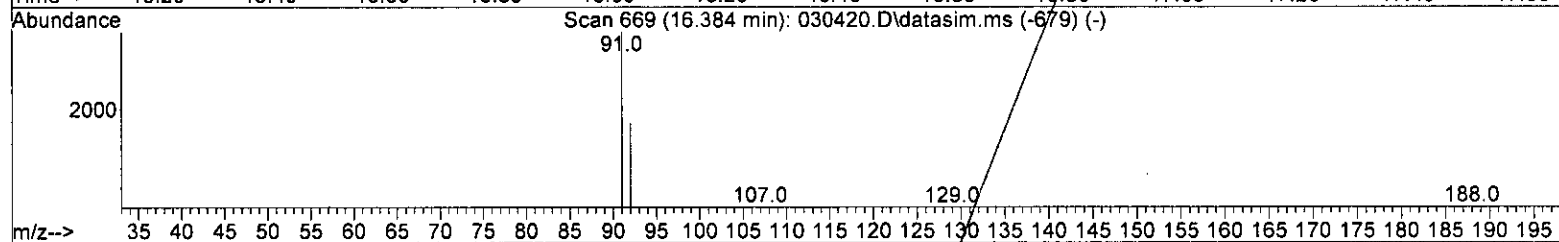
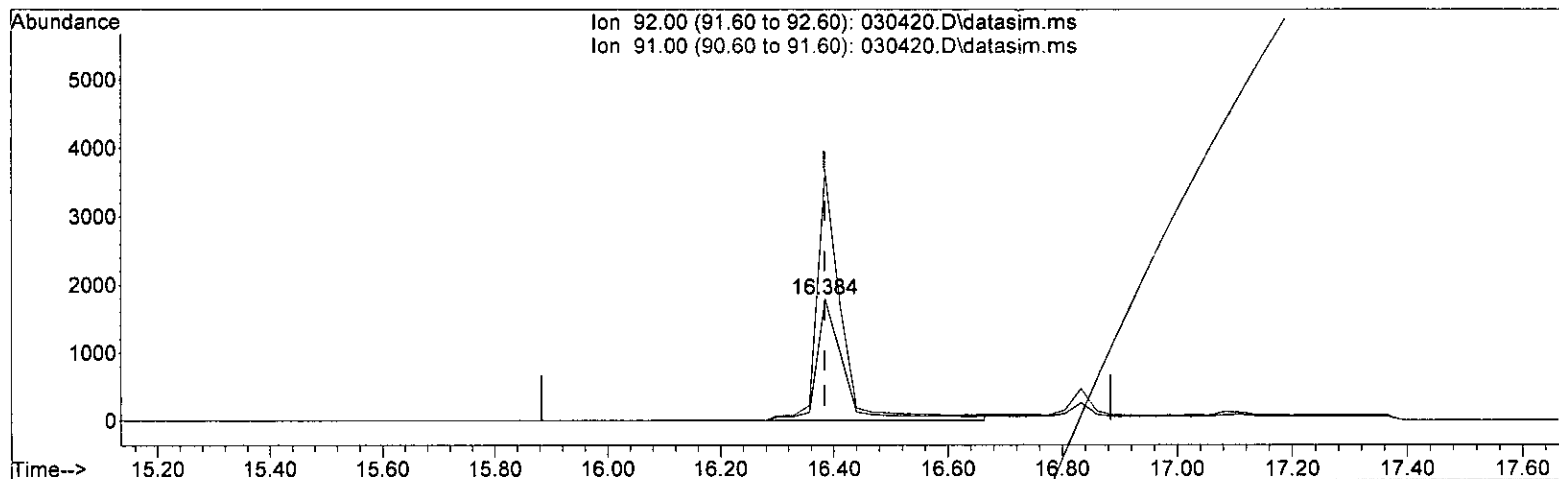
Ion	Exp%	Act%
42.00	100.00	100.00
72.00	33.70	29.38
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030420.D\data.ms

(50) Toluene (TMP)

16.384min (+ 0.000) 0.225 ppbv

response 5924

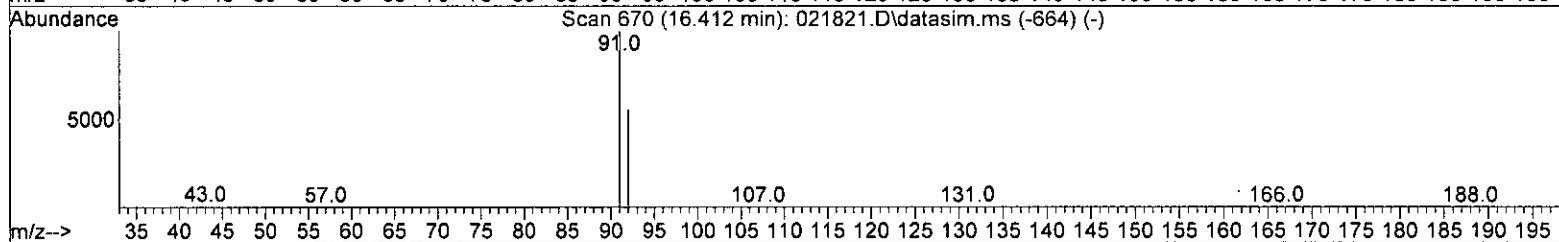
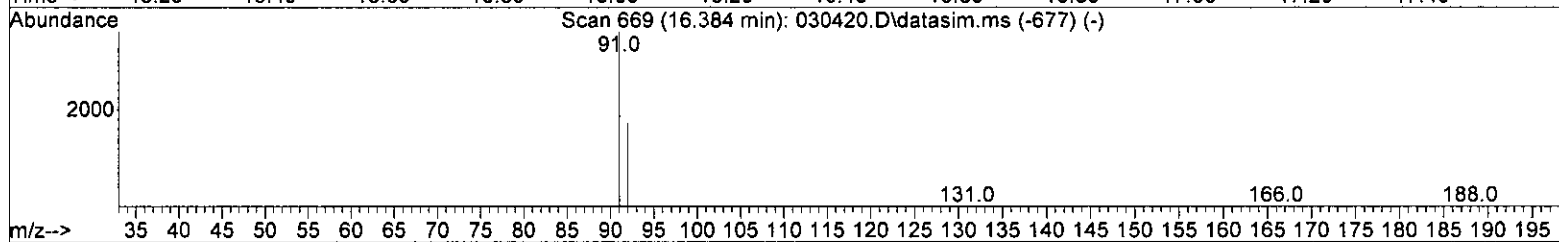
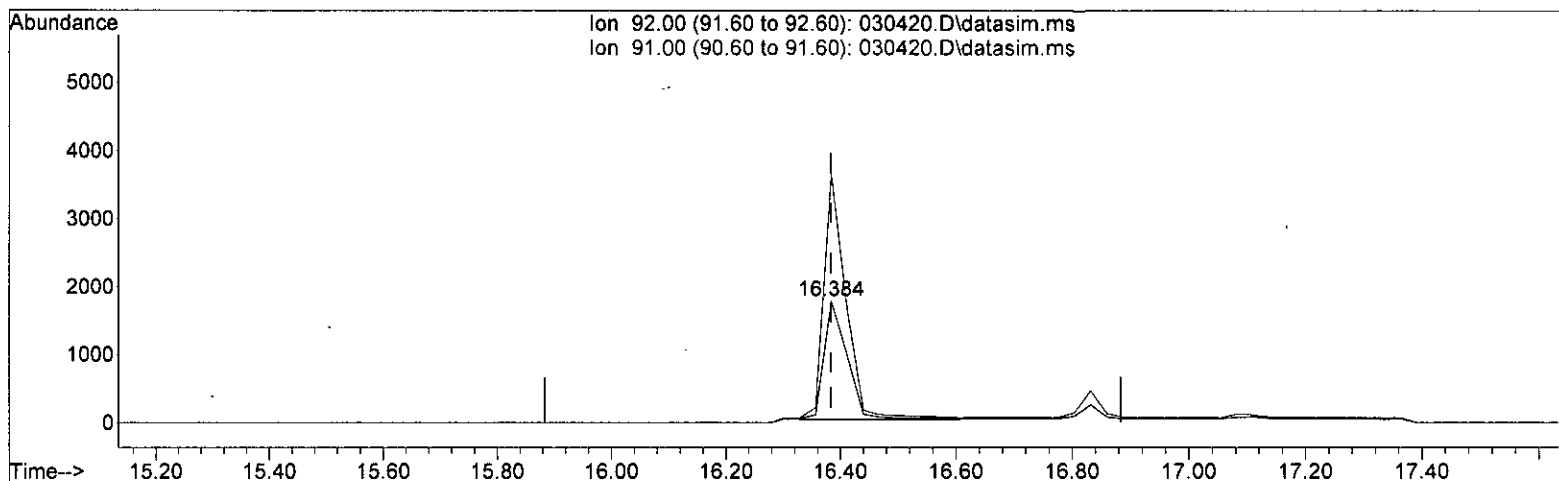
Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	205.04
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030420.D\data.ms

(50) Toluene (TMP)

16.384min (+ 0.000) 0.188 ppbv m

response 4951

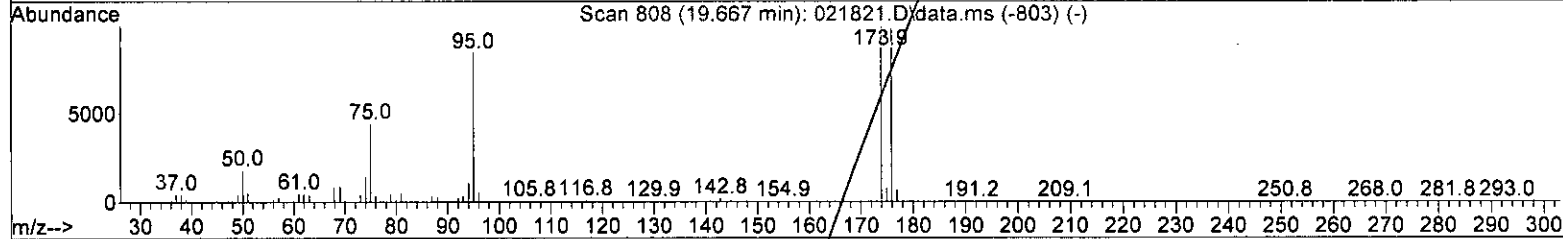
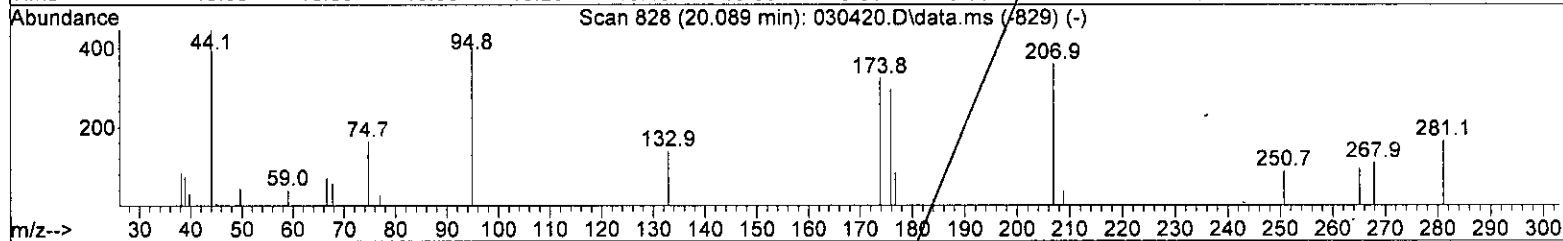
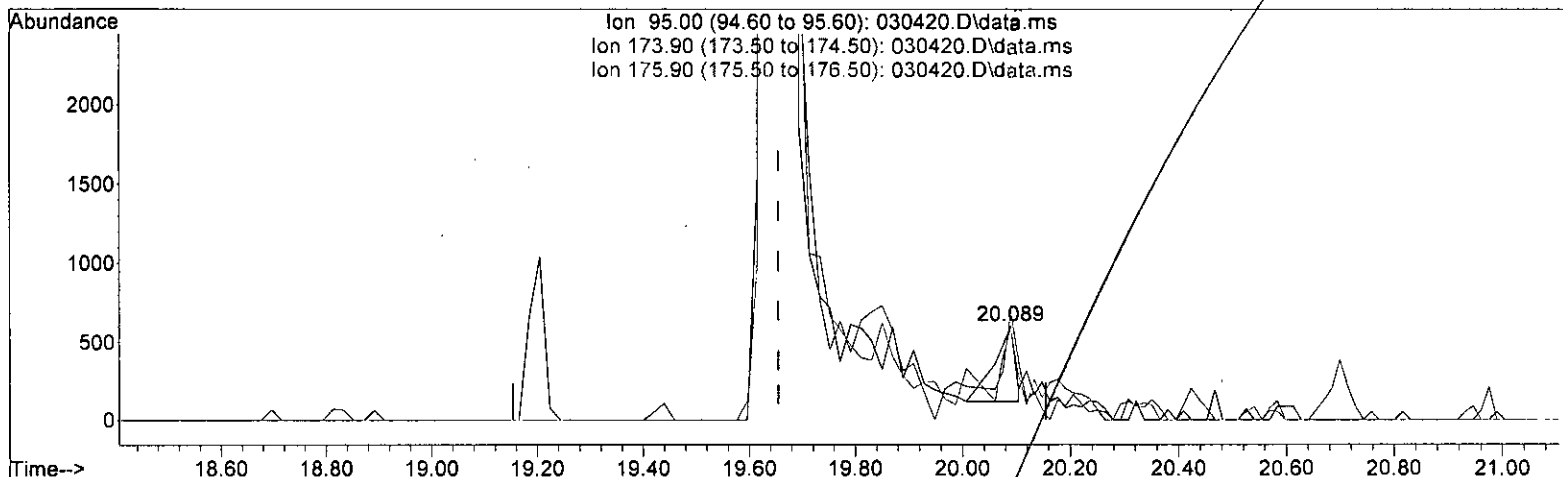
Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	205.04
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030420.D\data.ms

(69) 4-Bromofluorobenzene (S)

20.089min (+ 0.434) 0.052 ppbv

response 1696

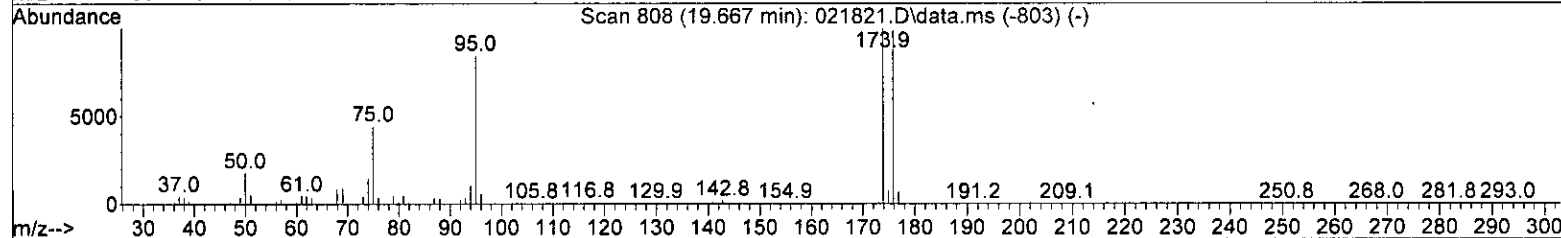
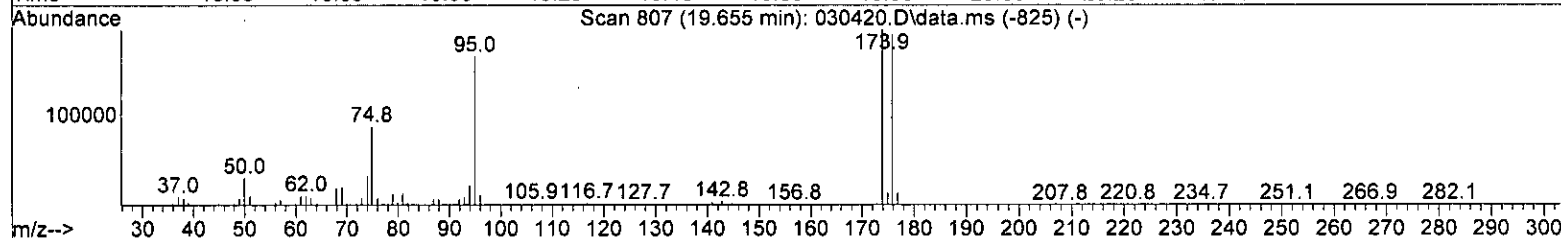
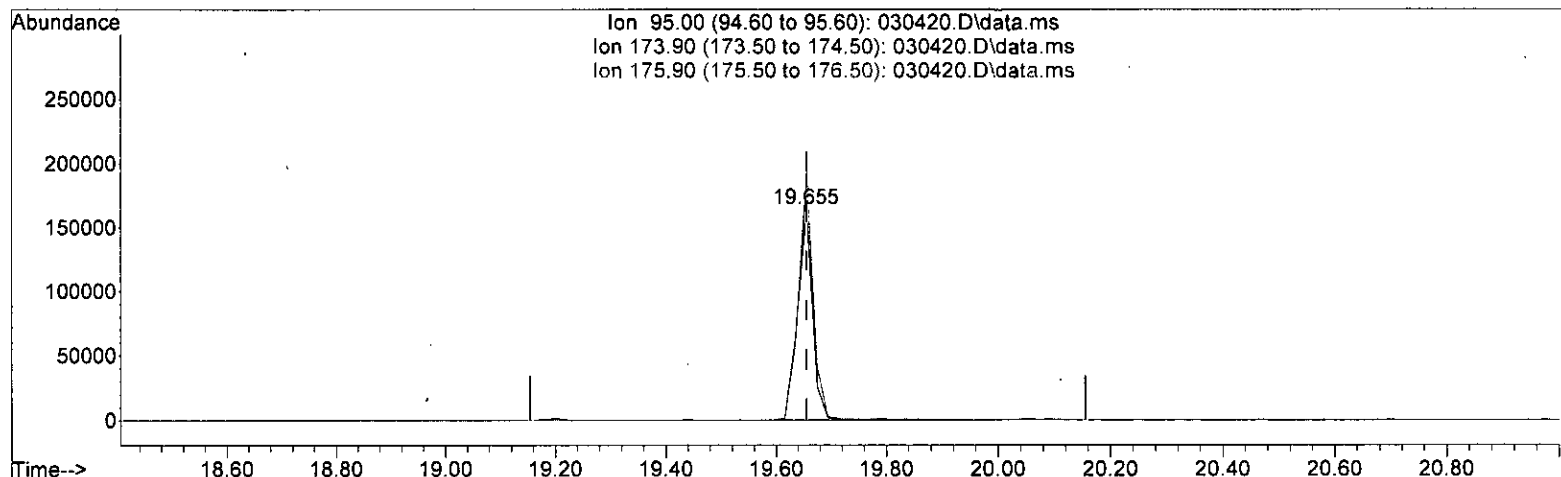
Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	99.79
175.90	70.90	61.28
0.00	0.00	0.00

*h/h*  
*3/7/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030420.D\data.ms

(69) 4-Bromofluorobenzene (S)

19.655min (-0.000) 9.567 ppbv m

response 310356

Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	117.62#
175.90	70.90	114.27#
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:42:20 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.98	128	112334	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	511941	10.000	ppbv	0.02
56) Chlorobenzene-d5	18.21	117	437134	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.65	95	310356m	9.567	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	95.70%
Target Compounds						
						Qvalue
2) Propene	3.47	41	1264	0.204	ppbv	# 1
3) Dichlorodifluoromethane	3.55	85	11814	0.230	ppbv	79
4) Chloromethane	3.80	50	1848	0.212	ppbv	81
5) F-114	3.95	85	10391	0.271	ppbv	85
6] Vinyl chloride	4.08	62	2301	0.189	ppbv	96
7] 1,3-Butadiene	4.27	54	1383	0.203	ppbv	# 79
8) Butane	0.00		0	N.D.	d	
9) Bromomethane	0.00		0	N.D.	d	
10] Chloroethane	4.87	64	957m	0.216	ppbv	
11] Vinyl bromide	5.34	106	2790m	0.193	ppbv	
12) Ethanol	0.00		0	N.D.	d	
13] Acrolein	5.46	56	565	0.211	ppbv	94
14) Pentane	0.00		0	N.D.	d	
15) Trichlorofluoromethane	5.89	101	9786	0.172	ppbv	97
16) Acetone	0.00		0	N.D.	d	
17) 2-Propanol	0.00		0	N.D.	d	
18] 1,1-Dichloroethene	6.73	96	3045	0.216	ppbv	95
19] trans-1,2-Dichloroethene	8.17	96	2635	0.196	ppbv	84
20] Methylene chloride	0.00		0	N.D.	d	
21) t-Butyl alcohol (TBA)	0.00		0	N.D.	d	
22) 3-Chloropropene	7.03	41	3233	0.232	ppbv	# 50
23) CFC-113	7.22	101	9101	0.245	ppbv	99
24) Carbon disulfide	7.03	76	1767	0.292	ppbv	# 1
25) Methyl t-butyl ether (...)	8.56	73	8739	0.261	ppbv	84
26) Vinyl acetate	0.00		0	N.D.	d	
27] 1,1-Dichloroethane	8.46	63	5074	0.207	ppbv	95
28] cis-1,2-Dichloroethene	9.73	96	2842	0.201	ppbv	84
29) Hexane	0.00		0	N.D.	d	
30] Chloroform	10.18	83	7490m	0.205	ppbv	
31) Ethyl acetate	0.00		0	N.D.	d	
32) Tetrahydrofuran	10.87	42	2175m	0.222	ppbv	
33) 2-Butanone (MEK)	0.00		0	N.D.	d	
34] 1,2-Dichloroethane (EDC)	11.44	62	5209	0.207	ppbv	97
35] 1,1,1-Trichloroethane	11.92	97	8213	0.206	ppbv	95
36] Carbon tetrachloride	12.94	117	9581	0.206	ppbv	99
37] Benzene	12.69	78	8030	0.202	ppbv	89
38) Cyclohexane	0.00		0	N.D.	d	
40] 1,2-Dichloropropane	13.88	63	3327	0.197	ppbv	66
41] 1,4-Dioxane	14.20	88	1821	0.203	ppbv	67
42) 2,2,4-Trimethylpentane	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

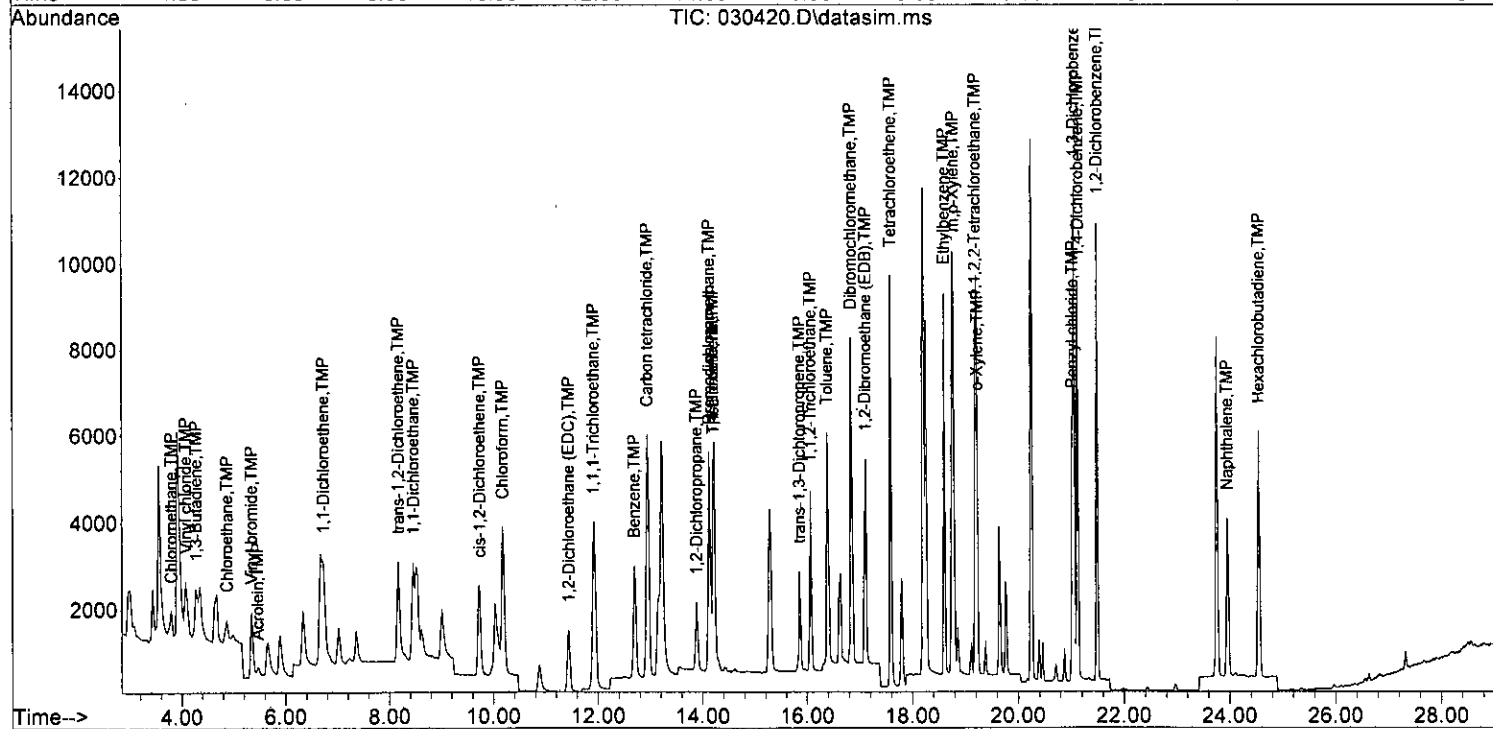
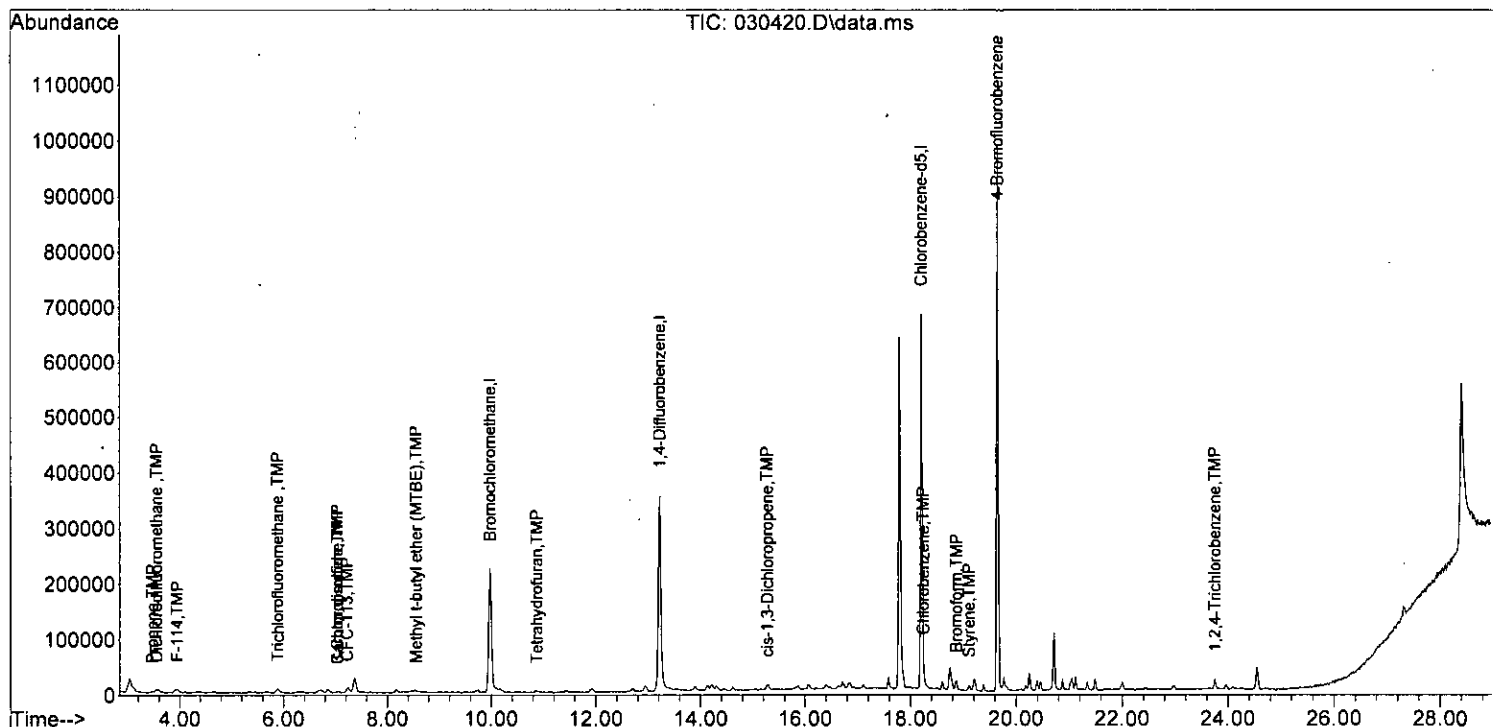
Quant Time: Mar 07 16:42:20 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0	N.D.	d	
44) Heptane	0.00		0	N.D.	d	
45] Bromodichloromethane	14.13	83	7968	0.189	ppbv	96
46] Trichloroethene	14.20	95	4694	0.182	ppbv	82
47) cis-1,3-Dichloropropene	15.28	75	5721	0.211	ppbv	87
48) 4-Methyl-2-pentanone	0.00		0	N.D.	d	
49] trans-1,3-Dichloropropene	15.85	75	4689	0.180	ppbv	85
50] Toluene	16.38	92	4951m	0.188	ppbv	
51] 1,1,2-Trichloroethane	16.07	83	3401	0.179	ppbv	83
52) 2-Hexanone	0.00		0	N.D.	d	
53] Tetrachloroethene	17.58	164	5137	0.198	ppbv	92
54] Dibromochloromethane	16.83	129	8524	0.183	ppbv	100
55] 1,2-Dibromoethane (EDB)	17.11	107	6067	0.180	ppbv	96
57) Chlorobenzene	18.25	112	9446	0.232	ppbv	83
58] Ethylbenzene	18.60	91	11931	0.189	ppbv	95
59] 1,1,2,2-Tetrachloroethane	19.19	83	8471	0.195	ppbv	99
60) Nonane	0.00		0	N.D.	d	
61) Isopropylbenzene	0.00		0	N.D.	d	
62) 2-Chlorotoluene	0.00		0	N.D.	d	
63) Propylbenzene	0.00		0	N.D.	d	
64) 4-Ethyltoluene	0.00		0	N.D.	d	
65] m,p-Xylene	18.78	106	8739	0.369	ppbv	94
66] o-Xylene	19.23	106	4038	0.183	ppbv	92
67) Styrene	19.11	104	6550	0.198	ppbv	80
68) Bromoform	18.87	173	10735	0.192	ppbv	93
70] Benzyl chloride	21.02	91	9901	0.179	ppbv	94
71) 1,3,5-Trimethylbenzene	0.00		0	N.D.	d	
72) 1,2,4-Trimethylbenzene	0.00		0	N.D.	d	
73] 1,3-Dichlorobenzene	21.05	146	9813	0.188	ppbv	95
74] 1,4-Dichlorobenzene	21.13	146	9563	0.181	ppbv	95
75] 1,2-Dichlorobenzene	21.49	146	9664	0.192	ppbv	96
76) 1,2,4-Trichlorobenzene	23.75	180	8811	0.178	ppbv	94
77] Naphthalene	23.95	128	8020	0.158	ppbv	97
78] Hexachlorobutadiene	24.54	225	12843	0.194	ppbv	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:42:20 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M





Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:42:20 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP Propene	0.200	0.204	-2.0	100	0.00
3 TMP Dichlorodifluoromethane	0.200	0.230	-15.0	100	0.00
4 TMP Chloromethane	0.200	0.212	-6.0	100	0.00
5 TMP F-114	0.200	0.271	-35.5#	115	0.04
6 TMP Vinyl chloride	0.200	0.189	5.5	100	0.00
7 TMP 1,3-Butadiene	0.200	0.203	-1.5	100	0.00
8 TMP Butane	-1.000	0.000	0.0	0	-4.35#
9 TMP Bromomethane	-1.000	0.000	0.0	0	-4.67#
10 TMP Chloroethane	0.200	0.216	-8.0	95	0.00
11 TMP Vinyl bromide	0.200	0.193	3.5	97	0.00
12 TMP Ethanol	-1.000	0.000	0.0	0	-4.98#
13 TMP Acrolein	0.200	0.211	-5.5	100	0.00
14 TMP Pentane	-1.000	0.000	0.0	0	-6.35#
15 TMP Trichlorofluoromethane	0.200	0.172	14.0	100	0.00
16 TMP Acetone	-1.000	0.000	0.0	0	-5.63#
17 TMP 2-Propanol	-1.000	0.000	0.0	0	-5.89#
18 TMP 1,1-Dichloroethene	0.200	0.216	-8.0	100	0.00
19 TMP trans-1,2-Dichloroethene	0.200	0.196	2.0	100	0.00
20 TMP Methylene chloride	-1.000	0.000	0.0	0	-6.85#
21 TMP t-Butyl alcohol (TBA)	-1.000	0.000	0.0	0	-6.67#
22 TMP 3-Chloropropene	0.200	0.232	-16.0	100	0.00
23 TMP CFC-113	0.200	0.245	-22.5	100	-0.03
24 TMP Carbon disulfide	-1.000	0.292	0.0	0	0.00
25 TMP Methyl t-butyl ether (MTBE)	0.200	0.261	-30.5#	100	0.03
26 TMP Vinyl acetate	-1.000	0.000	0.0	0	-8.64#
27 TMP 1,1-Dichloroethane	0.200	0.207	-3.5	100	0.00
28 TMP cis-1,2-Dichloroethene	0.200	0.201	-0.5	100	0.00
29 TMP Hexane	-1.000	0.000	0.0	0	-10.10#
30 TMP Chloroform	0.200	0.205	-2.5	89	0.00
31 TMP Ethyl acetate	-1.000	0.000	0.0	0	-10.03#
32 TMP Tetrahydrofuran	0.200	0.222	-11.0	92	0.02
33 TMP 2-Butanone (MEK)	-1.000	0.000	0.0	0	-9.01#
34 TMP 1,2-Dichloroethane (EDC)	0.200	0.207	-3.5	100	0.00
35 TMP 1,1,1-Trichloroethane	0.200	0.206	-3.0	100	0.00
36 TMP Carbon tetrachloride	0.200	0.206	-3.0	100	0.00
37 TMP Benzene	0.200	0.202	-1.0	100	0.00
38 TMP Cyclohexane	-1.000	0.000	0.0	0	-13.15#
39 I 1,4-Difluorobenzene	10.000	10.000	0.0	100	0.02
40 TMP 1,2-Dichloropropane	0.200	0.197	1.5	100	0.00
41 TMP 1,4-Dioxane	0.200	0.203	-1.5	100	0.02
42 TMP 2,2,4-Trimethylpentane	-1.000	0.000	0.0	0	-14.29#
43 TMP Methyl methacrylate	-1.000	0.000	0.0	0	-14.44#
44 TMP Heptane	-1.000	0.000	0.0	0	-14.61#
45 TMP Bromodichloromethane	0.200	0.189	5.5	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:42:20 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev (min)
46 TMP Trichloroethene	0.200	0.182	9.0	100	0.00
47 TMP cis-1,3-Dichloropropene	0.200	0.211	-5.5	100	0.00
48 TMP 4-Methyl-2-pentanone	-1.000	0.000	0.0	0	-15.30#
49 TMP trans-1,3-Dichloropropene	0.200	0.180	10.0	100	0.00
50 TMP Toluene	0.200	0.188	6.0	103	0.00
51 TMP 1,1,2-Trichloroethane	0.200	0.179	10.5	100	0.00
52 TMP 2-Hexanone	-1.000	0.000	0.0	0	-16.63#
53 TMP Tetrachloroethene	0.200	0.198	1.0	100	0.00
54 TMP Dibromochloromethane	0.200	0.183	8.5	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.200	0.180	10.0	100	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57 TMP Chlorobenzene	0.200	0.232	-16.0	100	0.00
58 TMP Ethylbenzene	0.200	0.189	5.5	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.200	0.195	2.5	100	0.00
60 TMP Nonane	-1.000	0.000	0.0	0	-19.38#
61 TMP Isopropylbenzene	-1.000	0.000	0.0	0	-19.77#
62 TMP 2-Chlorotoluene	-1.000	0.000	0.0	0	-20.23#
63 TMP Propylbenzene	-1.000	0.000	0.0	0	-20.25#
64 TMP 4-Ethyltoluene	-1.000	0.000	0.0	0	-20.39#
65 TMP m,p-Xylene	0.400	0.369	7.8	100	0.00
66 TMP o-Xylene	0.200	0.183	8.5	100	0.00
67 TMP Styrene	0.200	0.198	1.0	100	0.00
68 TMP Bromoform	0.200	0.192	4.0	100	0.00
69 S 4-Bromofluorobenzene	10.000	9.567	4.3	102	0.00
70 TMP Benzyl chloride	0.200	0.179	10.5	100	0.01
71 TMP 1,3,5-Trimethylbenzene	-1.000	0.000	0.0	0	-20.45#
72 TMP 1,2,4-Trimethylbenzene	-1.000	0.000	0.0	0	-20.87#
73 TMP 1,3-Dichlorobenzene	0.200	0.188	6.0	100	0.00
74 TMP 1,4-Dichlorobenzene	0.200	0.181	9.5	100	0.01
75 TMP 1,2-Dichlorobenzene	0.200	0.192	4.0	100	0.00
76 TMP 1,2,4-Trichlorobenzene	0.200	0.178	11.0	100	0.00
77 TMP Naphthalene	0.200	0.158	21.0	100	0.00
78 TMP Hexachlorobutadiene	0.200	0.194	3.0	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:42:20 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev (min)
1 I Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP Propene	0.552	0.563	-2.0	100	0.00
3 TMP Dichlorodifluoromethane	4.565	5.258	-15.2	100	0.00
4 TMP Chloromethane	0.776	0.823	-6.1	100	0.00
5 TMP F-114	3.419	4.625	-35.3#	115	0.04
6 TMP Vinyl chloride	1.082	1.024	5.4	100	0.00
7 TMP 1,3-Butadiene	0.605	0.616	-1.8	100	0.00
8 TMP Butane	1.161	0.000	100.0#	0#	-4.35#
9 TMP Bromomethane	1.196	0.000#	100.0#	0#	-4.67#
10 TMP Chloroethane	0.395	0.426	-7.8	95	0.00
11 TMP Vinyl bromide	1.286	1.242	3.4	97	0.00
12 TMP Ethanol	0.174	0.000	100.0#	0#	-4.98#
13 TMP Acrolein	0.252	0.251	0.4	100	0.00
14 TMP Pentane	1.140	0.000#	100.0#	0#	-6.35#
15 TMP Trichlorofluoromethane	5.069	4.356	14.1	100	0.00
16 TMP Acetone	0.404	0.000#	100.0#	0#	-5.63#
17 TMP 2-Propanol	1.563	0.000	100.0#	0#	-5.89#
18 TMP 1,1-Dichloroethene	1.255	1.355	-8.0	100	0.00
19 TMP trans-1,2-Dichloroethene	1.195	1.173	1.8	100	0.00
20 TMP Methylene chloride	1.141	0.000#	100.0#	0#	-6.85#
21 TMP t-Butyl alcohol (TBA)	2.068	0.000	100.0#	0#	-6.67#
22 TMP 3-Chloropropene	1.240	1.439	-16.0	100	0.00
23 TMP CFC-113	3.311	4.051	-22.3	100	-0.03
24 TMP Carbon disulfide	0.538	0.000	100.0#	0#	0.00
25 TMP Methyl t-butyl ether (MTBE)	2.982	3.890	-30.4#	100	0.03
26 TMP Vinyl acetate	1.012	0.000#	100.0#	0#	-8.64#
27 TMP 1,1-Dichloroethane	2.186	2.258	-3.3	100	0.00
28 TMP cis-1,2-Dichloroethene	1.262	1.265	-0.2	100	0.00
29 TMP Hexane	1.109	0.000	100.0#	0#	-10.10#
30 TMP Chloroform	3.255	3.334	-2.4	89	0.00
31 TMP Ethyl acetate	2.770	0.000	100.0#	0#	-10.03#
32 TMP Tetrahydrofuran	0.872	0.968	-11.0	92	0.02
33 TMP 2-Butanone (MEK)	0.459	0.000	100.0#	0#	-9.01#
34 TMP 1,2-Dichloroethane (EDC)	2.237	2.319	-3.7	100	0.00
35 TMP 1,1,1-Trichloroethane	3.544	3.656	-3.2	100	0.00
36 TMP Carbon tetrachloride	4.146	4.265	-2.9	100	0.00
37 TMP Benzene	3.534	3.574	-1.1	100	0.00
38 TMP Cyclohexane	0.985	0.000	100.0#	0#	-13.15#
39 I 1,4-Difluorobenzene	1.000	1.000	0.0	100	0.02
40 TMP 1,2-Dichloropropane	0.330	0.325	1.5	100	0.00
41 TMP 1,4-Dioxane	0.175	0.178	-1.7	100	0.02
42 TMP 2,2,4-Trimethylpentane	0.861	0.000	100.0#	0#	-14.29#
43 TMP Methyl methacrylate	0.296	0.000	100.0#	0#	-14.44#
44 TMP Heptane	0.327	0.000	100.0#	0#	-14.61#
45 TMP Bromodichloromethane	0.825	0.778	5.7	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030420.D  
 Acq On : 5 Mar 2022 6:37 am  
 Operator : bat  
 Sample : 0.2 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:42:20 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev (min)
46 TMP Trichloroethene	0.503	0.458	8.9	100	0.00
47 TMP cis-1,3-Dichloropropene	0.529	0.559	-5.7	100	0.00
48 TMP 4-Methyl-2-pentanone	0.038	0.000	100.0#	0#	-15.30#
49 TMP trans-1,3-Dichloropropene	0.508	0.458	9.8	100	0.00
50 TMP Toluene	0.513	0.484	5.7	103	0.00
51 TMP 1,1,2-Trichloroethane	0.372	0.332	10.8	100	0.00
52 TMP 2-Hexanone	0.484	0.000#	100.0#	0#	-16.63#
53 TMP Tetrachloroethene	0.508	0.502	1.2	100	0.00
54 TMP Dibromochloromethane	0.909	0.833	8.4	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.658	0.593	9.9	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	0.933	1.080	-15.8	100	0.00
58 TMP Ethylbenzene	1.442	1.365	5.3	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.993	0.969	2.4	100	0.00
60 TMP Nonane	0.561	0.000	100.0#	0#	-19.38#
61 TMP Isopropylbenzene	1.680	0.000	100.0#	0#	-19.77#
62 TMP 2-Chlorotoluene	0.432	0.000	100.0#	0#	-20.23#
63 TMP Propylbenzene	3.087	0.000	100.0#	0#	-20.25#
64 TMP 4-Ethyltoluene	1.595	0.000	100.0#	0#	-20.39#
65 TMP m,p-Xylene	0.541	0.500	7.6	100	0.00
66 TMP o-Xylene	0.504	0.462	8.3	100	0.00
67 TMP Styrene	0.757	0.749	1.1	100	0.00
68 TMP Bromoform	1.279	1.228	4.0	100	0.00
69 S 4-Bromofluorobenzene	0.742	0.710	4.3	102	0.00
70 TMP Benzyl chloride	1.263	1.132	10.4	100	0.01
71 TMP 1,3,5-Trimethylbenzene	1.434	0.000	100.0#	0#	-20.45#
72 TMP 1,2,4-Trimethylbenzene	1.359	0.000	100.0#	0#	-20.87#
73 TMP 1,3-Dichlorobenzene	1.193	1.122	6.0	100	0.00
74 TMP 1,4-Dichlorobenzene	1.211	1.094	9.7	100	0.01
75 TMP 1,2-Dichlorobenzene	1.153	1.105	4.2	100	0.00
76 TMP 1,2,4-Trichlorobenzene	1.110	1.008	9.2	100	0.00
77 TMP Naphthalene	1.414	0.917	35.1#	100	0.00
78 TMP Hexachlorobutadiene	1.608	1.469	8.6	100	0.00

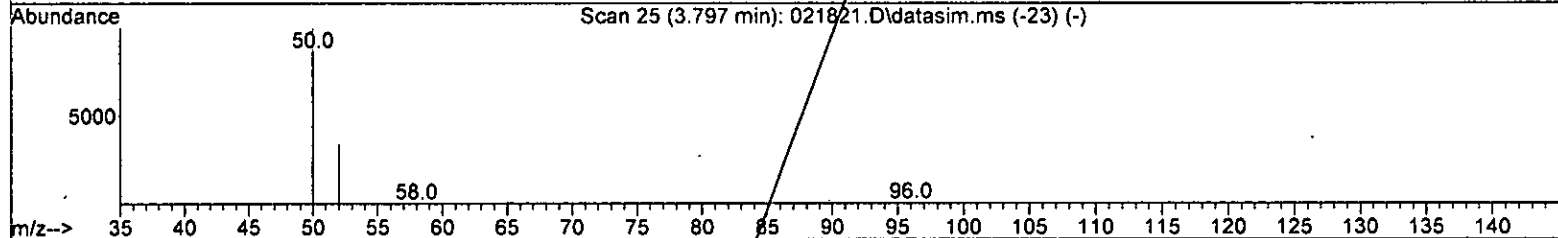
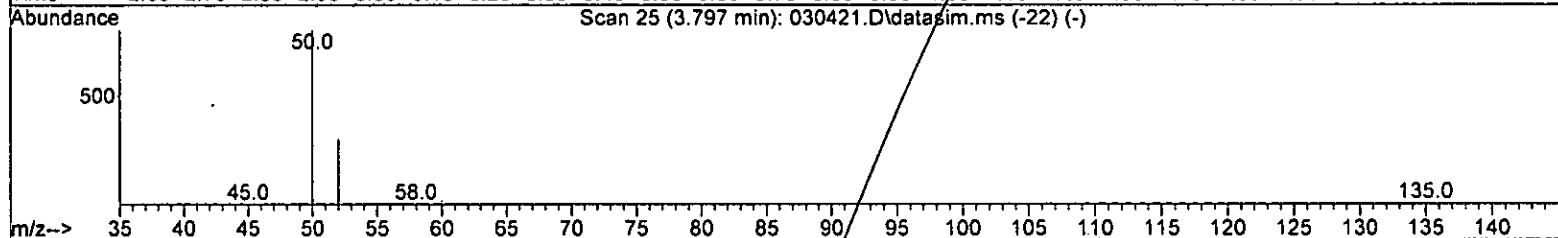
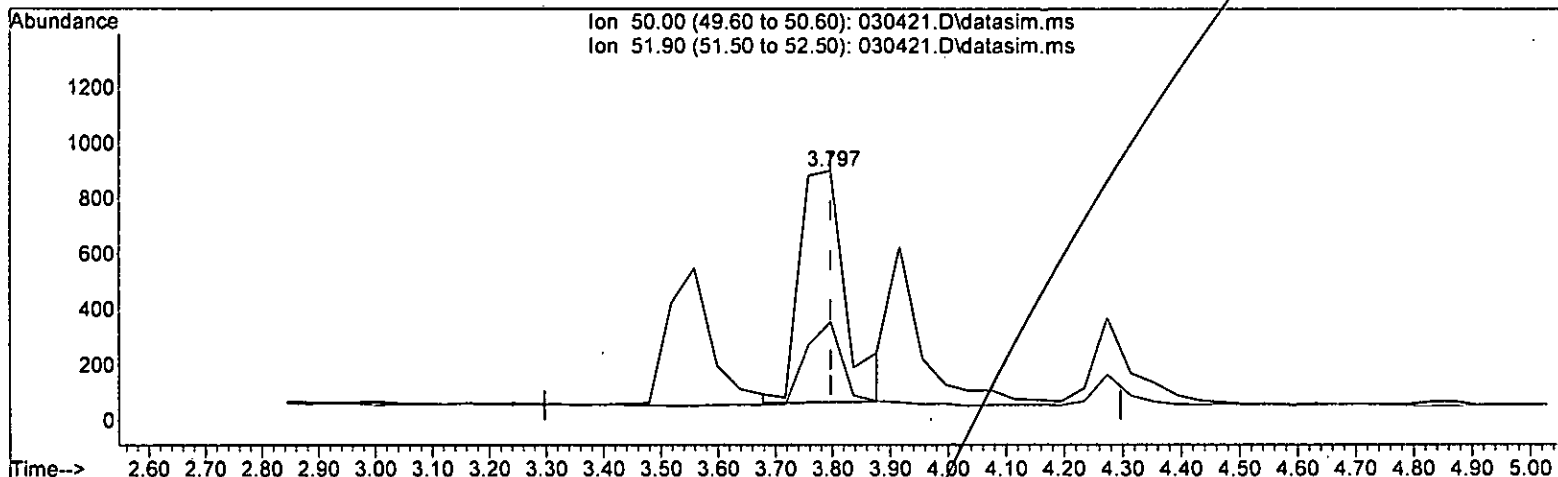
(#) = Out of Range

SPCC's out = 6 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030421.D\data.ms

(4) Chloromethane (TMP)

3.797min (+ 0.000) 0.535 ppbv

response 4709

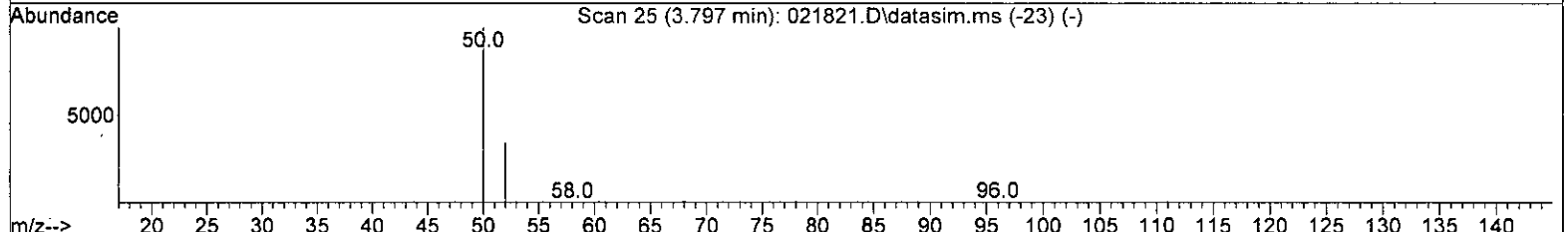
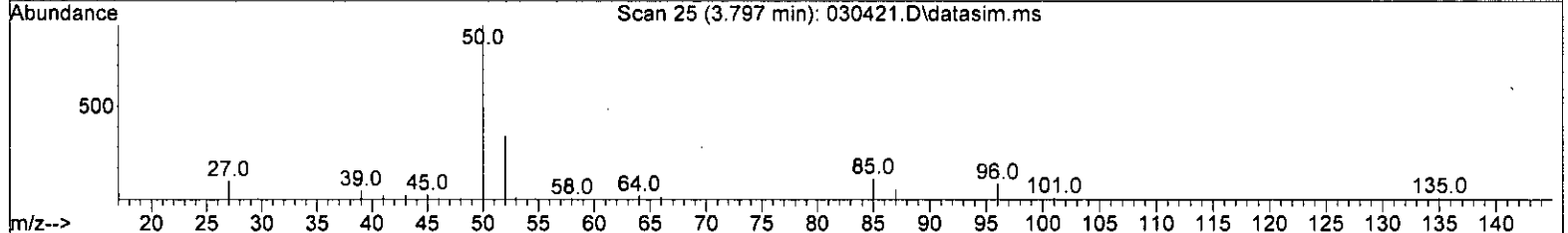
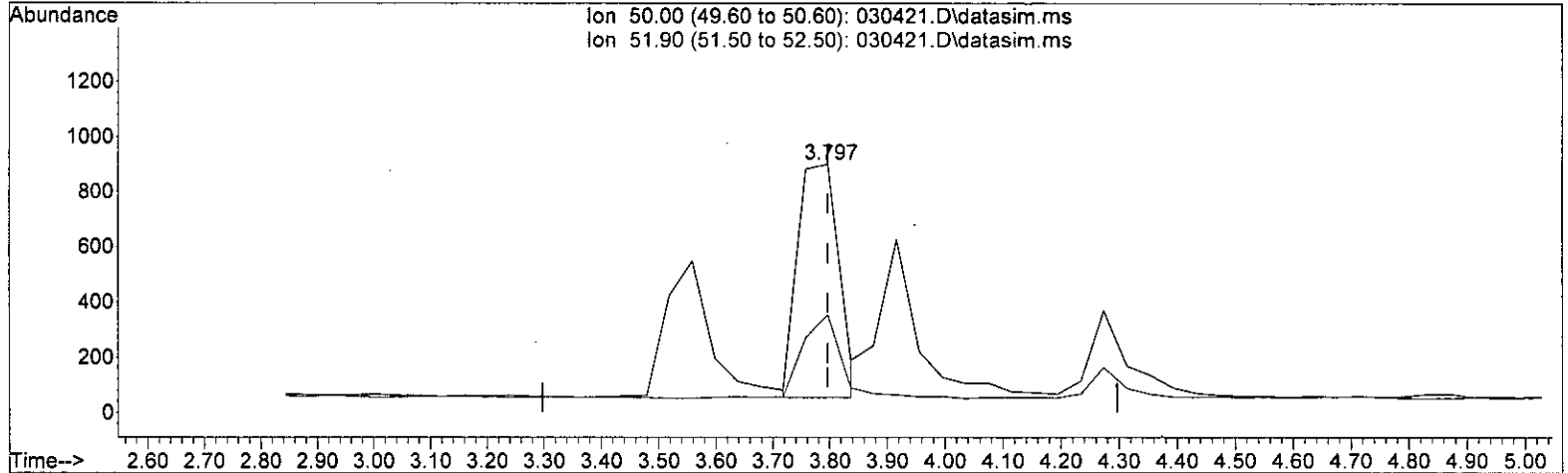
Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	37.14
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030421.D\data.ms

(4) Chloromethane (TMP)

3.797min (+ 0.000) 0.489 ppbv m

response 4306

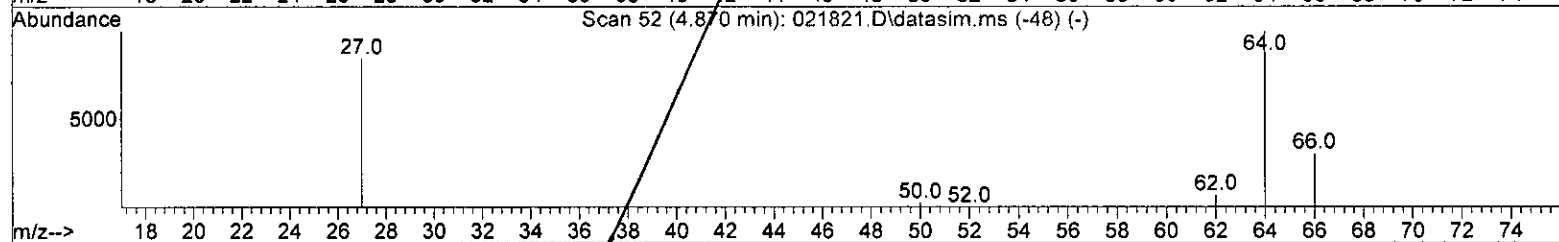
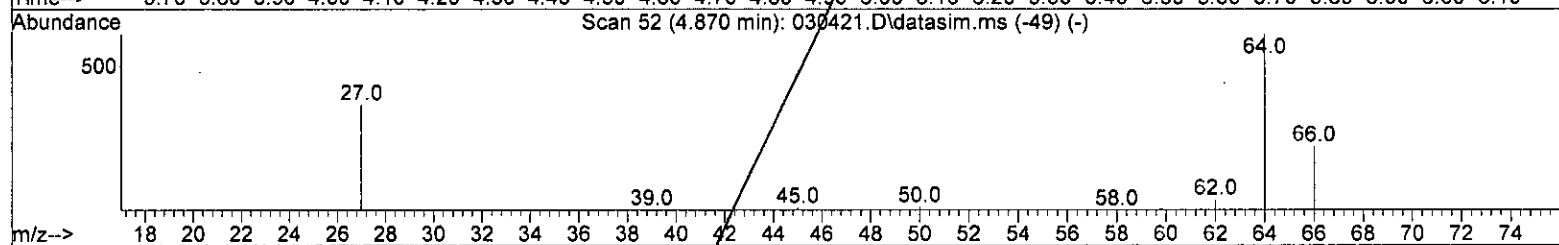
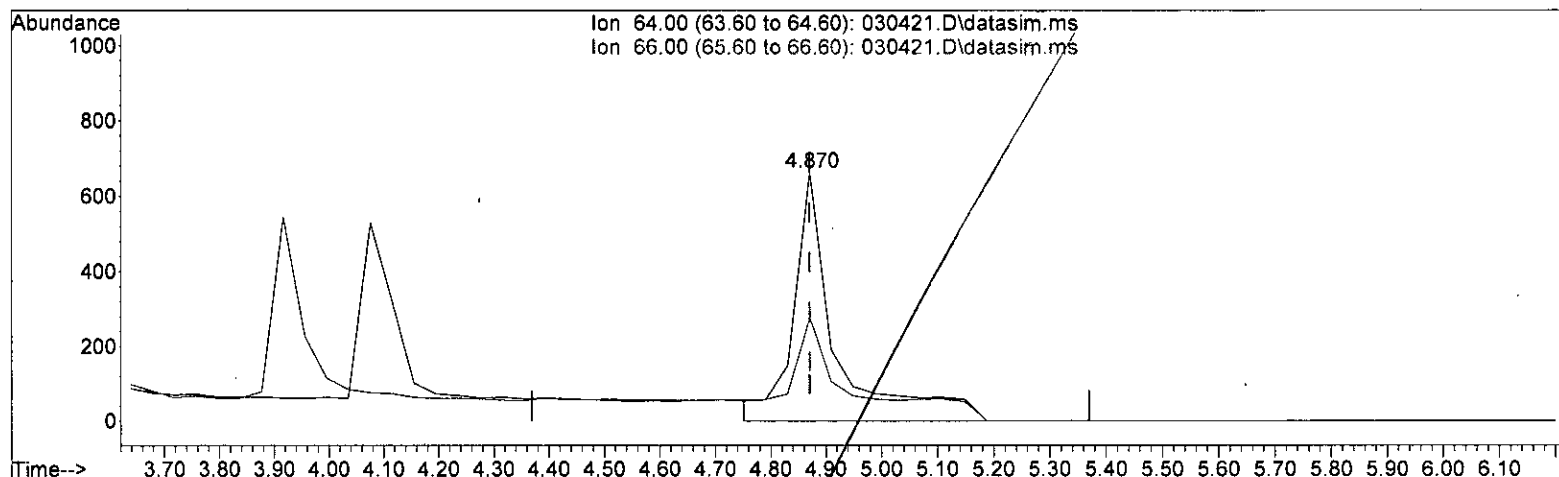
Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	39.38
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*

Quantitation Report (Qedit):

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030421.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 0.751 ppbv

response 3368

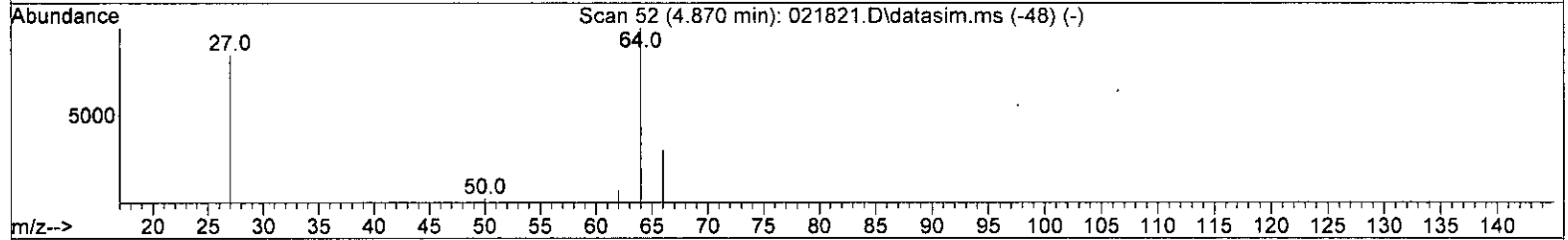
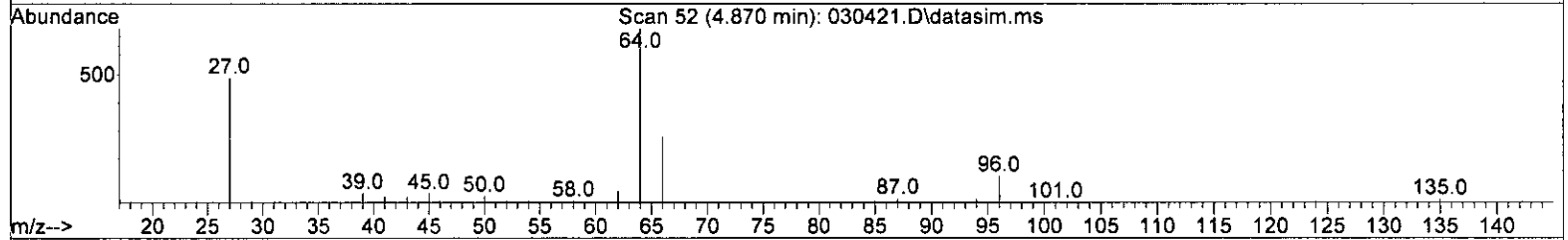
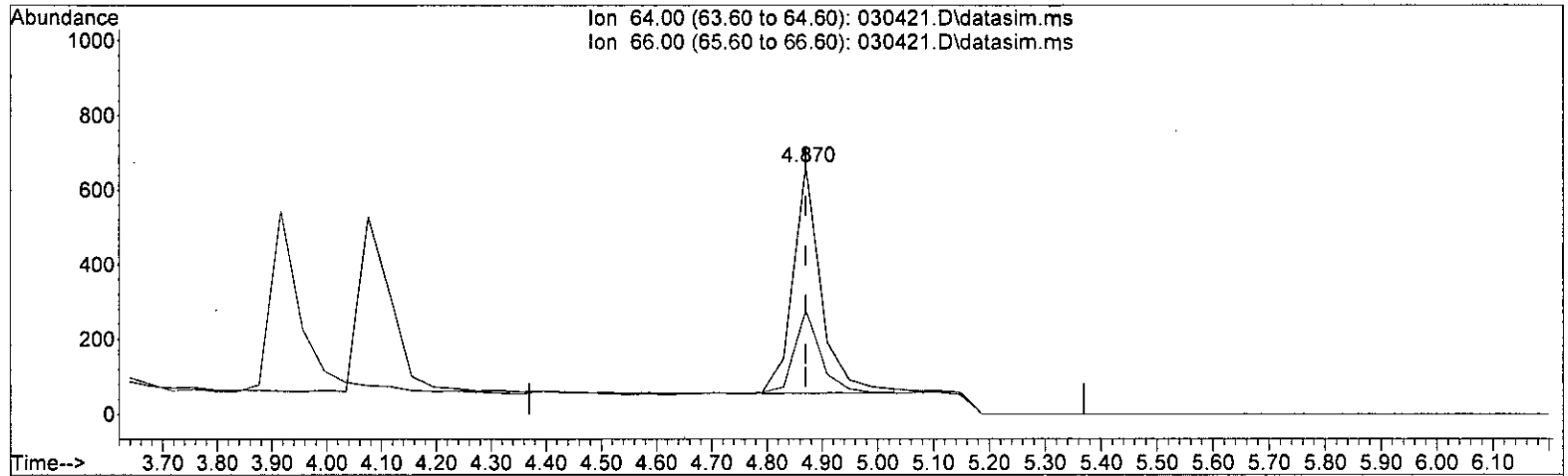
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	41.78
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030421.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 0.477 ppbv m

response 2136

Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	41.78
0.00	0.00	0.00
0.00	0.00	0.00

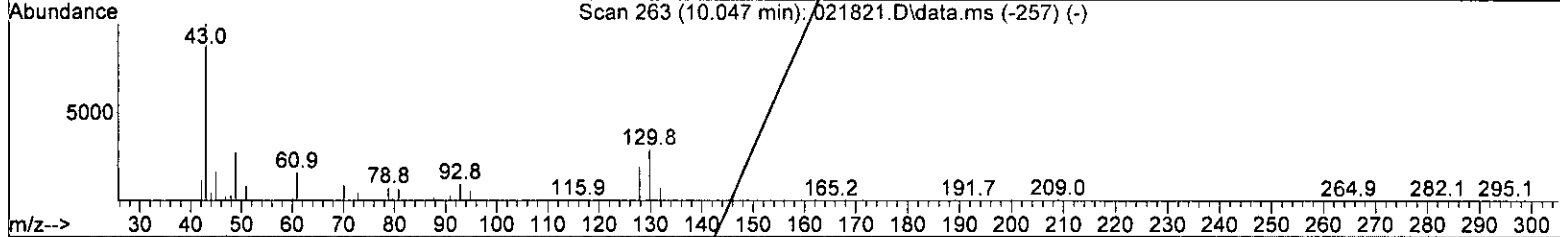
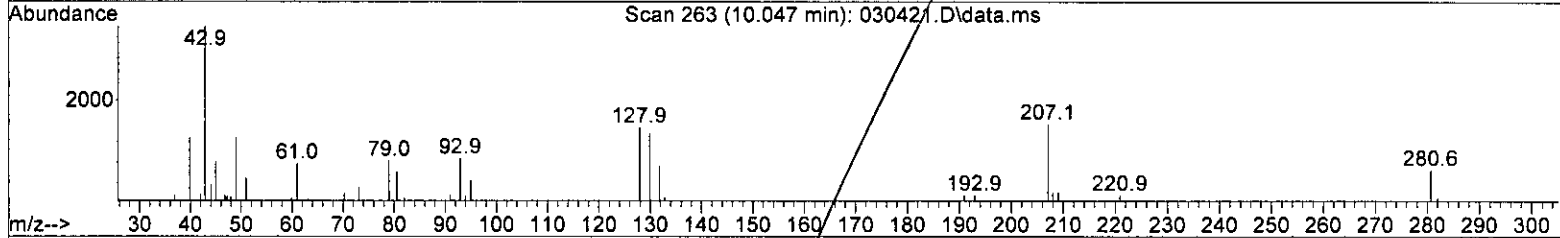
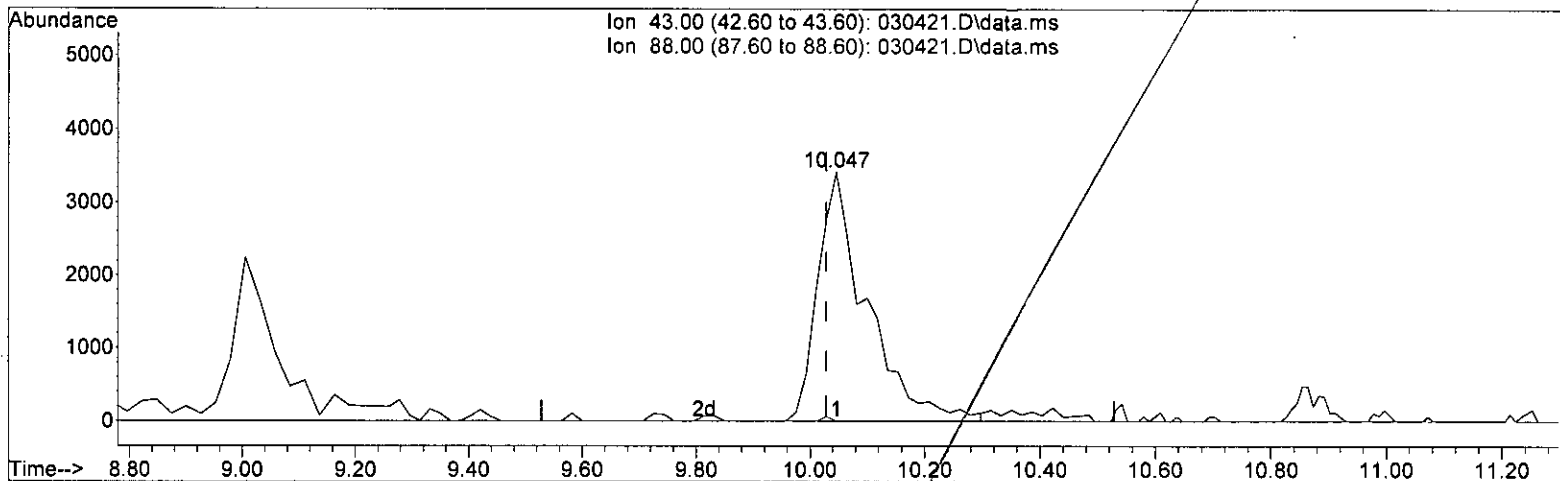
*Handwritten signature/initials*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030421.D\data.ms

(31) Ethyl acetate (TMP)

10.047min (+ 0.018) 0.645 ppbv

response 20276

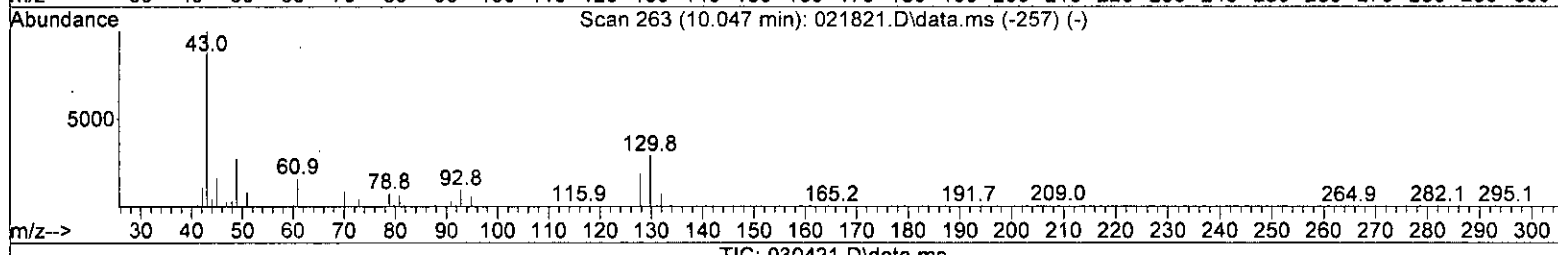
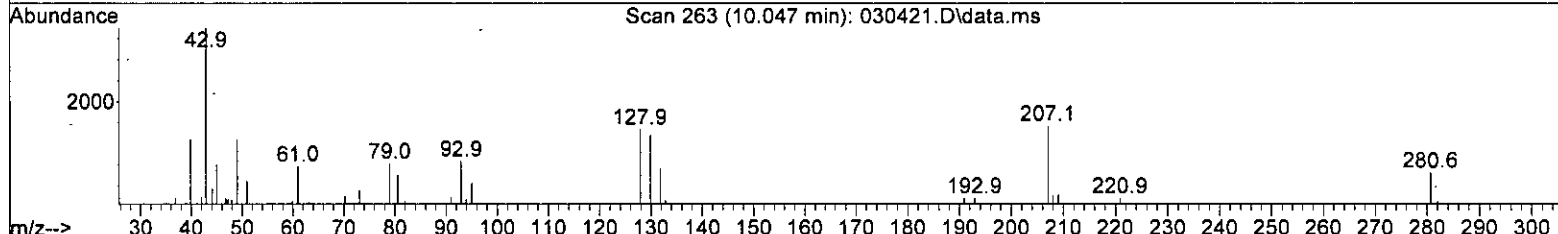
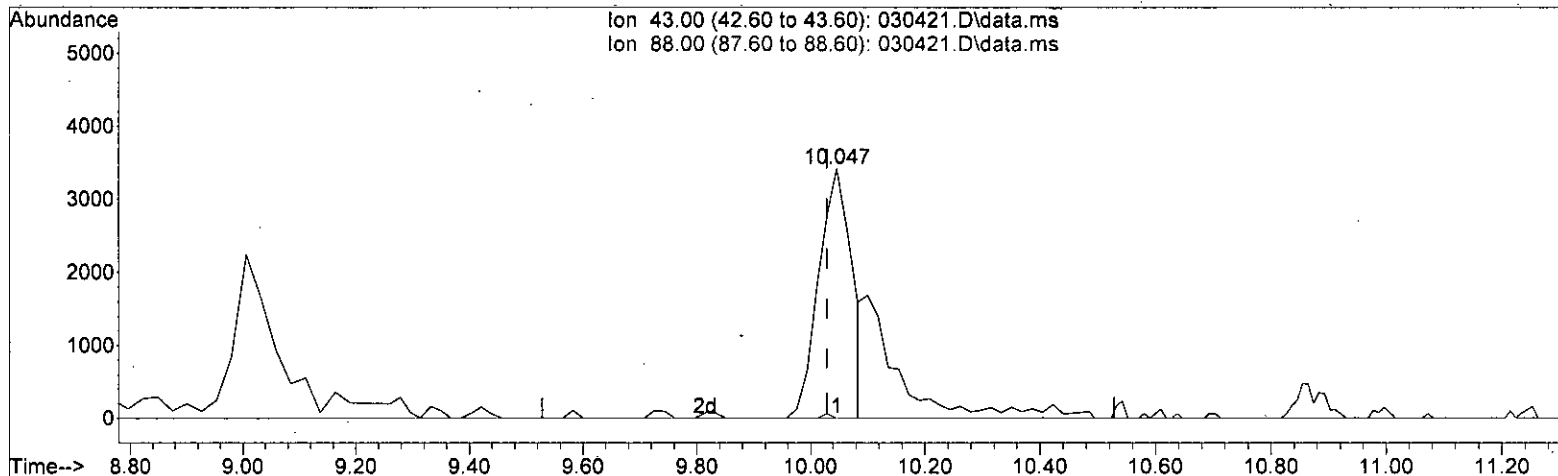
Ion	Exp%	Act%
43.00	100.00	100.00
88.00	1.70	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

*h/*  
*3/7/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(31) Ethyl acetate (TMP)

10.047min (+ 0.018) 0.443 ppbv m

response 13910

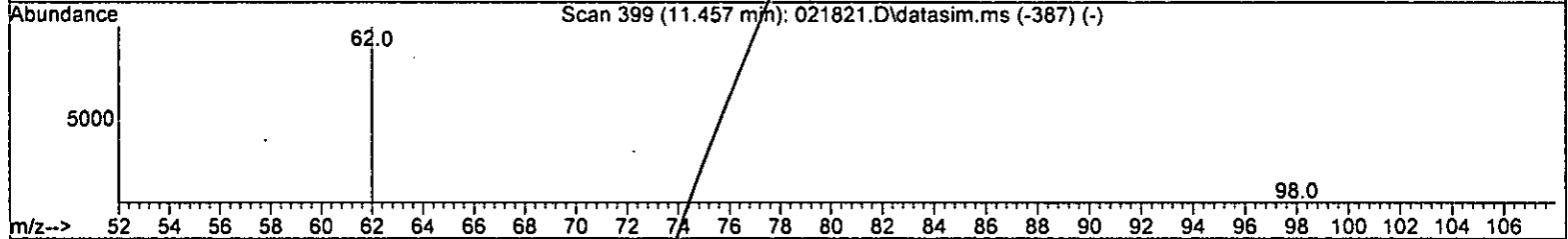
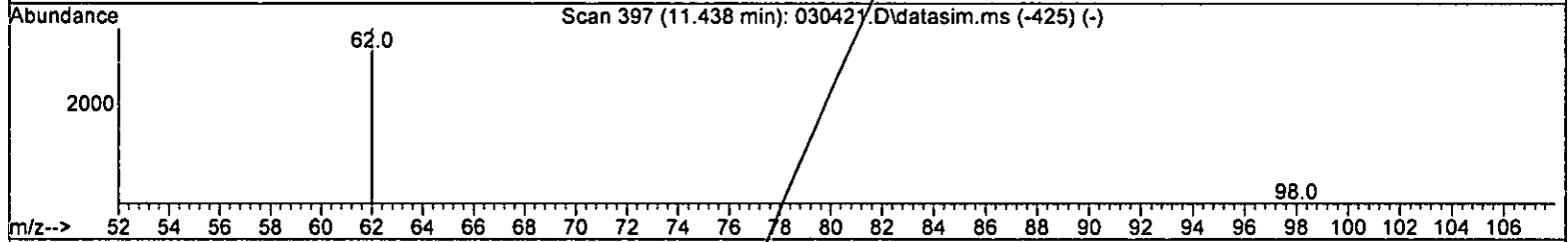
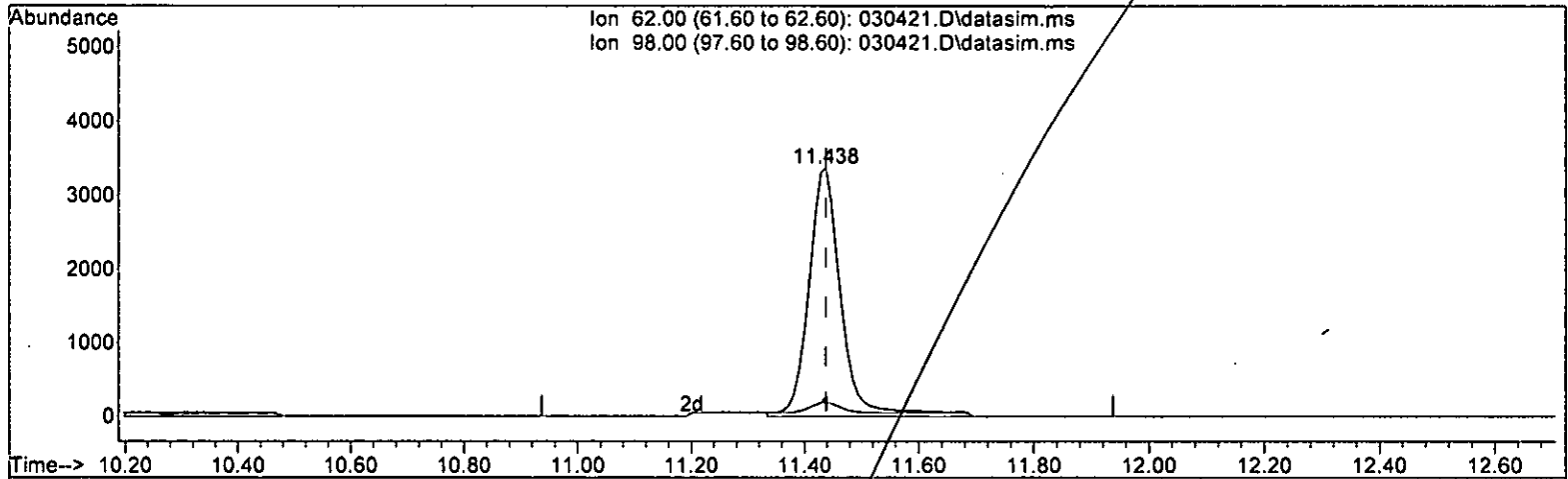
Ion	Exp%	Act%
43.00	100.00	100.00
88.00	1.70	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030421.D\data.ms

(34) 1,2-Dichloroethane (EDC) (TMP)

11.438min (+ 0.000) 0.533 ppbv

response 13535

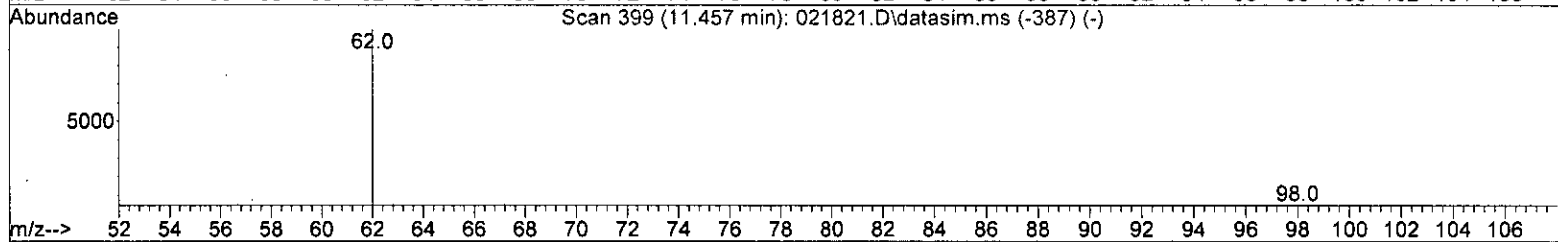
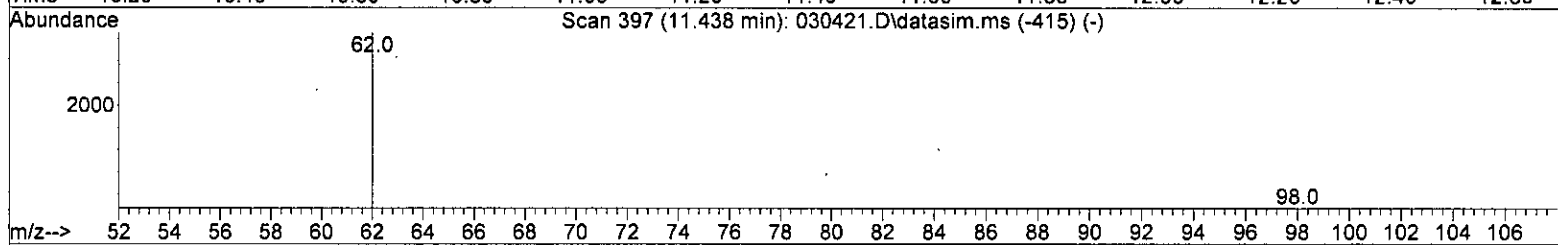
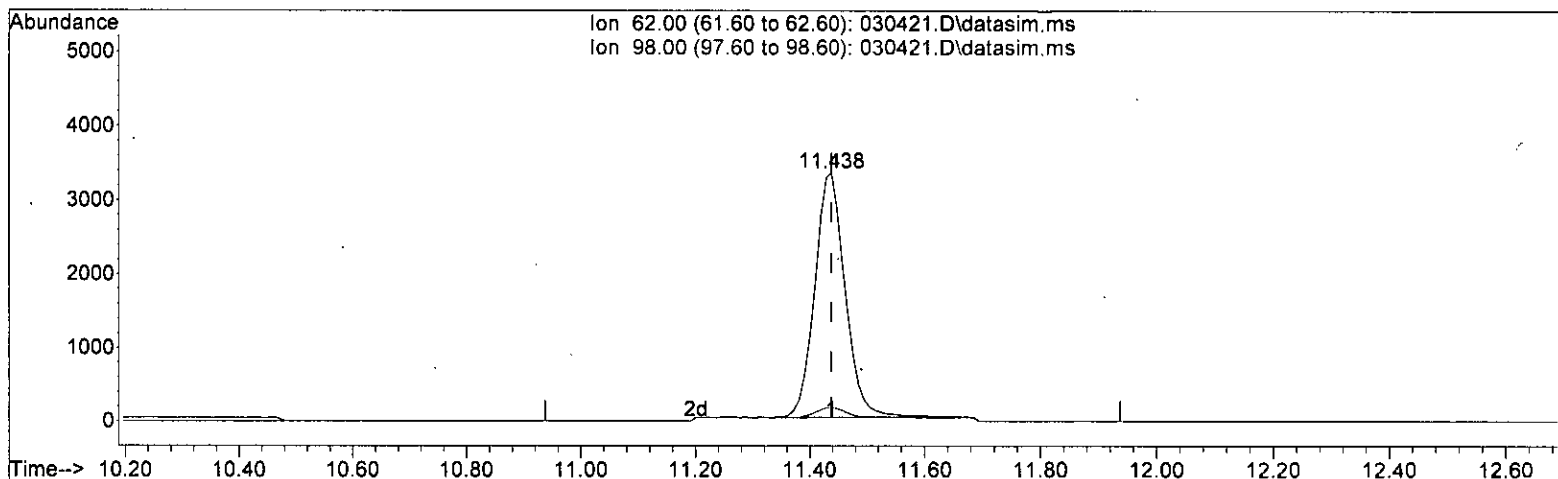
Ion	Exp%	Act%
62.00	100.00	100.00
98.00	5.30	5.55
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* 6/3/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:49:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030421.D\data.ms

(34) 1,2-Dichloroethane (EDC) (TMP)

11.438min (+ 0.000) 0.486 ppbv m

response 12337

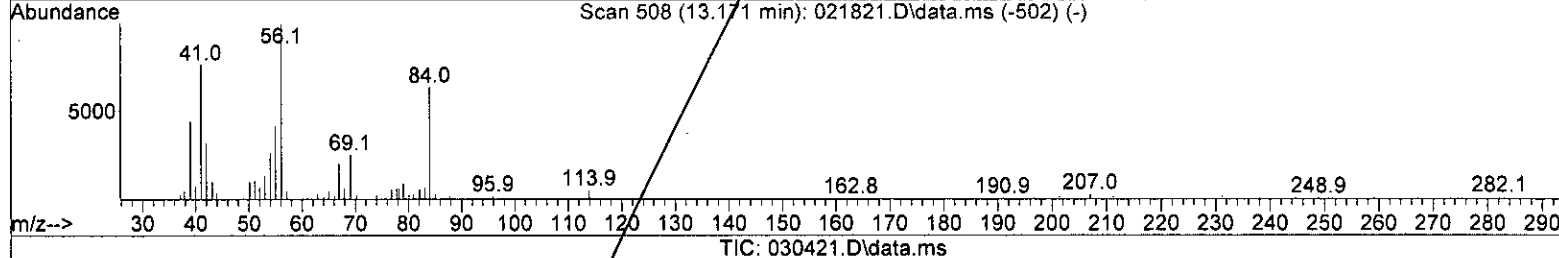
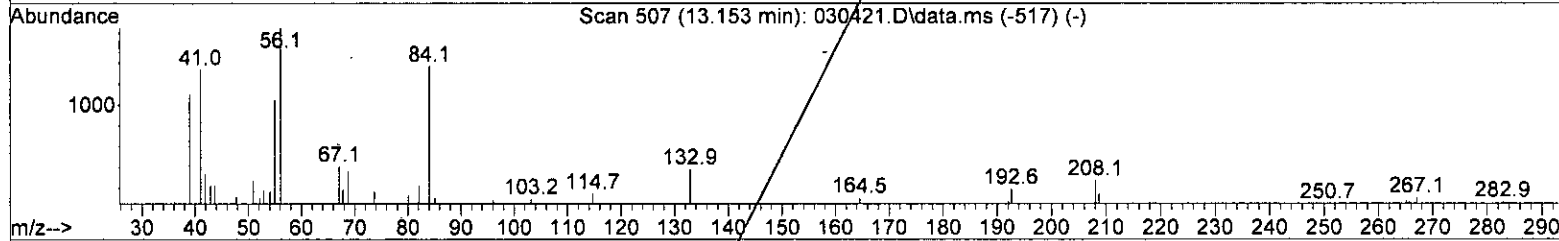
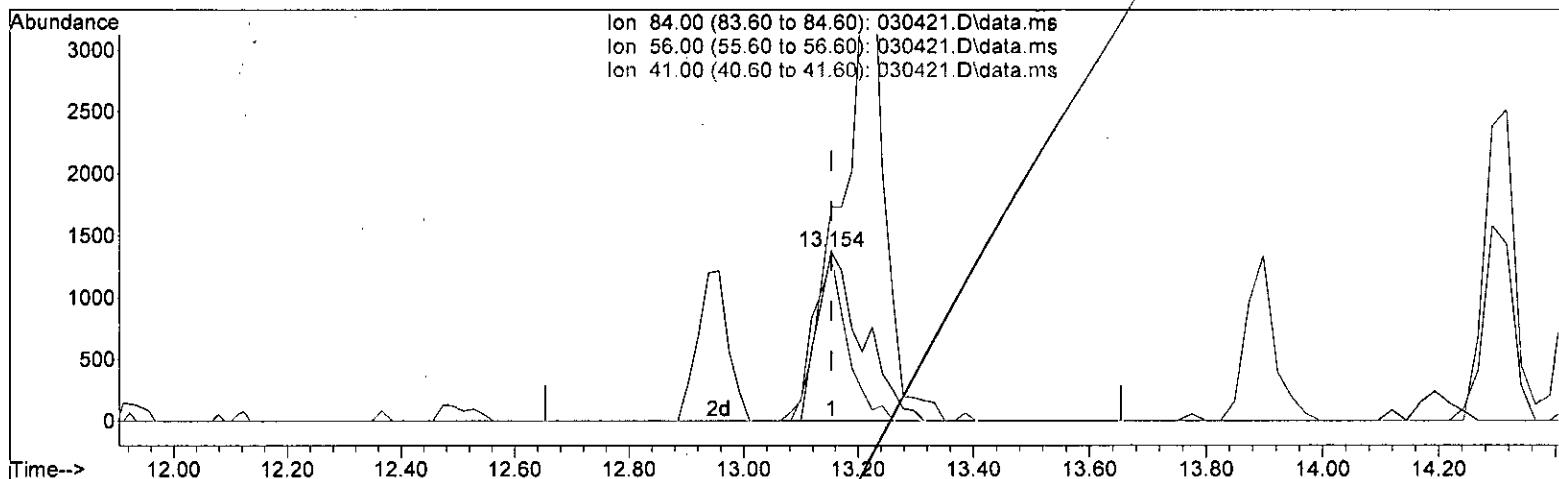
Ion	Exp%	Act%
62.00	100.00	100.00
98.00	5.30	5.55
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(38) Cyclohexane (TMP)

13.153min (-0.001) 0.673 ppbv  
 response 7516

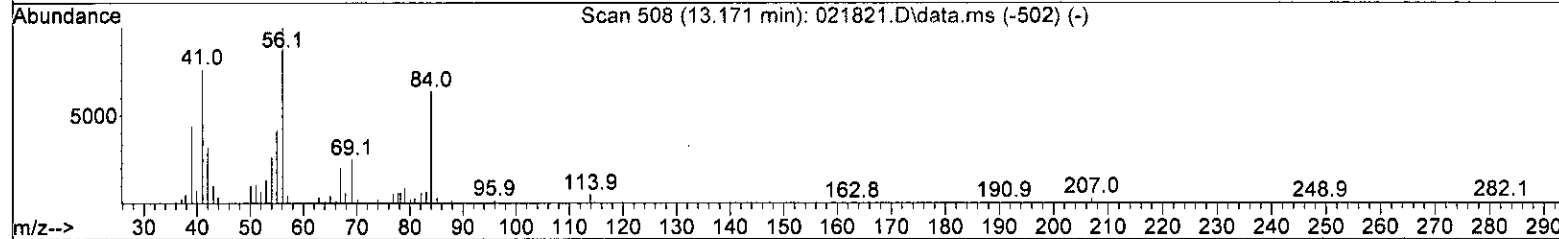
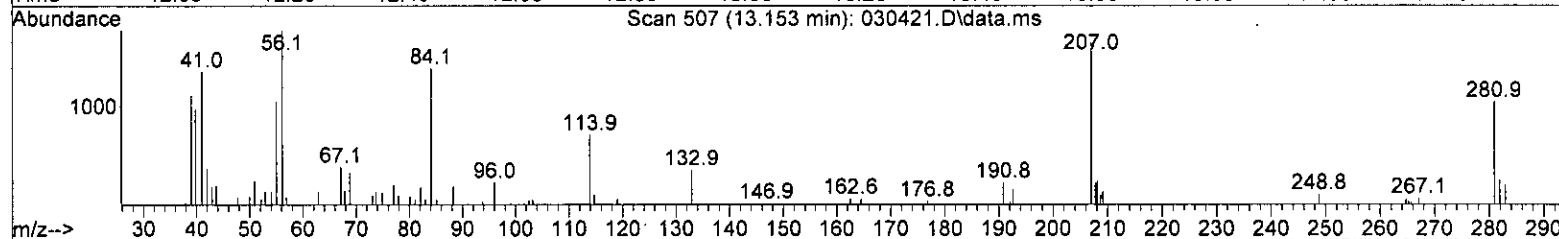
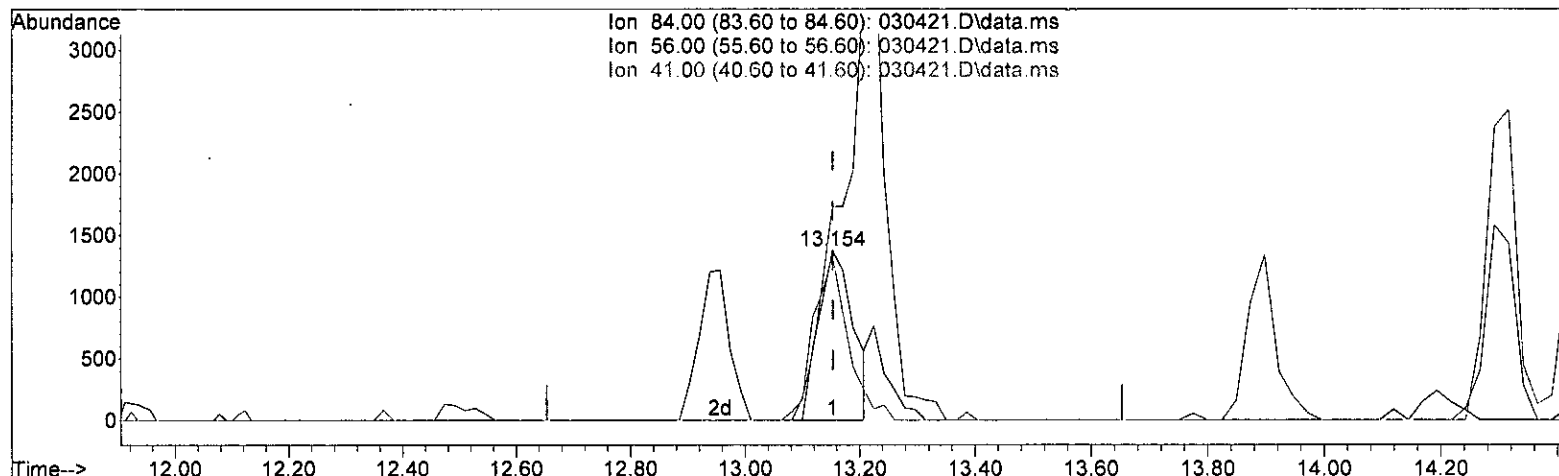
Ion	Exp%	Act%
84.00	100.00	100.00
56.00	174.40	126.66#
41.00	107.20	97.74
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(38) Cyclohexane (TMP)

13.153min (-0.001) 0.522 ppbv m

response 5833

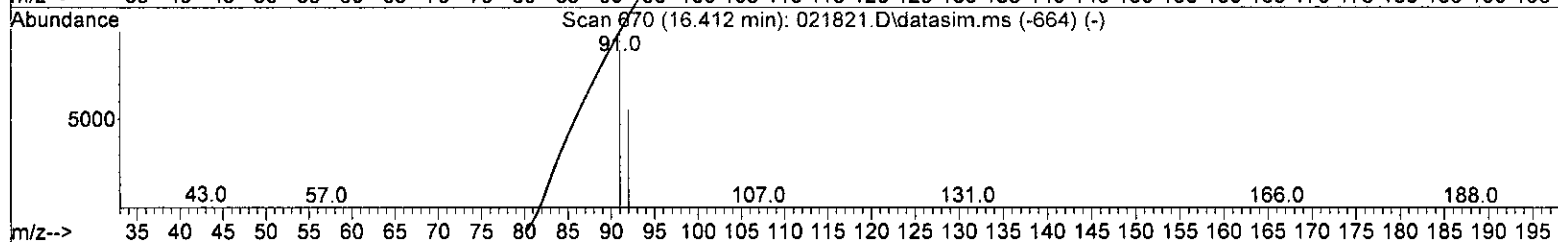
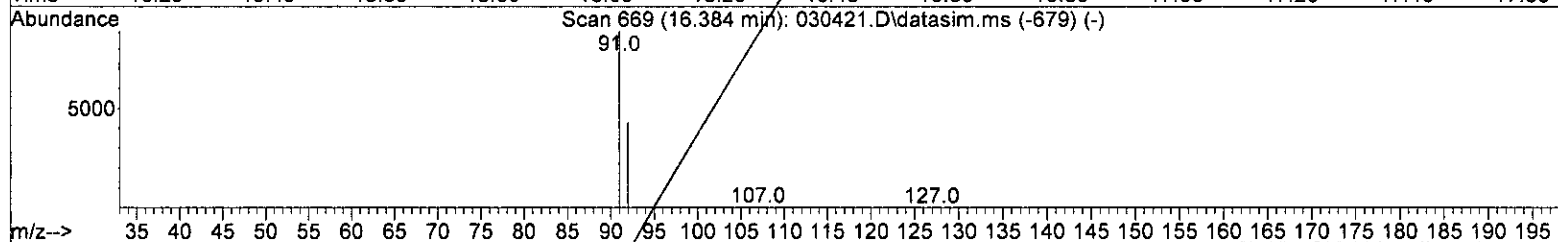
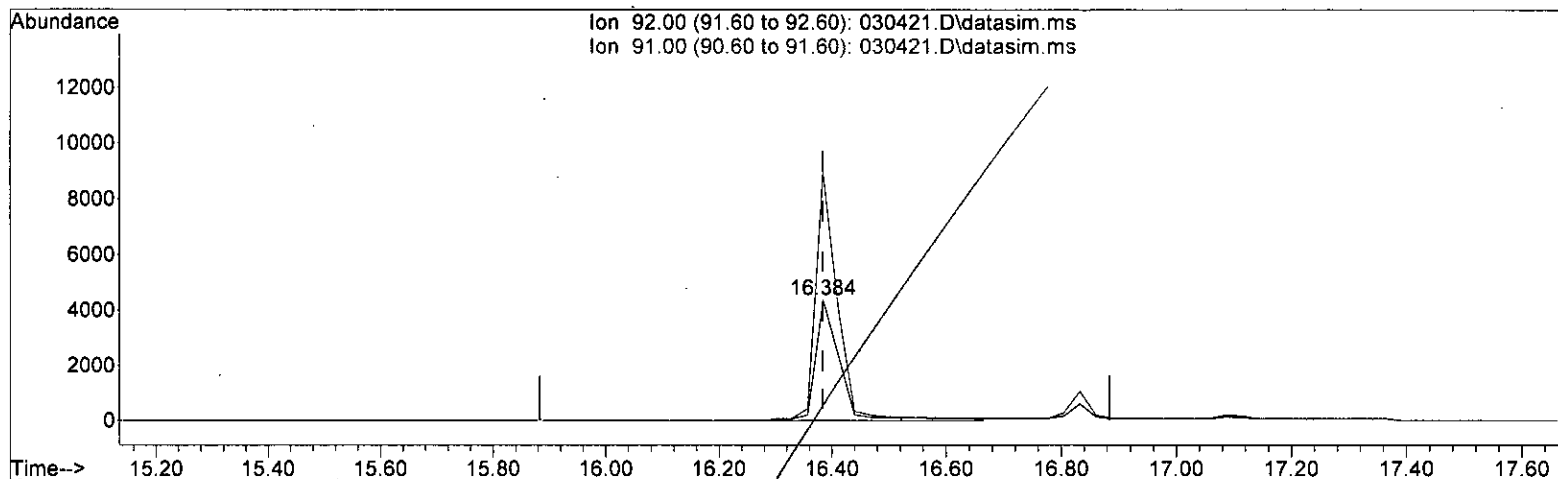
Ion	Exp%	Act%
84.00	100.00	100.00
56.00	174.40	126.66#
41.00	107.20	97.74
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit):

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030421.D\data.ms

(50) Toluene (TMP)

16.384min (+ 0.000) 0.557 ppbv

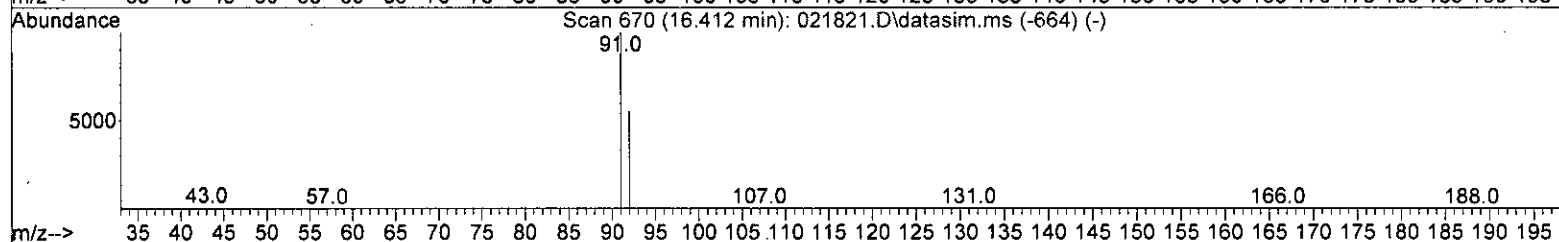
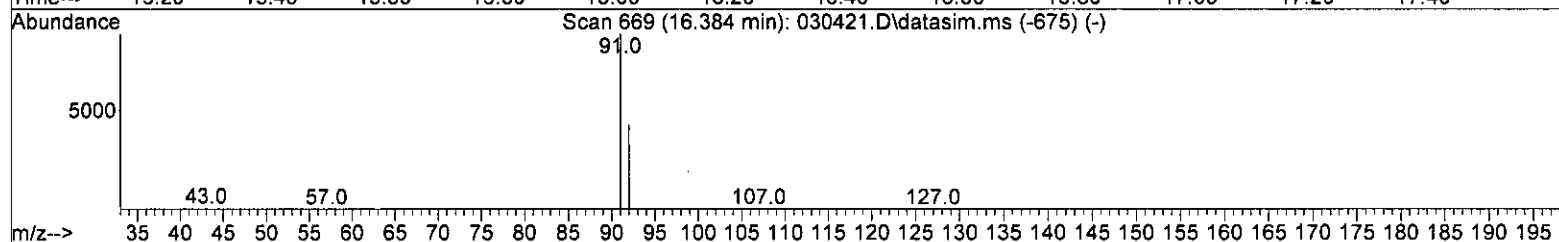
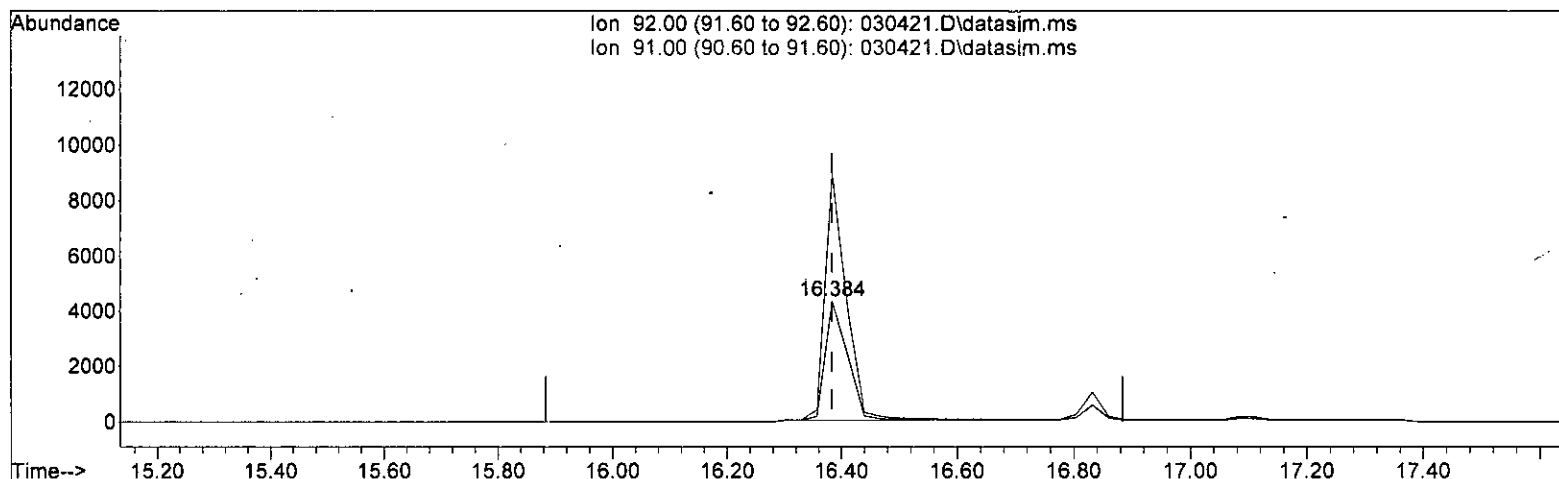
response	12744
Ion	Exp% Act%
92.00	100.00 100.00
91.00	204.60 205.54
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030421.D\data.ms

(50) Toluene (TMP)

16.384min (+ 0.000) 0.516 ppbv m

response 11805

Ion	Exp%	Act%
92.00	100.00	100.00
91.00	204.60	205.54
0.00	0.00	0.00
0.00	0.00	0.00

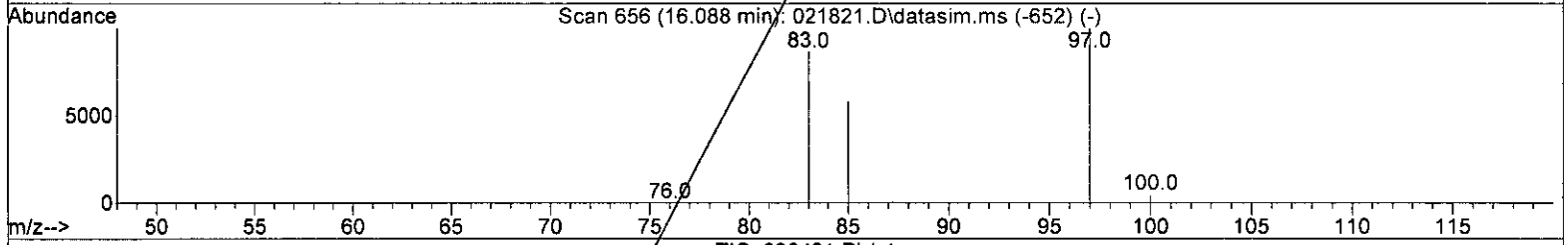
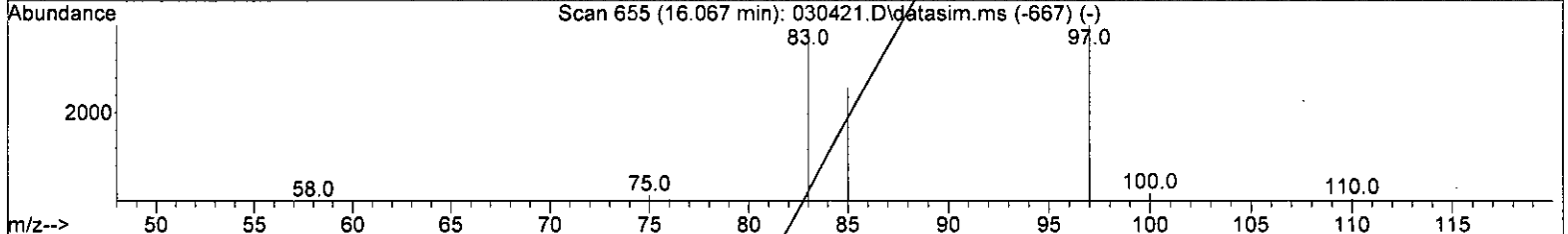
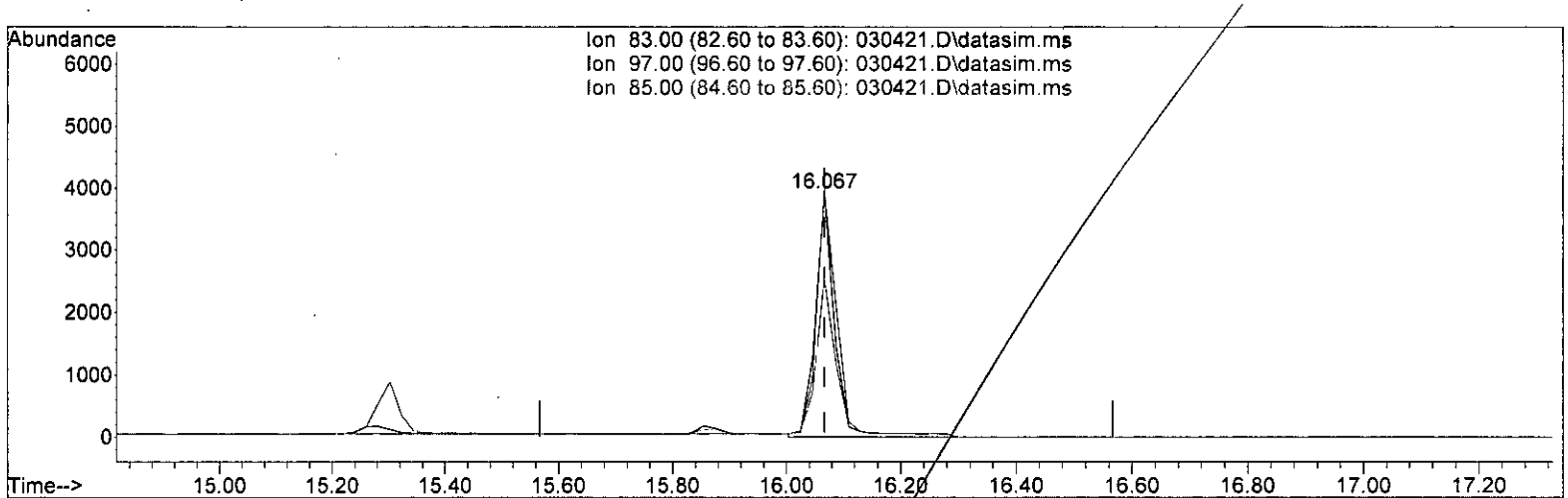
*Handwritten signature/initials*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030421.D\data.ms

(51) 1,1,2-Trichloroethane (TMP)

16.067min (-0.000) 0.578 ppbv

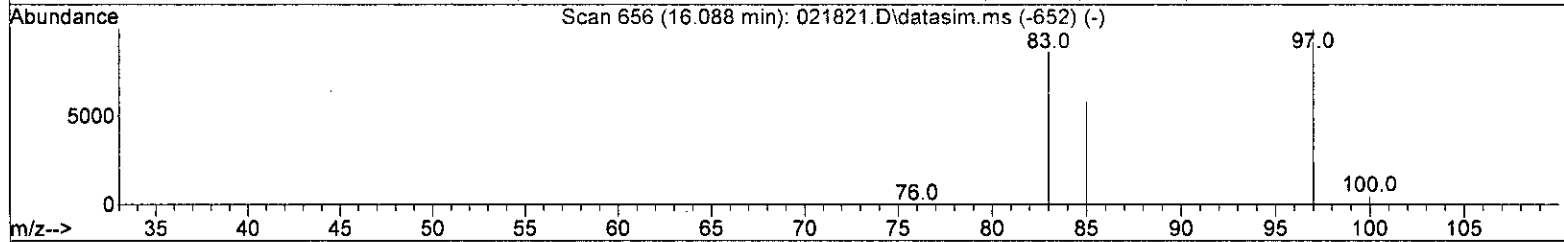
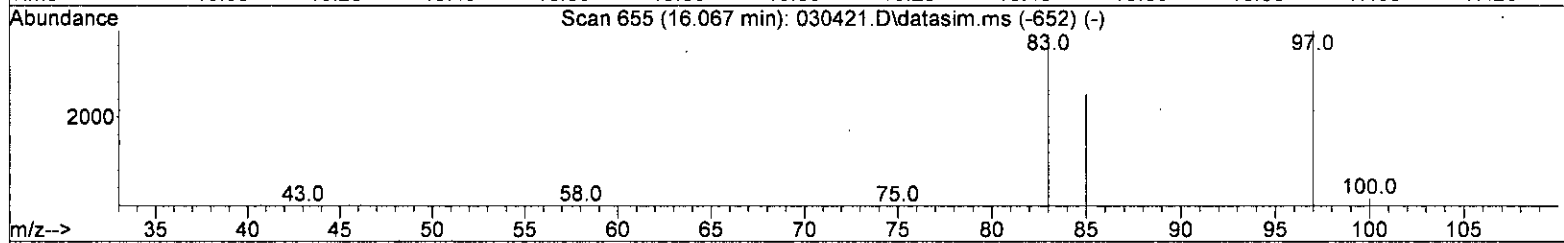
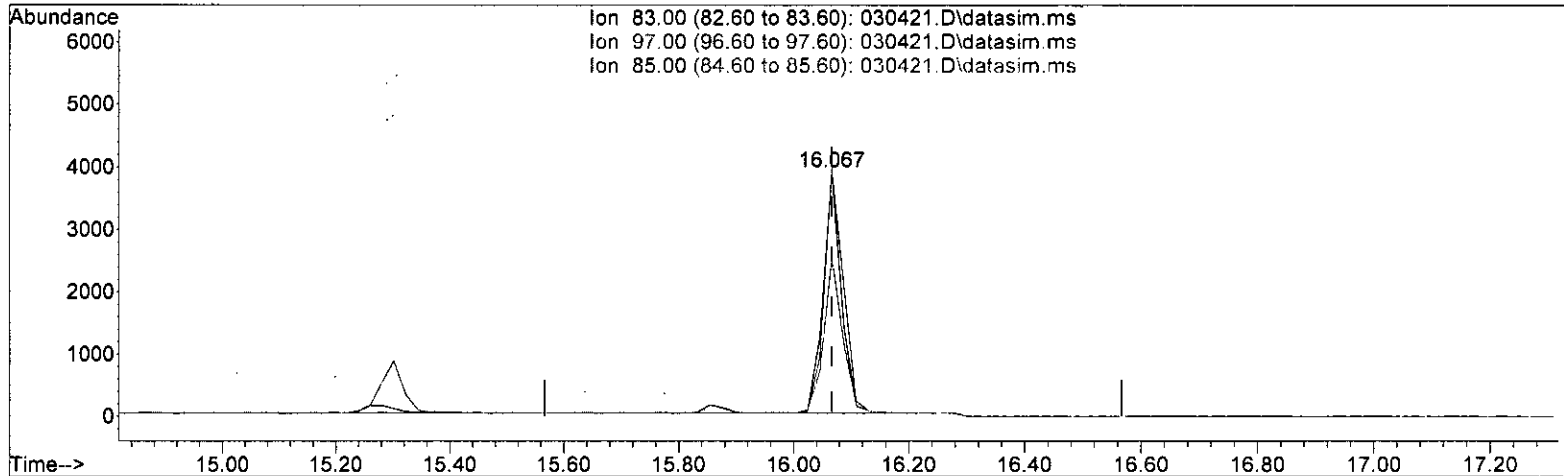
response	9587
Ion	Exp% Act%
83.00	100.00 100.00
97.00	81.80 102.12
85.00	60.50 65.53
0.00	0.00 0.00

*Handwritten note: 12/3/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030421.D\data.ms

(51) 1,1,2-Trichloroethane (TMP)

16.067min (-0.000) 0.515 ppbv m

response 8534

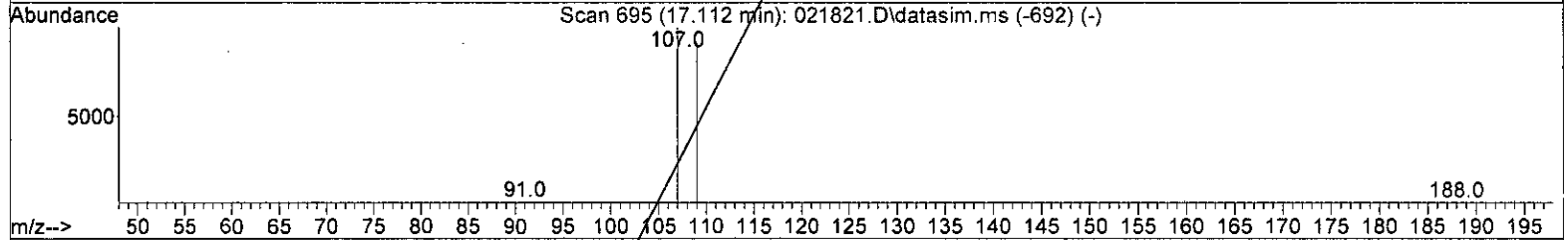
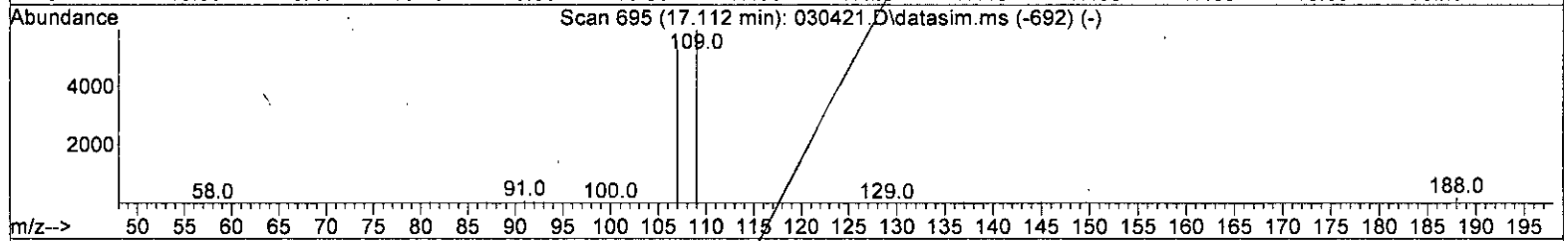
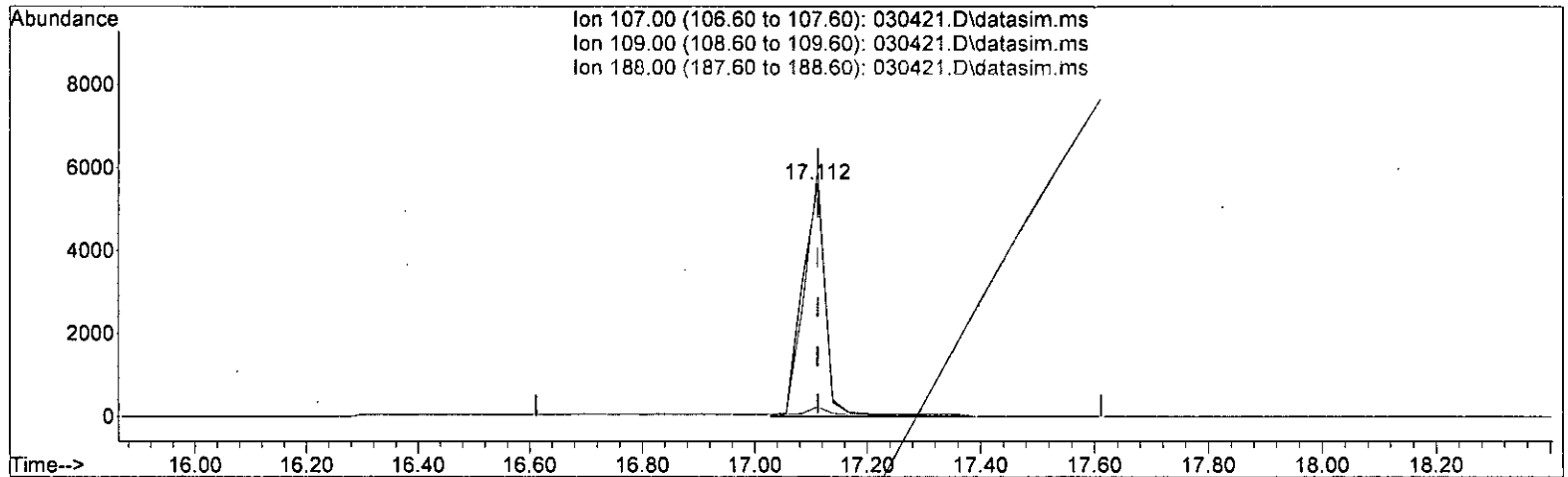
Ion	Exp%	Act%
83.00	100.00	100.00
97.00	81.80	102.12
85.00	60.50	65.53
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030421.D\data.ms

(55) 1,2-Dibromoethane (EDB) (TMP)

17.112min (+ 0.000) . 0.534 ppbv

response 15651

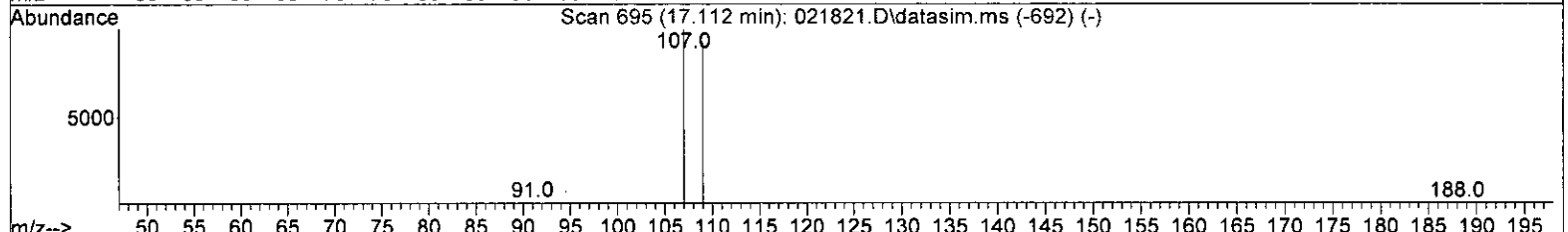
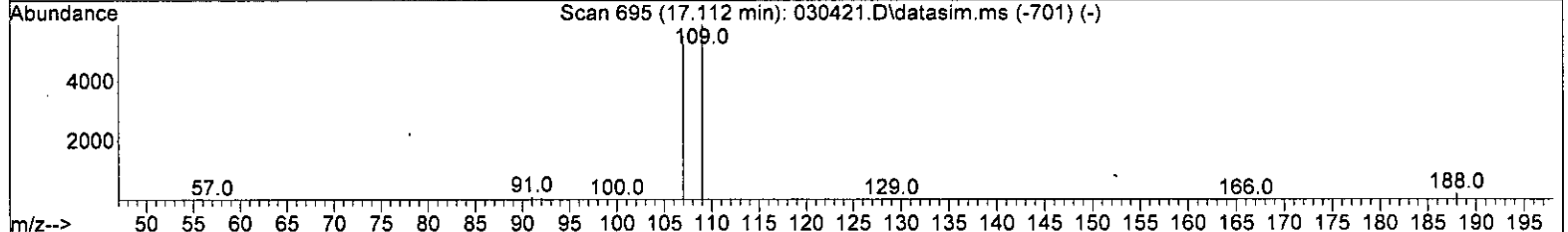
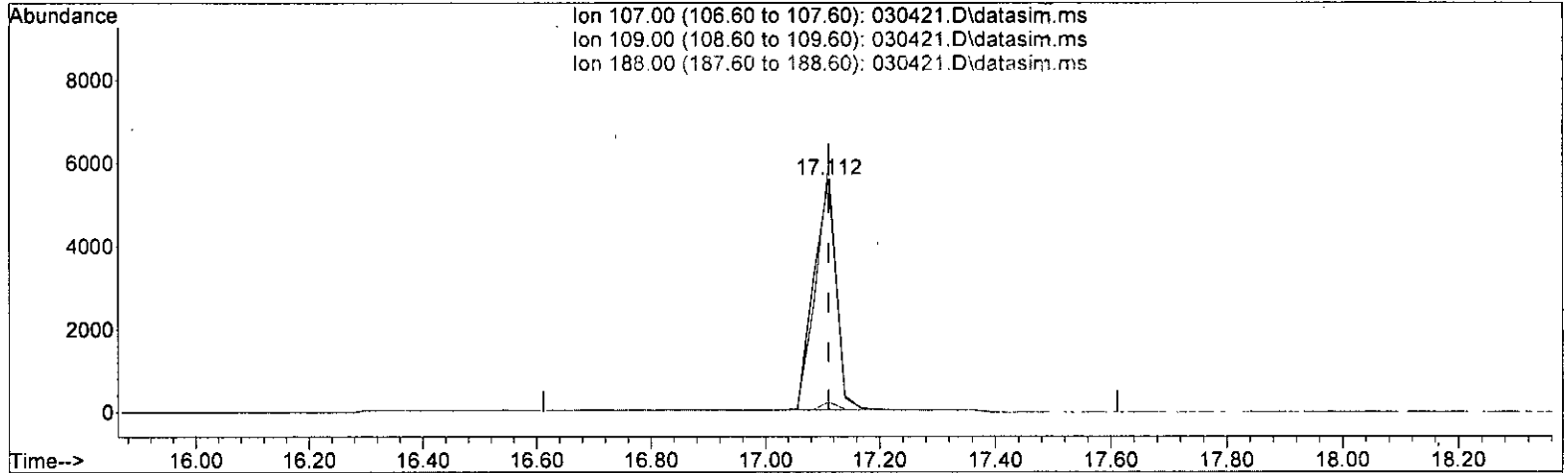
Ion	Exp%	Act%
107.00	100.00	100.00
109.00	104.60	106.65
188.00	2.70	4.23
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030421.D\data.ms

(55) 1,2-Dibromoethane (EDB) (TMP)

17.112min (+ 0.000) 0.520 ppbv m

response 15251

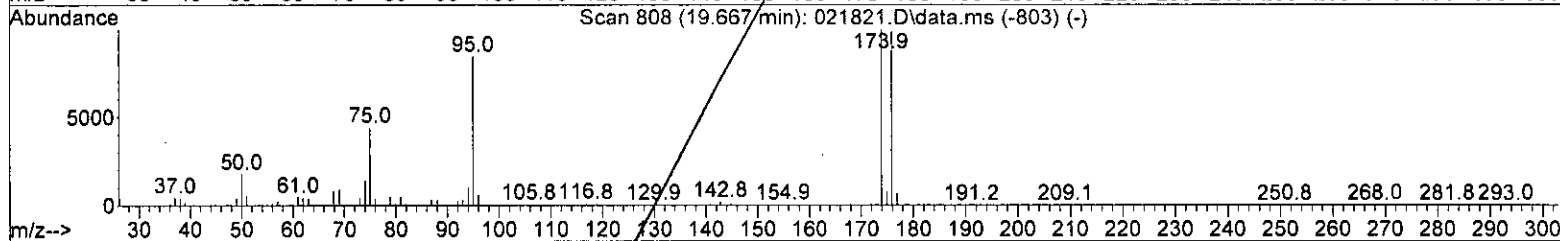
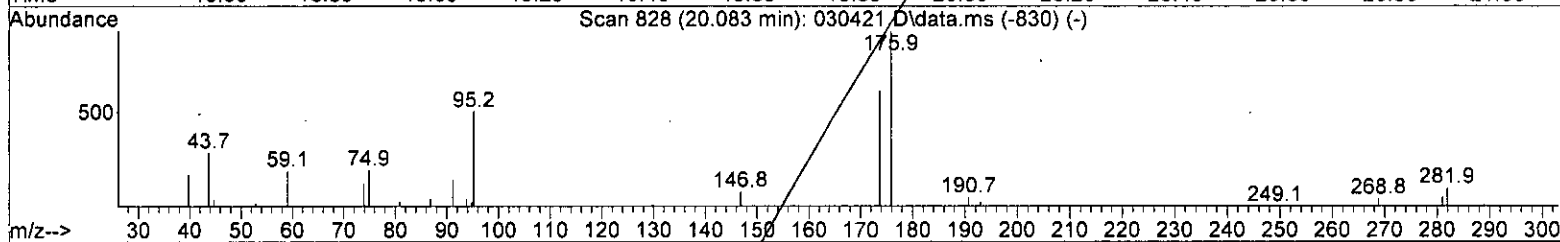
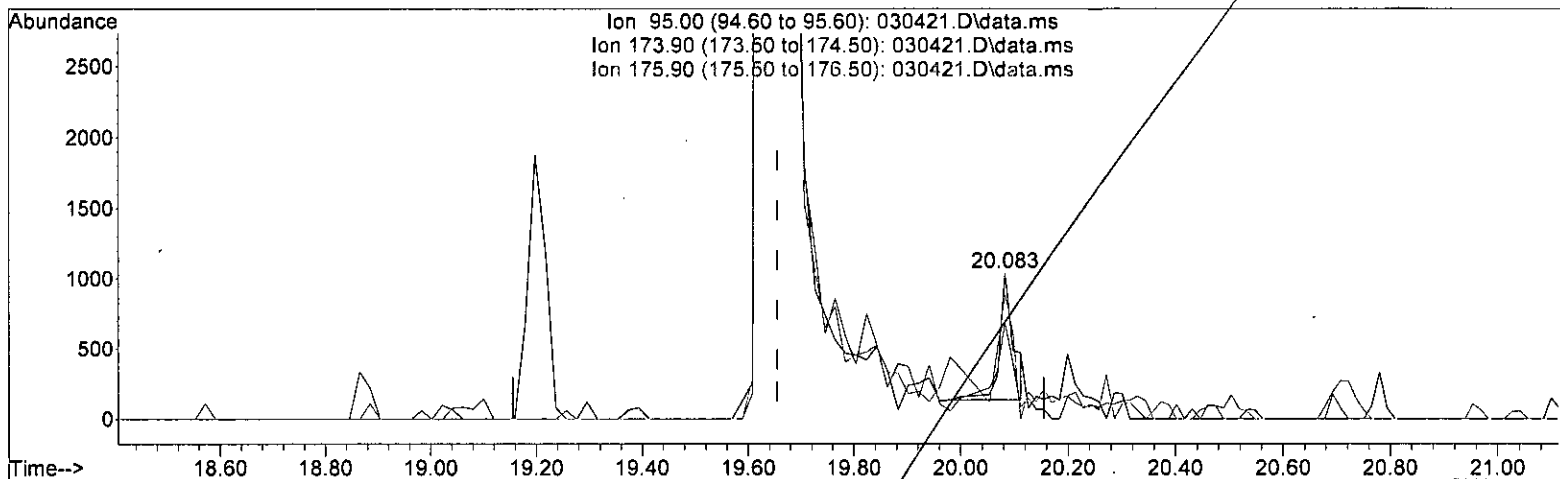
Ion	Exp%	Act%
107.00	100.00	100.00
109.00	104.60	106.65
188.00	2.70	4.23
0.00	0.00	0.00

*Handwritten signature and date: 3/7/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030421.D\data.ms

(69) 4-Bromofluorobenzene (S)

20.083min (+ 0.428) 0.074 ppbv

response 2395

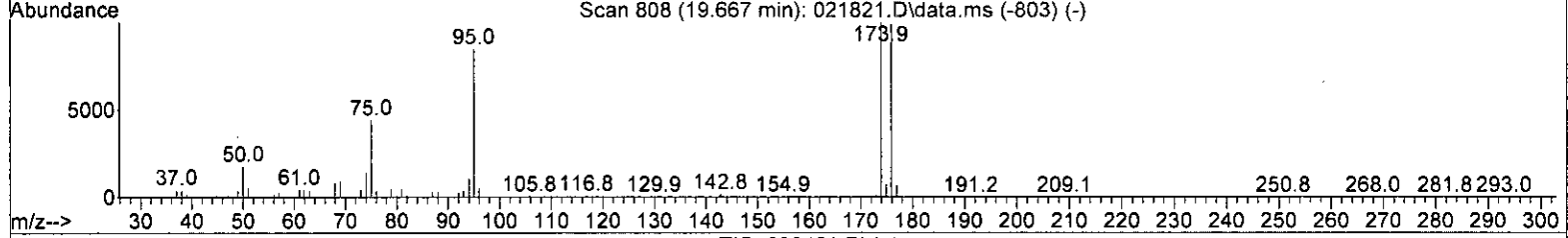
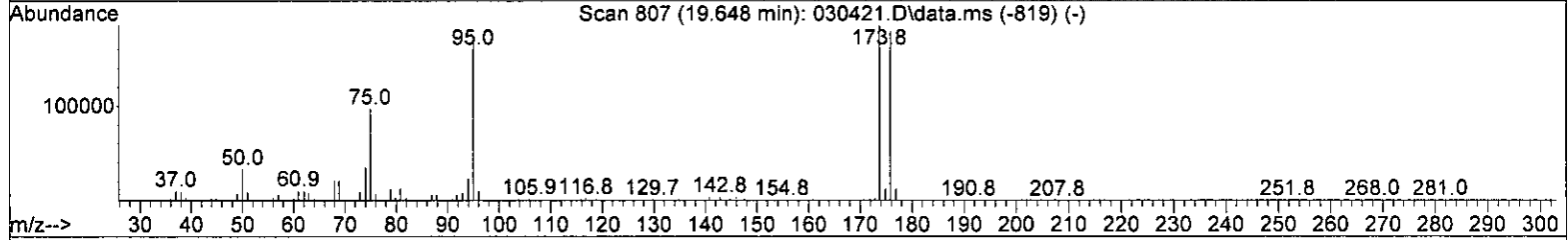
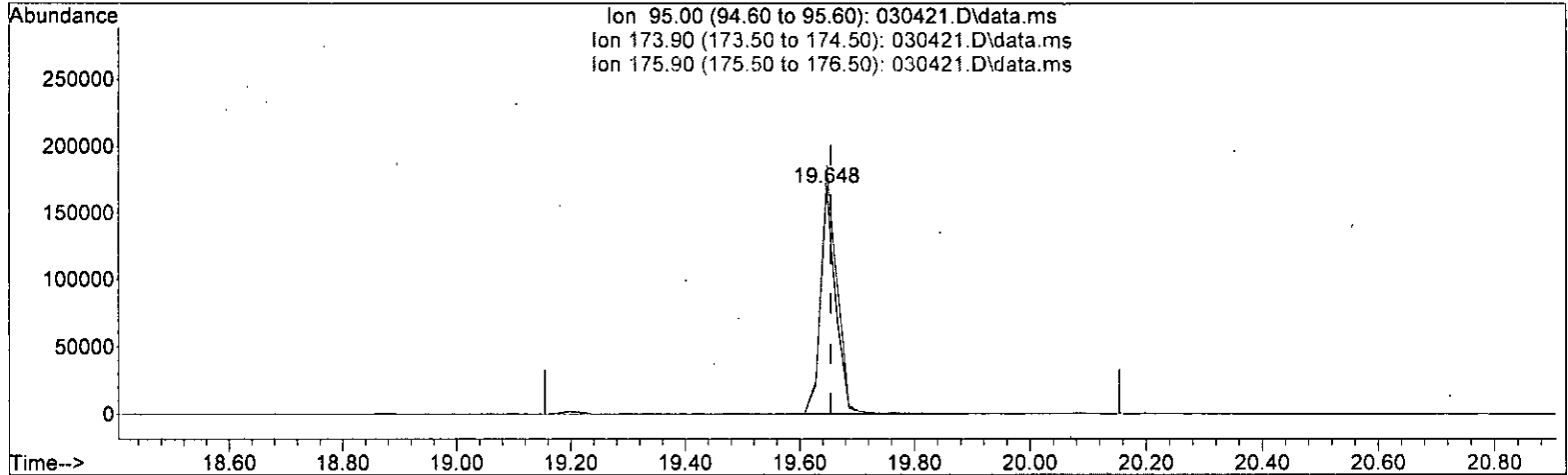
Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	69.43
175.90	70.90	97.79
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030421.D\data.ms

(69) 4-Bromofluorobenzene (S)

19.648min (-0.007) 9.848 ppbv m

response 318506

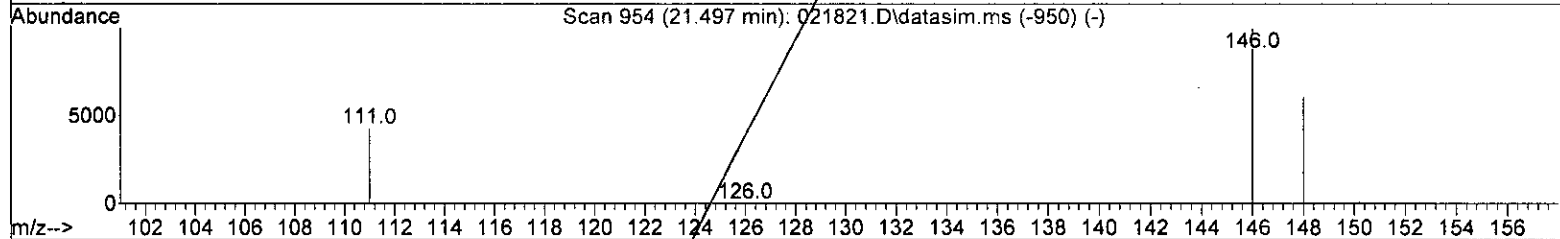
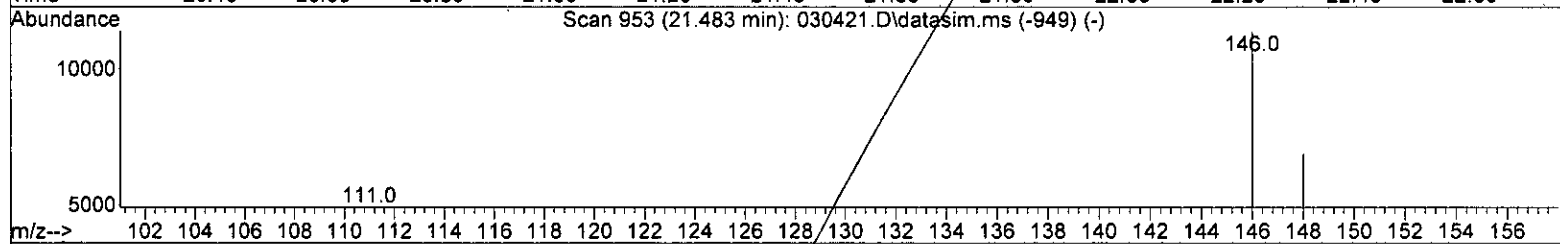
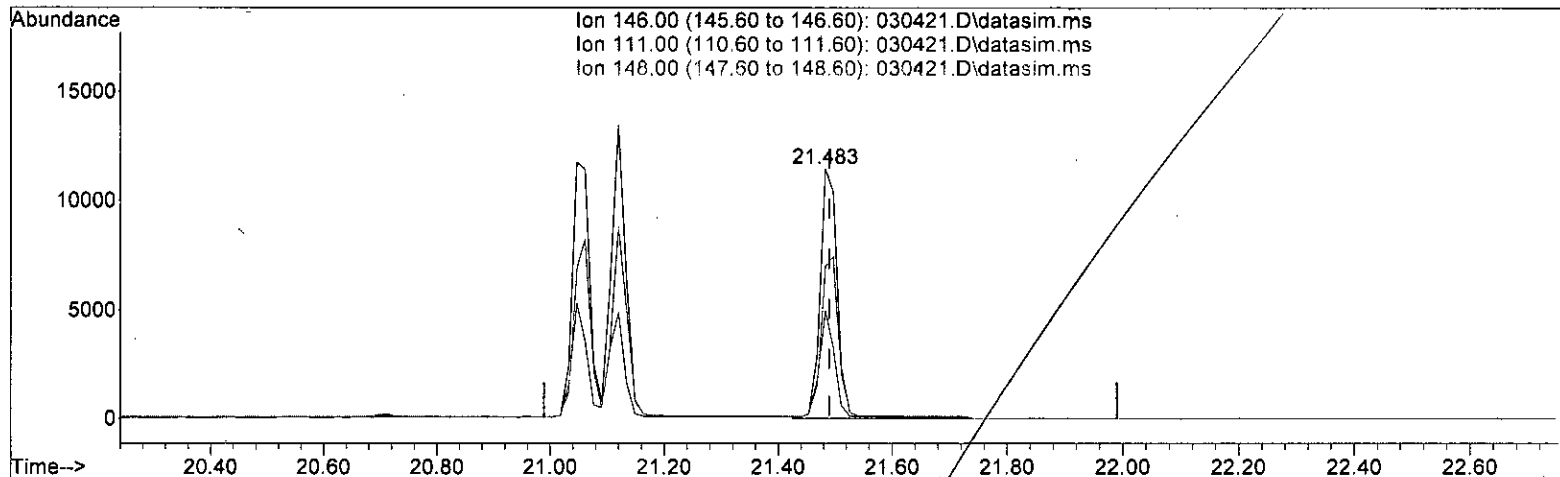
*Handwritten signature*  
 3/7/22

Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	110.05#
175.90	70.90	106.18#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(75) 1,2-Dichlorobenzene (TMP)

21.483min (-0.007) 0.490 ppbv

response 24629

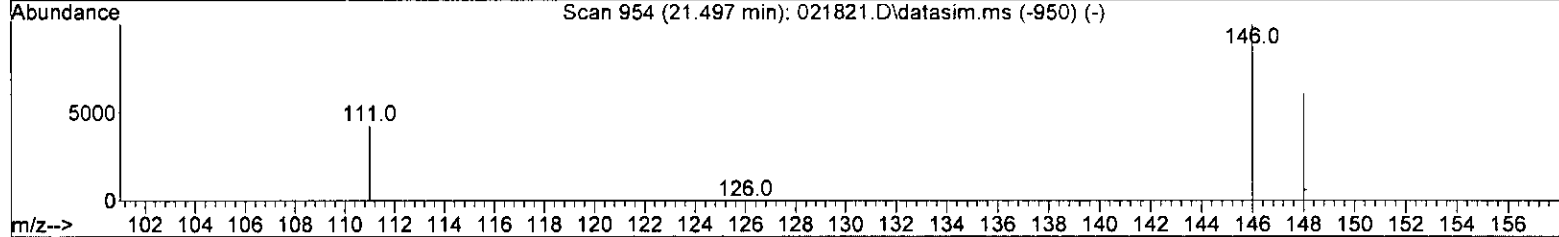
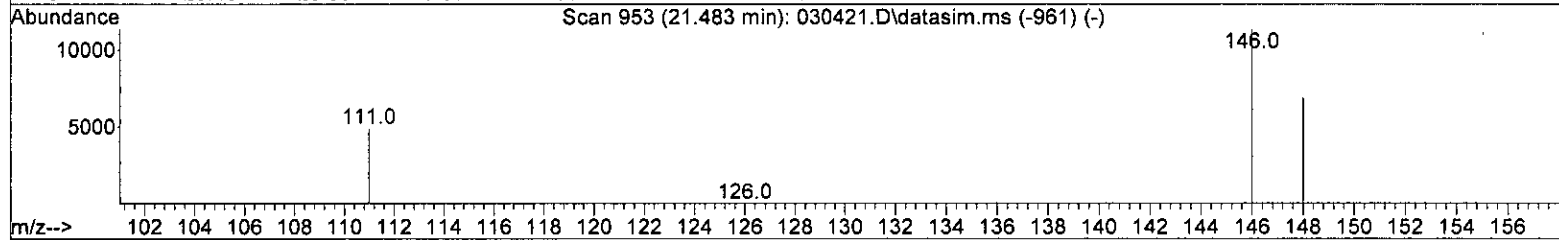
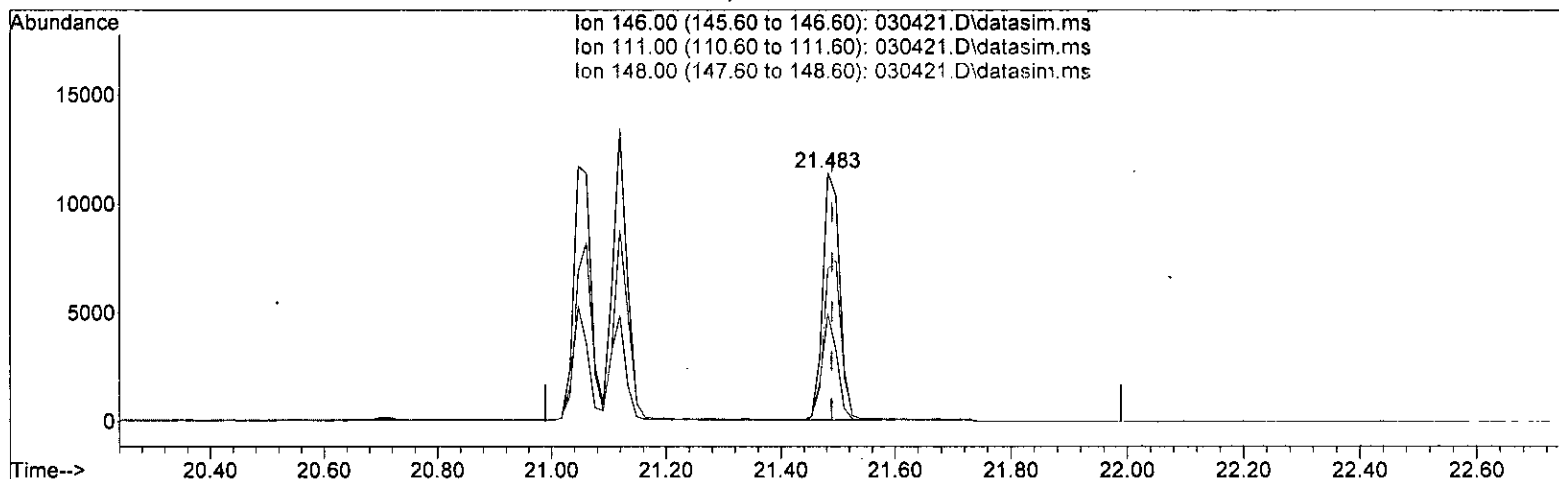
Ion	Exp%	Act%
146.00	100.00	100.00
111.00	42.90	43.38
148.00	63.20	61.02
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File.: 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:14 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030421.D\data.ms

(75) 1,2-Dichlorobenzene (TMP)

21.483min (-0.007) 0.477 ppbv m

response 23982

Ion	Exp%	Act%
146.00	100.00	100.00
111.00	42.90	43.38
148.00	63.20	61.02
0.00	0.00	0.00

*Handwritten signature/initials*



Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:49:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
<b>Internal Standards</b>						
1) Bromochloromethane	9.98	128	113446	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	445465	10.000	ppbv	0.02
56) Chlorobenzene-d5	18.22	117	435827	10.000	ppbv	0.01
<b>System Monitoring Compounds</b>						
69) 4-Bromofluorobenzene	19.65	95	318506m	9.848	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	98.50%
<b>Target Compounds</b>						
						Qvalue
2) Propene	3.47	41	2520	0.403	ppbv	# 31
3) Dichlorodifluoromethane	3.55	85	26795	0.517	ppbv	96
4) Chloromethane	3.80	50	4306m	0.489	ppbv	
5) F-114	3.91	85	23017	0.593	ppbv	99
6] Vinyl chloride	4.08	62	5930	0.483	ppbv	98
7] 1,3-Butadiene	4.27	54	3221	0.469	ppbv	# 81
8) Butane	4.35	43	6991	0.531	ppbv	# 80
9) Bromomethane	4.67	94	7048	0.520	ppbv	96
10] Chloroethane	4.87	64	2136m	0.477	ppbv	
11] Vinyl bromide	5.34	106	7368	0.505	ppbv	# 72
12) Ethanol	0.00		0	N.D.	d	
13] Acrolein	5.46	56	1264	0.485	ppbv	# 62
14) Pentane	6.35	43	6838	0.529	ppbv	97
15) Trichlorofluoromethane	5.89	101	29572	0.514	ppbv	88
16) Acetone	5.63	58	2286	0.498	ppbv	# 73
17) 2-Propanol	5.89	45	9360	0.528	ppbv	99
18] 1,1-Dichloroethene	6.73	96	6584	0.462	ppbv	90
19] trans-1,2-Dichloroethene	8.17	96	6411	0.473	ppbv	# 76
20) Methylene chloride	6.85	84	8096	0.625	ppbv	84
21) t-Butyl alcohol (TBA)	6.67	59	12274	0.523	ppbv	98
22) 3-Chloropropene	7.01	41	6901	0.491	ppbv	# 61
23) CFC-113	7.25	101	18987	0.506	ppbv	# 75
24) Carbon disulfide	7.03	76	3392	0.556	ppbv	60
25) Methyl t-butyl ether (...)	8.53	73	17034	0.504	ppbv	98
26) Vinyl acetate	8.64	43	5941	0.517	ppbv	87
27] 1,1-Dichloroethane	8.46	63	12189	0.491	ppbv	96
28] cis-1,2-Dichloroethene	9.71	96	6578	0.460	ppbv	97
29) Hexane	10.10	57	6138	0.488	ppbv	90
30] Chloroform	10.18	83	18727	0.507	ppbv	100
31) Ethyl acetate	10.05	43	13910m	0.443	ppbv	
32) Tetrahydrofuran	10.87	42	5214	0.527	ppbv	88
33) 2-Butanone (MEK)	9.06	72	1735	0.333	ppbv	# 3
34] 1,2-Dichloroethane (EDC)	11.44	62	12337m	0.486	ppbv	
35] 1,1,1-Trichloroethane	11.92	97	19881	0.495	ppbv	95
36] Carbon tetrachloride	12.94	117	23280	0.495	ppbv	100
37] Benzene	12.69	78	19448	0.485	ppbv	90
38) Cyclohexane	13.15	84	5833m	0.522	ppbv	
40] 1,2-Dichloropropane	13.88	63	7834	0.534	ppbv	67
41] 1,4-Dioxane	14.17	88	4041	0.518	ppbv	82
42) 2,2,4-Trimethylpentane	14.29	57	21741	0.567	ppbv	# 77

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

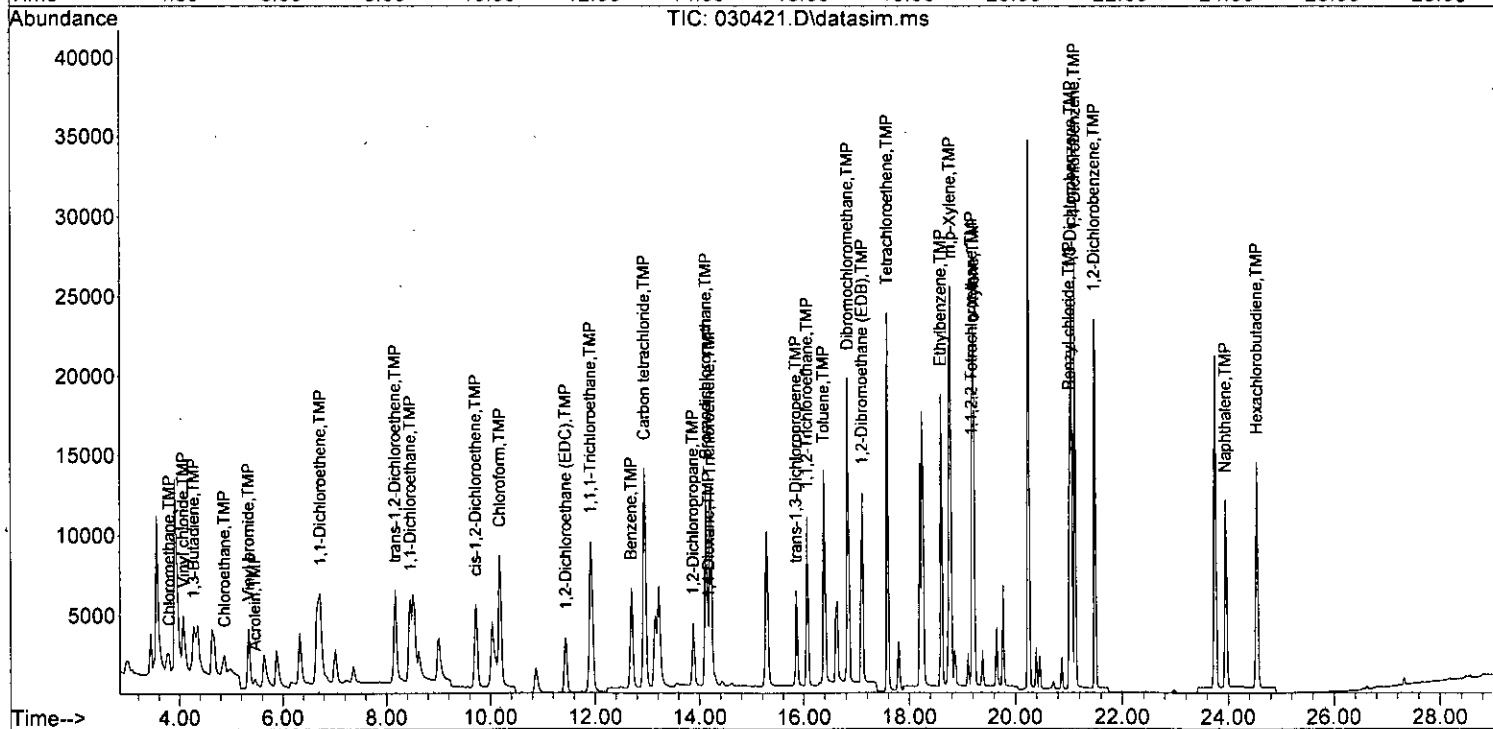
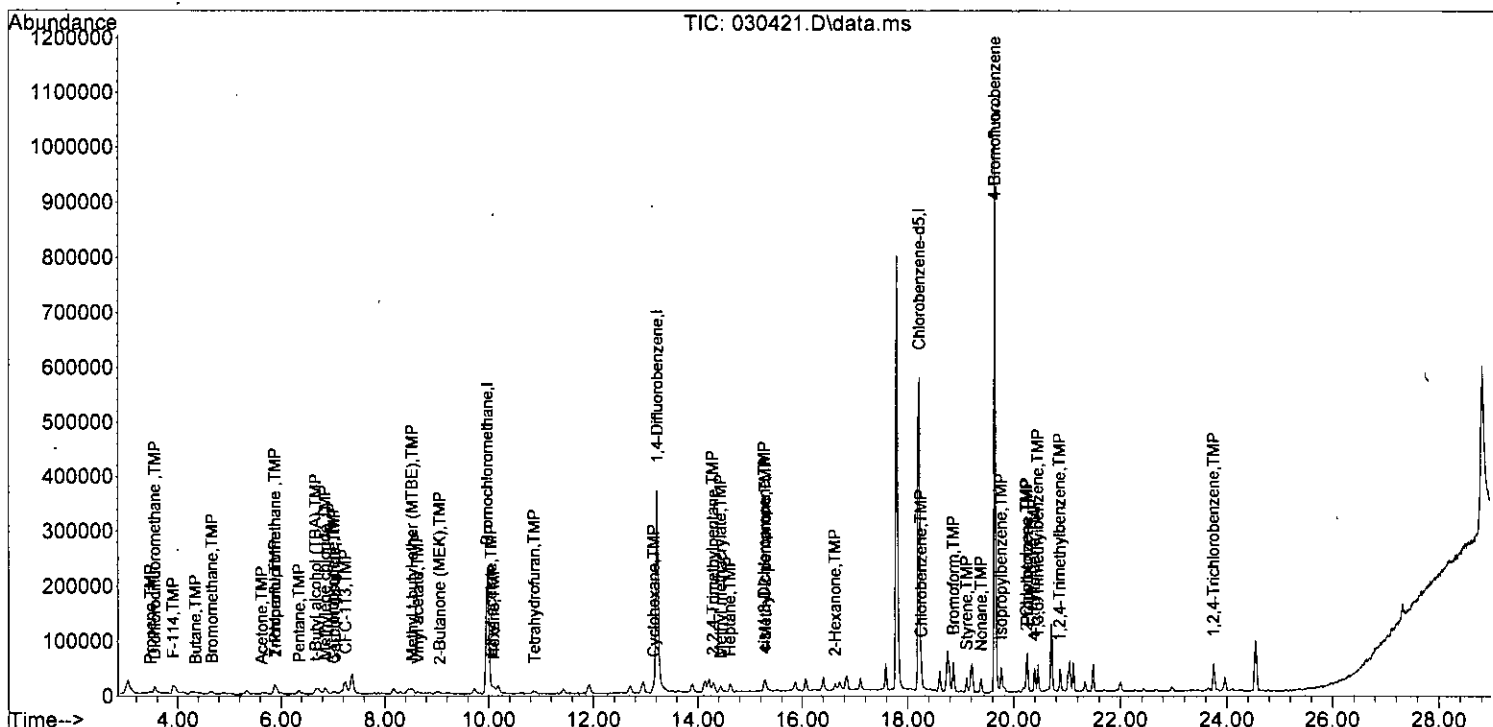
Quant Time: Mar 07 16:49:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.44	41	6635	0.504	ppbv #	58
44) Heptane	14.61	43	7936	0.545	ppbv	94
45) Bromodichloromethane	14.13	83	19398	0.528	ppbv	94
46) Trichloroethene	14.20	95	11363	0.507	ppbv	83
47) cis-1,3-Dichloropropene	15.27	75	13553	0.575	ppbv	91
48) 4-Methyl-2-pentanone	15.30	100	659	0.390	ppbv #	71
49) trans-1,3-Dichloropropene	15.85	75	11606	0.513	ppbv	87
50) Toluene	16.38	92	11805m	0.516	ppbv	
51) 1,1,2-Trichloroethane	16.07	83	8534m	0.515	ppbv	
52) 2-Hexanone	16.63	43	11253	0.522	ppbv	96
53) Tetrachloroethene	17.58	164	12396	0.548	ppbv	91
54) Dibromochloromethane	16.83	129	21248	0.525	ppbv	100
55) 1,2-Dibromoethane (EDB)	17.11	107	15251m	0.520	ppbv	
57) Chlorobenzene	18.26	112	20083	0.494	ppbv	95
58) Ethylbenzene	18.60	91	29222	0.465	ppbv	98
59) 1,1,2,2-Tetrachloroethane	19.18	83	20936	0.484	ppbv	93
60) Nonane	19.39	43	11099	0.454	ppbv	89
61) Isopropylbenzene	19.77	105	33001	0.451	ppbv	96
62) 2-Chlorotoluene	20.24	126	8617	0.457	ppbv	80
63) Propylbenzene	20.26	91	63270	0.470	ppbv	99
64) 4-Ethyltoluene	20.39	105	30580	0.440	ppbv	98
65) m,p-Xylene	18.77	106	20962	0.889	ppbv	99
66) o-Xylene	19.22	106	9942	0.453	ppbv	97
67) Styrene	19.12	104	16018	0.485	ppbv	87
68) Bromoform	18.87	173	28235	0.506	ppbv	97
70) Benzyl chloride	21.02	91	25269	0.459	ppbv	97
71) 1,3,5-Trimethylbenzene	20.46	105	27567	0.441	ppbv	99
72) 1,2,4-Trimethylbenzene	20.87	105	25274	0.427	ppbv	92
73) 1,3-Dichlorobenzene	21.05	146	25037	0.482	ppbv	96
74) 1,4-Dichlorobenzene	21.12	146	23261	0.441	ppbv	97
75) 1,2-Dichlorobenzene	21.48	146	23982m	0.477	ppbv	
76) 1,2,4-Trichlorobenzene	23.75	180	23256	0.512	ppbv	92
77) Naphthalene	23.95	128	24699	0.491	ppbv	97
78) Hexachlorobutadiene	24.54	225	31627	0.524	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:49:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15sss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:49:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev (min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	0.500	0.403	19.4	100	0.00
3 TMP	Dichlorodifluoromethane	0.500	0.517	-3.4	100	0.00
4 TMP	Chloromethane	0.500	0.489	2.2	98	0.00
5 TMP	F-114	0.500	0.593	-18.6	100	0.00
6 TMP	Vinyl chloride	0.500	0.483	3.4	100	0.00
7 TMP	1,3-Butadiene	0.500	0.469	6.2	100	0.00
8 TMP	Butane	0.500	0.531	-6.2	100	0.00
9 TMP	Bromomethane	0.500	0.520	-4.0	100	0.00
10 TMP	Chloroethane	0.500	0.477	4.6	91	0.00
11 TMP	Vinyl bromide	0.500	0.505	-1.0	103	0.00
12 TMP	Ethanol	0.500	0.000	100.0#	0	-4.98#
13 TMP	Acrolein	0.500	0.485	3.0	100	0.00
14 TMP	Pentane	0.500	0.529	-5.8	100	0.00
15 TMP	Trichlorofluoromethane	0.500	0.514	-2.8	100	0.00
16 TMP	Acetone	0.500	0.498	0.4	100	0.00
17 TMP	2-Propanol	0.500	0.528	-5.6	100	0.00
18 TMP	1,1-Dichloroethene	0.500	0.462	7.6	100	0.00
19 TMP	trans-1,2-Dichloroethene	0.500	0.473	5.4	100	0.00
20 TMP	Methylene chloride	0.500	0.625	-25.0	100	0.00
21 TMP	t-Butyl alcohol (TBA)	0.500	0.523	-4.6	100	0.00
22 TMP	3-Chloropropene	0.500	0.491	1.8	100	-0.03
23 TMP	CFC-113	0.500	0.506	-1.2	100	0.00
24 TMP	Carbon disulfide	0.500	0.556	-11.2	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	0.500	0.504	-0.8	100	0.00
26 TMP	Vinyl acetate	0.500	0.517	-3.4	79	0.00
27 TMP	1,1-Dichloroethane	0.500	0.491	1.8	100	0.00
28 TMP	cis-1,2-Dichloroethene	0.500	0.460	8.0	100	-0.02
29 TMP	Hexane	0.500	0.488	2.4	100	0.00
30 TMP	Chloroform	0.500	0.507	-1.4	104	0.00
31 TMP	Ethyl acetate	0.500	0.443	11.4	100	0.02
32 TMP	Tetrahydrofuran	0.500	0.527	-5.4	100	0.02
33 TMP	2-Butanone (MEK)	0.500	0.333	33.4#	100	0.05
34 TMP	1,2-Dichloroethane (EDC)	0.500	0.486	2.8	99	0.00
35 TMP	1,1,1-Trichloroethane	0.500	0.495	1.0	100	0.00
36 TMP	Carbon tetrachloride	0.500	0.495	1.0	100	0.00
37 TMP	Benzene	0.500	0.485	3.0	100	0.00
38 TMP	Cyclohexane	0.500	0.522	-4.4	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.02
40 TMP	1,2-Dichloropropane	0.500	0.534	-6.8	100	0.00
41 TMP	1,4-Dioxane	0.500	0.518	-3.6	100	0.00
42 TMP	2,2,4-Trimethylpentane	0.500	0.567	-13.4	100	0.00
43 TMP	Methyl methacrylate	0.500	0.504	-0.8	100	0.00
44 TMP	Heptane	0.500	0.545	-9.0	100	0.00
45 TMP	Bromodichloromethane	0.500	0.528	-5.6	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:49:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.500	0.507	-1.4	100	0.00
47 TMP cis-1,3-Dichloropropene	0.500	0.575	-15.0	100	0.00
48 TMP 4-Methyl-2-pentanone	0.500	0.390	22.0	100	0.00
49 TMP trans-1,3-Dichloropropene	0.500	0.513	-2.6	100	0.00
50 TMP Toluene	0.500	0.516	-3.2	93	0.00
51 TMP 1,1,2-Trichloroethane	0.500	0.515	-3.0	99	0.00
52 TMP 2-Hexanone	0.500	0.522	-4.4	100	0.00
53 TMP Tetrachloroethene	0.500	0.548	-9.6	100	0.00
54 TMP Dibromochloromethane	0.500	0.525	-5.0	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.500	0.520	-4.0	97	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	100	0.01
57 TMP Chlorobenzene	0.500	0.494	1.2	100	0.01
58 TMP Ethylbenzene	0.500	0.465	7.0	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.500	0.484	3.2	100	0.00
60 TMP Nonane	0.500	0.454	9.2	100	0.01
61 TMP Isopropylbenzene	0.500	0.451	9.8	100	0.00
62 TMP 2-Chlorotoluene	0.500	0.457	8.6	100	0.00
63 TMP Propylbenzene	0.500	0.470	6.0	100	0.00
64 TMP 4-Ethyltoluene	0.500	0.440	12.0	100	0.00
65 TMP m,p-Xylene	1.000	0.889	11.1	100	0.00
66 TMP o-Xylene	0.500	0.453	9.4	100	0.00
67 TMP Styrene	0.500	0.485	3.0	100	0.01
68 TMP Bromoform	0.500	0.506	-1.2	100	0.00
69 S 4-Bromofluorobenzene	10.000	9.848	1.5	101	0.00
70 TMP Benzyl chloride	0.500	0.459	8.2	100	0.00
71 TMP 1,3,5-Trimethylbenzene	0.500	0.441	11.8	100	0.00
72 TMP 1,2,4-Trimethylbenzene	0.500	0.427	14.6	100	0.00
73 TMP 1,3-Dichlorobenzene	0.500	0.482	3.6	100	0.00
74 TMP 1,4-Dichlorobenzene	0.500	0.441	11.8	100	0.00
75 TMP 1,2-Dichlorobenzene	0.500	0.477	4.6	97	0.00
76 TMP 1,2,4-Trichlorobenzene	0.500	0.512	-2.4	100	0.00
77 TMP Naphthalene	0.500	0.491	1.8	100	0.00
78 TMP Hexachlorobutadiene	0.500	0.524	-4.8	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:49:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev (min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	0.552	0.444	19.6	100	0.00
3 TMP	Dichlorodifluoromethane	4.565	4.724	-3.5	100	0.00
4 TMP	Chloromethane	0.776	0.759	2.2	98	0.00
5 TMP	F-114	3.419	4.058	-18.7	100	0.00
6 TMP	Vinyl chloride	1.082	1.045	3.4	100	0.00
7 TMP	1,3-Butadiene	0.605	0.568	6.1	100	0.00
8 TMP	Butane	1.161	1.232	-6.1	100	0.00
9 TMP	Bromomethane	1.196	1.243	-3.9	100	0.00
10 TMP	Chloroethane	0.395	0.377	4.6	91	0.00
11 TMP	Vinyl bromide	1.286	1.299	-1.0	103	0.00
12 TMP	Ethanol	0.174	0.000	100.0#	0#	-4.98#
13 TMP	Acrolein	0.252	0.223	11.5	100	0.00
14 TMP	Pentane	1.140	1.206	-5.8	100	0.00
15 TMP	Trichlorofluoromethane	5.069	5.213	-2.8	100	0.00
16 TMP	Acetone	0.404	0.403	0.2	100	0.00
17 TMP	2-Propanol	1.563	1.650	-5.6	100	0.00
18 TMP	1,1-Dichloroethene	1.255	1.161	7.5	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.195	1.130	5.4	100	0.00
20 TMP	Methylene chloride	1.141	1.427	-25.1	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.068	2.164	-4.6	100	0.00
22 TMP	3-Chloropropene	1.240	1.217	1.9	100	-0.03
23 TMP	CFC-113	3.311	3.347	-1.1	100	0.00
24 TMP	Carbon disulfide	0.538	0.598	-11.2	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	2.982	3.003	-0.7	100	0.00
26 TMP	Vinyl acetate	1.012	1.047	-3.5	79	0.00
27 TMP	1,1-Dichloroethane	2.186	2.149	1.7	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.262	1.160	8.1	100	-0.02
29 TMP	Hexane	1.109	1.082	2.4	100	0.00
30 TMP	Chloroform	3.255	3.301	-1.4	104	0.00
31 TMP	Ethyl acetate	2.770	2.452	11.5	100	0.02
32 TMP	Tetrahydrofuran	0.872	0.919	-5.4	100	0.02
33 TMP	2-Butanone (MEK)	0.459	0.306	33.3#	100	0.05
34 TMP	1,2-Dichloroethane (EDC)	2.237	2.175	2.8	99	0.00
35 TMP	1,1,1-Trichloroethane	3.544	3.505	1.1	100	0.00
36 TMP	Carbon tetrachloride	4.146	4.104	1.0	100	0.00
37 TMP	Benzene	3.534	3.429	3.0	100	0.00
38 TMP	Cyclohexane	0.985	1.028	-4.4	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.02
40 TMP	1,2-Dichloropropane	0.330	0.352	-6.7	100	0.00
41 TMP	1,4-Dioxane	0.175	0.181	-3.4	100	0.00
42 TMP	2,2,4-Trimethylpentane	0.861	0.976	-13.4	100	0.00
43 TMP	Methyl methacrylate	0.296	0.298	-0.7	100	0.00
44 TMP	Heptane	0.327	0.356	-8.9	100	0.00
45 TMP	Bromodichloromethane	0.825	0.871	-5.6	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030421.D  
 Acq On : 5 Mar 2022 7:22 am  
 Operator : bat  
 Sample : 0.5 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 21 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:49:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev (min)
46 TMP Trichloroethene	0.503	0.510	-1.4	100	0.00
47 TMP cis-1,3-Dichloropropene	0.529	0.608	-14.9	100	0.00
48 TMP 4-Methyl-2-pentanone	0.038	0.030	21.1	100	0.00
49 TMP trans-1,3-Dichloropropene	0.508	0.521	-2.6	100	0.00
50 TMP Toluene	0.513	0.530	-3.3	93	0.00
51 TMP 1,1,2-Trichloroethane	0.372	0.383	-3.0	99	0.00
52 TMP 2-Hexanone	0.484	0.505	-4.3	100	0.00
53 TMP Tetrachloroethene	0.508	0.557	-9.6	100	0.00
54 TMP Dibromochloromethane	0.909	0.954	-5.0	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.658	0.685	-4.1	97	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.01
57 TMP Chlorobenzene	0.933	0.922	1.2	100	0.01
58 TMP Ethylbenzene	1.442	1.341	7.0	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.993	0.961	3.2	100	0.00
60 TMP Nonane	0.561	0.509	9.3	100	0.01
61 TMP Isopropylbenzene	1.680	1.514	9.9	100	0.00
62 TMP 2-Chlorotoluene	0.432	0.395	8.6	100	0.00
63 TMP Propylbenzene	3.087	2.903	6.0	100	0.00
64 TMP 4-Ethyltoluene	1.595	1.403	12.0	100	0.00
65 TMP m,p-Xylene	0.541	0.481	11.1	100	0.00
66 TMP o-Xylene	0.504	0.456	9.5	100	0.00
67 TMP Styrene	0.757	0.735	2.9	100	0.01
68 TMP Bromoform	1.279	1.296	-1.3	100	0.00
69 S 4-Bromofluorobenzene	0.742	0.731	1.5	101	0.00
70 TMP Benzyl chloride	1.263	1.160	8.2	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.434	1.265	11.8	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.359	1.160	14.6	100	0.00
73 TMP 1,3-Dichlorobenzene	1.193	1.149	3.7	100	0.00
74 TMP 1,4-Dichlorobenzene	1.211	1.067	11.9	100	0.00
75 TMP 1,2-Dichlorobenzene	1.153	1.101	4.5	97	0.00
76 TMP 1,2,4-Trichlorobenzene	1.110	1.067	3.9	100	0.00
77 TMP Naphthalene	1.414	1.133	19.9	100	0.00
78 TMP Hexachlorobutadiene	1.608	1.451	9.8	100	0.00

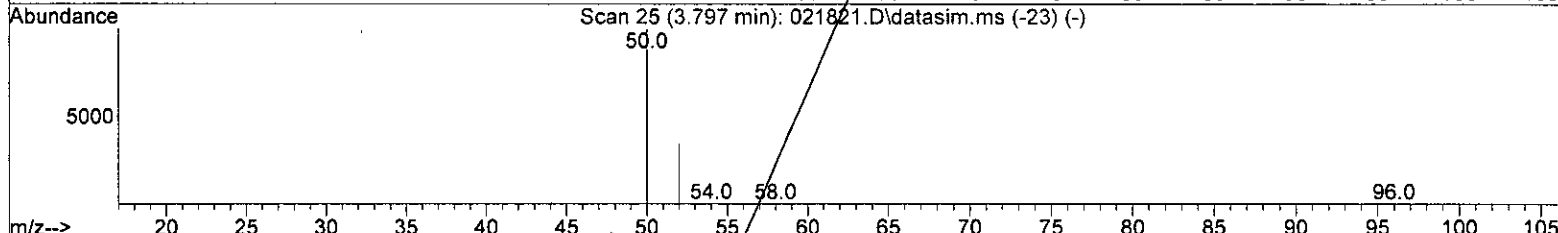
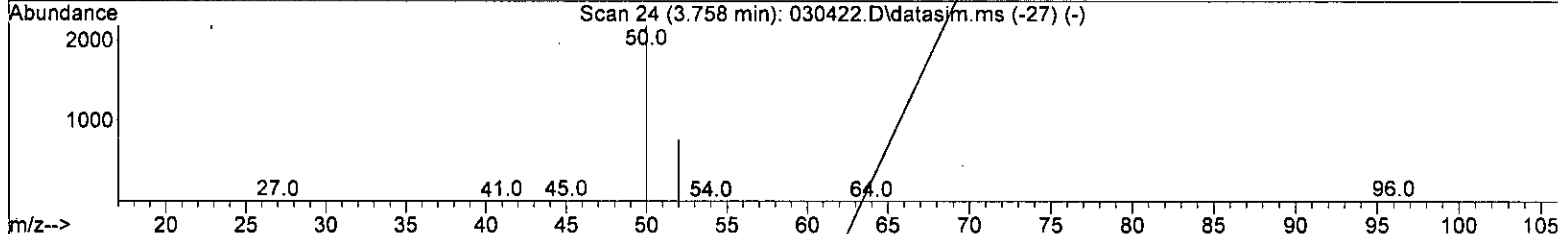
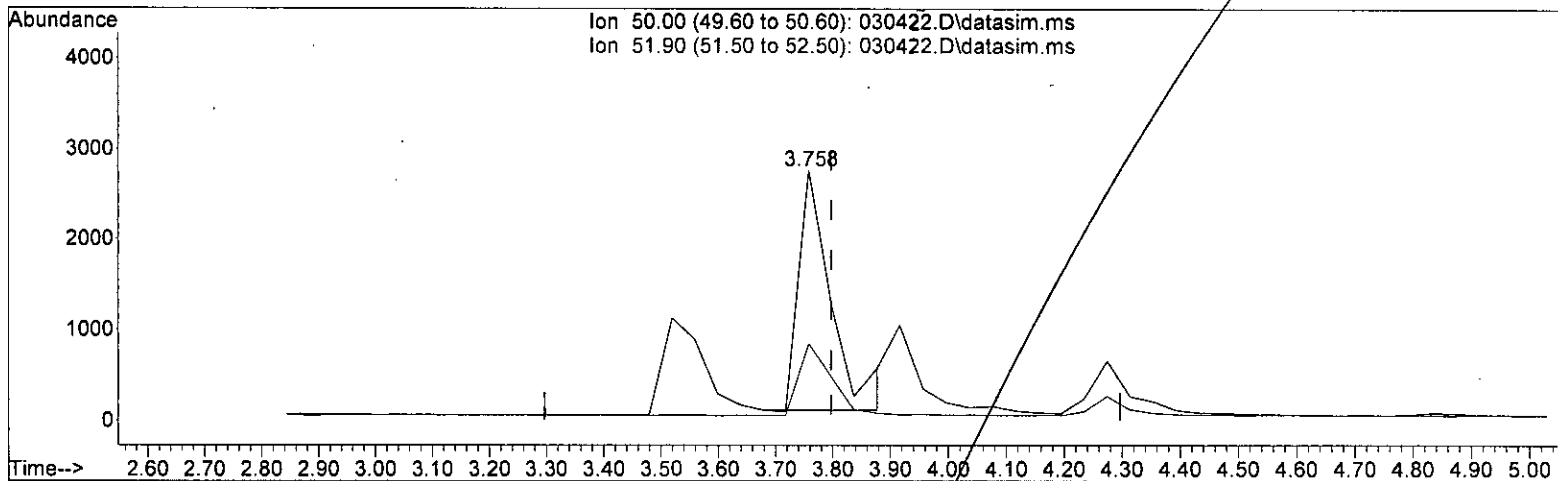
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030422.D\data.ms

(4) Chloromethane (TMP)

3.758min (-0.039) 1.215 ppbv

response 10533

Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	29.74
0.00	0.00	0.00
0.00	0.00	0.00

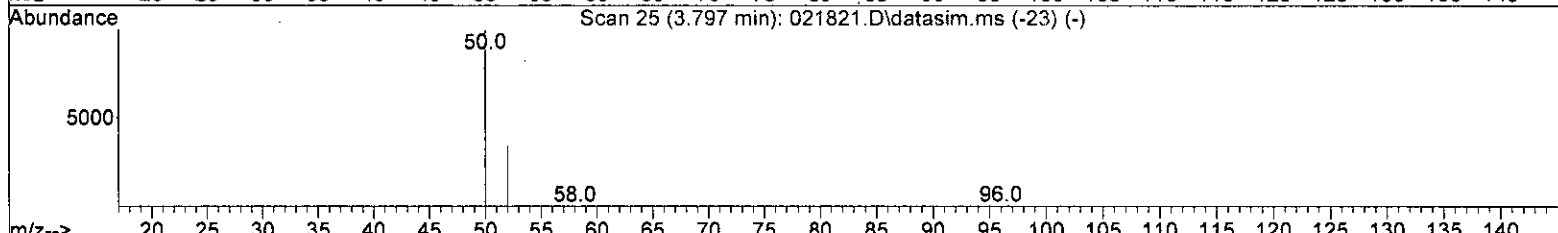
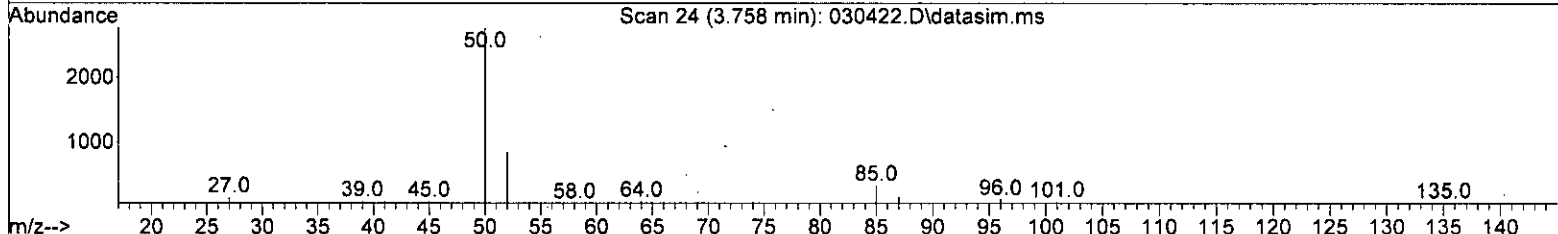
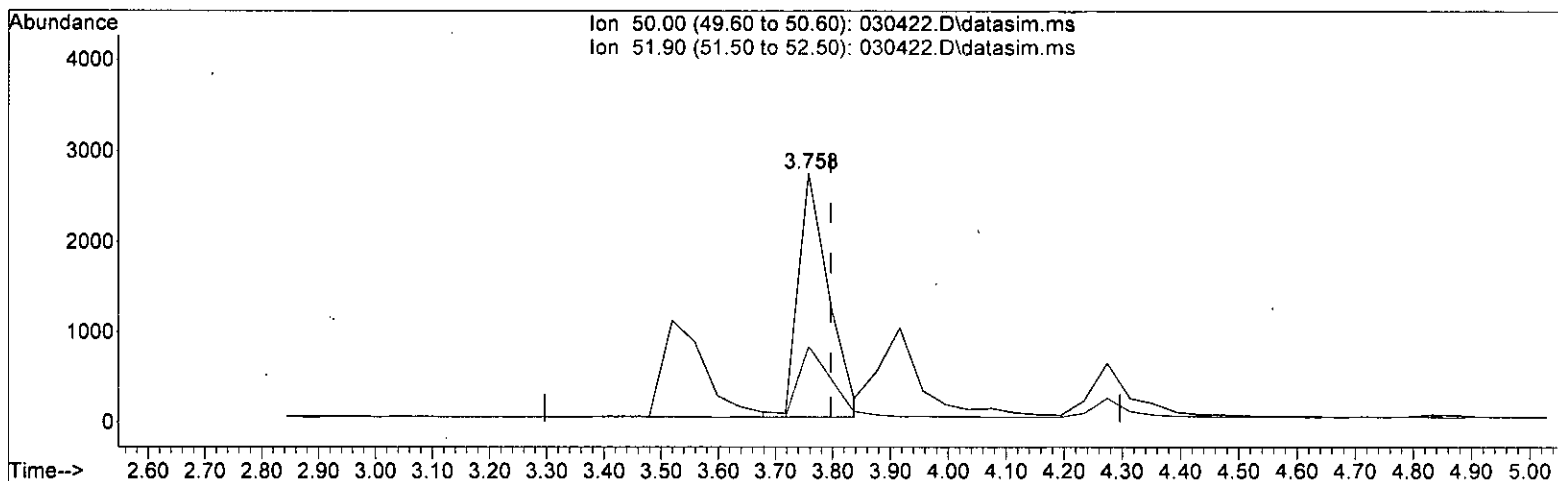
*bat*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030422.D\data.ms

(4) Chloromethane (TMP)

3.758min (-0.039) 1.153 ppbv m

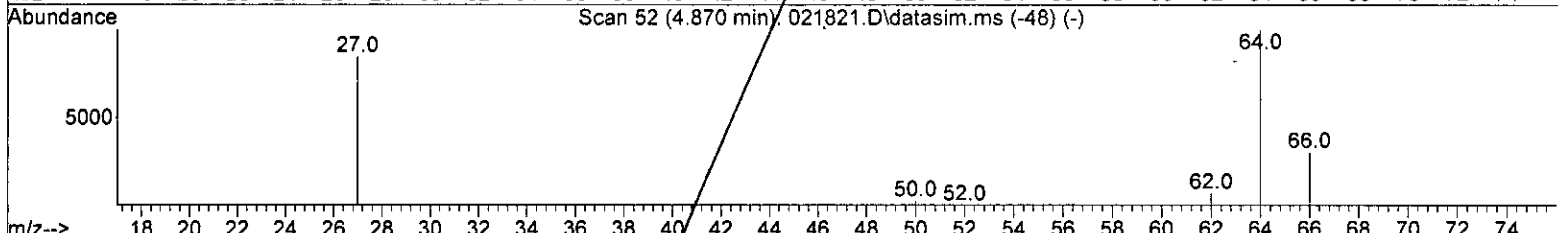
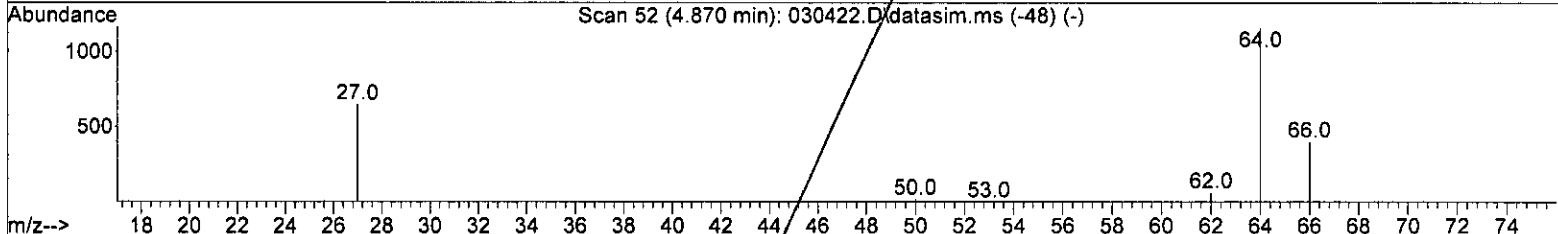
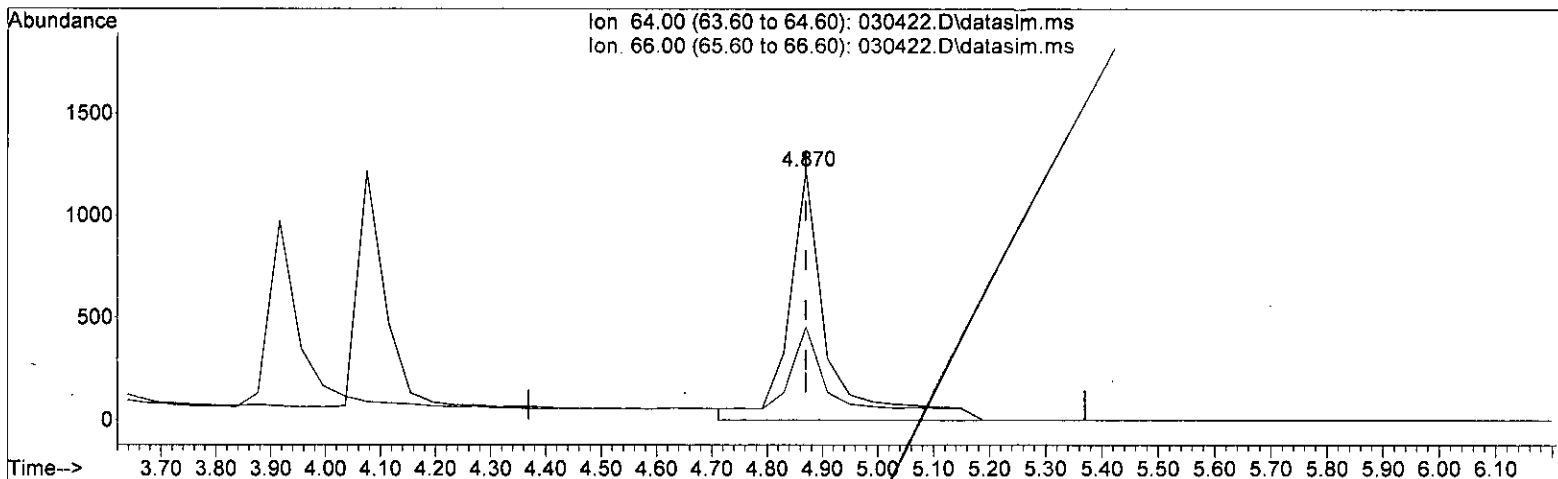
response	9995
Ion	Exp% Act%
50.00	100.00 100.00
51.90	25.30 30.54
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten signature: b/m/ku*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030422.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 1.270 ppbv

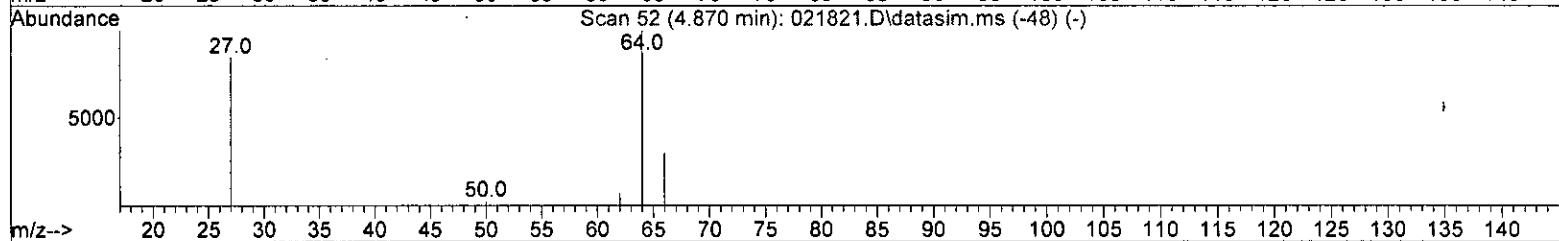
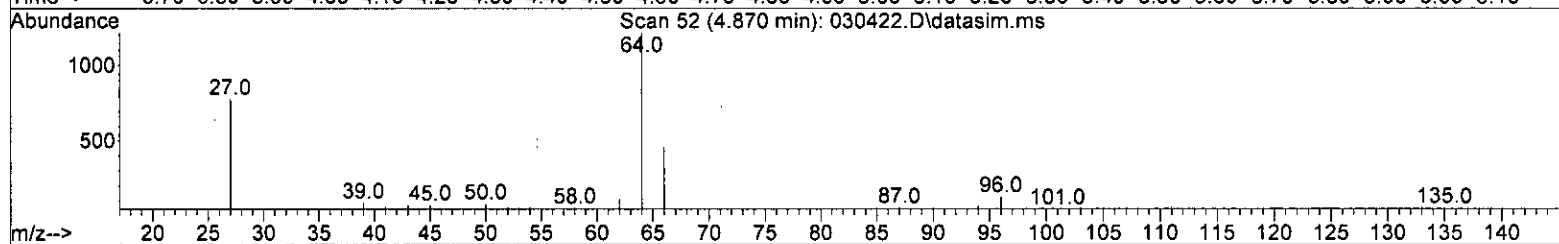
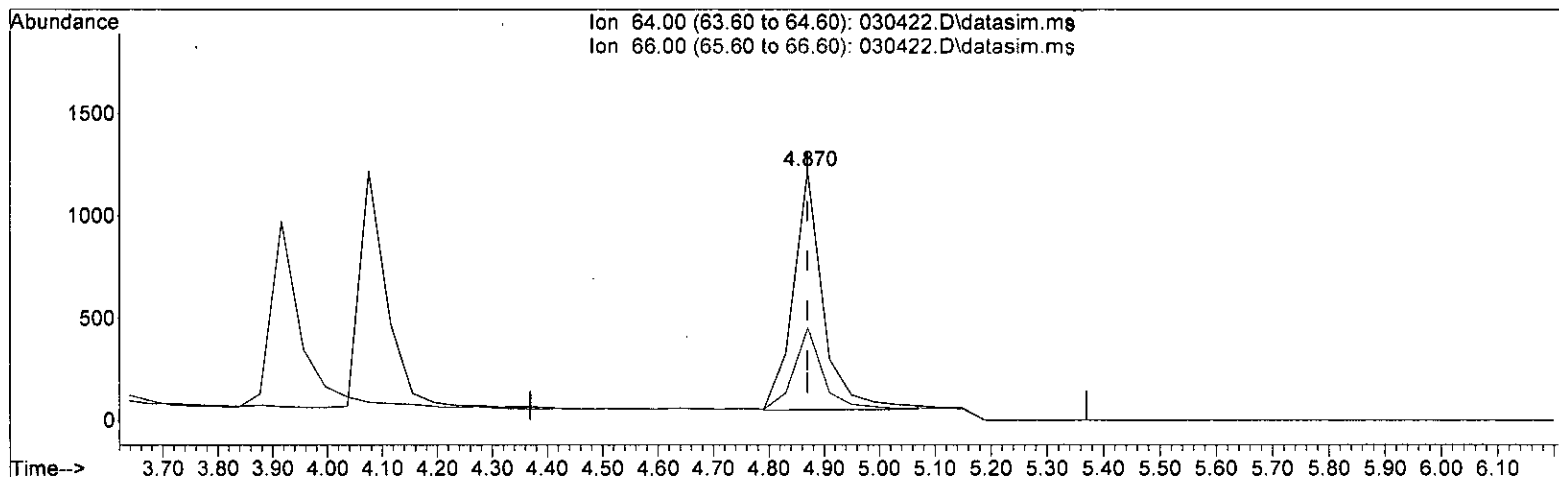
response	5602	
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	37.27
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030422.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 0.998 ppbv m

response 4401

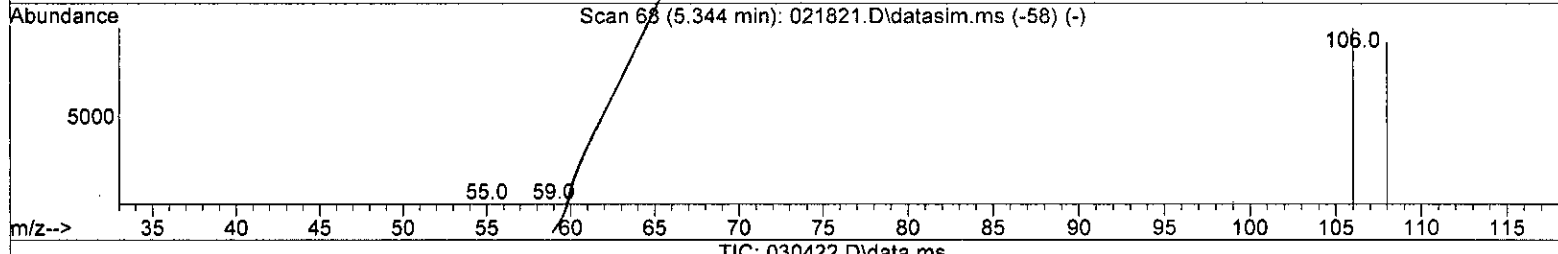
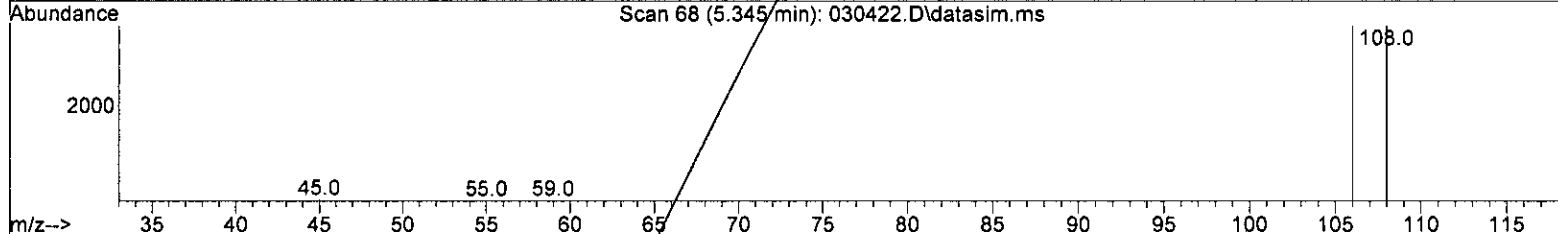
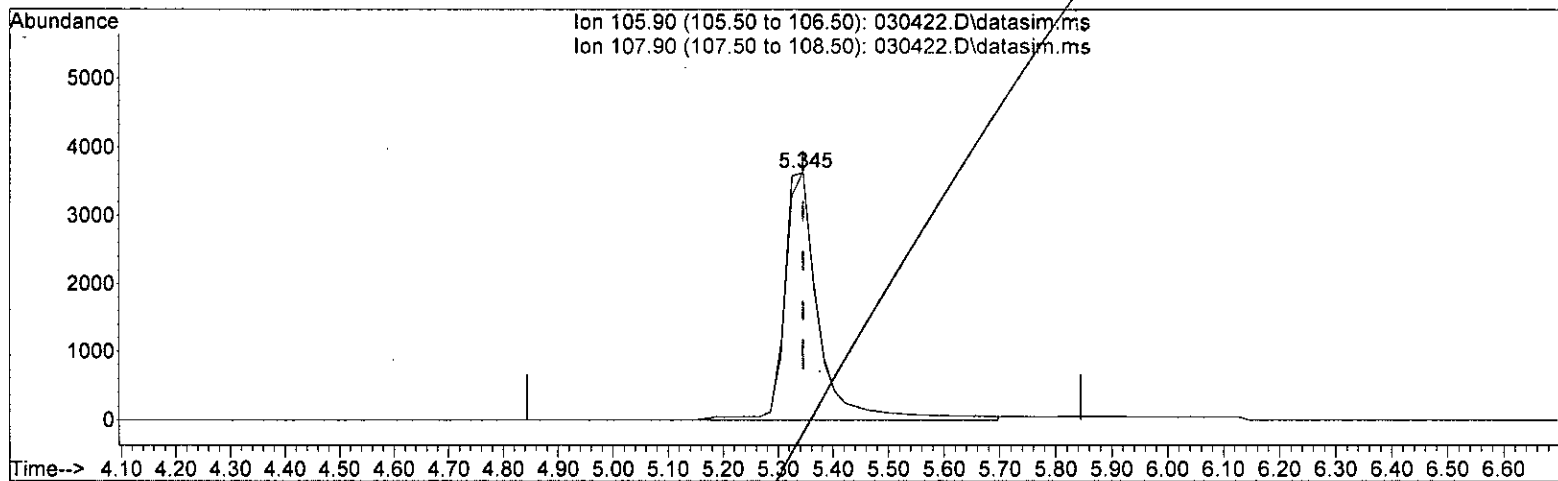
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	37.27
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(11) Vinyl bromide (TMP)

5.345min (-0.000) 1.165 ppbv

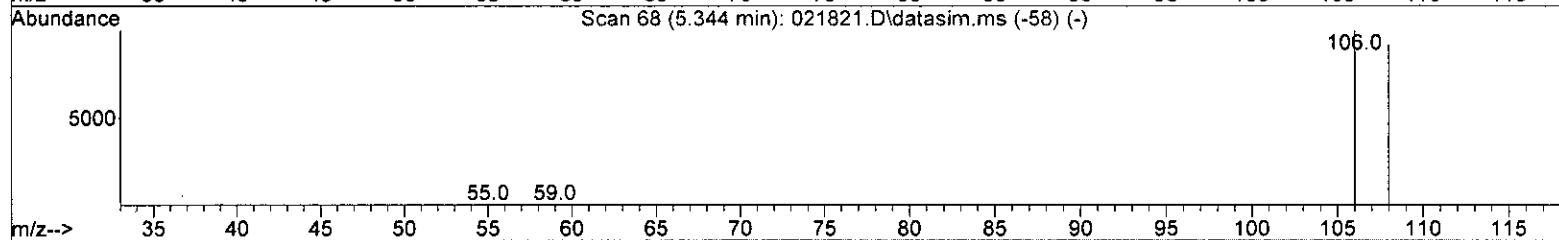
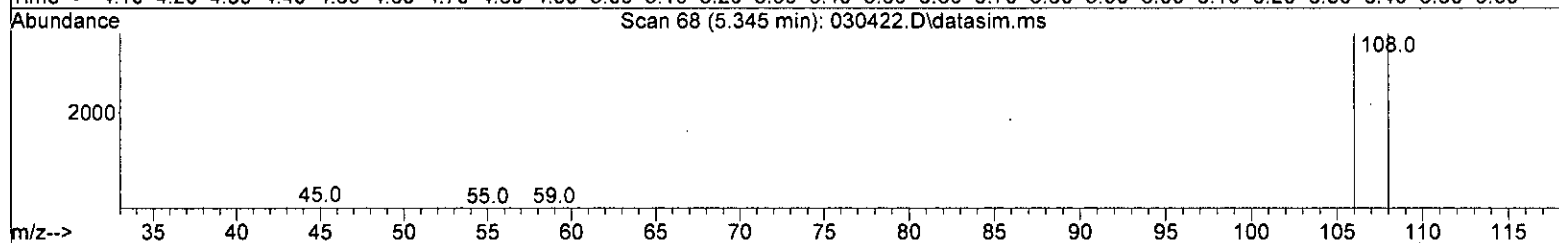
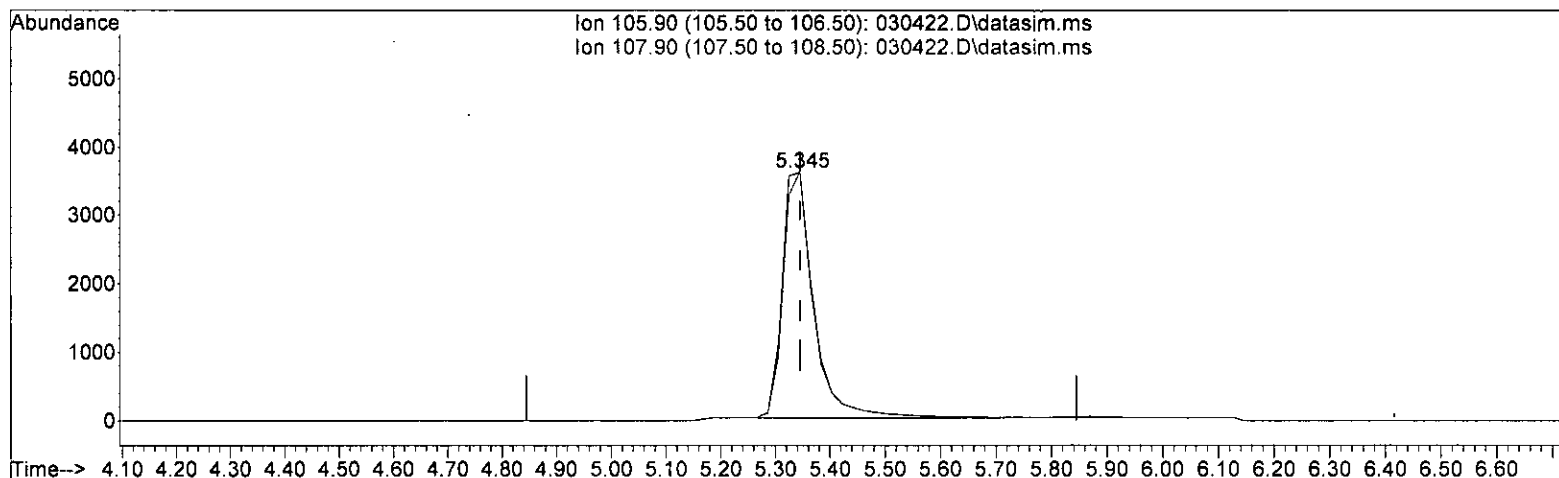
response	16741
Ion	Exp% Act%
105.90	100.00 100.00
107.90	94.10 98.39
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030422.D\data.ms

(11) Vinyl bromide (TMP)

5.345min (-0.000) 0.992 ppbv m

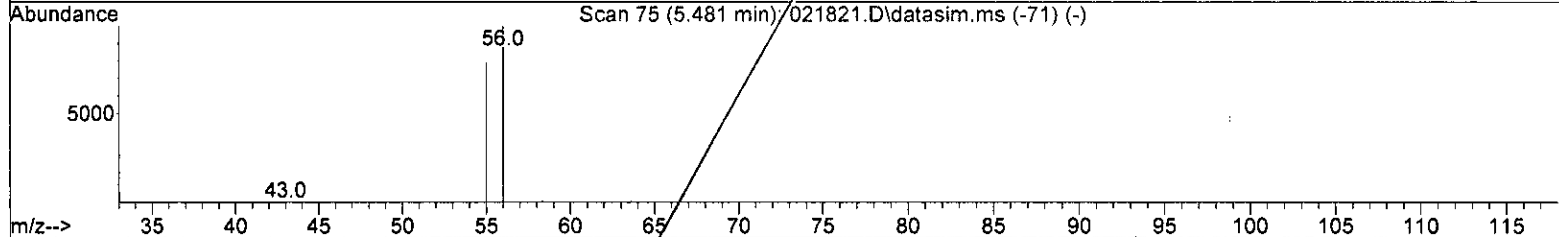
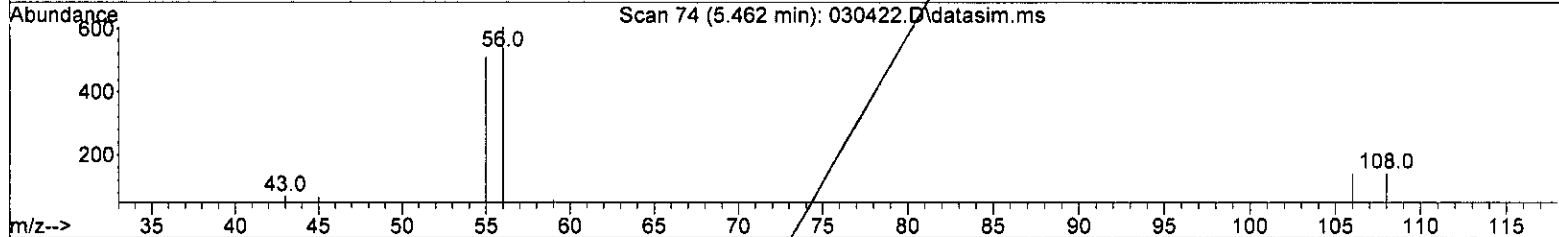
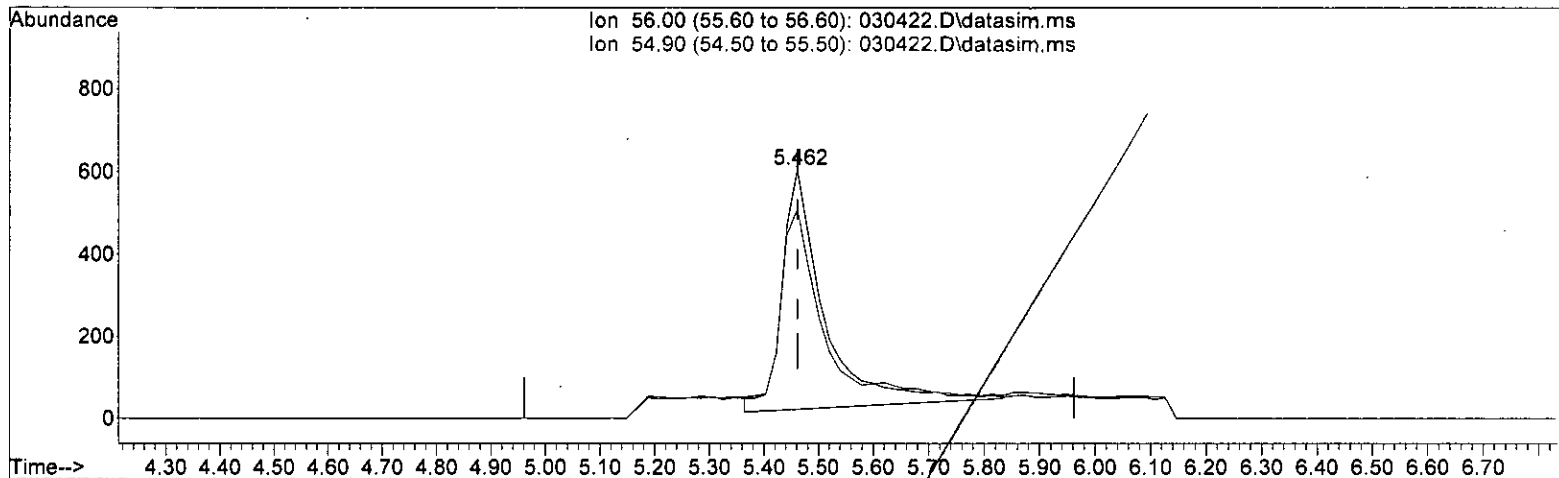
response 14256

Ion	Exp%	Act%
105.90	100.00	100.00
107.90	94.10	115.54#
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature and date:*  
 S  
 3/7/22

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030422.D\data.ms

(13) Acrolein (TMP)

5.462min (-0.000) 1.234 ppbv

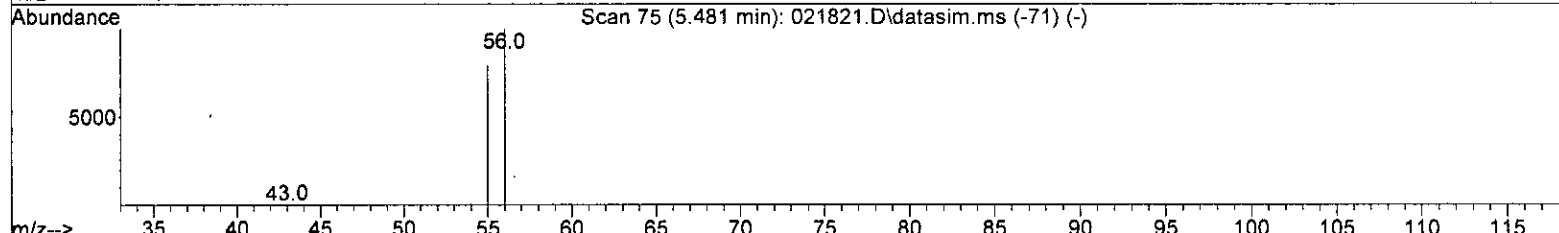
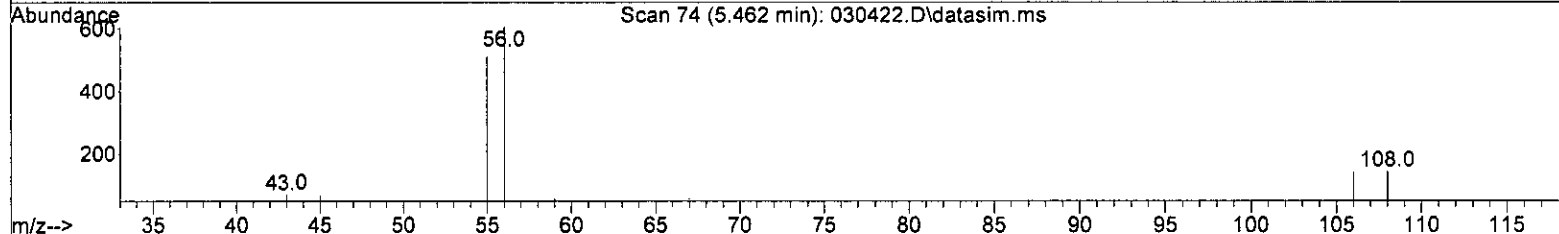
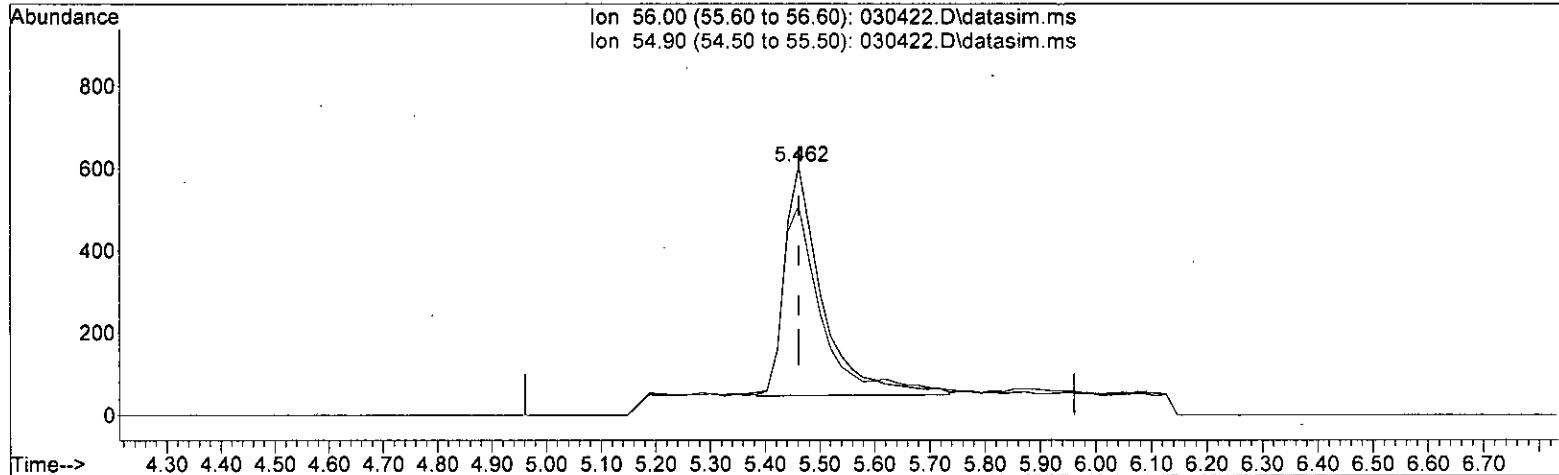
response	3129
Ion	Exp% Act%
56.00	100.00 100.00
54.90	81.00 72.07
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten:* B 3/7/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030422.D\data.ms

(13) Acrolein (TMP)

5.462min (-0.000) 1.039 ppbv m

response 2637

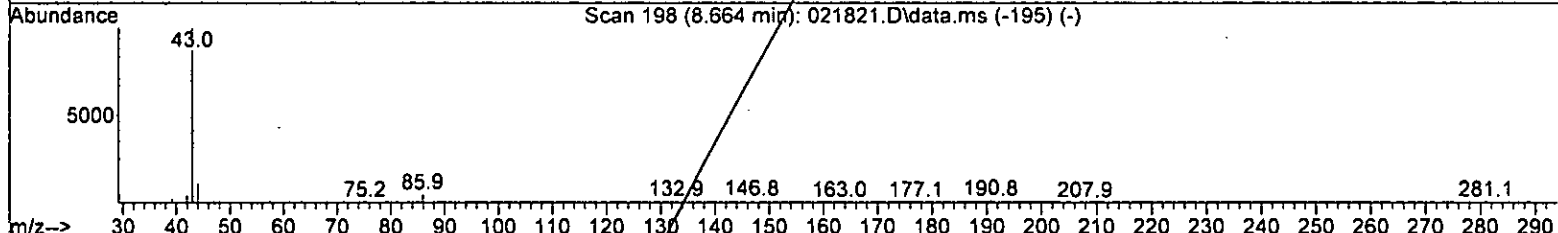
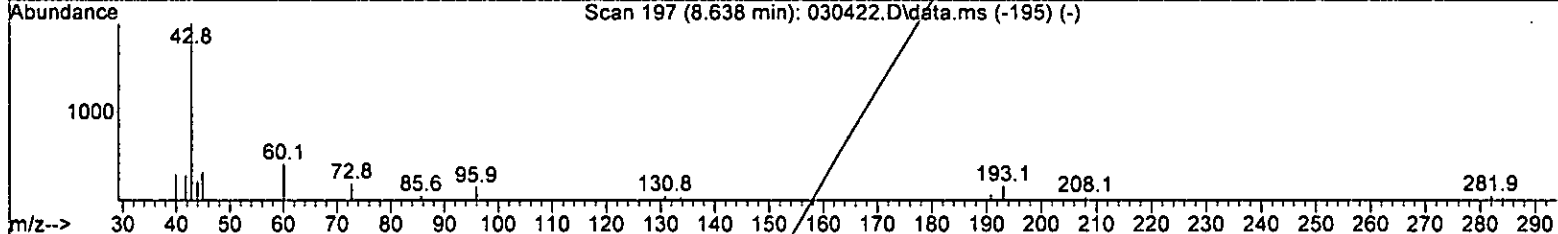
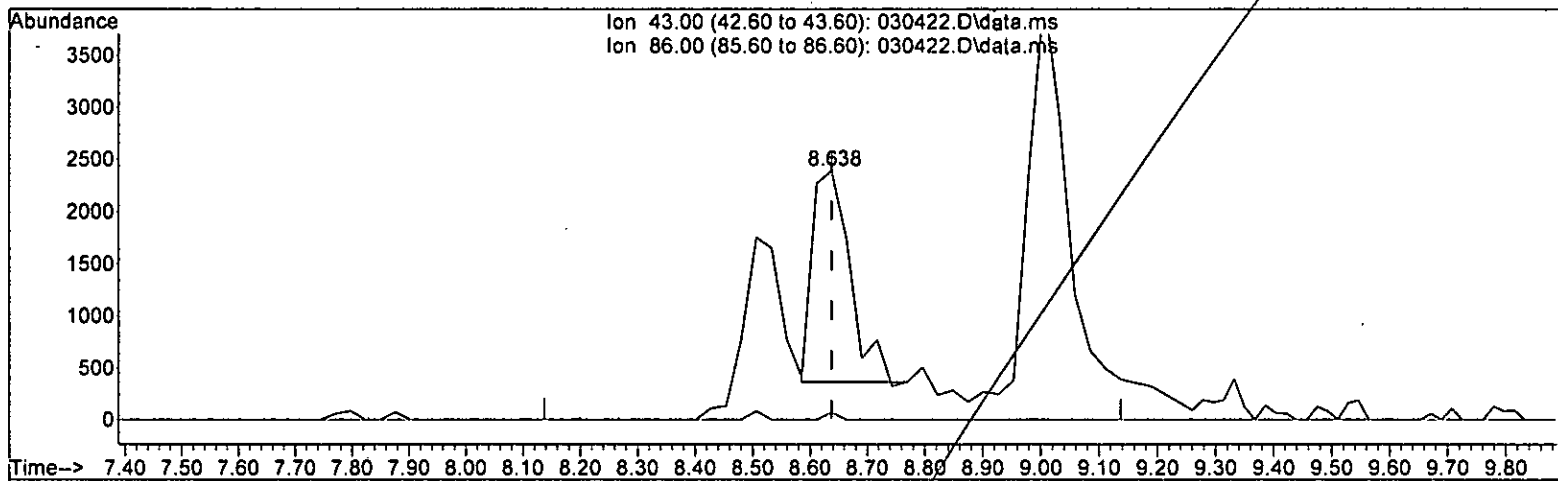
Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	85.51
0.00	0.00	0.00
0.00	0.00	0.00

*B. H. H.*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



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 3/7/22

(26) Vinyl acetate (TMP)

8.638min (+ 0.000) 0.822 ppbv

response 9300

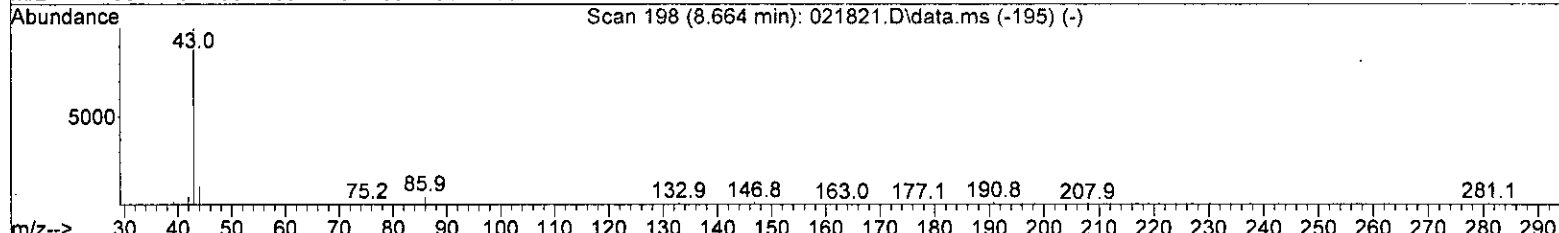
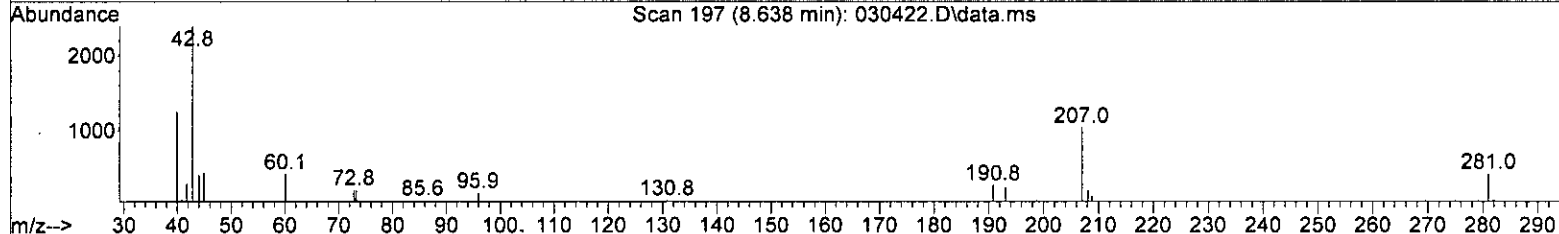
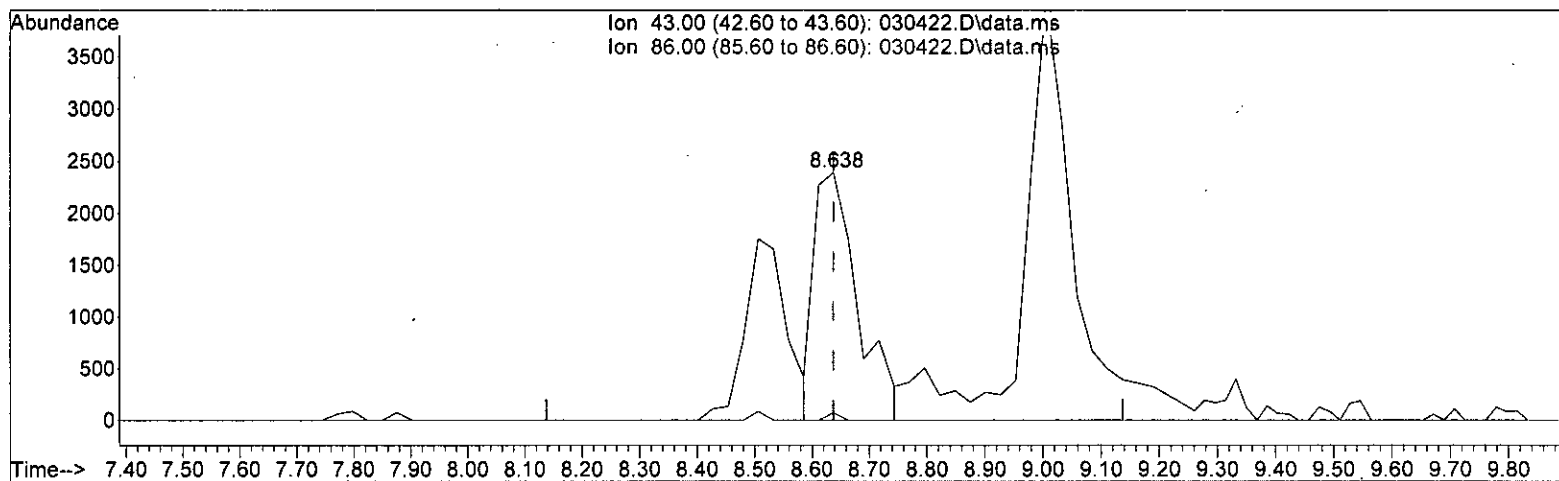
Ion	Exp%	Act%
43.00	100.00	100.00
86.00	4.20	3.45
0.00	0.00	0.00
0.00	0.00	0.00



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030422.D\data.ms

(26) Vinyl acetate (TMP)

8.638min (+ 0.000) 1.128 ppbv m

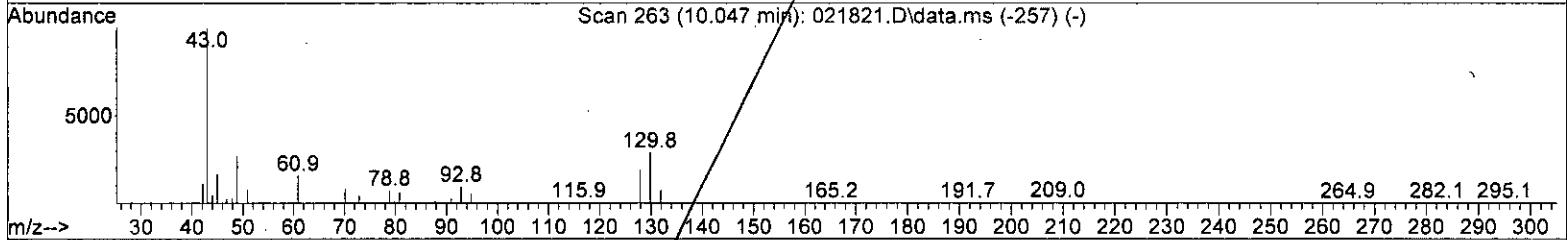
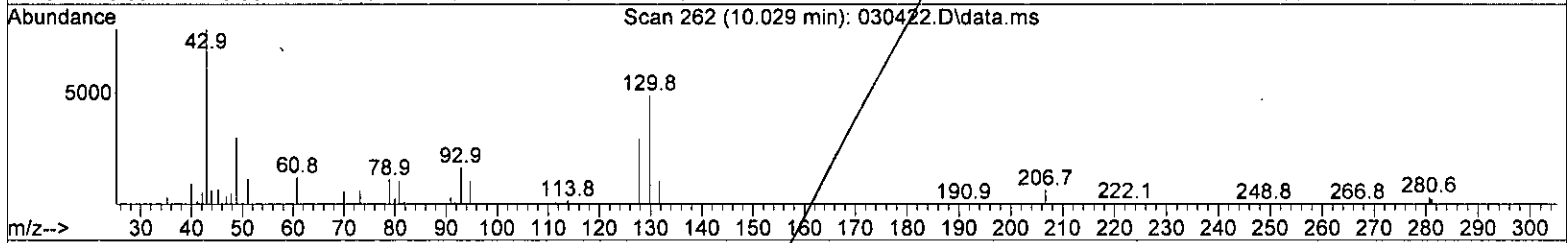
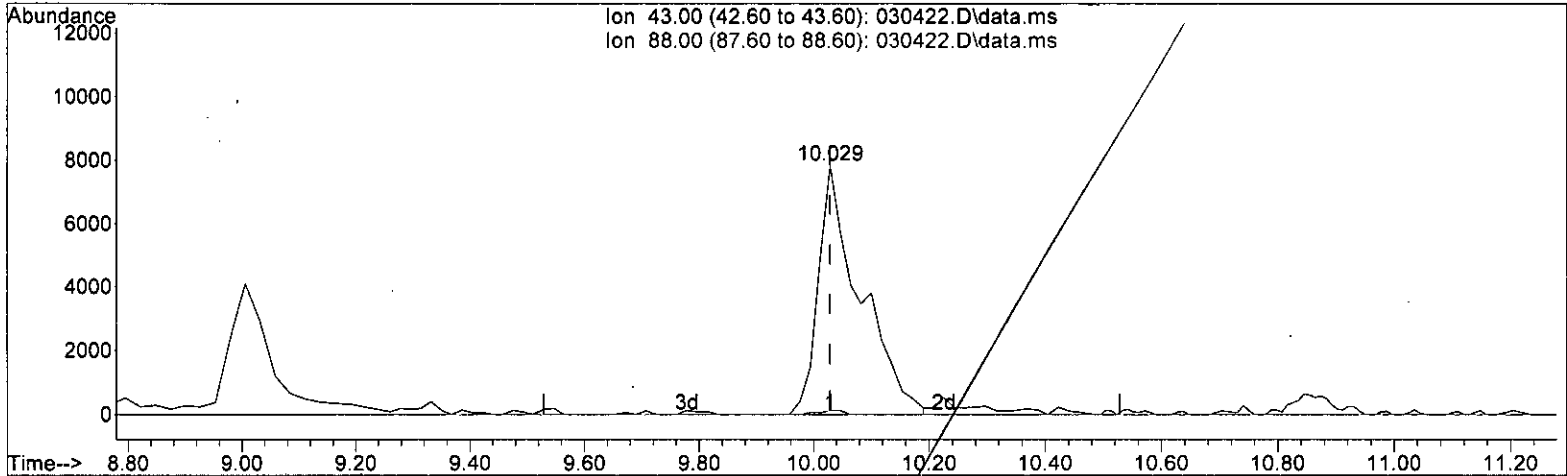
response 12753

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	4.20	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030422.D\data.ms

(31) Ethyl acetate (TMP)

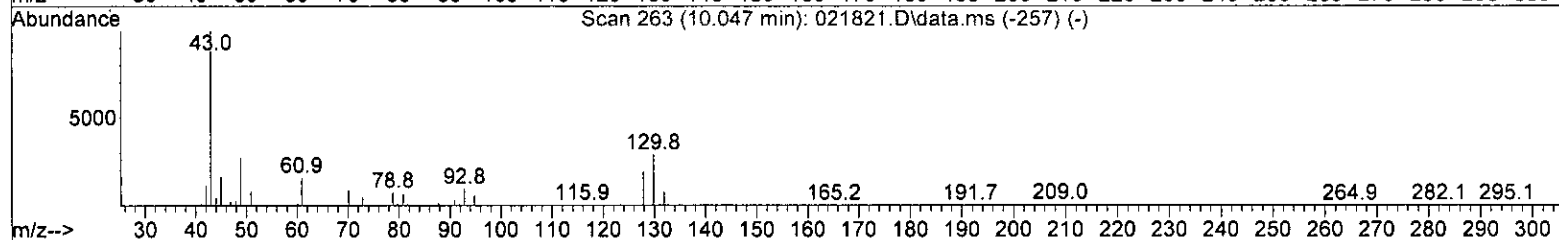
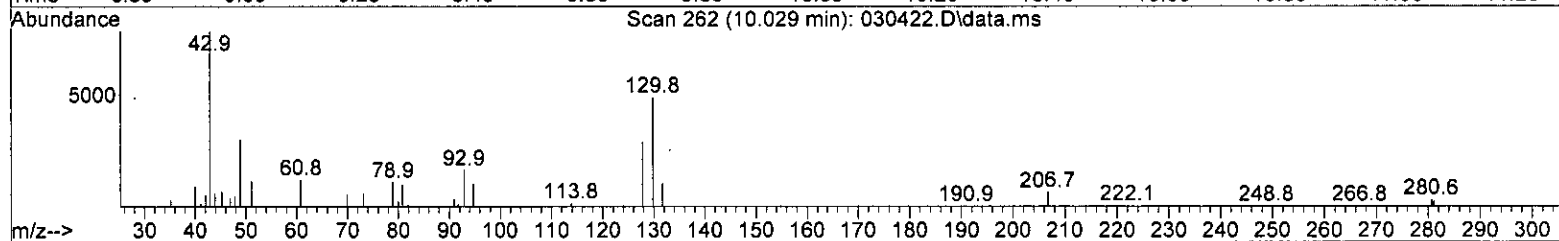
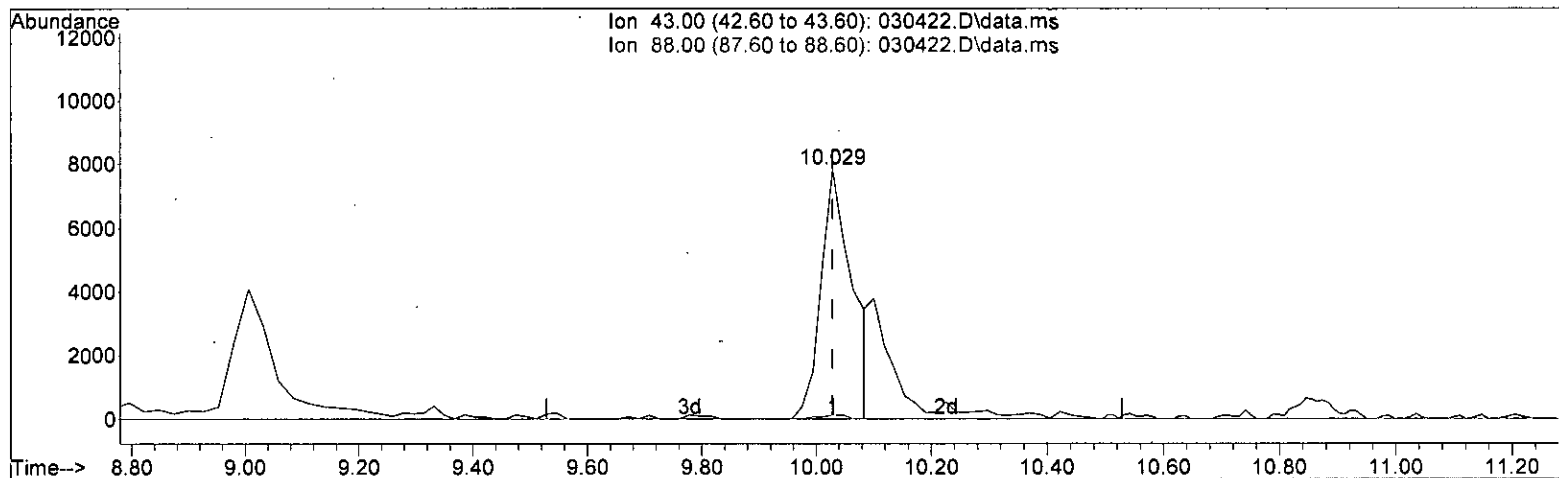
10.029min (+ 0.000) 1.279 ppbv

response	39578
Ion	Exp% Act%
43.00	100.00 100.00
88.00	1.70 0.97#
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten signature*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030422.D\data.ms

(31) Ethyl acetate (TMP)

10.029min (+ 0.000) 0.966 ppbv m

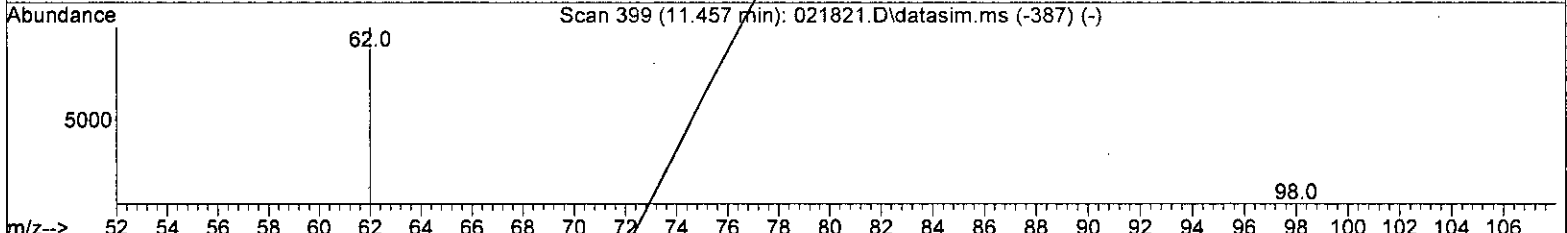
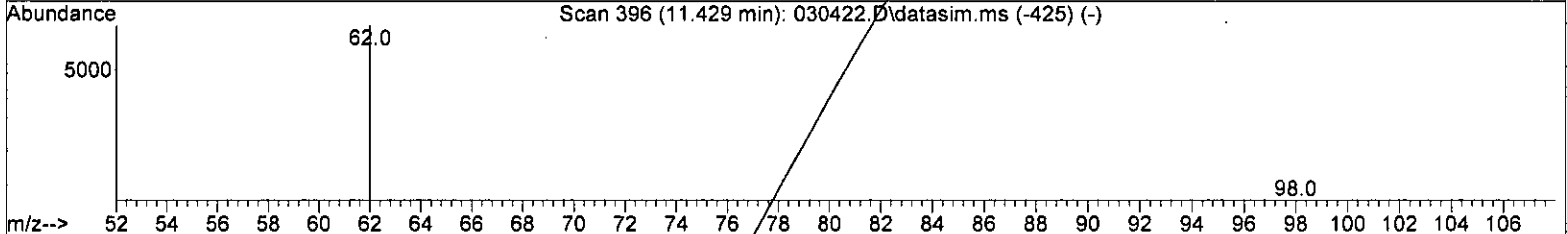
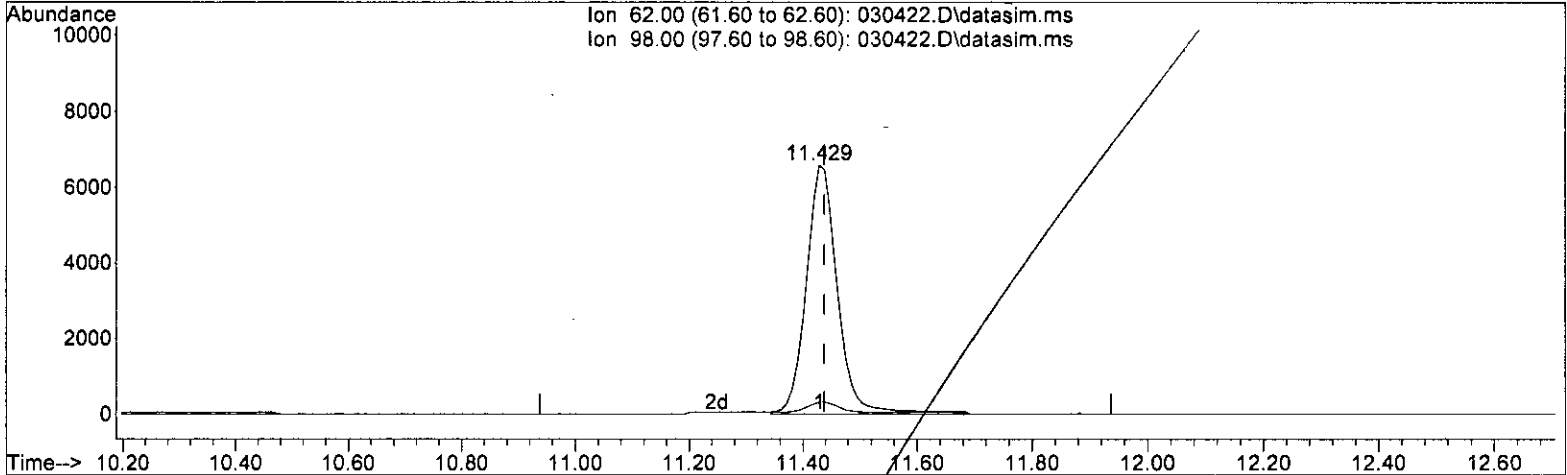
response	29872
Ion	Exp% Act%
43.00	100.00 100.00
88.00	1.70 1.29#
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten signature/initials*

Quantitation Report (Qedit).

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030422.D\data.ms

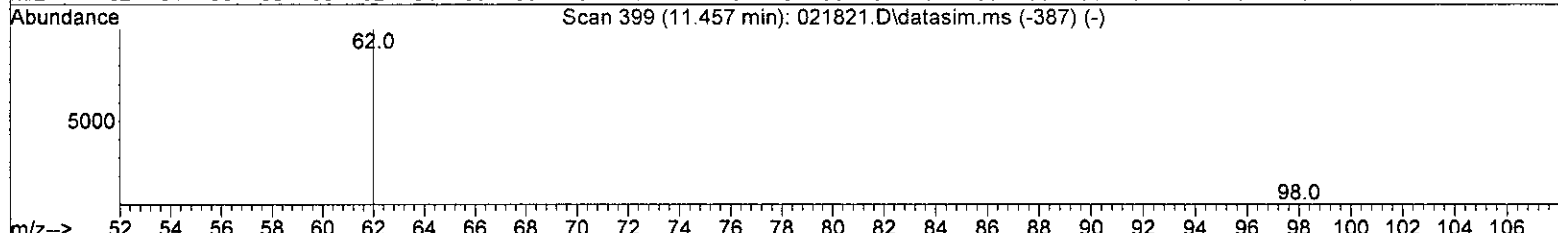
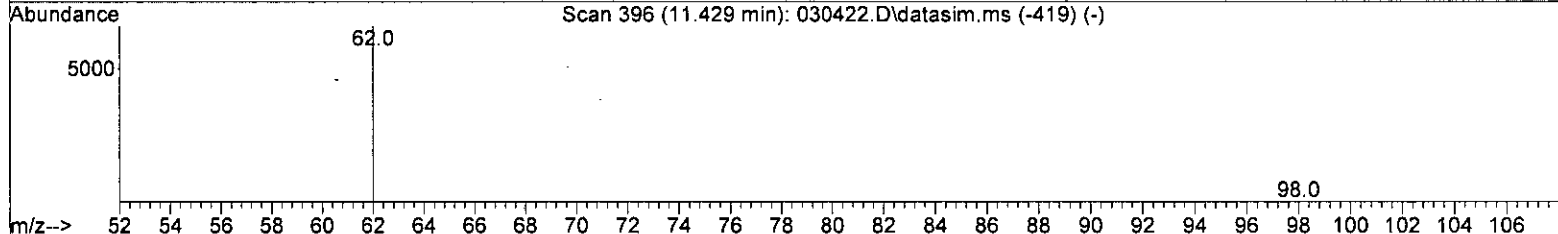
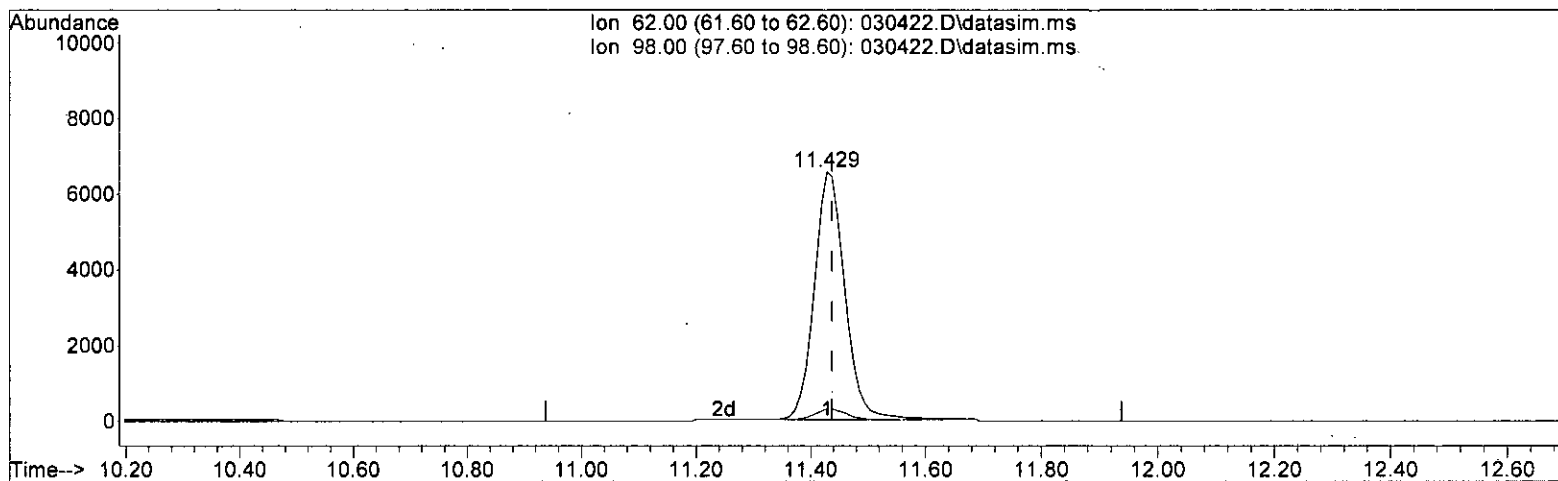
(34) 1,2-Dichloroethane (EDC) (TME)			
11.429min (-0.009) 1.025 ppbv			
response	25619		
Ion	Exp%	Act%	
62.00	100.00	100.00	
98.00	5.30	4.87	
0.00	0.00	0.00	
0.00	0.00	0.00	

*Handwritten signature: K/3/2022*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030422.D\data.ms

(34) 1,2-Dichloroethane (EDC) (TMP)

11.429min (-0.009) 0.987 ppbv m

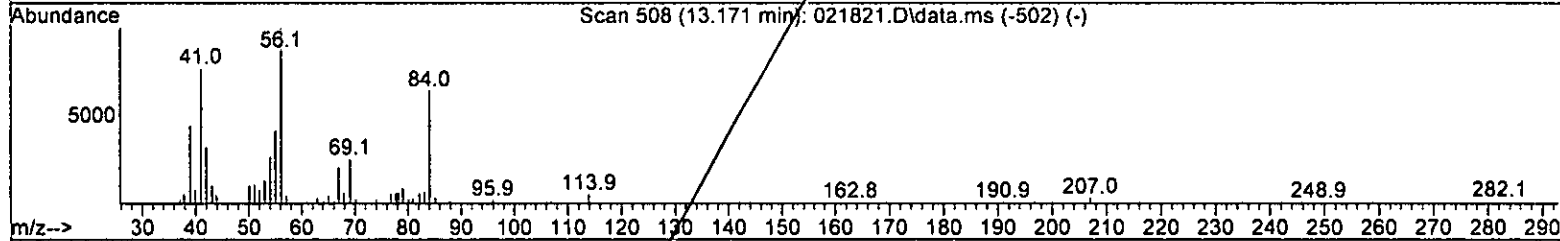
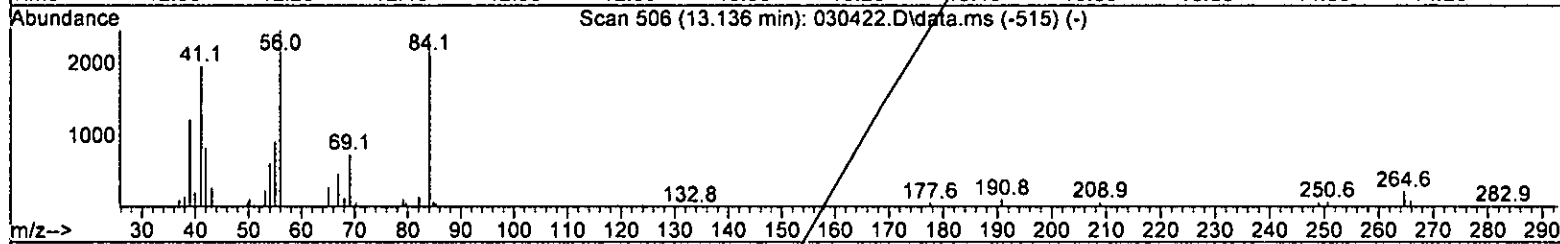
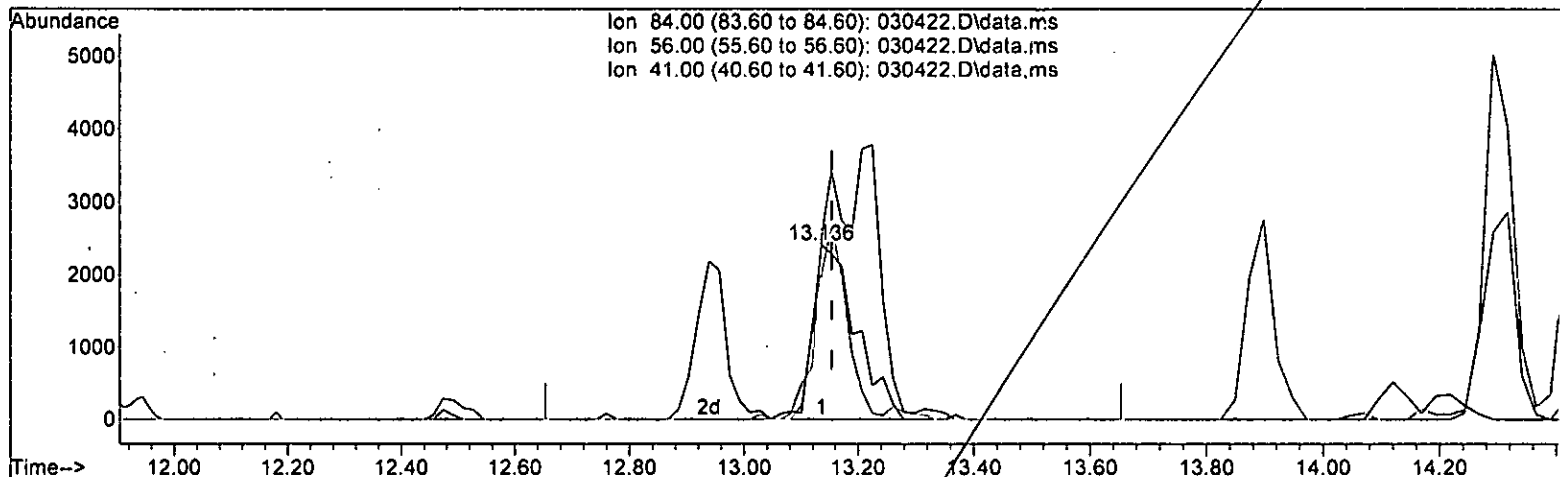
response	24662	
Ion	Exp%	Act%
62.00	100.00	100.00
98.00	5.30	4.87
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



*Handwritten signature/initials*

(38) Cyclohexane (TMP)

13.136min (-0.018) 1.166 ppbv

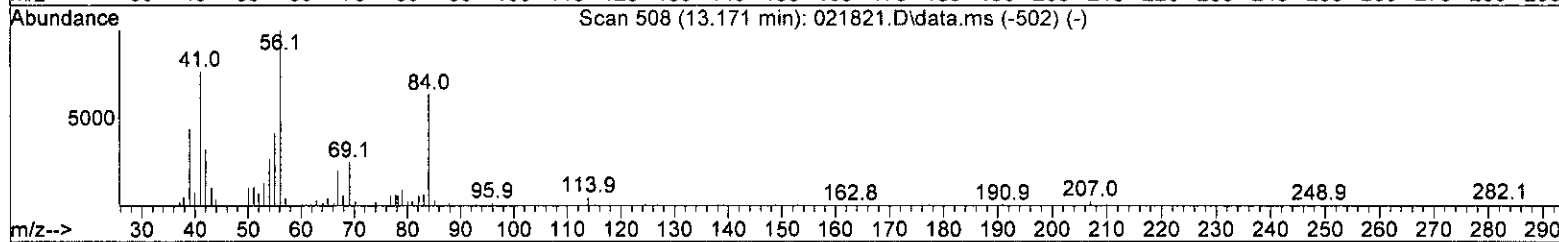
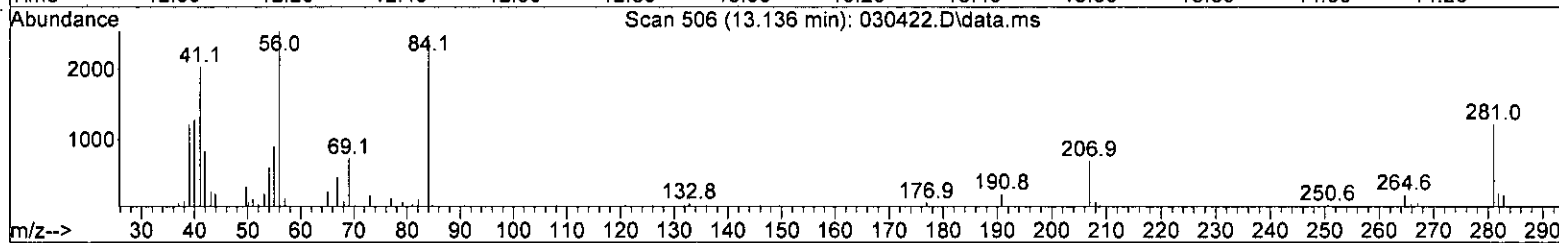
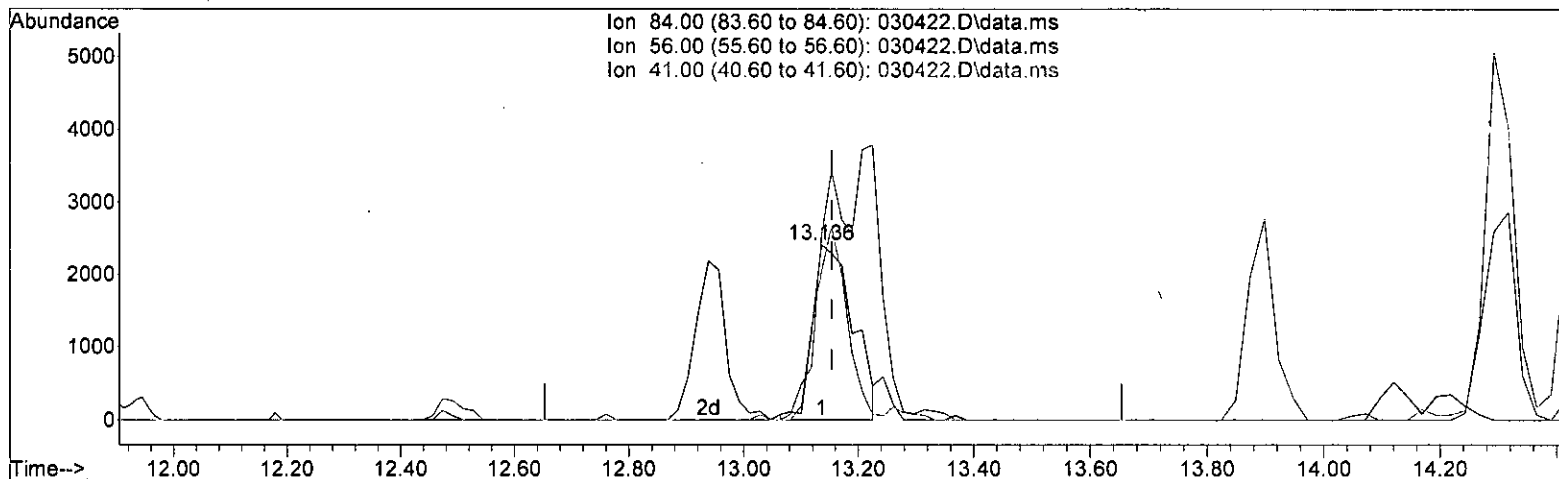
response 12820

Ion	Exp%	Act%
84.00	100.00	100.00
56.00	174.40	105.23#
41.00	107.20	84.52
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:22 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(38) Cyclohexane (TMP)

13.136min (-0.018) 1.081 ppbv m

response 11882

Ion	Exp%	Act%
84.00	100.00	100.00
56.00	174.40	105.23#
41.00	107.20	84.52
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:55:28 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.98	128	111680	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	457104	10.000	ppbv	0.02
56) Chlorobenzene-d5	18.21	117	450460	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.65	95	326577	9.769	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.70%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.43	41	7625	1.237	ppbv	80
3) Dichlorodifluoromethane	3.55	85	51959	1.019	ppbv	97
4) Chloromethane	3.76	50	9995m	1.153	ppbv	
5) F-114	3.91	85	35777	0.937	ppbv	88
6] Vinyl chloride	4.08	62	12460	1.031	ppbv	100
7] 1,3-Butadiene	4.27	54	6586	0.974	ppbv	# 72
8) Butane	4.35	43	14105	1.088	ppbv	98
9) Bromomethane	4.67	94	13764	1.031	ppbv	98
10] Chloroethane	4.87	64	4401m	0.998	ppbv	
11] Vinyl bromide	5.34	106	14256m	0.992	ppbv	
12) Ethanol	0.00		0	N.D.	d	
13] Acrolein	5.46	56	2637m	1.039	ppbv	
14) Pentane	6.32	43	10910	0.857	ppbv	81
15) Trichlorofluoromethane	5.89	101	62002	1.095	ppbv	94
16) Acetone	5.63	58	5140	1.138	ppbv	94
17) 2-Propanol	5.89	45	16154	0.925	ppbv	# 97
18] 1,1-Dichloroethene	6.73	96	13124	0.936	ppbv	# 82
19] trans-1,2-Dichloroethene	8.17	96	12562	0.941	ppbv	# 69
20) Methylene chloride	6.85	84	14295	1.121	ppbv	# 81
21) t-Butyl alcohol (TBA)	6.67	59	23052	0.998	ppbv	# 87
22) 3-Chloropropene	7.01	41	14188	1.024	ppbv	# 69
23) CFC-113	7.22	101	34466	0.932	ppbv	75
24) Carbon disulfide	7.01	76	6356	1.058	ppbv	59
25) Methyl t-butyl ether (...)	8.53	73	32950	0.989	ppbv	83
26) Vinyl acetate	8.64	43	12753m	1.128	ppbv	
27] 1,1-Dichloroethane	8.43	63	24047	0.985	ppbv	96
28] cis-1,2-Dichloroethene	9.71	96	13220	0.938	ppbv	97
29) Hexane	10.10	57	12414	1.003	ppbv	# 56
30] Chloroform	10.18	83	35845	0.986	ppbv	100
31) Ethyl acetate	10.03	43	29872m	0.966	ppbv	
32) Tetrahydrofuran	10.85	42	9009	0.925	ppbv	76
33) 2-Butanone (MEK)	9.01	72	5716	1.115	ppbv	# 21
34] 1,2-Dichloroethane (EDC)	11.43	62	24662m	0.987	ppbv	
35] 1,1,1-Trichloroethane	11.92	97	41108	1.039	ppbv	95
36] Carbon tetrachloride	12.94	117	45790	0.989	ppbv	99
37] Benzene	12.69	78	38595	0.978	ppbv	88
38) Cyclohexane	13.14	84	11882m	1.081	ppbv	
40] 1,2-Dichloropropane	13.88	63	15305	1.016	ppbv	67
41] 1,4-Dioxane	14.17	88	8313	1.038	ppbv	72
42) 2,2,4-Trimethylpentane	14.29	57	40608	1.031	ppbv	# 75



Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

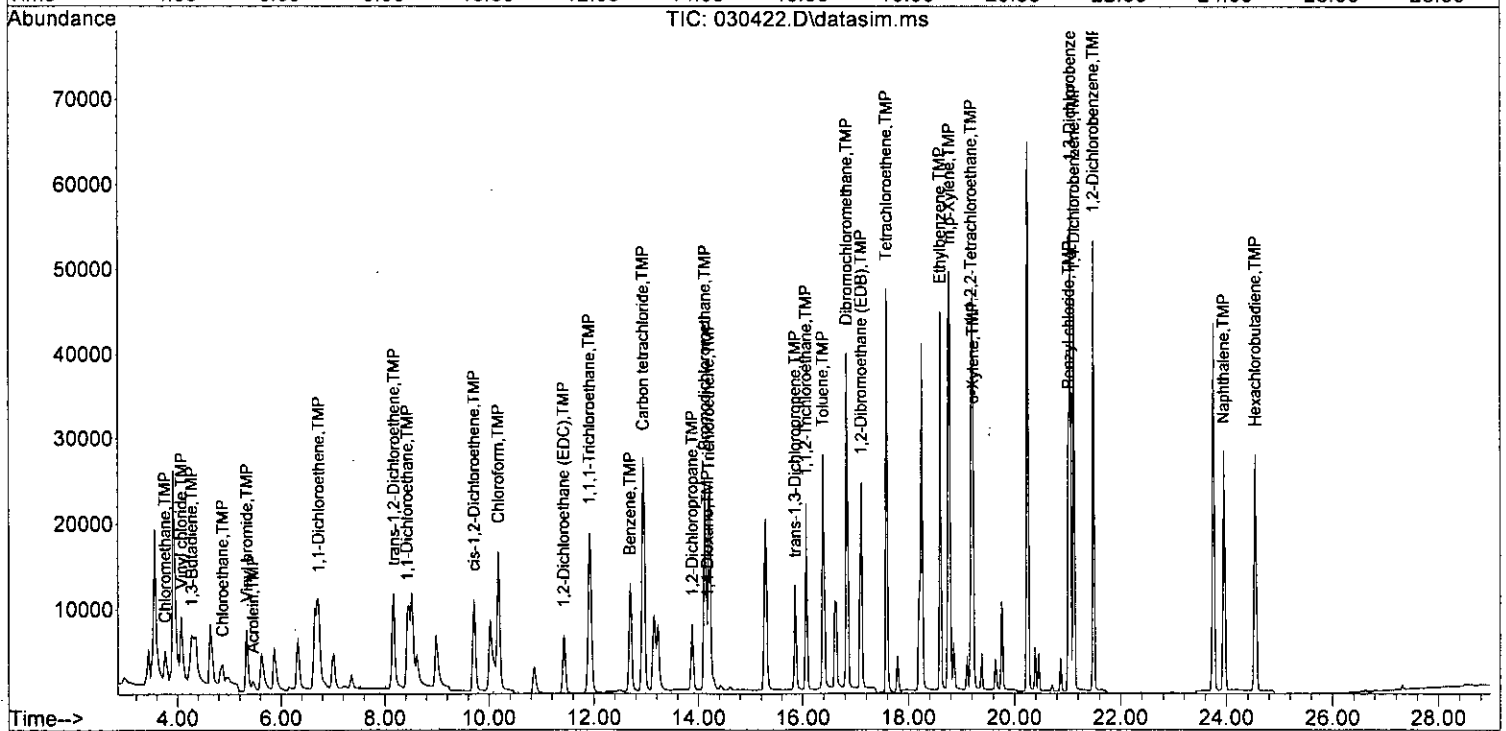
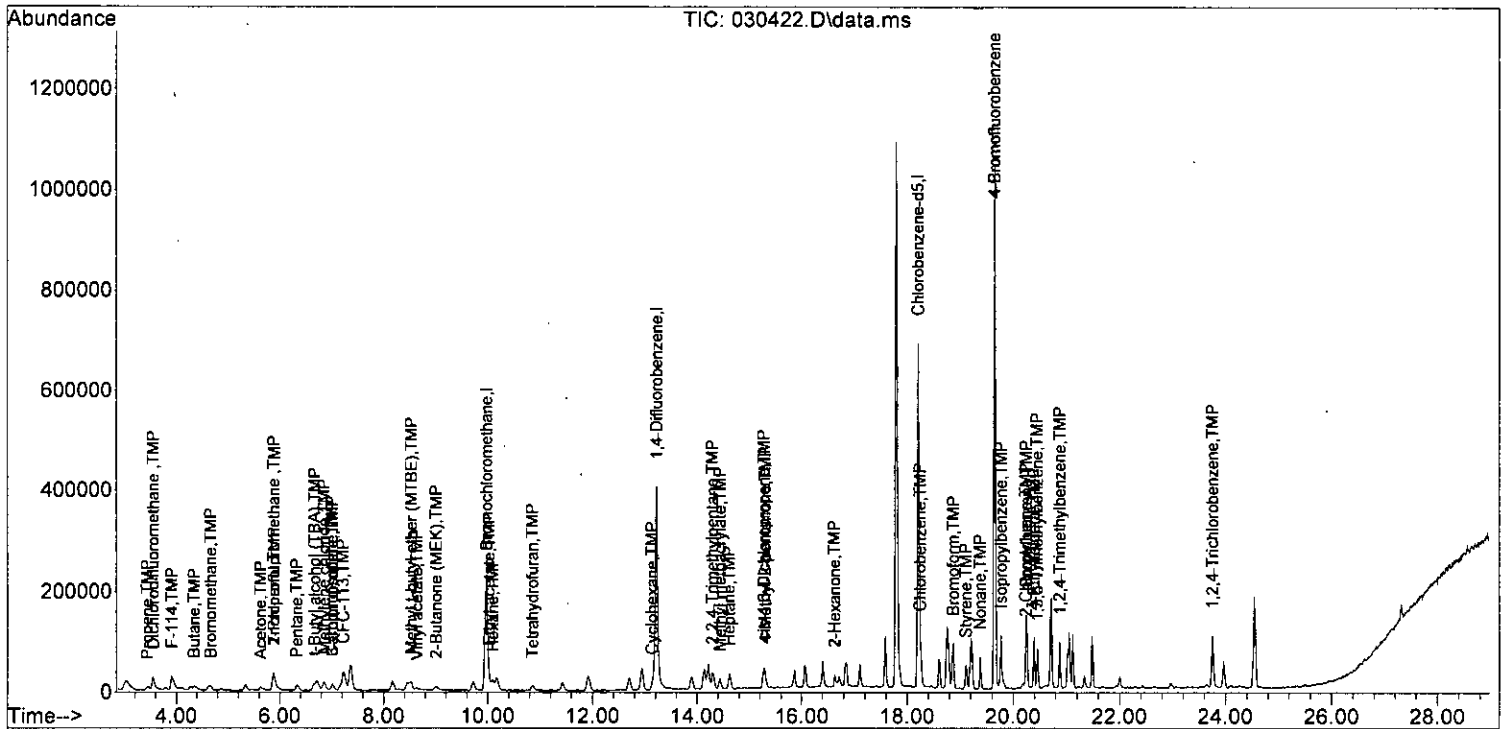
Quant Time: Mar 07 16:55:28 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
43) Methyl methacrylate	14.44	41	14430	1.068	ppbv #	79
44) Heptane	14.61	43	16670	1.115	ppbv	81
45] Bromodichloromethane	14.13	83	38473	1.020	ppbv	93
46] Trichloroethene	14.20	95	22507	0.978	ppbv	82
47) cis-1,3-Dichloropropene	15.28	75	24310	1.005	ppbv	94
48) 4-Methyl-2-pentanone	15.30	100	1777	1.024	ppbv #	19
49] trans-1,3-Dichloropropene	15.85	75	23602	1.017	ppbv	86
50] Toluene	16.38	92	25391	1.082	ppbv	99
51] 1,1,2-Trichloroethane	16.07	83	18657	1.097	ppbv	82
52) 2-Hexanone	16.63	43	23012	1.039	ppbv	95
53] Tetrachloroethene	17.58	164	24883	1.072	ppbv	92
54] Dibromochloromethane	16.83	129	43390	1.044	ppbv	99
55] 1,2-Dibromoethane (EDB)	17.11	107	31314	1.041	ppbv	99
57) Chlorobenzene	18.25	112	42601	1.013	ppbv	99
58] Ethylbenzene	18.60	91	60003	0.924	ppbv	95
59] 1,1,2,2-Tetrachloroethane	19.19	83	41926	0.937	ppbv	100
60) Nonane	19.38	43	22304	0.882	ppbv	95
61) Isopropylbenzene	19.77	105	71030	0.938	ppbv	98
62) 2-Chlorotoluene	20.23	126	18014	0.925	ppbv	71
63) Propylbenzene	20.25	91	126297	0.908	ppbv	97
64) 4-Ethyltoluene	20.39	105	63145	0.879	ppbv	98
65] m,p-Xylene	18.78	106	43084	1.767	ppbv	96
66] o-Xylene	19.23	106	20315	0.895	ppbv	92
67) Styrene	19.11	104	30722	0.901	ppbv	93
68) Bromoform	18.87	173	56024	0.972	ppbv	91
70] Benzyl chloride	21.02	91	52409	0.921	ppbv	94
71) 1,3,5-Trimethylbenzene	20.45	105	55401	0.858	ppbv	91
72) 1,2,4-Trimethylbenzene	20.87	105	52368	0.856	ppbv	98
73] 1,3-Dichlorobenzene	21.05	146	50050	0.932	ppbv	94
74] 1,4-Dichlorobenzene	21.13	146	48417	0.888	ppbv	95
75] 1,2-Dichlorobenzene	21.49	146	48648	0.936	ppbv	94
76) 1,2,4-Trichlorobenzene	23.75	180	49005	1.061	ppbv	93
77] Naphthalene	23.95	128	58257	1.090	ppbv	98
78] Hexachlorobutadiene	24.54	225	62513	1.029	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:55:28 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:55:28 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev (min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	1.000	1.237	-23.7	100	-0.04
3 TMP	Dichlorodifluoromethane	1.000	1.019	-1.9	100	0.00
4 TMP	Chloromethane	1.000	1.153	-15.3	101	-0.04
5 TMP	F-114	1.000	0.937	6.3	104	0.00
6 TMP	Vinyl chloride	1.000	1.031	-3.1	100	0.00
7 TMP	1,3-Butadiene	1.000	0.974	2.6	100	0.00
8 TMP	Butane	1.000	1.088	-8.8	100	0.00
9 TMP	Bromomethane	1.000	1.031	-3.1	100	0.00
10 TMP	Chloroethane	1.000	0.998	0.2	99	0.00
11 TMP	Vinyl bromide	1.000	0.992	0.8	101	0.00
12 TMP	Ethanol	1.000	0.000	100.0#	0	-4.98#
13 TMP	Acrolein	1.000	1.039	-3.9	102	0.00
14 TMP	Pentane	1.000	0.857	14.3	100	-0.03
15 TMP	Trichlorofluoromethane	1.000	1.095	-9.5	100	0.00
16 TMP	Acetone	1.000	1.138	-13.8	100	0.00
17 TMP	2-Propanol	1.000	0.925	7.5	100	0.00
18 TMP	1,1-Dichloroethene	1.000	0.936	6.4	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.000	0.941	5.9	100	0.00
20 TMP	Methylene chloride	1.000	1.121	-12.1	100	0.00
21 TMP	t-Butyl alcohol (TBA)	1.000	0.998	0.2	100	0.00
22 TMP	3-Chloropropene	1.000	1.024	-2.4	100	-0.03
23 TMP	CFC-113	1.000	0.932	6.8	100	-0.03
24 TMP	Carbon disulfide	1.000	1.058	-5.8	100	-0.03
25 TMP	Methyl t-butyl ether (MTBE)	1.000	0.989	1.1	100	0.00
26 TMP	Vinyl acetate	1.000	1.128	-12.8	100	0.00
27 TMP	1,1-Dichloroethane	1.000	0.985	1.5	100	-0.03
28 TMP	cis-1,2-Dichloroethene	1.000	0.938	6.2	100	-0.02
29 TMP	Hexane	1.000	1.003	-0.3	100	0.00
30 TMP	Chloroform	1.000	0.986	1.4	101	0.00
31 TMP	Ethyl acetate	1.000	0.966	3.4	100	0.00
32 TMP	Tetrahydrofuran	1.000	0.925	7.5	100	0.00
33 TMP	2-Butanone (MEK)	1.000	1.115	-11.5	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	1.000	0.987	1.3	101	0.00
35 TMP	1,1,1-Trichloroethane	1.000	1.039	-3.9	105	0.00
36 TMP	Carbon tetrachloride	1.000	0.989	1.1	100	0.00
37 TMP	Benzene	1.000	0.978	2.2	100	0.00
38 TMP	Cyclohexane	1.000	1.081	-8.1	99	-0.02
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.02
40 TMP	1,2-Dichloropropane	1.000	1.016	-1.6	100	0.00
41 TMP	1,4-Dioxane	1.000	1.038	-3.8	100	0.00
42 TMP	2,2,4-Trimethylpentane	1.000	1.031	-3.1	100	0.00
43 TMP	Methyl methacrylate	1.000	1.068	-6.8	100	0.00
44 TMP	Heptane	1.000	1.115	-11.5	100	0.00
45 TMP	Bromodichloromethane	1.000	1.020	-2.0	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:55:28 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	1.000	0.978	2.2	100	0.00
47	TMP cis-1,3-Dichloropropene	1.000	1.005	-0.5	100	0.00
48	TMP 4-Methyl-2-pentanone	1.000	1.024	-2.4	100	0.00
49	TMP trans-1,3-Dichloropropene	1.000	1.017	-1.7	100	0.00
50	TMP Toluene	1.000	1.082	-8.2	104	0.00
51	TMP 1,1,2-Trichloroethane	1.000	1.097	-9.7	100	0.00
52	TMP 2-Hexanone	1.000	1.039	-3.9	106	0.00
53	TMP Tetrachloroethene	1.000	1.072	-7.2	100	0.00
54	TMP Dibromochloromethane	1.000	1.044	-4.4	100	0.00
55	TMP 1,2-Dibromoethane (EDB)	1.000	1.041	-4.1	100	0.00
56	I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57	TMP Chlorobenzene	1.000	1.013	-1.3	100	0.00
58	TMP Ethylbenzene	1.000	0.924	7.6	100	0.00
59	TMP 1,1,2,2-Tetrachloroethane	1.000	0.937	6.3	100	0.00
60	TMP Nonane	1.000	0.882	11.8	100	0.00
61	TMP Isopropylbenzene	1.000	0.938	6.2	100	0.00
62	TMP 2-Chlorotoluene	1.000	0.925	7.5	100	0.00
63	TMP Propylbenzene	1.000	0.908	9.2	100	0.00
64	TMP 4-Ethyltoluene	1.000	0.879	12.1	100	0.00
65	TMP m,p-Xylene	2.000	1.767	11.7	100	0.00
66	TMP o-Xylene	1.000	0.895	10.5	100	0.00
67	TMP Styrene	1.000	0.901	9.9	100	0.00
68	TMP Bromoform	1.000	0.972	2.8	100	0.00
69	S 4-Bromofluorobenzene	10.000	9.769	2.3	100	0.00
70	TMP Benzyl chloride	1.000	0.921	7.9	100	0.01
71	TMP 1,3,5-Trimethylbenzene	1.000	0.858	14.2	100	0.00
72	TMP 1,2,4-Trimethylbenzene	1.000	0.856	14.4	100	0.00
73	TMP 1,3-Dichlorobenzene	1.000	0.932	6.8	100	0.00
74	TMP 1,4-Dichlorobenzene	1.000	0.888	11.2	100	0.01
75	TMP 1,2-Dichlorobenzene	1.000	0.936	6.4	100	0.00
76	TMP 1,2,4-Trichlorobenzene	1.000	1.061	-6.1	100	0.00
77	TMP Naphthalene	1.000	1.090	-9.0	100	0.00
78	TMP Hexachlorobutadiene	1.000	1.029	-2.9	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:55:28 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	0.552	0.683	-23.7	100	-0.04
3 TMP	Dichlorodifluoromethane	4.565	4.652	-1.9	100	0.00
4 TMP	Chloromethane	0.776	0.895	-15.3	101	-0.04
5 TMP	F-114	3.419	3.204	6.3	104	0.00
6 TMP	Vinyl chloride	1.082	1.116	-3.1	100	0.00
7 TMP	1,3-Butadiene	0.605	0.590	2.5	100	0.00
8 TMP	Butane	1.161	1.263	-8.8	100	0.00
9 TMP	Bromomethane	1.196	1.232	-3.0	100	0.00
10 TMP	Chloroethane	0.395	0.394	0.3	99	0.00
11 TMP	Vinyl bromide	1.286	1.277	0.7	101	0.00
12 TMP	Ethanol	0.174	0.000	100.0#	0#	-4.98#
13 TMP	Acrolein	0.252	0.236	6.3	102	0.00
14 TMP	Pentane	1.140	0.977	14.3	100	-0.03
15 TMP	Trichlorofluoromethane	5.069	5.552	-9.5	100	0.00
16 TMP	Acetone	0.404	0.460	-13.9	100	0.00
17 TMP	2-Propanol	1.563	1.446	7.5	100	0.00
18 TMP	1,1-Dichloroethene	1.255	1.175	6.4	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.195	1.125	5.9	100	0.00
20 TMP	Methylene chloride	1.141	1.280	-12.2	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.068	2.064	0.2	100	0.00
22 TMP	3-Chloropropene	1.240	1.270	-2.4	100	-0.03
23 TMP	CFC-113	3.311	3.086	6.8	100	-0.03
24 TMP	Carbon disulfide	0.538	0.569	-5.8	100	-0.03
25 TMP	Methyl t-butyl ether (MTBE)	2.982	2.950	1.1	100	0.00
26 TMP	Vinyl acetate	1.012	1.142	-12.8	100	0.00
27 TMP	1,1-Dichloroethane	2.186	2.153	1.5	100	-0.03
28 TMP	cis-1,2-Dichloroethene	1.262	1.184	6.2	100	-0.02
29 TMP	Hexane	1.109	1.112	-0.3	100	0.00
30 TMP	Chloroform	3.255	3.210	1.4	101	0.00
31 TMP	Ethyl acetate	2.770	2.675	3.4	100	0.00
32 TMP	Tetrahydrofuran	0.872	0.807	7.5	100	0.00
33 TMP	2-Butanone (MEK)	0.459	0.512	-11.5	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	2.237	2.208	1.3	101	0.00
35 TMP	1,1,1-Trichloroethane	3.544	3.681	-3.9	105	0.00
36 TMP	Carbon tetrachloride	4.146	4.100	1.1	100	0.00
37 TMP	Benzene	3.534	3.456	2.2	100	0.00
38 TMP	Cyclohexane	0.985	1.064	-8.0	99	-0.02
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.02
40 TMP	1,2-Dichloropropane	0.330	0.335	-1.5	100	0.00
41 TMP	1,4-Dioxane	0.175	0.182	-4.0	100	0.00
42 TMP	2,2,4-Trimethylpentane	0.861	0.888	-3.1	100	0.00
43 TMP	Methyl methacrylate	0.296	0.316	-6.8	100	0.00
44 TMP	Heptane	0.327	0.365	-11.6	100	0.00
45 TMP	Bromodichloromethane	0.825	0.842	-2.1	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030422.D  
 Acq On : 5 Mar 2022 8:12 am  
 Operator : bat  
 Sample : 1.0 ppbv , 65-194B  
 Misc : T3  
 ALS Vial : 22 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 16:55:28 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.503	0.492	2.2	100	0.00
47 TMP cis-1,3-Dichloropropene	0.529	0.532	-0.6	100	0.00
48 TMP 4-Methyl-2-pentanone	0.038	0.039	-2.6	100	0.00
49 TMP trans-1,3-Dichloropropene	0.508	0.516	-1.6	100	0.00
50 TMP Toluene	0.513	0.555	-8.2	104	0.00
51 TMP 1,1,2-Trichloroethane	0.372	0.408	-9.7	100	0.00
52 TMP 2-Hexanone	0.484	0.503	-3.9	106	0.00
53 TMP Tetrachloroethene	0.508	0.544	-7.1	100	0.00
54 TMP Dibromochloromethane	0.909	0.949	-4.4	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.658	0.685	-4.1	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	0.933	0.946	-1.4	100	0.00
58 TMP Ethylbenzene	1.442	1.332	7.6	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.993	0.931	6.2	100	0.00
60 TMP Nonane	0.561	0.495	11.8	100	0.00
61 TMP Isopropylbenzene	1.680	1.577	6.1	100	0.00
62 TMP 2-Chlorotoluene	0.432	0.400	7.4	100	0.00
63 TMP Propylbenzene	3.087	2.804	9.2	100	0.00
64 TMP 4-Ethyltoluene	1.595	1.402	12.1	100	0.00
65 TMP m,p-Xylene	0.541	0.478	11.6	100	0.00
66 TMP o-Xylene	0.504	0.451	10.5	100	0.00
67 TMP Styrene	0.757	0.682	9.9	100	0.00
68 TMP Bromoform	1.279	1.244	2.7	100	0.00
69 S 4-Bromofluorobenzene	0.742	0.725	2.3	100	0.00
70 TMP Benzyl chloride	1.263	1.163	7.9	100	0.01
71 TMP 1,3,5-Trimethylbenzene	1.434	1.230	14.2	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.359	1.163	14.4	100	0.00
73 TMP 1,3-Dichlorobenzene	1.193	1.111	6.9	100	0.00
74 TMP 1,4-Dichlorobenzene	1.211	1.075	11.2	100	0.01
75 TMP 1,2-Dichlorobenzene	1.153	1.080	6.3	100	0.00
76 TMP 1,2,4-Trichlorobenzene	1.110	1.088	2.0	100	0.00
77 TMP Naphthalene	1.414	1.293	8.6	100	0.00
78 TMP Hexachlorobutadiene	1.608	1.388	13.7	100	0.00

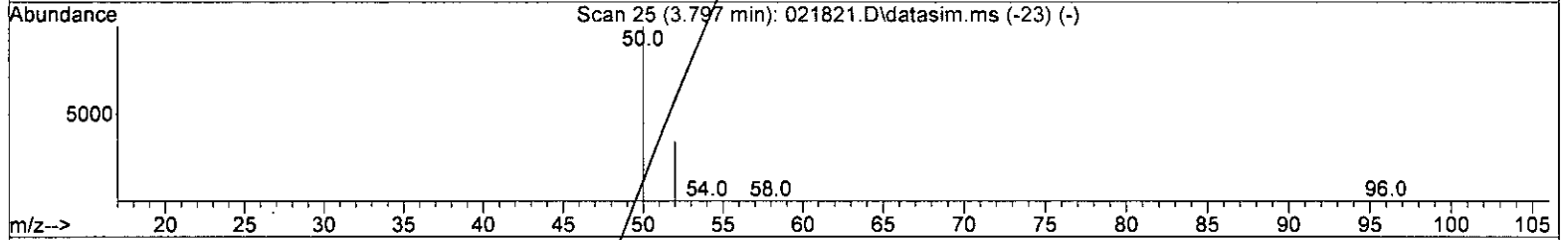
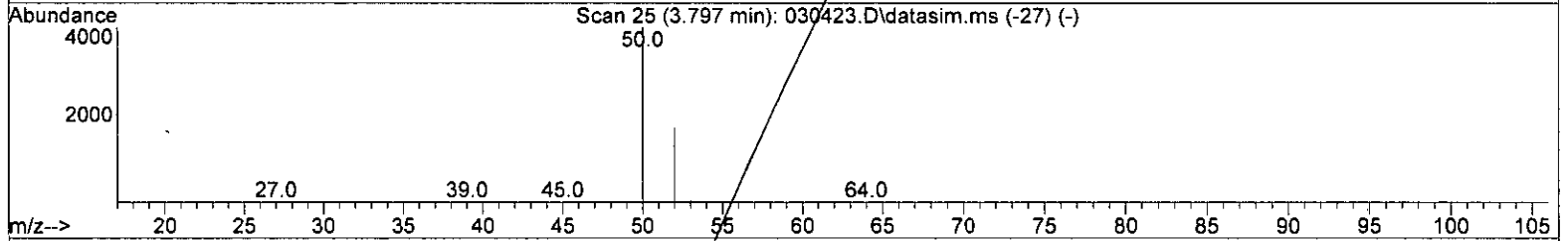
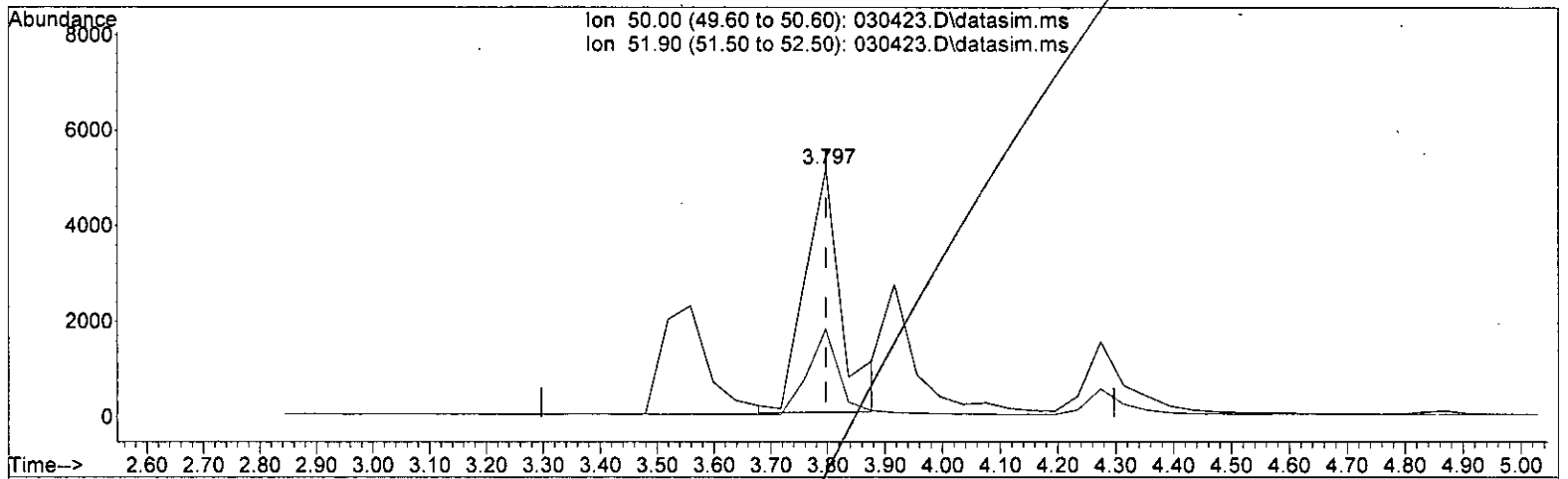
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030423.D  
 Acq On : 5 Mar 2022 8:52 am  
 Operator : bat  
 Sample : 2.5 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:30 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(4) Chloromethane (TMP)

3.797min (+ 0.000) 2.578 ppbv

response 23040

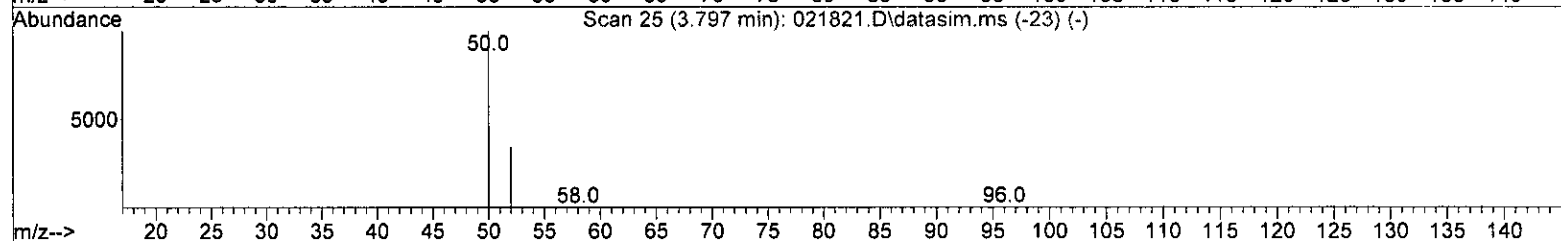
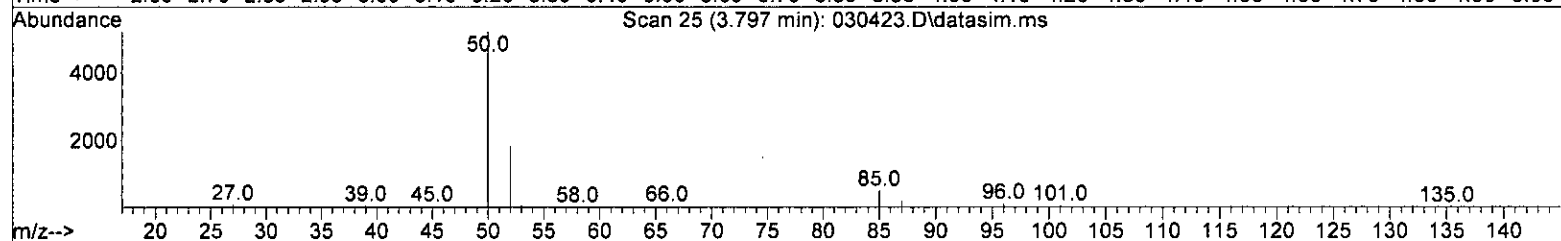
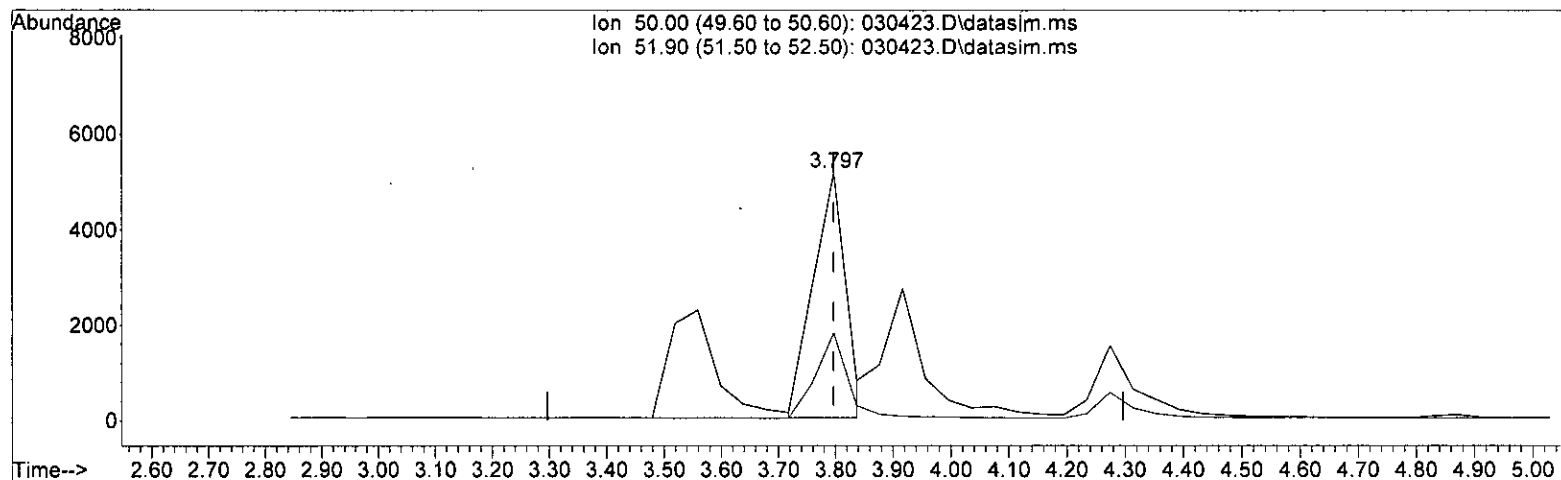
Ion	Exp%	Act%
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51.90	25.30	35.95
0.00	0.00	0.00
0.00	0.00	0.00

*h/h  
3/7/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030423.D  
 Acq On : 5 Mar 2022 8:52 am  
 Operator : bat  
 Sample : 2.5 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:30 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(4) Chloromethane (TMP)

3.797min (+ 0.000) 2.302 ppbv m

response 20577

Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	35.40
0.00	0.00	0.00
0.00	0.00	0.00

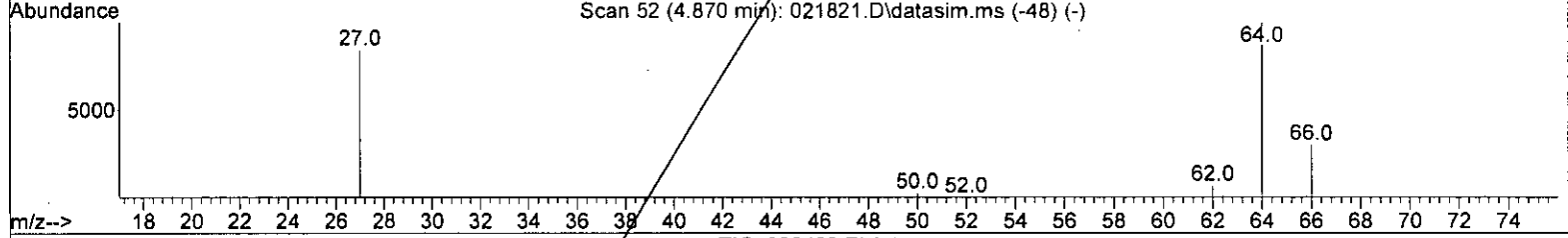
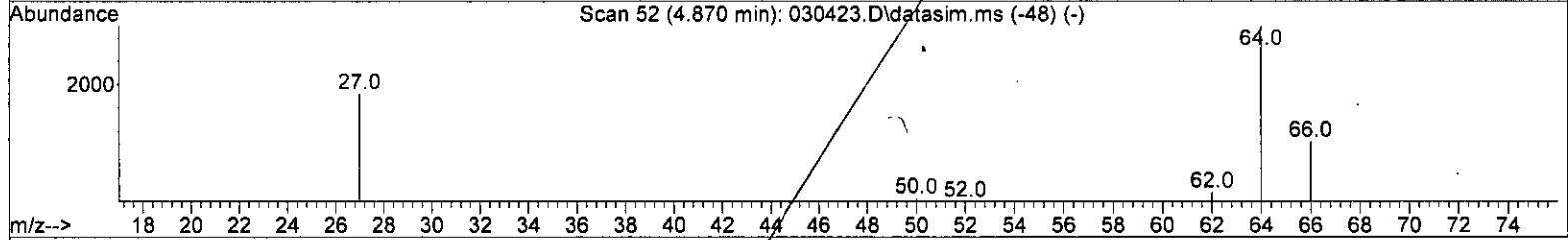
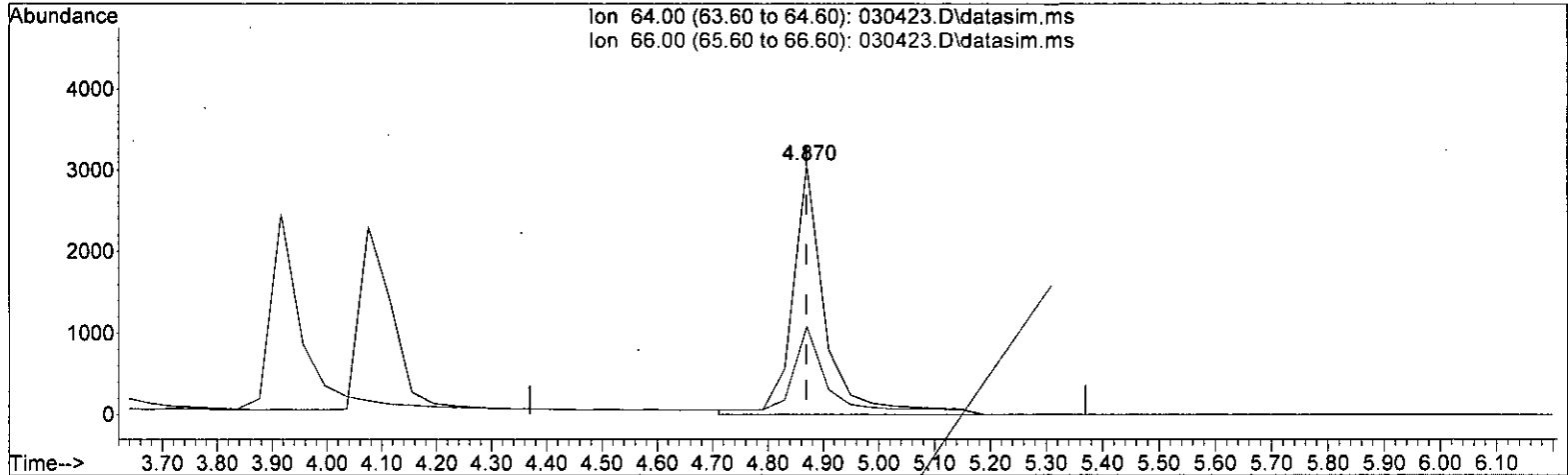
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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030423.D  
 Acq On : 5 Mar 2022 8:52 am  
 Operator : bat  
 Sample : 2.5 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:30 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030423.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 2.640 ppbv

response 12010

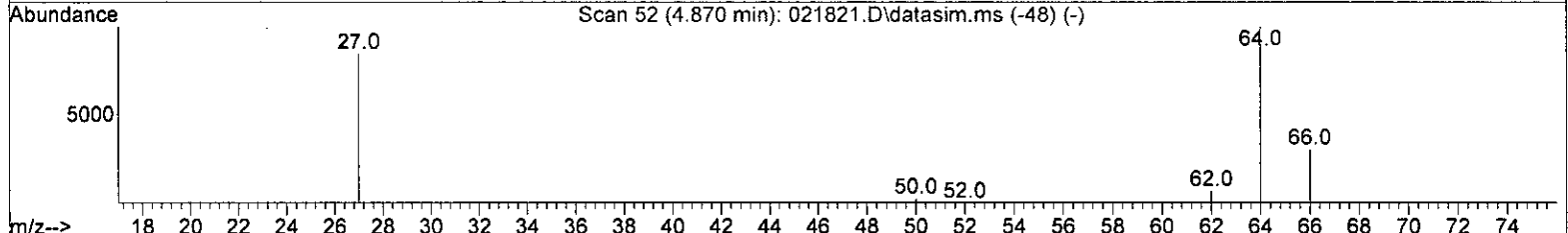
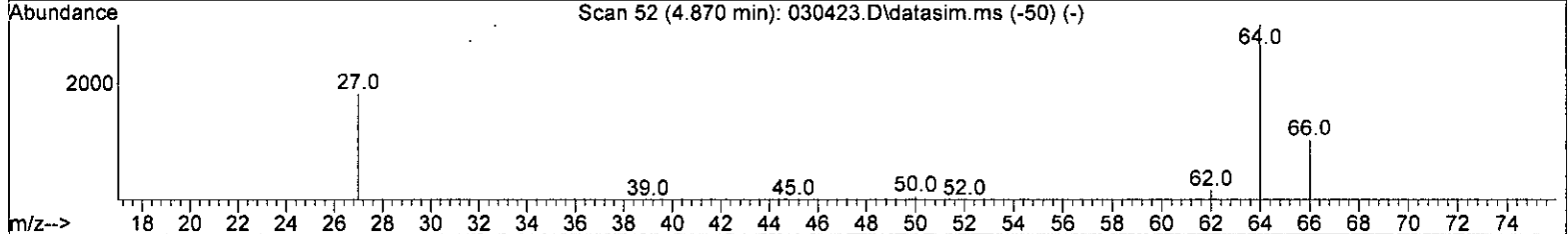
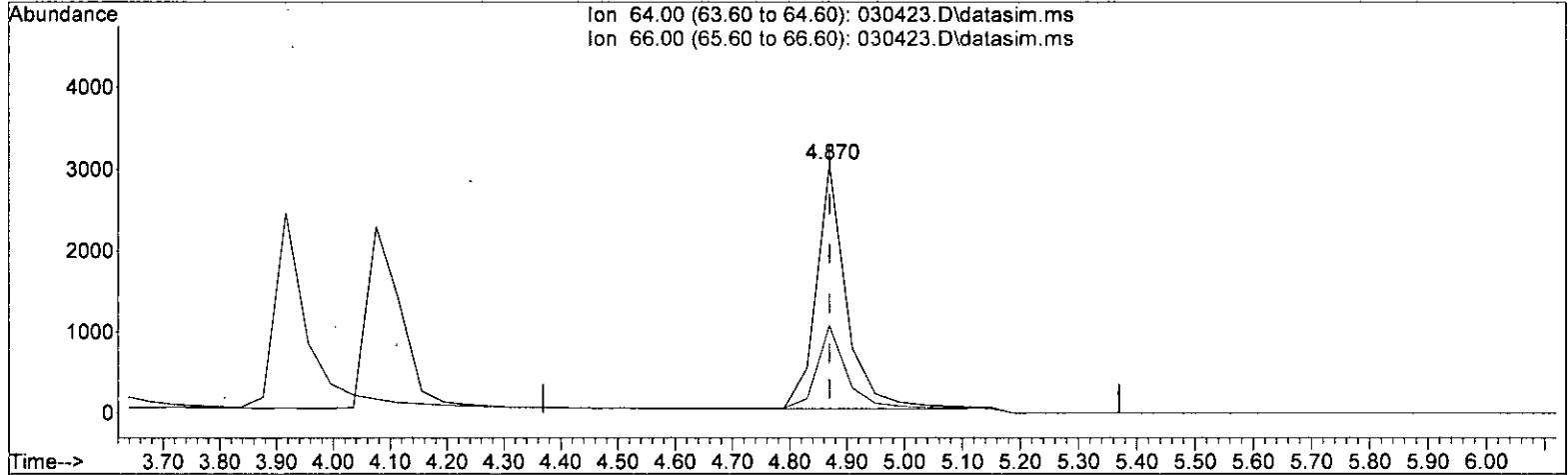
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	35.29
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030423.D  
 Acq On : 5 Mar 2022 8:52 am  
 Operator : bat  
 Sample : 2.5 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:30 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030423.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 2.450 ppbv m

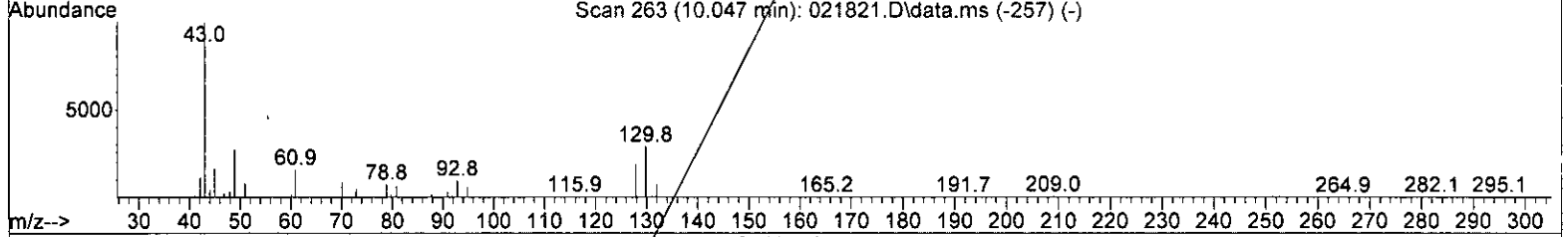
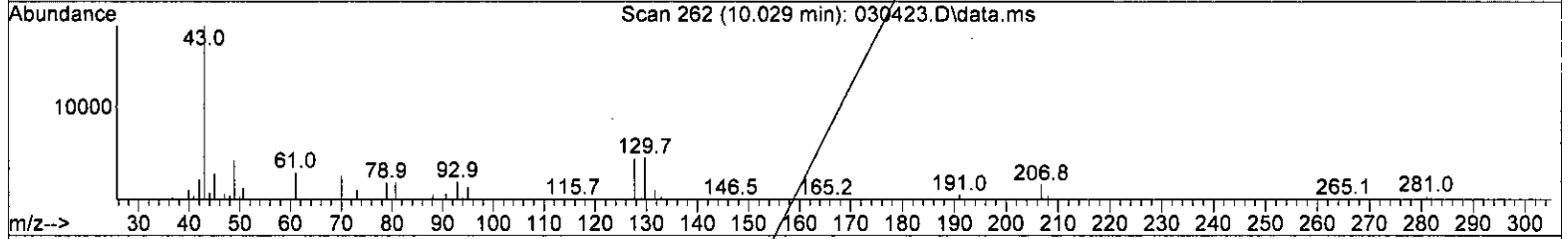
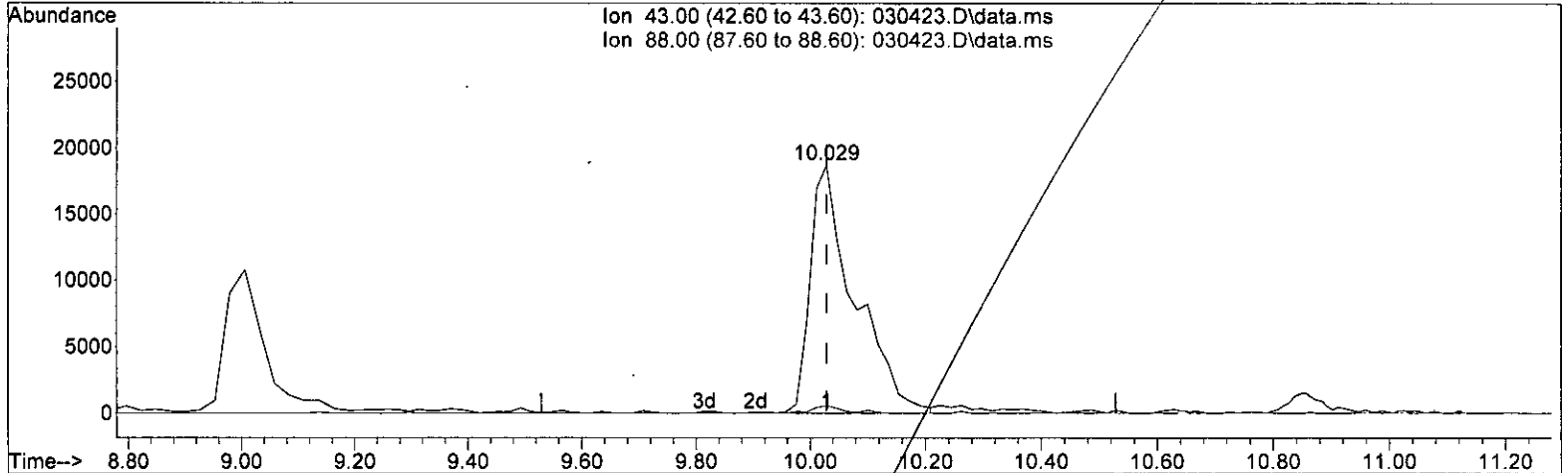
response	11142	
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	35.29
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: R. J. Hu*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030423.D  
 Acq On : 5 Mar 2022 8:52 am  
 Operator : bat  
 Sample : 2.5 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:30 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



*Handwritten signature/initials*

(31) Ethyl acetate (TMP)

10.029min (+ 0.000) 3.141 ppbv

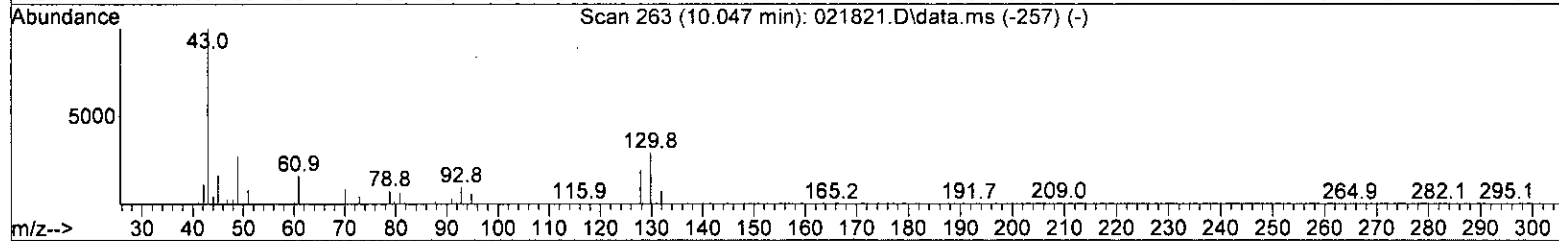
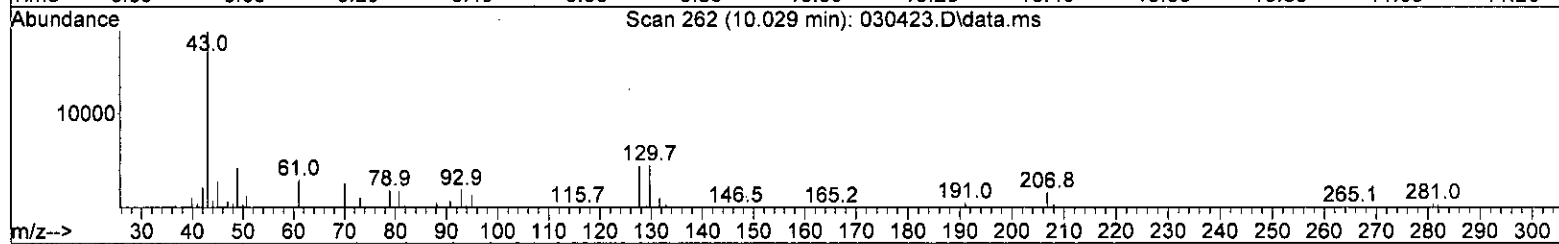
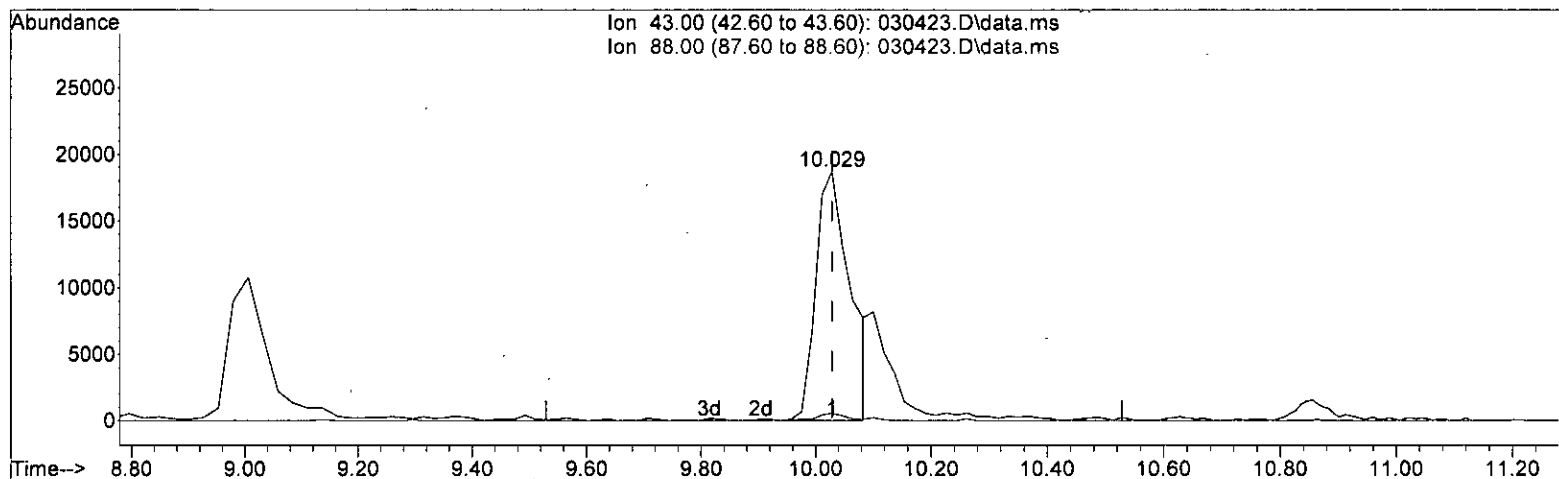
response 100190

Ion	Exp%	Act%
43.00	100.00	100.00
88.00	1.70	1.85
0.00	0.00	0.00
0.00	0.00	0.00

TIC: 030423.D\data.ms

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030423.D  
 Acq On : 5 Mar 2022 8:52 am  
 Operator : bat  
 Sample : 2.5 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:30 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030423.D\data.ms

(31) Ethyl acetate (TMP)

10.029min (+ 0.000) 2.459 ppbv m

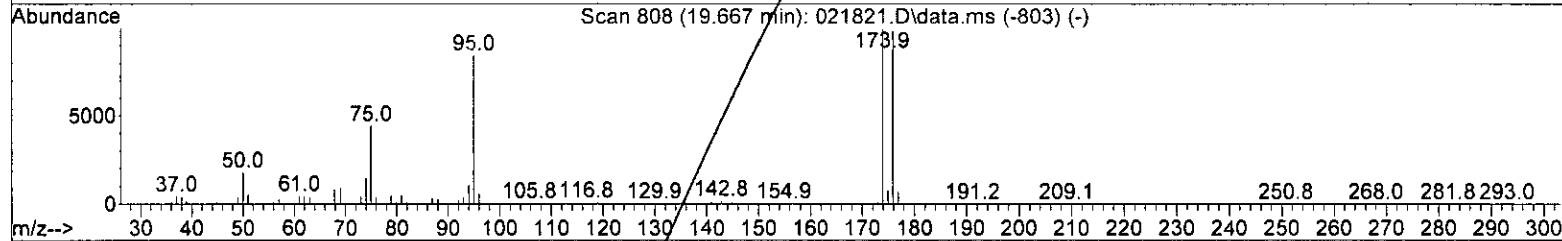
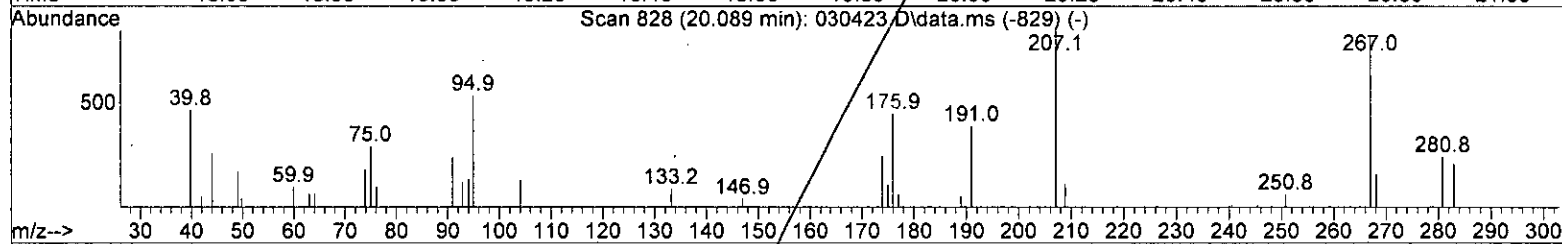
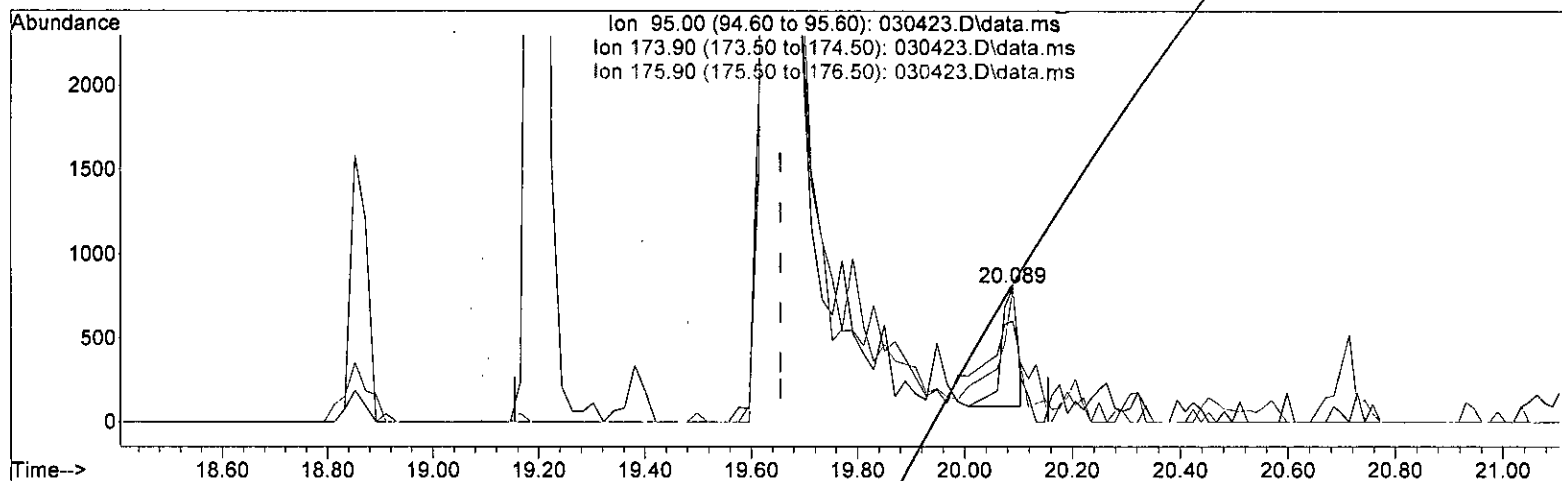
response	78434
Ion	Exp% Act%
43.00	100.00 100.00
88.00	1.70 2.37#
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030423.D  
 Acq On : 5 Mar 2022 8:52 am  
 Operator : bat  
 Sample : 2.5 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:30 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030423.D\data.ms

(69) 4-Bromofluorobenzene (S)

20.089min (+ 0.434) 0.072 ppbv

response 2285

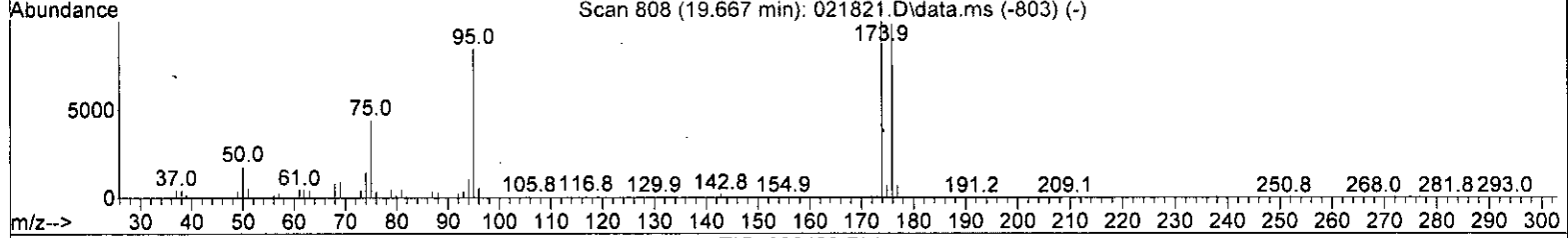
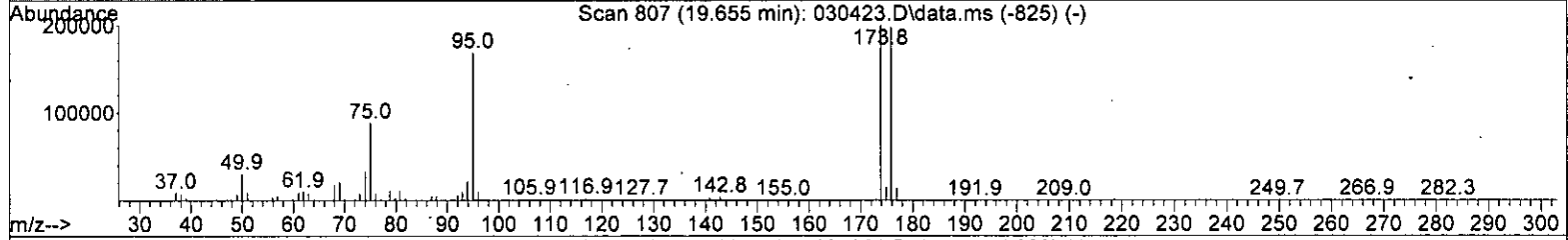
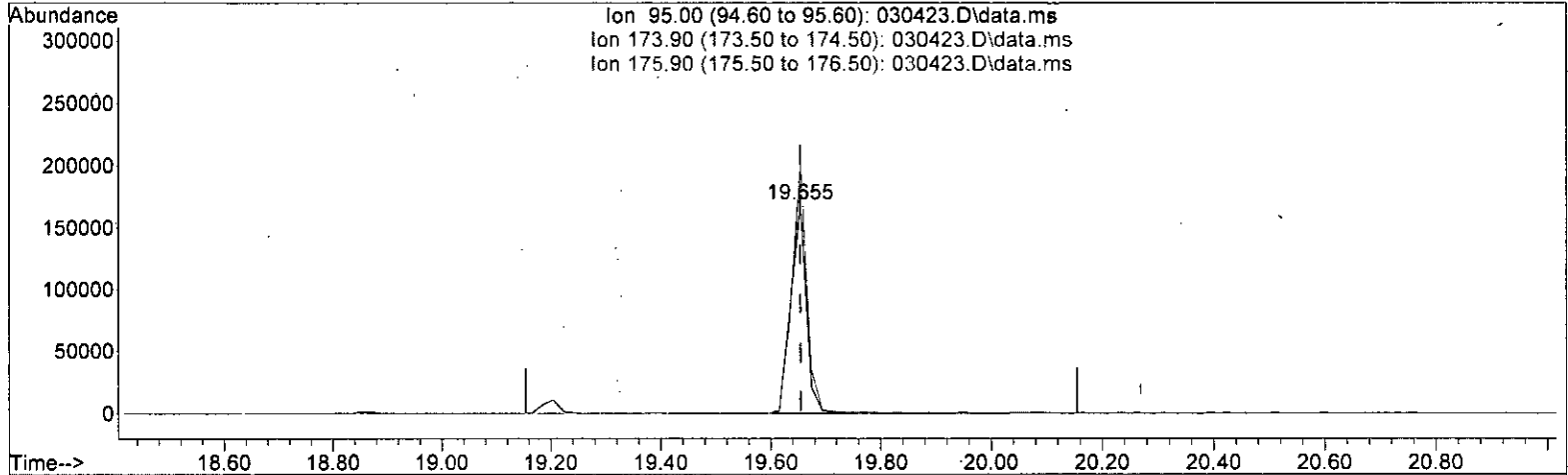
Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	46.33
175.90	70.90	82.34
0.00	0.00	0.00

*Handwritten note:* 10 3/7/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030423.D  
 Acq On : 5 Mar 2022 8:52 am  
 Operator : bat  
 Sample : 2.5 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:30 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030423.D\data.ms

(69) 4-Bromofluorobenzene (S)

19.655min (-0.000) 10.434 ppbv m

response 332881

Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	118.60#
175.90	70.90	117.27#
0.00	0.00	0.00

*Handwritten signature: W 3/7/22*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030423.D  
 Acq On : 5 Mar 2022 8:52 am  
 Operator : bat  
 Sample : 2.5 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:01:47 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	9.98	128	115134	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.21	114	457460	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	429887	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.65	95	332881m	10.434	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	104.30%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.47	41	16266	2.561	ppbv	96
3) Dichlorodifluoromethane	3.55	85	123106	2.342	ppbv	100
4) Chloromethane	3.80	50	20577m	2.302	ppbv	
5) F-114	3.91	85	96345	2.448	ppbv	76
6) Vinyl chloride	4.08	62	28776	2.310	ppbv	98
7) 1,3-Butadiene	4.27	54	16888	2.423	ppbv #	77
8) Butane	4.35	43	32283	2.416	ppbv	95
9) Bromomethane	4.67	94	34260	2.489	ppbv	85
10) Chloroethane	4.87	64	11142m	2.450	ppbv	
11) Vinyl bromide	5.34	106	36228	2.446	ppbv	87
12) Ethanol	4.98	45	5292	2.646	ppbv	88
13) Acrolein	5.46	56	6782	2.586	ppbv	98
14) Pentane	6.35	43	37102	2.826	ppbv	92
15) Trichlorofluoromethane	5.89	101	155147	2.658	ppbv	94
16) Acetone	5.63	58	14789	3.177	ppbv #	85
17) 2-Propanol	5.89	45	46780	2.599	ppbv #	96
18) 1,1-Dichloroethene	6.73	96	34686	2.401	ppbv	91
19) trans-1,2-Dichloroethene	8.17	96	33642	2.445	ppbv	89
20) Methylene chloride	6.85	84	35738	2.720	ppbv #	75
21) t-Butyl alcohol (TBA)	6.67	59	58577	2.461	ppbv #	90
22) 3-Chloropropene	7.03	41	37222	2.607	ppbv #	75
23) CFC-113	7.25	101	90519	2.375	ppbv	82
24) Carbon disulfide	7.03	76	15433	2.491	ppbv #	43
25) Methyl t-butyl ether (...)	8.53	73	77637	2.261	ppbv	78
26) Vinyl acetate	8.64	43	24579	2.109	ppbv	93
27) 1,1-Dichloroethane	8.46	63	64423	2.559	ppbv	97
28) cis-1,2-Dichloroethene	9.73	96	35295	2.430	ppbv	86
29) Hexane	10.10	57	29325	2.297	ppbv #	62
30) Chloroform	10.18	83	93889	2.505	ppbv	100
31) Ethyl acetate	10.03	43	78434m	2.459	ppbv	
32) Tetrahydrofuran	10.85	42	24329	2.424	ppbv	68
33) 2-Butanone (MEK)	9.01	72	16103	3.048	ppbv #	34
34) 1,2-Dichloroethane (EDC)	11.44	62	66465	2.580	ppbv	98
35) 1,1,1-Trichloroethane	11.92	97	102355	2.509	ppbv	95
36) Carbon tetrachloride	12.94	117	117379	2.459	ppbv	99
37) Benzene	12.69	78	98809	2.429	ppbv	89
38) Cyclohexane	13.15	84	27192	2.399	ppbv #	67
40) 1,2-Dichloropropane	13.88	63	37183	2.466	ppbv	68
41) 1,4-Dioxane	14.17	88	20825	2.599	ppbv	64
42) 2,2,4-Trimethylpentane	14.29	57	99460	2.524	ppbv #	77

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030423.D  
 Acq On : 5 Mar 2022 8:52 am  
 Operator : bat  
 Sample : 2.5 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:01:47 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15sss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

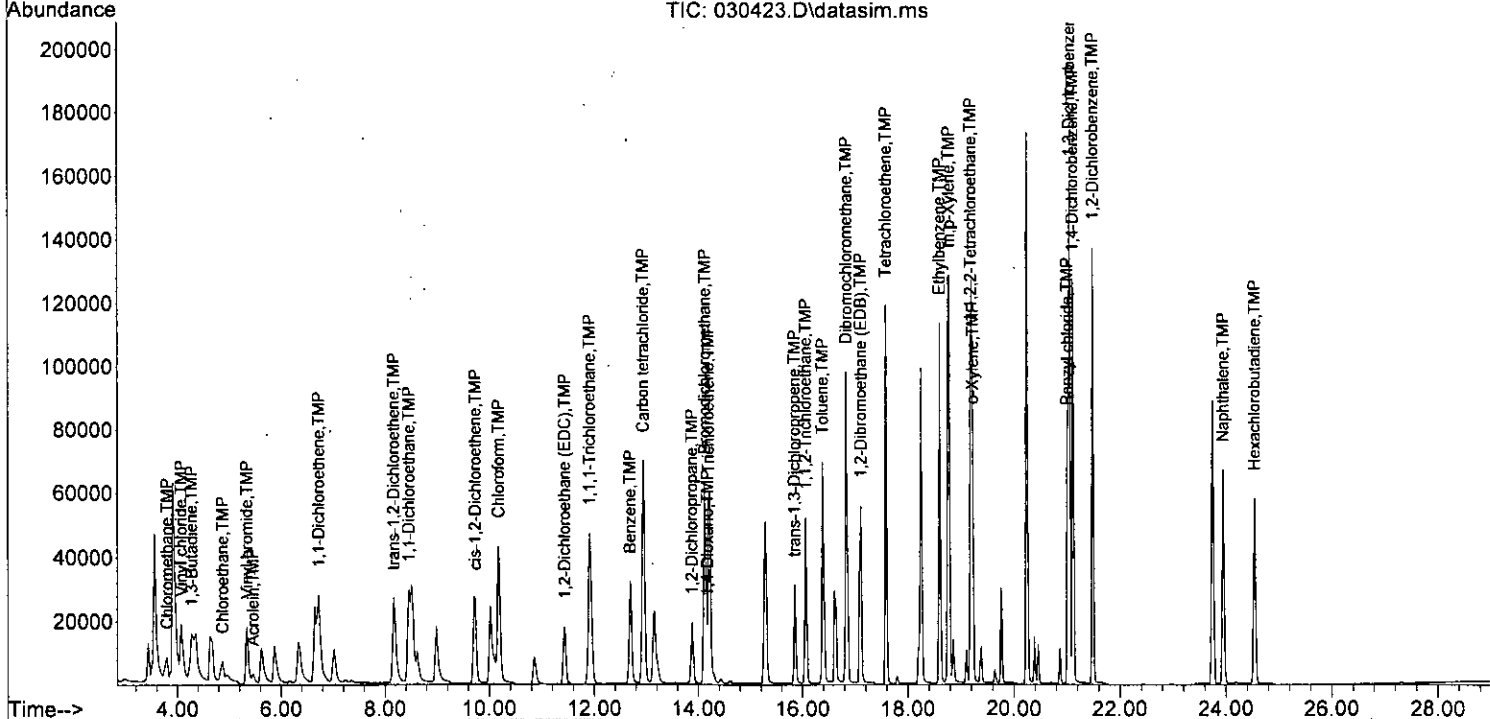
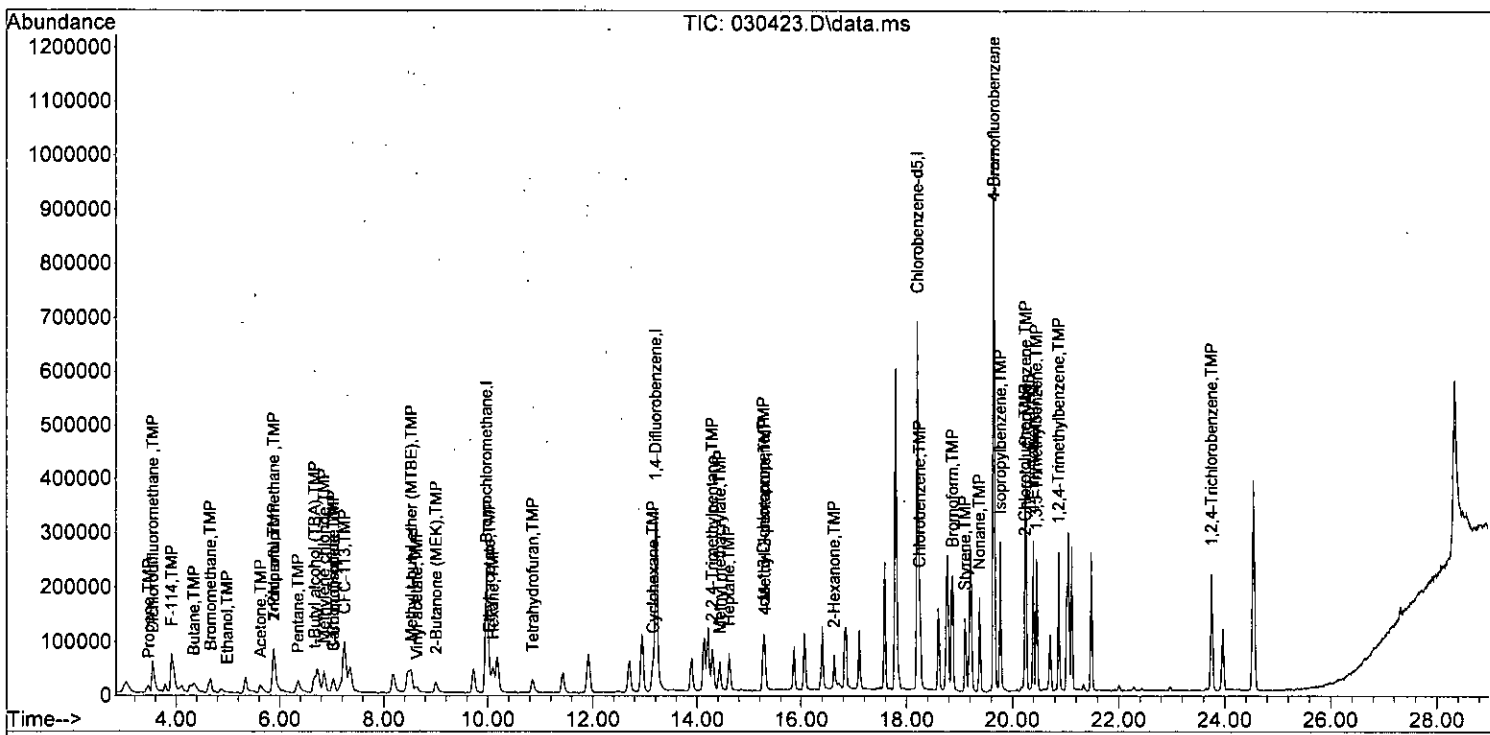
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43] Methyl methacrylate	14.44	41	34989	2.586	ppbv #	82
44] Heptane	14.61	43	36095	2.413	ppbv	80
45] Bromodichloromethane	14.13	83	97721	2.588	ppbv	94
46] Trichloroethene	14.20	95	57314	2.489	ppbv	84
47] cis-1,3-Dichloropropene	15.28	75	61105	2.523	ppbv	93
48] 4-Methyl-2-pentanone	15.30	100	4656	2.680	ppbv #	32
49] trans-1,3-Dichloropropene	15.85	75	57852	2.491	ppbv	87
50] Toluene	16.38	92	59397	2.530	ppbv	99
51] 1,1,2-Trichloroethane	16.07	83	43002	2.526	ppbv	80
52] 2-Hexanone	16.63	43	55504	2.505	ppbv	97
53] Tetrachloroethene	17.58	164	60672	2.612	ppbv	93
54] Dibromochloromethane	16.83	129	106551	2.561	ppbv	99
55] 1,2-Dibromoethane (EDB)	17.11	107	74034	2.459	ppbv	98
57] Chlorobenzene	18.25	112	102501	2.555	ppbv	94
58] Ethylbenzene	18.60	91	151387	2.443	ppbv	94
59] 1,1,2,2-Tetrachloroethane	19.19	83	108065	2.531	ppbv	100
60] Nonane	19.38	43	59436	2.463	ppbv	89
61] Isopropylbenzene	19.77	105	187113	2.591	ppbv	99
62] 2-Chlorotoluene	20.23	126	47592	2.560	ppbv	77
63] Propylbenzene	20.25	91	344560	2.596	ppbv	98
64] 4-Ethyltoluene	20.39	105	177792	2.592	ppbv	98
65] m,p-Xylene	18.78	106	111375	4.788	ppbv	95
66] o-Xylene	19.23	106	55965	2.585	ppbv	90
67] Styrene	19.11	104	81302	2.498	ppbv	90
68] Bromoform	18.87	173	143251	2.605	ppbv	95
70] Benzyl chloride	21.01	91	139304	2.566	ppbv	91
71] 1,3,5-Trimethylbenzene	20.45	105	162868	2.642	ppbv	98
72] 1,2,4-Trimethylbenzene	20.87	105	149447	2.559	ppbv	98
73] 1,3-Dichlorobenzene	21.05	146	132973	2.594	ppbv	93
74] 1,4-Dichlorobenzene	21.11	146	128860	2.475	ppbv	88
75] 1,2-Dichlorobenzene	21.49	146	124931	2.520	ppbv	94
76] 1,2,4-Trichlorobenzene	23.75	180	103192	2.325	ppbv	99
77] Naphthalene	23.95	128	131896	2.413	ppbv	98
78] Hexachlorobutadiene	24.54	225	131257	2.298	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed



Data Path : F:\Proc\_GCMS8\03-04-22\  
Data File : 030423.D  
Acq On : 5 Mar 2022 8:52 am  
Operator : bat  
Sample : 2.5 ppbv , 65-194a  
Misc : T4  
ALS Vial : 23 Sample Multiplier: 1  
InstName : GCMS8

Quant Time: Mar 07 17:01:47 2022  
Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
Quant Title : TO-15 SS method  
QLast Update : Mon Mar 07 12:56:32 2022  
Response via : Initial Calibration  
DataAcq Meth:TO15NA.M



Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030423.D  
 Acq On : 5 Mar 2022 8:52 am  
 Operator : bat  
 Sample : 2.5 ppbv , 65-194a  
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Quant Time: Mar 07 17:01:47 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	2.500	2.561	-2.4	100	0.00
3 TMP	Dichlorodifluoromethane	2.500	2.342	6.3	100	0.00
4 TMP	Chloromethane	2.500	2.302	7.9	100	0.00
5 TMP	F-114	2.500	2.448	2.1	102	0.00
6 TMP	Vinyl chloride	2.500	2.310	7.6	100	0.00
7 TMP	1,3-Butadiene	2.500	2.423	3.1	100	0.00
8 TMP	Butane	2.500	2.416	3.4	100	0.00
9 TMP	Bromomethane	2.500	2.489	0.4	100	0.00
10 TMP	Chloroethane	2.500	2.450	2.0	100	0.00
11 TMP	Vinyl bromide	2.500	2.446	2.2	100	0.00
12 TMP	Ethanol	2.500	2.646	-5.8	100	0.00
13 TMP	Acrolein	2.500	2.586	-3.4	100	0.00
14 TMP	Pentane	2.500	2.826	-13.0	100	0.00
15 TMP	Trichlorofluoromethane	2.500	2.658	-6.3	100	0.00
16 TMP	Acetone	2.500	3.177	-27.1	100	0.00
17 TMP	2-Propanol	2.500	2.599	-4.0	100	0.00
18 TMP	1,1-Dichloroethene	2.500	2.401	4.0	100	0.00
19 TMP	trans-1,2-Dichloroethene	2.500	2.445	2.2	100	0.00
20 TMP	Methylene chloride	2.500	2.720	-8.8	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.500	2.461	1.6	100	0.00
22 TMP	3-Chloropropene	2.500	2.607	-4.3	100	0.00
23 TMP	CFC-113	2.500	2.375	5.0	100	0.00
24 TMP	Carbon disulfide	2.500	2.491	0.4	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	2.500	2.261	9.6	100	0.00
26 TMP	Vinyl acetate	2.500	2.109	15.6	100	0.00
27 TMP	1,1-Dichloroethane	2.500	2.559	-2.4	100	0.00
28 TMP	cis-1,2-Dichloroethene	2.500	2.430	2.8	100	0.00
29 TMP	Hexane	2.500	2.297	8.1	100	0.00
30 TMP	Chloroform	2.500	2.505	-0.2	100	0.00
31 TMP	Ethyl acetate	2.500	2.459	1.6	100	0.00
32 TMP	Tetrahydrofuran	2.500	2.424	3.0	100	0.00
33 TMP	2-Butanone (MEK)	2.500	3.048	-21.9	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	2.500	2.580	-3.2	100	0.00
35 TMP	1,1,1-Trichloroethane	2.500	2.509	-0.4	100	0.00
36 TMP	Carbon tetrachloride	2.500	2.459	1.6	100	0.00
37 TMP	Benzene	2.500	2.429	2.8	100	0.00
38 TMP	Cyclohexane	2.500	2.399	4.0	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	2.500	2.466	1.4	100	0.00
41 TMP	1,4-Dioxane	2.500	2.599	-4.0	100	0.00
42 TMP	2,2,4-Trimethylpentane	2.500	2.524	-1.0	100	0.00
43 TMP	Methyl methacrylate	2.500	2.586	-3.4	100	0.00
44 TMP	Heptane	2.500	2.413	3.5	100	0.00
45 TMP	Bromodichloromethane	2.500	2.588	-3.5	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030423.D  
 Acq On : 5 Mar 2022 8:52 am  
 Operator : bat  
 Sample : 2.5 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:01:47 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	2.500	2.489	0.4	100	0.00
47	TMP cis-1,3-Dichloropropene	2.500	2.523	-0.9	100	0.00
48	TMP 4-Methyl-2-pentanone	2.500	2.680	-7.2	100	0.00
49	TMP trans-1,3-Dichloropropene	2.500	2.491	0.4	100	0.00
50	TMP Toluene	2.500	2.530	-1.2	100	0.00
51	TMP 1,1,2-Trichloroethane	2.500	2.526	-1.0	100	0.00
52	TMP 2-Hexanone	2.500	2.505	-0.2	100	0.00
53	TMP Tetrachloroethene	2.500	2.612	-4.5	100	0.00
54	TMP Dibromochloromethane	2.500	2.561	-2.4	100	0.00
55	TMP 1,2-Dibromoethane (EDB)	2.500	2.459	1.6	100	0.00
56	I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57	TMP Chlorobenzene	2.500	2.555	-2.2	100	0.00
58	TMP Ethylbenzene	2.500	2.443	2.3	100	0.00
59	TMP 1,1,2,2-Tetrachloroethane	2.500	2.531	-1.2	100	0.00
60	TMP Nonane	2.500	2.463	1.5	100	0.00
61	TMP Isopropylbenzene	2.500	2.591	-3.6	100	0.00
62	TMP 2-Chlorotoluene	2.500	2.560	-2.4	100	0.00
63	TMP Propylbenzene	2.500	2.596	-3.8	100	0.00
64	TMP 4-Ethyltoluene	2.500	2.592	-3.7	100	0.00
65	TMP m,p-Xylene	5.000	4.788	4.2	100	0.00
66	TMP o-Xylene	2.500	2.585	-3.4	100	0.00
67	TMP Styrene	2.500	2.498	0.1	100	0.00
68	TMP Bromoform	2.500	2.605	-4.2	100	0.00
69	S 4-Bromofluorobenzene	10.000	10.434	-4.3	100	0.00
70	TMP Benzyl chloride	2.500	2.566	-2.6	100	0.00
71	TMP 1,3,5-Trimethylbenzene	2.500	2.642	-5.7	100	0.00
72	TMP 1,2,4-Trimethylbenzene	2.500	2.559	-2.4	100	0.00
73	TMP 1,3-Dichlorobenzene	2.500	2.594	-3.8	100	0.00
74	TMP 1,4-Dichlorobenzene	2.500	2.475	1.0	100	0.00
75	TMP 1,2-Dichlorobenzene	2.500	2.520	-0.8	100	0.00
76	TMP 1,2,4-Trichlorobenzene	2.500	2.325	7.0	100	0.00
77	TMP Naphthalene	2.500	2.413	3.5	100	0.00
78	TMP Hexachlorobutadiene	2.500	2.298	8.1	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030423.D  
 Acq On : 5 Mar 2022 8:52 am  
 Operator : bat  
 Sample : 2.5 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:01:47 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	0.552	0.565	-2.4	100	0.00
3 TMP	Dichlorodifluoromethane	4.565	4.277	6.3	100	0.00
4 TMP	Chloromethane	0.776	0.715	7.9	100	0.00
5 TMP	F-114	3.419	3.347	2.1	102	0.00
6 TMP	Vinyl chloride	1.082	1.000	7.6	100	0.00
7 TMP	1,3-Butadiene	0.605	0.587	3.0	100	0.00
8 TMP	Butane	1.161	1.122	3.4	100	0.00
9 TMP	Bromomethane	1.196	1.190	0.5	100	0.00
10 TMP	Chloroethane	0.395	0.387	2.0	100	0.00
11 TMP	Vinyl bromide	1.286	1.259	2.1	100	0.00
12 TMP	Ethanol	0.174	0.184	-5.7	100	0.00
13 TMP	Acrolein	0.252	0.236	6.3	100	0.00
14 TMP	Pentane	1.140	1.289	-13.1	100	0.00
15 TMP	Trichlorofluoromethane	5.069	5.390	-6.3	100	0.00
16 TMP	Acetone	0.404	0.514	-27.2	100	0.00
17 TMP	2-Propanol	1.563	1.625	-4.0	100	0.00
18 TMP	1,1-Dichloroethene	1.255	1.205	4.0	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.195	1.169	2.2	100	0.00
20 TMP	Methylene chloride	1.141	1.242	-8.9	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.068	2.035	1.6	100	0.00
22 TMP	3-Chloropropene	1.240	1.293	-4.3	100	0.00
23 TMP	CFC-113	3.311	3.145	5.0	100	0.00
24 TMP	Carbon disulfide	0.538	0.536	0.4	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	2.982	2.697	9.6	100	0.00
26 TMP	Vinyl acetate	1.012	0.854	15.6	100	0.00
27 TMP	1,1-Dichloroethane	2.186	2.238	-2.4	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.262	1.226	2.9	100	0.00
29 TMP	Hexane	1.109	1.019	8.1	100	0.00
30 TMP	Chloroform	3.255	3.262	-0.2	100	0.00
31 TMP	Ethyl acetate	2.770	2.725	1.6	100	0.00
32 TMP	Tetrahydrofuran	0.872	0.845	3.1	100	0.00
33 TMP	2-Butanone (MEK)	0.459	0.559	-21.8	100	0.00
34 TMP	1,2-Dichloroethane (EDC)	2.237	2.309	-3.2	100	0.00
35 TMP	1,1,1-Trichloroethane	3.544	3.556	-0.3	100	0.00
36 TMP	Carbon tetrachloride	4.146	4.078	1.6	100	0.00
37 TMP	Benzene	3.534	3.433	2.9	100	0.00
38 TMP	Cyclohexane	0.985	0.945	4.1	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.330	0.325	1.5	100	0.00
41 TMP	1,4-Dioxane	0.175	0.182	-4.0	100	0.00
42 TMP	2,2,4-Trimethylpentane	0.861	0.870	-1.0	100	0.00
43 TMP	Methyl methacrylate	0.296	0.306	-3.4	100	0.00
44 TMP	Heptane	0.327	0.316	3.4	100	0.00
45 TMP	Bromodichloromethane	0.825	0.854	-3.5	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030423.D  
 Acq On : 5 Mar 2022 8:52 am  
 Operator : bat  
 Sample : 2.5 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 23 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:01:47 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.503	0.501	0.4	100	0.00
47 TMP cis-1,3-Dichloropropene	0.529	0.534	-0.9	100	0.00
48 TMP 4-Methyl-2-pentanone	0.038	0.041	-7.9	100	0.00
49 TMP trans-1,3-Dichloropropene	0.508	0.506	0.4	100	0.00
50 TMP Toluene	0.513	0.519	-1.2	100	0.00
51 TMP 1,1,2-Trichloroethane	0.372	0.376	-1.1	100	0.00
52 TMP 2-Hexanone	0.484	0.485	-0.2	100	0.00
53 TMP Tetrachloroethene	0.508	0.531	-4.5	100	0.00
54 TMP Dibromochloromethane	0.909	0.932	-2.5	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.658	0.647	1.7	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	0.933	0.954	-2.3	100	0.00
58 TMP Ethylbenzene	1.442	1.409	2.3	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.993	1.006	-1.3	100	0.00
60 TMP Nonane	0.561	0.553	1.4	100	0.00
61 TMP Isopropylbenzene	1.680	1.741	-3.6	100	0.00
62 TMP 2-Chlorotoluene	0.432	0.443	-2.5	100	0.00
63 TMP Propylbenzene	3.087	3.206	-3.9	100	0.00
64 TMP 4-Ethyltoluene	1.595	1.654	-3.7	100	0.00
65 TMP m,p-Xylene	0.541	0.518	4.3	100	0.00
66 TMP o-Xylene	0.504	0.521	-3.4	100	0.00
67 TMP Styrene	0.757	0.756	0.1	100	0.00
68 TMP Bromoform	1.279	1.333	-4.2	100	0.00
69 S 4-Bromofluorobenzene	0.742	0.774	-4.3	100	0.00
70 TMP Benzyl chloride	1.263	1.296	-2.6	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.434	1.515	-5.6	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.359	1.391	-2.4	100	0.00
73 TMP 1,3-Dichlorobenzene	1.193	1.237	-3.7	100	0.00
74 TMP 1,4-Dichlorobenzene	1.211	1.199	1.0	100	0.00
75 TMP 1,2-Dichlorobenzene	1.153	1.162	-0.8	100	0.00
76 TMP 1,2,4-Trichlorobenzene	1.110	0.960	13.5	100	0.00
77 TMP Naphthalene	1.414	1.227	13.2	100	0.00
78 TMP Hexachlorobutadiene	1.608	1.221	24.1	100	0.00

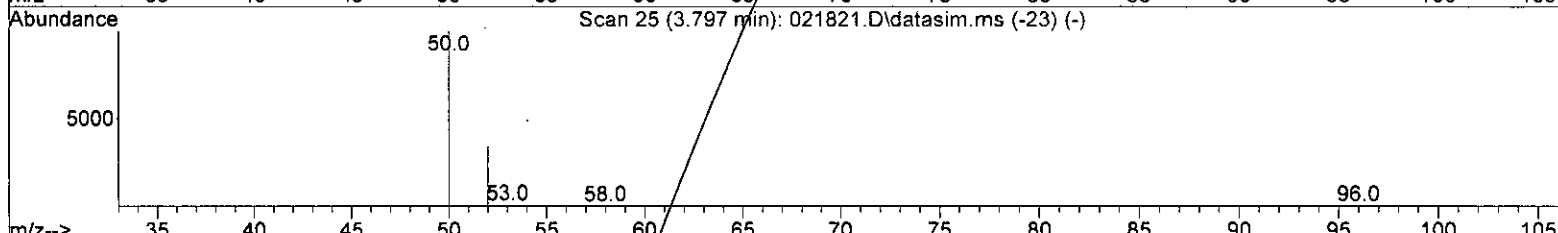
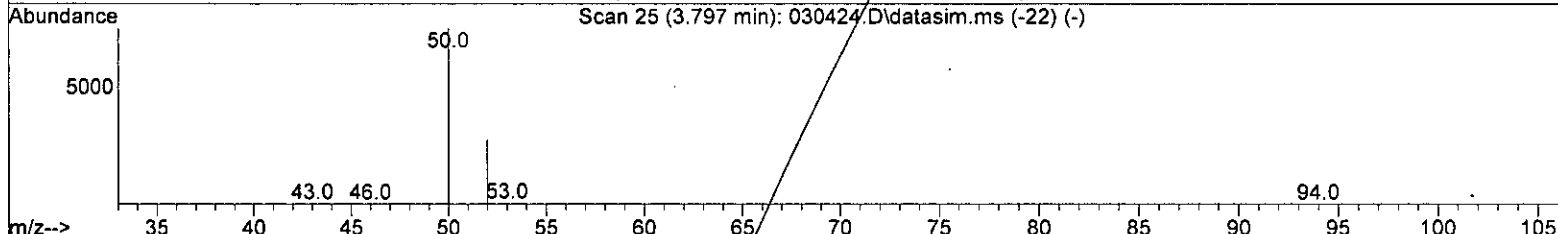
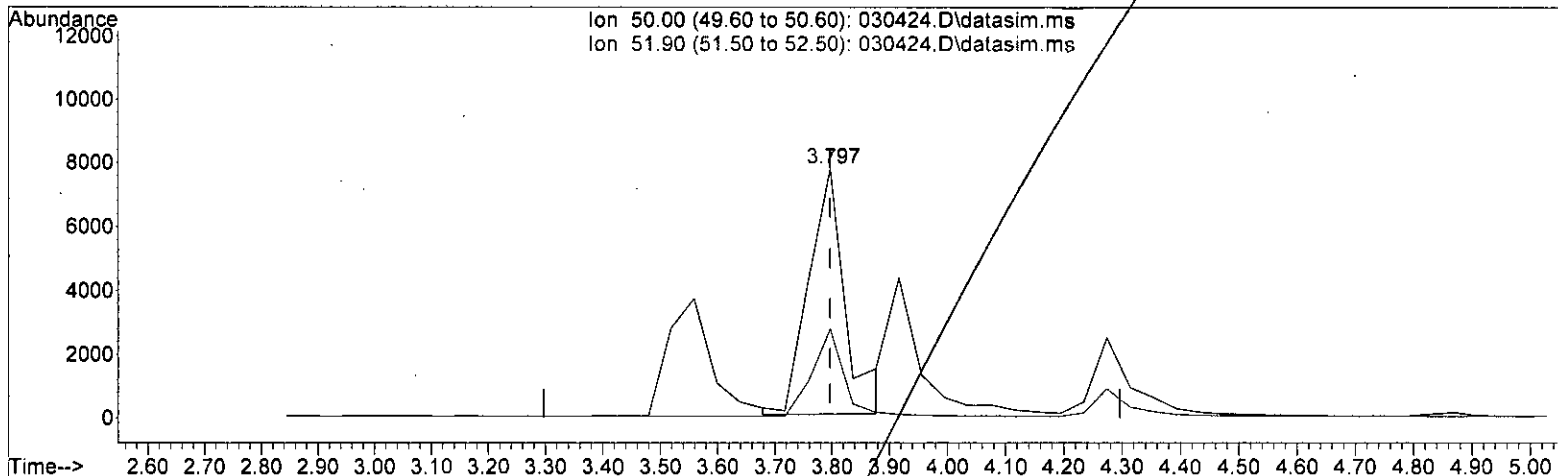
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030424.D  
 Acq On : 5 Mar 2022 9:32 am  
 Operator : bat  
 Sample : 4.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:38 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030424.D\data.ms

(4) Chloromethane (TMP)

3.797min (+ 0.000) 3.848 ppbv

response 34575

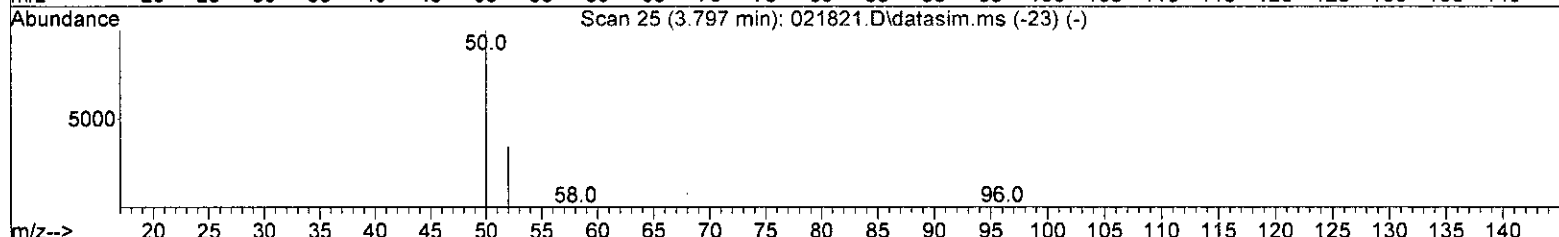
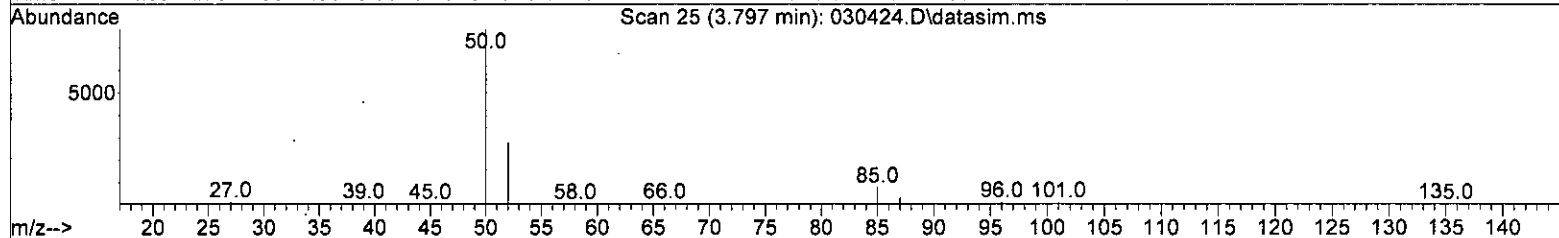
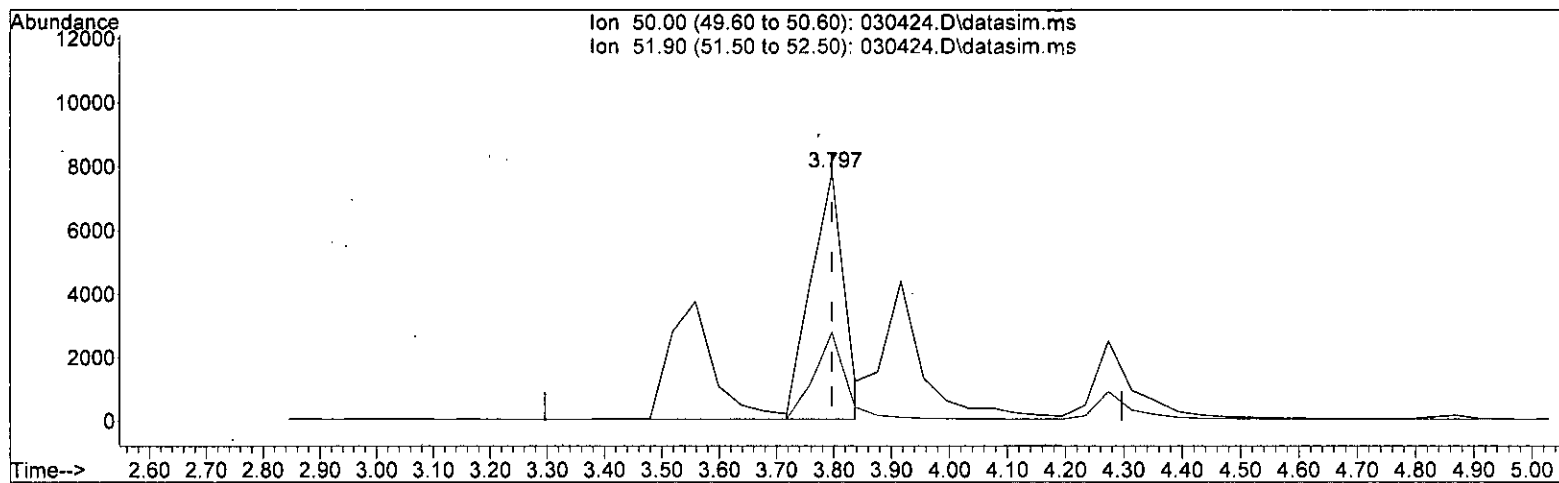
Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	36.67
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030424.D  
 Acq On : 5 Mar 2022 9:32 am  
 Operator : bat  
 Sample : 4.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:38 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030424.D\data.ms

(4) Chloromethane (TMP)

3.797min (+ 0.000) 3.494 ppbv m

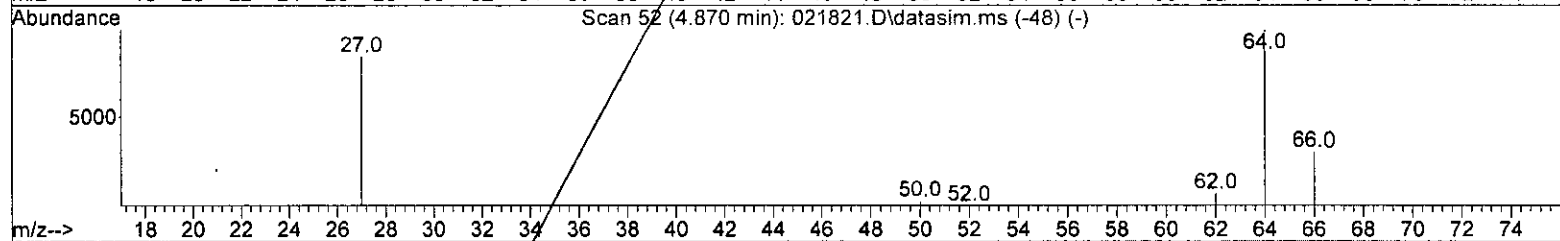
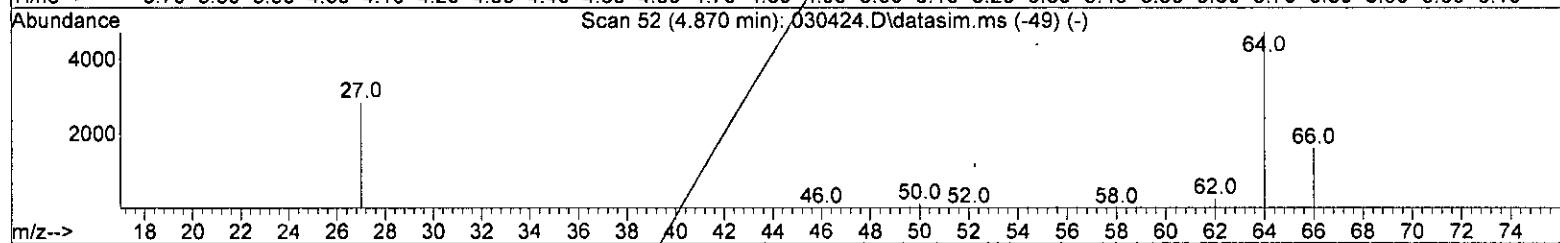
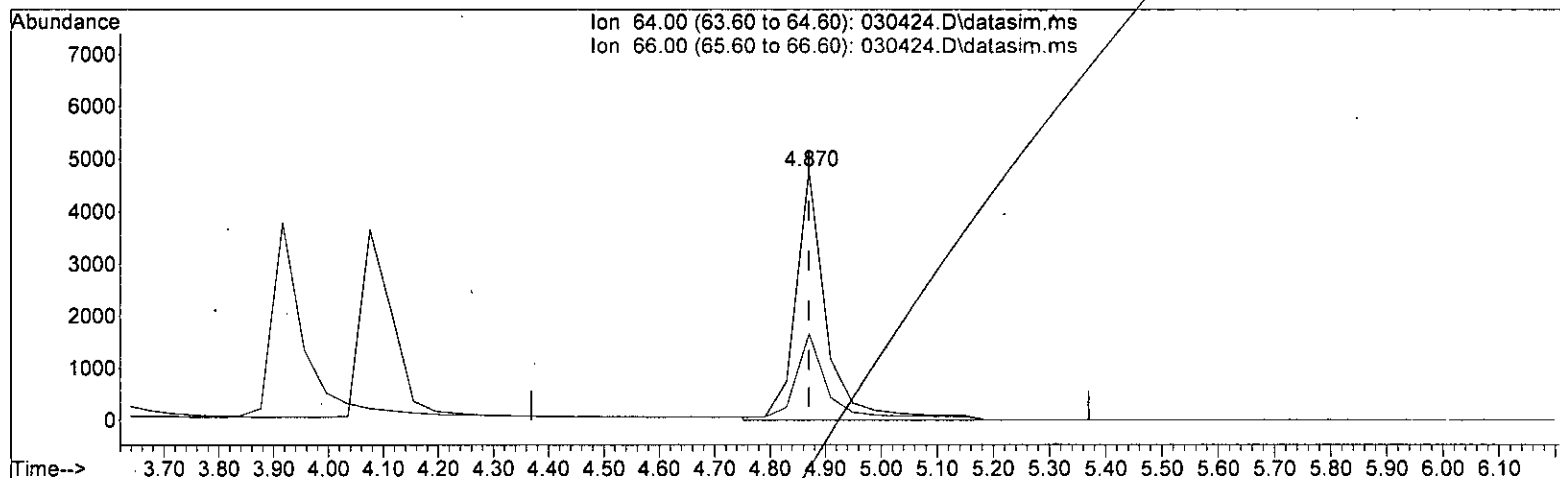
response	31397
Ion	Exp% Act%
50.00	100.00 100.00
51.90	25.30 35.86
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030424.D  
 Acq On : 5 Mar 2022 9:32 am  
 Operator : bat  
 Sample : 4.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:38 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030424.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 3.828 ppbv

response 17500

Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	34.86
0.00	0.00	0.00
0.00	0.00	0.00

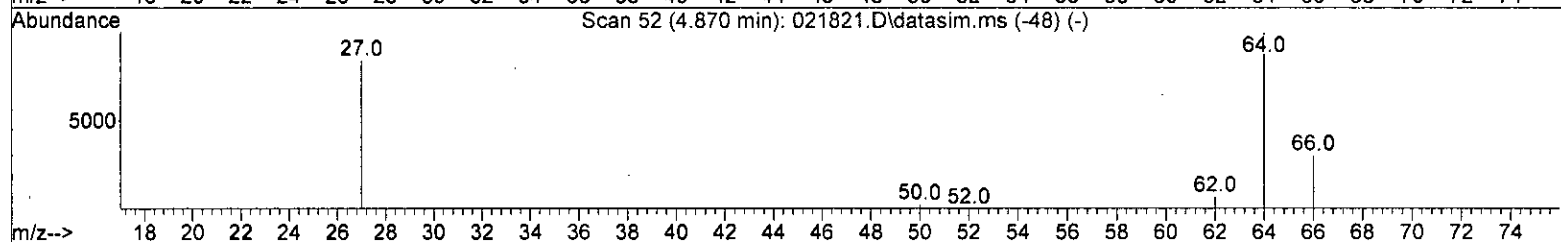
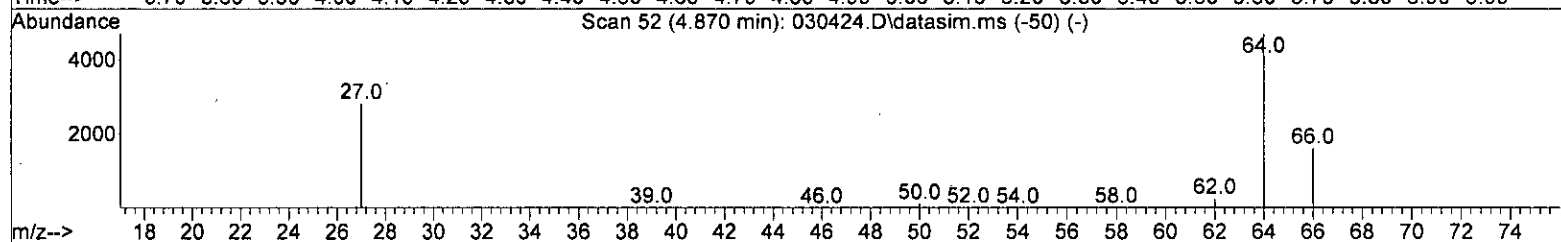
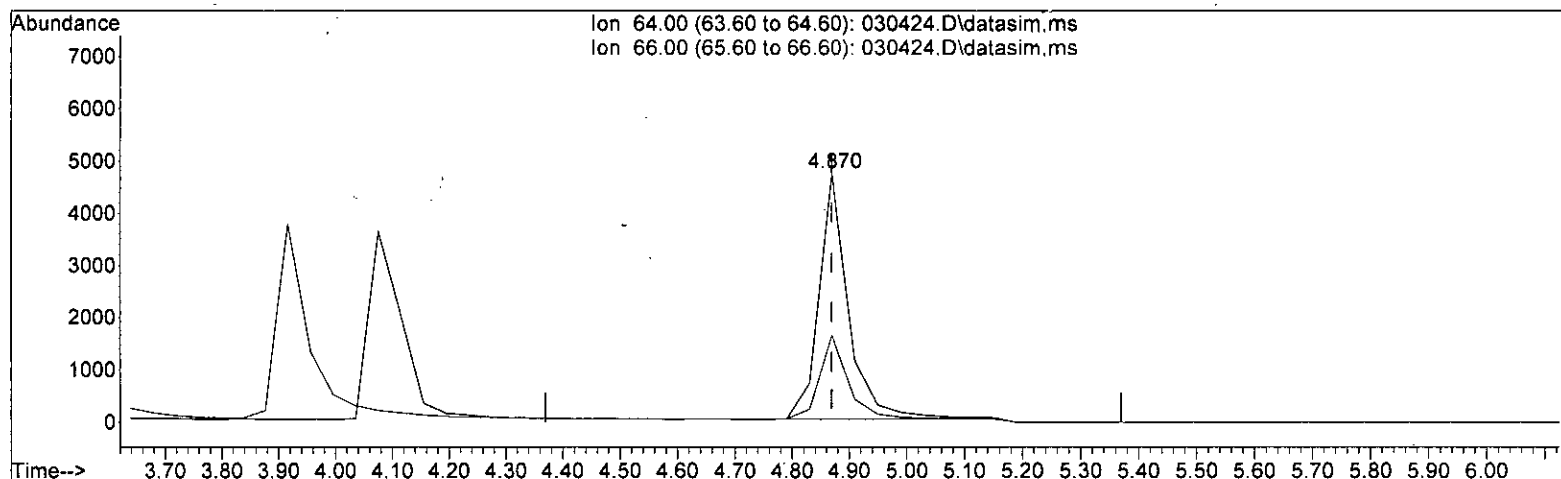
*Handwritten signature/initials*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030424.D  
 Acq On : 5 Mar 2022 9:32 am  
 Operator : bat  
 Sample : 4.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:38 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030424.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 3.681 ppbv m

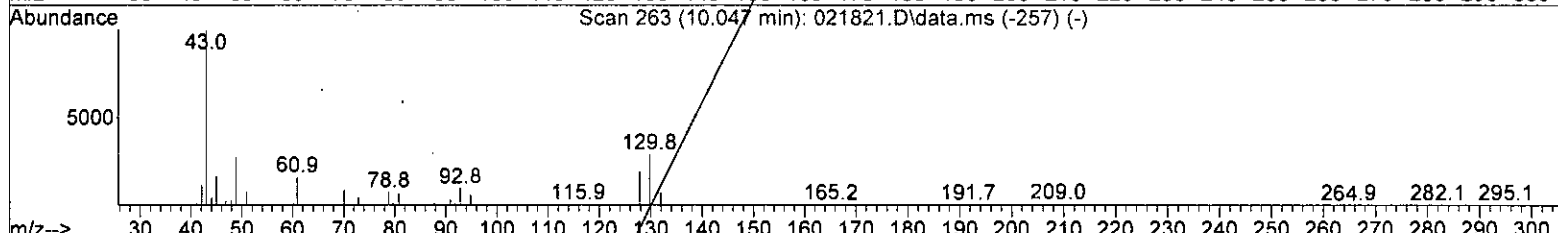
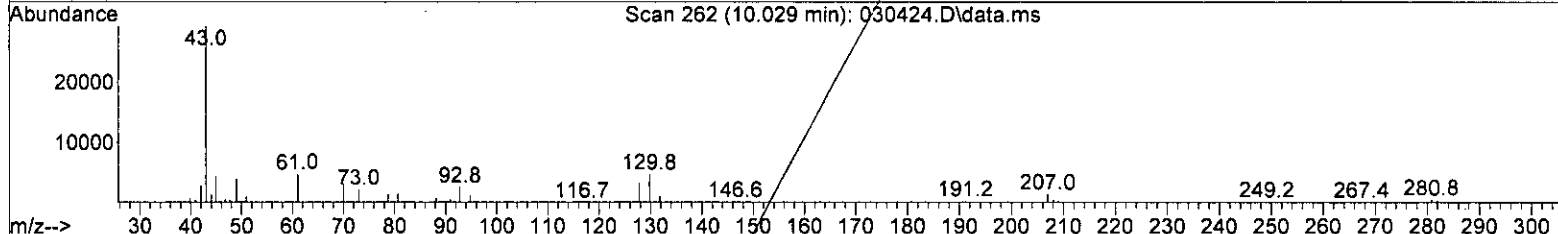
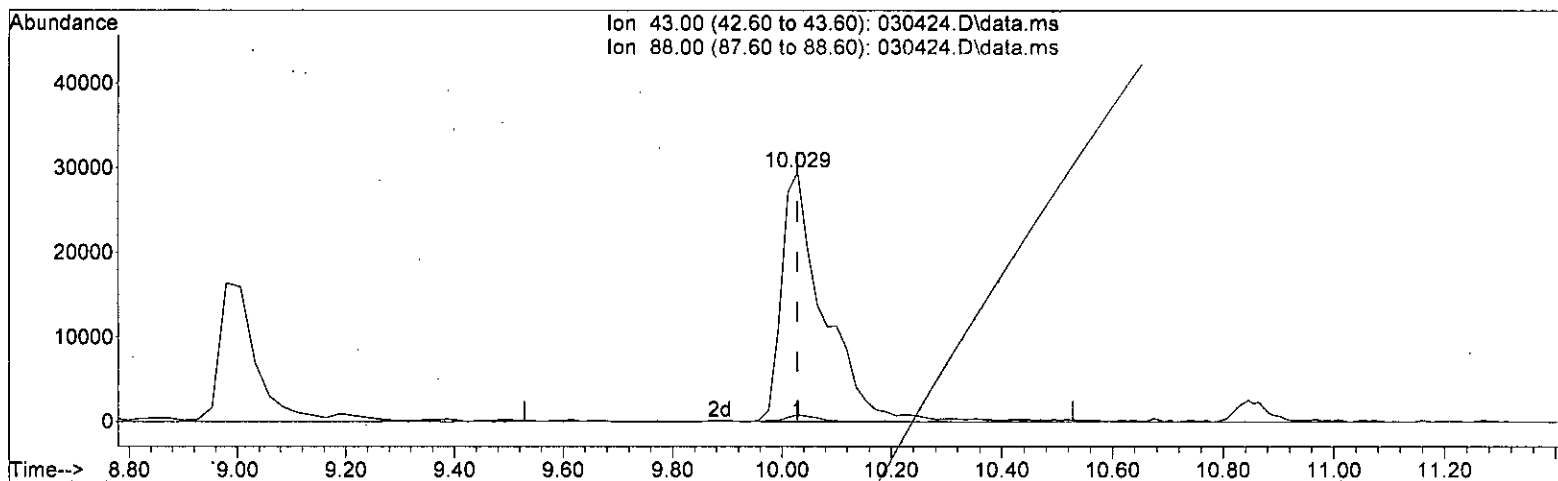
response	16830	
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	34.86
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030424.D  
 Acq On : 5 Mar 2022 9:32 am  
 Operator : bat  
 Sample : 4.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:38 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030424.D\data.ms

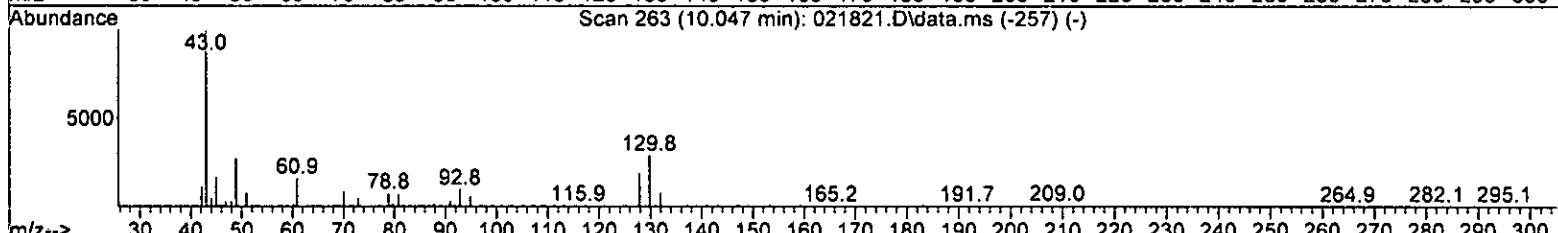
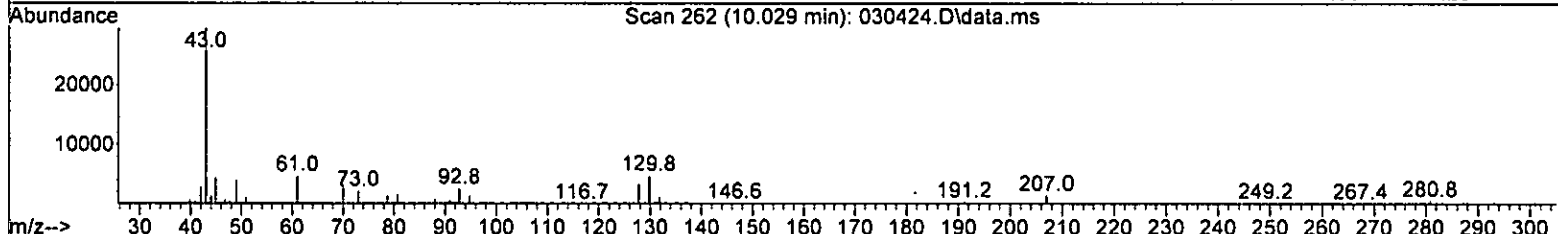
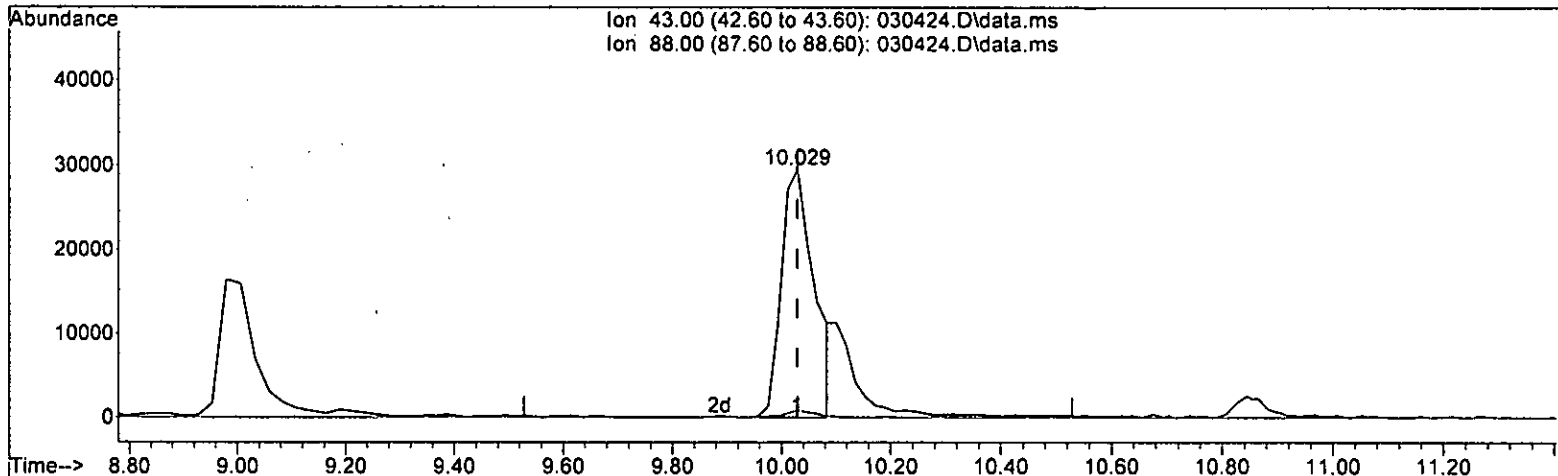
(31) Ethyl acetate (TMP)		
10.029min (+ 0.000)	4.979	ppbv
response	159626	
Ion	Exp%	Act%
43.00	100.00	100.00
88.00	1.70	1.98
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: V. Shih*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030424.D  
 Acq On : 5 Mar 2022 9:32 am  
 Operator : bat  
 Sample : 4.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:38 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030424.D\data.ms

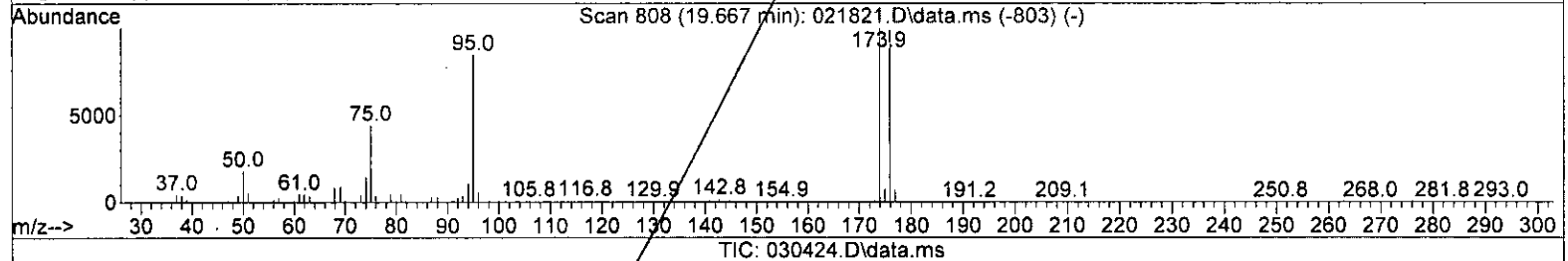
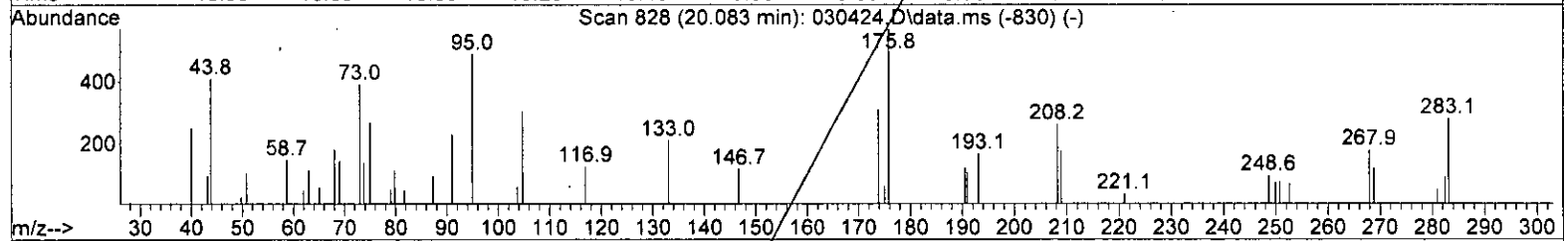
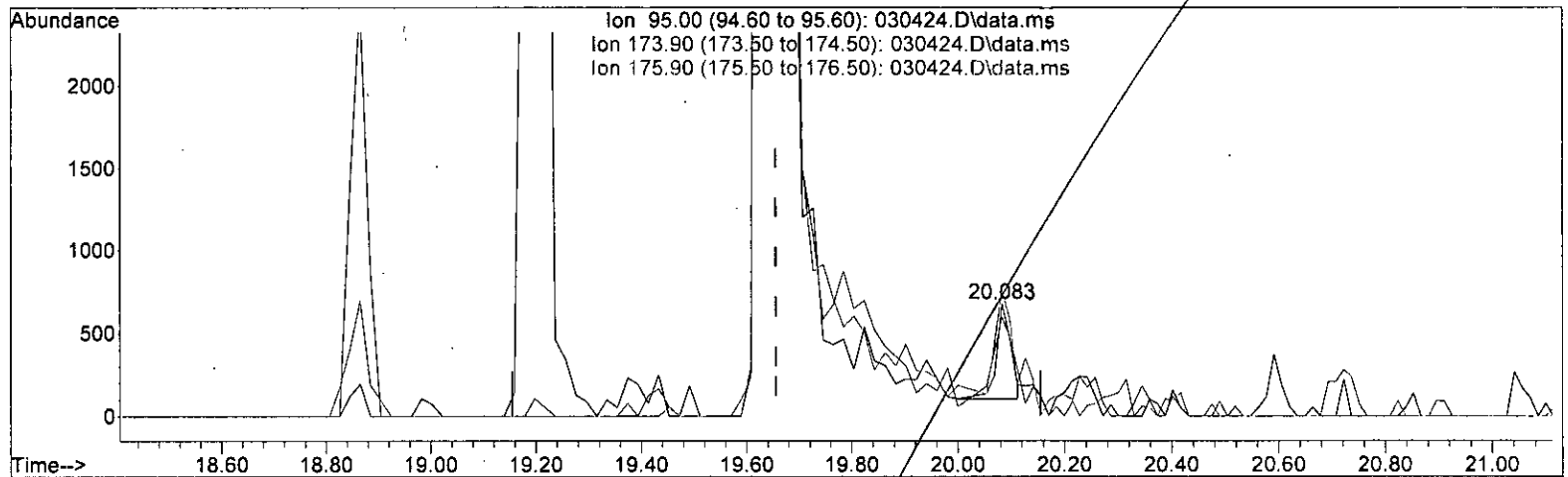
*Handwritten signature:*  
 W. J. H. / 3/7/22

(31) Ethyl acetate (TMP)		
10.029min (+ 0.000)	3.844 ppbv m	
response	123233	
Ion	Exp%	Act%
43.00	100.00	100.00
88.00	1.70	2.56#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030424.D  
 Acq On : 5 Mar 2022 9:32 am  
 Operator : bat  
 Sample : 4.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:38 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(69) 4-Bromofluorobenzene (S)

20.083min (+ 0.428) 0.049 ppbv

response 1594

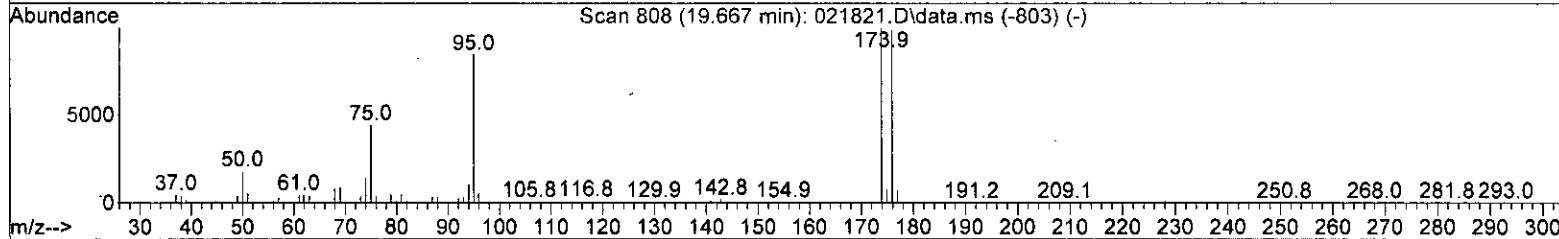
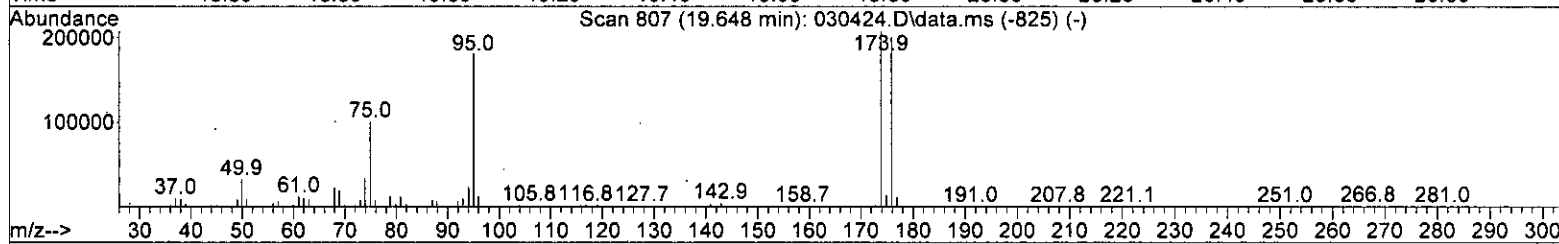
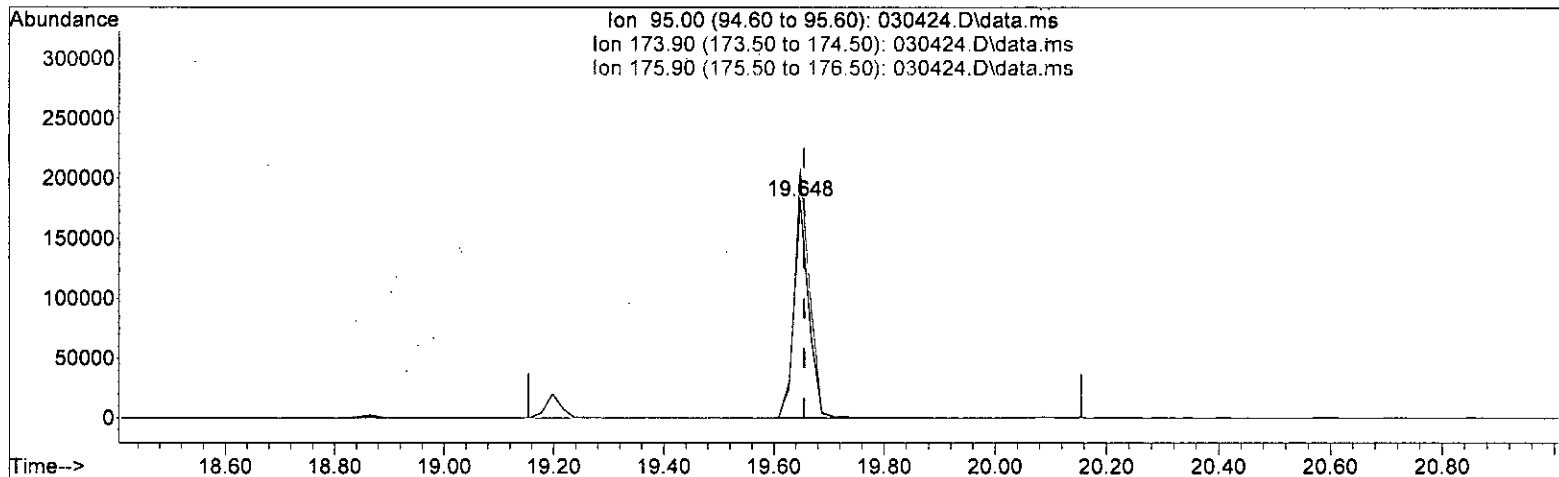
Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	94.24
175.90	70.90	100.70
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030424.D  
 Acq On : 5 Mar 2022 9:32 am  
 Operator : bat  
 Sample : 4.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:38 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030424.D\data.ms

(69) 4-Bromofluorobenzene (S)

19.648min (-0.007) 10.276 ppbv m

response 337639

Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	-114.83#
175.90	70.90	110.73#
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030424.D  
 Acq On : 5 Mar 2022 9:32 am  
 Operator : bat  
 Sample : 4.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:03:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	9.98	128	115731	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	519801	10.000	ppbv	0.02
56) Chlorobenzene-d5	18.22	117	442750	10.000	ppbv	0.01
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.65	95	337639m	10.276	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	102.80%
Target Compounds						
						Qvalue
2) Propene	3.47	41	20066	3.143	ppbv	# 60
3) Dichlorodifluoromethane	3.55	85	199666	3.779	ppbv	99
4) Chloromethane	3.80	50	31397m	3.494	ppbv	
5) F-114	3.91	85	148994	3.766	ppbv	93
6] Vinyl chloride	4.08	62	45194	3.609	ppbv	98
7] 1,3-Butadiene	4.27	54	26337	3.759	ppbv	# 78
8) Butane	4.35	43	51100	3.805	ppbv	97
9) Bromomethane	4.67	94	54681	3.952	ppbv	96
10] Chloroethane	4.87	64	16830m	3.681	ppbv	
11] Vinyl bromide	5.34	106	56428	3.790	ppbv	97
12) Ethanol	4.98	45	8036	3.997	ppbv	79
13] Acrolein	5.46	56	11230	4.222	ppbv	97
14) Pentane	6.35	43	52361	3.968	ppbv	89
15) Trichlorofluoromethane	5.89	101	234776	4.002	ppbv	99
16) Acetone	5.61	58	17287	3.695	ppbv	# 75
17) 2-Propanol	5.87	45	60701	3.355	ppbv	# 98
18] 1,1-Dichloroethene	6.73	96	53624	3.692	ppbv	90
19] trans-1,2-Dichloroethene	8.17	96	51683	3.737	ppbv	85
20) Methylene chloride	6.85	84	48275	3.655	ppbv	85
21) t-Butyl alcohol (TBA)	6.67	59	91777	3.836	ppbv	96
22) 3-Chloropropene	7.03	41	53076	3.698	ppbv	# 57
23) CFC-113	7.25	101	146054	3.812	ppbv	92
24) Carbon disulfide	7.03	76	27065	4.346	ppbv	52
25) Methyl t-butyl ether (...)	8.53	73	132076	3.827	ppbv	87
26) Vinyl acetate	8.64	43	40994	3.499	ppbv	88
27] 1,1-Dichloroethane	8.46	63	98912	3.909	ppbv	97
28] cis-1,2-Dichloroethene	9.73	96	54966	3.764	ppbv	86
29) Hexane	10.10	57	49217	3.836	ppbv	84
30] Chloroform	10.18	83	144012	3.823	ppbv	99
31) Ethyl acetate	10.03	43	123233m	3.844	ppbv	
32) Tetrahydrofuran	10.85	42	35530	3.521	ppbv	72
33) 2-Butanone (MEK)	8.98	72	22470	4.231	ppbv	# 55
34] 1,2-Dichloroethane (EDC)	11.43	62	101542	3.921	ppbv	97
35] 1,1,1-Trichloroethane	11.92	97	159483	3.889	ppbv	95
36] Carbon tetrachloride	12.94	117	183255	3.820	ppbv	99
37] Benzene	12.69	78	154915	3.788	ppbv	88
38) Cyclohexane	13.15	84	41015	3.599	ppbv	# 76
40] 1,2-Dichloropropane	13.88	63	58354	3.406	ppbv	69
41] 1,4-Dioxane	14.17	88	32792	3.601	ppbv	# 62
42) 2,2,4-Trimethylpentane	14.29	57	155339	3.469	ppbv	# 78

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030424.D  
 Acq On : 5 Mar 2022 9:32 am  
 Operator : bat  
 Sample : 4.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS8

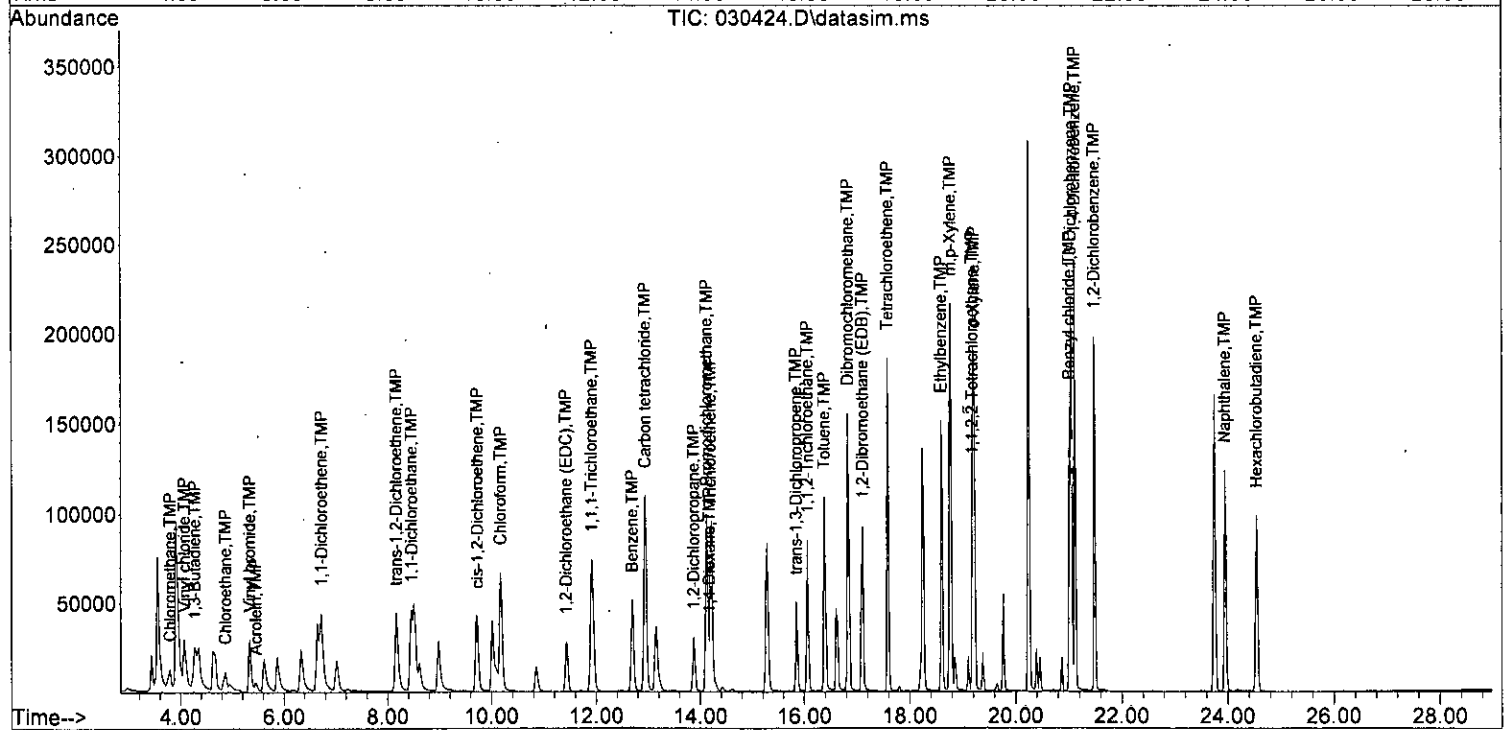
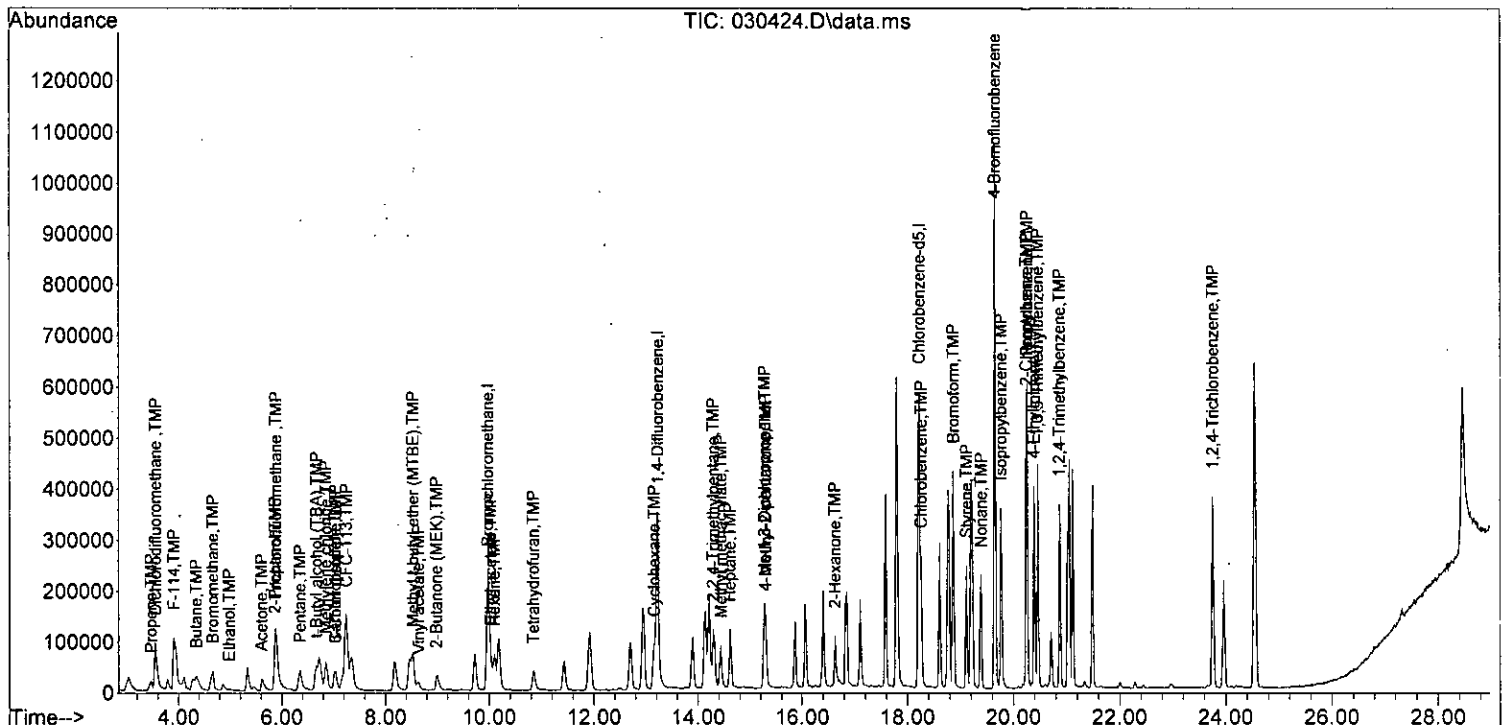
Quant Time: Mar 07 17:03:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.44	41	55083	3.583	ppbv #	86
44) Heptane	14.61	43	62519	3.678	ppbv	85
45) Bromodichloromethane	14.13	83	152720	3.560	ppbv	94
46) Trichloroethene	14.20	95	89966	3.439	ppbv	83
47) cis-1,3-Dichloropropene	15.28	75	94485	3.434	ppbv	92
48) 4-Methyl-2-pentanone	15.30	100	7282	3.689	ppbv #	32
49) trans-1,3-Dichloropropene	15.85	75	93042	3.526	ppbv	87
50) Toluene	16.38	92	93784	3.516	ppbv	100
51) 1,1,2-Trichloroethane	16.07	83	69104	3.572	ppbv	82
52) 2-Hexanone	16.63	43	89233	3.545	ppbv	99
53) Tetrachloroethene	17.58	164	95151	3.605	ppbv	92
54) Dibromochloromethane	16.83	129	170497	3.607	ppbv	100
55) 1,2-Dibromoethane (EDB)	17.11	107	117756	3.442	ppbv	97
57) Chlorobenzene	18.26	112	160394	3.882	ppbv	93
58) Ethylbenzene	18.60	91	238518	3.737	ppbv	98
59) 1,1,2,2-Tetrachloroethane	19.18	83	169888	3.863	ppbv	93
60) Nonane	19.39	43	100587	4.048	ppbv	96
61) Isopropylbenzene	19.77	105	295678	3.975	ppbv	99
62) 2-Chlorotoluene	20.24	126	79690	4.163	ppbv	69
63) Propylbenzene	20.26	91	552576	4.043	ppbv	99
64) 4-Ethyltoluene	20.39	105	287236	4.066	ppbv	97
65) m,p-Xylene	18.77	106	179106	7.476	ppbv	100
66) o-Xylene	19.22	106	90599	4.063	ppbv	99
67) Styrene	19.12	104	138697	4.137	ppbv	99
68) Bromoform	18.87	173	229709	4.055	ppbv	98
70) Benzyl chloride	21.02	91	227534	4.069	ppbv	98
71) 1,3,5-Trimethylbenzene	20.46	105	252406	3.975	ppbv	99
72) 1,2,4-Trimethylbenzene	20.87	105	244627	4.067	ppbv	100
73] 1,3-Dichlorobenzene	21.05	146	215869	4.089	ppbv	97
74] 1,4-Dichlorobenzene	21.12	146	202976	3.786	ppbv	98
75] 1,2-Dichlorobenzene	21.48	146	199779	3.912	ppbv	97
76) 1,2,4-Trichlorobenzene	23.75	180	185984	3.983	ppbv	96
77] Naphthalene	23.95	128	252642	4.120	ppbv	98
78] Hexachlorobutadiene	24.54	225	221226	3.773	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030424.D  
 Acq On : 5 Mar 2022 9:32 am  
 Operator : bat  
 Sample : 4.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:03:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15sss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M





Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030424.D  
 Acq On : 5 Mar 2022 9:32 am  
 Operator : bat  
 Sample : 4.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:03:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I Bromochloromethane	10.000	10.000	0.0	100	0.00
2	TMP Propene	4.000	3.143	21.4	100	0.00
3	TMP Dichlorodifluoromethane	4.000	3.779	5.5	100	0.00
4	TMP Chloromethane	4.000	3.494	12.6	99	0.00
5	TMP F-114	4.000	3.766	5.8	102	0.00
6	TMP Vinyl chloride	4.000	3.609	9.8	100	0.00
7	TMP 1,3-Butadiene	4.000	3.759	6.0	100	0.00
8	TMP Butane	4.000	3.805	4.9	100	0.00
9	TMP Bromomethane	4.000	3.952	1.2	100	0.00
10	TMP Chloroethane	4.000	3.681	8.0	99	0.00
11	TMP Vinyl bromide	4.000	3.790	5.2	100	0.00
12	TMP Ethanol	4.000	3.997	0.1	100	0.00
13	TMP Acrolein	4.000	4.222	-5.6	100	0.00
14	TMP Pentane	4.000	3.968	0.8	100	0.00
15	TMP Trichlorofluoromethane	4.000	4.002	-0.0	98	0.00
16	TMP Acetone	4.000	3.695	7.6	100	-0.02
17	TMP 2-Propanol	4.000	3.355	16.1	100	-0.02
18	TMP 1,1-Dichloroethene	4.000	3.692	7.7	100	0.00
19	TMP trans-1,2-Dichloroethene	4.000	3.737	6.6	100	0.00
20	TMP Methylene chloride	4.000	3.655	8.6	100	0.00
21	TMP t-Butyl alcohol (TBA)	4.000	3.836	4.1	100	0.00
22	TMP 3-Chloropropene	4.000	3.698	7.6	100	0.00
23	TMP CFC-113	4.000	3.812	4.7	100	0.00
24	TMP Carbon disulfide	4.000	4.346	-8.7	100	0.00
25	TMP Methyl t-butyl ether (MTBE)	4.000	3.827	4.3	100	0.00
26	TMP Vinyl acetate	4.000	3.499	12.5	100	0.00
27	TMP 1,1-Dichloroethane	4.000	3.909	2.3	100	0.00
28	TMP cis-1,2-Dichloroethene	4.000	3.764	5.9	100	0.00
29	TMP Hexane	4.000	3.836	4.1	100	0.00
30	TMP Chloroform	4.000	3.823	4.4	100	0.00
31	TMP Ethyl acetate	4.000	3.844	3.9	100	0.00
32	TMP Tetrahydrofuran	4.000	3.521	12.0	100	0.00
33	TMP 2-Butanone (MEK)	4.000	4.231	-5.8	100	-0.03
34	TMP 1,2-Dichloroethane (EDC)	4.000	3.921	2.0	100	0.00
35	TMP 1,1,1-Trichloroethane	4.000	3.889	2.8	100	0.00
36	TMP Carbon tetrachloride	4.000	3.820	4.5	100	0.00
37	TMP Benzene	4.000	3.788	5.3	100	0.00
38	TMP Cyclohexane	4.000	3.599	10.0	100	0.00
39	I 1,4-Difluorobenzene	10.000	10.000	0.0	99	0.02
40	TMP 1,2-Dichloropropane	4.000	3.406	14.8	100	0.00
41	TMP 1,4-Dioxane	4.000	3.601	10.0	100	0.00
42	TMP 2,2,4-Trimethylpentane	4.000	3.469	13.3	100	0.00
43	TMP Methyl methacrylate	4.000	3.583	10.4	101	0.00
44	TMP Heptane	4.000	3.678	8.1	100	0.00
45	TMP Bromodichloromethane	4.000	3.560	11.0	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030424.D  
 Acq On : 5 Mar 2022 9:32 am  
 Operator : bat  
 Sample : 4.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:03:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	4.000	3.439	14.0	100	0.00
47	TMP cis-1,3-Dichloropropene	4.000	3.434	14.1	100	0.00
48	TMP 4-Methyl-2-pentanone	4.000	3.689	7.8	100	0.00
49	TMP trans-1,3-Dichloropropene	4.000	3.526	11.9	100	0.00
50	TMP Toluene	4.000	3.516	12.1	100	0.00
51	TMP 1,1,2-Trichloroethane	4.000	3.572	10.7	100	0.00
52	TMP 2-Hexanone	4.000	3.545	11.4	100	0.00
53	TMP Tetrachloroethene	4.000	3.605	9.9	100	0.00
54	TMP Dibromochloromethane	4.000	3.607	9.8	100	0.00
55	TMP 1,2-Dibromoethane (EDB)	4.000	3.442	13.9	100	0.00
56	I Chlorobenzene-d5	10.000	10.000	0.0	100	0.01
57	TMP Chlorobenzene	4.000	3.882	2.9	100	0.01
58	TMP Ethylbenzene	4.000	3.737	6.6	100	0.00
59	TMP 1,1,2,2-Tetrachloroethane	4.000	3.863	3.4	100	0.00
60	TMP Nonane	4.000	4.048	-1.2	100	0.01
61	TMP Isopropylbenzene	4.000	3.975	0.6	100	0.00
62	TMP 2-Chlorotoluene	4.000	4.163	-4.1	100	0.00
63	TMP Propylbenzene	4.000	4.043	-1.1	100	0.00
64	TMP 4-Ethyltoluene	4.000	4.066	-1.6	100	0.00
65	TMP m,p-Xylene	8.000	7.476	6.6	100	0.00
66	TMP o-Xylene	4.000	4.063	-1.6	100	0.00
67	TMP Styrene	4.000	4.137	-3.4	100	0.01
68	TMP Bromoform	4.000	4.055	-1.4	100	0.00
69	S 4-Bromofluorobenzene	10.000	10.276	-2.8	100	0.00
70	TMP Benzyl chloride	4.000	4.069	-1.7	100	0.00
71	TMP 1,3,5-Trimethylbenzene	4.000	3.975	0.6	100	0.00
72	TMP 1,2,4-Trimethylbenzene	4.000	4.067	-1.7	100	0.00
73	TMP 1,3-Dichlorobenzene	4.000	4.089	-2.2	100	0.00
74	TMP 1,4-Dichlorobenzene	4.000	3.786	5.3	100	0.00
75	TMP 1,2-Dichlorobenzene	4.000	3.912	2.2	100	0.00
76	TMP 1,2,4-Trichlorobenzene	4.000	3.983	0.4	100	0.00
77	TMP Naphthalene	4.000	4.120	-3.0	100	0.00
78	TMP Hexachlorobutadiene	4.000	3.773	5.7	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030424.D  
 Acq On : 5 Mar 2022 9:32 am  
 Operator : bat  
 Sample : 4.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:03:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev (min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	0.552	0.433	21.6	100	0.00
3 TMP	Dichlorodifluoromethane	4.565	4.313	5.5	100	0.00
4 TMP	Chloromethane	0.776	0.678	12.6	99	0.00
5 TMP	F-114	3.419	3.219	5.8	102	0.00
6 TMP	Vinyl chloride	1.082	0.976	9.8	100	0.00
7 TMP	1,3-Butadiene	0.605	0.569	6.0	100	0.00
8 TMP	Butane	1.161	1.104	4.9	100	0.00
9 TMP	Bromomethane	1.196	1.181	1.3	100	0.00
10 TMP	Chloroethane	0.395	0.364	7.8	99	0.00
11 TMP	Vinyl bromide	1.286	1.219	5.2	100	0.00
12 TMP	Ethanol	0.174	0.174	0.0	100	0.00
13 TMP	Acrolein	0.252	0.243	3.6	100	0.00
14 TMP	Pentane	1.140	1.131	0.8	100	0.00
15 TMP	Trichlorofluoromethane	5.069	5.072	-0.1	98	0.00
16 TMP	Acetone	0.404	0.373	7.7	100	-0.02
17 TMP	2-Propanol	1.563	1.311	16.1	100	-0.02
18 TMP	1,1-Dichloroethene	1.255	1.158	7.7	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.195	1.116	6.6	100	0.00
20 TMP	Methylene chloride	1.141	1.043	8.6	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.068	1.983	4.1	100	0.00
22 TMP	3-Chloropropene	1.240	1.147	7.5	100	0.00
23 TMP	CFC-113	3.311	3.155	4.7	100	0.00
24 TMP	Carbon disulfide	0.538	0.585	-8.7	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	2.982	2.853	4.3	100	0.00
26 TMP	Vinyl acetate	1.012	0.886	12.5	100	0.00
27 TMP	1,1-Dichloroethane	2.186	2.137	2.2	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.262	1.187	5.9	100	0.00
29 TMP	Hexane	1.109	1.063	4.1	100	0.00
30 TMP	Chloroform	3.255	3.111	4.4	100	0.00
31 TMP	Ethyl acetate	2.770	2.662	3.9	100	0.00
32 TMP	Tetrahydrofuran	0.872	0.768	11.9	100	0.00
33 TMP	2-Butanone (MEK)	0.459	0.485	-5.7	100	-0.03
34 TMP	1,2-Dichloroethane (EDC)	2.237	2.193	2.0	100	0.00
35 TMP	1,1,1-Trichloroethane	3.544	3.445	2.8	100	0.00
36 TMP	Carbon tetrachloride	4.146	3.959	4.5	100	0.00
37 TMP	Benzene	3.534	3.346	5.3	100	0.00
38 TMP	Cyclohexane	0.985	0.886	10.1	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	99	0.02
40 TMP	1,2-Dichloropropane	0.330	0.281	14.8	100	0.00
41 TMP	1,4-Dioxane	0.175	0.158	9.7	100	0.00
42 TMP	2,2,4-Trimethylpentane	0.861	0.747	13.2	100	0.00
43 TMP	Methyl methacrylate	0.296	0.265	10.5	101	0.00
44 TMP	Heptane	0.327	0.301	8.0	100	0.00
45 TMP	Bromodichloromethane	0.825	0.735	10.9	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030424.D  
 Acq On : 5 Mar 2022 9:32 am  
 Operator : bat  
 Sample : 4.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 24 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:03:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.503	0.433	13.9	100	0.00
47 TMP cis-1,3-Dichloropropene	0.529	0.454	14.2	100	0.00
48 TMP 4-Methyl-2-pentanone	0.038	0.035	7.9	100	0.00
49 TMP trans-1,3-Dichloropropene	0.508	0.447	12.0	100	0.00
50 TMP Toluene	0.513	0.451	12.1	100	0.00
51 TMP 1,1,2-Trichloroethane	0.372	0.332	10.8	100	0.00
52 TMP 2-Hexanone	0.484	0.429	11.4	100	0.00
53 TMP Tetrachloroethene	0.508	0.458	9.8	100	0.00
54 TMP Dibromochloromethane	0.909	0.820	9.8	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.658	0.566	14.0	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.01
57 TMP Chlorobenzene	0.933	0.906	2.9	100	0.01
58 TMP Ethylbenzene	1.442	1.347	6.6	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.993	0.959	3.4	100	0.00
60 TMP Nonane	0.561	0.568	-1.2	100	0.01
61 TMP Isopropylbenzene	1.680	1.670	0.6	100	0.00
62 TMP 2-Chlorotoluene	0.432	0.450	-4.2	100	0.00
63 TMP Propylbenzene	3.087	3.120	-1.1	100	0.00
64 TMP 4-Ethyltoluene	1.595	1.622	-1.7	100	0.00
65 TMP m,p-Xylene	0.541	0.506	6.5	100	0.00
66 TMP o-Xylene	0.504	0.512	-1.6	100	0.00
67 TMP Styrene	0.757	0.783	-3.4	100	0.01
68 TMP Bromoform	1.279	1.297	-1.4	100	0.00
69 S 4-Bromofluorobenzene	0.742	0.763	-2.8	100	0.00
70 TMP Benzyl chloride	1.263	1.285	-1.7	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.434	1.425	0.6	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.359	1.381	-1.6	100	0.00
73 TMP 1,3-Dichlorobenzene	1.193	1.219	-2.2	100	0.00
74 TMP 1,4-Dichlorobenzene	1.211	1.146	5.4	100	0.00
75 TMP 1,2-Dichlorobenzene	1.153	1.128	2.2	100	0.00
76 TMP 1,2,4-Trichlorobenzene	1.110	1.050	5.4	100	0.00
77 TMP Naphthalene	1.414	1.427	-0.9	100	0.00
78 TMP Hexachlorobutadiene	1.608	1.249	22.3	100	0.00

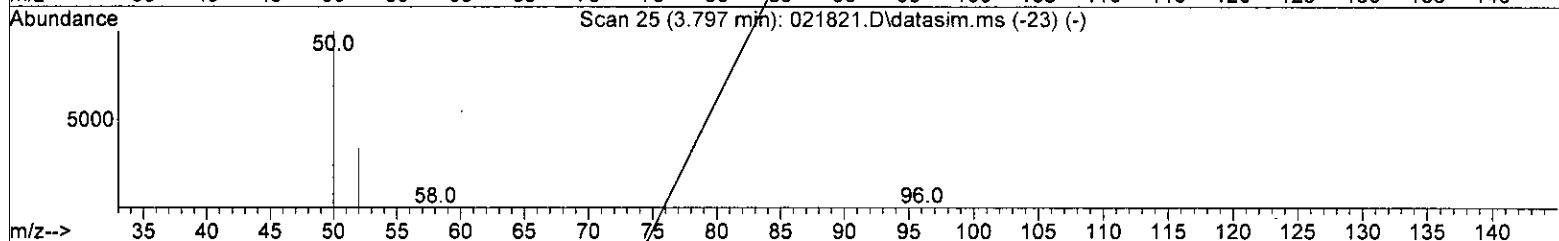
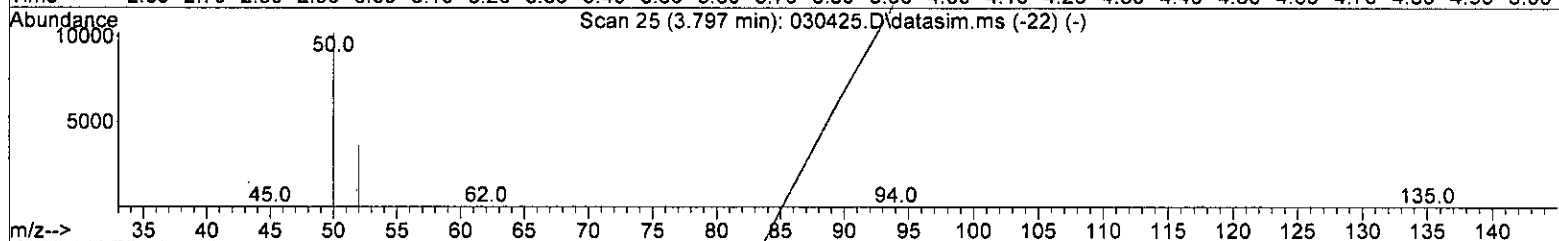
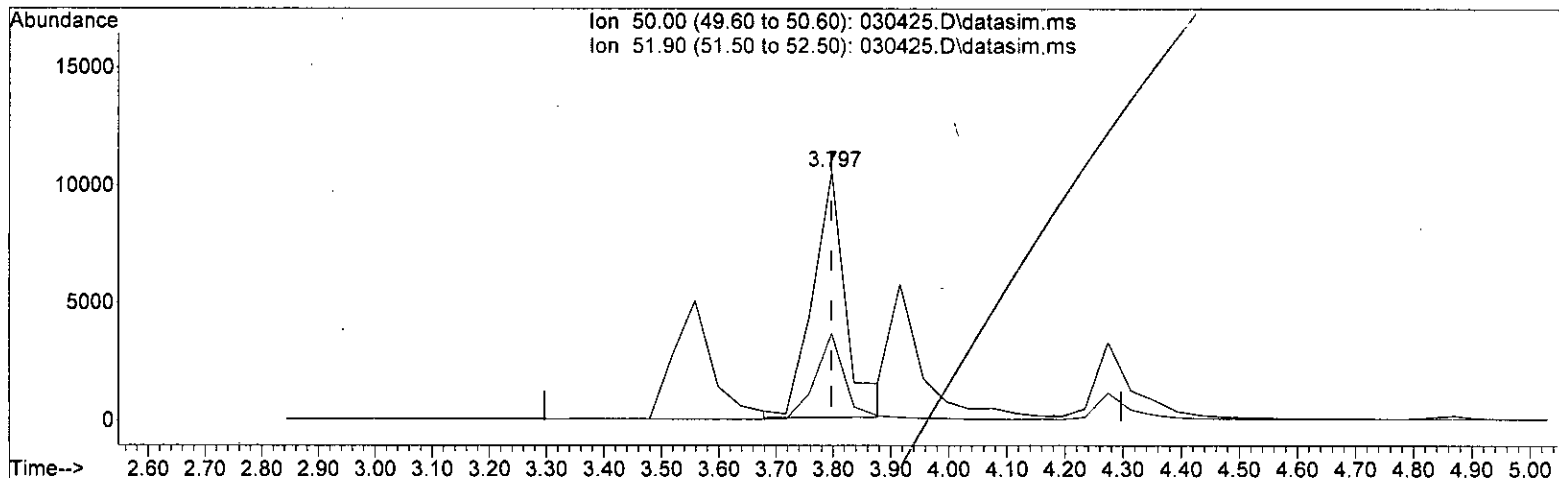
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030425.D  
 Acq On : 5 Mar 2022 10:12 am  
 Operator : bat  
 Sample : 5.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:46 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030425.D\data.ms

(4) Chloromethane (TMP)

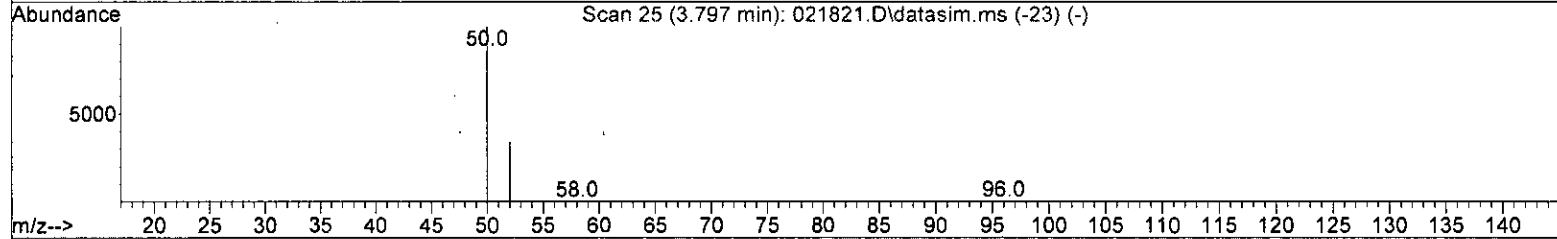
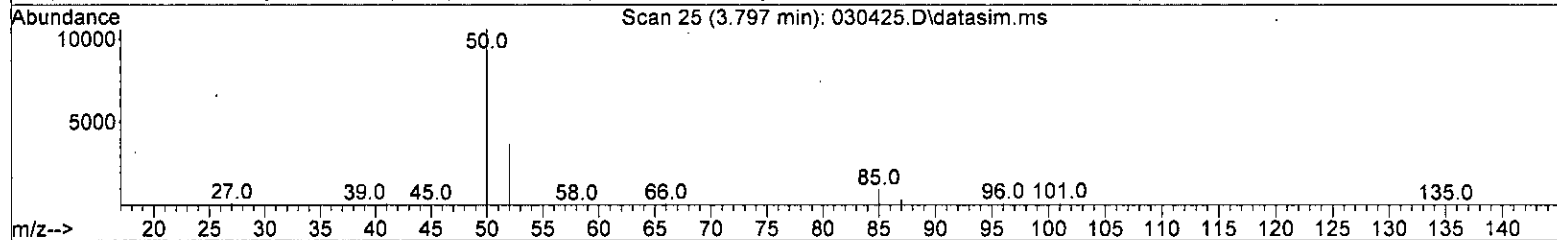
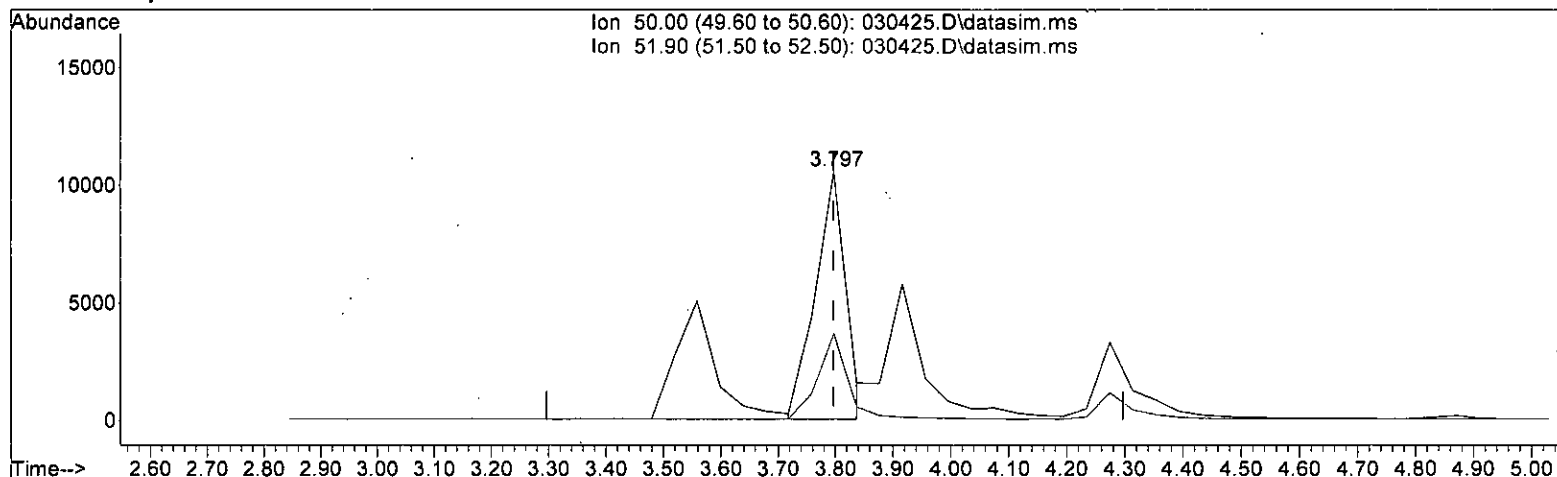
3.797min (+ 0.000) 4.912 ppbv

response	42283	
Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	35.71
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030425.D  
 Acq On : 5 Mar 2022 10:12 am  
 Operator : bat  
 Sample : 5.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:46 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030425.D\data.ms

(4) Chloromethane (TMP)

3.797min (+ 0.000) 4.538 ppbv m

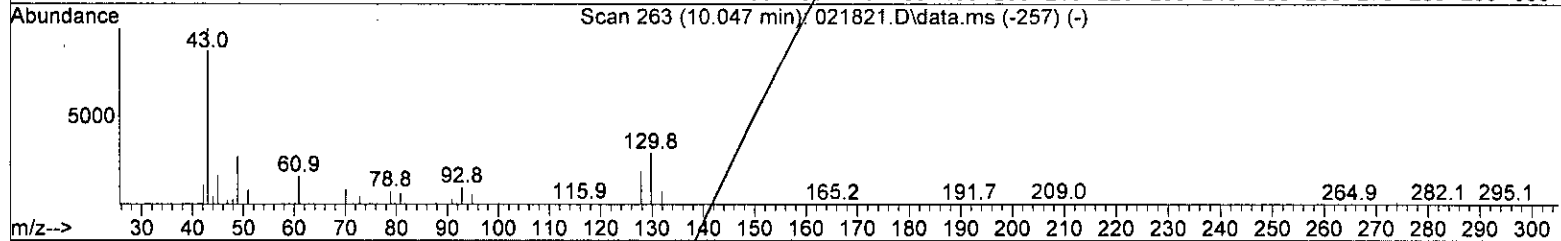
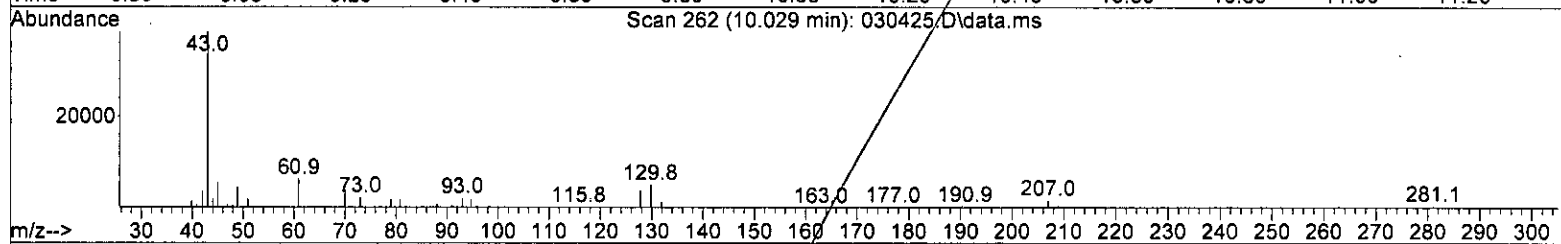
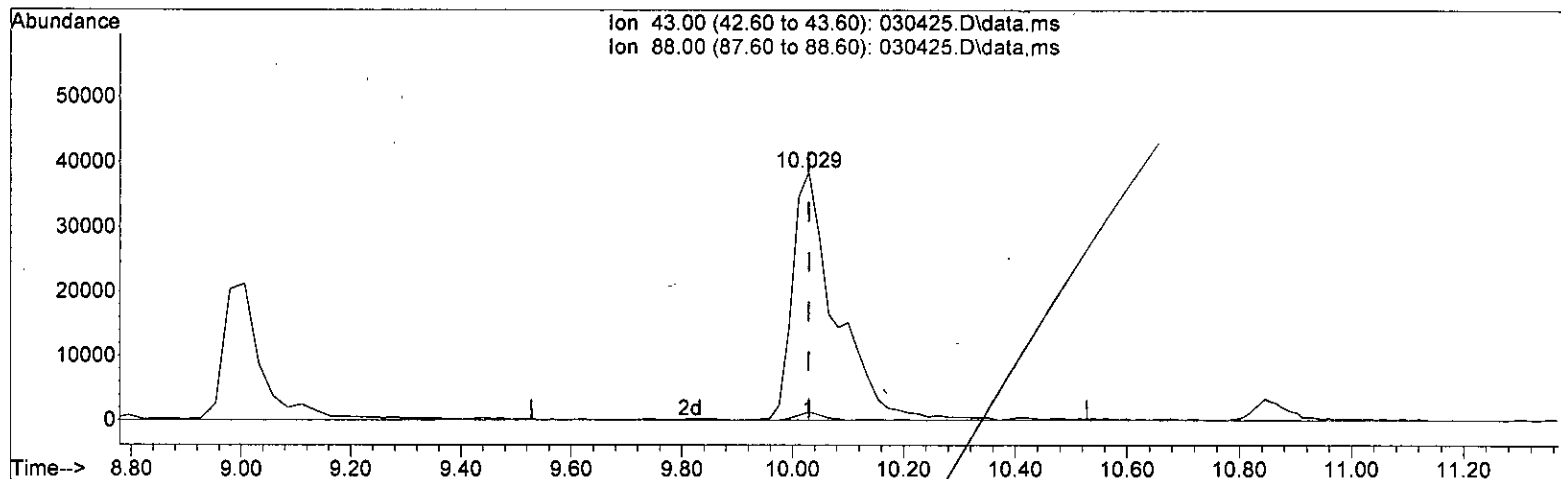
response	39063	
Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	34.92
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030425.D  
 Acq On : 5 Mar 2022 10:12 am  
 Operator : bat  
 Sample : 5.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:46 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030425.D\data.ms

(31) Ethyl acetate (TMP)

10.029min (+ 0.000) 6.779 ppbv

response 208225

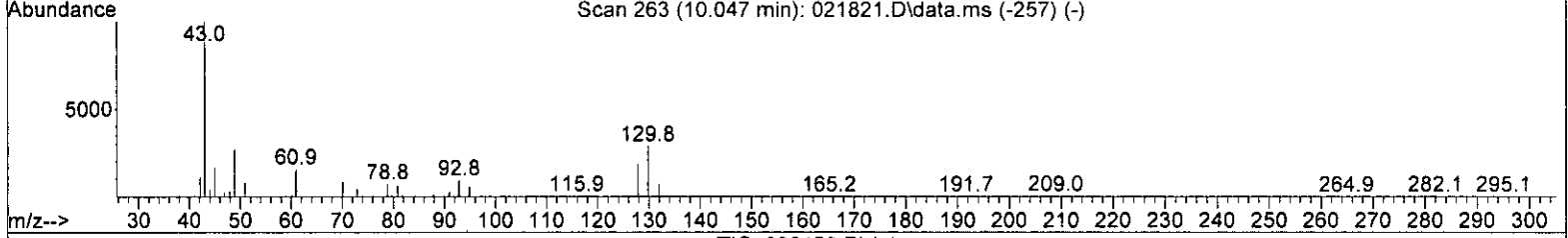
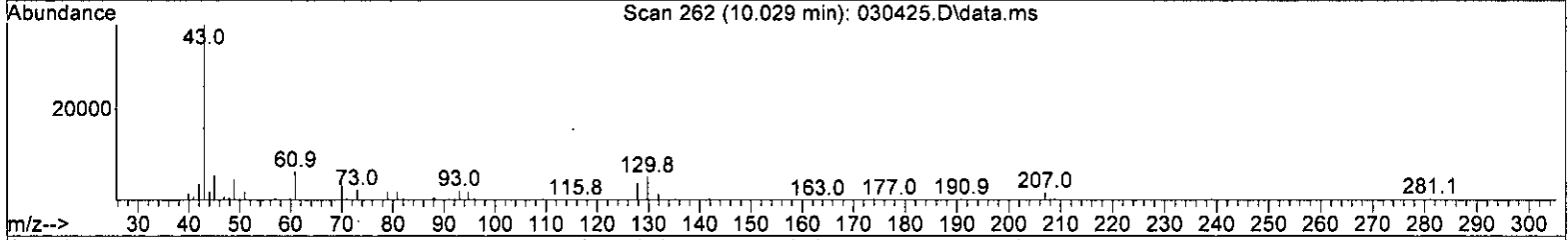
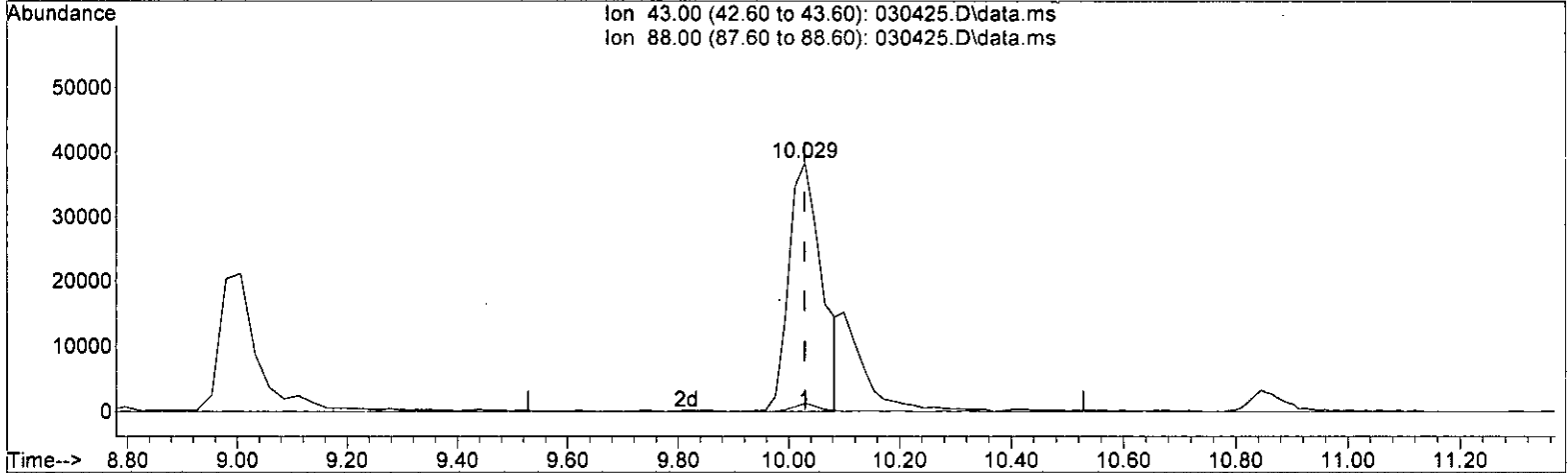
Ion	Exp%	Act%
43.00	100.00	100.00
88.00	1.70	1.90
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030425.D  
 Acq On : 5 Mar 2022 10:12 am  
 Operator : bat  
 Sample : 5.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:46 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(31) Ethyl acetate (TMP)

10.029min (+ 0.000) 5.225 ppbv m

response 160503

Ion	Exp%	Act%
43.00	100.00	100.00
88.00	1.70	2.46#
0.00	0.00	0.00
0.00	0.00	0.00

*h/h*  
 3/7/22



Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030425.D  
 Acq On : 5 Mar 2022 10:12 am  
 Operator : bat  
 Sample : 5.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:05:21 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.98	128	110888	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	469276	10.000	ppbv	0.02
56) Chlorobenzene-d5	18.21	117	448536	10.000	ppbv	0.00
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.65	95	339492	10.199	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	102.00%
Target Compounds						
						Qvalue
2) Propene	3.47	41	33767	5.519	ppbv	100
3) Dichlorodifluoromethane	3.55	85	244475	4.830	ppbv	98
4) Chloromethane	3.80	50	39063m	4.538	ppbv	
5) F-114	3.91	85	183400	4.838	ppbv	89
6] Vinyl chloride	4.08	62	55510	4.626	ppbv	97
7] 1,3-Butadiene	4.27	54	33611	5.007	ppbv	# 81
8) Butane	4.39	43	66587	5.174	ppbv	98
9) Bromomethane	4.67	94	68115	5.138	ppbv	99
10] Chloroethane	4.87	64	22504	5.137	ppbv	96
11] Vinyl bromide	5.34	106	76520	5.365	ppbv	96
12) Ethanol	4.98	45	10698	5.554	ppbv	98
13] Acrolein	5.46	56	13361	5.211	ppbv	94
14) Pentane	6.35	43	68907	5.450	ppbv	89
15) Trichlorofluoromethane	5.89	101	297534	5.293	ppbv	96
16) Acetone	5.61	58	20753	4.629	ppbv	# 72
17) 2-Propanol	5.89	45	96723	5.579	ppbv	90
18] 1,1-Dichloroethene	6.73	96	66302	4.764	ppbv	93
19] trans-1,2-Dichloroethene	8.17	96	64273	4.850	ppbv	87
20) Methylene chloride	6.85	84	59752	4.721	ppbv	# 80
21) t-Butyl alcohol (TBA)	6.67	59	117352	5.119	ppbv	95
22) 3-Chloropropene	7.04	41	66074	4.805	ppbv	# 71
23) CFC-113	7.25	101	183777	5.006	ppbv	92
24) Carbon disulfide	7.04	76	28761	4.820	ppbv	# 40
25) Methyl t-butyl ether (...)	8.53	73	157611	4.767	ppbv	90
26) Vinyl acetate	8.64	43	51505	4.588	ppbv	94
27] 1,1-Dichloroethane	8.46	63	124236	5.124	ppbv	97
28] cis-1,2-Dichloroethene	9.73	96	68874	4.923	ppbv	88
29) Hexane	10.10	57	60999	4.962	ppbv	81
30] Chloroform	10.18	83	180370	4.998	ppbv	99
31) Ethyl acetate	10.03	43	160503m	5.225	ppbv	
32) Tetrahydrofuran	10.85	42	48061	4.971	ppbv	76
33) 2-Butanone (MEK)	8.98	72	25818	5.074	ppbv	# 58
34] 1,2-Dichloroethane (EDC)	11.44	62	127882	5.154	ppbv	97
35] 1,1,1-Trichloroethane	11.93	97	201757	5.134	ppbv	93
36] Carbon tetrachloride	12.94	117	231841	5.043	ppbv	100
37] Benzene	12.69	78	196103	5.005	ppbv	88
38) Cyclohexane	13.15	84	54846	5.024	ppbv	# 73
40] 1,2-Dichloropropane	13.88	63	74644	4.826	ppbv	69
41] 1,4-Dioxane	14.17	88	41789	5.083	ppbv	# 60
42) 2,2,4-Trimethylpentane	14.29	57	198864	4.920	ppbv	# 78

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030425.D  
 Acq On : 5 Mar 2022 10:12 am  
 Operator : bat  
 Sample : 5.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS8

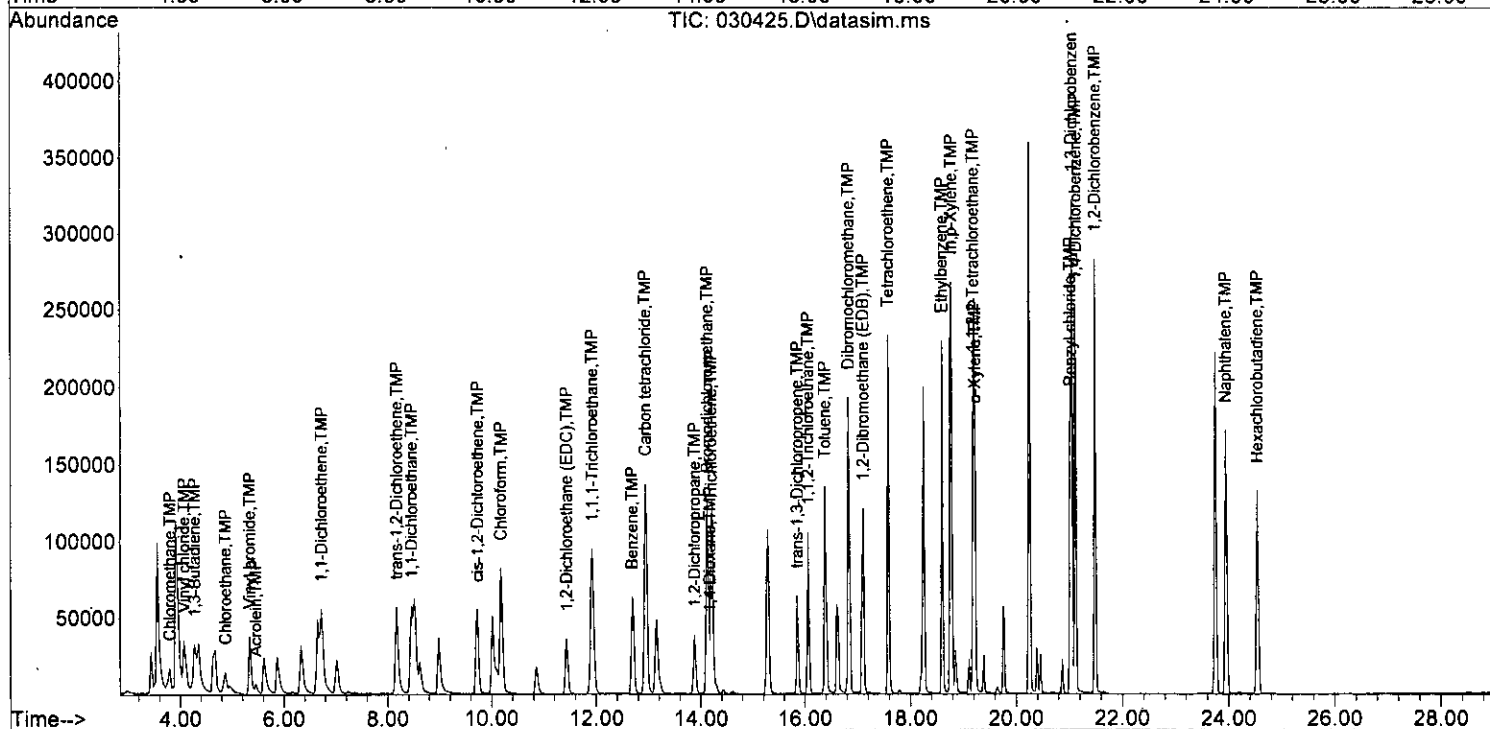
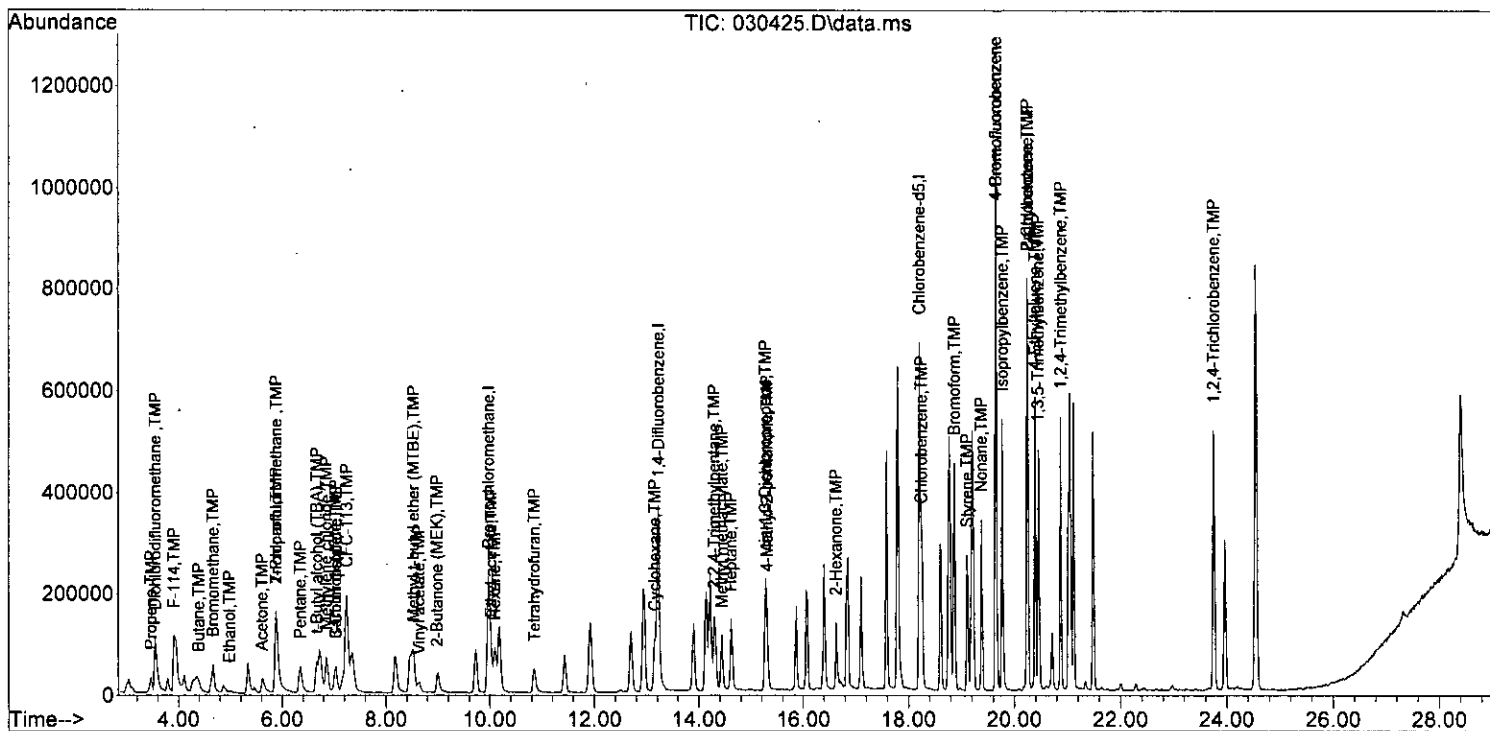
Quant Time: Mar 07 17:05:21 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.44	41	71501	5.152	ppbv #	83
44) Heptane	14.61	43	72954	4.754	ppbv	76
45) Bromodichloromethane	14.13	83	193845	5.005	ppbv	94
46) Trichloroethene	14.20	95	115093	4.873	ppbv	82
47) cis-1,3-Dichloropropene	15.28	75	123860	4.986	ppbv	97
48) 4-Methyl-2-pentanone	15.30	100	9410	5.280	ppbv #	13
49) trans-1,3-Dichloropropene	15.85	75	120551	5.060	ppbv	85
50) Toluene	16.38	92	120164	4.989	ppbv	100
51) 1,1,2-Trichloroethane	16.07	83	87028	4.983	ppbv	83
52) 2-Hexanone	16.63	43	118187	5.200	ppbv	97
53) Tetrachloroethene	17.58	164	120204	5.044	ppbv	92
54) Dibromochloromethane	16.83	129	214625	5.029	ppbv	99
55] 1,2-Dibromoethane (EDB)	17.11	107	150163	4.861	ppbv	98
57) Chlorobenzene	18.25	112	207824	4.965	ppbv	96
58] Ethylbenzene	18.60	91	306031	4.733	ppbv	94
59] 1,1,2,2-Tetrachloroethane	19.19	83	213360	4.789	ppbv	100
60) Nonane	19.38	43	128342	5.098	ppbv	93
61) Isopropylbenzene	19.77	105	370159	4.912	ppbv	97
62) 2-Chlorotoluene	20.25	126	101856	5.252	ppbv	68
63) Propylbenzene	20.25	91	701095	5.063	ppbv	97
64) 4-Ethyltoluene	20.39	105	365039	5.101	ppbv	98
65] m,p-Xylene	18.78	106	229957	9.474	ppbv	96
66] o-Xylene	19.23	106	114635	5.074	ppbv	91
67) Styrene	19.11	104	168904	4.973	ppbv	97
68) Bromoform	18.87	173	294551	5.133	ppbv	98
70] Benzyl chloride	21.02	91	293553	5.181	ppbv	94
71) 1,3,5-Trimethylbenzene	20.45	105	332070	5.163	ppbv	100
72) 1,2,4-Trimethylbenzene	20.87	105	307392	5.044	ppbv	100
73] 1,3-Dichlorobenzene	21.05	146	268028	5.011	ppbv	94
74] 1,4-Dichlorobenzene	21.13	146	262727	4.837	ppbv	94
75] 1,2-Dichlorobenzene	21.49	146	253638	4.903	ppbv	94
76) 1,2,4-Trichlorobenzene	23.75	180	244489	5.088	ppbv	97
77] Naphthalene	23.95	128	353137	5.363	ppbv	98
78] Hexachlorobutadiene	24.54	225	294119	4.955	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
Data File : 030425.D  
Acq On : 5 Mar 2022 10:12 am  
Operator : bat  
Sample : 5.0 ppbv , 65-194a  
Misc : T4  
ALS Vial : 25 Sample Multiplier: 1  
InstName : GCMS8

Quant Time: Mar 07 17:05:21 2022  
Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
Quant Title : TO-15 SS method  
QLast Update : Mon Mar 07 12:56:32 2022  
Response via : Initial Calibration  
DataAcq Meth:TO15NA.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030425.D  
 Acq On : 5 Mar 2022 10:12 am  
 Operator : bat  
 Sample : 5.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:05:21 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	5.000	5.519	-10.4	100	0.00
3 TMP	Dichlorodifluoromethane	5.000	4.830	3.4	100	0.00
4 TMP	Chloromethane	5.000	4.538	9.2	100	0.00
5 TMP	F-114	5.000	4.838	3.2	100	0.00
6 TMP	Vinyl chloride	5.000	4.626	7.5	100	0.00
7 TMP	1,3-Butadiene	5.000	5.007	-0.1	100	0.00
8 TMP	Butane	5.000	5.174	-3.5	100	0.04
9 TMP	Bromomethane	5.000	5.138	-2.8	100	0.00
10 TMP	Chloroethane	5.000	5.137	-2.7	100	0.00
11 TMP	Vinyl bromide	5.000	5.365	-7.3	100	0.00
12 TMP	Ethanol	5.000	5.554	-11.1	100	0.00
13 TMP	Acrolein	5.000	5.211	-4.2	100	0.00
14 TMP	Pentane	5.000	5.450	-9.0	100	0.00
15 TMP	Trichlorofluoromethane	5.000	5.293	-5.9	100	0.00
16 TMP	Acetone	5.000	4.629	7.4	100	-0.02
17 TMP	2-Propanol	5.000	5.579	-11.6	100	0.00
18 TMP	1,1-Dichloroethene	5.000	4.764	4.7	100	0.00
19 TMP	trans-1,2-Dichloroethene	5.000	4.850	3.0	100	0.00
20 TMP	Methylene chloride	5.000	4.721	5.6	100	0.00
21 TMP	t-Butyl alcohol (TBA)	5.000	5.119	-2.4	100	0.00
22 TMP	3-Chloropropene	5.000	4.805	3.9	100	0.00
23 TMP	CFC-113	5.000	5.006	-0.1	100	0.00
24 TMP	Carbon disulfide	5.000	4.820	3.6	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	5.000	4.767	4.7	100	0.00
26 TMP	Vinyl acetate	5.000	4.588	8.2	100	0.00
27 TMP	1,1-Dichloroethane	5.000	5.124	-2.5	100	0.00
28 TMP	cis-1,2-Dichloroethene	5.000	4.923	1.5	100	0.00
29 TMP	Hexane	5.000	4.962	0.8	100	0.00
30 TMP	Chloroform	5.000	4.998	0.0	100	0.00
31 TMP	Ethyl acetate	5.000	5.225	-4.5	100	0.00
32 TMP	Tetrahydrofuran	5.000	4.971	0.6	100	0.00
33 TMP	2-Butanone (MEK)	5.000	5.074	-1.5	100	-0.03
34 TMP	1,2-Dichloroethane (EDC)	5.000	5.154	-3.1	100	0.00
35 TMP	1,1,1-Trichloroethane	5.000	5.134	-2.7	100	0.01
36 TMP	Carbon tetrachloride	5.000	5.043	-0.9	100	0.00
37 TMP	Benzene	5.000	5.005	-0.1	100	0.00
38 TMP	Cyclohexane	5.000	5.024	-0.5	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.02
40 TMP	1,2-Dichloropropane	5.000	4.826	3.5	100	0.00
41 TMP	1,4-Dioxane	5.000	5.083	-1.7	100	0.00
42 TMP	2,2,4-Trimethylpentane	5.000	4.920	1.6	100	0.00
43 TMP	Methyl methacrylate	5.000	5.152	-3.0	100	0.00
44 TMP	Heptane	5.000	4.754	4.9	100	0.00
45 TMP	Bromodichloromethane	5.000	5.005	-0.1	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030425.D  
 Acq On : 5 Mar 2022 10:12 am  
 Operator : bat  
 Sample : 5.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:05:21 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev (min)
46	TMP Trichloroethene	5.000	4.873	2.5	100	0.00
47	TMP cis-1,3-Dichloropropene	5.000	4.986	0.3	100	0.00
48	TMP 4-Methyl-2-pentanone	5.000	5.280	-5.6	100	0.00
49	TMP trans-1,3-Dichloropropene	5.000	5.060	-1.2	100	0.00
50	TMP Toluene	5.000	4.989	0.2	100	0.00
51	TMP 1,1,2-Trichloroethane	5.000	4.983	0.3	100	0.00
52	TMP 2-Hexanone	5.000	5.200	-4.0	100	0.00
53	TMP Tetrachloroethene	5.000	5.044	-0.9	100	0.00
54	TMP Dibromochloromethane	5.000	5.029	-0.6	100	0.00
55	TMP 1,2-Dibromoethane (EDB)	5.000	4.861	2.8	100	0.00
56	I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57	TMP Chlorobenzene	5.000	4.965	0.7	100	0.00
58	TMP Ethylbenzene	5.000	4.733	5.3	100	0.00
59	TMP 1,1,2,2-Tetrachloroethane	5.000	4.789	4.2	100	0.00
60	TMP Nonane	5.000	5.098	-2.0	100	0.00
61	TMP Isopropylbenzene	5.000	4.912	1.8	100	0.00
62	TMP 2-Chlorotoluene	5.000	5.252	-5.0	100	0.01
63	TMP Propylbenzene	5.000	5.063	-1.3	100	0.00
64	TMP 4-Ethyltoluene	5.000	5.101	-2.0	100	0.00
65	TMP m,p-Xylene	10.000	9.474	5.3	100	0.00
66	TMP o-Xylene	5.000	5.074	-1.5	100	0.00
67	TMP Styrene	5.000	4.973	0.5	100	0.00
68	TMP Bromoform	5.000	5.133	-2.7	100	0.00
69	S 4-Bromofluorobenzene	10.000	10.199	-2.0	100	0.00
70	TMP Benzyl chloride	5.000	5.181	-3.6	100	0.01
71	TMP 1,3,5-Trimethylbenzene	5.000	5.163	-3.3	100	0.00
72	TMP 1,2,4-Trimethylbenzene	5.000	5.044	-0.9	100	0.00
73	TMP 1,3-Dichlorobenzene	5.000	5.011	-0.2	100	0.00
74	TMP 1,4-Dichlorobenzene	5.000	4.837	3.3	100	0.01
75	TMP 1,2-Dichlorobenzene	5.000	4.903	1.9	100	0.00
76	TMP 1,2,4-Trichlorobenzene	5.000	5.088	-1.8	100	0.00
77	TMP Naphthalene	5.000	5.363	-7.3	100	0.00
78	TMP Hexachlorobutadiene	5.000	4.955	0.9	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030425.D  
 Acq On : 5 Mar 2022 10:12 am  
 Operator : bat  
 Sample : 5.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:05:21 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	0.552	0.609	-10.3	100	0.00
3 TMP	Dichlorodifluoromethane	4.565	4.409	3.4	100	0.00
4 TMP	Chloromethane	0.776	0.705	9.1	100	0.00
5 TMP	F-114	3.419	3.308	3.2	100	0.00
6 TMP	Vinyl chloride	1.082	1.001	7.5	100	0.00
7 TMP	1,3-Butadiene	0.605	0.606	-0.2	100	0.00
8 TMP	Butane	1.161	1.201	-3.4	100	0.04
9 TMP	Bromomethane	1.196	1.229	-2.8	100	0.00
10 TMP	Chloroethane	0.395	0.406	-2.8	100	0.00
11 TMP	Vinyl bromide	1.286	1.380	-7.3	100	0.00
12 TMP	Ethanol	0.174	0.193	-10.9	100	0.00
13 TMP	Acrolein	0.252	0.241	4.4	100	0.00
14 TMP	Pentane	1.140	1.243	-9.0	100	0.00
15 TMP	Trichlorofluoromethane	5.069	5.366	-5.9	100	0.00
16 TMP	Acetone	0.404	0.374	7.4	100	-0.02
17 TMP	2-Propanol	1.563	1.745	-11.6	100	0.00
18 TMP	1,1-Dichloroethene	1.255	1.196	4.7	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.195	1.159	3.0	100	0.00
20 TMP	Methylene chloride	1.141	1.078	5.5	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.068	2.117	-2.4	100	0.00
22 TMP	3-Chloropropene	1.240	1.192	3.9	100	0.00
23 TMP	CFC-113	3.311	3.315	-0.1	100	0.00
24 TMP	Carbon disulfide	0.538	0.519	3.5	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	2.982	2.843	4.7	100	0.00
26 TMP	Vinyl acetate	1.012	0.929	8.2	100	0.00
27 TMP	1,1-Dichloroethane	2.186	2.241	-2.5	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.262	1.242	1.6	100	0.00
29 TMP	Hexane	1.109	1.100	0.8	100	0.00
30 TMP	Chloroform	3.255	3.253	0.1	100	0.00
31 TMP	Ethyl acetate	2.770	2.895	-4.5	100	0.00
32 TMP	Tetrahydrofuran	0.872	0.867	0.6	100	0.00
33 TMP	2-Butanone (MEK)	0.459	0.466	-1.5	100	-0.03
34 TMP	1,2-Dichloroethane (EDC)	2.237	2.307	-3.1	100	0.00
35 TMP	1,1,1-Trichloroethane	3.544	3.639	-2.7	100	0.01
36 TMP	Carbon tetrachloride	4.146	4.182	-0.9	100	0.00
37 TMP	Benzene	3.534	3.537	-0.1	100	0.00
38 TMP	Cyclohexane	0.985	0.989	-0.4	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.02
40 TMP	1,2-Dichloropropane	0.330	0.318	3.6	100	0.00
41 TMP	1,4-Dioxane	0.175	0.178	-1.7	100	0.00
42 TMP	2,2,4-Trimethylpentane	0.861	0.848	1.5	100	0.00
43 TMP	Methyl methacrylate	0.296	0.305	-3.0	100	0.00
44 TMP	Heptane	0.327	0.311	4.9	100	0.00
45 TMP	Bromodichloromethane	0.825	0.826	-0.1	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030425.D  
 Acq On : 5 Mar 2022 10:12 am  
 Operator : bat  
 Sample : 5.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 25 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:05:21 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	0.503	0.491	2.4	100	0.00
47	TMP cis-1,3-Dichloropropene	0.529	0.528	0.2	100	0.00
48	TMP 4-Methyl-2-pentanone	0.038	0.040	-5.3	100	0.00
49	TMP trans-1,3-Dichloropropene	0.508	0.514	-1.2	100	0.00
50	TMP Toluene	0.513	0.512	0.2	100	0.00
51	TMP 1,1,2-Trichloroethane	0.372	0.371	0.3	100	0.00
52	TMP 2-Hexanone	0.484	0.504	-4.1	100	0.00
53	TMP Tetrachloroethene	0.508	0.512	-0.8	100	0.00
54	TMP Dibromochloromethane	0.909	0.915	-0.7	100	0.00
55	TMP 1,2-Dibromoethane (EDB)	0.658	0.640	2.7	100	0.00
56	I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57	TMP Chlorobenzene	0.933	0.927	0.6	100	0.00
58	TMP Ethylbenzene	1.442	1.365	5.3	100	0.00
59	TMP 1,1,2,2-Tetrachloroethane	0.993	0.951	4.2	100	0.00
60	TMP Nonane	0.561	0.572	-2.0	100	0.00
61	TMP Isopropylbenzene	1.680	1.651	1.7	100	0.00
62	TMP 2-Chlorotoluene	0.432	0.454	-5.1	100	0.01
63	TMP Propylbenzene	3.087	3.126	-1.3	100	0.00
64	TMP 4-Ethyltoluene	1.595	1.628	-2.1	100	0.00
65	TMP m,p-Xylene	0.541	0.513	5.2	100	0.00
66	TMP o-Xylene	0.504	0.511	-1.4	100	0.00
67	TMP Styrene	0.757	0.753	0.5	100	0.00
68	TMP Bromoform	1.279	1.313	-2.7	100	0.00
69	S 4-Bromofluorobenzene	0.742	0.757	-2.0	100	0.00
70	TMP Benzyl chloride	1.263	1.309	-3.6	100	0.01
71	TMP 1,3,5-Trimethylbenzene	1.434	1.481	-3.3	100	0.00
72	TMP 1,2,4-Trimethylbenzene	1.359	1.371	-0.9	100	0.00
73	TMP 1,3-Dichlorobenzene	1.193	1.195	-0.2	100	0.00
74	TMP 1,4-Dichlorobenzene	1.211	1.171	3.3	100	0.01
75	TMP 1,2-Dichlorobenzene	1.153	1.131	1.9	100	0.00
76	TMP 1,2,4-Trichlorobenzene	1.110	1.090	1.8	100	0.00
77	TMP Naphthalene	1.414	1.575	-11.4	100	0.00
78	TMP Hexachlorobutadiene	1.608	1.311	18.5	100	0.00

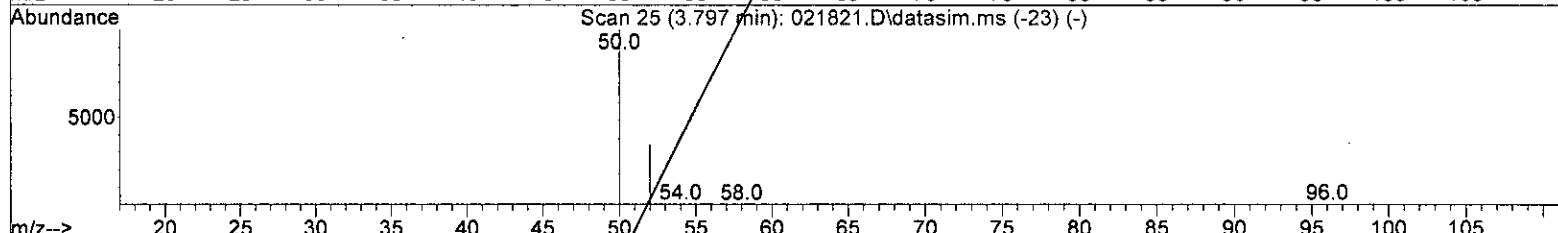
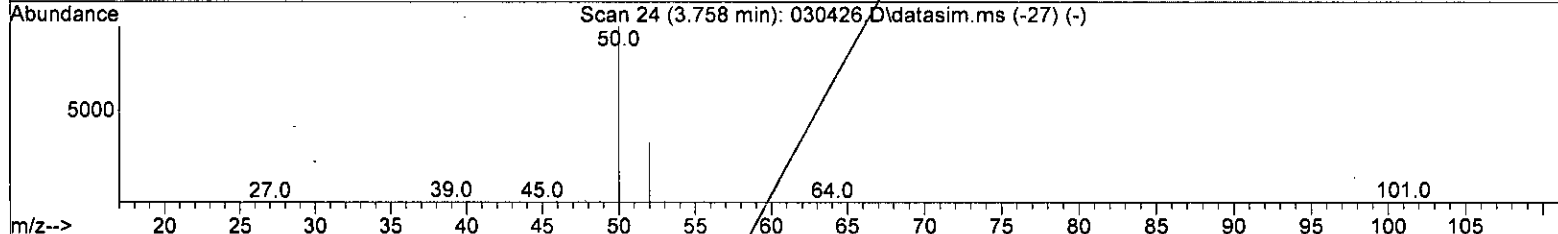
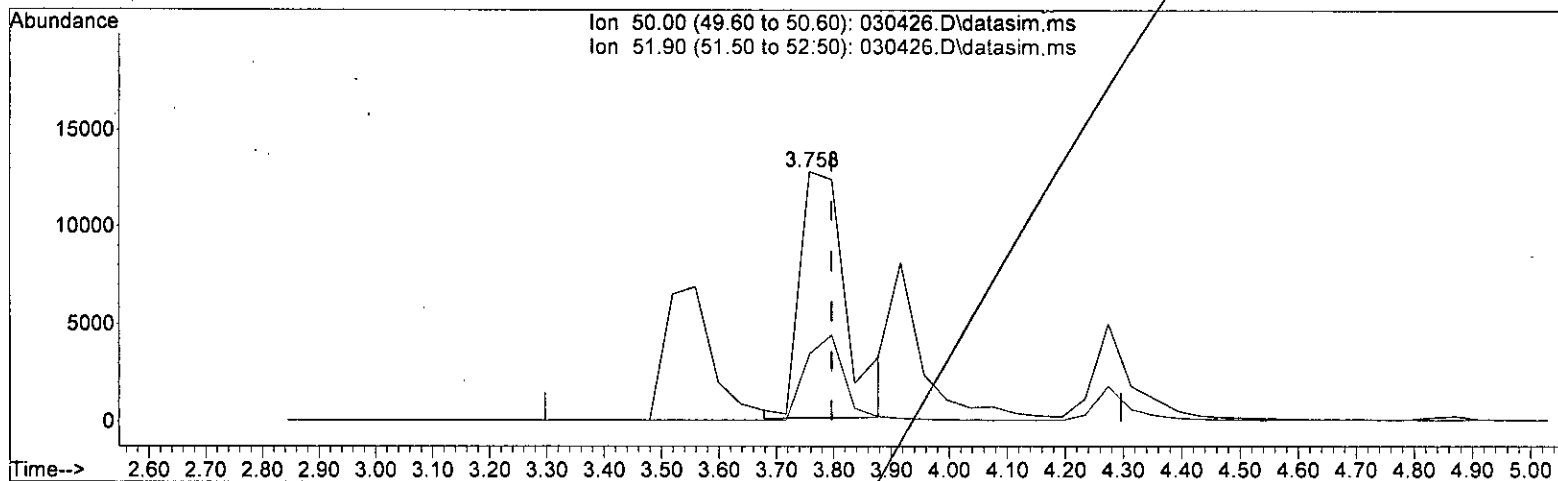
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030426.D  
 Acq On : 5 Mar 2022 10:53 am  
 Operator : bat  
 Sample : 8.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:54 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(4) Chloromethane (TMP)

3.758min (-0.039) 8.007 ppbv

response 71576

Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	27.99
0.00	0.00	0.00
0.00	0.00	0.00

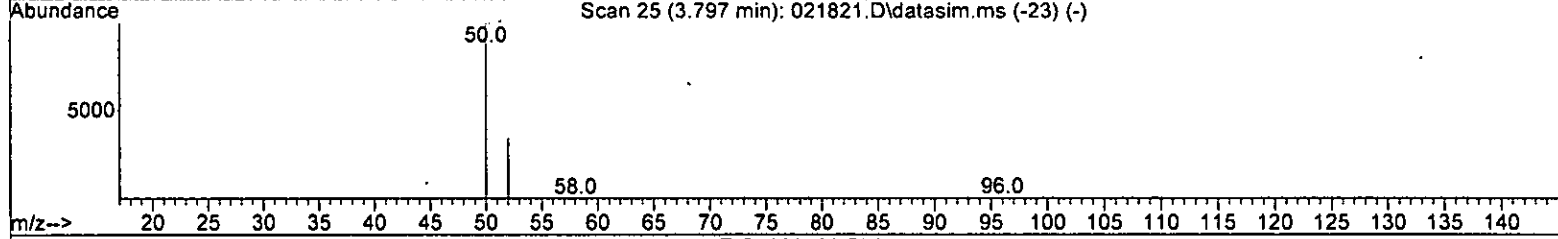
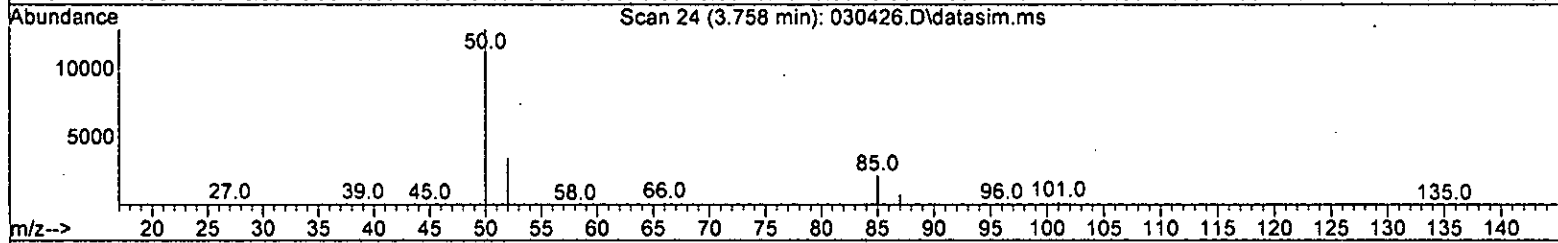
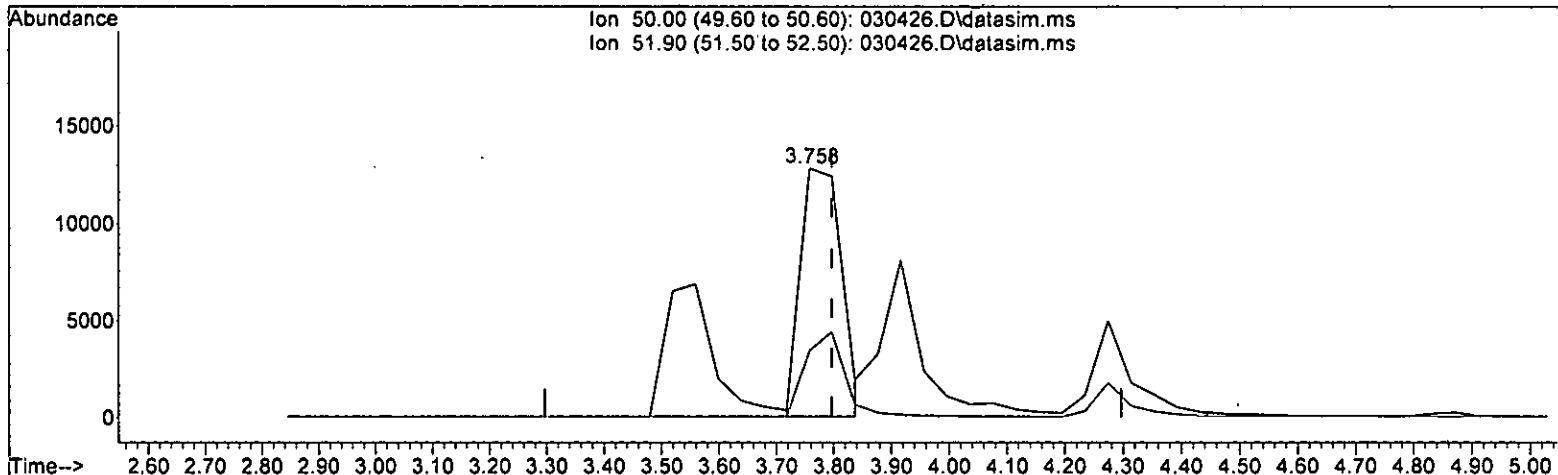
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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030426.D  
 Acq On : 5 Mar 2022 10:53 am  
 Operator : bat  
 Sample : 8.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:54 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030426.D\data.ms

(4) Chloromethane (TMP)

3.758min (-0.039) 7.225 ppbv m

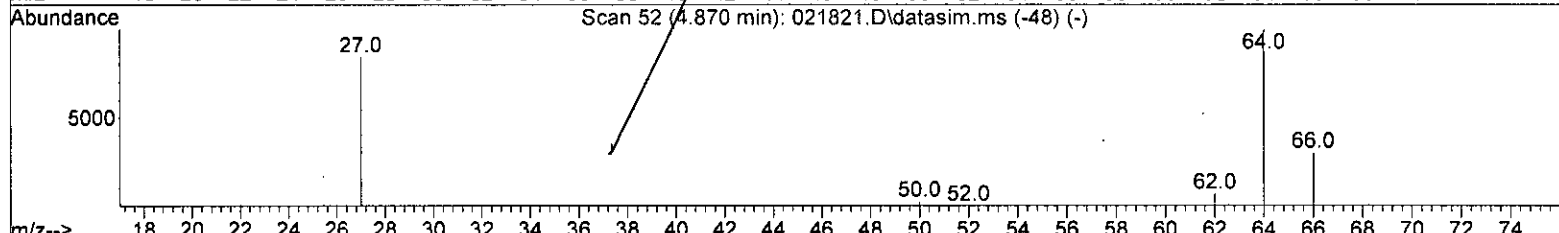
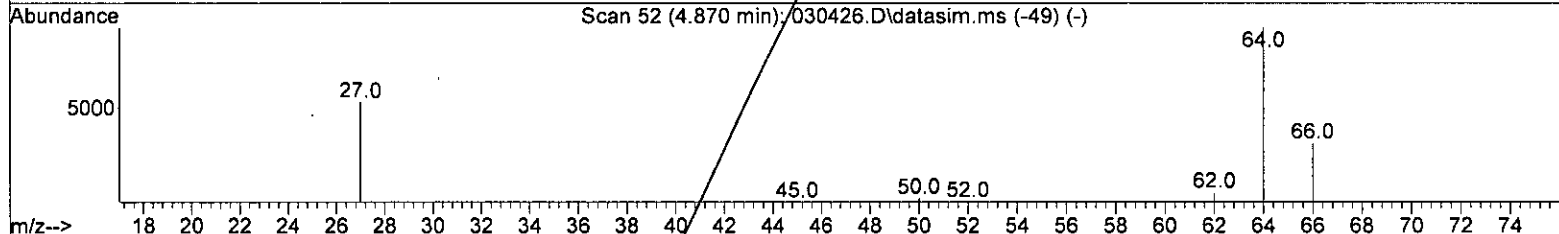
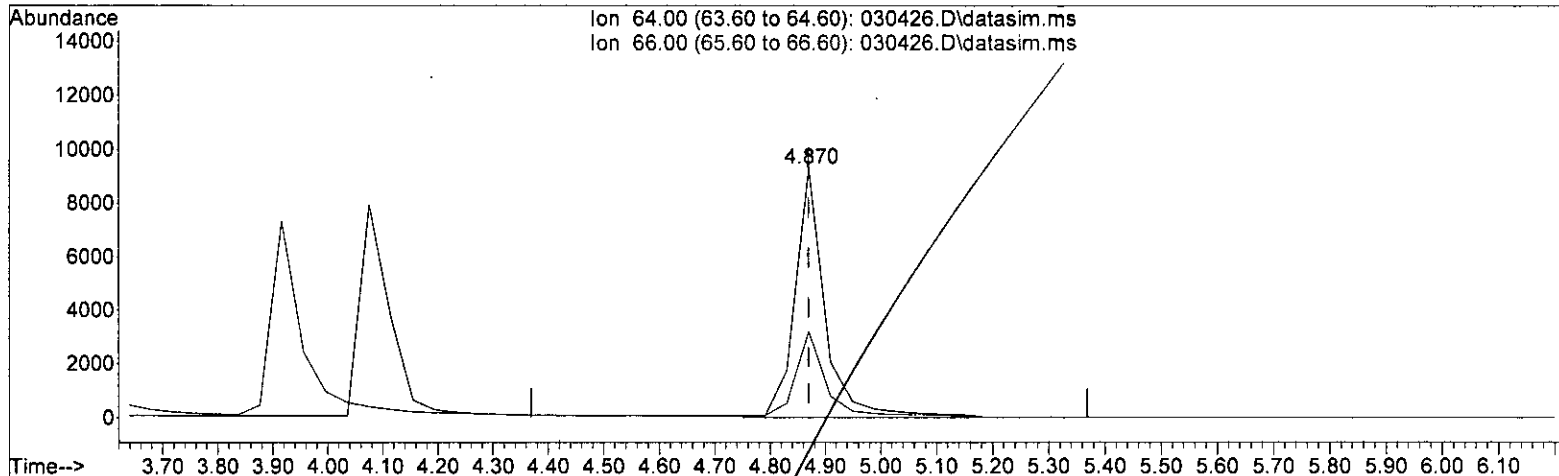
response	64582
Ion	Exp% Act%
50.00	100.00 100.00
51.90	25.30 27.17
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030426.D  
 Acq On : 5 Mar 2022 10:53 am  
 Operator : bat  
 Sample : 8.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:54 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030426.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 7.326 ppbv

response 33322

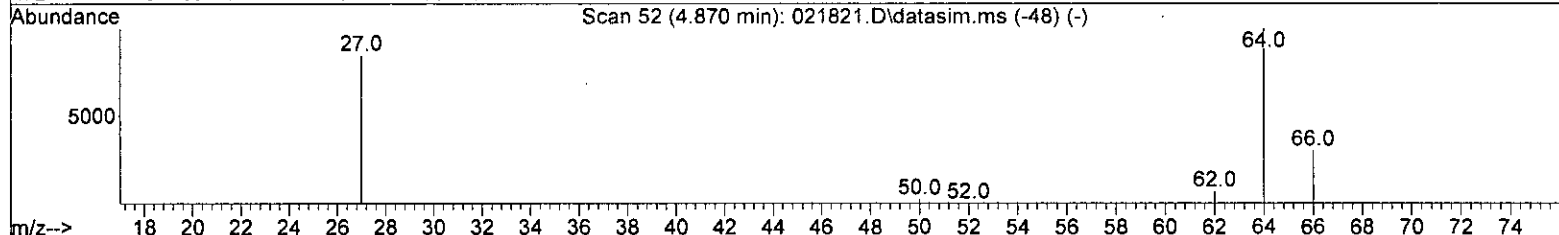
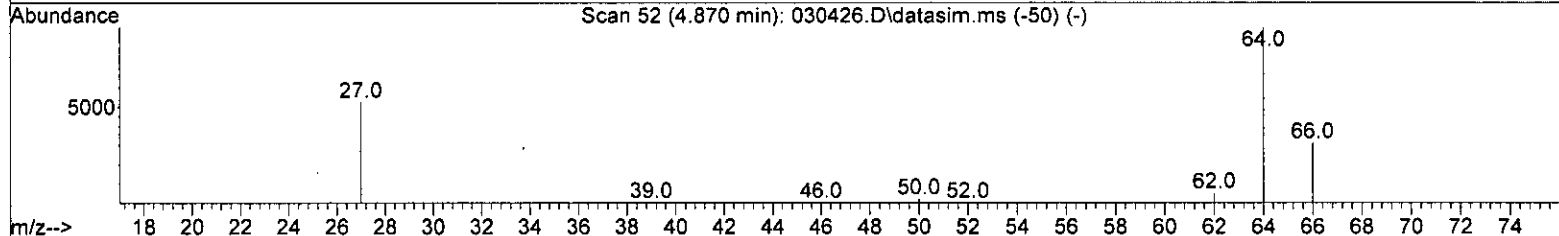
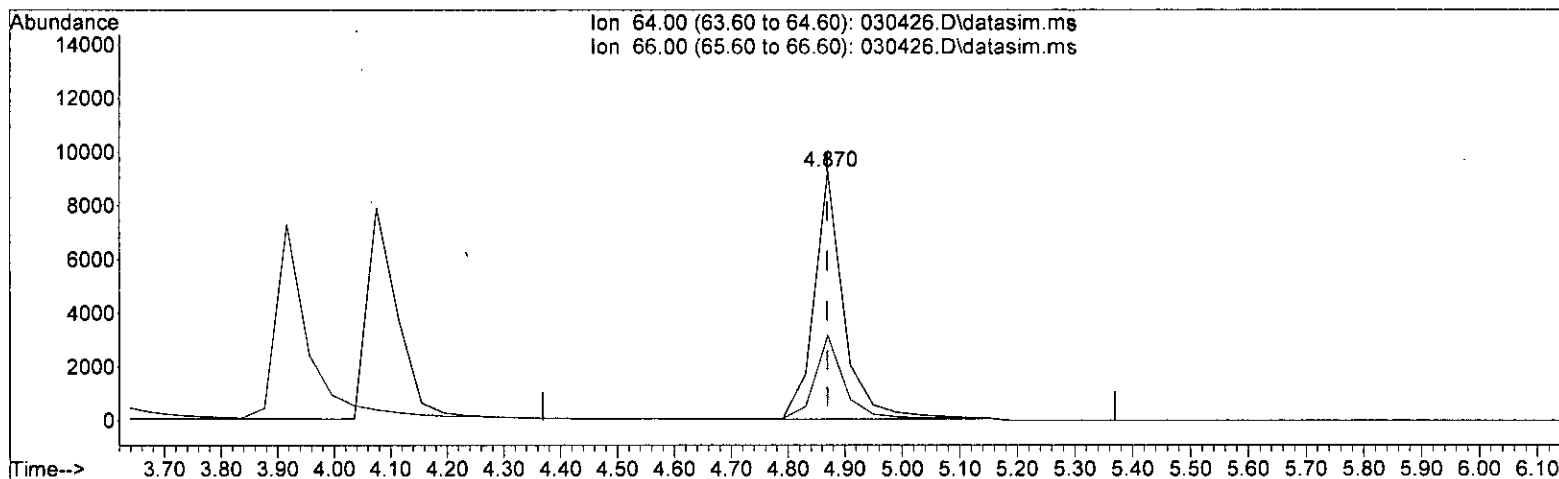
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	34.28
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030426.D  
 Acq On : 5 Mar 2022 10:53 am  
 Operator : bat  
 Sample : 8.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:54 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030426.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 7.384 ppbv m

response 33586

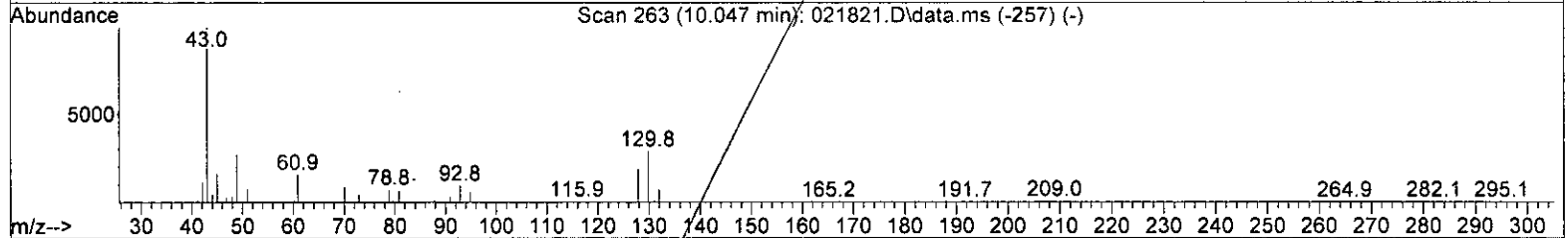
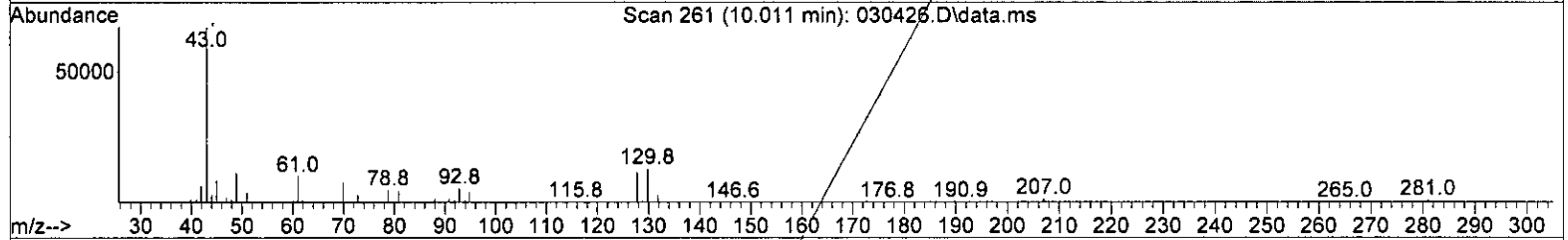
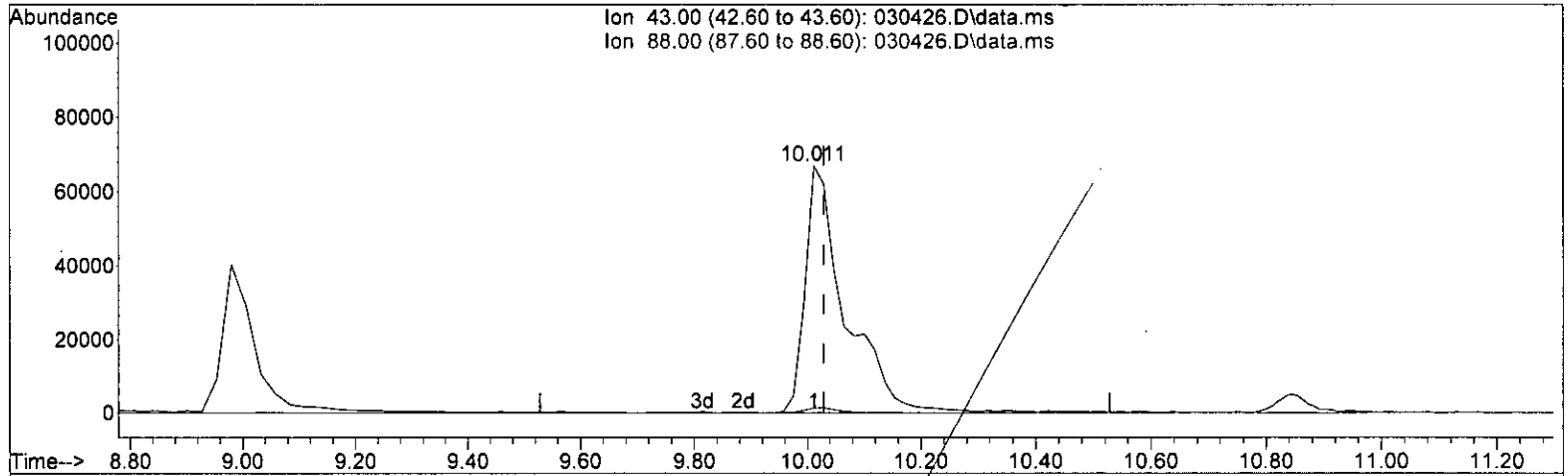
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	34.28
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030426.D  
 Acq On : 5 Mar 2022 10:53 am  
 Operator : bat  
 Sample : 8.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:54 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030426.D\data.ms

(31) Ethyl acetate (TMP)

10.011min (-0.018) 10.344 ppbv

response 329927

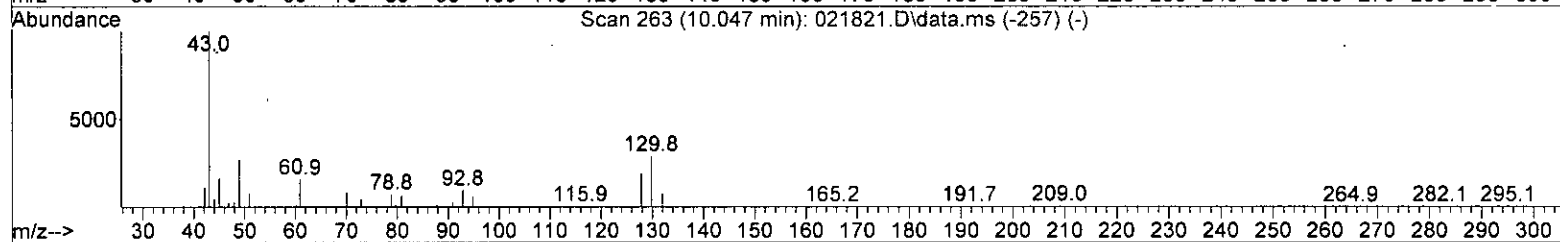
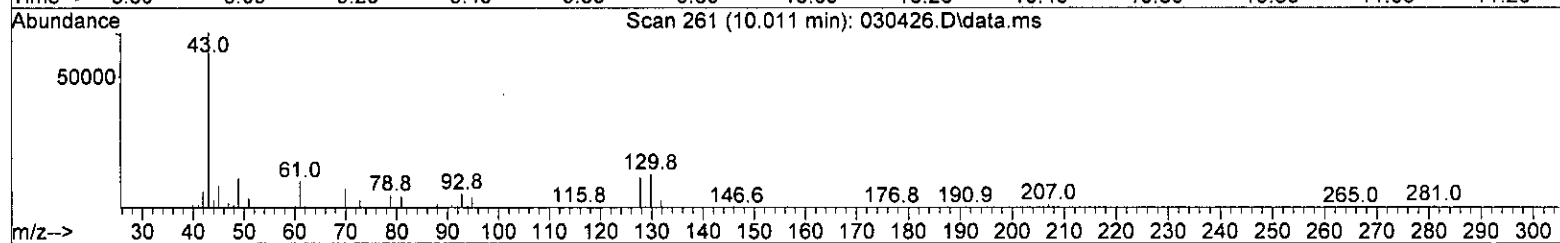
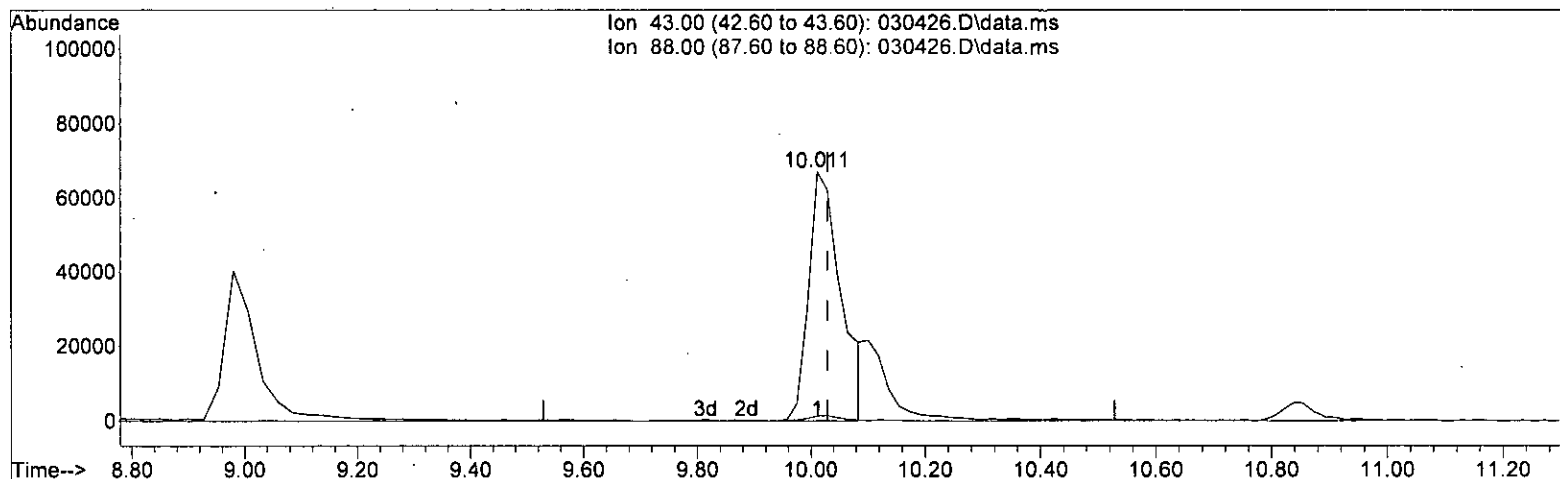
Ion	Exp%	Act%
43.00	100.00	100.00
88.00	1.70	1.78
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030426.D  
 Acq On : 5 Mar 2022 10:53 am  
 Operator : bat  
 Sample : 8.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:54 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030426.D\data.ms

(31) Ethyl acetate (TMP)

10.011min (-0.018) 8.305 ppbv m

response 264899

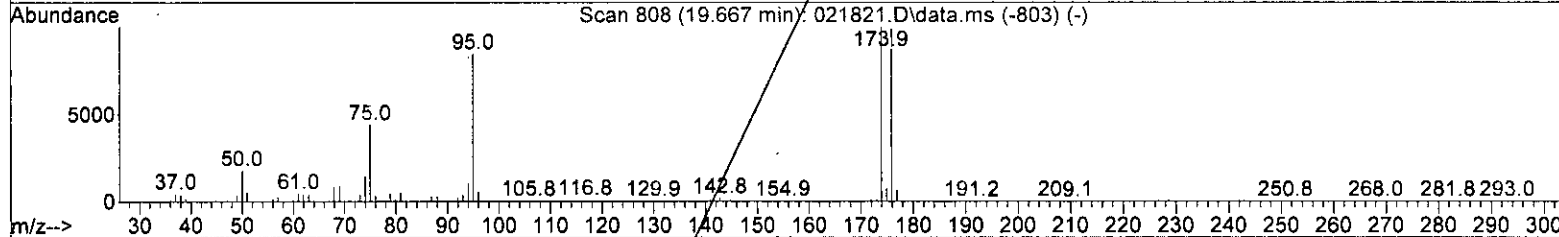
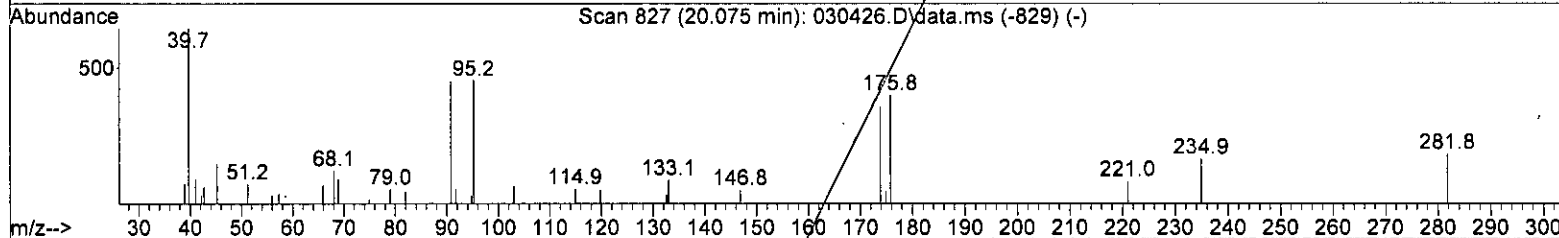
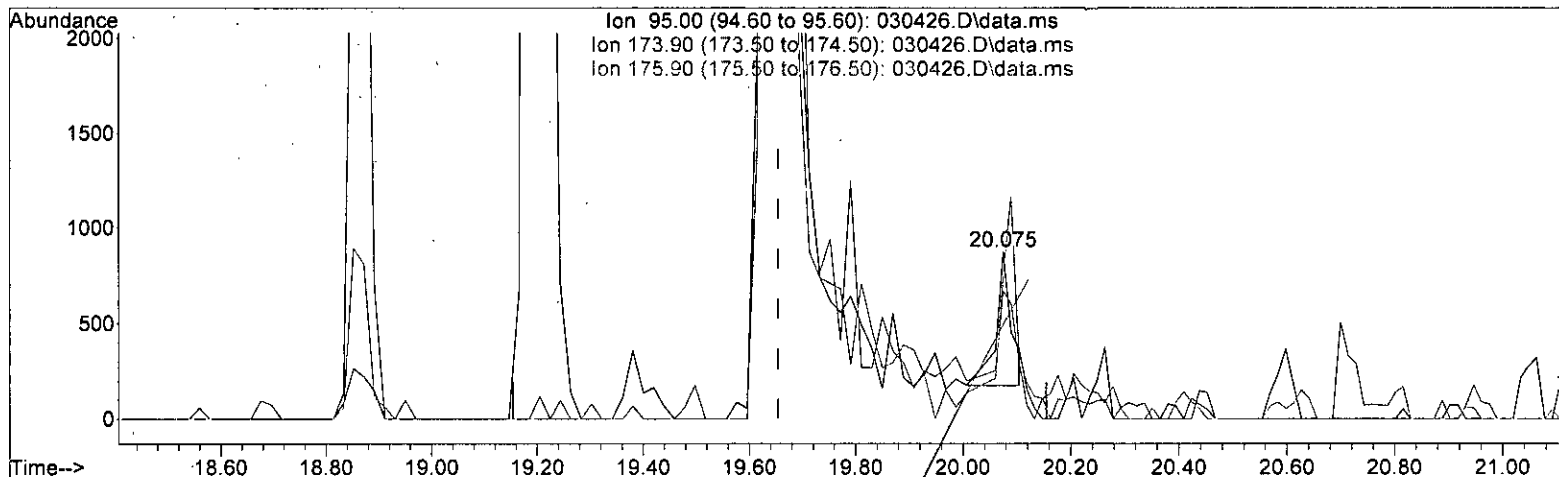
Ion	Exp%	Act%
43.00	100.00	100.00
88.00	1.70	2.22#
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030426.D  
 Acq On : 5 Mar 2022 10:53 am  
 Operator : bat  
 Sample : 8.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:54 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(69) 4-Bromofluorobenzene (S)

20.075min (+ 0.420) 0.051 ppbv

response 1979

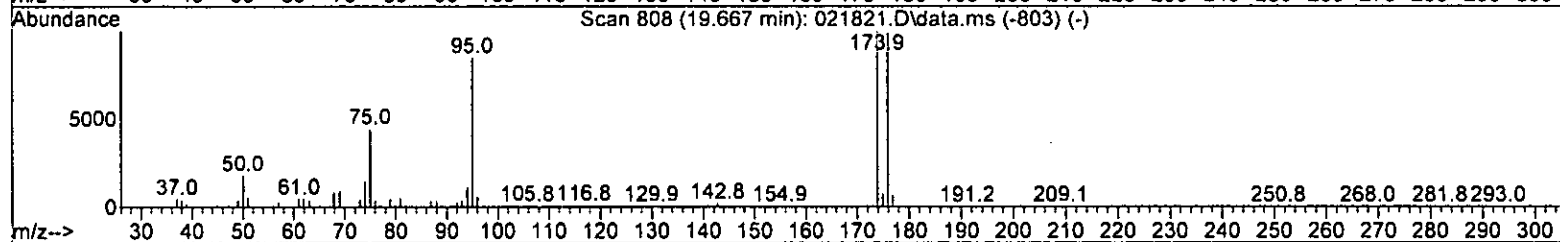
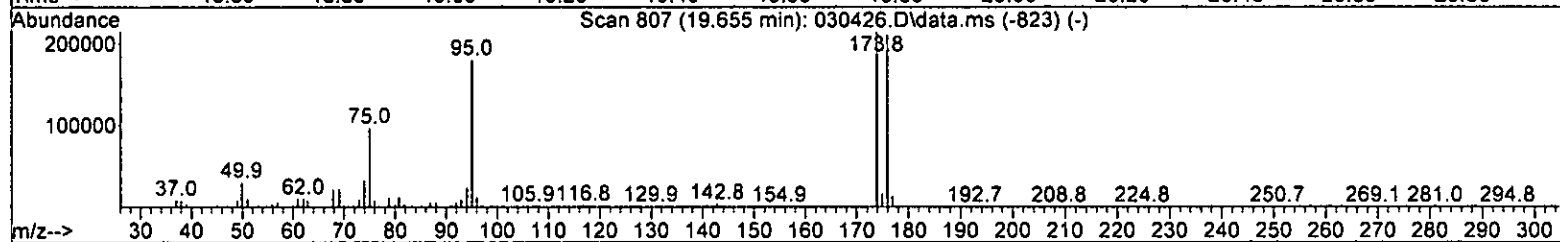
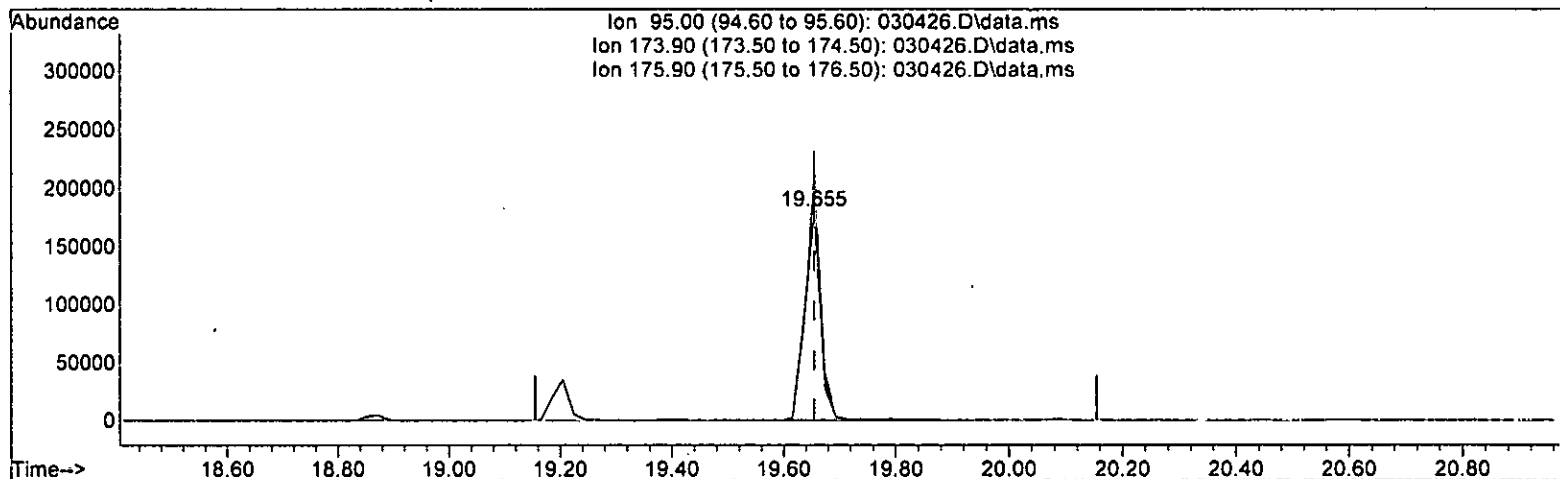
Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	66.90
175.90	70.90	87.02
0.00	0.00	0.00

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030426.D  
 Acq On : 5 Mar 2022 10:53 am  
 Operator : bat  
 Sample : 8.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:44:54 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030426.D\data.ms

(69) 4-Bromofluorobenzene (S)

19.655min (-0.000) 10.895 ppbv m

response 354912

Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	118.81#
175.90	70.90	117.03#
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030426.D  
 Acq On : 5 Mar 2022 10:53 am  
 Operator : bat  
 Sample : 8.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:11:49 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.98	128	115141	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	482462	10.000	ppbv	0.02
56) Chlorobenzene-d5	18.21	117	438967	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.65	95	354912m	10.895	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	108.90%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.47	41	47518	7.480	ppbv	76
3) Dichlorodifluoromethane	3.55	85	384060	7.307	ppbv	98
4) Chloromethane	3.76	50	64582m	7.225	ppbv	
5) F-114	3.91	85	288472	7.328	ppbv	96
6] Vinyl chloride	4.08	62	92515	7.425	ppbv	99
7] 1,3-Butadiene	4.27	54	52438	7.524	ppbv	# 76
8) Butane	4.35	43	102029	7.635	ppbv	96
9) Bromomethane	4.67	94	107708	7.824	ppbv	91
10] Chloroethane	4.87	64	33586m	7.384	ppbv	
11] Vinyl bromide	5.34	106	112052	7.565	ppbv	89
12) Ethanol	4.98	45	14240	7.120	ppbv	94
13] Acrolein	5.44	56	21673	7.997	ppbv	98
14) Pentane	6.35	43	100217	7.633	ppbv	91
15) Trichlorofluoromethane	5.89	101	460883	7.897	ppbv	99
16) Acetone	5.61	58	33652	7.229	ppbv	# 75
17) 2-Propanol	5.87	45	141692	7.871	ppbv	# 96
18] 1,1-Dichloroethene	6.73	96	103974	7.195	ppbv	87
19] trans-1,2-Dichloroethene	8.17	96	100336	7.291	ppbv	# 78
20) Methylene chloride	6.85	84	94832	7.216	ppbv	# 81
21) t-Butyl alcohol (TBA)	6.67	59	182578	7.670	ppbv	94
22) 3-Chloropropene	7.01	41	110532	7.741	ppbv	# 77
23) CFC-113	7.25	101	277718	7.285	ppbv	83
24) Carbon disulfide	7.03	76	44930	7.252	ppbv	# 44
25) Methyl t-butyl ether (...)	8.53	73	260546	7.589	ppbv	88
26) Vinyl acetate	8.64	43	86739	7.441	ppbv	95
27] 1,1-Dichloroethane	8.46	63	191967	7.625	ppbv	96
28] cis-1,2-Dichloroethene	9.71	96	107779	7.419	ppbv	98
29) Hexane	10.10	57	101730	7.970	ppbv	95
30] Chloroform	10.18	83	279598	7.461	ppbv	100
31) Ethyl acetate	10.01	43	264899m	8.305	ppbv	
32) Tetrahydrofuran	10.84	42	75554	7.526	ppbv	79
33) 2-Butanone (MEK)	8.98	72	43436	8.221	ppbv	# 70
34] 1,2-Dichloroethane (EDC)	11.43	62	198968	7.723	ppbv	97
35] 1,1,1-Trichloroethane	11.92	97	315499	7.732	ppbv	94
36] Carbon tetrachloride	12.94	117	363261	7.610	ppbv	99
37] Benzene	12.69	78	310308	7.627	ppbv	88
38) Cyclohexane	13.15	84	88598	7.815	ppbv	# 67
40] 1,2-Dichloropropane	13.88	63	118954	7.481	ppbv	68
41] 1,4-Dioxane	14.15	88	67758	8.017	ppbv	92
42) 2,2,4-Trimethylpentane	14.29	57	330132	7.944	ppbv	# 82



Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030426.D  
 Acq On : 5 Mar 2022 10:53 am  
 Operator : bat  
 Sample : 8.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS8

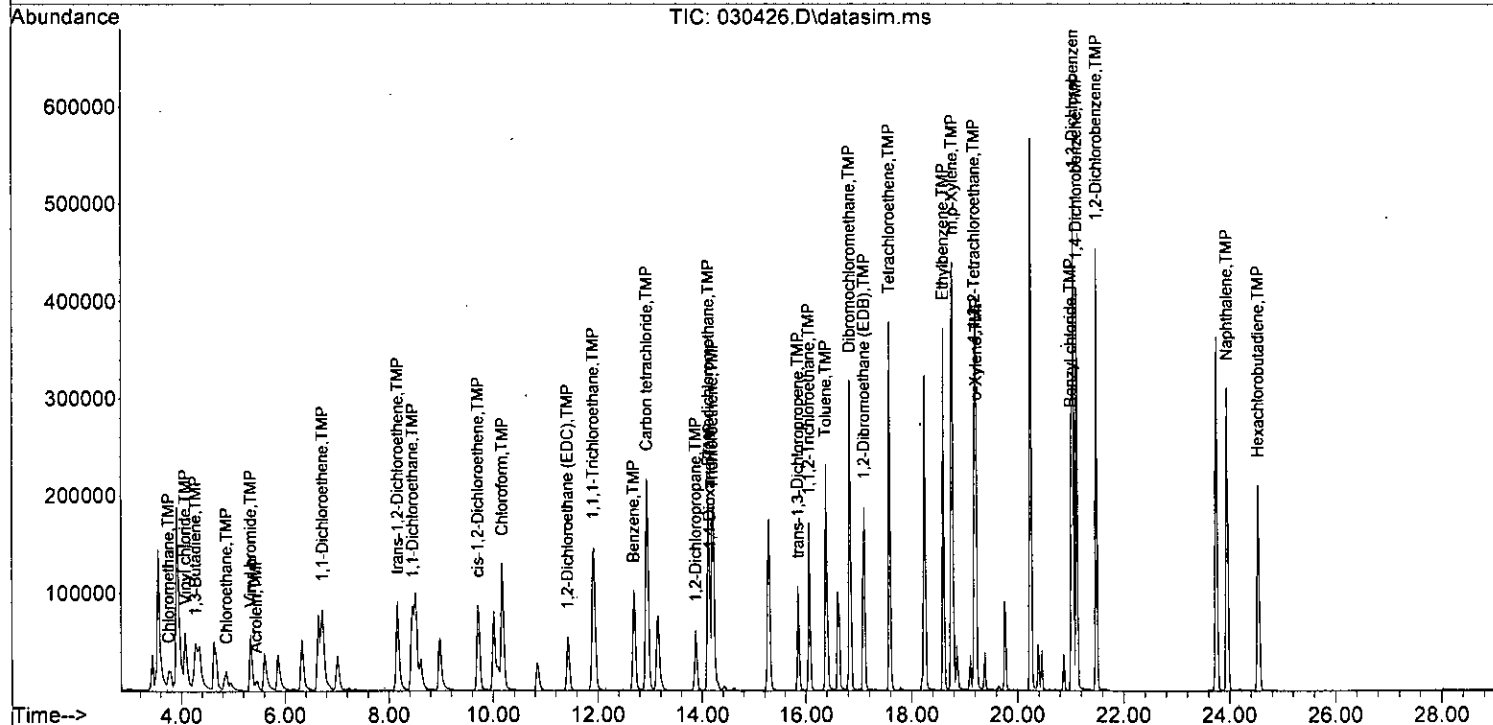
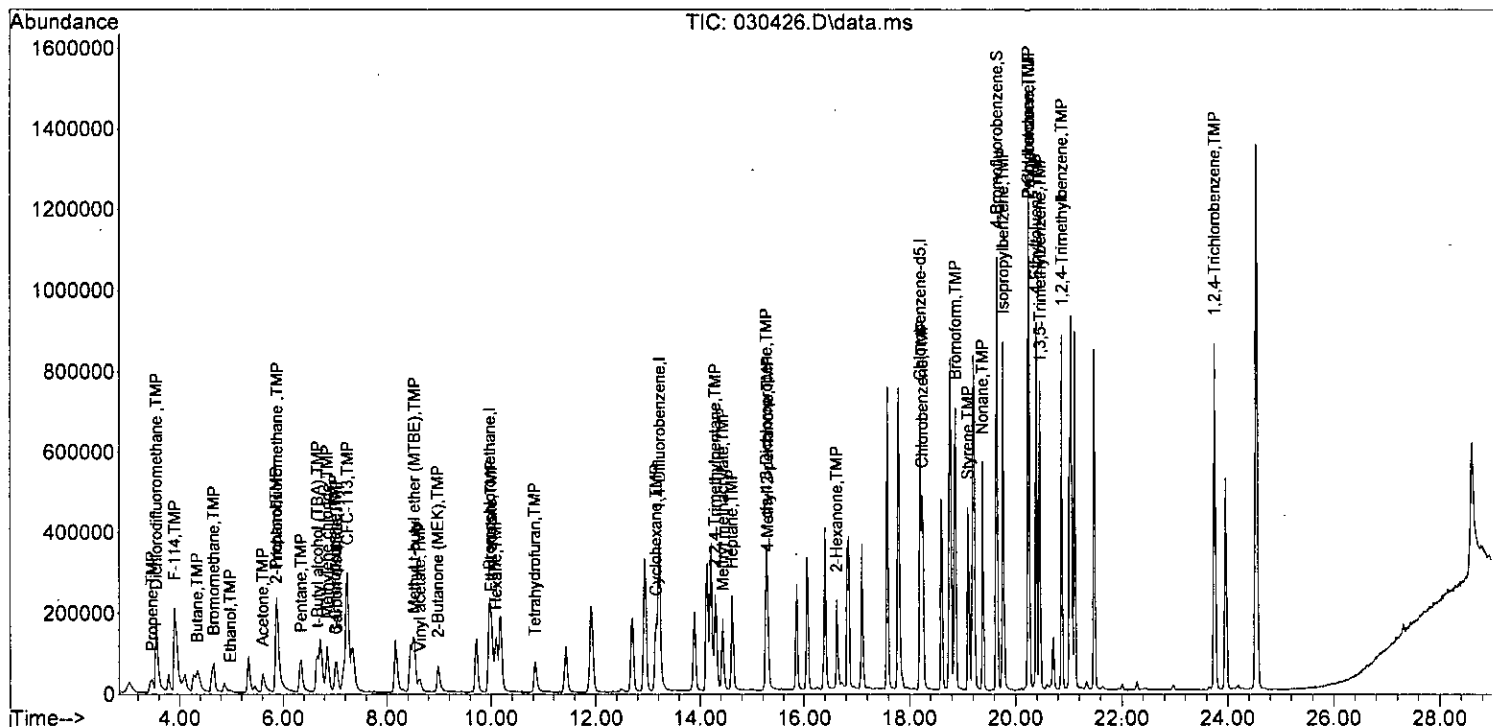
Quant Time: Mar 07 17:11:49 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.44	41	114775	8.045	ppbv #	80
44) Heptane	14.61	43	125101	7.930	ppbv	80
45] Bromodichloromethane	14.13	83	306668	7.701	ppbv	93
46] Trichloroethene	14.20	95	180507	7.434	ppbv	83
47) cis-1,3-Dichloropropene	15.28	75	195353	7.649	ppbv	89
48) 4-Methyl-2-pentanone	15.30	100	15638	8.535	ppbv #	37
49] trans-1,3-Dichloropropene	15.85	75	195383	7.976	ppbv	87
50] Toluene	16.38	92	196369	7.931	ppbv	99
51] 1,1,2-Trichloroethane	16.07	83	138894	7.736	ppbv	82
52) 2-Hexanone	16.63	43	191995	8.217	ppbv	95
53] Tetrachloroethene	17.58	164	190718	7.785	ppbv	93
54] Dibromochloromethane	16.83	129	348458	7.942	ppbv	99
55] 1,2-Dibromoethane (EDB)	17.11	107	241426	7.602	ppbv	97
57) Chlorobenzene	18.25	112	323251	7.892	ppbv	98
58] Ethylbenzene	18.60	91	496326	7.844	ppbv	94
59] 1,1,2,2-Tetrachloroethane	19.19	83	336849	7.726	ppbv	99
60) Nonane	19.38	43	210807	8.556	ppbv	94
61) Isopropylbenzene	19.77	105	600373	8.140	ppbv	97
62) 2-Chlorotoluene	20.25	126	155483	8.192	ppbv	76
63) Propylbenzene	20.25	91	1119936	8.264	ppbv	98
64) 4-Ethyltoluene	20.39	105	583826	8.336	ppbv	98
65] m,p-Xylene	18.78	106	374639	15.771	ppbv	95
66] o-Xylene	19.23	106	185474	8.389	ppbv	91
67) Styrene	19.11	104	278390	8.376	ppbv	96
68) Bromoform	18.87	173	473501	8.431	ppbv	95
70] Benzyl chloride	21.01	91	475876	8.583	ppbv	90
71) 1,3,5-Trimethylbenzene	20.47	105	534265	8.487	ppbv	99
72) 1,2,4-Trimethylbenzene	20.87	105	511953	8.585	ppbv	98
73] 1,3-Dichlorobenzene	21.05	146	422067	8.063	ppbv	93
74] 1,4-Dichlorobenzene	21.11	146	420644	7.914	ppbv	88
75] 1,2-Dichlorobenzene	21.49	146	402557	7.951	ppbv	93
76) 1,2,4-Trichlorobenzene	23.75	180	406390	8.256	ppbv	96
77] Naphthalene	23.95	128	621969	8.459	ppbv	99
78] Hexachlorobutadiene	24.54	225	471785	8.113	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030426.D  
 Acq On : 5 Mar 2022 10:53 am  
 Operator : bat  
 Sample : 8.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:11:49 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030426.D  
 Acq On : 5 Mar 2022 10:53 am  
 Operator : bat  
 Sample : 8.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:11:49 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	8.000	7.480	6.5	100	0.00
3 TMP	Dichlorodifluoromethane	8.000	7.307	8.7	100	0.00
4 TMP	Chloromethane	8.000	7.225	9.7	100	-0.04
5 TMP	F-114	8.000	7.328	8.4	102	0.00
6 TMP	Vinyl chloride	8.000	7.425	7.2	100	0.00
7 TMP	1,3-Butadiene	8.000	7.524	5.9	100	0.00
8 TMP	Butane	8.000	7.635	4.6	100	0.00
9 TMP	Bromomethane	8.000	7.824	2.2	100	0.00
10 TMP	Chloroethane	8.000	7.384	7.7	100	0.00
11 TMP	Vinyl bromide	8.000	7.565	5.4	100	0.00
12 TMP	Ethanol	8.000	7.120	11.0	100	0.00
13 TMP	Acrolein	8.000	7.997	0.0	100	-0.02
14 TMP	Pentane	8.000	7.633	4.6	100	0.00
15 TMP	Trichlorofluoromethane	8.000	7.897	1.3	99	0.00
16 TMP	Acetone	8.000	7.229	9.6	100	-0.02
17 TMP	2-Propanol	8.000	7.871	1.6	100	-0.02
18 TMP	1,1-Dichloroethene	8.000	7.195	10.1	100	0.00
19 TMP	trans-1,2-Dichloroethene	8.000	7.291	8.9	100	0.00
20 TMP	Methylene chloride	8.000	7.216	9.8	100	0.00
21 TMP	t-Butyl alcohol (TBA)	8.000	7.670	4.1	100	0.00
22 TMP	3-Chloropropene	8.000	7.741	3.2	100	-0.03
23 TMP	CFC-113	8.000	7.285	8.9	100	0.00
24 TMP	Carbon disulfide	8.000	7.252	9.4	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	8.000	7.589	5.1	100	0.00
26 TMP	Vinyl acetate	8.000	7.441	7.0	100	0.00
27 TMP	1,1-Dichloroethane	8.000	7.625	4.7	100	0.00
28 TMP	cis-1,2-Dichloroethene	8.000	7.419	7.3	100	-0.02
29 TMP	Hexane	8.000	7.970	0.4	100	0.00
30 TMP	Chloroform	8.000	7.461	6.7	100	0.00
31 TMP	Ethyl acetate	8.000	8.305	-3.8	100	-0.02
32 TMP	Tetrahydrofuran	8.000	7.526	5.9	100	-0.02
33 TMP	2-Butanone (MEK)	8.000	8.221	-2.8	100	-0.03
34 TMP	1,2-Dichloroethane (EDC)	8.000	7.723	3.5	100	0.00
35 TMP	1,1,1-Trichloroethane	8.000	7.732	3.3	100	0.00
36 TMP	Carbon tetrachloride	8.000	7.610	4.9	100	0.00
37 TMP	Benzene	8.000	7.627	4.7	100	0.00
38 TMP	Cyclohexane	8.000	7.815	2.3	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.02
40 TMP	1,2-Dichloropropane	8.000	7.481	6.5	100	0.00
41 TMP	1,4-Dioxane	8.000	8.017	-0.2	100	-0.02
42 TMP	2,2,4-Trimethylpentane	8.000	7.944	0.7	100	0.00
43 TMP	Methyl methacrylate	8.000	8.045	-0.6	100	0.00
44 TMP	Heptane	8.000	7.930	0.9	100	0.00
45 TMP	Bromodichloromethane	8.000	7.701	3.7	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030426.D  
 Acq On : 5 Mar 2022 10:53 am  
 Operator : bat  
 Sample : 8.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:11:49 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	8.000	7.434	7.1	100	0.00
47	TMP cis-1,3-Dichloropropene	8.000	7.649	4.4	100	0.00
48	TMP 4-Methyl-2-pentanone	8.000	8.535	-6.7	100	0.00
49	TMP trans-1,3-Dichloropropene	8.000	7.976	0.3	100	0.00
50	TMP Toluene	8.000	7.931	0.9	100	0.00
51	TMP 1,1,2-Trichloroethane	8.000	7.736	3.3	100	0.00
52	TMP 2-Hexanone	8.000	8.217	-2.7	100	0.00
53	TMP Tetrachloroethene	8.000	7.785	2.7	100	0.00
54	TMP Dibromochloromethane	8.000	7.942	0.7	100	0.00
55	TMP 1,2-Dibromoethane (EDB)	8.000	7.602	5.0	100	0.00
56	I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57	TMP Chlorobenzene	8.000	7.892	1.3	100	0.00
58	TMP Ethylbenzene	8.000	7.844	1.9	100	0.00
59	TMP 1,1,2,2-Tetrachloroethane	8.000	7.726	3.4	100	0.00
60	TMP Nonane	8.000	8.556	-6.9	100	0.00
61	TMP Isopropylbenzene	8.000	8.140	-1.8	100	0.00
62	TMP 2-Chlorotoluene	8.000	8.192	-2.4	100	0.01
63	TMP Propylbenzene	8.000	8.264	-3.3	100	0.00
64	TMP 4-Ethyltoluene	8.000	8.336	-4.2	100	0.00
65	TMP m,p-Xylene	16.000	15.771	1.4	100	0.00
66	TMP o-Xylene	8.000	8.389	-4.9	100	0.00
67	TMP Styrene	8.000	8.376	-4.7	100	0.00
68	TMP Bromoform	8.000	8.431	-5.4	100	0.00
69	S 4-Bromofluorobenzene	10.000	10.895	-8.9	100	0.00
70	TMP Benzyl chloride	8.000	8.583	-7.3	100	0.00
71	TMP 1,3,5-Trimethylbenzene	8.000	8.487	-6.1	100	0.01
72	TMP 1,2,4-Trimethylbenzene	8.000	8.585	-7.3	100	0.00
73	TMP 1,3-Dichlorobenzene	8.000	8.063	-0.8	100	0.00
74	TMP 1,4-Dichlorobenzene	8.000	7.914	1.1	100	0.00
75	TMP 1,2-Dichlorobenzene	8.000	7.951	0.6	100	0.00
76	TMP 1,2,4-Trichlorobenzene	8.000	8.256	-3.2	100	0.00
77	TMP Naphthalene	8.000	8.459	-5.7	100	0.00
78	TMP Hexachlorobutadiene	8.000	8.113	-1.4	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030426.D  
 Acq On : 5 Mar 2022 10:53 am  
 Operator : bat  
 Sample : 8.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:11:49 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	0.552	0.516	6.5	100	0.00
3 TMP	Dichlorodifluoromethane	4.565	4.169	8.7	100	0.00
4 TMP	Chloromethane	0.776	0.701	9.7	100	-0.04
5 TMP	F-114	3.419	3.132	8.4	102	0.00
6 TMP	Vinyl chloride	1.082	1.004	7.2	100	0.00
7 TMP	1,3-Butadiene	0.605	0.569	6.0	100	0.00
8 TMP	Butane	1.161	1.108	4.6	100	0.00
9 TMP	Bromomethane	1.196	1.169	2.3	100	0.00
10 TMP	Chloroethane	0.395	0.365	7.6	100	0.00
11 TMP	Vinyl bromide	1.286	1.216	5.4	100	0.00
12 TMP	Ethanol	0.174	0.155	10.9	100	0.00
13 TMP	Acrolein	0.252	0.235	6.7	100	-0.02
14 TMP	Pentane	1.140	1.088	4.6	100	0.00
15 TMP	Trichlorofluoromethane	5.069	5.003	1.3	99	0.00
16 TMP	Acetone	0.404	0.365	9.7	100	-0.02
17 TMP	2-Propanol	1.563	1.538	1.6	100	-0.02
18 TMP	1,1-Dichloroethene	1.255	1.129	10.0	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.195	1.089	8.9	100	0.00
20 TMP	Methylene chloride	1.141	1.030	9.7	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.068	1.982	4.2	100	0.00
22 TMP	3-Chloropropene	1.240	1.200	3.2	100	-0.03
23 TMP	CFC-113	3.311	3.015	8.9	100	0.00
24 TMP	Carbon disulfide	0.538	0.488	9.3	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	2.982	2.829	5.1	100	0.00
26 TMP	Vinyl acetate	1.012	0.942	6.9	100	0.00
27 TMP	1,1-Dichloroethane	2.186	2.084	4.7	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.262	1.170	7.3	100	-0.02
29 TMP	Hexane	1.109	1.104	0.5	100	0.00
30 TMP	Chloroform	3.255	3.035	6.8	100	0.00
31 TMP	Ethyl acetate	2.770	2.876	-3.8	100	-0.02
32 TMP	Tetrahydrofuran	0.872	0.820	6.0	100	-0.02
33 TMP	2-Butanone (MEK)	0.459	0.472	-2.8	100	-0.03
34 TMP	1,2-Dichloroethane (EDC)	2.237	2.160	3.4	100	0.00
35 TMP	1,1,1-Trichloroethane	3.544	3.425	3.4	100	0.00
36 TMP	Carbon tetrachloride	4.146	3.944	4.9	100	0.00
37 TMP	Benzene	3.534	3.369	4.7	100	0.00
38 TMP	Cyclohexane	0.985	0.962	2.3	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.02
40 TMP	1,2-Dichloropropane	0.330	0.308	6.7	100	0.00
41 TMP	1,4-Dioxane	0.175	0.176	-0.6	100	-0.02
42 TMP	2,2,4-Trimethylpentane	0.861	0.855	0.7	100	0.00
43 TMP	Methyl methacrylate	0.296	0.297	-0.3	100	0.00
44 TMP	Heptane	0.327	0.324	0.9	100	0.00
45 TMP	Bromodichloromethane	0.825	0.795	3.6	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030426.D  
 Acq On : 5 Mar 2022 10:53 am  
 Operator : bat  
 Sample : 8.0 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 26 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:11:49 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev (min)
46 TMP Trichloroethene	0.503	0.468	7.0	100	0.00
47 TMP cis-1,3-Dichloropropene	0.529	0.506	4.3	100	0.00
48 TMP 4-Methyl-2-pentanone	0.038	0.041	-7.9	100	0.00
49 TMP trans-1,3-Dichloropropene	0.508	0.506	0.4	100	0.00
50 TMP Toluene	0.513	0.509	0.8	100	0.00
51 TMP 1,1,2-Trichloroethane	0.372	0.360	3.2	100	0.00
52 TMP 2-Hexanone	0.484	0.497	-2.7	100	0.00
53 TMP Tetrachloroethene	0.508	0.494	2.8	100	0.00
54 TMP Dibromochloromethane	0.909	0.903	0.7	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.658	0.626	4.9	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	0.933	0.920	1.4	100	0.00
58 TMP Ethylbenzene	1.442	1.413	2.0	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.993	0.959	3.4	100	0.00
60 TMP Nonane	0.561	0.600	-7.0	100	0.00
61 TMP Isopropylbenzene	1.680	1.710	-1.8	100	0.00
62 TMP 2-Chlorotoluene	0.432	0.443	-2.5	100	0.01
63 TMP Propylbenzene	3.087	3.189	-3.3	100	0.00
64 TMP 4-Ethyltoluene	1.595	1.662	-4.2	100	0.00
65 TMP m,p-Xylene	0.541	0.533	1.5	100	0.00
66 TMP o-Xylene	0.504	0.528	-4.8	100	0.00
67 TMP Styrene	0.757	0.793	-4.8	100	0.00
68 TMP Bromoform	1.279	1.348	-5.4	100	0.00
69 S 4-Bromofluorobenzene	0.742	0.809	-9.0	100	0.00
70 TMP Benzyl chloride	1.263	1.355	-7.3	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.434	1.521	-6.1	100	0.01
72 TMP 1,2,4-Trimethylbenzene	1.359	1.458	-7.3	100	0.00
73 TMP 1,3-Dichlorobenzene	1.193	1.202	-0.8	100	0.00
74 TMP 1,4-Dichlorobenzene	1.211	1.198	1.1	100	0.00
75 TMP 1,2-Dichlorobenzene	1.153	1.146	0.6	100	0.00
76 TMP 1,2,4-Trichlorobenzene	1.110	1.157	-4.2	100	0.00
77 TMP Naphthalene	1.414	1.771	-25.2	100	0.00
78 TMP Hexachlorobutadiene	1.608	1.343	16.5	100	0.00

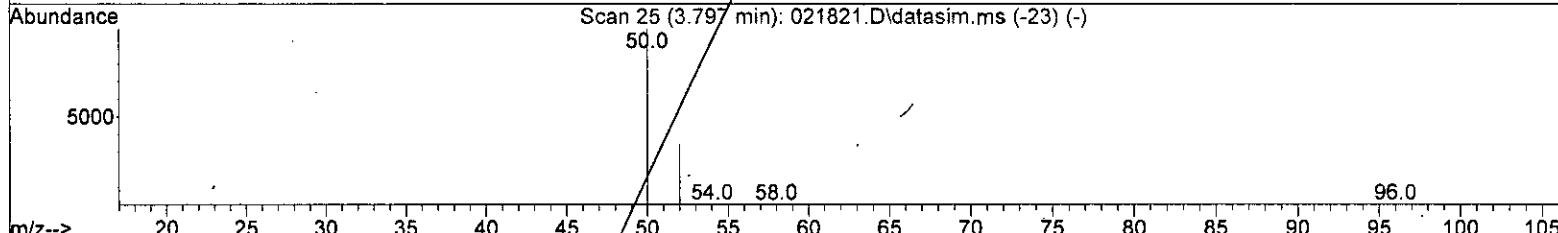
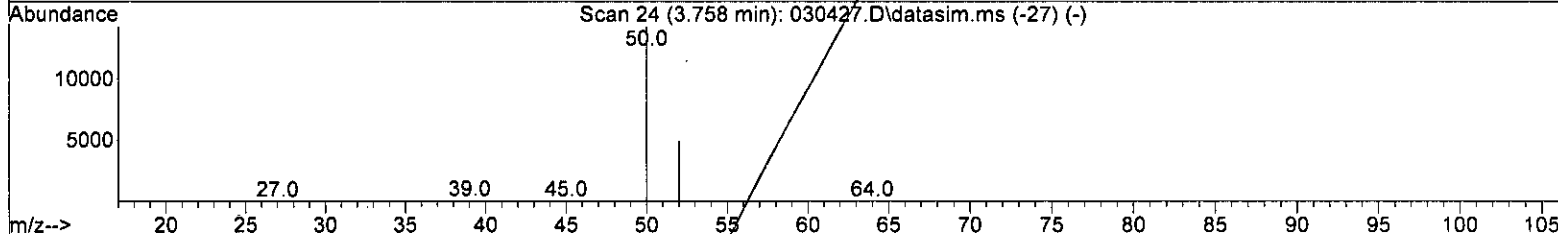
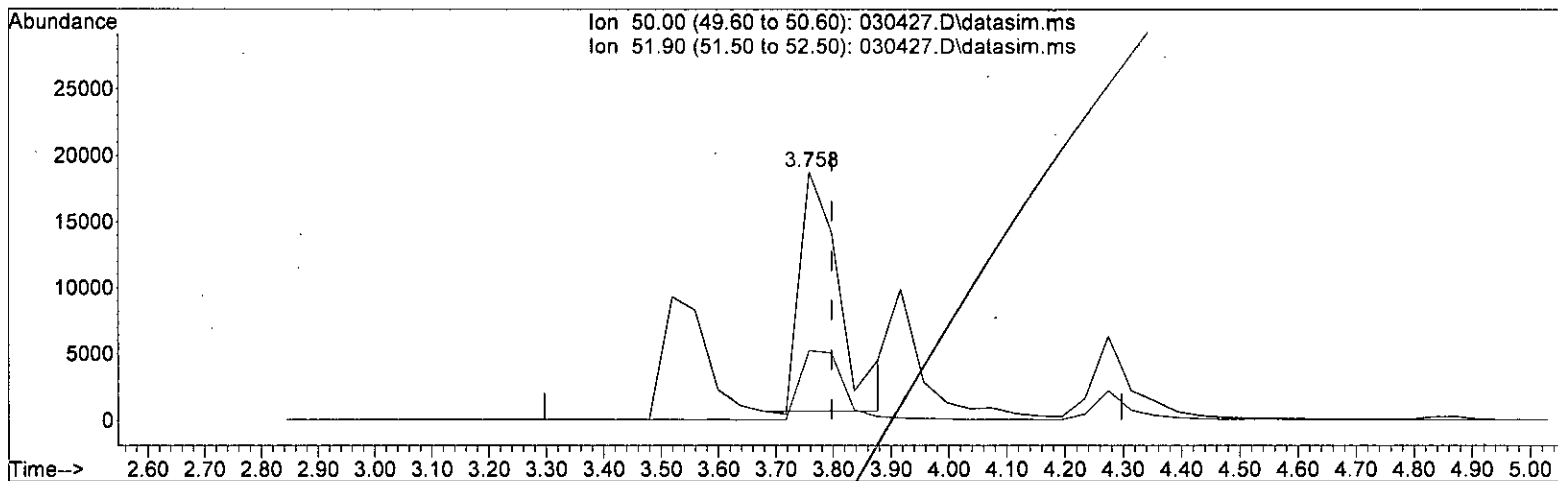
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030427.D  
 Acq On : 5 Mar 2022 11:36 am  
 Operator : bat  
 Sample : 10 ppbv , 65-194  
 Misc : T4  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:45:02 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(4) Chloromethane (TMP)

3.758min (-0.039) 9.809 ppbv

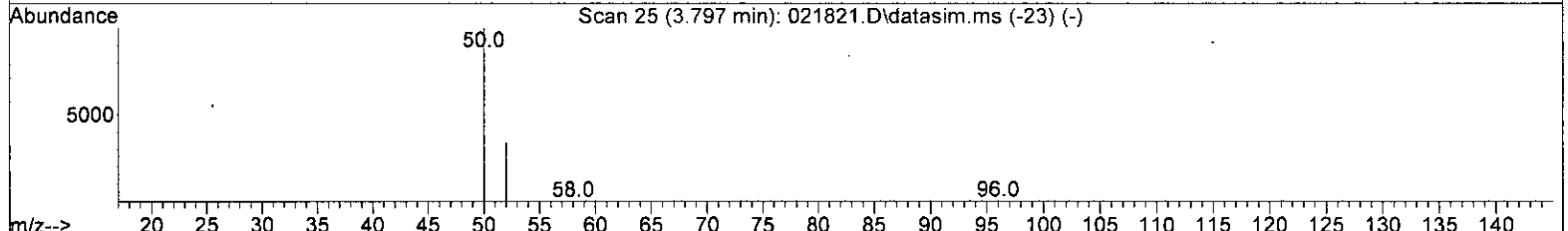
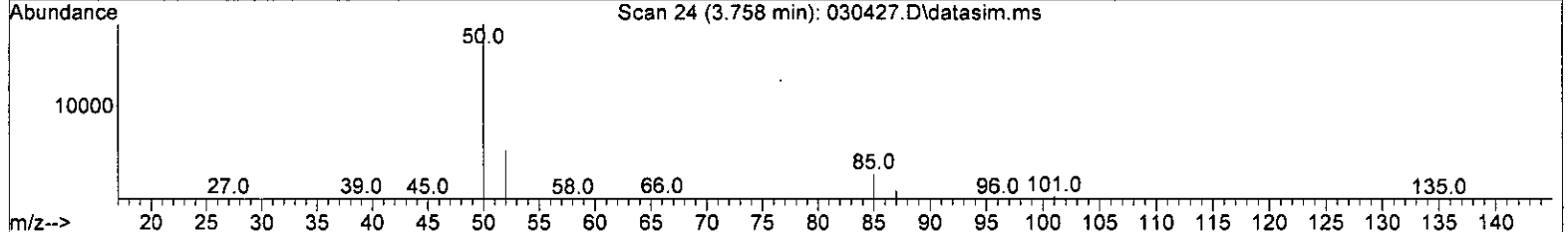
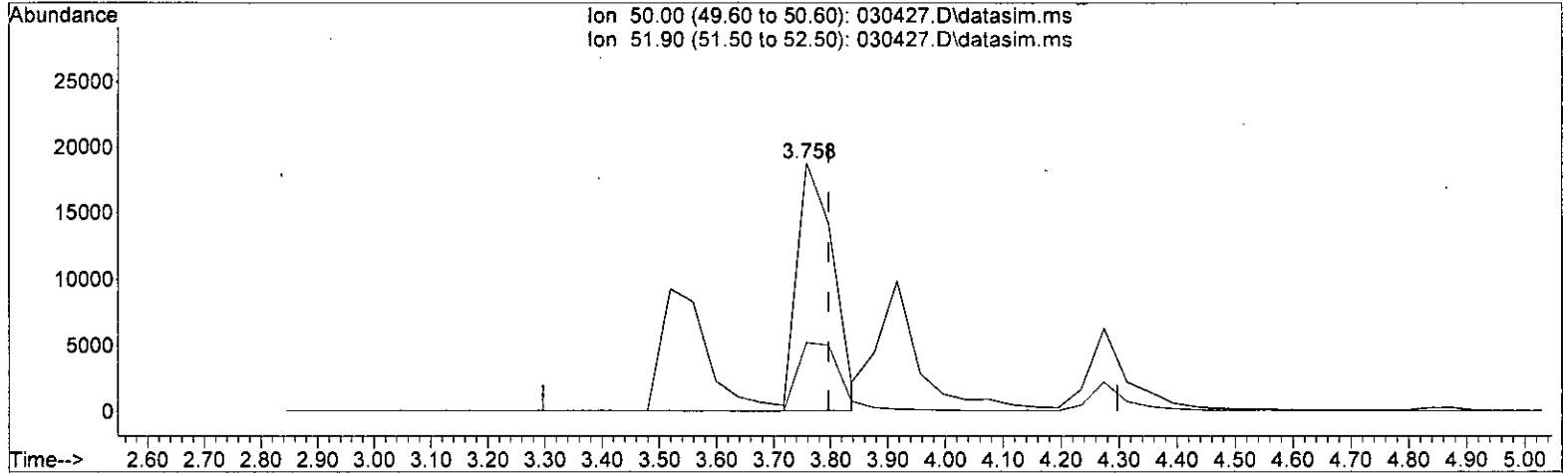
response	87460
Ion	Exp% Act%
50.00	100.00 100.00
51.90	25.30 28.61
0.00	0.00 0.00
0.00	0.00 0.00

*bat*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030427.D  
 Acq On : 5 Mar 2022 11:36 am  
 Operator : bat  
 Sample : 10 ppbv , 65-194  
 Misc : T4  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:45:02 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030427.D\data.ms

(4) Chloromethane (TMP)			
3.758min (-0.039) 9.343 ppbv m			
response	83306		
Ion	Exp%	Act%	
50.00	100.00	100.00	
51.90	25.30	27.87	
0.00	0.00	0.00	
0.00	0.00	0.00	

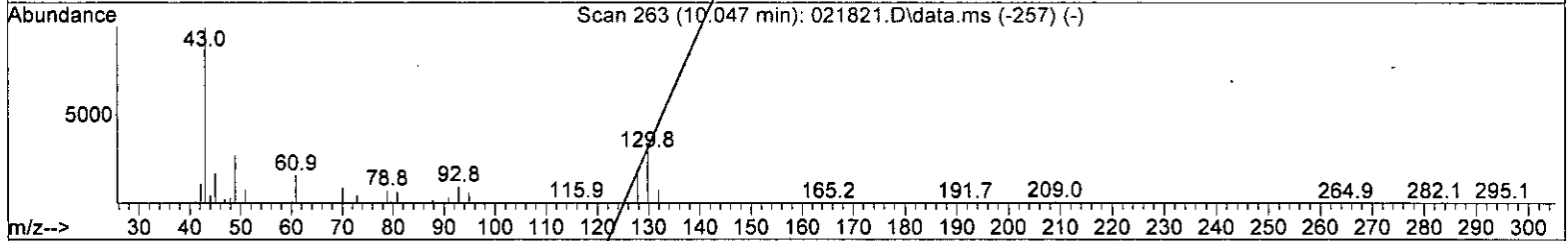
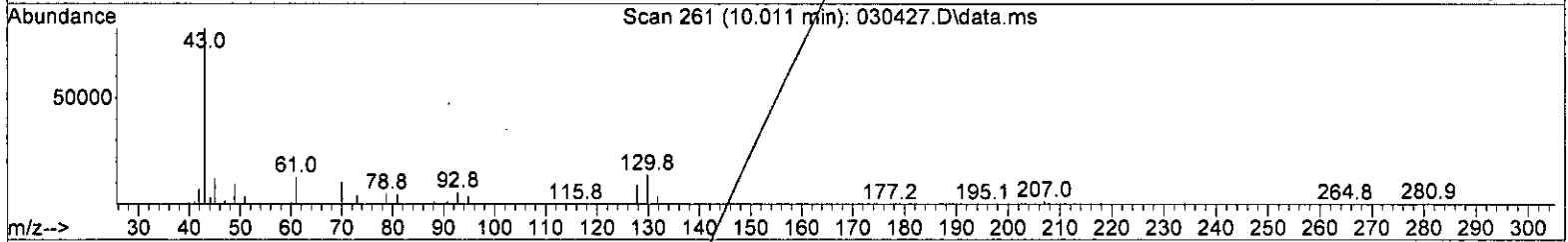
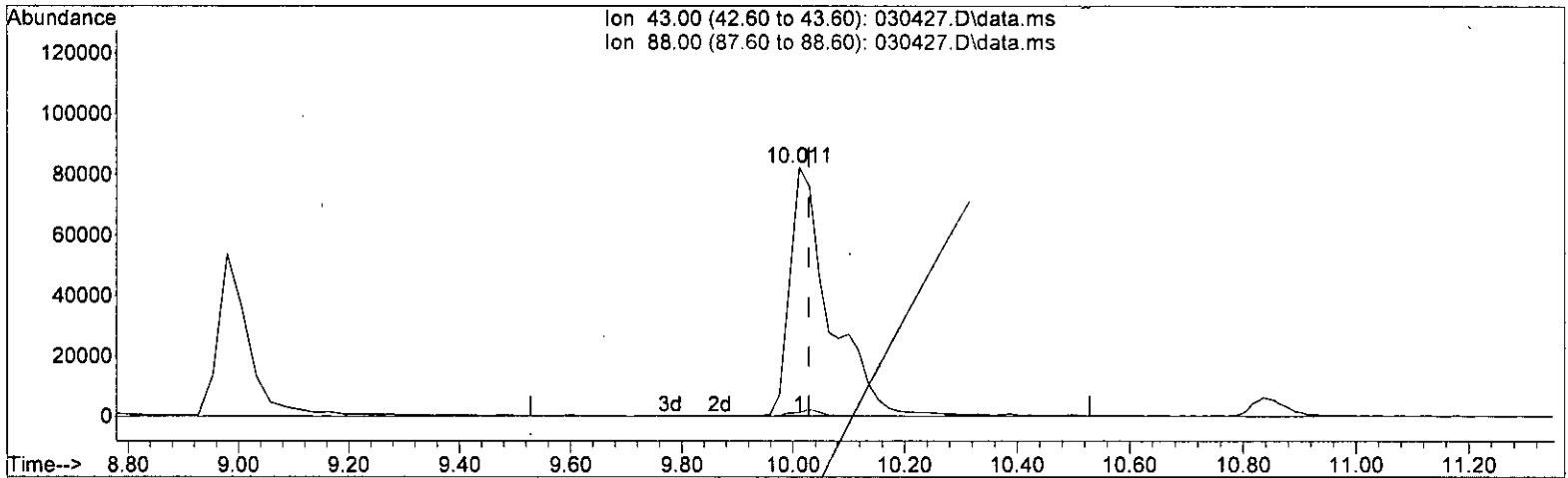
*Handwritten signature: bll 3/7/22*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030427.D  
 Acq On : 5 Mar 2022 11:36 am  
 Operator : bat  
 Sample : 10 ppbv , 65-194  
 Misc : T4  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:45:02 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(31) Ethyl acetate (TMP)

10.011min (-0.018) 12.979 ppbv

response 412938

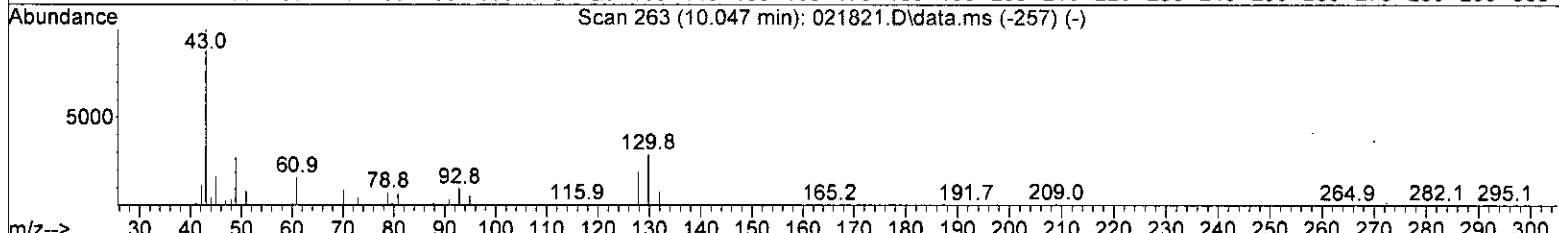
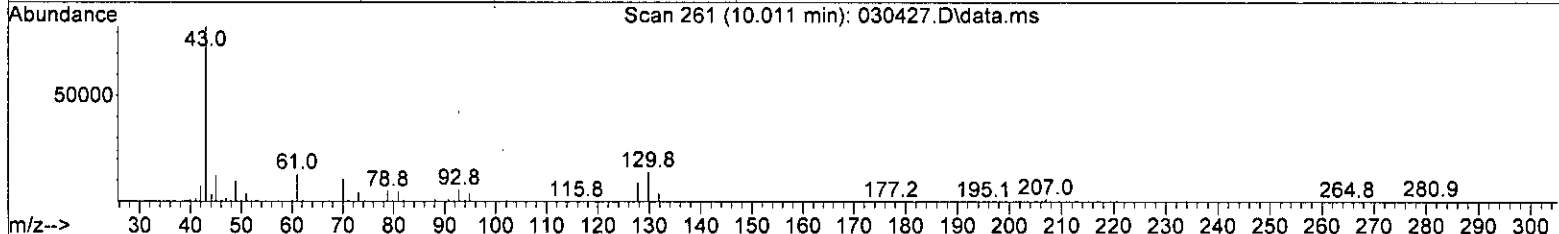
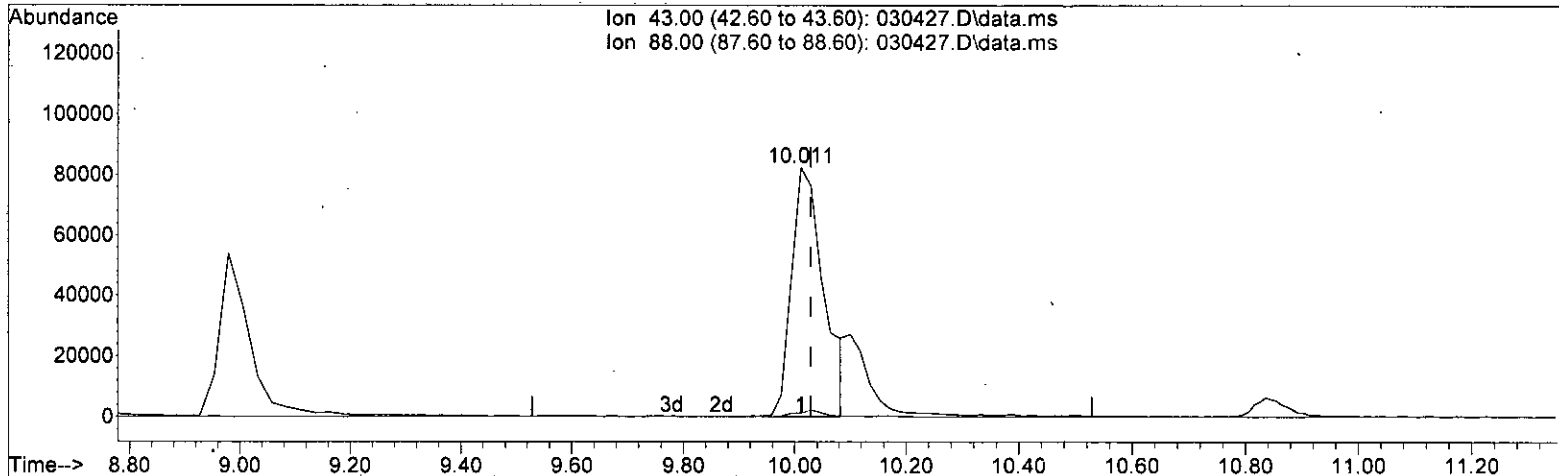
Ion	Exp%	Act%
43.00	100.00	100.00
88.00	1.70	1.96
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030427.D  
 Acq On : 5 Mar 2022 11:36 am  
 Operator : bat  
 Sample : 10 ppbv , 65-194  
 Misc : T4  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:45:02 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030427.D\data.ms

(31) Ethyl acetate (TMP)

10.011min (-0.018) 10.450 ppbv m

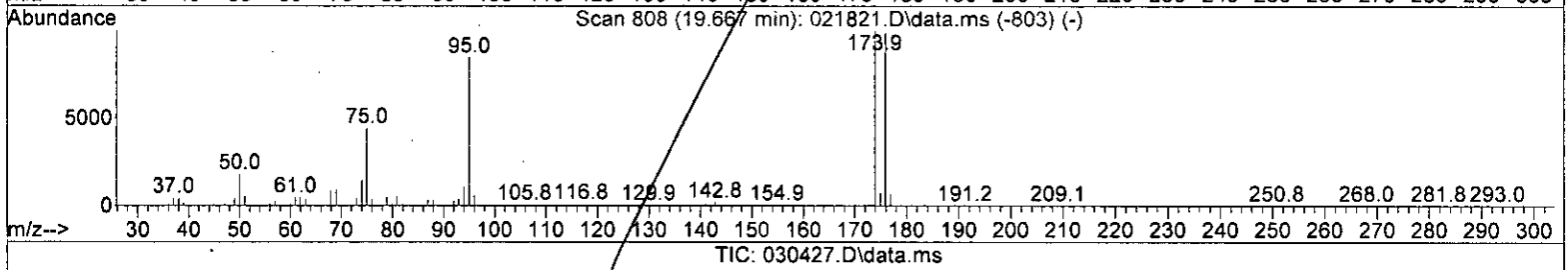
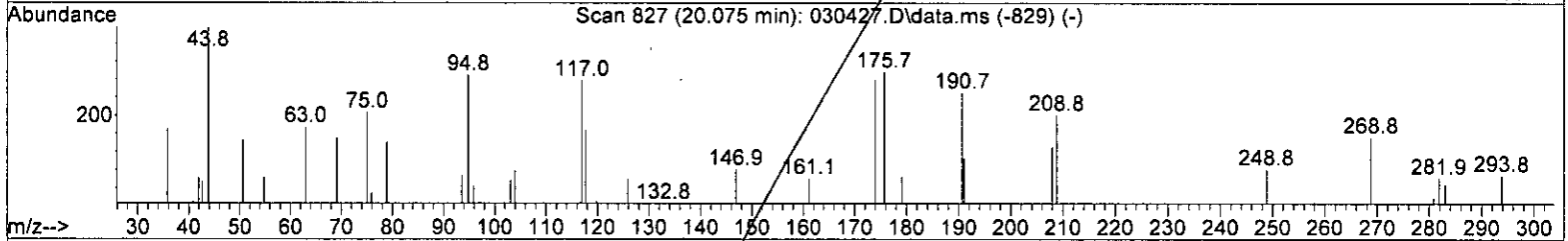
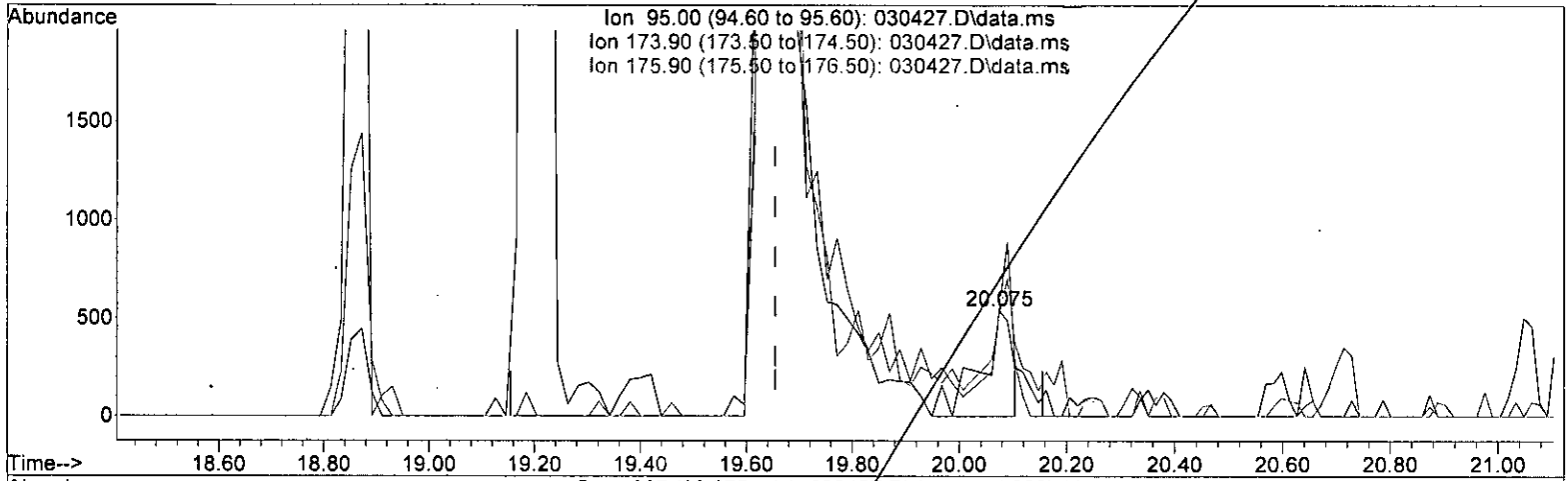
response	332452
Ion	Exp% Act%
43.00	100.00 100.00
88.00	1.70 2.44#
0.00	0.00 0.00
0.00	0.00 0.00

*K*  
*3/7/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030427.D  
 Acq On : 5 Mar 2022 11:36 am  
 Operator : bat  
 Sample : 10 ppbv , 65-194  
 Misc : T4  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:45:02 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(69) 4-Bromofluorobenzene (S)

20.075min (+ 0.420) 0.077 ppbv

response 2523

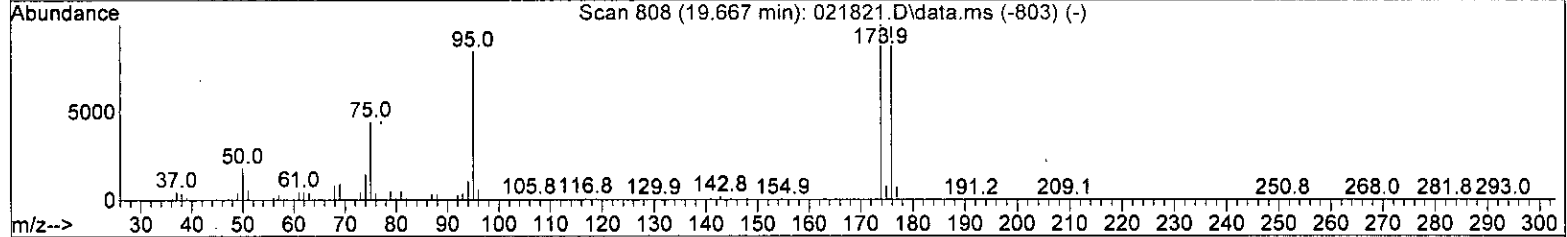
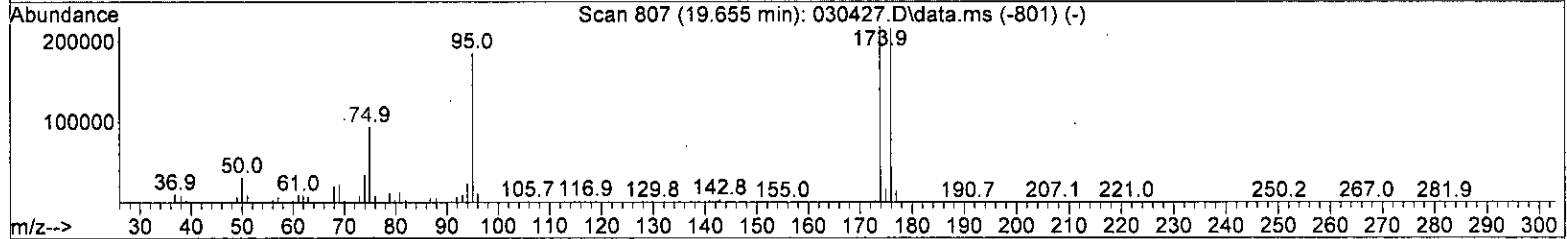
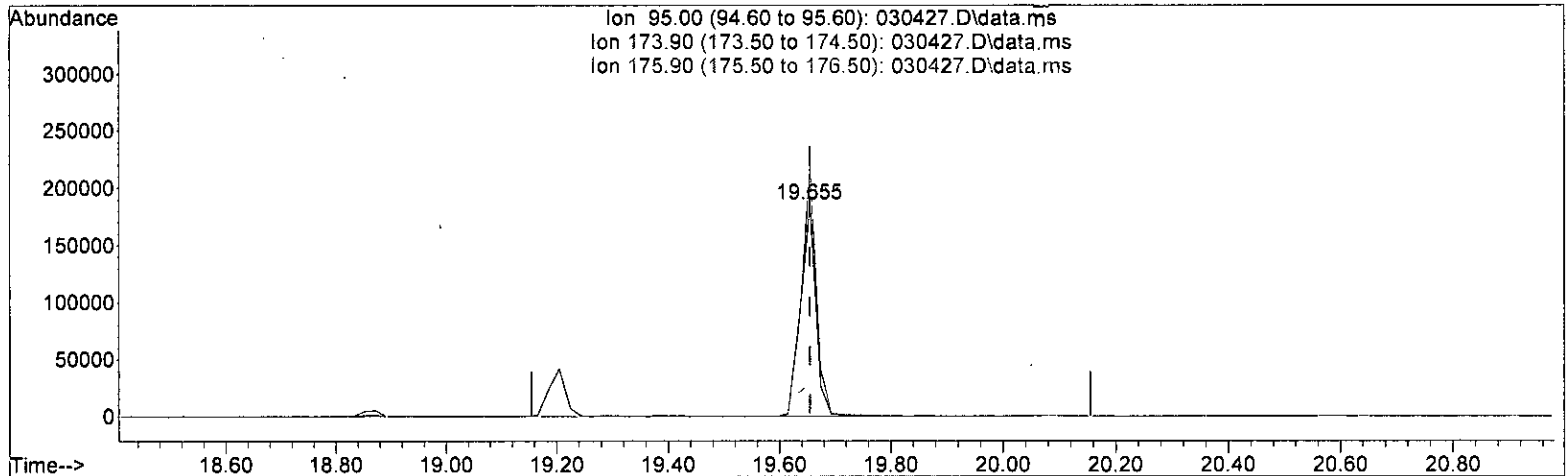
Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	67.66
175.90	70.90	57.43
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030427.D  
 Acq On : 5 Mar 2022 11:36 am  
 Operator : bat  
 Sample : 10 ppbv , 65-194  
 Misc : T4  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:45:02 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030427.D\data.ms

(69) 4-Bromofluorobenzene (5)

19.655min (-0.000) 10.846 ppbv m

response 355683

Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	117.60#
175.90	70.90	116.36#
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030427.D  
 Acq On : 5 Mar 2022 11:36 am  
 Operator : bat  
 Sample : 10 ppbv , 65-194  
 Misc : T4  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:14:00 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	9.98	128	114853	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.21	114	480516	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	441904	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.65	95	355683m	10.846	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	108.50%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.47	41	62327	9.836	ppbv	78
3) Dichlorodifluoromethane	3.55	85	479379	9.143	ppbv	99
4) Chloromethane	3.76	50	83306m	9.343	ppbv	
5) F-114	3.91	85	368971	9.397	ppbv	92
6] Vinyl chloride	4.08	62	116853	9.402	ppbv	100
7] 1,3-Butadiene	4.27	54	65955	9.487	ppbv	# 75
8) Butane	4.35	43	127662	9.577	ppbv	93
9) Bromomethane	4.67	94	133286	9.707	ppbv	95
10] Chloroethane	4.87	64	42054	9.268	ppbv	95
11] Vinyl bromide	5.34	106	151057	10.225	ppbv	96
12) Ethanol	4.98	45	16319	8.180	ppbv	99
13] Acrolein	5.44	56	27043	9.883	ppbv	97
14) Pentane	6.35	43	127339	9.723	ppbv	93
15) Trichlorofluoromethane	5.89	101	567036	9.740	ppbv	98
16) Acetone	5.61	58	41420	8.921	ppbv	95
17) 2-Propanol	5.87	45	181225	10.093	ppbv	97
18] 1,1-Dichloroethene	6.73	96	130284	9.039	ppbv	86
19] trans-1,2-Dichloroethene	8.17	96	125881	9.171	ppbv	# 76
20] Methylene chloride	6.85	84	118575	9.045	ppbv	# 78
21) t-Butyl alcohol (TBA)	6.64	59	241816	10.183	ppbv	94
22) 3-Chloropropene	7.03	41	139858	9.819	ppbv	# 77
23) CFC-113	7.25	101	351924	9.255	ppbv	91
24) Carbon disulfide	7.03	76	56665	9.169	ppbv	# 45
25) Methyl t-butyl ether (...)	8.53	73	327998	9.577	ppbv	91
26) Vinyl acetate	8.64	43	108824	9.358	ppbv	95
27] 1,1-Dichloroethane	8.46	63	240725	9.586	ppbv	96
28] cis-1,2-Dichloroethene	9.71	96	136057	9.389	ppbv	99
29) Hexane	10.10	57	139513	10.957	ppbv	96
30] Chloroform	10.18	83	348969	9.335	ppbv	100
31) Ethyl acetate	10.01	43	332452m	10.450	ppbv	
32) Tetrahydrofuran	10.85	42	98511	9.837	ppbv	82
33) 2-Butanone (MEK)	8.98	72	48805	9.261	ppbv	# 76
34] 1,2-Dichloroethane (EDC)	11.43	62	250348	9.742	ppbv	97
35] 1,1,1-Trichloroethane	11.92	97	397155	9.758	ppbv	94
36] Carbon tetrachloride	12.94	117	457710	9.613	ppbv	98
37] Benzene	12.69	78	393386	9.693	ppbv	88
38) Cyclohexane	13.15	84	115315	10.197	ppbv	# 76
40] 1,2-Dichloropropane	13.88	63	151572	9.571	ppbv	69
41] 1,4-Dioxane	14.15	88	85853	10.199	ppbv	90
42) 2,2,4-Trimethylpentane	14.29	57	428629	10.356	ppbv	# 85

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030427.D  
 Acq On : 5 Mar 2022 11:36 am  
 Operator : bat  
 Sample : 10 ppbv , 65-194  
 Misc : T4  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS8

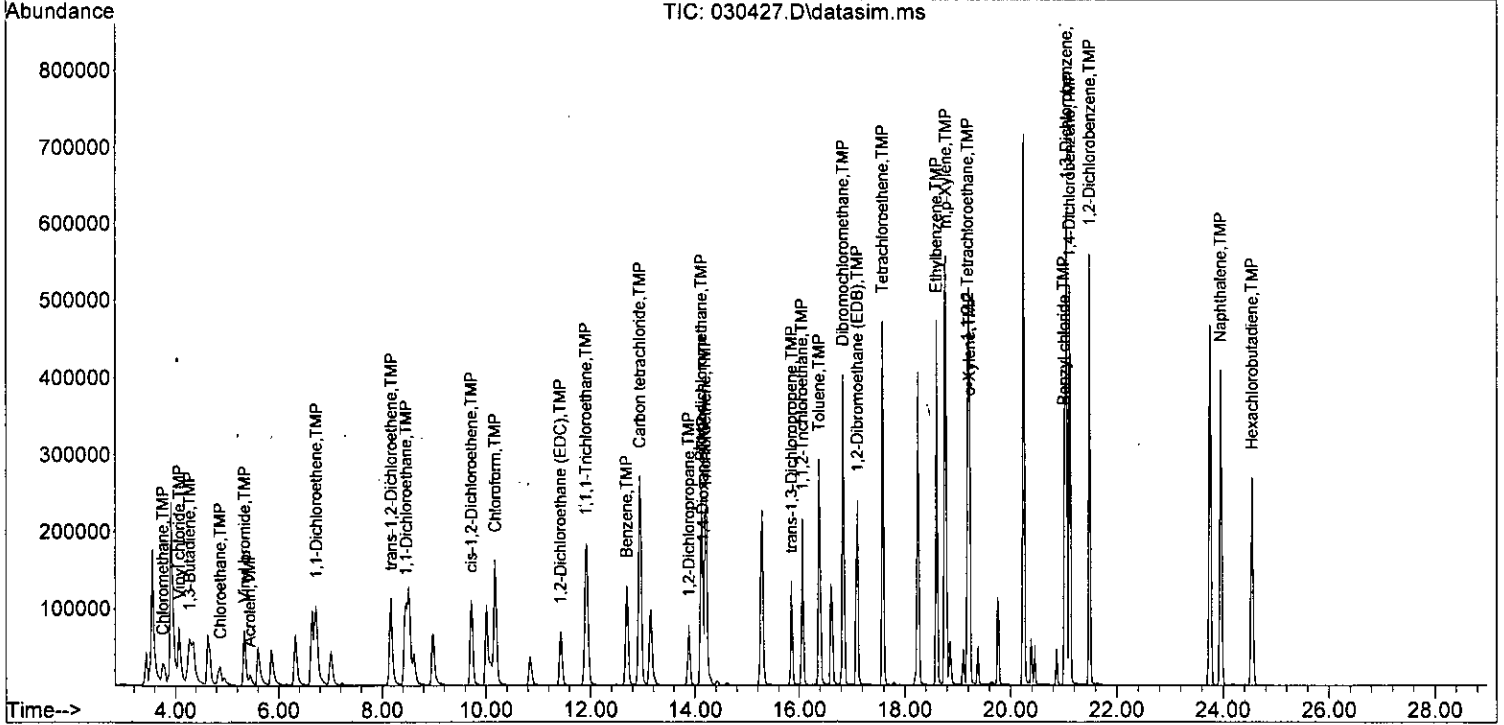
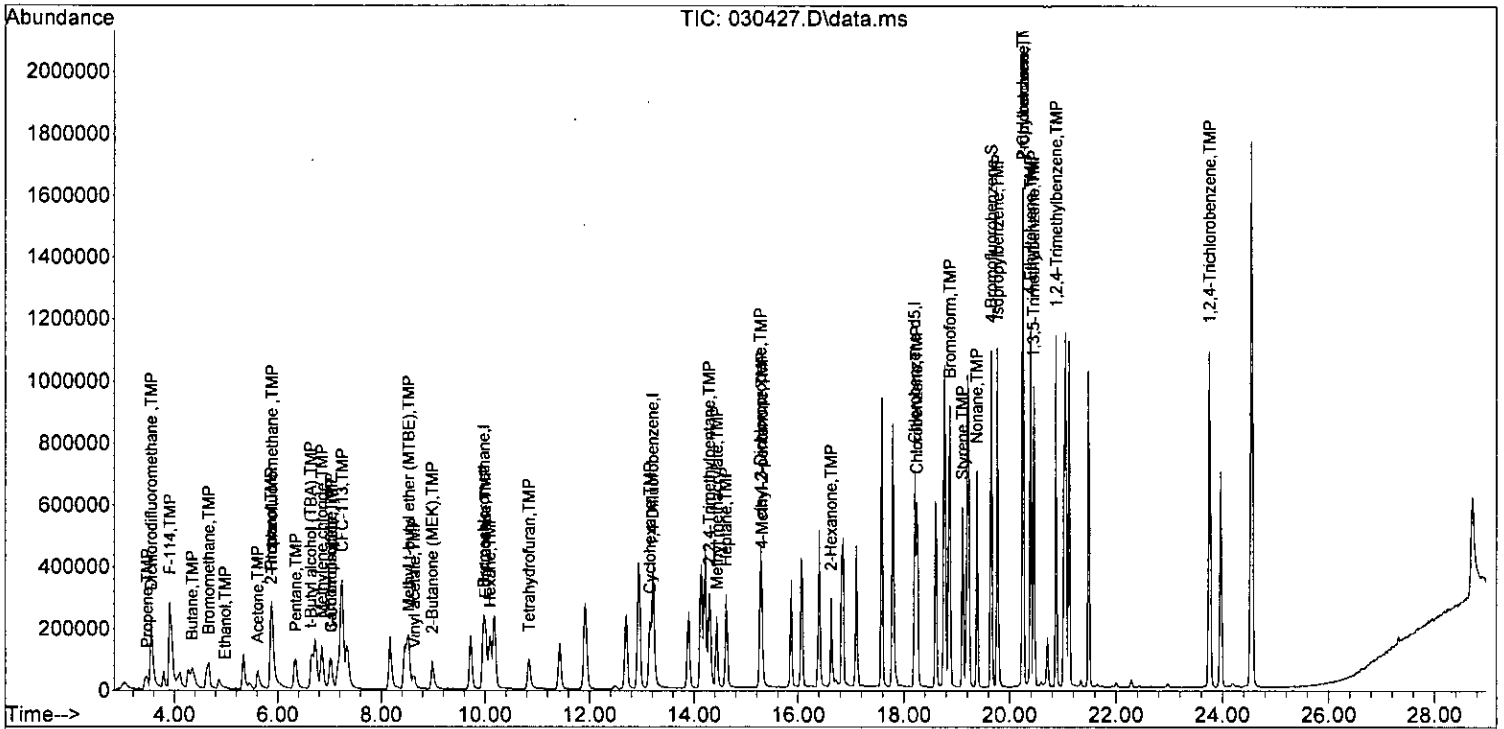
Quant Time: Mar 07 17:14:00 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43] Methyl methacrylate	14.44	41	142385	10.020	ppbv #	82
44] Heptane	14.61	43	161133	10.255	ppbv	82
45] Bromodichloromethane	14.13	83	385446	9.719	ppbv	93
46] Trichloroethene	14.20	95	227925	9.425	ppbv	83
47] cis-1,3-Dichloropropene	15.28	75	253433	9.963	ppbv	93
48] 4-Methyl-2-pentanone	15.30	100	21267	11.654	ppbv #	15
49] trans-1,3-Dichloropropene	15.85	75	250777	10.279	ppbv	86
50] Toluene	16.38	92	253410	10.276	ppbv	98
51] 1,1,2-Trichloroethane	16.07	83	174841	9.777	ppbv	81
52] 2-Hexanone	16.63	43	241972	10.398	ppbv	97
53] Tetrachloroethene	17.58	164	241467	9.896	ppbv	92
54] Dibromochloromethane	16.83	129	442815	10.134	ppbv	99
55] 1,2-Dibromoethane (EDB)	17.11	107	307636	9.726	ppbv	96
57] Chlorobenzene	18.25	112	402941	9.772	ppbv	98
58] Ethylbenzene	18.60	91	633779	9.949	ppbv	94
59] 1,1,2,2-Tetrachloroethane	19.19	83	421375	9.601	ppbv	99
60] Nonane	19.38	43	266940	10.762	ppbv	90
61] Isopropylbenzene	19.77	105	768942	10.356	ppbv	98
62] 2-Chlorotoluene	20.25	126	195768	10.246	ppbv	77
63] Propylbenzene	20.25	91	1417517	10.391	ppbv	97
64] 4-Ethyltoluene	20.39	105	758549	10.759	ppbv	99
65] m,p-Xylene	18.78	106	481039	20.116	ppbv	94
66] o-Xylene	19.23	106	235102	10.563	ppbv	90
67] Styrene	19.11	104	356785	10.663	ppbv	94
68] Bromoform	18.87	173	596508	10.551	ppbv	96
70] Benzyl chloride	21.01	91	600834	10.764	ppbv	90
71] 1,3,5-Trimethylbenzene	20.45	105	681488	10.754	ppbv	97
72] 1,2,4-Trimethylbenzene	20.87	105	650824	10.841	ppbv	97
73] 1,3-Dichlorobenzene	21.05	146	525842	9.979	ppbv	93
74] 1,4-Dichlorobenzene	21.11	146	529849	9.902	ppbv	88
75] 1,2-Dichlorobenzene	21.49	146	504893	9.906	ppbv	94
76] 1,2,4-Trichlorobenzene	23.75	180	529223	10.366	ppbv	99
77] Naphthalene	23.95	128	822467	10.336	ppbv	99
78] Hexachlorobutadiene	24.54	225	601209	10.254	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030427.D  
 Acq On : 5 Mar 2022 11:36 am  
 Operator : bat  
 Sample : 10 ppbv , 65-194  
 Misc : T4  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:14:00 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030427.D  
 Acq On : 5 Mar 2022 11:36 am  
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 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	10.000	9.836	1.6	100	0.00
3 TMP	Dichlorodifluoromethane	10.000	9.143	8.6	100	0.00
4 TMP	Chloromethane	10.000	9.343	6.6	99	-0.04
5 TMP	F-114	10.000	9.397	6.0	102	0.00
6 TMP	Vinyl chloride	10.000	9.402	6.0	100	0.00
7 TMP	1,3-Butadiene	10.000	9.487	5.1	100	0.00
8 TMP	Butane	10.000	9.577	4.2	100	0.00
9 TMP	Bromomethane	10.000	9.707	2.9	100	0.00
10 TMP	Chloroethane	10.000	9.268	7.3	100	0.00
11 TMP	Vinyl bromide	10.000	10.225	-2.2	100	0.00
12 TMP	Ethanol	10.000	8.180	18.2	100	0.00
13 TMP	Acrolein	10.000	9.883	1.2	100	-0.02
14 TMP	Pentane	10.000	9.723	2.8	100	0.00
15 TMP	Trichlorofluoromethane	10.000	9.740	2.6	100	0.00
16 TMP	Acetone	10.000	8.921	10.8	100	-0.02
17 TMP	2-Propanol	10.000	10.093	-0.9	100	-0.02
18 TMP	1,1-Dichloroethene	10.000	9.039	9.6	100	0.00
19 TMP	trans-1,2-Dichloroethene	10.000	9.171	8.3	100	0.00
20 TMP	Methylene chloride	10.000	9.045	9.6	100	0.00
21 TMP	t-Butyl alcohol (TBA)	10.000	10.183	-1.8	100	-0.03
22 TMP	3-Chloropropene	10.000	9.819	1.8	100	0.00
23 TMP	CFC-113	10.000	9.255	7.4	100	0.00
24 TMP	Carbon disulfide	10.000	9.169	8.3	100	0.00
25 TMP	Methyl t-butyl ether (MTBE)	10.000	9.577	4.2	100	0.00
26 TMP	Vinyl acetate	10.000	9.358	6.4	100	0.00
27 TMP	1,1-Dichloroethane	10.000	9.586	4.1	100	0.00
28 TMP	cis-1,2-Dichloroethene	10.000	9.389	6.1	100	-0.02
29 TMP	Hexane	10.000	10.957	-9.6	100	0.00
30 TMP	Chloroform	10.000	9.335	6.6	100	0.00
31 TMP	Ethyl acetate	10.000	10.450	-4.5	100	-0.02
32 TMP	Tetrahydrofuran	10.000	9.837	1.6	100	0.00
33 TMP	2-Butanone (MEK)	10.000	9.261	7.4	100	-0.03
34 TMP	1,2-Dichloroethane (EDC)	10.000	9.742	2.6	100	0.00
35 TMP	1,1,1-Trichloroethane	10.000	9.758	2.4	100	0.00
36 TMP	Carbon tetrachloride	10.000	9.613	3.9	100	0.00
37 TMP	Benzene	10.000	9.693	3.1	100	0.00
38 TMP	Cyclohexane	10.000	10.197	-2.0	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	10.000	9.571	4.3	100	0.00
41 TMP	1,4-Dioxane	10.000	10.199	-2.0	100	-0.02
42 TMP	2,2,4-Trimethylpentane	10.000	10.356	-3.6	100	0.00
43 TMP	Methyl methacrylate	10.000	10.020	-0.2	100	0.00
44 TMP	Heptane	10.000	10.255	-2.6	100	0.00
45 TMP	Bromodichloromethane	10.000	9.719	2.8	100	0.00



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030427.D  
 Acq On : 5 Mar 2022 11:36 am  
 Operator : bat  
 Sample : 10 ppbv , 65-194  
 Misc : T4  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:14:00 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	10.000	9.425	5.7	100	0.00
47	TMP cis-1,3-Dichloropropene	10.000	9.963	0.4	100	0.00
48	TMP 4-Methyl-2-pentanone	10.000	11.654	-16.5	100	0.00
49	TMP trans-1,3-Dichloropropene	10.000	10.279	-2.8	100	0.00
50	TMP Toluene	10.000	10.276	-2.8	100	0.00
51	TMP 1,1,2-Trichloroethane	10.000	9.777	2.2	100	0.00
52	TMP 2-Hexanone	10.000	10.398	-4.0	100	0.00
53	TMP Tetrachloroethene	10.000	9.896	1.0	100	0.00
54	TMP Dibromochloromethane	10.000	10.134	-1.3	100	0.00
55	TMP 1,2-Dibromoethane (EDB)	10.000	9.726	2.7	100	0.00
56	I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57	TMP Chlorobenzene	10.000	9.772	2.3	100	0.00
58	TMP Ethylbenzene	10.000	9.949	0.5	100	0.00
59	TMP 1,1,2,2-Tetrachloroethane	10.000	9.601	4.0	100	0.00
60	TMP Nonane	10.000	10.762	-7.6	100	0.00
61	TMP Isopropylbenzene	10.000	10.356	-3.6	100	0.00
62	TMP 2-Chlorotoluene	10.000	10.246	-2.5	100	0.01
63	TMP Propylbenzene	10.000	10.391	-3.9	100	0.00
64	TMP 4-Ethyltoluene	10.000	10.759	-7.6	100	0.00
65	TMP m,p-Xylene	20.000	20.116	-0.6	100	0.00
66	TMP o-Xylene	10.000	10.563	-5.6	100	0.00
67	TMP Styrene	10.000	10.663	-6.6	100	0.00
68	TMP Bromoform	10.000	10.551	-5.5	100	0.00
69	S 4-Bromofluorobenzene	10.000	10.846	-8.5	100	0.00
70	TMP Benzyl chloride	10.000	10.764	-7.6	100	0.00
71	TMP 1,3,5-Trimethylbenzene	10.000	10.754	-7.5	100	0.00
72	TMP 1,2,4-Trimethylbenzene	10.000	10.841	-8.4	100	0.00
73	TMP 1,3-Dichlorobenzene	10.000	9.979	0.2	100	0.00
74	TMP 1,4-Dichlorobenzene	10.000	9.902	1.0	100	0.00
75	TMP 1,2-Dichlorobenzene	10.000	9.906	0.9	100	0.00
76	TMP 1,2,4-Trichlorobenzene	10.000	10.366	-3.7	100	0.00
77	TMP Naphthalene	10.000	10.336	-3.4	100	0.00
78	TMP Hexachlorobutadiene	10.000	10.254	-2.5	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030427.D  
 Acq On : 5 Mar 2022 11:36 am  
 Operator : bat  
 Sample : 10 ppbv , 65-194  
 Misc : T4  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:14:00 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP Propene	0.552	0.543	1.6	100	0.00
3 TMP Dichlorodifluoromethane	4.565	4.174	8.6	100	0.00
4 TMP Chloromethane	0.776	0.725	6.6	99	-0.04
5 TMP F-114	3.419	3.213	6.0	102	0.00
6 TMP Vinyl chloride	1.082	1.017	6.0	100	0.00
7 TMP 1,3-Butadiene	0.605	0.574	5.1	100	0.00
8 TMP Butane	1.161	1.112	4.2	100	0.00
9 TMP Bromomethane	1.196	1.160	3.0	100	0.00
10 TMP Chloroethane	0.395	0.366	7.3	100	0.00
11 TMP Vinyl bromide	1.286	1.315	-2.3	100	0.00
12 TMP Ethanol	0.174	0.142	18.4	100	0.00
13 TMP Acrolein	0.252	0.235	6.7	100	-0.02
14 TMP Pentane	1.140	1.109	2.7	100	0.00
15 TMP Trichlorofluoromethane	5.069	4.937	2.6	100	0.00
16 TMP Acetone	0.404	0.361	10.6	100	-0.02
17 TMP 2-Propanol	1.563	1.578	-1.0	100	-0.02
18 TMP 1,1-Dichloroethene	1.255	1.134	9.6	100	0.00
19 TMP trans-1,2-Dichloroethene	1.195	1.096	8.3	100	0.00
20 TMP Methylene chloride	1.141	1.032	9.6	100	0.00
21 TMP t-Butyl alcohol (TBA)	2.068	2.105	-1.8	100	-0.03
22 TMP 3-Chloropropene	1.240	1.218	1.8	100	0.00
23 TMP CFC-113	3.311	3.064	7.5	100	0.00
24 TMP Carbon disulfide	0.538	0.493	8.4	100	0.00
25 TMP Methyl t-butyl ether (MTBE)	2.982	2.856	4.2	100	0.00
26 TMP Vinyl acetate	1.012	0.948	6.3	100	0.00
27 TMP 1,1-Dichloroethane	2.186	2.096	4.1	100	0.00
28 TMP cis-1,2-Dichloroethene	1.262	1.185	6.1	100	-0.02
29 TMP Hexane	1.109	1.215	-9.6	100	0.00
30 TMP Chloroform	3.255	3.038	6.7	100	0.00
31 TMP Ethyl acetate	2.770	2.895	-4.5	100	-0.02
32 TMP Tetrahydrofuran	0.872	0.858	1.6	100	0.00
33 TMP 2-Butanone (MEK)	0.459	0.425	7.4	100	-0.03
34 TMP 1,2-Dichloroethane (EDC)	2.237	2.180	2.5	100	0.00
35 TMP 1,1,1-Trichloroethane	3.544	3.458	2.4	100	0.00
36 TMP Carbon tetrachloride	4.146	3.985	3.9	100	0.00
37 TMP Benzene	3.534	3.425	3.1	100	0.00
38 TMP Cyclohexane	0.985	1.004	-1.9	100	0.00
39 I 1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP 1,2-Dichloropropane	0.330	0.315	4.5	100	0.00
41 TMP 1,4-Dioxane	0.175	0.179	-2.3	100	-0.02
42 TMP 2,2,4-Trimethylpentane	0.861	0.892	-3.6	100	0.00
43 TMP Methyl methacrylate	0.296	0.296	0.0	100	0.00
44 TMP Heptane	0.327	0.335	-2.4	100	0.00
45 TMP Bromodichloromethane	0.825	0.802	2.8	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030427.D  
 Acq On : 5 Mar 2022 11:36 am  
 Operator : bat  
 Sample : 10 ppbv , 65-194  
 Misc : T4  
 ALS Vial : 27 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:14:00 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.503	0.474	5.8	100	0.00
47 TMP cis-1,3-Dichloropropene	0.529	0.527	0.4	100	0.00
48 TMP 4-Methyl-2-pentanone	0.038	0.044	-15.8	100	0.00
49 TMP trans-1,3-Dichloropropene	0.508	0.522	-2.8	100	0.00
50 TMP Toluene	0.513	0.527	-2.7	100	0.00
51 TMP 1,1,2-Trichloroethane	0.372	0.364	2.2	100	0.00
52 TMP 2-Hexanone	0.484	0.504	-4.1	100	0.00
53 TMP Tetrachloroethene	0.508	0.503	1.0	100	0.00
54 TMP Dibromochloromethane	0.909	0.922	-1.4	100	0.00
55 TMP 1,2-Dibromoethane (EDB)	0.658	0.640	2.7	100	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57 TMP Chlorobenzene	0.933	0.912	2.3	100	0.00
58 TMP Ethylbenzene	1.442	1.434	0.6	100	0.00
59 TMP 1,1,2,2-Tetrachloroethane	0.993	0.954	3.9	100	0.00
60 TMP Nonane	0.561	0.604	-7.7	100	0.00
61 TMP Isopropylbenzene	1.680	1.740	-3.6	100	0.00
62 TMP 2-Chlorotoluene	0.432	0.443	-2.5	100	0.01
63 TMP Propylbenzene	3.087	3.208	-3.9	100	0.00
64 TMP 4-Ethyltoluene	1.595	1.717	-7.6	100	0.00
65 TMP m,p-Xylene	0.541	0.544	-0.6	100	0.00
66 TMP o-Xylene	0.504	0.532	-5.6	100	0.00
67 TMP Styrene	0.757	0.807	-6.6	100	0.00
68 TMP Bromoform	1.279	1.350	-5.6	100	0.00
69 S 4-Bromofluorobenzene	0.742	0.805	-8.5	100	0.00
70 TMP Benzyl chloride	1.263	1.360	-7.7	100	0.00
71 TMP 1,3,5-Trimethylbenzene	1.434	1.542	-7.5	100	0.00
72 TMP 1,2,4-Trimethylbenzene	1.359	1.473	-8.4	100	0.00
73 TMP 1,3-Dichlorobenzene	1.193	1.190	0.3	100	0.00
74 TMP 1,4-Dichlorobenzene	1.211	1.199	1.0	100	0.00
75 TMP 1,2-Dichlorobenzene	1.153	1.143	0.9	100	0.00
76 TMP 1,2,4-Trichlorobenzene	1.110	1.198	-7.9	100	0.00
77 TMP Naphthalene	1.414	1.861	-31.6#	100	0.00
78 TMP Hexachlorobutadiene	1.608	1.360	15.4	100	0.00

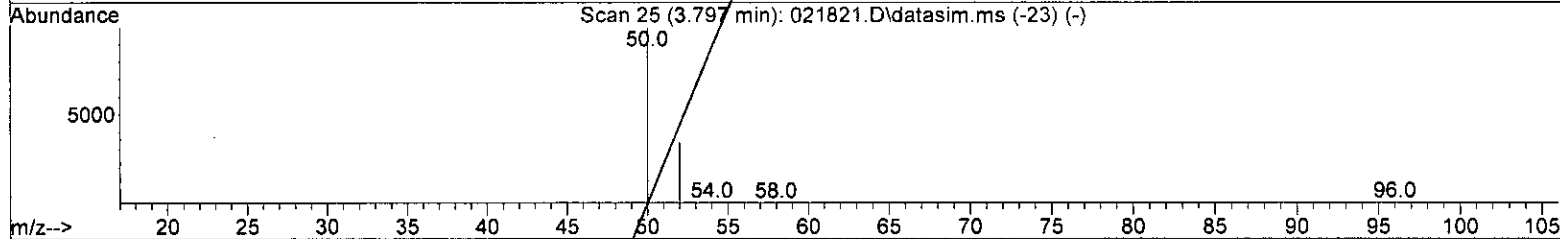
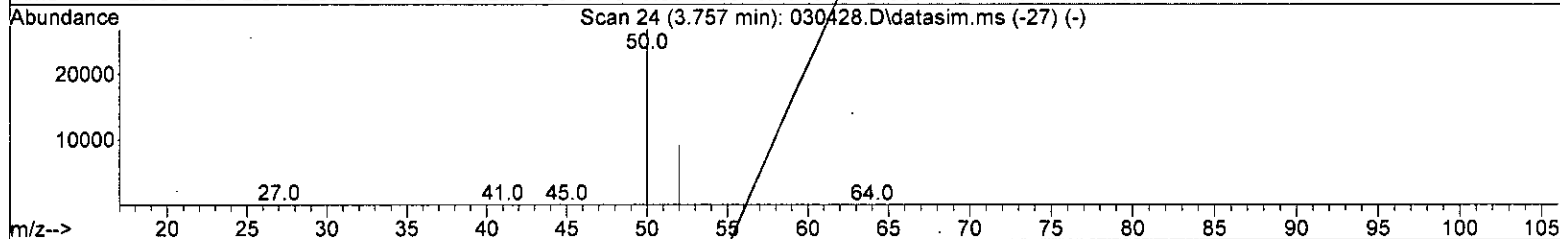
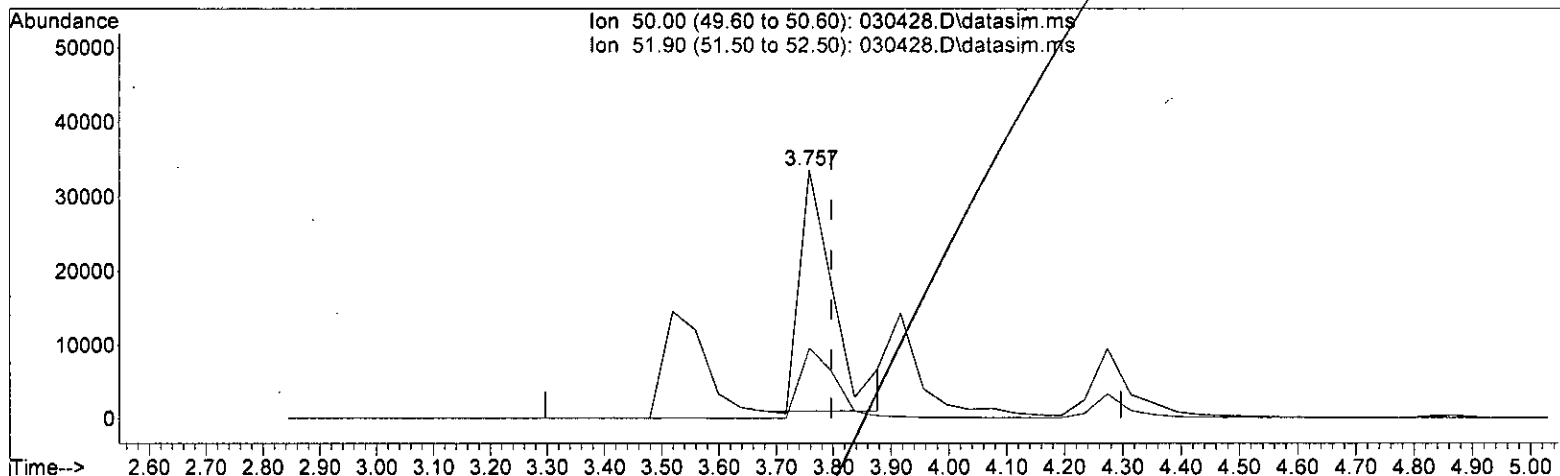
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030428.D  
 Acq On : 5 Mar 2022 12:22 pm  
 Operator : bat  
 Sample : 15 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 28 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:45:10 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030428.D\data.ms

(4) Chloromethane (TMP)

3.757min (-0.040) 15.426 ppbv

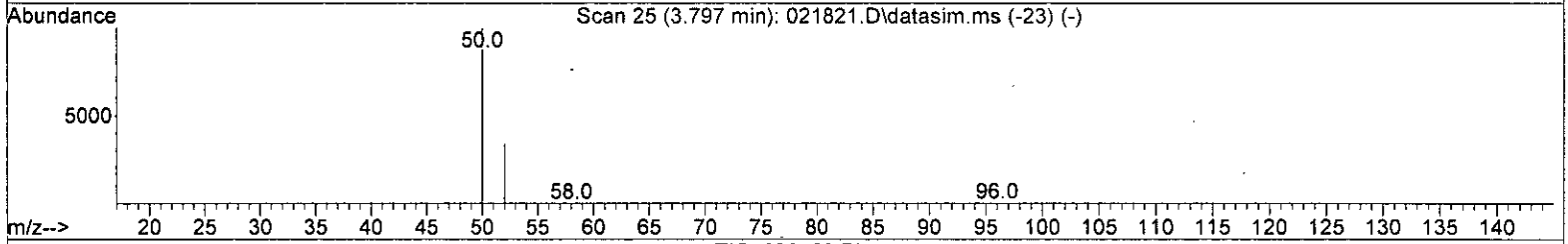
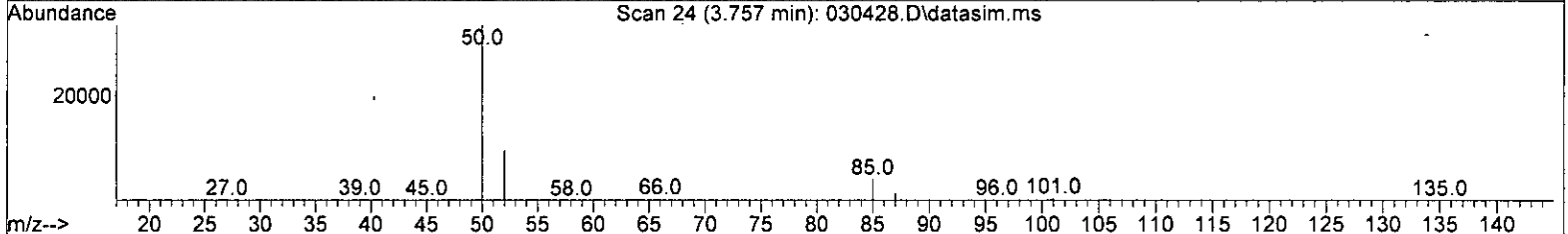
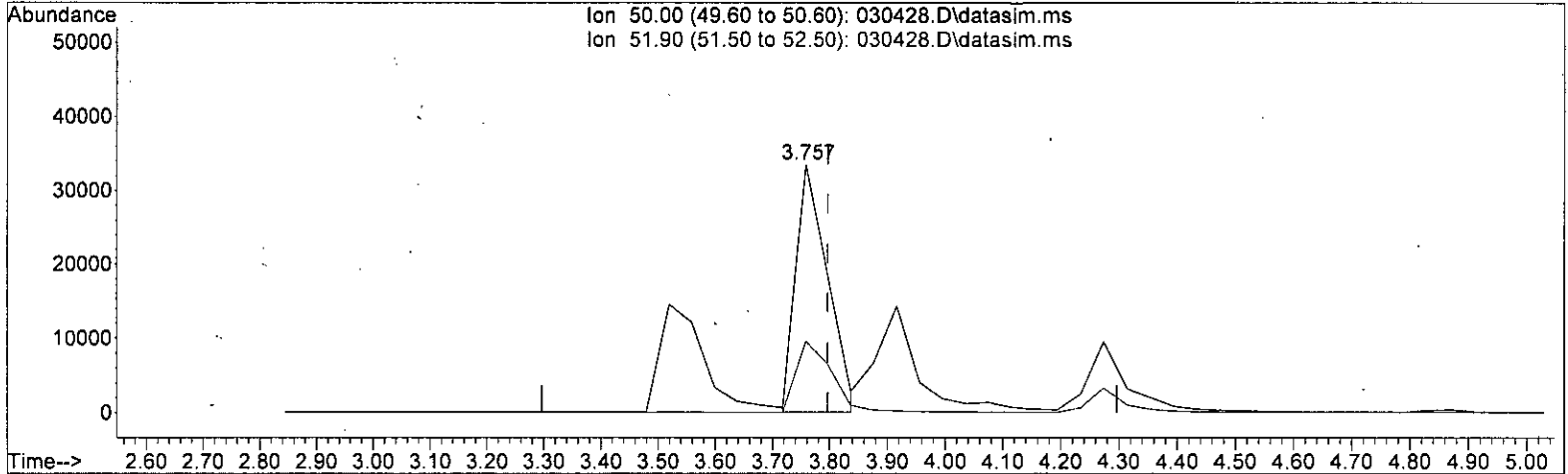
response	135873
Ion	Exp% Act%
50.00	100.00 100.00
51.90	25.30 29.23
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten: 3/7/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030428.D  
 Acq On : 5 Mar 2022 12:22 pm  
 Operator : bat  
 Sample : 15 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 28 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:45:10 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030428.D\data.ms

(4) Chloromethane (TMP)  
 3.757min (-0.040) 14.750 ppbv m  
 response 129918

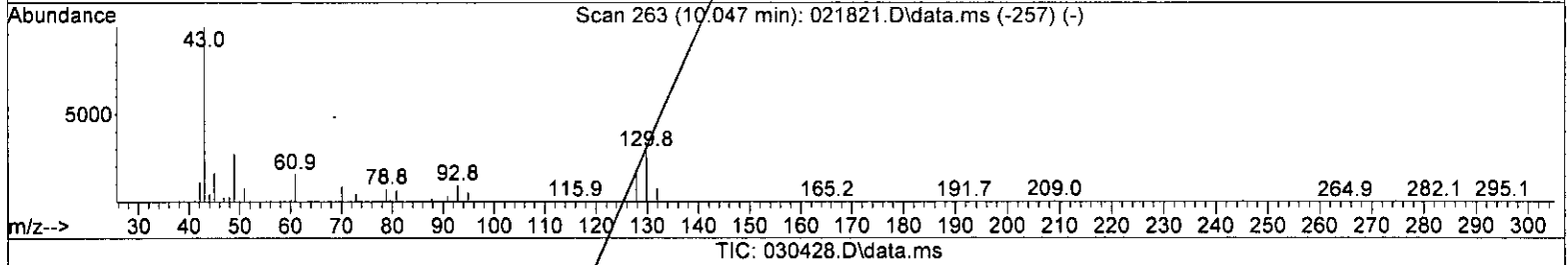
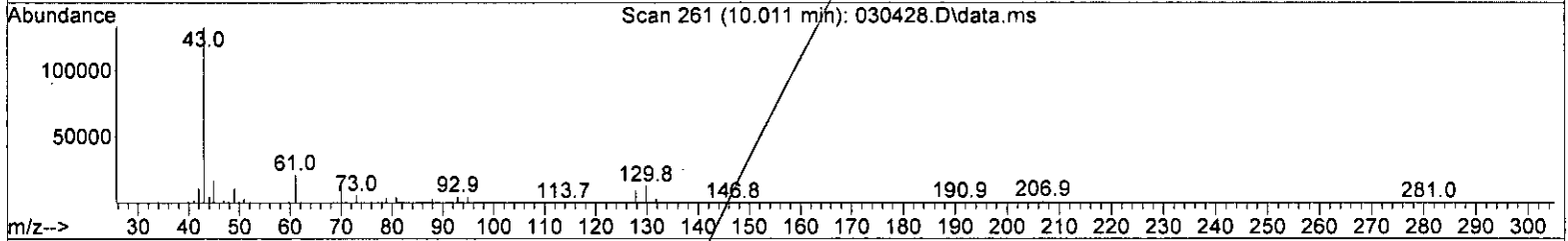
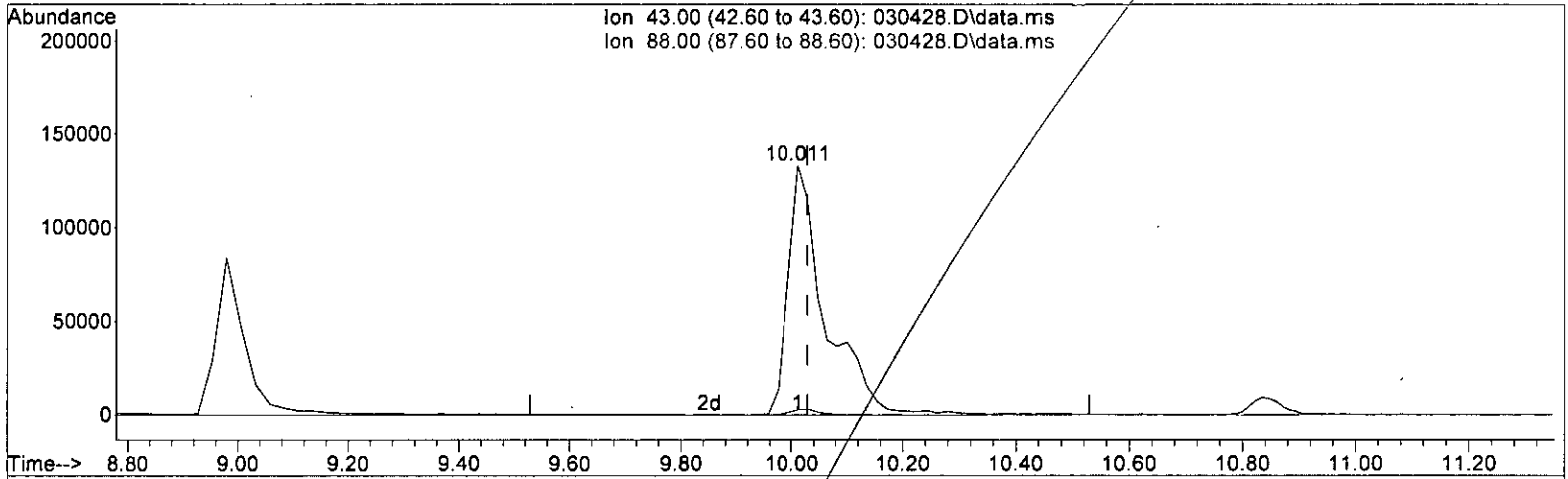
Ion	Exp%	Act%
50.00	100.00	100.00
51.90	25.30	28.51
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030428.D  
 Acq On : 5 Mar 2022 12:22 pm  
 Operator : bat  
 Sample : 15 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 28 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:45:10 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(31) Ethyl acetate (TMP)

10.011min (-0.018) 19.934 ppbv

response 626504

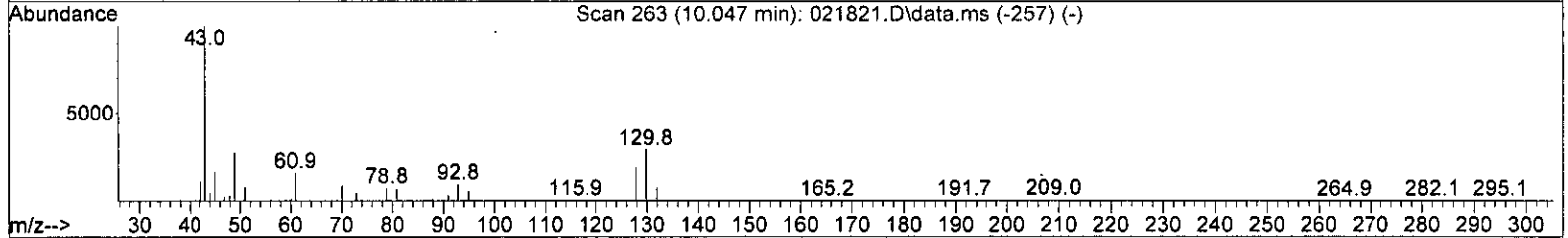
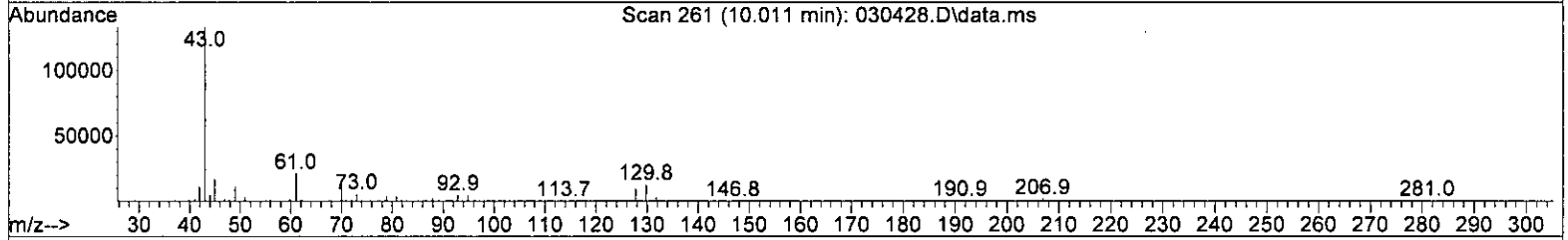
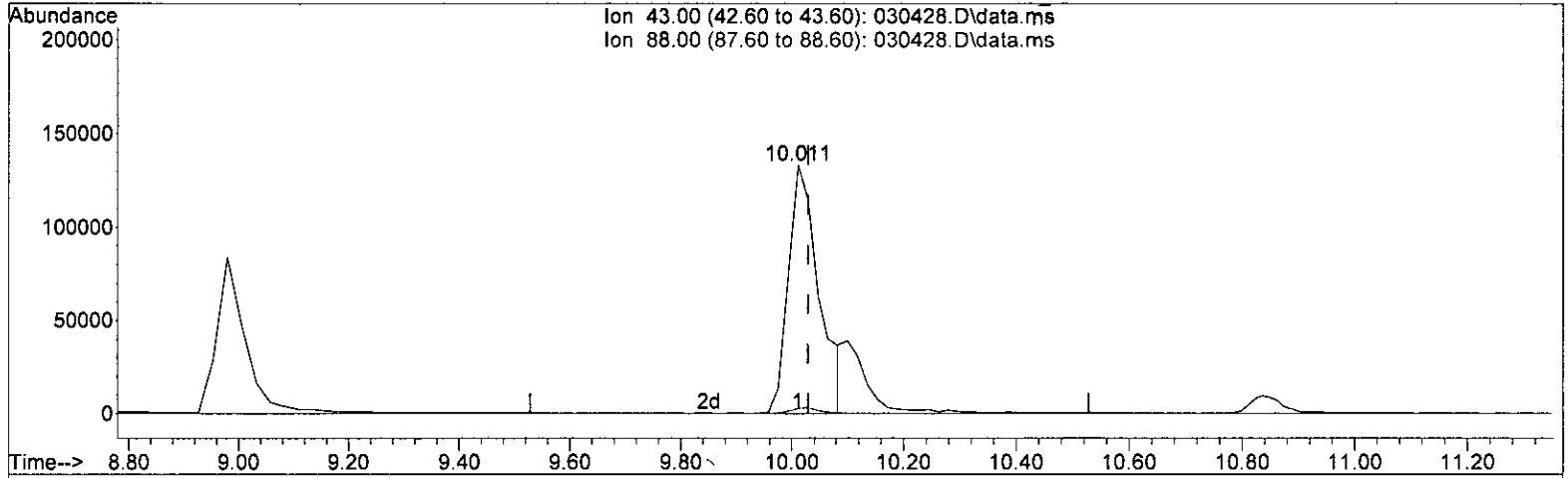
Ion	Exp%	Act%
43.00	100.00	100.00
88.00	1.70	1.82
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030428.D  
 Acq On : 5 Mar 2022 12:22 pm  
 Operator : bat  
 Sample : 15 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 28 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 15:45:10 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030428.D\data.ms

(31) Ethyl acetate (TMP)

10.011min (-0.018) 16.167 ppbv m

response	508089
Ion	Exp% Act%
43.00	100.00 100.00
88.00	1.70 2.25#
0.00	0.00 0.00
0.00	0.00 0.00

*B*  
*3/7/22*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030428.D  
 Acq On : 5 Mar 2022 12:22 pm  
 Operator : bat  
 Sample : 15 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 28 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:16:05 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.98	128	113458	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.21	114	534351	10.000	ppbv	0.00
56) Chlorobenzene-d5	18.21	117	456827	10.000	ppbv	0.00

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.65	95	364639	10.756	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	107.60%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.43	41	96313	15.386	ppbv	90
3) Dichlorodifluoromethane	3.55	85	733799	14.168	ppbv	99
4) Chloromethane	3.76	50	129918m	14.750	ppbv	
5) F-114	3.91	85	527171	13.591	ppbv	91
6) Vinyl chloride	4.08	62	177480	14.455	ppbv	100
7) 1,3-Butadiene	4.27	54	99864	14.541	ppbv #	75
8) Butane	4.35	43	194608	14.779	ppbv	98
9) Bromomethane	4.67	94	197372	14.550	ppbv	99
10) Chloroethane	4.87	64	62333	13.907	ppbv	95
11) Vinyl bromide	5.34	106	227161	15.565	ppbv	96
12) Ethanol	4.98	45	33209	16.851	ppbv	99
13) Acrolein	5.44	56	40829	14.653	ppbv	98
14) Pentane	6.35	43	183813	14.208	ppbv	95
15) Trichlorofluoromethane	5.89	101	836658	14.548	ppbv	98
16) Acetone	5.61	58	65254	14.226	ppbv	97
17) 2-Propanol	5.87	45	274542	15.478	ppbv	97
18) 1,1-Dichloroethene	6.73	96	193748	13.607	ppbv	85
19) trans-1,2-Dichloroethene	8.17	96	187774	13.848	ppbv #	74
20) Methylene chloride	6.85	84	170097	13.135	ppbv	83
21) t-Butyl alcohol (TBA)	6.64	59	355765	15.166	ppbv	100
22) 3-Chloropropene	7.01	41	201908	14.349	ppbv #	71
23) CFC-113	7.25	101	489293	13.026	ppbv	86
24) Carbon disulfide	7.01	76	87981	14.411	ppbv	50
25) Methyl t-butyl ether (...)	8.53	73	496479	14.675	ppbv	89
26) Vinyl acetate	8.61	43	183313	15.958	ppbv	97
27) 1,1-Dichloroethane	8.43	63	355240	14.320	ppbv	97
28) cis-1,2-Dichloroethene	9.71	96	202701	14.161	ppbv	98
29) Hexane	10.10	57	199798	15.884	ppbv	97
30) Chloroform	10.18	83	511940	13.863	ppbv	100
31) Ethyl acetate	10.01	43	508089m	16.167	ppbv	
32) Tetrahydrofuran	10.84	42	149037	15.066	ppbv	78
33) 2-Butanone (MEK)	8.98	72	75922	14.584	ppbv #	69
34) 1,2-Dichloroethane (EDC)	11.43	62	371060	14.617	ppbv	97
35) 1,1,1-Trichloroethane	11.92	97	589309	14.657	ppbv	94
36) Carbon tetrachloride	12.94	117	674664	14.344	ppbv	98
37) Benzene	12.69	78	588461	14.678	ppbv	88
38) Cyclohexane	13.15	84	168702	15.102	ppbv #	73
40) 1,2-Dichloropropane	13.88	63	226712	12.874	ppbv	68
41) 1,4-Dioxane	14.15	88	130487	13.939	ppbv	87
42) 2,2,4-Trimethylpentane	14.29	57	659840	14.336	ppbv #	82



Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030428.D  
 Acq On : 5 Mar 2022 12:22 pm  
 Operator : bat  
 Sample : 15 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 28 Sample Multiplier: 1  
 InstName : GCMS8

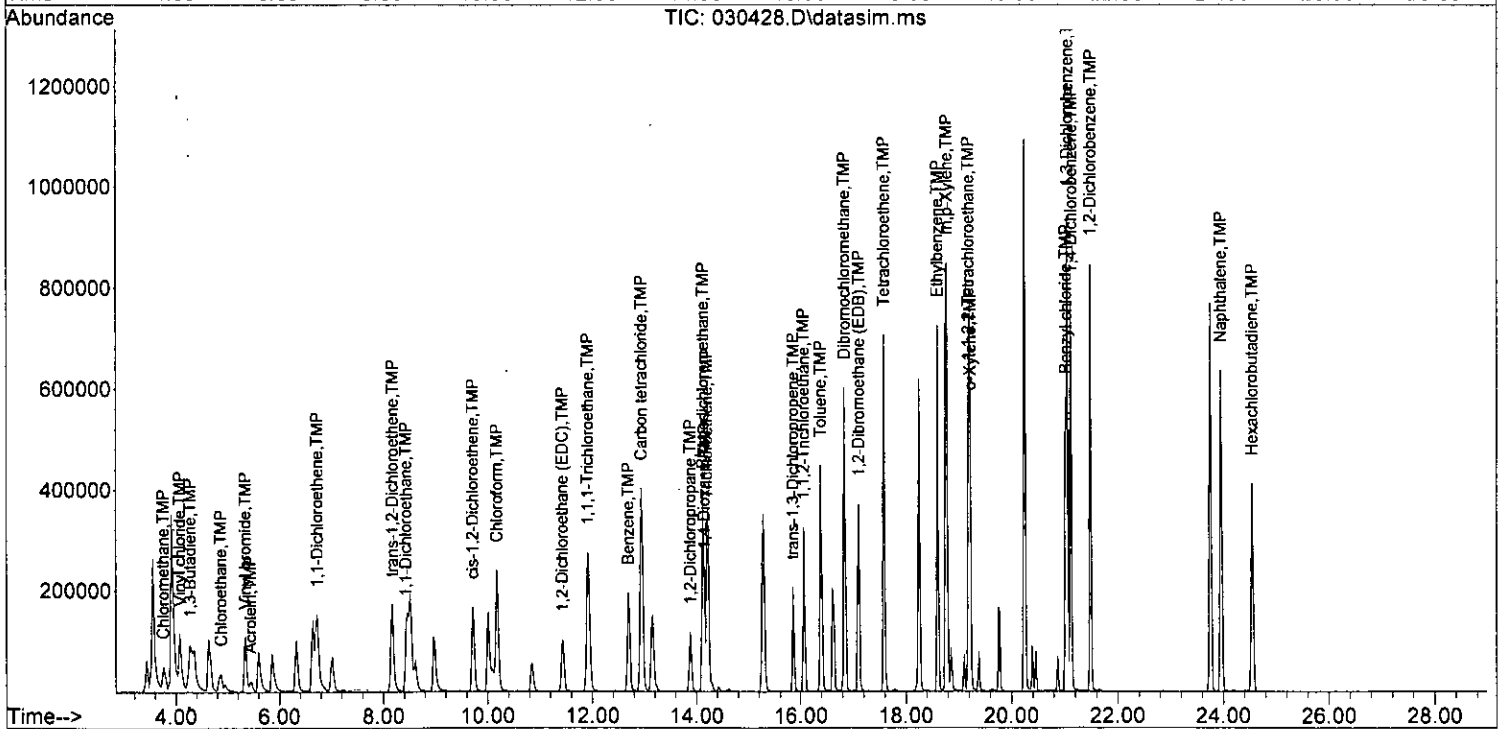
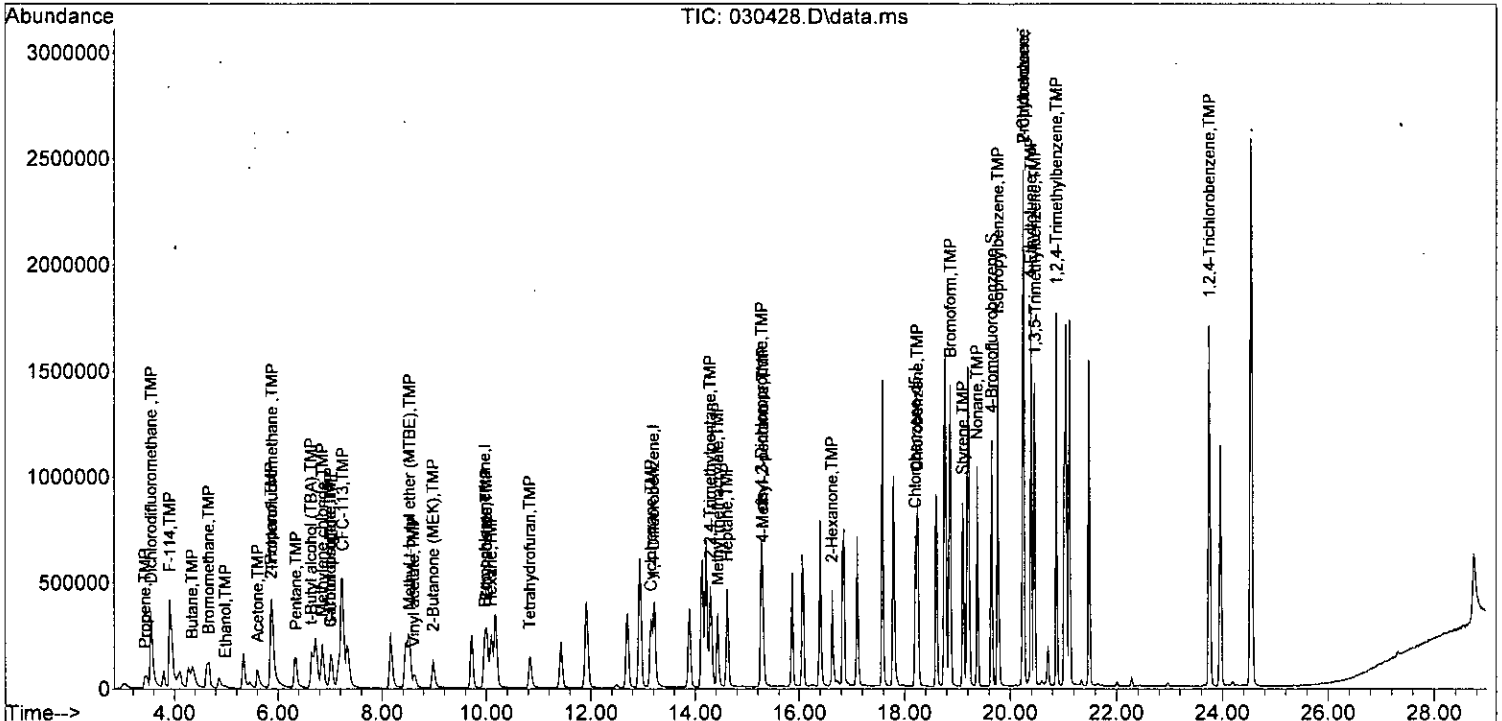
Quant Time: Mar 07 17:16:05 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43] Methyl methacrylate	14.44	41	230501	14.587	ppbv #	87
44] Heptane	14.61	43	249356	14.271	ppbv	74
45] Bromodichloromethane	14.13	83	577510	13.095	ppbv	93
46] Trichloroethene	14.20	95	338206	12.576	ppbv	84
47] cis-1,3-Dichloropropene	15.28	75	380095	13.438	ppbv	92
48] 4-Methyl-2-pentanone	15.30	100	28103	13.849	ppbv #	40
49] trans-1,3-Dichloropropene	15.85	75	381535	14.063	ppbv	86
50] Toluene	16.38	92	386497	14.094	ppbv	98
51] 1,1,2-Trichloroethane	16.07	83	261590	13.154	ppbv	81
52] 2-Hexanone	16.63	43	385999	14.915	ppbv	97
53] Tetrachloroethene	17.58	164	359653	13.255	ppbv	92
54] Dibromochloromethane	16.83	129	664656	13.678	ppbv	99
55] 1,2-Dibromoethane (EDB)	17.11	107	462244	13.142	ppbv	97
57] Chlorobenzene	18.25	112	617747	14.491	ppbv	98
58] Ethylbenzene	18.60	91	967828	14.697	ppbv	93
59] 1,1,2,2-Tetrachloroethane	19.19	83	628594	13.854	ppbv	99
60] Nonane	19.38	43	402995	15.717	ppbv	88
61] Isopropylbenzene	19.77	105	1260624	16.424	ppbv	99
62] 2-Chlorotoluene	20.25	126	295377	14.954	ppbv	78
63] Propylbenzene	20.25	91	2152173	15.260	ppbv	98
64] 4-Ethyltoluene	20.39	105	1148414	15.756	ppbv	99
65] m,p-Xylene	18.78	106	733453	29.670	ppbv	94
66] o-Xylene	19.23	106	357114	15.521	ppbv	92
67] Styrene	19.11	104	552873	15.984	ppbv	92
68] Bromoform	18.87	173	917551	15.699	ppbv	98
70] Benzyl chloride	21.02	91	915895	15.873	ppbv	95
71] 1,3,5-Trimethylbenzene	20.47	105	1022739	15.612	ppbv	98
72] 1,2,4-Trimethylbenzene	20.87	105	1009420	16.264	ppbv	100
73] 1,3-Dichlorobenzene	21.05	146	786836	14.443	ppbv	94
74] 1,4-Dichlorobenzene	21.13	146	794915	14.370	ppbv	94
75] 1,2-Dichlorobenzene	21.49	146	757067	14.368	ppbv	94
76] 1,2,4-Trichlorobenzene	23.75	180	808715	14.485	ppbv	94
77] Naphthalene	23.95	128	1328125	14.142	ppbv	99
78] Hexachlorobutadiene	24.54	225	915960	15.049	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030428.D  
 Acq On : 5 Mar 2022 12:22 pm  
 Operator : bat  
 Sample : 15 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 28 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:16:05 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15sss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030428.D  
 Acq On : 5 Mar 2022 12:22 pm  
 Operator : bat  
 Sample : 15 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 28 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:16:05 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	100	0.00
2 TMP	Propene	15.000	15.386	-2.6	100	-0.04
3 TMP	Dichlorodifluoromethane	15.000	14.168	5.5	100	0.00
4 TMP	Chloromethane	15.000	14.750	1.7	99	-0.04
5 TMP	F-114	15.000	13.591	9.4	102	0.00
6 TMP	Vinyl chloride	15.000	14.455	3.6	100	0.00
7 TMP	1,3-Butadiene	15.000	14.541	3.1	100	0.00
8 TMP	Butane	15.000	14.779	1.5	100	0.00
9 TMP	Bromomethane	15.000	14.550	3.0	100	0.00
10 TMP	Chloroethane	15.000	13.907	7.3	100	0.00
11 TMP	Vinyl bromide	15.000	15.565	-3.8	100	0.00
12 TMP	Ethanol	15.000	16.851	-12.3	100	0.00
13 TMP	Acrolein	15.000	14.653	2.3	100	-0.02
14 TMP	Pentane	15.000	14.208	5.3	100	0.00
15 TMP	Trichlorofluoromethane	15.000	14.548	3.0	99	0.00
16 TMP	Acetone	15.000	14.226	5.2	100	-0.02
17 TMP	2-Propanol	15.000	15.478	-3.2	100	-0.02
18 TMP	1,1-Dichloroethene	15.000	13.607	9.3	100	0.00
19 TMP	trans-1,2-Dichloroethene	15.000	13.848	7.7	100	0.00
20 TMP	Methylene chloride	15.000	13.135	12.4	100	0.00
21 TMP	t-Butyl alcohol (TBA)	15.000	15.166	-1.1	100	-0.03
22 TMP	3-Chloropropene	15.000	14.349	4.3	100	-0.03
23 TMP	CFC-113	15.000	13.026	13.2	100	0.00
24 TMP	Carbon disulfide	15.000	14.411	3.9	100	-0.03
25 TMP	Methyl t-butyl ether (MTBE)	15.000	14.675	2.2	100	0.00
26 TMP	Vinyl acetate	15.000	15.958	-6.4	100	-0.03
27 TMP	1,1-Dichloroethane	15.000	14.320	4.5	100	-0.03
28 TMP	cis-1,2-Dichloroethene	15.000	14.161	5.6	100	-0.02
29 TMP	Hexane	15.000	15.884	-5.9	100	0.00
30 TMP	Chloroform	15.000	13.863	7.6	100	0.00
31 TMP	Ethyl acetate	15.000	16.167	-7.8	100	-0.02
32 TMP	Tetrahydrofuran	15.000	15.066	-0.4	100	-0.02
33 TMP	2-Butanone (MEK)	15.000	14.584	2.8	100	-0.03
34 TMP	1,2-Dichloroethane (EDC)	15.000	14.617	2.6	100	0.00
35 TMP	1,1,1-Trichloroethane	15.000	14.657	2.3	100	0.00
36 TMP	Carbon tetrachloride	15.000	14.344	4.4	100	0.00
37 TMP	Benzene	15.000	14.678	2.1	100	0.00
38 TMP	Cyclohexane	15.000	15.102	-0.7	100	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	15.000	12.874	14.2	100	0.00
41 TMP	1,4-Dioxane	15.000	13.939	7.1	100	-0.02
42 TMP	2,2,4-Trimethylpentane	15.000	14.336	4.4	100	0.00
43 TMP	Methyl methacrylate	15.000	14.587	2.8	100	0.00
44 TMP	Heptane	15.000	14.271	4.9	100	0.00
45 TMP	Bromodichloromethane	15.000	13.095	12.7	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030428.D  
 Acq On : 5 Mar 2022 12:22 pm  
 Operator : bat  
 Sample : 15 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 28 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:16:05 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	15.000	12.576	16.2	100	0.00
47	TMP cis-1,3-Dichloropropene	15.000	13.438	10.4	100	0.00
48	TMP 4-Methyl-2-pentanone	15.000	13.849	7.7	100	0.00
49	TMP trans-1,3-Dichloropropene	15.000	14.063	6.2	100	0.00
50	TMP Toluene	15.000	14.094	6.0	100	0.00
51	TMP 1,1,2-Trichloroethane	15.000	13.154	12.3	100	0.00
52	TMP 2-Hexanone	15.000	14.915	0.6	100	0.00
53	TMP Tetrachloroethene	15.000	13.255	11.6	100	0.00
54	TMP Dibromochloromethane	15.000	13.678	8.8	100	0.00
55	TMP 1,2-Dibromoethane (EDB)	15.000	13.142	12.4	100	0.00
56	I Chlorobenzene-d5	10.000	10.000	0.0	100	0.00
57	TMP Chlorobenzene	15.000	14.491	3.4	100	0.00
58	TMP Ethylbenzene	15.000	14.697	2.0	100	0.00
59	TMP 1,1,2,2-Tetrachloroethane	15.000	13.854	7.6	100	0.00
60	TMP Nonane	15.000	15.717	-4.8	100	0.00
61	TMP Isopropylbenzene	15.000	16.424	-9.5	100	0.00
62	TMP 2-Chlorotoluene	15.000	14.954	0.3	100	0.01
63	TMP Propylbenzene	15.000	15.260	-1.7	100	0.00
64	TMP 4-Ethyltoluene	15.000	15.756	-5.0	100	0.00
65	TMP m,p-Xylene	30.000	29.670	1.1	100	0.00
66	TMP o-Xylene	15.000	15.521	-3.5	100	0.00
67	TMP Styrene	15.000	15.984	-6.6	100	0.00
68	TMP Bromoform	15.000	15.699	-4.7	100	0.00
69	S 4-Bromofluorobenzene	10.000	10.756	-7.6	100	0.00
70	TMP Benzyl chloride	15.000	15.873	-5.8	100	0.01
71	TMP 1,3,5-Trimethylbenzene	15.000	15.612	-4.1	100	0.01
72	TMP 1,2,4-Trimethylbenzene	15.000	16.264	-8.4	100	0.00
73	TMP 1,3-Dichlorobenzene	15.000	14.443	3.7	100	0.00
74	TMP 1,4-Dichlorobenzene	15.000	14.370	4.2	100	0.01
75	TMP 1,2-Dichlorobenzene	15.000	14.368	4.2	100	0.00
76	TMP 1,2,4-Trichlorobenzene	15.000	14.485	3.4	100	0.00
77	TMP Naphthalene	15.000	14.142	5.7	100	0.00
78	TMP Hexachlorobutadiene	15.000	15.049	-0.3	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030428.D  
 Acq On : 5 Mar 2022 12:22 pm  
 Operator : bat  
 Sample : 15 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 28 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:16:05 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 TMP	Propene	0.552	0.566	-2.5	100	-0.04
3 TMP	Dichlorodifluoromethane	4.565	4.312	5.5	100	0.00
4 TMP	Chloromethane	0.776	0.763	1.7	99	-0.04
5 TMP	F-114	3.419	3.098	9.4	102	0.00
6 TMP	Vinyl chloride	1.082	1.043	3.6	100	0.00
7 TMP	1,3-Butadiene	0.605	0.587	3.0	100	0.00
8 TMP	Butane	1.161	1.143	1.6	100	0.00
9 TMP	Bromomethane	1.196	1.160	3.0	100	0.00
10 TMP	Chloroethane	0.395	0.366	7.3	100	0.00
11 TMP	Vinyl bromide	1.286	1.335	-3.8	100	0.00
12 TMP	Ethanol	0.174	0.195	-12.1	100	0.00
13 TMP	Acrolein	0.252	0.240	4.8	100	-0.02
14 TMP	Pentane	1.140	1.080	5.3	100	0.00
15 TMP	Trichlorofluoromethane	5.069	4.916	3.0	99	0.00
16 TMP	Acetone	0.404	0.383	5.2	100	-0.02
17 TMP	2-Propanol	1.563	1.613	-3.2	100	-0.02
18 TMP	1,1-Dichloroethene	1.255	1.138	9.3	100	0.00
19 TMP	trans-1,2-Dichloroethene	1.195	1.103	7.7	100	0.00
20 TMP	Methylene chloride	1.141	0.999	12.4	100	0.00
21 TMP	t-Butyl alcohol (TBA)	2.068	2.090	-1.1	100	-0.03
22 TMP	3-Chloropropene	1.240	1.186	4.4	100	-0.03
23 TMP	CFC-113	3.311	2.875	13.2	100	0.00
24 TMP	Carbon disulfide	0.538	0.517	3.9	100	-0.03
25 TMP	Methyl t-butyl ether (MTBE)	2.982	2.917	2.2	100	0.00
26 TMP	Vinyl acetate	1.012	1.077	-6.4	100	-0.03
27 TMP	1,1-Dichloroethane	2.186	2.087	4.5	100	-0.03
28 TMP	cis-1,2-Dichloroethene	1.262	1.191	5.6	100	-0.02
29 TMP	Hexane	1.109	1.174	-5.9	100	0.00
30 TMP	Chloroform	3.255	3.008	7.6	100	0.00
31 TMP	Ethyl acetate	2.770	2.985	-7.8	100	-0.02
32 TMP	Tetrahydrofuran	0.872	0.876	-0.5	100	-0.02
33 TMP	2-Butanone (MEK)	0.459	0.446	2.8	100	-0.03
34 TMP	1,2-Dichloroethane (EDC)	2.237	2.180	2.5	100	0.00
35 TMP	1,1,1-Trichloroethane	3.544	3.463	2.3	100	0.00
36 TMP	Carbon tetrachloride	4.146	3.964	4.4	100	0.00
37 TMP	Benzene	3.534	3.458	2.2	100	0.00
38 TMP	Cyclohexane	0.985	0.991	-0.6	100	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
40 TMP	1,2-Dichloropropane	0.330	0.283	14.2	100	0.00
41 TMP	1,4-Dioxane	0.175	0.163	6.9	100	-0.02
42 TMP	2,2,4-Trimethylpentane	0.861	0.823	4.4	100	0.00
43 TMP	Methyl methacrylate	0.296	0.288	2.7	100	0.00
44 TMP	Heptane	0.327	0.311	4.9	100	0.00
45 TMP	Bromodichloromethane	0.825	0.721	12.6	100	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030428.D  
 Acq On : 5 Mar 2022 12:22 pm  
 Operator : bat  
 Sample : 15 ppbv , 65-194a  
 Misc : T4  
 ALS Vial : 28 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:16:05 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	0.503	0.422	16.1	100	0.00
47	TMP cis-1,3-Dichloropropene	0.529	0.474	10.4	100	0.00
48	TMP 4-Methyl-2-pentanone	0.038	0.035	7.9	100	0.00
49	TMP trans-1,3-Dichloropropene	0.508	0.476	6.3	100	0.00
50	TMP Toluene	0.513	0.482	6.0	100	0.00
51	TMP 1,1,2-Trichloroethane	0.372	0.326	12.4	100	0.00
52	TMP 2-Hexanone	0.484	0.482	0.4	100	0.00
53	TMP Tetrachloroethene	0.508	0.449	11.6	100	0.00
54	TMP Dibromochloromethane	0.909	0.829	8.8	100	0.00
55	TMP 1,2-Dibromoethane (EDB)	0.658	0.577	12.3	100	0.00
56	I Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
57	TMP Chlorobenzene	0.933	0.902	3.3	100	0.00
58	TMP Ethylbenzene	1.442	1.412	2.1	100	0.00
59	TMP 1,1,2,2-Tetrachloroethane	0.993	0.917	7.7	100	0.00
60	TMP Nonane	0.561	0.588	-4.8	100	0.00
61	TMP Isopropylbenzene	1.680	1.840	-9.5	100	0.00
62	TMP 2-Chlorotoluene	0.432	0.431	0.2	100	0.01
63	TMP Propylbenzene	3.087	3.141	-1.7	100	0.00
64	TMP 4-Ethyltoluene	1.595	1.676	-5.1	100	0.00
65	TMP m,p-Xylene	0.541	0.535	1.1	100	0.00
66	TMP o-Xylene	0.504	0.521	-3.4	100	0.00
67	TMP Styrene	0.757	0.807	-6.6	100	0.00
68	TMP Bromoform	1.279	1.339	-4.7	100	0.00
69	S 4-Bromofluorobenzene	0.742	0.798	-7.5	100	0.00
70	TMP Benzyl chloride	1.263	1.337	-5.9	100	0.01
71	TMP 1,3,5-Trimethylbenzene	1.434	1.493	-4.1	100	0.01
72	TMP 1,2,4-Trimethylbenzene	1.359	1.473	-8.4	100	0.00
73	TMP 1,3-Dichlorobenzene	1.193	1.148	3.8	100	0.00
74	TMP 1,4-Dichlorobenzene	1.211	1.160	4.2	100	0.01
75	TMP 1,2-Dichlorobenzene	1.153	1.105	4.2	100	0.00
76	TMP 1,2,4-Trichlorobenzene	1.110	1.180	-6.3	100	0.00
77	TMP Naphthalene	1.414	1.938	-37.1#	100	0.00
78	TMP Hexachlorobutadiene	1.608	1.337	16.9	100	0.00

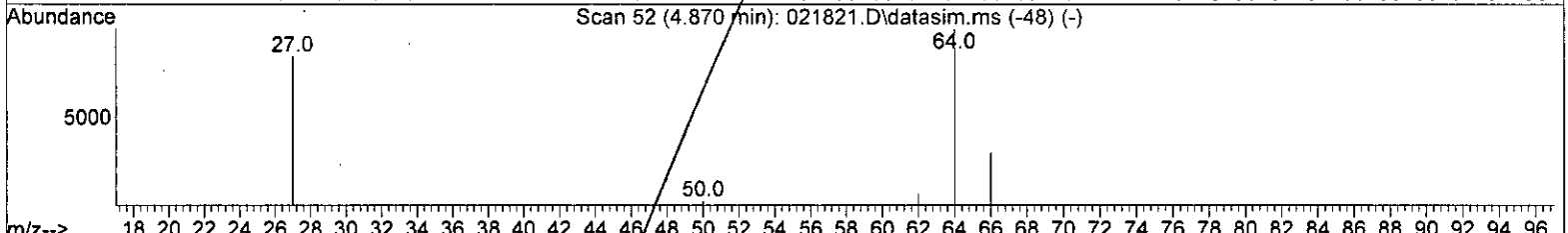
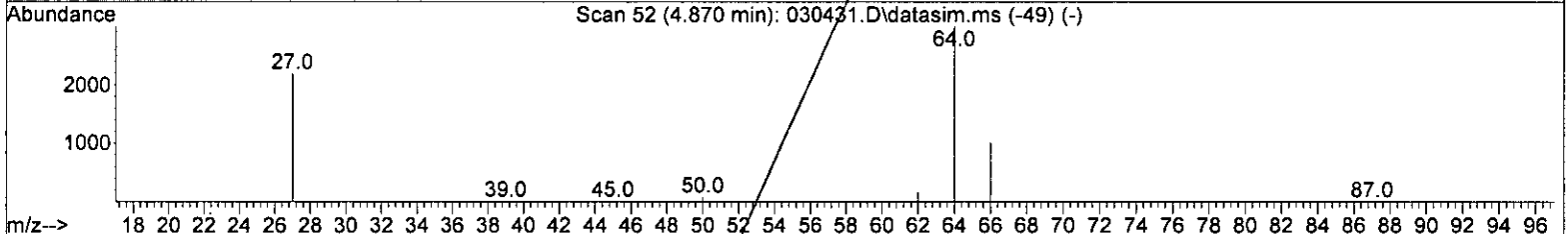
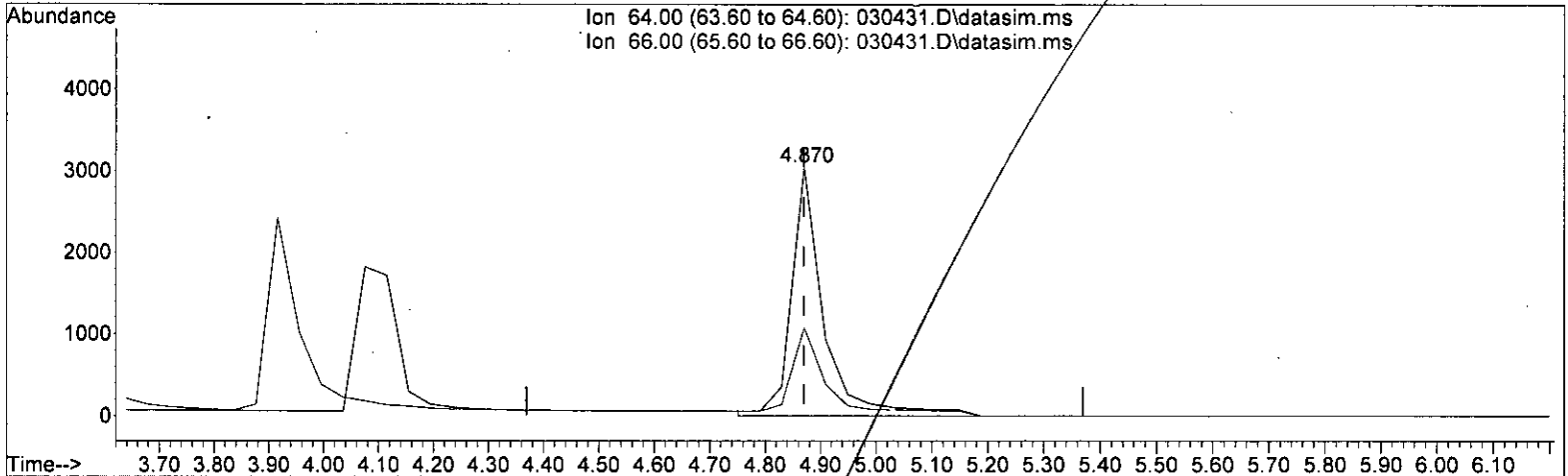
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030431.D  
 Acq On : 5 Mar 2022 2:43 pm  
 Operator : bat  
 Sample : SCV 2.5 ppbv , 65-189a  
 Misc : cal line  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:17:47 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030431.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 2.617 ppbv

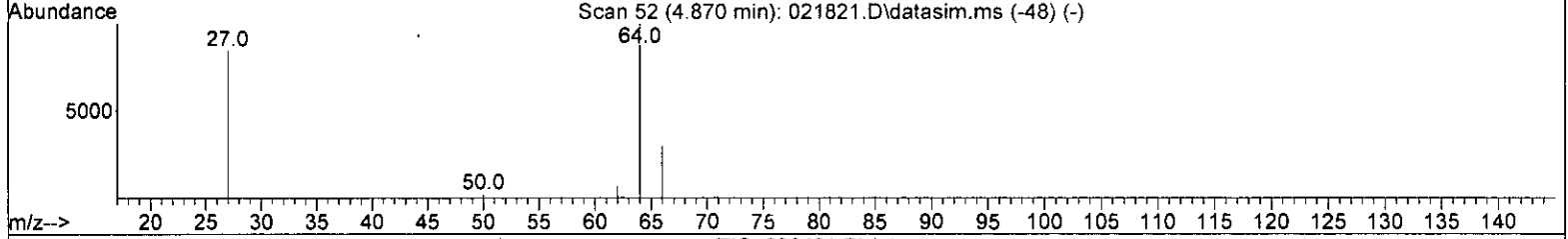
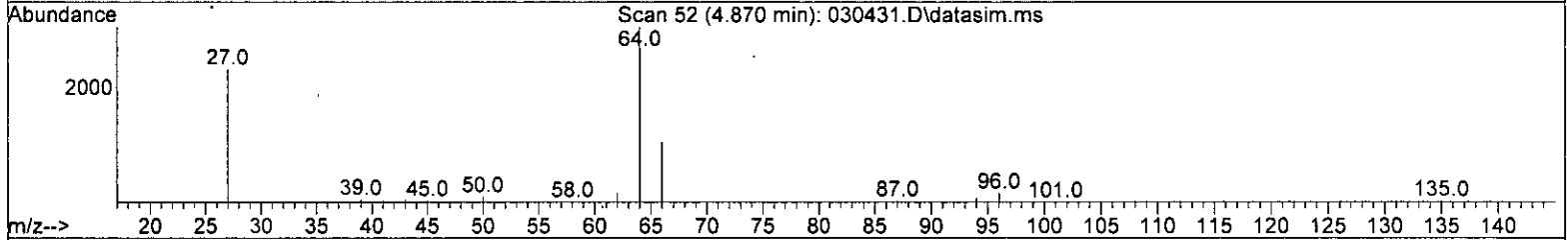
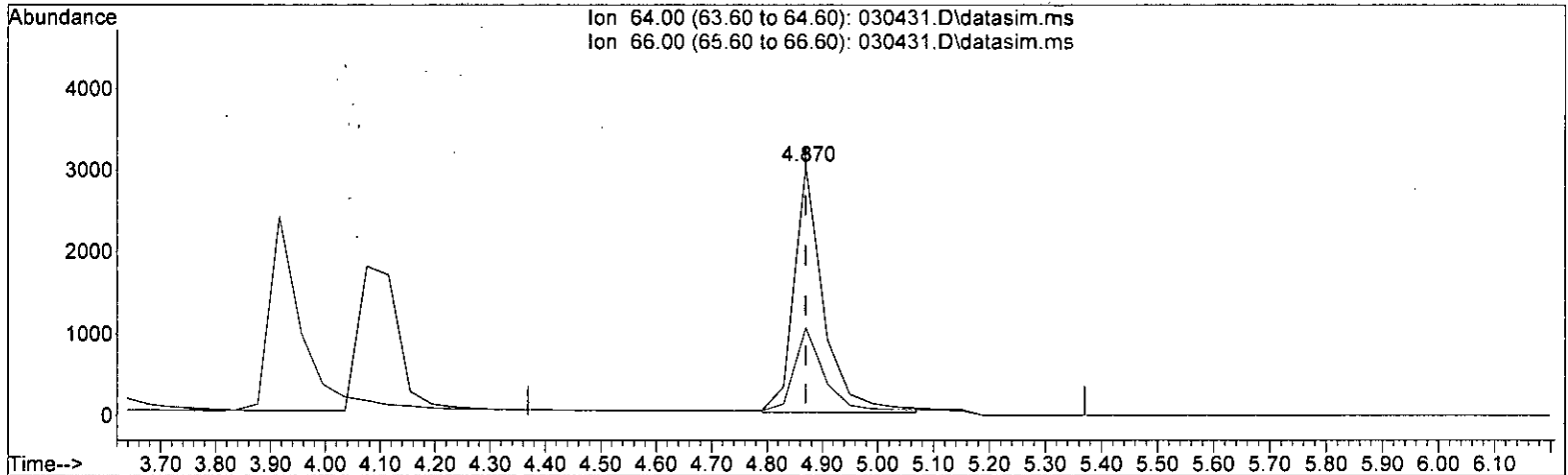
response 11736

Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	35.14
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030431.D  
 Acq On : 5 Mar 2022 2:43 pm  
 Operator : bat  
 Sample : SCV 2.5 ppbv , 65-189a  
 Misc : cal line  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:17:47 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030431.D\data.ms

(10) Chloroethane (TMP)  
 4.870min (+ 0.000) 2.483 ppbv m

response	11135
Ion	Exp% Act%
64.00	100.00 100.00
66.00	31.80 35.14
0.00	0.00 0.00
0.00	0.00 0.00

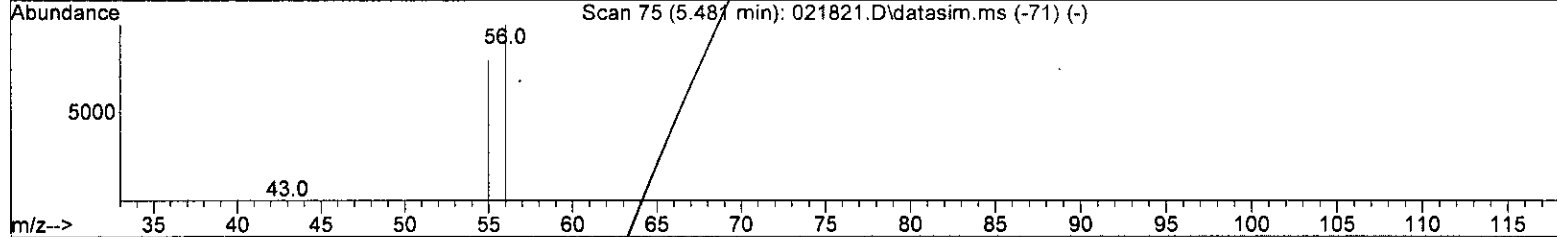
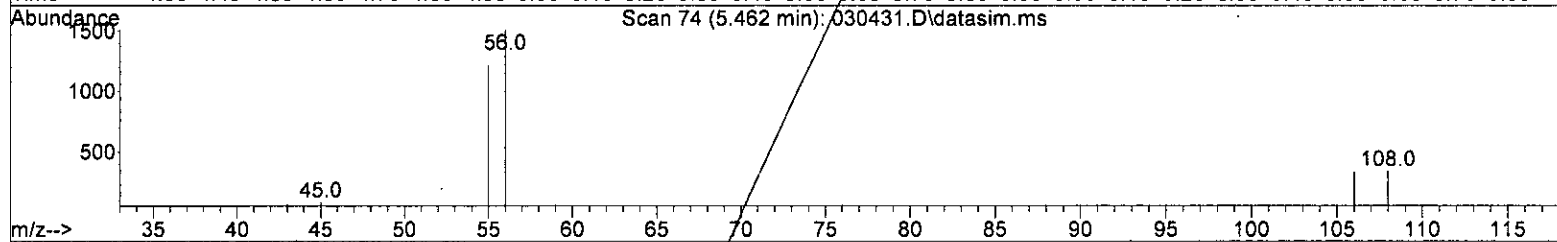
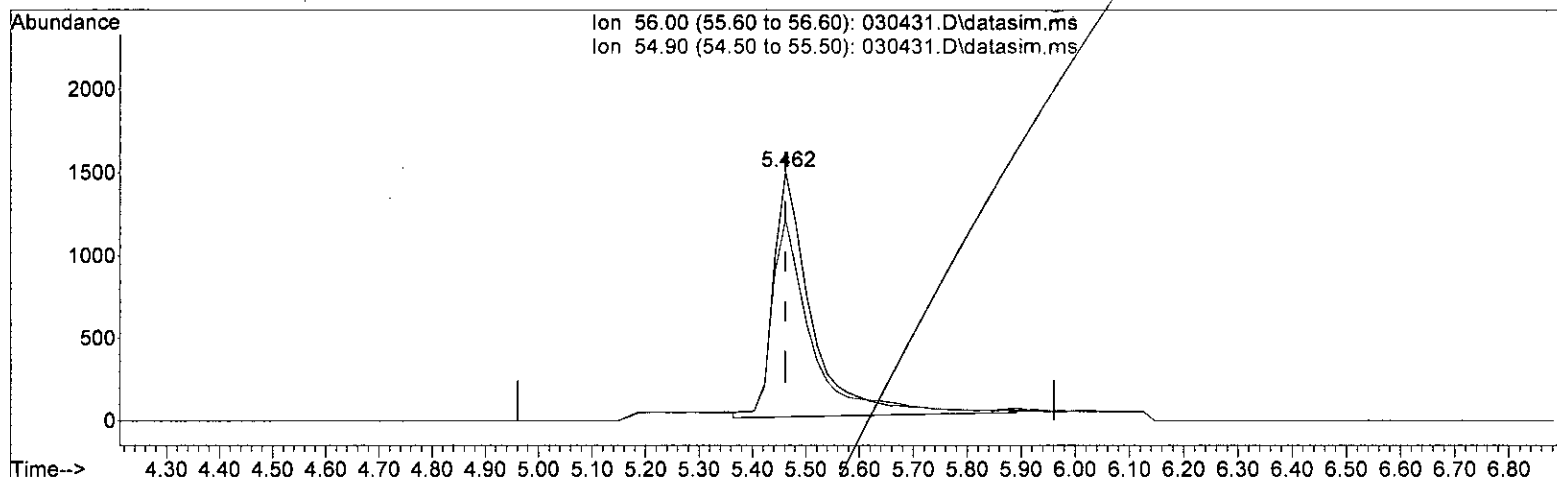
*Handwritten signature/initials*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030431.D  
 Acq On : 5 Mar 2022 2:43 pm  
 Operator : bat  
 Sample : SCV 2.5 ppbv , 65-189a  
 Misc : cal line  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:17:47 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



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(13) Acrolein (TMP)

5.462min (-0.000) 2.855 ppbv

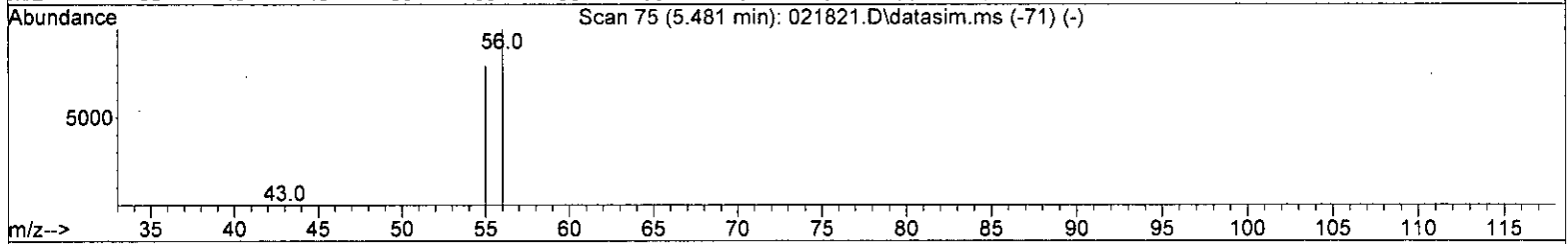
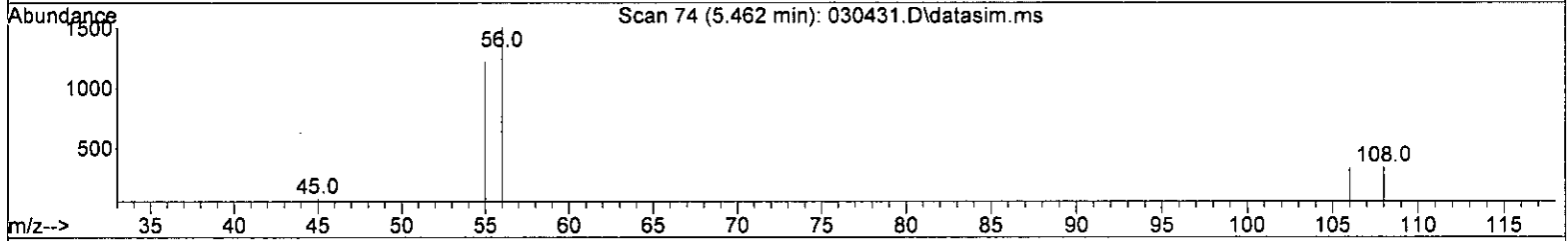
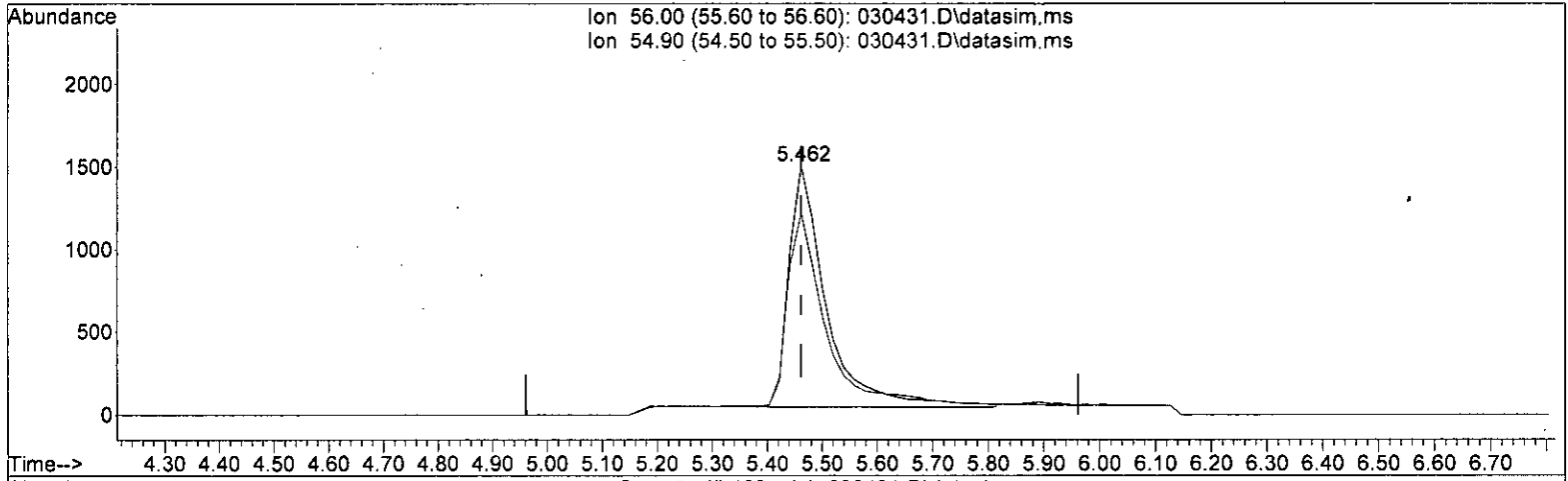
response : 7392

Ion	Exp%	Act%
56.00	100.00	100.00
54.90	81.00	82.29
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030431.D  
 Acq On : 5 Mar 2022 2:43 pm  
 Operator : bat  
 Sample : SCV 2.5 ppbv , 65-189a  
 Misc : cal line  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:17:47 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030431.D\data.ms

(13) Acrolein (TMP)

5.462min (-0.000) 2.665 ppbv m

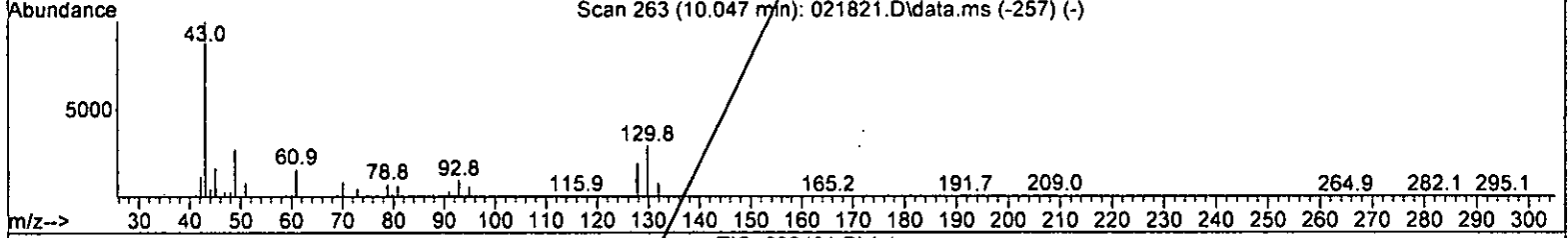
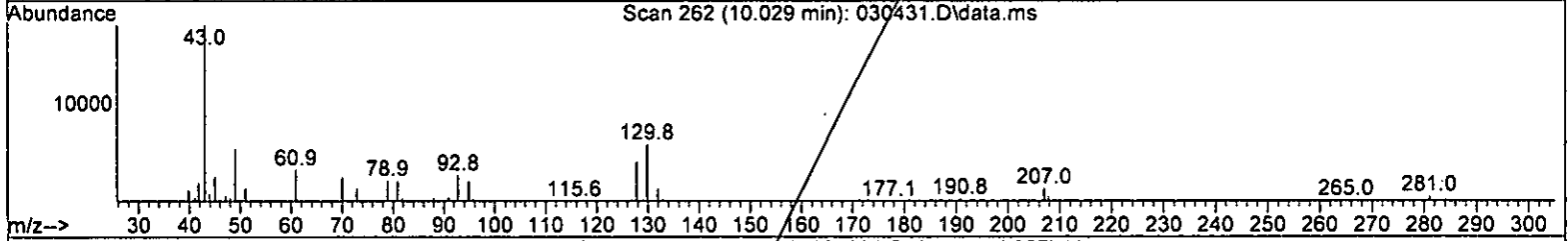
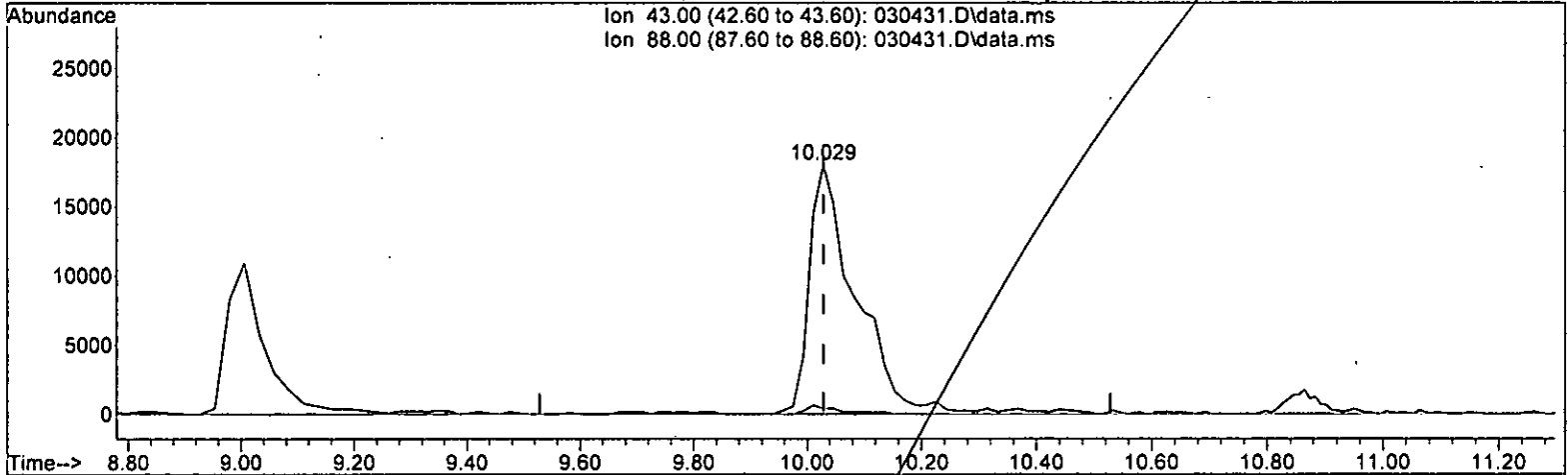
response	6893
Ion	Exp% Act%
56.00	100.00 100.00
54.90	81.00 88.25
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030431.D  
 Acq On : 5 Mar 2022 2:43 pm  
 Operator : bat  
 Sample : SCV 2.5 ppbv , 65-189a  
 Misc : cal line  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:17:47 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030431.D\data.ms

(31) Ethyl acetate (TMP)

10.029min (+ 0.000) 3.233 ppbv

response 101668

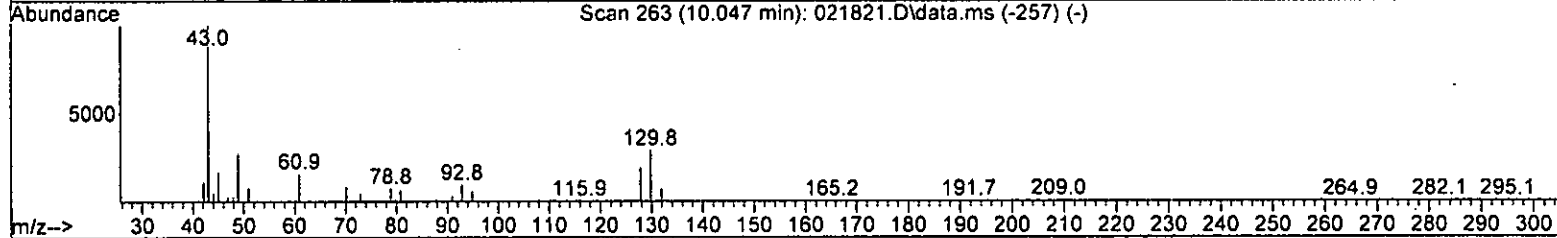
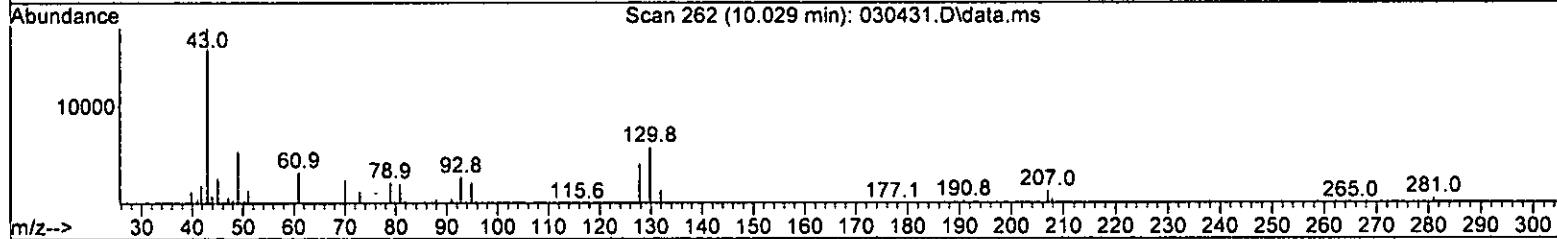
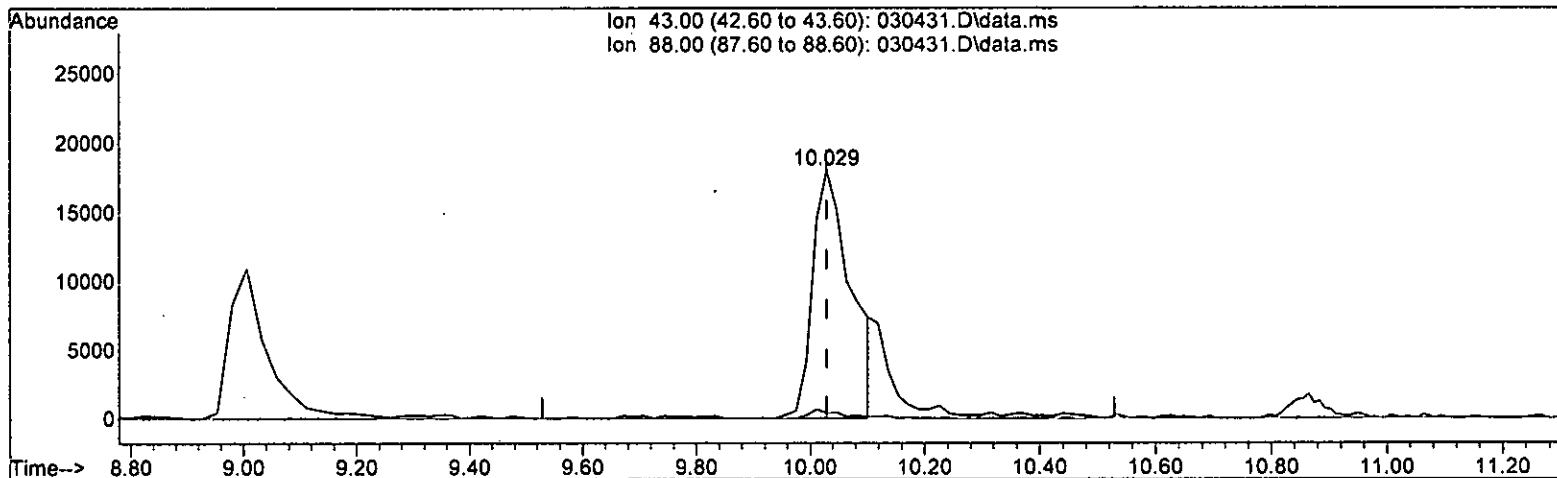
Ion	Exp%	Act%
43.00	100.00	100.00
88.00	1.70	2.57#
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030431.D  
 Acq On : 5 Mar 2022 2:43 pm  
 Operator : bat  
 Sample : SCV 2.5 ppbv , 65-189a  
 Misc : cal line  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:17:47 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030431.D\data.ms

(31) Ethyl acetate (TMP)

10.029min (+ 0.000) 2.682 ppbv m

response 84347

Ion	Exp%	Act%
43.00	100.00	100.00
88.00	1.70	3.09#
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030431.D  
 Acq On : 5 Mar 2022 2:43 pm  
 Operator : bat  
 Sample : SCV 2.5 ppbv , 65-189a  
 Misc : cal line  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:19:12 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.98	128	113525	10.000	ppbv	# 0.00
39) 1,4-Difluorobenzene	13.23	114	527786	10.000	ppbv	0.02
56) Chlorobenzene-d5	18.21	117	433145	10.000	ppbv	0.00

System Monitoring Compounds  
 69) 4-Bromofluorobenzene 19.65 95 331325 10.307 ppbv 0.00  
 Spiked Amount 10.000 Range 70 - 130 Recovery = 103.10%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	3.47	41	19246	3.073	ppbv	87
3) Dichlorodifluoromethane	3.55	85	127822	2.467	ppbv	98
4) Chloromethane	3.80	50	22042	2.501	ppbv	79
5) F-114	3.91	85	96910	2.497	ppbv	94
6] Vinyl chloride	4.08	62	27791	2.262	ppbv	97
7] 1,3-Butadiene	4.27	54	17298	2.517	ppbv #	83
8) Butane	4.35	43	33951	2.577	ppbv	86
9) Bromomethane	4.67	94	36163	2.664	ppbv	100
10] Chloroethane	4.87	64	11135m	2.483	ppbv	
11] Vinyl bromide	5.34	106	39757	2.722	ppbv	96
12) Ethanol	4.98	45	5660	2.870	ppbv	96
13] Acrolein	5.46	56	6893m	2.665	ppbv	
14) Pentane	6.35	43	35516	2.744	ppbv	96
15) Trichlorofluoromethane	5.89	101	155176	2.697	ppbv	98
16) Acetone	5.63	58	10637	2.318	ppbv #	29
17) 2-Propanol	5.89	45	48335	2.723	ppbv	100
18] 1,1-Dichloroethene	6.73	96	34963	2.454	ppbv	97
19] trans-1,2-Dichloroethene	8.17	96	33303	2.455	ppbv	94
20] Methylene chloride	6.85	84	33030	2.549	ppbv #	82
21) t-Butyl alcohol (TBA)	6.67	59	60285	2.568	ppbv	94
22) 3-Chloropropene	7.03	41	36259	2.575	ppbv #	75
23) CFC-113	7.25	101	94266	2.508	ppbv #	72
24) Carbon disulfide	7.03	76	15054	2.464	ppbv #	39
25) Methyl t-butyl ether (...)	8.53	73	83916	2.479	ppbv	97
26) Vinyl acetate	8.64	43	27980	2.434	ppbv	89
27] 1,1-Dichloroethane	8.46	63	64479	2.598	ppbv	97
28] cis-1,2-Dichloroethene	9.73	96	35604	2.486	ppbv	88
29) Hexane	10.10	57	30926	2.457	ppbv	85
30] Chloroform	10.18	83	94092	2.546	ppbv	99
31) Ethyl acetate	10.03	43	84347m	2.682	ppbv	
32) Tetrahydrofuran	10.85	42	26221	2.649	ppbv	84
33) 2-Butanone (MEK)	9.01	72	13585	2.608	ppbv #	63
34] 1,2-Dichloroethane (EDC)	11.44	62	66806	2.630	ppbv	98
35] 1,1,1-Trichloroethane	11.93	97	104202	2.590	ppbv	93
36] Carbon tetrachloride	12.94	117	118728	2.523	ppbv	99
37] Benzene	12.69	78	100269	2.500	ppbv	89
38) Cyclohexane	13.15	84	28386	2.540	ppbv #	71
40] 1,2-Dichloropropane	13.88	63	37504	2.156	ppbv	68
41] 1,4-Dioxane	14.17	88	21752	2.353	ppbv	64
42) 2,2,4-Trimethylpentane	14.29	57	96678	2.127	ppbv #	74

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030431.D  
 Acq On : 5 Mar 2022 2:43 pm  
 Operator : bat  
 Sample : SCV 2.5 ppbv , 65-189a  
 Misc : cal line  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS8

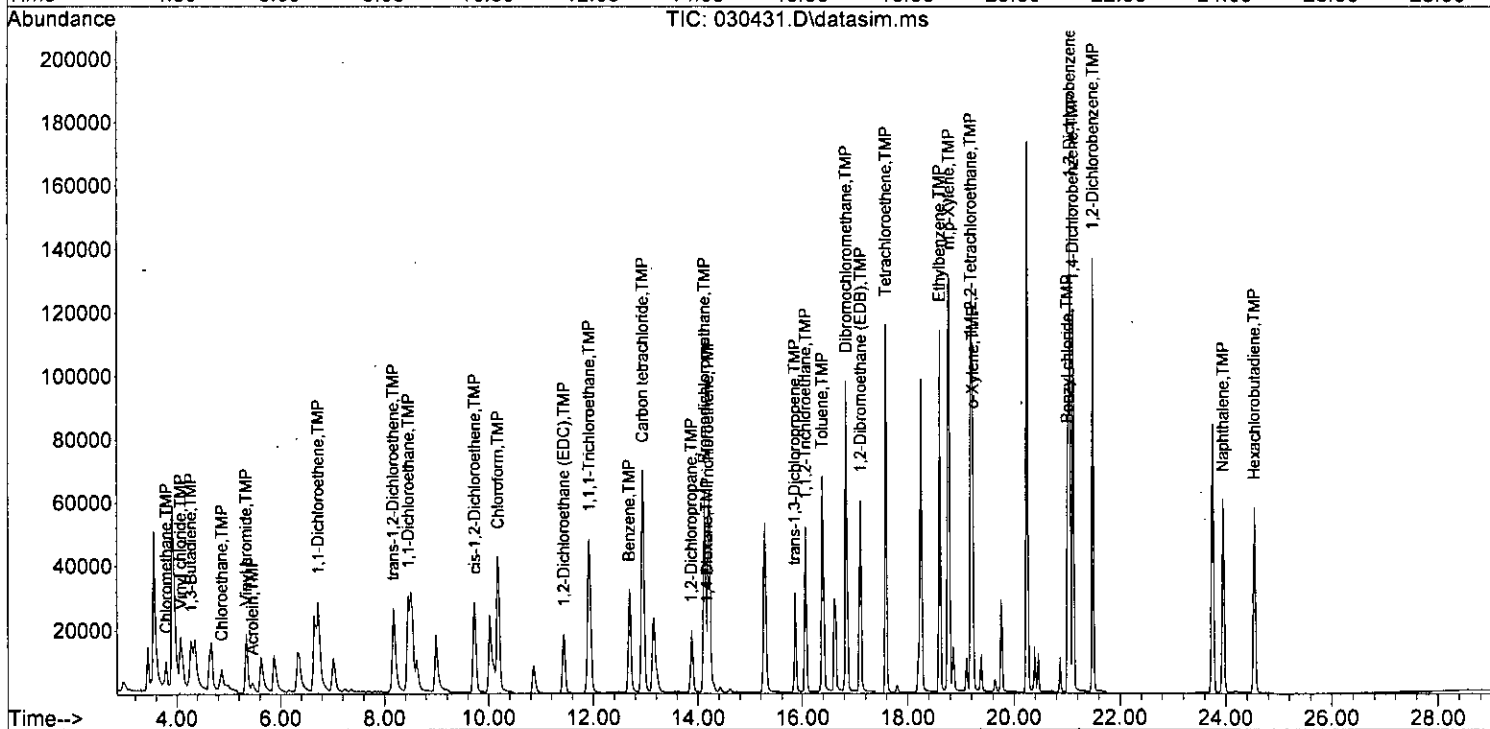
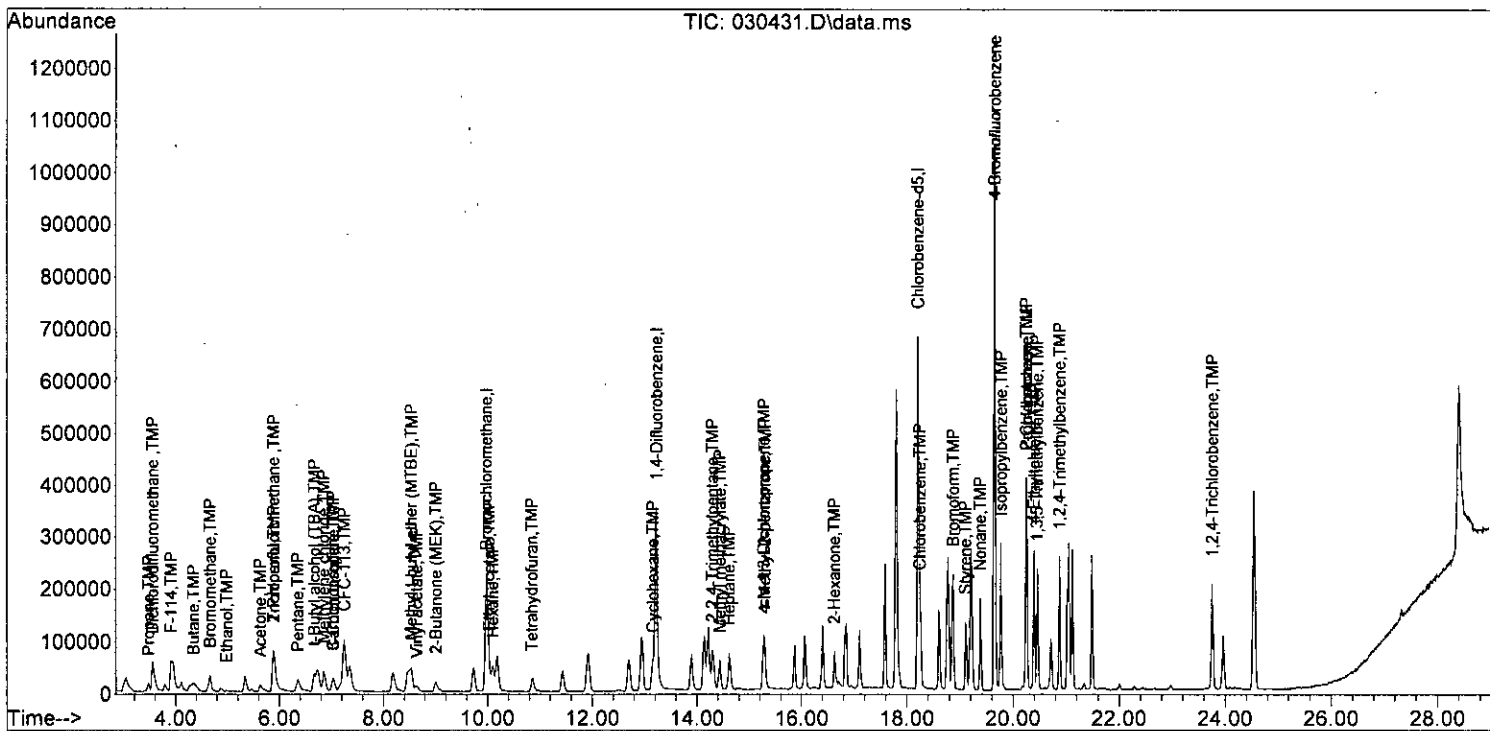
Quant Time: Mar 07 17:19:12 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	14.44	41	33872	2.170	ppbv #	79
44) Heptane	14.61	43	37741	2.187	ppbv	80
45) Bromodichloromethane	14.13	83	98736	2.267	ppbv	94
46) Trichloroethene	14.20	95	58170	2.190	ppbv	83
47) cis-1,3-Dichloropropene	15.28	75	60316	2.159	ppbv	96
48) 4-Methyl-2-pentanone	15.30	100	4656	2.323	ppbv #	35
49) trans-1,3-Dichloropropene	15.85	75	59491	2.220	ppbv	86
50) Toluene	16.38	92	60282	2.226	ppbv	99
51) 1,1,2-Trichloroethane	16.07	83	43277	2.203	ppbv	82
52) 2-Hexanone	16.63	43	64193	2.511	ppbv	95
53) Tetrachloroethene	17.58	164	60815	2.269	ppbv	92
54) Dibromochloromethane	16.83	129	107747	2.245	ppbv	100
55) 1,2-Dibromoethane (EDB)	17.11	107	75666	2.178	ppbv	99
57) Chlorobenzene	18.25	112	99981	2.474	ppbv	98
58) Ethylbenzene	18.60	91	152098	2.436	ppbv	94
59) 1,1,2,2-Tetrachloroethane	19.19	83	107371	2.496	ppbv	100
60) Nonane	19.38	43	62134	2.556	ppbv	93
61) Isopropylbenzene	19.77	105	187851	2.581	ppbv	97
62) 2-Chlorotoluene	20.25	126	46986	2.509	ppbv	82
63) Propylbenzene	20.25	91	349147	2.611	ppbv	98
64) 4-Ethyltoluene	20.39	105	167444	2.423	ppbv	95
65] m,p-Xylene	18.78	106	112379	4.794	ppbv	97
66] o-Xylene	19.23	106	56363	2.584	ppbv	90
67) Styrene	19.11	104	82428	2.513	ppbv	88
68) Bromoform	18.87	173	146265	2.639	ppbv	97
70] Benzyl chloride	21.01	91	138622	2.534	ppbv	90
71) 1,3,5-Trimethylbenzene	20.45	105	157973	2.543	ppbv	98
72) 1,2,4-Trimethylbenzene	20.87	105	147423	2.505	ppbv	95
73] 1,3-Dichlorobenzene	21.05	146	129191	2.501	ppbv	93
74] 1,4-Dichlorobenzene	21.11	146	125558	2.394	ppbv	87
75] 1,2-Dichlorobenzene	21.49	146	122274	2.447	ppbv	94
76) 1,2,4-Trichlorobenzene	23.75	180	95129	2.132	ppbv	97
77] Naphthalene	23.95	128	123558	2.261	ppbv	98
78] Hexachlorobutadiene	24.54	225	129344	2.247	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030431.D  
 Acq On : 5 Mar 2022 2:43 pm  
 Operator : bat  
 Sample : SCV 2.5 ppbv , 65-189a  
 Misc : cal line  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:19:12 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030431.D  
 Acq On : 5 Mar 2022 2:43 pm  
 Operator : bat  
 Sample : SCV 2.5 ppbv , 65-189a  
 Misc : cal line  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:19:12 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	99	0.00
2 TMP	Propene	2.500	3.073	-22.9	118	0.00
3 TMP	Dichlorodifluoromethane	2.500	2.467	1.3	104	0.00
4 TMP	Chloromethane	2.500	2.501	-0.0	107	0.00
5 TMP	F-114	2.500	2.497	0.1	103	0.00
6 TMP	Vinyl chloride	2.500	2.262	9.5	97	0.00
7 TMP	1,3-Butadiene	2.500	2.517	-0.7	103	0.00
8 TMP	Butane	2.500	2.577	-3.1	105	0.00
9 TMP	Bromomethane	2.500	2.664	-6.6	106	0.00
10 TMP	Chloroethane	2.500	2.483	0.7	100	0.00
11 TMP	Vinyl bromide	2.500	2.722	-8.9	110	0.00
12 TMP	Ethanol	2.500	2.870	-14.8	107	0.00
13 TMP	Acrolein	2.500	2.665	-6.6	102	0.00
14 TMP	Pentane	2.500	2.744	-9.8	96	0.00
15 TMP	Trichlorofluoromethane	2.500	2.697	-7.9	100	0.00
16 TMP	Acetone	2.500	2.318	7.3	72	0.00
17 TMP	2-Propanol	2.500	2.723	-8.9	103	0.00
18 TMP	1,1-Dichloroethene	2.500	2.454	1.8	101	0.00
19 TMP	trans-1,2-Dichloroethene	2.500	2.455	1.8	99	0.00
20 TMP	Methylene chloride	2.500	2.549	-2.0	92	0.00
21 TMP	t-Butyl alcohol (TBA)	2.500	2.568	-2.7	103	0.00
22 TMP	3-Chloropropene	2.500	2.575	-3.0	97	0.00
23 TMP	CFC-113	2.500	2.508	-0.3	104	0.00
24 TMP	Carbon disulfide	2.500	2.464	1.4	98	0.00
25 TMP	Methyl t-butyl ether (MTBE)	2.500	2.479	0.8	108	0.00
26 TMP	Vinyl acetate	2.500	2.434	2.6	114	0.00
27 TMP	1,1-Dichloroethane	2.500	2.598	-3.9	100	0.00
28 TMP	cis-1,2-Dichloroethene	2.500	2.486	0.6	101	0.00
29 TMP	Hexane	2.500	2.457	1.7	105	0.00
30 TMP	Chloroform	2.500	2.546	-1.8	100	0.00
31 TMP	Ethyl acetate	2.500	2.682	-7.3	108	0.00
32 TMP	Tetrahydrofuran	2.500	2.649	-6.0	108	0.00
33 TMP	2-Butanone (MEK)	2.500	2.608	-4.3	84	0.00
34 TMP	1,2-Dichloroethane (EDC)	2.500	2.630	-5.2	101	0.00
35 TMP	1,1,1-Trichloroethane	2.500	2.590	-3.6	102	0.01
36 TMP	Carbon tetrachloride	2.500	2.523	-0.9	101	0.00
37 TMP	Benzene	2.500	2.500	0.0	101	0.00
38 TMP	Cyclohexane	2.500	2.540	-1.6	104	0.00
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	115	0.02
40 TMP	1,2-Dichloropropane	2.500	2.156	13.8	101	0.00
41 TMP	1,4-Dioxane	2.500	2.353	5.9	104	0.00
42 TMP	2,2,4-Trimethylpentane	2.500	2.127	14.9	97	0.00
43 TMP	Methyl methacrylate	2.500	2.170	13.2	97	0.00
44 TMP	Heptane	2.500	2.187	12.5	105	0.00
45 TMP	Bromodichloromethane	2.500	2.267	9.3	101	0.00



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030431.D  
 Acq On : 5 Mar 2022 2:43 pm  
 Operator : .bat  
 Sample : SCV 2.5 ppbv , 65-189a  
 Misc : cal line  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:19:12 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	2.500	2.190	12.4	101	0.00
47	TMP cis-1,3-Dichloropropene	2.500	2.159	13.6	99	0.00
48	TMP 4-Methyl-2-pentanone	2.500	2.323	7.1	100	0.00
49	TMP trans-1,3-Dichloropropene	2.500	2.220	11.2	103	0.00
50	TMP Toluene	2.500	2.226	11.0	101	0.00
51	TMP 1,1,2-Trichloroethane	2.500	2.203	11.9	101	0.00
52	TMP 2-Hexanone	2.500	2.511	-0.4	116	0.00
53	TMP Tetrachloroethene	2.500	2.269	9.2	100	0.00
54	TMP Dibromochloromethane	2.500	2.245	10.2	101	0.00
55	TMP 1,2-Dibromoethane (EDB)	2.500	2.178	12.9	102	0.00
56	I Chlorobenzene-d5	10.000	10.000	0.0	101	0.00
57	TMP Chlorobenzene	2.500	2.474	1.0	98	0.00
58	TMP Ethylbenzene	2.500	2.436	2.6	100	0.00
59	TMP 1,1,2,2-Tetrachloroethane	2.500	2.496	0.2	99	0.00
60	TMP Nonane	2.500	2.556	-2.2	105	0.00
61	TMP Isopropylbenzene	2.500	2.581	-3.2	100	0.00
62	TMP 2-Chlorotoluene	2.500	2.509	-0.4	99	0.01
63	TMP Propylbenzene	2.500	2.611	-4.4	101	0.00
64	TMP 4-Ethyltoluene	2.500	2.423	3.1	94	0.00
65	TMP m,p-Xylene	5.000	4.794	4.1	101	0.00
66	TMP o-Xylene	2.500	2.584	-3.4	101	0.00
67	TMP Styrene	2.500	2.513	-0.5	101	0.00
68	TMP Bromoform	2.500	2.639	-5.6	102	0.00
69	S 4-Bromofluorobenzene	10.000	10.307	-3.1	100	0.00
70	TMP Benzyl chloride	2.500	2.534	-1.4	100	0.00
71	TMP 1,3,5-Trimethylbenzene	2.500	2.543	-1.7	97	0.00
72	TMP 1,2,4-Trimethylbenzene	2.500	2.505	-0.2	99	0.00
73	TMP 1,3-Dichlorobenzene	2.500	2.501	-0.0	97	0.00
74	TMP 1,4-Dichlorobenzene	2.500	2.394	4.2	97	0.00
75	TMP 1,2-Dichlorobenzene	2.500	2.447	2.1	98	0.00
76	TMP 1,2,4-Trichlorobenzene	2.500	2.132	14.7	92	0.00
77	TMP Naphthalene	2.500	2.261	9.6	94	0.00
78	TMP Hexachlorobutadiene	2.500	2.247	10.1	99	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030431.D  
 Acq On : 5 Mar 2022 2:43 pm  
 Operator : bat  
 Sample : SCV 2.5 ppbv , 65-189a  
 Misc : cal line  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:19:12 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev Area%		Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	99	0.00
2 TMP	Propene	0.552	0.678	-22.8	118	0.00
3 TMP	Dichlorodifluoromethane	4.565	4.504	1.3	104	0.00
4 TMP	Chloromethane	0.776	0.777	-0.1	107	0.00
5 TMP	F-114	3.419	3.415	0.1	103	0.00
6 TMP	Vinyl chloride	1.082	0.979	9.5	97	0.00
7 TMP	1,3-Butadiene	0.605	0.609	-0.7	103	0.00
8 TMP	Butane	1.161	1.196	-3.0	105	0.00
9 TMP	Bromomethane	1.196	1.274	-6.5	106	0.00
10 TMP	Chloroethane	0.395	0.392	0.8	100	0.00
11 TMP	Vinyl bromide	1.286	1.401	-8.9	110	0.00
12 TMP	Ethanol	0.174	0.199	-14.4	107	0.00
13 TMP	Acrolein	0.252	0.243	3.6	102	0.00
14 TMP	Pentane	1.140	1.251	-9.7	96	0.00
15 TMP	Trichlorofluoromethane	5.069	5.468	-7.9	100	0.00
16 TMP	Acetone	0.404	0.375	7.2	72	0.00
17 TMP	2-Propanol	1.563	1.703	-9.0	103	0.00
18 TMP	1,1-Dichloroethene	1.255	1.232	1.8	101	0.00
19 TMP	trans-1,2-Dichloroethene	1.195	1.173	1.8	99	0.00
20 TMP	Methylene chloride	1.141	1.164	-2.0	92	0.00
21 TMP	t-Butyl alcohol (TBA)	2.068	2.124	-2.7	103	0.00
22 TMP	3-Chloropropene	1.240	1.278	-3.1	97	0.00
23 TMP	CFC-113	3.311	3.321	-0.3	104	0.00
24 TMP	Carbon disulfide	0.538	0.530	1.5	98	0.00
25 TMP	Methyl t-butyl ether (MTBE)	2.982	2.957	0.8	108	0.00
26 TMP	Vinyl acetate	1.012	0.986	2.6	114	0.00
27 TMP	1,1-Dichloroethane	2.186	2.272	-3.9	100	0.00
28 TMP	cis-1,2-Dichloroethene	1.262	1.254	0.6	101	0.00
29 TMP	Hexane	1.109	1.090	1.7	105	0.00
30 TMP	Chloroform	3.255	3.315	-1.8	100	0.00
31 TMP	Ethyl acetate	2.770	2.972	-7.3	108	0.00
32 TMP	Tetrahydrofuran	0.872	0.924	-6.0	108	0.00
33 TMP	2-Butanone (MEK)	0.459	0.479	-4.4	84	0.00
34 TMP	1,2-Dichloroethane (EDC)	2.237	2.354	-5.2	101	0.00
35 TMP	1,1,1-Trichloroethane	3.544	3.672	-3.6	102	0.01
36 TMP	Carbon tetrachloride	4.146	4.183	-0.9	101	0.00
37 TMP	Benzene	3.534	3.533	0.0	101	0.00
38 TMP	Cyclohexane	0.985	1.000	-1.5	104	0.00
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	115	0.02
40 TMP	1,2-Dichloropropane	0.330	0.284	13.9	101	0.00
41 TMP	1,4-Dioxane	0.175	0.165	5.7	104	0.00
42 TMP	2,2,4-Trimethylpentane	0.861	0.733	14.9	97	0.00
43 TMP	Methyl methacrylate	0.296	0.257	13.2	97	0.00
44 TMP	Heptane	0.327	0.286	12.5	105	0.00
45 TMP	Bromodichloromethane	0.825	0.748	9.3	101	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030431.D  
 Acq On : 5 Mar 2022 2:43 pm  
 Operator : bat  
 Sample : SCV 2.5 ppbv , 65-189a  
 Misc : cal line  
 ALS Vial : 31 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 07 17:19:12 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46	TMP Trichloroethene	0.503	0.441	12.3	101	0.00
47	TMP cis-1,3-Dichloropropene	0.529	0.457	13.6	99	0.00
48	TMP 4-Methyl-2-pentanone	0.038	0.035	7.9	100	0.00
49	TMP trans-1,3-Dichloropropene	0.508	0.451	11.2	103	0.00
50	TMP Toluene	0.513	0.457	10.9	101	0.00
51	TMP 1,1,2-Trichloroethane	0.372	0.328	11.8	101	0.00
52	TMP 2-Hexanone	0.484	0.487	-0.6	116	0.00
53	TMP Tetrachloroethene	0.508	0.461	9.3	100	0.00
54	TMP Dibromochloromethane	0.909	0.817	10.1	101	0.00
55	TMP 1,2-Dibromoethane (EDB)	0.658	0.573	12.9	102	0.00
56	I Chlorobenzene-d5	1.000	1.000	0.0	101	0.00
57	TMP Chlorobenzene	0.933	0.923	1.1	98	0.00
58	TMP Ethylbenzene	1.442	1.405	2.6	100	0.00
59	TMP 1,1,2,2-Tetrachloroethane	0.993	0.992	0.1	99	0.00
60	TMP Nonane	0.561	0.574	-2.3	105	0.00
61	TMP Isopropylbenzene	1.680	1.735	-3.3	100	0.00
62	TMP 2-Chlorotoluene	0.432	0.434	-0.5	99	0.01
63	TMP Propylbenzene	3.087	3.224	-4.4	101	0.00
64	TMP 4-Ethyltoluene	1.595	1.546	3.1	94	0.00
65	TMP m,p-Xylene	0.541	0.519	4.1	101	0.00
66	TMP o-Xylene	0.504	0.521	-3.4	101	0.00
67	TMP Styrene	0.757	0.761	-0.5	101	0.00
68	TMP Bromoform	1.279	1.351	-5.6	102	0.00
69	S 4-Bromofluorobenzene	0.742	0.765	-3.1	100	0.00
70	TMP Benzyl chloride	1.263	1.280	-1.3	100	0.00
71	TMP 1,3,5-Trimethylbenzene	1.434	1.459	-1.7	97	0.00
72	TMP 1,2,4-Trimethylbenzene	1.359	1.361	-0.1	99	0.00
73	TMP 1,3-Dichlorobenzene	1.193	1.193	0.0	97	0.00
74	TMP 1,4-Dichlorobenzene	1.211	1.160	4.2	97	0.00
75	TMP 1,2-Dichlorobenzene	1.153	1.129	2.1	98	0.00
76	TMP 1,2,4-Trichlorobenzene	1.110	0.878	20.9	92	0.00
77	TMP Naphthalene	1.414	1.141	19.3	94	0.00
78	TMP Hexachlorobutadiene	1.608	1.194	25.7	99	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Calibration Status Report GCMS8

Method Path : F:\METHODS\Inst8\  
 Method File : 0304APH8.M  
 Title : APH TO-15 method  
 Last Update : Tue Mar 08 10:29:53 2022  
 Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.20	0	50	F:\Proc_GCMS8\03-04-22\030445.D
2	0.5	1	50	F:\Proc_GCMS8\03-04-22\030446.D
3	1.0	1	50	F:\Proc_GCMS8\03-04-22\030447.D
4	2.5	3	50	F:\Proc_GCMS8\03-04-22\030448.D
5	5	5	50	F:\Proc_GCMS8\03-04-22\030449.D
6	10	10	50	F:\Proc_GCMS8\03-04-22\030450.D
7	25	25	50	F:\Proc_GCMS8\03-04-22\030451.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.20	Mar 07 18:05 2022	Mar 07 17:44 2022	6 Mar 2022 1:03 am
2	0.5	Mar 07 18:05 2022	Mar 07 17:46 2022	6 Mar 2022 1:43 am
3	1.0	Mar 07 18:05 2022	Mar 07 17:47 2022	6 Mar 2022 2:26 am
4	2.5	Mar 07 18:05 2022	Mar 07 17:48 2022	6 Mar 2022 3:17 am
5	5	Mar 07 18:05 2022	Mar 07 17:50 2022	6 Mar 2022 3:58 am
6	10	Mar 07 18:05 2022	Mar 07 17:52 2022	6 Mar 2022 4:41 am
7	25	Mar 07 18:05 2022	Mar 07 17:54 2022	6 Mar 2022 5:31 am

0304APH8.M Tue Mar 08 16:50:25 2022

Response Factor Report GCMS8

Method Path : H:\METHODS\Inst8\  
 Method File : 0304APH8.M  
 Title : APH TO-15 method  
 Last Update : Tue Mar 08 17:49:06 2022  
 Response Via : Initial Calibration

Calibration Files  
 0.20=030445.D 0.5 =030446.D 1.0 =030447.D 2.5 =030448.D 5 =030449.D 10 =030450.D 25 =030451.D

Compound	0.20	0.5	1.0	2.5	5	10	25	Avg	%RSD
1) I Bromochloromethane									
2) T IS-1 Bromochlo...	7.161	6.972	6.884	6.761	6.908	6.988	6.762	6.920	2.02
3) T IS-2 1,4-Diflu...	1.062	1.154	1.223	1.261	1.161	1.290	1.749	1.272	E1 17.60
4) T IS-3 Chloroben...	1.176	1.231	1.268	1.256	1.261	1.313	1.295	1.257	E1 3.55
5) T Methylene chlo...		0.135	0.107	0.151	0.135	0.187	0.248	0.161	31.24
6) Acetone					1.776			1.776	0.00
7) 2-Propanol					0.828			0.828	0.00
8) T 1,3-Butadiene	1.594	1.798	1.535	1.507	1.324	1.359	1.351	1.495	11.31
9) T Methyl t-butyl...	4.669	4.655	4.629	3.926	3.960	3.903	3.867	4.230	9.34

Compound	0.20	0.5	1.0	2.5	5	10	25	Avg	%RSD
10) I 1,4-Difluorobenzene									
11) T Benzene	1.339	1.184	1.356	1.247	1.240	1.240	1.201	1.261	5.65
12) L1 Isopentane	2.157	2.316	1.828	1.844	1.655	1.519	1.886		15.93
13) L1 Hexane	2.777	2.164	2.390	1.920	1.899	1.875	2.171		16.48
14) L1 Cyclohexane	3.451	2.789	2.777	2.259	2.112	2.335	2.620		18.80
15) L1 2,3-Dimethylpe...	2.404	2.466	2.131	1.748	1.583	1.503	1.973		21.24
16) L1 Heptane	2.606	2.264	2.449	2.107	1.981	2.087	2.249		10.63
17) L1 Octane	4.311	4.016	3.748	3.037	3.346	2.939	3.566		15.42
18) L1 APH EC5-8 alip...	3.006	2.740	2.627	2.201	2.161	2.095	2.472		15.07
19) H APH EC5-8 alip...	3.006	2.740	2.627	2.201	2.161	2.095	2.472		15.07

Compound	0.20	0.5	1.0	2.5	5	10	25	Avg	%RSD
20) I Chlorobenzene-d5									
21) T S 4-Bromofluor...	4.271	4.284	4.213	4.328	4.463	4.366	4.508	4.348	2.45
22) Hexamethylcycl...	4.114	5.185	6.443	8.826	5.523	7.037	8.253	6.483	26.08
23) Octamethylcycl...	0.462	0.647	0.984	1.225	0.715	0.883	1.139	0.865	31.72
24) T Toluene	0.732	0.754	0.836	0.867	0.669	0.779	0.828	0.781	8.79
25) T Ethylbenzene	1.847	1.603	1.643	1.608	1.568	1.548	1.636	1.636	6.06
26) T m,p-Xylene	0.594	0.559	0.576	0.631	0.603	0.584	0.609	0.594	3.96
27) T o-Xylene	0.590	0.531	0.558	0.581	0.573	0.565	0.574	0.568	3.37
28) T Naphthalene	0.908	1.006	1.061	1.532	1.330	1.644	1.903	1.341	27.61
29) L2 2,3-Dimethylhe...	3.401	3.646	2.827	2.995	2.937	2.677	2.656	3.020	12.33
30) L2 Nonane	3.745	3.483	3.219	3.062	2.911	2.825	2.846	3.160	11.32
31) L2 Decane	3.743	3.463	2.922	2.940	2.958	2.903	2.952	3.126	10.76
32) L2 Butylcyclohexane	4.790	4.425	4.138	3.929	4.056	4.273	3.781	4.199	8.00
33) L2 Undecane	2.862	3.334	2.900	2.939	2.849	3.002	3.135	3.003	5.86
34) L2 Dodecane	2.770	2.485	2.581	2.946	2.312	2.710	3.179	2.712	10.69
35) L2 APH EC9-12 ali...	3.505	3.446	3.070	3.122	2.971	3.055	3.104	3.182	6.50
36) H APH EC9-12 ali...	3.505	3.446	3.070	3.122	2.971	3.055	3.104	3.182	6.50
37) S 4-Bromofluorob...	0.512	0.497	0.490	0.508	0.534	0.519	0.528	0.513	3.08

Response Factor Report GCMS8

Method Path : H:\METHODS\Inst8\  
 Method File : 0304APH8.M

38)	L3	Isopropylbenzene	0.423	0.387	0.340	0.380	0.369	0.375	0.386	0.380	6.51
39)	L3	1-Methyl-3-eth...	0.698	0.619	0.661	0.731	0.754	0.779	0.775	0.717	8.41
40)	L3	1,3,5-Trimethy...	0.692	0.543	0.598	0.584	0.620	0.638	0.672	0.621	8.26
41)	L3	p-Isopropyltol...	0.347	0.288	0.322	0.330	0.350	0.363	0.372	0.339	8.35
42)	L3	1,2,3-Trimethy...	0.698	0.619	0.661	0.731	0.754	0.779	0.775	0.717	8.41
43)	L3	APH EC9-10 aro...	0.490	0.514	0.547	0.565	0.582	0.591	0.548	0.548	7.25
44)	H	APH EC9-10 aro...	0.542	0.565	0.607	0.624	0.642	0.652	0.605	0.605	7.22
45)	H	APH EC9-10 aro...	0.299	0.322	0.332	0.354	0.364	0.374	0.341	0.341	8.32

(#) = Out of Range

Compound List Report GCMS8

Method Path : F:\METHODS\Inst8\  
 Method File : 0304APH8.M  
 Title : APH TO-15 method  
 Last Update : Tue Mar 08 10:29:53 2022  
 Response Via : Initial Calibration

Total Cpnds : 45

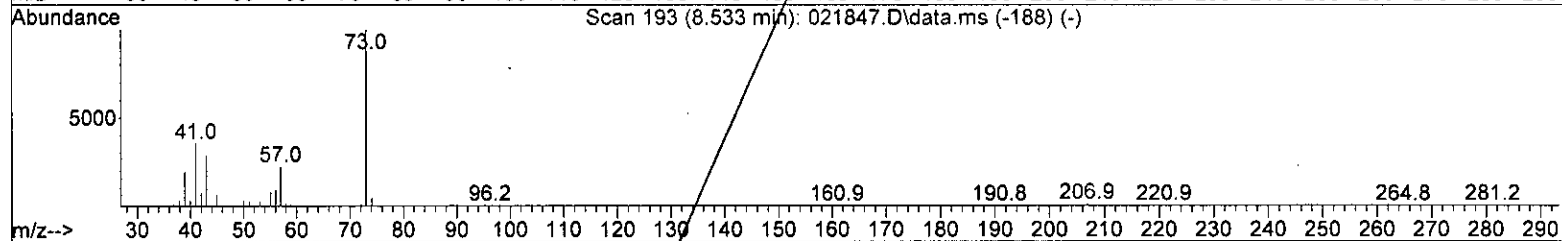
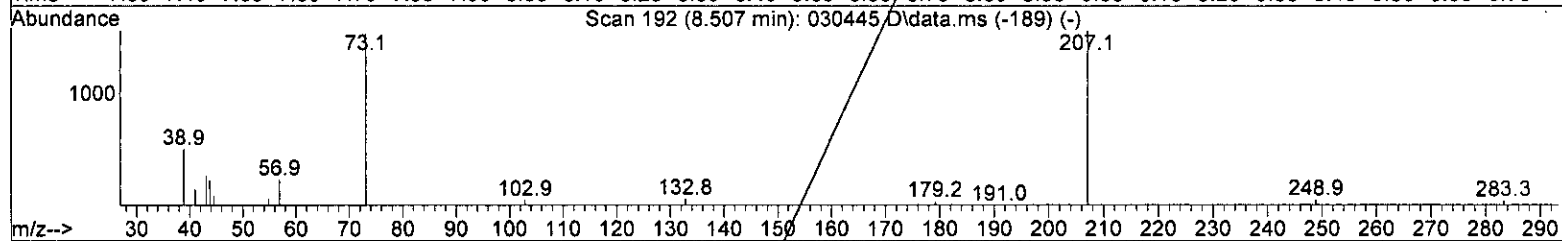
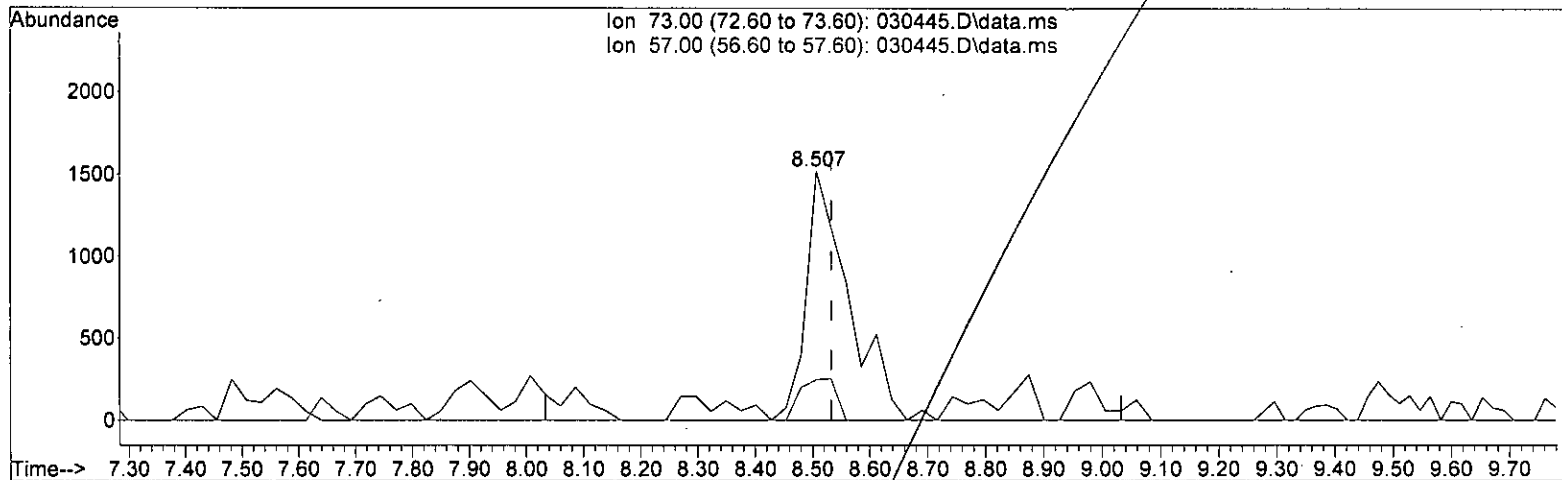
PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I Bromochloromethane	128	9.98	1.000	A	2	A	B
2	T IS-1 Bromochloromethane	TIC	9.98	1.000	A	3	A	B
3	T IS-2 1,4-Difluorobenzene	TIC	13.23	1.326	A	3	A	B
4	T IS-3 Chlorobenzene-d5	TIC	18.21	1.825	A	3	A	B
5	T Methylene chloride	TIC	6.85	0.687	A	3	A	B
6	Acetone	TIC	5.61	0.563	A	2	A	B
7	2-Propanol	TIC	5.87	0.588	A	3	A	B
8	T 1,3-Butadiene	54	4.27	0.428	A	1	A	B
9	T Methyl t-butyl ether	73	8.53	0.855	A	1	A	B
10	I 1,4-Difluorobenzene	114	13.21	1.000	A	2	A	B
11	T Benzene	78	12.69	0.961	A	1	A	B
12	L1 Isopentane	TIC	5.69	0.431	A	3	A	B
13	L1 Hexane	TIC	10.10	0.765	A	3	A	B
14	L1 Cyclohexane	TIC	13.15	0.996	A	3	A	B
15	L1 2,3-Dimethylpentane	TIC	13.49	1.022	A	3	A	B
16	L1 Heptane	TIC	14.61	1.106	A	3	A	B
17	L1 Octane	TIC	17.43	1.319	A	3	A	B
18	L1 APH EC5-8 aliphatics TOTAL	TIC	11.93	0.904	A	0	A	B
19	H APH EC5-8 aliphatics	TIC	12.00	0.909	A	0	A	B
20	I Chlorobenzene-d5	117	18.21	1.000	A	2	A	B
21	T S 4-Bromofluorobenzene	TIC	19.66	1.080	A	3	A	B
22	Hexamethylcyclotrisiloxane	TIC	17.80	0.977	A	0	A	B
23	Octamethylcyclotetrasiloxane	TIC	20.71	1.138	A	0	A	B
24	T Toluene	92	16.41	0.901	A	1	A	B
25	T Ethylbenzene	91	18.60	1.021	A	1	A	B
26	T m,p-Xylene	106	18.77	1.031	A	1	A	B
27	T o-Xylene	106	19.22	1.056	A	1	A	B
28	T Naphthalene	128	23.97	1.316	A	2	A	B
29	L2 2,3-Dimethylheptane	TIC	18.66	1.025	A	3	A	B
30	L2 Nonane	TIC	19.38	1.064	A	3	A	B
31	L2 Decane	TIC	20.92	1.149	A	3	A	B
32	L2 Butylcyclohexane	TIC	21.57	1.185	A	3	A	B
33	L2 Undecane	TIC	22.31	1.225	A	3	A	B
34	L2 Dodecane	TIC	23.82	1.308	A	3	A	B
35	L2 APH EC9-12 aliphatics TOTAL	TIC	21.11	1.159	A	0	A	B
36	H APH EC9-12 aliphatics	TIC	21.18	1.163	A	0	A	B
37	S 4-Bromofluorobenzene	95	19.66	1.080	A	2	A	B
38	L3 Isopropylbenzene	120	19.77	1.086	A	1	A	B
39	L3 1-Methyl-3-ethylbenzene	120	21.31	1.170	A	1	A	B
40	L3 1,3,5-Trimethylbenzene	120	20.45	1.123	A	1	A	B
41	L3 p-Isopropyltoluene	134	21.30	1.170	A	2	A	B
42	L3 1,2,3-Trimethylbenzene	120	21.31	1.170	A	1	A	B
43	L3 APH EC9-10 aromatics TOTAL	TIC	21.57	1.185	A	0	A	B
44	H APH EC9-10 aromatics (1)	120	21.63	1.188	A	0	A	B
45	H APH EC9-10 aromatics (2)	134	21.63	1.188	A	0	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin  
 #Qual = number of qualifiers  
 A/H = Area or Height  
 ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

Quantitation Report (Qedit)

Data Path : F:\Proc GCMS8\03-04-22\  
 Data File : 030445.D  
 Acq On : 6 Mar 2022 1:03 am  
 Operator : bat  
 Sample : 0.2 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 45 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:42:35 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030445.D\data.ms

(9) Methyl t-butyl ether (T)

8.507min (-0.026) 0.795 ug/m3

response 7862

Ion	Exp%	Act%
73.00	100.00	100.00
57.00	29.50	16.25
0.00	0.00	0.00
0.00	0.00	0.00

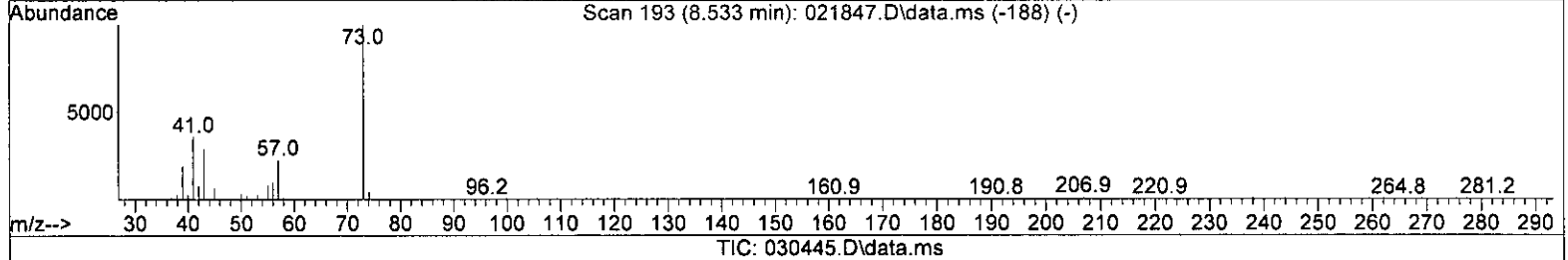
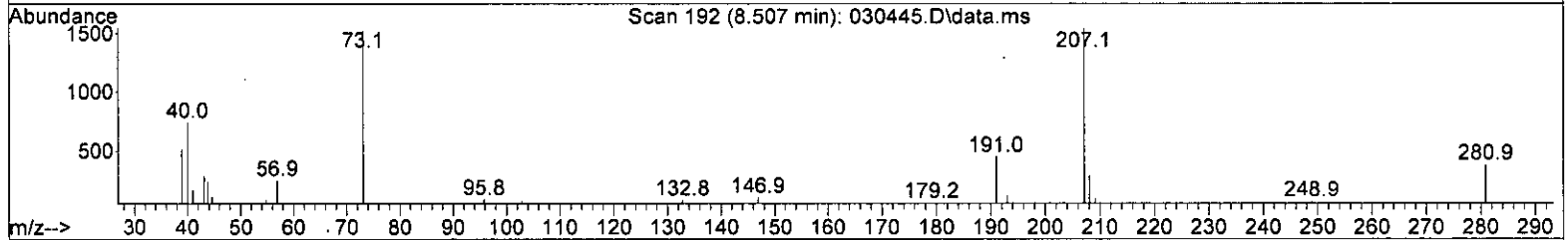
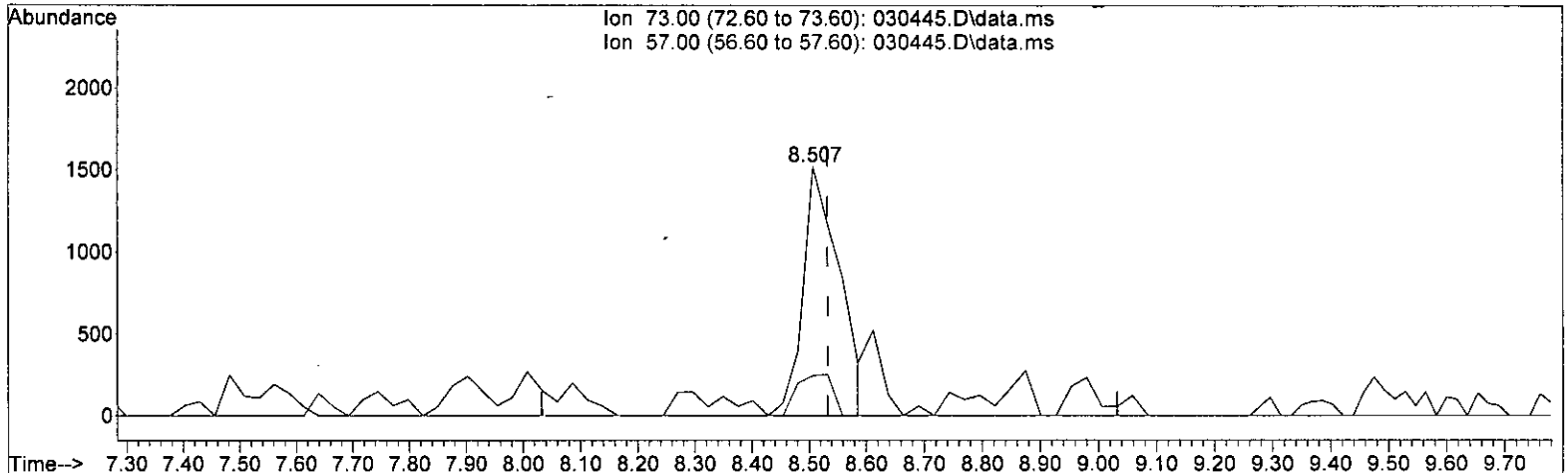
*Handwritten signature and date: 3/8/22*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030445.D  
 Acq On : 6 Mar 2022 1:03 am  
 Operator : bat  
 Sample : 0.2 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 45 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:42:35 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(9) Methyl t-butyl ether (T)

8.507min (-0.026) 0.691 ug/m3 m

response 6832

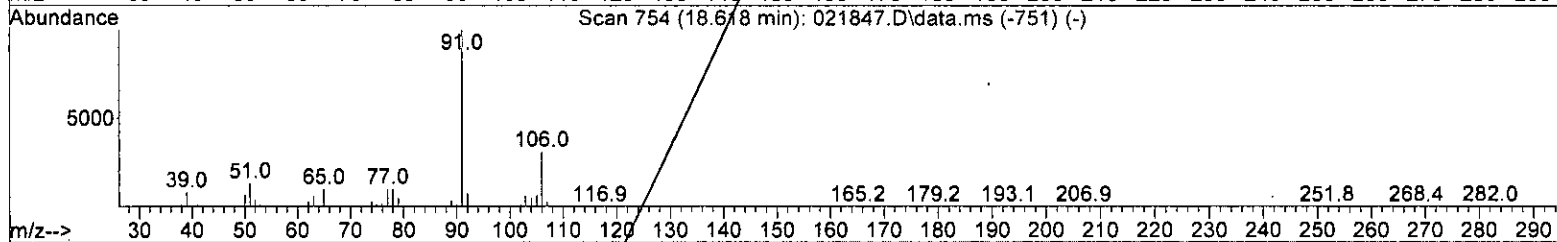
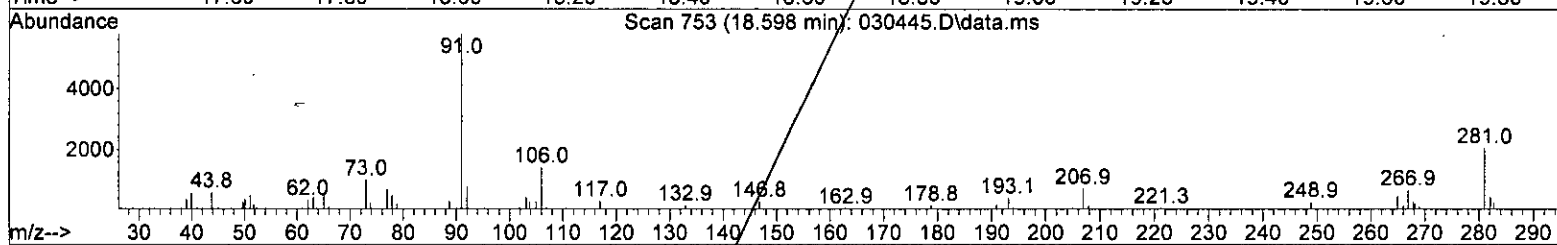
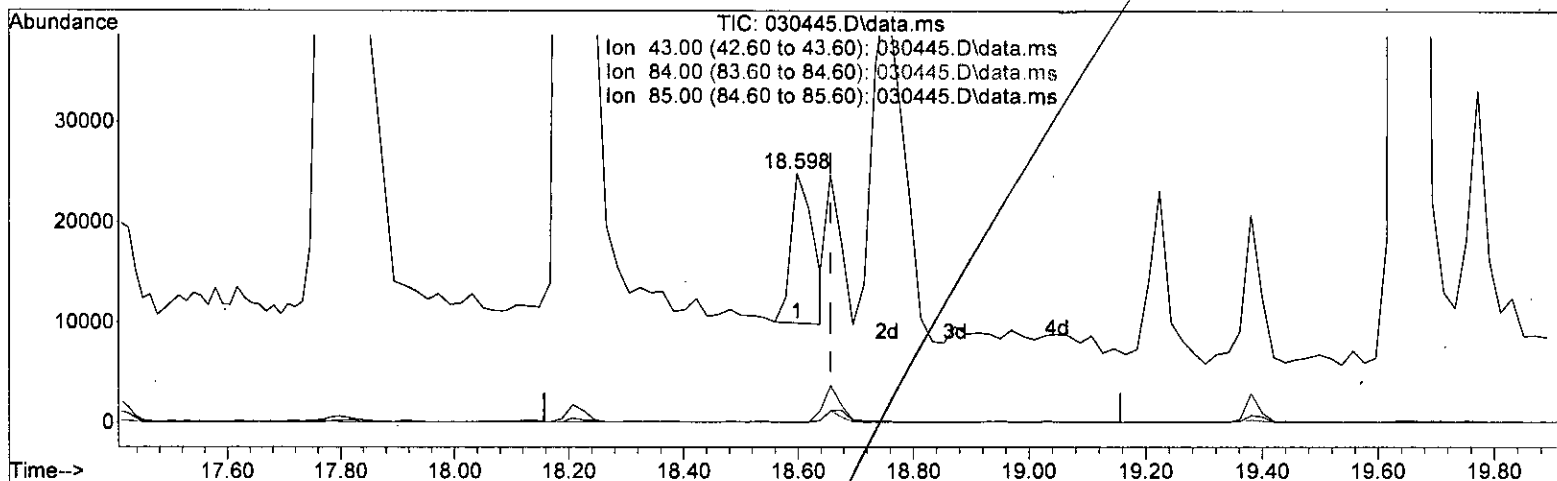
Ion	Exp%	Act%
73.00	100.00	100.00
57.00	29.50	16.25
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*  
 3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030445.D  
 Acq On : 6 Mar 2022 1:03 am  
 Operator : bat  
 Sample : 0.2 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 45 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:42:35 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030445.D\data.ms

(29) 2,3-Dimethylheptane (L2)

18.598min (-0.059) 1.541 ug/m3

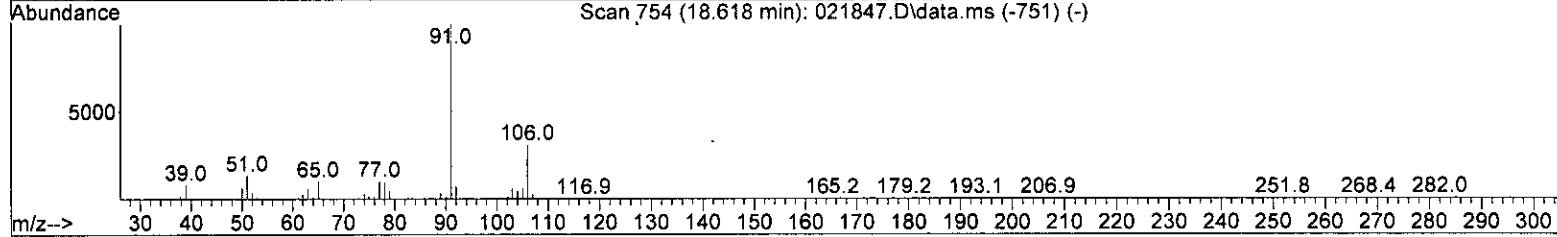
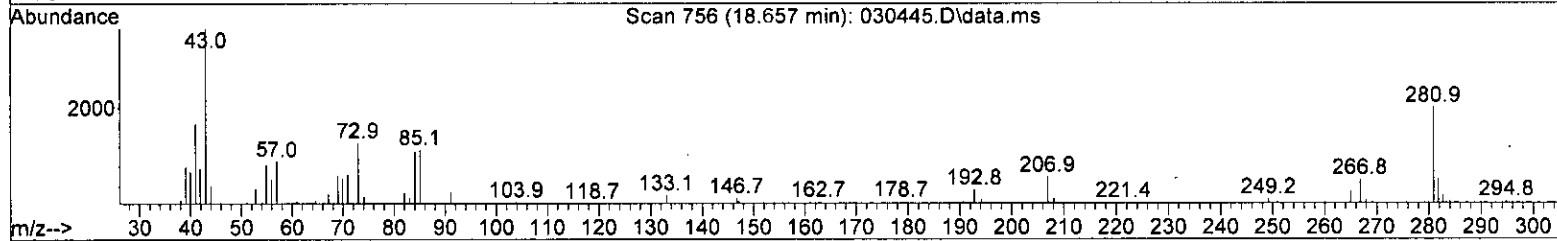
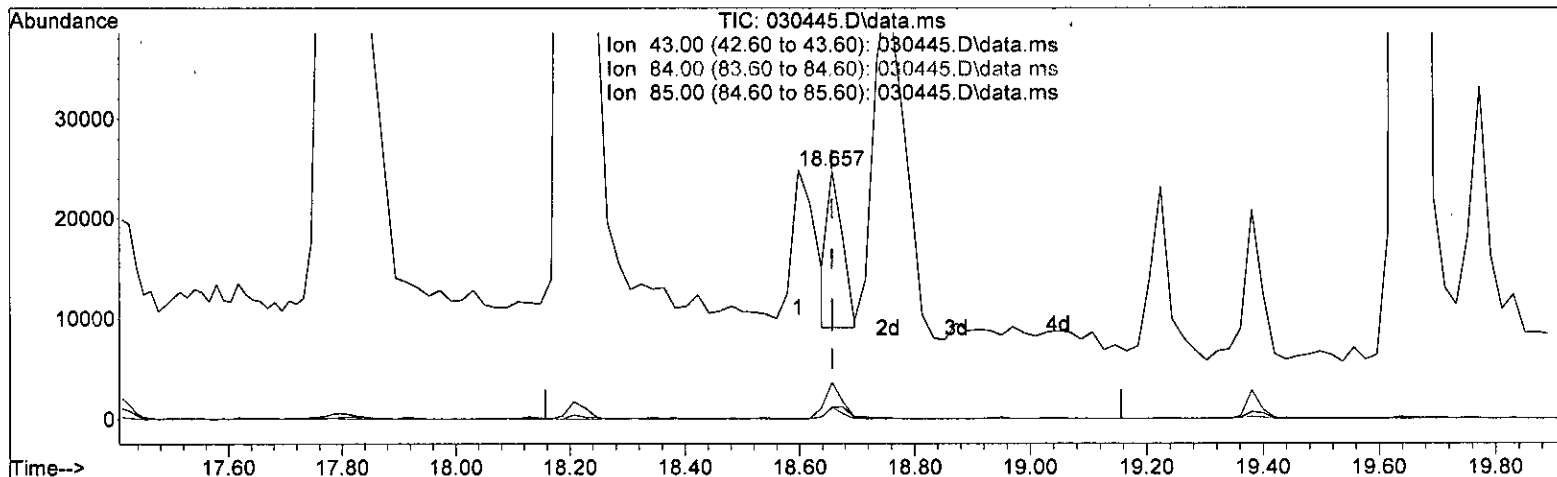
response	Exp%	Act%
40242		
TIC	100.00	100.00
43.00	31.80	20.22#
84.00	7.20	5.18#
85.00	6.20	7.62#

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030445.D  
 Acq On : 6 Mar 2022 1:03 am  
 Operator : bat  
 Sample : 0.2 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 45 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:42:35 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(29) 2,3-Dimethylheptane (L2)

18.657min (-0.000) 1.126 ug/m3 m

response 29412

Signal Exp% Act%

TIC 100.00 100.00

43.00 31.80 27.66

84.00 7.20 7.09

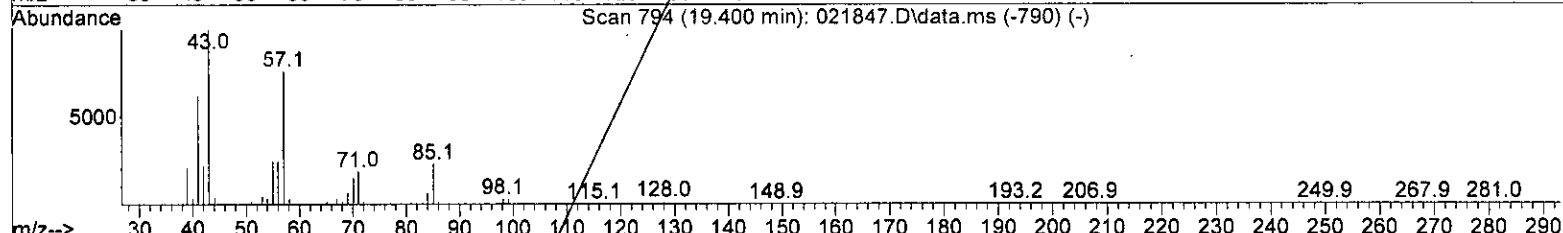
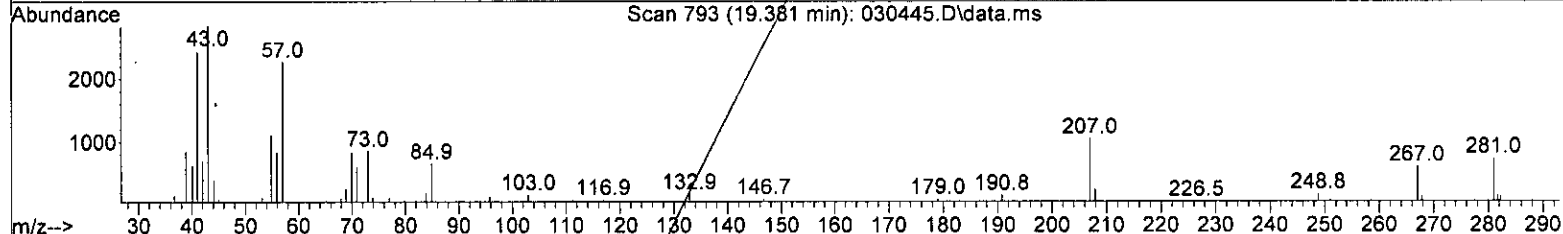
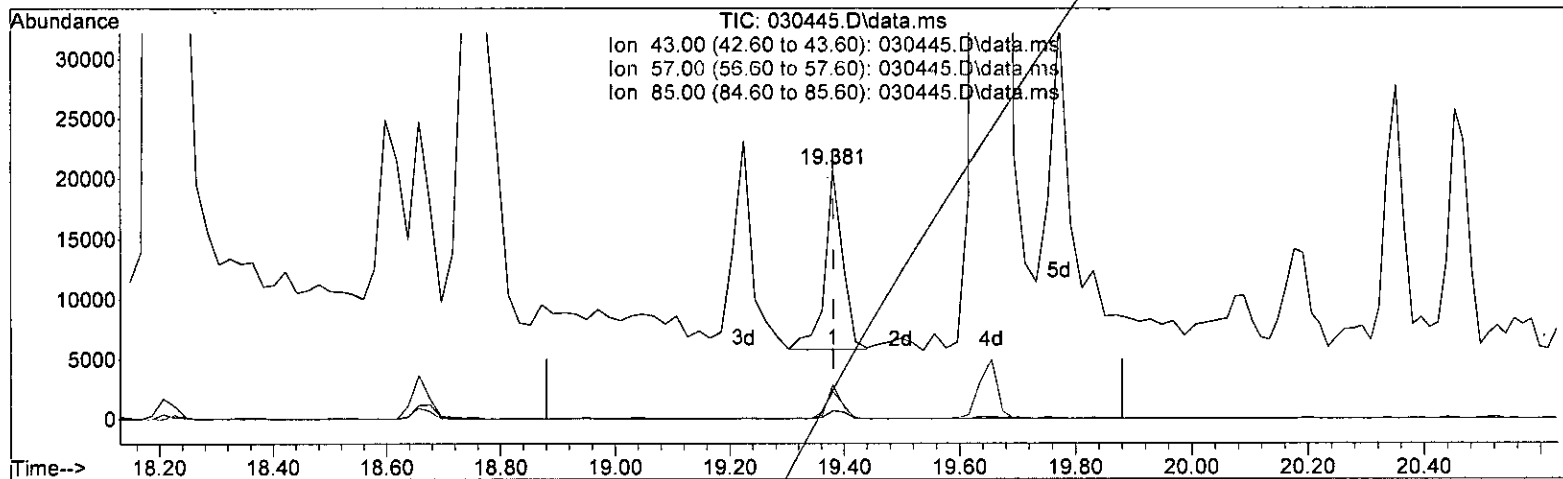
85.00 6.20 10.43#

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030445.D  
 Acq On : 6 Mar 2022 1:03 am  
 Operator : bat  
 Sample : 0.2 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 45 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:42:35 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(30) Nonane (L2)

19.381min (-0.000) 1.195 ug/m3

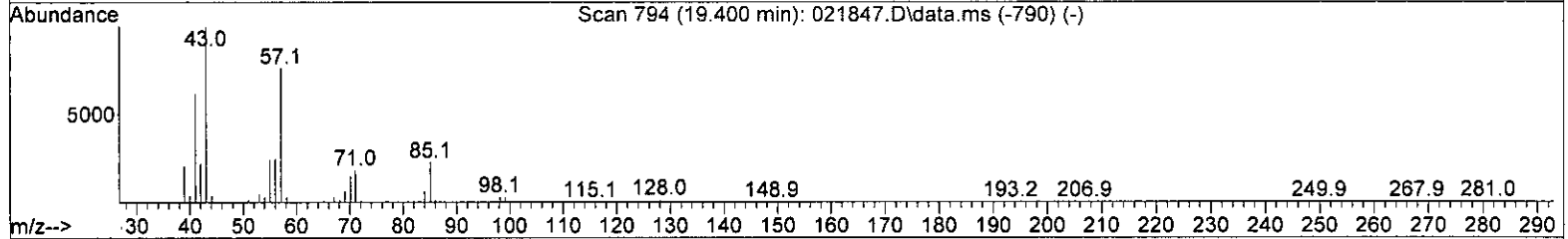
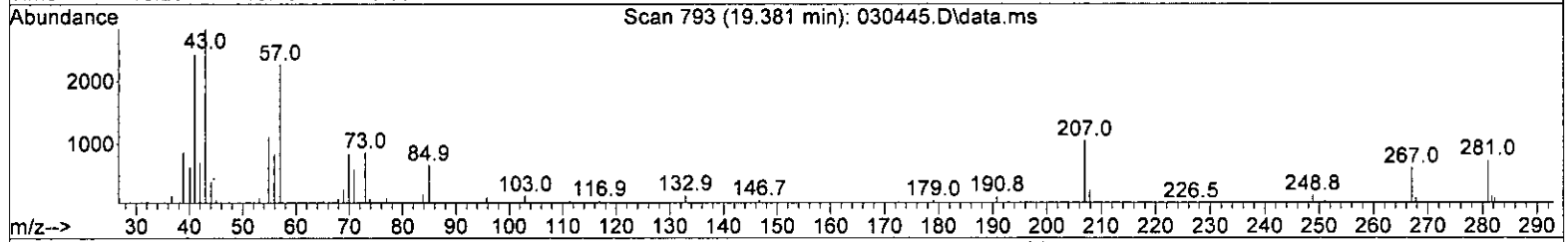
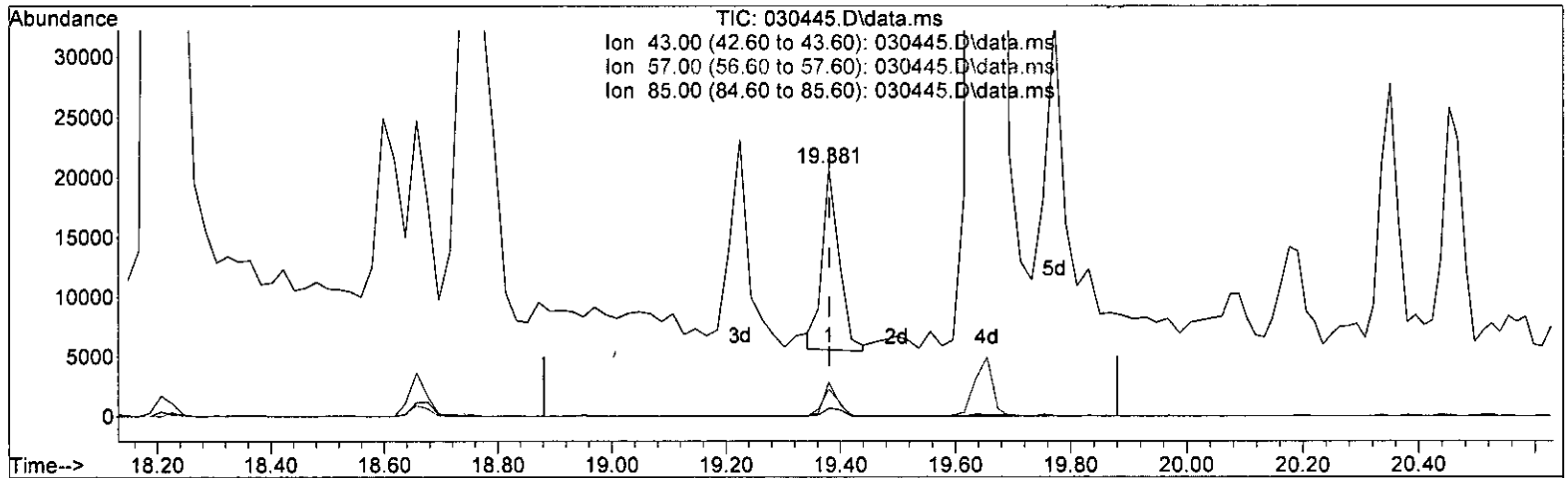
response	32643
Signal	Exp% Act%
TIC	100.00 100.00
43.00	24.80 14.96
57.00	16.20 14.24
85.00	4.40 4.61

*Handwritten signature and date: 3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030445.D  
 Acq On : 6 Mar 2022 1:03 am  
 Operator : bat  
 Sample : 0.2 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 45 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:42:35 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030445.D\data.ms

(30) Nonane (L2)

19.381min (-0.000) 1.157 ug/m3 m

response 31608

Signal Exp% Act%

TIC 100.00 100.00

43.00 24.80 15.45

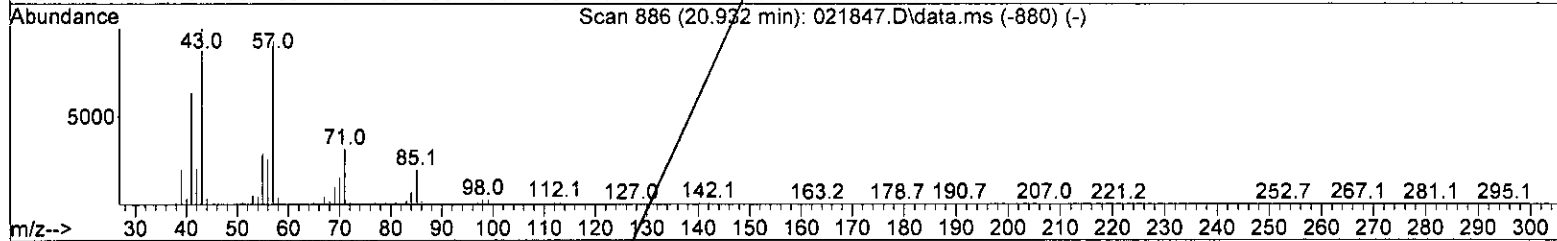
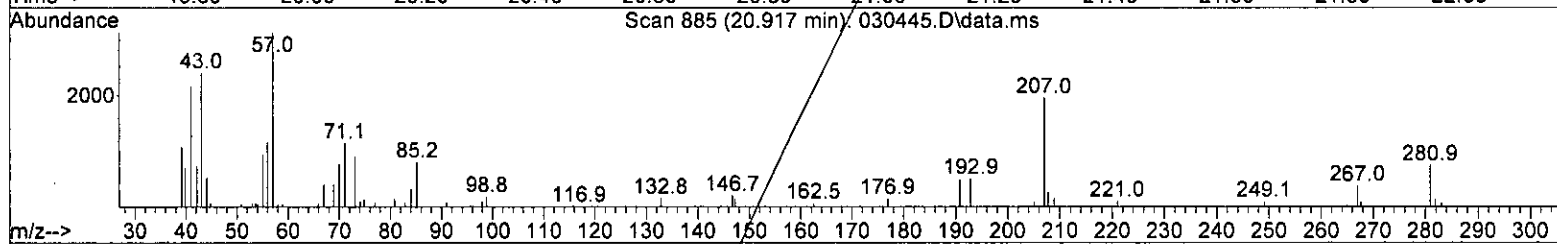
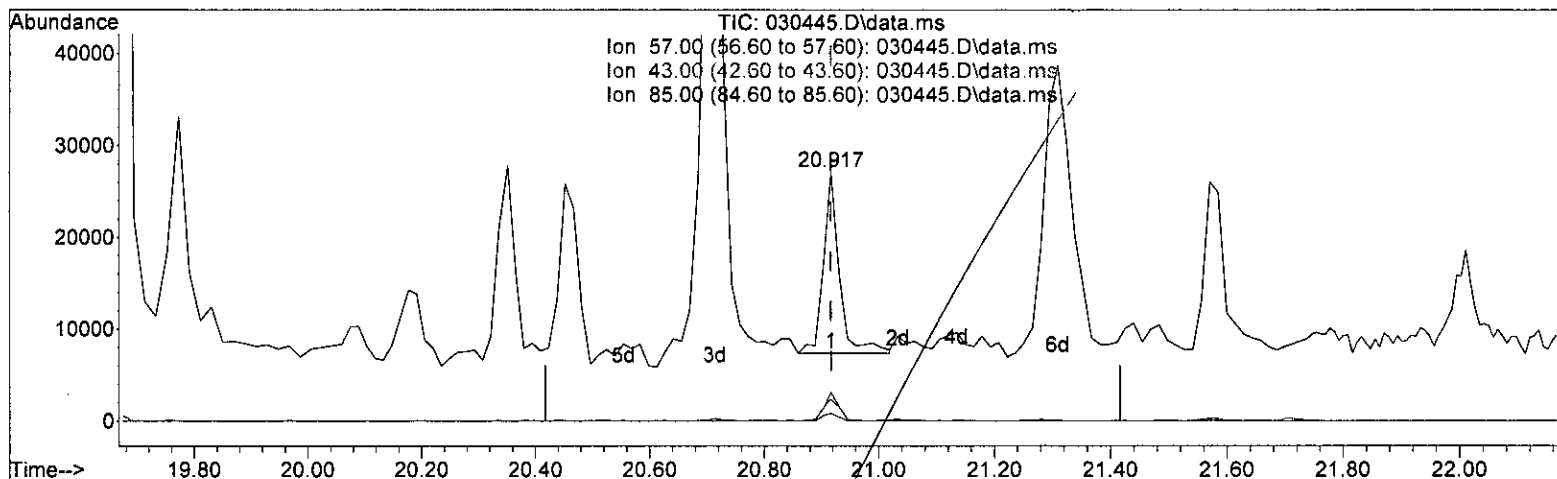
57.00 16.20 14.71

85.00 4.40 4.76

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 3/8/22

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030445.D  
 Acq On : 6 Mar 2022 1:03 am  
 Operator : bat  
 Sample : 0.2 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 45 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:42:35 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(31) Decane (L2)

20.917min (+ 0.000) 1.437 ug/m3

response 38839

Signal Exp% Act%

TIC 100.00 100.00

57.00 17.90 14.27

43.00 23.00 13.00

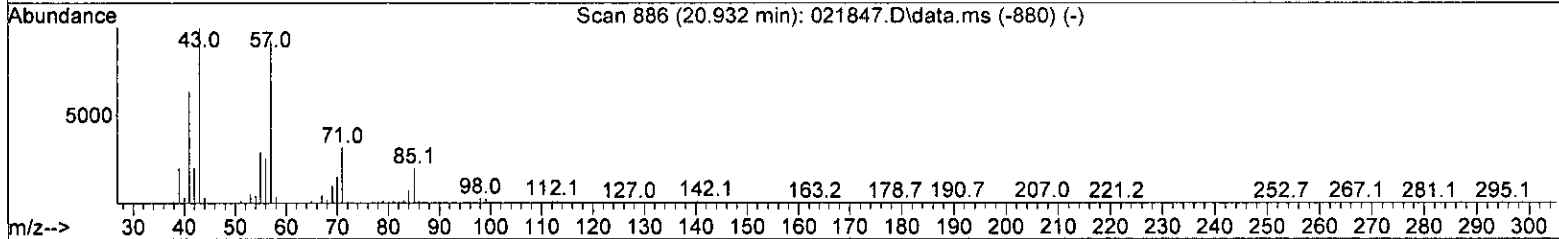
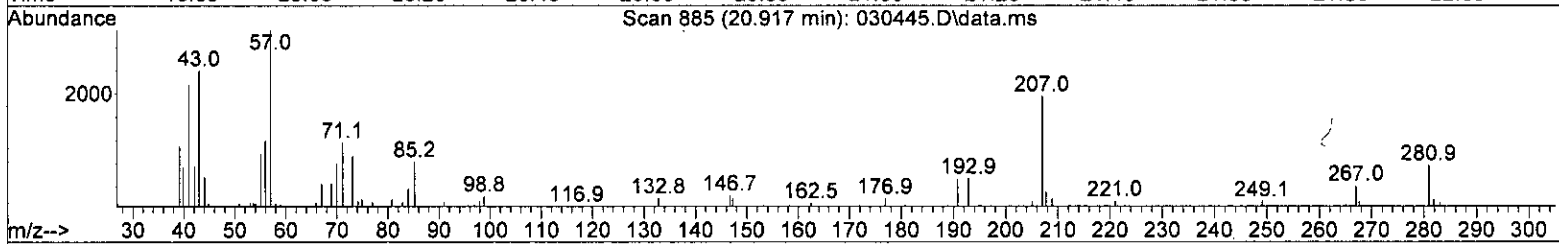
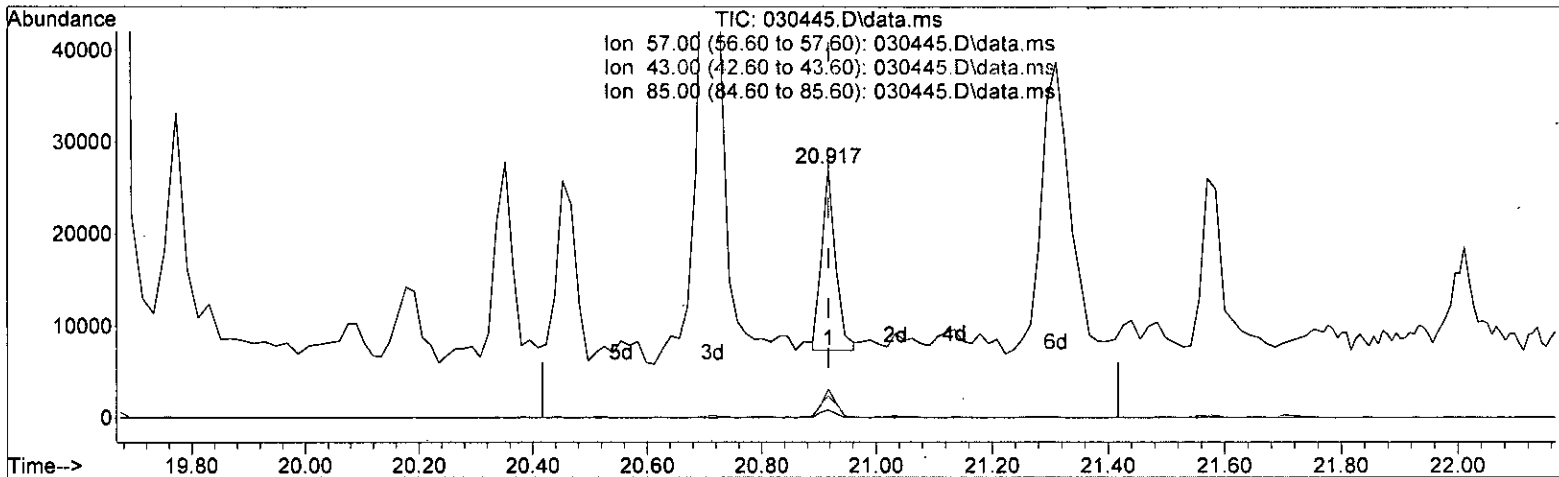
85.00 3.50 4.07

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030445.D  
 Acq On : 6 Mar 2022 1:03 am  
 Operator : bat  
 Sample : 0.2 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 45 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:42:35 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(31) Decane (L2)

20.917min (+ 0.000) 1.280 ug/m3 m

response 34613

Signal Exp% Act%

TIC 100.00 100.00

57.00 17.90 16.01

43.00 23.00 14.59

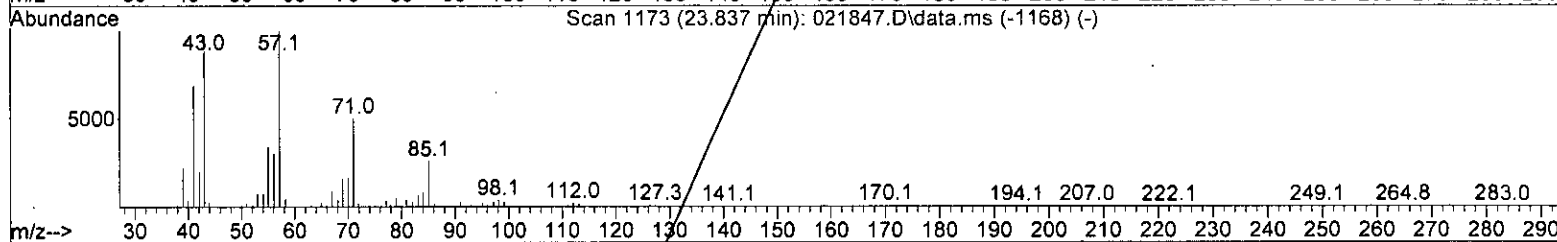
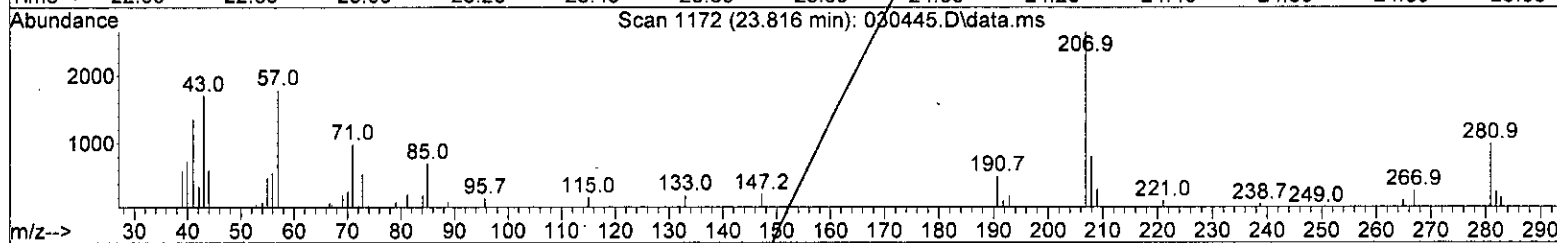
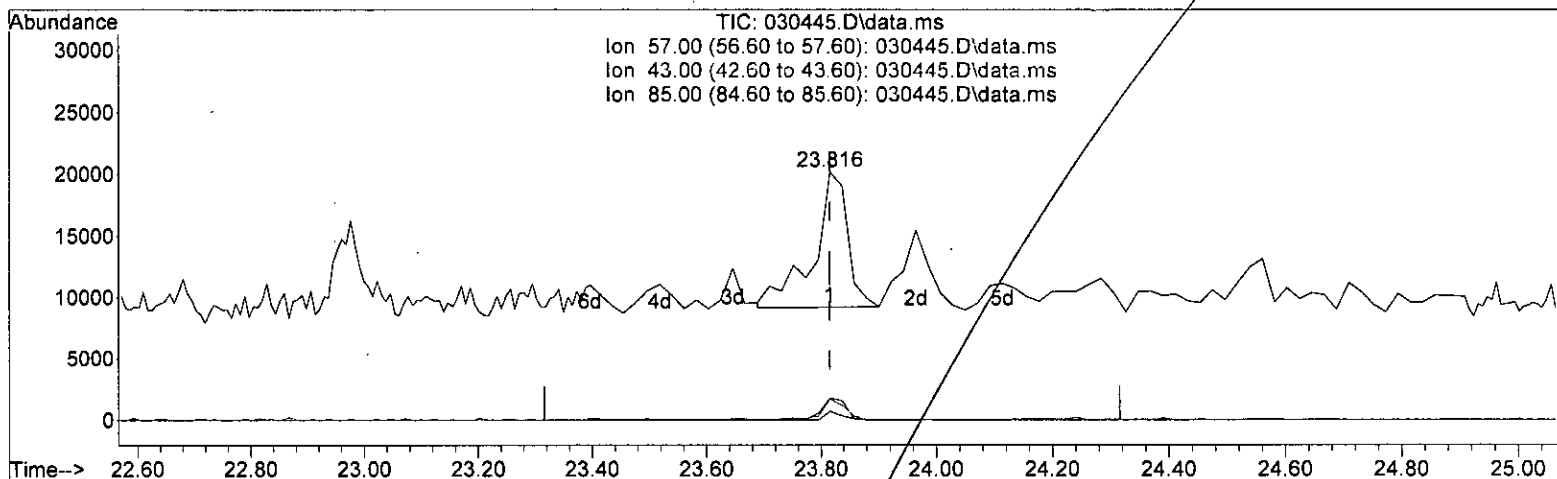
85.00 3.50 4.56

*Handwritten signature:* W 3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030445.D  
 Acq On : 6 Mar 2022 1:03 am  
 Operator : bat  
 Sample : 0.2 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 45 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:42:35 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030445.D\data.ms

(34) Dodecane (L2)

23.816min (-0.000) 1.975 ug/m3

response 46309

Signal	Exp%	Act%
TIC	100.00	100.00
57.00	16.80	11.14
43.00	18.50	10.81
85.00	3.90	3.15

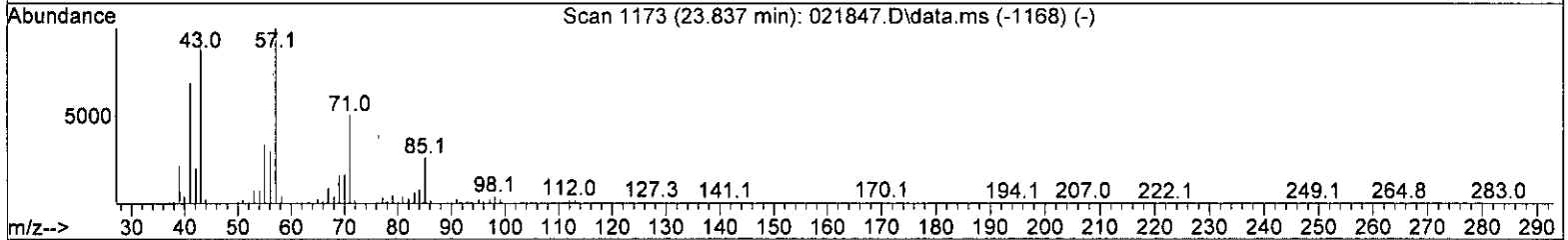
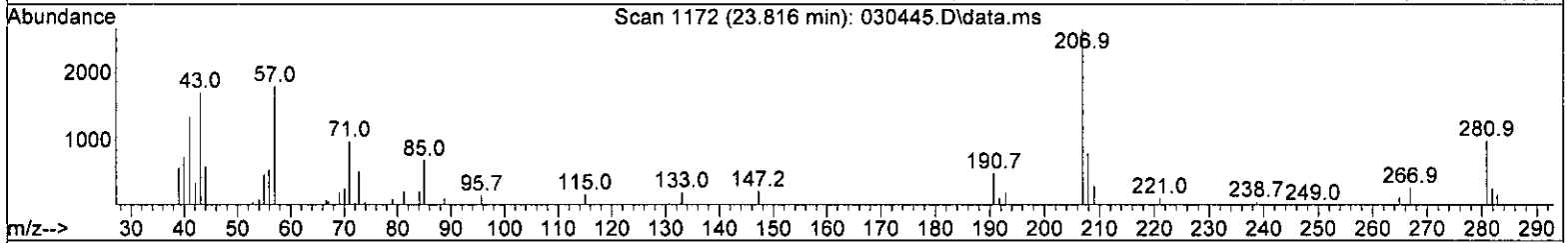
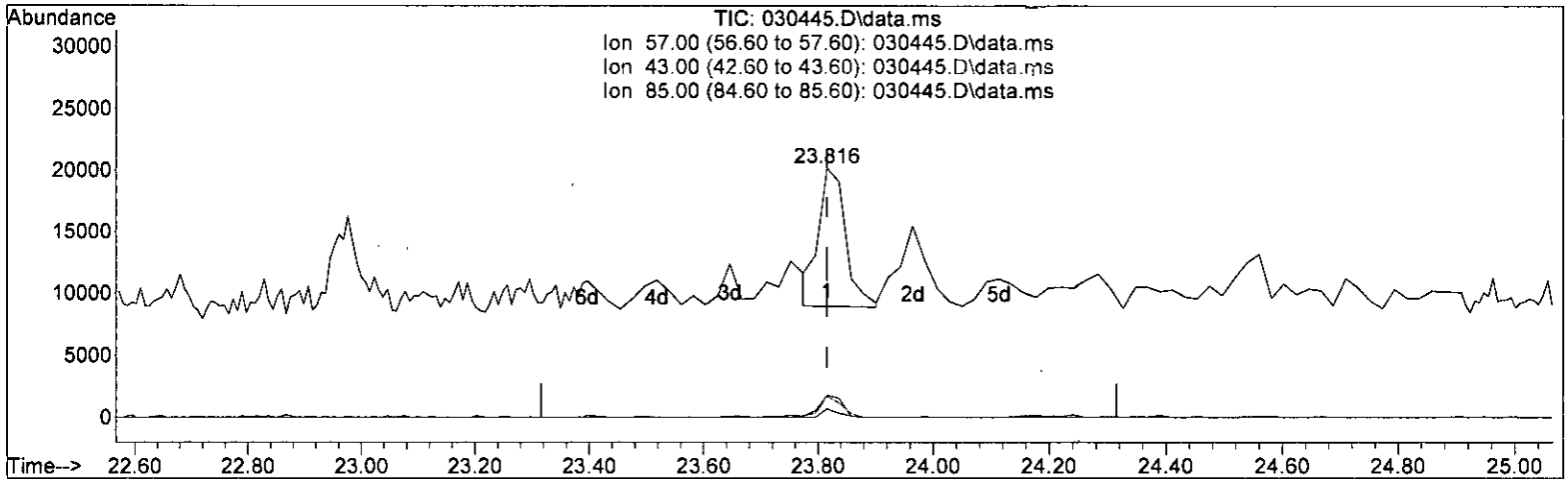
*K/S*  
3/8/22



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030445.D  
 Acq On : 6 Mar 2022 1:03 am  
 Operator : bat  
 Sample : 0.2 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 45 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:42:35 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(34) Dodecane (L2)

23.816min (-0.000) 1.575 ug/m3 m

response 36934

Signal Exp% Act%

TIC 100.00 100.00

57.00 16.80 13.97

43.00 18.50 13.55

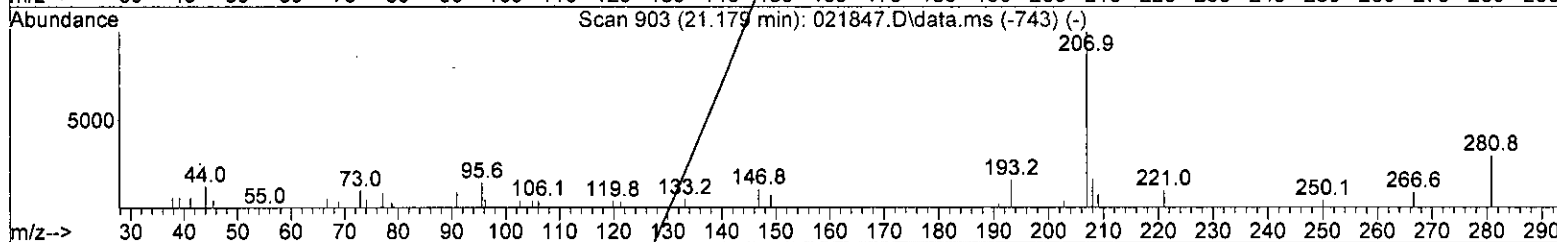
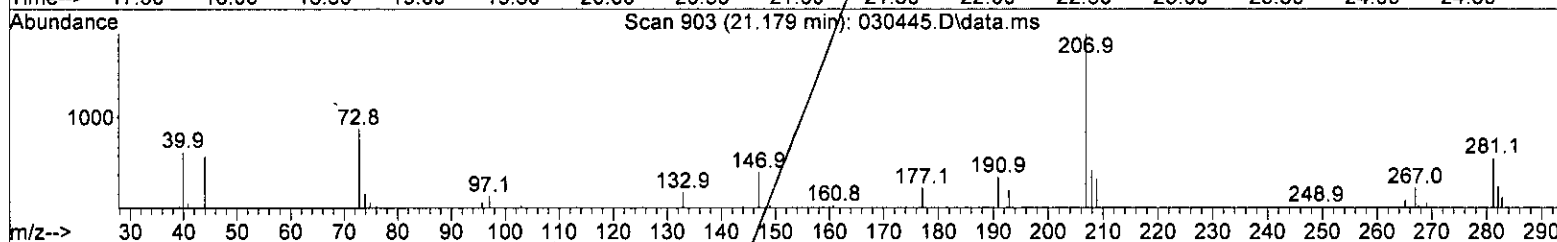
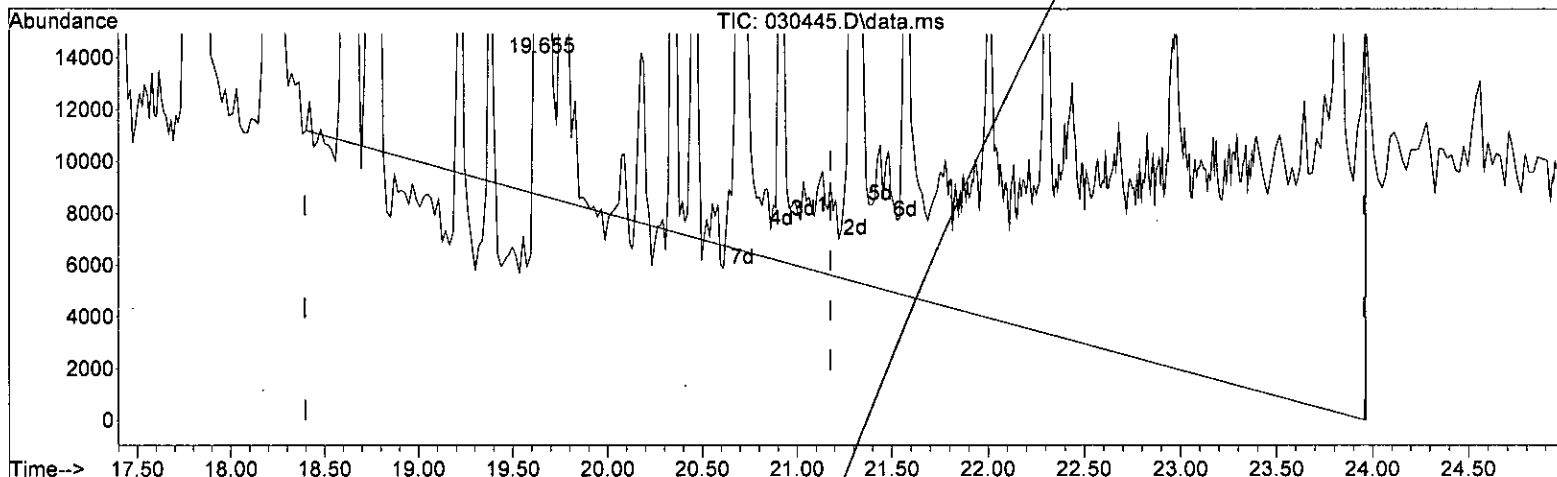
85.00 3.90 3.94

*h  
3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030445.D  
 Acq On : 6 Mar 2022 1:03 am  
 Operator : bat  
 Sample : 0.2 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 45 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:42:35 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 6.614 ug/m3 m

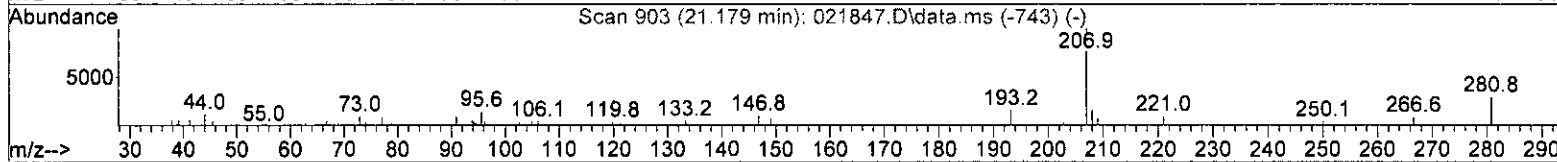
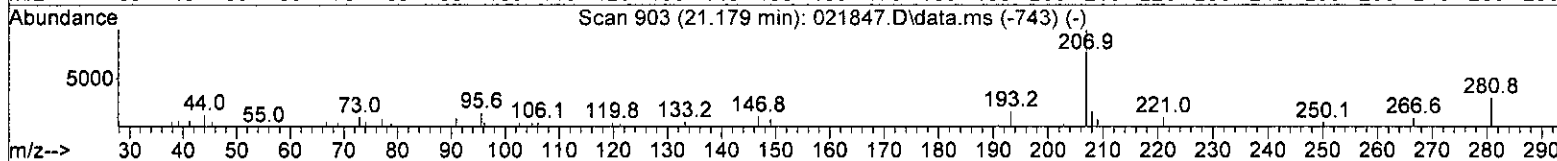
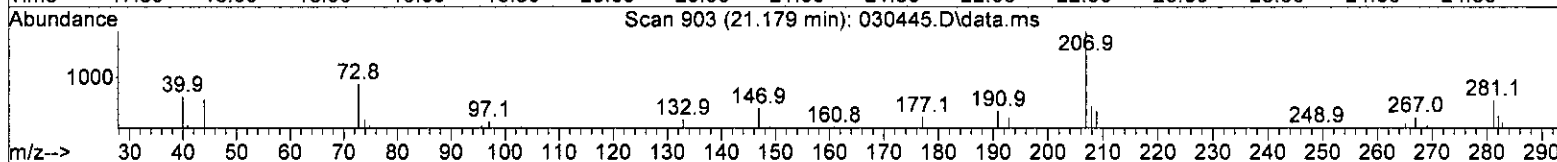
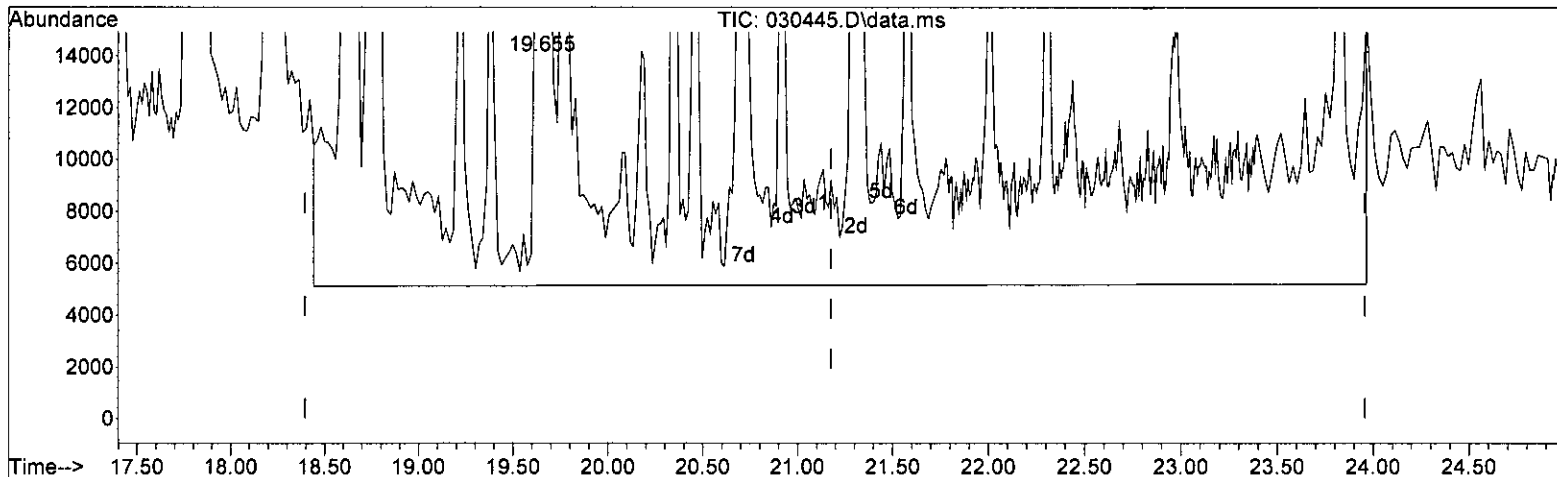
response	Signal	Exp%	Act%
1060670	TIC	100.00	100.00
	0.00	0.00	0.00
	0.00	0.00	0.00
	0.00	0.00	0.00

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 3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030445.D  
 Acq On : 6 Mar 2022 1:03 am  
 Operator : bat  
 Sample : 0.2 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 45 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:42:35 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030445.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 19.510 ug/m3 m

response 3128810

Signal Exp% Act%

TIC 100.00 100.00

0.00 0.00 0.00

0.00 0.00 0.00

0.00 0.00 0.00

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Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030445.D  
 Acq On : 6 Mar 2022 1:03 am  
 Operator : bat  
 Sample : 0.2 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 45 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:47:54 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.98	128	116933	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.21	114	499841	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	432363	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.65	95	314305	70.883	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	99.83%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.98	TIC	837362	51.745	ug/m3	88
3) IS-2 1,4-Difluorobenzene	13.21	TIC	1242216	41.774	ug/m3	73
4) IS-3 Chlorobenzene-d5	18.21	TIC	1371270	46.638	ug/m3	98
5) Methylene chloride	6.88	TIC	13229	35.230	ug/m3	79
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.	d	
8) 1,3-Butadiene	4.27	54	1640	0.469	ug/m3	86
9) Methyl t-butyl ether	8.51	73	6832m	0.691	ug/m3	
11) Benzene	0.00		0	N.D.	d	
12) Isopentane	0.00		0	N.D.	d	
13) Hexane	0.00		0	N.D.	d	
14) Cyclohexane	0.00		0	N.D.	d	
15) 2,3-Dimethylpentane	0.00		0	N.D.	d	
16) Heptane	0.00		0	N.D.	d	
17) Octane	0.00		0	N.D.	d	
18) APH EC5-8 aliphatics T...	0.00		0	N.D.	d	
19) APH EC5-8 aliphatics	0.00		0	N.D.	d	
21) S 4-Bromofluorobenzene	19.65	TIC	1846717	49.121	ug/m3	96
22) Hexamethylcyclotrisilo...	17.80	TIC	1778769	31.729	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	199692	26.697	ppbv	100
24) Toluene	16.41	92	4746	0.703	ug/m3#	37
25) Ethylbenzene	18.60	91	13897	0.982	ug/m3	85
26) m,p-Xylene	18.77	106	8943	1.742	ug/m3#	47
27) o-Xylene	19.22	106	4438	0.904	ug/m3	99
28) Naphthalene	23.96	128	7853	0.677	ug/m3	85
29) 2,3-Dimethylheptane	18.66	TIC	29412m	1.126	ug/m3	
30) Nonane	19.38	TIC	31608m	1.157	ug/m3	
31) Decane	20.92	TIC	34613m	1.280	ug/m3	
32) Butylcyclohexane	21.57	TIC	45561	1.255	ug/m3	93
33) Undecane	22.30	TIC	32591	1.255	ug/m3	89
34) Dodecane	23.82	TIC	36934m	1.575	ug/m3	
35) APH EC9-12 aliphatics ...	21.14	TIC	210719m	7.659	ug/m3	
36) APH EC9-12 aliphatics	21.18	TIC	3128810m	19.510	ug/m3	
38) Isopropylbenzene	19.77	120	3582	1.091	ug/m3#	87
39) 1-Methyl-3-ethylbenzene	21.32	120	5918	0.955	ug/m3#	48
40) 1,3,5-Trimethylbenzene	20.45	120	5860	1.091	ug/m3#	81
41) p-Isopropyltoluene	21.30	134	3299	1.126	ug/m3#	87
42) 1,2,3-Trimethylbenzene	21.32	120	5918	0.955	ug/m3	99
43) APH EC9-10 aromatics T...	0.00	TIC	24577	N.D.		
44) APH EC9-10 aromatics (1)	0.00		0	N.D.	d	

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030445.D  
 Acq On : 6 Mar 2022 1:03 am  
 Operator : bat  
 Sample : 0.2 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 45 Sample Multiplier: 1  
 InstName : GCMS8

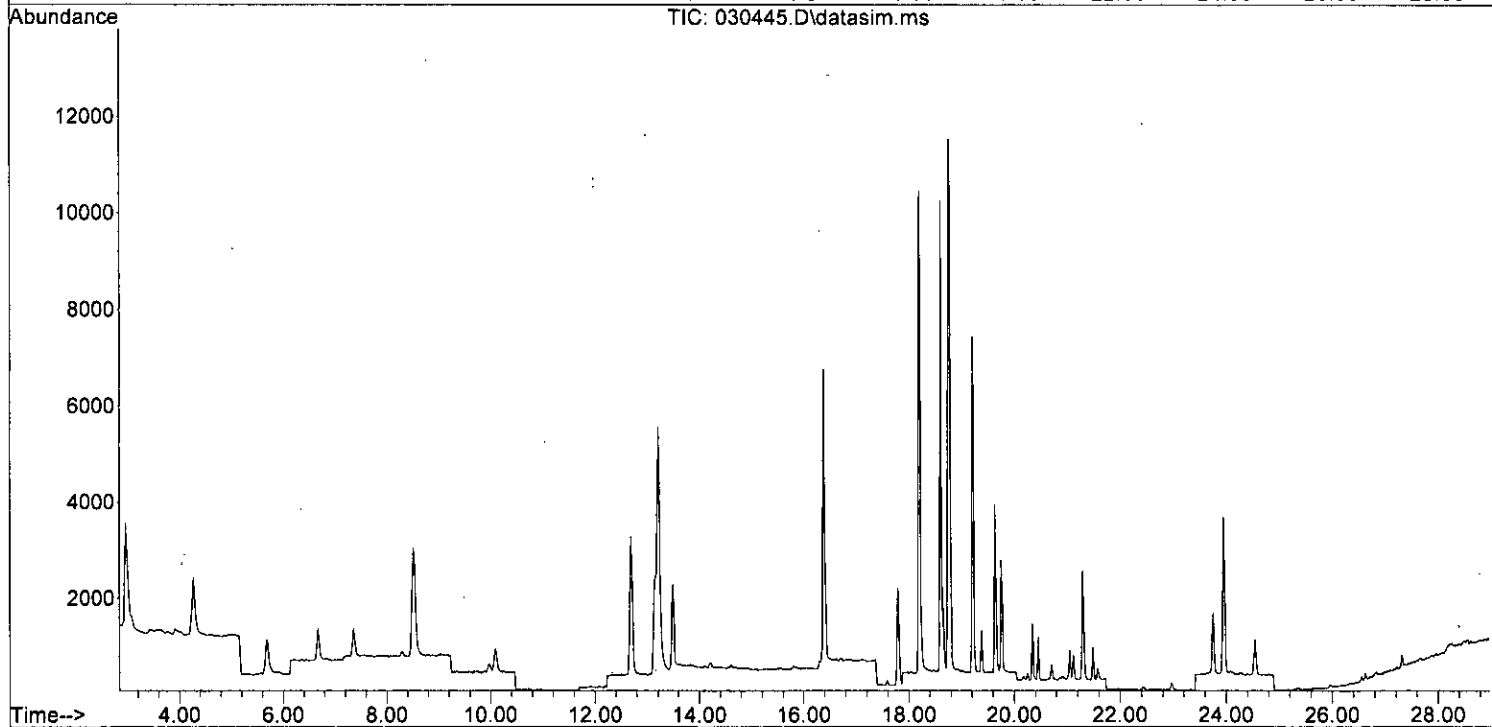
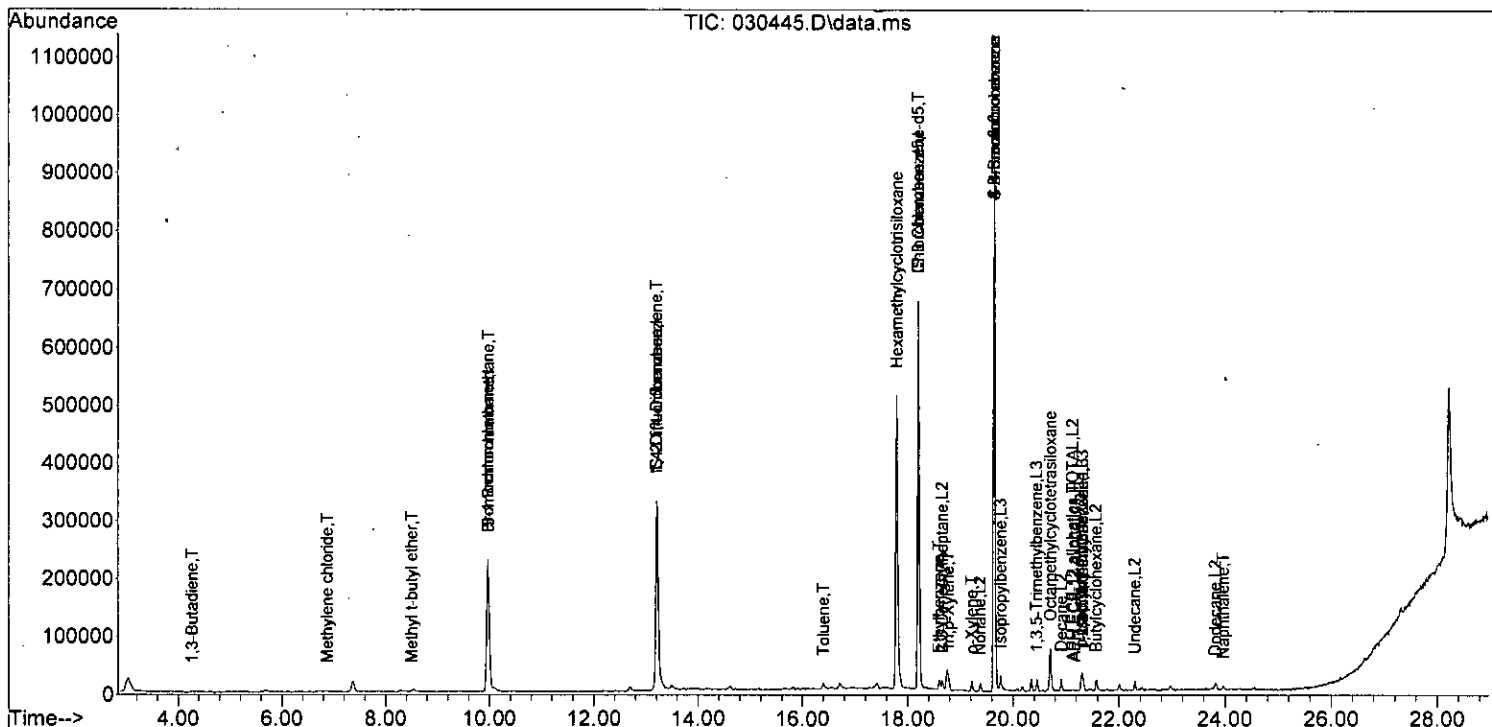
Quant Time: Mar 08 16:47:54 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R:T. QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	0.00	0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030445.D  
 Acq On : 6 Mar 2022 1:03 am  
 Operator : bat  
 Sample : 0.2 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 45 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:47:54 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030445.D  
 Acq On : 6 Mar 2022 1:03 am  
 Operator : bat  
 Sample : 0.2 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 45 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:47:54 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	50.000	51.745	-3.5	100	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	41.774	16.5	100	-0.02
4 T	IS-3 Chlorobenzene-d5	50.000	46.638	6.7	100	0.00
5 T	Methylene chloride	50.000	35.230	29.5	0	0.03
6	Acetone	0.200	0.000	100.0#	0	-5.61#
7	2-Propanol	50.000	0.000	100.0#	0	-5.87#
8 T	1,3-Butadiene	0.440	0.469	-6.6	100	0.00
9 T	Methyl t-butyl ether	0.720	0.691	4.0	87	-0.03
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	99	0.00
11 T	Benzene	-1.000	0.000	0.0	0	-12.69#
12 L1	Isopentane	-1.000	0.000	0.0	0	-5.69#
13 L1	Hexane	-1.000	0.000	0.0	0	-10.10#
14 L1	Cyclohexane	-1.000	0.000	0.0	0	-13.15#
15 L1	2,3-Dimethylpentane	-1.000	0.000	0.0	0	-13.49#
16 L1	Heptane	-1.000	0.000	0.0	0	-14.61#
17 L1	Octane	-1.000	0.000	0.0	0	-17.43#
18 L1	APH EC5-8 aliphatics TOTAL	-1.000	0.000	0.0	0	-11.93#
19 H	APH EC5-8 aliphatics	-1.000	0.000	0.0	0	-12.00#
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	49.121	1.8	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	31.729	36.5#	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	26.697	46.6#	100	0.00
24 T	Toluene	0.750	0.703	6.3	100	0.00
25 T	Ethylbenzene	0.870	0.982	-12.9	100	0.00
26 T	m,p-Xylene	1.740	1.742	-0.1	100	0.00
27 T	o-Xylene	0.870	0.904	-3.9	100	0.00
28 T	Naphthalene	1.000	0.677	32.3#	100	0.00
29 L2	2,3-Dimethylheptane	1.000	1.126	-12.6	100	0.00
30 L2	Nonane	1.000	1.157	-15.7	97	0.00
31 L2	Decane	1.200	1.280	-6.7	89	0.00
32 L2	Butylcyclohexane	1.100	1.255	-14.1	100	0.00
33 L2	Undecane	1.300	1.255	3.5	101	0.00
34 L2	Dodecane	1.400	1.575	-12.5	110	0.00
35 L2	APH EC9-12 aliphatics TOTAL	7.000	7.659	-9.4	99	0.03
36 H	APH EC9-12 aliphatics	7.000	19.510	-178.7#	101	0.00
37 S	4-Bromofluorobenzene	71.000	70.883	0.2	100	0.00
38 L3	Isopropylbenzene	0.980	1.091	-11.3	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.980	0.955	2.6	100	0.01
40 L3	1,3,5-Trimethylbenzene	0.980	1.091	-11.3	100	0.00
41 L3	p-Isopropyltoluene	1.100	1.126	-2.4	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.980	0.955	2.6	100	0.01
43 L3	APH EC9-10 aromatics TOTAL	5.000	5.187	-3.7	0	-21.57#
44 H	APH EC9-10 aromatics (1)	3.900	0.000	100.0#	0	-21.63#

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
Data File : 030445.D  
Acq On : 6 Mar 2022 1:03 am  
Operator : bat  
Sample : 0.2 ppbv APH 66-1b  
Misc : line 4  
ALS Vial : 45 Sample Multiplier: 1  
InstName : GCMS8

Quant Time: Mar 08 16:47:54 2022  
Quant Method : F:\METHODS\Inst8\0304APH8.M  
Quant Title : APH TO-15 method  
QLast Update : Tue Mar 08 10:29:53 2022  
Response via : Initial Calibration  
DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H . APH EC9-10 aromatics (2)	1.100	0.000	100.0#	0	-21.63#

(#) = Out of Range                      SPCC's out = 0    CCC's out = 0



Evaluate Continuing Calibration Report

Data Path : F:\Proc GCMS8\03-04-22\  
 Data File : 030445.D  
 Acq On : 6 Mar 2022 1:03 am  
 Operator : bat  
 Sample : 0.2 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 45 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:47:54 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	6.920	7.161	-3.5	100	0.00
3 T	IS-2 1,4-Difluorobenzene	12.715	10.623	16.5	100	-0.02
4 T	IS-3 Chlorobenzene-d5	12.572	11.727	6.7	100	0.00
5 T	Methylene chloride	0.161	0.113	29.8	0#	0.03
6	Acetone	1.776	0.000	100.0#	0#	-5.61#
7	2-Propanol	0.828	0.000	100.0#	0#	-5.87#
8 T	1,3-Butadiene	1.495	1.594	-6.6	100	0.00
9 T	Methyl t-butyl ether	4.230	4.057	4.1	87	-0.03
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	99	0.00
11 T	Benzene	1.261	0.000	100.0#	0#	-12.69#
12 L1	Isopentane	1.886	0.000	100.0#	0#	-5.69#
13 L1	Hexane	2.171	0.000	100.0#	0#	-10.10#
14 L1	Cyclohexane	2.620	0.000	100.0#	0#	-13.15#
15 L1	2,3-Dimethylpentane	1.973	0.000	100.0#	0#	-13.49#
16 L1	Heptane	2.249	0.000	100.0#	0#	-14.61#
17 L1	Octane	3.566	0.000	100.0#	0#	-17.43#
18 L1	APH EC5-8 aliphatics TOTAL	2.472	0.000	100.0#	0#	-11.93#
19 H	APH EC5-8 aliphatics	30.035	0.000	100.0#	0#	-12.00#
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	4.348	4.271	1.8	100	0.00
22	Hexamethylcyclotrisiloxane	6.483	4.114	36.5#	100	0.00
23	Octamethylcyclotetrasiloxan	0.865	0.462	46.6#	100	0.00
24 T	Toluene	0.781	0.732	6.3	100	0.00
25 T	Ethylbenzene	1.636	1.847	-12.9	100	0.00
26 T	m,p-Xylene	0.594	0.594	0.0	100	0.00
27 T	o-Xylene	0.568	0.590	-3.9	100	0.00
28 T	Naphthalene	1.341	0.908	32.3#	100	0.00
29 L2	2,3-Dimethylheptane	3.020	3.401	-12.6	100	0.00
30 L2	Nonane	3.160	3.655	-15.7	97	0.00
31 L2	Decane	3.126	3.336	-6.7	89	0.00
32 L2	Butylcyclohexane	4.199	4.790	-14.1	100	0.00
33 L2	Undecane	3.003	2.899	3.5	101	0.00
34 L2	Dodecane	2.712	3.051	-12.5	110	0.00
35 L2	APH EC9-12 aliphatics TOTAL	3.182	3.481	-9.4	99	0.03
36 H	APH EC9-12 aliphatics	18.546	51.690	-178.7#	101	0.00
37 S	4-Bromofluorobenzene	0.513	0.512	0.2	100	0.00
38 L3	Isopropylbenzene	0.380	0.423	-11.3	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.717	0.698	2.6	100	0.01
40 L3	1,3,5-Trimethylbenzene	0.621	0.692	-11.4	100	0.00
41 L3	p-Isopropyltoluene	0.339	0.347	-2.4	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.717	0.698	2.6	100	0.01
43 L3	APH EC9-10 aromatics TOTAL	0.548	0.568	-3.6	0#	-21.57#
44 H	APH EC9-10 aromatics (1)	0.605	0.000	100.0#	0#	-21.63#

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030445.D  
 Acq On : 6 Mar 2022 1:03 am  
 Operator : bat  
 Sample : 0.2 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 45 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:47:54 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev Area	Dev(min)
45_H APH EC9-10 aromatics (2)	0.341	0.000	100.0#	0# -21.63#

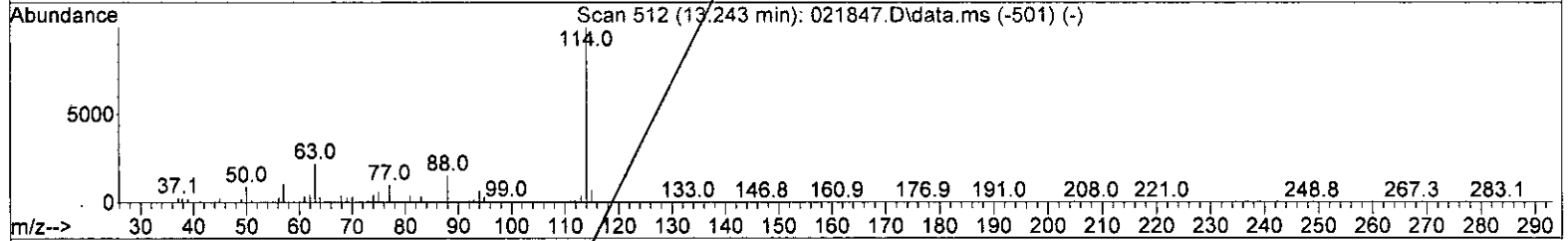
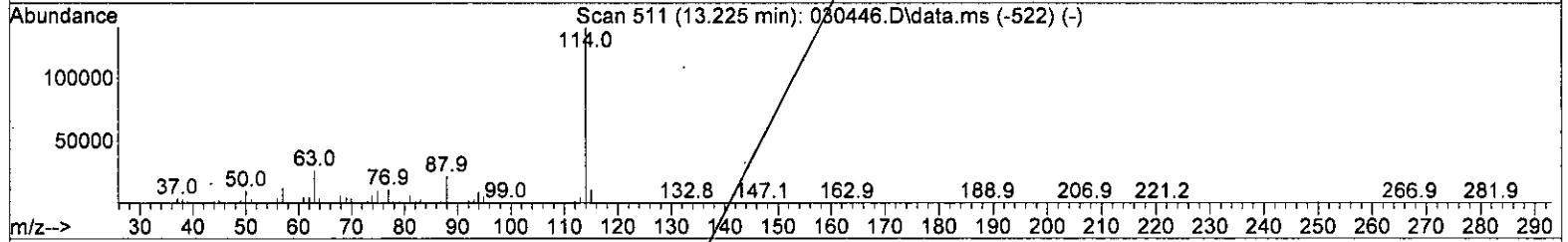
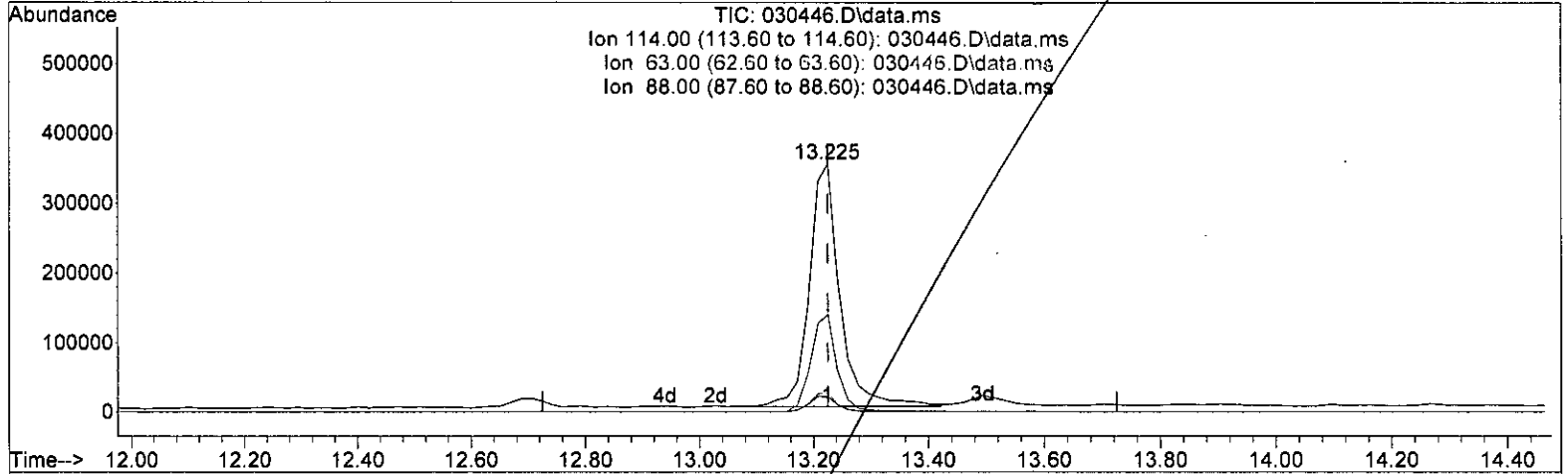
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:48:37 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030446.D\data.ms

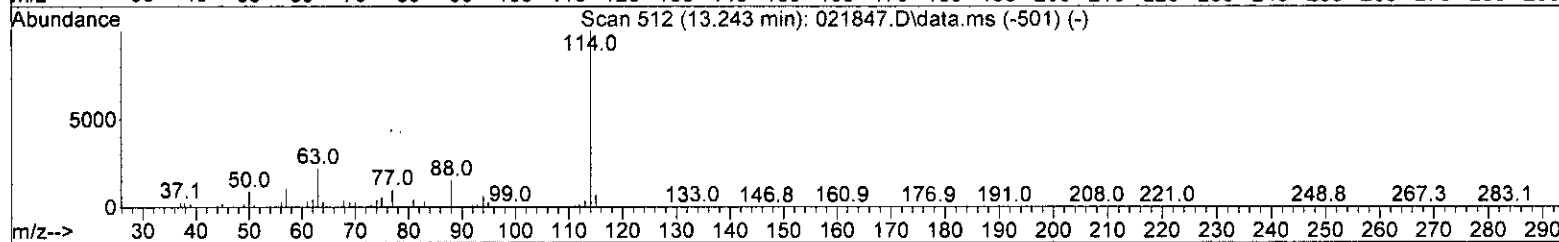
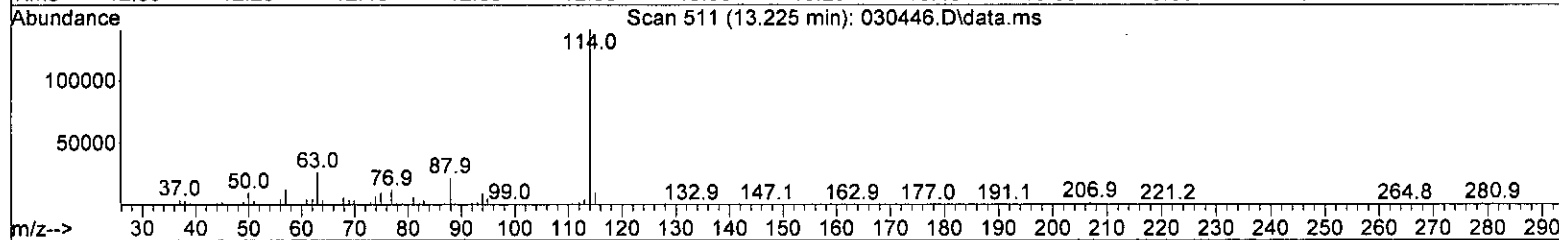
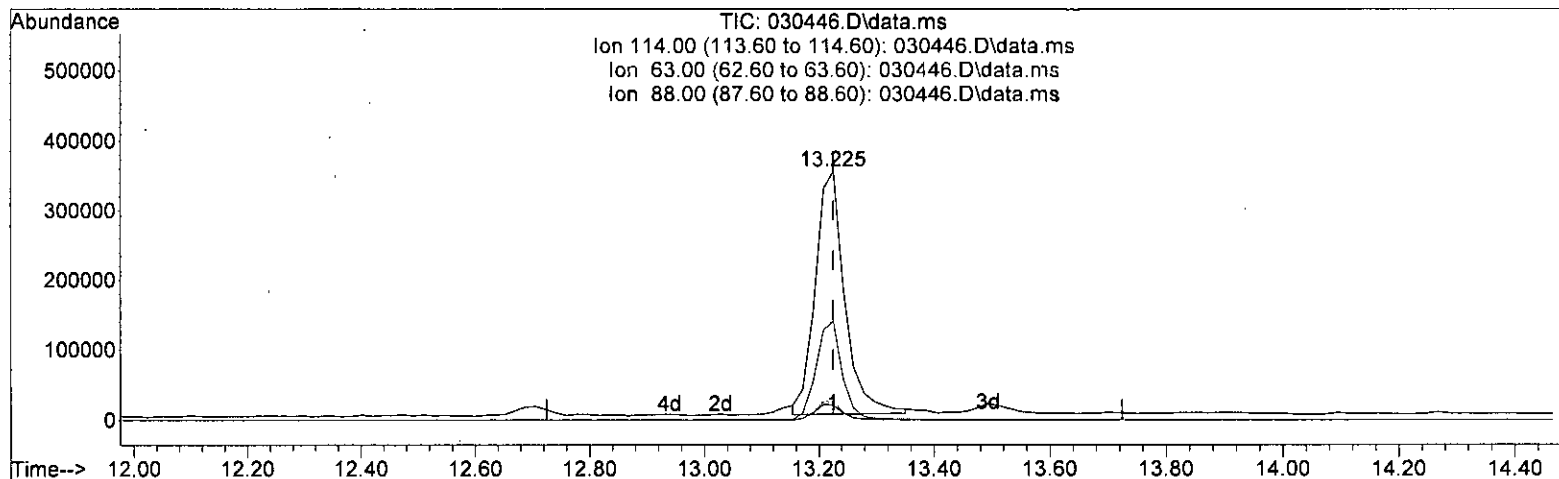
(3) IS-2 1,4-Difluorobenzene (T)		
13.225min (-0.000)	45.037 ug/m3	
response	1319383	
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	65.20	40.36
63.00	14.80	7.52
88.00	10.30	6.18

*h  
2/8/21*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:48:37 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(3) IS-2 1,4-Difluorobenzene (T)

13.225min (-0.000) 42.718 ug/m3 m

response 1251457

Signal Exp% Act%

TIC 100.00 100.00

114.00 65.20 42.55

63.00 14.80 7.93

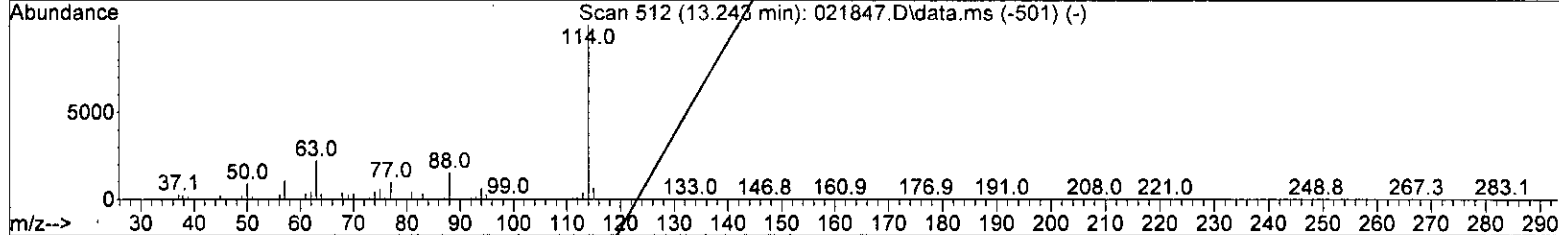
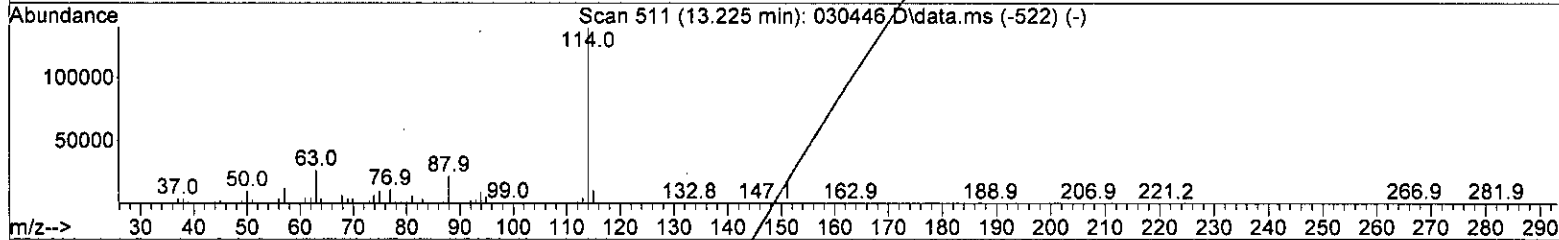
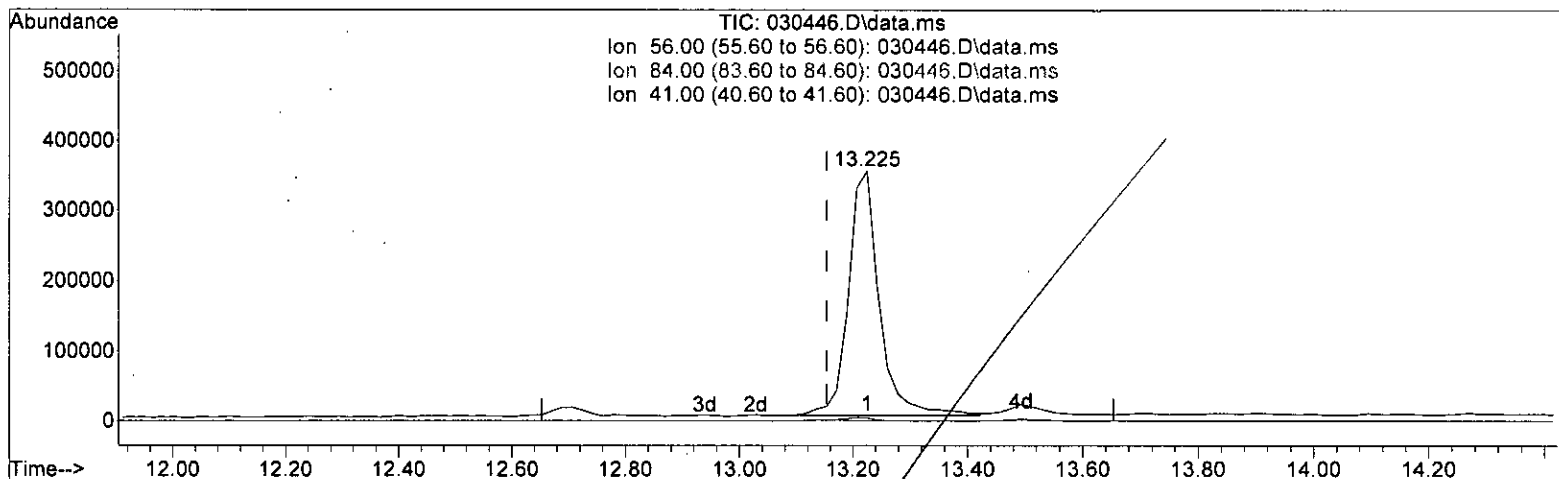
88.00 10.30 6.52

*Handwritten signature:*  
 3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:48:37 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(14) Cyclohexane (L1)

13.225min (+ 0.071) 49.577 ug/m3

response 1314500

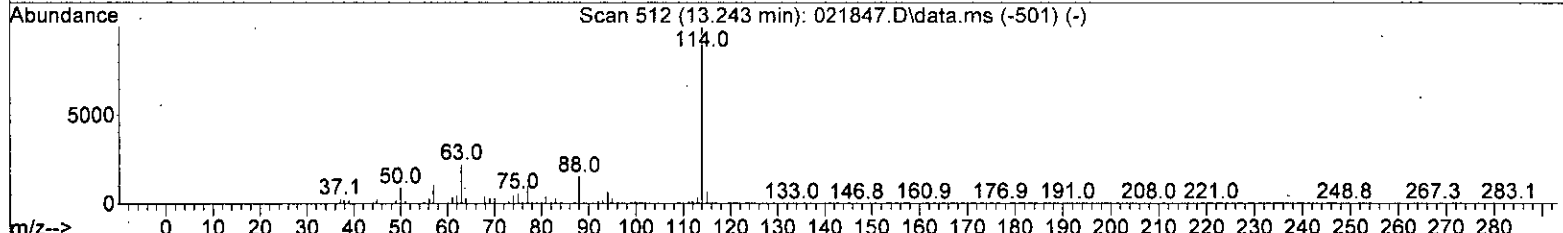
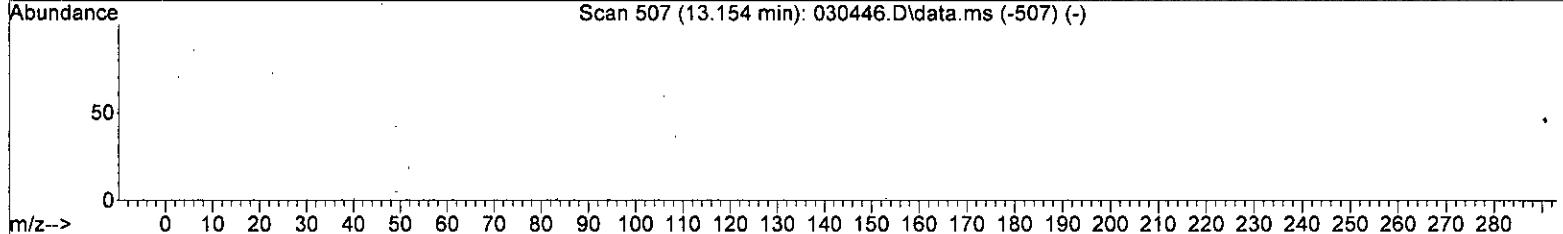
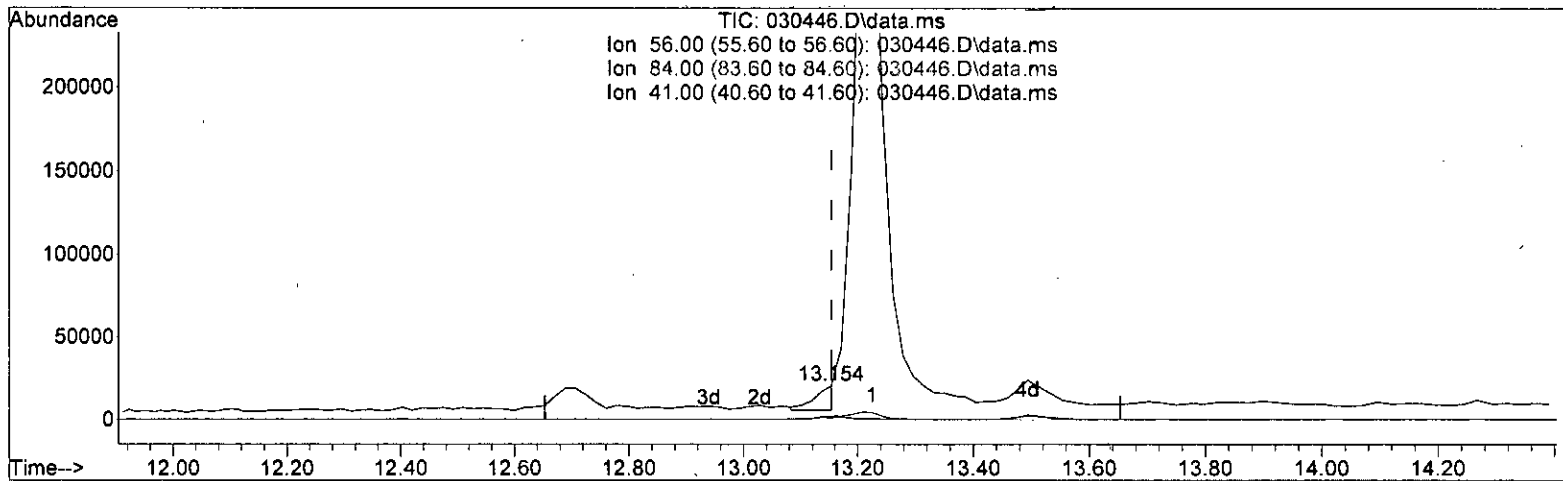
Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.90	1.19
84.00	1.30	0.17
41.00	1.00	0.06

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:48:37 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(14) Cyclohexane (L1)

13.154min (-0.000) 1.359 ug/m3 m

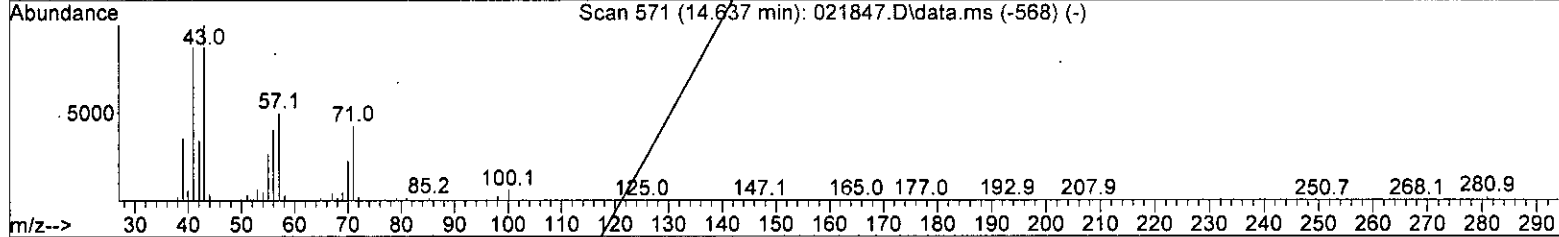
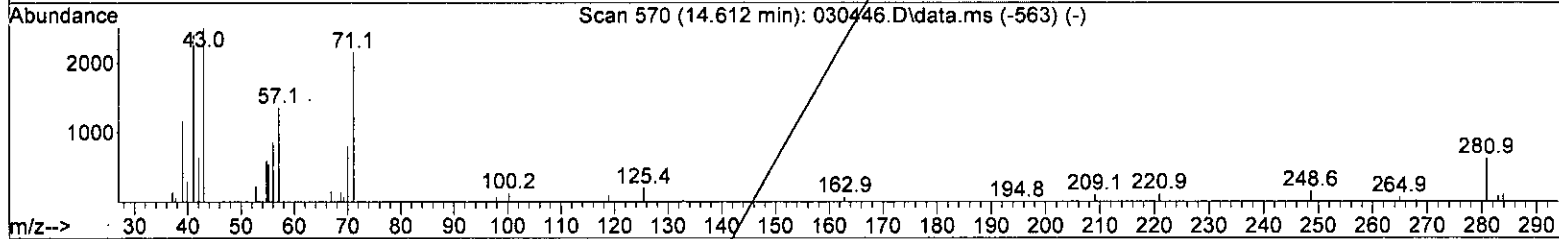
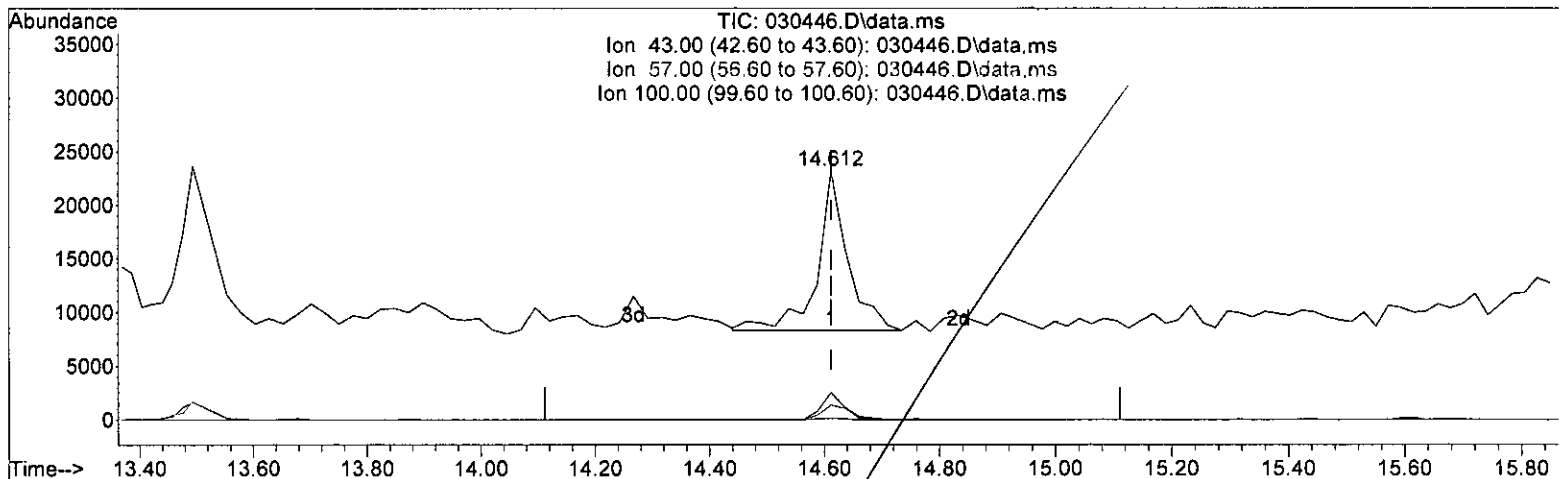
response	36039
Signal	Exp% Act%
TIC	100.00 100.00
56.00	3.90 43.54#
84.00	1.30 6.27
41.00	1.00 2.35

*Handwritten signature/initials*  
 3/8/22

Quantitation Report (Qedit):

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:48:37 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030446.D\data.ms

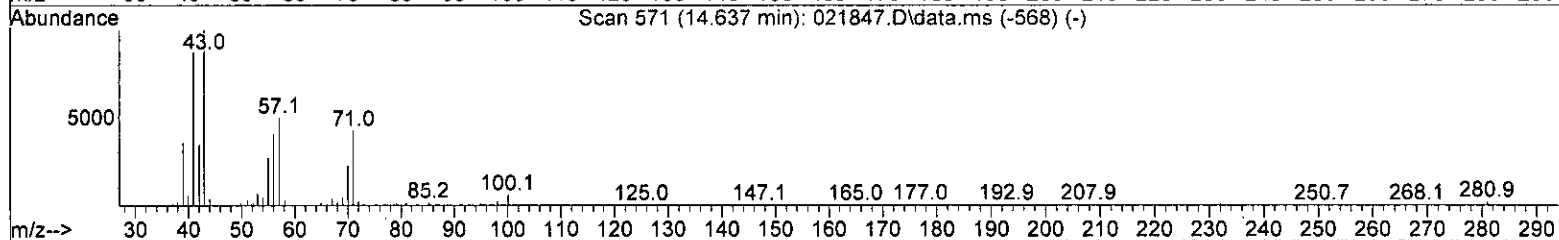
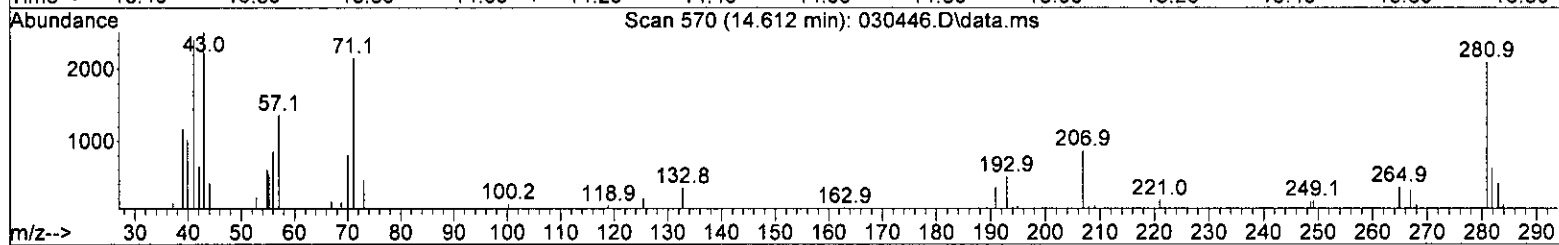
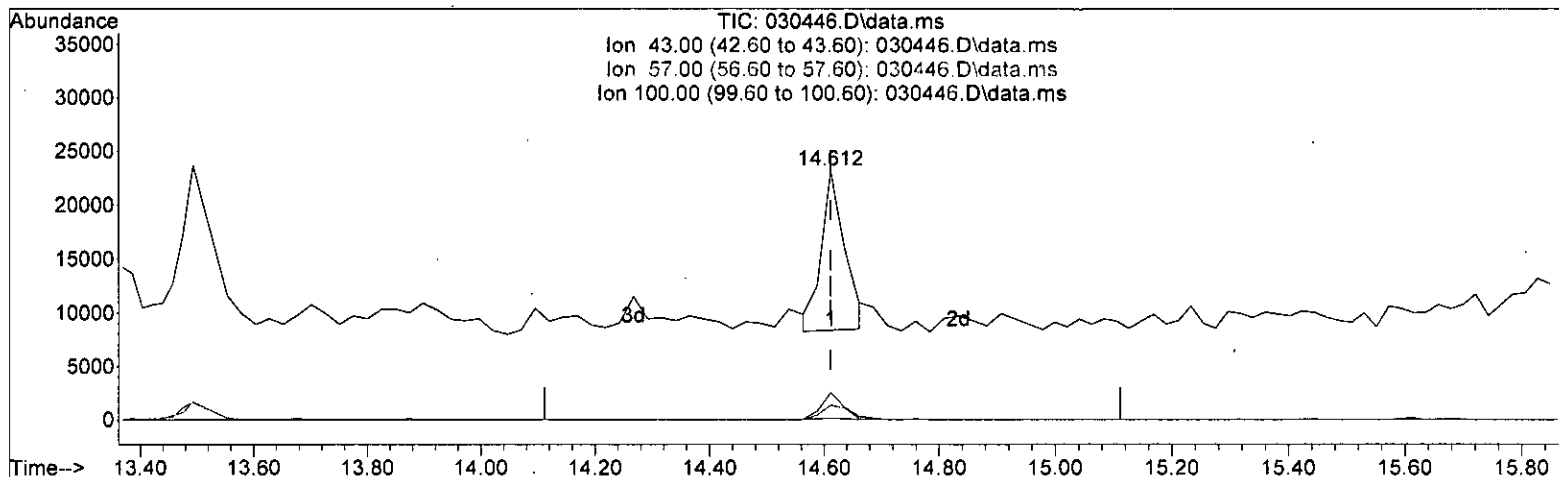
(16) Heptane (L1)		
14.612min (-0.000)	2.434 ug/m3	
response	55381	
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	22.80	16.85
57.00	9.20	9.12
100.00	1.00	0.84

*Handwritten signature: V 3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:48:37 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(16) Heptane (L1)

14.612min (-0.000) 1.890 ug/m3 m

response 43008

Signal Exp% Act%

TIC 100.00 100.00

43.00 22.80 21.69

57.00 9.20 11.75

100.00 1.00 1.08

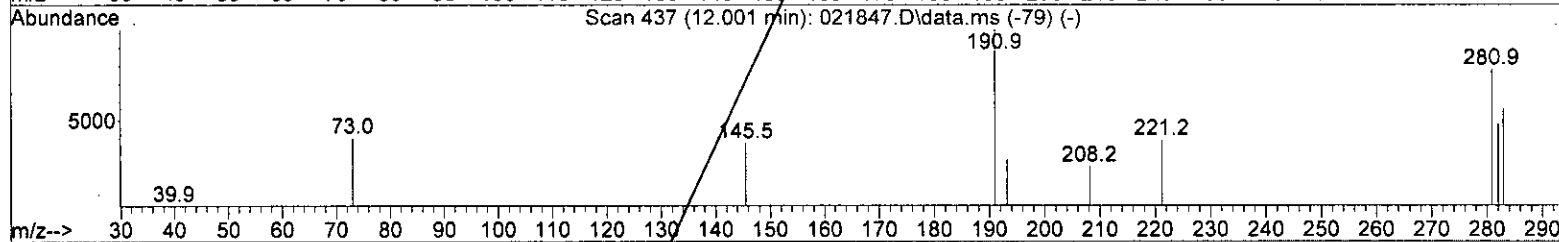
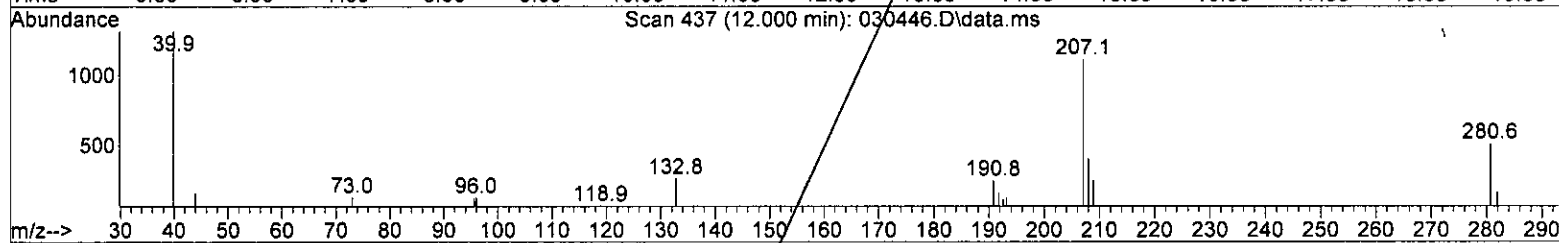
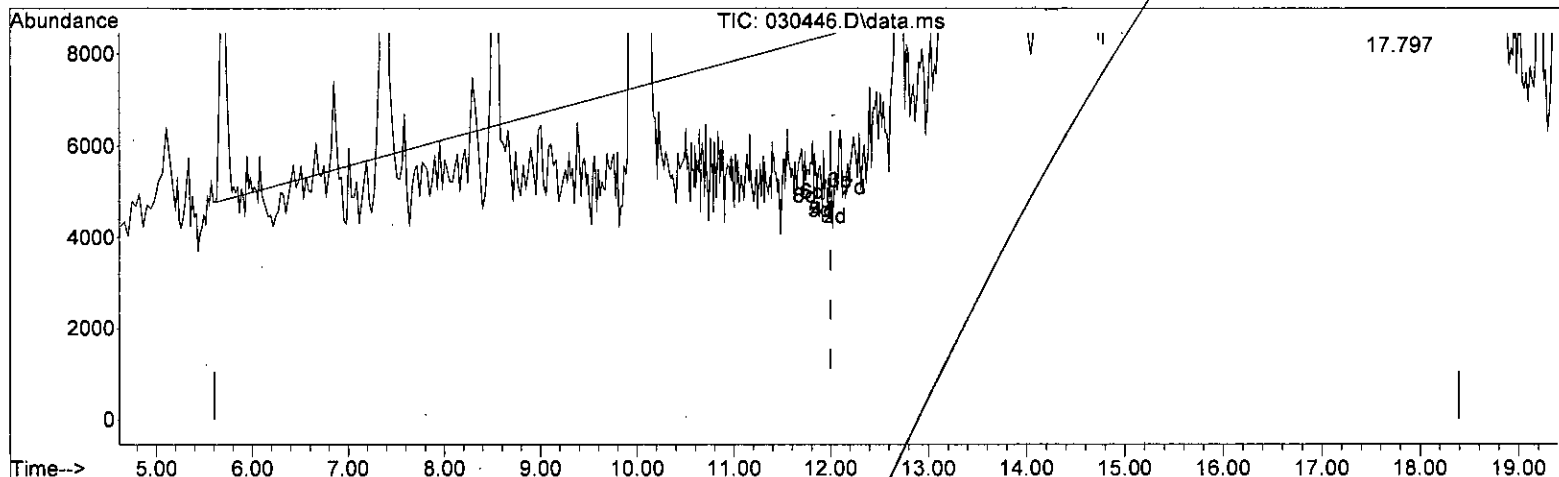
*Handwritten signature/initials*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:48:37 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(19) APH EC5-8 aliphatics (H)

12.004min ( 0.000) 10.614 ug/m3 m

response 3225854

Signal Exp% Act%

TIC 100.00 100.00

0.00 0.00 0.00

0.00 0.00 0.00

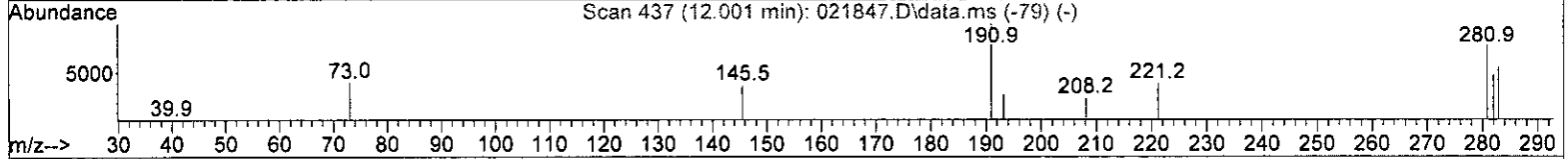
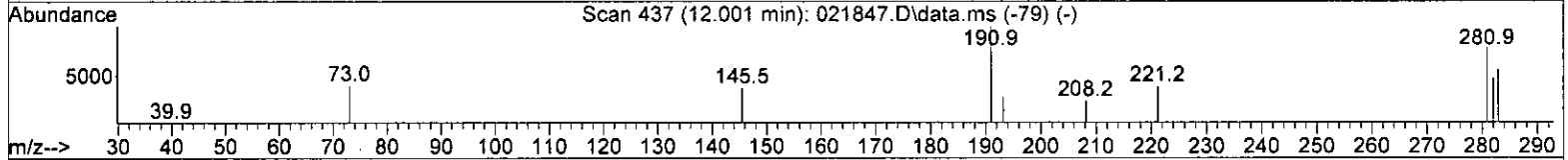
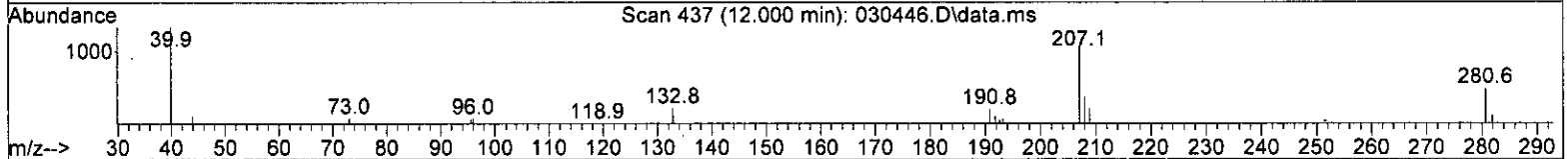
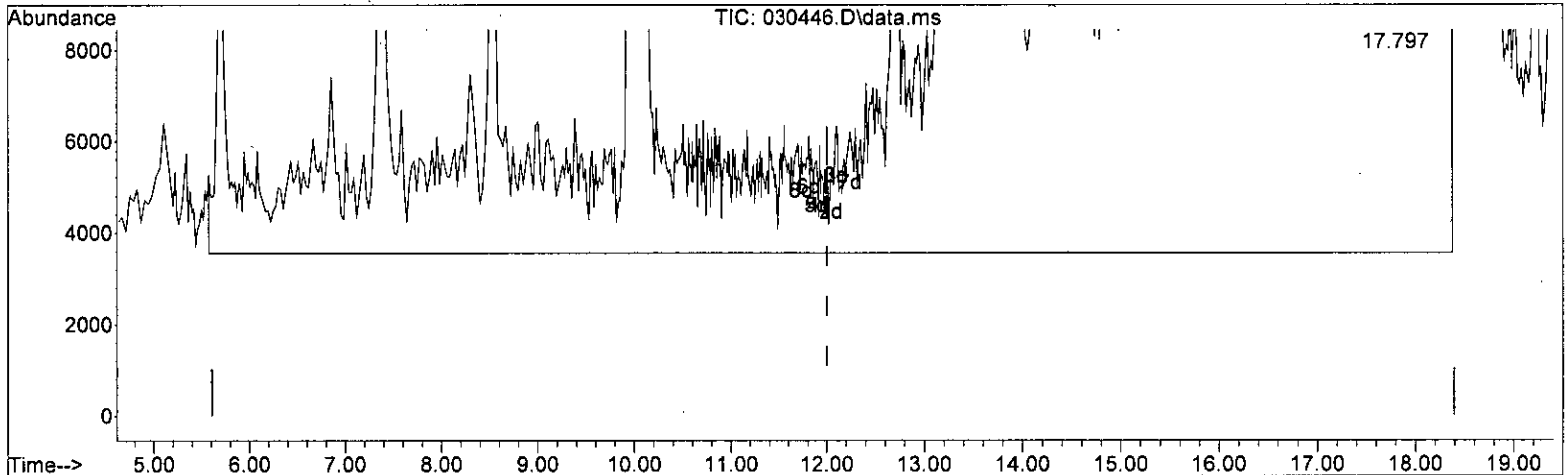
0.00 0.00 0.00

*Handwritten signature:* 12/3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:48:37 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030446.D\data.ms

(19) APH EC5-8 aliphatics (H)

12.004min ( 0.000) 31.378 ug/m3 m

response 9536686

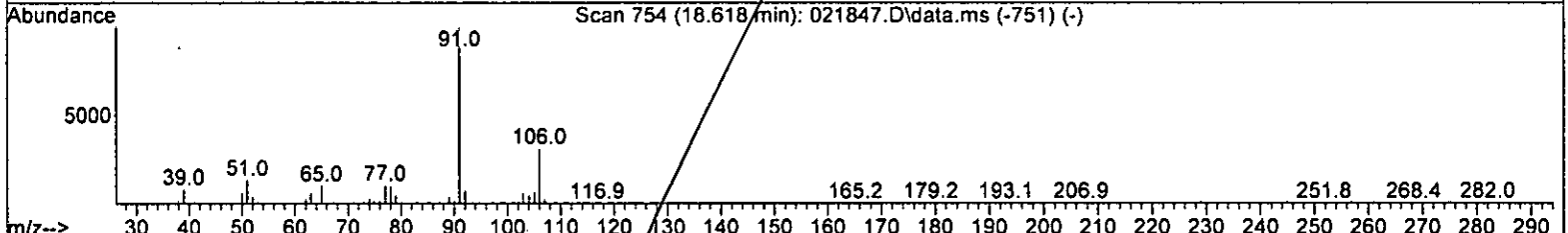
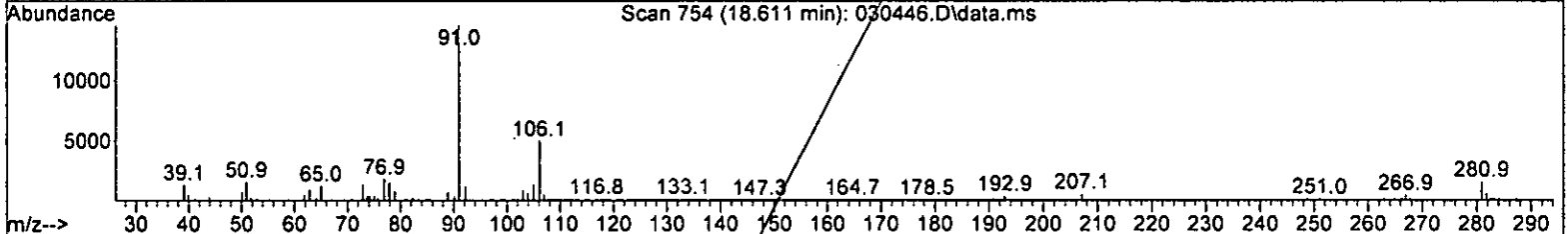
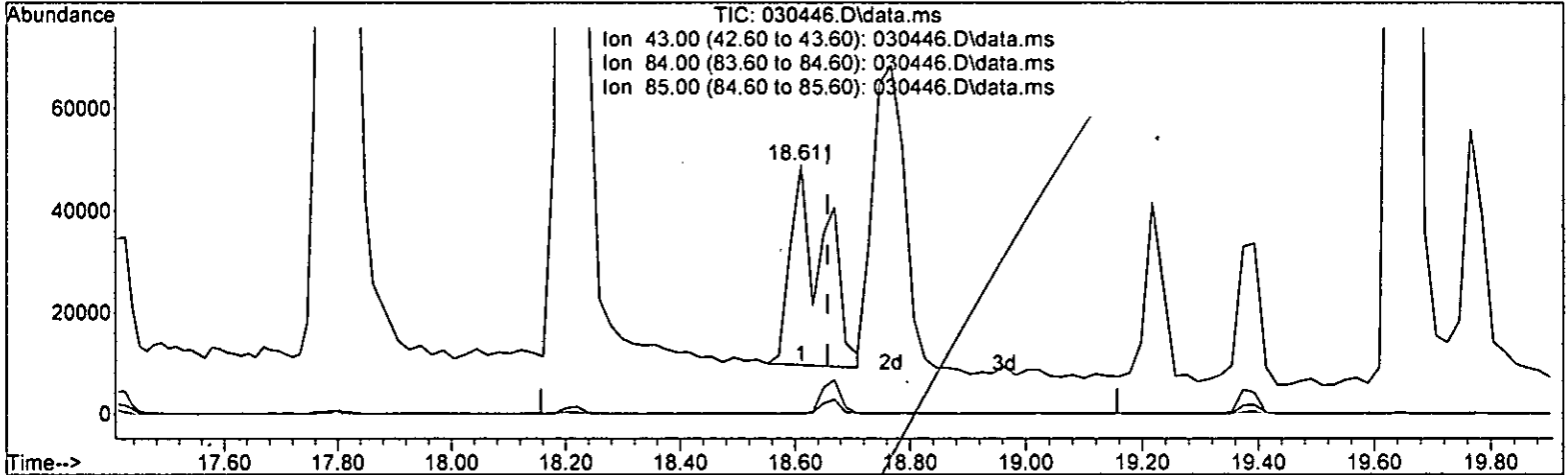
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* R/S/W  
3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:48:37 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



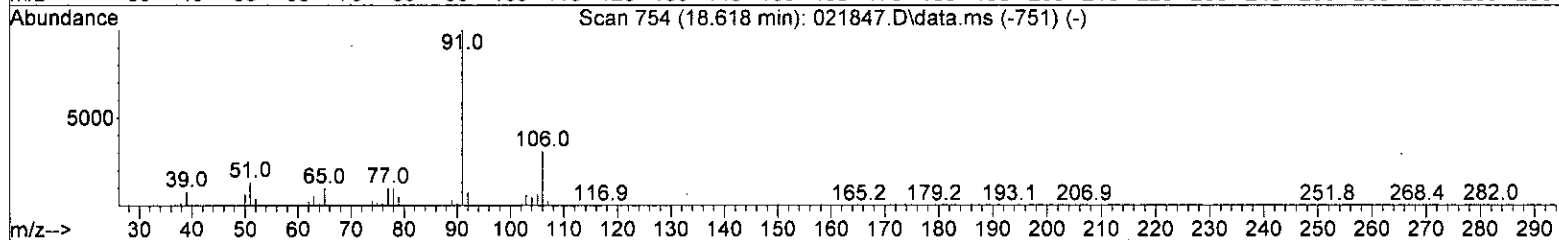
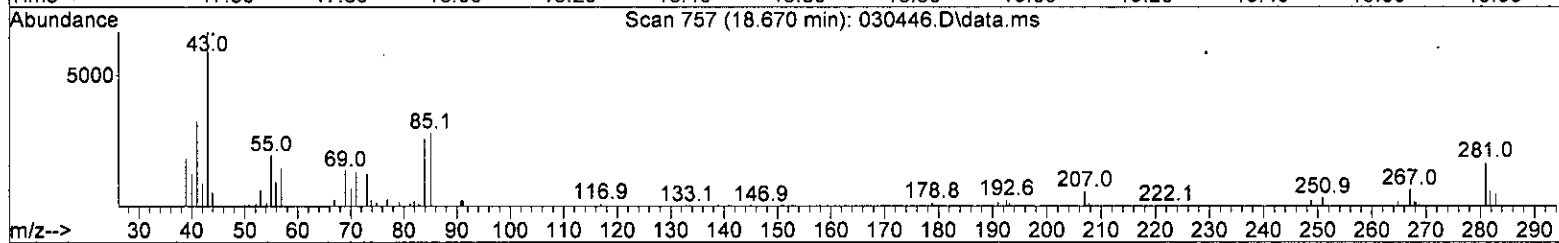
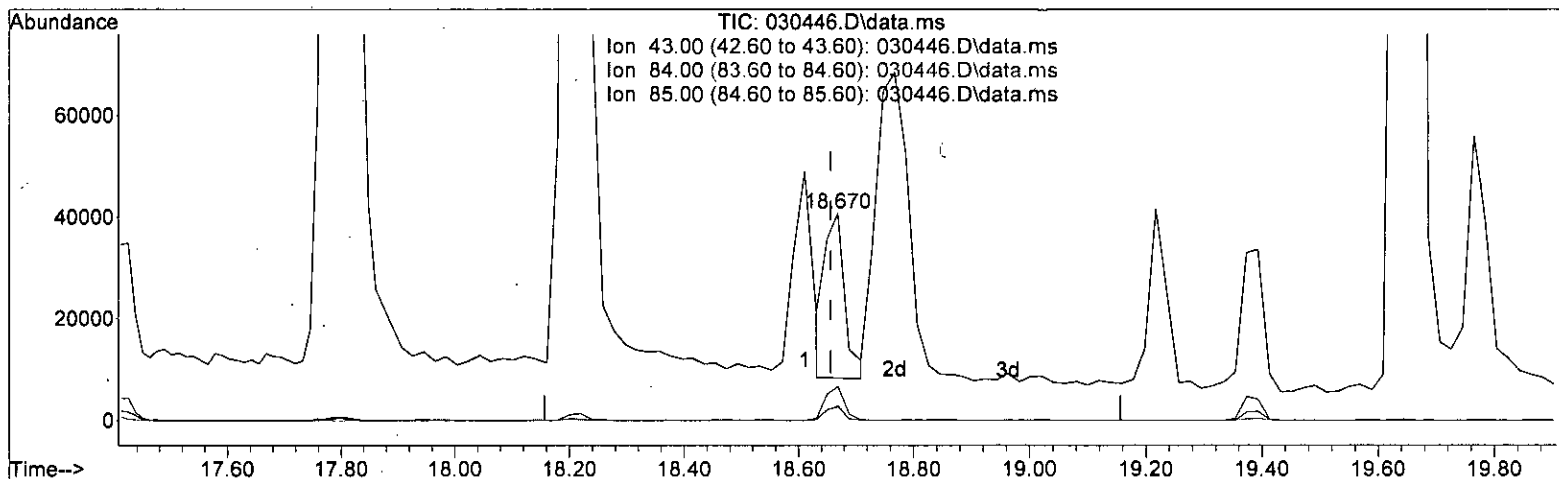
(29) 2,3-Dimethylheptane (L2)  
 18.611min (-0.046) 6.196 ug/m3  
 response 164367  
 Signal Exp% Act%  
 TIC 100.00 100.00  
 43.00 31.80 9.70#  
 84.00 7.20 3.72#  
 85.00 6.20 3.86#

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:48:37 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030446.D\data.ms

(29) 2,3-Dimethylheptane (L2)

18.670min (+ 0.013) 3.038 ug/m3 m

response 80603

Signal Exp% Act%

TIC 100.00 100.00

43.00 31.80 19.77#

84.00 7.20 7.59

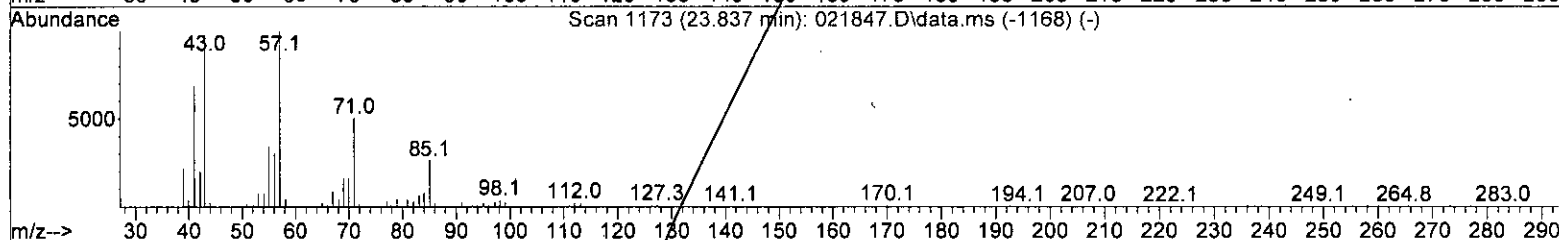
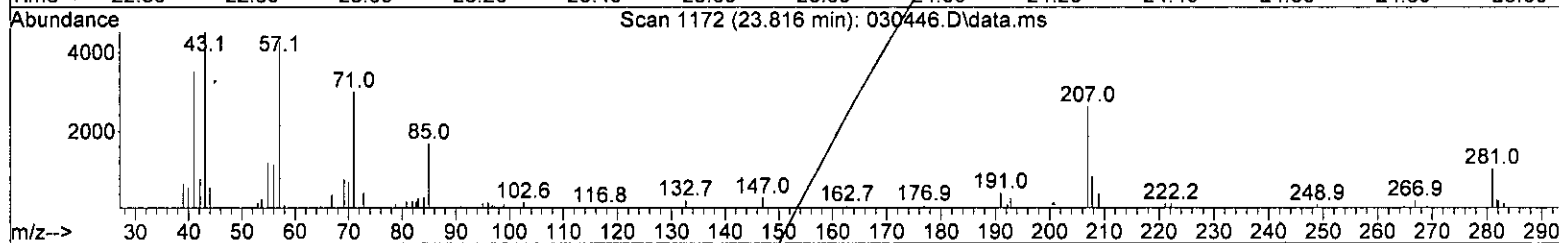
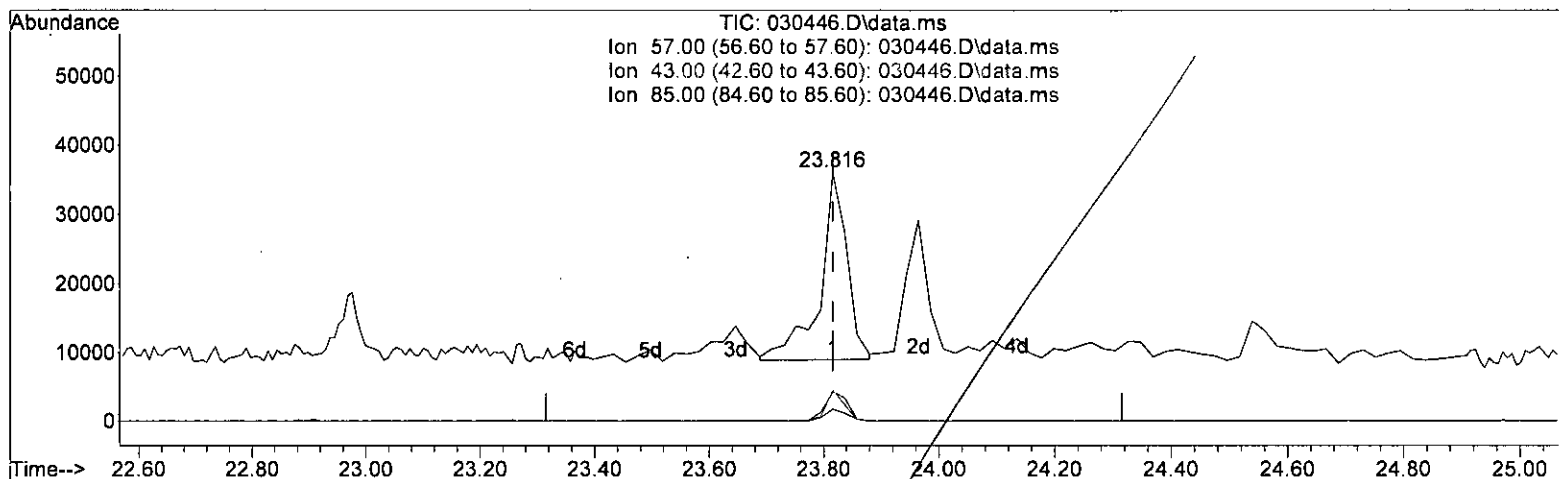
85.00 6.20 7.88#

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:48:37 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030446.D\data.ms

(34) Dodecane (L2)

23.816min (-0.000) 3.759 ug/m3

response 89547

Signal Exp% Act%

TIC 100.00 100.00

57.00 16.80 13.37

43.00 18.50 11.34

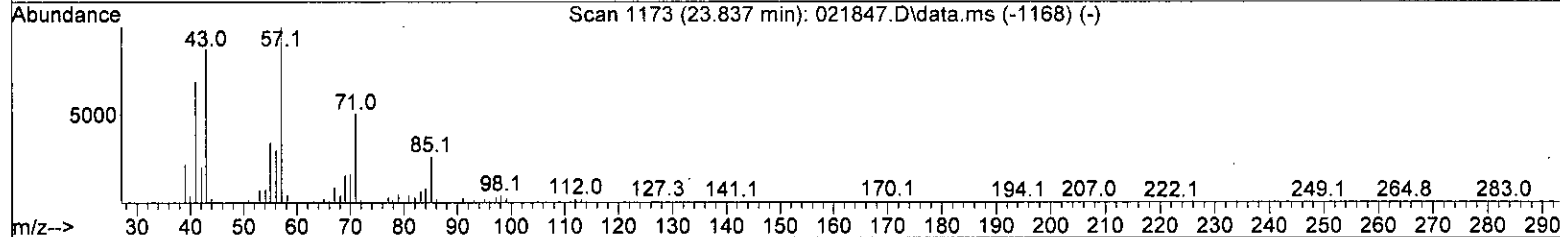
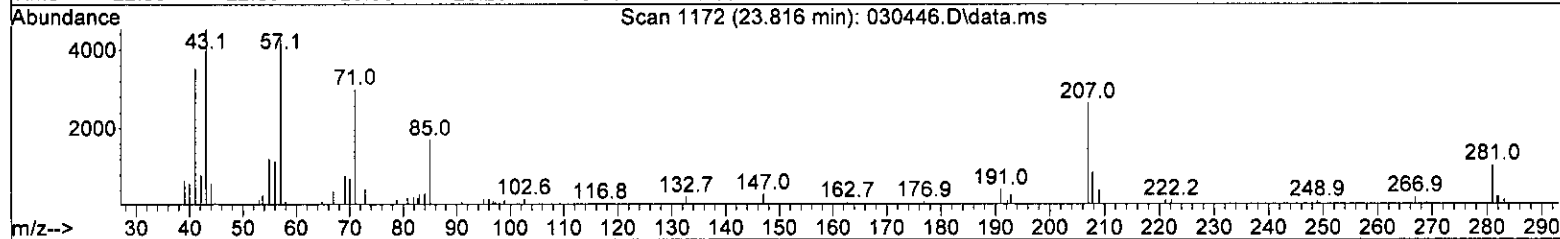
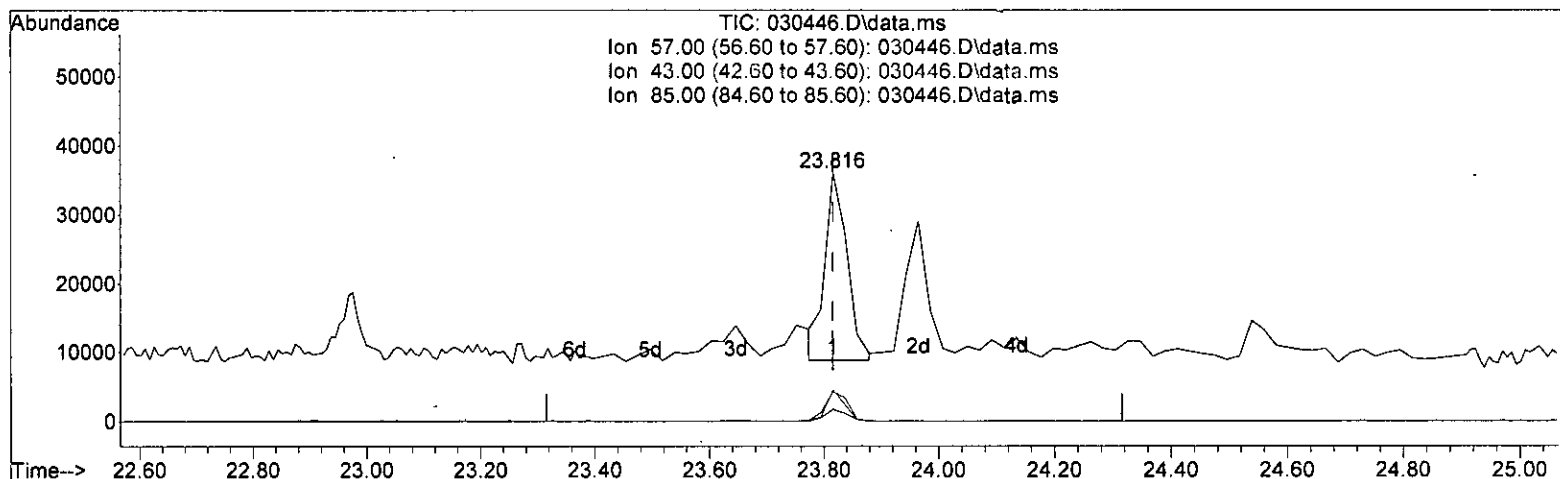
85.00 3.90 5.11

*Handwritten signature: 3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:48:37 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(34) Dodecane (L2)

23.816min (-0.000) 3.116 ug/m3 m

response 74239

Signal Exp% Act%

TIC 100.00 100.00

57.00 16.80 16.12

43.00 18.50 13.68

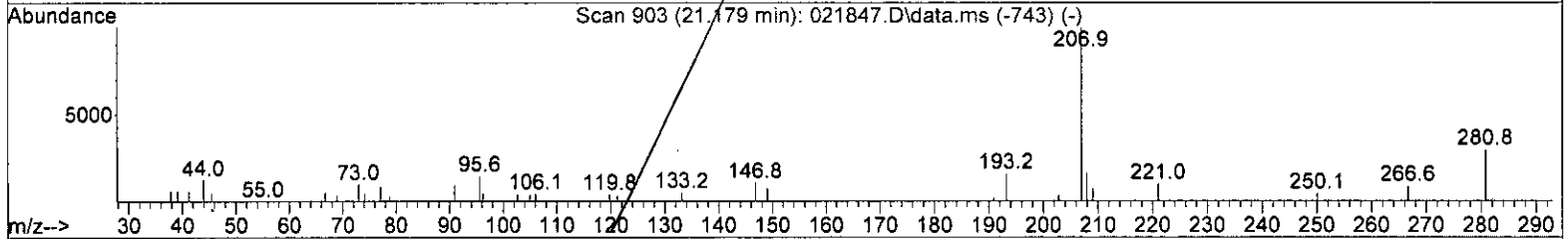
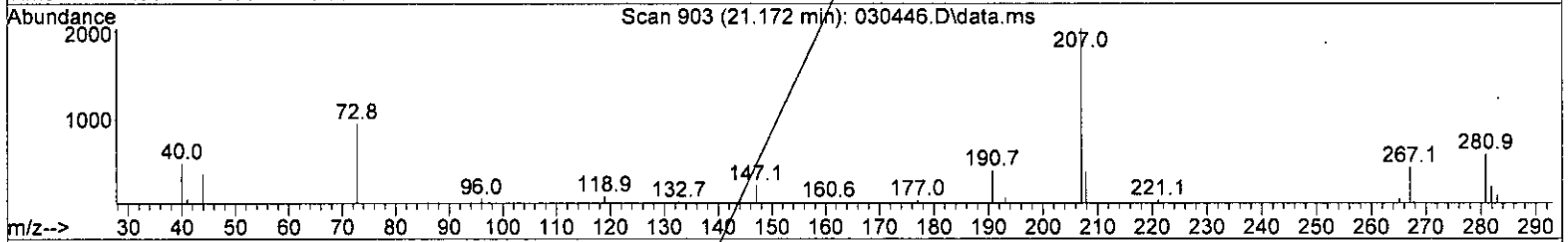
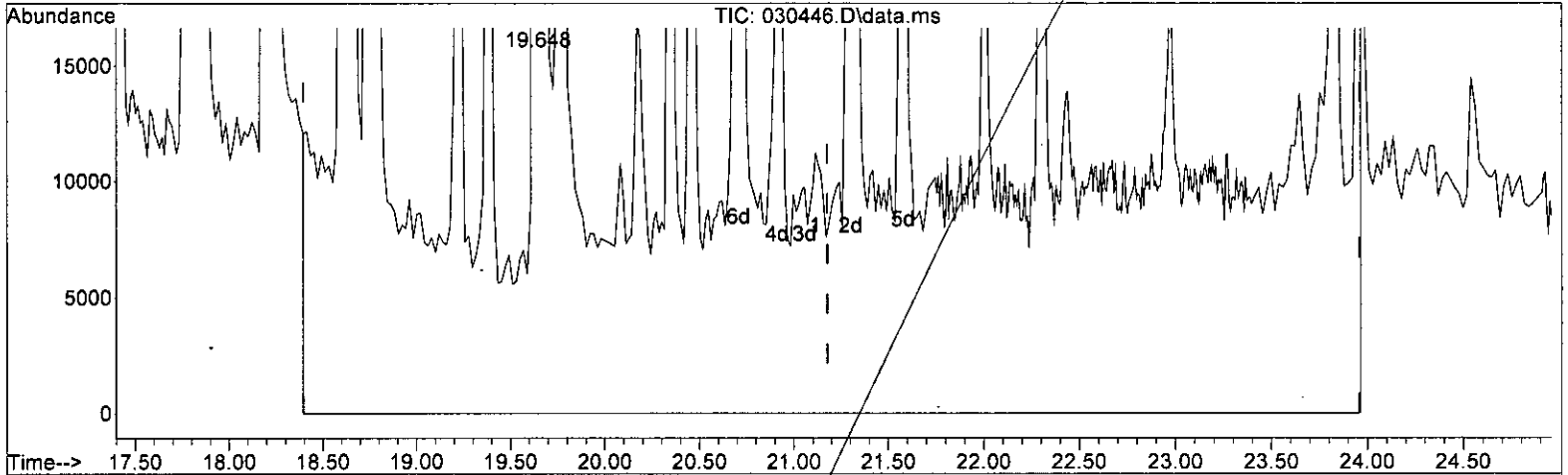
85.00 3.90 6.16

*Handwritten signature:* W 2/18/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:48:37 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 12.325 ug/m3 m

response 2007851

Signal Exp% Act%

TIC 100.00 100.00

0.00 0.00 0.00

0.00 0.00 0.00

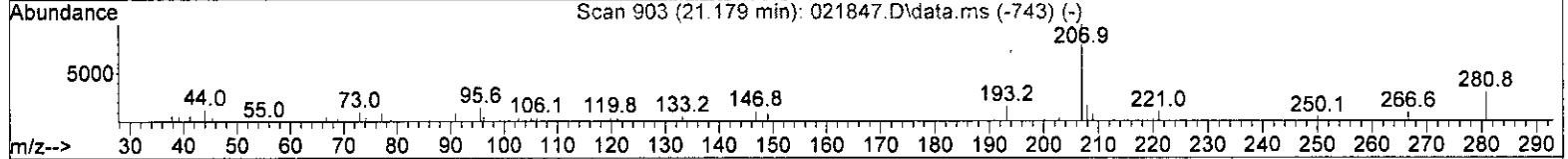
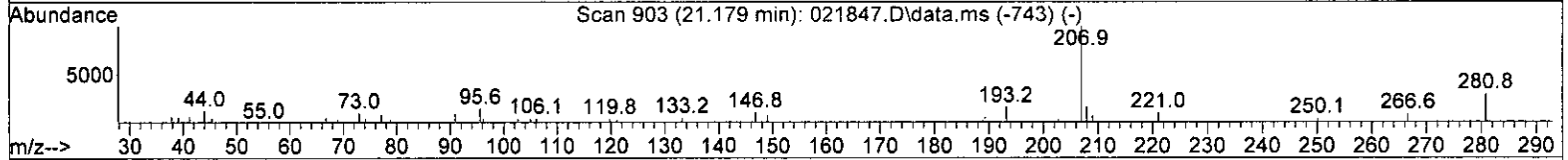
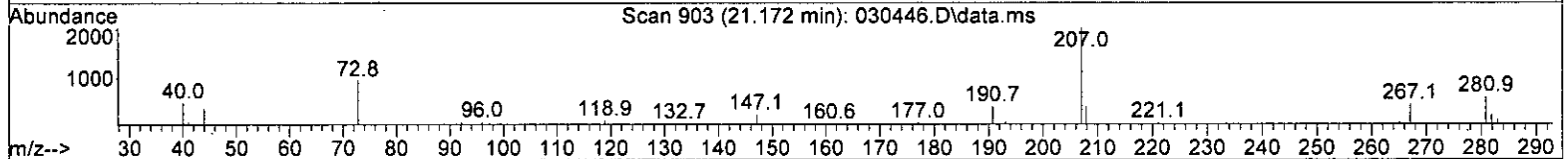
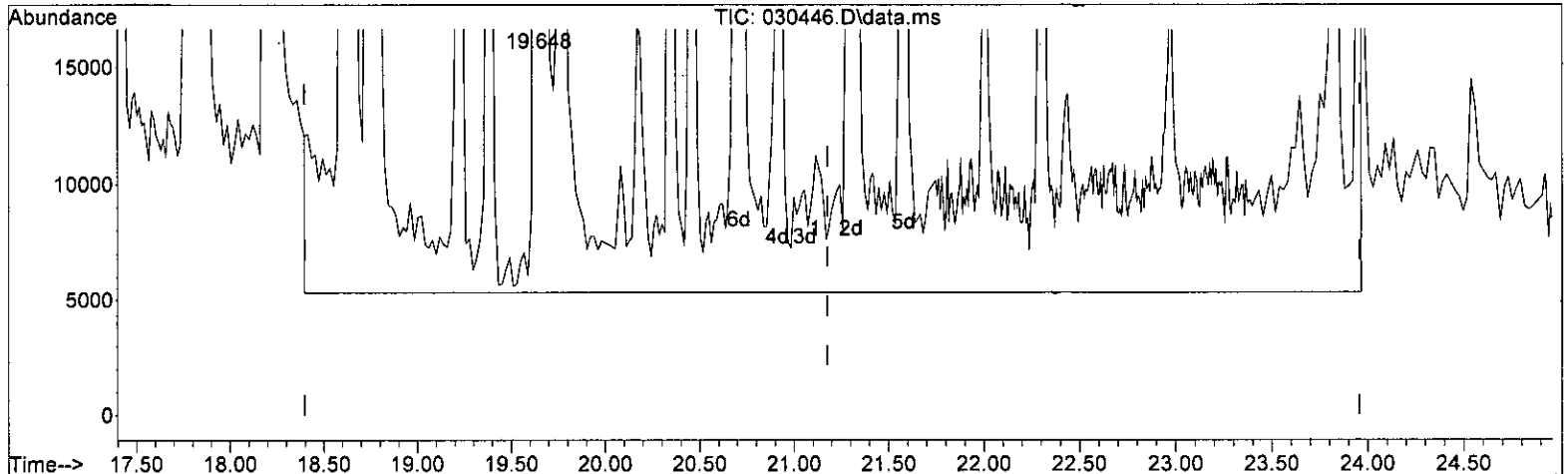
0.00 0.00 0.00

*Handwritten:* 3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:48:37 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030446.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 24.266 ug/m3 m

response 3953274

Signal	Exp%	Act%
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TIC	100.00	100.00
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0.00	0.00	0.00
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0.00	0.00	0.00
------	------	------

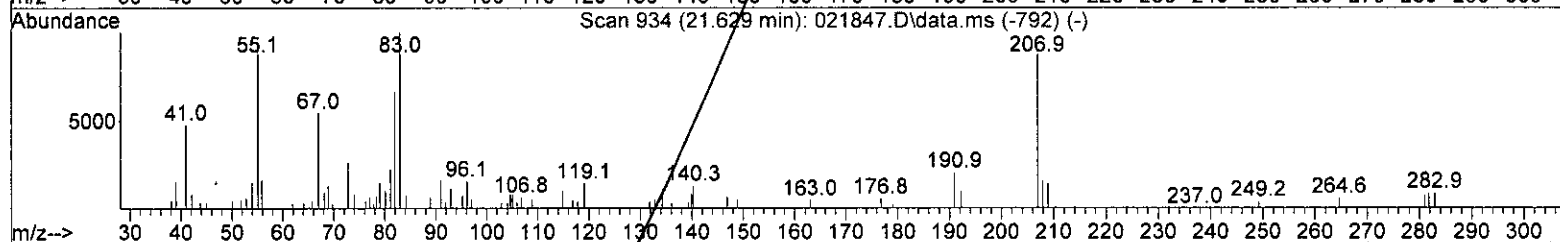
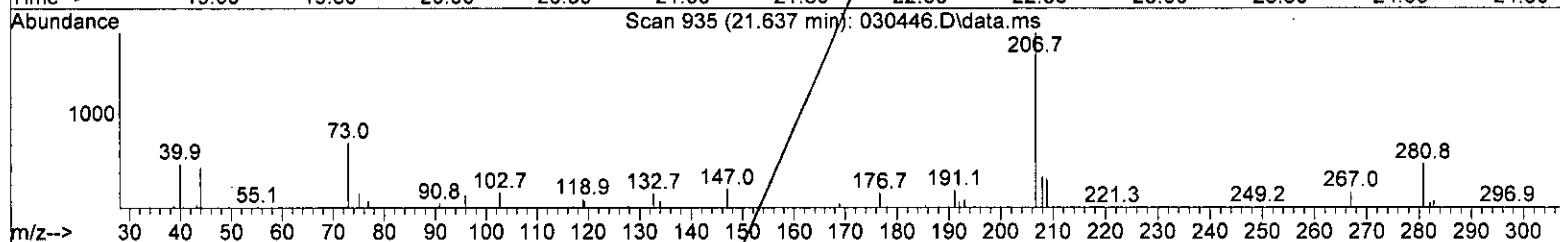
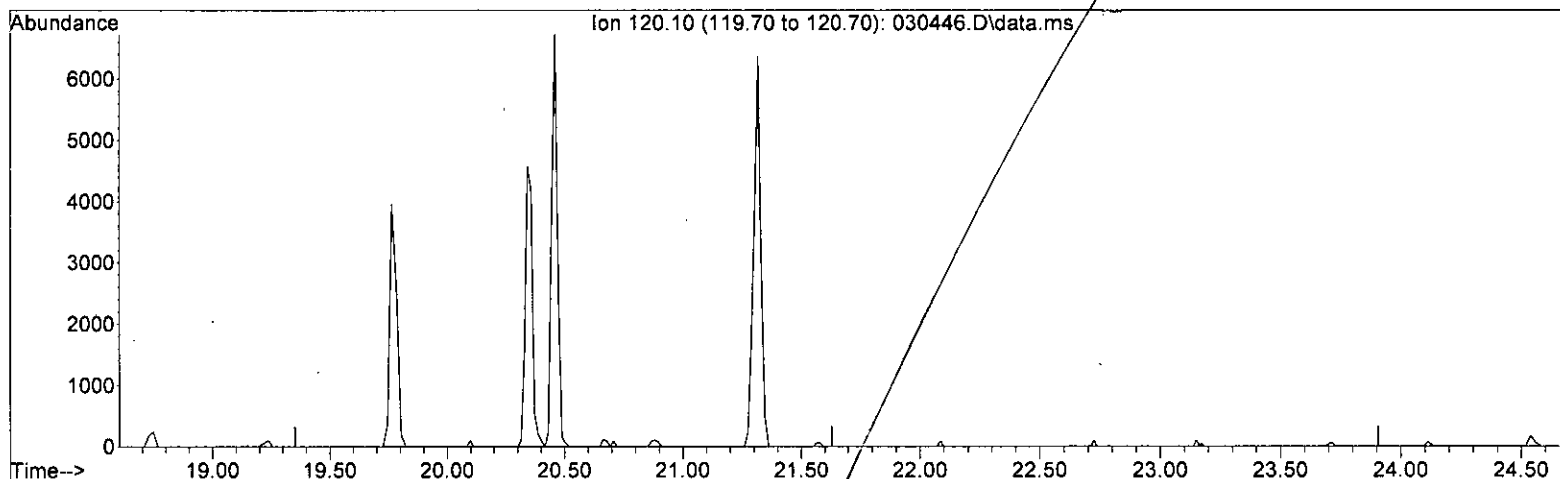
0.00	0.00	0.00
------	------	------

*Bat*  
 3/8/22



Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:48:37 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030446.D\data.ms

(44) APH EC9-10 aromatics (1) (H)

21.630min ( 0.000) -1.637 ug/m3 m

response -8703

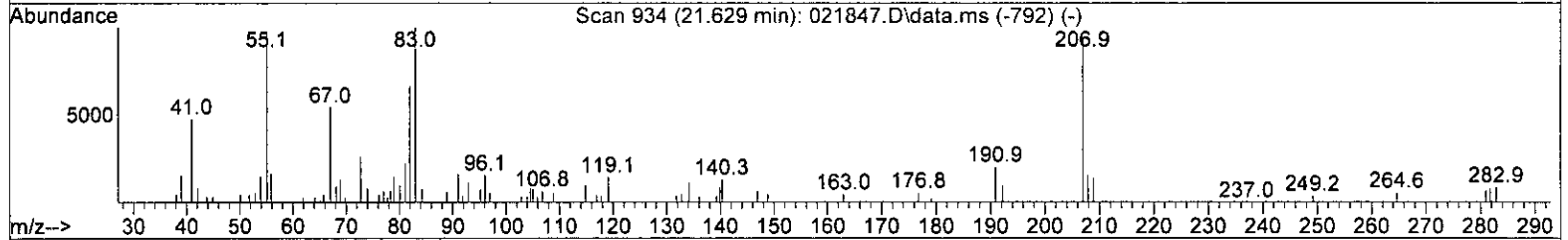
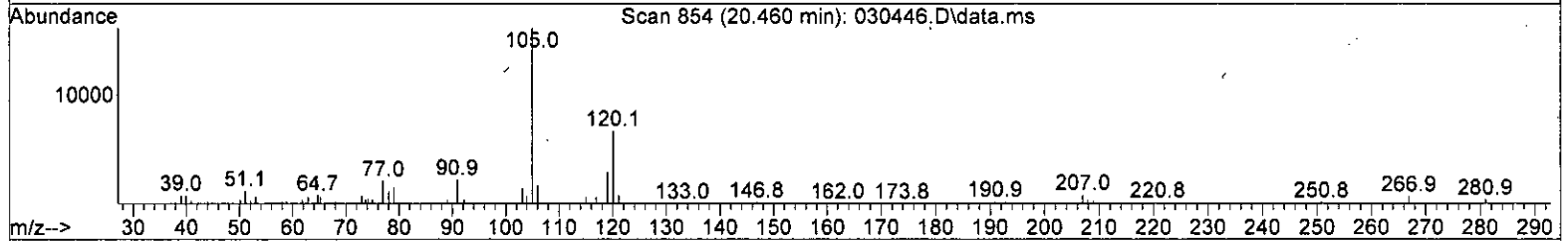
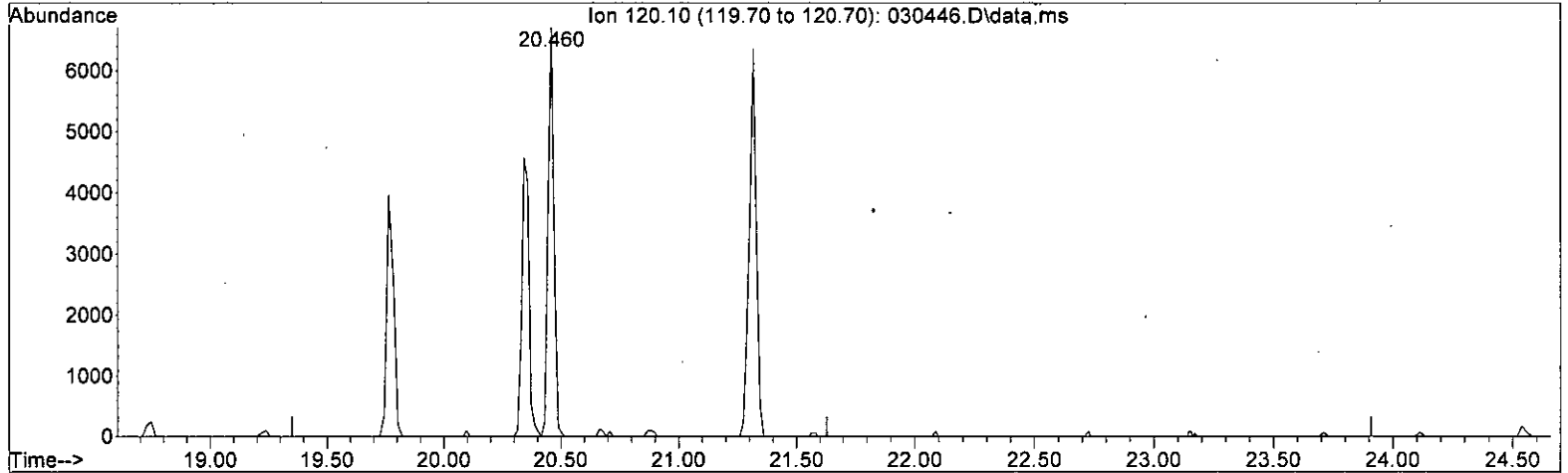
Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:48:37 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030446.D\data.ms

(44) APH EC9-10 aromatics (1) (H)  
 21.630min ( 0.000) 6.469 ug/m3 m  
 response . 34400

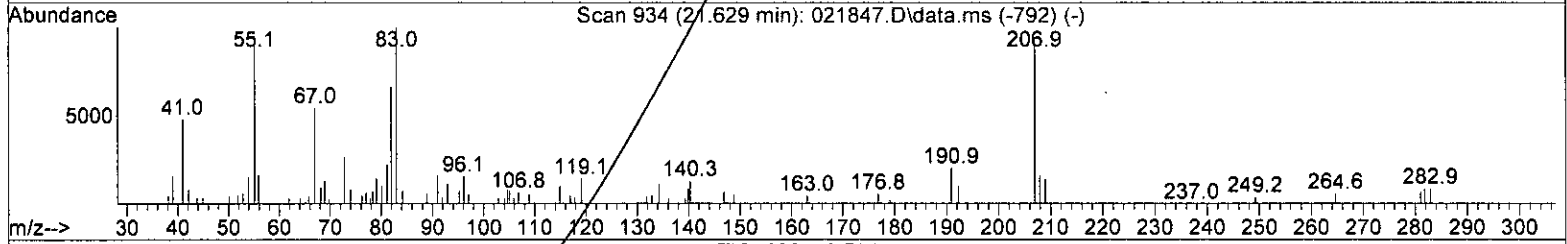
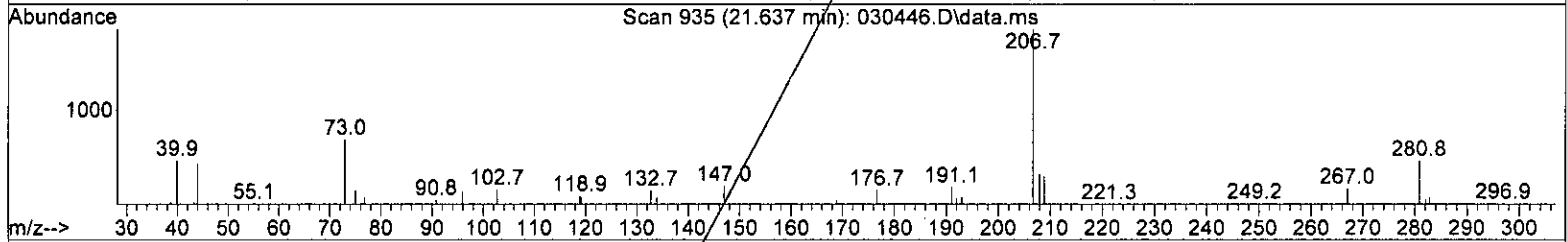
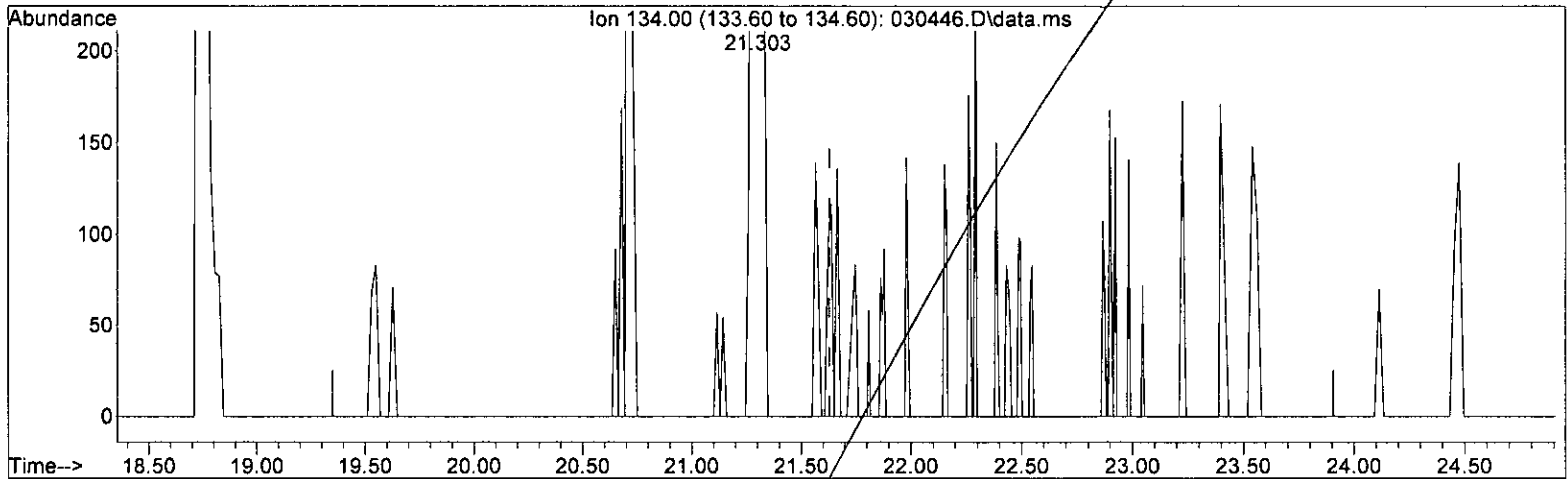
Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: W/ 3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:48:37 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(45) APH EC9-10 aromatics (2) (H)

21.630min ( 0.000) -14.543 ug/m3 m

response -43531

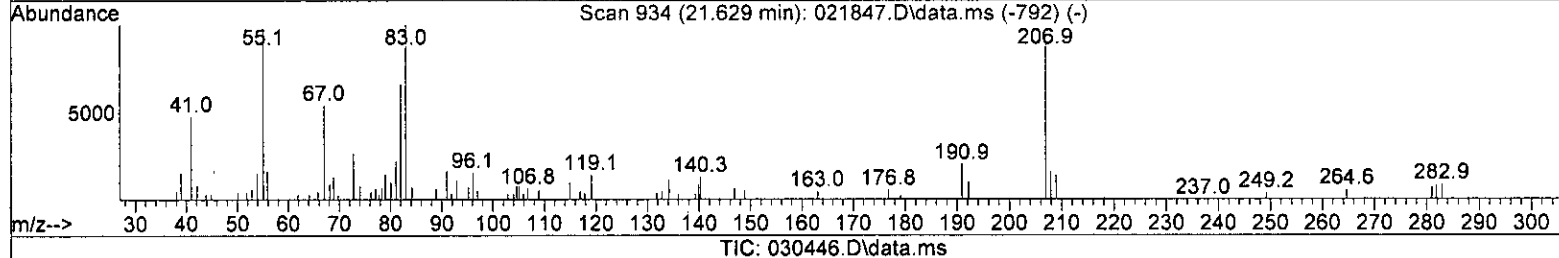
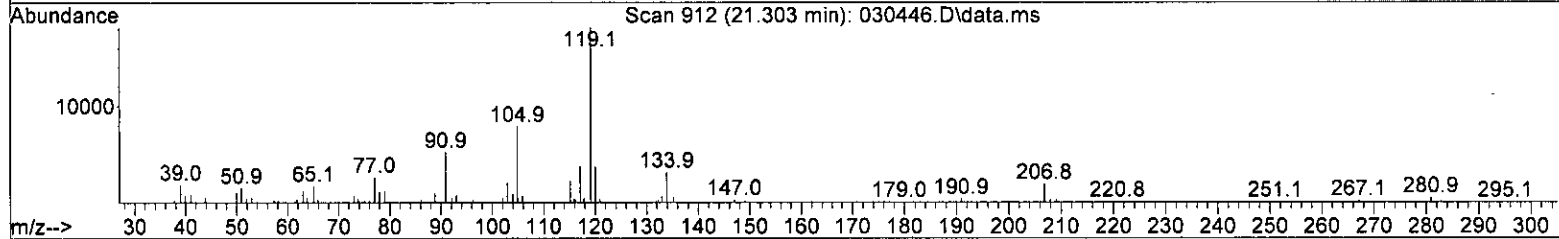
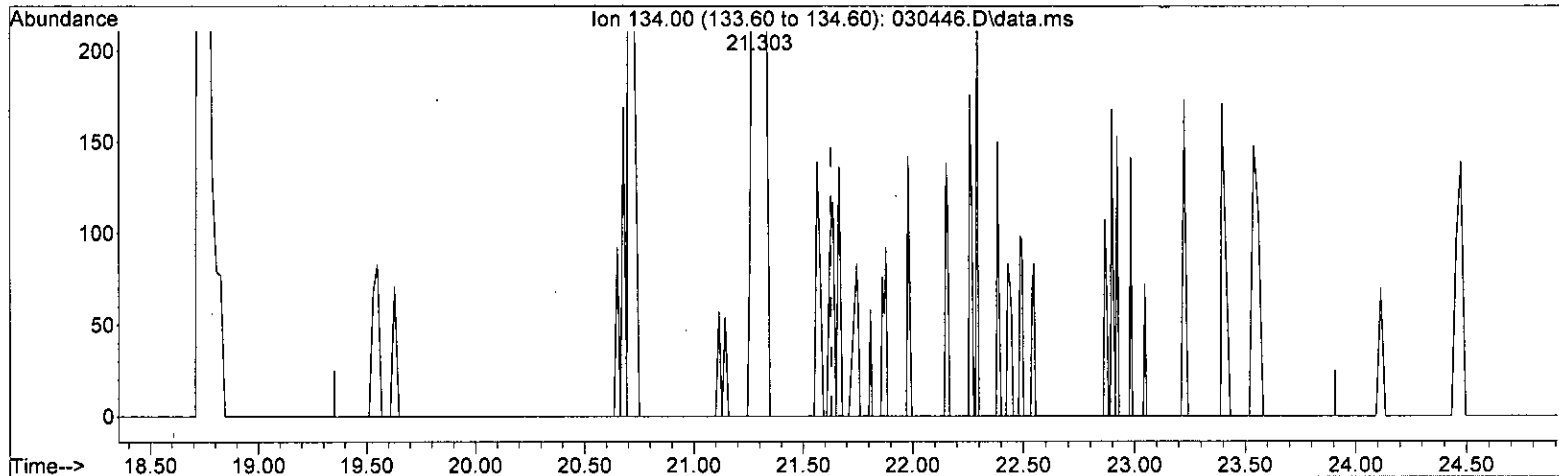
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:48:37 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030446.D\data.ms

(45) APH EC9-10 aromatics (2) (R)

21.630min ( 0.000) 3.349 ug/m3 m

response 10025

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Bat/m*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:51:15 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.98	128	115200	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	505960	50.000	ug/m3	0.02
20) Chlorobenzene-d5	18.22	117	439220	50.000	ug/m3	0.01

System Monitoring Compounds  
 37) 4-Bromofluorobenzene 19.65 95 310286 68.884 ug/m3 0.00  
 Spiked Amount 71.000 Range 70 - 130 Recovery = 97.01%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.98	TIC	803193	50.380	ug/m3	89
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1251457m	42.718	ug/m3	
4) IS-3 Chlorobenzene-d5	18.22	TIC	1418320	48.964	ug/m3	99
5) Methylene chloride	6.85	TIC	15559	42.059	ug/m3	79
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.	d	
8) 1,3-Butadiene	4.31	54	4556	1.323	ug/m3#	50
9) Methyl t-butyl ether	8.53	73	19997	2.052	ug/m3	89
11) Benzene	12.71	78	21674	1.699	ug/m3	81
12) Isopentane	5.71	TIC	32738	1.715	ug/m3	92
13) Hexane	10.10	TIC	49183	2.239	ug/m3#	95
14) Cyclohexane	13.15	TIC	36039m	1.359	ug/m3	
15) 2,3-Dimethylpentane	13.49	TIC	56010	2.806	ug/m3	89
16) Heptane	14.61	TIC	43008m	1.890	ug/m3	
17) Octane	17.42	TIC	100331	2.780	ug/m3	85
18) APH EC5-8 aliphatics T...	11.92	TIC	317309m	12.687	ug/m3	
19) APH EC5-8 aliphatics	12.00	TIC	9536686m	31.378	ug/m3	
21) S 4-Bromofluorobenzene	19.65	TIC	1881416	49.263	ug/m3	98
22) Hexamethylcyclotrisilo...	17.80	TIC	2277315	39.988	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	284544	37.447	ppbv	100
24) Toluene	16.41	92	12426	1.812	ug/m3	100
25) Ethylbenzene	18.61	91	30975	2.155	ug/m3	97
26) m,p-Xylene	18.77	106	21602	4.142	ug/m3	100
27) o-Xylene	19.22	106	10260	2.058	ug/m3#	74
28) Naphthalene	23.96	128	22101	1.877	ug/m3	95
29) 2,3-Dimethylheptane	18.67	TIC	80603m	3.038	ug/m3	
30) Nonane	19.39	TIC	76485	2.755	ug/m3	86
31) Decane	20.91	TIC	91270	3.324	ug/m3	86
32) Butylcyclohexane	21.58	TIC	108838	2.951	ug/m3	94
33) Undecane	22.31	TIC	96655	3.664	ug/m3	87
34) Dodecane	23.82	TIC	74239m	3.116	ug/m3	
35) APH EC9-12 aliphatics ...	21.11	TIC	528090m	18.894	ug/m3	
36) APH EC9-12 aliphatics	21.18	TIC	3953274m	24.266	ug/m3	
38) Isopropylbenzene	19.77	120	8321	2.494	ug/m3	92
39) 1-Methyl-3-ethylbenzene	21.32	120	13329	2.117	ug/m3#	50
40) 1,3,5-Trimethylbenzene	20.46	120	11689	2.143	ug/m3	89
41) p-Isopropyltoluene	21.30	134	7094	2.383	ug/m3#	82
42) 1,2,3-Trimethylbenzene	21.32	120	13329	2.117	ug/m3	98
43) APH EC9-10 aromatics T...	21.58	TIC	53762m	11.169	ug/m3	
44) APH EC9-10 aromatics (1)	21.63	120	34400m	6.469	ug/m3	

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

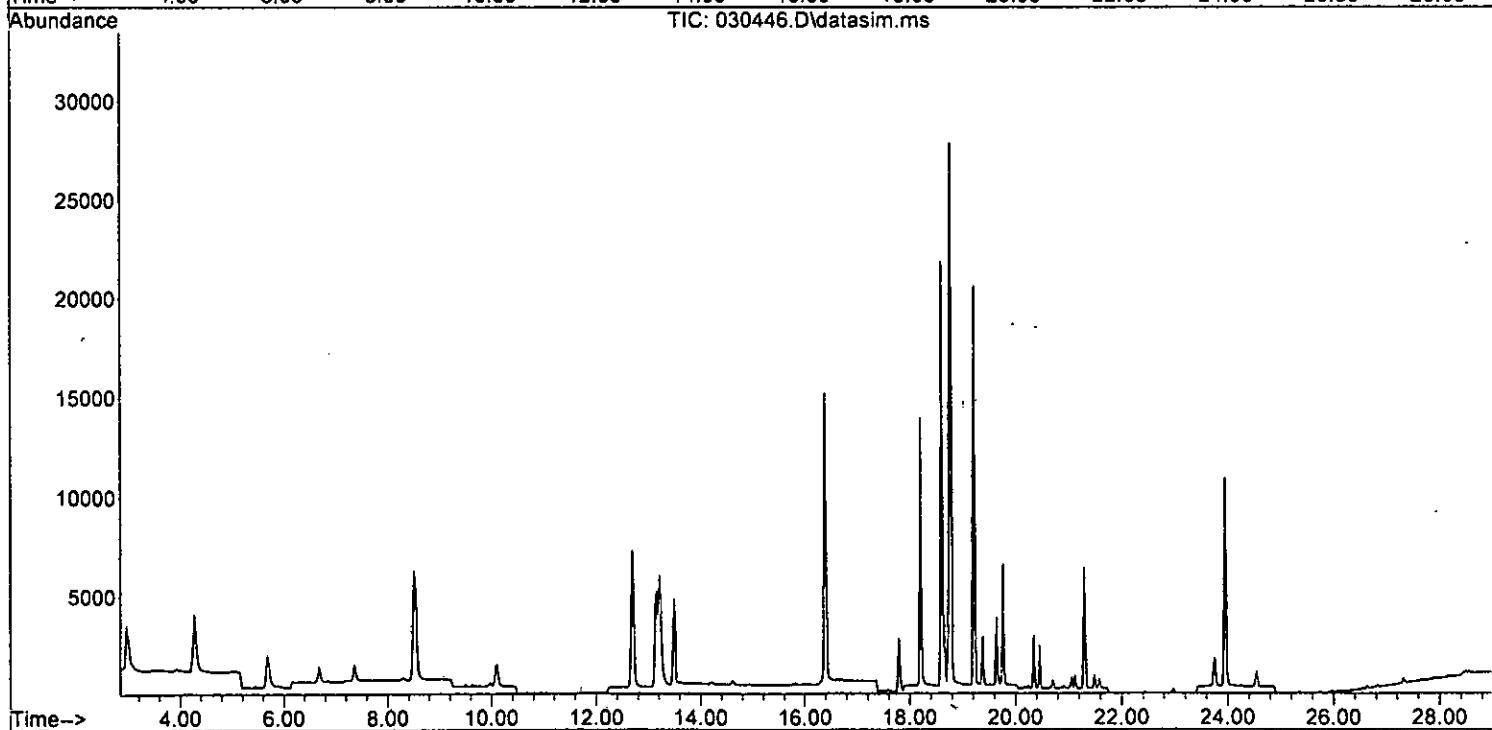
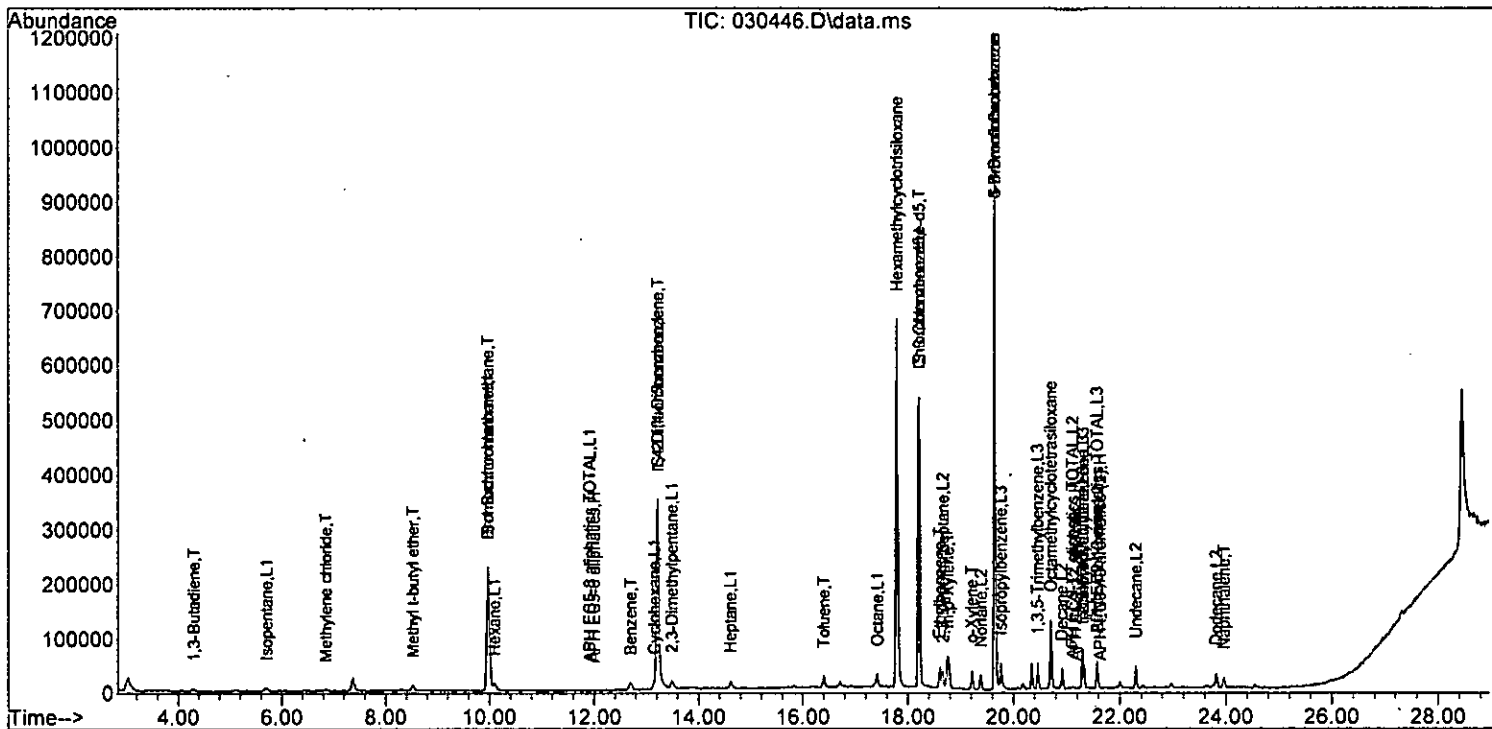
Quant Time: Mar 08 16:51:15 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.63	134	10025m	3.349	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:51:15 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:51:15 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	50.000	50.380	-0.8	100	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	42.718	14.6	94	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	48.964	2.1	100	0.01
5 T	Methylene chloride	50.000	42.059	15.9	100	0.00
6	Acetone	0.500	0.000	100.0#	0	-5.61#
7	2-Propanol	50.000	0.000	100.0#	0	-5.87#
8 T	1,3-Butadiene	1.100	1.323	-20.3	100	0.04
9 T	Methyl t-butyl ether	1.800	2.052	-14.0	104	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.02
11 T	Benzene	1.600	1.699	-6.2	100	0.02
12 L1	Isopentane	1.500	1.715	-14.3	100	0.02
13 L1	Hexane	1.750	2.239	-27.9	100	0.00
14 L1	Cyclohexane	1.750	1.359	22.3	59	0.00
15 L1	2,3-Dimethylpentane	2.100	2.806	-33.6#	110	0.00
16 L1	Heptane	2.100	1.890	10.0	78	0.00
17 L1	Octane	2.300	2.780	-20.9	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	11.500	12.687	-10.3	91	-0.01
19 H	APH EC5-8 aliphatics	11.500	31.378	-172.9#	97	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.01
21 T	S 4-Bromofluorobenzene	50.000	49.263	1.5	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	39.988	20.0	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	37.447	25.1	100	0.00
24 T	Toluene	1.875	1.812	3.4	100	0.00
25 T	Ethylbenzene	2.200	2.155	2.0	100	0.01
26 T	m,p-Xylene	4.400	4.142	5.9	100	0.00
27 T	o-Xylene	2.200	2.058	6.5	100	0.00
28 T	Naphthalene	2.500	1.877	24.9	100	0.00
29 L2	2,3-Dimethylheptane	2.500	3.038	-21.5	101	0.01
30 L2	Nonane	2.500	2.755	-10.2	100	0.01
31 L2	Decane	3.000	3.324	-10.8	100	0.00
32 L2	Butylcyclohexane	2.800	2.951	-5.4	100	0.00
33 L2	Undecane	3.300	3.664	-11.0	100	0.00
34 L2	Dodecane	3.500	3.116	11.0	97	0.00
35 L2	APH EC9-12 aliphatics TOTAL	17.500	18.894	-8.0	100	0.00
36 H	APH EC9-12 aliphatics	17.500	24.266	-38.7#	99	0.00
37 S	4-Bromofluorobenzene	71.000	68.884	3.0	100	0.00
38 L3	Isopropylbenzene	2.450	2.494	-1.8	100	0.00
39 L3	1-Methyl-3-ethylbenzene	2.450	2.117	13.6	100	0.00
40 L3	1,3,5-Trimethylbenzene	2.450	2.143	12.5	100	0.00
41 L3	p-Isopropyltoluene	2.800	2.383	14.9	100	0.00
42 L3	1,2,3-Trimethylbenzene	2.450	2.117	13.6	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	12.500	11.169	10.6	100	0.00
44 H	APH EC9-10 aromatics (1)	9.800	6.469	34.0#	74	0.00



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:51:15 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area	Dev(min)
45 H APH EC9-10 aromatics (2)	2.700	3.349	-24.0	141	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
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 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	6.920	6.972	-0.8	100	0.00
3 T	IS-2 1,4-Difluorobenzene	12.715	10.863	14.6	94	0.00
4 T	IS-3 Chlorobenzene-d5	12.572	12.312	2.1	100	0.01
5 T	Methylene chloride	0.161	0.135	16.1	100	0.00
6	Acetone	1.776	0.000	100.0#	0#	-5.61#
7	2-Propanol	0.828	0.000	100.0#	0#	-5.87#
8 T	1,3-Butadiene	1.495	1.798	-20.3	100	0.04
9 T	Methyl t-butyl ether	4.230	4.822	-14.0	104	0.00
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.02
11 T	Benzene	1.261	1.339	-6.2	100	0.02
12 L1	Isopentane	1.886	2.157	-14.4	100	0.02
13 L1	Hexane	2.171	2.777	-27.9	100	0.00
14 L1	Cyclohexane	2.620	2.035	22.3	59	0.00
15 L1	2,3-Dimethylpentane	1.973	2.636	-33.6#	110	0.00
16 L1	Heptane	2.249	2.024	10.0	78	0.00
17 L1	Octane	3.566	4.311	-20.9	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	2.472	2.727	-10.3	91	-0.01
19 H	APH EC5-8 aliphatics	30.035	81.951	-172.9#	97	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.01
21 T	S 4-Bromofluorobenzene	4.348	4.284	1.5	100	0.00
22	Hexamethylcyclotrisiloxane	6.483	5.185	20.0	100	0.00
23	Octamethylcyclotetrasiloxan	0.865	0.648	25.1	100	0.00
24 T	Toluene	0.781	0.754	3.5	100	0.00
25 T	Ethylbenzene	1.636	1.603	2.0	100	0.01
26 T	m,p-Xylene	0.594	0.559	5.9	100	0.00
27 T	o-Xylene	0.568	0.531	6.5	100	0.00
28 T	Naphthalene	1.341	1.006	25.0	100	0.00
29 L2	2,3-Dimethylheptane	3.020	3.670	-21.5	101	0.01
30 L2	Nonane	3.160	3.483	-10.2	100	0.01
31 L2	Decane	3.126	3.463	-10.8	100	0.00
32 L2	Butylcyclohexane	4.199	4.425	-5.4	100	0.00
33 L2	Undecane	3.003	3.334	-11.0	100	0.00
34 L2	Dodecane	2.712	2.415	11.0	97	0.00
35 L2	APH EC9-12 aliphatics TOTAL	3.182	3.435	-8.0	100	0.00
36 H	APH EC9-12 aliphatics	18.546	25.716	-38.7#	99	0.00
37 S	4-Bromofluorobenzene	0.513	0.497	3.1	100	0.00
38 L3	Isopropylbenzene	0.380	0.387	-1.8	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.717	0.619	13.7	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.621	0.543	12.6	100	0.00
41 L3	p-Isopropyltoluene	0.339	0.288	15.0	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.717	0.619	13.7	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.548	0.490	10.6	100	0.00
44 H	APH EC9-10 aromatics (1)	0.605	0.400	33.9#	74	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030446.D  
 Acq On : 6 Mar 2022 1:43 am  
 Operator : bat  
 Sample : 0.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 46 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:51:15 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area	% Dev(min)
45 H APH EC9-10 aromatics (2)	0.341	0.423	-24.0	141	0.00

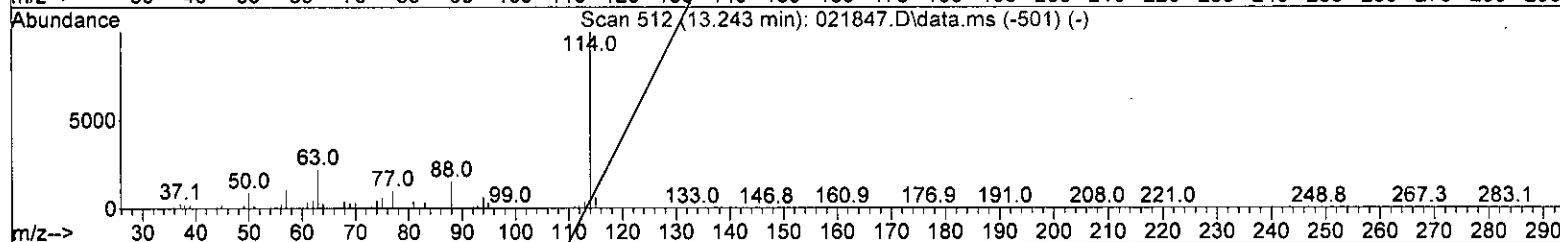
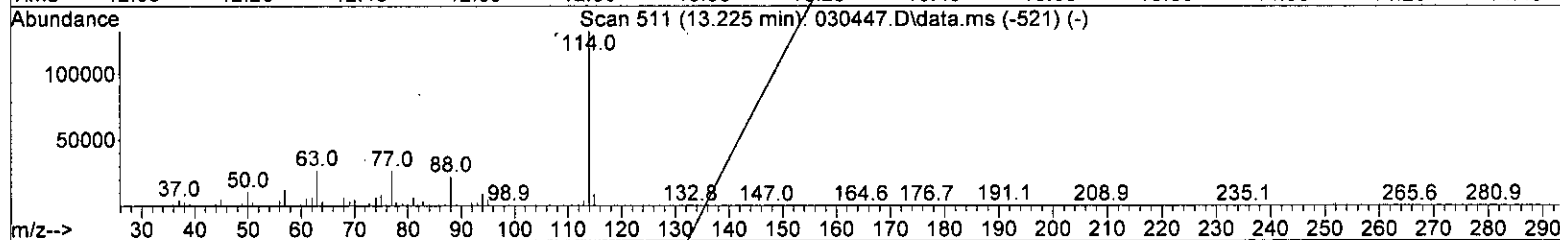
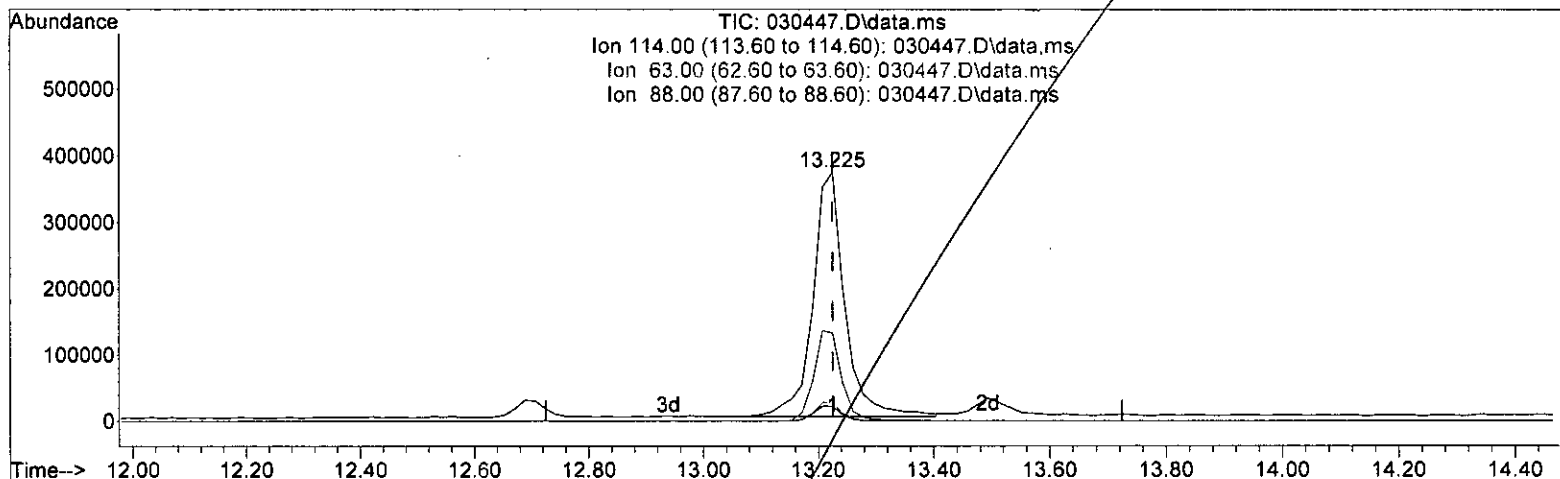
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030447.D\data.ms

(3) IS-2 1,4-Difluorobenzene (T)

13.225min (+ 0.000) 49.869 ug/m3

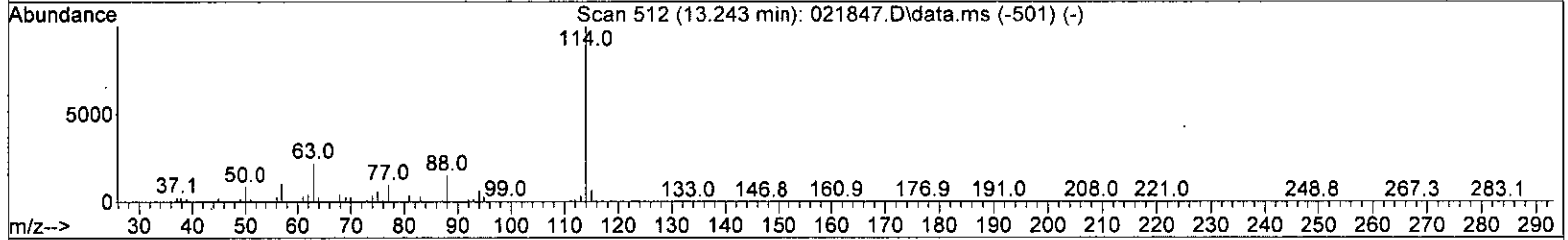
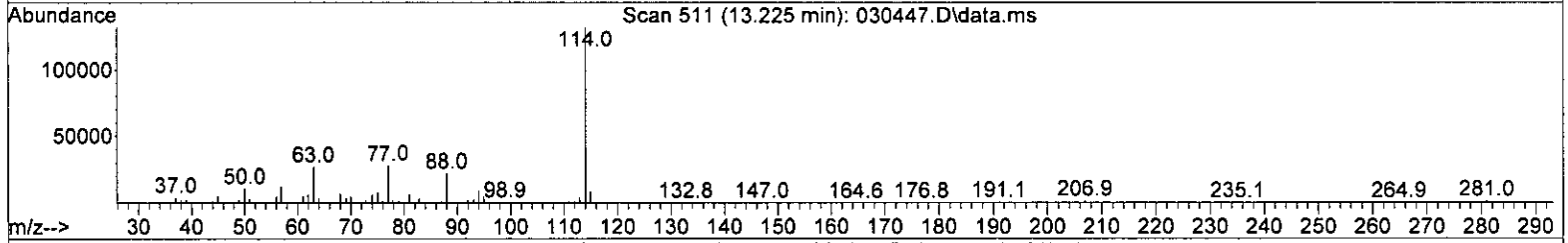
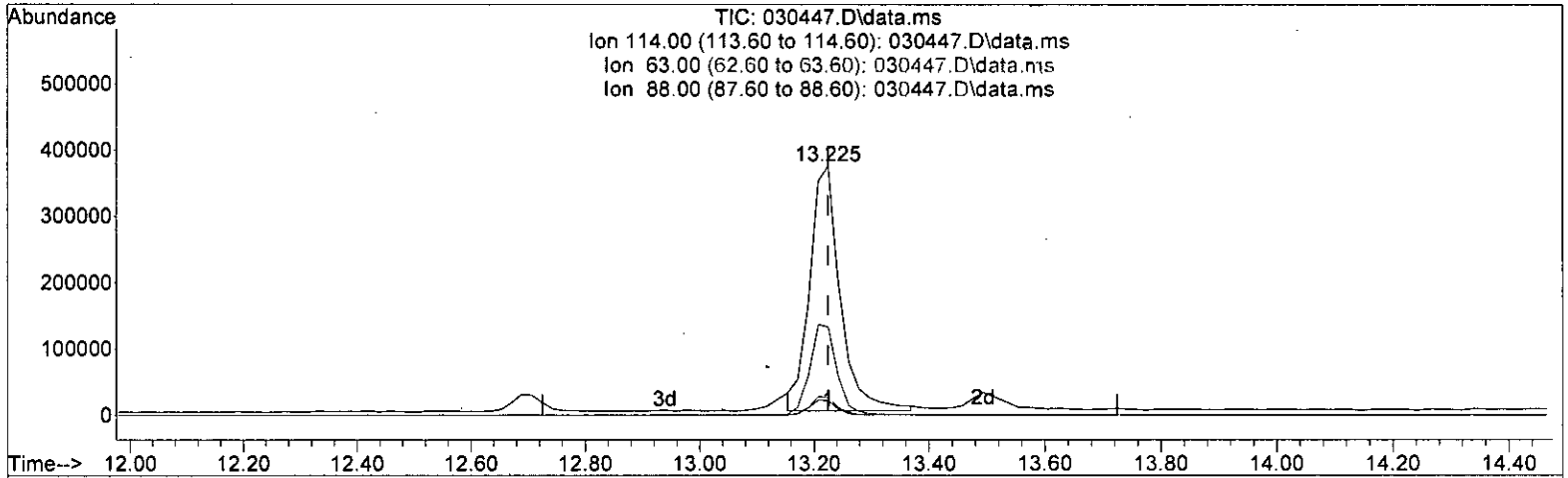
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Signal	Exp% Act%
TIC	100.00 100.00
114.00	65.20 35.95
63.00	14.80 7.31
88.00	10.30 6.02

*Handwritten signature:* K 3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030447.D\data.ms

(3) IS-2 1,4-Difluorobenzene (T)

13.225min (+ 0.000) 47.496 ug/m3 m

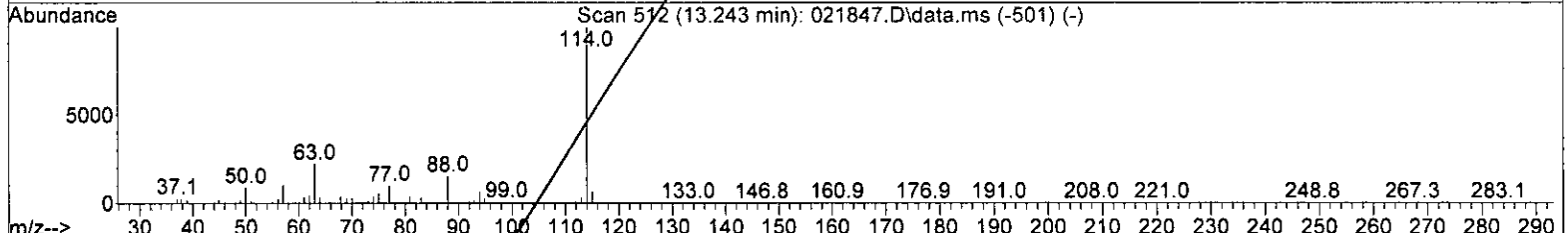
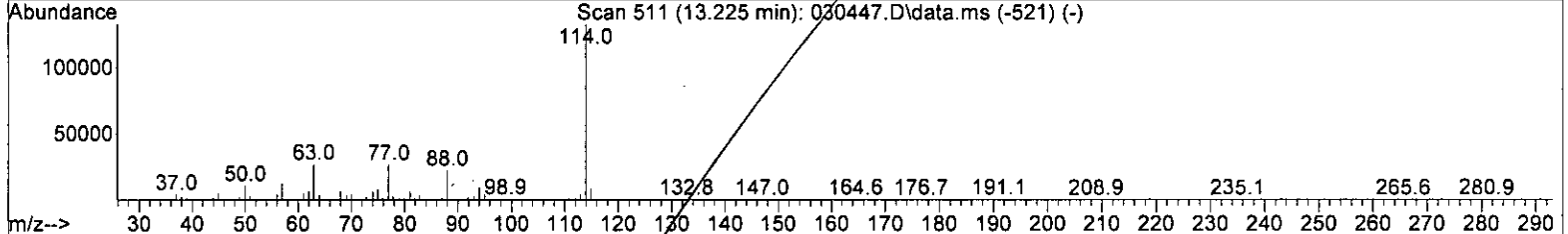
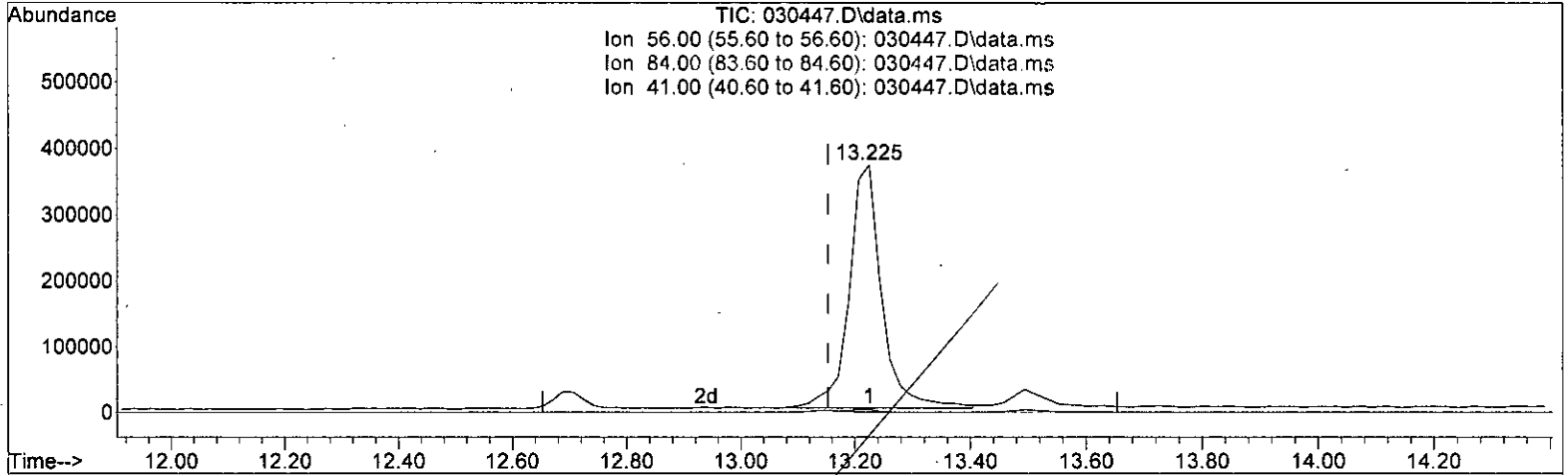
response	1378091
Signal	Exp% Act%
TIC	100.00 100.00
114.00	65.20 37.74
63.00	14.80 7.67
88.00	10.30 6.32

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(14) Cyclohexane (L1)

13.225min (+ 0.072) 52.959 ug/m3

response 1446961

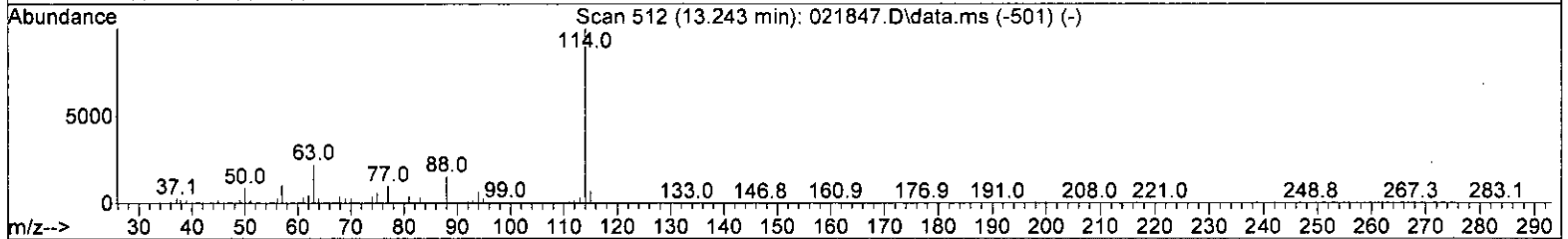
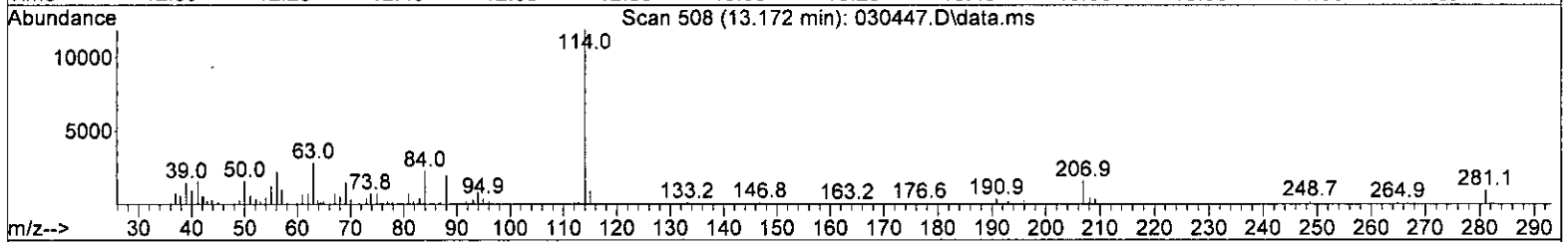
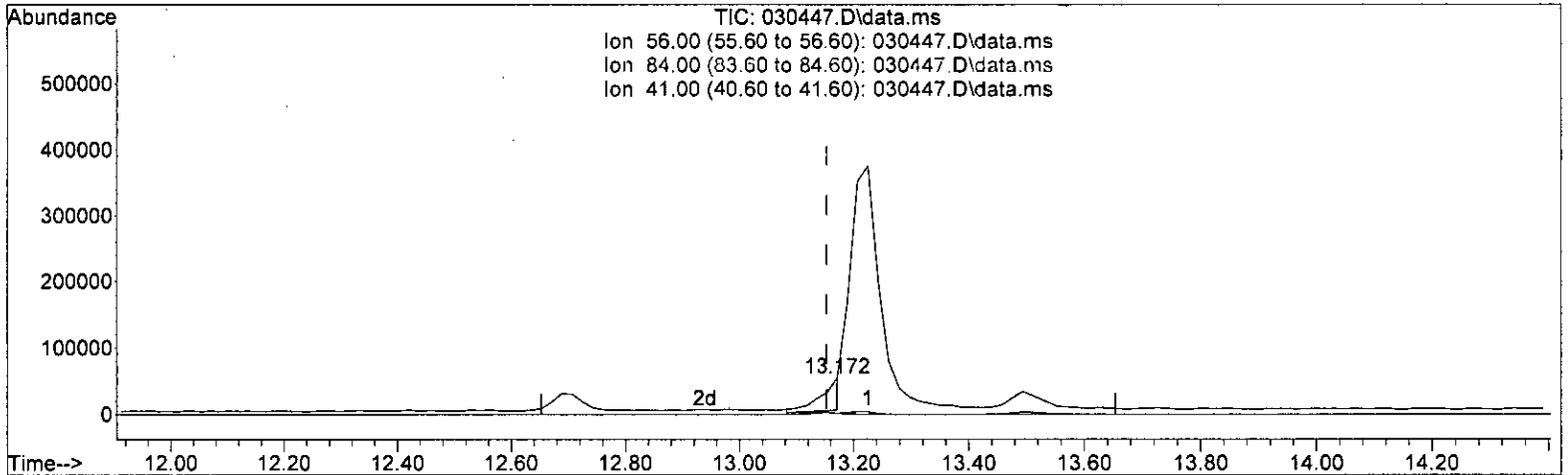
Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.90	1.18
84.00	1.30	0.19
41.00	1.00	0.05

*Handwritten signature/initials*  
 3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(14) Cyclohexane (L1)

13.172min (+ 0.018) 4.334 ug/m3 m

response 118423

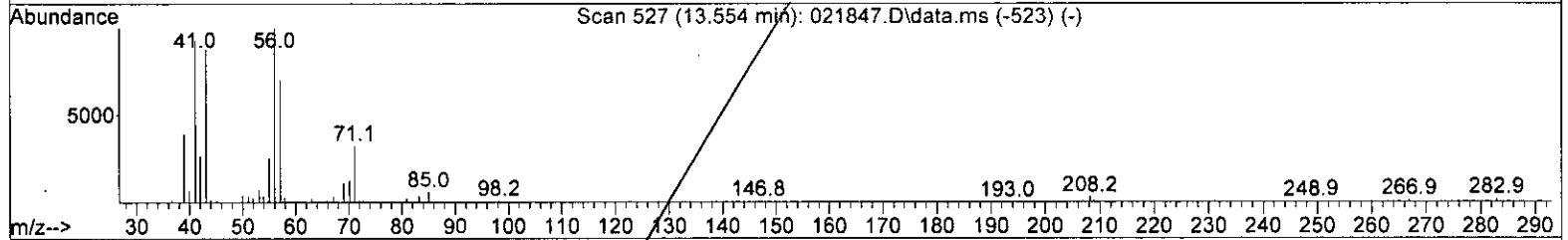
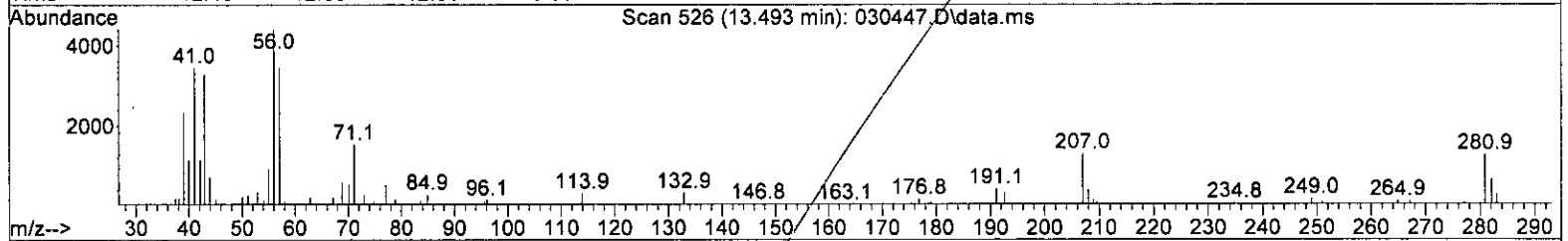
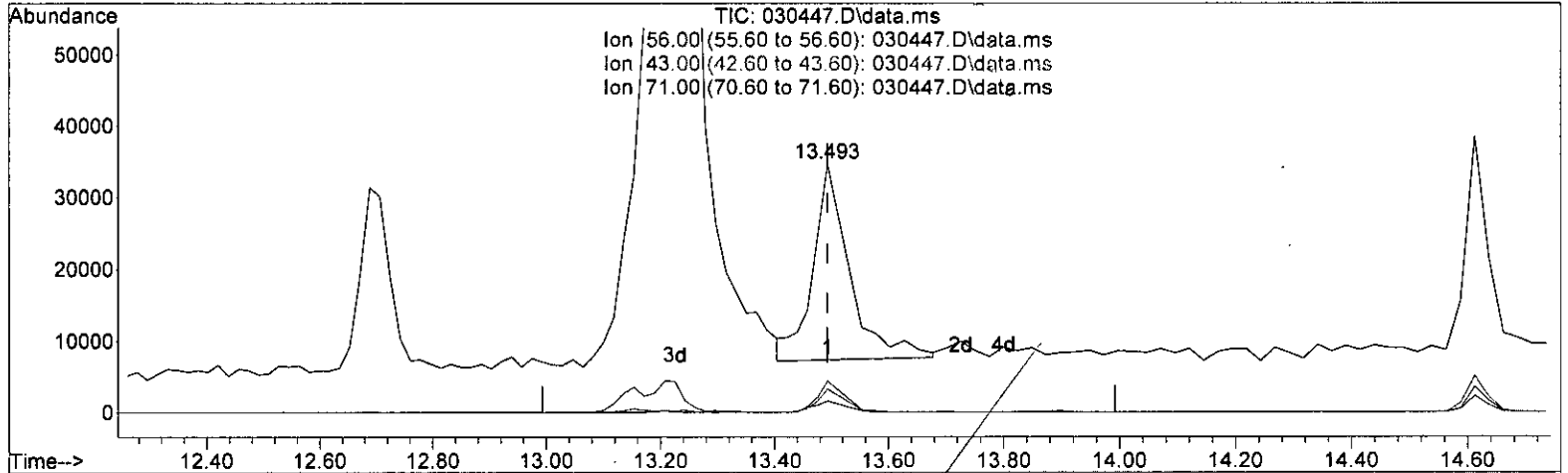
Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.90	14.43
84.00	1.30	2.38
41.00	1.00	0.59

*h  
3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(15) 2,3-Dimethylpentane (L1)

13.493min (+ 0.000) 5.251 ug/m3

response	Exp%	Act%
108003		
TIC	100.00	100.00
56.00	16.60	11.27
43.00	15.90	8.30
71.00	4.50	4.83

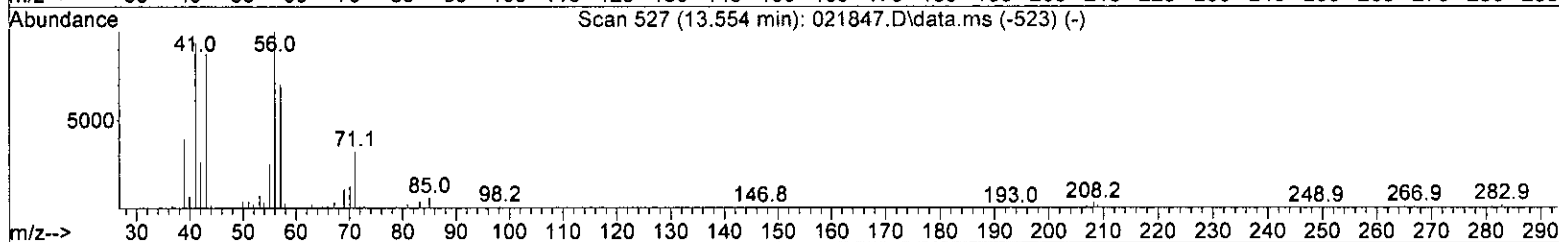
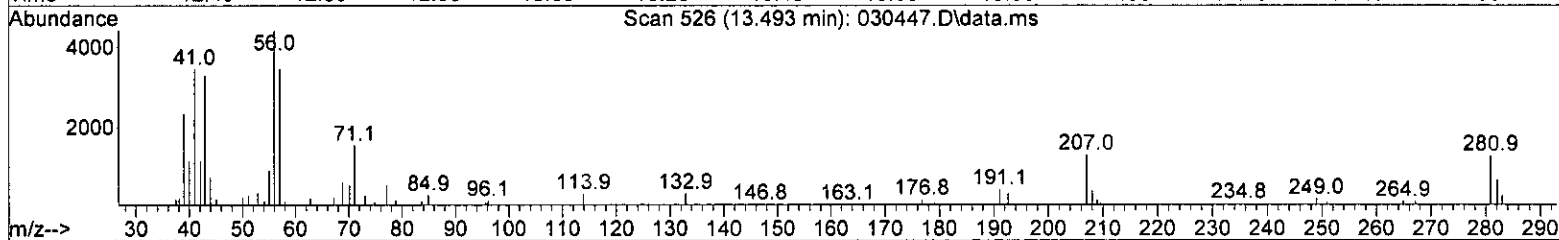
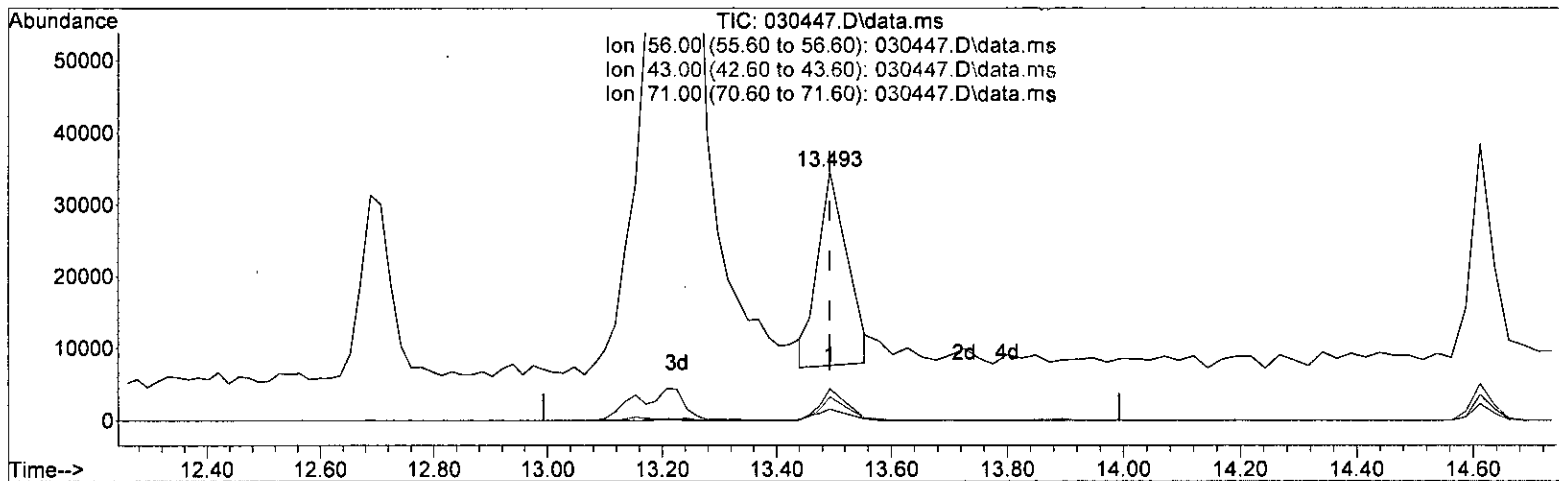
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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
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 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030447.D\data.ms

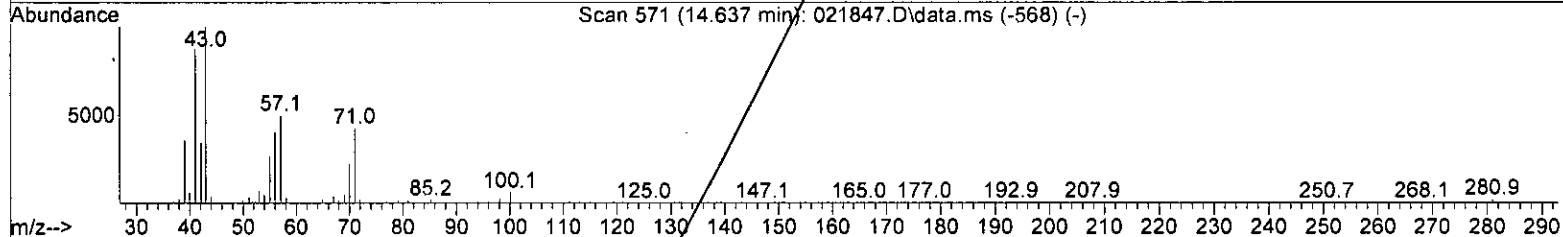
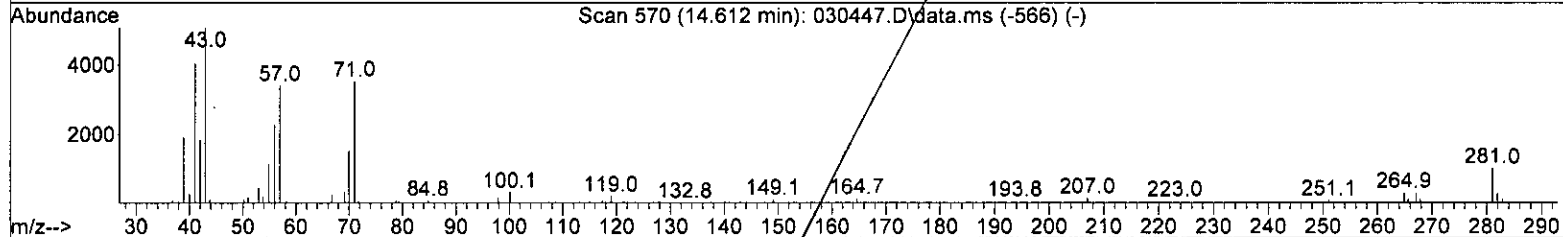
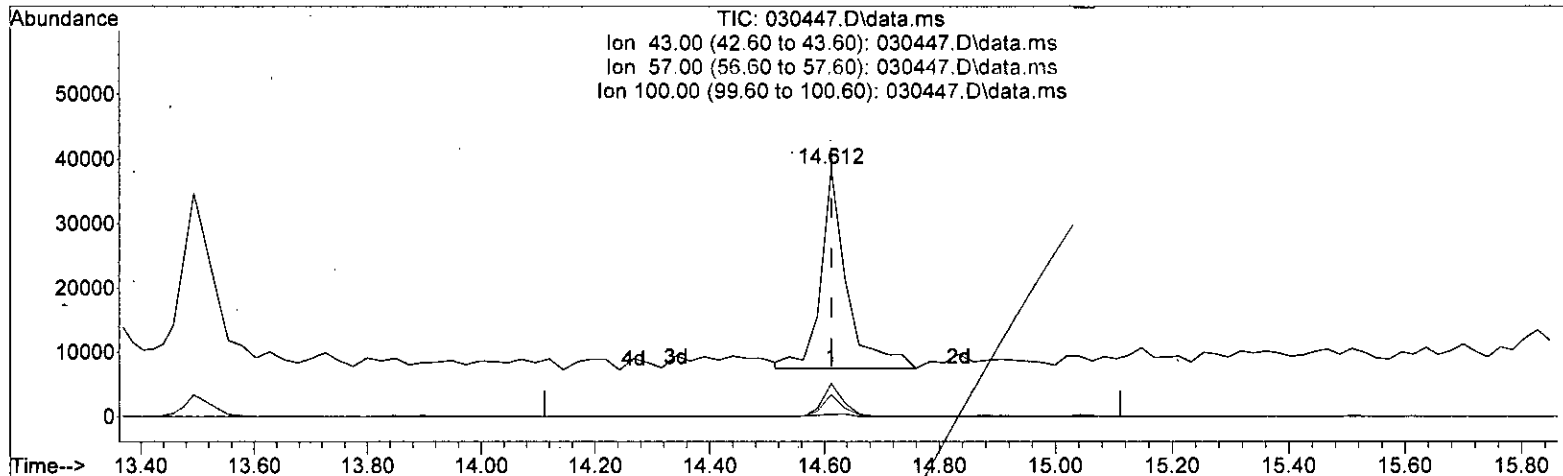
(15) 2,3-Dimethylpentane (L1)		
13.493min (+ 0.000)	4.556 ug/m3 m	
response	93705	
Signal	Exp%	Act%
TIC	100.00	100.00
56.00	16.60	12.98
43.00	15.90	9.57
71.00	4.50	5.57

*h*  
*3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030447.D\data.ms

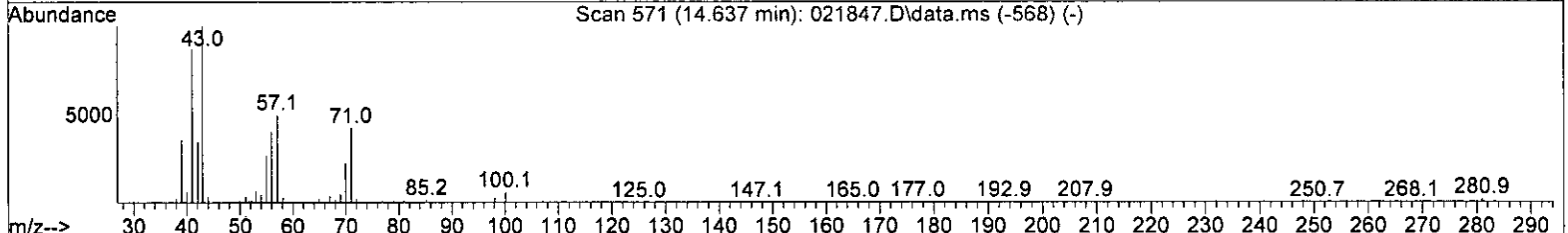
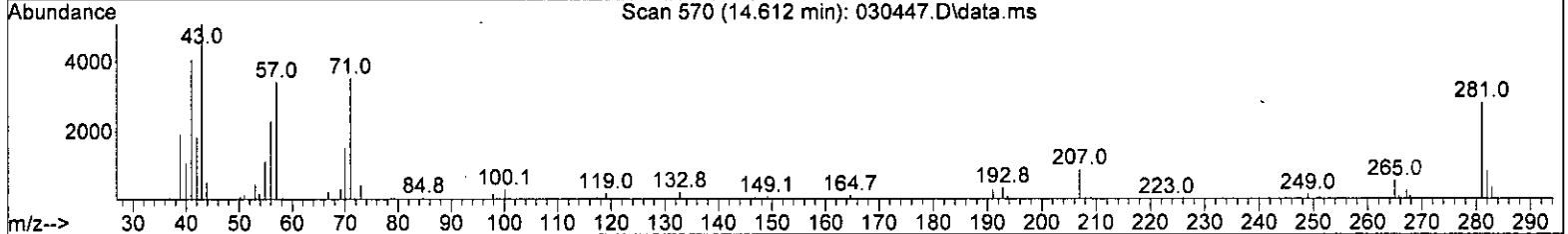
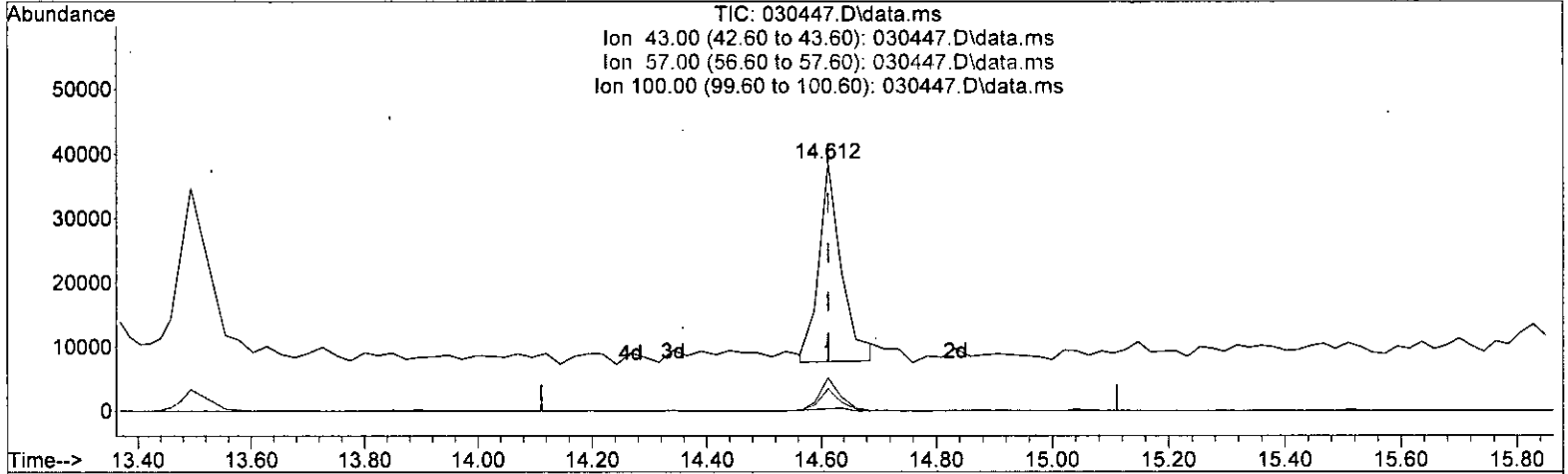
(16) Heptane (L1)		
14.612min (+ 0.000)	4.227 ug/m3	
response	99132	
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	22.80	16.35
57.00	9.20	11.00
100.00	1.00	1.07

*Handwritten signature:* 3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030447.D\data.ms

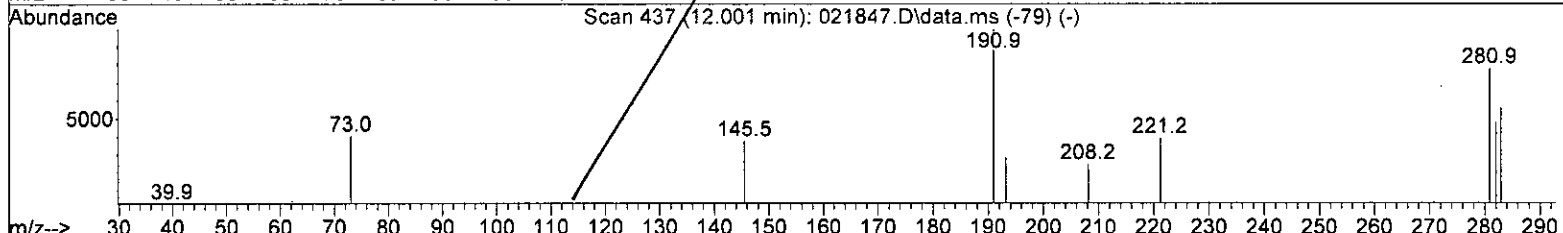
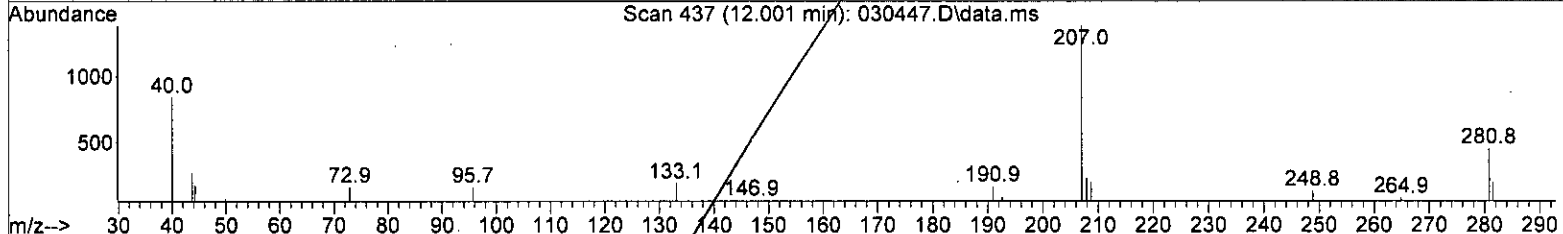
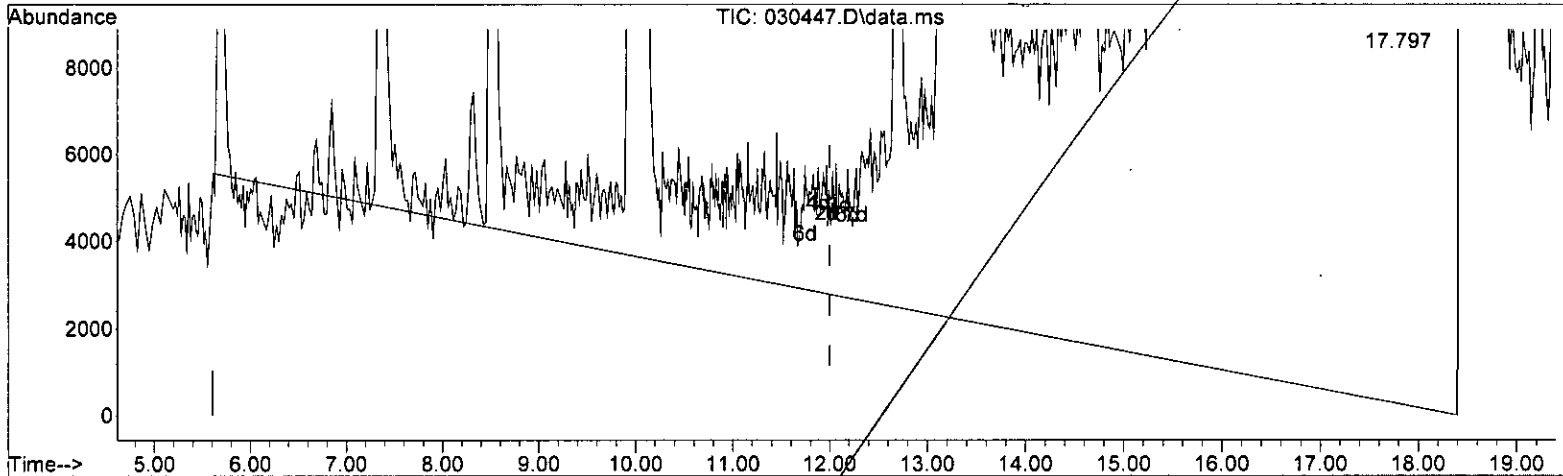
(16) Heptane (L1)		
14.612min (+ 0.000)	3.706 ug/m3 m	
response	86898	
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	22.80	18.65
57.00	9.20	12.55
100.00	1.00	1.22

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(19) APH EC5-8 aliphatics (H)  
 12.004min ( 0.000) 14.102 ug/m3 m  
 response 4416521

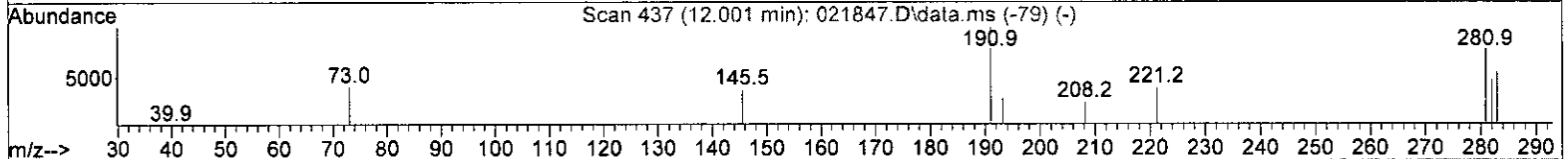
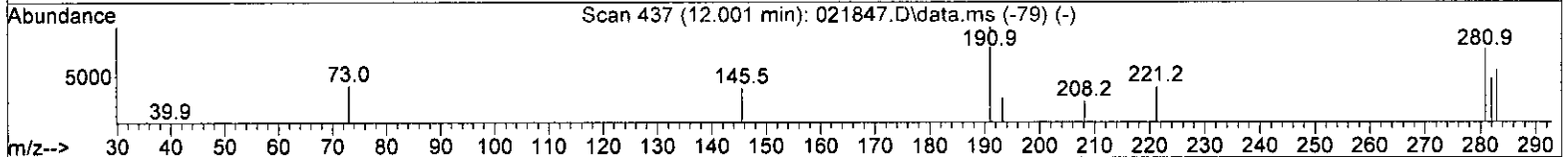
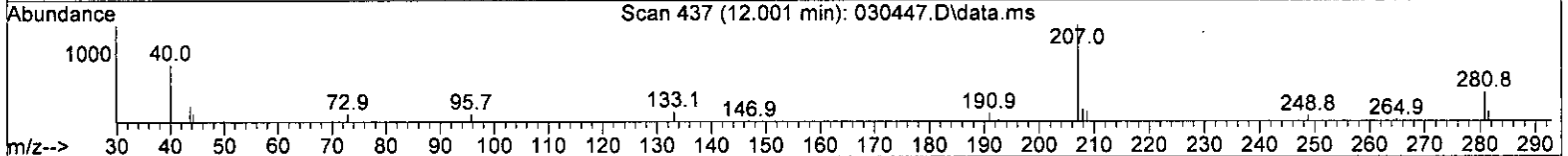
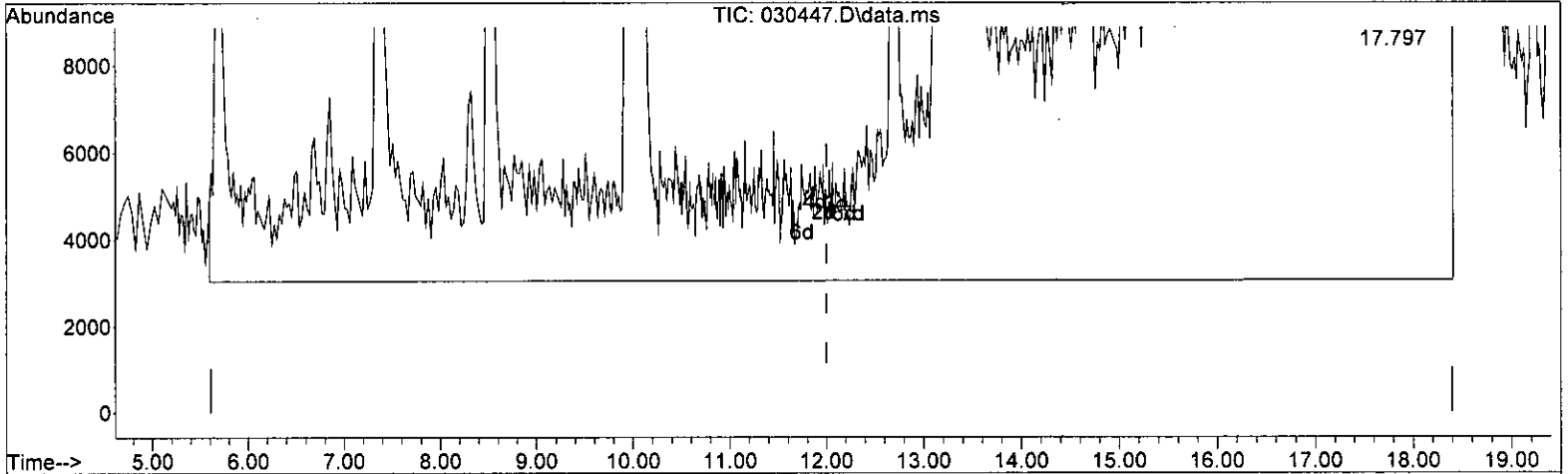
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030447.D\data.ms

(19) APH EC5-8 aliphatics (H)

12.004min ( 0.000) 34.884 ug/m3 m

response 10925359

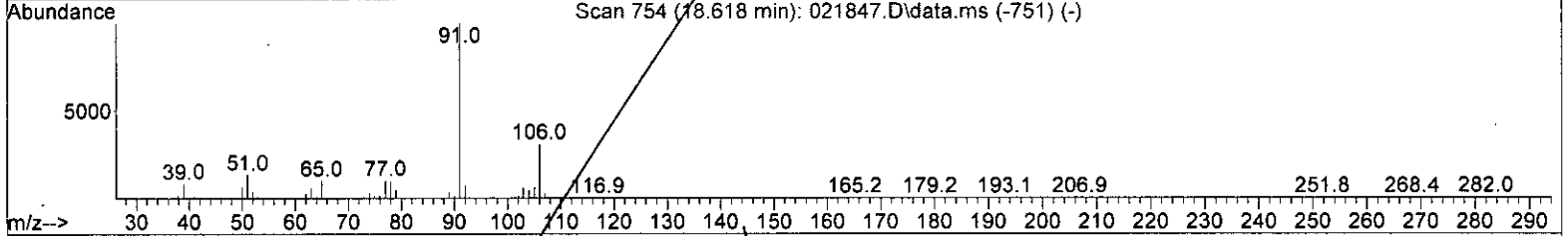
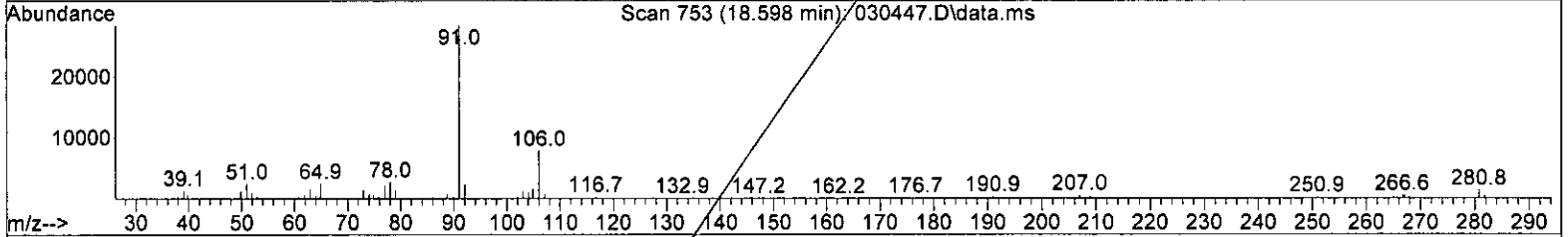
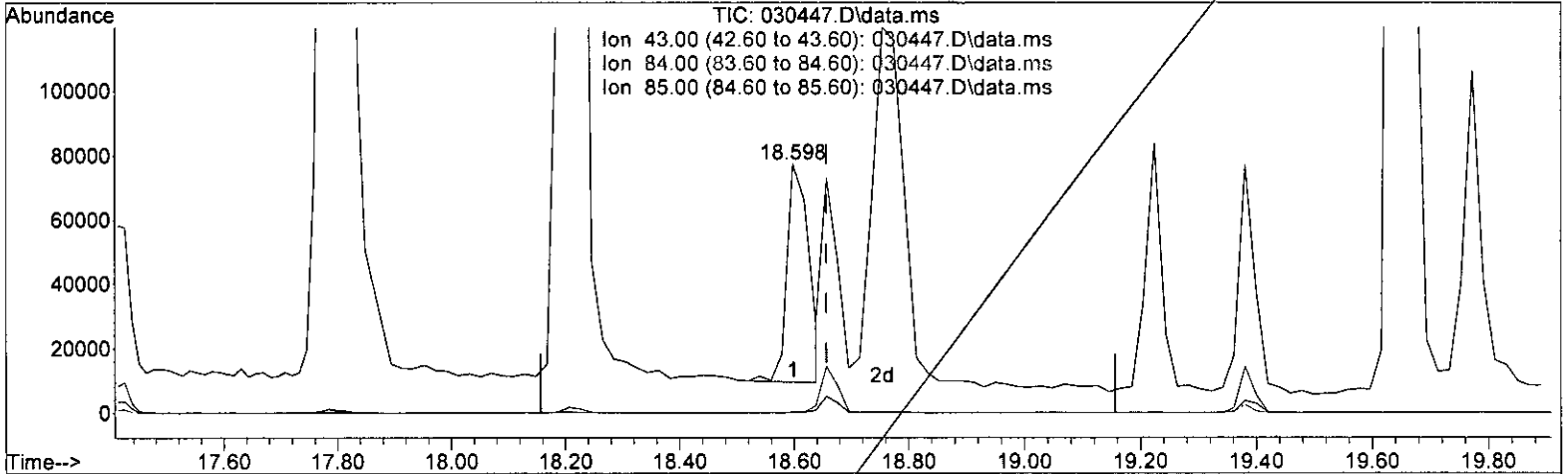
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(29) 2,3-Dimethylheptane (L2)

18.598min (-0.059) 6.566 ug/m3

response 179481

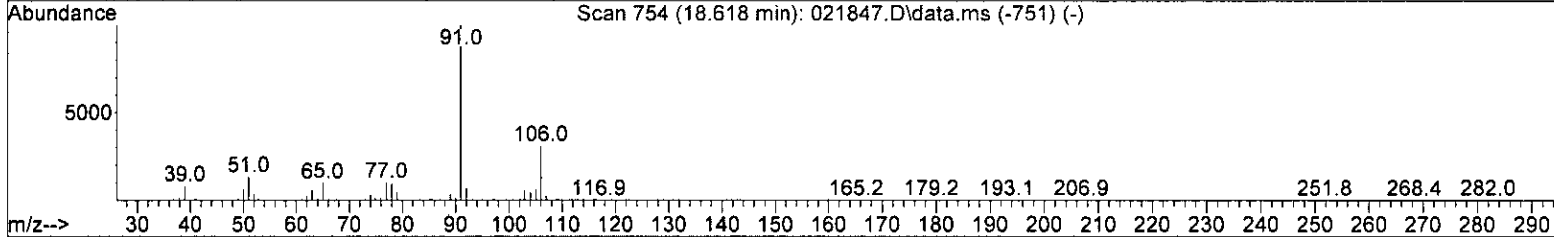
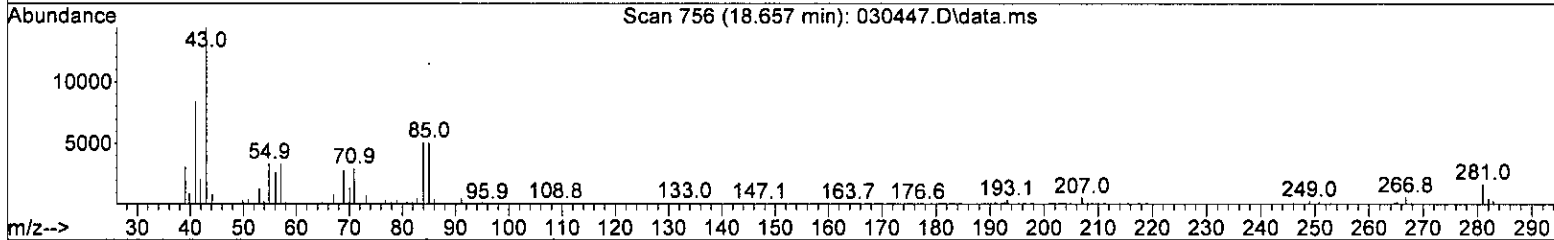
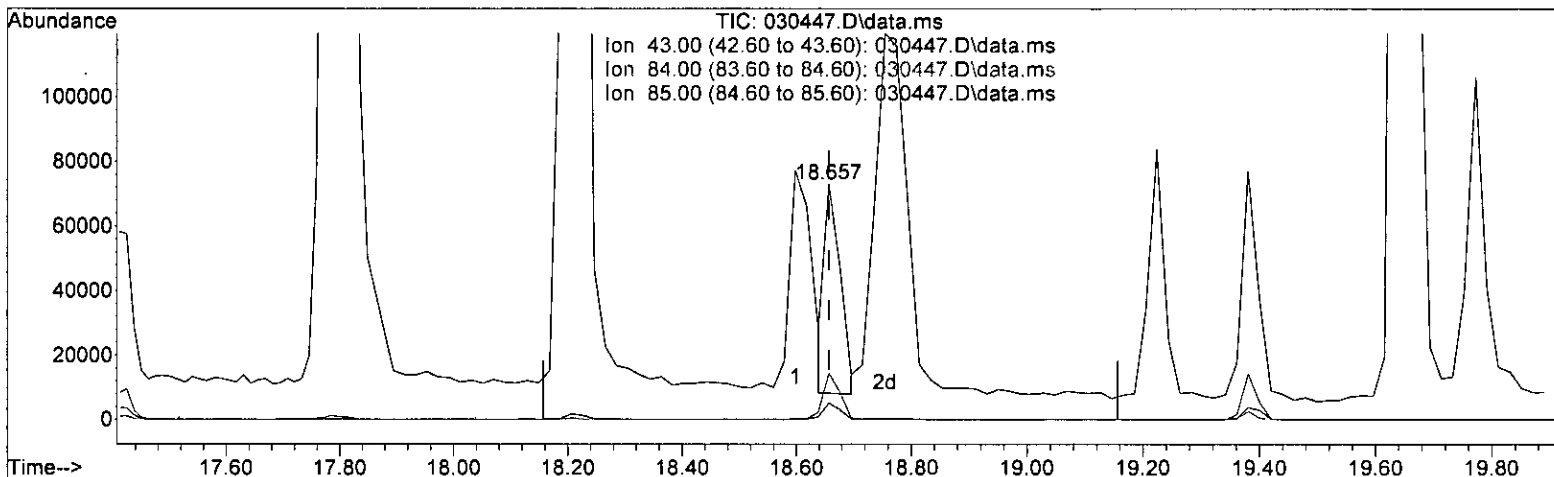
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	31.80	17.64#
84.00	7.20	5.89
85.00	6.20	6.27

*R  
3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



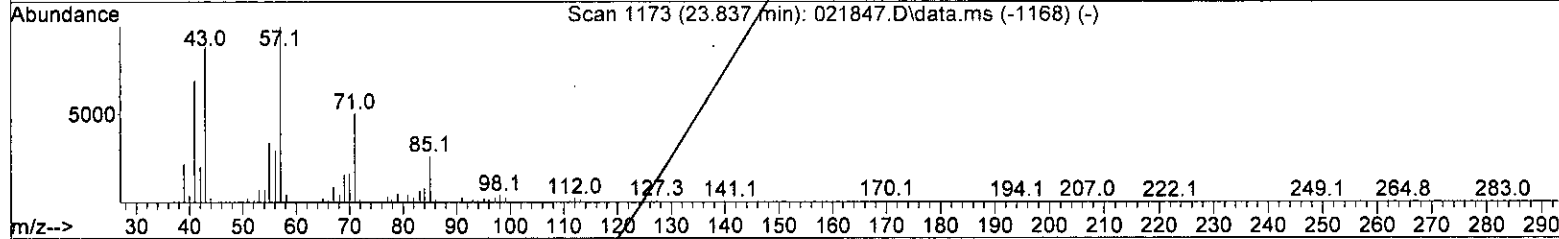
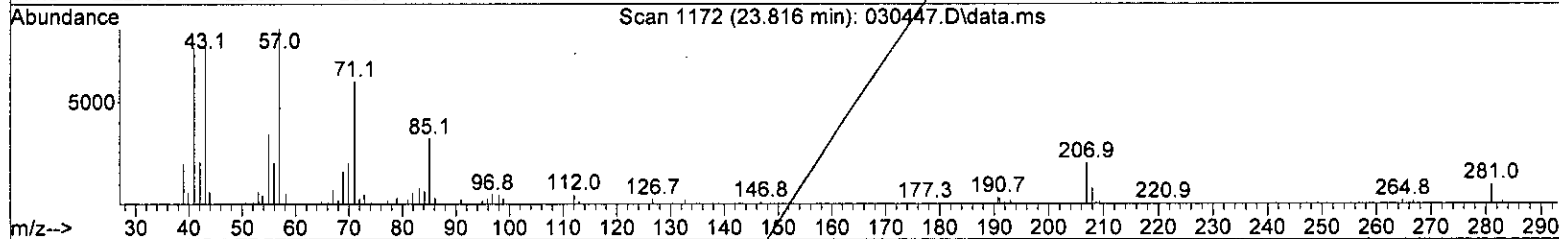
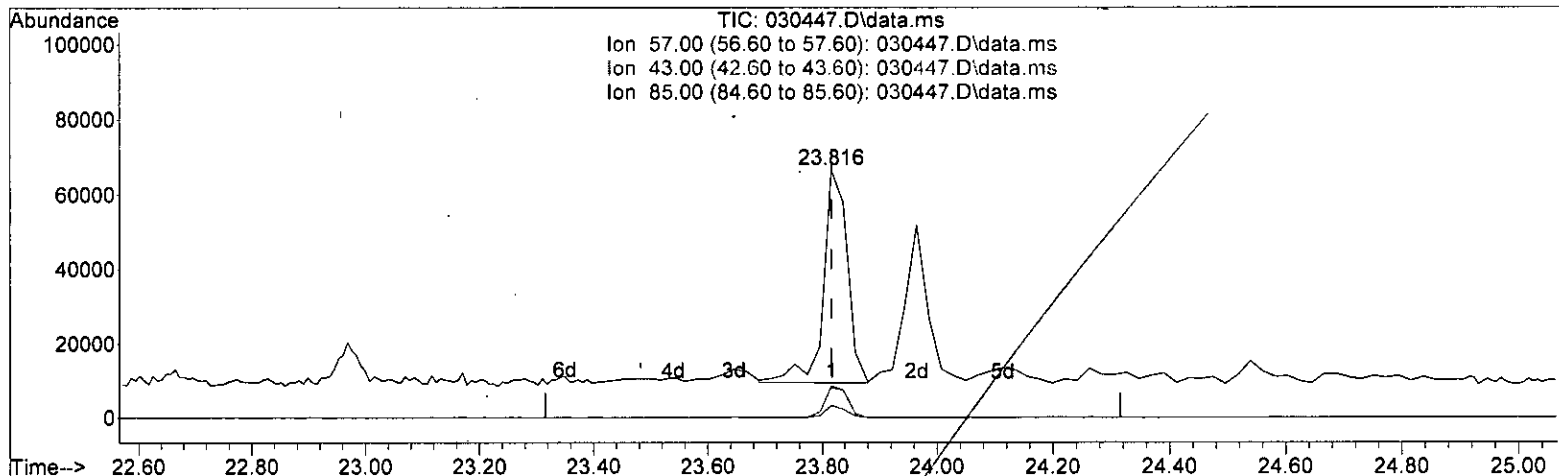
(29) 2,3-Dimethylheptane (L2)  
 18.657min (-0.000) 4.750 ug/m3 m  
 response 129835  
 Signal Exp% Act%  
 TIC 100.00 100.00  
 43.00 31.80 24.39#  
 84.00 7.20 8.15  
 85.00 6.20 8.67#

*B*  
*3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030447.D\data.ms

(34) Dodecane (L2)

23.816min (+ 0.000) 6.955 ug/m3

response 170723

Signal	Exp%	Act%
TIC	100.00	100.00
57.00	16.80	13.77
43.00	18.50	13.46
85.00	3.90	4.78

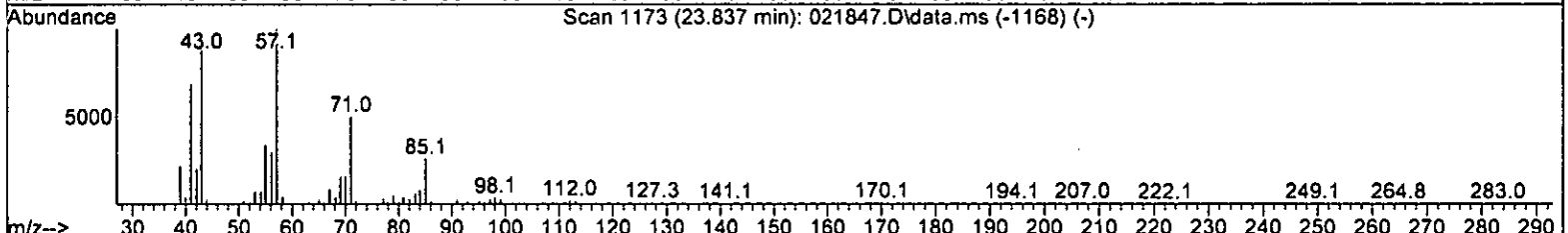
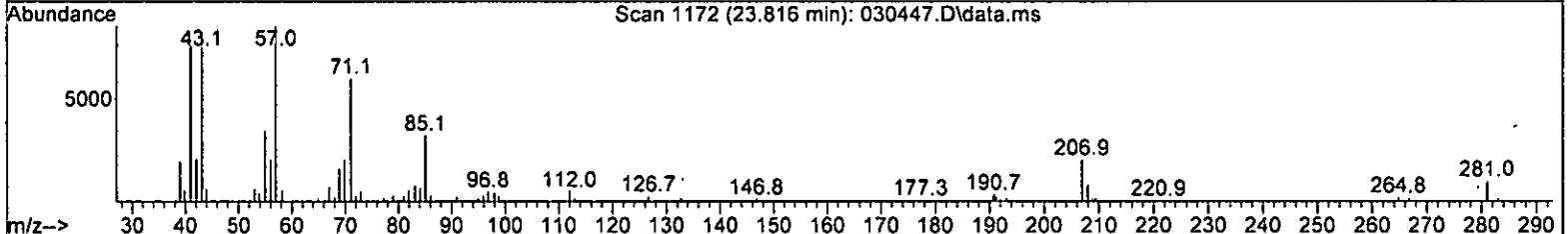
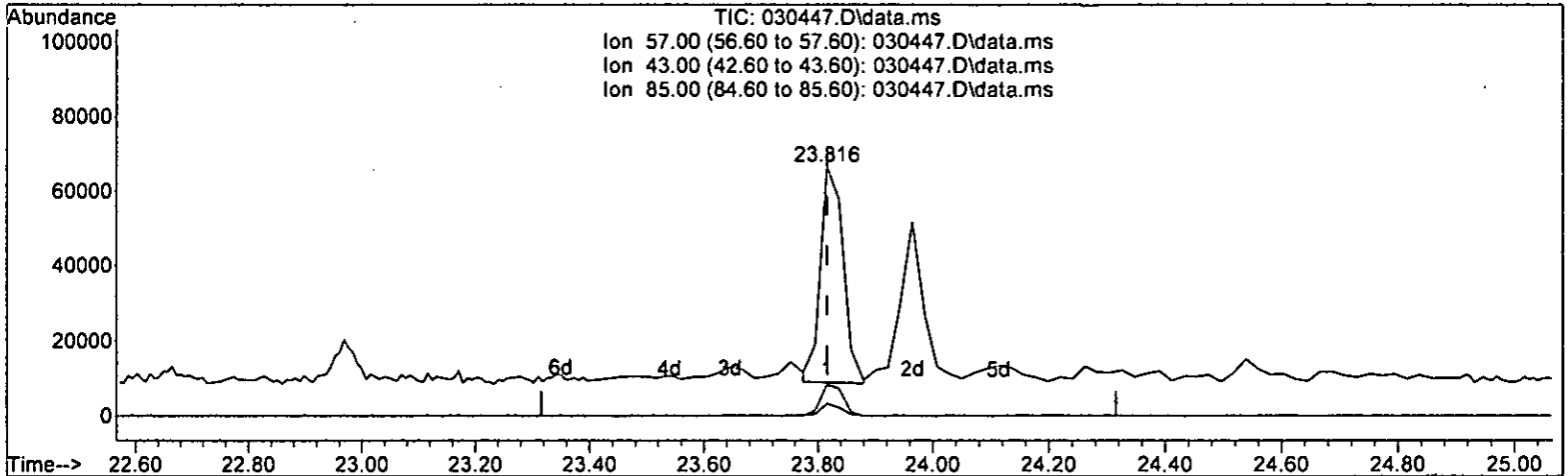
*B 3/8/22*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030447.D\data.ms

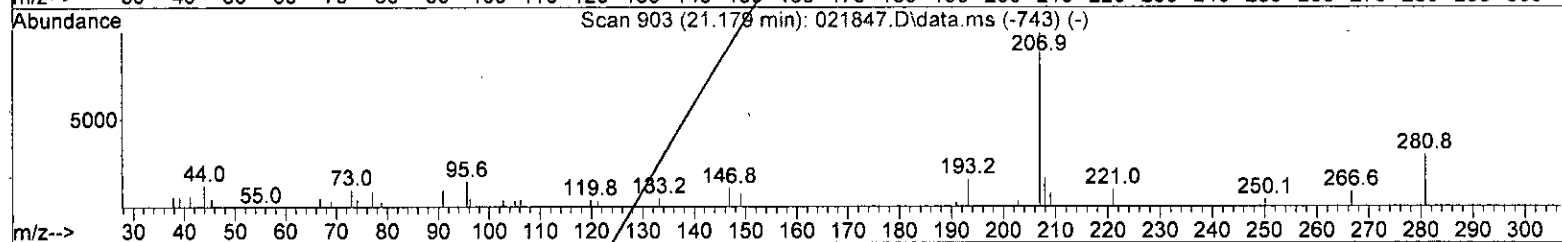
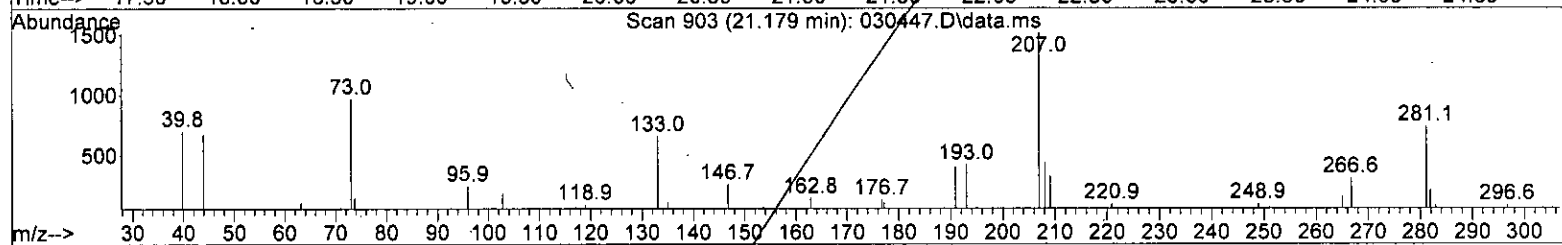
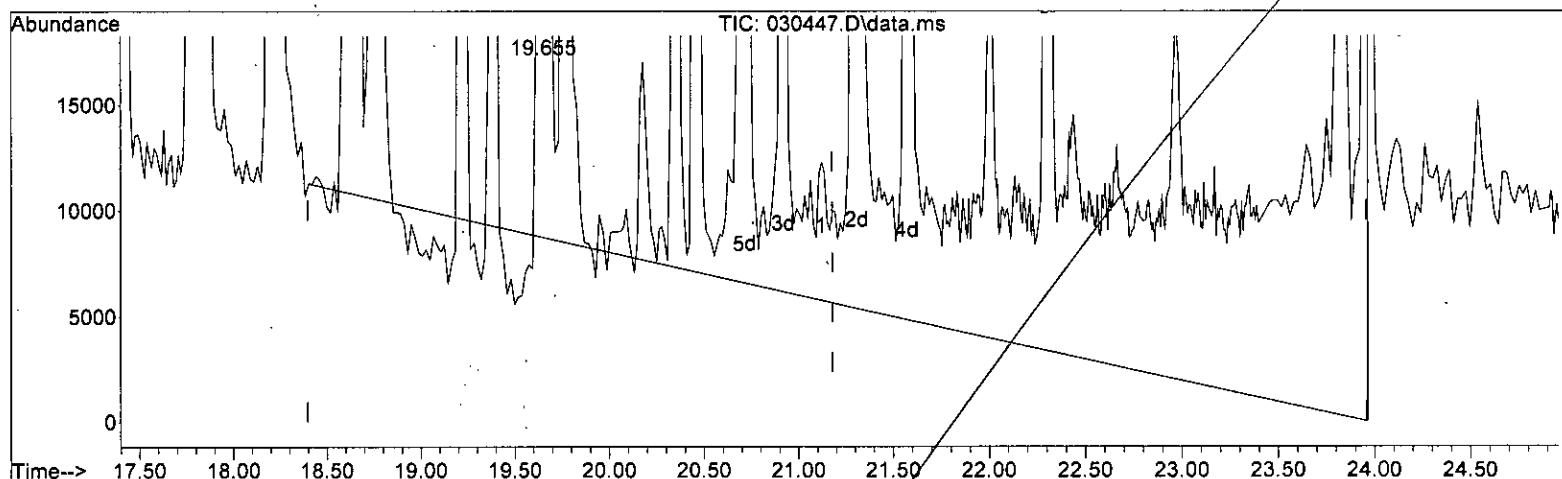
(34) Dodecane (L2)		
23.816min (+ 0.000)	6.581 ug/m3 m	
response	161540	
Signal	Exp%	Act%
TIC	100.00	100.00
57.00	16.80	14.55
43.00	18.50	14.22
85.00	3.90	5.06

R  
3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 19.307 ug/m3 m

response 3240902

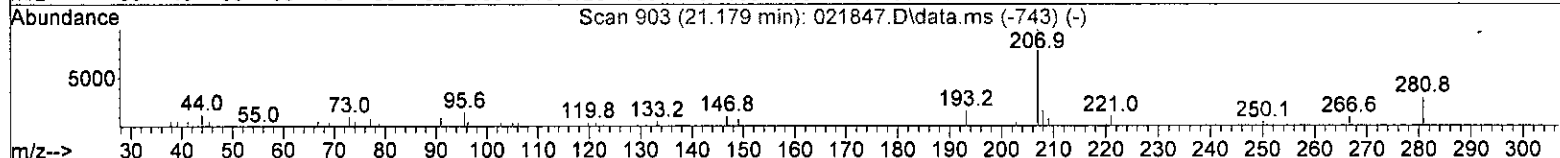
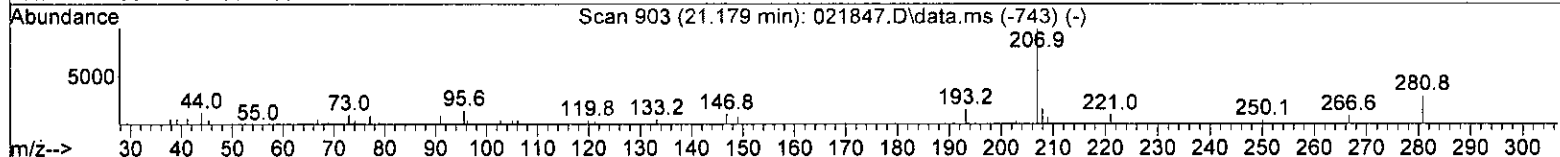
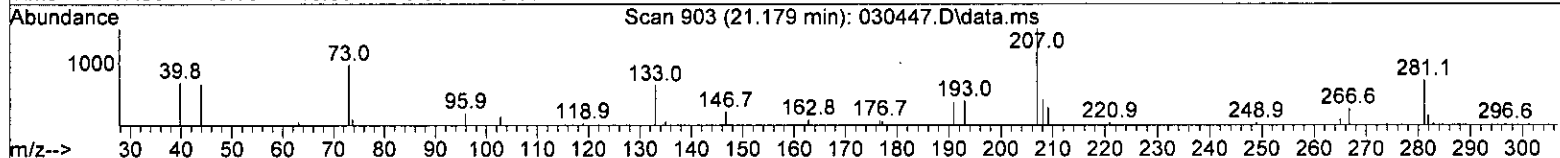
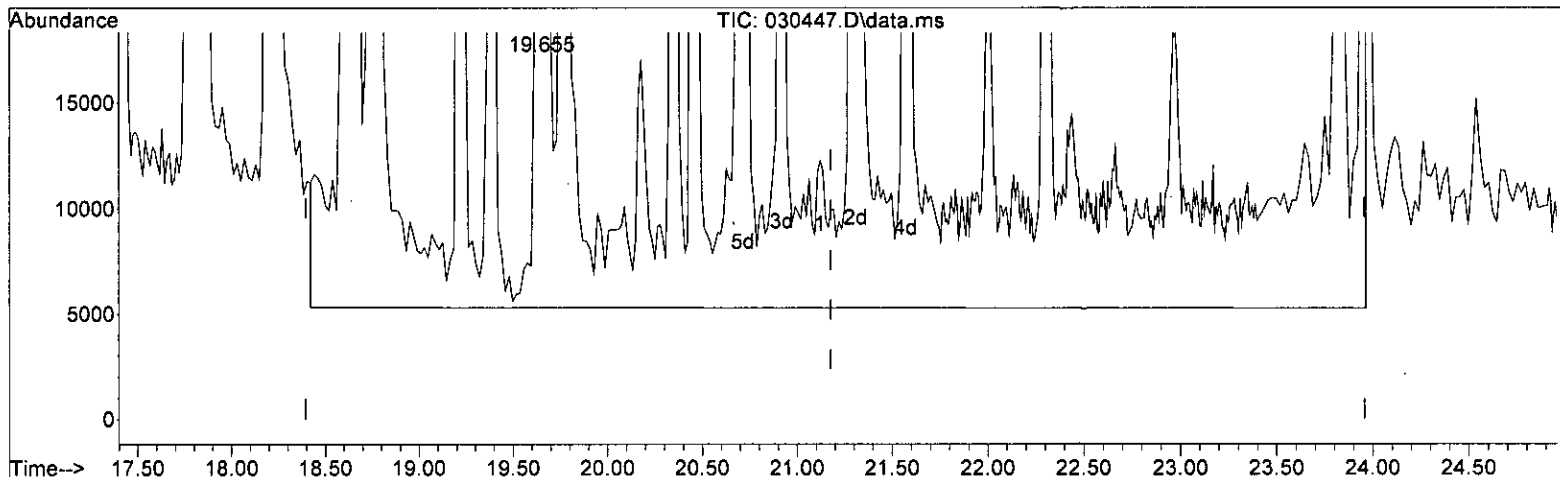
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*R*  
*3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030447.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 31.638 ug/m3 m

response 5310982

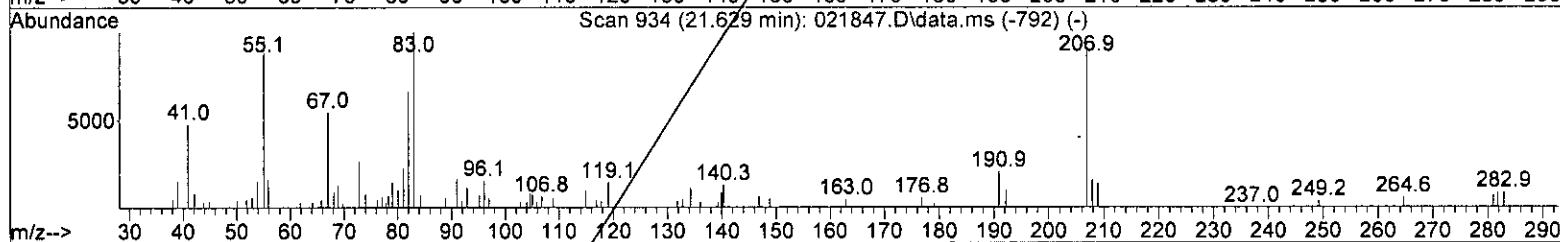
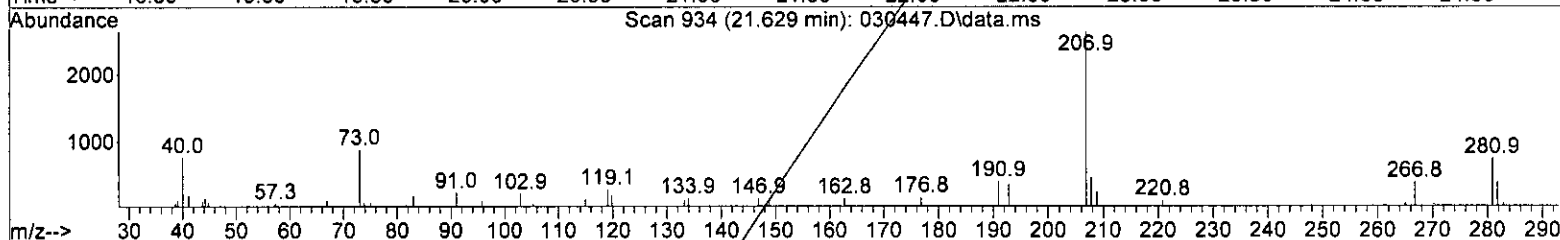
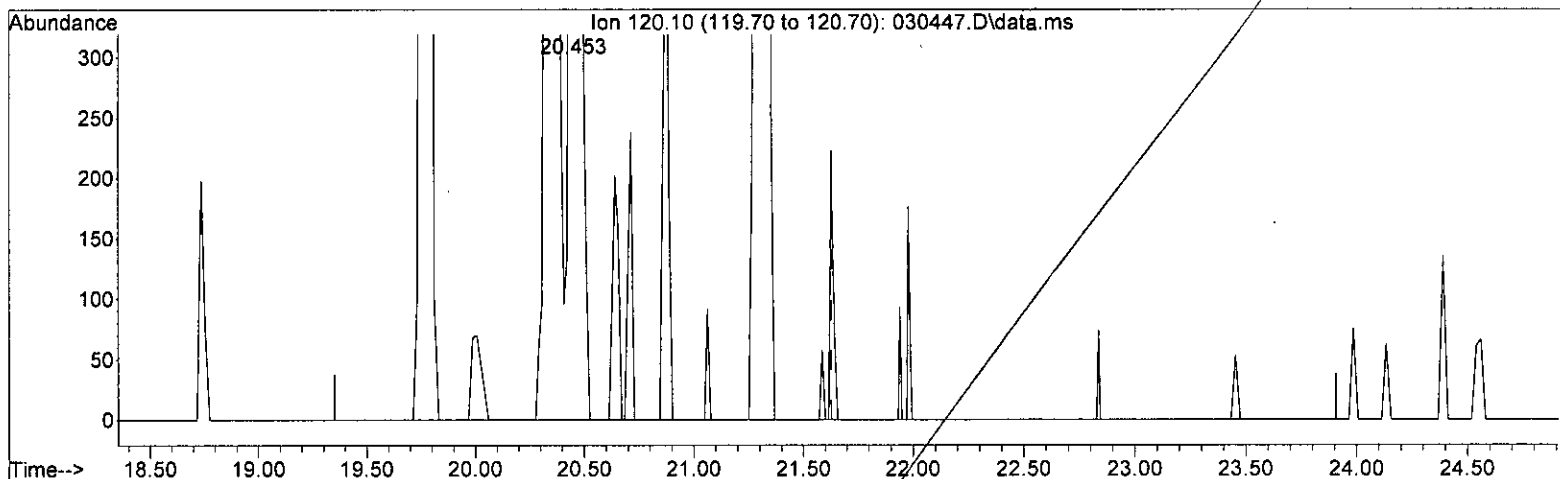
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B  
3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(44) APH EC9-10 aromatics (1) (H)

21.630min ( 0.000) 7.634 ug/m3 m

response 41827

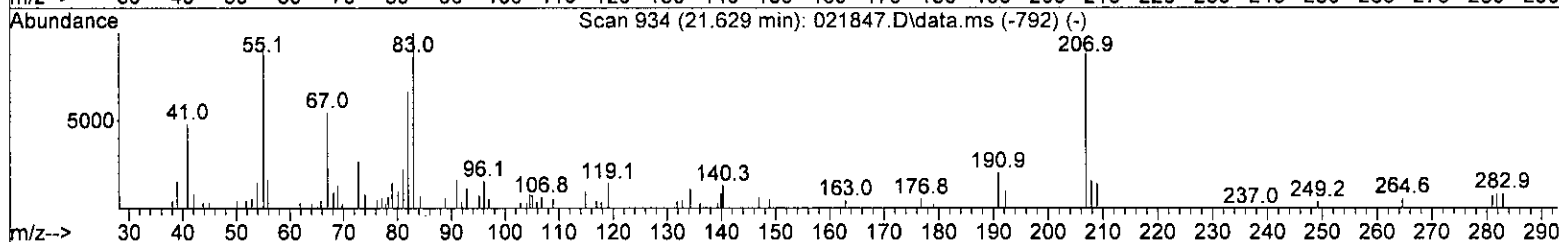
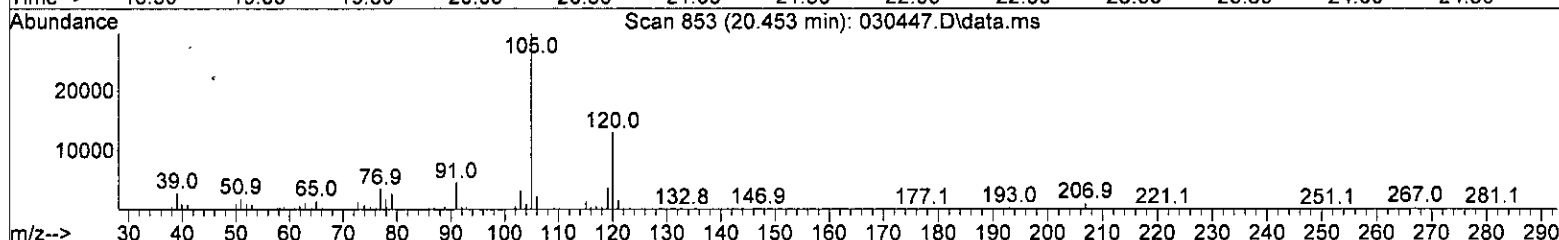
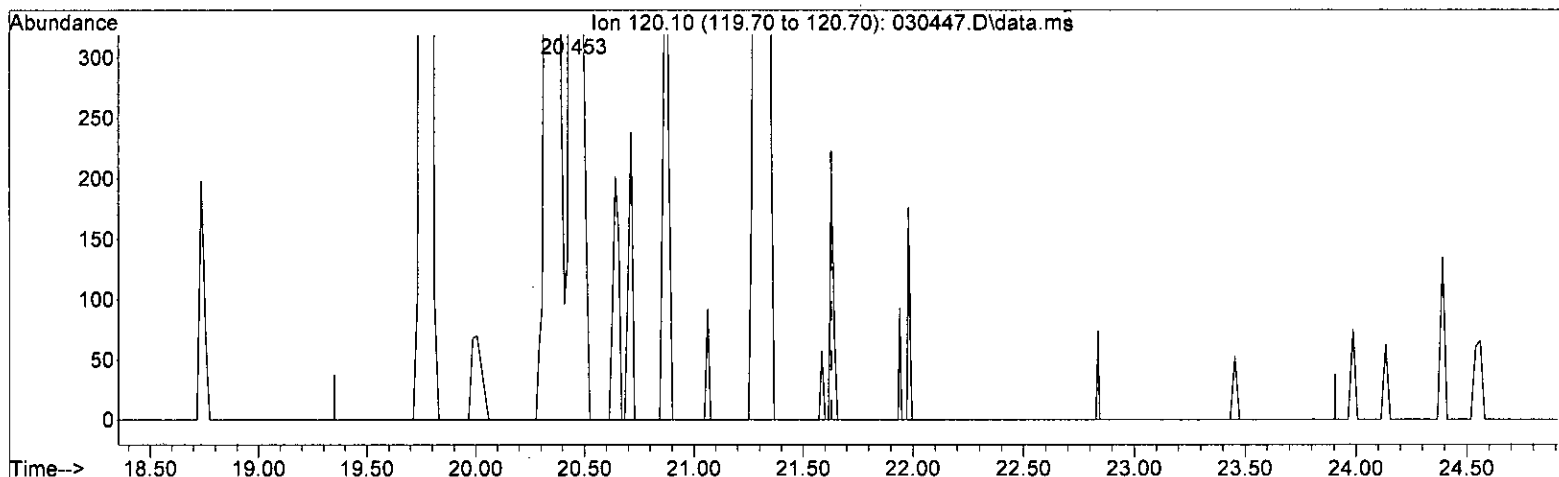
Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030447.D\data.ms

(44) APH EC9-10 aromatics (1) (H)

21.630min ( 0.000) 13.493 ug/m3 m

response 73932

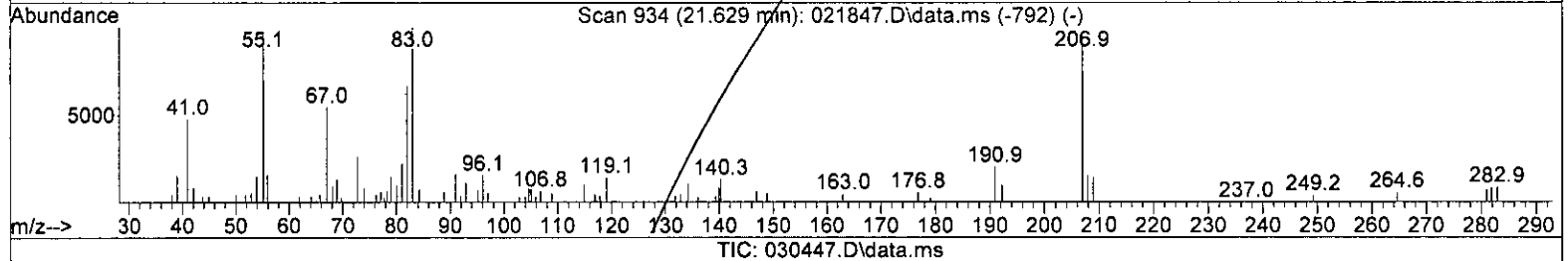
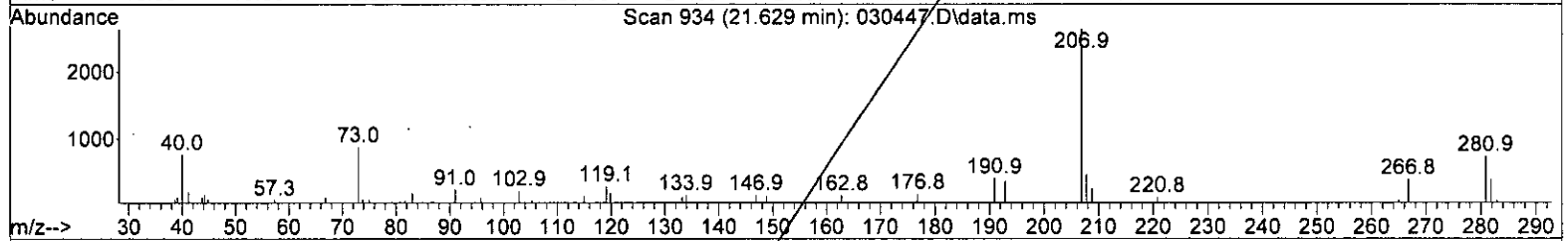
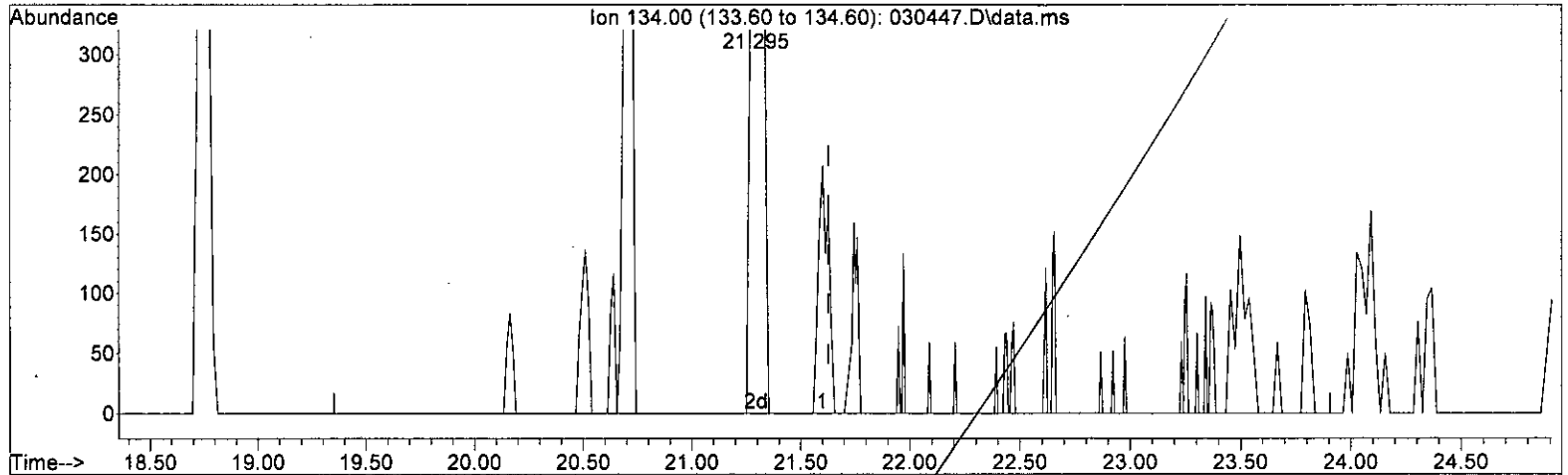
Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(45) APH EC9-10 aromatics (2) (H)

21.630min ( 0.000) -10.449 ug/m3 m

response -32228

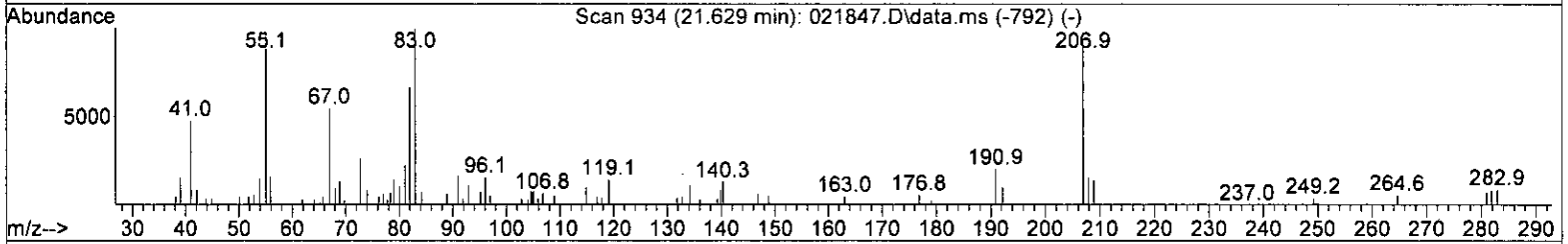
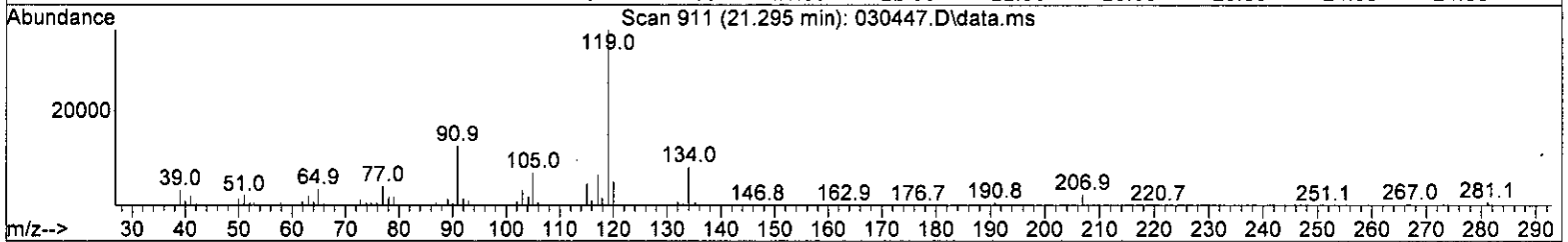
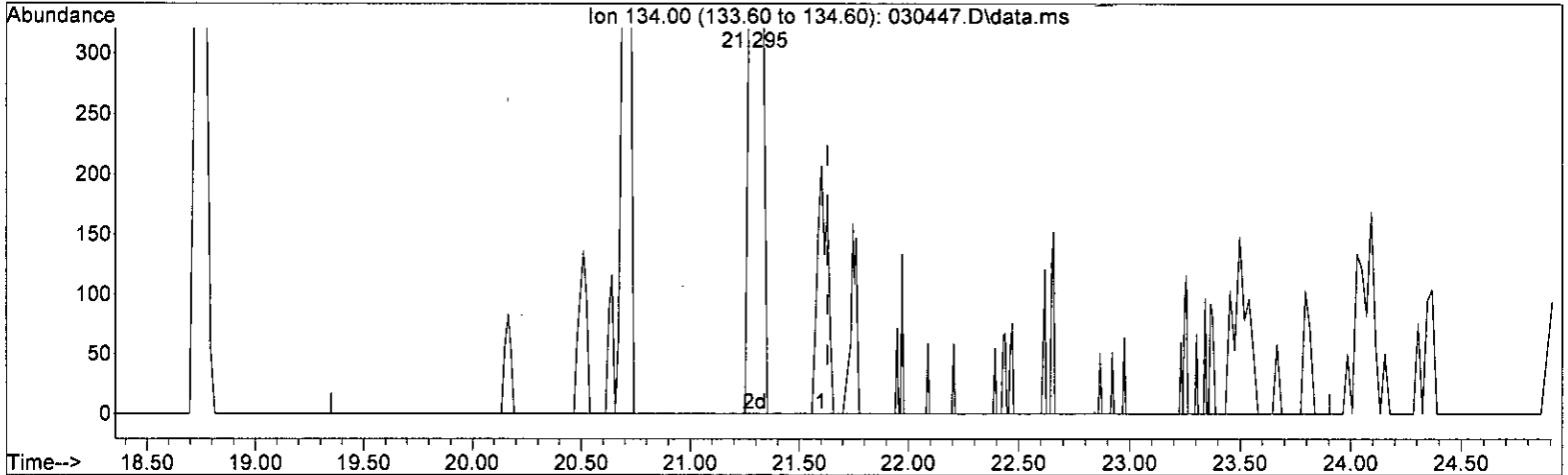
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*R 3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:54:11 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030447.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.630min ( 0.000) 5.890 ug/m3 m

response 18165

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B*  
*3/8/22*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:58:32 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.98	128	114096	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.21	114	521371	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	452567	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.65	95	315165	67.904	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	95.63%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.98	TIC	785383	49.739	ug/m3	88
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1378091m	47.496	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1447157	50.443	ug/m3	98
5) Methylene chloride	6.85	TIC	12227	33.371	ug/m3	90
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.27	54	7704	2.258	ug/m3#	64
9) Methyl t-butyl ether	8.53	73	38024	3.939	ug/m3	79
11) Benzene	12.69	78	39501	3.004	ug/m3	91
12) Isopentane	5.69	TIC	72452	3.683	ug/m3	84
13) Hexane	10.10	TIC	78981	3.489	ug/m3	94
14) Cyclohexane	13.17	TIC	118423m	4.334	ug/m3	
15) 2,3-Dimethylpentane	13.49	TIC	93705m	4.556	ug/m3	
16) Heptane	14.61	TIC	86898m	3.706	ug/m3	
17) Octane	17.41	TIC	196815	5.293	ug/m3	85
18) APH EC5-8 aliphatics T...	11.97	TIC	647274m	25.115	ug/m3	
19) APH EC5-8 aliphatics	12.00	TIC	10925359m	34.884	ug/m3	
21) S 4-Bromofluorobenzene	19.65	TIC	1906570	48.449	ug/m3	95
22) Hexamethylcyclotrisilo...	17.80	TIC	2915813	49.690	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	445191	56.861	ppbv	100
24) Toluene	16.41	92	28383	4.016	ug/m3	89
25) Ethylbenzene	18.60	91	64699	4.369	ug/m3	91
26) m,p-Xylene	18.77	106	45881	8.537	ug/m3	85
27) o-Xylene	19.22	106	22228	4.327	ug/m3	93
28) Naphthalene	23.96	128	47996	3.955	ug/m3	98
29) 2,3-Dimethylheptane	18.66	TIC	129835m	4.750	ug/m3	
30) Nonane	19.38	TIC	145680	5.093	ug/m3	89
31) Decane	20.92	TIC	158705	5.609	ug/m3	90
32) Butylcyclohexane	21.57	TIC	205998	5.420	ug/m3	95
33) Undecane	22.31	TIC	170599	6.277	ug/m3	92
34) Dodecane	23.82	TIC	161540m	6.581	ug/m3	
35) APH EC9-12 aliphatics ...	21.12	TIC	972357m	33.763	ug/m3	
36) APH EC9-12 aliphatics	21.18	TIC	5310982m	31.638	ug/m3	
38) Isopropylbenzene	19.77	120	15073	4.385	ug/m3#	82
39) 1-Methyl-3-ethylbenzene	21.31	120	29296	4.516	ug/m3#	49
40) 1,3,5-Trimethylbenzene	20.45	120	26527	4.720	ug/m3	94
41) p-Isopropyltoluene	21.30	134	16008	5.219	ug/m3#	93
42) 1,2,3-Trimethylbenzene	21.31	120	29296	4.516	ug/m3	100
43) APH EC9-10 aromatics T...	21.57	TIC	116200m	23.429	ug/m3	
44) APH EC9-10 aromatics (1)	21.63	120	73932m	13.493	ug/m3	



Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

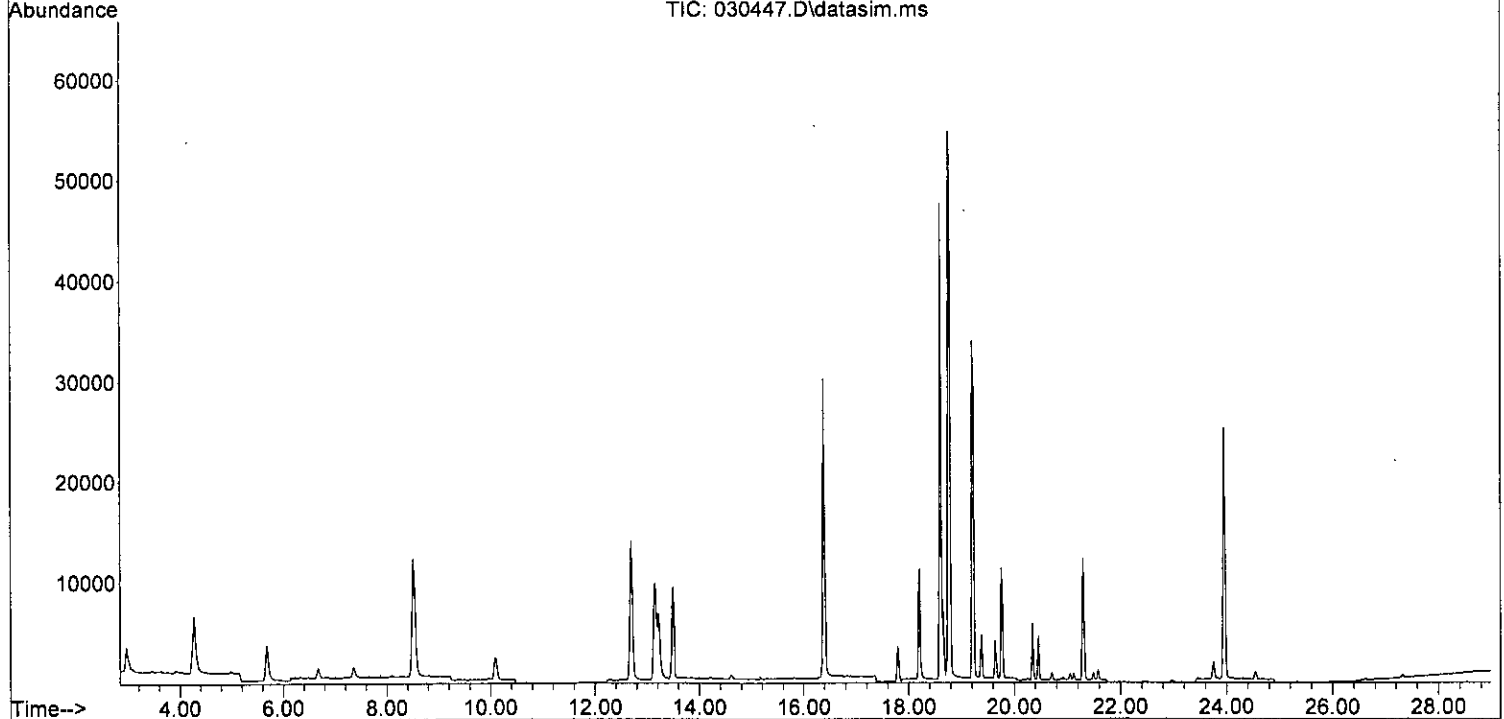
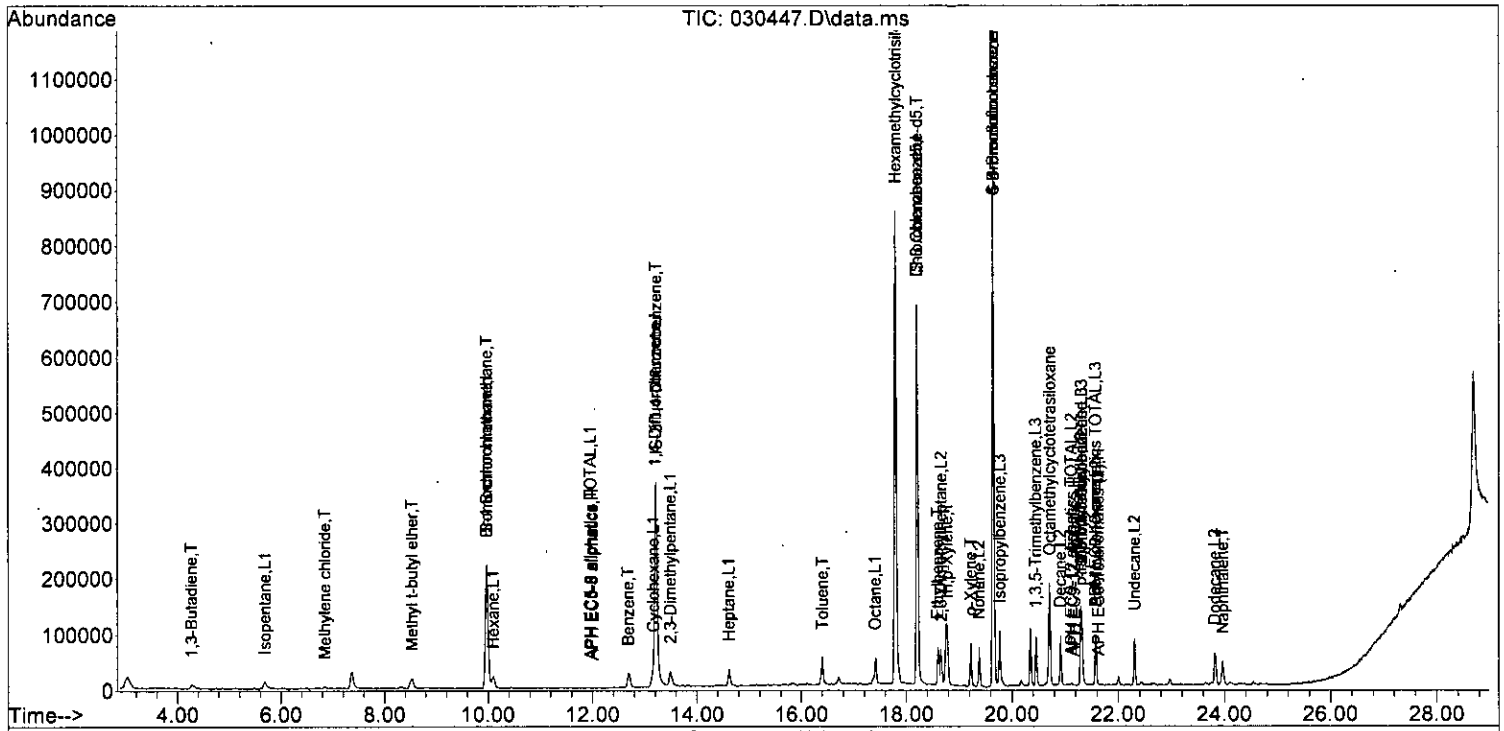
Quant Time: Mar 08 16:58:32 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.63	134	18165m	5.890	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:58:32 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:58:32 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	50.000	49.739	0.5	100	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	47.496	5.0	99	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	50.443	-0.9	100	0.00
5 T	Methylene chloride	50.000	33.371	33.3#	100	0.00
6	Acetone	1.000	0.000	100.0#	0	-5.61#
7	2-Propanol	50.000	0.000	100.0#	0	-5.87#
8 T	1,3-Butadiene	2.200	2.258	-2.6	100	0.00
9 T	Methyl t-butyl ether	3.600	3.939	-9.4	100	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.00
11 T	Benzene	3.200	3.004	6.1	100	0.00
12 L1	Isopentane	3.000	3.683	-22.8	100	0.00
13 L1	Hexane	3.500	3.489	0.3	100	0.00
14 L1	Cyclohexane	3.500	4.334	-23.8	116	0.02
15 L1	2,3-Dimethylpentane	4.200	4.556	-8.5	87	0.00
16 L1	Heptane	4.200	3.706	11.8	88	0.00
17 L1	Octane	4.700	5.293	-12.6	100	-0.01
18 L1	APH EC5-8 aliphatics TOTAL	23.000	25.115	-9.2	98	0.03
19 H	APH EC5-8 aliphatics	23.000	34.884	-51.7#	99	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	48.449	3.1	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	49.690	0.6	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	56.861	-13.7	100	0.00
24 T	Toluene	3.750	4.016	-7.1	100	0.00
25 T	Ethylbenzene	4.350	4.369	-0.4	100	0.00
26 T	m,p-Xylene	8.800	8.537	3.0	100	0.00
27 T	o-Xylene	4.400	4.327	1.7	100	0.00
28 T	Naphthalene	5.000	3.955	20.9	100	0.00
29 L2	2,3-Dimethylheptane	5.000	4.750	5.0	101	0.00
30 L2	Nonane	5.000	5.093	-1.9	100	0.00
31 L2	Decane	6.000	5.609	6.5	100	0.00
32 L2	Butylcyclohexane	5.500	5.420	1.5	100	0.00
33 L2	Undecane	6.500	6.277	3.4	100	0.00
34 L2	Dodecane	7.000	6.581	6.0	99	0.00
35 L2	APH EC9-12 aliphatics TOTAL	35.000	33.763	3.5	100	0.01
36 H	APH EC9-12 aliphatics	35.000	31.638	9.6	98	0.00
37 S	4-Bromofluorobenzene	71.000	67.904	4.4	100	0.00
38 L3	Isopropylbenzene	4.900	4.385	10.5	100	0.00
39 L3	1-Methyl-3-ethylbenzene	4.900	4.516	7.8	100	0.00
40 L3	1,3,5-Trimethylbenzene	4.900	4.720	3.7	100	0.00
41 L3	p-Isopropyltoluene	5.500	5.219	5.1	100	0.00
42 L3	1,2,3-Trimethylbenzene	4.900	4.516	7.8	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	25.000	23.429	6.3	100	0.00
44 H	APH EC9-10 aromatics (1)	19.600	13.493	31.2#	74	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:58:32 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area	Dev(min)
45 H APH EC9-10 aromatics (2)	5.500	5.890	-7.1	113	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
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Quant Time: Mar 08 16:58:32 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	6.920	6.884	0.5	100	0.00
3 T	IS-2 1,4-Difluorobenzene	12.715	12.078	5.0	99	0.00
4 T	IS-3 Chlorobenzene-d5	12.572	12.684	-0.9	100	0.00
5 T	Methylene chloride	0.161	0.107	33.5#	100	0.00
6	Acetone	1.776	0.000	100.0#	0#	-5.61#
7	2-Propanol	0.828	0.000	100.0#	0#	-5.87#
8 T	1,3-Butadiene	1.495	1.535	-2.7	100	0.00
9 T	Methyl t-butyl ether	4.230	4.629	-9.4	100	0.00
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
11 T	Benzene	1.261	1.184	6.1	100	0.00
12 L1	Isopentane	1.886	2.316	-22.8	100	0.00
13 L1	Hexane	2.171	2.164	0.3	100	0.00
14 L1	Cyclohexane	2.620	3.245	-23.9	116	0.02
15 L1	2,3-Dimethylpentane	1.973	2.140	-8.5	87	0.00
16 L1	Heptane	2.249	1.984	11.8	88	0.00
17 L1	Octane	3.566	4.016	-12.6	100	-0.01
18 L1	APH EC5-8 aliphatics TOTAL	2.472	2.699	-9.2	98	0.03
19 H	APH EC5-8 aliphatics	30.035	45.554	-51.7#	99	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	4.348	4.213	3.1	100	0.00
22	Hexamethylcyclotrisiloxane	6.483	6.443	0.6	100	0.00
23	Octamethylcyclotetrasiloxan	0.865	0.984	-13.8	100	0.00
24 T	Toluene	0.781	0.836	-7.0	100	0.00
25 T	Ethylbenzene	1.636	1.643	-0.4	100	0.00
26 T	m,p-Xylene	0.594	0.576	3.0	100	0.00
27 T	o-Xylene	0.568	0.558	1.8	100	0.00
28 T	Naphthalene	1.341	1.061	20.9	100	0.00
29 L2	2,3-Dimethylheptane	3.020	2.869	5.0	101	0.00
30 L2	Nonane	3.160	3.219	-1.9	100	0.00
31 L2	Decane	3.126	2.922	6.5	100	0.00
32 L2	Butylcyclohexane	4.199	4.138	1.5	100	0.00
33 L2	Undecane	3.003	2.900	3.4	100	0.00
34 L2	Dodecane	2.712	2.550	6.0	99	0.00
35 L2	APH EC9-12 aliphatics TOTAL	3.182	3.069	3.6	100	0.01
36 H	APH EC9-12 aliphatics	18.546	16.765	9.6	98	0.00
37 S	4-Bromofluorobenzene	0.513	0.490	4.5	100	0.00
38 L3	Isopropylbenzene	0.380	0.340	10.5	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.717	0.661	7.8	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.621	0.598	3.7	100	0.00
41 L3	p-Isopropyltoluene	0.339	0.322	5.0	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.717	0.661	7.8	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.548	0.514	6.2	100	0.00
44 H	APH EC9-10 aromatics (1)	0.605	0.417	31.1#	74	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030447.D  
 Acq On : 6 Mar 2022 2:26 am  
 Operator : bat  
 Sample : 1.0 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 47 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 16:58:32 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.341	0.365	-7.0	113	0.00

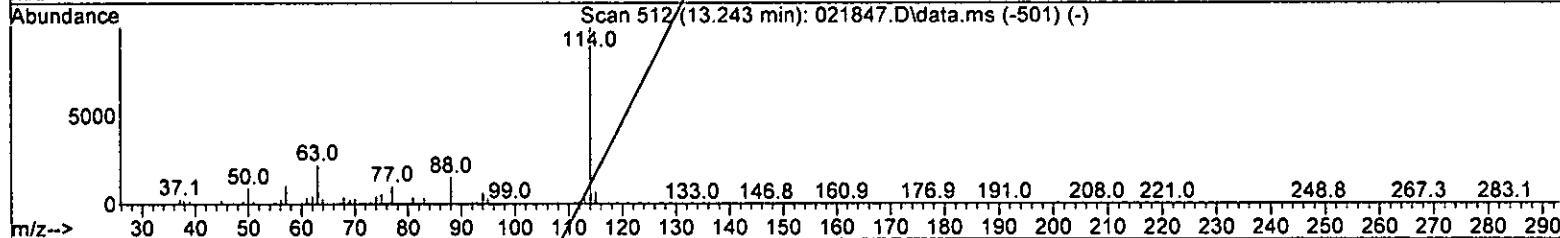
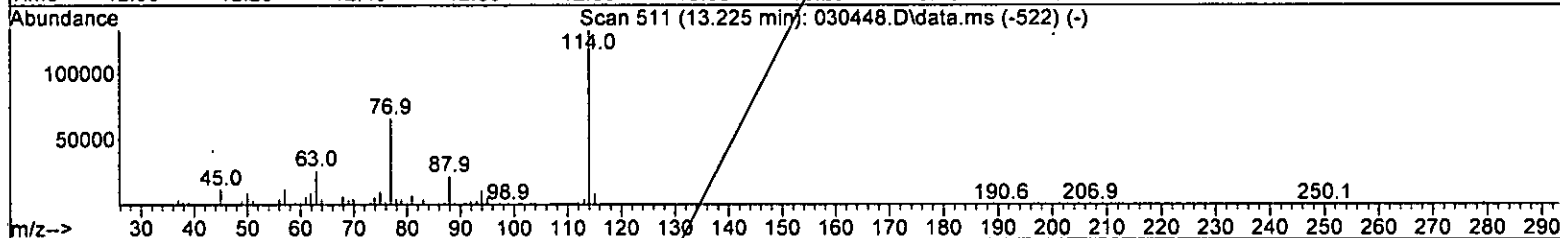
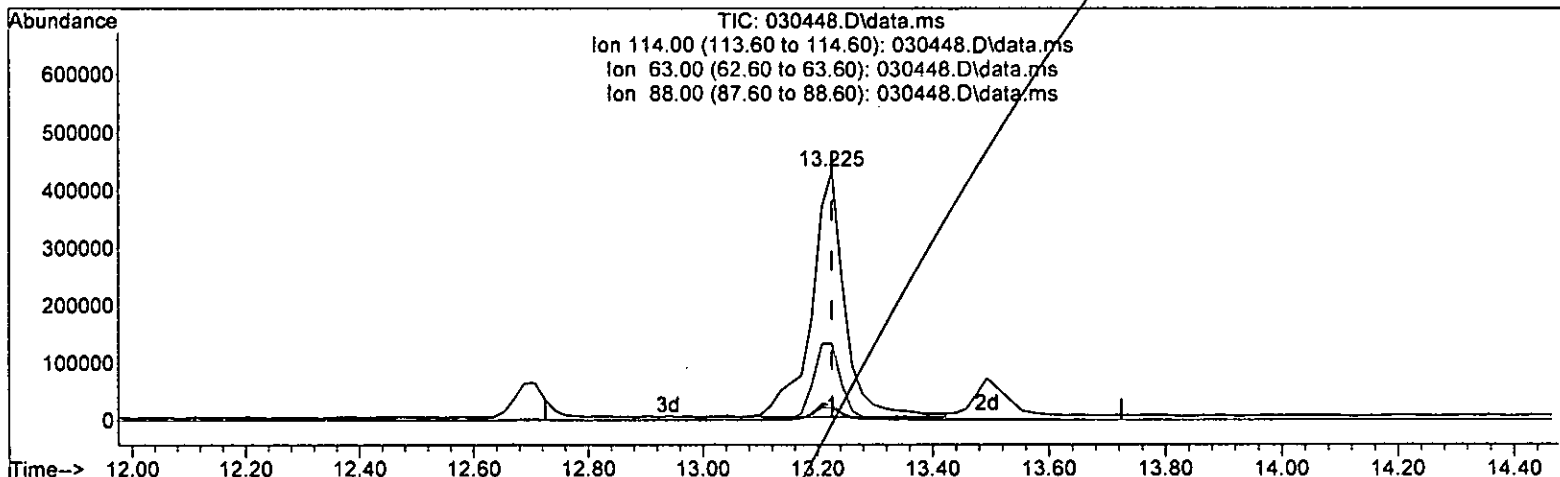
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:01:30 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(3) IS-2 1,4-Difluorobenzene (T)

13.225min ( 0.000) 57.433 ug/m3

response 1738600

Signal Exp% Act%

TIC 100.00 100.00

114.00 65.20 31.19#

63.00 14.80 6.09

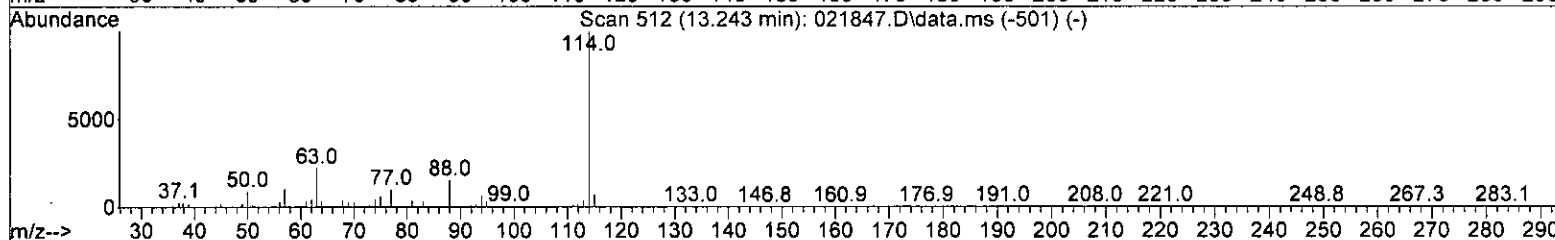
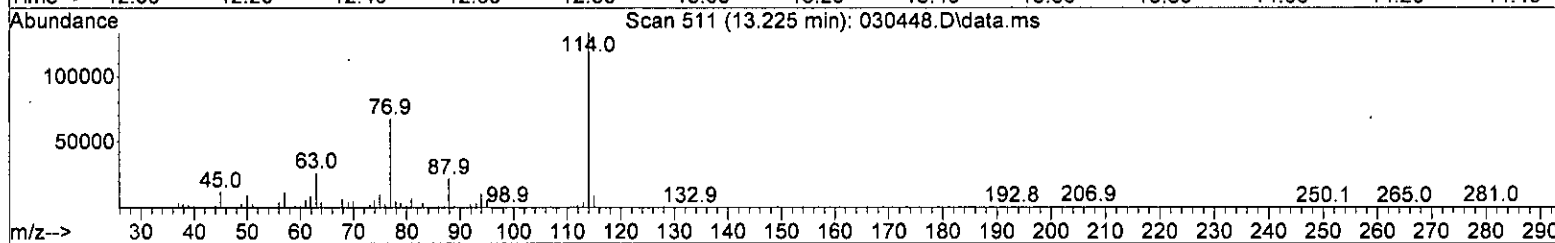
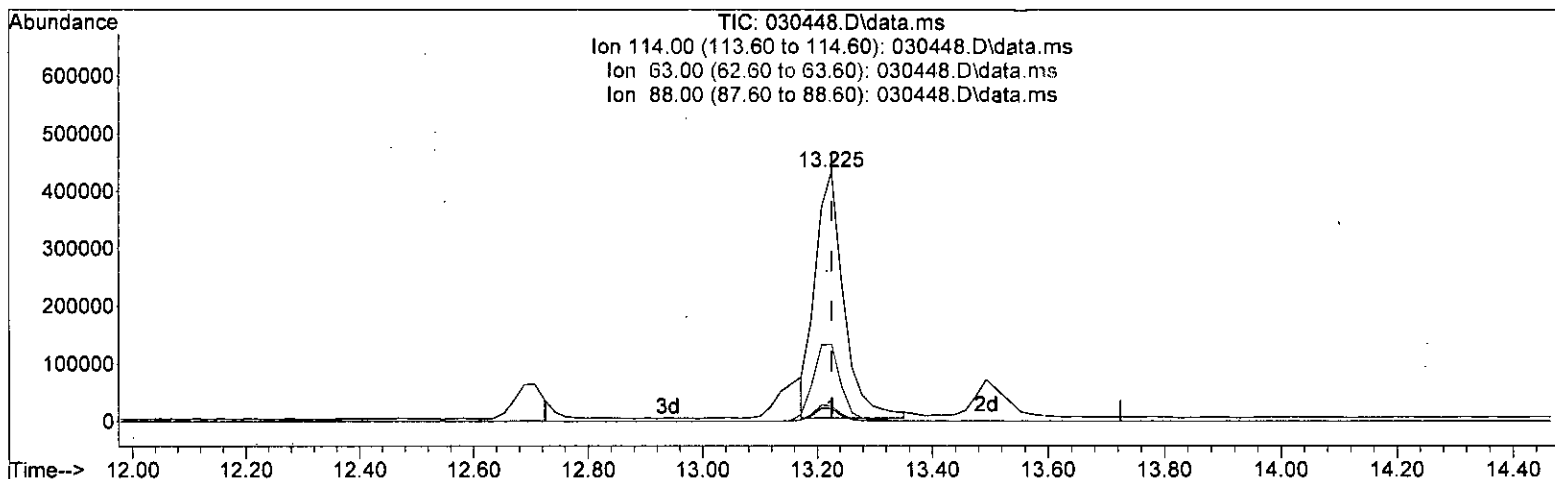
88.00 10.30 5.04

*B  
3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:01:30 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030448.D\data.ms

(3) IS-2 1,4-Difluorobenzene (T)

13.225min ( 0.000) 49.235 ug/m3 m

response 1490418

Signal	Exp%	Act%
TIC	100.00	100.00
114.00	65.20	36.39
63.00	14.80	7.10
88.00	10.30	5.88

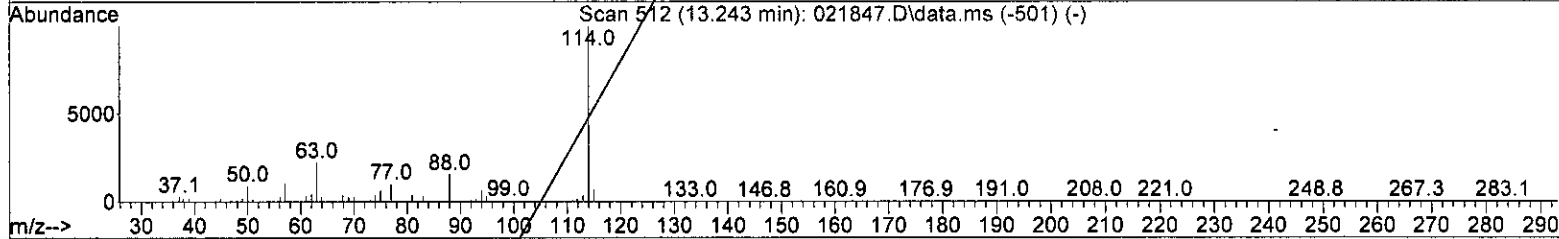
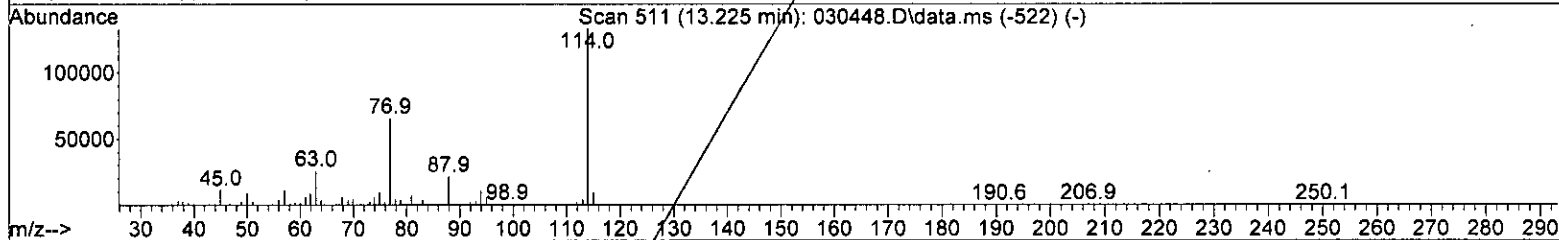
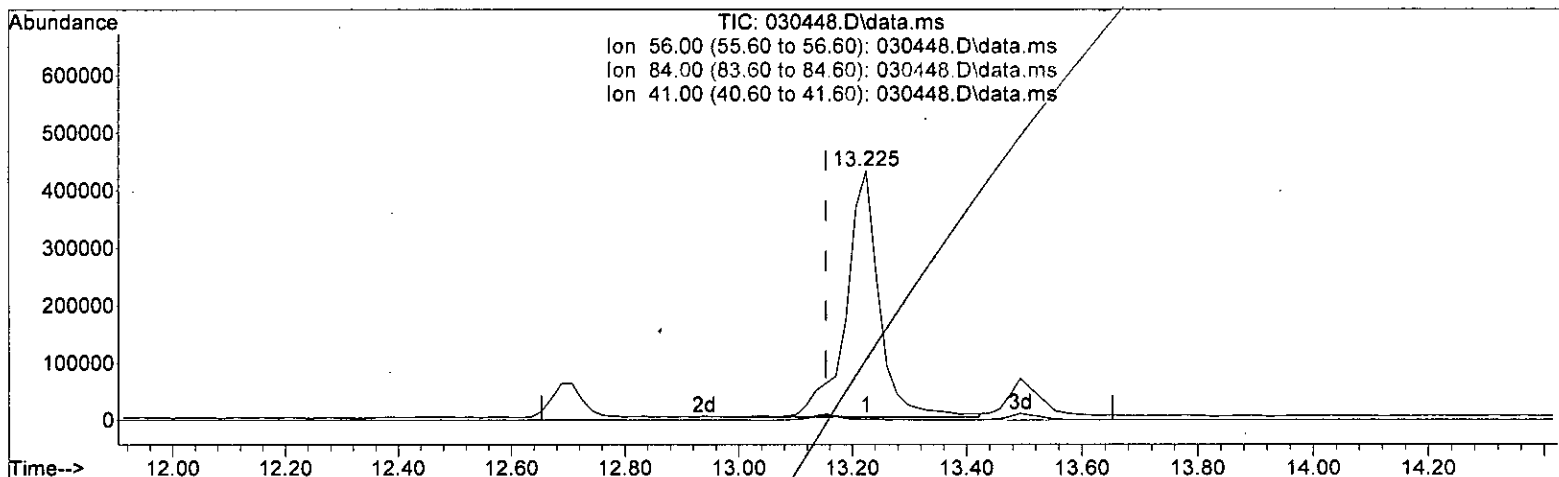
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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:01:30 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(14) Cyclohexane (L1)

13.225min (+ 0.072) 71.840 ug/m3

response 1738600

Signal Exp% Act%

TIC 100.00 100.00

56.00 3.90 0.95

84.00 1.30 0.11

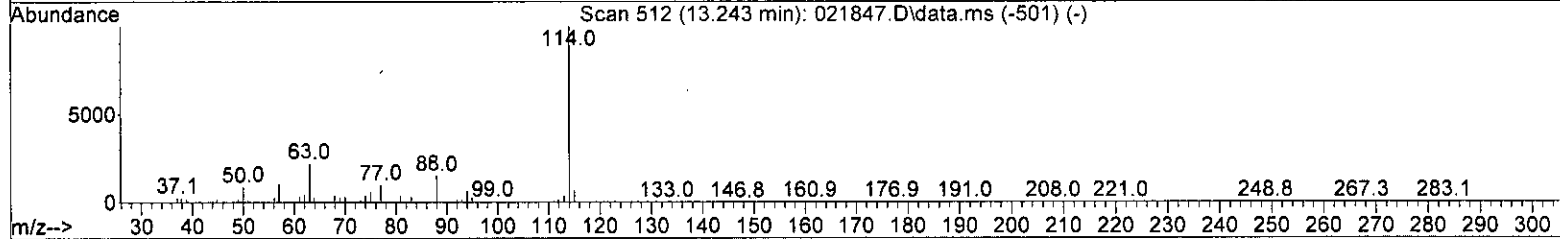
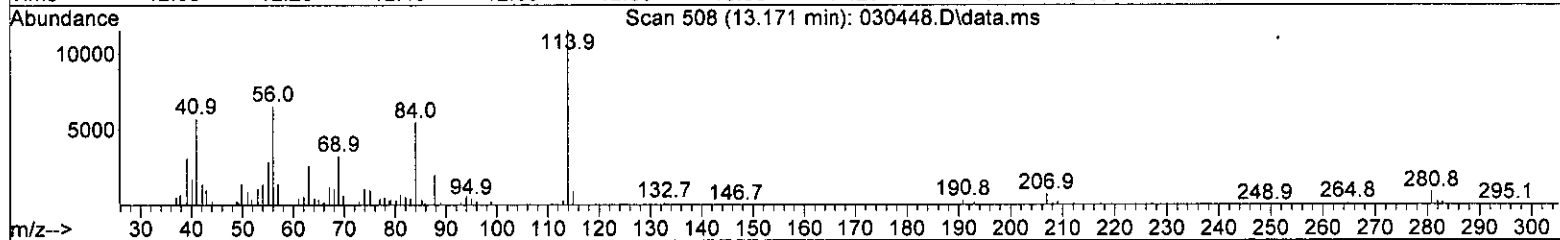
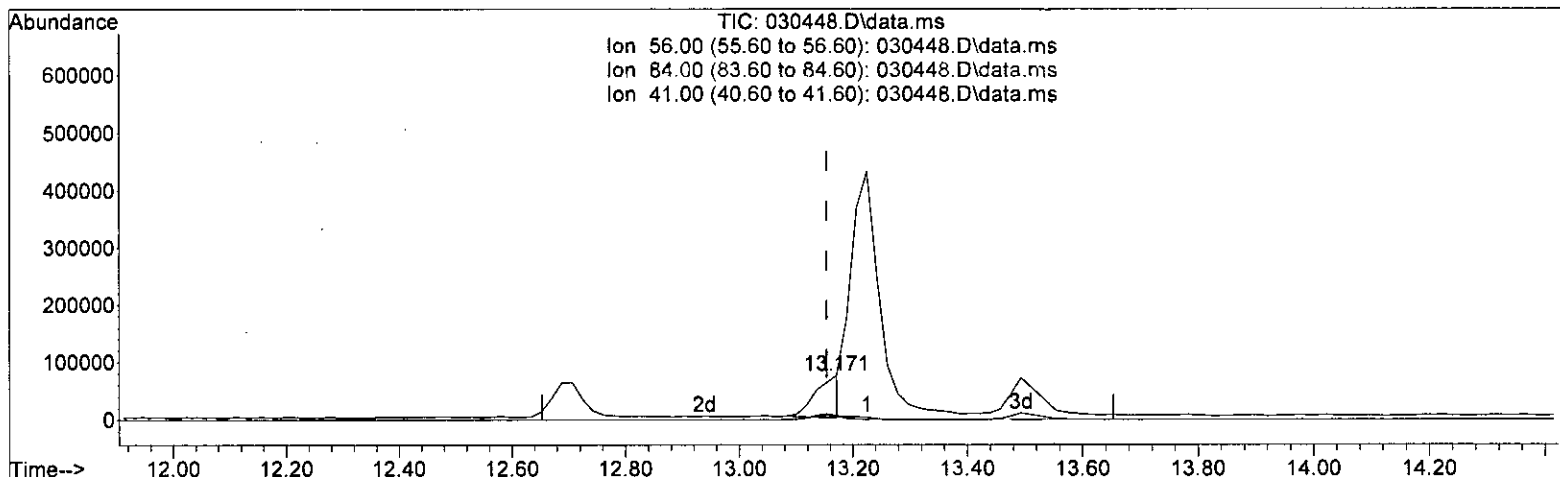
41.00 1.00 0.12

*Handwritten signature and date: 3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:01:30 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(14) Cyclohexane (L1)

13.171min (+ 0.018) 8.967 ug/m3 m

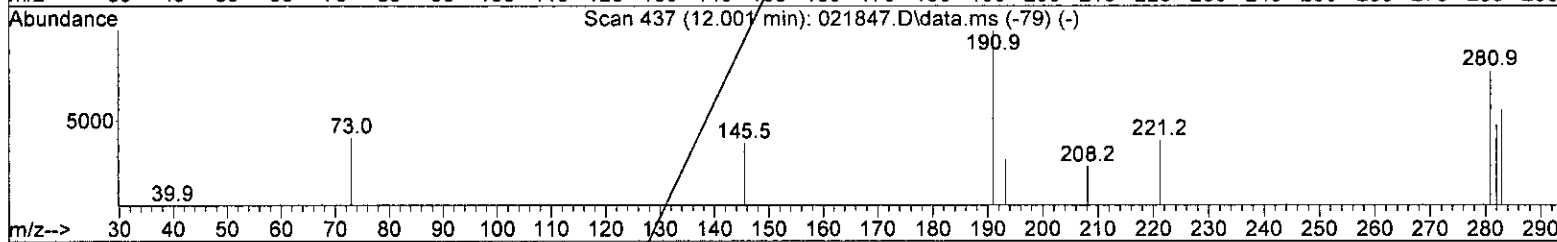
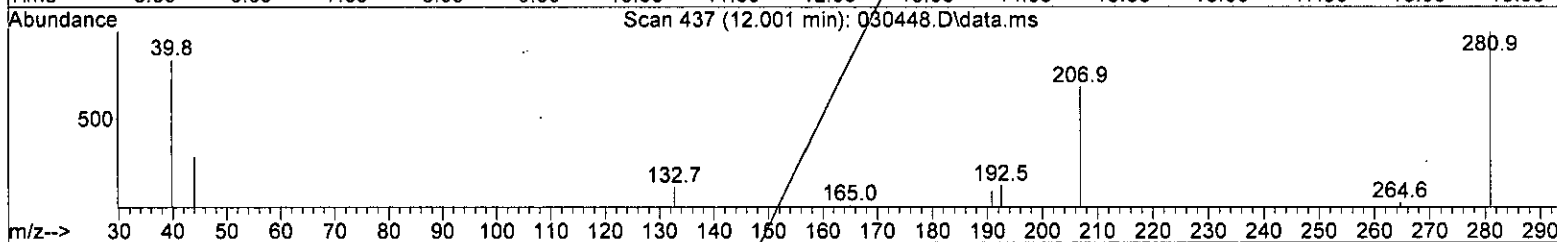
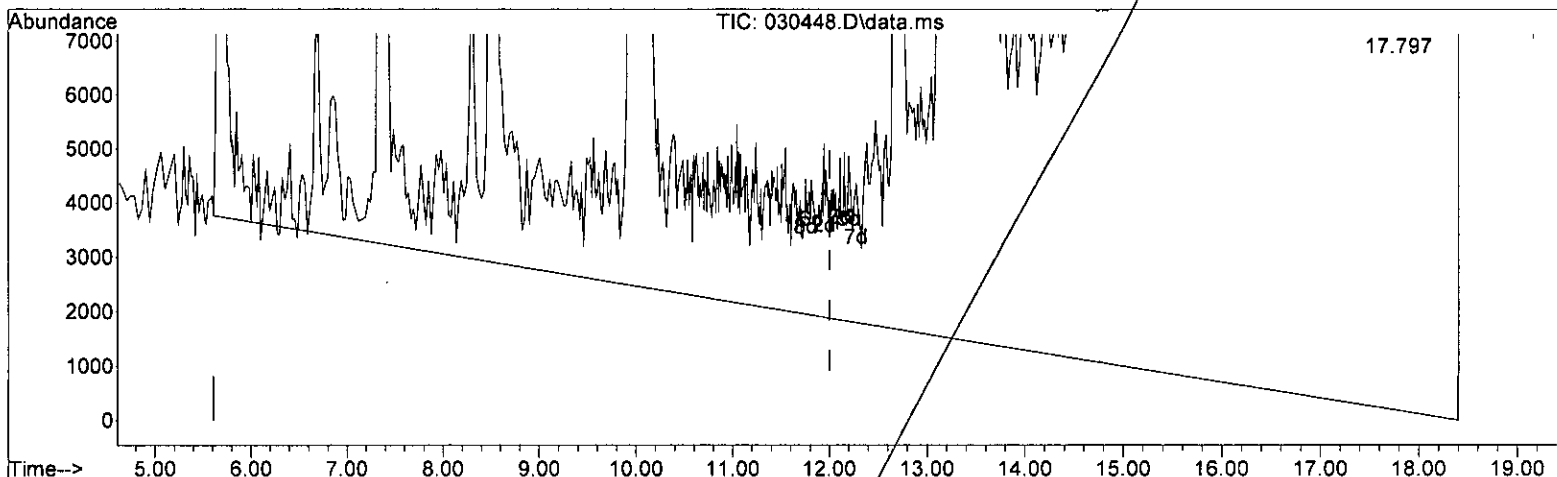
response 217013

Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.90	7.60
84.00	1.30	0.86
41.00	1.00	0.95

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:01:30 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(19) APH EC5-8 aliphatics (H)

12.004min ( 0.000) 24.275 ug/m3 m

response 6734313

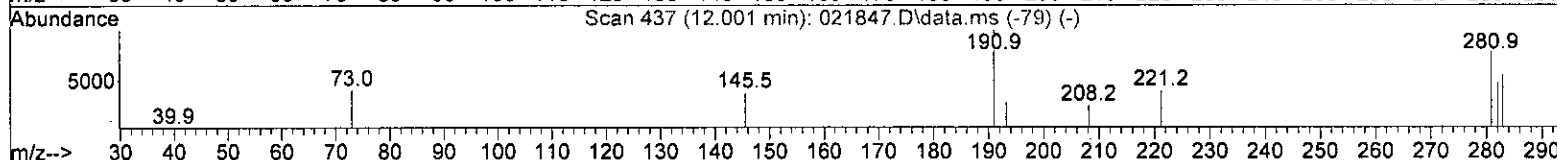
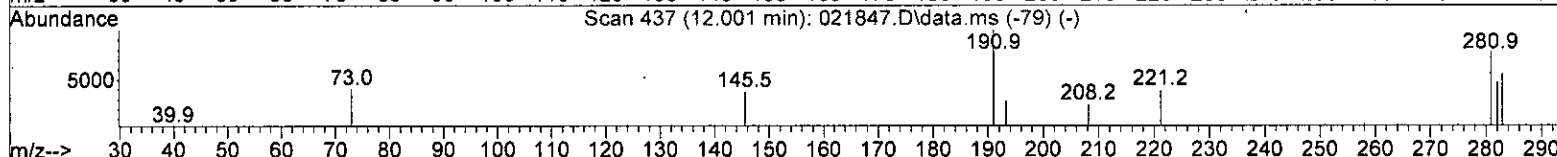
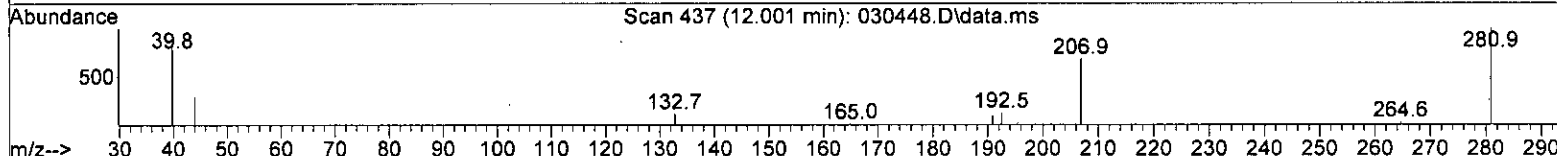
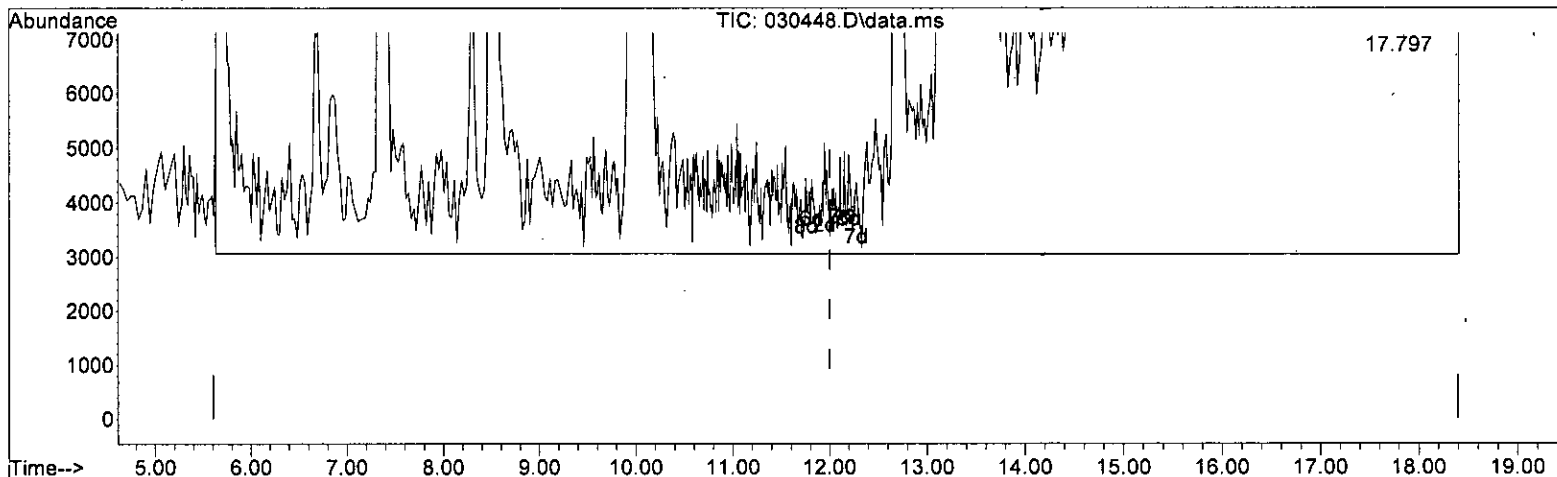
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* B. 3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:01:30 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030448.D\data.ms

(19) APH ECS-8 aliphatics (H)

12.004min ( 0.000) 47.034 ug/m3 m

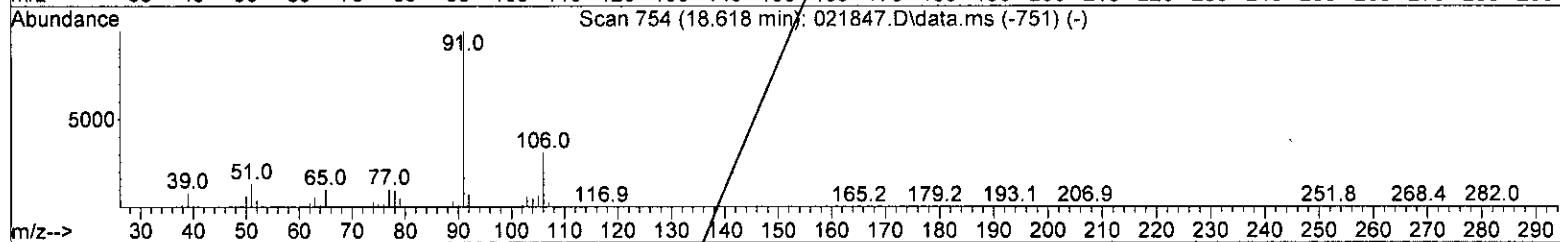
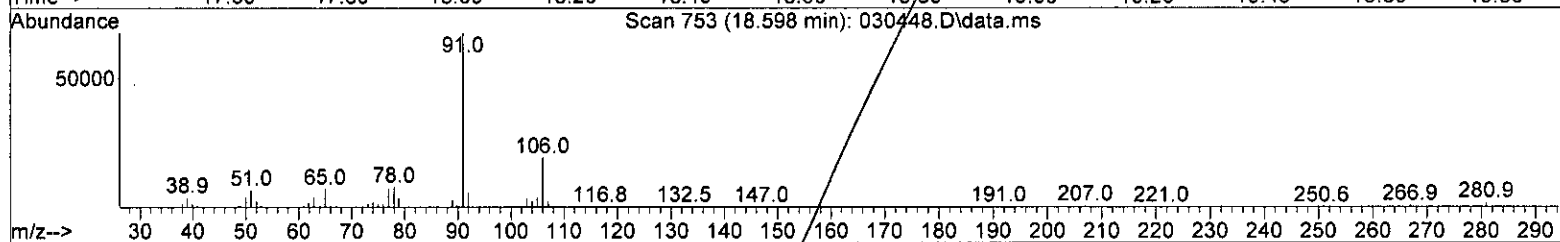
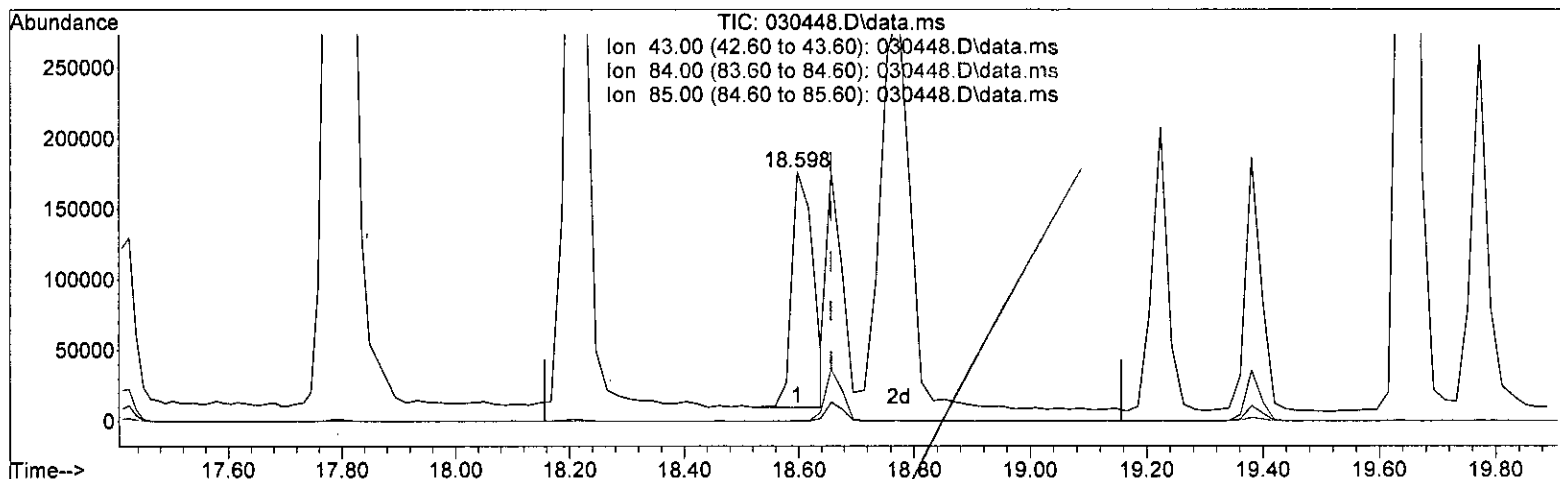
response 13047939

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* 3/8/22

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:01:30 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030448.D\data.ms

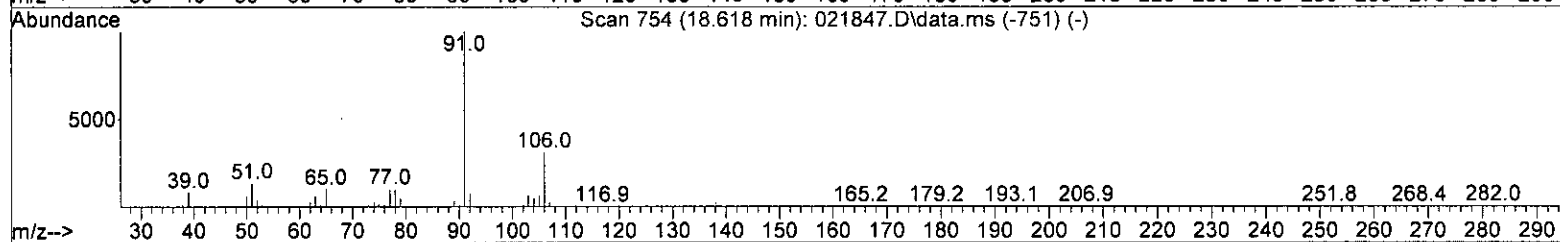
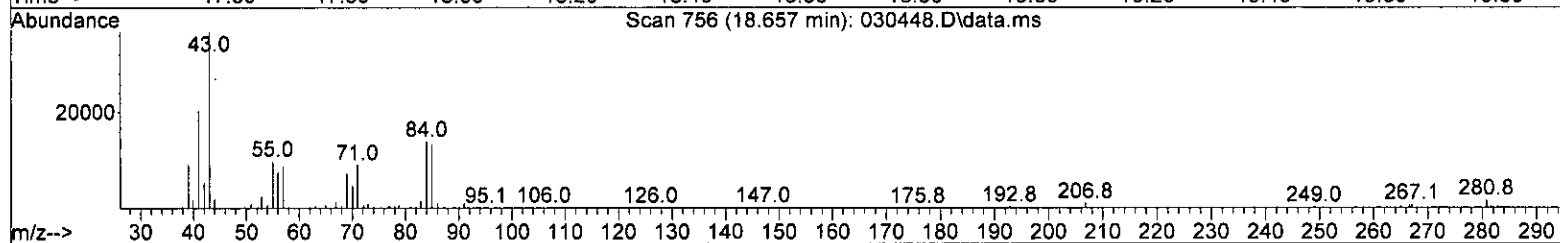
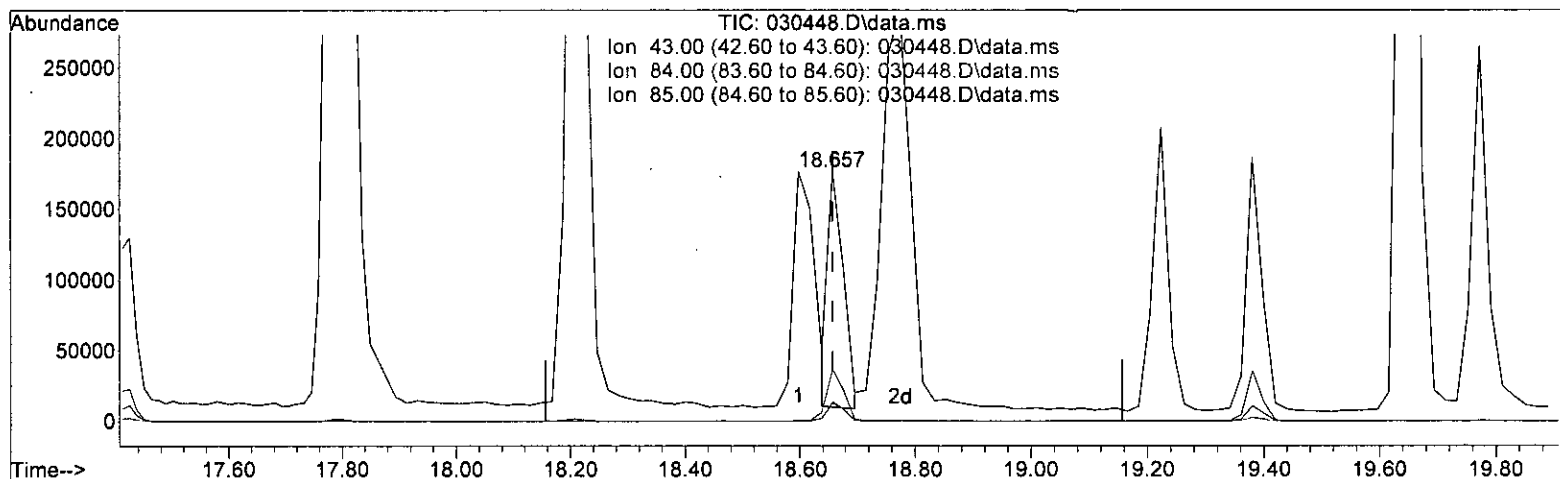
(29)	2,3-Dimethylheptane (L2)	
18.598min (-0.059)	15.714 ug/m3	
response	431260	
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	31.80	18.38#
84.00	7.20	6.93
85.00	6.20	6.81

*6  
3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:01:30 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(29) 2,3-Dimethylheptane (L2)

18.657min (-0.000) 11.815 ug/m3 m

response 324247

Signal Exp% Act%

TIC 100.00 100.00

43.00 31.80 24.44#

84.00 7.20 9.21#

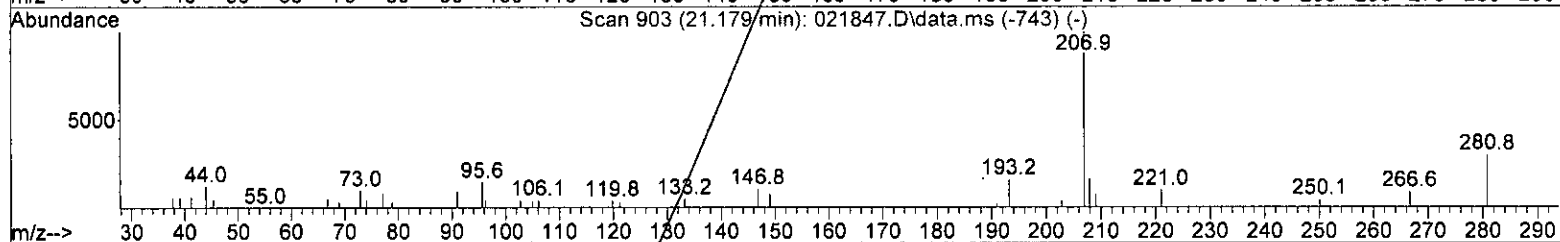
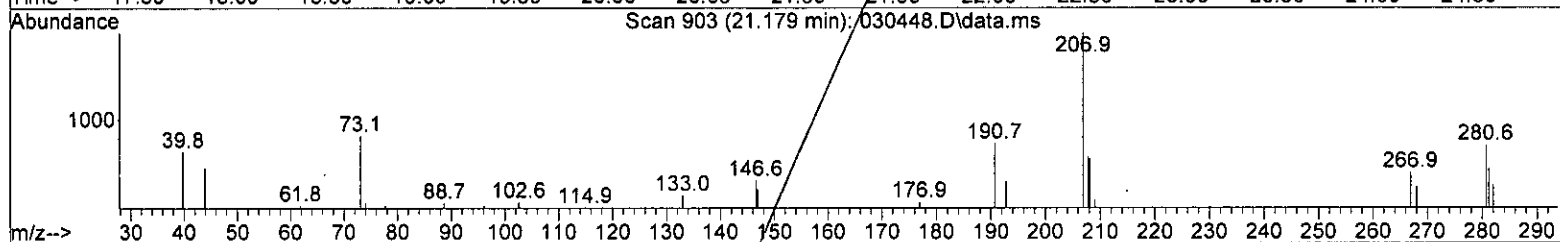
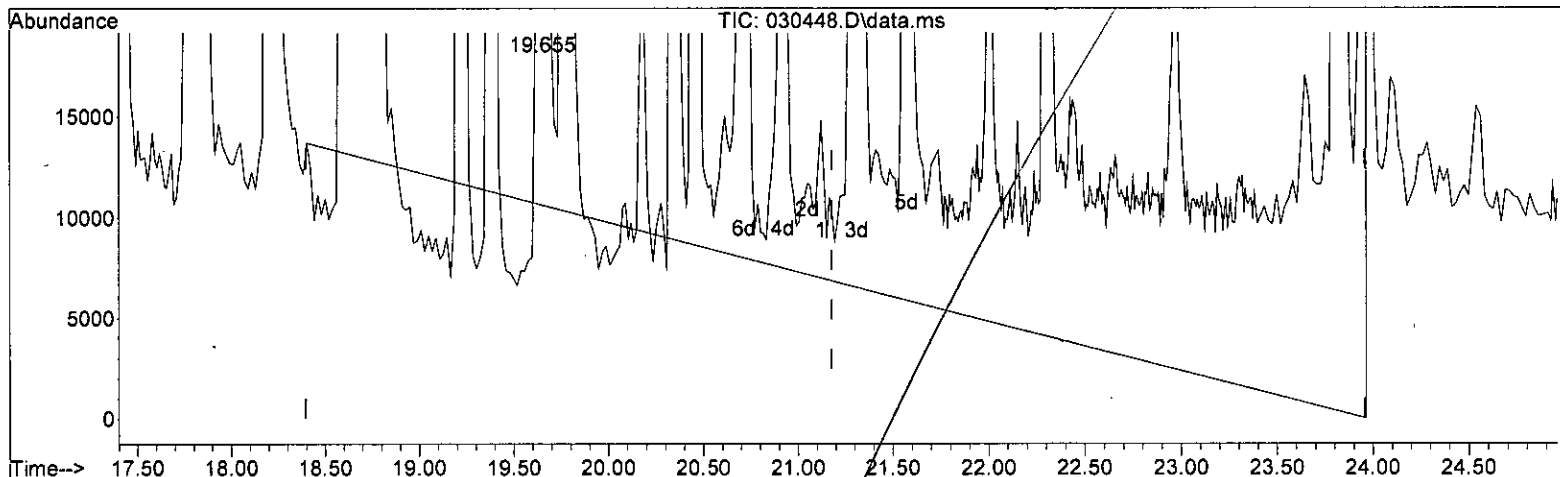
85.00 6.20 9.06#

*Handwritten signature and date: 2/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:01:30 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030448.D\data.ms

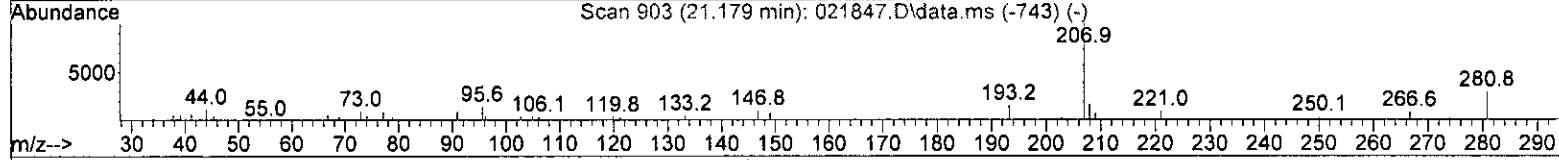
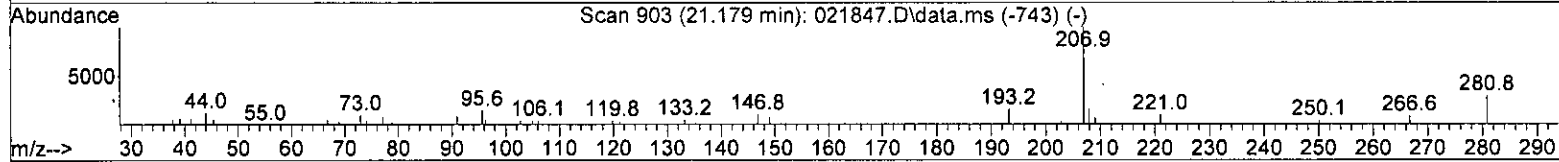
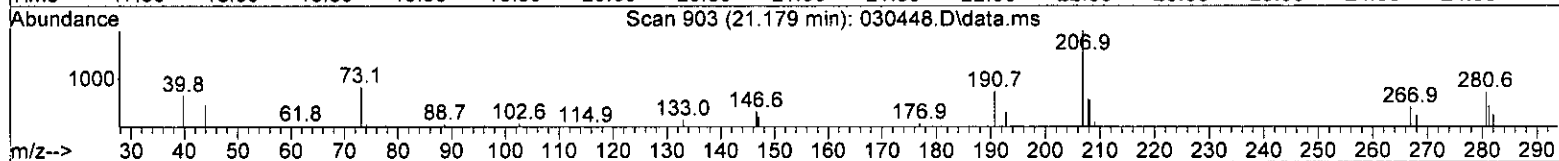
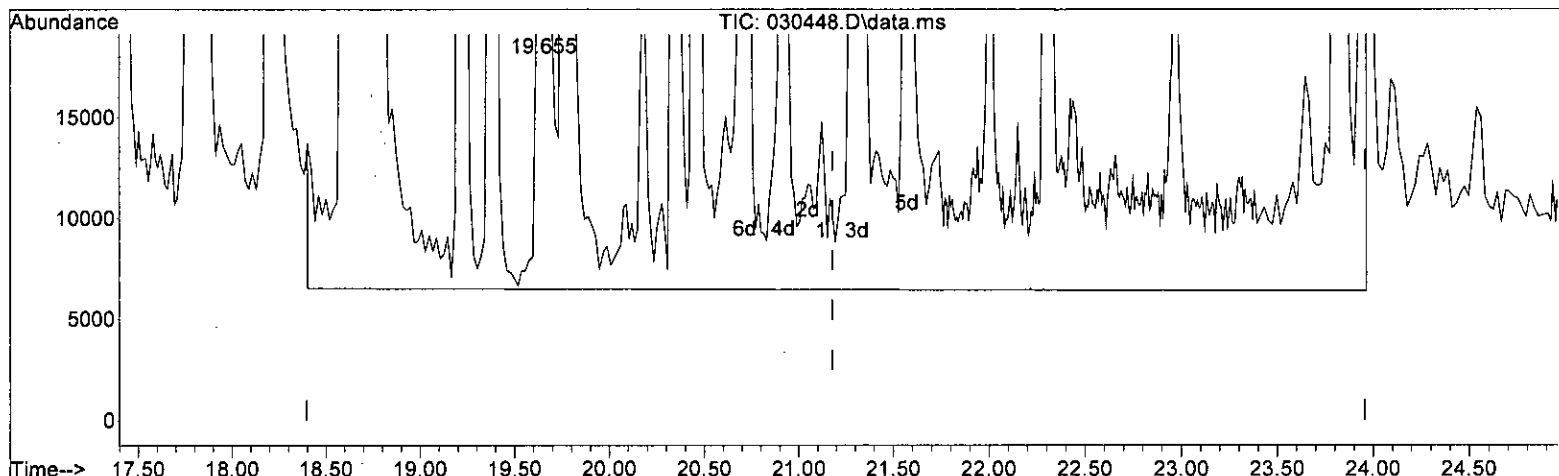
(36) APH EC9-12 aliphatics (H)  
 21.178min ( 0.000) 43.075 ug/m3 m

response	Exp%	Act%
7259962		
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* 4/3/2022

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:01:30 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030448.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 52.463 ug/m3 m

response 8842164

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

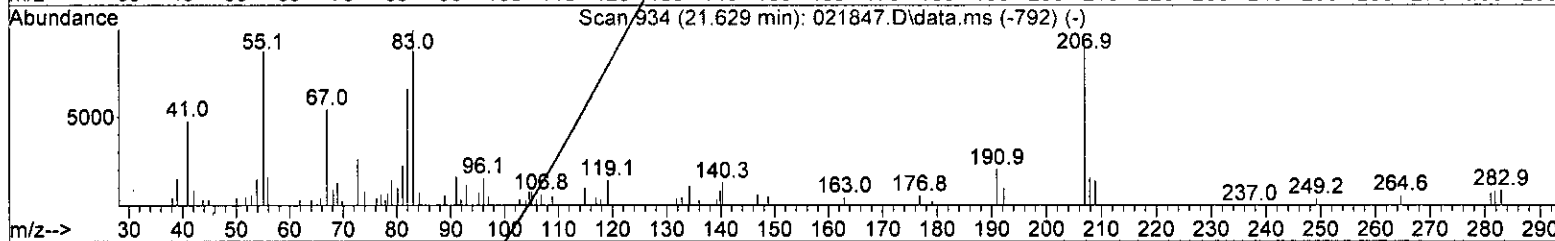
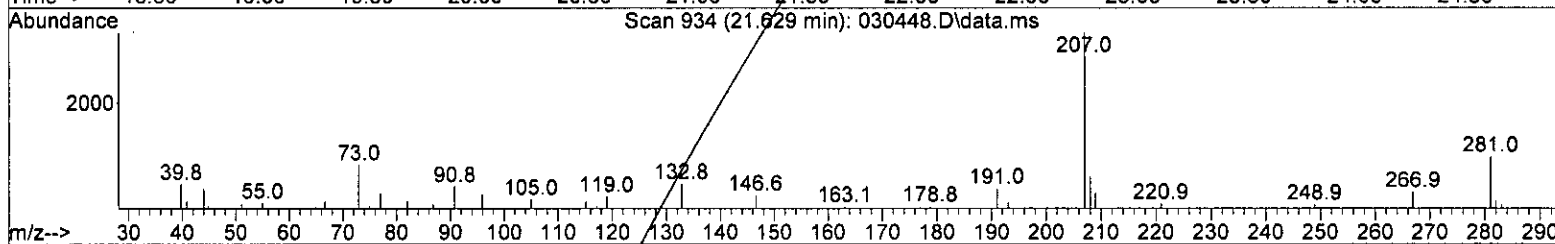
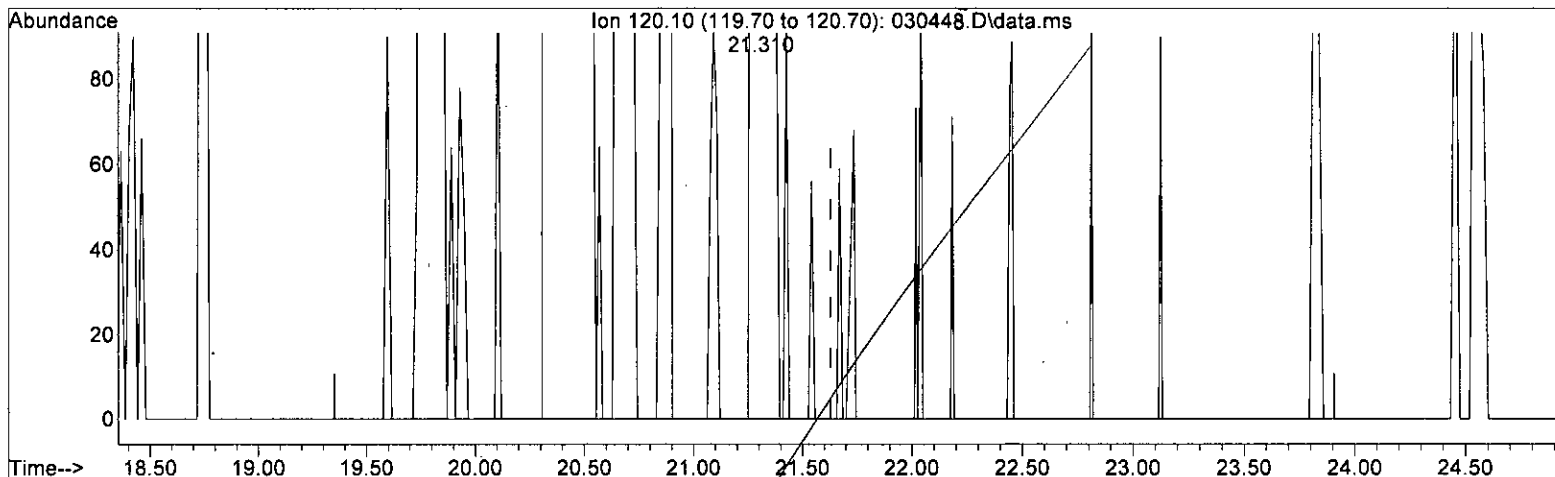
*Handwritten signature/initials*



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:01:30 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(44) APH EC9-10 aromatics (1) (H)

21.630min ( 0.000) 34.122 ug/m3 m

response 187721

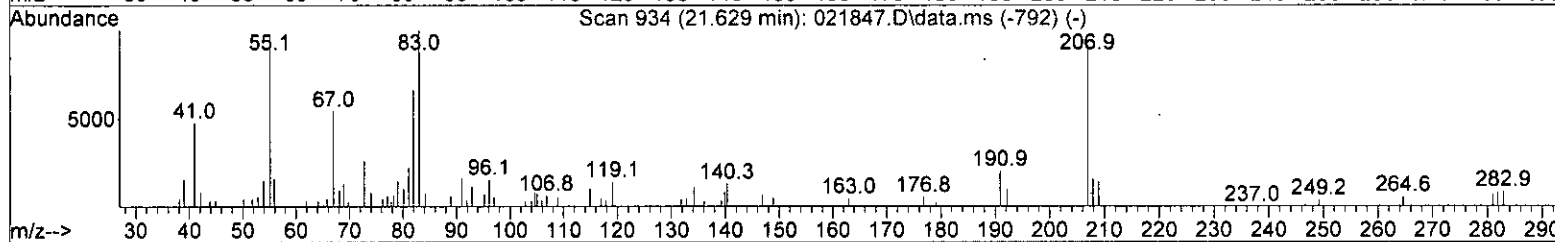
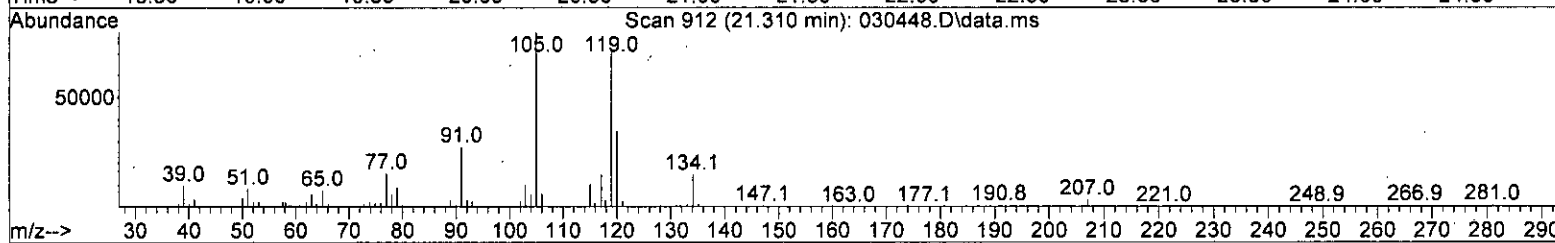
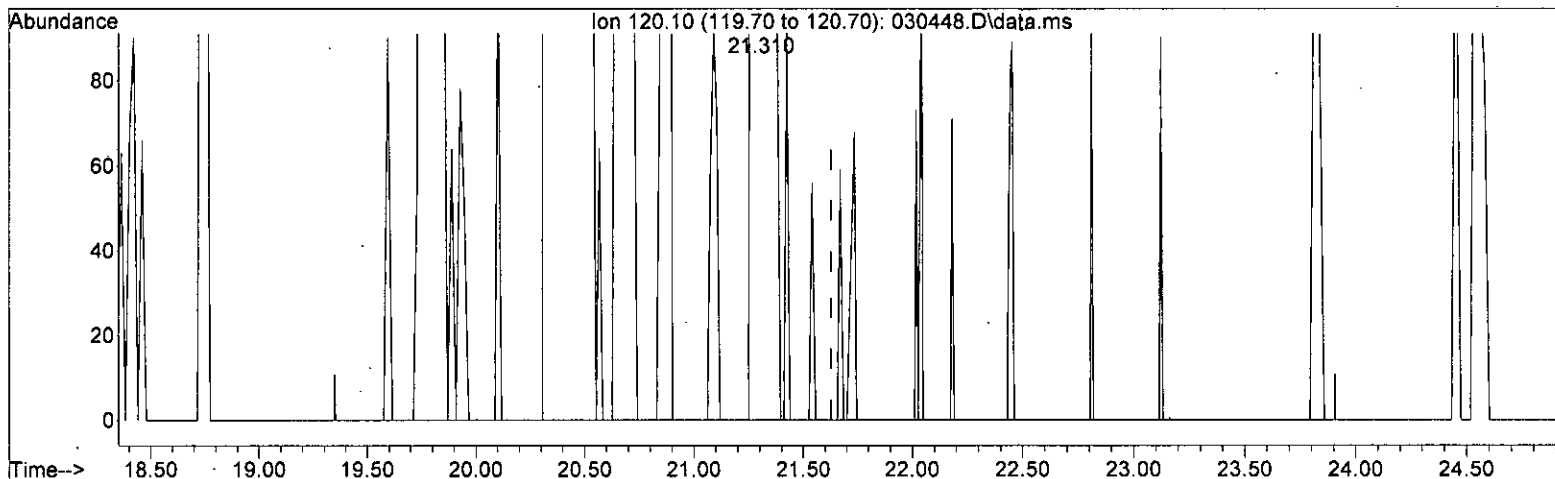
Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*M/3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:01:30 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030448.D\data.ms

(44) APH EC9-10 aromatics (1) (H)

21.630min ( 0.000) 34.487 ug/m3 m

response 189728

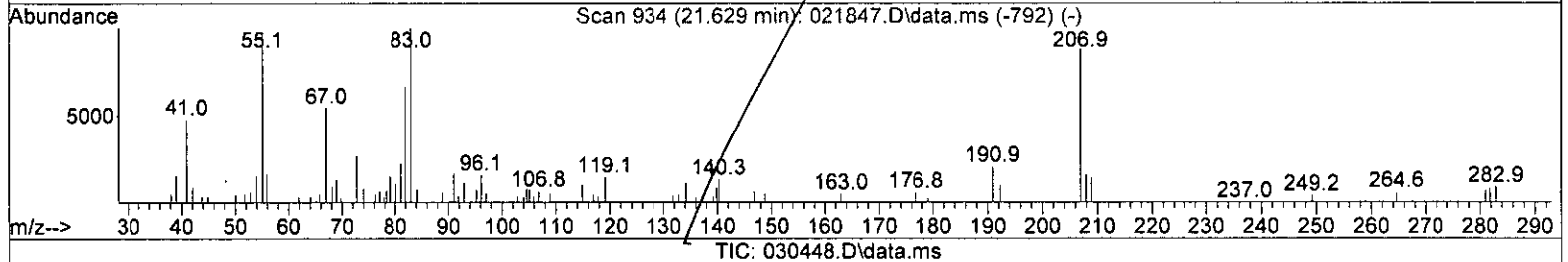
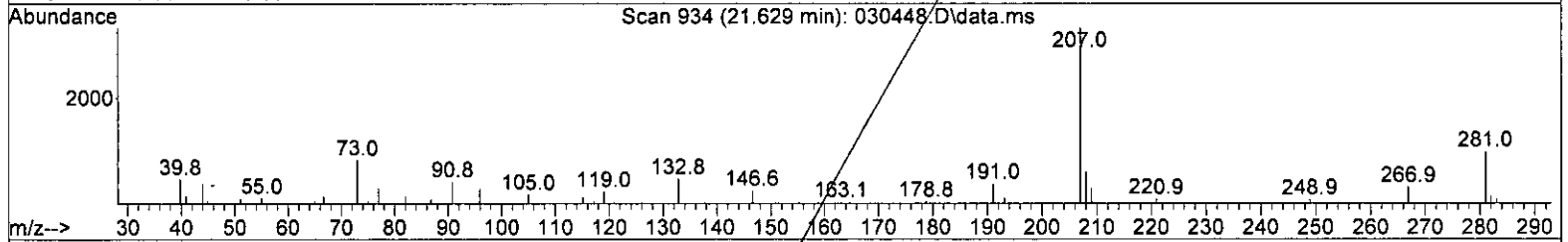
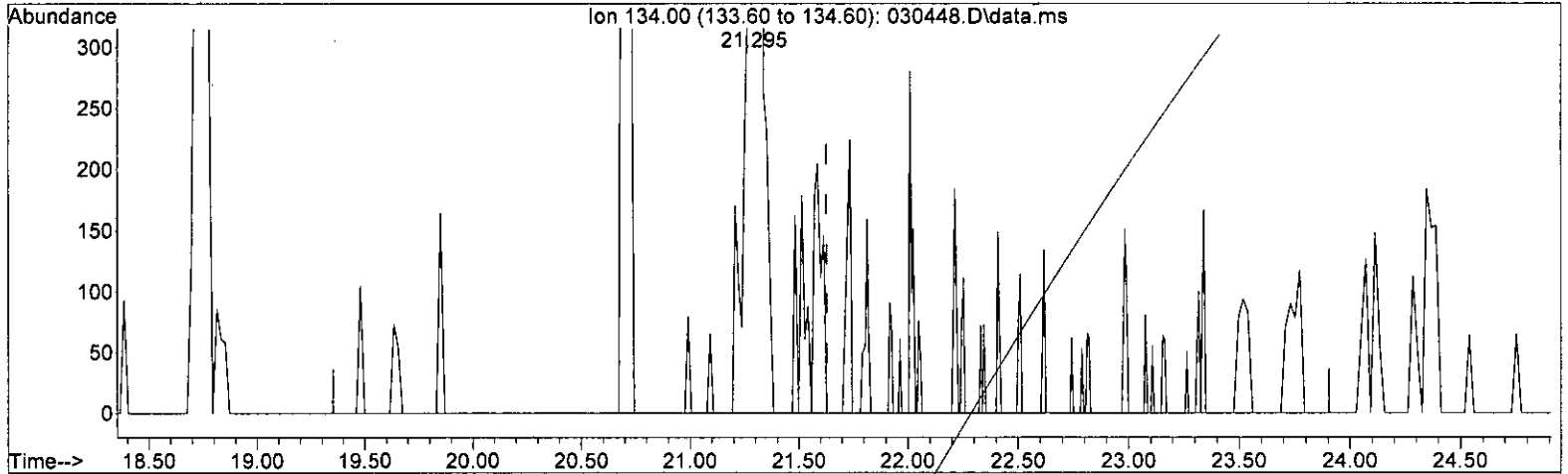
Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* 3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:01:30 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(45) APH EC9-10 aromatics (2) (H)

21.630min ( 0.000) -3.257 ug/m3 m

response -10085

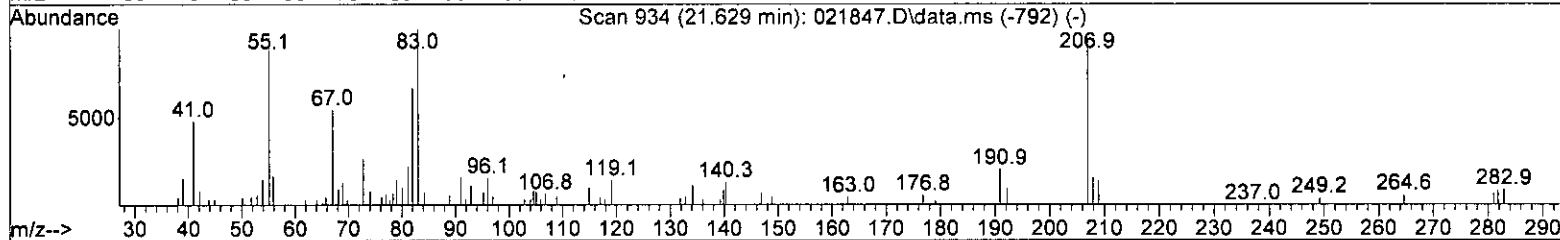
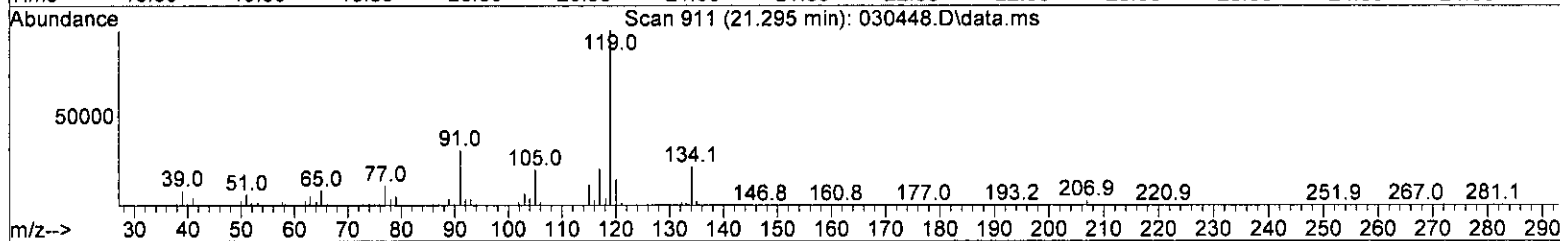
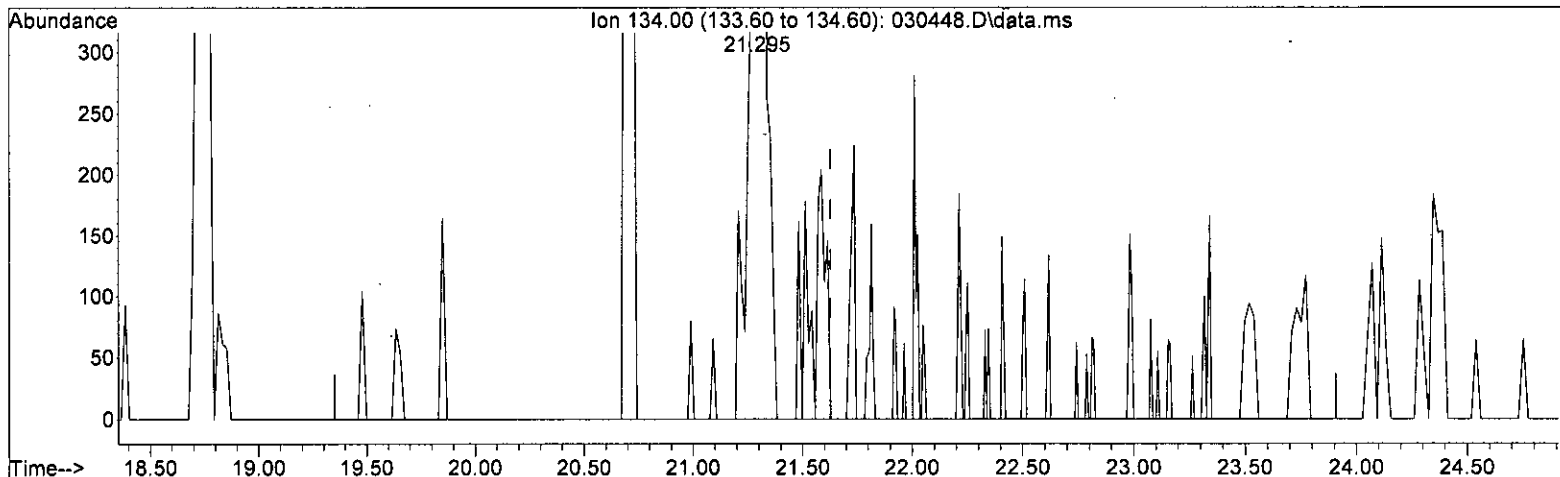
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature:* 2/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:01:30 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030448.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.630min ( 0.000) 13.022 ug/m3 m

response 40325

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:03:43 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.98	128	119037	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	461816	50.000	ug/m3	0.02
20) Chlorobenzene-d5	18.21	117	454392	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.65	95	328049	70.396	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	99.15%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.98	TIC	804868	48.858	ug/m3	87
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1490418m	49.235	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1494576	49.933	ug/m3	99
5) Methylene chloride	6.85	TIC	17961	46.987	ug/m3	84
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.27	54	19728	5.542	ug/m3	84
9) Methyl t-butyl ether	8.53	73	84116	8.353	ug/m3	76
11) Benzene	12.71	78	100224	8.605	ug/m3	83
12) Isopentane	5.69	TIC	126654	7.269	ug/m3	93
13) Hexane	10.10	TIC	193160	9.633	ug/m3	95
14) Cyclohexane	13.17	TIC	217013m	8.967	ug/m3	
15) 2,3-Dimethylpentane	13.49	TIC	209448	11.496	ug/m3	94
16) Heptane	14.61	TIC	238090	11.463	ug/m3	91
17) Octane	17.42	TIC	406792	12.351	ug/m3	88
18) APH EC5-8 aliphatics T...	11.94	TIC	1391157m	60.939	ug/m3	
19) APH EC5-8 aliphatics	12.00	TIC	13047939m	47.034	ug/m3	
21) S 4-Bromofluorobenzene	19.65	TIC	1966691	49.776	ug/m3	96
22) Hexamethylcyclotrisilo...	17.80	TIC	4010578	68.072	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	556779	70.828	ppbv	100
24) Toluene	16.41	92	73853	10.408	ug/m3	93
25) Ethylbenzene	18.60	91	158936	10.689	ug/m3	93
26) m,p-Xylene	18.77	106	126150	23.378	ug/m3	92
27) o-Xylene	19.22	106	58062	11.257	ug/m3	96
28) Naphthalene	23.96	128	174064	14.287	ug/m3	100
29) 2,3-Dimethylheptane	18.66	TIC	324247m	11.815	ug/m3	
30) Nonane	19.38	TIC	347816	12.111	ug/m3	92
31) Decane	20.92	TIC	400768	14.107	ug/m3	92
32) Butylcyclohexane	21.57	TIC	491005	12.867	ug/m3	94
33) Undecane	22.31	TIC	433987	15.903	ug/m3	94
34) Dodecane	23.82	TIC	468506	19.010	ug/m3	94
35) APH EC9-12 aliphatics ...	21.12	TIC	2466329m	85.295	ug/m3	
36) APH EC9-12 aliphatics	21.18	TIC	8842164m	52.463	ug/m3	
38) Isopropylbenzene	19.77	120	42323	12.263	ug/m3	99
39) 1-Methyl-3-ethylbenzene	21.31	120	81413	12.499	ug/m3#	50
40) 1,3,5-Trimethylbenzene	20.45	120	65040	11.526	ug/m3	92
41) p-Isopropyltoluene	21.30	134	41274	13.401	ug/m3	94
42) 1,2,3-Trimethylbenzene	21.31	120	81413	12.499	ug/m3	99
43) APH EC9-10 aromatics T...	21.57	TIC	311463m	62.547	ug/m3	
44) APH EC9-10 aromatics (1)	21.63	120	189728m	34.487	ug/m3	

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

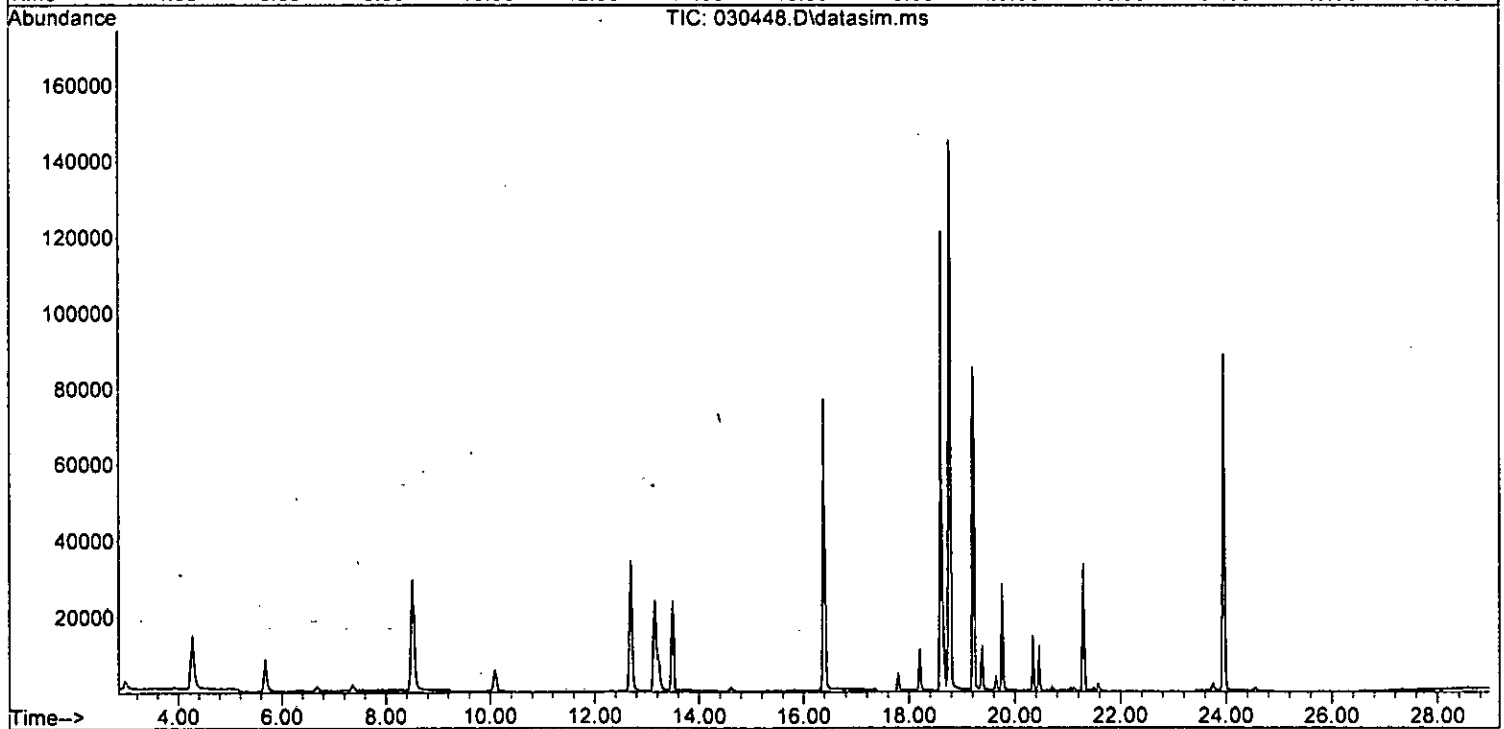
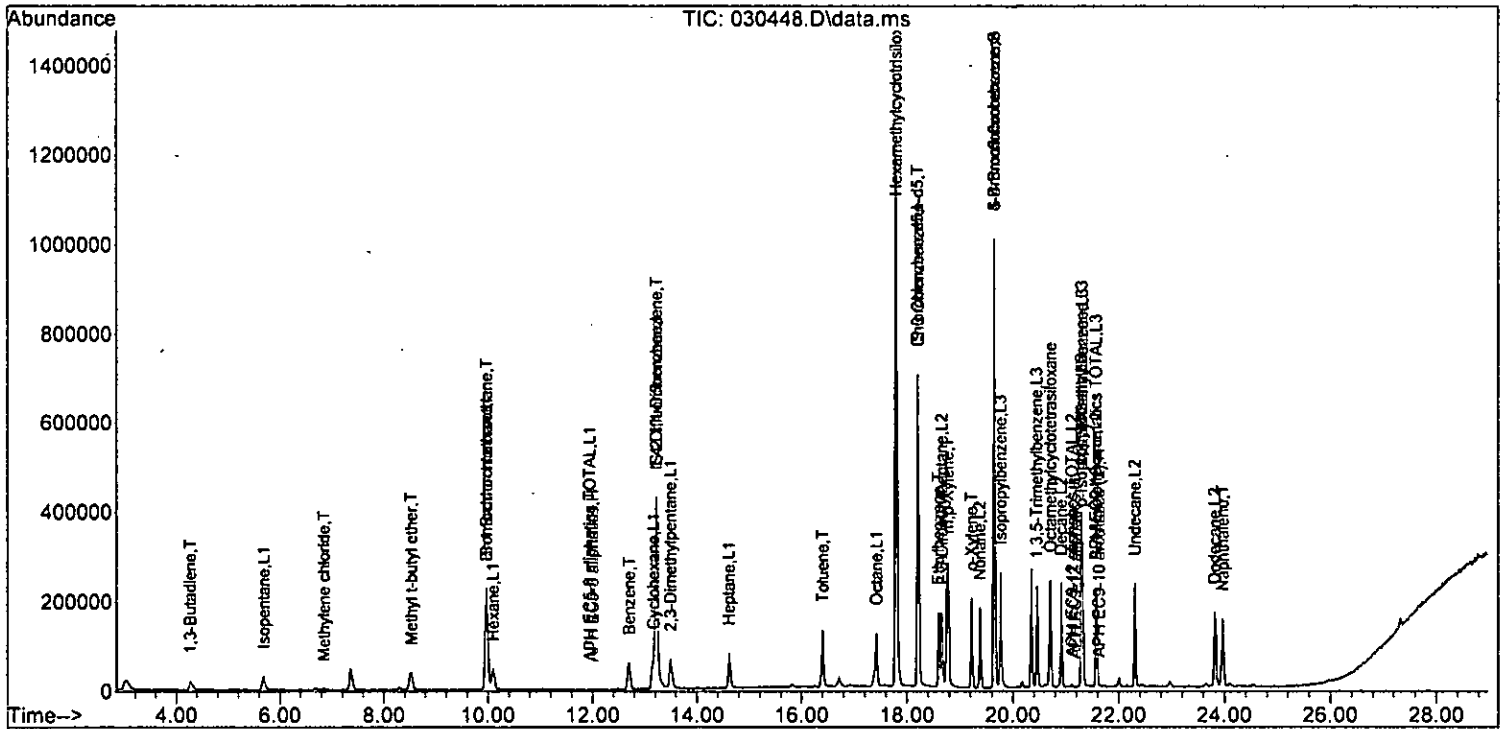
Quant Time: Mar 08 17:03:43 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.63	134	40325m	13.022	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:03:43 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:03:43 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	50.000	48.858	2.3	100	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	49.235	1.5	99	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	49.933	0.1	100	0.00
5 T	Methylene chloride	50.000	46.987	6.0	100	0.00
6	Acetone	2.500	0.000	100.0#	0	-5.61#
7	2-Propanol	50.000	0.000	100.0#	0	-5.87#
8 T	1,3-Butadiene	5.500	5.542	-0.8	100	0.00
9 T	Methyl t-butyl ether	9.000	8.353	7.2	100	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.02
11 T	Benzene	8.000	8.605	-7.6	100	0.02
12 L1	Isopentane	7.500	7.269	3.1	100	0.00
13 L1	Hexane	8.750	9.633	-10.1	100	0.00
14 L1	Cyclohexane	8.750	8.967	-2.5	97	0.02
15 L1	2,3-Dimethylpentane	10.500	11.496	-9.5	101	0.00
16 L1	Heptane	10.500	11.463	-9.2	100	0.00
17 L1	Octane	11.750	12.351	-5.1	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	57.500	60.939	-6.0	100	0.01
19 H	APH EC5-8 aliphatics	57.500	47.034	18.2	100	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	49.776	0.4	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	68.072	-36.1#	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	70.828	-41.7#	100	0.00
24 T	Toluene	9.375	10.408	-11.0	100	0.00
25 T	Ethylbenzene	10.875	10.689	1.7	100	0.00
26 T	m,p-Xylene	22.000	23.378	-6.3	100	0.00
27 T	o-Xylene	11.000	11.257	-2.3	100	0.00
28 T	Naphthalene	12.500	14.287	-14.3	100	0.00
29 L2	2,3-Dimethylheptane	12.500	11.815	5.5	95	0.00
30 L2	Nonane	12.500	12.111	3.1	100	0.00
31 L2	Decane	15.000	14.107	6.0	100	0.00
32 L2	Butylcyclohexane	13.750	12.867	6.4	100	0.00
33 L2	Undecane	16.250	15.903	2.1	100	0.00
34 L2	Dodecane	17.500	19.010	-8.6	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	87.500	85.295	2.5	99	0.01
36 H	APH EC9-12 aliphatics	87.500	52.463	40.0#	101	0.00
37 S	4-Bromofluorobenzene	71.000	70.396	0.9	100	0.00
38 L3	Isopropylbenzene	12.250	12.263	-0.1	100	0.00
39 L3	1-Methyl-3-ethylbenzene	12.250	12.499	-2.0	100	0.00
40 L3	1,3,5-Trimethylbenzene	12.250	11.526	5.9	100	0.00
41 L3	p-Isopropyltoluene	13.750	13.401	2.5	100	0.00
42 L3	1,2,3-Trimethylbenzene	12.250	12.499	-2.0	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	62.700	62.547	0.2	100	0.00
44 H	APH EC9-10 aromatics (1)	49.000	34.487	29.6	70	0.00



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:03:43 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	13.700	13.022	4.9	98	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:03:43 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	6.920	6.761	2.3	100	0.00
3 T	IS-2 1,4-Difluorobenzene	12.715	12.521	1.5	99	0.00
4 T	IS-3 Chlorobenzene-d5	12.572	12.556	0.1	100	0.00
5 T	Methylene chloride	0.161	0.151	6.2	100	0.00
6	Acetone	1.776	0.000	100.0#	0#	-5.61#
7	2-Propanol	0.828	0.000	100.0#	0#	-5.87#
8 T	1,3-Butadiene	1.495	1.507	-0.8	100	0.00
9 T	Methyl t-butyl ether	4.230	3.926	7.2	100	0.00
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.02
11 T	Benzene	1.261	1.356	-7.5	100	0.02
12 L1	Isopentane	1.886	1.828	3.1	100	0.00
13 L1	Hexane	2.171	2.390	-10.1	100	0.00
14 L1	Cyclohexane	2.620	2.685	-2.5	97	0.02
15 L1	2,3-Dimethylpentane	1.973	2.160	-9.5	101	0.00
16 L1	Heptane	2.249	2.455	-9.2	100	0.00
17 L1	Octane	3.566	3.748	-5.1	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	2.472	2.619	-5.9	100	0.01
19 H	APH EC5-8 aliphatics	30.035	24.568	18.2	100	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	4.348	4.328	0.5	100	0.00
22	Hexamethylcyclotrisiloxane	6.483	8.826	-36.1#	100	0.00
23	Octamethylcyclotetrasiloxan	0.865	1.225	-41.6#	100	0.00
24 T	Toluene	0.781	0.867	-11.0	100	0.00
25 T	Ethylbenzene	1.636	1.608	1.7	100	0.00
26 T	m,p-Xylene	0.594	0.631	-6.2	100	0.00
27 T	o-Xylene	0.568	0.581	-2.3	100	0.00
28 T	Naphthalene	1.341	1.532	-14.2	100	0.00
29 L2	2,3-Dimethylheptane	3.020	2.854	5.5	95	0.00
30 L2	Nonane	3.160	3.062	3.1	100	0.00
31 L2	Decane	3.126	2.940	6.0	100	0.00
32 L2	Butylcyclohexane	4.199	3.929	6.4	100	0.00
33 L2	Undecane	3.003	2.939	2.1	100	0.00
34 L2	Dodecane	2.712	2.946	-8.6	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	3.182	3.102	2.5	99	0.01
36 H	APH EC9-12 aliphatics	18.546	11.120	40.0#	101	0.00
37 S	4-Bromofluorobenzene	0.513	0.508	1.0	100	0.00
38 L3	Isopropylbenzene	0.380	0.380	0.0	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.717	0.731	-2.0	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.621	0.584	6.0	100	0.00
41 L3	p-Isopropyltoluene	0.339	0.330	2.7	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.717	0.731	-2.0	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.548	0.547	0.2	100	0.00
44 H	APH EC9-10 aromatics (1)	0.605	0.426	29.6	70	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030448.D  
 Acq On : 6 Mar 2022 3:17 am  
 Operator : bat  
 Sample : 2.5 ppbv APH 66-1b  
 Misc : line 4  
 ALS Vial : 48 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:03:43 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.341	0.324	5.0	98	0.00

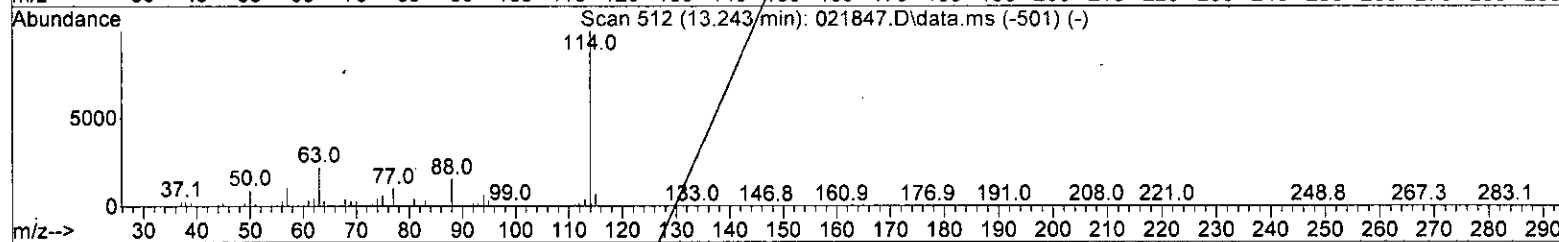
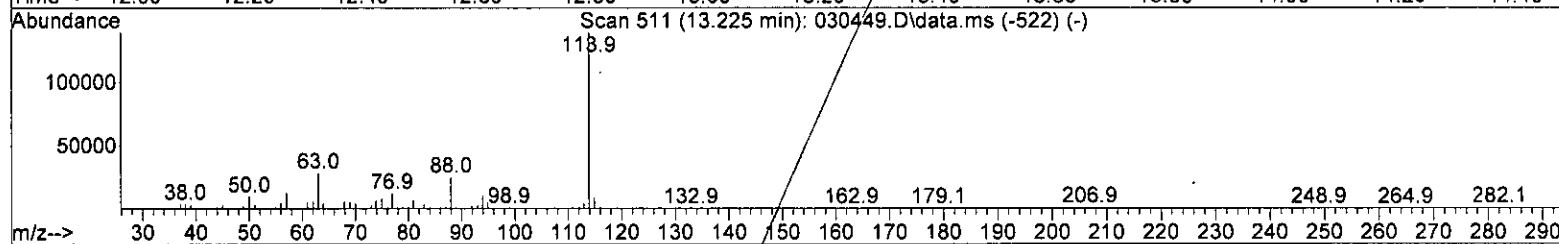
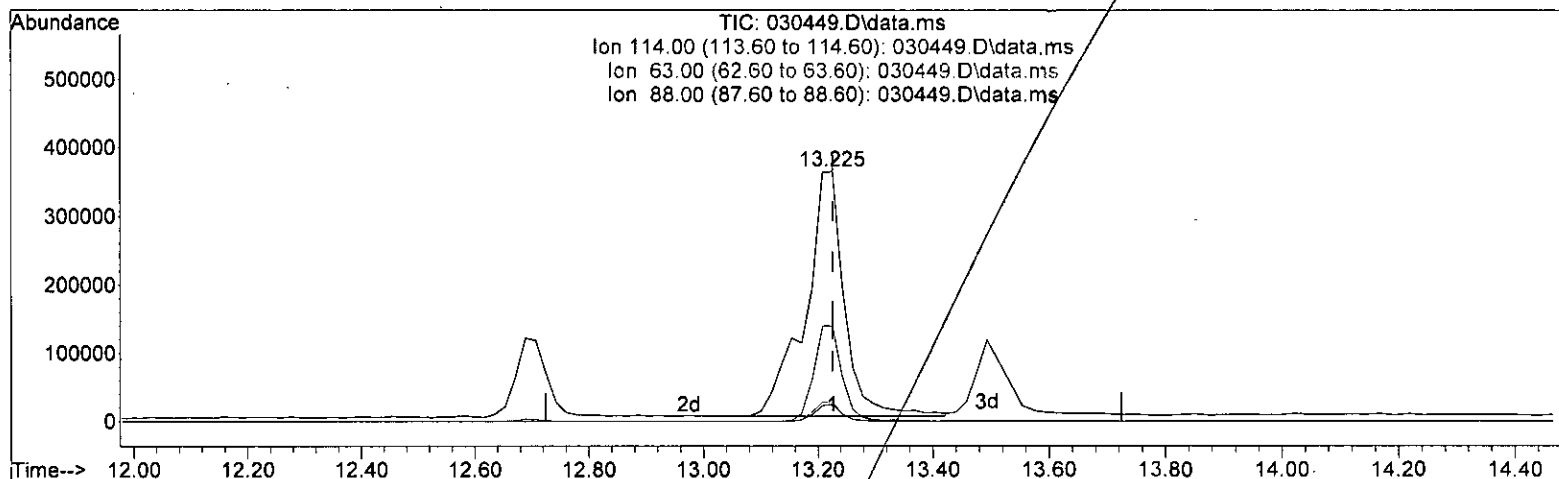
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(3) IS-2 1,4-Difluorobenzene (T)

13.225min ( 0.000) 57.850 ug/m3

response 1719041

Signal Exp% Act%

TIC 100.00 100.00

114.00 65.20 39.02

63.00 14.80 7.86

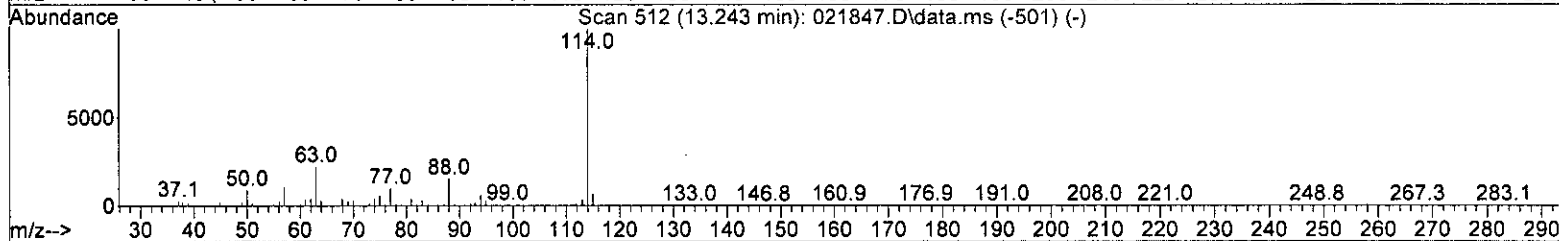
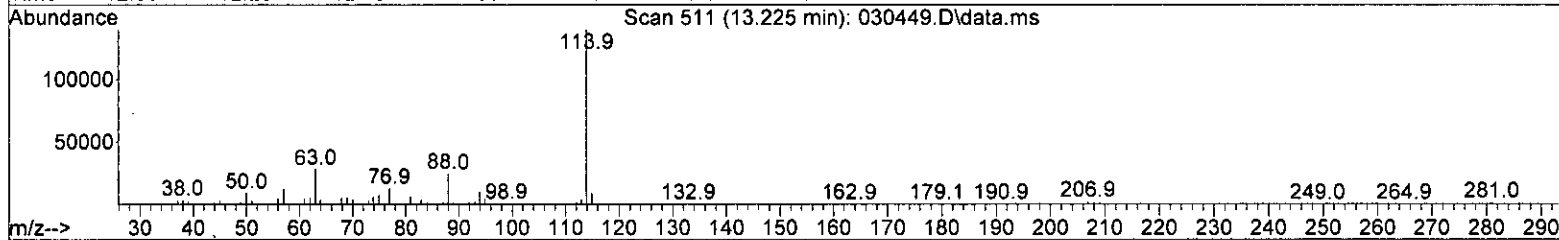
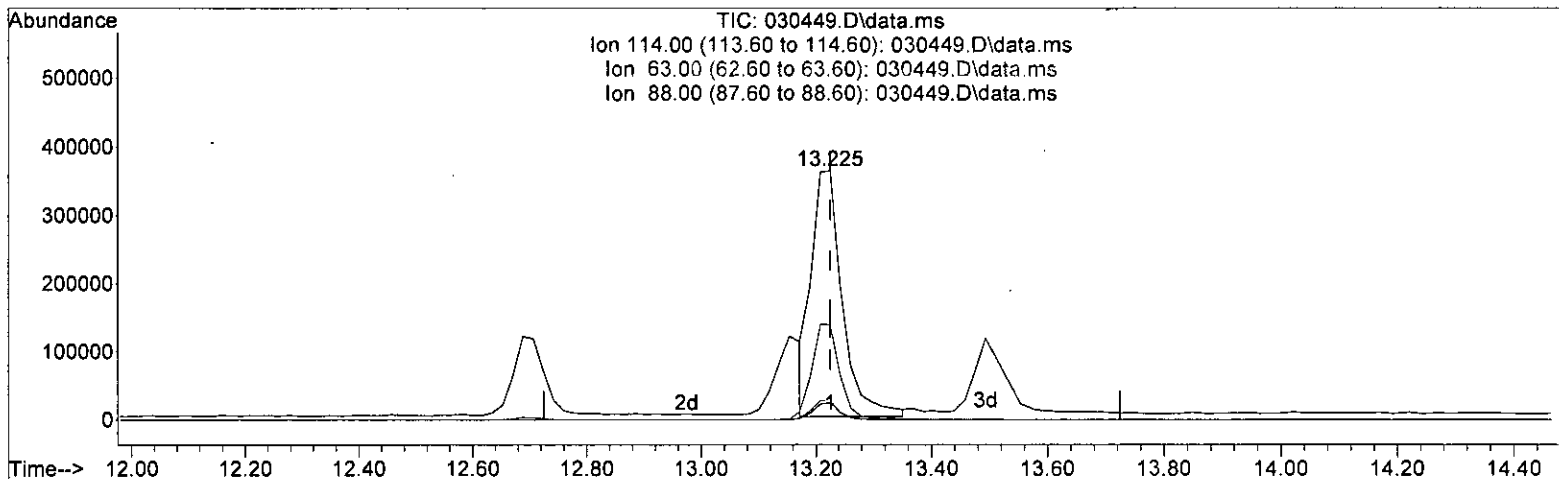
88.00 10.30 6.92

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(3) IS-2 1,4-Difluorobenzene (T)

13.225min ( 0.000) 45.692 ug/m3 m

response 1357759

Signal Exp% Act%

TIC 100.00 100.00

114.00 65.20 49.41

63.00 14.80 9.95

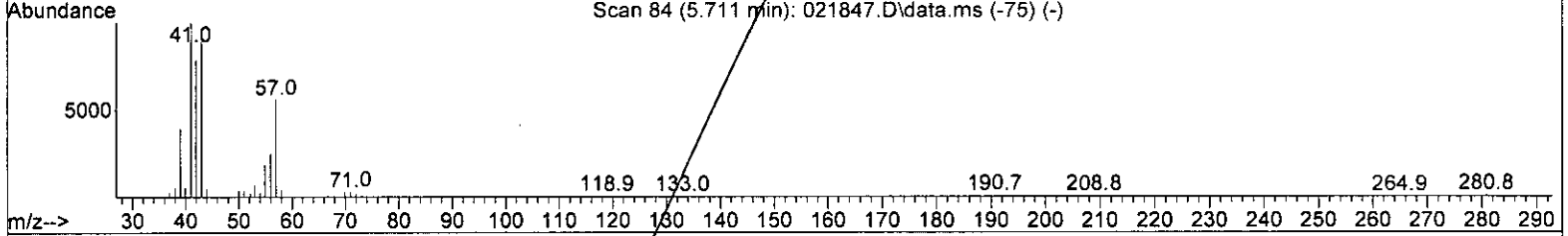
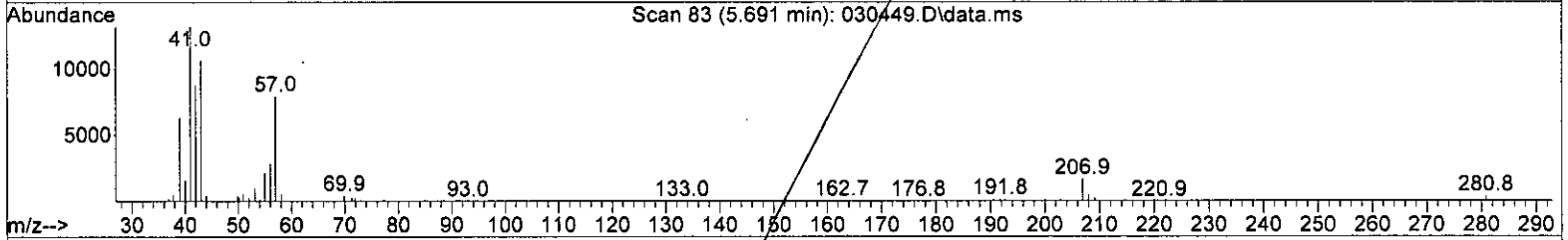
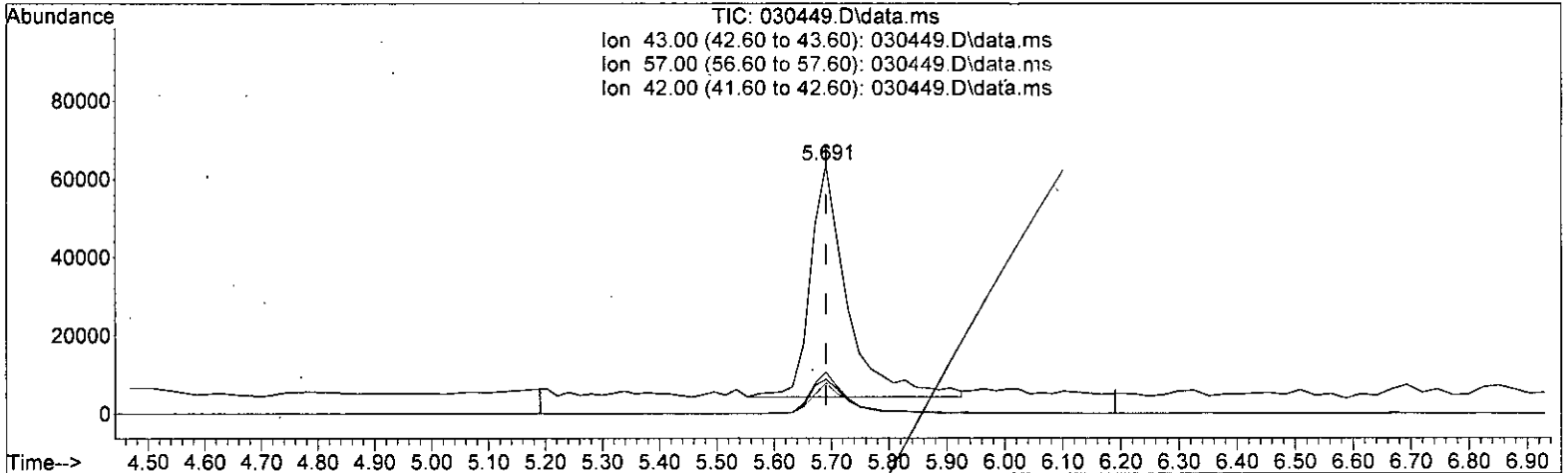
88.00 10.30 8.76

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030449.D\data.ms

(12) Isopentane (L1)  
 5.691min (-0.000) 14.661 ug/m3

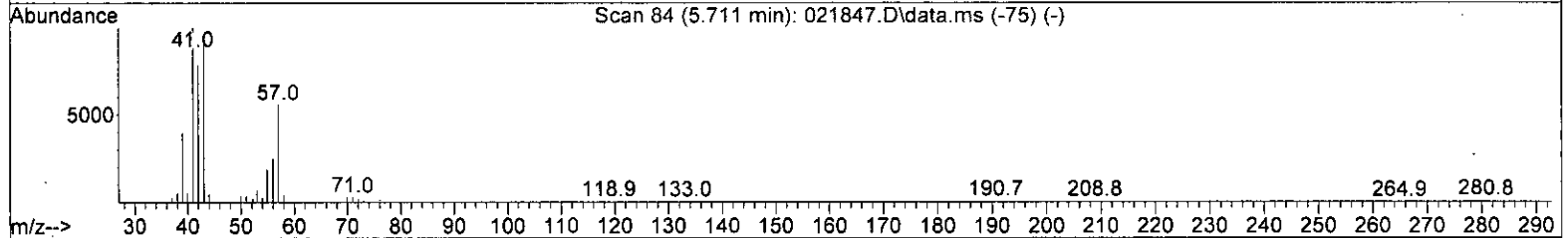
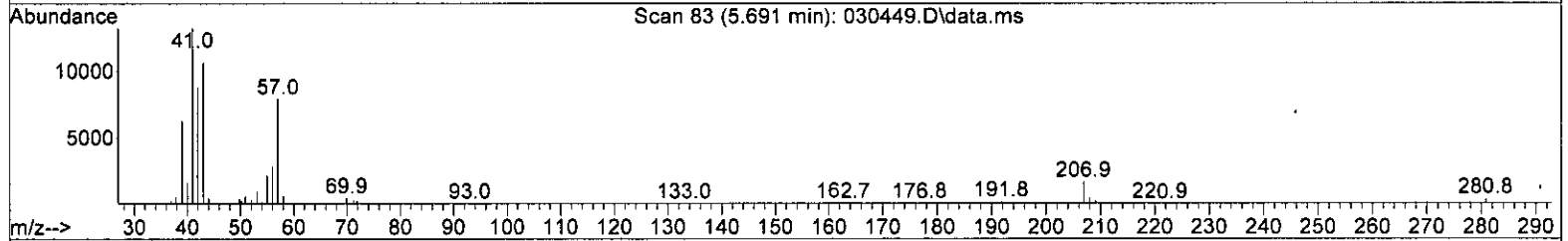
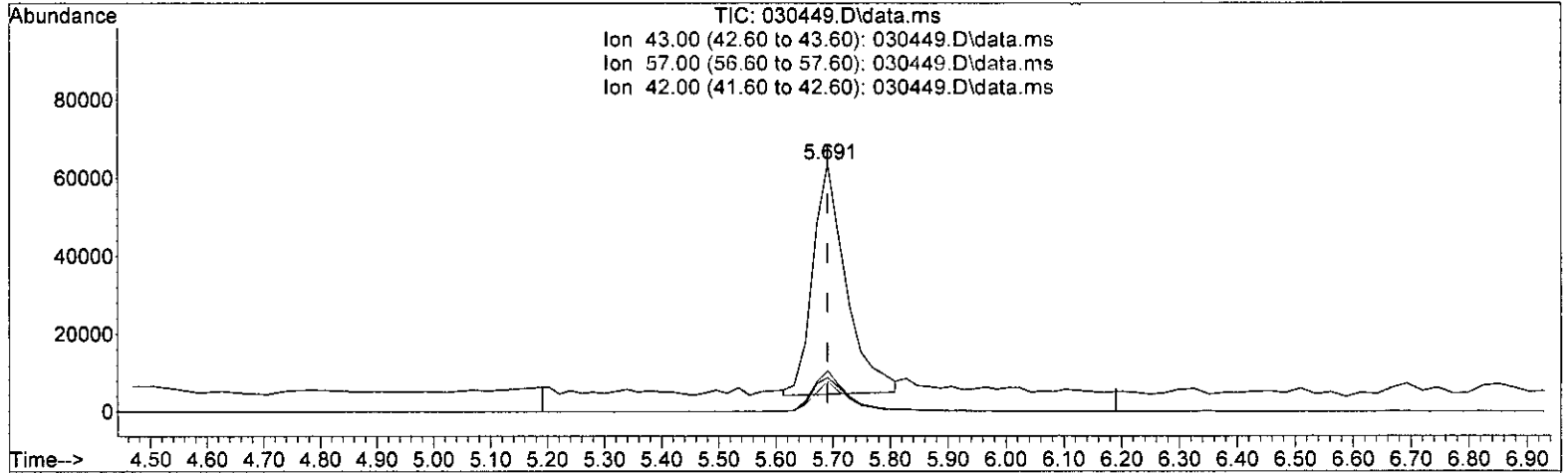
response	267557
Signal	Exp% Act%
TIC	100.00 100.00
43.00	22.00 17.46
57.00	10.50 12.40
42.00	18.70 15.40

*W/L 3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030449.D\data.ms

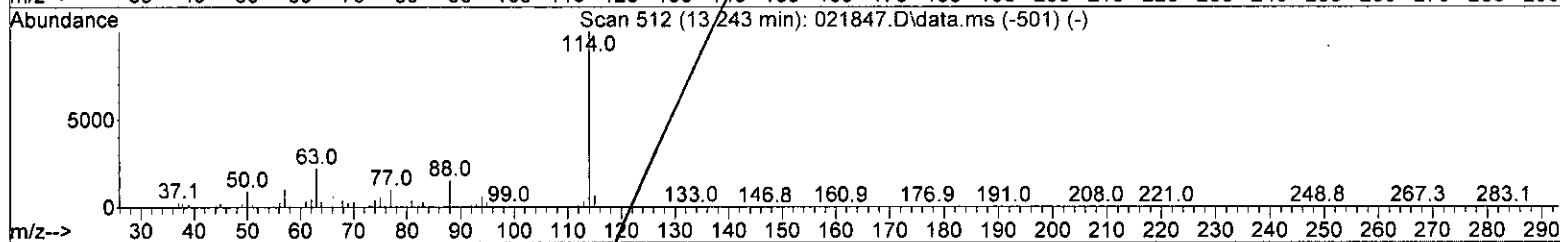
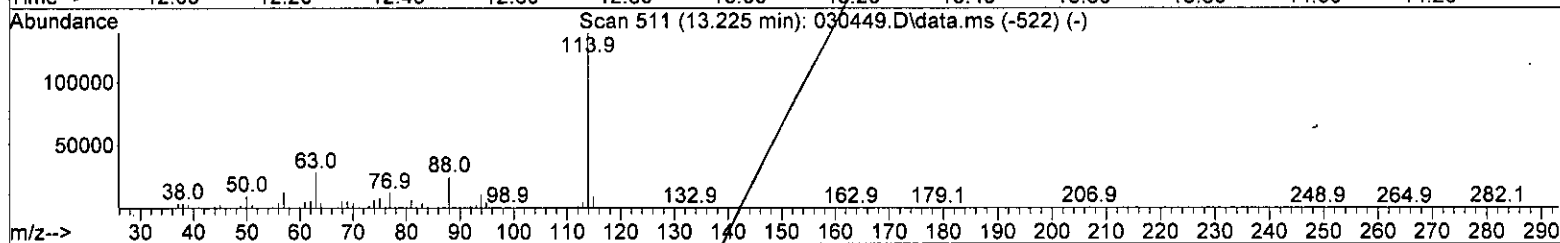
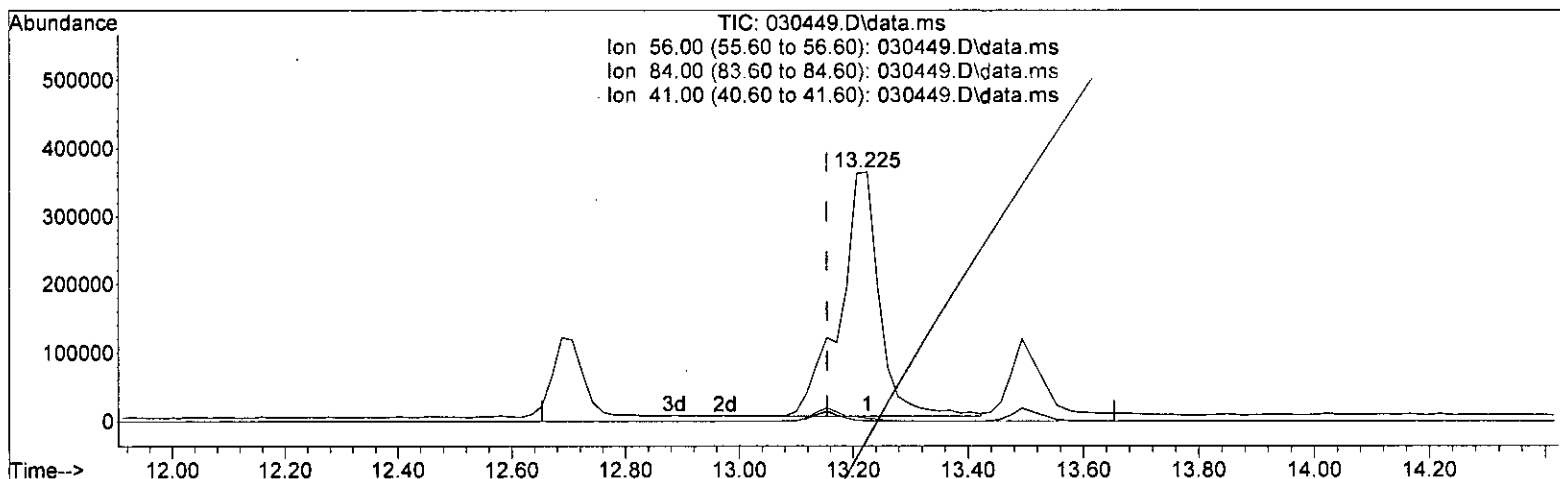
(12) Isopentane (L1)		
5.691min (-0.000)	13.334 ug/m3 m	
response	243341	
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	22.00	19.20
57.00	10.50	13.63
42.00	18.70	16.93

*Handwritten signature: W/ 3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(14) Cyclohexane (L1)  
 13.225min (+ 0.072) 67.819 ug/m3  
 response 1719041

Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.90	1.21
84.00	1.30	0.27
41.00	1.00	0.21

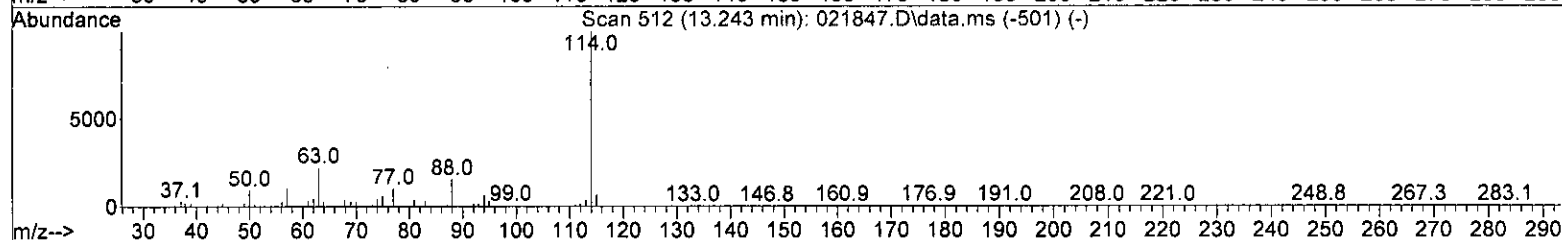
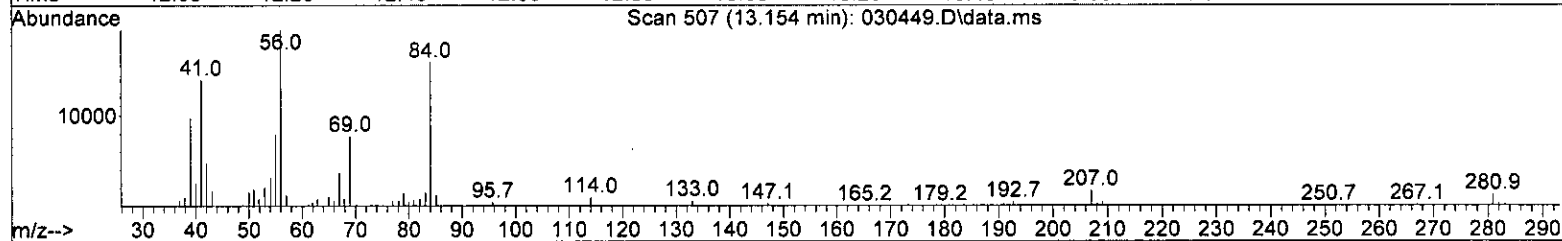
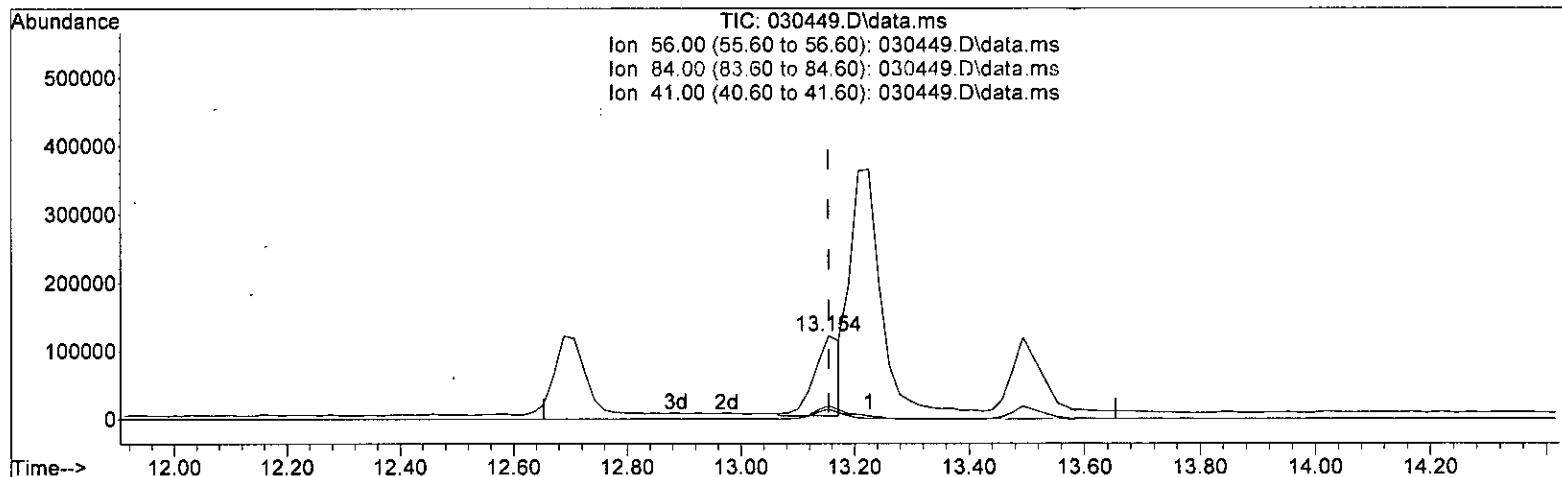
*Handwritten signature:* W 3/8/22



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(14) Cyclohexane (L1)

13.154min ( 0.000) 15.085 ug/m3 m

response 382381

Signal Exp% Act%

TIC 100.00 100.00

56.00 3.90 5.43

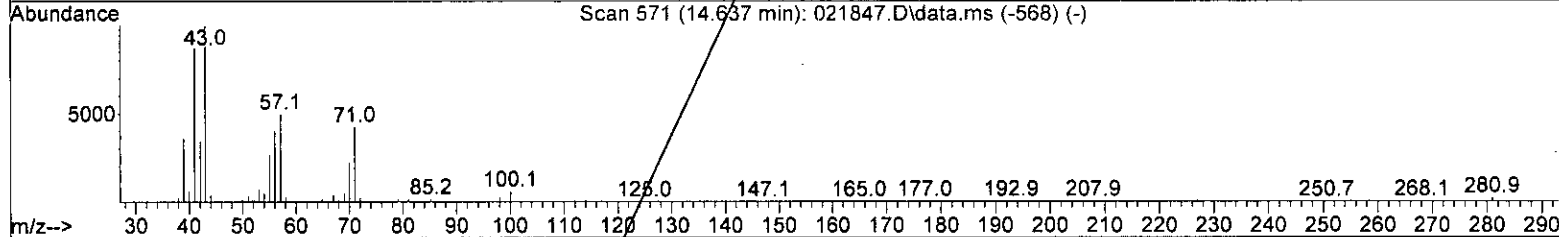
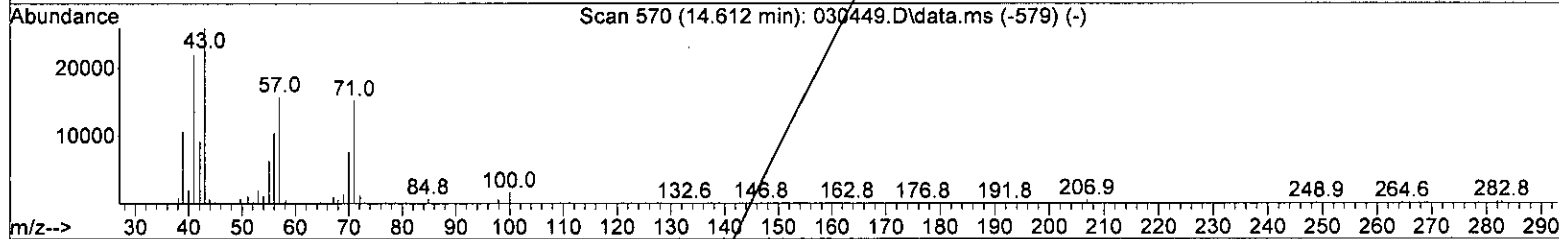
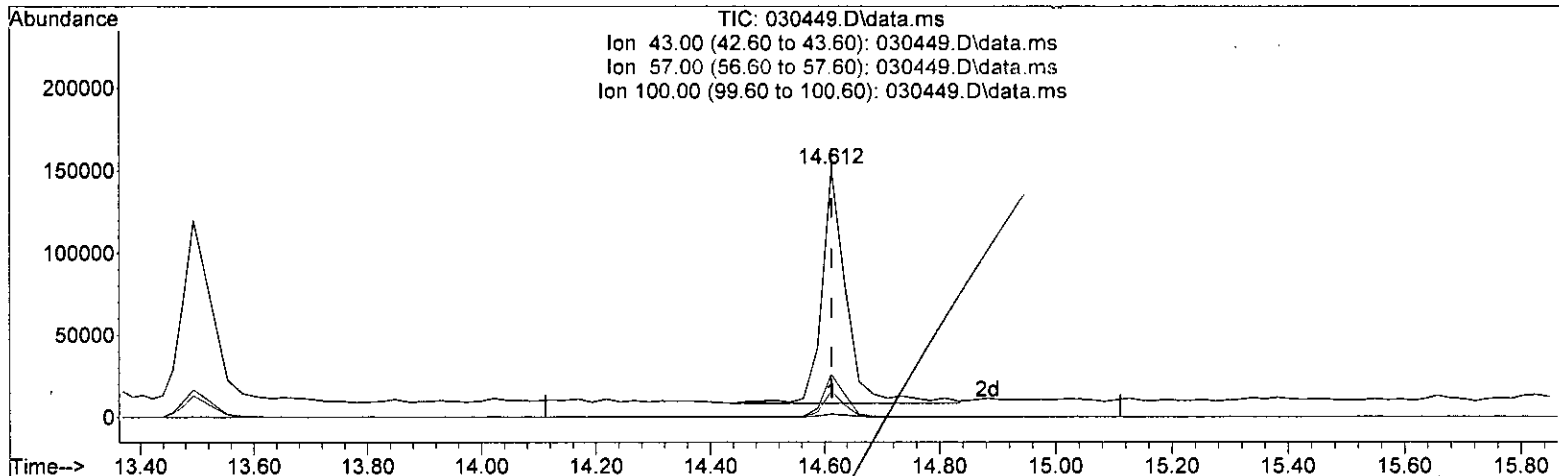
84.00 1.30 1.21

41.00 1.00 0.96

*Handwritten signature/initials*  
 3/8/22

Data Path : F:\Proc GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030449.D\data.ms

(16) Heptane (L1)

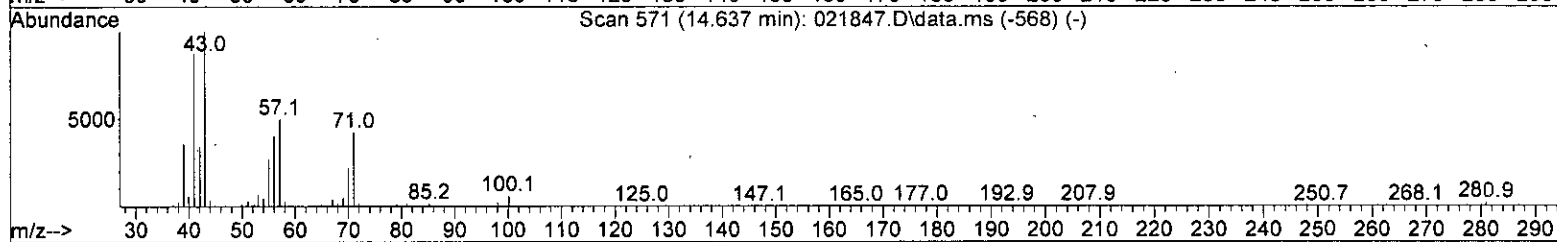
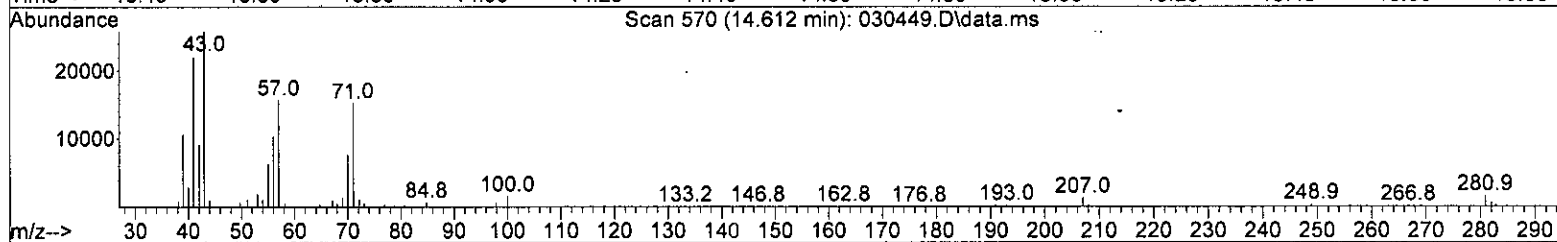
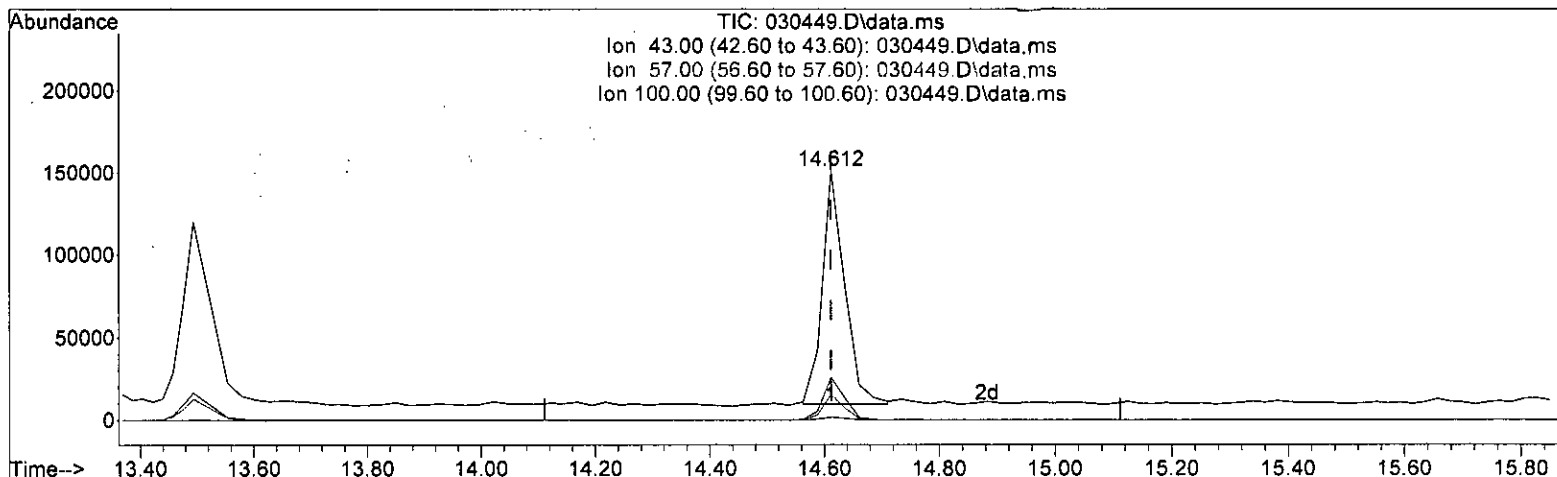
14.612min ( 0.000) 19.672 ug/m3

response	Exp%	Act%
427969		
TIC	100.00	100.00
43.00	22.80	18.05
57.00	9.20	11.02
100.00	1.00	1.15

*Handwritten signature: 3/8/22*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(16) Heptane (L1)

14.612min ( 0.000) 17.732 ug/m3 m

response 385752

Signal Exp% Act%

TIC 100.00 100.00

43.00 22.80 20.03

57.00 9.20 12.22

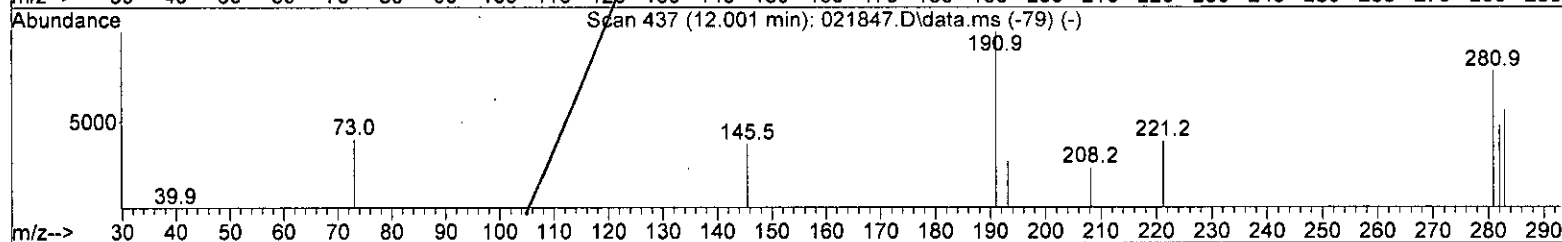
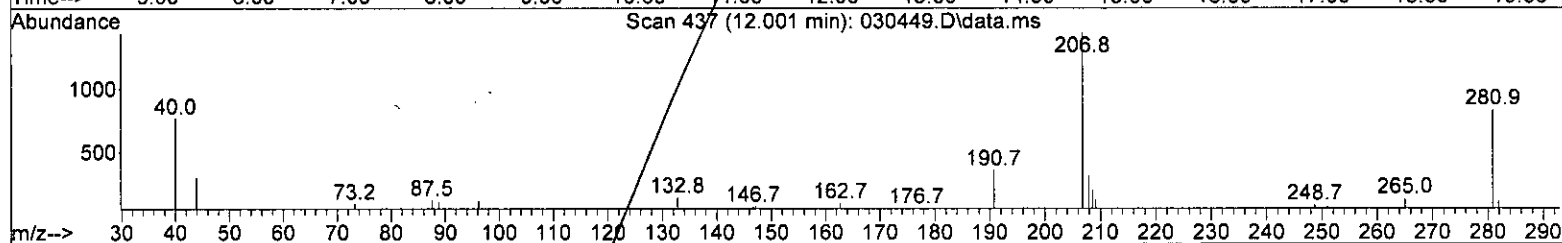
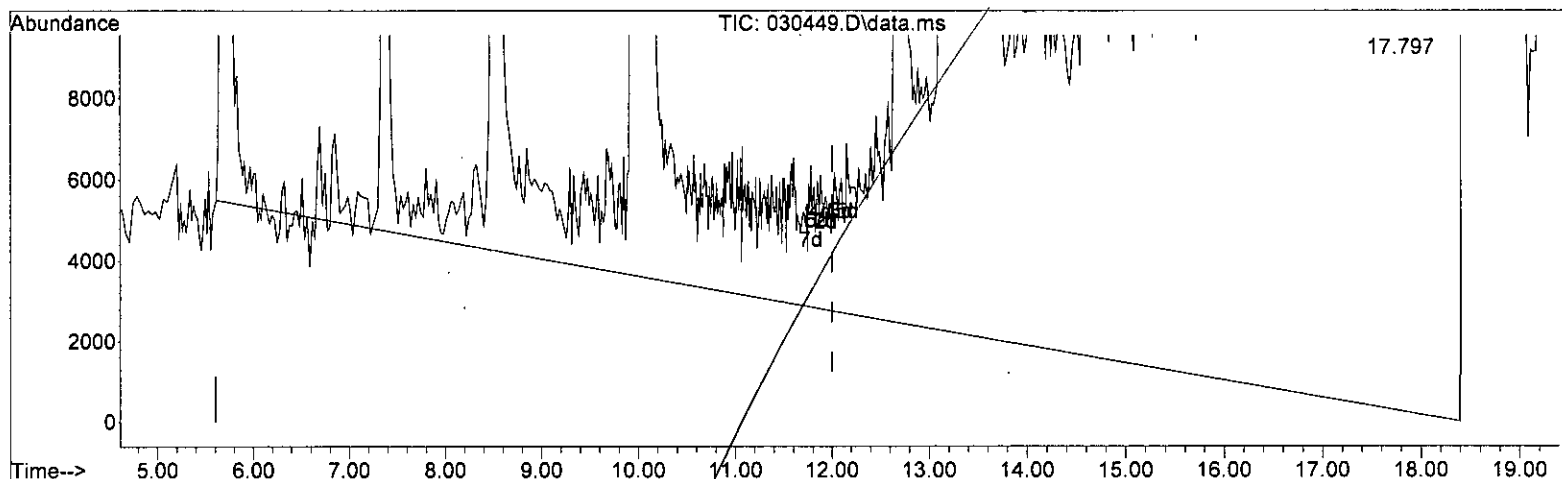
100.00 1.00 1.28

*M*  
*3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(19) APH EC5-8 aliphatics (H)  
 12.004min ( 0.000) 22.881 ug/m3 m  
 response 6648330

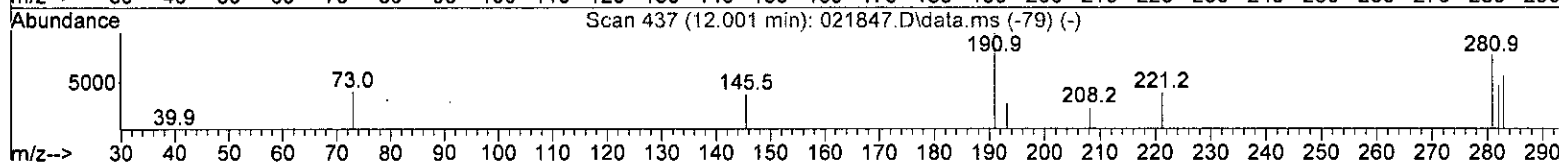
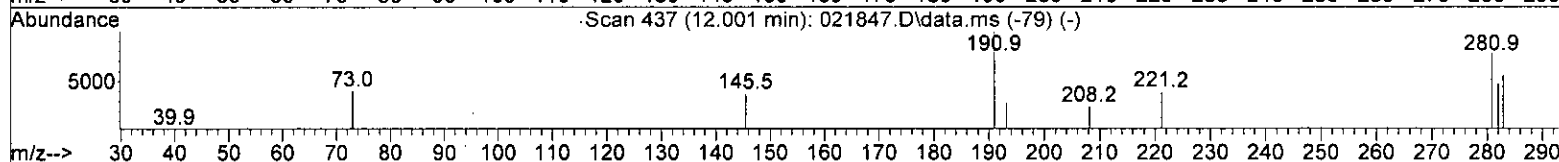
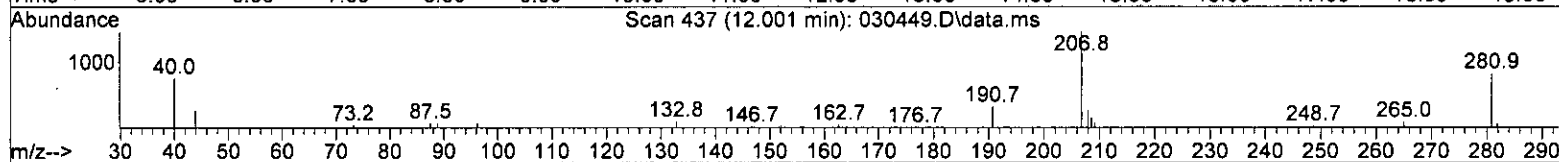
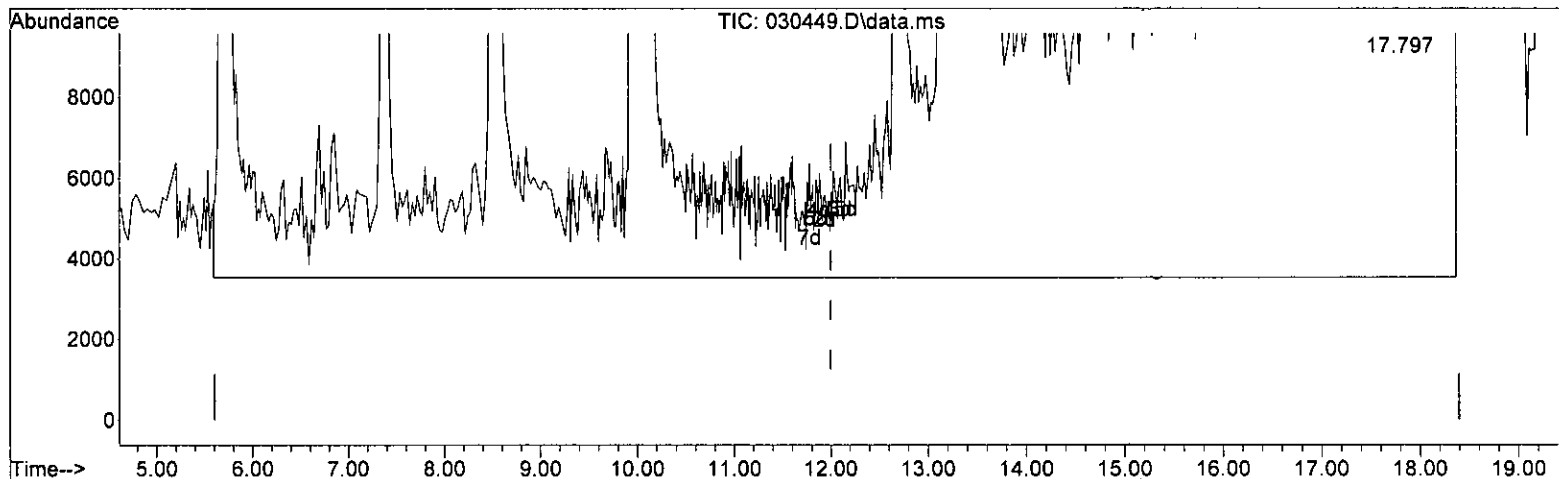
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030449.D\data.ms

(19) APH EC5-8 aliphatics (H)

12.004min ( 0.000) 45.372 ug/m3 m

response 13183030

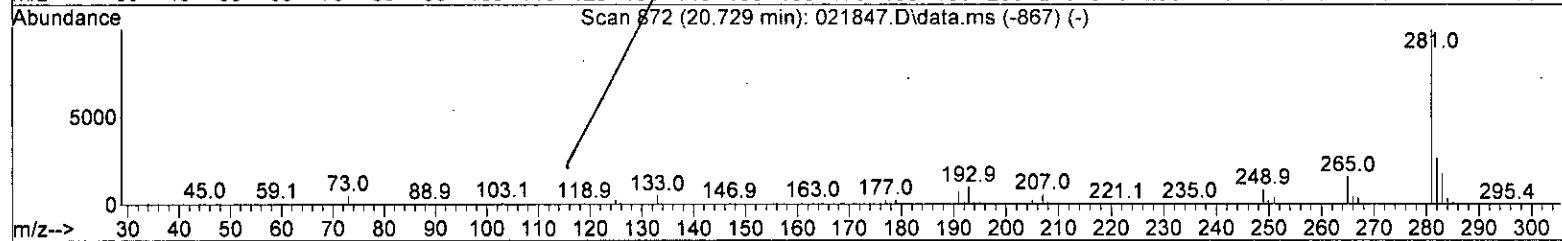
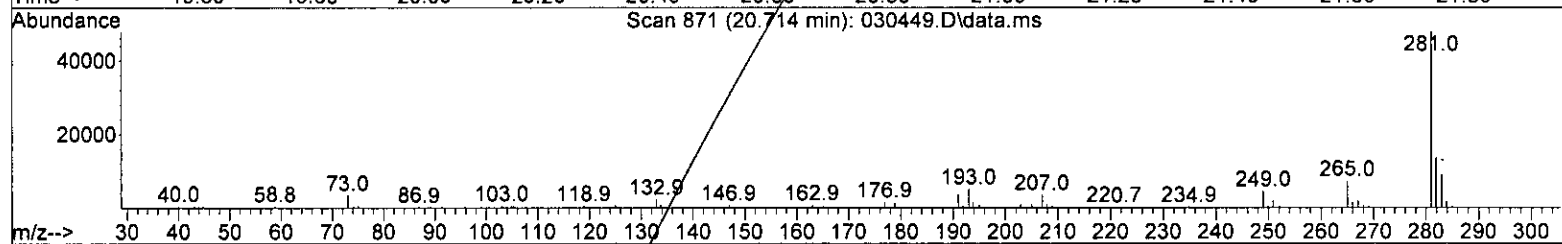
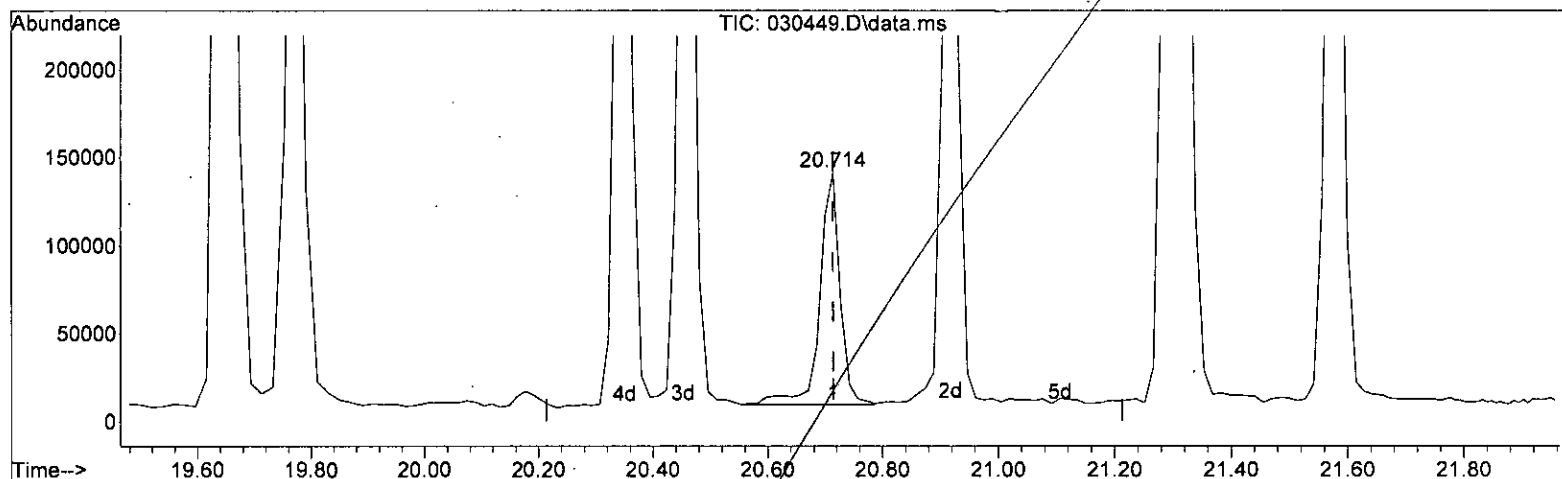
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

10  
3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(23) Octamethylcyclotetrasiloxane

20.714min (+ 0.000) 42.448 ppbv

response 329934

Signal Exp% Act%

TIC 100.00 100.00

0.00 0.00 0.00

0.00 0.00 0.00

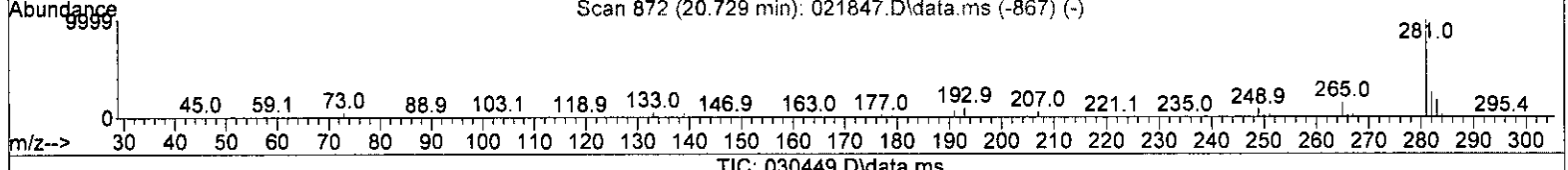
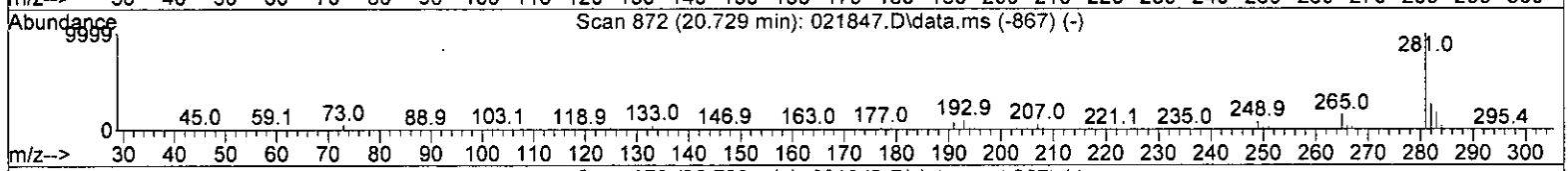
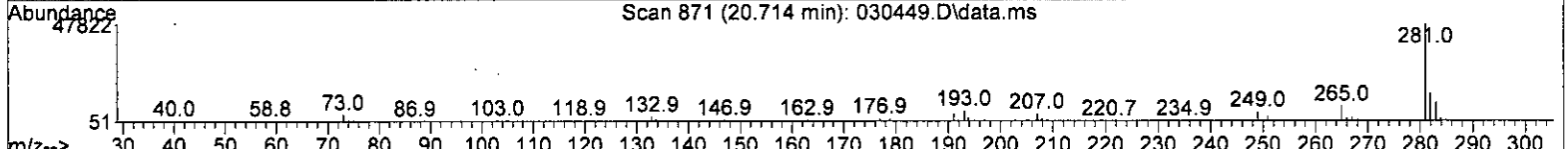
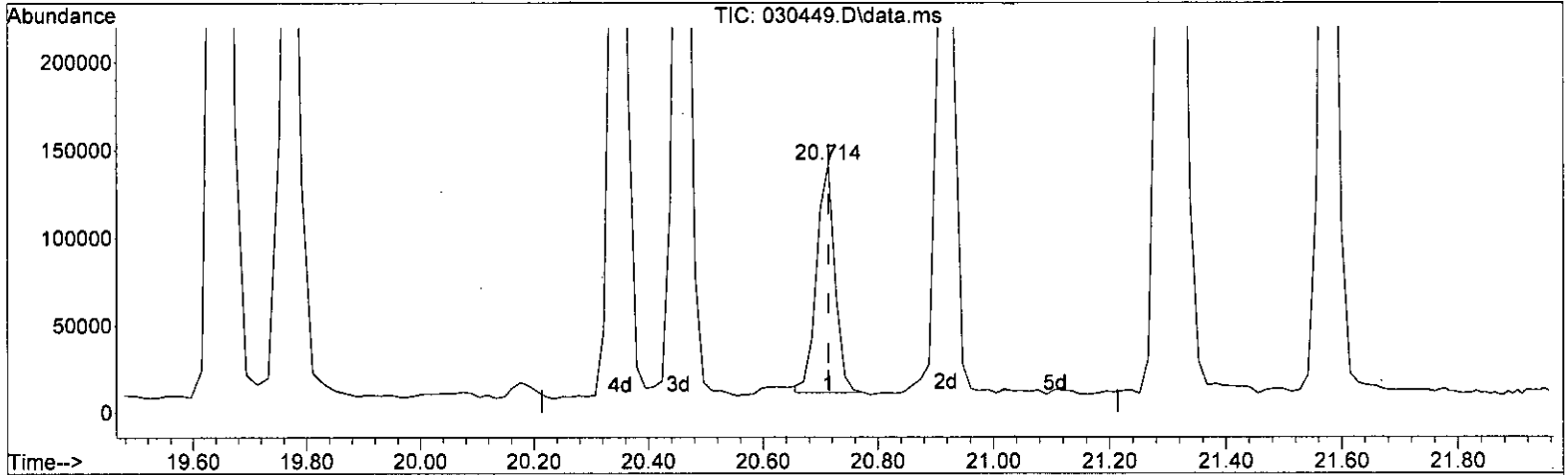
0.00 0.00 0.00

*Handwritten signature: V 3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030449.D\data.ms

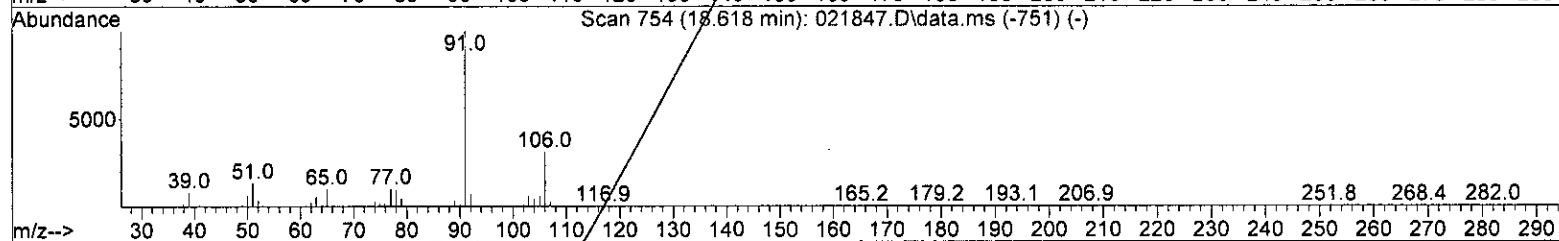
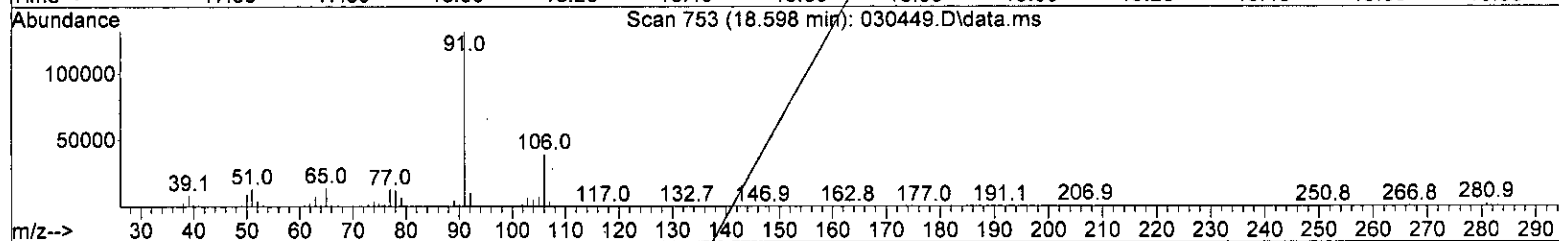
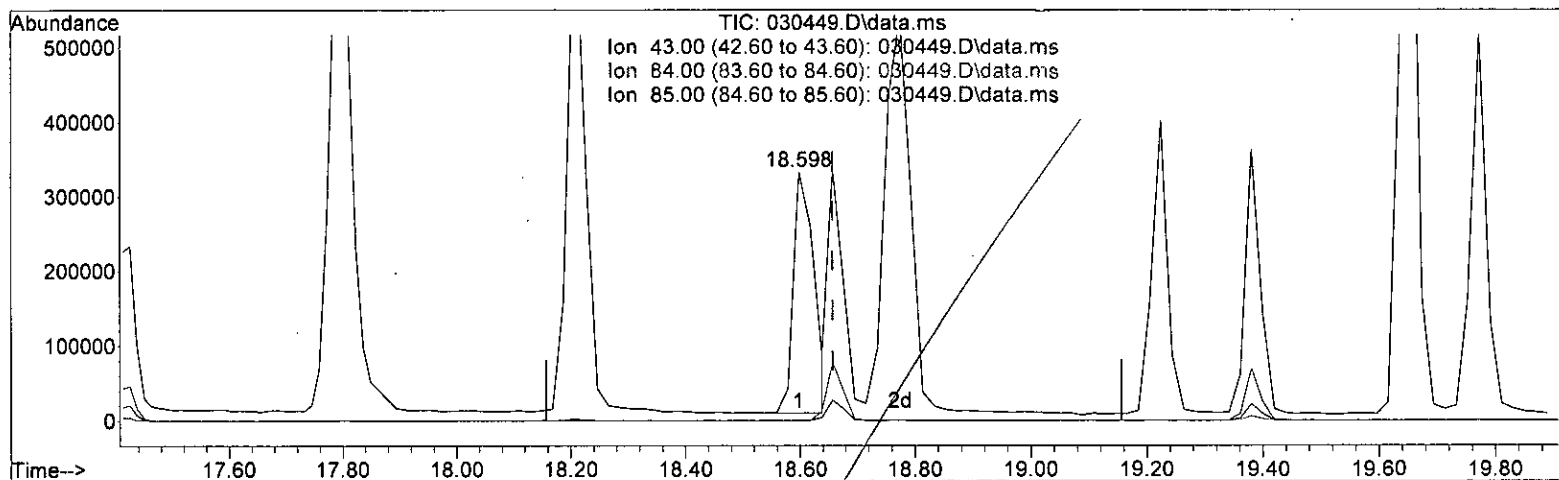
(23) Octamethylcyclotetrasiloxane		
20.714min (+ 0.000)	38.033 ppbv m	
response	295622	
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B*  
*3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(29) 2,3-Dimethylheptane (L2)

18.598min (-0.059) 29.633 ug/m3

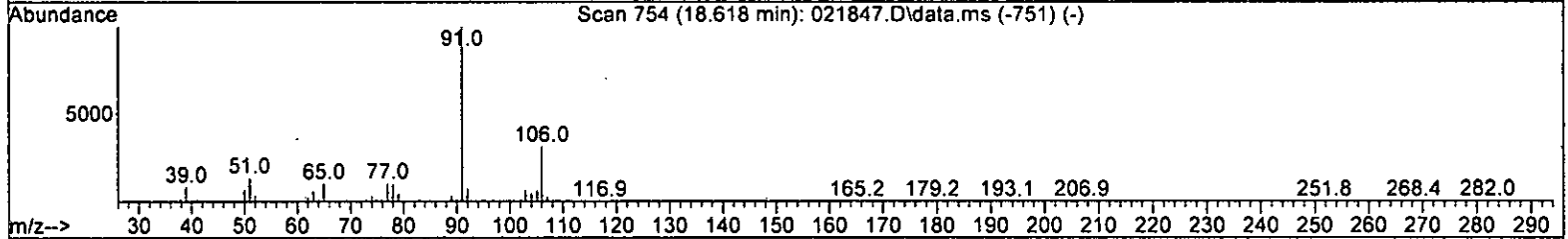
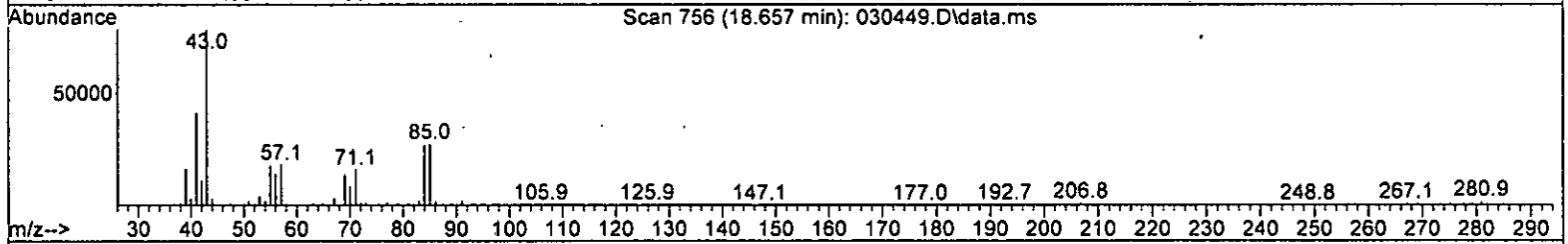
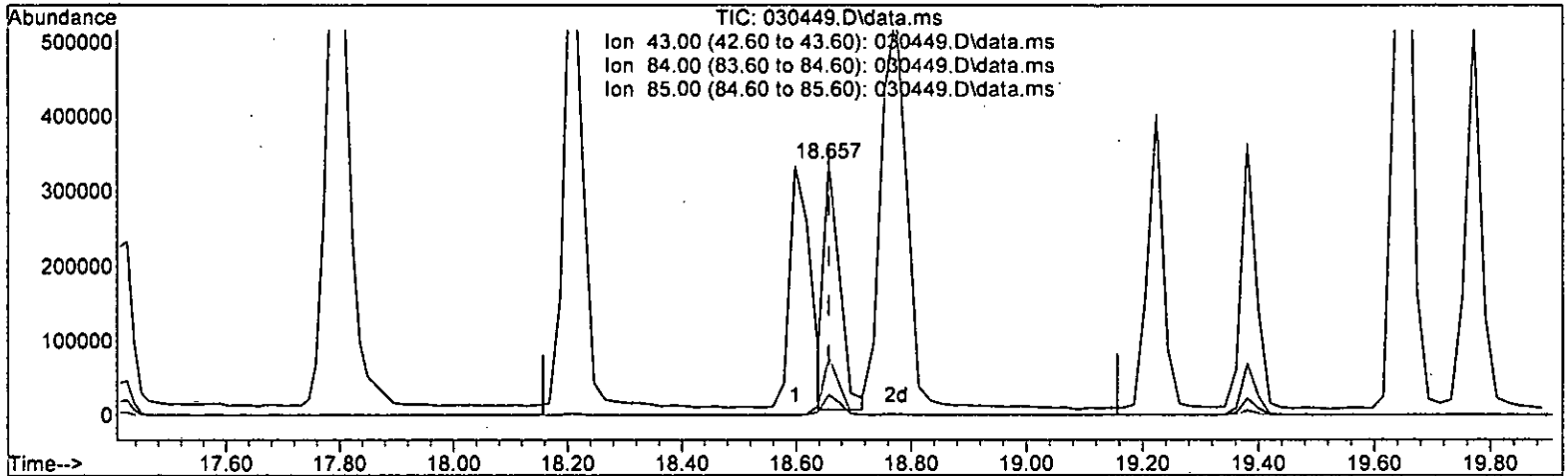
response	804101
Signal	Exp% Act%
TIC	100.00 100.00
43.00	31.80 19.75#
84.00	7.20 7.33
85.00	6.20 7.31

*Handwritten signature/initials*  
 3/8/22



Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(29) 2,3-Dimethylheptane (L2)

18.657min (-0.000) 23.632 ug/m3 m

response 641270

Signal Exp% Act%

TIC 100.00 100.00

43.00 31.80 24.76#

84.00 7.20 9.19#

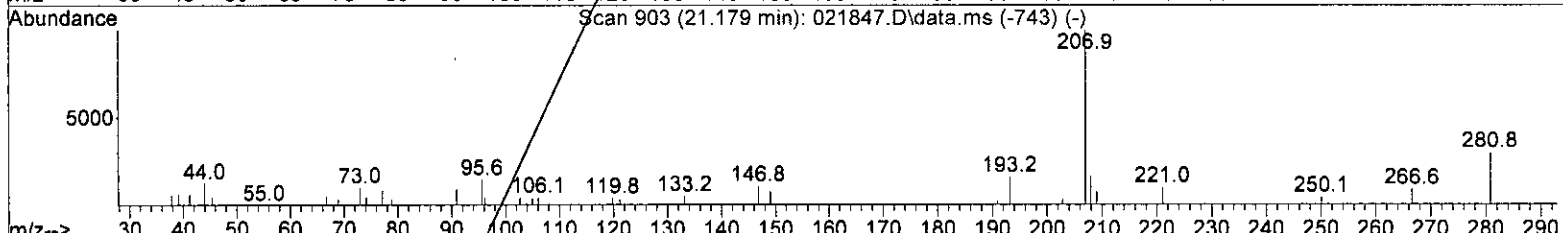
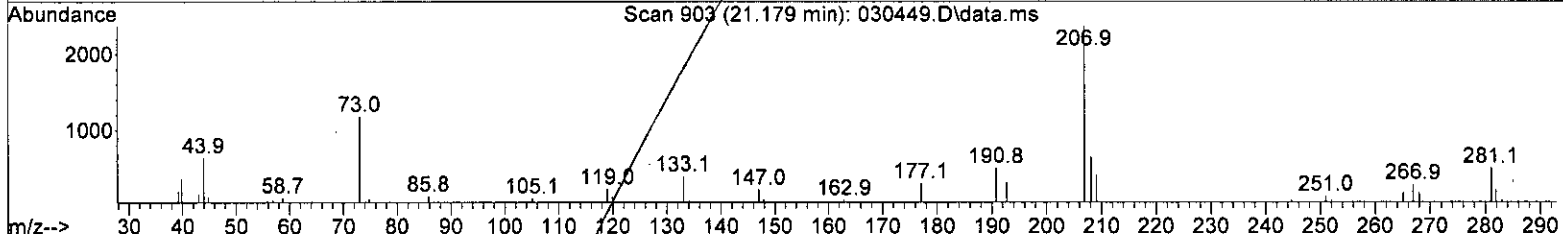
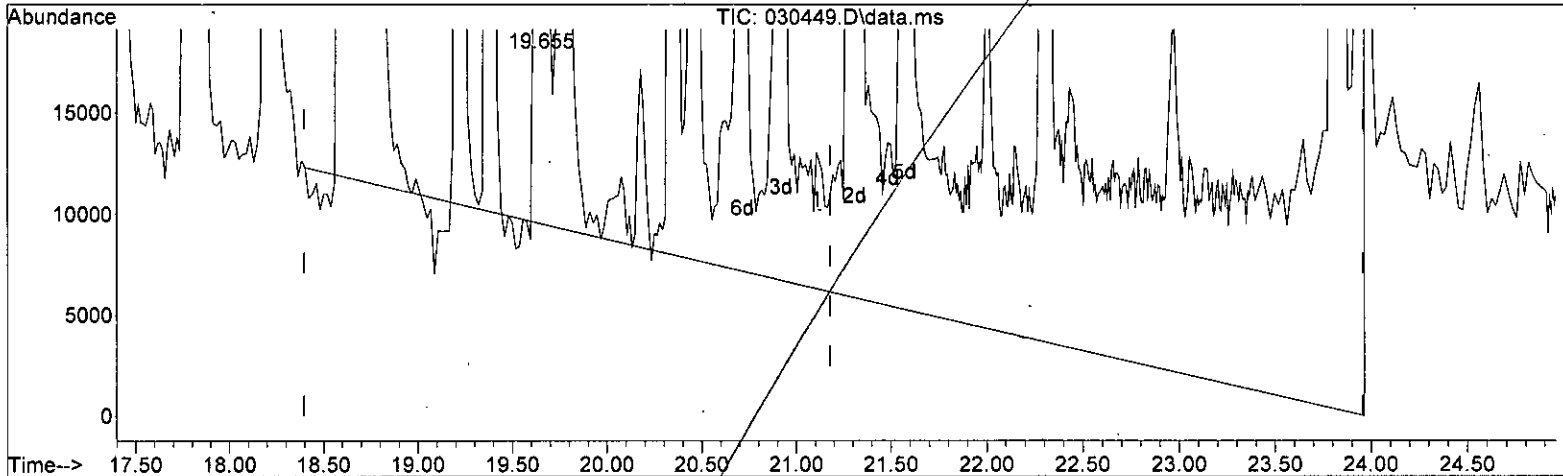
85.00 6.20 9.16#

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030449.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 75.929 ug/m3 m

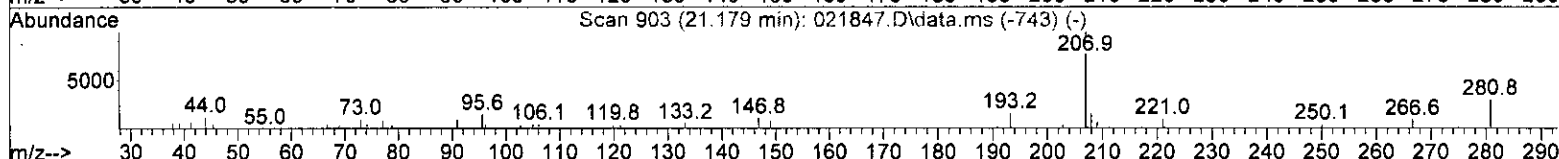
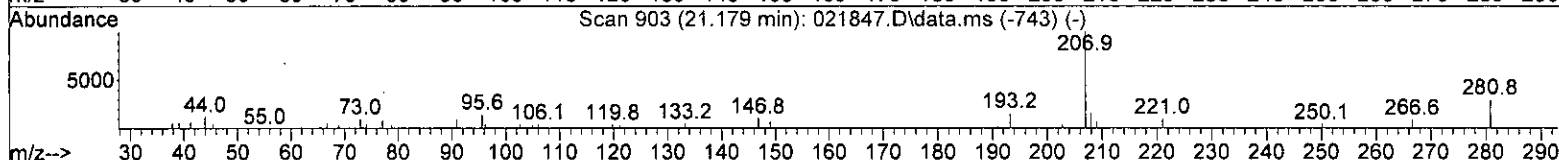
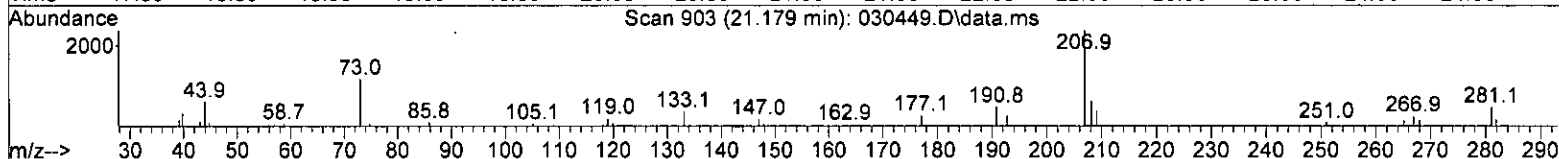
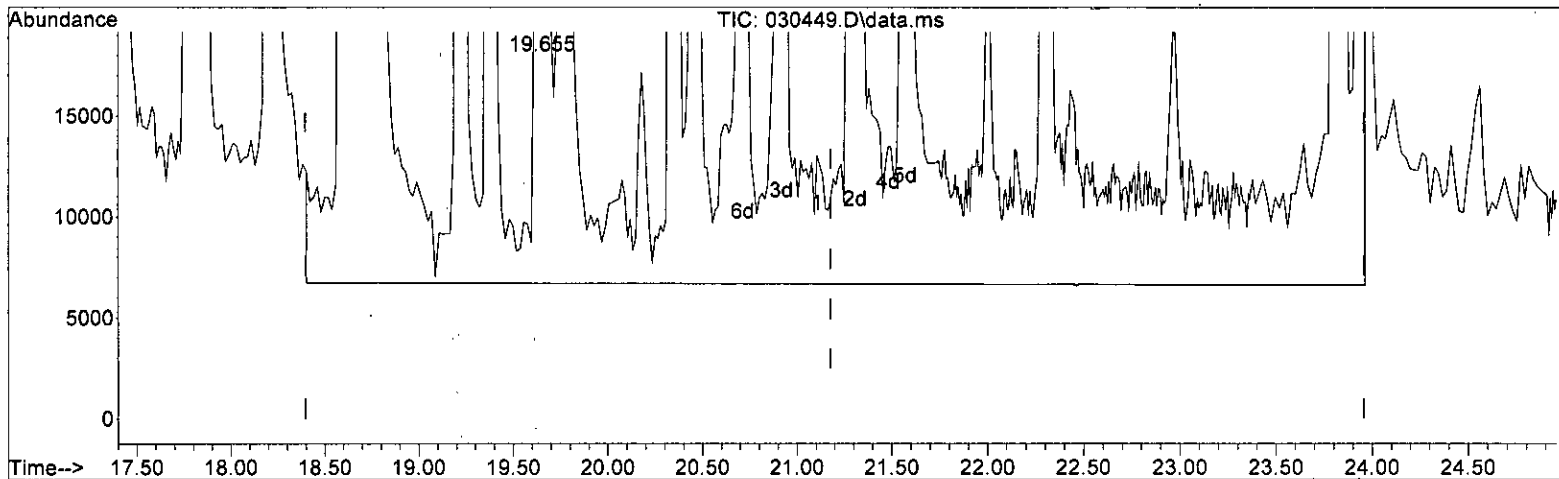
response 12653491

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

W  
3/8/22

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030449.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 82.704 ug/m3 m

response 13782639

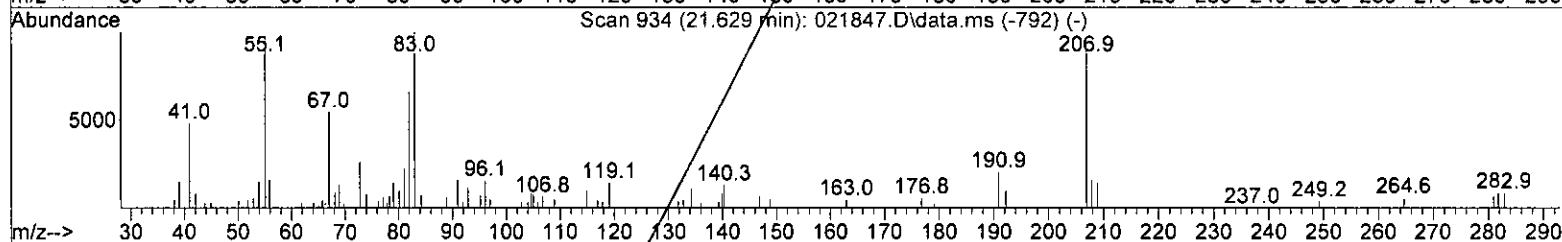
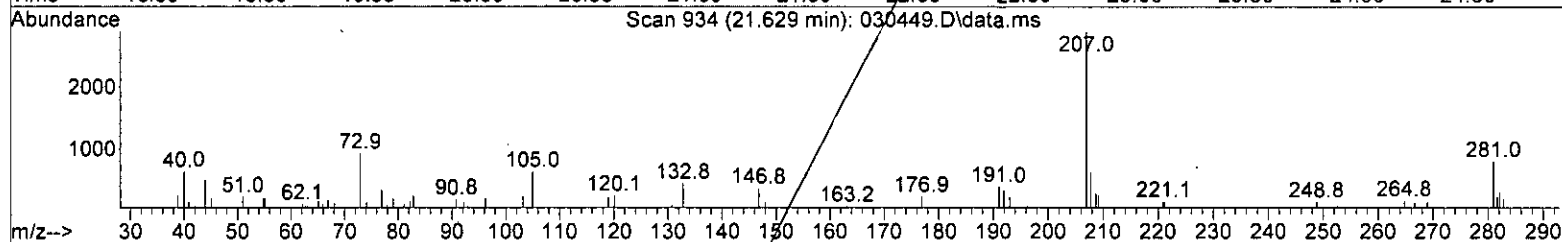
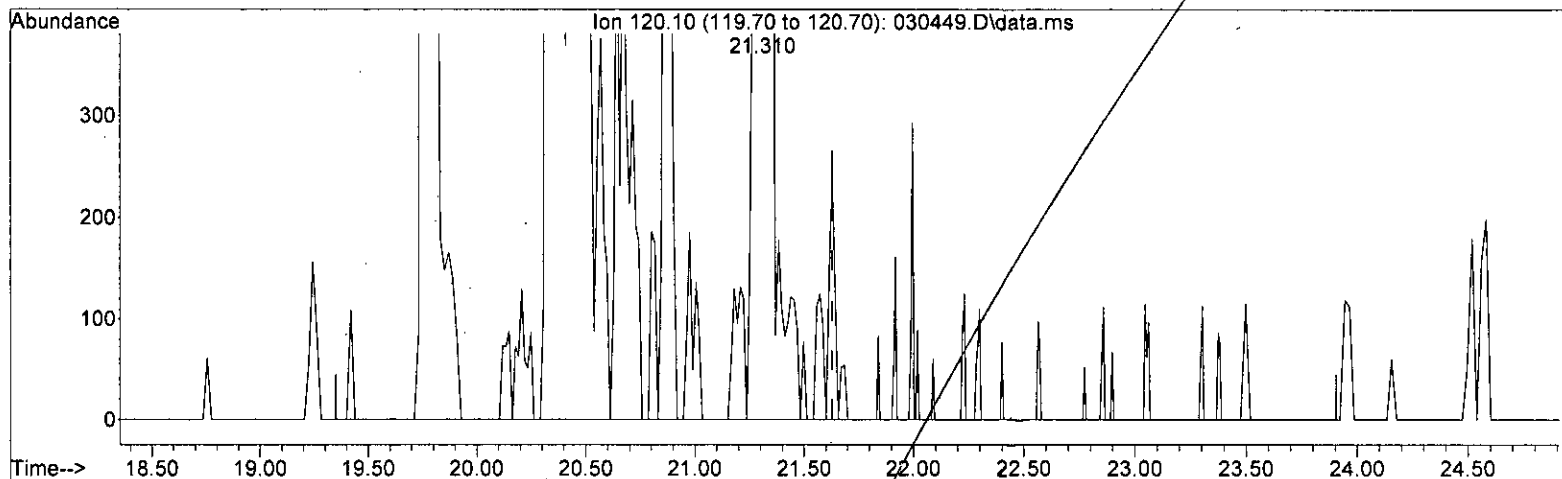
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: B/S/...*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(44) APH EC9-10 aromatics (1) (H)

21.630min ( 0.000) 81.221 ug/m3 m

response 441811

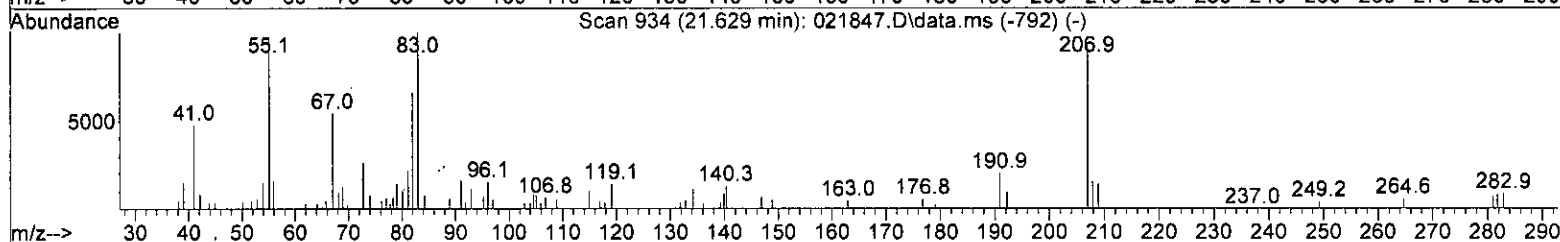
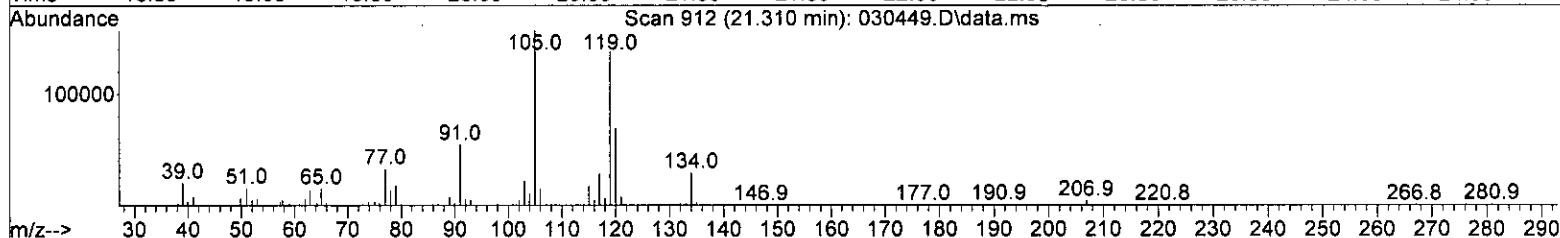
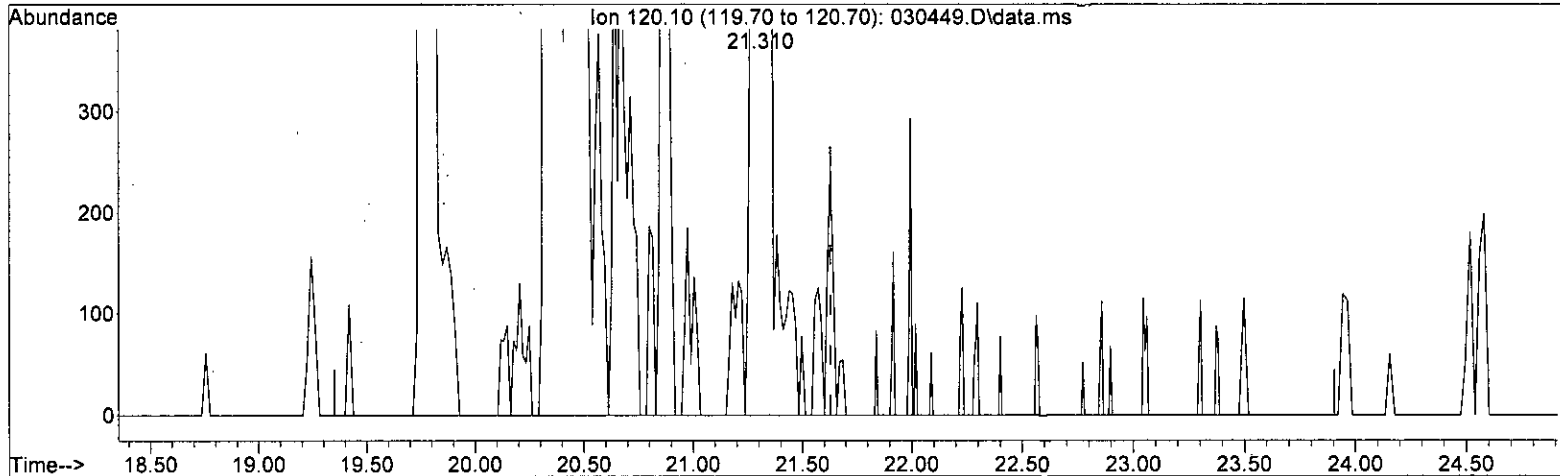
Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B. J. 3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030449.D\data.ms

(44) APH EC9-10 aromatics (1) (H)

21.630min ( 0.000) 72.231 ug/m3 m

response 392911

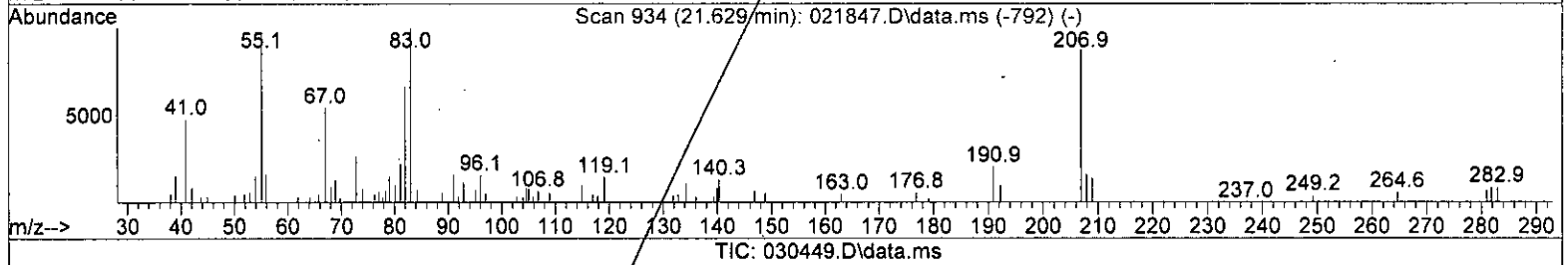
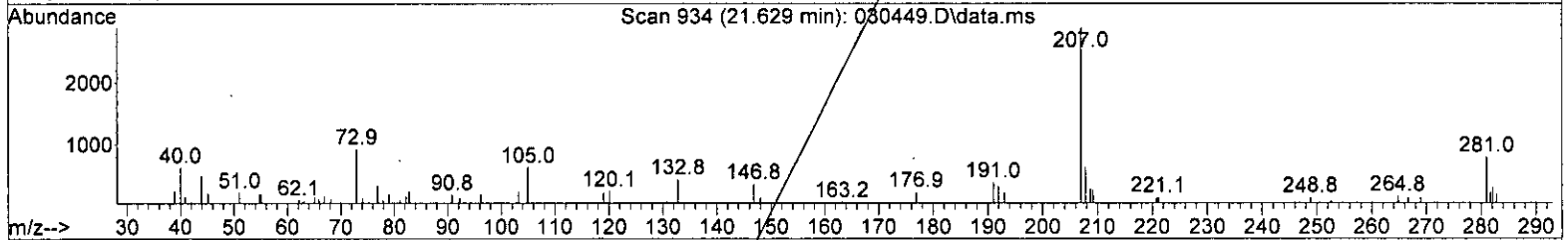
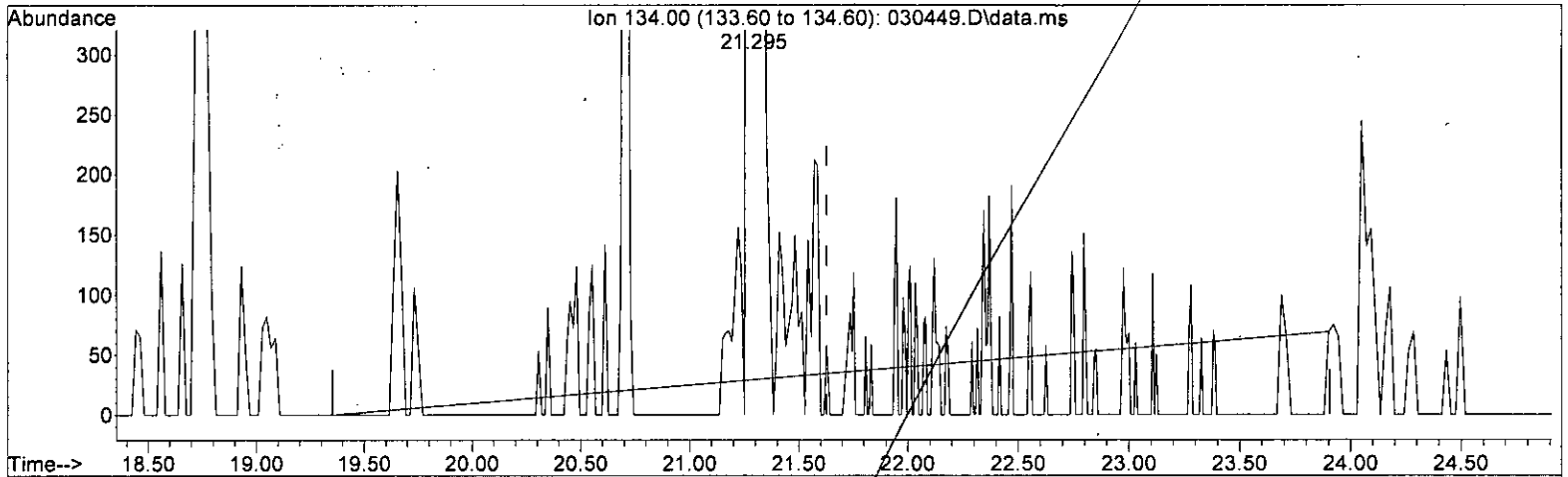
Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(45) APH EC9-10 aromatics (2) (H)

21.630min ( 0.000) 10.913 ug/m3 m

response 33416

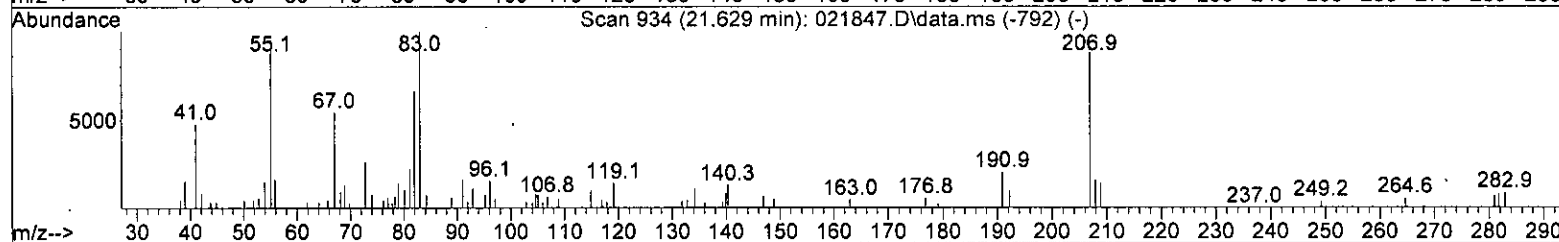
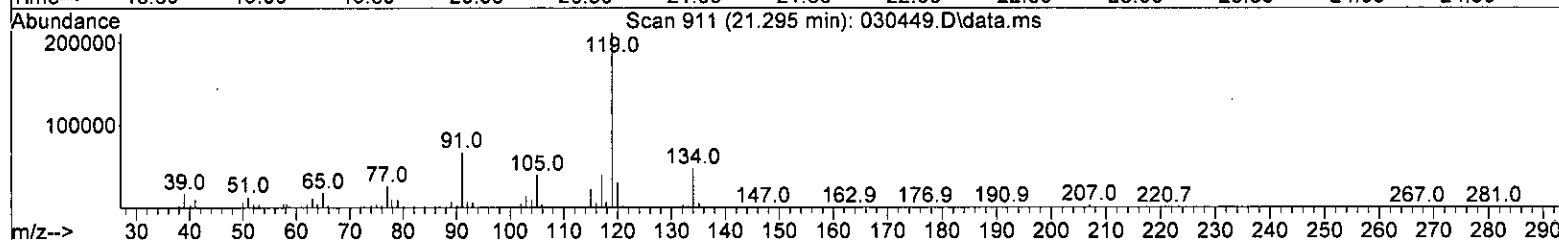
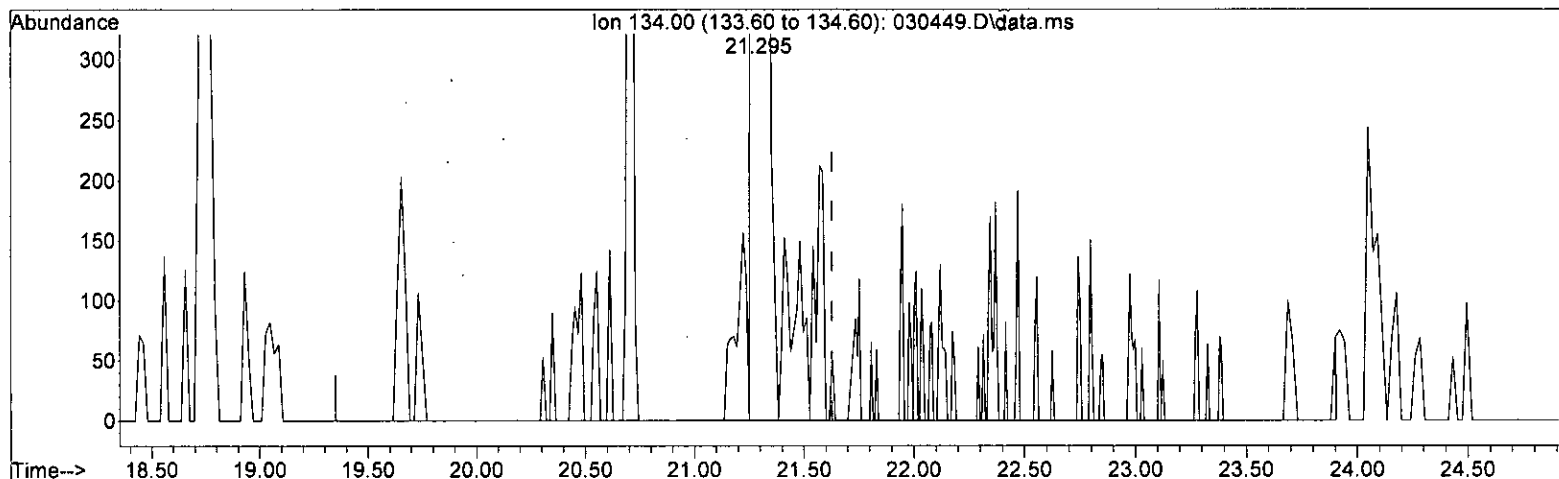
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* P/2/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:06:10 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030449.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.630min ( 0.000) 25.547 ug/m3 m

response 78225

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:08:39 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.98	128	116850	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.21	114	483695	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	449292	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.65	95	340961	73.997	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	104.23%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.98	TIC	807257	49.920	ug/m3	88
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1357759m	45.692	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1473696	50.157	ug/m3	99
5) Methylene chloride	6.85	TIC	11067	29.494	ug/m3	89
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.27	54	34048	9.744	ug/m3	78
9) Methyl t-butyl ether	8.53	73	166596	16.853	ug/m3	82
11) Benzene	12.69	78	192955	15.817	ug/m3	83
12) Isopentane	5.69	TIC	243341m	13.334	ug/m3	
13) Hexane	10.10	TIC	325222	15.485	ug/m3	94
14) Cyclohexane	13.15	TIC	382381m	15.085	ug/m3	
15) 2,3-Dimethylpentane	13.49	TIC	356288	18.671	ug/m3	94
16) Heptane	14.61	TIC	385752m	17.732	ug/m3	
17) Octane	17.42	TIC	687502	19.929	ug/m3	94
18) APH EC5-8 aliphatics T...	11.93	TIC	2380486m	99.559	ug/m3	
19) APH EC5-8 aliphatics	12.00	TIC	13183030m	45.372	ug/m3	
21) S 4-Bromofluorobenzene	19.65	TIC	2005374	51.332	ug/m3	96
22) Hexamethylcyclotrisilo...	17.80	TIC	2481601	42.598	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	295622m	38.033	ppbv	
24) Toluene	16.41	92	112738	16.068	ug/m3	89
25) Ethylbenzene	18.60	91	306505	20.847	ug/m3	95
26) m,p-Xylene	18.77	106	238255	44.654	ug/m3	95
27) o-Xylene	19.22	106	113365	22.229	ug/m3	93
28) Naphthalene	23.96	128	298784	24.803	ug/m3	100
29) 2,3-Dimethylheptane	18.66	TIC	641270m	23.632	ug/m3	
30) Nonane	19.38	TIC	653905	23.028	ug/m3	93
31) Decane	20.92	TIC	797334	28.385	ug/m3	94
32) Butylcyclohexane	21.57	TIC	1001911	26.554	ug/m3	94
33) Undecane	22.31	TIC	831907	30.831	ug/m3	95
34) Dodecane	23.82	TIC	727149	29.840	ug/m3	96
35) APH EC9-12 aliphatics ...	21.11	TIC	4653476m	162.762	ug/m3	
36) APH EC9-12 aliphatics	21.18	TIC	13782639m	82.704	ug/m3	
38) Isopropylbenzene	19.77	120	81129	23.773	ug/m3#	85
39) 1-Methyl-3-ethylbenzene	21.31	120	166020	25.778	ug/m3#	50
40) 1,3,5-Trimethylbenzene	20.45	120	136269	24.423	ug/m3	91
41) p-Isopropyltoluene	21.30	134	87238	28.647	ug/m3	96
42) 1,2,3-Trimethylbenzene	21.31	120	166020	25.778	ug/m3	98
43) APH EC9-10 aromatics T...	21.57	TIC	636676m	129.306	ug/m3	
44) APH EC9-10 aromatics (1)	21.63	120	392911m	72.231	ug/m3	



Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

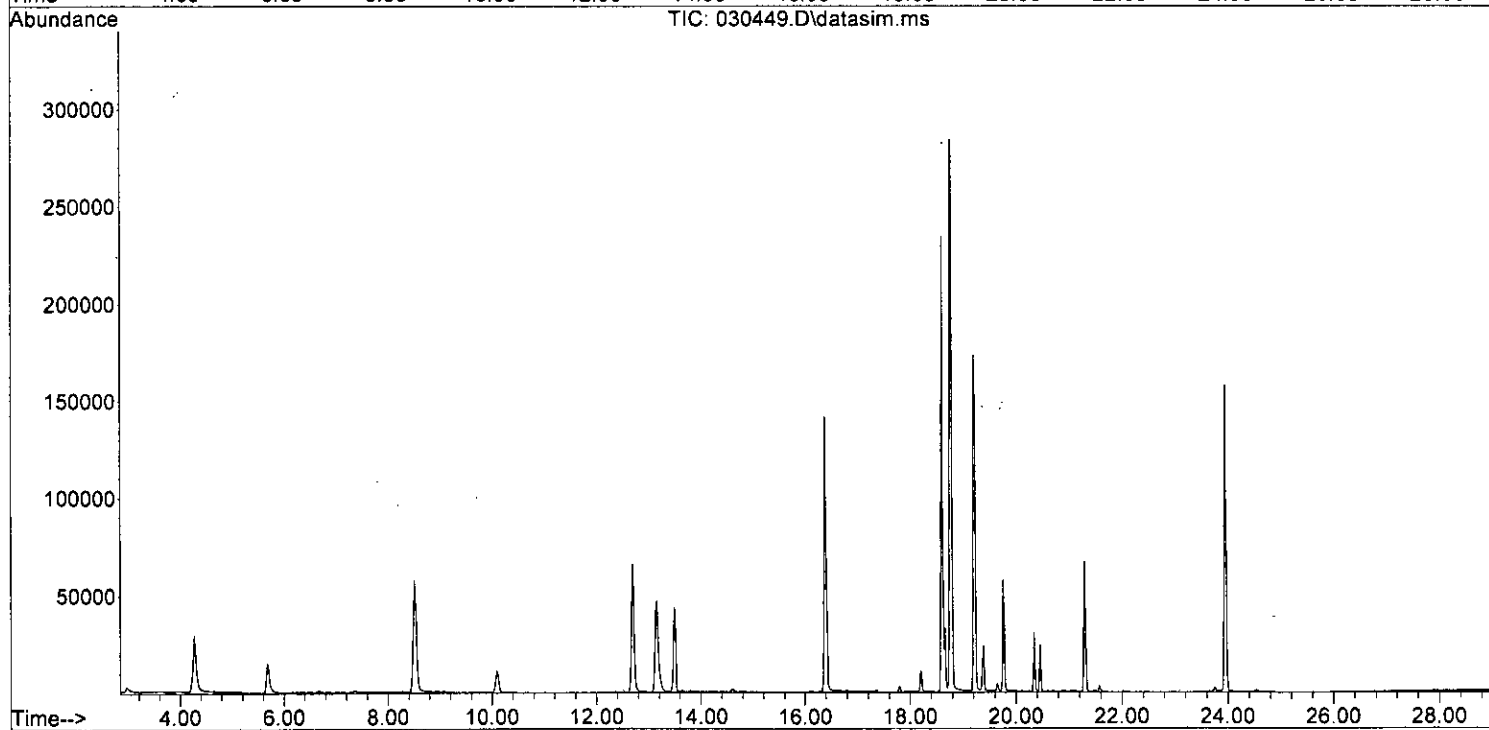
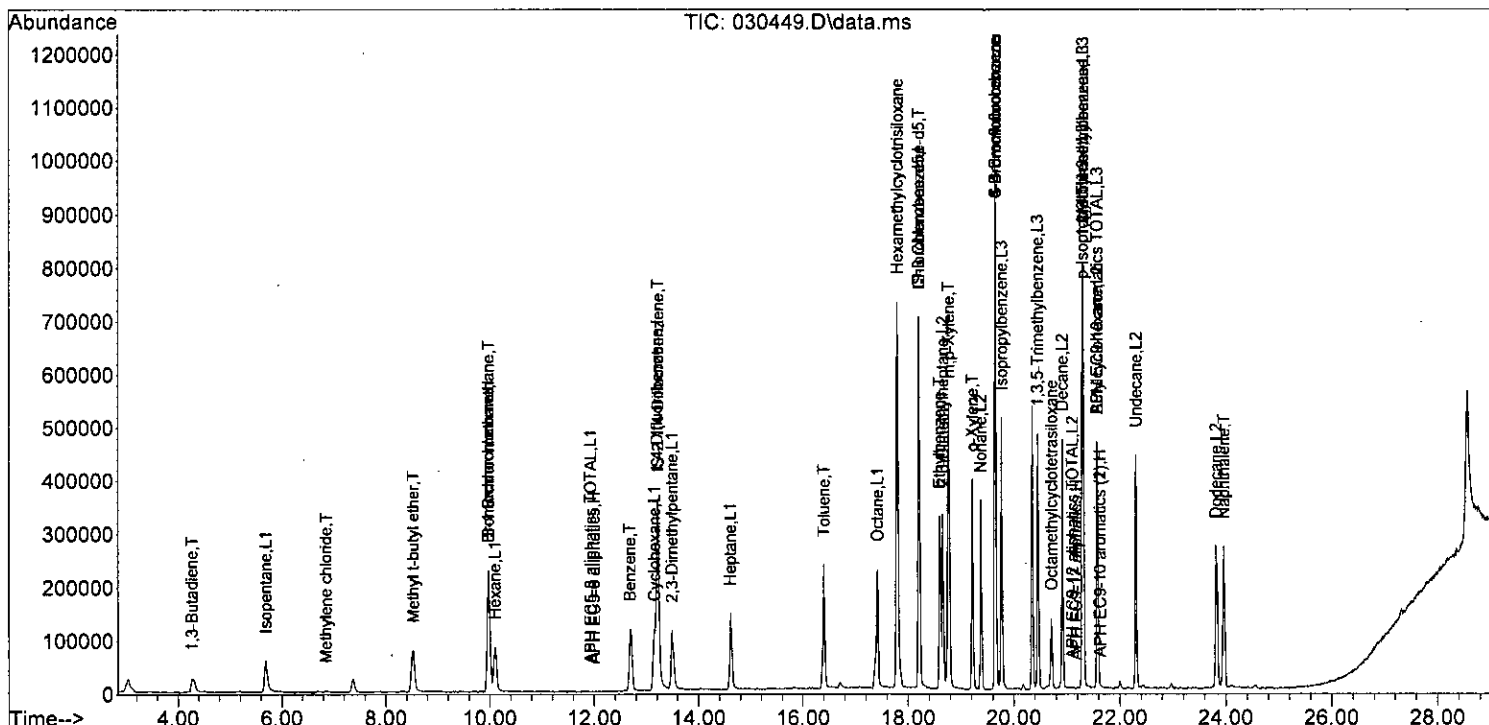
Quant Time: Mar 08 17:08:39 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.63	134	78225m	25.547	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:08:39 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:08:39 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	50.000	49.920	0.2	100	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	45.692	8.6	100	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	50.157	-0.3	100	0.00
5 T	Methylene chloride	50.000	29.494	41.0#	70	0.00
6	Acetone	5.000	0.000	100.0#	0	-5.61#
7	2-Propanol	50.000	0.000	100.0#	0	-5.87#
8 T	1,3-Butadiene	11.000	9.744	11.4	100	0.00
9 T	Methyl t-butyl ether	18.000	16.853	6.4	100	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.00
11 T	Benzene	16.000	15.817	1.1	100	0.00
12 L1	Isopentane	15.000	13.334	11.1	91	0.00
13 L1	Hexane	17.500	15.485	11.5	100	0.00
14 L1	Cyclohexane	17.500	15.085	13.8	100	0.00
15 L1	2,3-Dimethylpentane	21.000	18.671	11.1	100	0.00
16 L1	Heptane	21.000	17.732	15.6	90	0.00
17 L1	Octane	23.500	19.929	15.2	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	115.000	99.559	13.4	97	0.00
19 H	APH EC5-8 aliphatics	115.000	45.372	60.5#	100	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	51.332	-2.7	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	42.598	14.8	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	38.033	23.9	92	0.00
24 T	Toluene	18.750	16.068	14.3	100	0.00
25 T	Ethylbenzene	21.750	20.847	4.2	100	0.00
26 T	m,p-Xylene	44.000	44.654	-1.5	100	0.00
27 T	o-Xylene	22.000	22.229	-1.0	100	0.00
28 T	Naphthalene	25.000	24.803	0.8	100	0.00
29 L2	2,3-Dimethylheptane	25.000	23.632	5.5	97	0.00
30 L2	Nonane	25.000	23.028	7.9	100	0.00
31 L2	Decane	30.000	28.385	5.4	100	0.00
32 L2	Butylcyclohexane	27.500	26.554	3.4	100	0.00
33 L2	Undecane	32.500	30.831	5.1	100	0.00
34 L2	Dodecane	35.000	29.840	14.7	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	175.000	162.762	7.0	100	0.00
36 H	APH EC9-12 aliphatics	175.000	82.704	52.7#	100	0.00
37 S	4-Bromofluorobenzene	71.000	73.997	-4.2	100	0.00
38 L3	Isopropylbenzene	24.500	23.773	3.0	100	0.00
39 L3	1-Methyl-3-ethylbenzene	24.500	25.778	-5.2	100	0.00
40 L3	1,3,5-Trimethylbenzene	24.500	24.423	0.3	100	0.00
41 L3	p-Isopropyltoluene	27.750	28.647	-3.2	100	0.00
42 L3	1,2,3-Trimethylbenzene	24.500	25.778	-5.2	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	125.400	129.306	-3.1	100	0.00
44 H	APH EC9-10 aromatics (1)	98.000	72.231	26.3	71	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:08:39 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	27.400	25.547	6.8	90	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
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Quant Time: Mar 08 17:08:39 2022  
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 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	6.920	6.908	0.2	100	0.00
3 T	IS-2 1,4-Difluorobenzene	12.715	11.620	8.6	100	0.00
4 T	IS-3 Chlorobenzene-d5	12.572	12.612	-0.3	100	0.00
5 T	Methylene chloride	0.161	0.095	41.0#	70	0.00
6	Acetone	1.776	0.000	100.0#	0#	-5.61#
7	2-Propanol	0.828	0.000	100.0#	0#	-5.87#
8 T	1,3-Butadiene	1.495	1.324	11.4	100	0.00
9 T	Methyl t-butyl ether	4.230	3.960	6.4	100	0.00
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
11 T	Benzene	1.261	1.247	1.1	100	0.00
12 L1	Isopentane	1.886	1.677	11.1	91	0.00
13 L1	Hexane	2.171	1.921	11.5	100	0.00
14 L1	Cyclohexane	2.620	2.259	13.8	100	0.00
15 L1	2,3-Dimethylpentane	1.973	1.754	11.1	100	0.00
16 L1	Heptane	2.249	1.899	15.6	90	0.00
17 L1	Octane	3.566	3.024	15.2	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	2.472	2.140	13.4	97	0.00
19 H	APH EC5-8 aliphatics	30.035	11.850	60.5#	100	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	4.348	4.463	-2.6	100	0.00
22	Hexamethylcyclotrisiloxane	6.483	5.523	14.8	100	0.00
23	Octamethylcyclotetrasiloxan	0.865	0.658	23.9	92	0.00
24 T	Toluene	0.781	0.669	14.3	100	0.00
25 T	Ethylbenzene	1.636	1.568	4.2	100	0.00
26 T	m,p-Xylene	0.594	0.603	-1.5	100	0.00
27 T	o-Xylene	0.568	0.573	-0.9	100	0.00
28 T	Naphthalene	1.341	1.330	0.8	100	0.00
29 L2	2,3-Dimethylheptane	3.020	2.855	5.5	97	0.00
30 L2	Nonane	3.160	2.911	7.9	100	0.00
31 L2	Decane	3.126	2.958	5.4	100	0.00
32 L2	Butylcyclohexane	4.199	4.055	3.4	100	0.00
33 L2	Undecane	3.003	2.849	5.1	100	0.00
34 L2	Dodecane	2.712	2.312	14.7	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	3.182	2.959	7.0	100	0.00
36 H	APH EC9-12 aliphatics	18.546	8.765	52.7#	100	0.00
37 S	4-Bromofluorobenzene	0.513	0.534	-4.1	100	0.00
38 L3	Isopropylbenzene	0.380	0.369	2.9	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.717	0.754	-5.2	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.621	0.619	0.3	100	0.00
41 L3	p-Isopropyltoluene	0.339	0.350	-3.2	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.717	0.754	-5.2	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.548	0.565	-3.1	100	0.00
44 H	APH EC9-10 aromatics (1)	0.605	0.446	26.3	71	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030449.D  
 Acq On : 6 Mar 2022 3:58 am  
 Operator : bat  
 Sample : 5.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 49 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:08:39 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

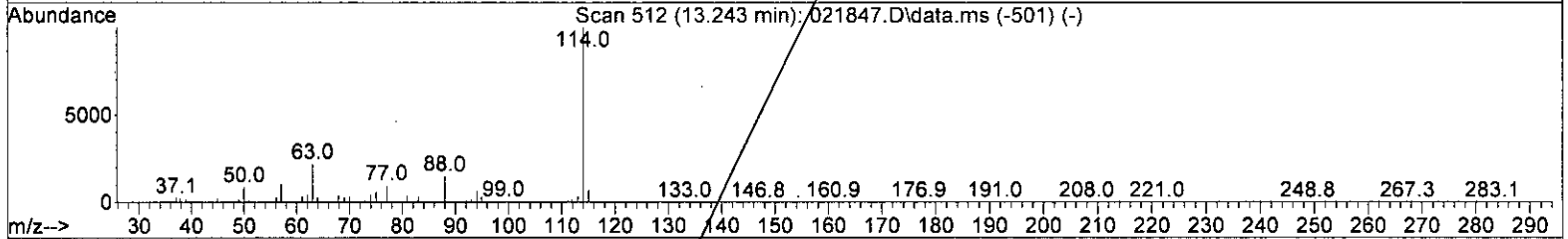
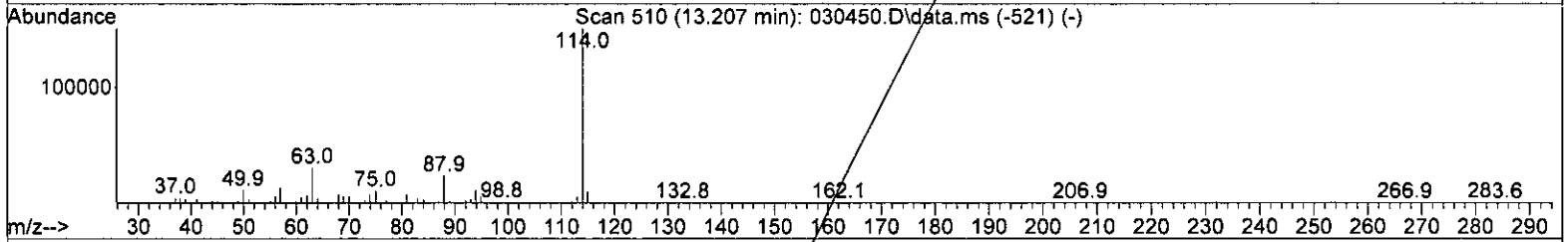
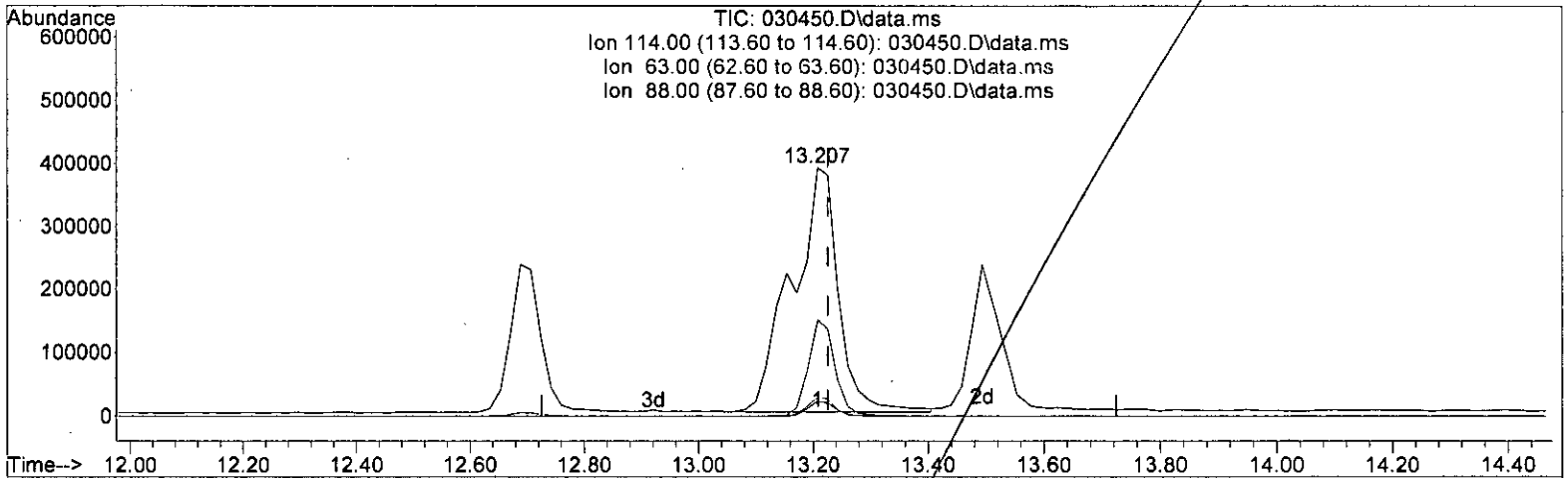
Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.341	0.318	6.7	90	0.00

(#) = Out of Range                      SPCC's out = 0    CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:10:59 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(3) IS-2 1,4-Difluorobenzene (T)

13.207min (-0.018) 74.828 ug/m3

response 2172582

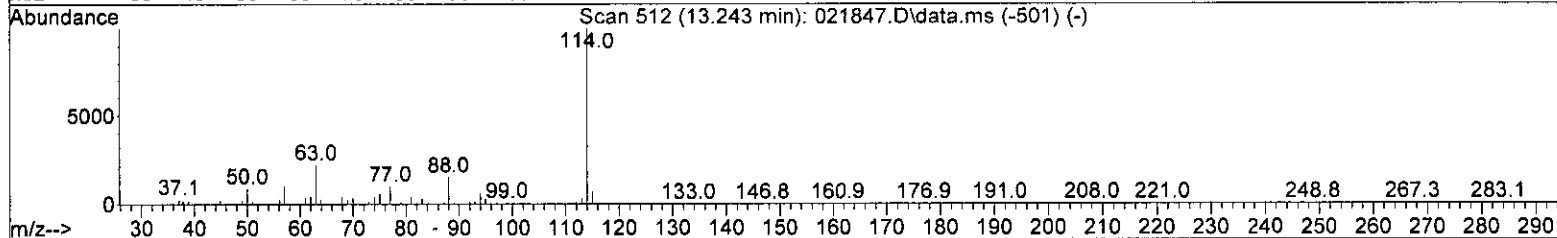
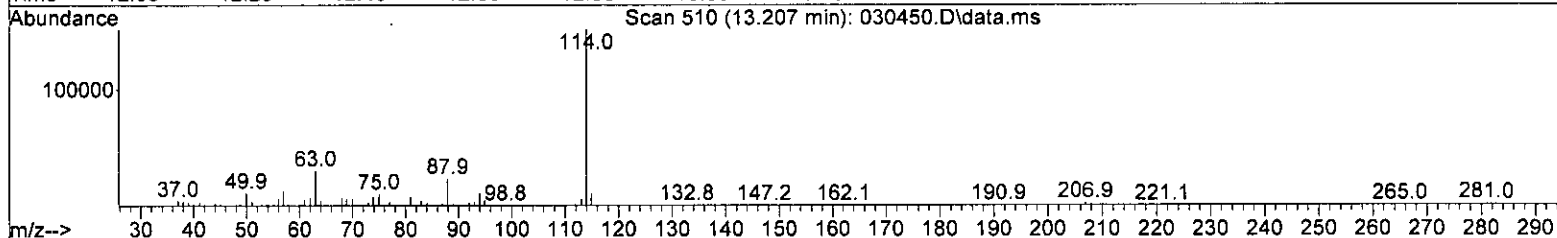
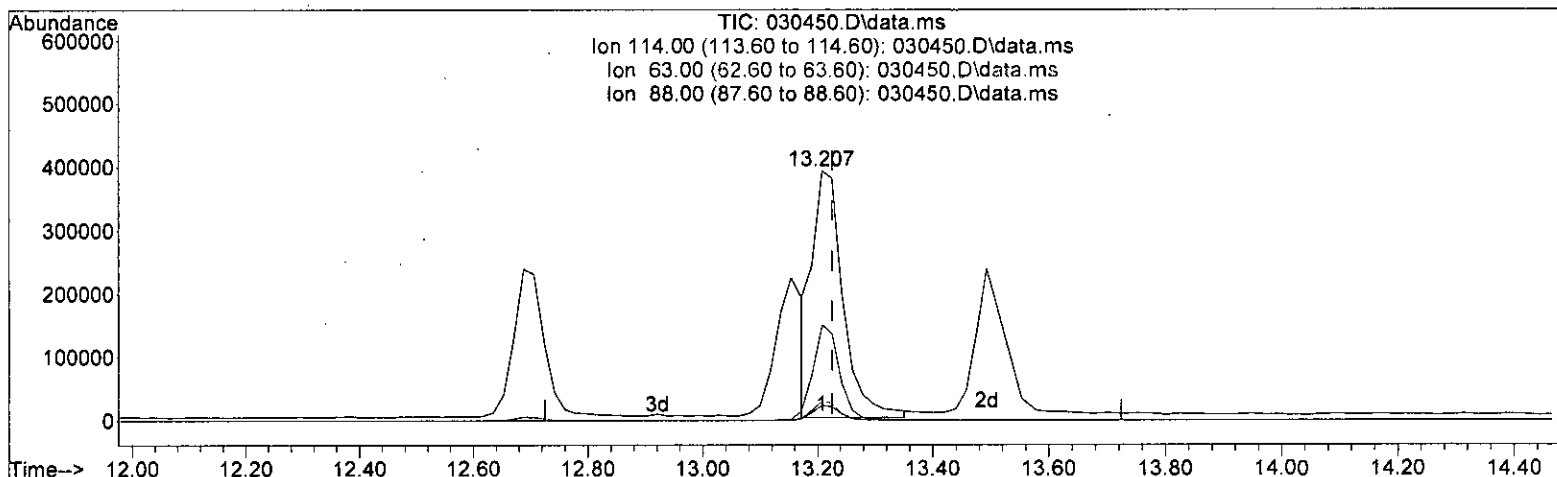
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	65.20	39.13
63.00	14.80	7.79
88.00	10.30	6.06

*Handwritten signature:*  
 2/1  
 3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:10:59 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(3) IS-2 1,4-Difluorobenzene (T)  
 13.207min (-0.018) 50.735 ug/m3 m  
 response 1473052

Signal	Exp%	Act%
TIC	100.00	100.00
114.00	65.20	57.71
63.00	14.80	11.49
88.00	10.30	8.94

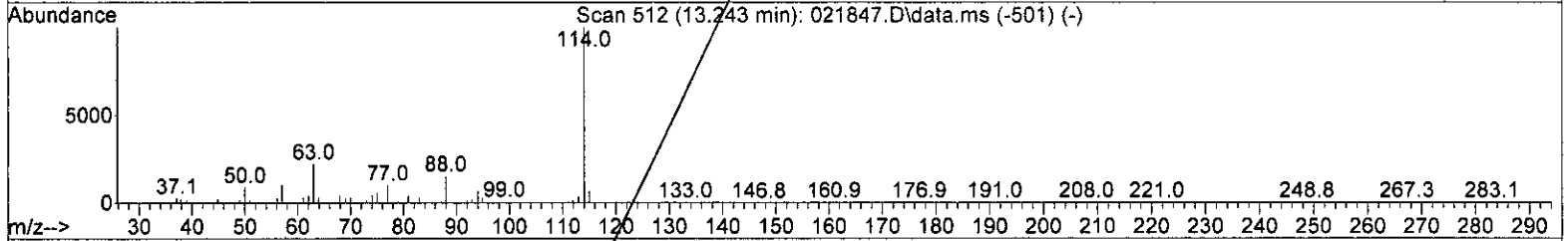
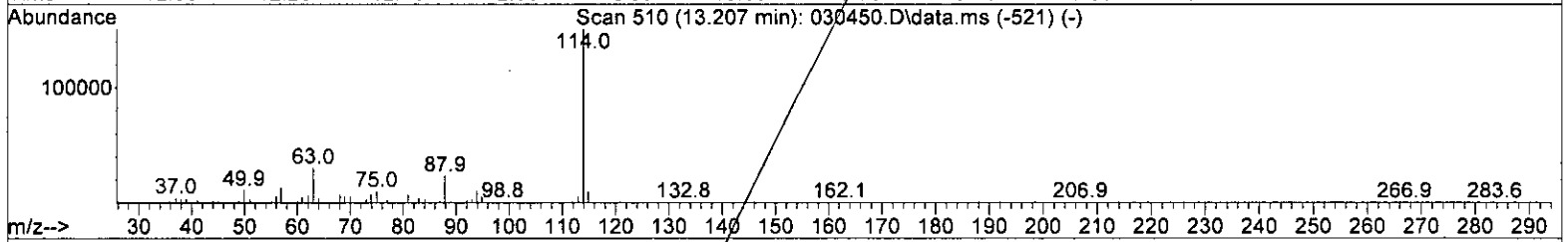
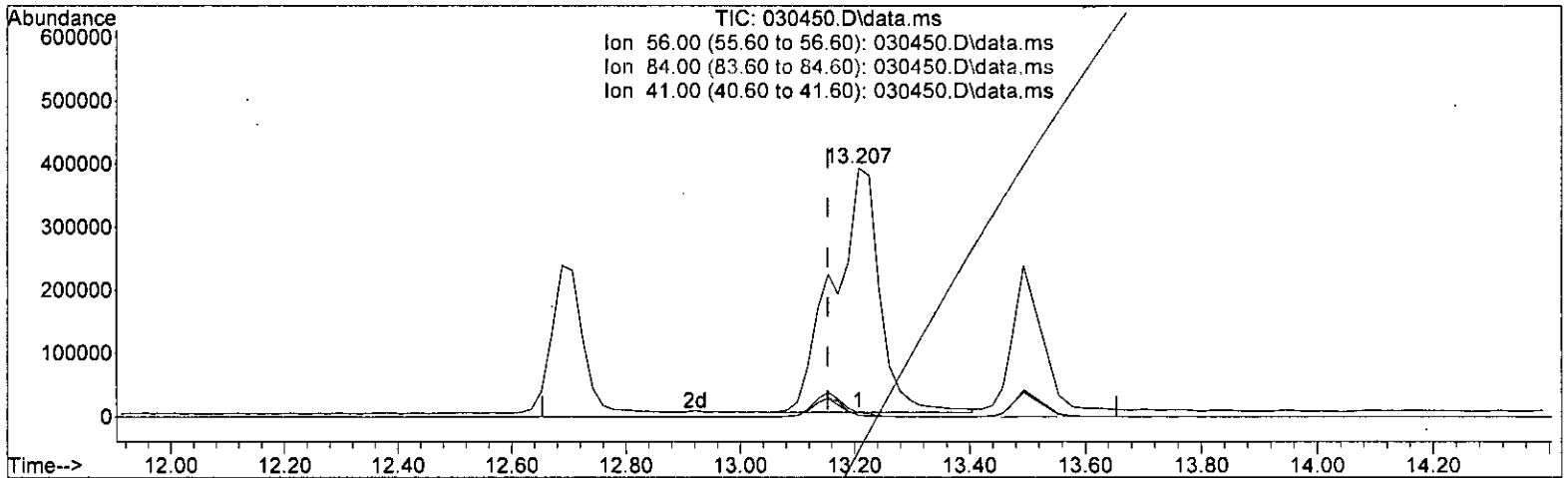
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Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:10:59 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(14) Cyclohexane (L1)

13.207min (+ 0.054) 83.973 ug/m<sup>3</sup>

response 2172582

Signal	Exp%	Act%
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TIC	100.00	100.00
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56.00	3.90	1.53
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84.00	1.30	0.69
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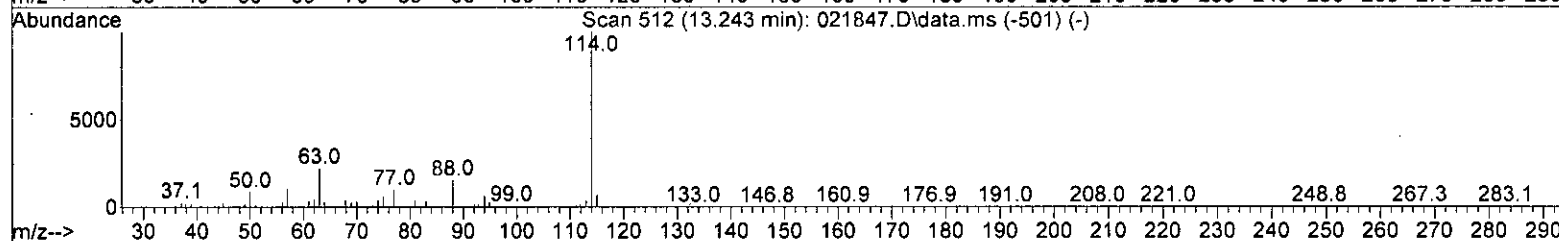
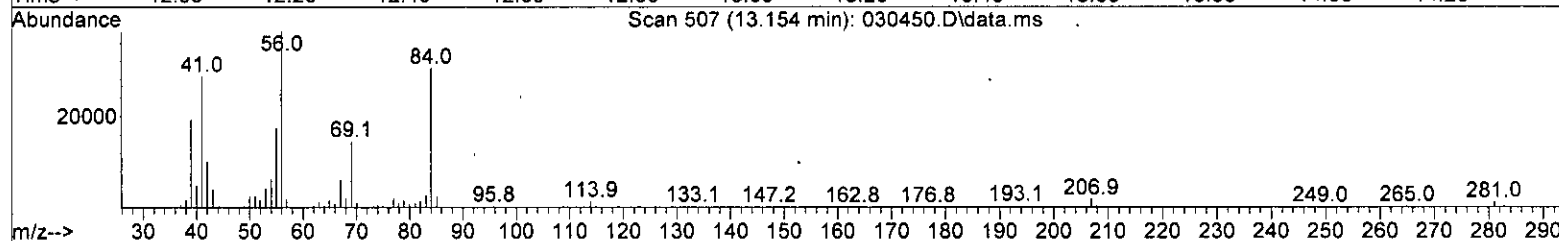
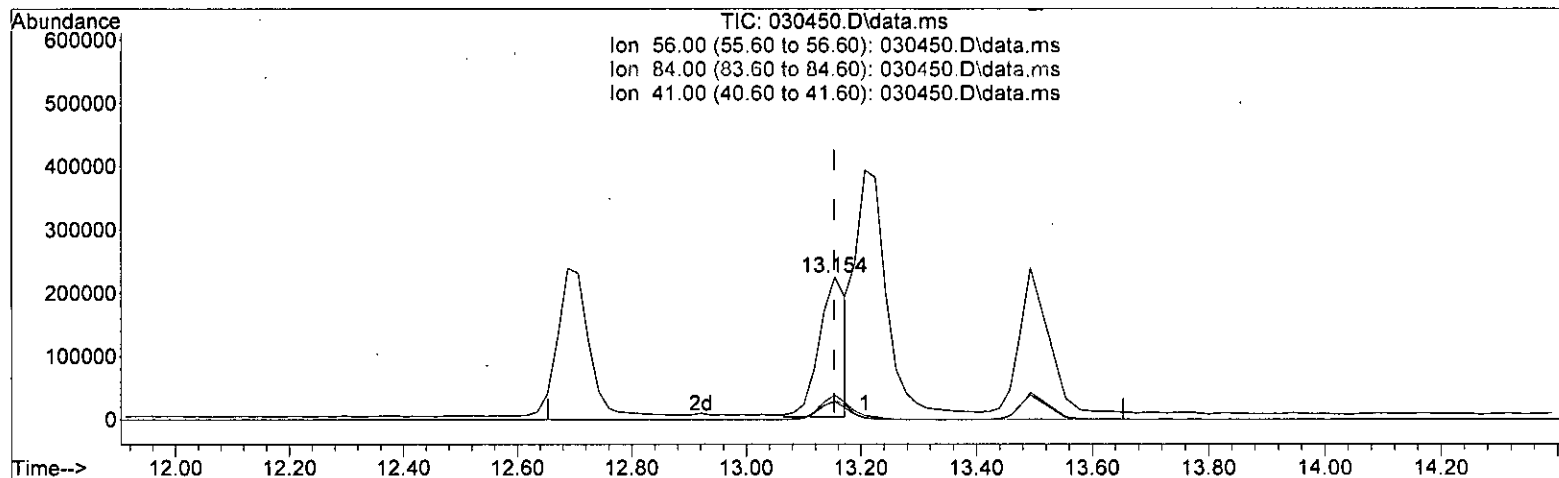
41.00	1.00	0.68
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*Handwritten signature:* W/ 3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:10:59 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(14) Cyclohexane (L1)

13.154min (-0.000) 28.208 ug/m3 m

response 729801

Signal Exp% Act%

TIC 100.00 100.00

56.00 3.90 4.56

84.00 1.30 2.06

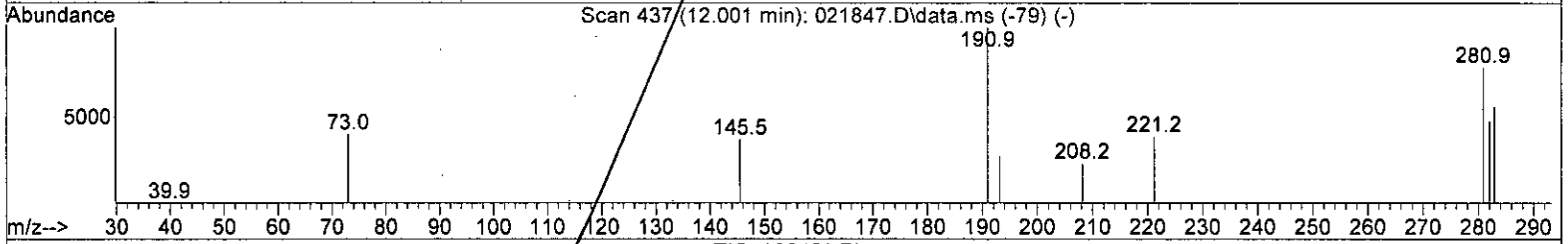
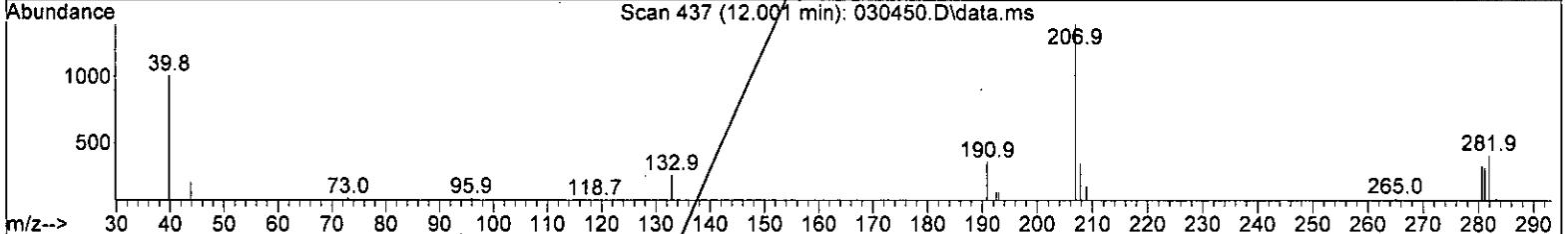
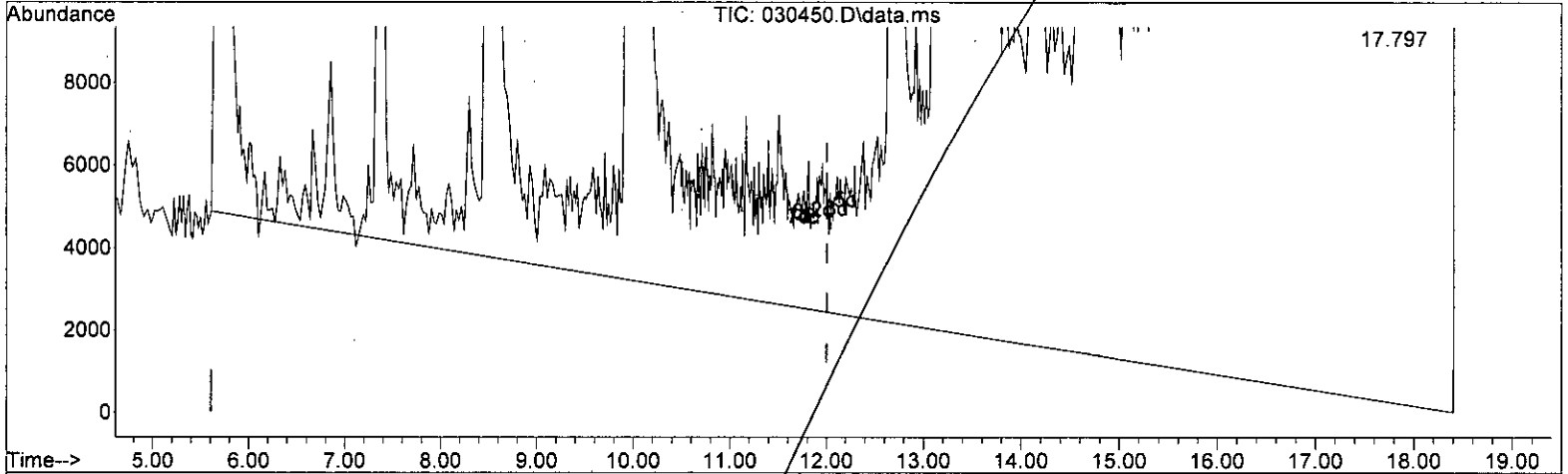
41.00 1.00 2.02

*R/S/2022*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:10:59 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth: TO15NA.M



(19) APH EC5-8 aliphatics (H)  
 12.004min ( 0.000) 38.919 ug/m3 m  
 response 11542107

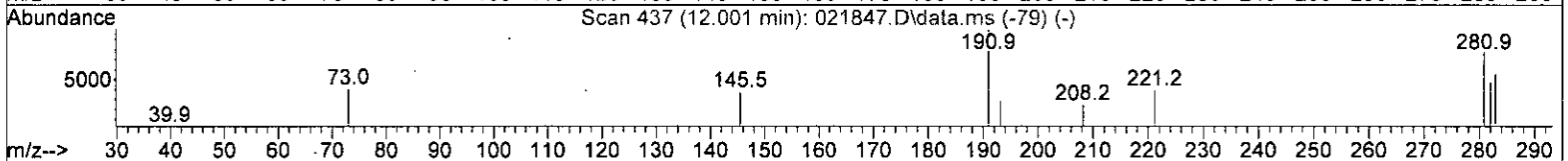
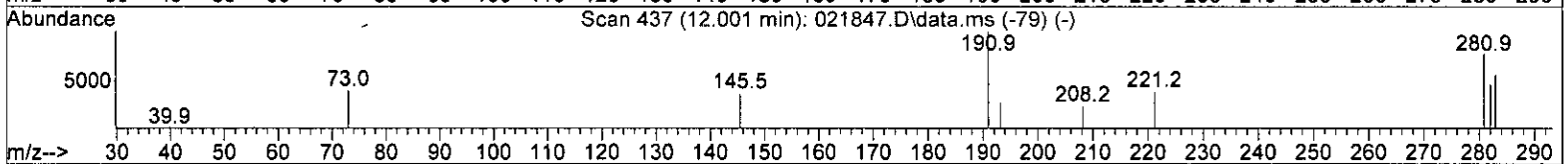
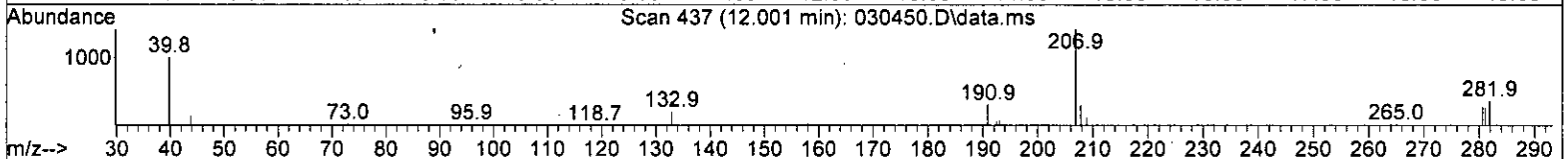
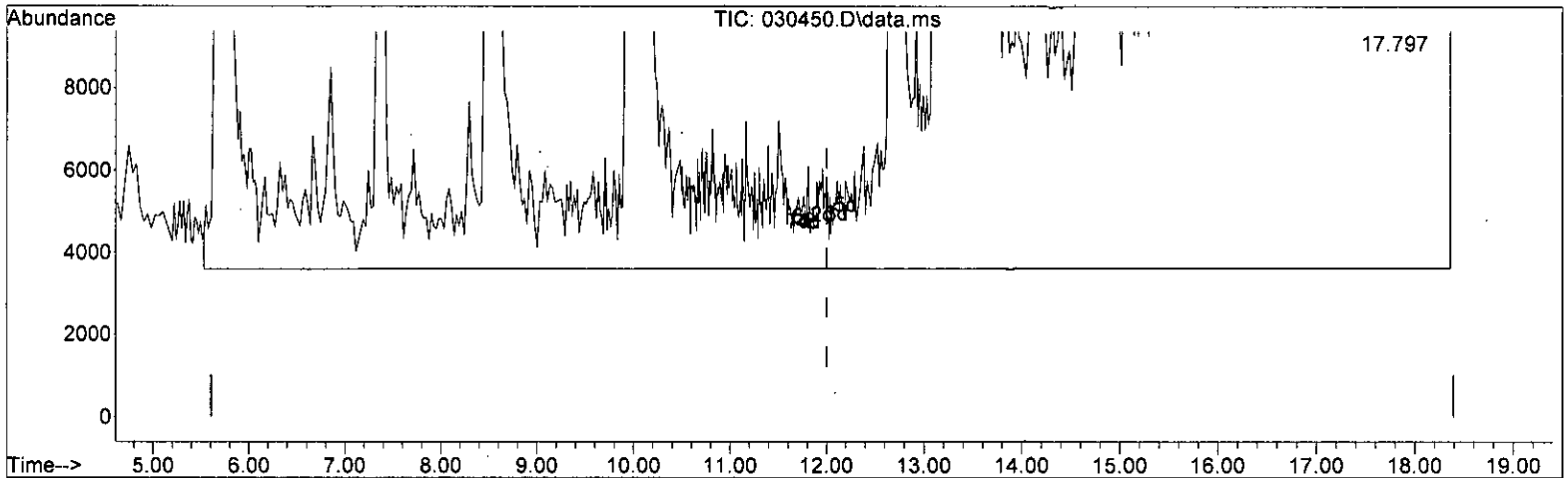
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B. 3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:10:59 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030450.D\data.ms

(19) APH EC5-8 aliphatics (H)

12.004min ( 0.000) 58.562 ug/m3 m

response 17367641

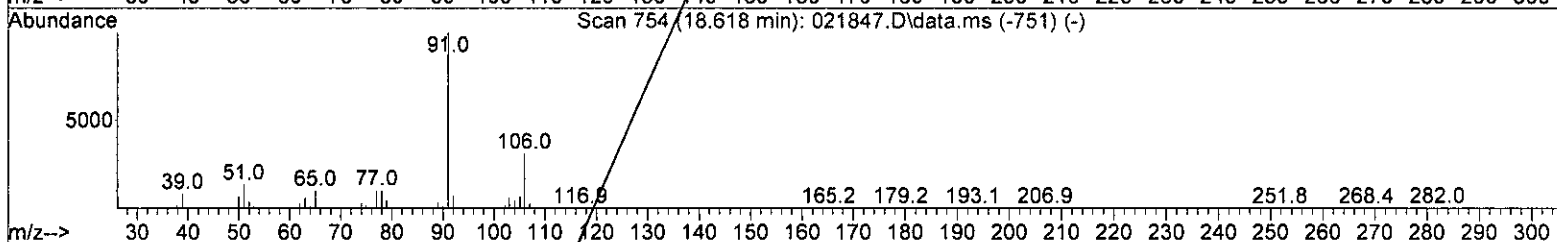
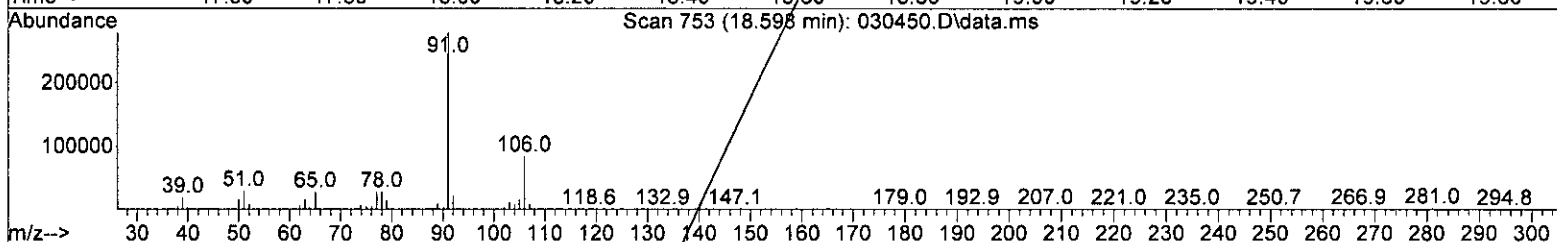
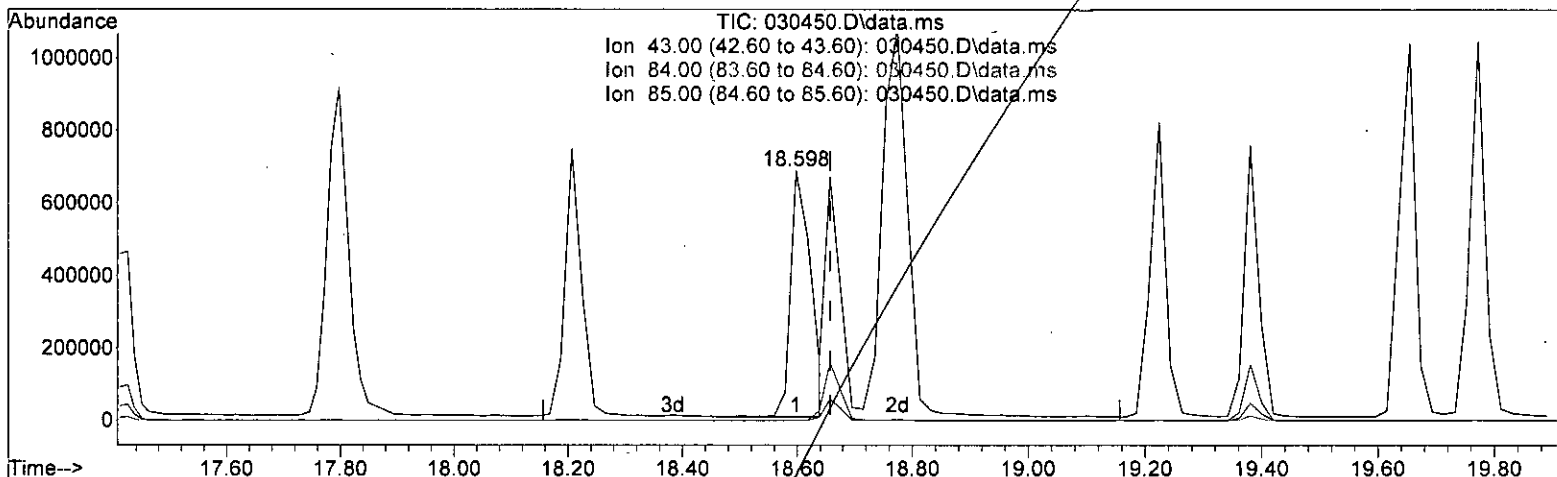
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

K/S/m

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:10:59 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(29) 2,3-Dimethylheptane (L2)

18.598min (-0.059) 58.888 ug/m3

response 1657393

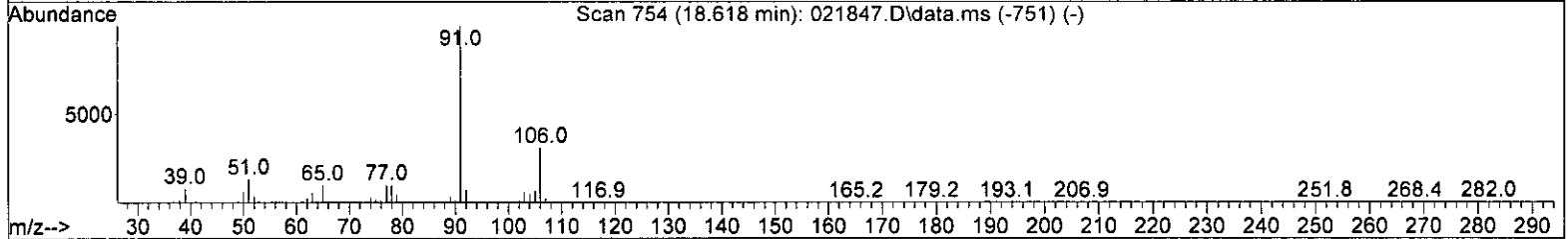
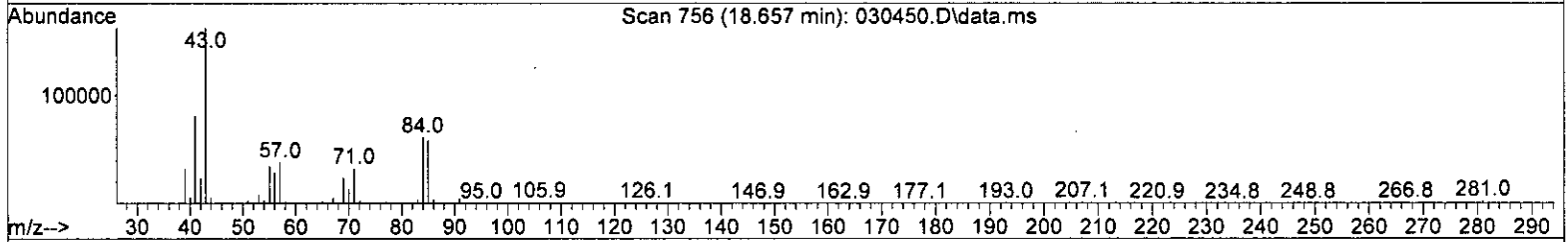
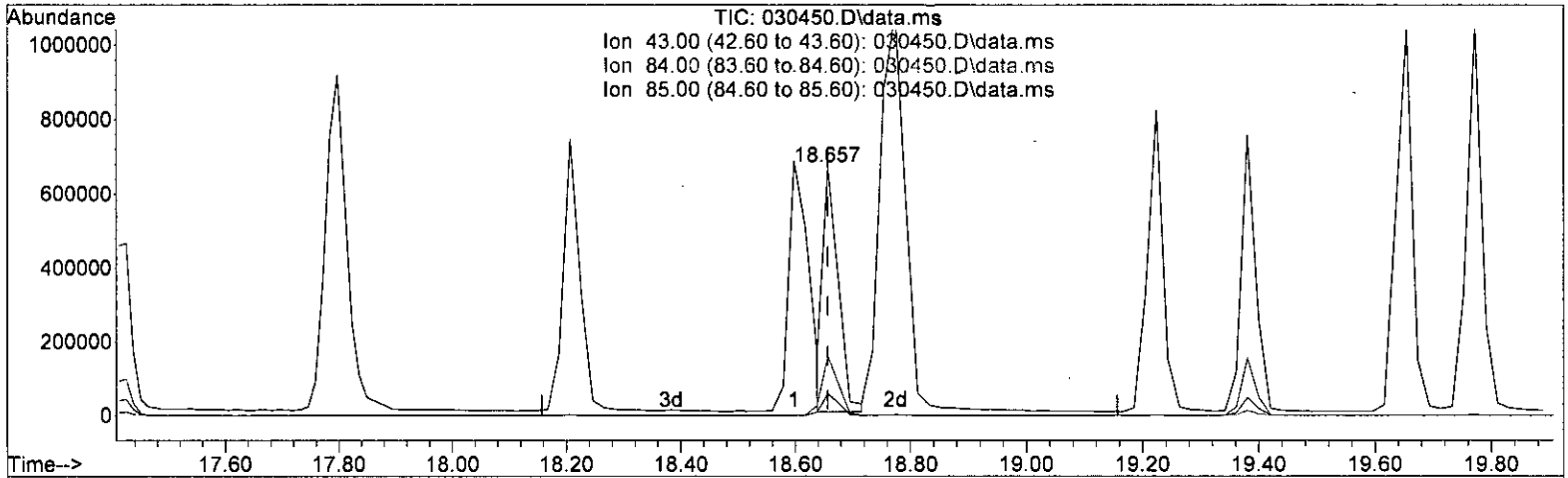
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	31.80	20.20#
84.00	7.20	7.61
85.00	6.20	7.43

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:12:50 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(29) 2,3-Dimethylheptane (L2)

18.657min (-0.000) 44.323 ug/m3 m

response 1247464

Signal Exp% Act%

TIC 100.00 100.00

43.00 31.80 26.84

84.00 7.20 10.11#

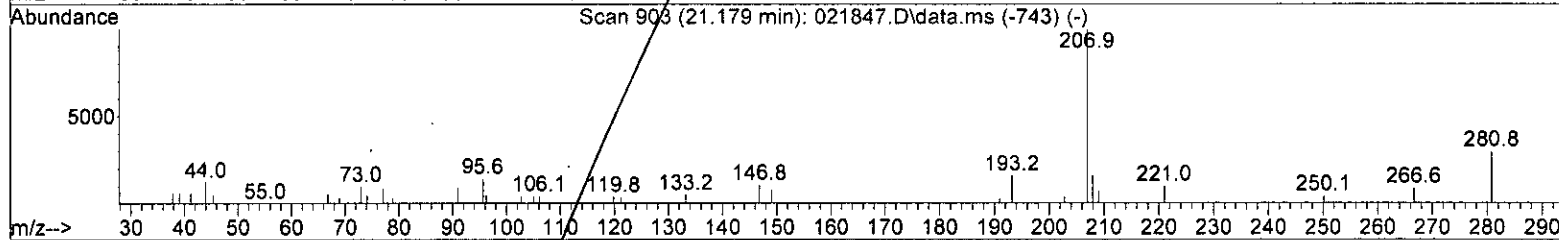
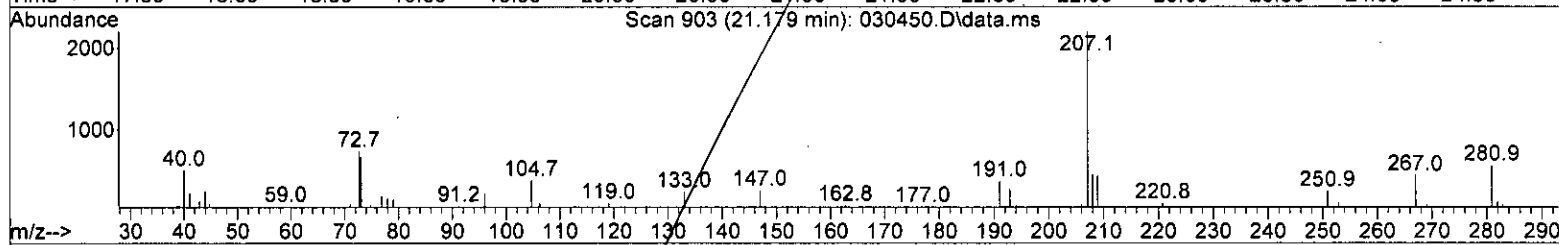
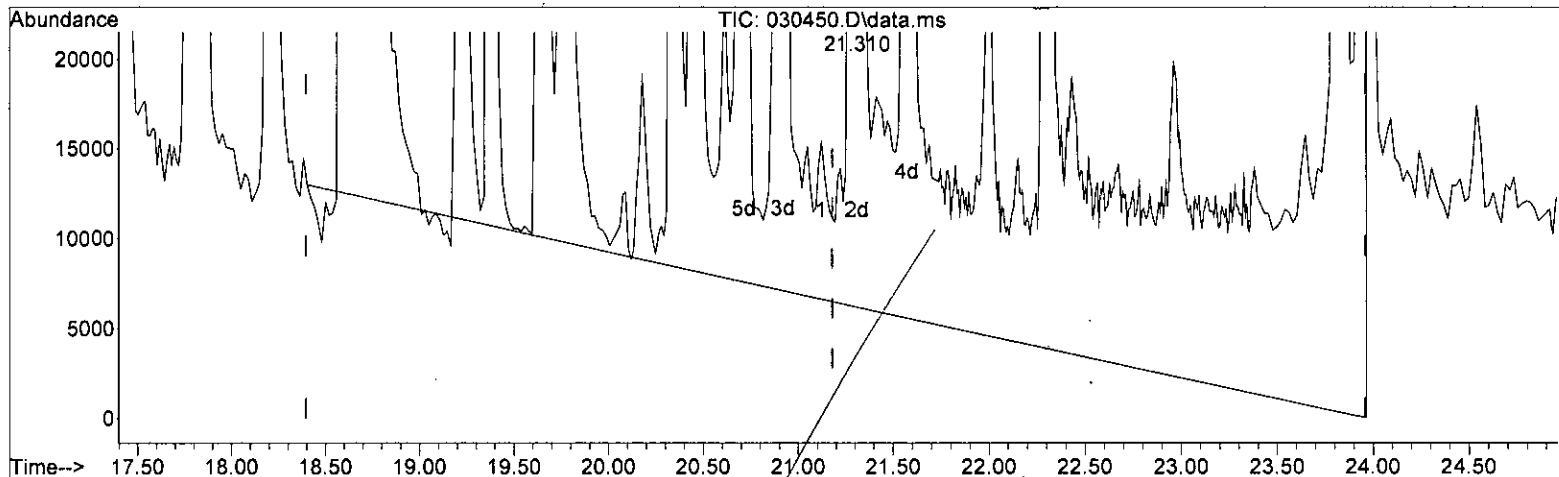
85.00 6.20 9.87#

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:10:59 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 149.735 ug/m3 m

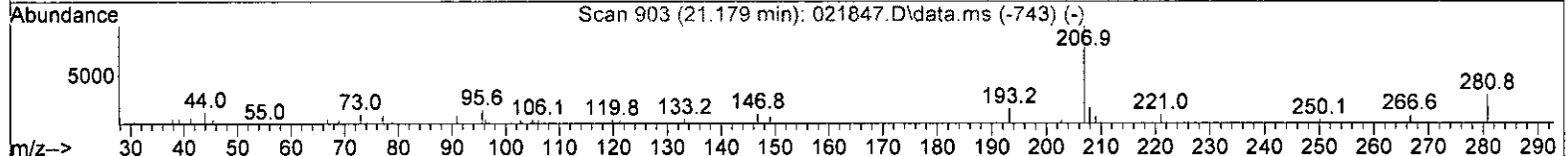
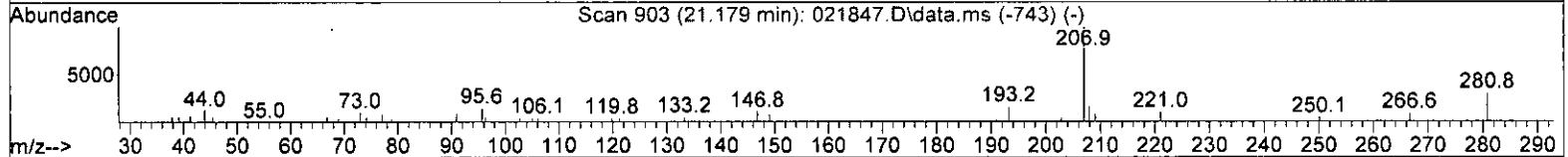
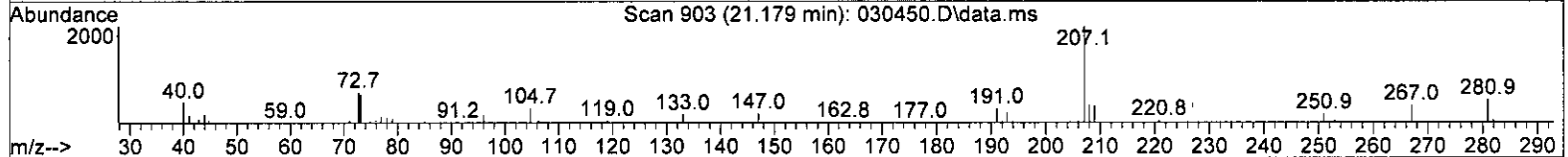
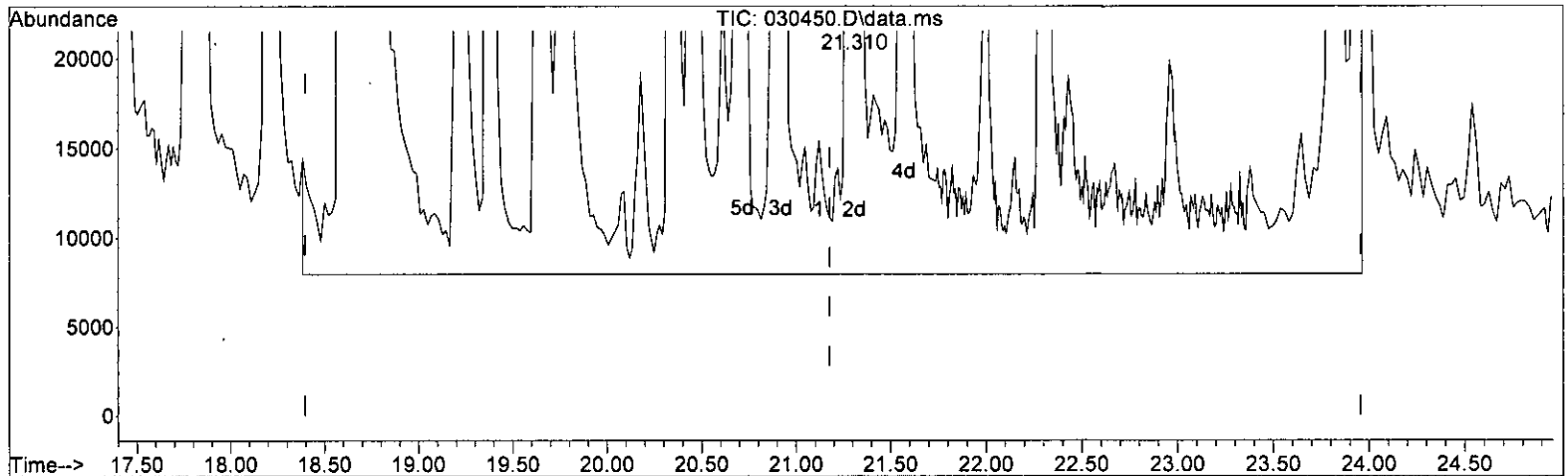
response 25881322

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten:* 4/3/82L

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:10:59 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030450.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 147.309 ug/m3 m

response 25461924

*APH*  
*3/8/22*

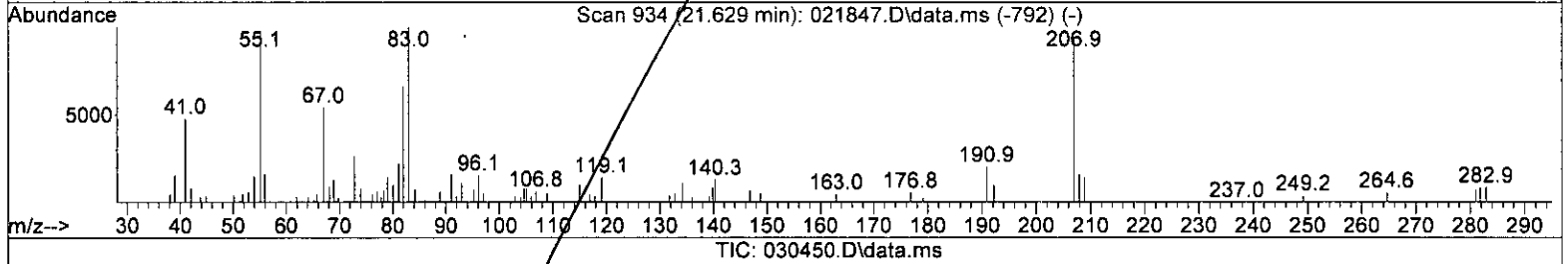
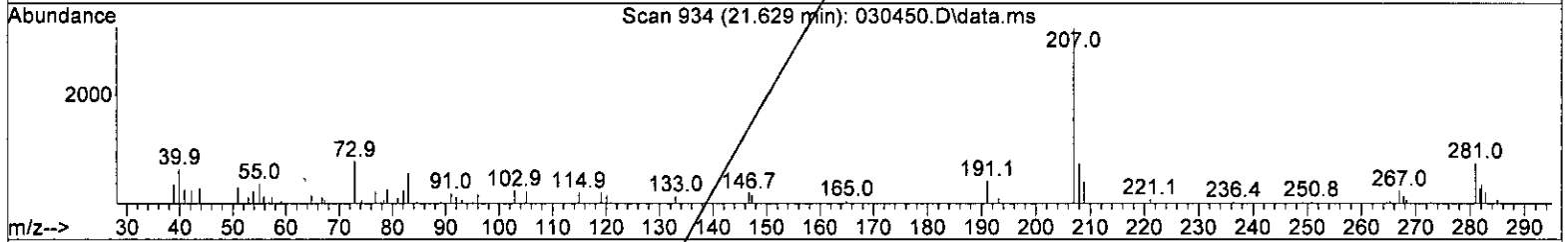
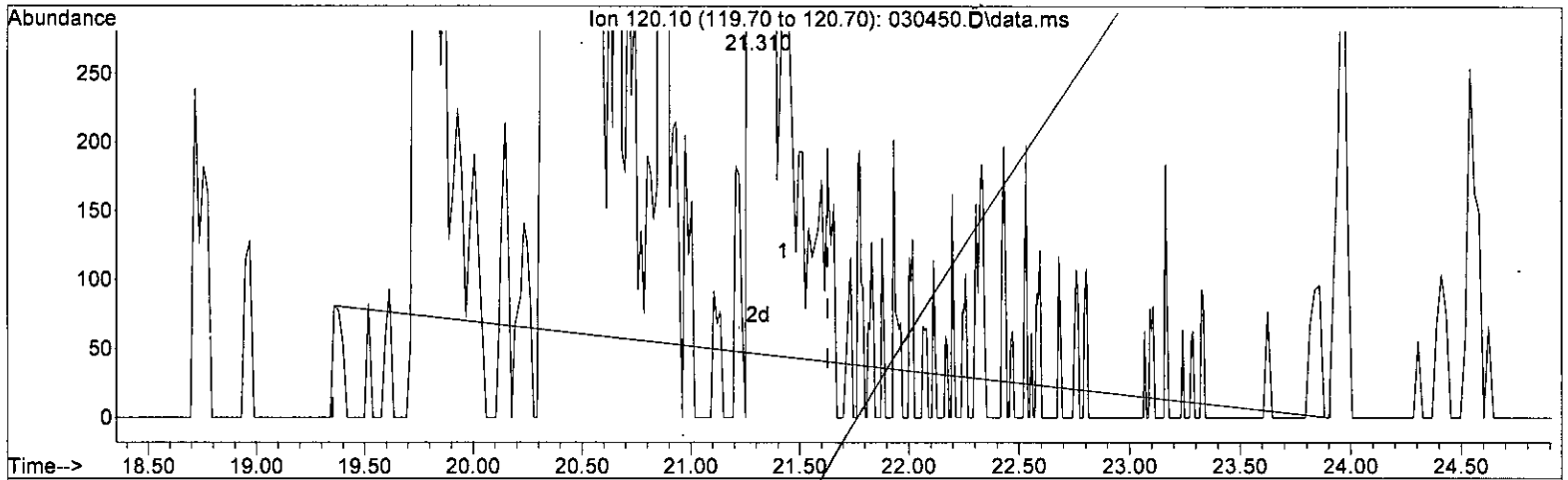
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00



Quantitation Report (Qedit)

Data Path : F:\Proc GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:10:59 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



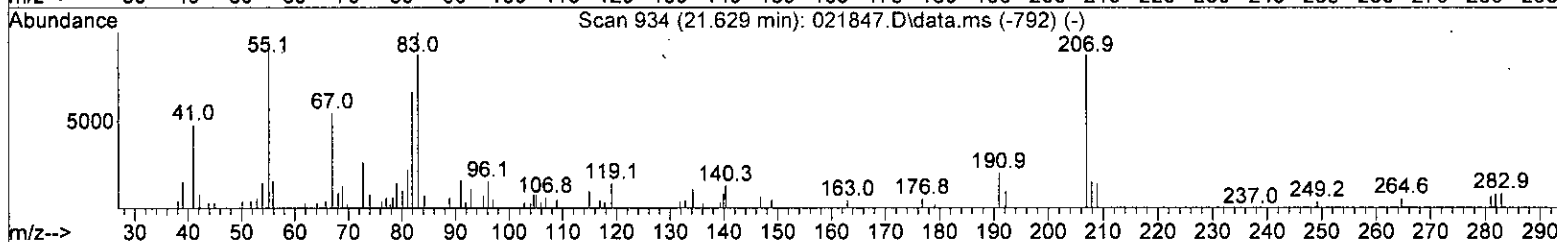
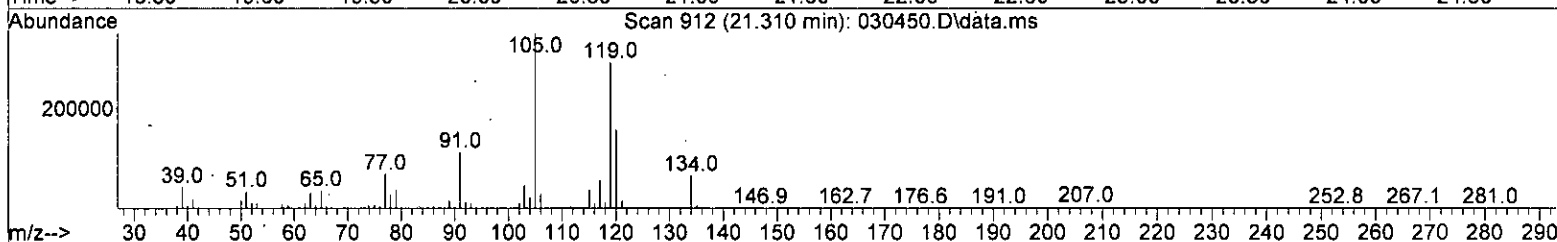
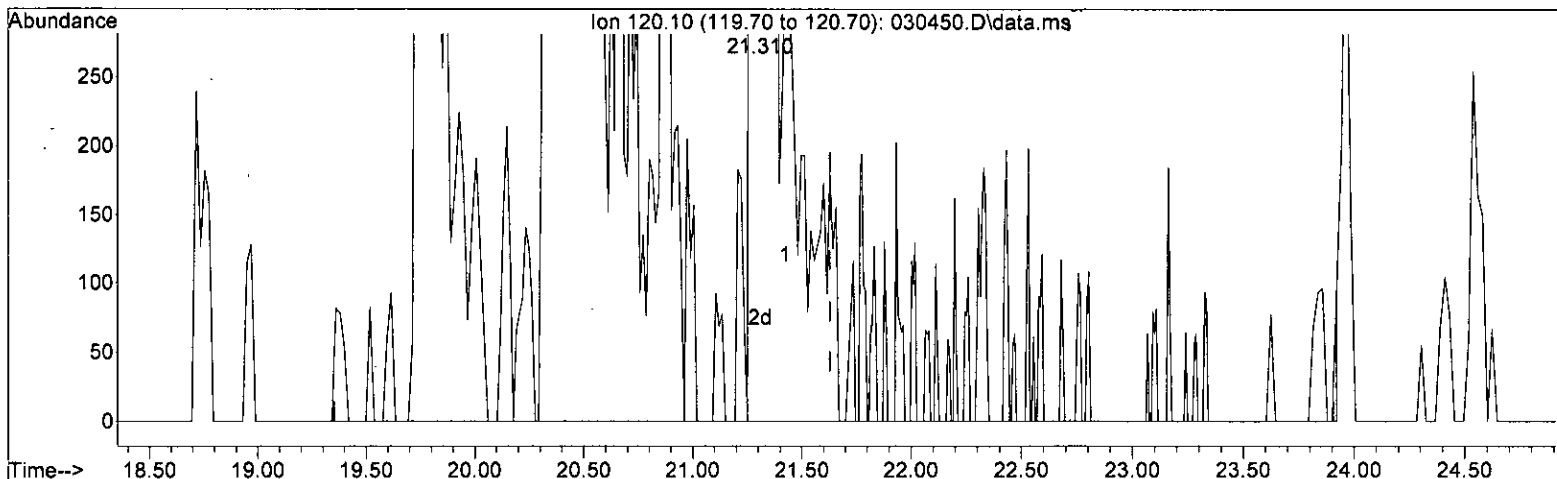
(44) APH EC9-10 aromatics (1) (H)  
 21.630min ( 0.000) 175.905 ug/m3 m

response	Exp%	Act%
992448		
Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* M/ 3/8/22

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:10:59 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030450.D\data.ms

(44) APH EC9-10 aromatics (1) (H)  
 21.630min ( 0.000) 147.105 ug/m3 m

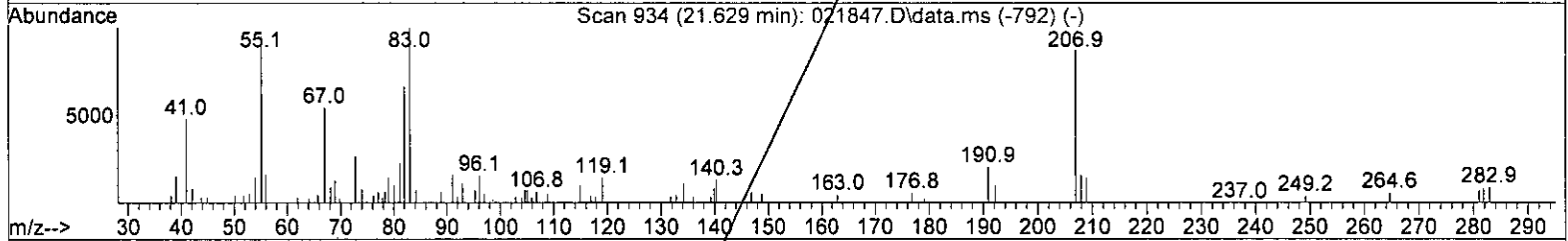
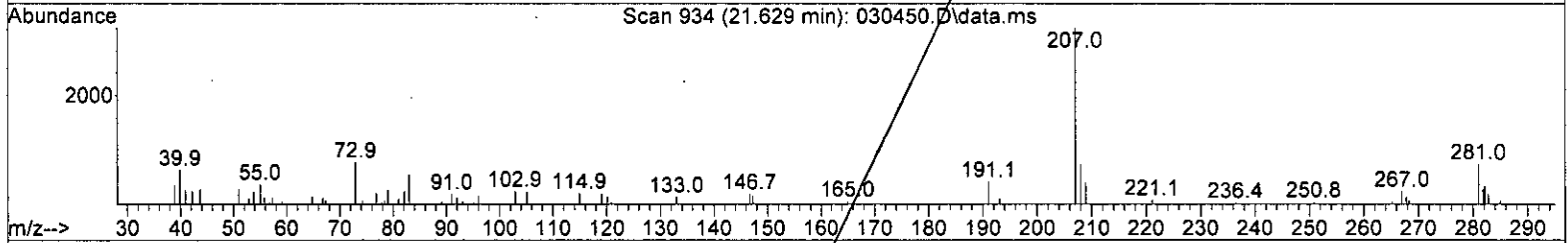
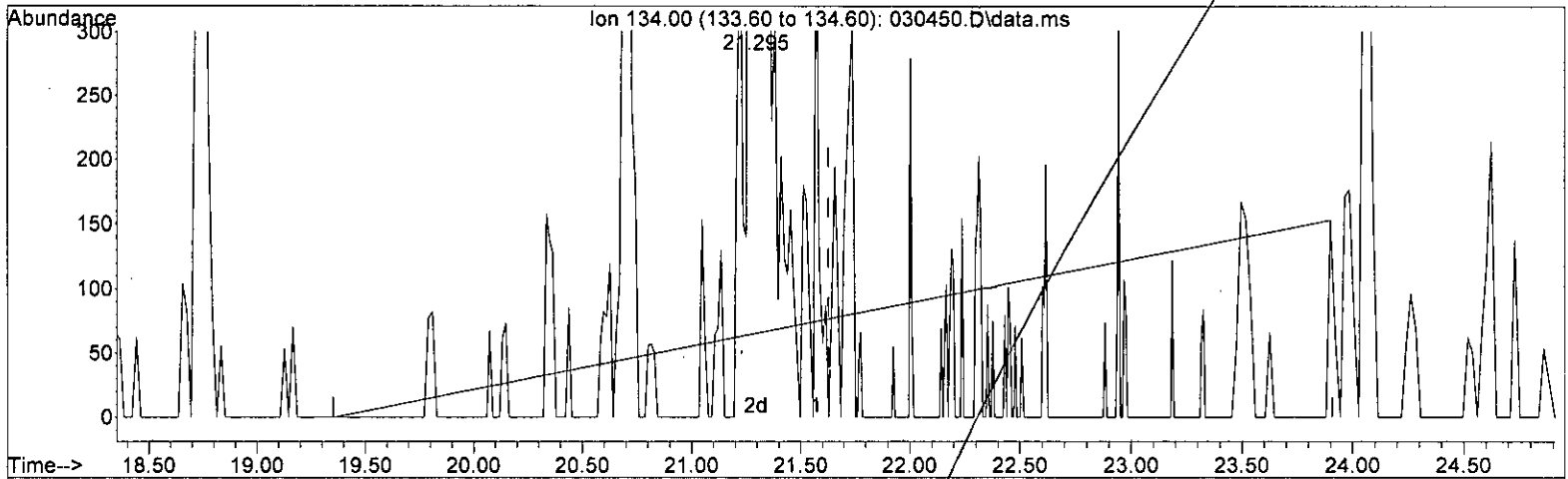
response	829959
Ion	Exp% Act%
120.10	100.00 100.00
0.00	0.00 0.00
0.00	0.00 0.00
0.00	0.00 0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:10:59 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



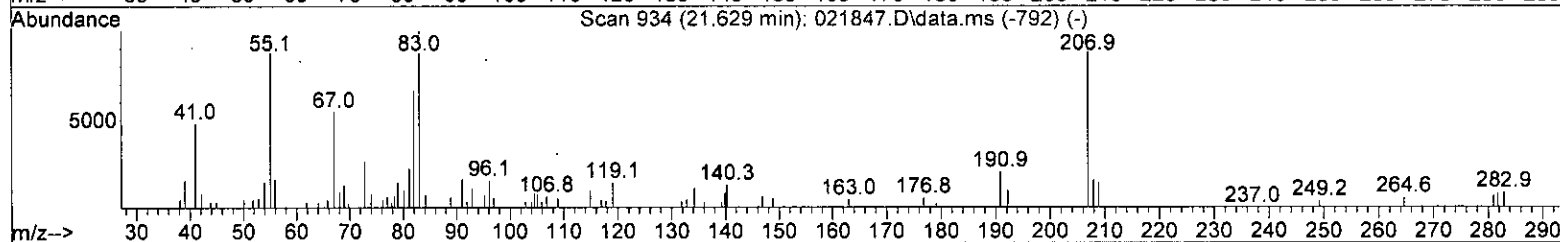
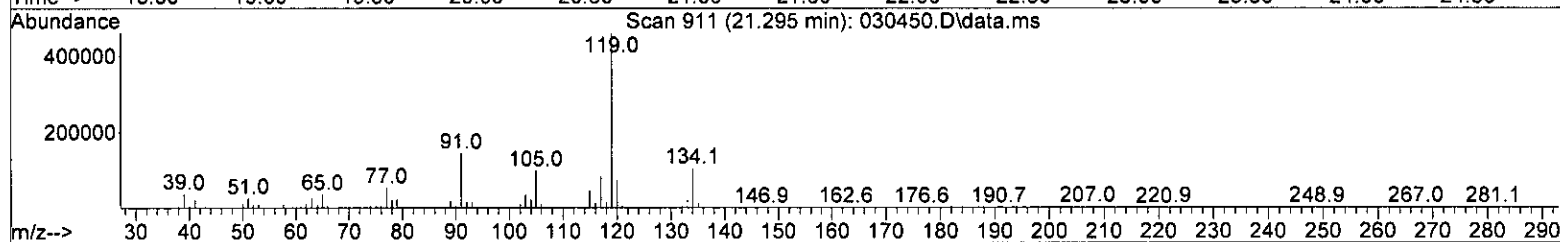
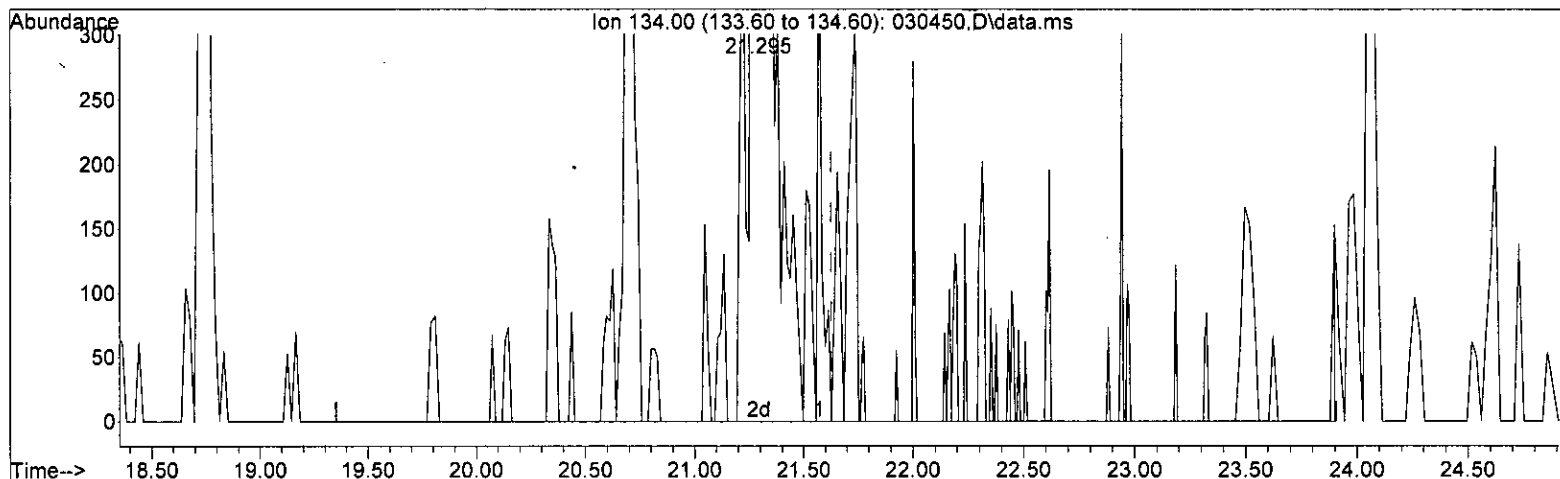
*Handwritten signature/initials*

(45) APH EC9-10 aromatics (2) (H)  
 21.630min ( 0.000) 41.911 ug/m3 m

response	133102	
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:10:59 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030450.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.630min ( 0.000) 50.184 ug/m3 m

response 159376

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:12:50 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.98	128	114172	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.21	114	493708	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	466001	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.65	95	343114	71.794	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	101.11%

Target Compounds						Qvalue
2) IS-1 Bromochloromethane	9.98	TIC	797866	50.496	ug/m3	87
3) IS-2 1,4-Difluorobenzene	13.21	TIC	1473052m	50.735	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1475393	51.393	ug/m3	98
5) Methylene chloride	6.85	TIC	21363	58.268	ug/m3	88
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.27	54	68247	19.989	ug/m3	92
9) Methyl t-butyl ether	8.53	73	320864	33.220	ug/m3	78
11) Benzene	12.69	78	391660	31.455	ug/m3	85
12) Isopentane	5.69	TIC	490164	26.315	ug/m3	93
13) Hexane	10.10	TIC	656455	30.622	ug/m3	93
14) Cyclohexane	13.15	TIC	729801m	28.208	ug/m3	
15) 2,3-Dimethylpentane	13.49	TIC	657274	33.745	ug/m3	96
16) Heptane	14.61	TIC	821522	36.996	ug/m3	92
17) Octane	17.42	TIC	1552671	44.095	ug/m3	90
18) APH EC5-8 aliphatics T...	11.96	TIC	4907887m	201.100	ug/m3	
19) APH EC5-8 aliphatics	12.00	TIC	17367641m	58.562	ug/m3	
21) S 4-Bromofluorobenzene	19.65	TIC	2034596	50.212	ug/m3	95
22) Hexamethylcyclotrisilo...	17.80	TIC	3279346	54.274	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	414156	51.373	ppbv	100
24) Toluene	16.41	92	272406	37.434	ug/m3	97
25) Ethylbenzene	18.60	91	627563	41.153	ug/m3	96
26) m,p-Xylene	18.77	106	479376	86.624	ug/m3	91
27) o-Xylene	19.22	106	231733	43.810	ug/m3	90
28) Naphthalene	23.96	128	766125	61.317	ug/m3	99
29) 2,3-Dimethylheptane	18.66	TIC	1247464m	44.323	ug/m3	
30) Nonane	19.38	TIC	1316279	44.693	ug/m3	94
31) Decane	20.92	TIC	1623543	55.726	ug/m3	94
32) Butylcyclohexane	21.57	TIC	2179160	55.685	ug/m3	97
33) Undecane	22.31	TIC	1818346	64.973	ug/m3	95
34) Dodecane	23.82	TIC	1768304	69.963	ug/m3	96
35) APH EC9-12 aliphatics ...	21.12	TIC	9953096m	335.641	ug/m3	
36) APH EC9-12 aliphatics	21.18	TIC	25461924m	147.309	ug/m3	
38) Isopropylbenzene	19.77	120	171165	48.359	ug/m3#	76
39) 1-Methyl-3-ethylbenzene	21.31	120	355541	53.225	ug/m3#	47
40) 1,3,5-Trimethylbenzene	20.45	120	290396	50.180	ug/m3	94
41) p-Isopropyltoluene	21.29	134	186043	58.901	ug/m3	94
42) 1,2,3-Trimethylbenzene	21.31	120	355541	53.225	ug/m3	98
43) APH EC9-10 aromatics T...	21.57	TIC	1358686m	266.048	ug/m3	
44) APH EC9-10 aromatics (1)	21.63	120	829959m	147.105	ug/m3	

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

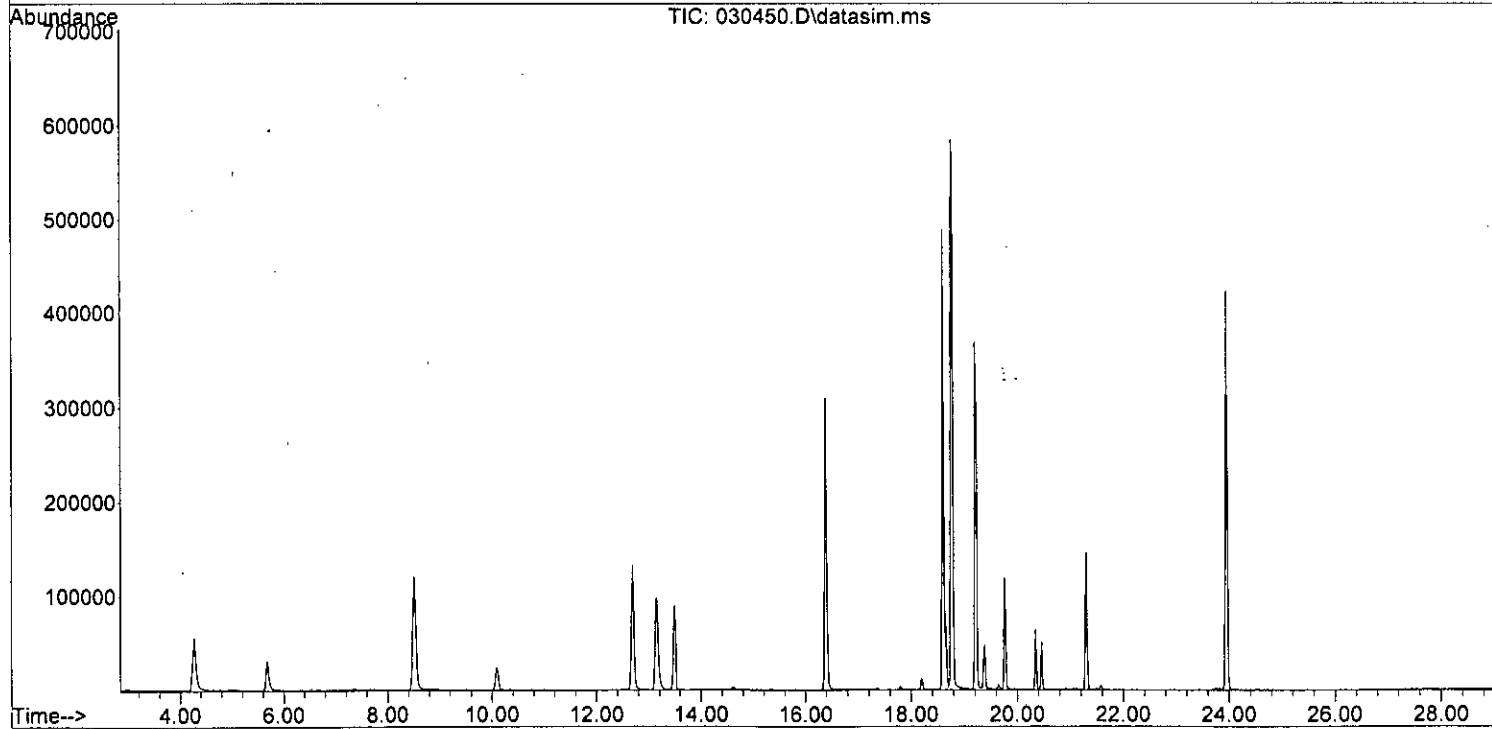
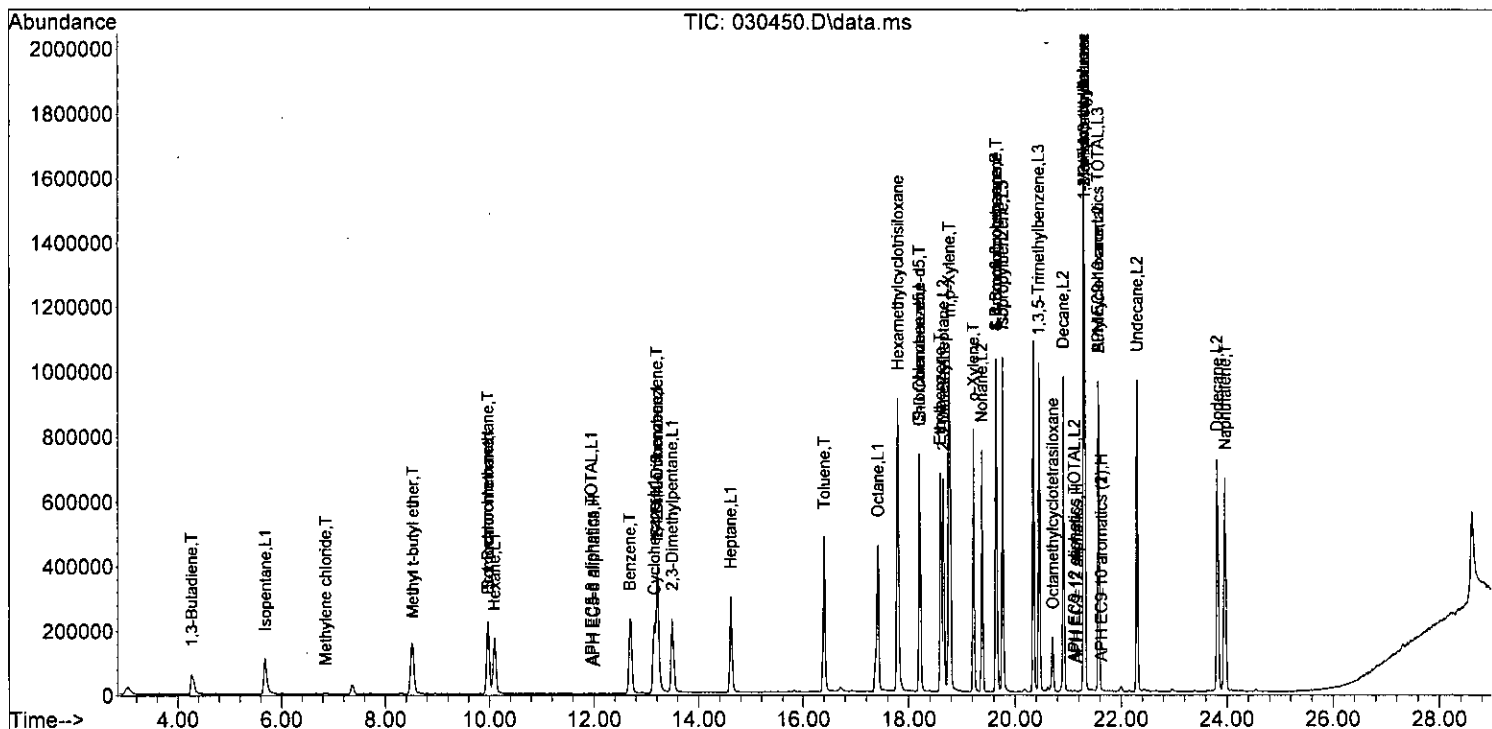
Quant Time: Mar 08 17:12:50 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.63	134	159376m	50.184	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:12:50 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:12:50 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	50.000	50.496	-1.0	100	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	50.735	-1.5	100	-0.02
4 T	IS-3 Chlorobenzene-d5	50.000	51.393	-2.8	98	0.00
5 T	Methylene chloride	50.000	58.268	-16.5	100	0.00
6	Acetone	10.000	0.000	100.0#	0	-5.61#
7	2-Propanol	50.000	0.000	100.0#	0	-5.87#
8 T	1,3-Butadiene	22.000	19.989	9.1	100	0.00
9 T	Methyl t-butyl ether	36.000	33.220	7.7	100	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.00
11 T	Benzene	32.000	31.455	1.7	100	0.00
12 L1	Isopentane	30.000	26.315	12.3	100	0.00
13 L1	Hexane	35.000	30.622	12.5	100	0.00
14 L1	Cyclohexane	35.000	28.208	19.4	100	0.00
15 L1	2,3-Dimethylpentane	42.000	33.745	19.7	100	0.00
16 L1	Heptane	42.000	36.996	11.9	100	0.00
17 L1	Octane	47.000	44.095	6.2	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	230.000	201.100	12.6	100	0.02
19 H	APH EC5-8 aliphatics	230.000	58.562	74.5#	100	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	50.212	-0.4	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	54.274	-8.5	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	51.373	-2.7	101	0.00
24 T	Toluene	37.500	37.434	0.2	100	0.00
25 T	Ethylbenzene	43.500	41.153	5.4	100	0.00
26 T	m,p-Xylene	88.000	86.624	1.6	100	0.00
27 T	o-Xylene	44.000	43.810	0.4	100	0.00
28 T	Naphthalene	50.000	61.317	-22.6	100	0.00
29 L2	2,3-Dimethylheptane	50.000	44.323	11.4	100	0.00
30 L2	Nonane	50.000	44.693	10.6	100	0.00
31 L2	Decane	60.000	55.726	7.1	100	0.00
32 L2	Butylcyclohexane	55.000	55.685	-1.2	99	0.00
33 L2	Undecane	65.000	64.973	0.0	100	0.00
34 L2	Dodecane	70.000	69.963	0.1	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	350.000	335.641	4.1	100	0.01
36 H	APH EC9-12 aliphatics	350.000	147.309	57.9#	99	0.00
37 S	4-Bromofluorobenzene	71.000	71.794	-1.1	100	0.00
38 L3	Isopropylbenzene	49.000	48.359	1.3	100	0.00
39 L3	1-Methyl-3-ethylbenzene	49.000	53.225	-8.6	100	0.00
40 L3	1,3,5-Trimethylbenzene	49.000	50.180	-2.4	100	0.00
41 L3	p-Isopropyltoluene	55.000	58.901	-7.1	100	0.00
42 L3	1,2,3-Trimethylbenzene	49.000	53.225	-8.6	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	250.800	266.048	-6.1	100	0.00
44 H	APH EC9-10 aromatics (1)	196.000	147.105	24.9	71	0.00



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:12:50 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	54.800	50.184	8.4	86	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : .bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:12:50 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	6.920	6.988	-1.0	100	0.00
3 T	IS-2 1,4-Difluorobenzene	12.715	12.902	-1.5	100	-0.02
4 T	IS-3 Chlorobenzene-d5	12.572	12.923	-2.8	98	0.00
5 T	Methylene chloride	0.161	0.187	-16.1	100	0.00
6	Acetone	1.776	0.000	100.0#	0#	-5.61#
7	2-Propanol	0.828	0.000	100.0#	0#	-5.87#
8 T	1,3-Butadiene	1.495	1.359	9.1	100	0.00
9 T	Methyl t-butyl ether	4.230	3.903	7.7	100	0.00
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
11 T	Benzene	1.261	1.240	1.7	100	0.00
12 L1	Isopentane	1.886	1.655	12.2	100	0.00
13 L1	Hexane	2.171	1.899	12.5	100	0.00
14 L1	Cyclohexane	2.620	2.112	19.4	100	0.00
15 L1	2,3-Dimethylpentane	1.973	1.585	19.7	100	0.00
16 L1	Heptane	2.249	1.981	11.9	100	0.00
17 L1	Octane	3.566	3.346	6.2	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	2.472	2.161	12.6	100	0.02
19 H	APH EC5-8 aliphatics	30.035	7.647	74.5#	100	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	4.348	4.366	-0.4	100	0.00
22	Hexamethylcyclotrisiloxane	6.483	7.037	-8.5	100	0.00
23	Octamethylcyclotetrasiloxan	0.865	0.889	-2.8	101	0.00
24 T	Toluene	0.781	0.779	0.3	100	0.00
25 T	Ethylbenzene	1.636	1.548	5.4	100	0.00
26 T	m,p-Xylene	0.594	0.584	1.7	100	0.00
27 T	o-Xylene	0.568	0.565	0.5	100	0.00
28 T	Naphthalene	1.341	1.644	-22.6	100	0.00
29 L2	2,3-Dimethylheptane	3.020	2.677	11.4	100	0.00
30 L2	Nonane	3.160	2.825	10.6	100	0.00
31 L2	Decane	3.126	2.903	7.1	100	0.00
32 L2	Butylcyclohexane	4.199	4.251	-1.2	99	0.00
33 L2	Undecane	3.003	3.002	0.0	100	0.00
34 L2	Dodecane	2.712	2.710	0.1	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	3.182	3.051	4.1	100	0.01
36 H	APH EC9-12 aliphatics	18.546	7.806	57.9#	99	0.00
37 S	4-Bromofluorobenzene	0.513	0.519	-1.2	100	0.00
38 L3	Isopropylbenzene	0.380	0.375	1.3	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.717	0.779	-8.6	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.621	0.636	-2.4	100	0.00
41 L3	p-Isopropyltoluene	0.339	0.363	-7.1	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.717	0.779	-8.6	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.548	0.581	-6.0	100	0.00
44 H	APH EC9-10 aromatics (1)	0.605	0.454	25.0	71	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030450.D  
 Acq On : 6 Mar 2022 4:41 am  
 Operator : bat  
 Sample : 10.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 50 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:12:50 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.341	0.312	8.5	86	0.00

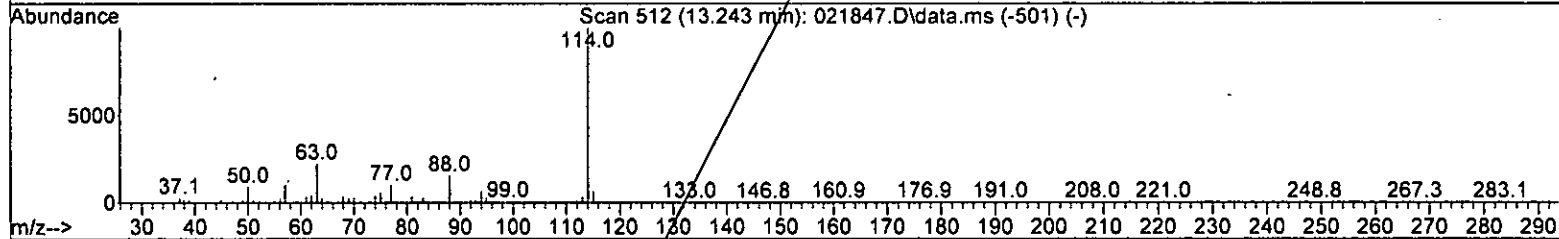
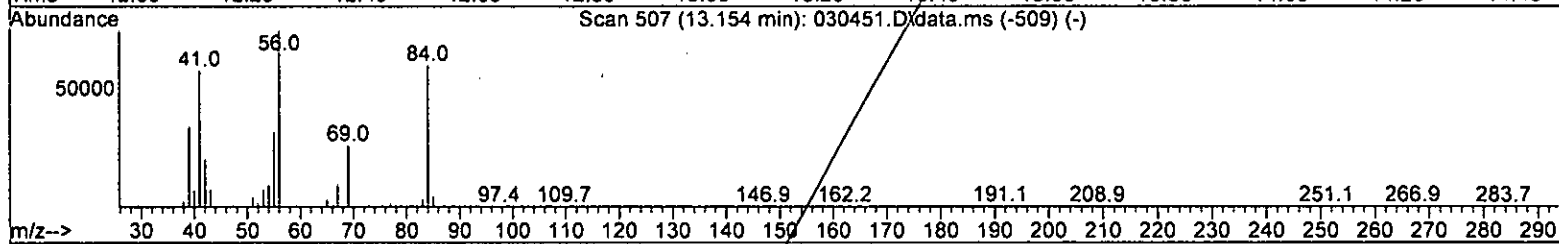
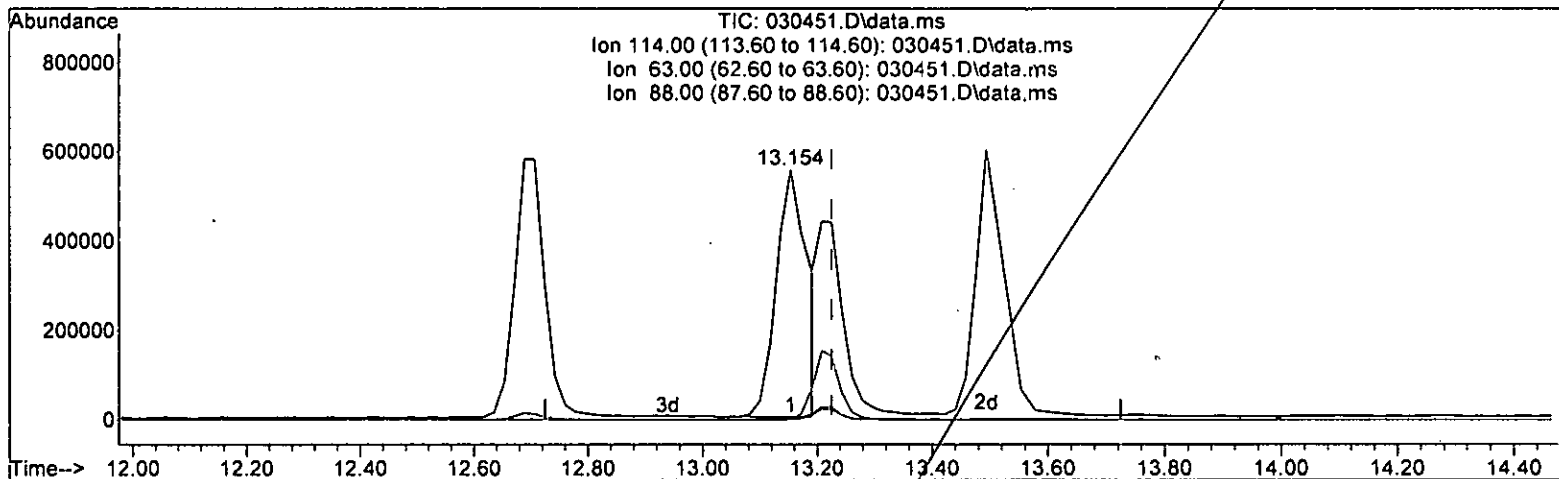
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030451.D  
 Acq On : 6 Mar 2022 5:31 am  
 Operator : bat  
 Sample : 25.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 51 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:19:36 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth: TO15NA.M



(3) IS-2 1,4-Difluorobenzene (T)

13.154min (-0.071) 68.771 ug/m3

response 2054025

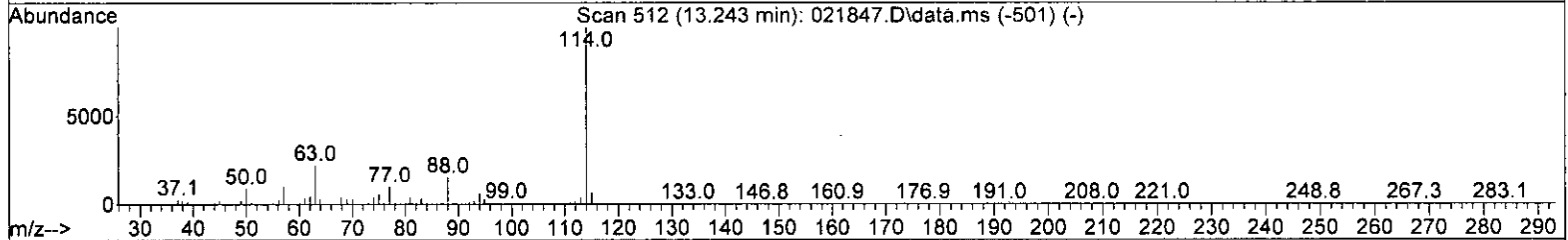
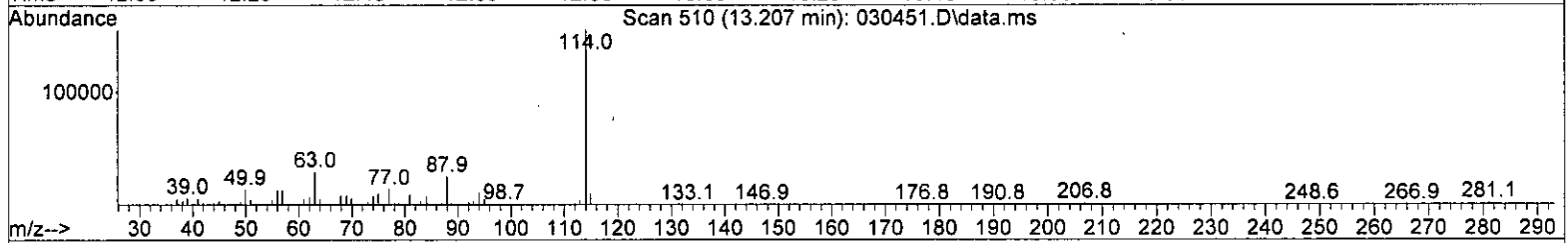
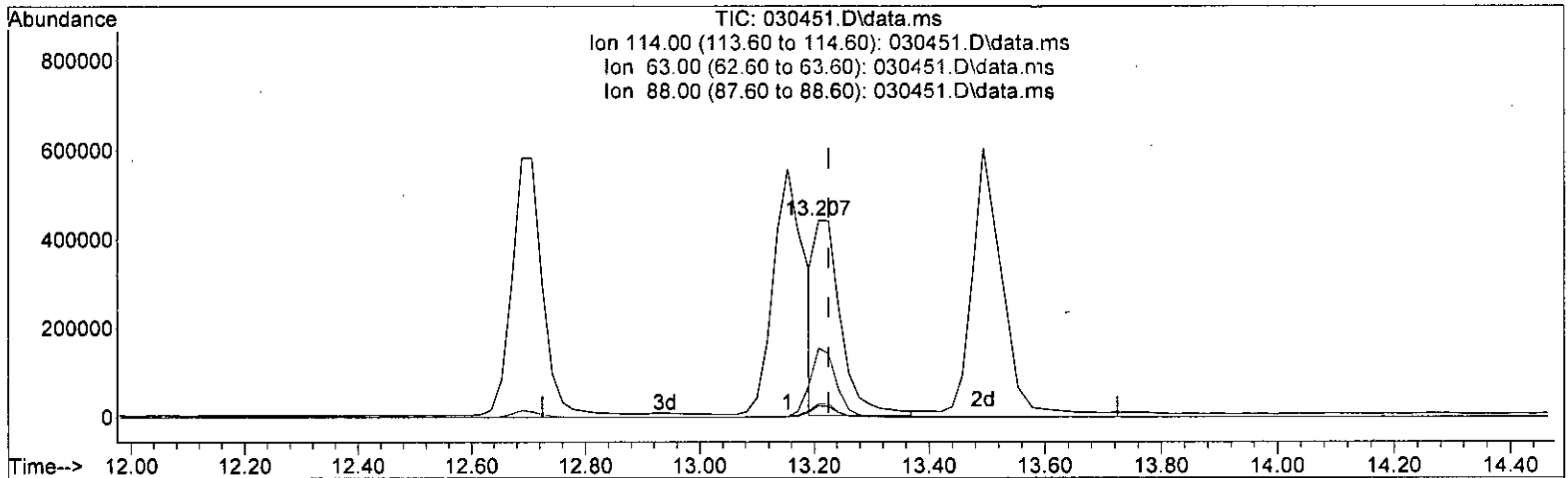
Signal	Exp%	Act%
TIC	100.00	100.00
114.00	65.20	0.24#
63.00	14.80	0.37
88.00	10.30	0.06

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030451.D  
 Acq On : 6 Mar 2022 5:31 am  
 Operator : bat  
 Sample : 25.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 51 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:19:36 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(3) IS-2 1,4-Difluorobenzene (T)

13.207min (-0.018) 47.714 ug/m3 m

response 1425122

Signal	Exp%	Act%
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TIC	100.00	100.00
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114.00	65.20	0.34#
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63.00	14.80	0.53
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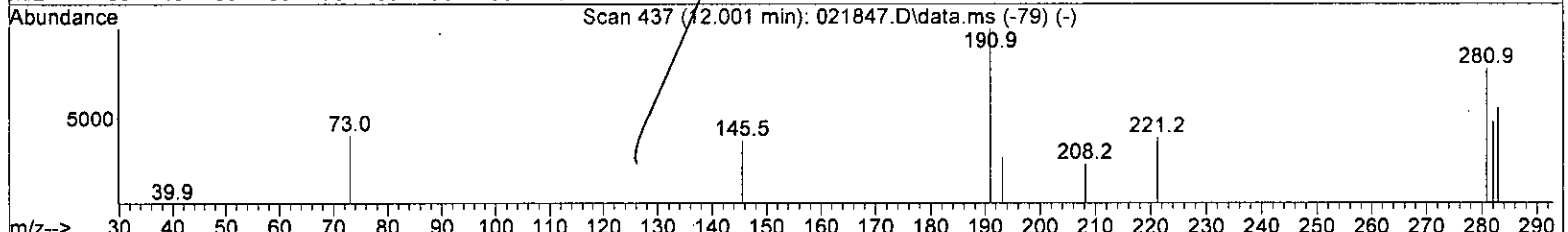
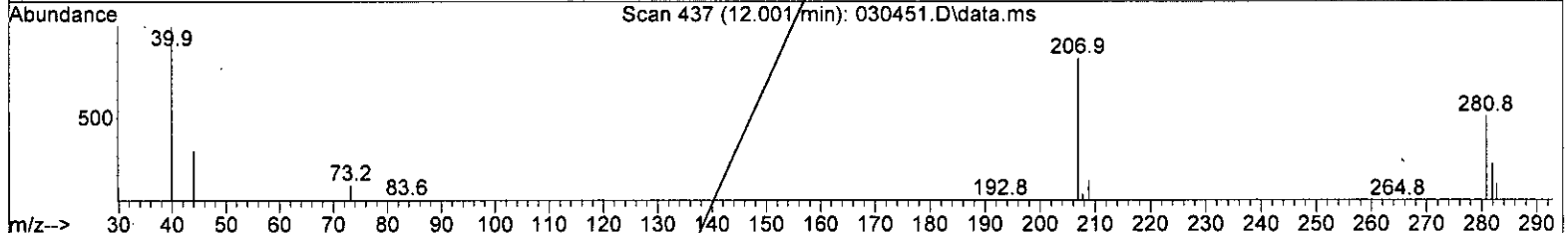
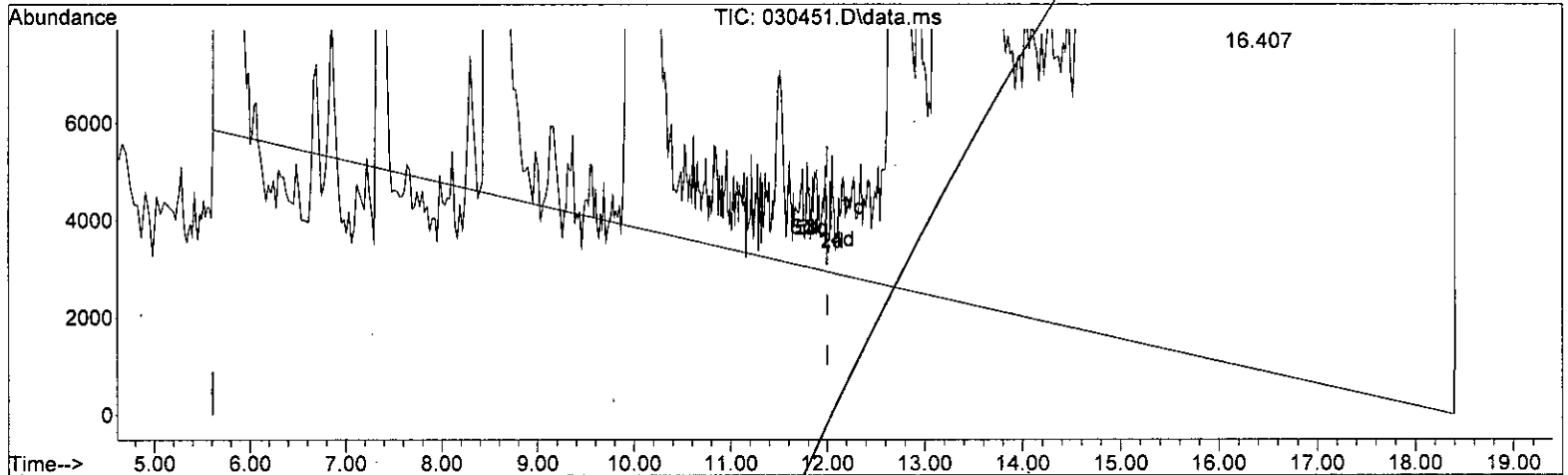
88.00	10.30	0.08
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*Handwritten signature:* k/3/16/2022

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030451.D  
 Acq On : 6 Mar 2022 5:31 am  
 Operator : bat  
 Sample : 25.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 51 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:19:36 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030451.D\data.ms

(19) APH EC5-8 aliphatics (H)

12.004min ( 0.000) 74.114 ug/m3 m

response 22382431

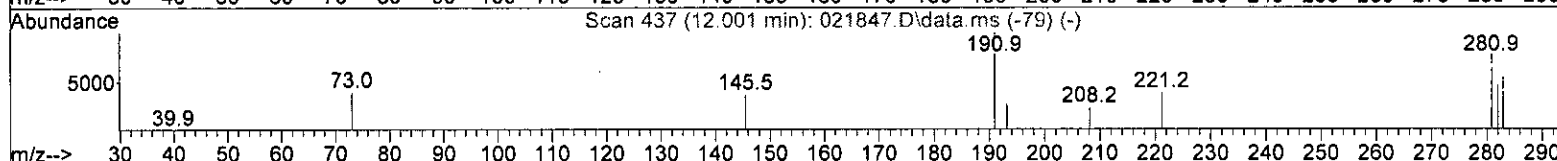
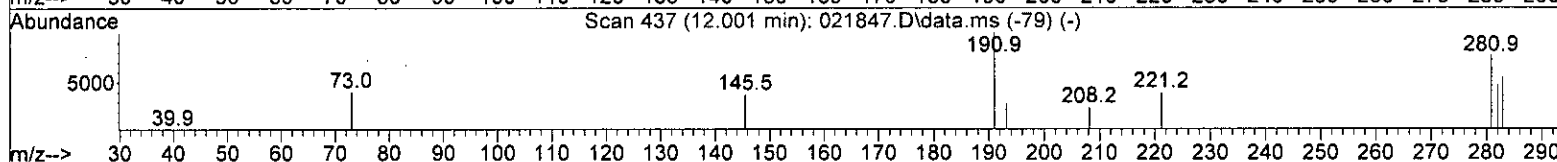
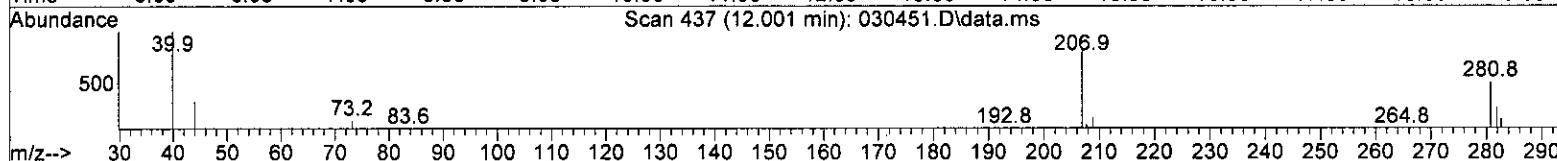
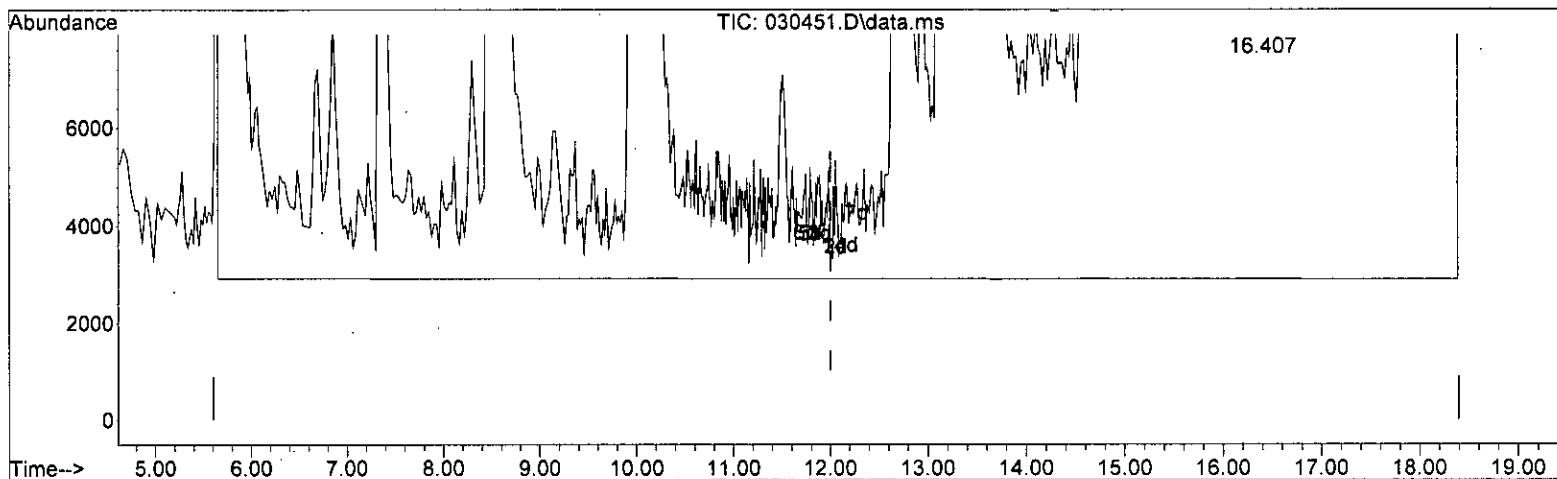
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: 3/4/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030451.D  
 Acq On : 6 Mar 2022 5:31 am  
 Operator : bat  
 Sample : 25.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 51 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:19:36 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030451.D\data.ms

(19) APH ECS-8 aliphatics (H)

12.004min ( 0.000) 97.655 ug/m3 m

response 29491981

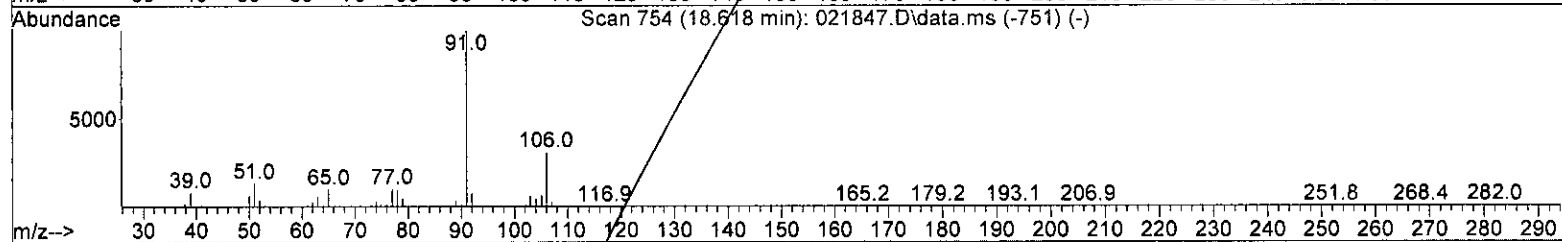
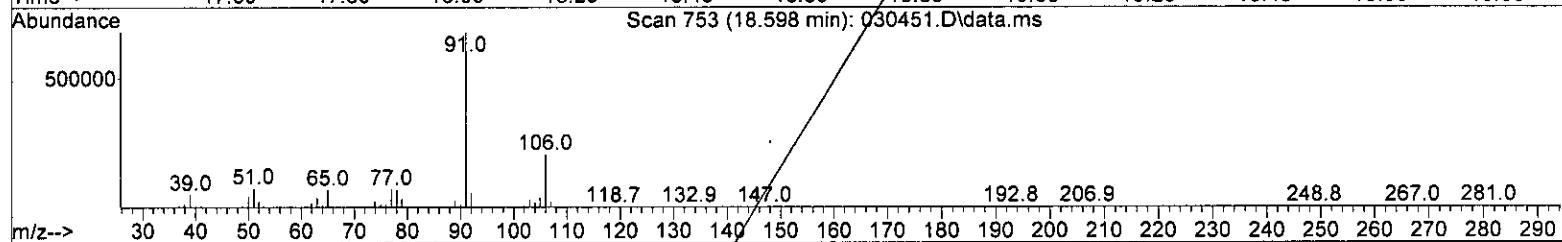
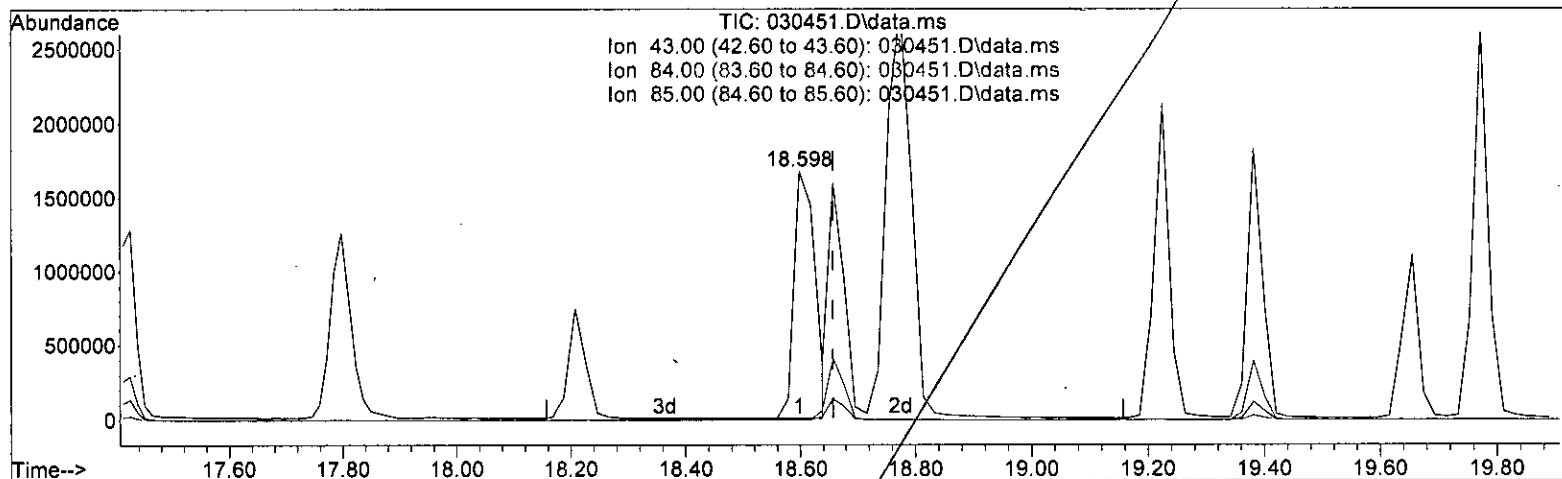
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*W*  
*3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030451.D  
 Acq On : 6 Mar 2022 5:31 am  
 Operator : bat  
 Sample : 25.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 51 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:19:36 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(29) 2,3-Dimethylheptane (L2)

18.598min (-0.059) 149.900 ug/m3

response 4234998

Signal	Exp%	Act%
TIC	100.00	100.00
43.00	31.80	20.69#
84.00	7.20	7.40
85.00	6.20	7.40

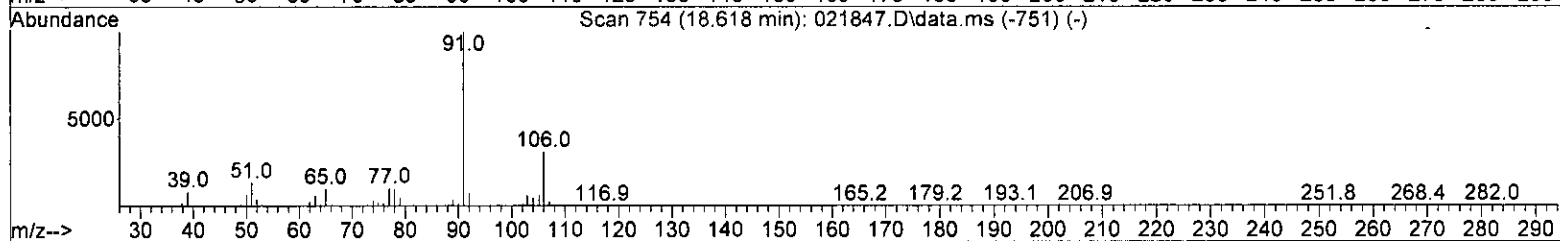
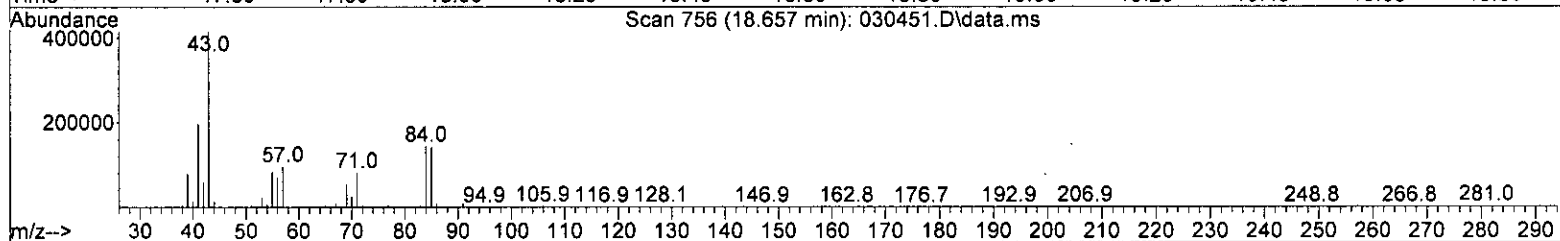
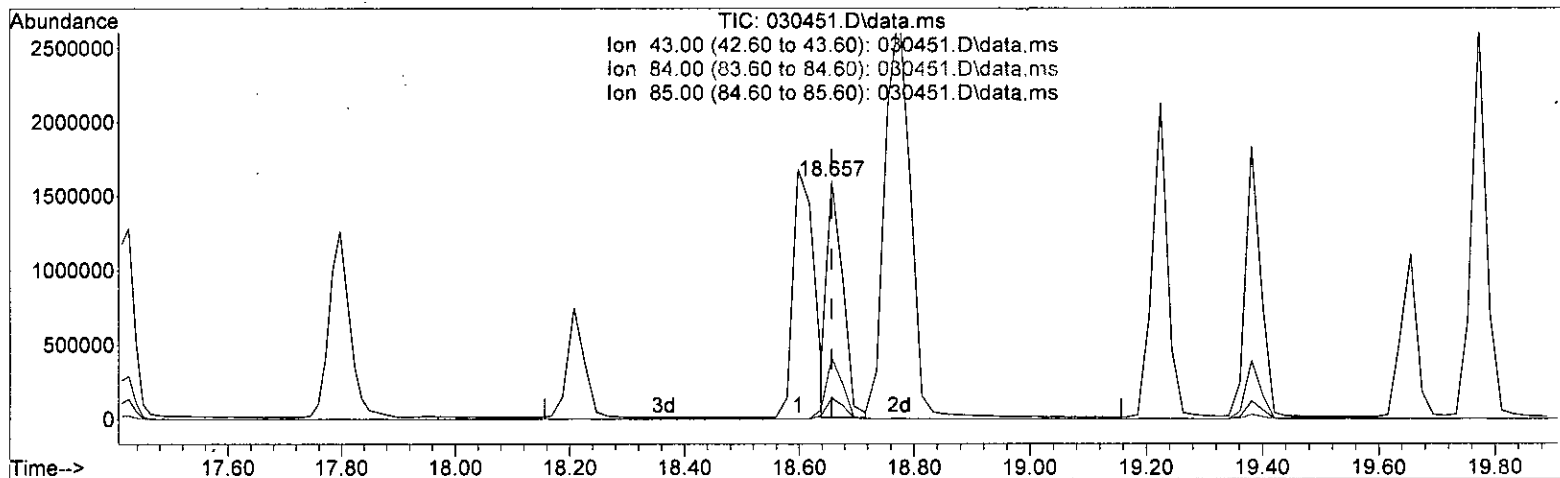
*Handwritten signature:* b/l  
3/8/22



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030451.D  
 Acq On : 6 Mar 2022 5:31 am  
 Operator : bat  
 Sample : 25.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 51 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:19:36 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(29) 2,3-Dimethylheptane (L2)

18.657min (+ 0.000) 109.947 ug/m3 m

response 3106224

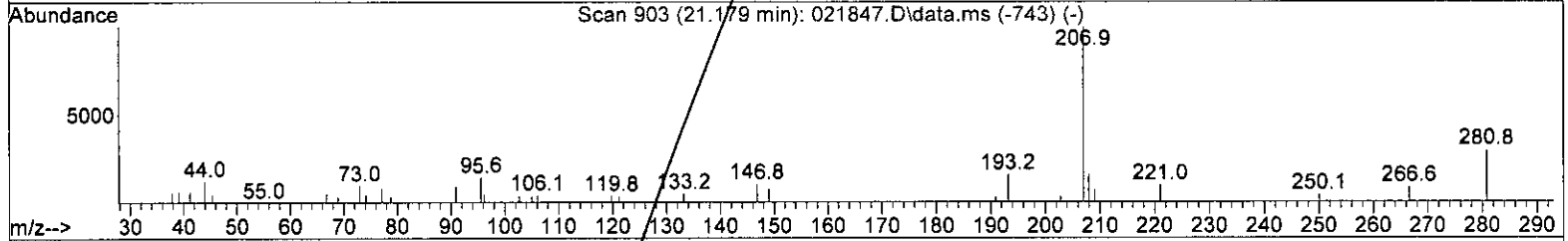
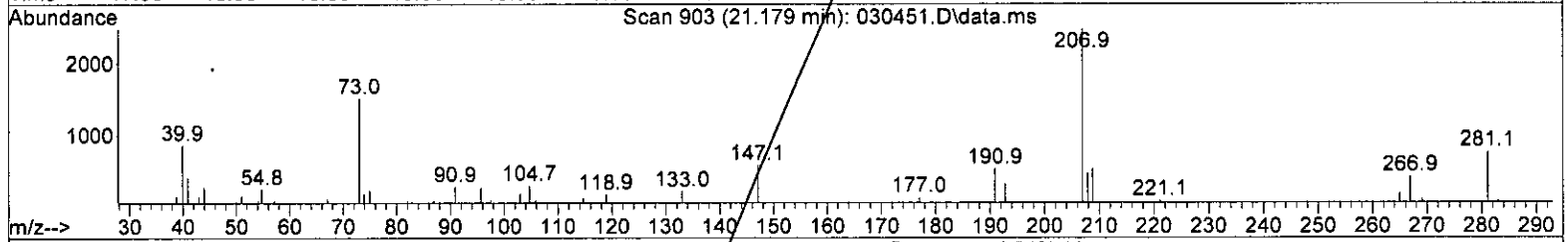
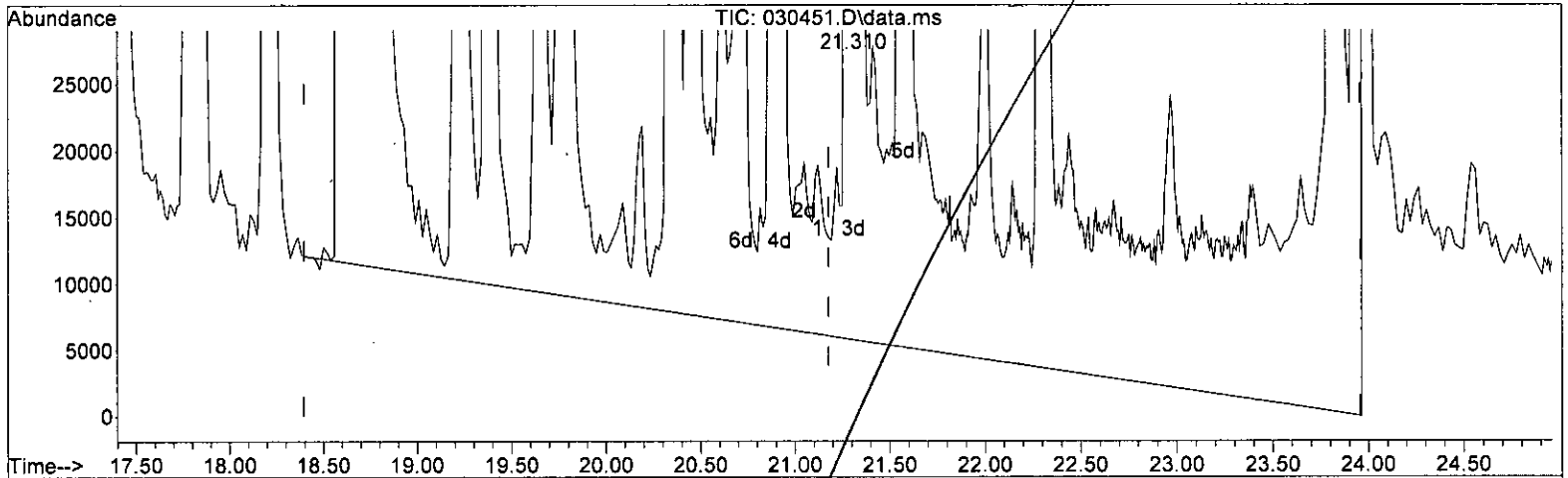
Signal	Exp%	Act%
TIC	100.00	100.00
43.00	31.80	28.22
84.00	7.20	10.10#
85.00	6.20	10.09#

*Handwritten signature:* M. 3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030451.D  
 Acq On : 6 Mar 2022 5:31 am  
 Operator : bat  
 Sample : 25.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 51 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:19:36 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth: TO15NA.M



(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 377.079 ug/m3 m

response 65425565

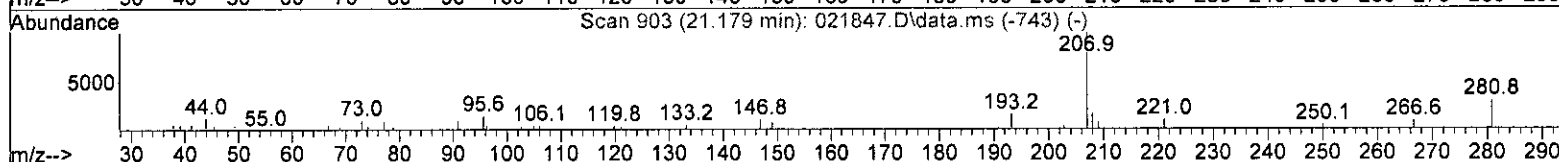
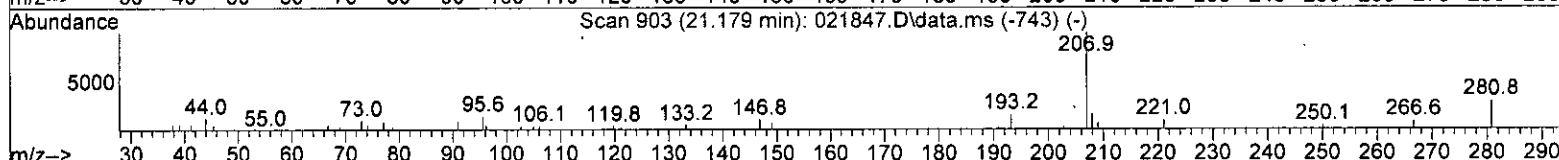
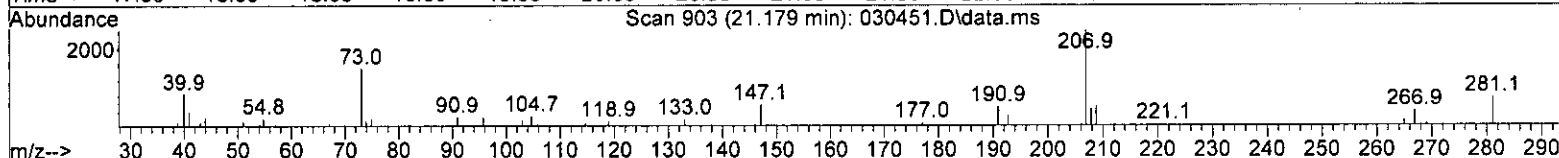
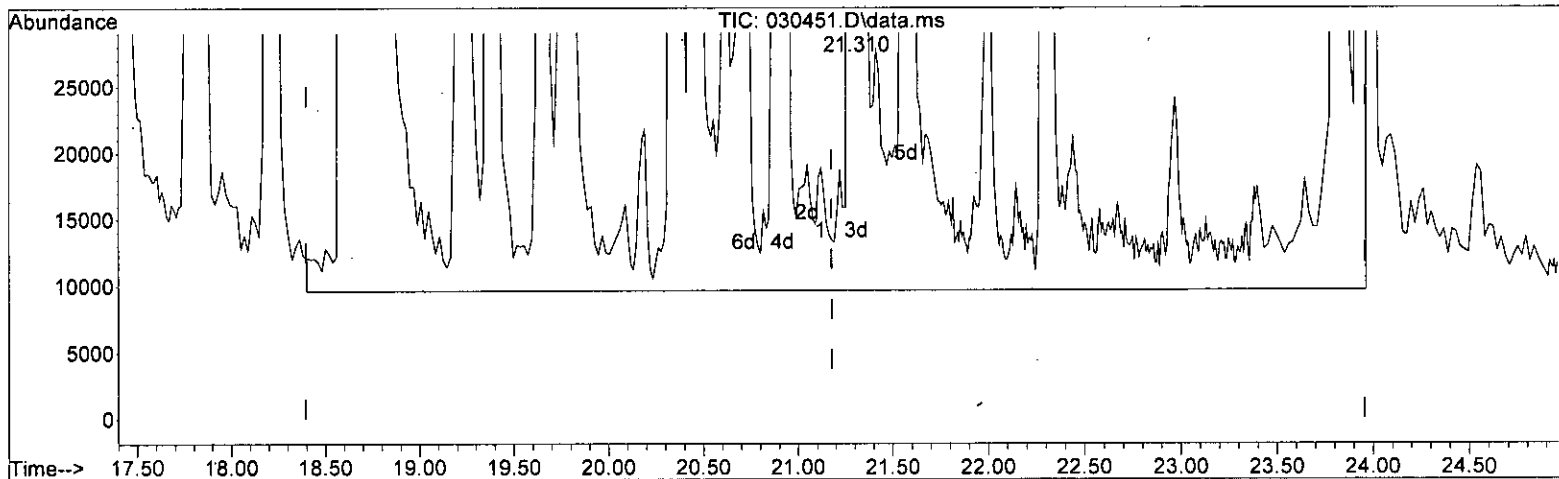
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B*  
*3/8/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030451.D  
 Acq On : 6 Mar 2022 5:31 am  
 Operator : bat  
 Sample : 25.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 51 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:19:36 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030451.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 352.436 ug/m3 m

response 61149772

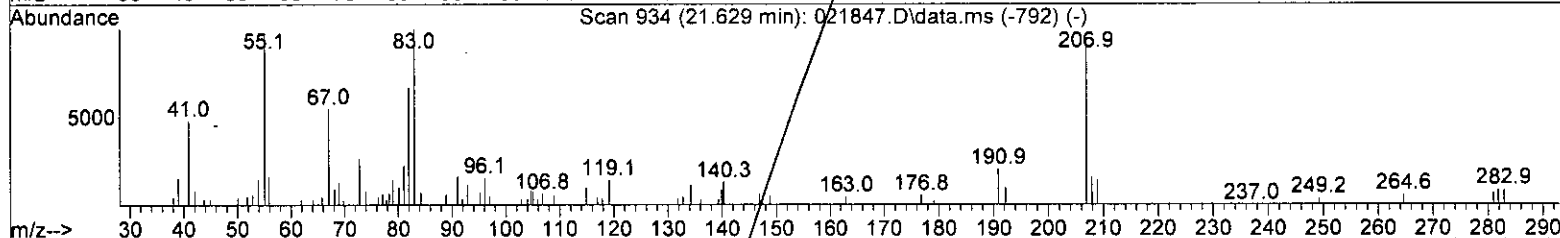
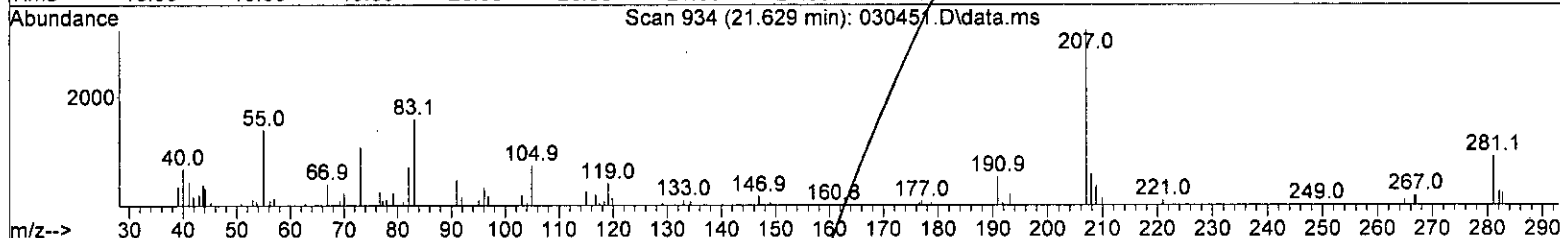
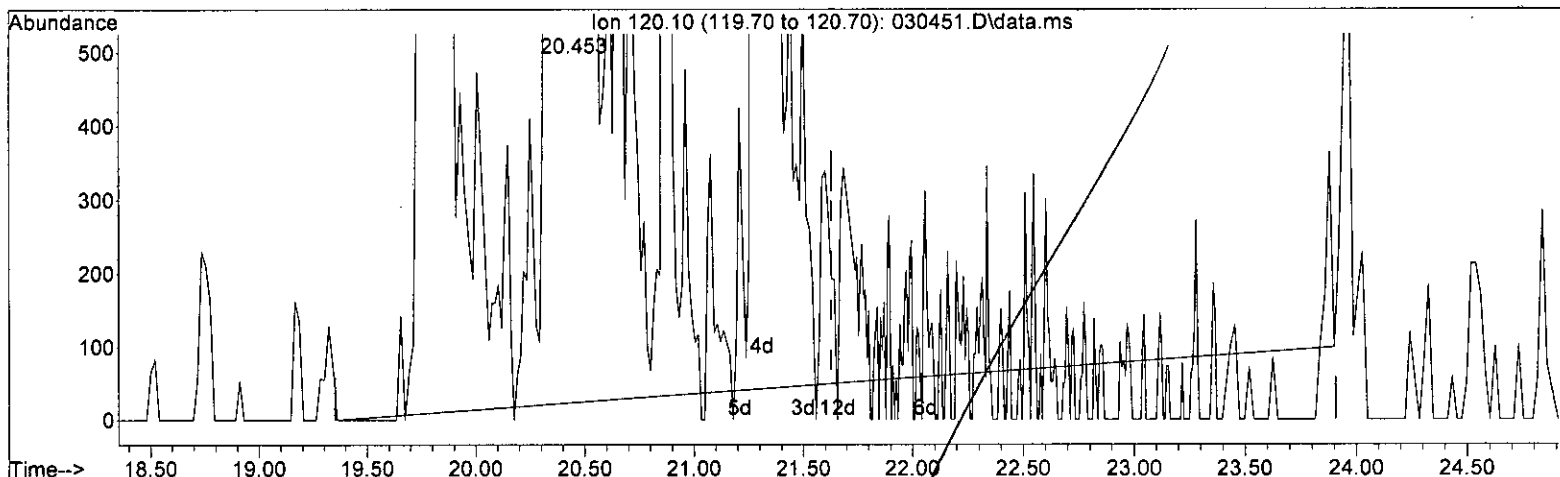
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

B  
3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030451.D  
 Acq On : 6 Mar 2022 5:31 am  
 Operator : bat  
 Sample : 25.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 51 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:19:36 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030451.D\data.ms

(44) APH EC9-10 aromatics (1) (R)  
 21.630min ( 0.000) 467.021 ug/m3 m  
 response 2644949

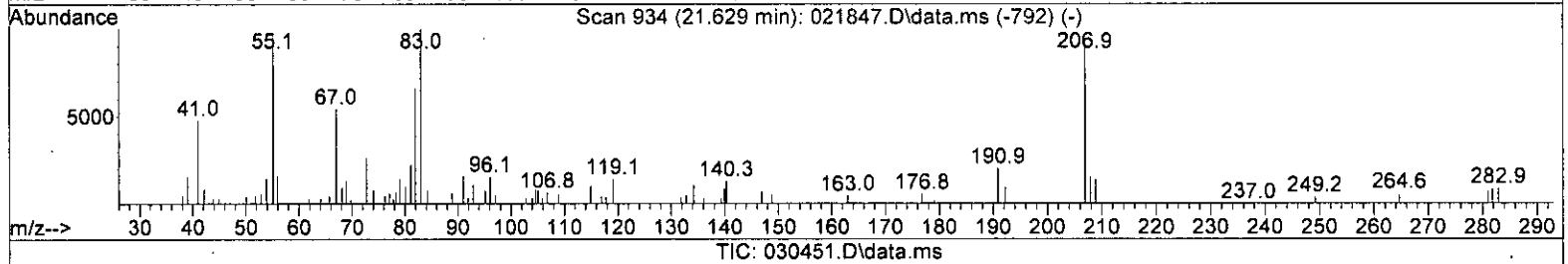
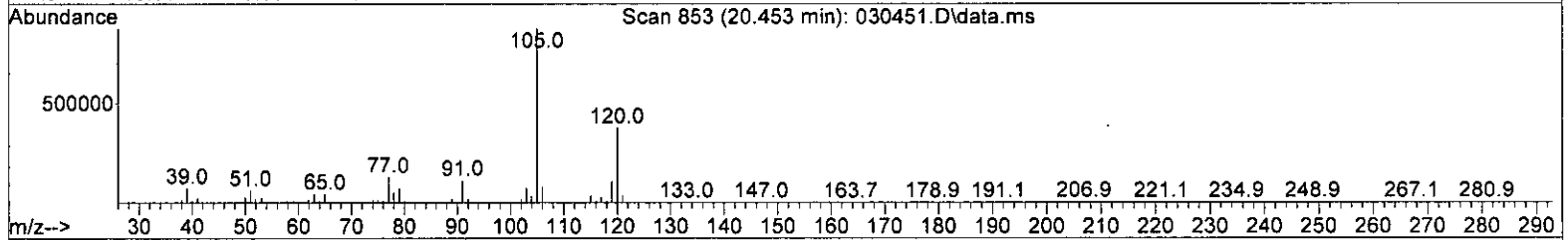
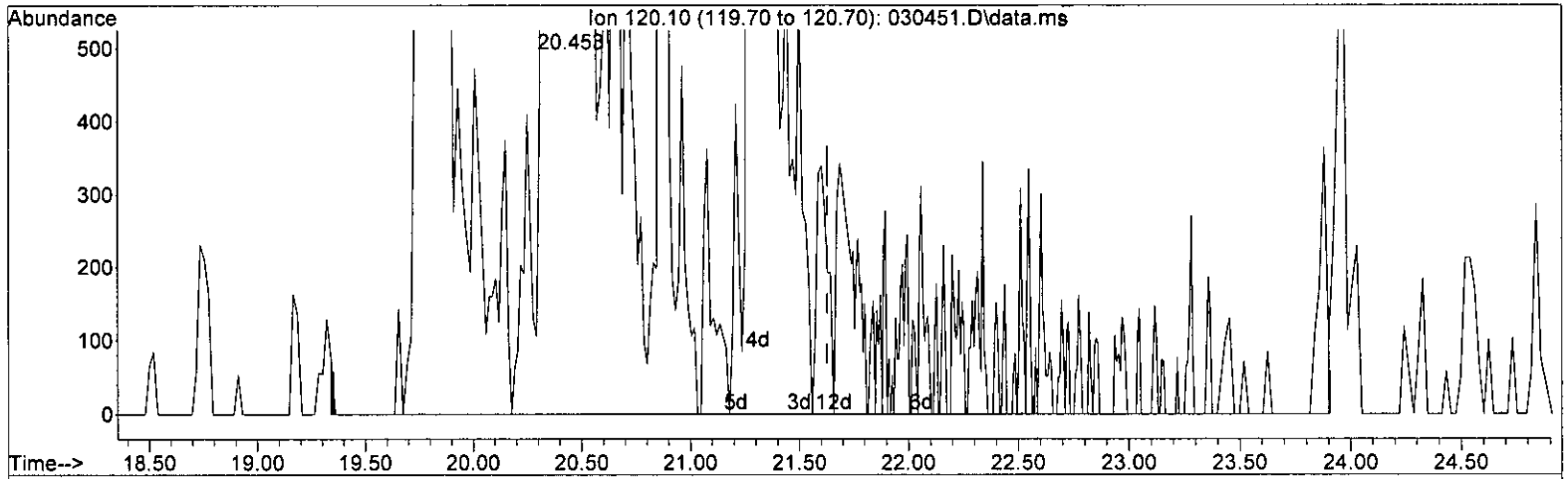
Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*  
 3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030451.D  
 Acq On : 6 Mar 2022 5:31 am  
 Operator : bat  
 Sample : 25.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 51 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:19:36 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(44) APH EC9-10 aromatics (1) (H)  
 21.630min ( 0.000) 376.382 ug/m3 m  
 response 2131623

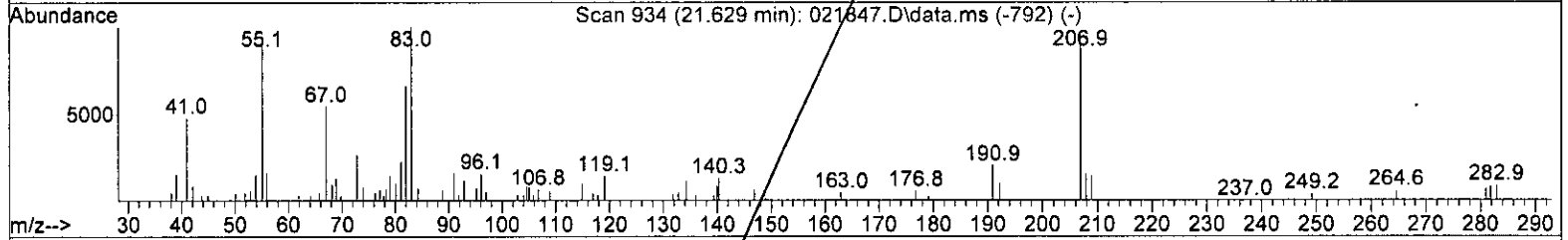
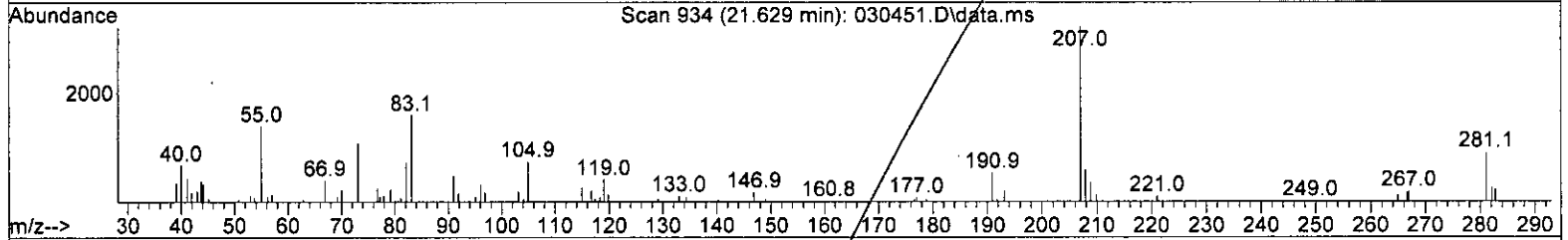
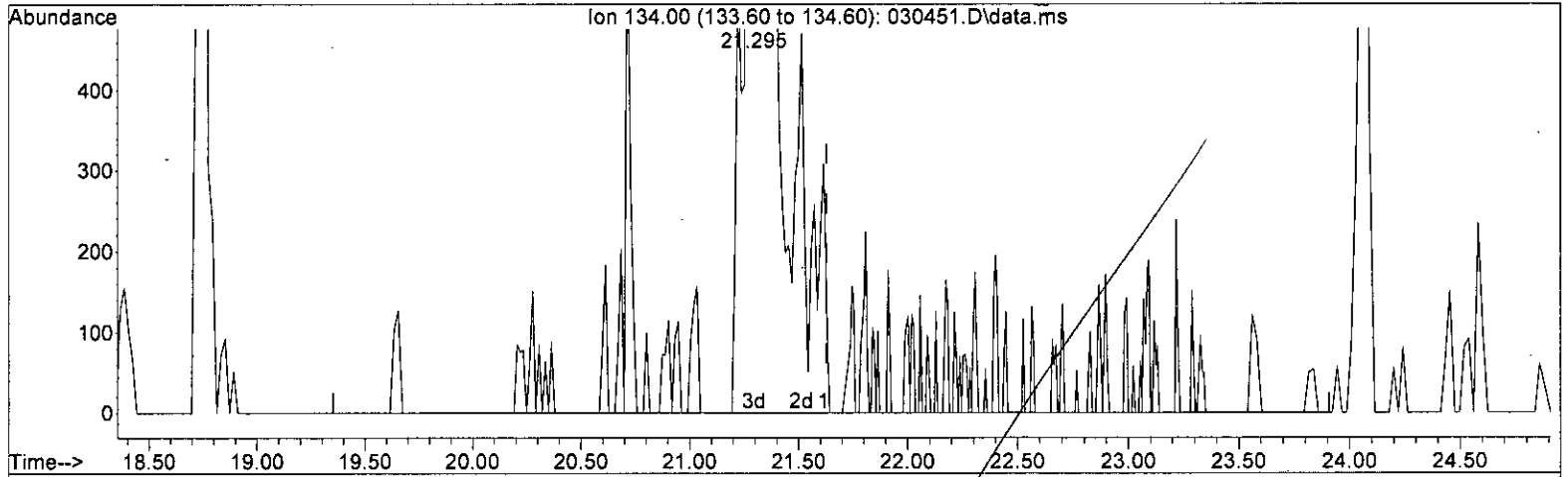
Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030451.D  
 Acq On : 6 Mar 2022 5:31 am  
 Operator : bat  
 Sample : 25.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 51 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:19:36 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(45) APH EC9-10 aromatics (2) (H)

21.630min ( 0.000) 133.692 ug/m3 m

response 426202

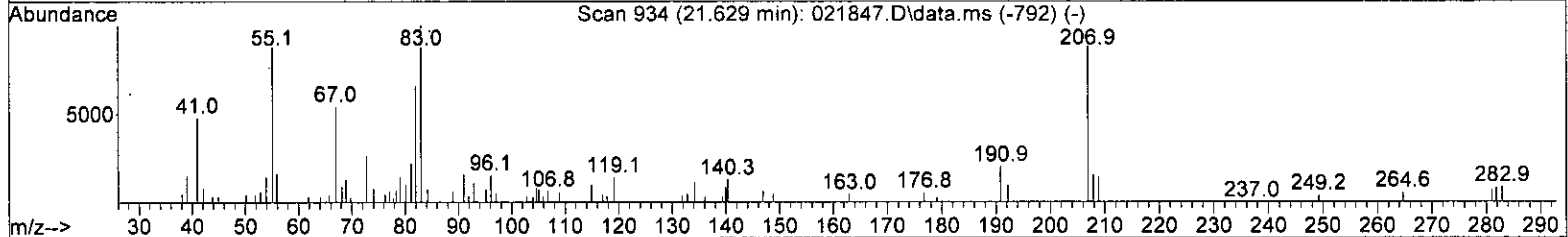
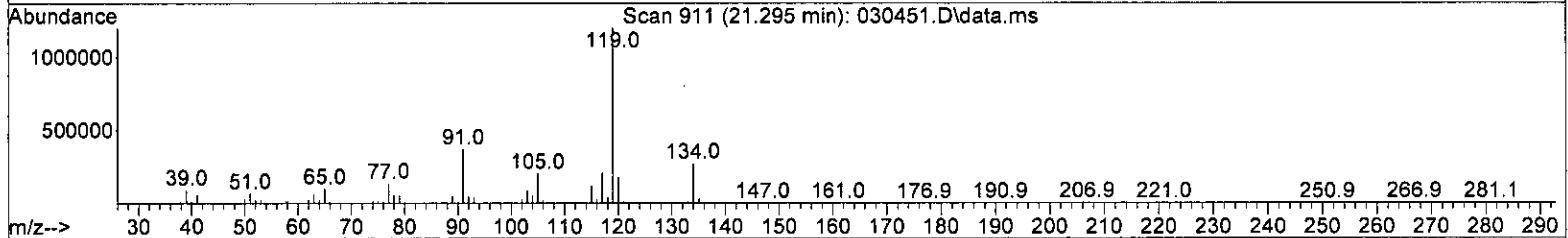
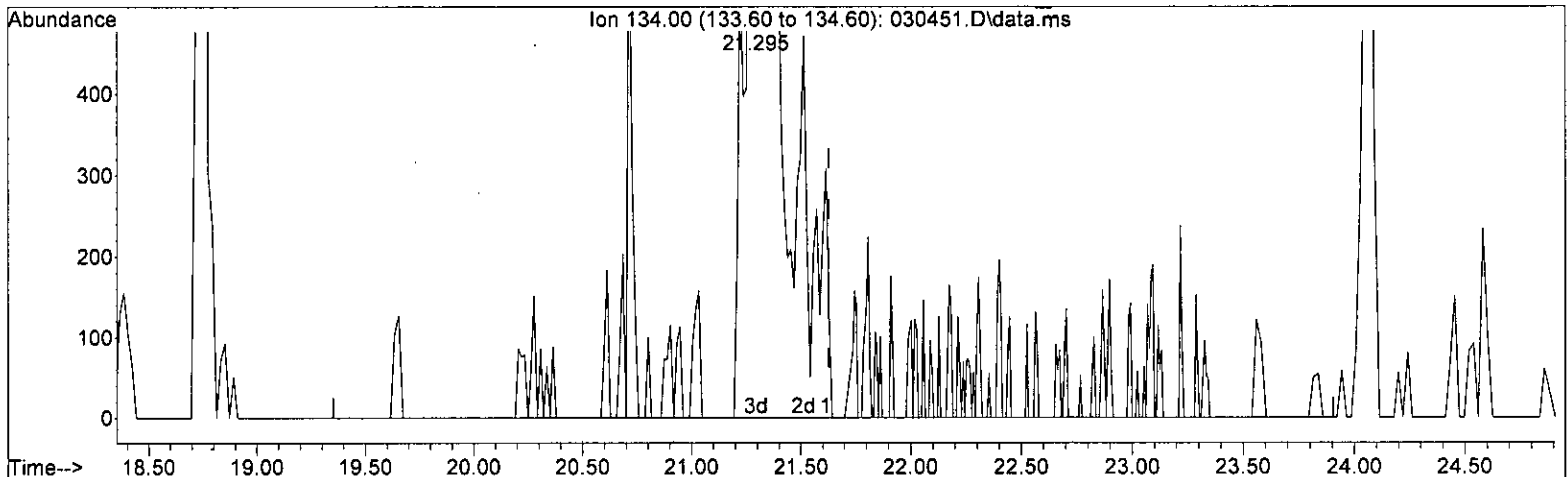
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*  
 3/8/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030451.D  
 Acq On : 6 Mar 2022 5:31 am  
 Operator : bat  
 Sample : 25.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 51 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:19:36 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030451.D\data.ms

(45) APH EC9-10 aromatics (2) (H)  
 21.630min ( 0.000) 126.039 ug/m3 m

response	Ion	Exp%	Act%
401807	134.00	100.00	100.00
	0.00	0.00	0.00
	0.00	0.00	0.00
	0.00	0.00	0.00

*V*  
*3/8/22*

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030451.D  
 Acq On : 6 Mar 2022 5:31 am  
 Operator : bat  
 Sample : 25.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 51 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:21:47 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.98	128	117449	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.21	114	502748	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.21	117	467777	50.000	ug/m3	0.00

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.65	95	350886	73.142	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	103.01%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.98	TIC	794210	48.862	ug/m3	88
3) IS-2 1,4-Difluorobenzene	13.21	TIC	1425122m	47.714	ug/m3	
4) IS-3 Chlorobenzene-d5	18.21	TIC	1520848	51.498	ug/m3	99
5) Methylene chloride	6.85	TIC	29120	77.209	ug/m3	89
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.		
8) 1,3-Butadiene	4.27	54	174495	49.683	ug/m3	91
9) Methyl t-butyl ether	8.51	73	817565	82.282	ug/m3	81
11) Benzene	12.71	78	966192	76.201	ug/m3	85
12) Isopentane	5.69	TIC	1145311	60.382	ug/m3	94
13) Hexane	10.10	TIC	1654863	75.807	ug/m3	92
14) Cyclohexane	13.15	TIC	2054025	77.963	ug/m3	58
15) 2,3-Dimethylpentane	13.49	TIC	1586347	79.980	ug/m3	98
16) Heptane	14.61	TIC	2203663	97.455	ug/m3	95
17) Octane	17.42	TIC	3472385	96.841	ug/m3	92
18) APH EC5-8 aliphatics T...	11.89	TIC	12116594m	487.549	ug/m3	
19) APH EC5-8 aliphatics	12.00	TIC	29491981m	97.655	ug/m3	
21) S 4-Bromofluorobenzene	19.65	TIC	2108794	51.846	ug/m3	95
22) Hexamethylcyclotrisilo...	17.80	TIC	3860470	63.649	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	532703	65.826	ppbv	100
24) Toluene	16.41	92	726009	99.389	ug/m3	99
25) Ethylbenzene	18.60	91	1664237	108.720	ug/m3	96
26) m,p-Xylene	18.77	106	1253638	225.674	ug/m3	90
27) o-Xylene	19.22	106	591171	111.340	ug/m3	90
28) Naphthalene	23.96	128	2225300	177.426	ug/m3	99
29) 2,3-Dimethylheptane	18.66	TIC	3106224m	109.947	ug/m3	
30) Nonane	19.38	TIC	3328691	112.593	ug/m3	94
31) Decane	20.92	TIC	4143075	141.667	ug/m3	94
32) Butylcyclohexane	21.57	TIC	4863493	123.807	ug/m3	92
33) Undecane	22.31	TIC	4765475	169.634	ug/m3	95
34) Dodecane	23.82	TIC	5203992	205.116	ug/m3	95
35) APH EC9-12 aliphatics ...	21.12	TIC	25410950m	853.663	ug/m3	
36) APH EC9-12 aliphatics	21.18	TIC	61149772m	352.436	ug/m3	
38) Isopropylbenzene	19.77	120	442101	124.431	ug/m3#	77
39) 1-Methyl-3-ethylbenzene	21.31	120	888164	132.454	ug/m3#	50
40) 1,3,5-Trimethylbenzene	20.45	120	767568	132.130	ug/m3	95
41) p-Isopropyltoluene	21.30	134	479074	151.098	ug/m3	93
42) 1,2,3-Trimethylbenzene	21.31	120	888164	132.454	ug/m3	99
43) APH EC9-10 aromatics T...	21.57	TIC	3465071m	675.929	ug/m3	
44) APH EC9-10 aromatics (1)	21.63	120	2131623m	376.382	ug/m3	



Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030451.D  
 Acq On : 6 Mar 2022 5:31 am  
 Operator : bat  
 Sample : 25.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 51 Sample Multiplier: 1  
 InstName : GCMS8

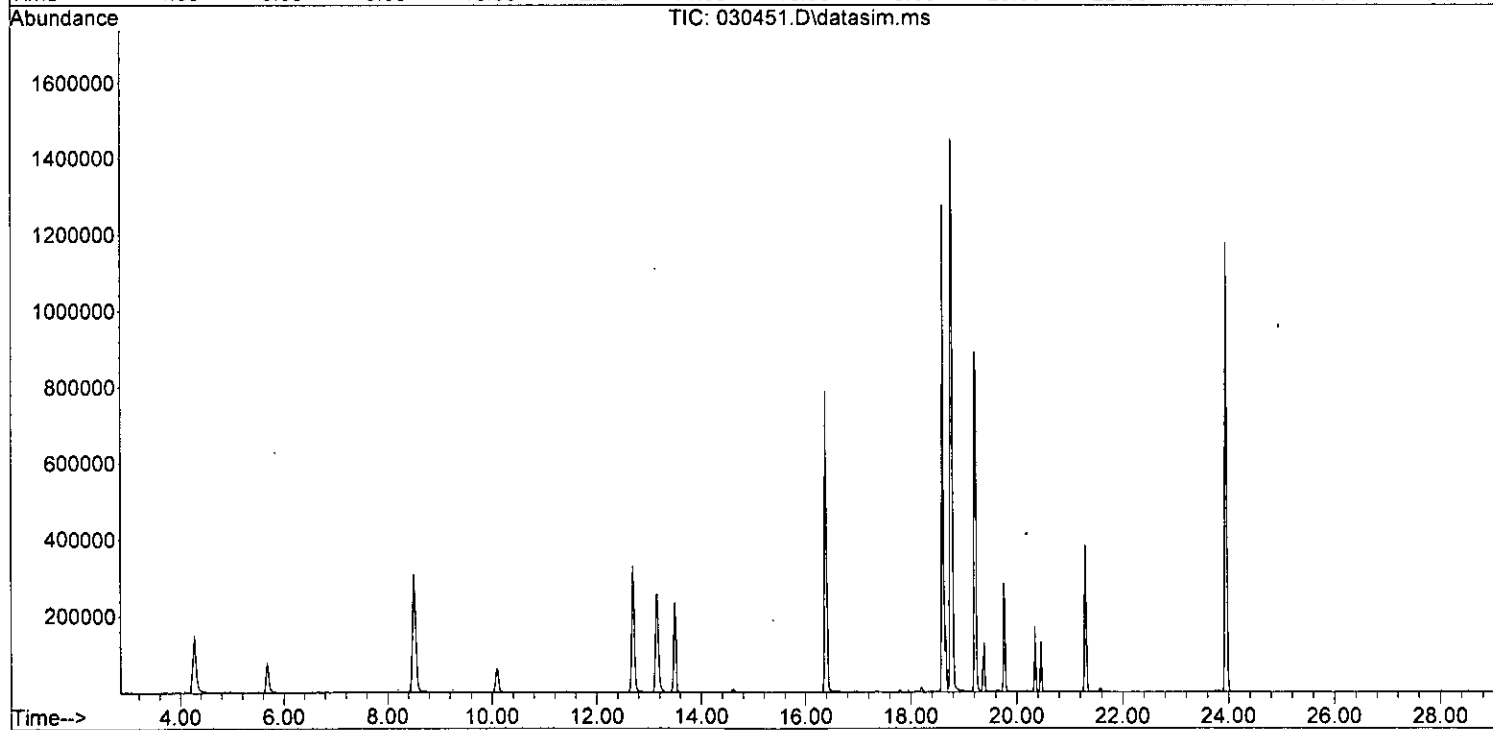
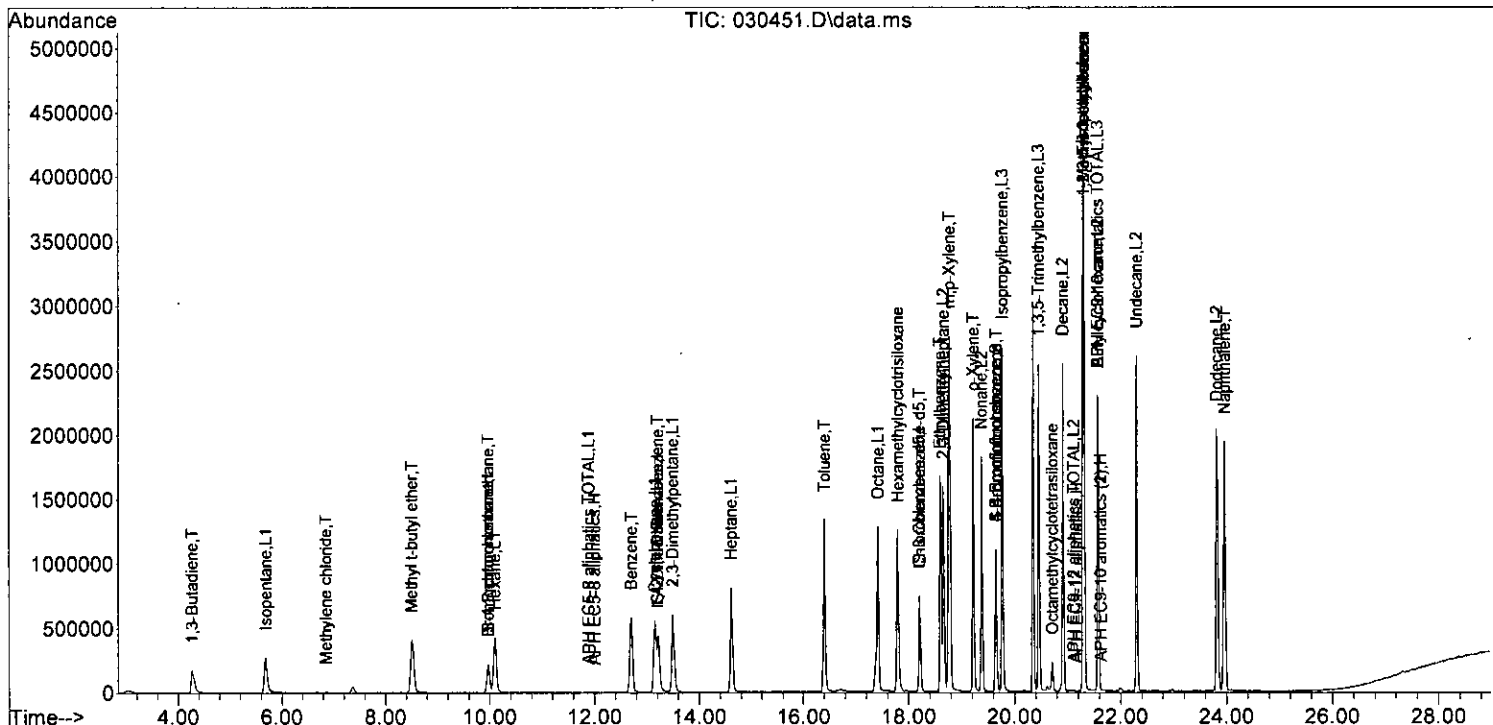
Quant Time: Mar 08 17:21:47 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.63	134	401807m	126.039	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030451.D  
 Acq On : 6 Mar 2022 5:31 am  
 Operator : bat  
 Sample : 25.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 51 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:21:47 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030451.D  
 Acq On : 6 Mar 2022 5:31 am  
 Operator : bat  
 Sample : 25.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 51 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:21:47 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	50.000	48.862	2.3	100	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	47.714	4.6	69	-0.02
4 T	IS-3 Chlorobenzene-d5	50.000	51.498	-3.0	100	0.00
5 T	Methylene chloride	50.000	77.209	-54.4#	100	0.00
6	Acetone	25.000	0.000	100.0#	0	-5.61#
7	2-Propanol	50.000	0.000	100.0#	0	-5.87#
8 T	1,3-Butadiene	55.000	49.683	9.7	100	0.00
9 T	Methyl t-butyl ether	90.000	82.282	8.6	100	-0.03
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	100	0.00
11 T	Benzene	80.000	76.201	4.7	100	0.02
12 L1	Isopentane	75.000	60.382	19.5	100	0.00
13 L1	Hexane	87.500	75.807	13.4	100	0.00
14 L1	Cyclohexane	87.500	77.963	10.9	100	0.00
15 L1	2,3-Dimethylpentane	105.000	79.980	23.8	100	0.00
16 L1	Heptane	105.000	97.455	7.2	100	0.00
17 L1	Octane	117.500	96.841	17.6	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	575.000	487.549	15.2	100	-0.04
19 H	APH EC5-8 aliphatics	575.000	97.655	83.0#	99	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	50.000	51.846	-3.7	100	0.00
22	Hexamethylcyclotrisiloxane	50.000	63.649	-27.3	100	0.00
23	Octamethylcyclotetrasiloxan	50.000	65.826	-31.7#	100	0.00
24 T	Toluene	93.750	99.389	-6.0	100	0.00
25 T	Ethylbenzene	108.750	108.720	0.0	100	0.00
26 T	m,p-Xylene	220.000	225.674	-2.6	100	0.00
27 T	o-Xylene	110.000	111.340	-1.2	100	0.00
28 T	Naphthalene	125.000	177.426	-41.9#	100	0.00
29 L2	2,3-Dimethylheptane	125.000	109.947	12.0	100	0.00
30 L2	Nonane	125.000	112.593	9.9	100	0.00
31 L2	Decane	150.000	141.667	5.6	100	0.00
32 L2	Butylcyclohexane	137.500	123.807	10.0	100	0.00
33 L2	Undecane	162.500	169.634	-4.4	100	0.00
34 L2	Dodecane	175.000	205.116	-17.2	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	875.000	853.663	2.4	100	0.01
36 H	APH EC9-12 aliphatics	875.000	352.436	59.7#	99	0.00
37 S	4-Bromofluorobenzene	71.000	73.142	-3.0	100	0.00
38 L3	Isopropylbenzene	122.500	124.431	-1.6	100	0.00
39 L3	1-Methyl-3-ethylbenzene	122.500	132.454	-8.1	100	0.00
40 L3	1,3,5-Trimethylbenzene	122.500	132.130	-7.9	100	0.00
41 L3	p-Isopropyltoluene	137.500	151.098	-9.9	100	0.00
42 L3	1,2,3-Trimethylbenzene	122.500	132.454	-8.1	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	627.000	675.929	-7.8	100	0.00
44 H	APH EC9-10 aromatics (1)	490.000	376.382	23.2	71	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
Data File : 030451.D  
Acq On : 6 Mar 2022 5:31 am  
Operator : bat  
Sample : 25.0 ppbv APH 66-1a  
Misc : line 2  
ALS Vial : 51 Sample Multiplier: 1  
InstName : GCMS8

Quant Time: Mar 08 17:21:47 2022  
Quant Method : F:\METHODS\Inst8\0304APH8.M  
Quant Title : APH TO-15 method  
QLast Update : Tue Mar 08 10:29:53 2022 .  
Response via : Initial Calibration  
DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	137.000	126.039	8.0	84	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030451.D  
 Acq On : 6 Mar 2022 5:31 am  
 Operator : bat  
 Sample : 25.0 ppbv APH 66-1a  
 Misc : line 2  
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Quant Time: Mar 08 17:21:47 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 T	IS-1 Bromochloromethane	6.920	6.762	2.3	100	0.00
3 T	IS-2 1,4-Difluorobenzene	12.715	12.134	4.6	69	-0.02
4 T	IS-3 Chlorobenzene-d5	12.572	12.949	-3.0	100	0.00
5 T	Methylene chloride	0.161	0.248	-54.0#	100	0.00
6	Acetone	1.776	0.000	100.0#	0#	-5.61#
7	2-Propanol	0.828	0.000	100.0#	0#	-5.87#
8 T	1,3-Butadiene	1.495	1.351	9.6	100	0.00
9 T	Methyl t-butyl ether	4.230	3.867	8.6	100	-0.03
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	100	0.00
11 T	Benzene	1.261	1.201	4.8	100	0.02
12 L1	Isopentane	1.886	1.519	19.5	100	0.00
13 L1	Hexane	2.171	1.881	13.4	100	0.00
14 L1	Cyclohexane	2.620	2.335	10.9	100	0.00
15 L1	2,3-Dimethylpentane	1.973	1.503	23.8	100	0.00
16 L1	Heptane	2.249	2.087	7.2	100	0.00
17 L1	Octane	3.566	2.939	17.6	100	0.00
18 L1	APH EC5-8 aliphatics TOTAL	2.472	2.096	15.2	100	-0.04
19 H	APH EC5-8 aliphatics	30.035	5.101	83.0#	99	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	100	0.00
21 T	S 4-Bromofluorobenzene	4.348	4.508	-3.7	100	0.00
22	Hexamethylcyclotrisiloxane	6.483	8.253	-27.3	100	0.00
23	Octamethylcyclotetrasiloxan	0.865	1.139	-31.7#	100	0.00
24 T	Toluene	0.781	0.828	-6.0	100	0.00
25 T	Ethylbenzene	1.636	1.636	0.0	100	0.00
26 T	m,p-Xylene	0.594	0.609	-2.5	100	0.00
27 T	o-Xylene	0.568	0.574	-1.1	100	0.00
28 T	Naphthalene	1.341	1.903	-41.9#	100	0.00
29 L2	2,3-Dimethylheptane	3.020	2.656	12.1	100	0.00
30 L2	Nonane	3.160	2.846	9.9	100	0.00
31 L2	Decane	3.126	2.952	5.6	100	0.00
32 L2	Butylcyclohexane	4.199	3.781	10.0	100	0.00
33 L2	Undecane	3.003	3.135	-4.4	100	0.00
34 L2	Dodecane	2.712	3.179	-17.2	100	0.00
35 L2	APH EC9-12 aliphatics TOTAL	3.182	3.104	2.5	100	0.01
36 H	APH EC9-12 aliphatics	18.546	7.470	59.7#	99	0.00
37 S	4-Bromofluorobenzene	0.513	0.528	-2.9	100	0.00
38 L3	Isopropylbenzene	0.380	0.386	-1.6	100	0.00
39 L3	1-Methyl-3-ethylbenzene	0.717	0.775	-8.1	100	0.00
40 L3	1,3,5-Trimethylbenzene	0.621	0.670	-7.9	100	0.00
41 L3	p-Isopropyltoluene	0.339	0.372	-9.7	100	0.00
42 L3	1,2,3-Trimethylbenzene	0.717	0.775	-8.1	100	0.00
43 L3	APH EC9-10 aromatics TOTAL	0.548	0.591	-7.8	100	0.00
44 H	APH EC9-10 aromatics (1)	0.605	0.465	23.1	71	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030451.D  
 Acq On : 6 Mar 2022 5:31 am  
 Operator : bat  
 Sample : 25.0 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 51 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:21:47 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	0.341	0.313	8.2	84	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030454.D  
 Acq On : 6 Mar 2022 8:00 am  
 Operator : bat  
 Sample : 67 ug/ml ppbv SCV 65-172c  
 Misc : line 3  
 ALS Vial : 54 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:22:25 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.98	128	112685	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.21	114	464209	50.000	ug/m3	0.00
20) Chlorobenzene-d5	18.22	117	435250	50.000	ug/m3	0.01

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.65	95	311614	69.810	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	98.32%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.98	TIC	759225	48.685	ug/m3	87
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1600328	55.846	ug/m3	69
4) IS-3 Chlorobenzene-d5	18.22	TIC	1387566	48.971	ug/m3	98
5) Methylene chloride	6.85	TIC	17158	47.416	ug/m3	88
6) Acetone	5.61	TIC	11280	2.818	ppbv #	100
7) 2-Propanol	5.87	TIC	6414	3.438	ppbv #	100
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	8.43	73	1421	0.149	ug/m3	45
11) Benzene	0.00		0	N.D.		
12) Isopentane	5.61	TIC	11280	0.644	ug/m3#	71
13) Hexane	10.10	TIC	1207948	59.929	ug/m3	93
14) Cyclohexane	13.23	TIC	1583124	65.078	ug/m3	93
15) 2,3-Dimethylpentane	13.23	TIC	1587898	86.705	ug/m3	66
16) Heptane	14.66	TIC	8791	0.421	ug/m3	60
17) Octane	17.80	TIC	1980435	59.818	ug/m3	60
18) APH EC5-8 aliphatics T...	11.88	TIC	6379476m	278.009	ug/m3	
19) APH EC5-8 aliphatics	12.00	TIC	5460103m	19.581	ug/m3	
21) S 4-Bromofluorobenzene	19.65	TIC	1868784	49.379	ug/m3	98
22) Hexamethylcyclotrisilo...	17.80	TIC	2668885	47.291	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	419960	55.773	ppbv	100
24) Toluene	0.00		0	N.D.		
25) Ethylbenzene	18.59	91	1569	0.110	ug/m3#	42
26) m,p-Xylene	18.77	106	1217	0.235	ug/m3#	59
27) o-Xylene	19.65	106	2892	0.585	ug/m3#	25
28) Naphthalene	23.96	128	5799	0.497	ug/m3	79
29) 2,3-Dimethylheptane	18.59	TIC	39985	1.521	ug/m3#	54
30) Nonane	19.45	TIC	15891	0.578	ug/m3#	58
31) Decane	20.93	TIC	1908974	70.153	ug/m3	94
32) Butylcyclohexane	21.59	TIC	6847	0.187	ug/m3#	61
33) Undecane	22.31	TIC	13826	0.529	ug/m3	91
34) Dodecane	23.82	TIC	1998575	84.661	ug/m3	95
35) APH EC9-12 aliphatics ...	21.13	TIC	3984098m	143.845	ug/m3	
36) APH EC9-12 aliphatics	21.18	TIC	7644609m	47.352	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	21.32	120	649	0.104	ug/m3#	55
40) 1,3,5-Trimethylbenzene	20.46	120	405908	75.095	ug/m3	96
41) p-Isopropyltoluene	0.00		0	N.D.		
42) 1,2,3-Trimethylbenzene	21.32	120	649	0.104	ug/m3	92
43) APH EC9-10 aromatics T...	21.59	TIC	407206m	85.370	ug/m3	
44) APH EC9-10 aromatics (1)	21.63	120	359264m	68.176	ug/m3	

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030454.D  
 Acq On : 6 Mar 2022 8:00 am  
 Operator : bat  
 Sample : 67 ug/ml ppbv SCV 65-172c  
 Misc : line 3  
 ALS Vial : 54 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:22:25 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

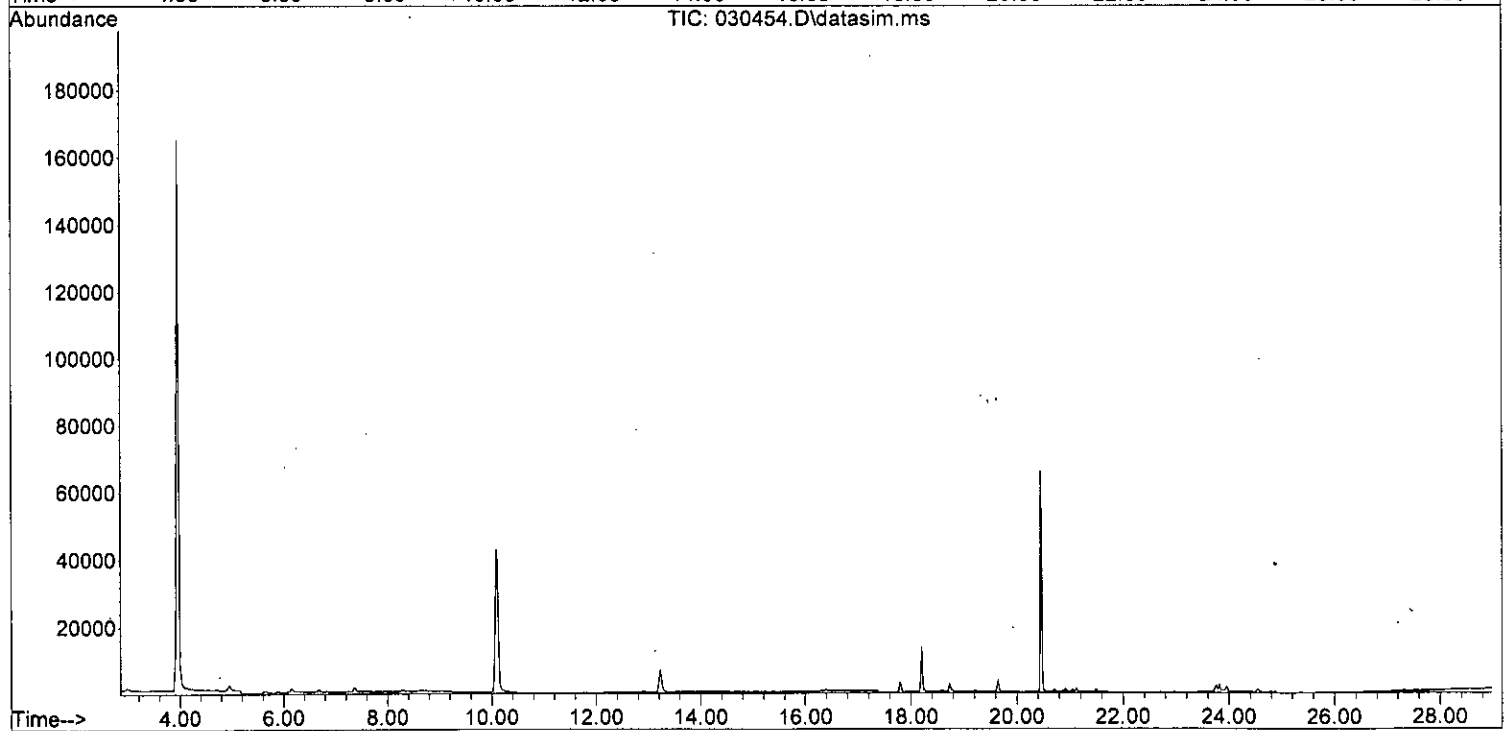
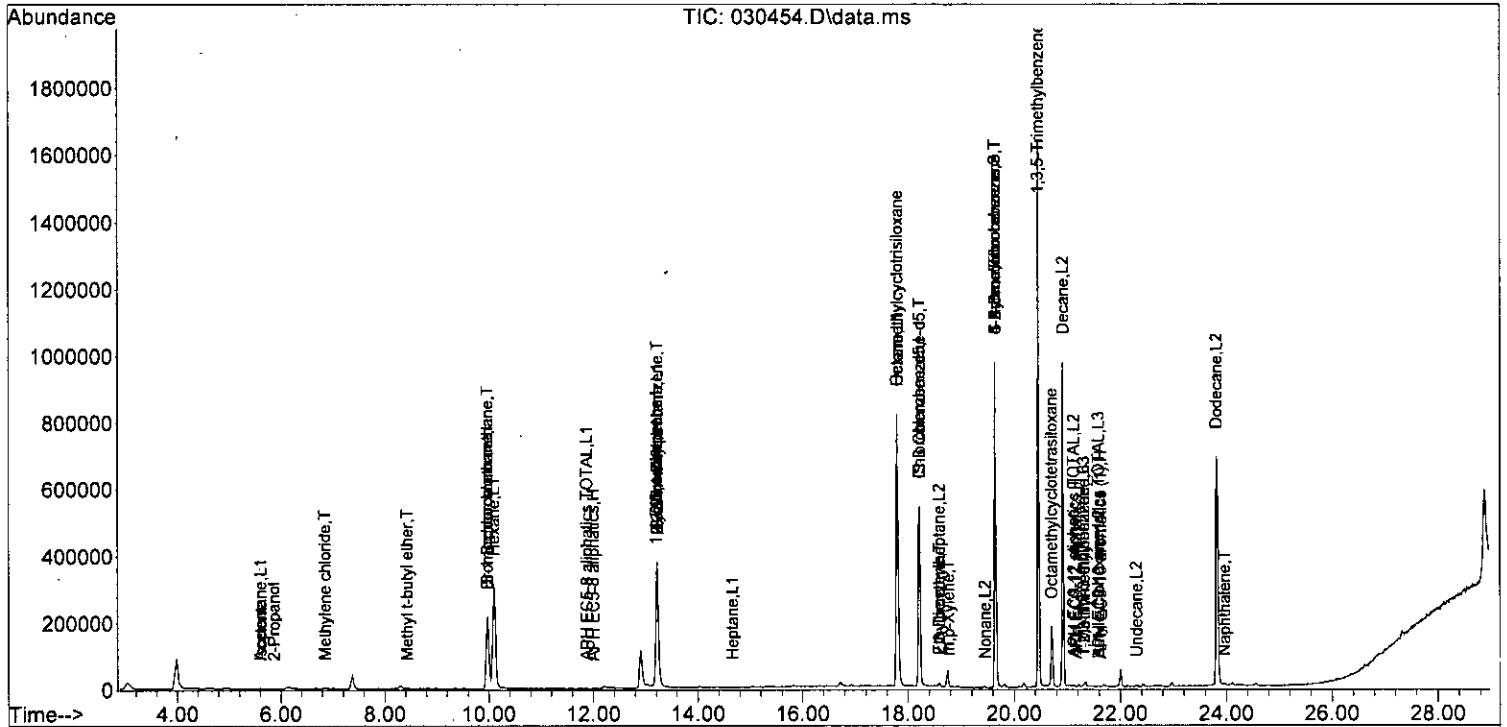
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.63	134	-52707m	Below	Cal	

(#) = qualifier out of range (m) = manual integration (+) = signals summed



Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030454.D  
 Acq On : 6 Mar 2022 8:00 am  
 Operator : bat  
 Sample : 67 ug/ml ppbv SCV 65-172c  
 Misc : line 3  
 ALS Vial : 54 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:22:25 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030454.D  
 Acq On : 6 Mar 2022 8:00 am  
 Operator : bat  
 Sample : 67 ug/ml ppbv SCV 65-172c  
 Misc : line 3  
 ALS Vial : 54 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:22:25 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	96	0.00
2 T	IS-1 Bromochloromethane	50.000	48.685	2.6	94	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	55.846	-11.7	118	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	48.971	2.1	94	0.01
5 T	Methylene chloride	50.000	47.416	5.2	109	0.00
6	Acetone	5.000	2.818	43.6#	54	0.00
7	2-Propanol	50.000	3.438	93.1#	7	0.00
8 T	1,3-Butadiene	11.000	0.000	100.0#	0	-4.27#
9 T	Methyl t-butyl ether	18.000	0.149	99.2#	1	-0.11
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	96	0.00
11 T	Benzene	16.000	0.000	100.0#	0	-12.69#
12 L1	Isopentane	15.000	0.644	95.7#	4	-0.08
13 L1	Hexane	67 17.500	59.929	-242.5#	372	0.00
14 L1	Cyclohexane	17.500	65.078	-271.9#	414	0.07
15 L1	2,3-Dimethylpentane	21.000	86.705	-312.9#	447	-0.27
16 L1	Heptane	21.000	0.421	98.0#	2	0.05
17 L1	Octane	23.500	59.818	-154.5#	287	0.37#
18 L1	APH EC5-8 aliphatics TOTAL	115.000	278.009	-141.7#	261	-0.06
19 H	APH EC5-8 aliphatics	115.000	19.581	83.0#	41	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	97	0.01
21 T	S 4-Bromofluorobenzene	50.000	49.379	1.2	93	0.00
22	Hexamethylcyclotrisiloxane	50.000	47.291	5.4	108	0.00
23	Octamethylcyclotetrasiloxan	50.000	55.773	-11.5	131	0.00
24 T	Toluene	18.750	0.000	100.0#	0	-16.41#
25 T	Ethylbenzene	21.750	0.110	99.5#	1	0.00
26 T	m,p-Xylene	44.000	0.235	99.5#	1	0.00
27 T	o-Xylene	22.000	0.585	97.3#	3	0.42#
28 T	Naphthalene	25.000	0.497	98.0#	2	0.00
29 L2	2,3-Dimethylheptane	25.000	1.521	93.9#	6	-0.07
30 L2	Nonane	25.000	0.578	97.7#	2	0.07
31 L2	Decane	67 20.000	70.153	-133.8#	239	0.00
32 L2	Butylcyclohexane	27.500	0.187	99.3#	1	0.02
33 L2	Undecane	32.500	0.529	98.4#	2	0.00
34 L2	Dodecane	35.000	84.661	-141.9#	275	0.00
35 L2	APH EC9-12 aliphatics TOTAL	175.000	143.845	17.8	85	0.02
36 H	APH EC9-12 aliphatics	175.000	47.352	72.9#	55	0.00
37 S	4-Bromofluorobenzene	71.000	69.810	1.7	91	0.00
38 L3	Isopropylbenzene	24.500	0.000	100.0#	0	-19.77#
39 L3	1-Methyl-3-ethylbenzene	24.500	0.104	99.6#	0	0.00
40 L3	1,3,5-Trimethylbenzene	67 24.500	75.095	-206.5#	297	0.00
41 L3	p-Isopropyltoluene	27.750	0.000	100.0#	0	-21.30#
42 L3	1,2,3-Trimethylbenzene	24.500	0.104	99.6#	0	0.00
43 L3	APH EC9-10 aromatics TOTAL	125.400	85.370	31.9#	64	0.02
44 H	APH EC9-10 aromatics (1)	98.000	68.176	30.4#	65	0.00

89.4%

104.7%

112.1%

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-04-22\  
 Data File : 030454.D  
 Acq On : 6 Mar 2022 8:00 am  
 Operator : bat  
 Sample : 67 ug/ml ppbv SCV 65-172c  
 Misc : line 3  
 ALS Vial : 54 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 08 17:22:25 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 10:29:53 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	27.400	-17.769	164.9#	-60	0.00

(#) = Out of Range                      SPCC's out = 0    CCC's out = 0

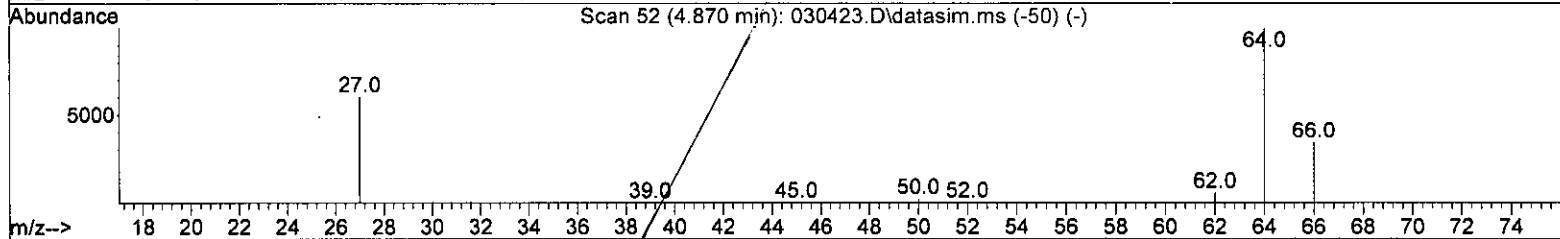
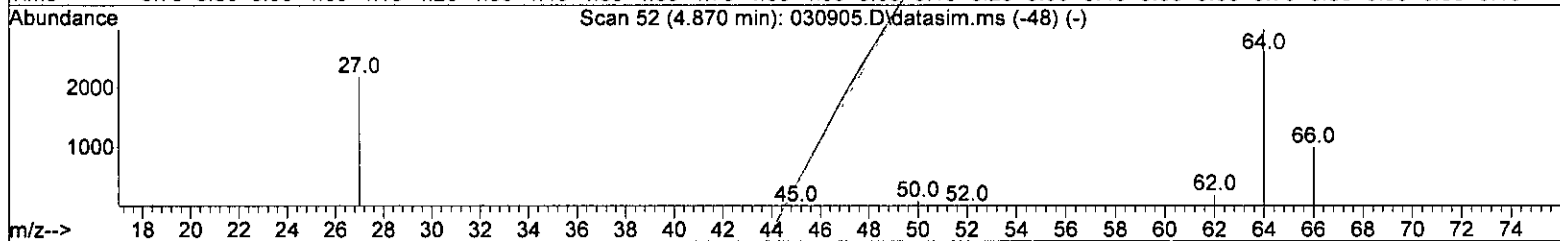
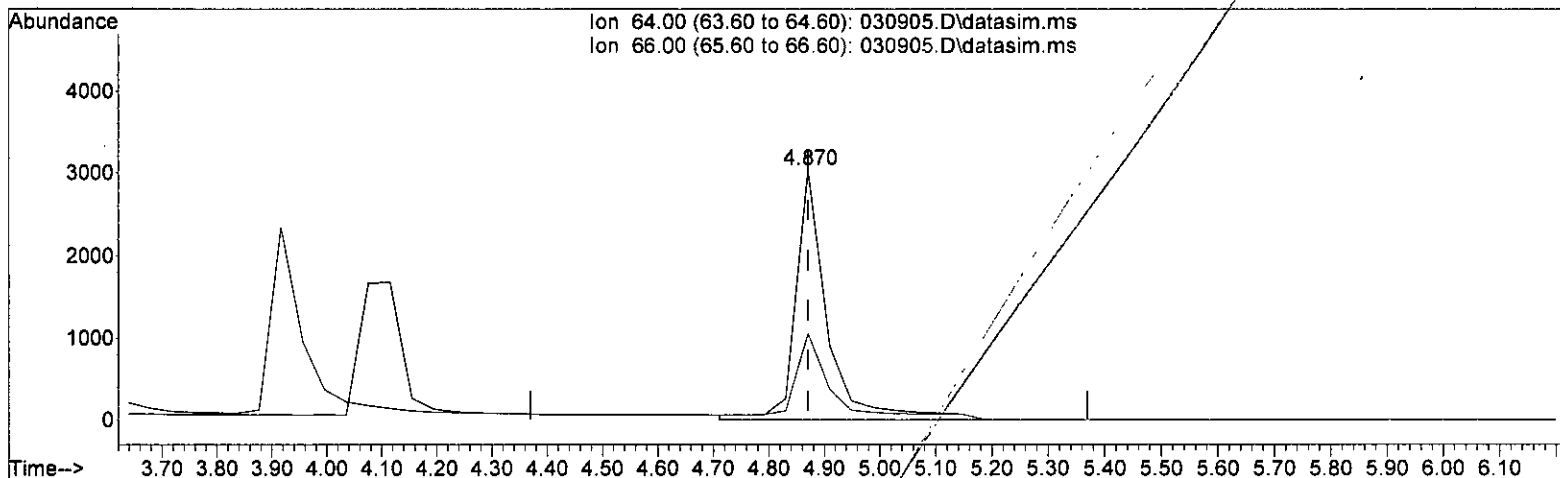
EPA TO-15  
CCV Summaries

F&B Project 203054

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line, 25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 09 15:15:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth: TO15NA.M



TIC: 030905.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 2.651 ppbv

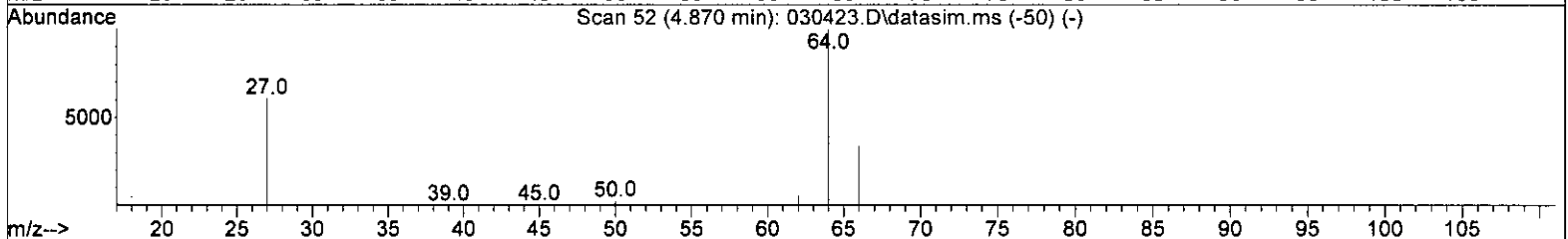
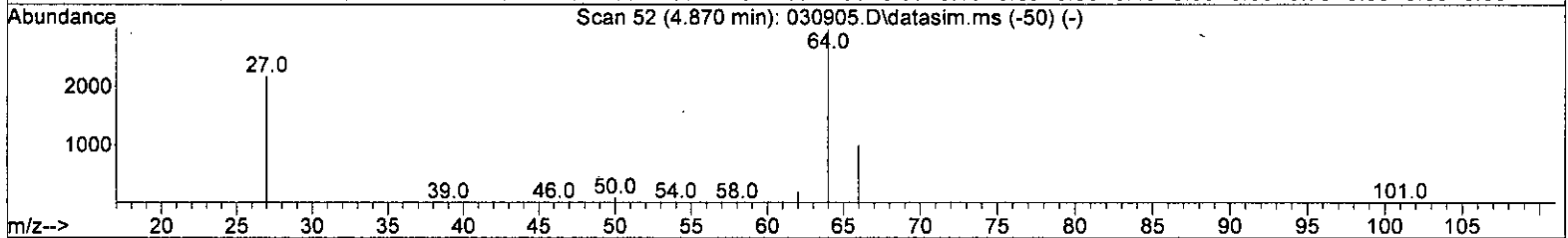
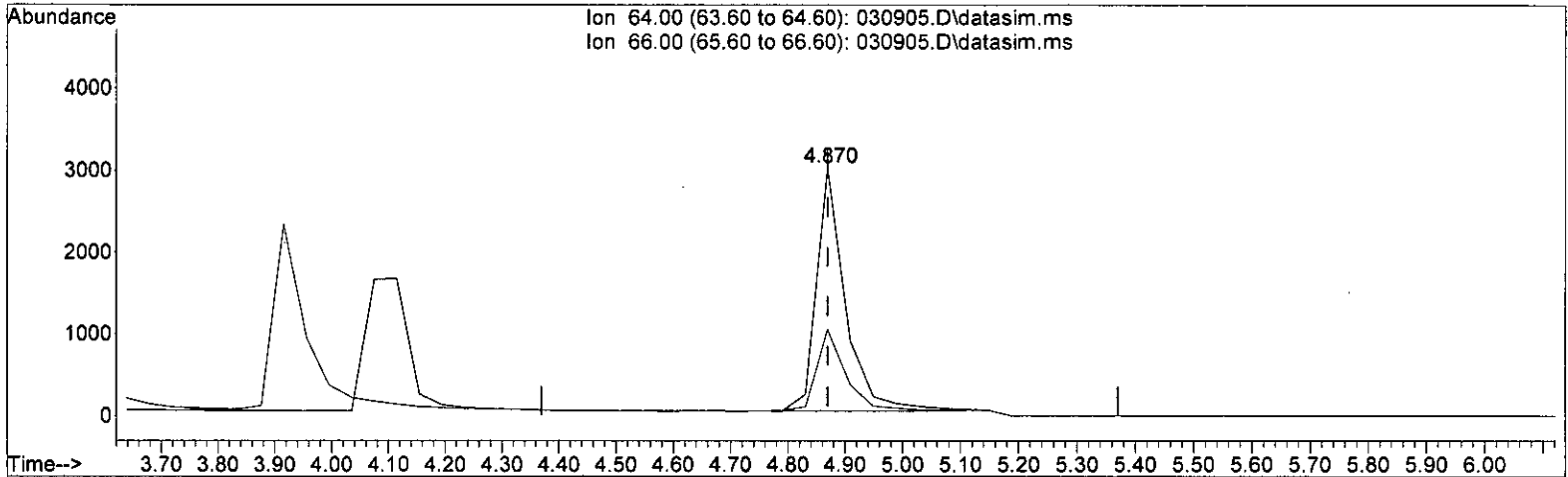
response 11559

Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	34.64
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature and date: 3/10/22*

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line, 25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 09 15:15:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030905.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 2.411 ppbv m

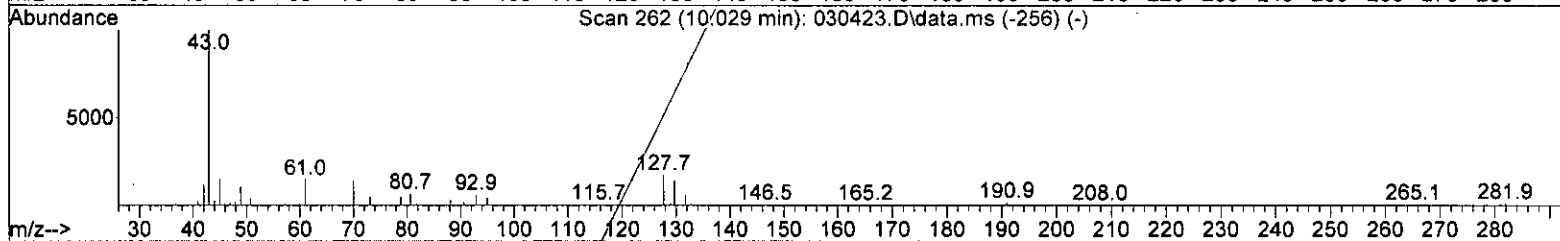
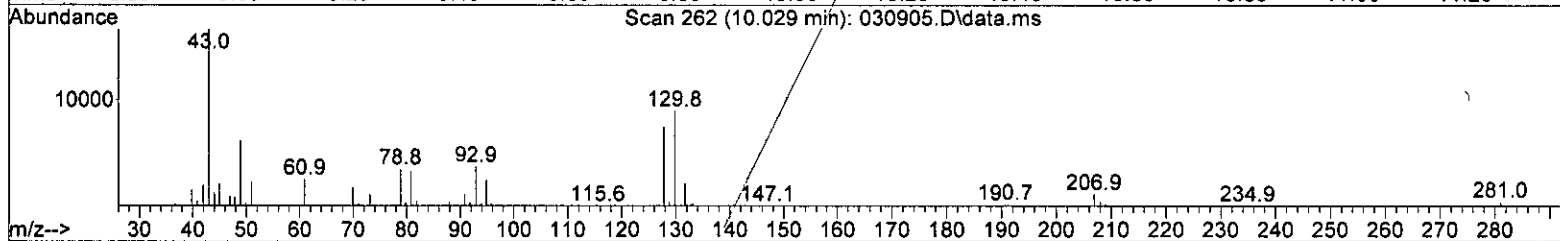
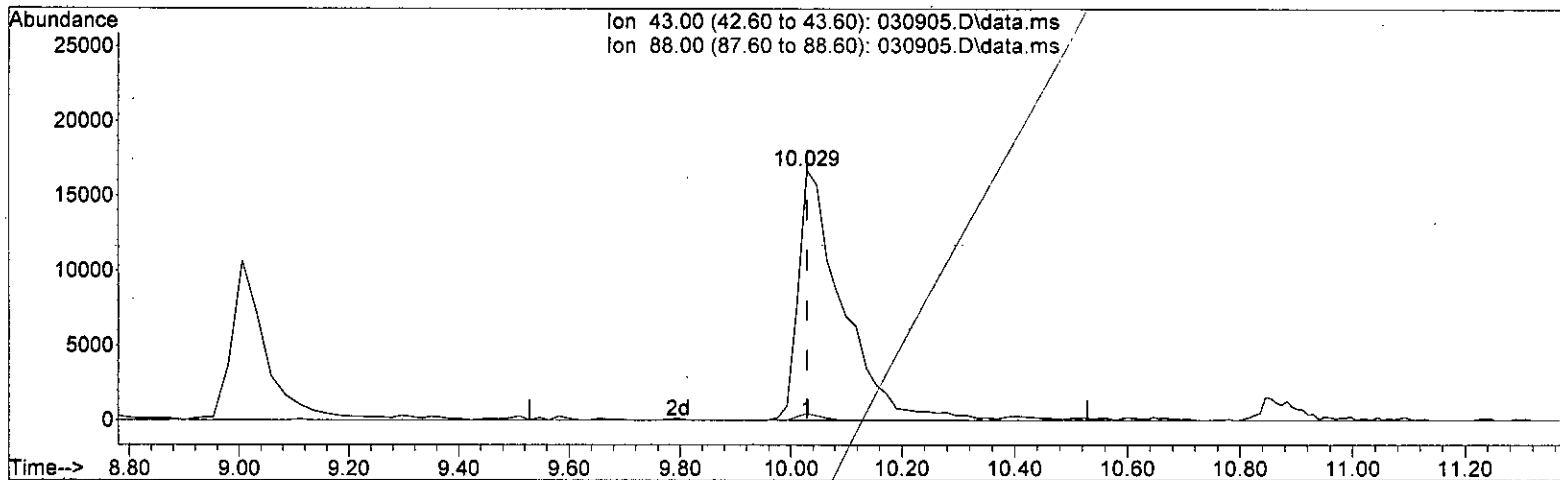
response	10513
Ion	Exp% Act%
64.00	100.00 100.00
66.00	31.80 34.64
0.00	0.00 0.00
0.00	0.00 0.00

*B*  
*3/6/22*

Quantitation Report (Qedit)

Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line, 25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 09 15:15:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth: TO15NA.M



(31) Ethyl acetate (TMP)

10.029min (+ 0.000) 3.032 ppbv

response 92679

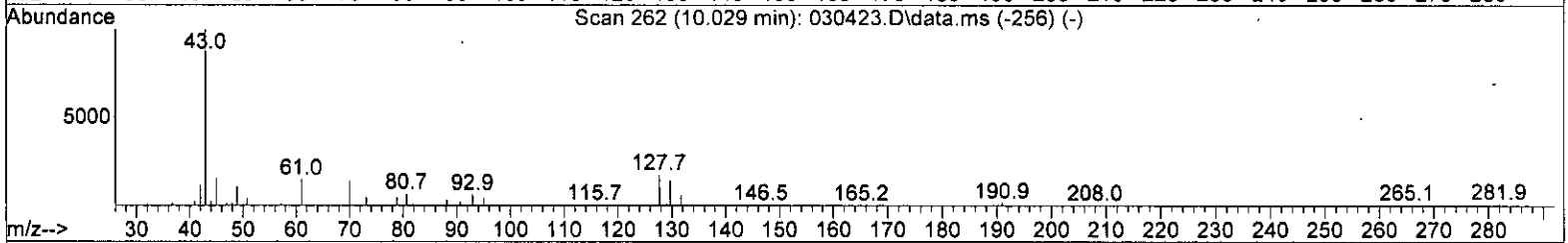
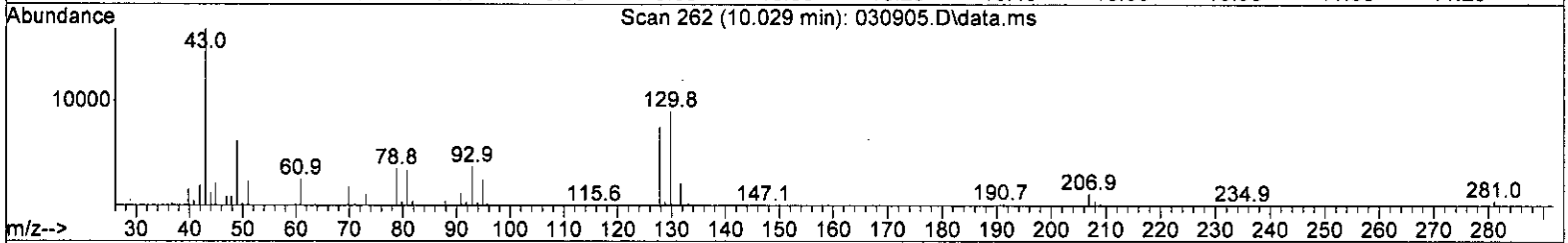
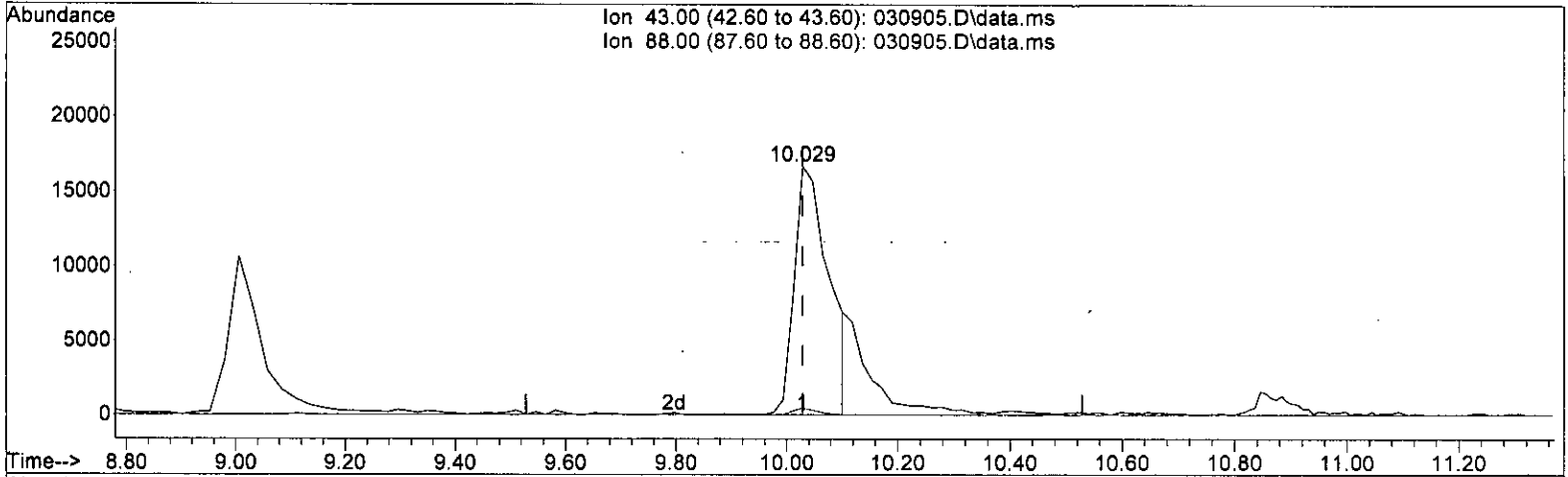
Ion	Exp%	Act%
43.00	100.00	100.00
88.00	1.70	1.40
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten:* 3/10/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line, 25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 09 15:15:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth: TO15NA.M



TIC: 030905.D\data.ms

(31) Ethyl acetate (TMP)

10.029min (+ 0.000) 2.377 ppbv m

response 72675

Ion	Exp%	Act%
43.00	100.00	100.00
88.00	1.70	1.78
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* 3/10/22



Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line, 25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:03:23 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	9.99	128	110364	10.000	ppbv	# 0.02
39) 1,4-Difluorobenzene	13.23	114	474317	10.000	ppbv	0.02
56) Chlorobenzene-d5	18.22	117	409278	10.000	ppbv	0.01
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.65	95	295157	9.718	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.20%
Target Compounds						
						Qvalue
2) Propene	3.47	41	15992	2.626	ppbv	79
3) Dichlorodifluoromethane	3.55	85	122662	2.435	ppbv	95
4) Chloromethane	3.80	50	20934	2.443	ppbv	81
5) F-114	3.91	85	96252	2.551	ppbv	98
6) Vinyl chloride	4.08	62	25683	2.150	ppbv	98
7) 1,3-Butadiene	4.27	54	15374	2.301	ppbv	# 82
8) Butane	4.39	43	28421	2.219	ppbv	93
9) Bromomethane	4.67	94	36001	2.728	ppbv	98
10) Chloroethane	4.87	64	10513m	2.411	ppbv	
11) Vinyl bromide	5.34	106	34545	2.433	ppbv	87
12) Ethanol	5.02	45	5398	2.816	ppbv	89
13) Acrolein	5.46	56	6197	2.467	ppbv	98
14) Pentane	6.35	43	31647	2.515	ppbv	88
15) Trichlorofluoromethane	5.89	101	152839	2.732	ppbv	95
16) Acetone	5.63	58	10003	2.242	ppbv	96
17) 2-Propanol	5.89	45	41036	2.378	ppbv	# 95
18) 1,1-Dichloroethene	6.73	96	32845	2.371	ppbv	99
19) trans-1,2-Dichloroethene	8.20	96	31750	2.407	ppbv	# 63
20) Methylene chloride	6.85	84	31263	2.482	ppbv	# 78
21) t-Butyl alcohol (TBA)	6.67	59	59013	2.586	ppbv	95
22) 3-Chloropropene	7.03	41	30100	2.199	ppbv	# 68
23) CFC-113	7.25	101	93299	2.553	ppbv	85
24) Carbon disulfide	7.06	76	13719	2.310	ppbv	74
25) Methyl t-butyl ether (...)	8.53	73	72700	2.209	ppbv	93
26) Vinyl acetate	8.64	43	26407	2.363	ppbv	98
27) 1,1-Dichloroethane	8.46	63	59868	2.481	ppbv	97
28) cis-1,2-Dichloroethene	9.73	96	33517	2.407	ppbv	92
29) Hexane	10.12	57	30819	2.519	ppbv	91
30) Chloroform	10.20	83	90811	2.528	ppbv	98
31) Ethyl acetate	10.03	43	72675m	2.377	ppbv	
32) Tetrahydrofuran	10.86	42	20752	2.157	ppbv	67
33) 2-Butanone (MEK)	9.01	72	13643	2.694	ppbv	# 55
34) 1,2-Dichloroethane (EDC)	11.45	62	62284	2.522	ppbv	98
35] 1,1,1-Trichloroethane	11.93	97	102593	2.623	ppbv	94
36] Carbon tetrachloride	12.96	117	118828	2.597	ppbv	96
37] Benzene	12.71	78	94417	2.421	ppbv	85
38) Cyclohexane	13.17	84	25269	2.325	ppbv	# 58
40] 1,2-Dichloropropane	13.88	63	35989	2.302	ppbv	69
41] 1,4-Dioxane	14.17	88	19930	2.398	ppbv	70
42) 2,2,4-Trimethylpentane	14.32	57	88708	2.171	ppbv	# 75

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line, 25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

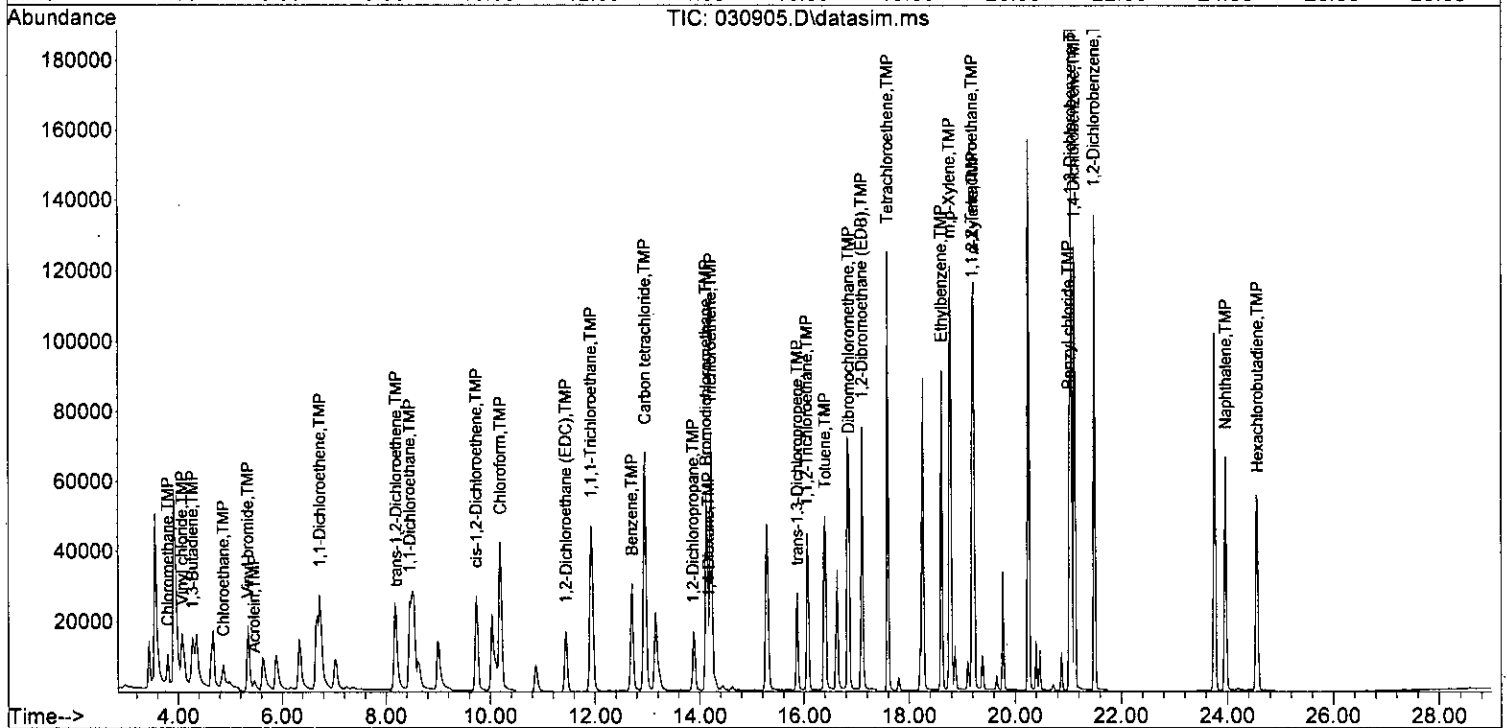
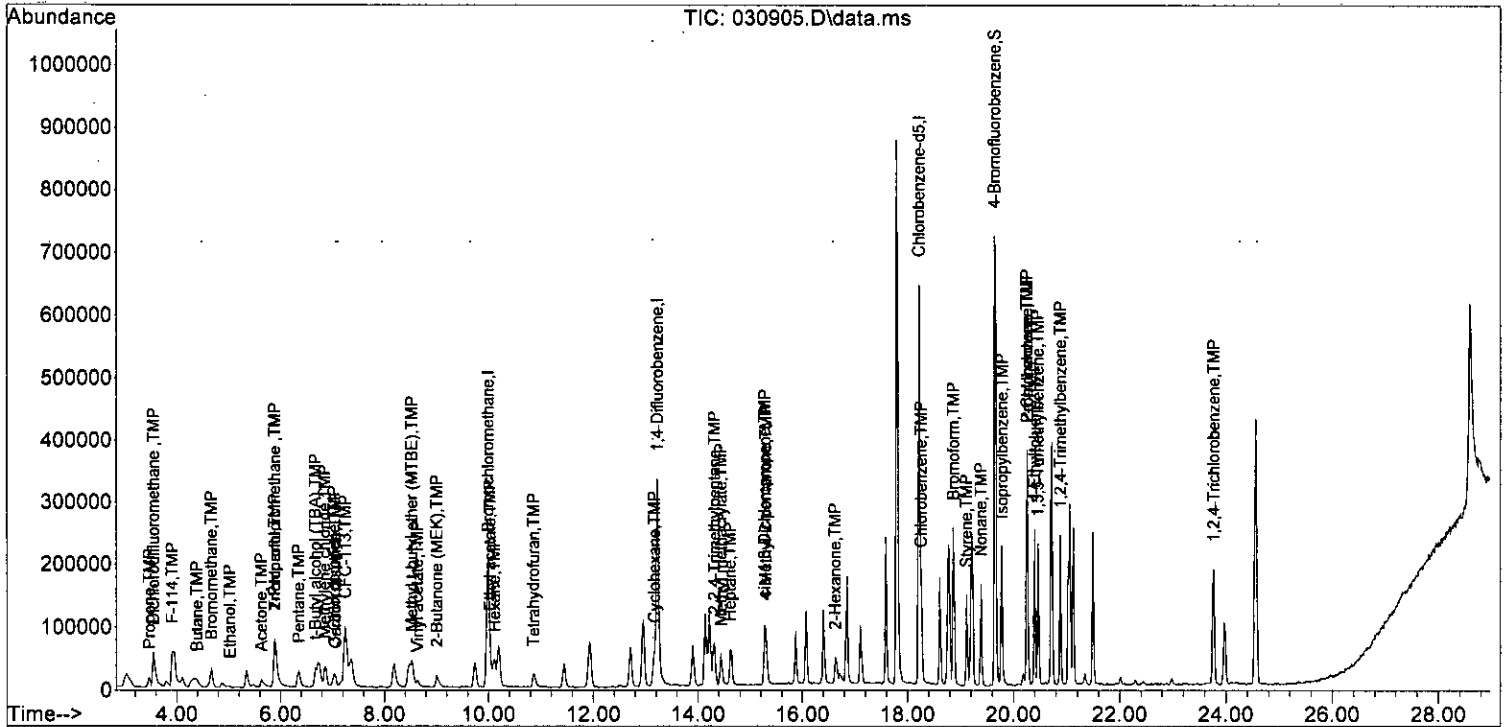
Quant Time: Mar 10 14:03:23 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
43) Methyl methacrylate	14.44	41	30782	2.195	ppbv #	73
44) Heptane	14.61	43	31978	2.062	ppbv	78
45) Bromodichloromethane	14.13	83	97163	2.482	ppbv	98
46) Trichloroethene	14.22	95	56768	2.378	ppbv	90
47) cis-1,3-Dichloropropene	15.28	75	57696	2.298	ppbv	92
48) 4-Methyl-2-pentanone	15.30	100	4316	2.396	ppbv #	23
49) trans-1,3-Dichloropropene	15.88	75	56515	2.347	ppbv	82
50) Toluene	16.41	92	56334	2.314	ppbv #	79
51) 1,1,2-Trichloroethane	16.07	83	43705	2.476	ppbv	89
52) 2-Hexanone	16.63	43	48971	2.132	ppbv	95
53) Tetrachloroethene	17.60	164	62672	2.602	ppbv	94
54) Dibromochloromethane	16.86	129	109377	2.536	ppbv	85
55) 1,2-Dibromoethane (EDB)	17.11	107	77263	2.475	ppbv	96
57) Chlorobenzene	18.26	112	99412	2.603	ppbv	91
58) Ethylbenzene	18.62	91	135760	2.301	ppbv	88
59) 1,1,2,2-Tetrachloroethane	19.20	83	101600	2.499	ppbv	93
60) Nonane	19.39	43	53889	2.346	ppbv	97
61) Isopropylbenzene	19.78	105	164463	2.392	ppbv	97
62) 2-Chlorotoluene	20.26	126	44319	2.504	ppbv	71
63) Propylbenzene	20.26	91	309968	2.453	ppbv	95
64) 4-Ethyltoluene	20.40	105	156567	2.398	ppbv	95
65) m,p-Xylene	18.77	106	102452	4.626	ppbv	98
66) o-Xylene	19.22	106	50728	2.461	ppbv	91
67) Styrene	19.12	104	74971	2.419	ppbv	93
68) Bromoform	18.87	173	150877	2.881	ppbv	99
70) Benzyl chloride	21.02	91	135114	2.614	ppbv	92
71) 1,3,5-Trimethylbenzene	20.46	105	146788	2.501	ppbv	98
72) 1,2,4-Trimethylbenzene	20.88	105	133929	2.409	ppbv	99
73) 1,3-Dichlorobenzene	21.06	146	132420	2.713	ppbv	92
74) 1,4-Dichlorobenzene	21.12	146	127485	2.572	ppbv	89
75) 1,2-Dichlorobenzene	21.50	146	123244	2.611	ppbv	93
76) 1,2,4-Trichlorobenzene	23.77	180	103060	2.436	ppbv	97
77) Naphthalene	23.97	128	135089	2.574	ppbv	99
78) Hexachlorobutadiene	24.57	225	147646	2.719	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line,25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:03:23 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



## Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line,25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:03:23 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	96	0.02
2 TMP	Propene	2.500	2.626	-5.0	98	0.00
3 TMP	Dichlorodifluoromethane	2.500	2.435	2.6	100	0.00
4 TMP	Chloromethane	2.500	2.443	2.3	102	0.00
5 TMP	F-114	2.500	2.551	-2.0	102	0.00
6 TMP	Vinyl chloride	2.500	2.150	14.0	89	0.00
7 TMP	1,3-Butadiene	2.500	2.301	8.0	91	0.00
8 TMP	Butane	2.500	2.219	11.2	88	0.04
9 TMP	Bromomethane	2.500	2.728	-9.1	105	0.00
10 TMP	Chloroethane	2.500	2.411	3.6	94	0.00
11 TMP	Vinyl bromide	2.500	2.433	2.7	96	0.00
12 TMP	Ethanol	2.500	2.816	-12.6	102	0.04
13 TMP	Acrolein	2.500	2.467	1.3	91	0.00
14 TMP	Pentane	2.500	2.515	-0.6	85	0.00
15 TMP	Trichlorofluoromethane	2.500	2.732	-9.3	99	0.00
16 TMP	Acetone	2.500	2.242	10.3	68	0.00
17 TMP	2-Propanol	2.500	2.378	4.9	88	0.00
18 TMP	1,1-Dichloroethene	2.500	2.371	5.2	95	0.00
19 TMP	trans-1,2-Dichloroethene	2.500	2.407	3.7	94	0.03
20 TMP	Methylene chloride	2.500	2.482	0.7	87	0.00
21 TMP	t-Butyl alcohol (TBA)	2.500	2.586	-3.4	101	0.00
22 TMP	3-Chloropropene	2.500	2.199	12.0	81	0.00
23 TMP	CFC-113	2.500	2.553	-2.1	103	0.00
24 TMP	Carbon disulfide	2.500	2.310	7.6	89	0.03
25 TMP	Methyl t-butyl ether (MTBE)	2.500	2.209	11.6	94	0.00
26 TMP	Vinyl acetate	2.500	2.363	5.5	107	0.00
27 TMP	1,1-Dichloroethane	2.500	2.481	0.8	93	0.00
28 TMP	cis-1,2-Dichloroethene	2.500	2.407	3.7	95	0.00
29 TMP	Hexane	2.500	2.519	-0.8	105	0.02
30 TMP	Chloroform	2.500	2.528	-1.1	97	0.02
31 TMP	Ethyl acetate	2.500	2.377	4.9	93	0.00
32 TMP	Tetrahydrofuran	2.500	2.157	13.7	85	0.00
33 TMP	2-Butanone (MEK)	2.500	2.694	-7.8	85	0.00
34 TMP	1,2-Dichloroethane (EDC)	2.500	2.522	-0.9	94	0.00
35 TMP	1,1,1-Trichloroethane	2.500	2.623	-4.9	100	0.01
36 TMP	Carbon tetrachloride	2.500	2.597	-3.9	101	0.02
37 TMP	Benzene	2.500	2.421	3.2	96	0.02
38 TMP	Cyclohexane	2.500	2.325	7.0	93	0.02
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	104	0.02
40 TMP	1,2-Dichloropropane	2.500	2.302	7.9	97	0.00
41 TMP	1,4-Dioxane	2.500	2.398	4.1	96	0.00
42 TMP	2,2,4-Trimethylpentane	2.500	2.171	13.2	89	0.02
43 TMP	Methyl methacrylate	2.500	2.195	12.2	88	0.00
44 TMP	Heptane	2.500	2.062	17.5	89	0.00
45 TMP	Bromodichloromethane	2.500	2.482	0.7	99	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line,25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:03:23 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	2.500	2.378	4.9	99	0.02
47 TMP cis-1,3-Dichloropropene	2.500	2.298	8.1	94	0.00
48 TMP 4-Methyl-2-pentanone	2.500	2.396	4.2	93	0.00
49 TMP trans-1,3-Dichloropropene	2.500	2.347	6.1	98	0.02
50 TMP Toluene	2.500	2.314	7.4	95	0.03
51 TMP 1,1,2-Trichloroethane	2.500	2.476	1.0	102	0.00
52 TMP 2-Hexanone	2.500	2.132	14.7	88	0.00
53 TMP Tetrachloroethene	2.500	2.602	-4.1	103	0.01
54 TMP Dibromochloromethane	2.500	2.536	-1.4	103	0.03
55 TMP 1,2-Dibromoethane (EDB)	2.500	2.475	1.0	104	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	95	0.01
57 TMP Chlorobenzene	2.500	2.603	-4.1	97	0.01
58 TMP Ethylbenzene	2.500	2.301	8.0	90	0.01
59 TMP 1,1,2,2-Tetrachloroethane	2.500	2.499	0.0	94	0.01
60 TMP Nonane	2.500	2.346	6.2	91	0.01
61 TMP Isopropylbenzene	2.500	2.392	4.3	88	0.01
62 TMP 2-Chlorotoluene	2.500	2.504	-0.2	93	0.02
63 TMP Propylbenzene	2.500	2.453	1.9	90	0.00
64 TMP 4-Ethyltoluene	2.500	2.398	4.1	88	0.00
65 TMP m,p-Xylene	5.000	4.626	7.5	92	0.00
66 TMP o-Xylene	2.500	2.461	1.6	91	0.00
67 TMP Styrene	2.500	2.419	3.2	92	0.01
68 TMP Bromoform	2.500	2.881	-15.2	105	0.00
69 S 4-Bromofluorobenzene	10.000	9.718	2.8	89	0.00
70 TMP Benzyl chloride	2.500	2.614	-4.6	97	0.00
71 TMP 1,3,5-Trimethylbenzene	2.500	2.501	-0.0	90	0.00
72 TMP 1,2,4-Trimethylbenzene	2.500	2.409	3.6	90	0.00
73 TMP 1,3-Dichlorobenzene	2.500	2.713	-8.5	100	0.00
74 TMP 1,4-Dichlorobenzene	2.500	2.572	-2.9	99	0.00
75 TMP 1,2-Dichlorobenzene	2.500	2.611	-4.4	99	0.00
76 TMP 1,2,4-Trichlorobenzene	2.500	2.436	2.6	100	0.02
77 TMP Naphthalene	2.500	2.574	-3.0	102	0.02
78 TMP Hexachlorobutadiene	2.500	2.719	-8.8	112	0.02

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line,25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:03:23 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	96	0.02
2 TMP	Propene	0.552	0.580	-5.1	98	0.00
3 TMP	Dichlorodifluoromethane	4.565	4.446	2.6	100	0.00
4 TMP	Chloromethane	0.776	0.759	2.2	102	0.00
5 TMP	F-114	3.419	3.489	-2.0	102	0.00
6 TMP	Vinyl chloride	1.082	0.931	14.0	89	0.00
7 TMP	1,3-Butadiene	0.605	0.557	7.9	91	0.00
8 TMP	Butane	1.161	1.030	11.3	88	0.04
9 TMP	Bromomethane	1.196	1.305	-9.1	105	0.00
10 TMP	Chloroethane	0.395	0.381	3.5	94	0.00
11 TMP	Vinyl bromide	1.286	1.252	2.6	96	0.00
12 TMP	Ethanol	0.174	0.196	-12.6	102	0.04
13 TMP	Acrolein	0.252	0.225	10.7	91	0.00
14 TMP	Pentane	1.140	1.147	-0.6	85	0.00
15 TMP	Trichlorofluoromethane	5.069	5.539	-9.3	99	0.00
16 TMP	Acetone	0.404	0.363	10.1	68	0.00
17 TMP	2-Propanol	1.563	1.487	4.9	88	0.00
18 TMP	1,1-Dichloroethene	1.255	1.190	5.2	95	0.00
19 TMP	trans-1,2-Dichloroethene	1.195	1.151	3.7	94	0.03
20 TMP	Methylene chloride	1.141	1.133	0.7	87	0.00
21 TMP	t-Butyl alcohol (TBA)	2.068	2.139	-3.4	101	0.00
22 TMP	3-Chloropropene	1.240	1.091	12.0	81	0.00
23 TMP	CFC-113	3.311	3.382	-2.1	103	0.00
24 TMP	Carbon disulfide	0.538	0.497	7.6	89	0.03
25 TMP	Methyl t-butyl ether (MTBE)	2.982	2.635	11.6	94	0.00
26 TMP	Vinyl acetate	1.012	0.957	5.4	107	0.00
27 TMP	1,1-Dichloroethane	2.186	2.170	0.7	93	0.00
28 TMP	cis-1,2-Dichloroethene	1.262	1.215	3.7	95	0.00
29 TMP	Hexane	1.109	1.117	-0.7	105	0.02
30 TMP	Chloroform	3.255	3.291	-1.1	97	0.02
31 TMP	Ethyl acetate	2.770	2.634	4.9	93	0.00
32 TMP	Tetrahydrofuran	0.872	0.752	13.8	85	0.00
33 TMP	2-Butanone (MEK)	0.459	0.494	-7.6	85	0.00
34 TMP	1,2-Dichloroethane (EDC)	2.237	2.257	-0.9	94	0.00
35 TMP	1,1,1-Trichloroethane	3.544	3.718	-4.9	100	0.01
36 TMP	Carbon tetrachloride	4.146	4.307	-3.9	101	0.02
37 TMP	Benzene	3.534	3.422	3.2	96	0.02
38 TMP	Cyclohexane	0.985	0.916	7.0	93	0.02
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	104	0.02
40 TMP	1,2-Dichloropropane	0.330	0.304	7.9	97	0.00
41 TMP	1,4-Dioxane	0.175	0.168	4.0	96	0.00
42 TMP	2,2,4-Trimethylpentane	0.861	0.748	13.1	89	0.02
43 TMP	Methyl methacrylate	0.296	0.260	12.2	88	0.00
44 TMP	Heptane	0.327	0.270	17.4	89	0.00
45 TMP	Bromodichloromethane	0.825	0.819	0.7	99	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line,25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:03:23 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.503	0.479	4.8	99	0.02
47 TMP cis-1,3-Dichloropropene	0.529	0.487	7.9	94	0.00
48 TMP 4-Methyl-2-pentanone	0.038	0.036	5.3	93	0.00
49 TMP trans-1,3-Dichloropropene	0.508	0.477	6.1	98	0.02
50 TMP Toluene	0.513	0.475	7.4	95	0.03
51 TMP 1,1,2-Trichloroethane	0.372	0.369	0.8	102	0.00
52 TMP 2-Hexanone	0.484	0.413	14.7	88	0.00
53 TMP Tetrachloroethene	0.508	0.529	-4.1	103	0.01
54 TMP Dibromochloromethane	0.909	0.922	-1.4	103	0.03
55 TMP 1,2-Dibromoethane (EDB)	0.658	0.652	0.9	104	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	95	0.01
57 TMP Chlorobenzene	0.933	0.972	-4.2	97	0.01
58 TMP Ethylbenzene	1.442	1.327	8.0	90	0.01
59 TMP 1,1,2,2-Tetrachloroethane	0.993	0.993	0.0	94	0.01
60 TMP Nonane	0.561	0.527	6.1	91	0.01
61 TMP Isopropylbenzene	1.680	1.607	4.3	88	0.01
62 TMP 2-Chlorotoluene	0.432	0.433	-0.2	93	0.02
63 TMP Propylbenzene	3.087	3.029	1.9	90	0.00
64 TMP 4-Ethyltoluene	1.595	1.530	4.1	88	0.00
65 TMP m,p-Xylene	0.541	0.501	7.4	92	0.00
66 TMP o-Xylene	0.504	0.496	1.6	91	0.00
67 TMP Styrene	0.757	0.733	3.2	92	0.01
68 TMP Bromoform	1.279	1.475	-15.3	105	0.00
69 S 4-Bromofluorobenzene	0.742	0.721	2.8	89	0.00
70 TMP Benzyl chloride	1.263	1.321	-4.6	97	0.00
71 TMP 1,3,5-Trimethylbenzene	1.434	1.435	-0.1	90	0.00
72 TMP 1,2,4-Trimethylbenzene	1.359	1.309	3.7	90	0.00
73 TMP 1,3-Dichlorobenzene	1.193	1.294	-8.5	100	0.00
74 TMP 1,4-Dichlorobenzene	1.211	1.246	-2.9	99	0.00
75 TMP 1,2-Dichlorobenzene	1.153	1.205	-4.5	99	0.00
76 TMP 1,2,4-Trichlorobenzene	1.110	1.007	9.3	100	0.02
77 TMP Naphthalene	1.414	1.320	6.6	102	0.02
78 TMP Hexachlorobutadiene	1.608	1.443	10.3	112	0.02

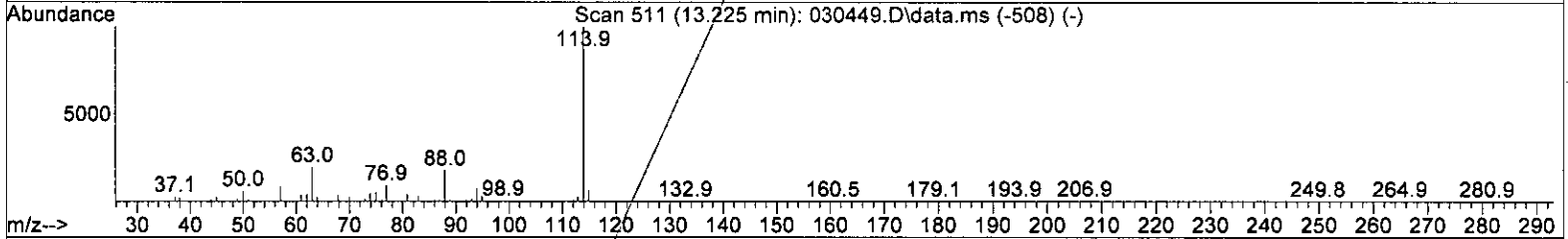
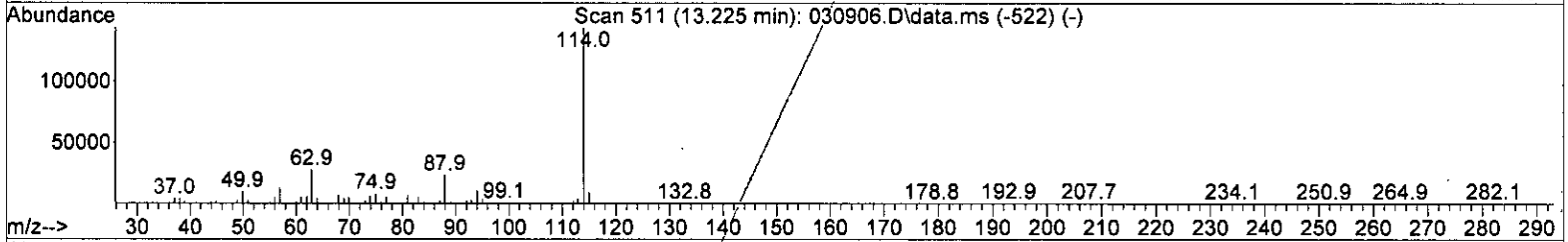
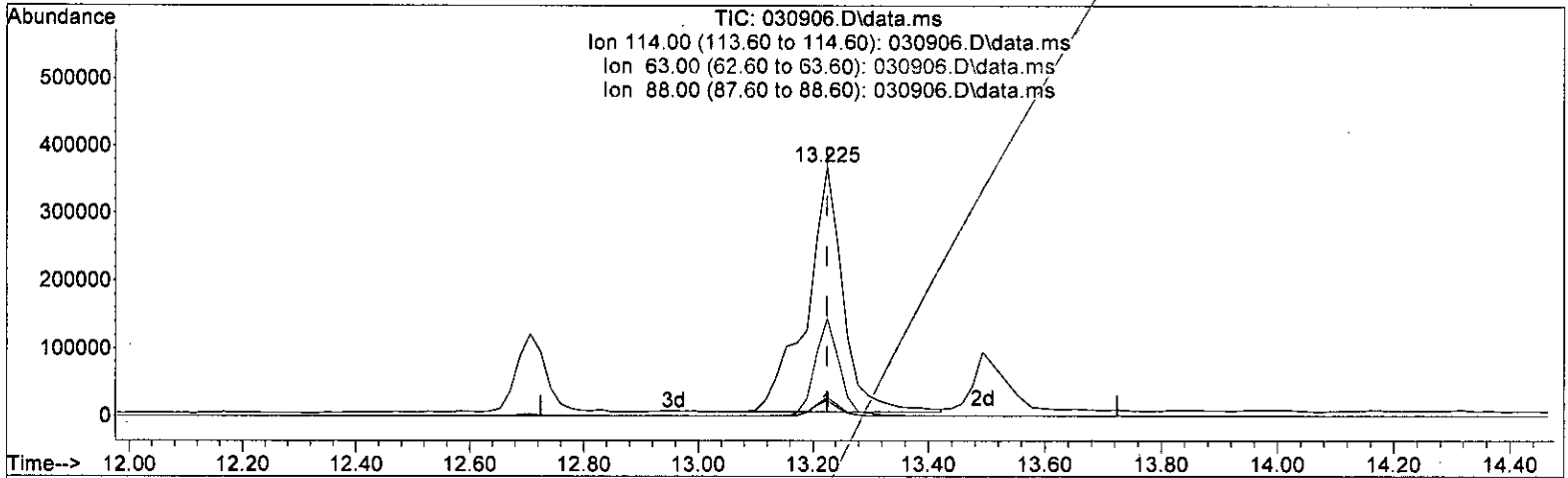
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:44:46 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(3) IS-2 1,4-Difluorobenzene (T)

13.225min (-0.000) 55.834 ug/m3

response 1611419

Signal Exp% Act%

TIC 100.00 100.00

114.00 65.20 39.96

63.00 14.80 7.67

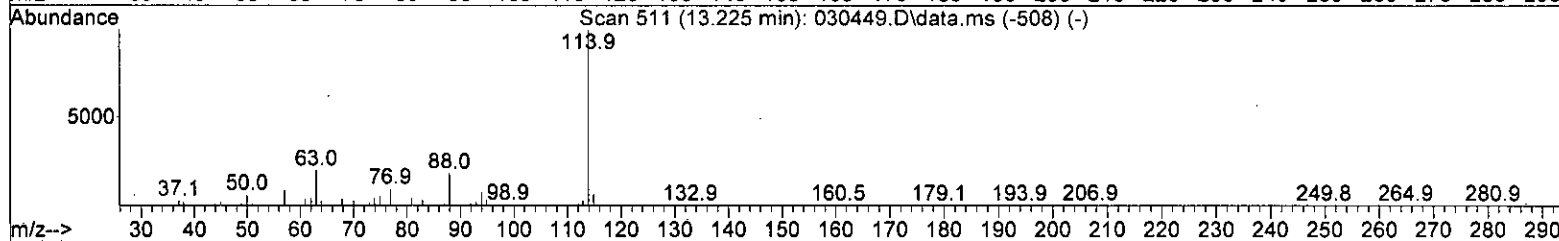
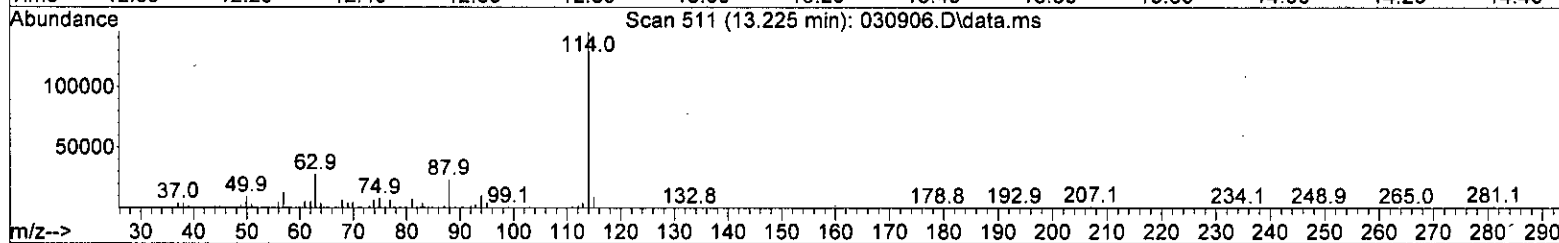
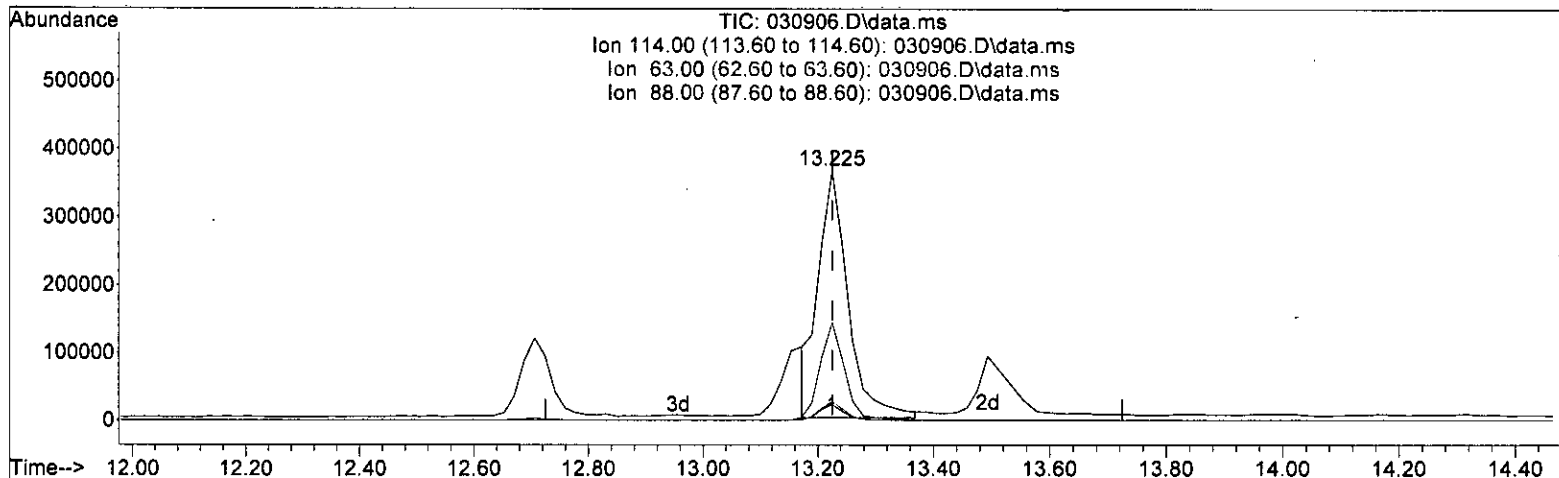
88.00 10.30 6.47

*Handwritten signature and date: 3/10/22*



Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:44:46 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030906.D\data.ms

(3) IS-2 1,4-Difluorobenzene (T)

13.225min (-0.000) 46.042 ug/m3 m

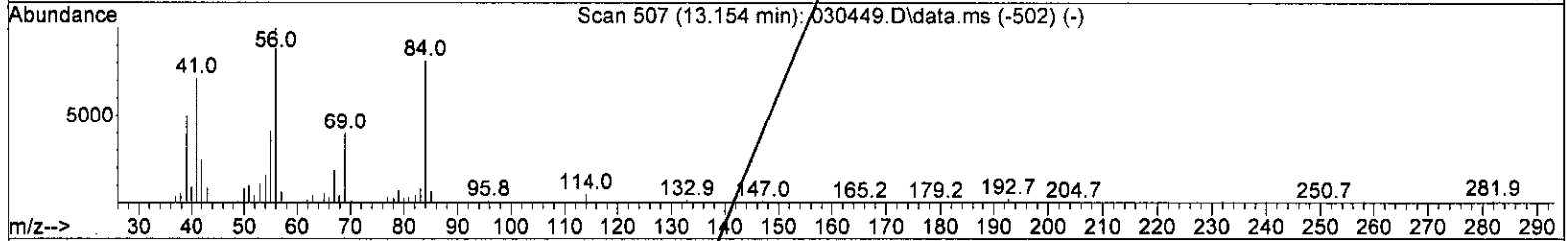
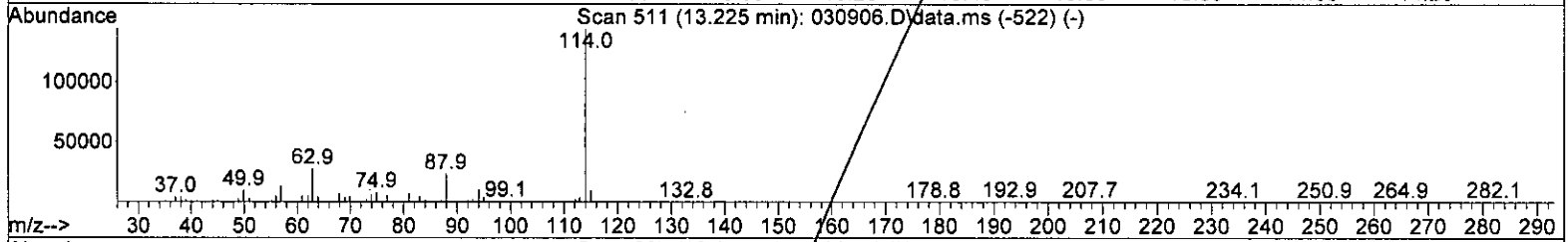
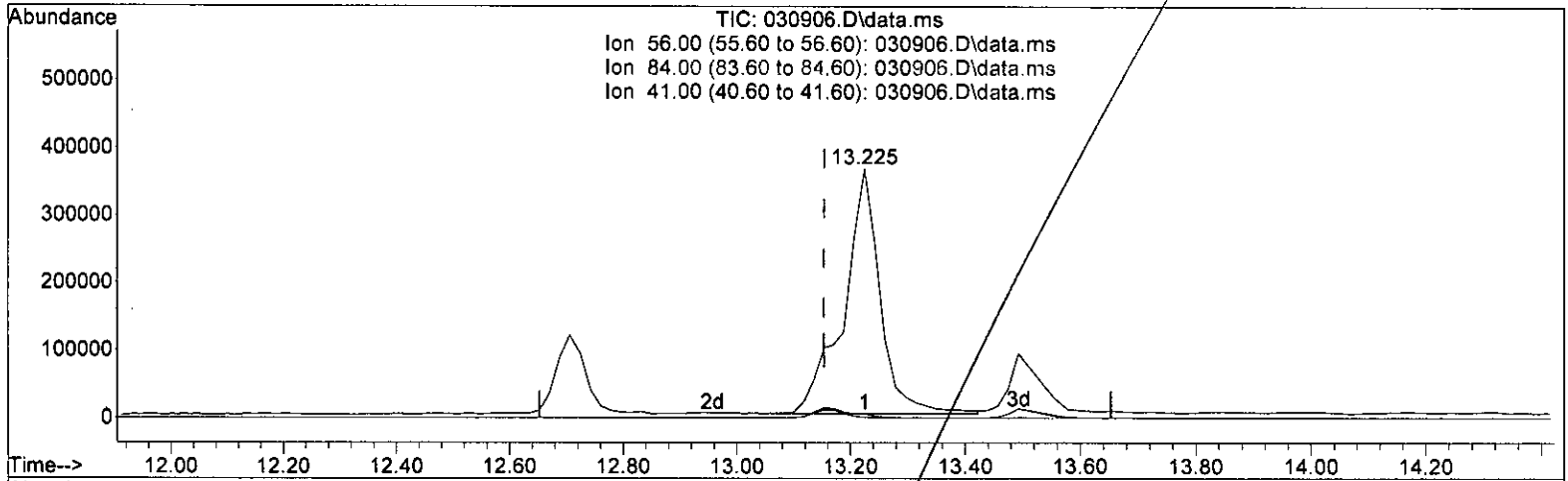
response	1328829
Signal	Exp% Act%
TIC	100.00 100.00
114.00	65.20 48.45
63.00	14.80 9.30
88.00	10.30 7.85

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:44:46 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(14) Cyclohexane (L1)

13.225min (+ 0.071) 70.109 ug/m3

response 1611419

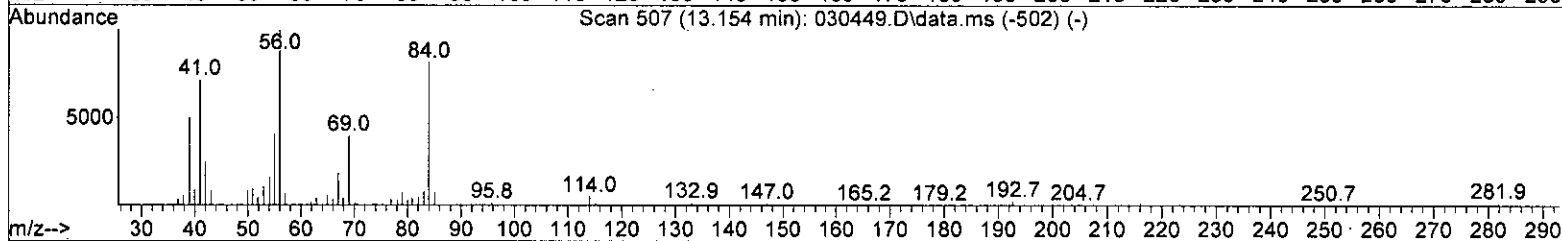
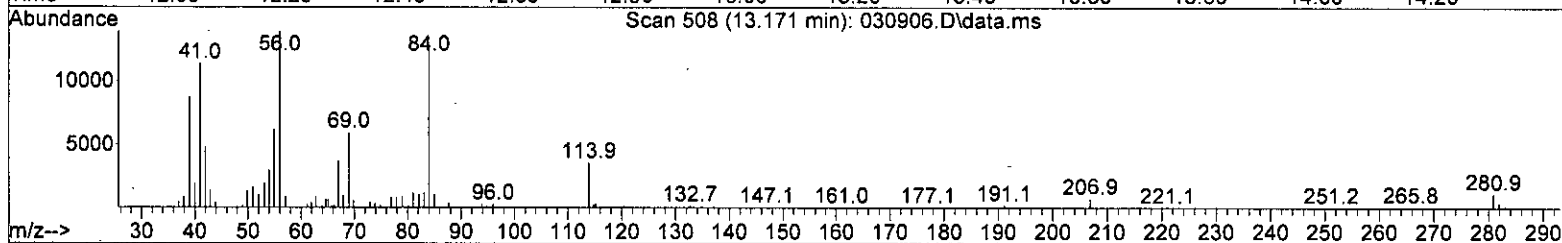
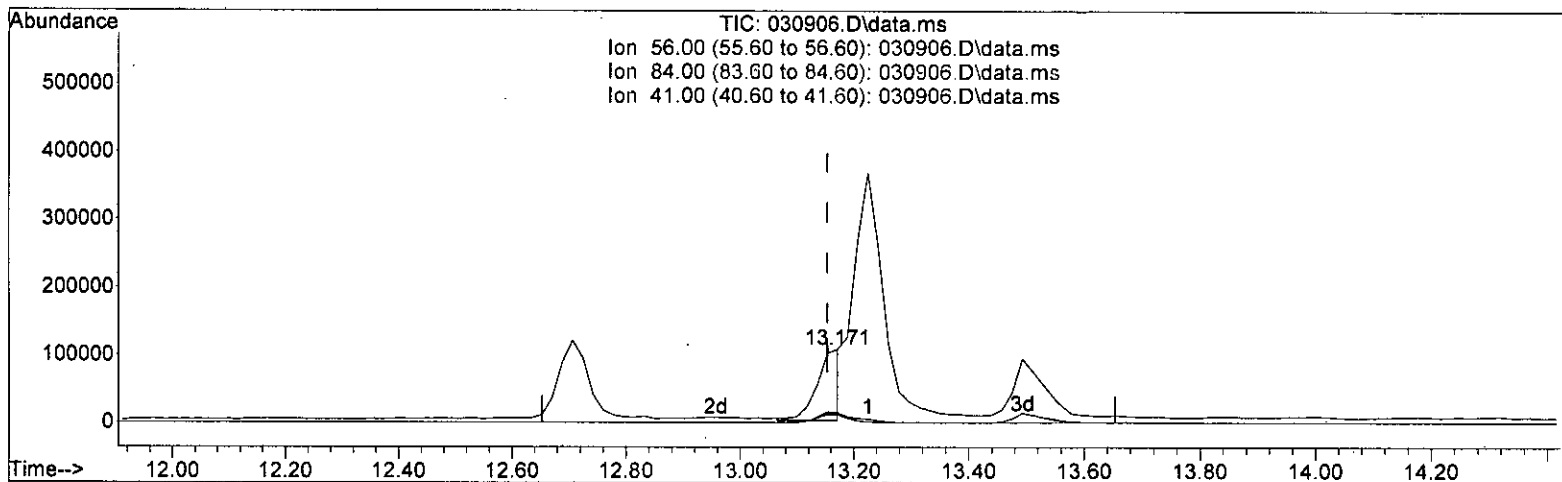
Signal	Exp%	Act%
TIC	100.00	100.00
56.00	3.90	1.43
84.00	1.30	0.35
41.00	1.00	0.23

*Handwritten signature and date: 3/10/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:44:46 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(14) Cyclohexane (L1)

13.171min (+ 0.018) 13.440 ug/m3 m

response 308918

Signal Exp% Act%

TIC 100.00 100.00

56.00 3.90 7.44

84.00 1.30 1.84

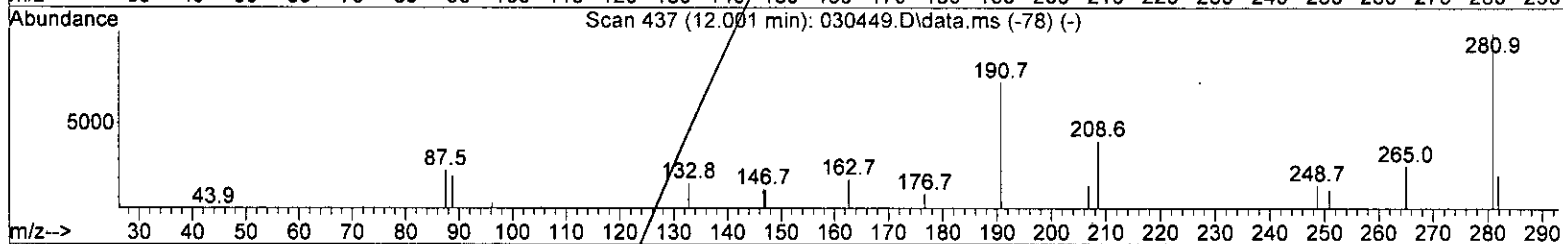
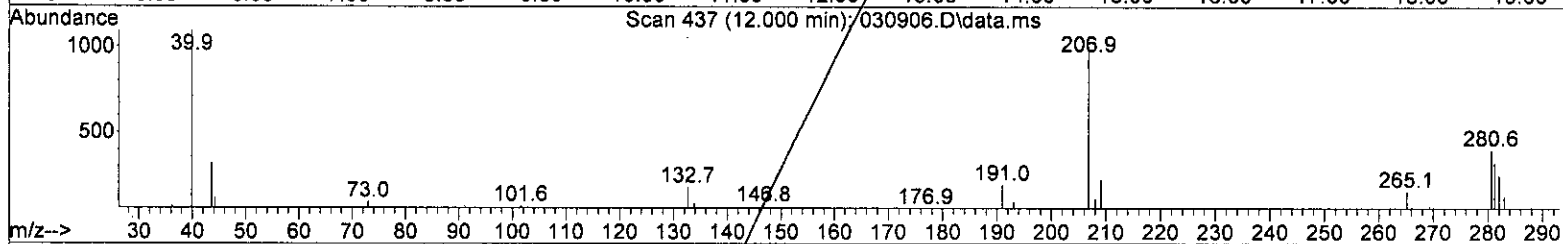
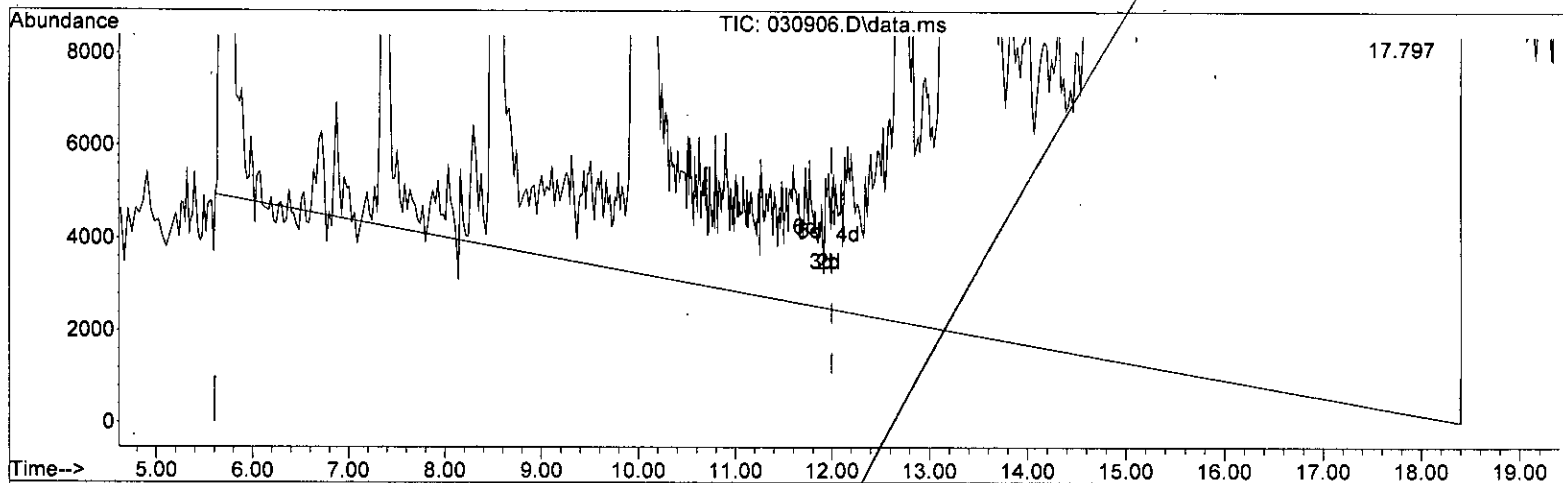
41.00 1.00 1.20

*Handwritten signature/initials*  
 3/10/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:44:46 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(19) APH EC5-8 aliphatics (H)

12.004min ( 0.000) 362.758 ug/m3 m

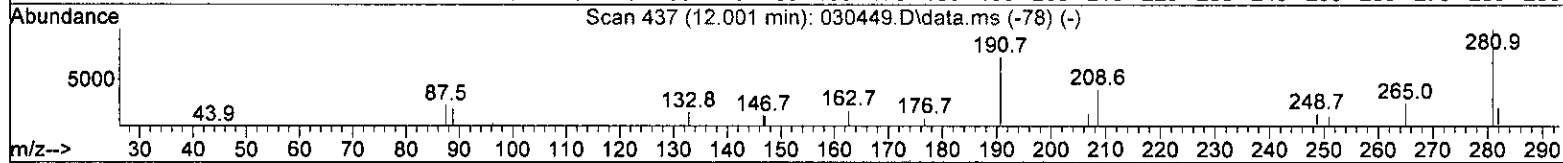
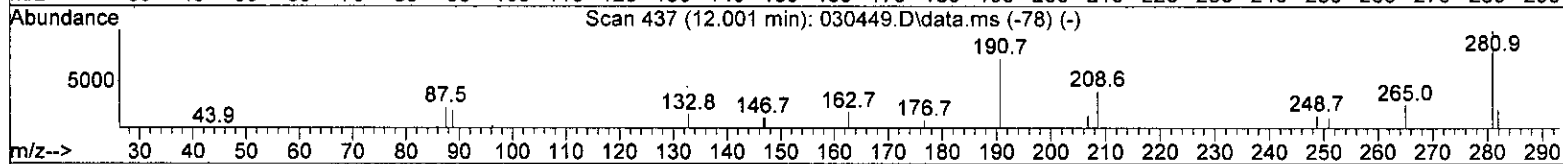
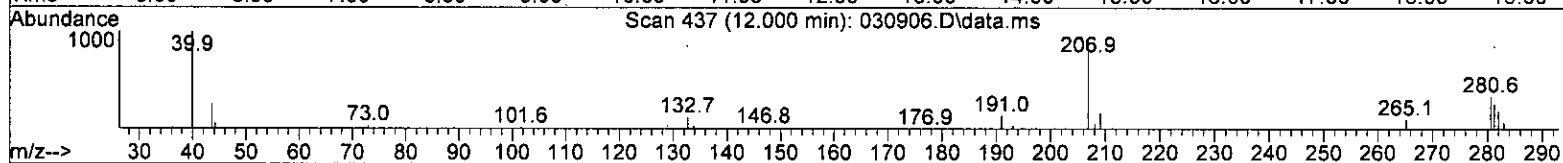
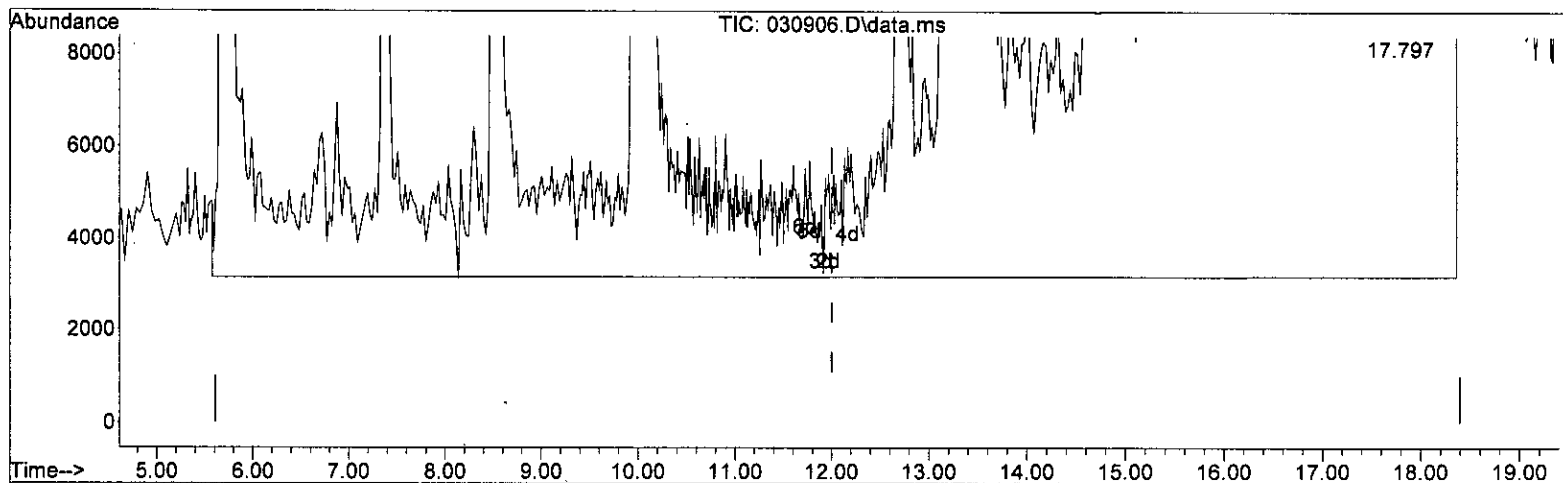
response 7864968

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*h/3/10/22*

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:44:46 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030906.D\data.ms

(19) APH EC5-8 aliphatics (H)

12.004min ( 0.000) 626.336 ug/m3 m

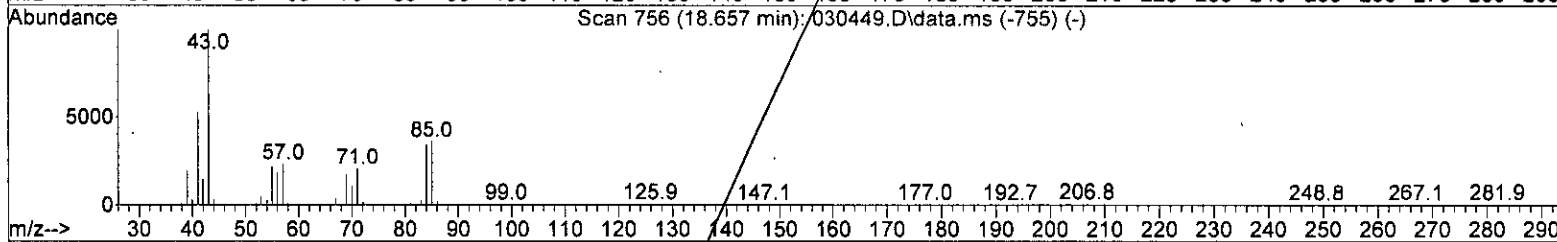
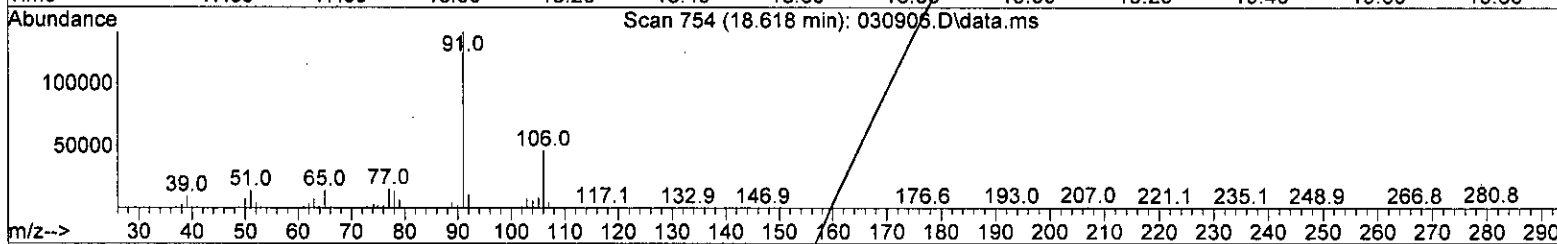
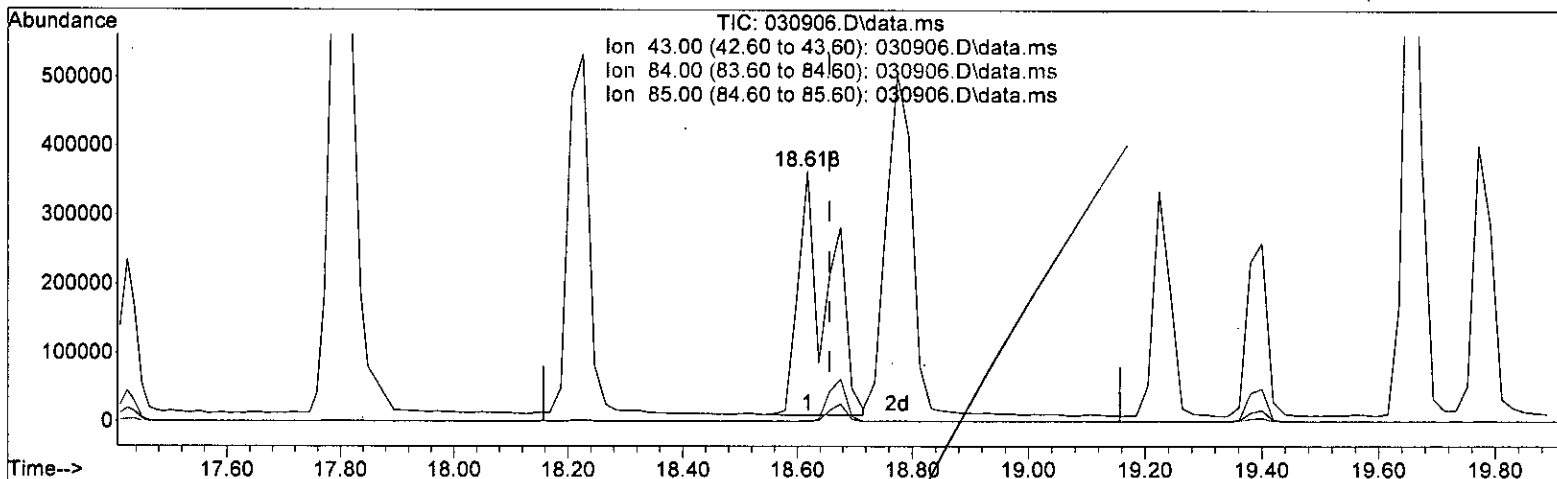
response 13579600

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten:* 3/10/22

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:44:46 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth: TO15NA.M



TIC: 030906.D\data.ms

(29) 2,3-Dimethylheptane (L2)

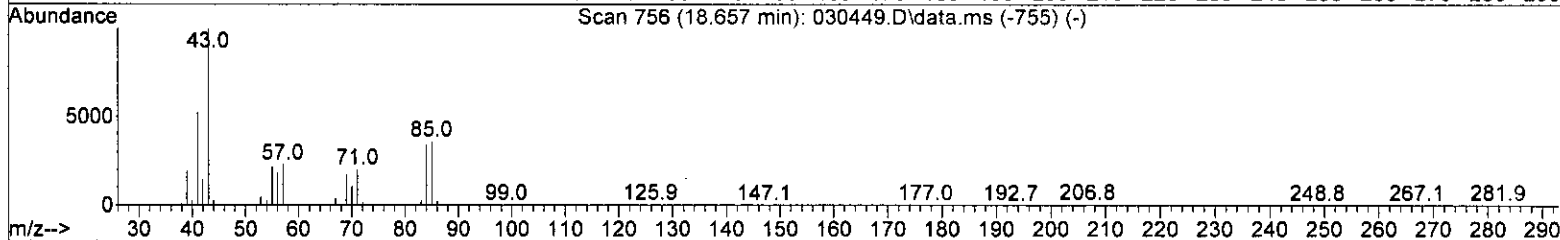
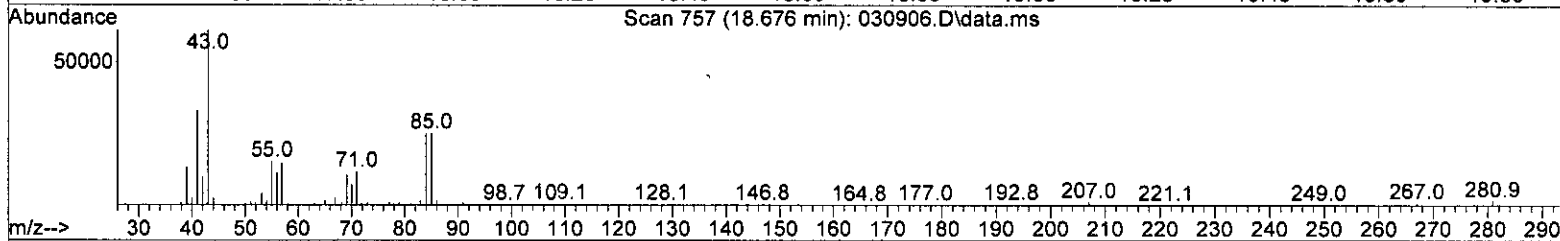
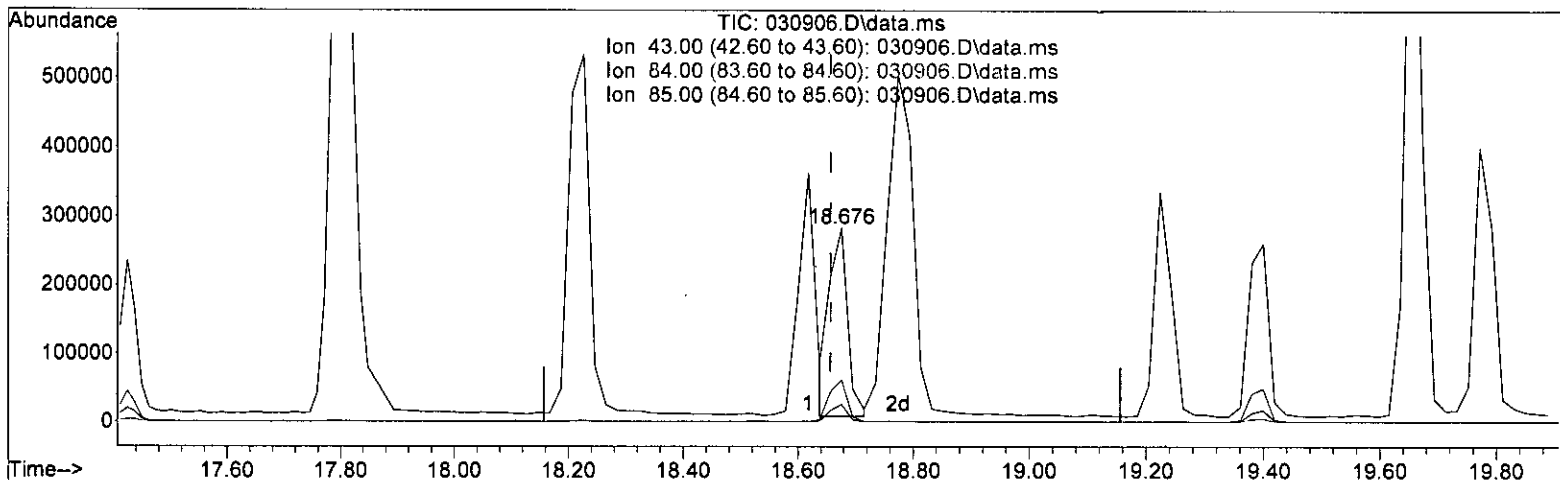
18.618min (-0.039) 51.539 ug/m3

response	1318259
Signal	Exp% Act%
TIC	100.00 100.00
43.00	31.80 10.36#
84.00	7.20 4.13#
85.00	6.20 4.08#

*Handwritten signature and date: 3/10/22*

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:44:46 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(29) 2,3-Dimethylheptane (L2)

18.676min (+ 0.019) 24.250 ug/m3 m

response 620269

Signal Exp% Act%

TIC 100.00 100.00

43.00 31.80 22.01#

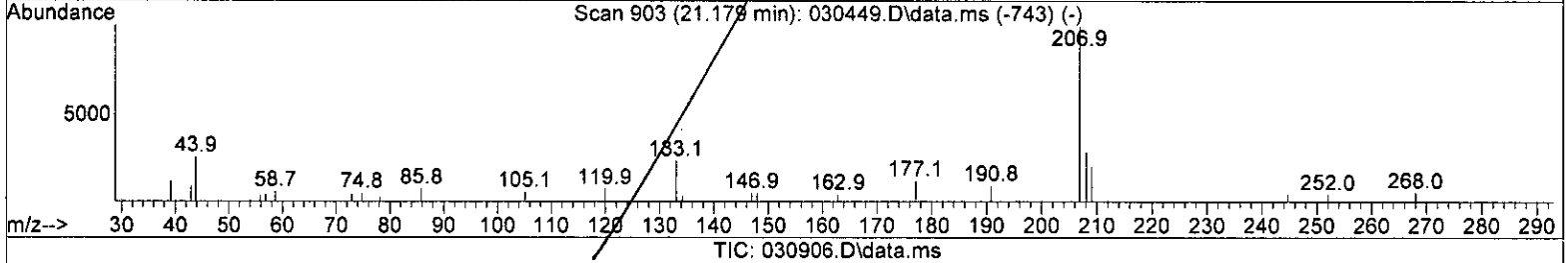
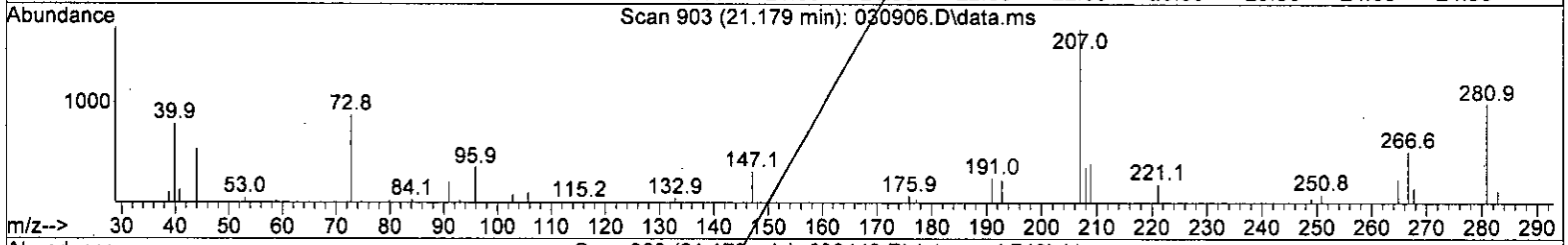
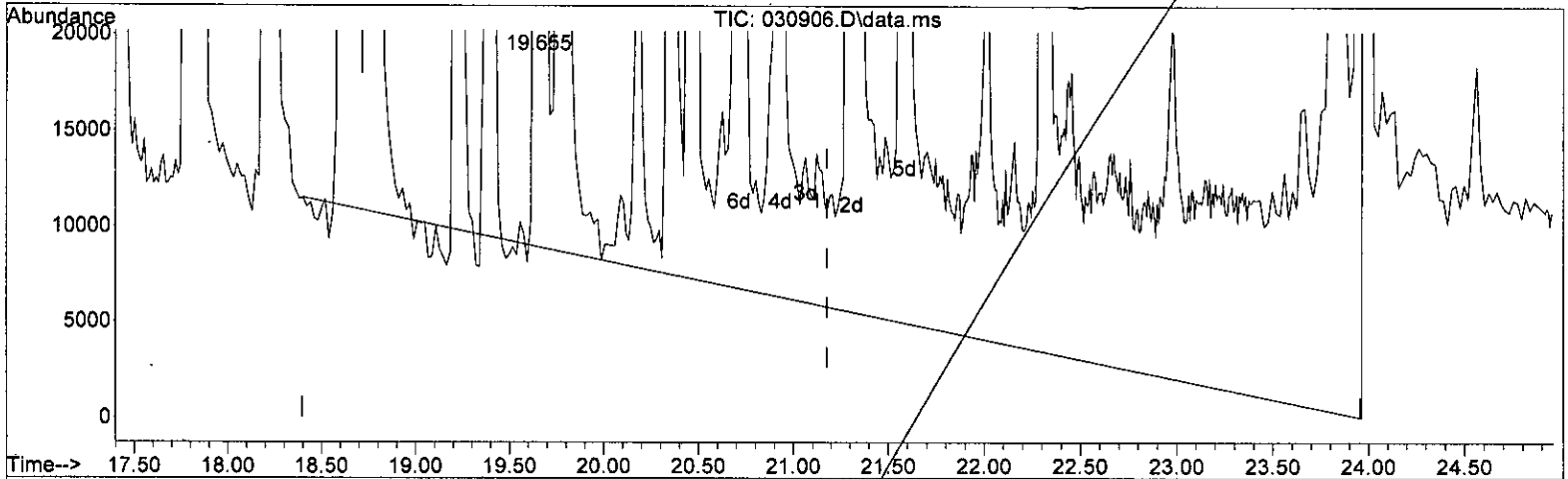
84.00 7.20 8.78#

85.00 6.20 8.66#

*M/3/10/22*

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:44:46 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(36) APH EC9-12 aliphatics (H)  
 21.178min ( 0.000) 501.981 ug/m3 m  
 response 13528196

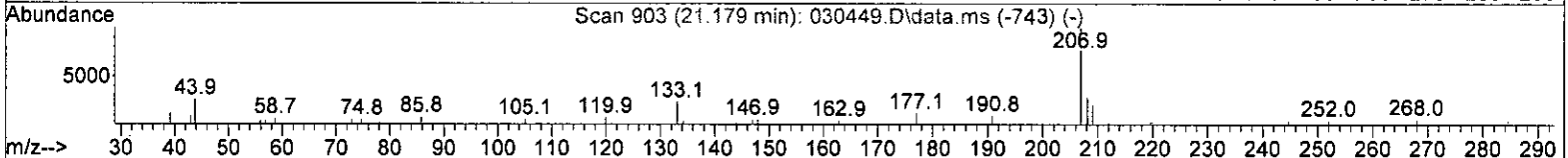
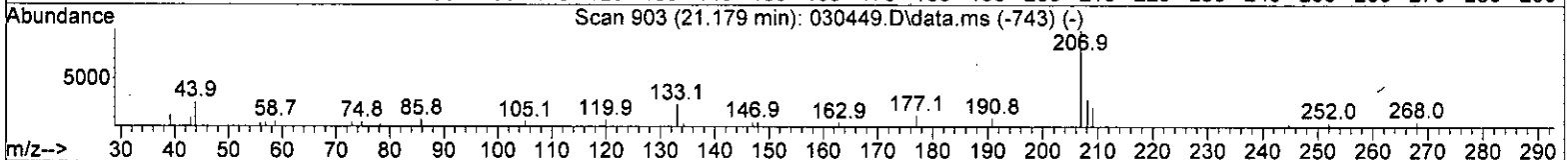
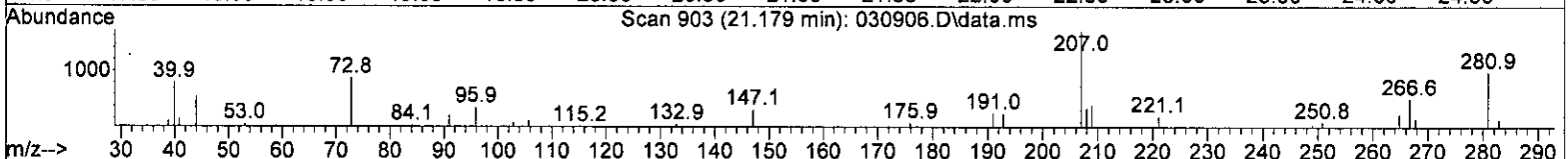
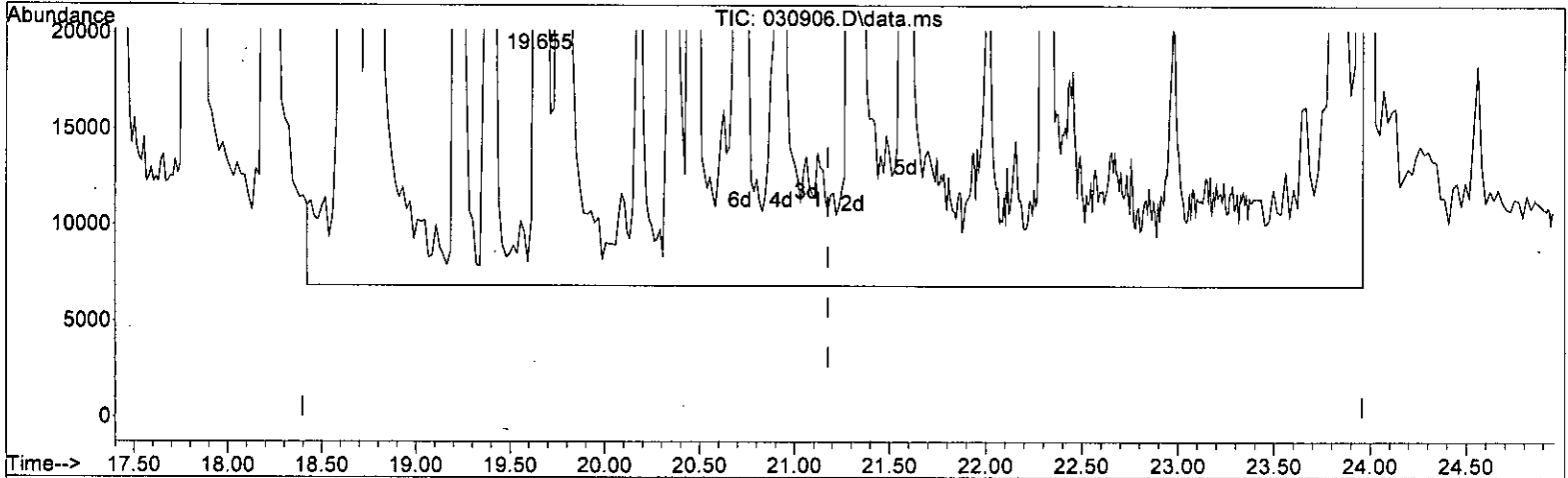
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature: D/John*



Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:44:46 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030906.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 513.704 ug/m3 m

response 13844108

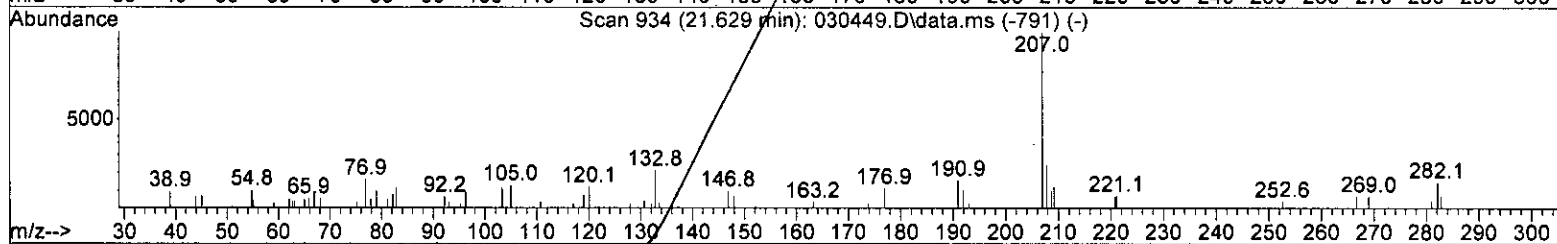
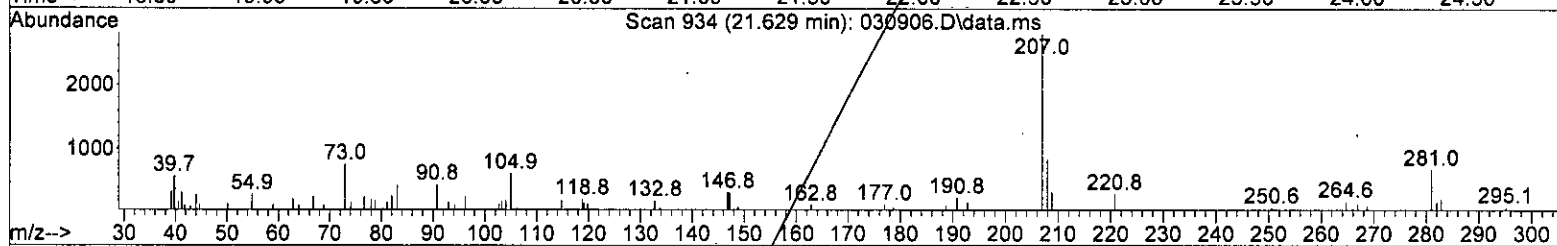
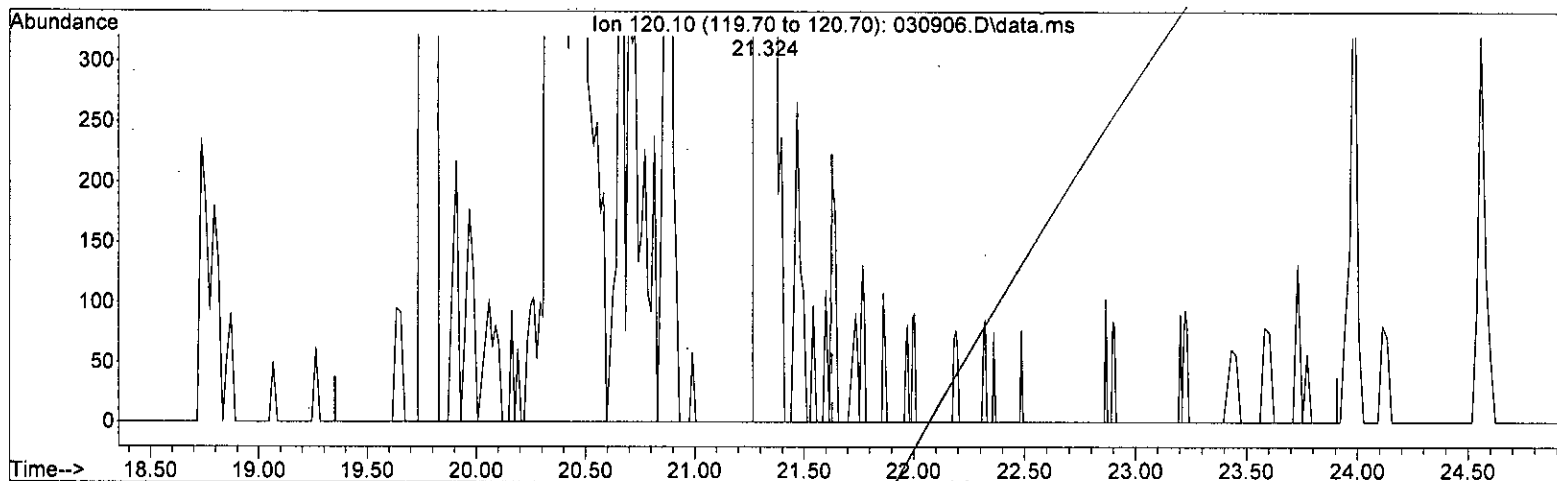
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*WJ*  
*3/10/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:44:46 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



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 3/10/22

(44) APH EC9-10 aromatics (1) (H)

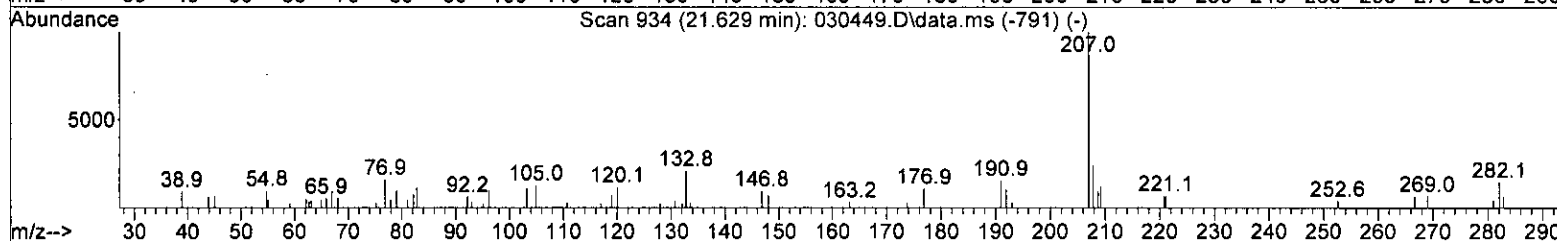
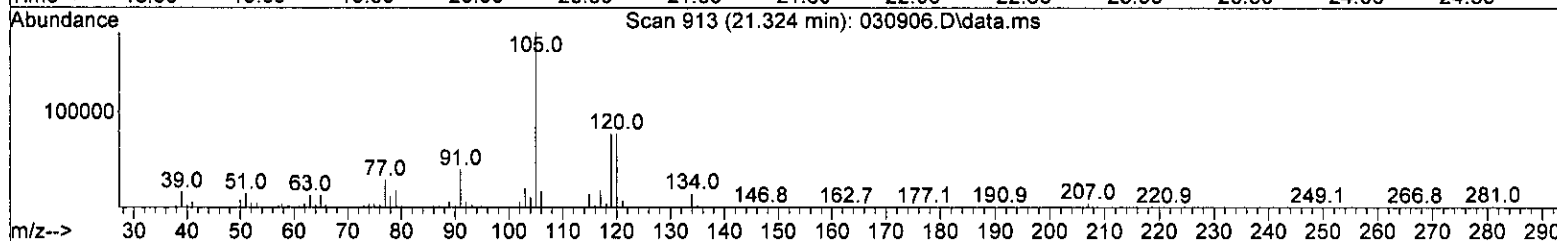
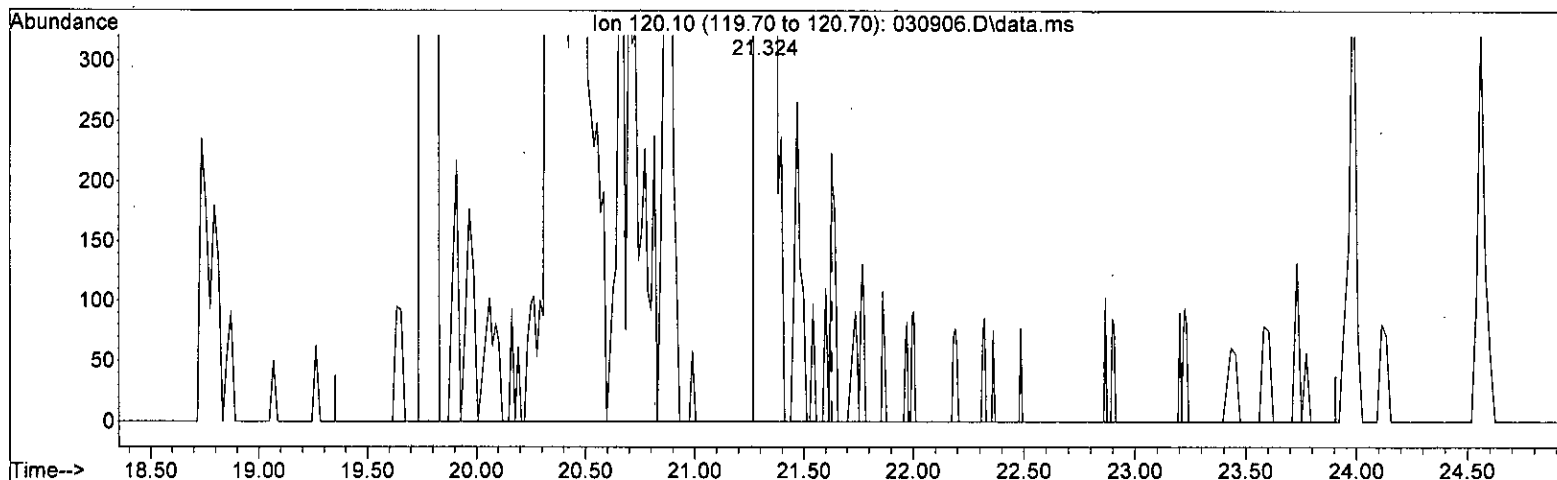
21.630min ( 0.000) 80.803 ug/m3 m

response 414311

Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:44:46 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030906.D\data.ms

(44) APH EC9-10 aromatics (1) (H)

21.630min ( 0.000) 72.060 ug/m3 m

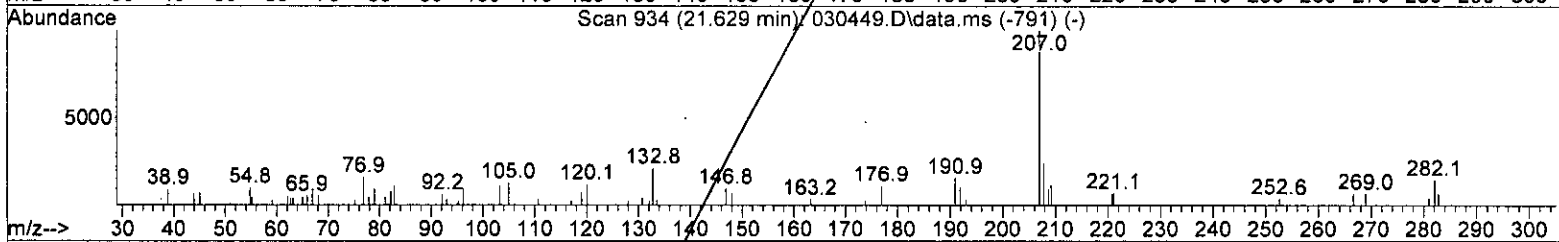
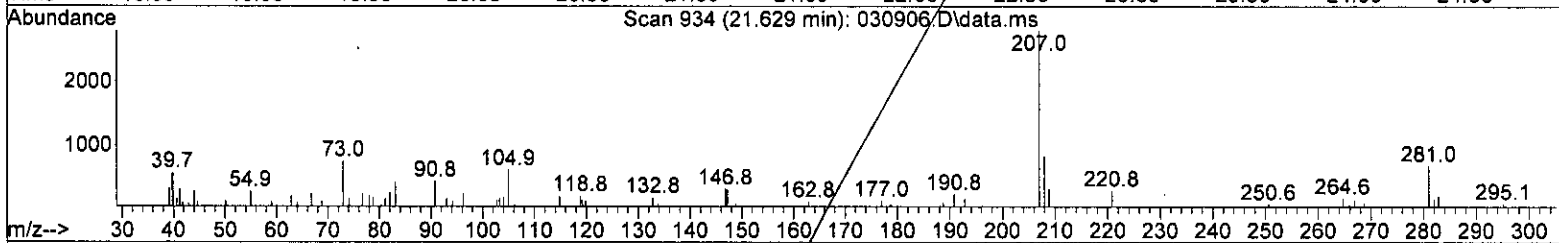
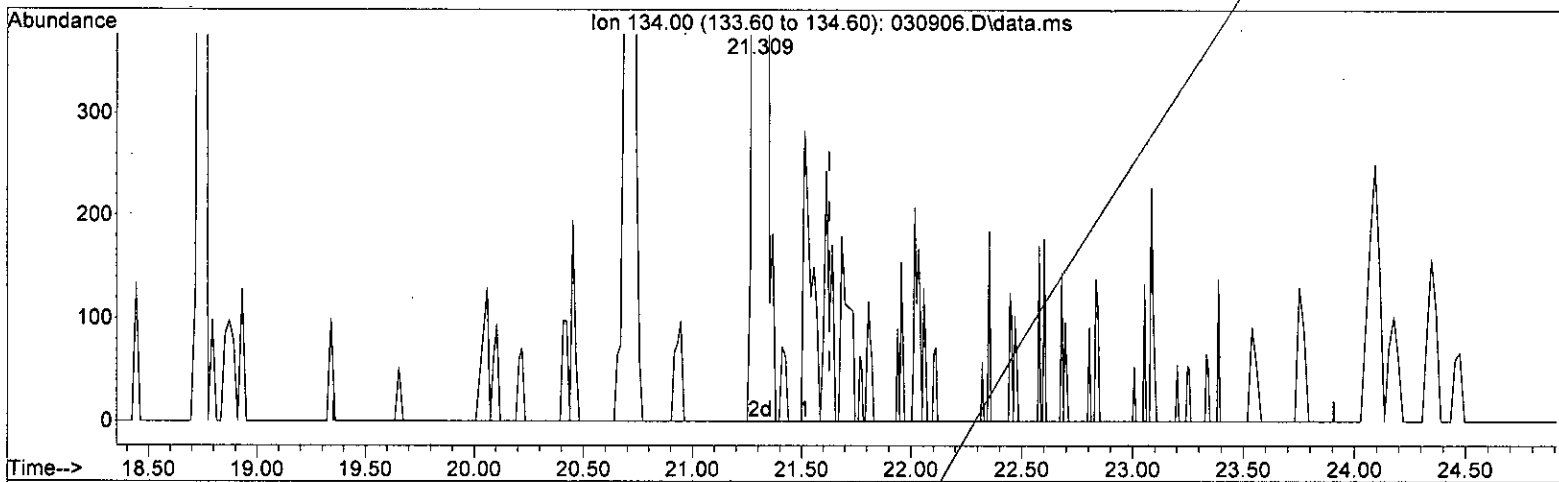
response 369482

Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*W  
3/10/22*

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:44:46 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(45) APH EC9-10 aromatics (2) (H)

21.630min ( 0.000) 14.107 ug/m3 m

response 40717

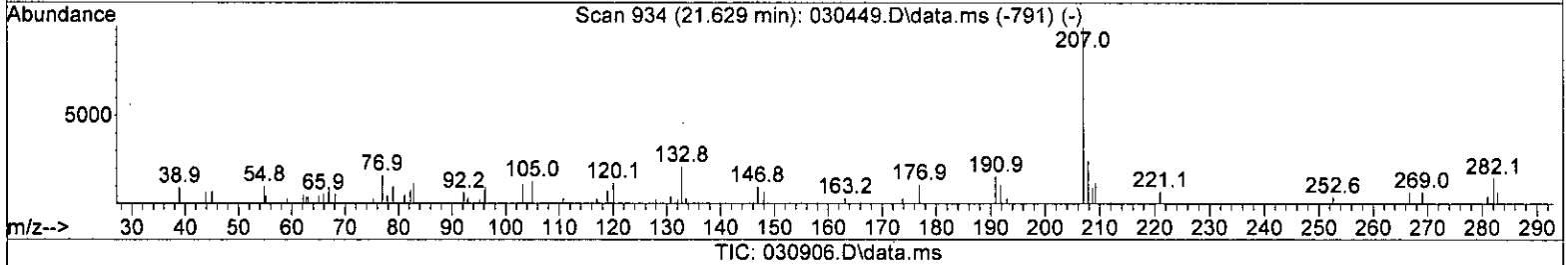
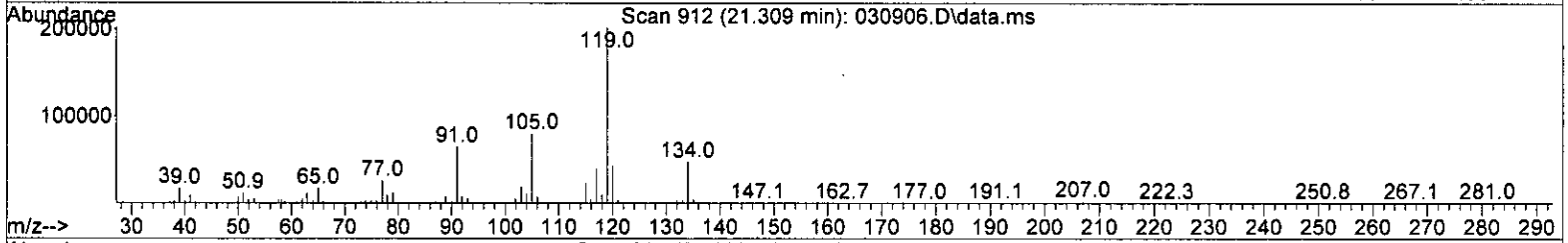
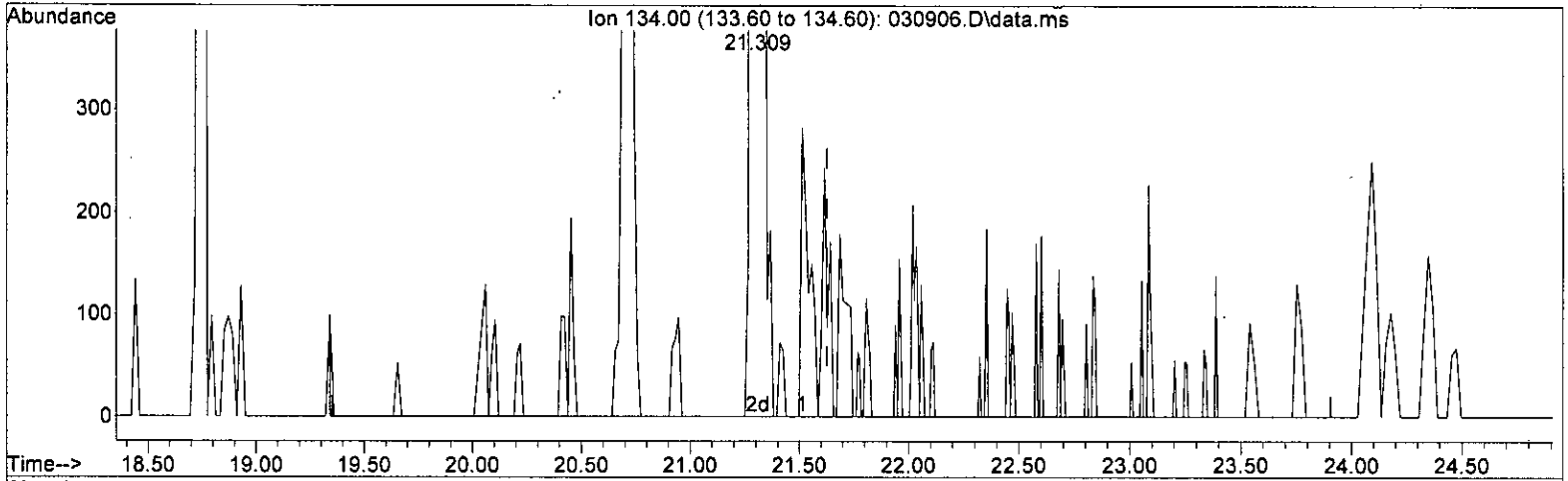
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:44:46 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



*Handwritten signature/initials*  
 3/10/22

(45) APH EC9-10 aromatics (2) (H)

21.630min ( 0.000) 27.617 ug/m3 m

response 79709

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:47:22 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.99	128	113490	50.000	ug/m3	# 0.02
10) 1,4-Difluorobenzene	13.23	114	438599	50.000	ug/m3	0.02
20) Chlorobenzene-d5	18.23	117	423503	50.000	ug/m3	0.02
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.65	95	306492	70.567	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	99.39%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.98	TIC	726185	46.236	ug/m3	88
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1328829m	46.042	ug/m3	
4) IS-3 Chlorobenzene-d5	18.23	TIC	1339694	46.947	ug/m3	98
5) Methylene chloride	6.88	TIC	8379	22.991	ug/m3	82
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.	d	
8) 1,3-Butadiene	4.27	54	29587	8.718	ug/m3	84
9) Methyl t-butyl ether	8.53	73	150714	15.697	ug/m3	81
11) Benzene	12.71	78	181886	16.443	ug/m3	82
12) Isopentane	5.69	TIC	250087	15.113	ug/m3	90
13) Hexane	10.12	TIC	320956	16.853	ug/m3	95
14) Cyclohexane	13.17	TIC	308918m	13.440	ug/m3	
15) 2,3-Dimethylpentane	13.49	TIC	282936	16.351	ug/m3	94
16) Heptane	14.61	TIC	393899	19.968	ug/m3	91
17) Octane	17.42	TIC	662841	21.190	ug/m3	88
18) APH EC5-8 aliphatics T...	11.97	TIC	2219637m	102.377	ug/m3	
19) APH EC5-8 aliphatics	12.00	TIC	13579600m	626.336	ug/m3	
21) S 4-Bromofluorobenzene	19.65	TIC	1849965	50.237	ug/m3	97
22) Hexamethylcyclotrisilo...	17.80	TIC	3517668	64.060	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	1012064	138.136	ppbv	100
24) Toluene	16.41	92	116992	17.690	ug/m3	92
25) Ethylbenzene	18.62	91	277581	20.029	ug/m3	100
26) m,p-Xylene	18.77	106	226994	45.134	ug/m3	97
27) o-Xylene	19.22	106	101924	21.203	ug/m3	96
28) Naphthalene	23.96	128	371721	32.736	ug/m3	97
29) 2,3-Dimethylheptane	18.68	TIC	620269m	24.250	ug/m3	
30) Nonane	19.40	TIC	604108	22.570	ug/m3	92
31) Decane	20.93	TIC	754368	28.491	ug/m3	92
32) Butylcyclohexane	21.59	TIC	912947	25.670	ug/m3	95
33) Undecane	22.31	TIC	857550	33.717	ug/m3	94
34) Dodecane	23.84	TIC	888805	38.695	ug/m3	95
35) APH EC9-12 aliphatics ...	21.12	TIC	4638047m	172.101	ug/m3	
36) APH EC9-12 aliphatics	21.18	TIC	13844108m	513.704	ug/m3	
38) Isopropylbenzene	19.77	120	77138	23.980	ug/m3#	80
39) 1-Methyl-3-ethylbenzene	21.32	120	157864	26.004	ug/m3#	51
40) 1,3,5-Trimethylbenzene	20.47	120	130343	24.783	ug/m3	97
41) p-Isopropyltoluene	21.31	134	85166	29.669	ug/m3	96
42) 1,2,3-Trimethylbenzene	21.32	120	157864	26.004	ug/m3	97
43) APH EC9-10 aromatics T...	21.59	TIC	608375m	131.082	ug/m3	
44) APH EC9-10 aromatics (1)	21.63	120	369482m	72.060	ug/m3	

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

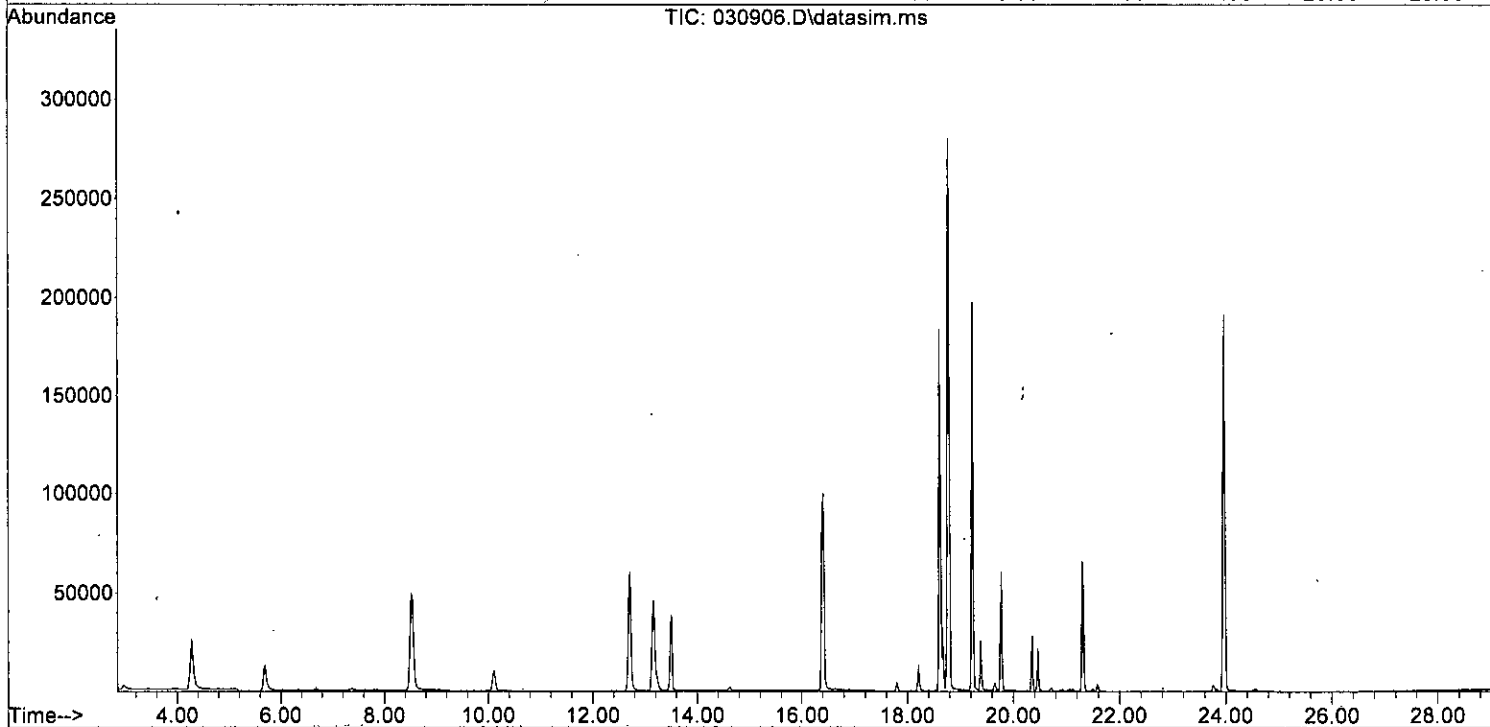
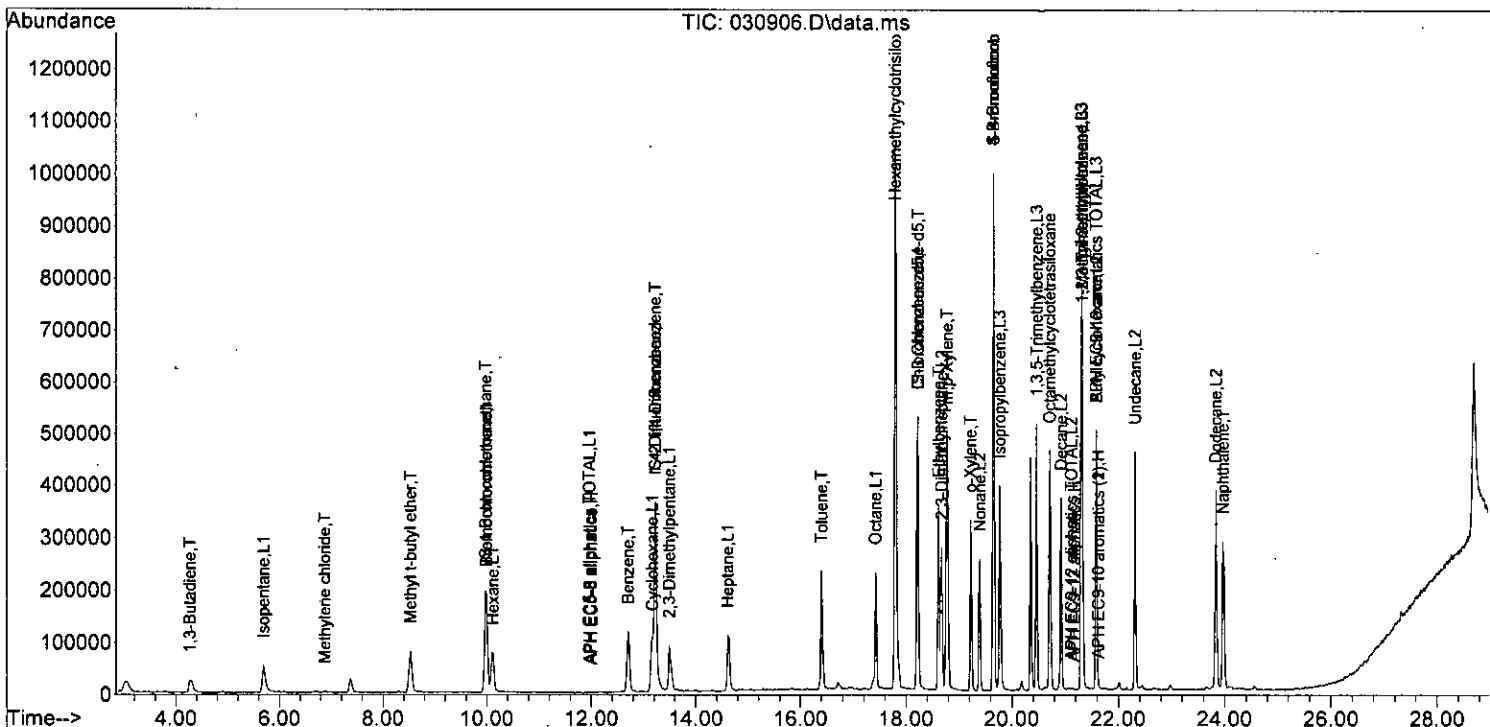
Quant Time: Mar 10 14:47:22 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.63	134	79709m	27.617	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:47:22 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M





## Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:47:22 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	97	0.02
2 T	IS-1 Bromochloromethane	50.000	46.236	7.5	90	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	46.042	7.9	98	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	46.947	6.1	91	0.02
5 T	Methylene chloride	50.000	22.991	54.0#	53	0.03
6	Acetone	5.000	0.000	100.0#	0	-5.61#
7	2-Propanol	50.000	0.000	100.0#	0	-5.87#
8 T	1,3-Butadiene	11.000	8.718	20.7	87	0.00
9 T	Methyl t-butyl ether	18.000	15.697	12.8	90	0.00
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	91	0.02
11 T	Benzene	16.000	16.443	-2.8	94	0.02
12 L1	Isopentane	15.000	15.113	-0.8	93	0.00
13 L1	Hexane	17.500	16.853	3.7	99	0.02
14 L1	Cyclohexane	17.500	13.440	23.2	81	0.02
15 L1	2,3-Dimethylpentane	21.000	16.351	22.1	80	0.00
16 L1	Heptane	21.000	19.968	4.9	92	0.00
17 L1	Octane	23.500	21.190	9.8	96	0.00
18 L1	APH EC5-8 aliphatics TOTAL	115.000	102.377	11.0	91	0.03
19 H	APH EC5-8 aliphatics	115.000	626.336	-444.6#	555	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	94	0.02
21 T	S 4-Bromofluorobenzene	50.000	50.237	-0.5	92	0.00
22	Hexamethylcyclotrisiloxane	50.000	64.060	-28.1	142	0.00
23	Octamethylcyclotetrasiloxan	50.000	138.136	-176.3#	315	0.00
24 T	Toluene	18.750	17.690	5.7	104	0.00
25 T	Ethylbenzene	21.750	20.029	7.9	91	0.02
26 T	m,p-Xylene	44.000	45.134	-2.6	95	0.00
27 T	o-Xylene	22.000	21.203	3.6	90	0.00
28 T	Naphthalene	25.000	32.736	-30.9#	124	0.00
29 L2	2,3-Dimethylheptane	25.000	24.250	3.0	94	0.02
30 L2	Nonane	25.000	22.570	9.7	92	0.02
31 L2	Decane	30.000	28.491	5.0	95	0.01
32 L2	Butylcyclohexane	27.500	25.670	6.7	91	0.01
33 L2	Undecane	32.500	33.717	-3.7	103	0.00
34 L2	Dodecane	35.000	38.695	-10.6	122	0.02
35 L2	APH EC9-12 aliphatics TOTAL	175.000	172.101	1.7	99	0.01
36 H	APH EC9-12 aliphatics	175.000	513.704	-193.5#	296	0.00
37 S	4-Bromofluorobenzene	71.000	70.567	0.6	90	0.00
38 L3	Isopropylbenzene	24.500	23.980	2.1	95	0.00
39 L3	1-Methyl-3-ethylbenzene	24.500	26.004	-6.1	95	0.01
40 L3	1,3,5-Trimethylbenzene	24.500	24.783	-1.2	95	0.01
41 L3	p-Isopropyltoluene	27.750	29.669	-6.9	98	0.01
42 L3	1,2,3-Trimethylbenzene	24.500	26.004	-6.1	95	0.01
43 L3	APH EC9-10 aromatics TOTAL	125.400	131.082	-4.5	96	0.01
44 H	APH EC9-10 aromatics (1)	98.000	72.060	26.5	67	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:47:22 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
45 H APH EC9-10 aromatics (2)	27.400	27.617	-0.8	91	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:47:22 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	97	0.02
2 T	IS-1 Bromochloromethane	6.920	6.399	7.5	90	0.00
3 T	IS-2 1,4-Difluorobenzene	12.715	11.709	7.9	98	0.00
4 T	IS-3 Chlorobenzene-d5	12.572	11.805	6.1	91	0.02
5 T	Methylene chloride	0.161	0.074	54.0#	53	0.03
6	Acetone	1.776	0.000	100.0#	0#	-5.61#
7	2-Propanol	0.828	0.000	100.0#	0#	-5.87#
8 T	1,3-Butadiene	1.495	1.185	20.7	87	0.00
9 T	Methyl t-butyl ether	4.230	3.689	12.8	90	0.00
10 I	1,4-Difluorobenzene	1.000	1.000	0.0	91	0.02
11 T	Benzene	1.261	1.296	-2.8	94	0.02
12 L1	Isopentane	1.886	1.901	-0.8	93	0.00
13 L1	Hexane	2.171	2.091	3.7	99	0.02
14 L1	Cyclohexane	2.620	2.012	23.2	81	0.02
15 L1	2,3-Dimethylpentane	1.973	1.536	22.1	80	0.00
16 L1	Heptane	2.249	2.138	4.9	92	0.00
17 L1	Octane	3.566	3.215	9.8	96	0.00
18 L1	APH EC5-8 aliphatics TOTAL	2.472	2.200	11.0	91	0.03
19 H	APH EC5-8 aliphatics	2.472	13.461	-444.5#	555#	0.00
20 I	Chlorobenzene-d5	1.000	1.000	0.0	94	0.02
21 T	S 4-Bromofluorobenzene	4.348	4.368	-0.5	92	0.00
22	Hexamethylcyclotrisiloxane	6.483	8.306	-28.1	142	0.00
23	Octamethylcyclotetrasiloxan	0.865	2.390	-176.3#	315#	0.00
24 T	Toluene	0.781	0.737	5.6	104	0.00
25 T	Ethylbenzene	1.636	1.507	7.9	91	0.02
26 T	m,p-Xylene	0.594	0.609	-2.5	95	0.00
27 T	o-Xylene	0.568	0.547	3.7	90	0.00
28 T	Naphthalene	1.341	1.755	-30.9#	124	0.00
29 L2	2,3-Dimethylheptane	3.020	2.929	3.0	94	0.02
30 L2	Nonane	3.160	2.853	9.7	92	0.02
31 L2	Decane	3.126	2.969	5.0	95	0.01
32 L2	Butylcyclohexane	4.199	3.919	6.7	91	0.01
33 L2	Undecane	3.003	3.115	-3.7	103	0.00
34 L2	Dodecane	2.712	2.998	-10.5	122	0.02
35 L2	APH EC9-12 aliphatics TOTAL	3.182	3.129	1.7	99	0.01
36 H	APH EC9-12 aliphatics	3.182	9.340	-193.5#	296#	0.00
37 S	4-Bromofluorobenzene	0.513	0.510	0.6	90	0.00
38 L3	Isopropylbenzene	0.380	0.372	2.1	95	0.00
39 L3	1-Methyl-3-ethylbenzene	0.717	0.761	-6.1	95	0.01
40 L3	1,3,5-Trimethylbenzene	0.621	0.628	-1.1	95	0.01
41 L3	p-Isopropyltoluene	0.339	0.362	-6.8	98	0.01
42 L3	1,2,3-Trimethylbenzene	0.717	0.761	-6.1	95	0.01
43 L3	APH EC9-10 aromatics TOTAL	0.548	0.573	-4.6	96	0.01
44 H	APH EC9-10 aromatics (1)	0.605	0.445	26.4	67	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030906.D  
 Acq On : 9 Mar 2022 3:17 pm  
 Operator : bat  
 Sample : 5 ppbv APH 66-1a  
 Misc : line 2  
 ALS Vial : 6 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:47:22 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev Area	Dev(min)
45 H APH EC9-10 aromatics (2)	0.341	0.343	-0.6 91	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

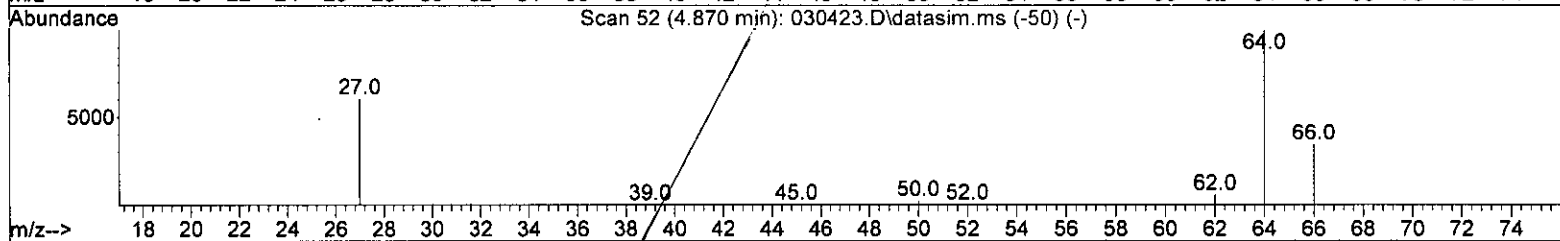
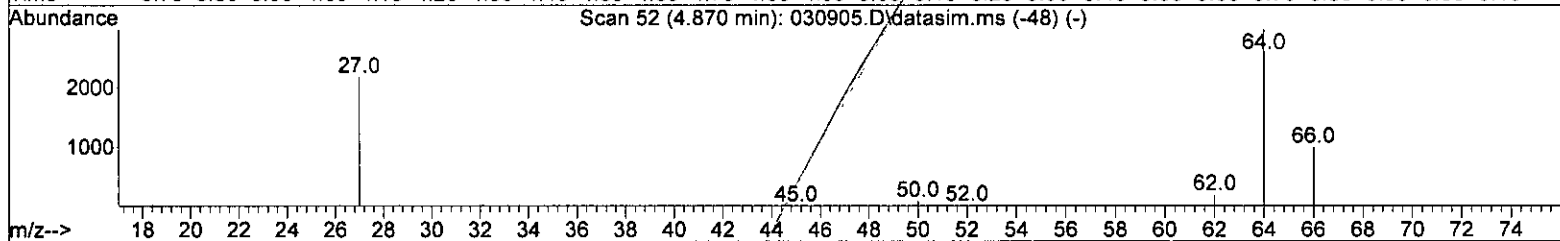
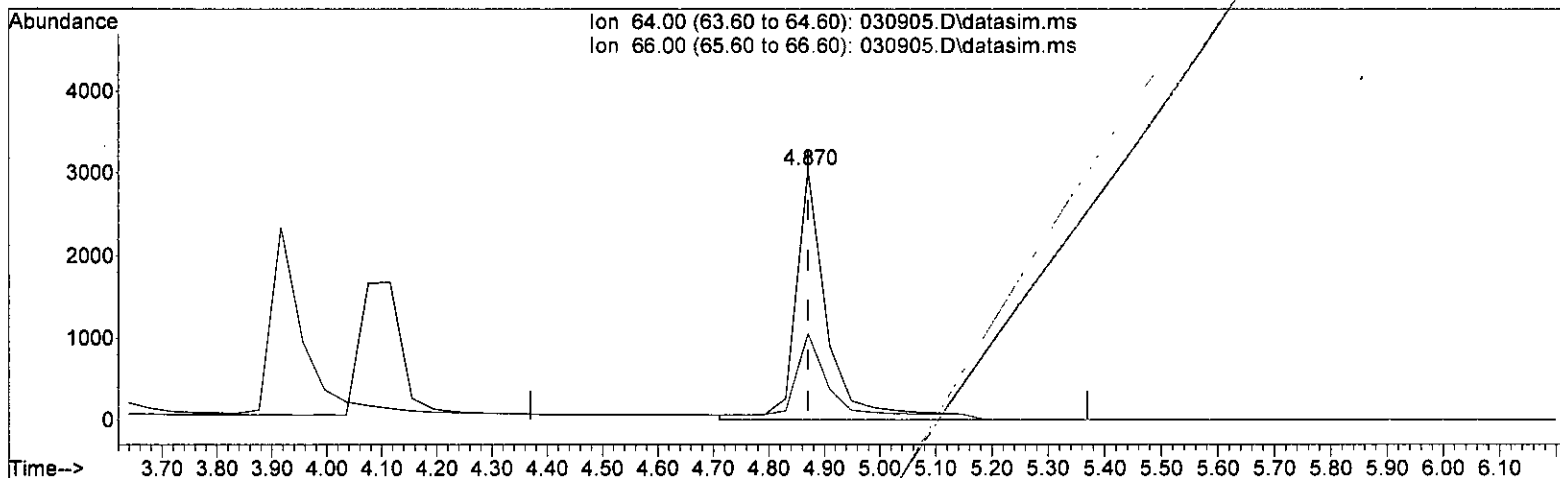
EPA TO-15  
Quality Assurance Data

F&B Project 203054

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line, 25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 09 15:15:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth: TO15NA.M



TIC: 030905.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 2.651 ppbv

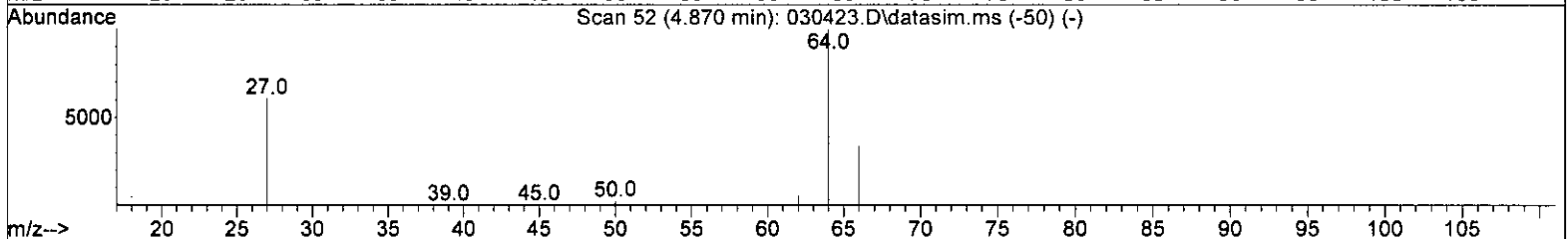
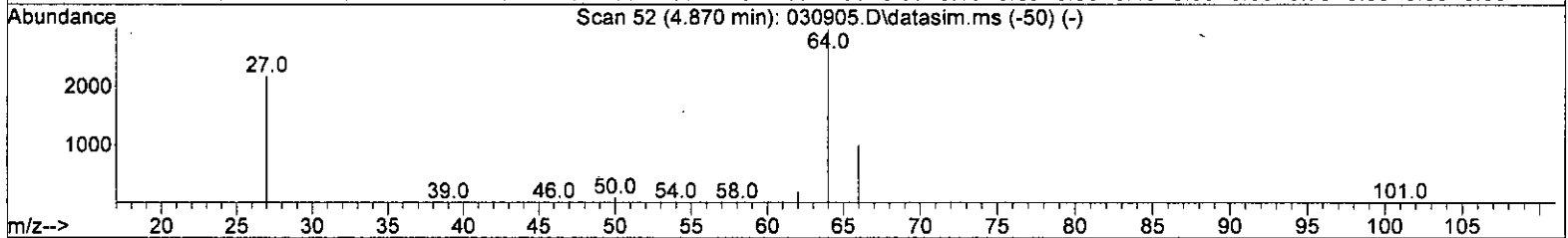
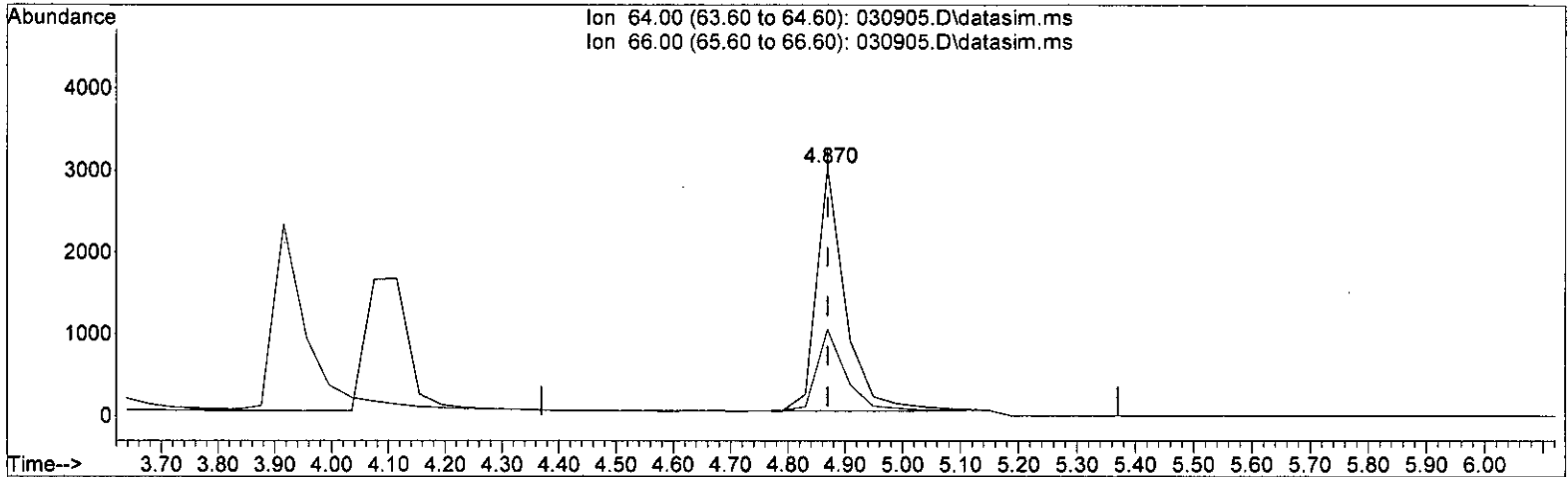
response 11559

Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.80	34.64
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature and date: 3/10/22*

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line, 25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 09 15:15:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030905.D\data.ms

(10) Chloroethane (TMP)

4.870min (+ 0.000) 2.411 ppbv m

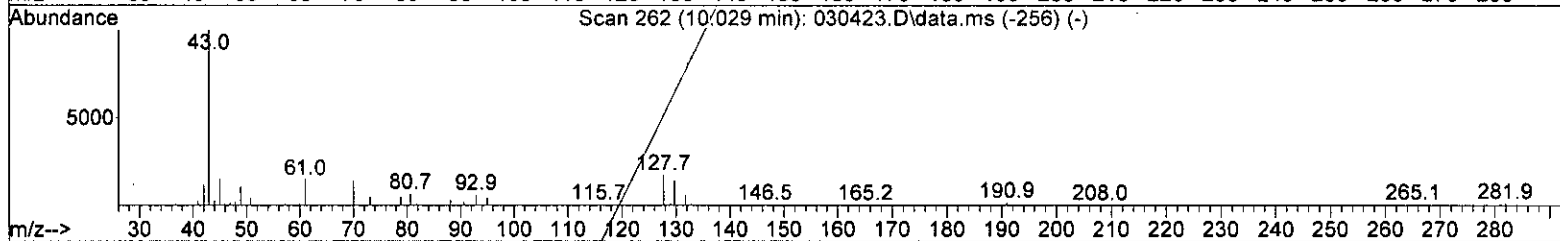
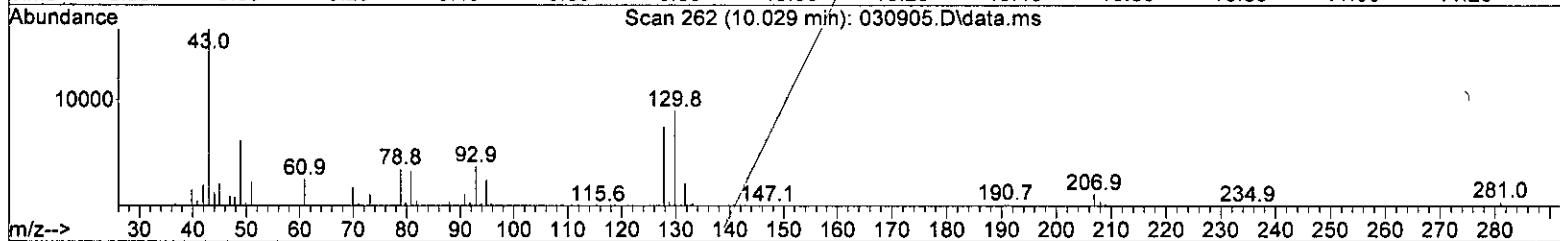
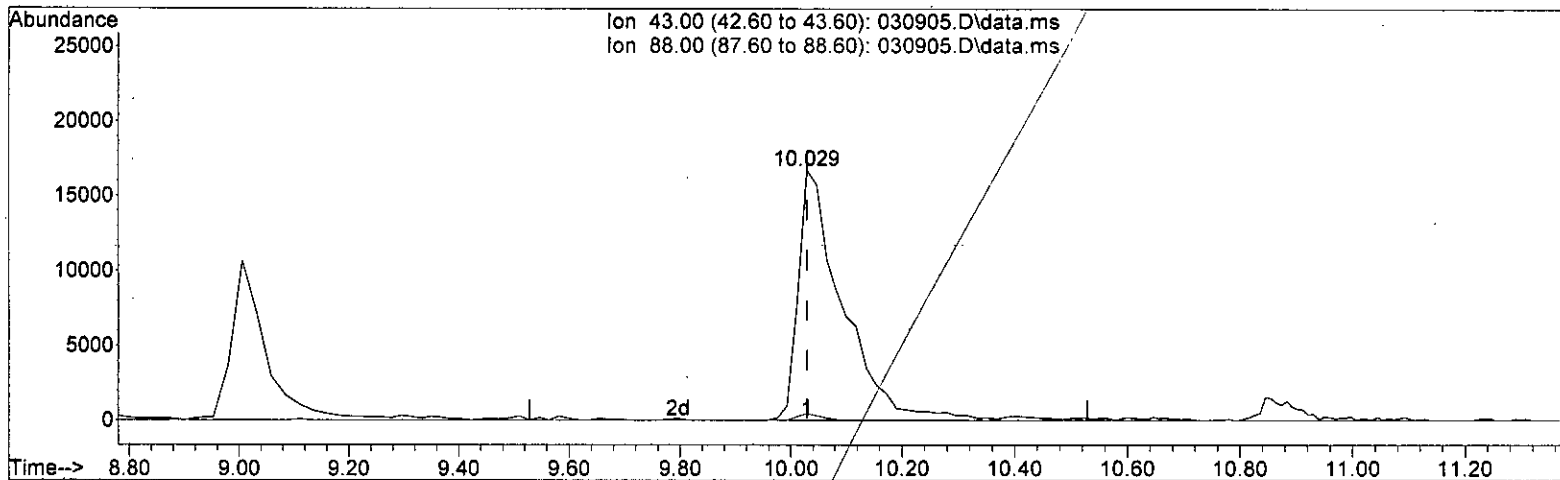
response	10513
Ion	Exp% Act%
64.00	100.00 100.00
66.00	31.80 34.64
0.00	0.00 0.00
0.00	0.00 0.00

*B*  
*3/6/22*

Quantitation Report (Qedit)

Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line, 25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 09 15:15:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth: TO15NA.M



(31) Ethyl acetate (TMP)

10.029min (+ 0.000) 3.032 ppbv

response 92679

Ion	Exp%	Act%
43.00	100.00	100.00
88.00	1.70	1.40
0.00	0.00	0.00
0.00	0.00	0.00

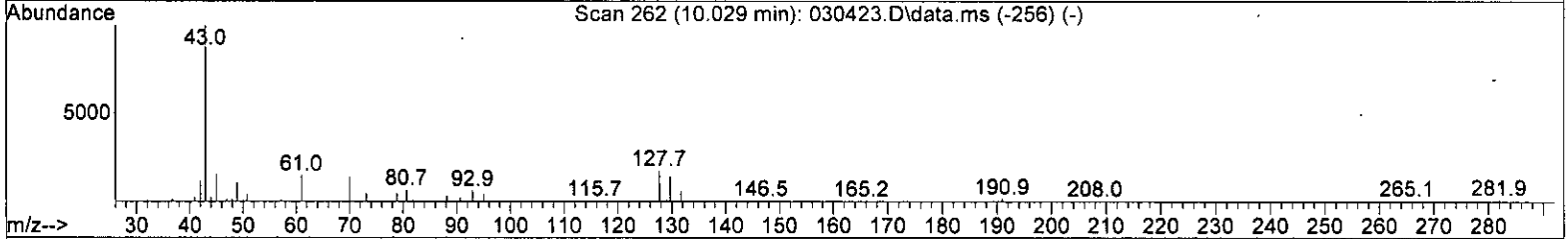
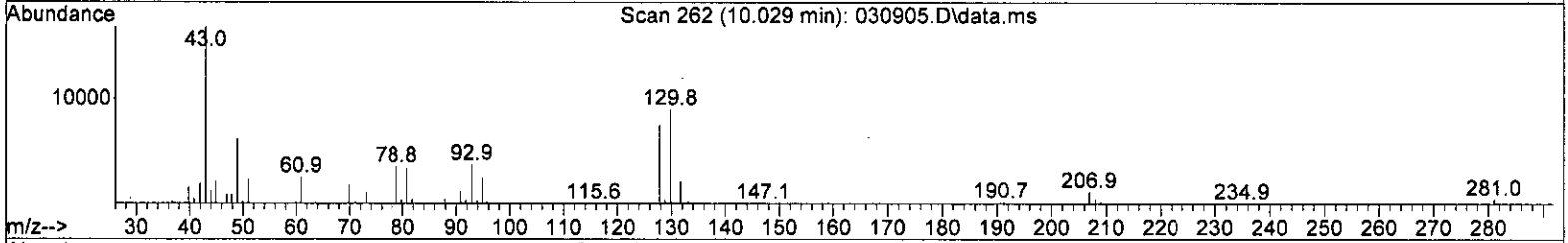
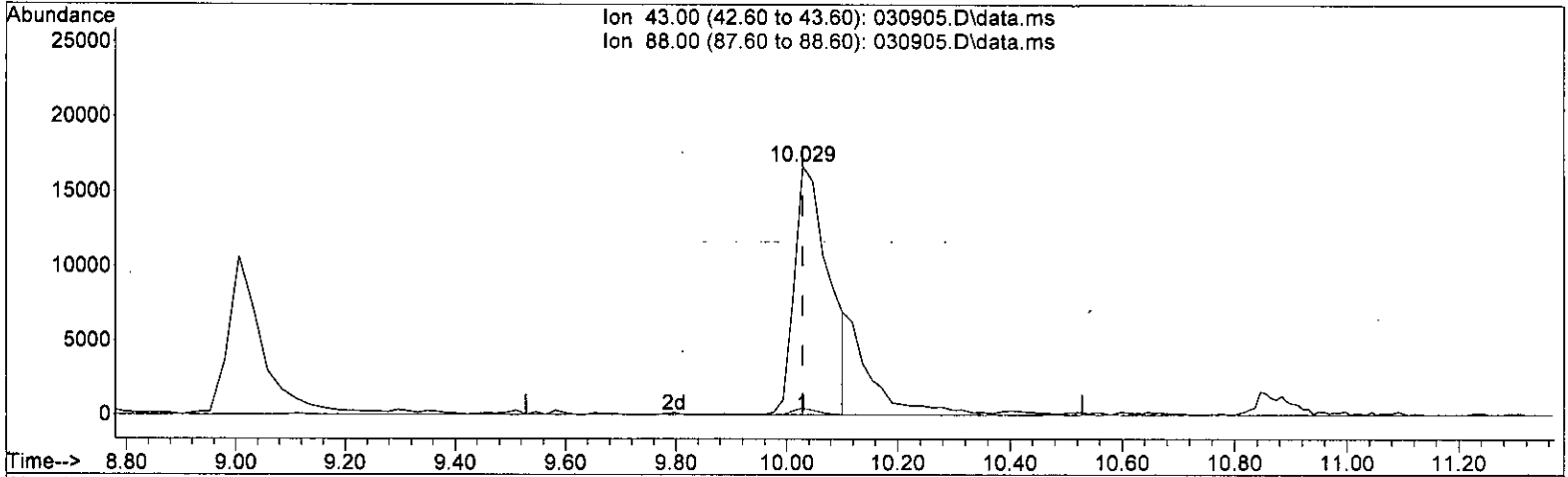
*Handwritten:* 3/10/22



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line, 25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 09 15:15:48 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030905.D\data.ms

(31) Ethyl acetate (TMP)

10.029min (+ 0.000) 2.377 ppbv m

response 72675

Ion	Exp%	Act%
43.00	100.00	100.00
88.00	1.70	1.78
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* 3/10/22

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line, 25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:03:23 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Bromochloromethane	9.99	128	110364	10.000	ppbv	# 0.02
39) 1,4-Difluorobenzene	13.23	114	474317	10.000	ppbv	0.02
56) Chlorobenzene-d5	18.22	117	409278	10.000	ppbv	0.01
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.65	95	295157	9.718	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	97.20%
Target Compounds						
						Qvalue
2) Propene	3.47	41	15992	2.626	ppbv	79
3) Dichlorodifluoromethane	3.55	85	122662	2.435	ppbv	95
4) Chloromethane	3.80	50	20934	2.443	ppbv	81
5) F-114	3.91	85	96252	2.551	ppbv	98
6) Vinyl chloride	4.08	62	25683	2.150	ppbv	98
7) 1,3-Butadiene	4.27	54	15374	2.301	ppbv	# 82
8) Butane	4.39	43	28421	2.219	ppbv	93
9) Bromomethane	4.67	94	36001	2.728	ppbv	98
10) Chloroethane	4.87	64	10513m	2.411	ppbv	
11) Vinyl bromide	5.34	106	34545	2.433	ppbv	87
12) Ethanol	5.02	45	5398	2.816	ppbv	89
13) Acrolein	5.46	56	6197	2.467	ppbv	98
14) Pentane	6.35	43	31647	2.515	ppbv	88
15) Trichlorofluoromethane	5.89	101	152839	2.732	ppbv	95
16) Acetone	5.63	58	10003	2.242	ppbv	96
17) 2-Propanol	5.89	45	41036	2.378	ppbv	# 95
18) 1,1-Dichloroethene	6.73	96	32845	2.371	ppbv	99
19) trans-1,2-Dichloroethene	8.20	96	31750	2.407	ppbv	# 63
20) Methylene chloride	6.85	84	31263	2.482	ppbv	# 78
21) t-Butyl alcohol (TBA)	6.67	59	59013	2.586	ppbv	95
22) 3-Chloropropene	7.03	41	30100	2.199	ppbv	# 68
23) CFC-113	7.25	101	93299	2.553	ppbv	85
24) Carbon disulfide	7.06	76	13719	2.310	ppbv	74
25) Methyl t-butyl ether (...)	8.53	73	72700	2.209	ppbv	93
26) Vinyl acetate	8.64	43	26407	2.363	ppbv	98
27) 1,1-Dichloroethane	8.46	63	59868	2.481	ppbv	97
28) cis-1,2-Dichloroethene	9.73	96	33517	2.407	ppbv	92
29) Hexane	10.12	57	30819	2.519	ppbv	91
30) Chloroform	10.20	83	90811	2.528	ppbv	98
31) Ethyl acetate	10.03	43	72675m	2.377	ppbv	
32) Tetrahydrofuran	10.86	42	20752	2.157	ppbv	67
33) 2-Butanone (MEK)	9.01	72	13643	2.694	ppbv	# 55
34) 1,2-Dichloroethane (EDC)	11.45	62	62284	2.522	ppbv	98
35] 1,1,1-Trichloroethane	11.93	97	102593	2.623	ppbv	94
36] Carbon tetrachloride	12.96	117	118828	2.597	ppbv	96
37] Benzene	12.71	78	94417	2.421	ppbv	85
38) Cyclohexane	13.17	84	25269	2.325	ppbv	# 58
40] 1,2-Dichloropropane	13.88	63	35989	2.302	ppbv	69
41] 1,4-Dioxane	14.17	88	19930	2.398	ppbv	70
42) 2,2,4-Trimethylpentane	14.32	57	88708	2.171	ppbv	# 75

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line, 25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

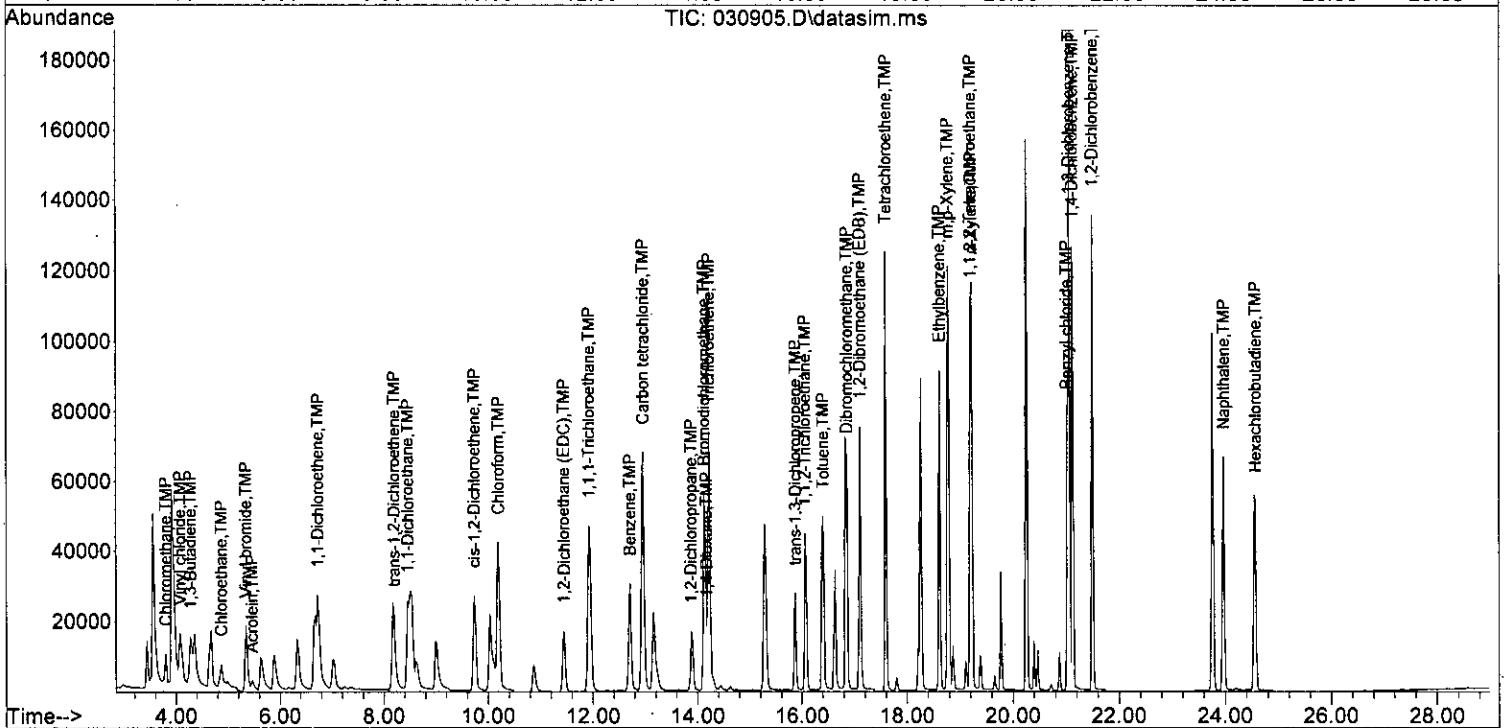
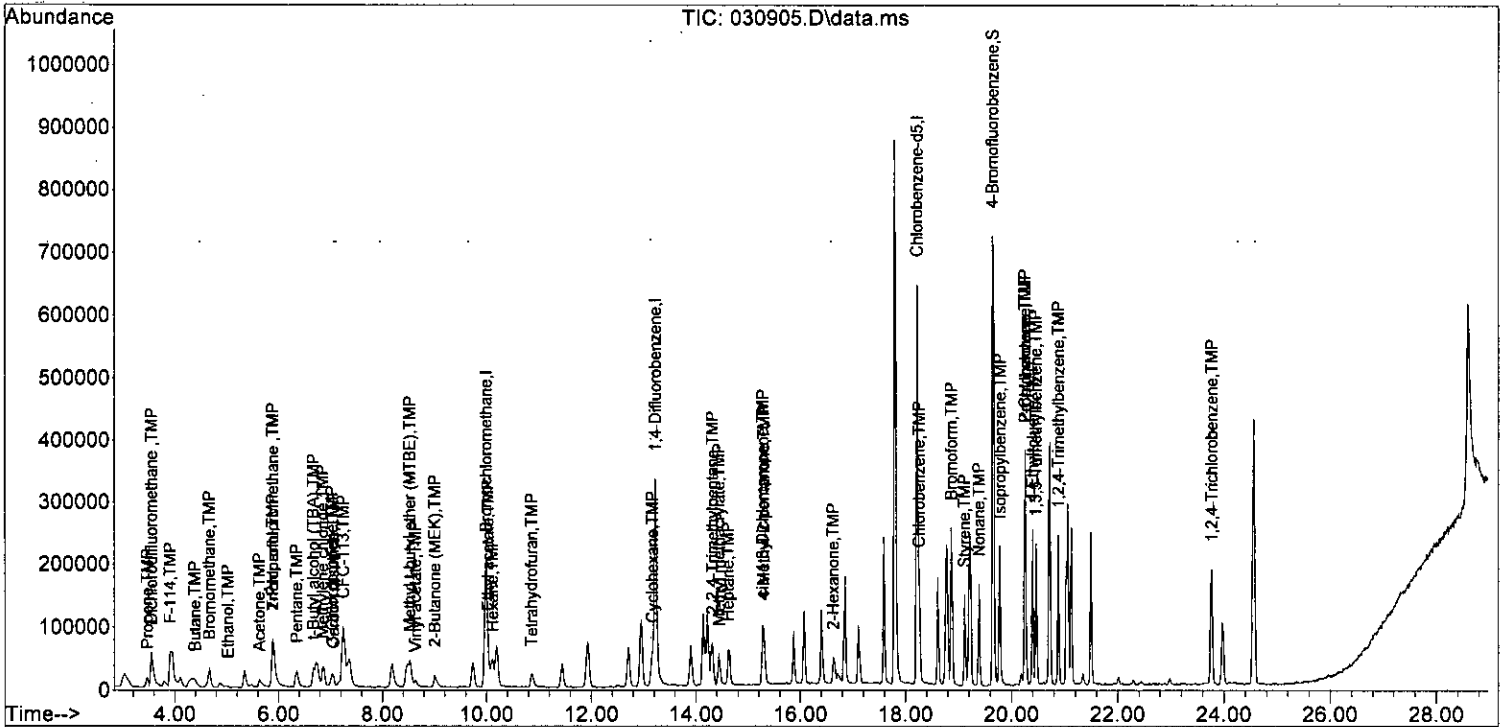
Quant Time: Mar 10 14:03:23 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
43) Methyl methacrylate	14.44	41	30782	2.195	ppbv #	73
44) Heptane	14.61	43	31978	2.062	ppbv	78
45) Bromodichloromethane	14.13	83	97163	2.482	ppbv	98
46) Trichloroethene	14.22	95	56768	2.378	ppbv	90
47) cis-1,3-Dichloropropene	15.28	75	57696	2.298	ppbv	92
48) 4-Methyl-2-pentanone	15.30	100	4316	2.396	ppbv #	23
49) trans-1,3-Dichloropropene	15.88	75	56515	2.347	ppbv	82
50) Toluene	16.41	92	56334	2.314	ppbv #	79
51) 1,1,2-Trichloroethane	16.07	83	43705	2.476	ppbv	89
52) 2-Hexanone	16.63	43	48971	2.132	ppbv	95
53) Tetrachloroethene	17.60	164	62672	2.602	ppbv	94
54) Dibromochloromethane	16.86	129	109377	2.536	ppbv	85
55) 1,2-Dibromoethane (EDB)	17.11	107	77263	2.475	ppbv	96
57) Chlorobenzene	18.26	112	99412	2.603	ppbv	91
58) Ethylbenzene	18.62	91	135760	2.301	ppbv	88
59) 1,1,2,2-Tetrachloroethane	19.20	83	101600	2.499	ppbv	93
60) Nonane	19.39	43	53889	2.346	ppbv	97
61) Isopropylbenzene	19.78	105	164463	2.392	ppbv	97
62) 2-Chlorotoluene	20.26	126	44319	2.504	ppbv	71
63) Propylbenzene	20.26	91	309968	2.453	ppbv	95
64) 4-Ethyltoluene	20.40	105	156567	2.398	ppbv	95
65) m,p-Xylene	18.77	106	102452	4.626	ppbv	98
66) o-Xylene	19.22	106	50728	2.461	ppbv	91
67) Styrene	19.12	104	74971	2.419	ppbv	93
68) Bromoform	18.87	173	150877	2.881	ppbv	99
70) Benzyl chloride	21.02	91	135114	2.614	ppbv	92
71) 1,3,5-Trimethylbenzene	20.46	105	146788	2.501	ppbv	98
72) 1,2,4-Trimethylbenzene	20.88	105	133929	2.409	ppbv	99
73) 1,3-Dichlorobenzene	21.06	146	132420	2.713	ppbv	92
74) 1,4-Dichlorobenzene	21.12	146	127485	2.572	ppbv	89
75) 1,2-Dichlorobenzene	21.50	146	123244	2.611	ppbv	93
76) 1,2,4-Trichlorobenzene	23.77	180	103060	2.436	ppbv	97
77) Naphthalene	23.97	128	135089	2.574	ppbv	99
78) Hexachlorobutadiene	24.57	225	147646	2.719	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-09-22\  
Data File : 030905.D  
Acq On : 9 Mar 2022 2:37 pm  
Operator : bat  
Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
Misc : cal line,25cc  
ALS Vial : 5 Sample Multiplier: 1  
InstName : GCMS8

Quant Time: Mar 10 14:03:23 2022  
Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
Quant Title : TO-15 SS method  
QLast Update : Mon Mar 07 12:56:32 2022  
Response via : Initial Calibration  
DataAcq Meth:TO15NA.M



## Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line, 25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:03:23 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	10.000	10.000	0.0	96	0.02
2 TMP	Propene	2.500	2.626	-5.0	98	0.00
3 TMP	Dichlorodifluoromethane	2.500	2.435	2.6	100	0.00
4 TMP	Chloromethane	2.500	2.443	2.3	102	0.00
5 TMP	F-114	2.500	2.551	-2.0	102	0.00
6 TMP	Vinyl chloride	2.500	2.150	14.0	89	0.00
7 TMP	1,3-Butadiene	2.500	2.301	8.0	91	0.00
8 TMP	Butane	2.500	2.219	11.2	88	0.04
9 TMP	Bromomethane	2.500	2.728	-9.1	105	0.00
10 TMP	Chloroethane	2.500	2.411	3.6	94	0.00
11 TMP	Vinyl bromide	2.500	2.433	2.7	96	0.00
12 TMP	Ethanol	2.500	2.816	-12.6	102	0.04
13 TMP	Acrolein	2.500	2.467	1.3	91	0.00
14 TMP	Pentane	2.500	2.515	-0.6	85	0.00
15 TMP	Trichlorofluoromethane	2.500	2.732	-9.3	99	0.00
16 TMP	Acetone	2.500	2.242	10.3	68	0.00
17 TMP	2-Propanol	2.500	2.378	4.9	88	0.00
18 TMP	1,1-Dichloroethene	2.500	2.371	5.2	95	0.00
19 TMP	trans-1,2-Dichloroethene	2.500	2.407	3.7	94	0.03
20 TMP	Methylene chloride	2.500	2.482	0.7	87	0.00
21 TMP	t-Butyl alcohol (TBA)	2.500	2.586	-3.4	101	0.00
22 TMP	3-Chloropropene	2.500	2.199	12.0	81	0.00
23 TMP	CFC-113	2.500	2.553	-2.1	103	0.00
24 TMP	Carbon disulfide	2.500	2.310	7.6	89	0.03
25 TMP	Methyl t-butyl ether (MTBE)	2.500	2.209	11.6	94	0.00
26 TMP	Vinyl acetate	2.500	2.363	5.5	107	0.00
27 TMP	1,1-Dichloroethane	2.500	2.481	0.8	93	0.00
28 TMP	cis-1,2-Dichloroethene	2.500	2.407	3.7	95	0.00
29 TMP	Hexane	2.500	2.519	-0.8	105	0.02
30 TMP	Chloroform	2.500	2.528	-1.1	97	0.02
31 TMP	Ethyl acetate	2.500	2.377	4.9	93	0.00
32 TMP	Tetrahydrofuran	2.500	2.157	13.7	85	0.00
33 TMP	2-Butanone (MEK)	2.500	2.694	-7.8	85	0.00
34 TMP	1,2-Dichloroethane (EDC)	2.500	2.522	-0.9	94	0.00
35 TMP	1,1,1-Trichloroethane	2.500	2.623	-4.9	100	0.01
36 TMP	Carbon tetrachloride	2.500	2.597	-3.9	101	0.02
37 TMP	Benzene	2.500	2.421	3.2	96	0.02
38 TMP	Cyclohexane	2.500	2.325	7.0	93	0.02
39 I	1,4-Difluorobenzene	10.000	10.000	0.0	104	0.02
40 TMP	1,2-Dichloropropane	2.500	2.302	7.9	97	0.00
41 TMP	1,4-Dioxane	2.500	2.398	4.1	96	0.00
42 TMP	2,2,4-Trimethylpentane	2.500	2.171	13.2	89	0.02
43 TMP	Methyl methacrylate	2.500	2.195	12.2	88	0.00
44 TMP	Heptane	2.500	2.062	17.5	89	0.00
45 TMP	Bromodichloromethane	2.500	2.482	0.7	99	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line,25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:03:23 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	2.500	2.378	4.9	99	0.02
47 TMP cis-1,3-Dichloropropene	2.500	2.298	8.1	94	0.00
48 TMP 4-Methyl-2-pentanone	2.500	2.396	4.2	93	0.00
49 TMP trans-1,3-Dichloropropene	2.500	2.347	6.1	98	0.02
50 TMP Toluene	2.500	2.314	7.4	95	0.03
51 TMP 1,1,2-Trichloroethane	2.500	2.476	1.0	102	0.00
52 TMP 2-Hexanone	2.500	2.132	14.7	88	0.00
53 TMP Tetrachloroethene	2.500	2.602	-4.1	103	0.01
54 TMP Dibromochloromethane	2.500	2.536	-1.4	103	0.03
55 TMP 1,2-Dibromoethane (EDB)	2.500	2.475	1.0	104	0.00
56 I Chlorobenzene-d5	10.000	10.000	0.0	95	0.01
57 TMP Chlorobenzene	2.500	2.603	-4.1	97	0.01
58 TMP Ethylbenzene	2.500	2.301	8.0	90	0.01
59 TMP 1,1,2,2-Tetrachloroethane	2.500	2.499	0.0	94	0.01
60 TMP Nonane	2.500	2.346	6.2	91	0.01
61 TMP Isopropylbenzene	2.500	2.392	4.3	88	0.01
62 TMP 2-Chlorotoluene	2.500	2.504	-0.2	93	0.02
63 TMP Propylbenzene	2.500	2.453	1.9	90	0.00
64 TMP 4-Ethyltoluene	2.500	2.398	4.1	88	0.00
65 TMP m,p-Xylene	5.000	4.626	7.5	92	0.00
66 TMP o-Xylene	2.500	2.461	1.6	91	0.00
67 TMP Styrene	2.500	2.419	3.2	92	0.01
68 TMP Bromoform	2.500	2.881	-15.2	105	0.00
69 S 4-Bromofluorobenzene	10.000	9.718	2.8	89	0.00
70 TMP Benzyl chloride	2.500	2.614	-4.6	97	0.00
71 TMP 1,3,5-Trimethylbenzene	2.500	2.501	-0.0	90	0.00
72 TMP 1,2,4-Trimethylbenzene	2.500	2.409	3.6	90	0.00
73 TMP 1,3-Dichlorobenzene	2.500	2.713	-8.5	100	0.00
74 TMP 1,4-Dichlorobenzene	2.500	2.572	-2.9	99	0.00
75 TMP 1,2-Dichlorobenzene	2.500	2.611	-4.4	99	0.00
76 TMP 1,2,4-Trichlorobenzene	2.500	2.436	2.6	100	0.02
77 TMP Naphthalene	2.500	2.574	-3.0	102	0.02
78 TMP Hexachlorobutadiene	2.500	2.719	-8.8	112	0.02

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line,25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:03:23 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	96	0.02
2 TMP	Propene	0.552	0.580	-5.1	98	0.00
3 TMP	Dichlorodifluoromethane	4.565	4.446	2.6	100	0.00
4 TMP	Chloromethane	0.776	0.759	2.2	102	0.00
5 TMP	F-114	3.419	3.489	-2.0	102	0.00
6 TMP	Vinyl chloride	1.082	0.931	14.0	89	0.00
7 TMP	1,3-Butadiene	0.605	0.557	7.9	91	0.00
8 TMP	Butane	1.161	1.030	11.3	88	0.04
9 TMP	Bromomethane	1.196	1.305	-9.1	105	0.00
10 TMP	Chloroethane	0.395	0.381	3.5	94	0.00
11 TMP	Vinyl bromide	1.286	1.252	2.6	96	0.00
12 TMP	Ethanol	0.174	0.196	-12.6	102	0.04
13 TMP	Acrolein	0.252	0.225	10.7	91	0.00
14 TMP	Pentane	1.140	1.147	-0.6	85	0.00
15 TMP	Trichlorofluoromethane	5.069	5.539	-9.3	99	0.00
16 TMP	Acetone	0.404	0.363	10.1	68	0.00
17 TMP	2-Propanol	1.563	1.487	4.9	88	0.00
18 TMP	1,1-Dichloroethene	1.255	1.190	5.2	95	0.00
19 TMP	trans-1,2-Dichloroethene	1.195	1.151	3.7	94	0.03
20 TMP	Methylene chloride	1.141	1.133	0.7	87	0.00
21 TMP	t-Butyl alcohol (TBA)	2.068	2.139	-3.4	101	0.00
22 TMP	3-Chloropropene	1.240	1.091	12.0	81	0.00
23 TMP	CFC-113	3.311	3.382	-2.1	103	0.00
24 TMP	Carbon disulfide	0.538	0.497	7.6	89	0.03
25 TMP	Methyl t-butyl ether (MTBE)	2.982	2.635	11.6	94	0.00
26 TMP	Vinyl acetate	1.012	0.957	5.4	107	0.00
27 TMP	1,1-Dichloroethane	2.186	2.170	0.7	93	0.00
28 TMP	cis-1,2-Dichloroethene	1.262	1.215	3.7	95	0.00
29 TMP	Hexane	1.109	1.117	-0.7	105	0.02
30 TMP	Chloroform	3.255	3.291	-1.1	97	0.02
31 TMP	Ethyl acetate	2.770	2.634	4.9	93	0.00
32 TMP	Tetrahydrofuran	0.872	0.752	13.8	85	0.00
33 TMP	2-Butanone (MEK)	0.459	0.494	-7.6	85	0.00
34 TMP	1,2-Dichloroethane (EDC)	2.237	2.257	-0.9	94	0.00
35 TMP	1,1,1-Trichloroethane	3.544	3.718	-4.9	100	0.01
36 TMP	Carbon tetrachloride	4.146	4.307	-3.9	101	0.02
37 TMP	Benzene	3.534	3.422	3.2	96	0.02
38 TMP	Cyclohexane	0.985	0.916	7.0	93	0.02
39 I	1,4-Difluorobenzene	1.000	1.000	0.0	104	0.02
40 TMP	1,2-Dichloropropane	0.330	0.304	7.9	97	0.00
41 TMP	1,4-Dioxane	0.175	0.168	4.0	96	0.00
42 TMP	2,2,4-Trimethylpentane	0.861	0.748	13.1	89	0.02
43 TMP	Methyl methacrylate	0.296	0.260	12.2	88	0.00
44 TMP	Heptane	0.327	0.270	17.4	89	0.00
45 TMP	Bromodichloromethane	0.825	0.819	0.7	99	0.00

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030905.D  
 Acq On : 9 Mar 2022 2:37 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a  
 Misc : cal line,25cc  
 ALS Vial : 5 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:03:23 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 140%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46 TMP Trichloroethene	0.503	0.479	4.8	99	0.02
47 TMP cis-1,3-Dichloropropene	0.529	0.487	7.9	94	0.00
48 TMP 4-Methyl-2-pentanone	0.038	0.036	5.3	93	0.00
49 TMP trans-1,3-Dichloropropene	0.508	0.477	6.1	98	0.02
50 TMP Toluene	0.513	0.475	7.4	95	0.03
51 TMP 1,1,2-Trichloroethane	0.372	0.369	0.8	102	0.00
52 TMP 2-Hexanone	0.484	0.413	14.7	88	0.00
53 TMP Tetrachloroethene	0.508	0.529	-4.1	103	0.01
54 TMP Dibromochloromethane	0.909	0.922	-1.4	103	0.03
55 TMP 1,2-Dibromoethane (EDB)	0.658	0.652	0.9	104	0.00
56 I Chlorobenzene-d5	1.000	1.000	0.0	95	0.01
57 TMP Chlorobenzene	0.933	0.972	-4.2	97	0.01
58 TMP Ethylbenzene	1.442	1.327	8.0	90	0.01
59 TMP 1,1,2,2-Tetrachloroethane	0.993	0.993	0.0	94	0.01
60 TMP Nonane	0.561	0.527	6.1	91	0.01
61 TMP Isopropylbenzene	1.680	1.607	4.3	88	0.01
62 TMP 2-Chlorotoluene	0.432	0.433	-0.2	93	0.02
63 TMP Propylbenzene	3.087	3.029	1.9	90	0.00
64 TMP 4-Ethyltoluene	1.595	1.530	4.1	88	0.00
65 TMP m,p-Xylene	0.541	0.501	7.4	92	0.00
66 TMP o-Xylene	0.504	0.496	1.6	91	0.00
67 TMP Styrene	0.757	0.733	3.2	92	0.01
68 TMP Bromoform	1.279	1.475	-15.3	105	0.00
69 S 4-Bromofluorobenzene	0.742	0.721	2.8	89	0.00
70 TMP Benzyl chloride	1.263	1.321	-4.6	97	0.00
71 TMP 1,3,5-Trimethylbenzene	1.434	1.435	-0.1	90	0.00
72 TMP 1,2,4-Trimethylbenzene	1.359	1.309	3.7	90	0.00
73 TMP 1,3-Dichlorobenzene	1.193	1.294	-8.5	100	0.00
74 TMP 1,4-Dichlorobenzene	1.211	1.246	-2.9	99	0.00
75 TMP 1,2-Dichlorobenzene	1.153	1.205	-4.5	99	0.00
76 TMP 1,2,4-Trichlorobenzene	1.110	1.007	9.3	100	0.02
77 TMP Naphthalene	1.414	1.320	6.6	102	0.02
78 TMP Hexachlorobutadiene	1.608	1.443	10.3	112	0.02

(#) = Out of Range

SPCC's out = 0 CCC's out = 0



Spike Recovery and RPD Summary Report - WATER

Method : F:\METHODS\Inst8\0304TO15ss8.M (RTE Integrator)  
 Title : TO-15 SS method  
 Last Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration

Non-Spiked Sample: 030914.D

Spike Sample	Spike Duplicate Sample
File ID : 030905.D	030905.D
Sample : 02-0457 lcs/ 2.5 ppbv, 65-189a	02-0457 lcs/ 2.5 ppbv, 65-189a
Acq Time: 9 Mar 2022 2:37 pm	9 Mar 2022 2:37 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
Propene	0.0	3	3	3	105	105	0	20	70-130
Dichlorodifluorometh	0.0	3	2	2	97	97	0	20	70-130
Chloromethane	0.0	3	2	2	98	98	0	20	70-130
F-114	0.0	3	3	3	102	102	0	20	70-130
Vinyl chloride	0.0	3	2	2	86	86	0	20	70-130
1,3-Butadiene	0.0	3	2	2	92	92	0	20	70-130
Butane	0.0	3	2	2	89	89	0	20	70-130
Bromomethane	0.0	3	3	3	109	109	0	20	70-130
Chloroethane	0.0	3	2	2	96	96	0	20	70-130
Vinyl bromide	0.0	3	2	2	96	96	0	20	70-130
Ethanol	0.0	3	3	3	113	113	0	20	70-130
Acrolein	0.0	3	2	2	99	99	0	20	70-130
Pentane	0.0	3	3	3	101	101	0	20	70-130
Trichlorofluorometha	0.0	3	3	3	109	109	0	20	70-130
Acetone	0.0	3	2	2	90	90	0	20	70-130
2-Propanol	0.0	3	2	2	94	94	0	20	70-130
1,1-Dichloroethene	0.0	3	2	2	94	94	0	20	70-130
trans-1,2-Dichloroet	0.0	3	2	2	96	96	0	20	70-130
Methylene chloride	0.3	3	2	2	86	86	0	20	70-130
t-Butyl alcohol (TBA	0.0	3	3	3	103	103	0	20	70-130
3-Chloropropene	0.0	3	2	2	88	88	0	20	70-130
CFC-113	0.0	3	3	3	102	102	0	20	70-130
Carbon disulfide	0.0	3	2	2	92	92	0	20	70-130
Methyl t-butyl ether	0.0	3	2	2	88	88	0	20	70-130
Vinyl acetate	0.0	3	2	2	95	95	0	20	70-130
1,1-Dichloroethane	0.0	3	2	2	99	99	0	20	70-130
cis-1,2-Dichloroethe	0.0	3	2	2	95	95	0	20	70-130
Hexane	0.0	3	3	3	101	101	0	20	70-130
Chloroform	0.0	3	3	3	101	101	0	20	70-130
Ethyl acetate	0.0	3	2	2	95	95	0	20	70-130
Tetrahydrofuran	0.0	3	2	2	86	86	0	20	70-130
2-Butanone (MEK)	0.0	3	3	3	108	108	0	20	70-130
1,2-Dichloroethane (	0.0	3	3	3	101	101	0	20	70-130
1,1,1-Trichloroethan	0.0	3	3	3	105	105	0	20	70-130
Carbon tetrachloride	0.0	3	3	3	104	104	0	20	70-130
Benzene	0.0	3	2	2	97	97	0	20	70-130

Cyclohexane	0.0	3	2	2	93	93	0	20	70-130
1,2-Dichloropropane	0.0	3	2	2	92	92	0	20	70-130
1,4-Dioxane	0.0	3	2	2	96	96	0	20	70-130
2,2,4-Trimethylpenta	0.0	3	2	2	87	87	0	20	70-130
Methyl methacrylate	0.0	3	2	2	88	88	0	20	70-130
Heptane	0.0	3	2	2	82	82	0	20	70-130
Bromodichloromethane	0.0	3	2	2	99	99	0	20	70-130
Trichloroethene	0.0	3	2	2	95	95	0	20	70-130
cis-1,3-Dichloroprop	0.0	3	2	2	91	91	0	20	70-130
4-Methyl-2-pentanone	0.0	3	2	2	96	96	0	20	70-130
trans-1,3-Dichloropr	0.0	3	2	2	94	94	0	20	70-130
Toluene	0.0	3	2	2	91	91	0	20	70-130
1,1,2-Trichloroethan	0.0	3	2	2	99	99	0	20	70-130
2-Hexanone	0.0	3	2	2	84	84	0	20	70-130
Tetrachloroethene	0.0	3	3	3	103	103	0	20	70-130
Dibromochloromethane	0.0	3	3	3	101	101	0	20	70-130
1,2-Dibromoethane (E	0.0	3	2	2	99	99	0	20	70-130
Chlorobenzene	0.0	3	3	3	104	104	0	20	70-130
Ethylbenzene	0.0	3	2	2	92	92	0	20	70-130
1,1,2,2-Tetrachloroe	0.0	3	2	2	100	100	0	20	70-130
Nonane	0.0	3	2	2	94	94	0	20	70-130
Isopropylbenzene	0.0	3	2	2	95	95	0	20	70-130
2-Chlorotoluene	0.0	3	3	3	100	100	0	20	70-130
Propylbenzene	0.0	3	2	2	98	98	0	20	70-130
4-Ethyltoluene	0.0	3	2	2	95	95	0	20	70-130
m,p-Xylene	0.0	5	5	5	92	92	0	20	70-130
o-Xylene	0.0	3	2	2	98	98	0	20	70-130
Styrene	0.0	3	2	2	97	97	0	20	70-130
Bromoform	0.0	3	3	3	115	115	0	20	70-130
Benzyl chloride	0.0	3	3	3	104	104	0	20	70-130
1,3,5-Trimethylbenze	0.0	3	3	3	100	100	0	20	70-130
1,2,4-Trimethylbenze	0.0	3	2	2	96	96	0	20	70-130
1,3-Dichlorobenzene	0.0	3	3	3	108	108	0	20	70-130
1,4-Dichlorobenzene	0.0	3	3	3	102	102	0	20	70-130
1,2-Dichlorobenzene	0.0	3	3	3	104	104	0	20	70-130
1,2,4-Trichlorobenze	0.0	3	2	2	97	97	0	20	70-130
Naphthalene	0.0	3	3	3	102	102	0	20	70-130
Hexachlorobutadiene	0.0	3	3	3	109	109	0	20	70-130

# - Fails Limit Check

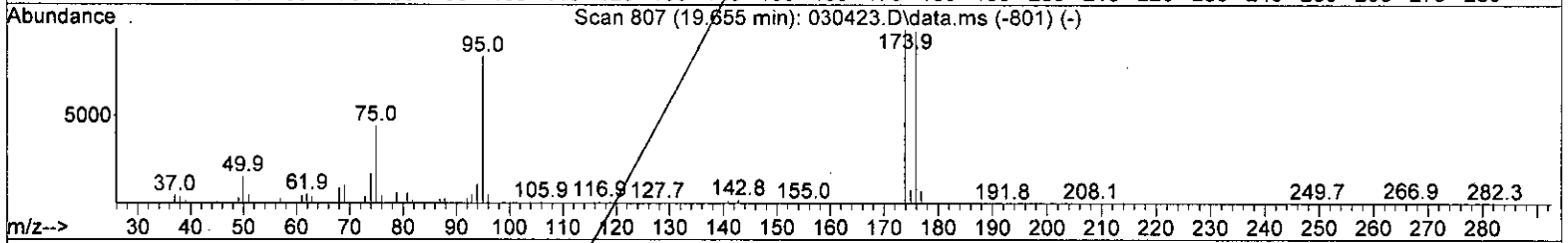
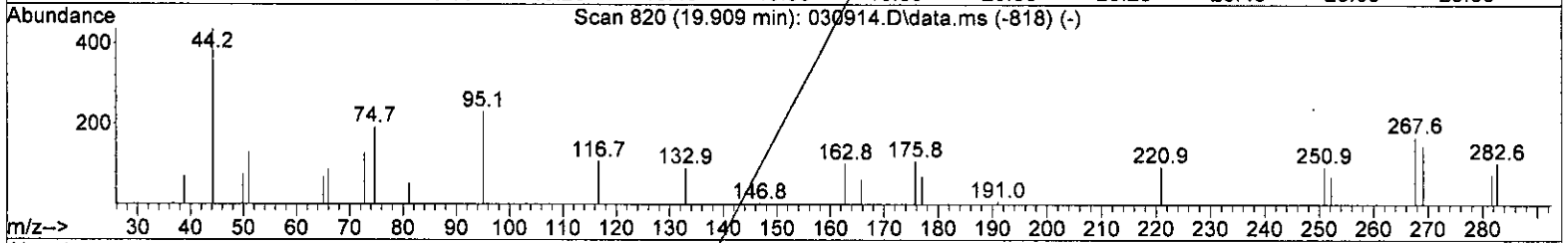
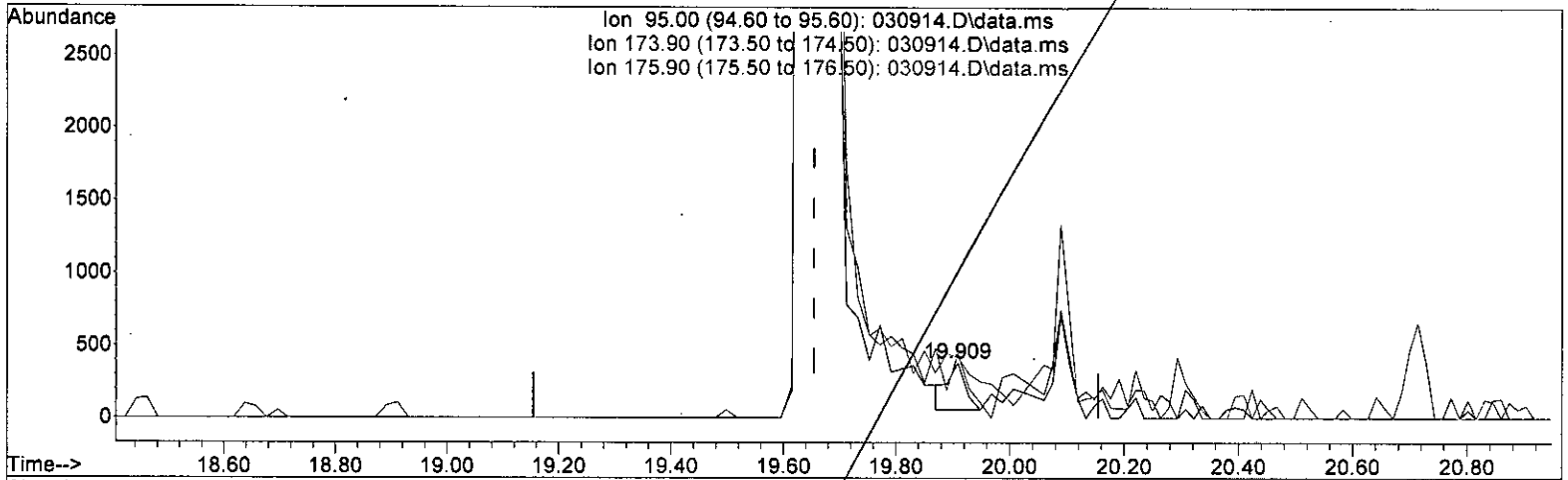
0304T015ss8.M

Thu Mar 10 19:12:56 2022

Quantitation Report (Qedit)

Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 13:53:57 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(69) 4-Bromofluorobenzene (S)

19.909min (+ 0.254) 0.025 ppbv

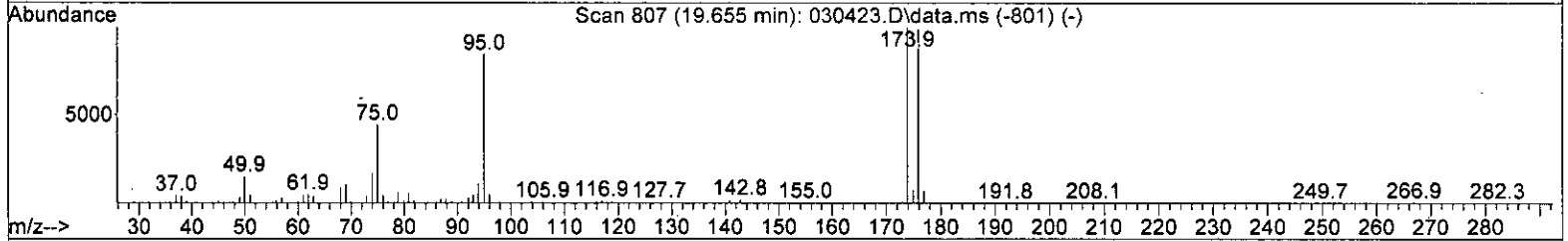
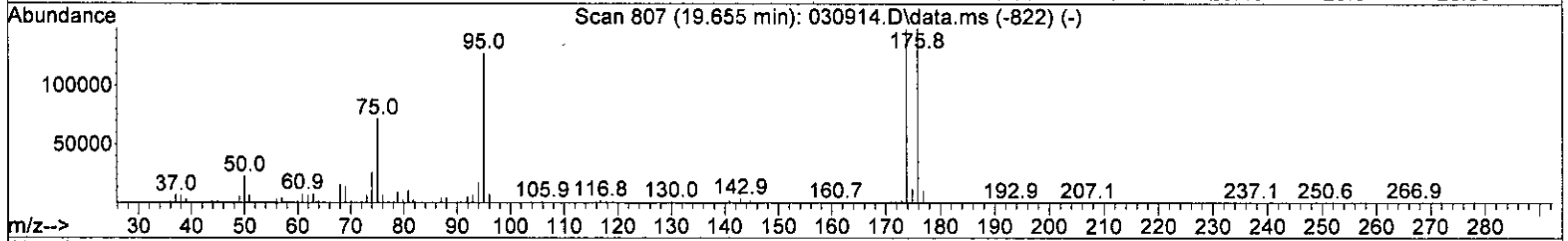
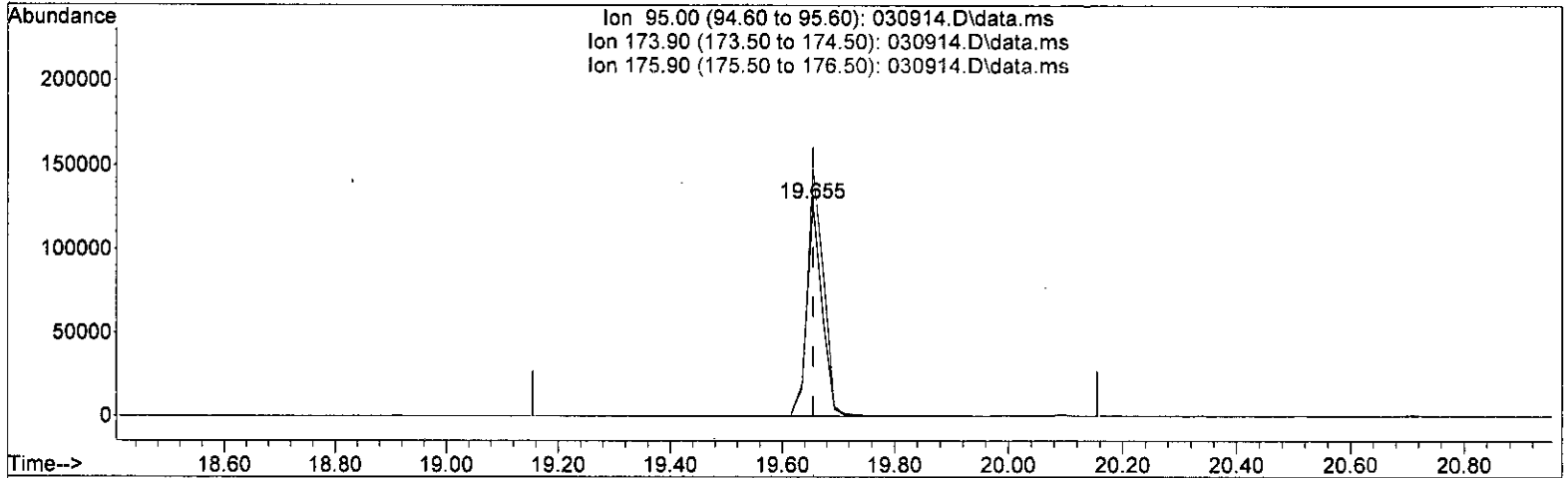
response	697
Ion	Exp% Act%
95.00	100.00 100.00
173.90	73.50 103.08
175.90	70.90 52.31
0.00	0.00 0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 13:53:57 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030914.D\data.ms

(69) 4-Bromofluorobenzene (S)

19.655min (-0.000) 8.832 ppbv m

response 248009

Ion	Exp%	Act%
95.00	100.00	100.00
173.90	73.50	116.46#
175.90	70.90	116.51#
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

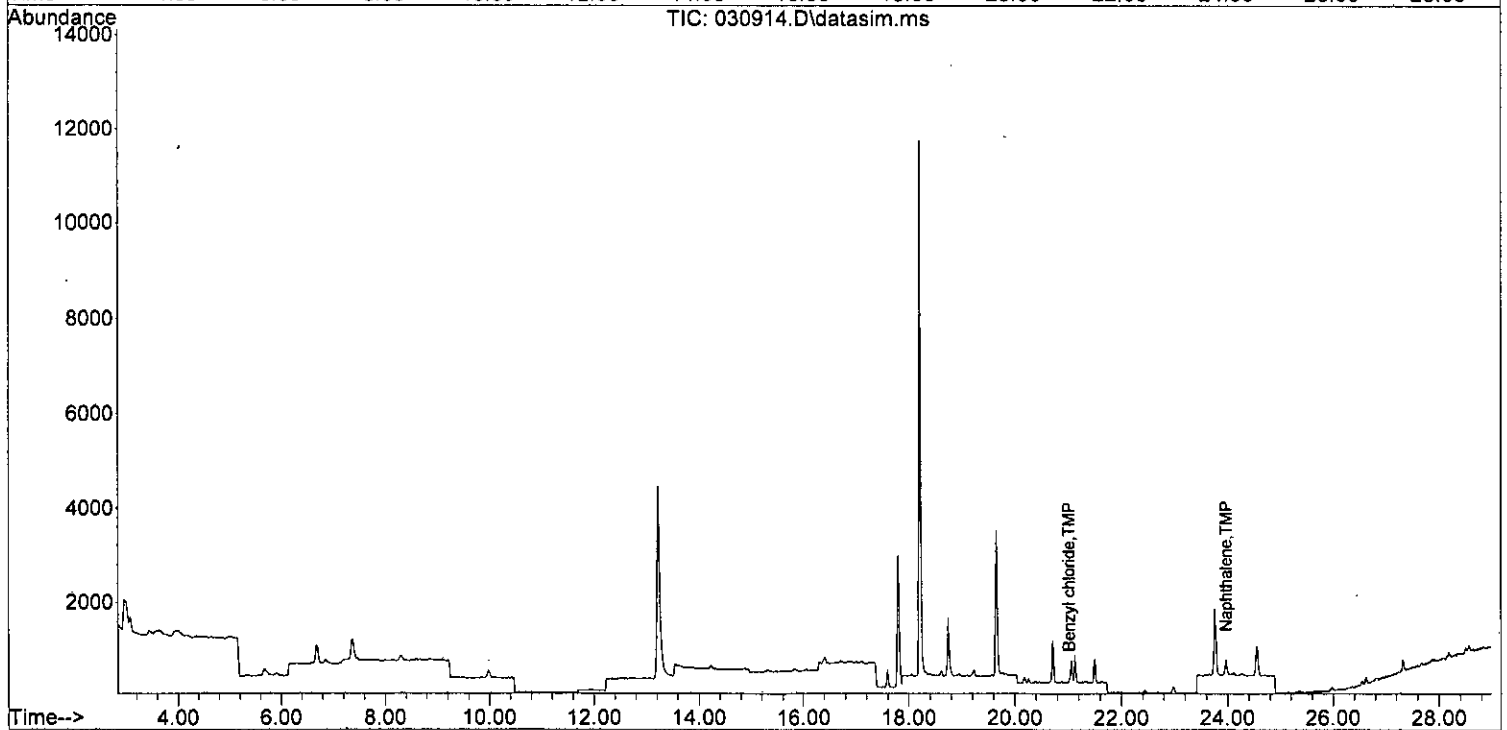
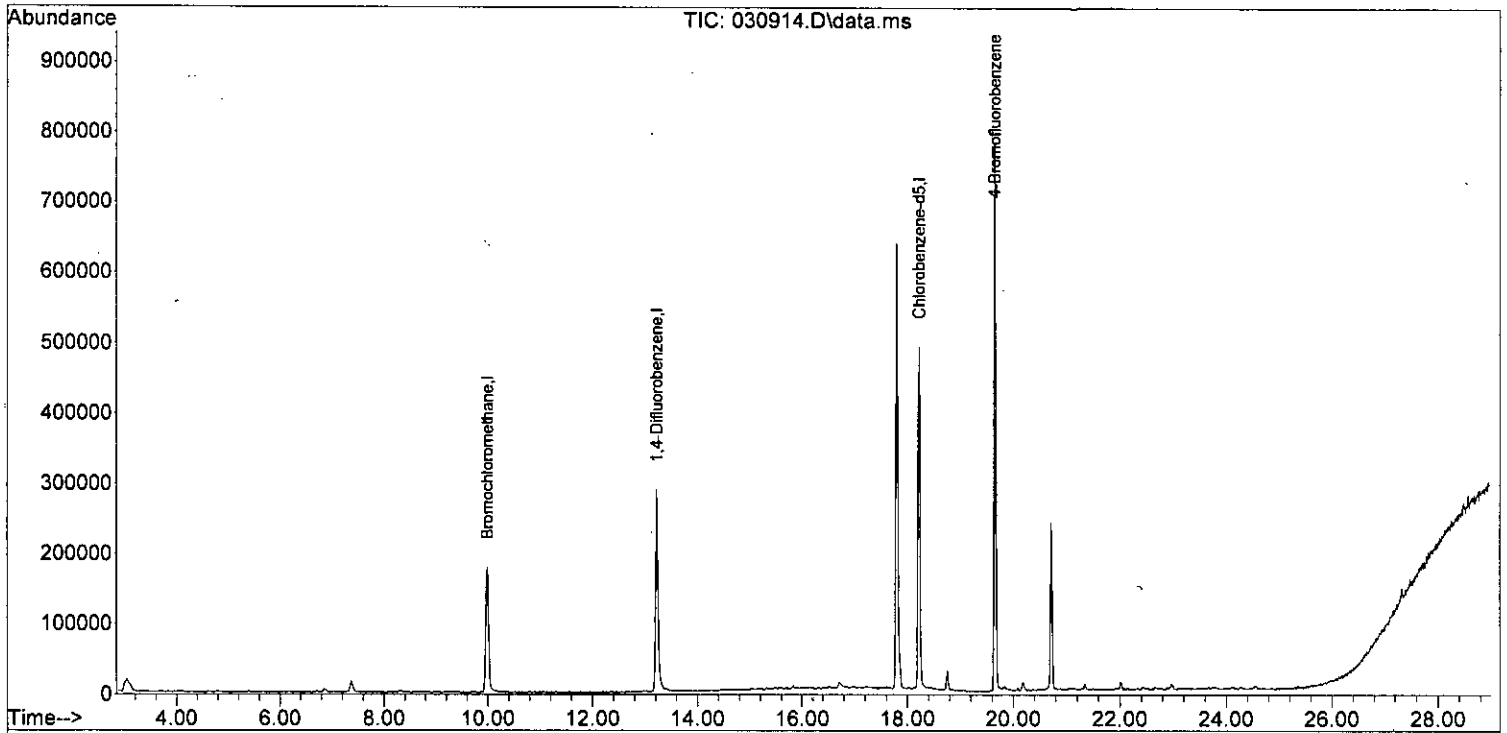
Quant Time: Mar 10 15:34:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

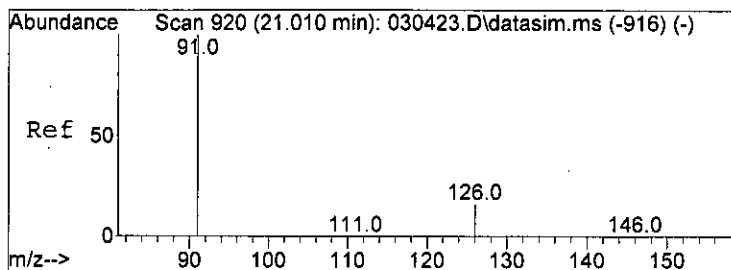
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.99	128	95690	10.000	ppbv	# 0.02
39) 1,4-Difluorobenzene	13.23	114	355113	10.000	ppbv	0.02
56) Chlorobenzene-d5	18.23	117	378371	10.000	ppbv	0.02
System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.65	95	248009m	8.832	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	88.30%
Target Compounds						
70] Benzyl chloride	21.02	91	101m	0.002	ppbv	Qvalue
77] Naphthalene	23.97	128	848	0.014	ppbv	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

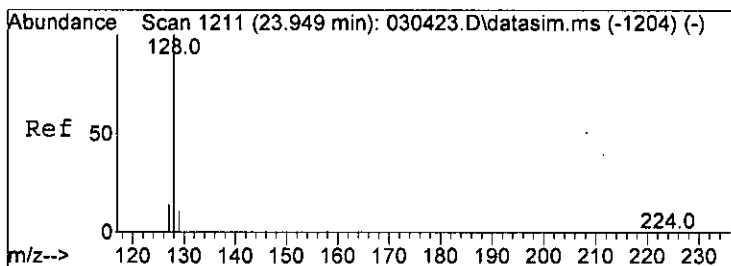
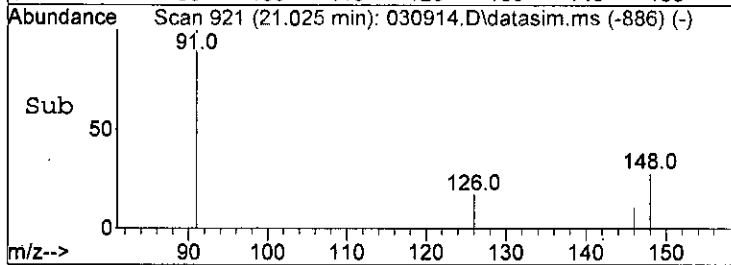
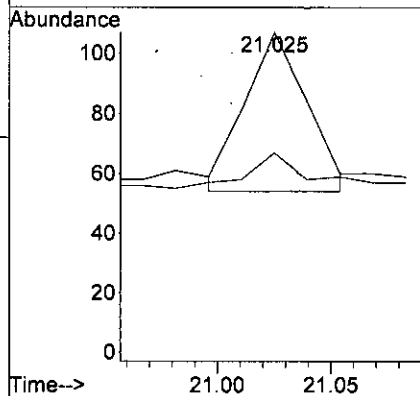
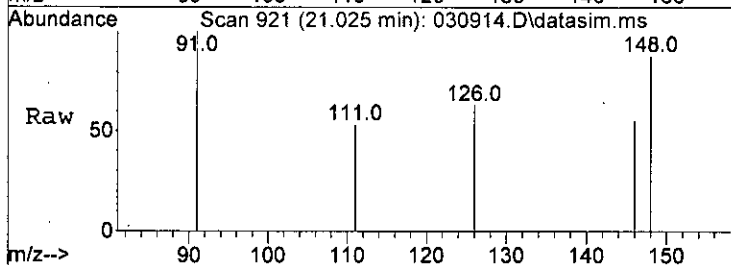
Quant Time: Mar 10 15:34:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M





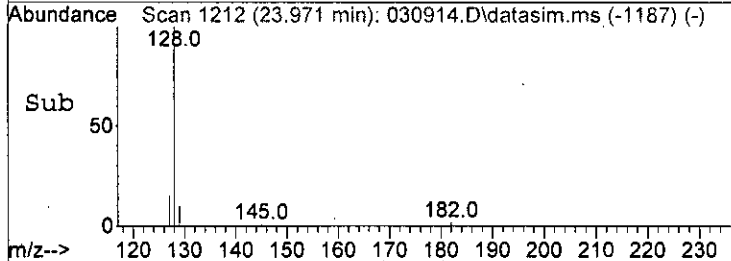
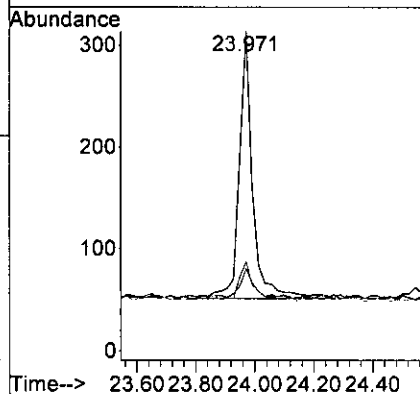
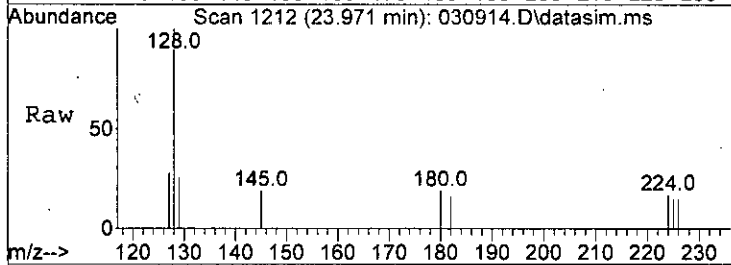
#70  
 Benzyl chloride  
 Concen: 0.002 ppbv m  
 RT: 21.02 min Scan# 921  
 Delta R.T. 0.015 min  
 Lab File: 030914.D  
 Acq: 9 Mar 2022 10:14 pm

Tgt Ion: 91 Resp: 101  
 Ion Ratio Lower Upper  
 91 100  
 126 62.6 0.0 50.0#



#77  
 Naphthalene  
 Concen: 0.014 ppbv  
 RT: 23.97 min Scan# 1212  
 Delta R.T. 0.022 min  
 Lab File: 030914.D  
 Acq: 9 Mar 2022 10:14 pm

Tgt Ion: 128 Resp: 848  
 Ion Ratio Lower Upper  
 128 100  
 129 11.1 0.0 41.0  
 127 14.1 0.0 43.2



Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 15:34:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.99	128	95690	10.000	ppbv	# 0.02
39) 1,4-Difluorobenzene	13.23	114	355113	10.000	ppbv	0.02
56) Chlorobenzene-d5	18.23	117	378371	10.000	ppbv	0.02

System Monitoring Compounds						
69) 4-Bromofluorobenzene	19.65	95	248009m	8.832	ppbv	0.00
Spiked Amount	10.000	Range	70 - 130	Recovery	=	88.30%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propene	0.00		0		N.D.	
3) Dichlorodifluoromethane	0.00		0		N.D.	
4) Chloromethane	0.00		0		N.D.	
5) F-114	0.00		0		N.D.	
6) Vinyl chloride	0.00		0		N.D.	
7) 1,3-Butadiene	0.00		0		N.D.	
8) Butane	0.00		0		N.D.	
9) Bromomethane	0.00		0		N.D.	
10) Chloroethane	0.00		0		N.D.	
11) Vinyl bromide	5.21	106	456		N.D.	
12) Ethanol	0.00		0		N.D.	
13) Acrolein	0.00		0		N.D.	
14) Pentane	0.00		0		N.D.	
15) Trichlorofluoromethane	0.00		0		N.D.	
16) Acetone	0.00		0		N.D.	
17) 2-Propanol	5.89	45	432		N.D.	
18) 1,1-Dichloroethene	6.88	96	185		N.D.	
19) trans-1,2-Dichloroethene	0.00		0		N.D.	
20) Methylene chloride	6.85	84	3605		N.D.	
21) t-Butyl alcohol (TBA)	0.00		0		N.D.	
22) 3-Chloropropene	0.00		0		N.D.	
23) CFC-113	0.00		0		N.D.	
24) Carbon disulfide	0.00		0		N.D.	
25) Methyl t-butyl ether (...)	8.59	73	566		N.D.	
26) Vinyl acetate	0.00		0		N.D.	
27) 1,1-Dichloroethane	0.00		0		N.D.	
28) cis-1,2-Dichloroethene	9.98	96	452		N.D.	
29) Hexane	0.00		0		N.D.	
30) Chloroform	0.00		0		N.D.	
31) Ethyl acetate	0.00		0		N.D.	
32) Tetrahydrofuran	0.00		0		N.D.	
33) 2-Butanone (MEK)	0.00		0		N.D.	
34) 1,2-Dichloroethane (EDC)	0.00		0		N.D.	d
35) 1,1,1-Trichloroethane	11.71	97	130		N.D.	
36) Carbon tetrachloride	0.00		0		N.D.	
37) Benzene	0.00		0		N.D.	
38) Cyclohexane	0.00		0		N.D.	d
40) 1,2-Dichloropropane	0.00		0		N.D.	
41) 1,4-Dioxane	0.00		0		N.D.	
42) 2,2,4-Trimethylpentane	0.00		0		N.D.	



Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

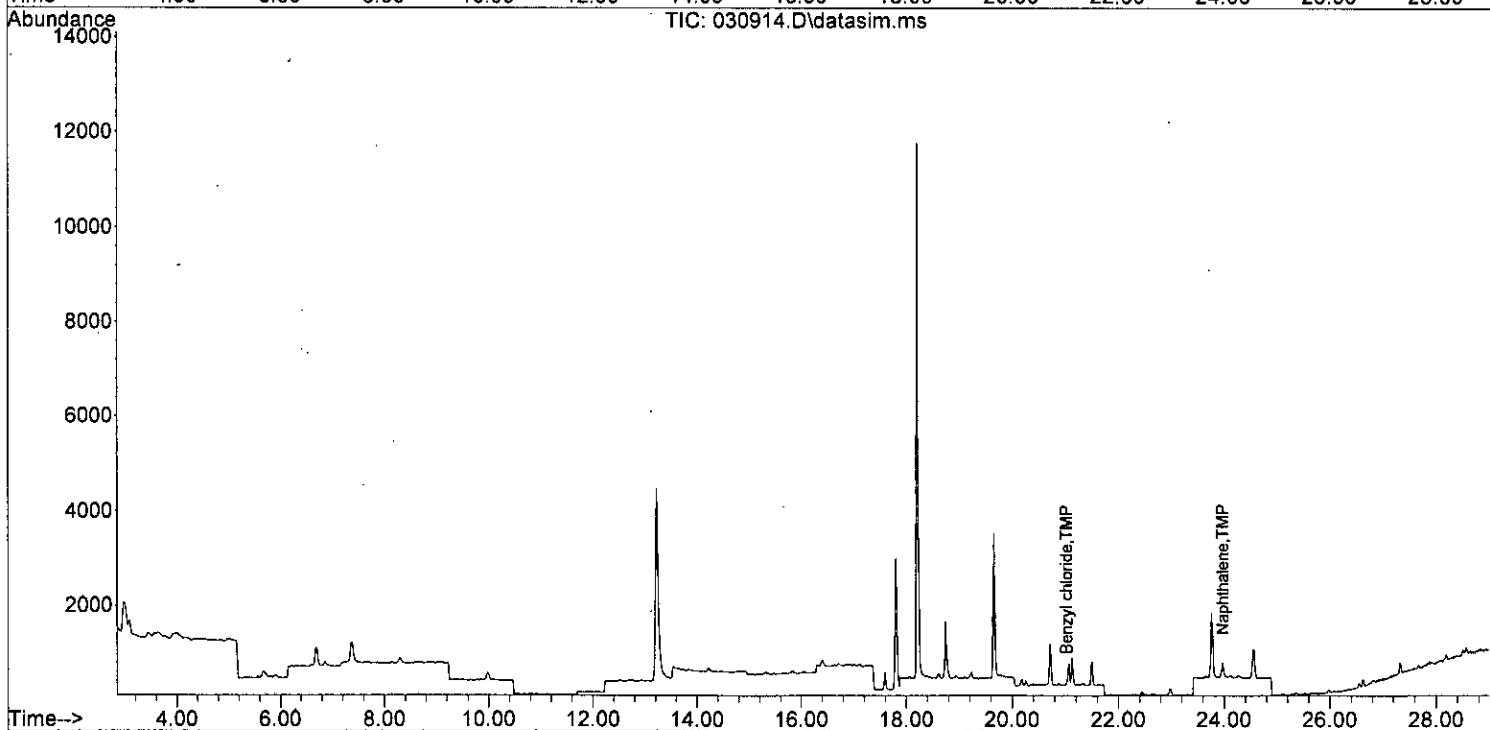
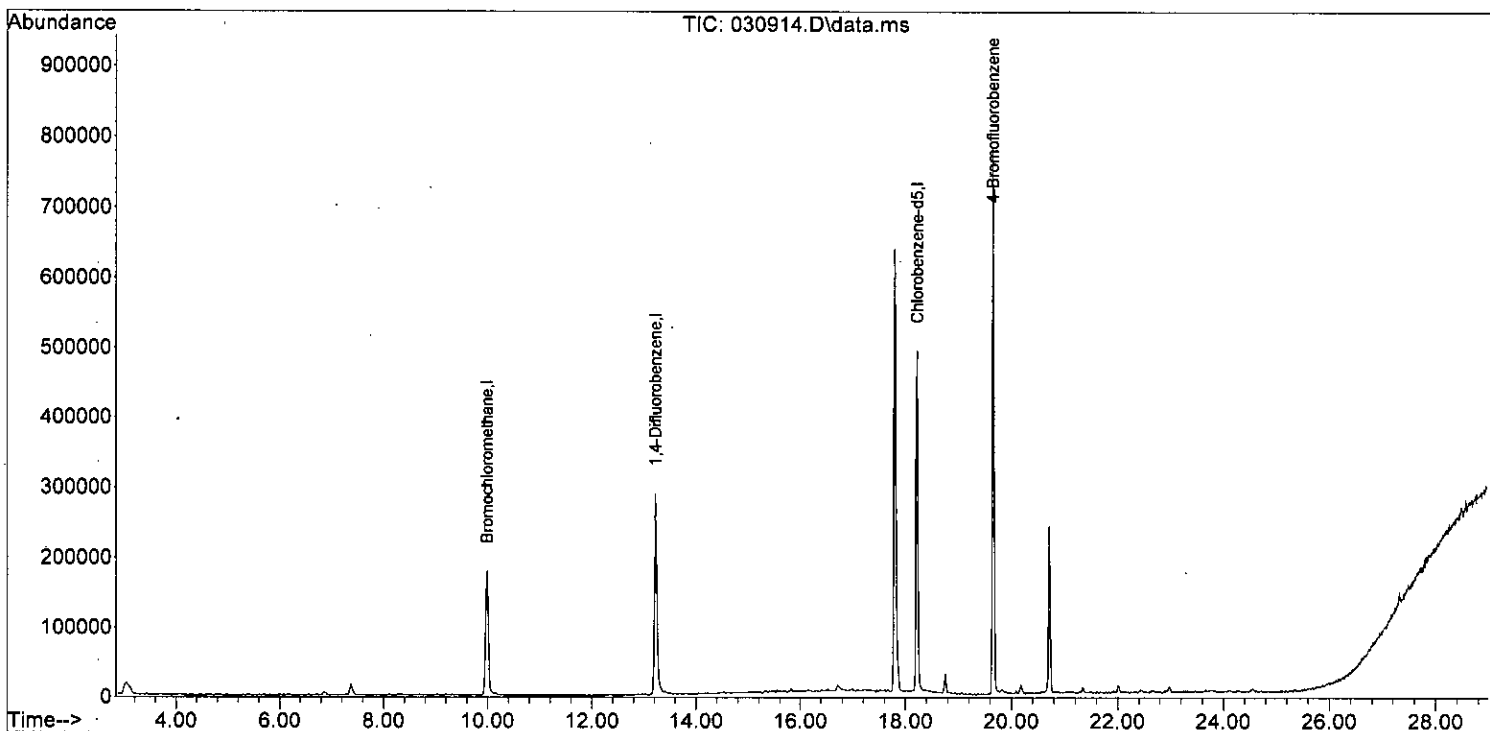
Quant Time: Mar 10 15:34:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methyl methacrylate	0.00		0		N.D.	
44) Heptane	14.91	43	133		N.D.	
45) Bromodichloromethane	0.00		0		N.D.	
46) Trichloroethene	0.00		0		N.D.	
47) cis-1,3-Dichloropropene	15.36	75	366		N.D.	
48) 4-Methyl-2-pentanone	0.00		0		N.D.	
49) trans-1,3-Dichloropropene	15.81	75	147		N.D.	
50) Toluene	16.41	92	704		N.D.	
51) 1,1,2-Trichloroethane	0.00		0		N.D.	
52) 2-Hexanone	16.69	43	368		N.D.	
53) Tetrachloroethene	17.60	164	282		N.D.	
54) Dibromochloromethane	0.00		0		N.D.	
55) 1,2-Dibromoethane (EDB)	0.00		0		N.D.	
57) Chlorobenzene	0.00		0		N.D.	
58) Ethylbenzene	18.60	91	136		N.D.	
59) 1,1,2,2-Tetrachloroethane	0.00		0		N.D.	
60) Nonane	0.00		0		N.D.	
61) Isopropylbenzene	19.65	105	365		N.D.	
62) 2-Chlorotoluene	20.18	126	166		N.D.	
63) Propylbenzene	20.47	91	151		N.D.	
64) 4-Ethyltoluene	20.71	105	817		N.D.	
65) m,p-Xylene	18.74	106	347		N.D.	
66) o-Xylene	0.00		0		N.D.	d
67) Styrene	0.00		0		N.D.	
68) Bromoform	0.00		0		N.D.	
70] Benzyl chloride	21.02	91	101m	0.002	ppbv	
71) 1,3,5-Trimethylbenzene	20.47	105	332		N.D.	
72) 1,2,4-Trimethylbenzene	20.71	105	817		N.D.	
73) 1,3-Dichlorobenzene	21.07	146	495		N.D.	
74) 1,4-Dichlorobenzene	21.13	146	526		N.D.	
75) 1,2-Dichlorobenzene	21.50	146	530		N.D.	
76) 1,2,4-Trichlorobenzene	23.75	180	1734		N.D.	
77] Naphthalene	23.97	128	848	0.014	ppbv	99
78) Hexachlorobutadiene	24.57	225	1665		N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 15:34:06 2022  
 Quant Method : F:\METHODS\Inst8\0304TO15ss8.M  
 Quant Title : TO-15 SS method  
 QLast Update : Mon Mar 07 12:56:32 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030907.D  
 Acq On : 9 Mar 2022 4:03 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 67 ug/m3, 65-172c  
 Misc : line 3  
 ALS Vial : 7 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 09 16:36:34 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.99	128	111966	50.000	ug/m3	# 0.02
10) 1,4-Difluorobenzene	13.23	114	432698	50.000	ug/m3	0.02
20) Chlorobenzene-d5	18.23	117	415893	50.000	ug/m3	0.02

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.65	95	274160	64.278	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	90.54%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.98	TIC	742081	47.891	ug/m3	87
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1282068	45.027	ug/m3	72
4) IS-3 Chlorobenzene-d5	18.23	TIC	1342466	47.684	ug/m3	99
5) Methylene chloride	6.88	TIC	17298	48.110	ug/m3	95
6) Acetone	5.63	TIC	14536	3.655	ppbv #	100
7) 2-Propanol	5.89	TIC	8636	4.659	ppbv #	100
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	8.56	73	645	0.068	ug/m3	45
11) Benzene	12.69	78	502	0.046	ug/m3	55
12) Isopentane	5.63	TIC	14536	0.890	ug/m3#	74
13) Hexane	10.12	TIC	1125057	59.881	ug/m3	92
14) Cyclohexane	13.23	TIC	1279888	56.444	ug/m3	94
15) 2,3-Dimethylpentane	13.23	TIC	1261281	73.886	ug/m3	66
16) Heptane	14.64	TIC	7522	0.387	ug/m3	60
17) Octane	17.80	TIC	3346939	108.454	ug/m3	60
18) APH EC5-8 aliphatics T...	11.86	TIC	7035223m	328.913	ug/m3	
19) APH EC5-8 aliphatics	12.00	TIC	7043652m	329.307	ug/m3	
21) S 4-Bromofluorobenzene	19.65	TIC	1707902	47.228	ug/m3	97
22) Hexamethylcyclotrisilo...	17.80	TIC	4653376	86.293	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	1594566	221.623	ppbv	100
24) Toluene	0.00		0	N.D.		
25) Ethylbenzene	18.75	91	1514	0.111	ug/m3	84
26) m,p-Xylene	18.75	106	508	0.103	ug/m3#	79
27) o-Xylene	19.65	106	2352	0.498	ug/m3#	19
28) Naphthalene	23.96	128	6119	0.549	ug/m3	75
29) 2,3-Dimethylheptane	18.75	TIC	170102	6.772	ug/m3#	54
30) Nonane	19.46	TIC	10718	0.408	ug/m3#	58
31) Decane	20.93	TIC	1869924	71.916	ug/m3	94
32) Butylcyclohexane	21.59	TIC	7143	0.205	ug/m3#	61
33) Undecane	22.31	TIC	18631	0.746	ug/m3	81
34) Dodecane	23.84	TIC	2147266	95.193	ug/m3	96
35) APH EC9-12 aliphatics ...	21.14	TIC	4223784m	159.597	ug/m3	
36) APH EC9-12 aliphatics	21.18	TIC	8966010m	338.783	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	21.03	120	515	0.086	ug/m3#	11
40) 1,3,5-Trimethylbenzene	20.47	120	384747	74.493	ug/m3	99
41) p-Isopropyltoluene	0.00		0	N.D.		
42) 1,2,3-Trimethylbenzene	20.89	120	2017	0.338	ug/m3	92
43) APH EC9-10 aromatics T...	21.59	TIC	387279m	84.971	ug/m3	
44) APH EC9-10 aromatics (1)	21.63	120	345422m	68.600	ug/m3	

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030907.D  
 Acq On : 9 Mar 2022 4:03 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 67 ug/m3, 65-172c  
 Misc : line 3  
 ALS Vial : 7 Sample Multiplier: 1  
 InstName : GCMS8

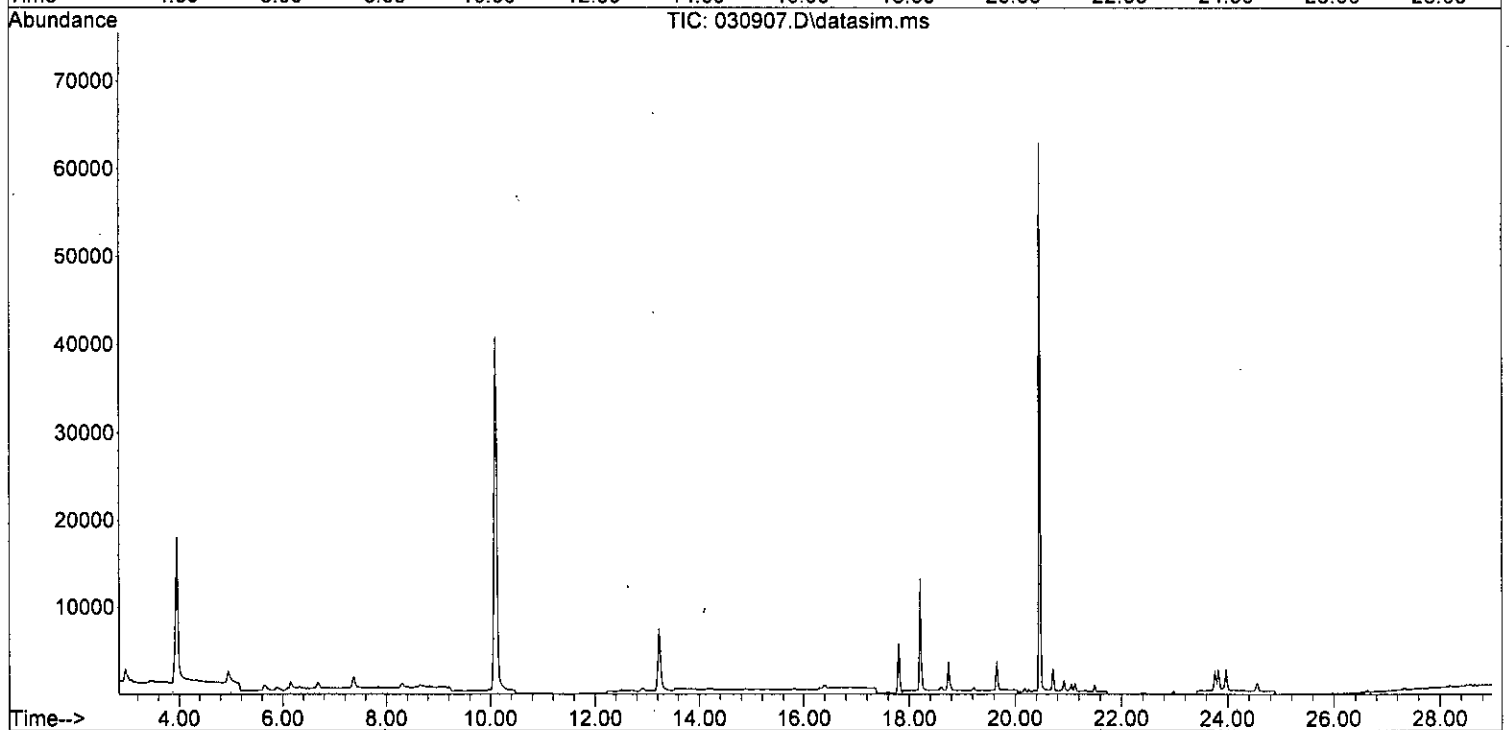
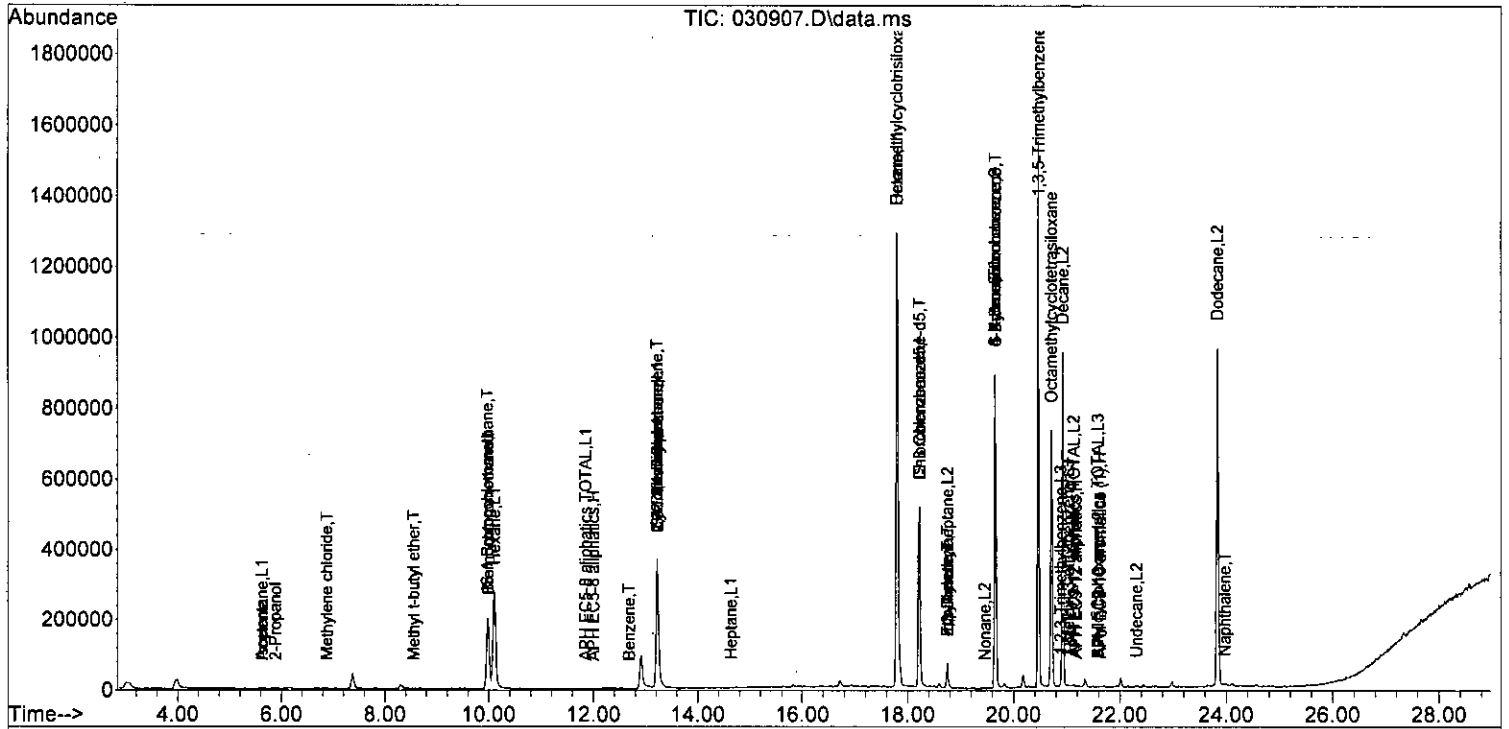
Quant Time: Mar 09 16:36:34 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.63	134	-37642m	Below	Cal	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030907.D  
 Acq On : 9 Mar 2022 4:03 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 67 ug/m3, 65-172c  
 Misc : line 3  
 ALS Vial : 7 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 09 16:36:34 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030907.D  
 Acq On : 9 Mar 2022 4:03 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 67 ug/m3, 65-172c  
 Misc : line 3  
 ALS Vial : 7 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 09 16:36:34 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	50.000	50.000	0.0	96	0.02
2 T	IS-1 Bromochloromethane	50.000	47.891	4.2	92	0.00
3 T	IS-2 1,4-Difluorobenzene	50.000	45.027	9.9	95	0.00
4 T	IS-3 Chlorobenzene-d5	50.000	47.684	4.6	91	0.02
5 T	Methylene chloride	50.000	48.110	3.8	109	0.03
6	Acetone	5.000	3.655	26.9	70	0.02
7	2-Propanol	50.000	4.659	90.7#	9	0.02
8 T	1,3-Butadiene	11.000	0.000	100.0#	0	-4.27#
9 T	Methyl t-butyl ether	18.000	0.068	99.6#	0	0.03
10 I	1,4-Difluorobenzene	50.000	50.000	0.0	89	0.02
11 T	Benzene	16.000	0.046	99.7#	0	0.00
12 L1	Isopentane	15.000	0.890	94.1#	5	-0.06
13 L1	Hexane	<del>17.500</del>	59.881	<del>-242.2#</del>	346	0.02
14 L1	Cyclohexane	17.500	56.444	-222.5#	335	0.07
15 L1	2,3-Dimethylpentane	21.000	73.886	-251.8#	355	-0.27
16 L1	Heptane	21.000	0.387	98.2#	2	0.02
17 L1	Octane	23.500	108.454	-361.5#	485	0.37#
18 L1	APH EC5-8 aliphatics TOTAL	115.000	328.913	-186.0#	287	-0.08
19 H	APH EC5-8 aliphatics	115.000	329.307	-186.4#	288	0.00
20 I	Chlorobenzene-d5	50.000	50.000	0.0	93	0.02
21 T	S 4-Bromofluorobenzene	50.000	47.228	5.5	85	0.00
22	Hexamethylcyclotrisiloxane	50.000	86.293	-72.6#	188	0.00
23	Octamethylcyclotetrasiloxan	50.000	221.623	-343.2#	497	0.00
24 T	Toluene	18.750	0.000	100.0#	0	-16.41#
25 T	Ethylbenzene	21.750	0.111	99.5#	0	0.16
26 T	m,p-Xylene	44.000	0.103	99.8#	0	-0.02
27 T	o-Xylene	22.000	0.498	97.7#	2	0.43#
28 T	Naphthalene	25.000	0.549	97.8#	2	0.00
29 L2	2,3-Dimethylheptane	25.000	6.772	72.9#	26	0.10
30 L2	Nonane	25.000	0.408	98.4#	2	0.08
31 L2	Decane	<del>30.000</del>	71.916	<del>-139.7#</del>	235	0.02
32 L2	Butylcyclohexane	27.500	0.205	99.3#	1	0.01
33 L2	Undecane	32.500	0.746	97.7#	2	0.00
34 L2	Dodecane	35.000	95.193	-172.0#	295	0.02
35 L2	APH EC9-12 aliphatics TOTAL	175.000	159.597	8.8	90	0.03
36 H	APH EC9-12 aliphatics	175.000	338.783	-93.6#	192	0.00
37 S	4-Bromofluorobenzene	71.000	64.278	9.5	80	0.00
38 L3	Isopropylbenzene	24.500	0.000	100.0#	0	-19.77#
39 L3	1-Methyl-3-ethylbenzene	24.500	0.086	99.6#	0	-0.28
40 L3	1,3,5-Trimethylbenzene	<del>24.500</del>	74.493	<del>-204.1#</del>	282	0.01
41 L3	p-Isopropyltoluene	27.750	0.000	100.0#	0	-21.30#
42 L3	1,2,3-Trimethylbenzene	24.500	0.338	98.6#	1	-0.42#
43 L3	APH EC9-10 aromatics TOTAL	125.400	84.971	32.2#	61	0.01
44 H	APH EC9-10 aromatics (1)	98.000	68.600	30.0#	63	0.00

89.4%

107.3%

111.2%

Evaluate Continuing Calibration Report

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030907.D  
 Acq On : 9 Mar 2022 4:03 pm  
 Operator : bat  
 Sample : 02-0457 lcs/ 67 ug/m3, 65-172c  
 Misc : line 3  
 ALS Vial : 7 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 09 16:36:34 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

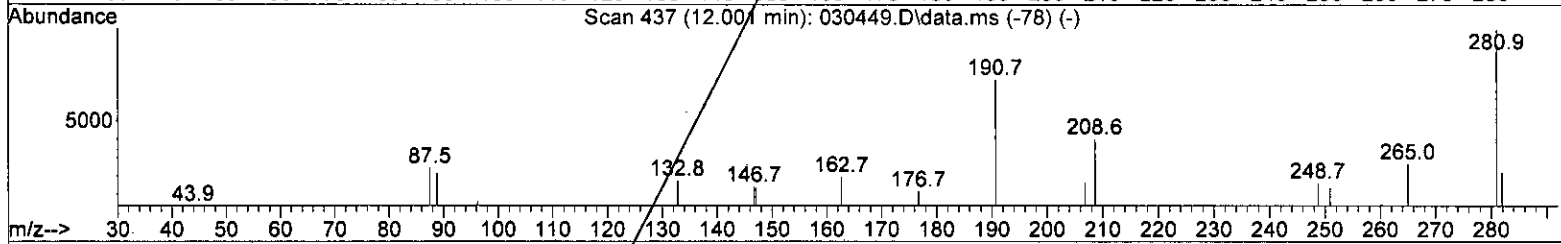
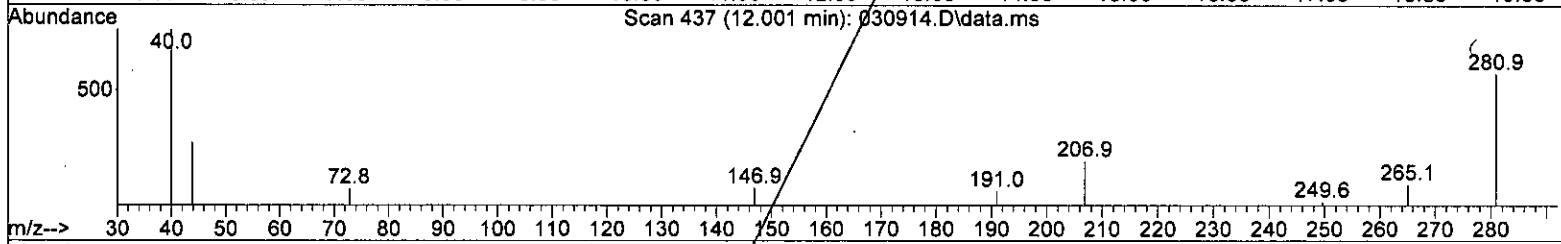
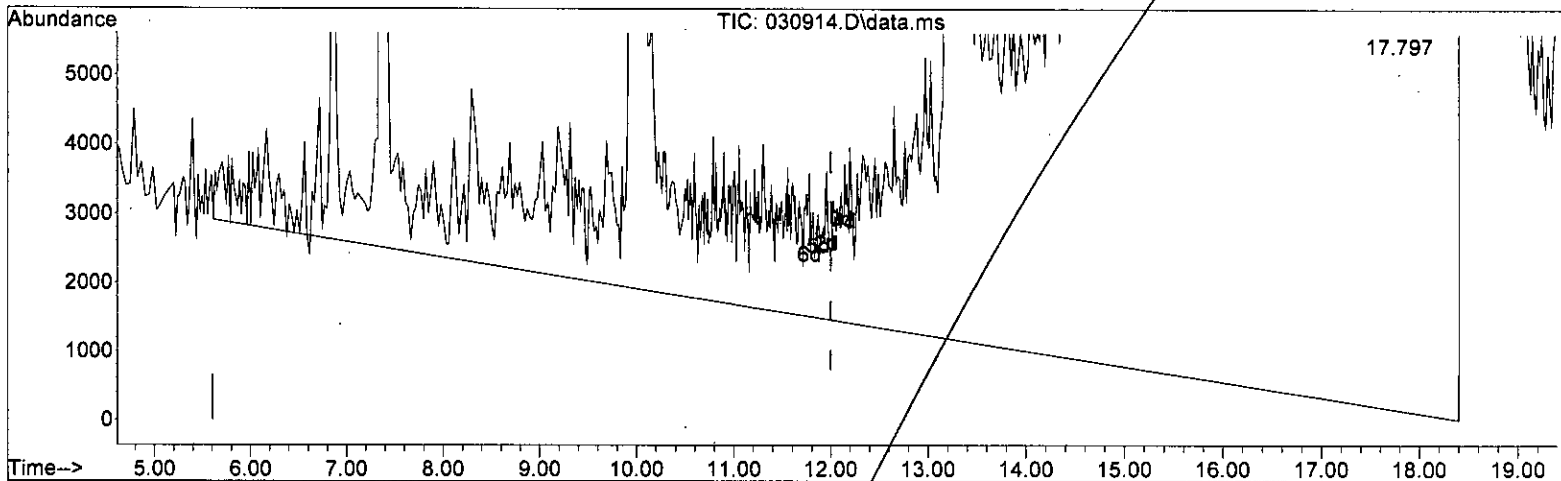
Compound	Amount	Calc.	%Dev Area	% Dev(min)
45 H APH EC9-10 aromatics (2)	27.400	-13.281	148.5# -43	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:57:22 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(19) APH EC5-8 aliphatics (H)

12.004min ( 0.000) 157.930 ug/m3/m

response 2771847

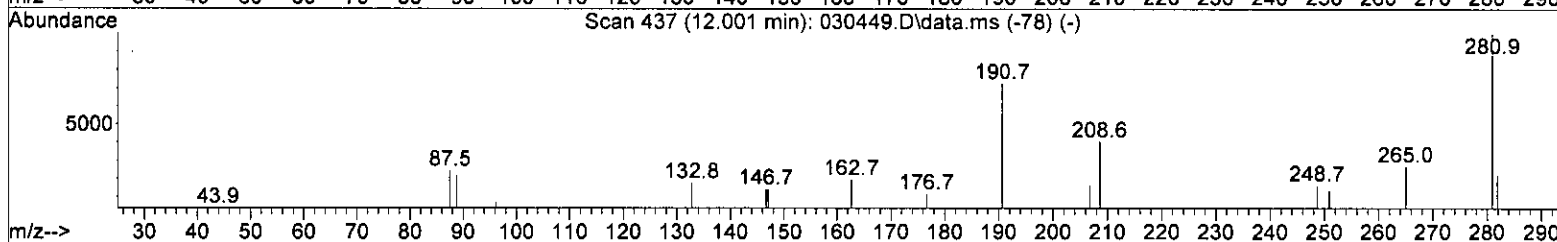
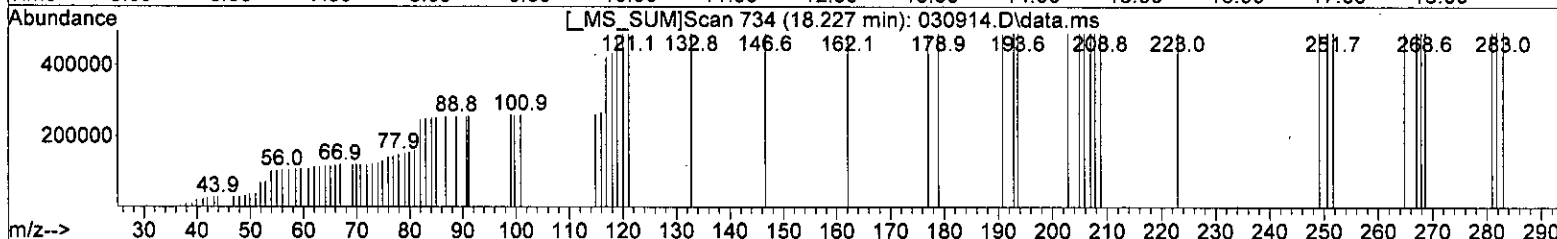
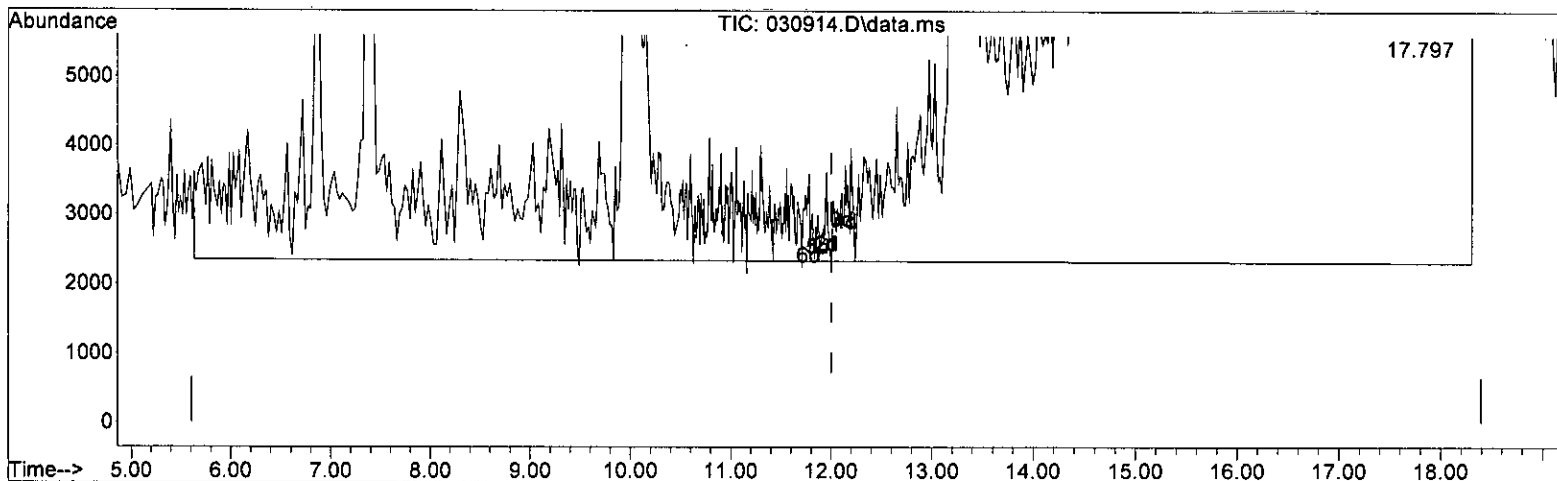
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten:* 12/3/10/22



Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:57:22 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030914.D\data.ms

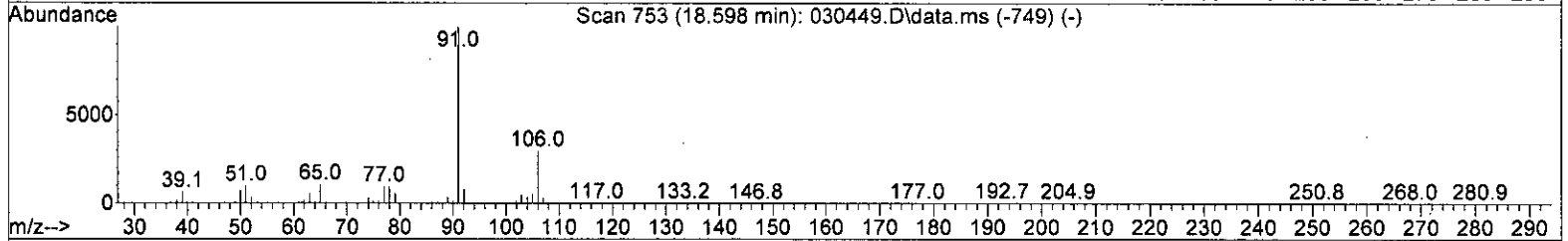
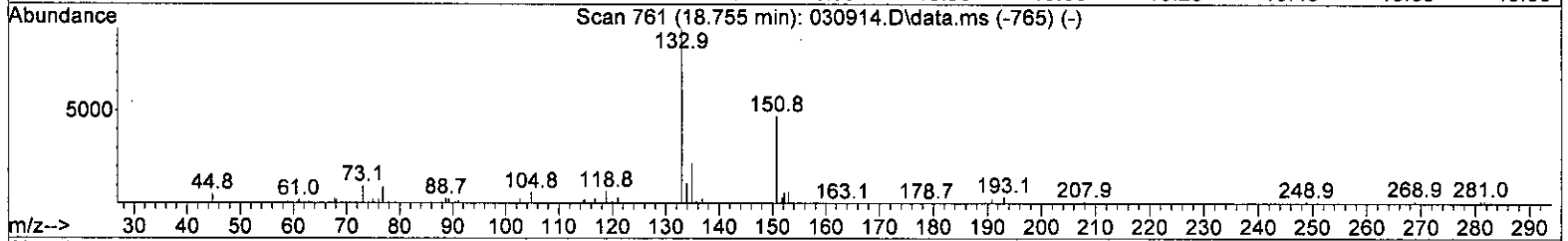
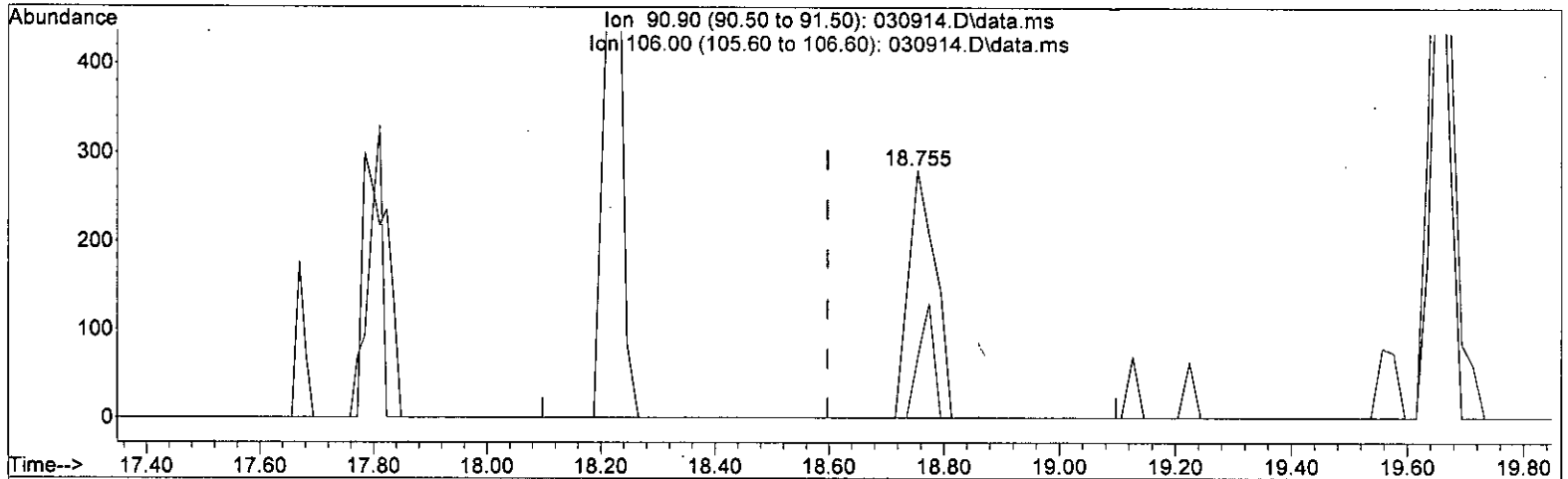
(19) APH EC5-8 aliphatics (H)			
12.004min ( 0.000)	433.308 ug/m3 m		
response	7605024		
Signal	Exp%	Act%	
TIC	100.00	100.00	
0.00	0.00	0.00	
0.00	0.00	0.00	
0.00	0.00	0.00	

*Handwritten signature: 6/2/10/12*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:57:22 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030914.D\data.ms

(25) Ethylbenzene (T)

18.755min (+ 0.157) 0.073 ug/m3

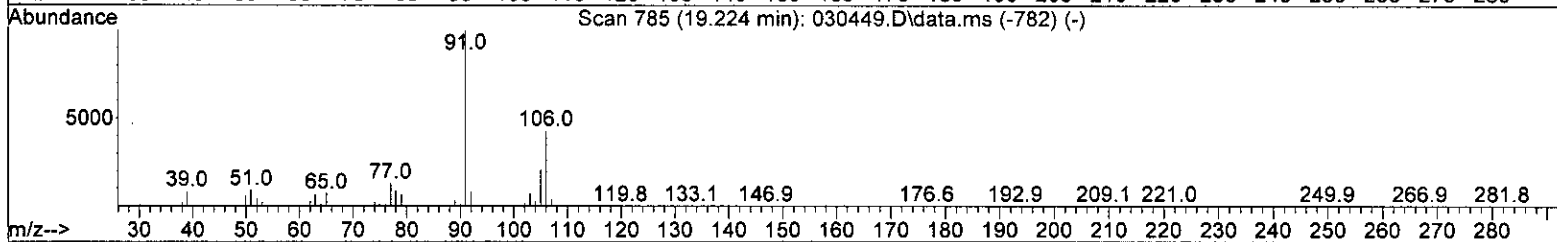
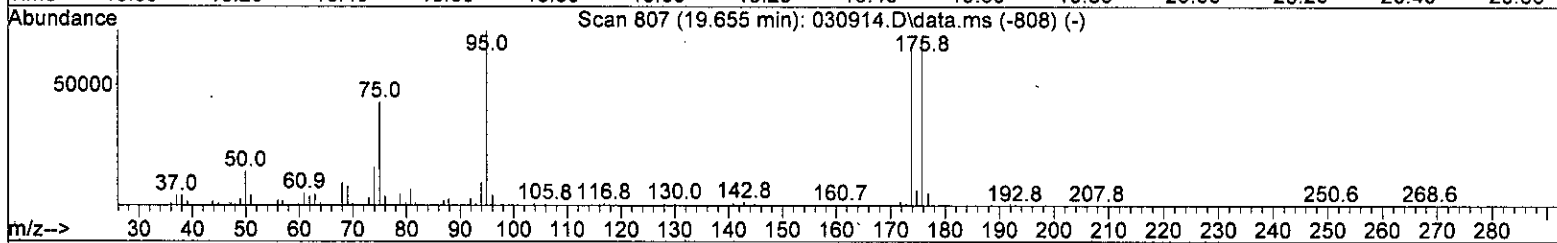
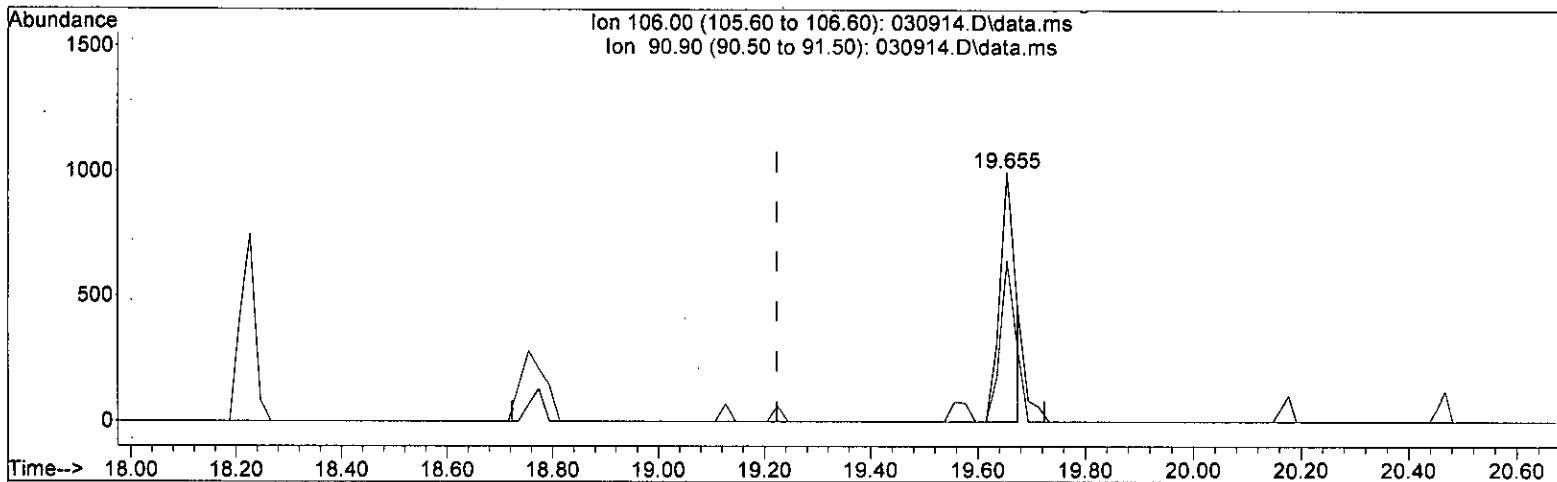
response 909

Ion	Exp%	Act%
90.90	100.00	100.00
106.00	32.60	24.56
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:57:22 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030914.D\data.ms

(27) o-Xylene (T)

19.655min (+ 0.431) 0.481 ug/m3

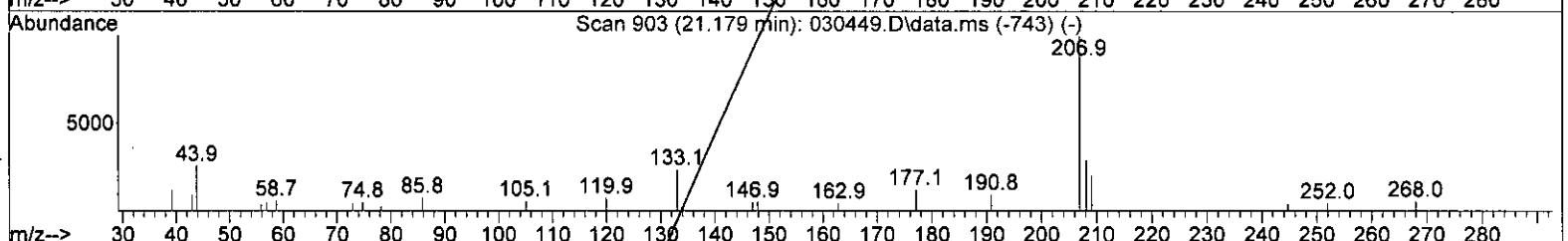
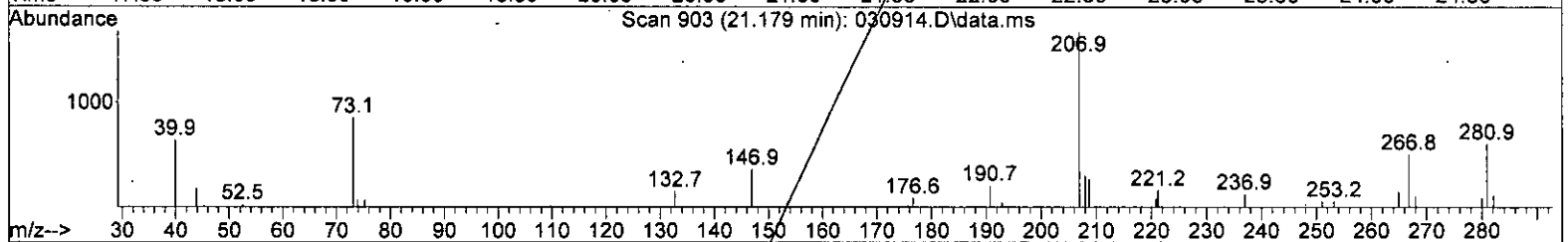
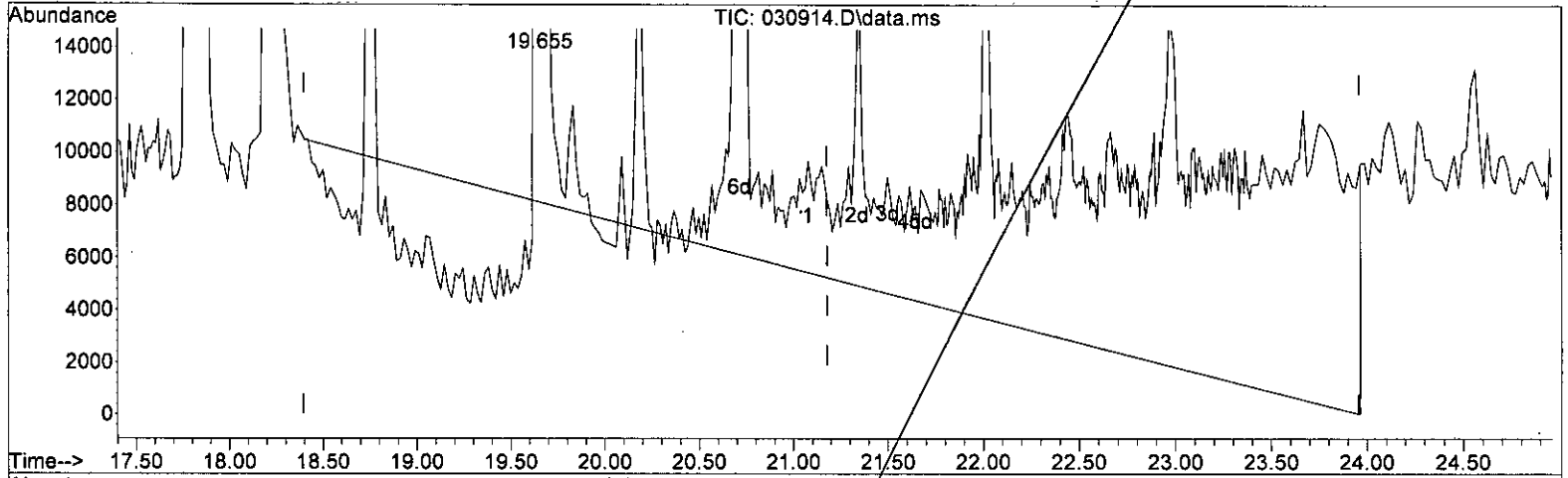
response 2064

Ion	Exp%	Act%
106.00	100.00	100.00
90.90	221.60	64.23#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:57:22 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 37.724 ug/m3 m

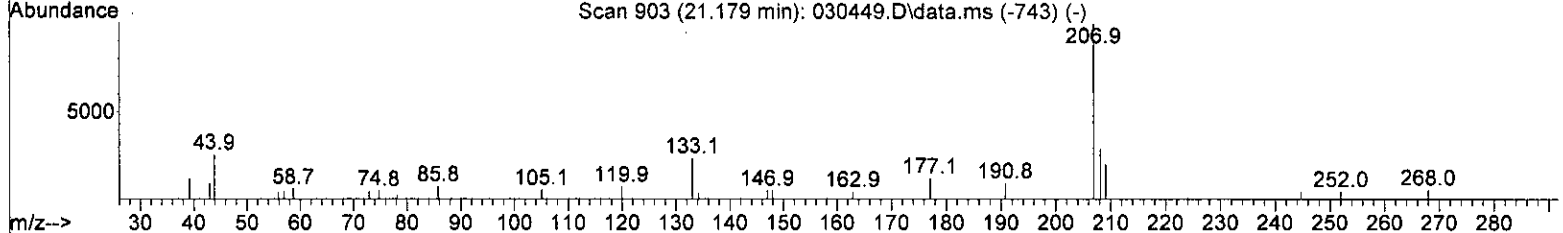
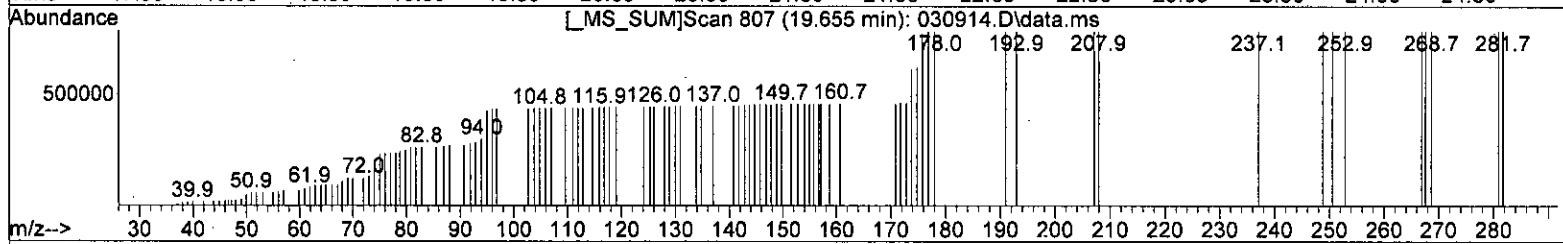
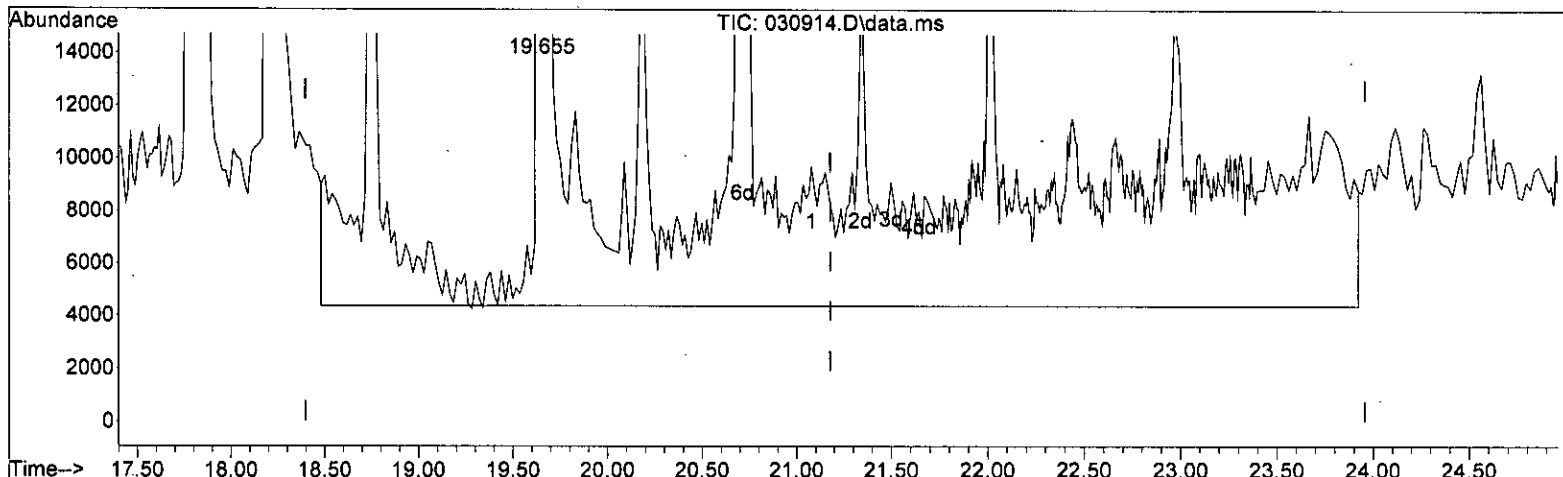
response	908307
Signal	Exp% Act%
TIC	100.00 100.00
0.00	0.00 0.00
0.00	0.00 0.00
0.00	0.00 0.00

*B*  
*3/10/22*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:57:22 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 118.534 ug/m3 m

response 2854006

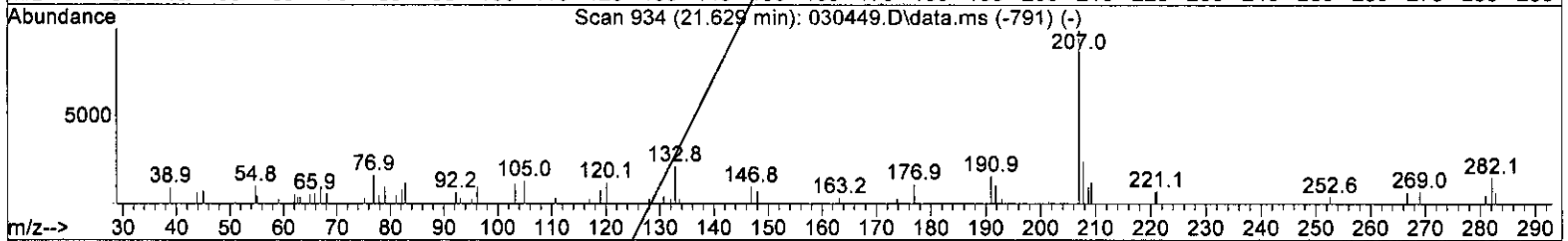
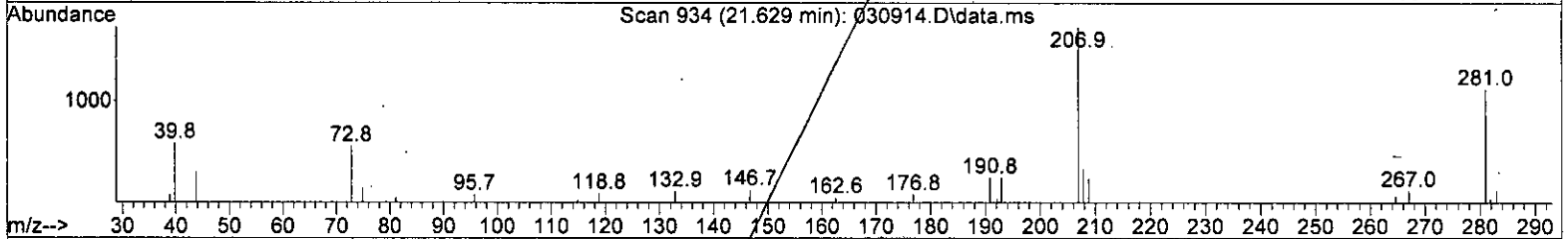
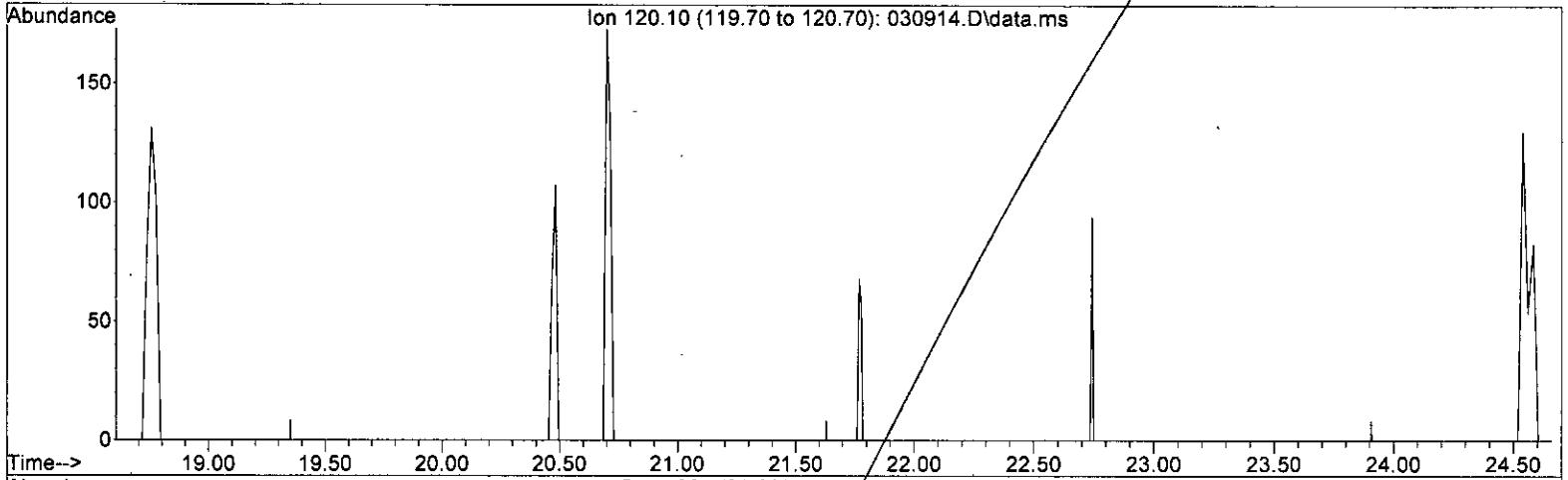
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B*  
*3/10/22*

Quantitation Report (Qedit)

Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:57:22 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



*B  
3/10/22*

(44) APH EC9-10 aromatics (1) (H)

21.630min ( 0.000) -8.758 ug/m3 m

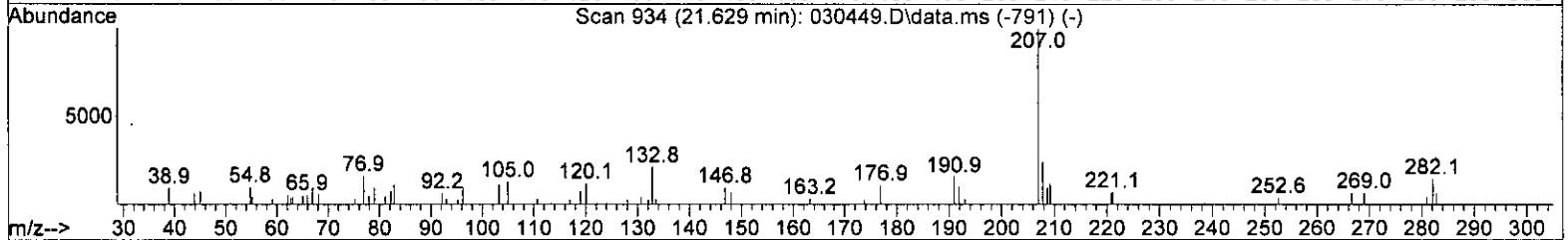
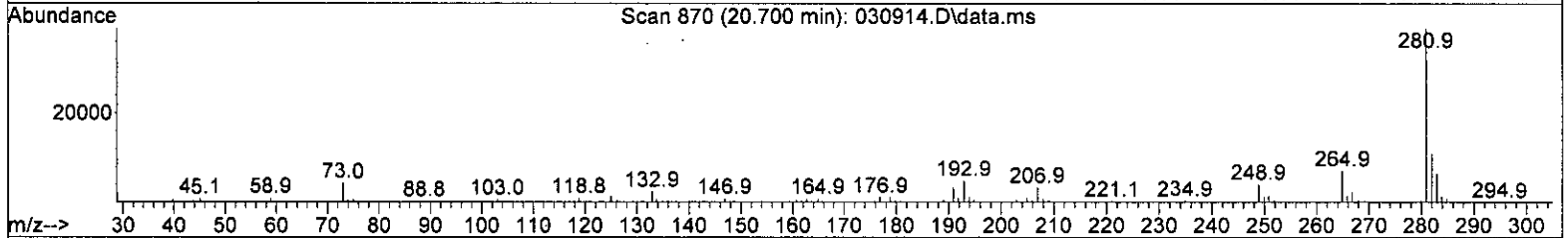
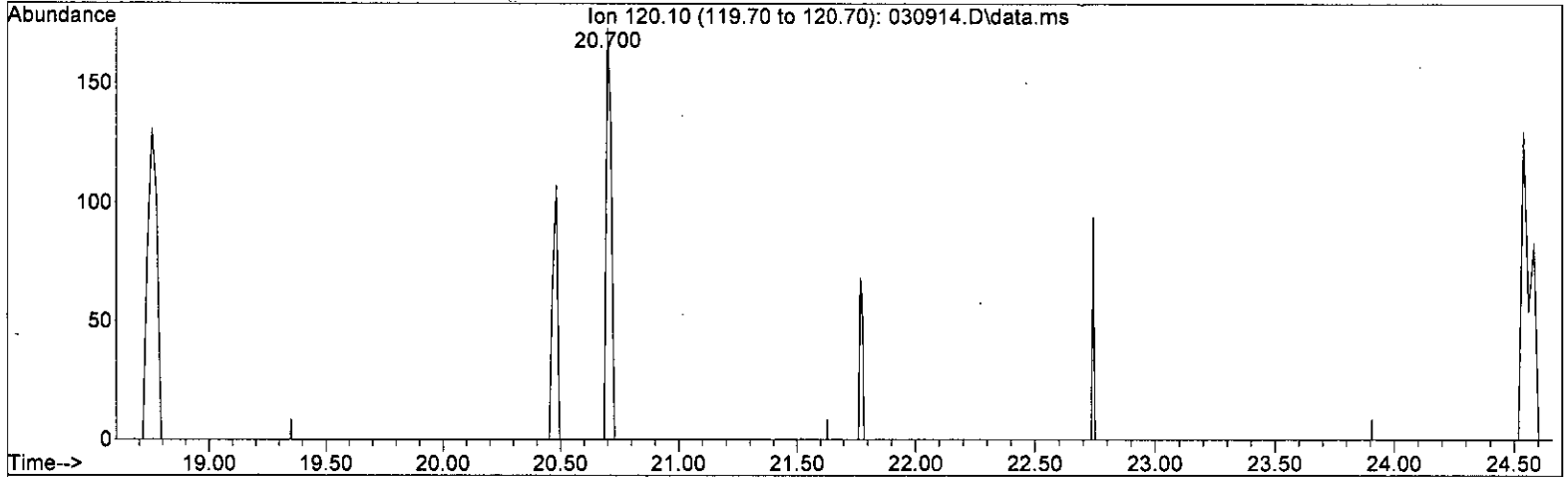
response -40119

Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:57:22 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030914.D\data.ms

(44) APH EC9-10 aromatics (1) (H)

21.630min ( 0.000) 0.109 ug/m3 m

response 498

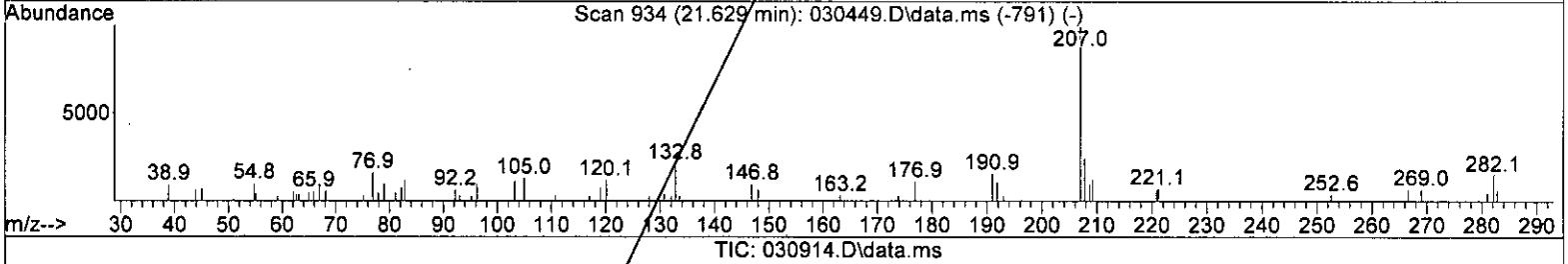
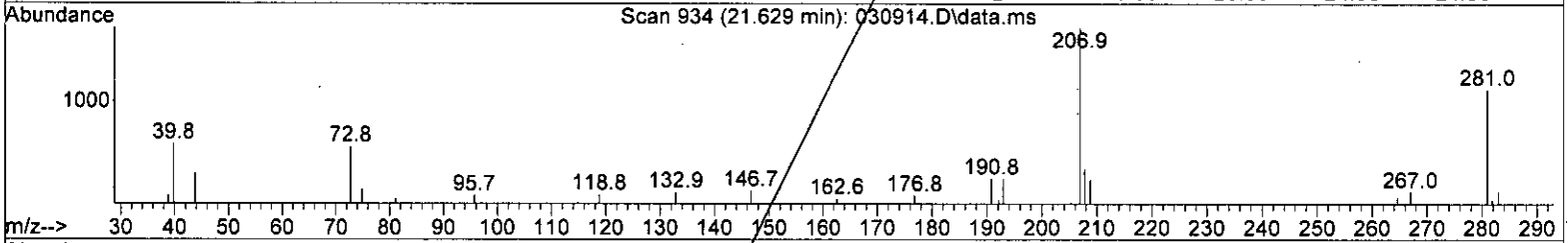
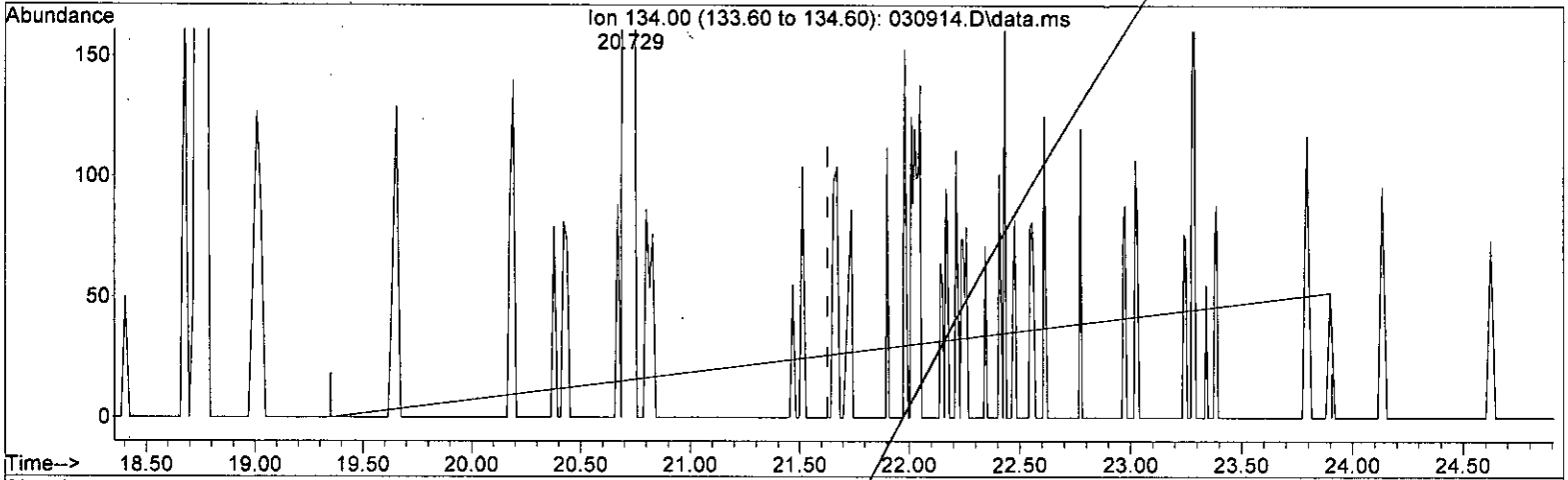
Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*  
 3/10/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:57:22 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(45) APH EC9-10 aromatics (2) (H)  
 21.630min ( 0.000) -14.583 ug/m3 m  
 response -37603

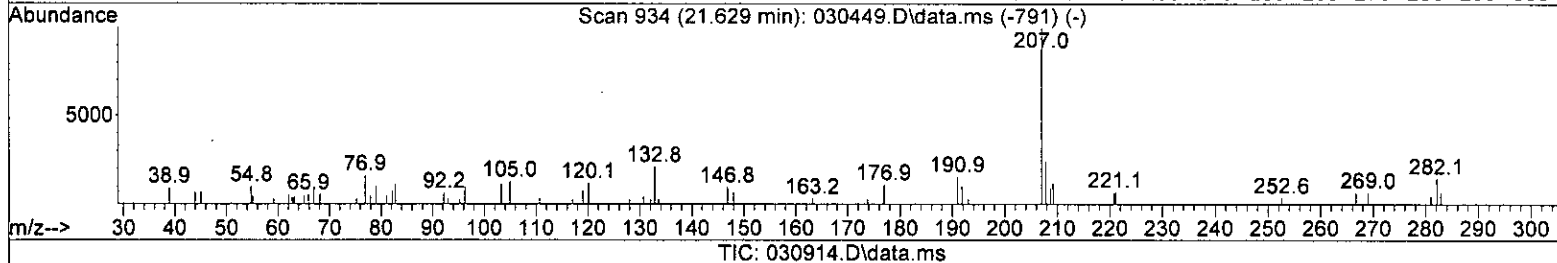
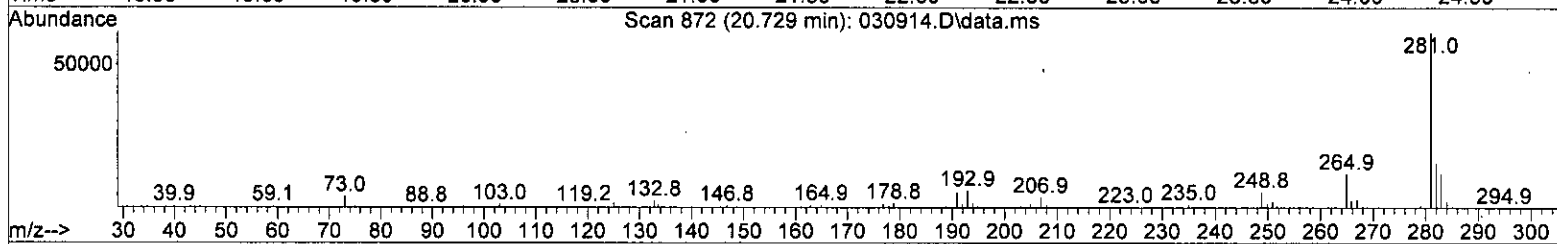
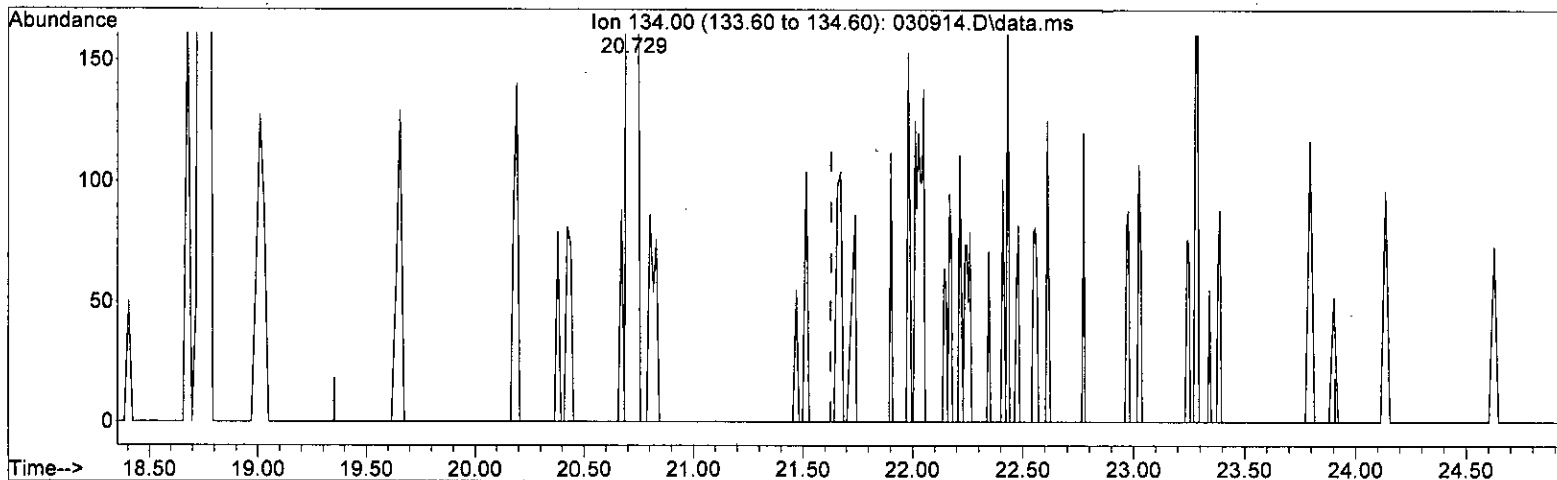
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten:* 3/10/22



Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 14:57:22 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(45) APH EC9-10 aromatics (2) (H)

21.630min ( 0.000) 2.278 ug/m3 m

response 5875

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 15:10:25 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.99	128	95690	50.000	ug/m3	# 0.02
10) 1,4-Difluorobenzene	13.23	114	355052	50.000	ug/m3	0.02
20) Chlorobenzene-d5	18.23	117	378371	50.000	ug/m3	0.02

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.65	95	247033	63.661	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	89.66%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	697739	52.688	ug/m3	87
3) IS-2 1,4-Difluorobenzene	13.23	TIC	972737	39.974	ug/m3	74
4) IS-3 Chlorobenzene-d5	18.23	TIC	1246293	51.798	ug/m3	99
5) Methylene chloride	6.85	TIC	18424	59.957	ug/m3	94
6) Acetone	0.00		0	N.D.	d	
7) 2-Propanol	0.00		0	N.D.	d	
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	0.00		0	N.D.	d	
11) Benzene	0.00		0	N.D.		
12) Isopentane	0.00		0	N.D.	d	
13) Hexane	0.00		0	N.D.	d	
14) Cyclohexane	0.00		0	N.D.	d	
15) 2,3-Dimethylpentane	0.00		0	N.D.	d	
16) Heptane	0.00		0	N.D.	d	
17) Octane	0.00		0	N.D.	d	
18) APH EC5-8 aliphatics T...	11.96		0	N.D.		
19) APH EC5-8 aliphatics	12.00	TIC	7605024m	433.308	ug/m3	
21) S 4-Bromofluorobenzene	19.65	TIC	1560202	47.422	ug/m3	97
22) Hexamethylcyclotrisilo...	17.80	TIC	2258303	46.031	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	530917	81.108	ppbv	100
24) Toluene	0.00		0	N.D.		
25) Ethylbenzene	0.00		0	N.D.	d	
26) m,p-Xylene	0.00		0	N.D.		
27) o-Xylene	0.00		0	N.D.	d	
28) Naphthalene	23.96	128	998	0.098	ug/m3	68
29) 2,3-Dimethylheptane	0.00		0	N.D.	d	
30) Nonane	0.00		0	N.D.	d	
31) Decane	0.00		0	N.D.	d	
32) Butylcyclohexane	0.00		0	N.D.	d	
33) Undecane	0.00		0	N.D.	d	
34) Dodecane	0.00		0	N.D.	d	
35) APH EC9-12 aliphatics ...	21.08		0	N.D.		
36) APH EC9-12 aliphatics	21.18	TIC	2854006m	118.534	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	0.00		0	N.D.		
40) 1,3,5-Trimethylbenzene	0.00		0	N.D.		
41) p-Isopropyltoluene	0.00		0	N.D.		
42) 1,2,3-Trimethylbenzene	0.00		0	N.D.		
43) APH EC9-10 aromatics T...	21.61		0	N.D.		
44) APH EC9-10 aromatics (1)	21.63	120	498m	0.109	ug/m3	

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

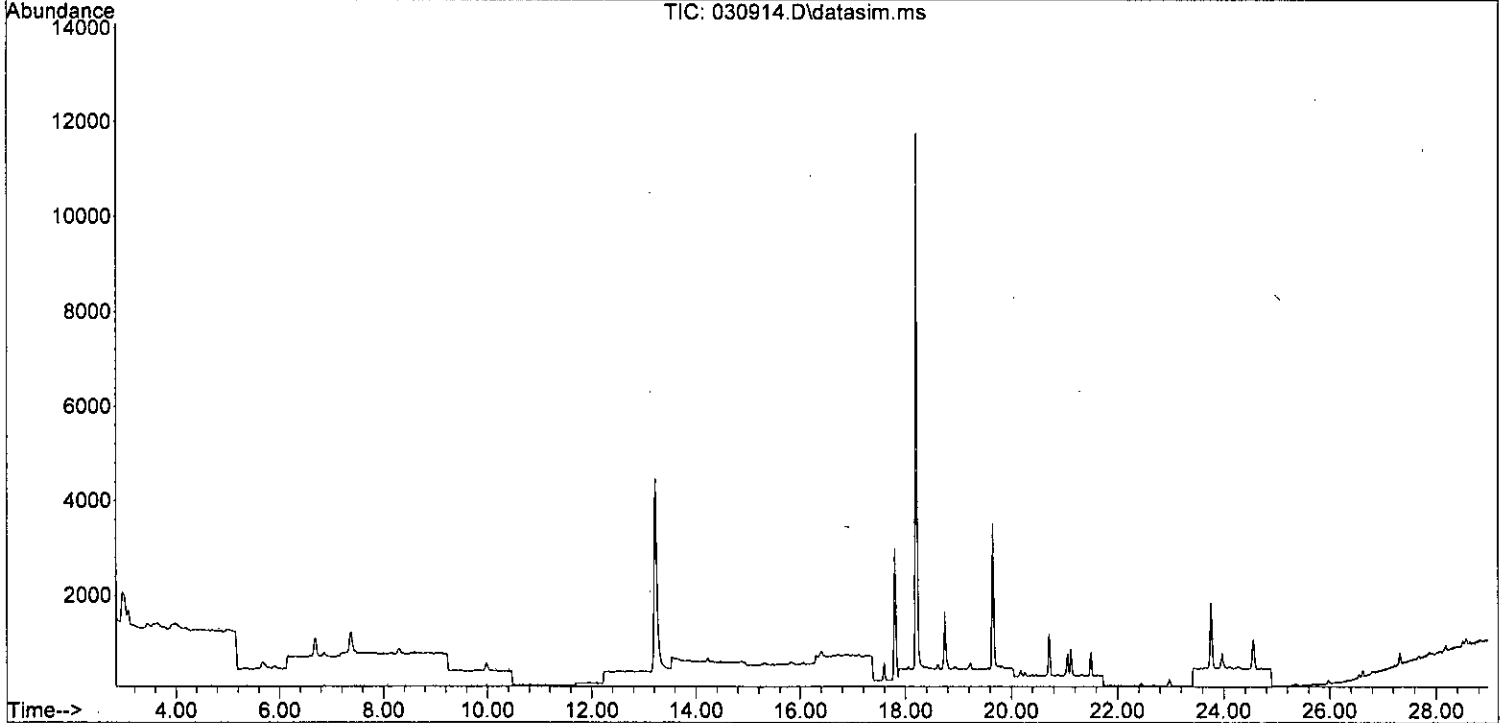
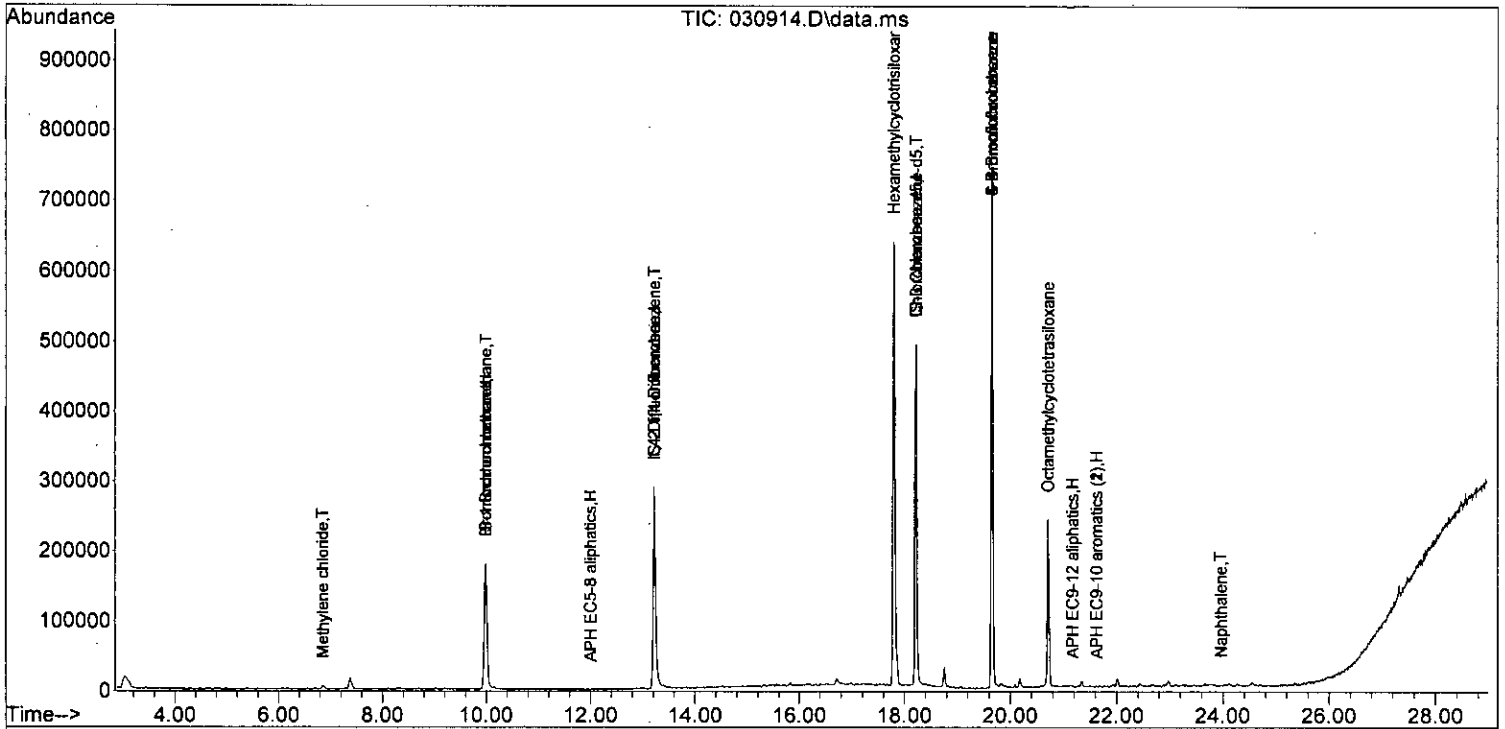
Quant Time: Mar 10 15:10:25 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.63	134	5875m	2.278	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030914.D  
 Acq On : 9 Mar 2022 10:14 pm  
 Operator : bat  
 Sample : 02-0457 MB  
 Misc : T1  
 ALS Vial : 14 Sample Multiplier: 1  
 InstName : GCMS8

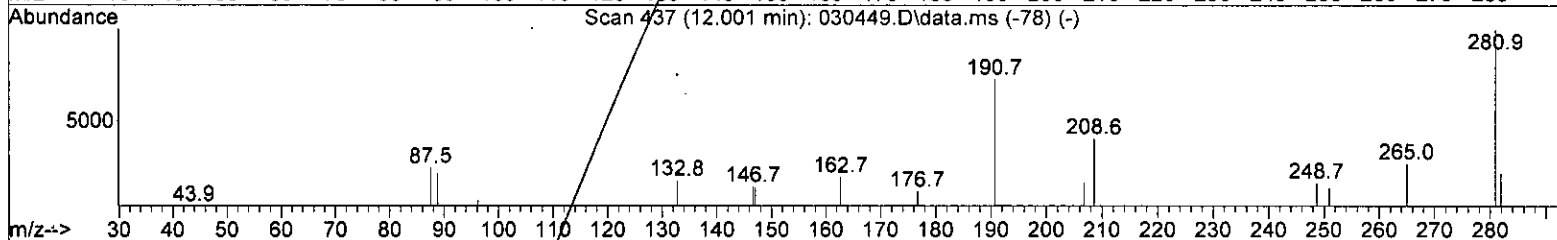
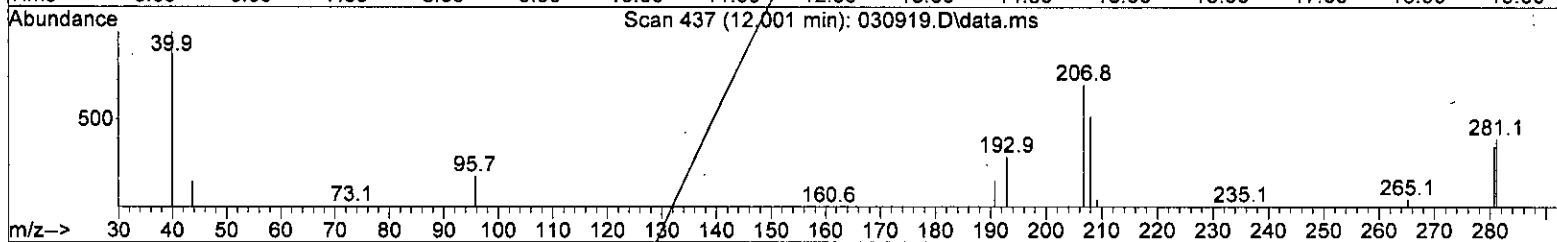
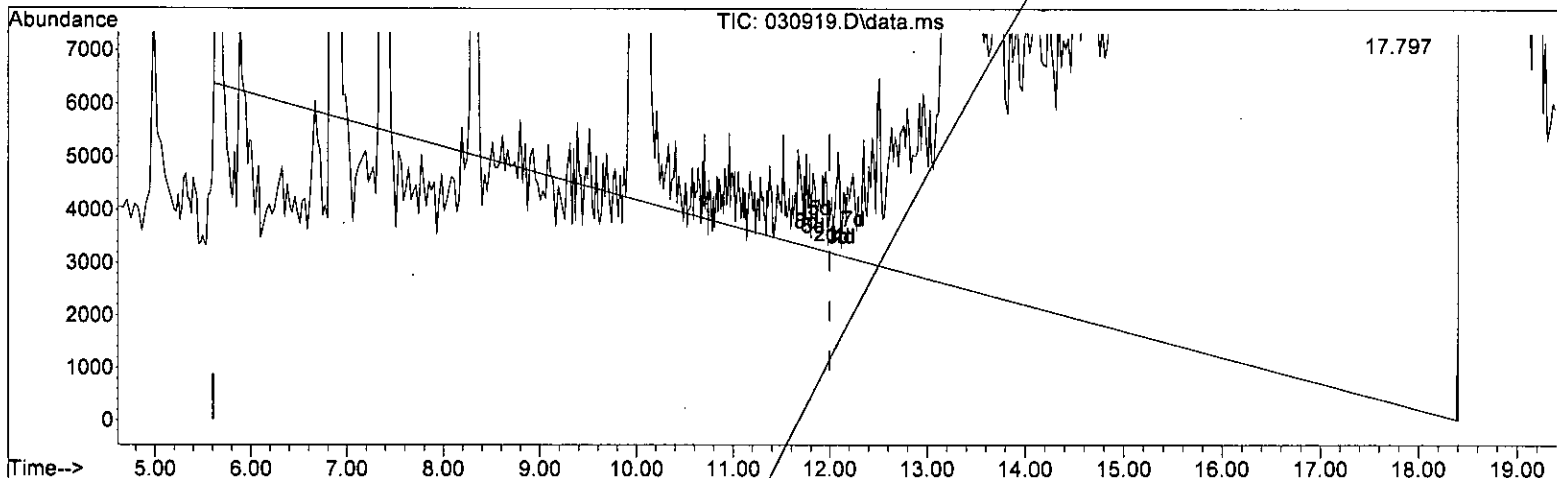
Quant Time: Mar 10 15:10:25 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030919.D  
 Acq On : 10 Mar 2022 1:54 am  
 Operator : bat  
 Sample : 203054-01 1/5.9  
 Misc : T5  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 15:50:25 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(19) APH EC5-8 aliphatics (H)

12.004min ( 0.000) 195.058 ug/m3 m

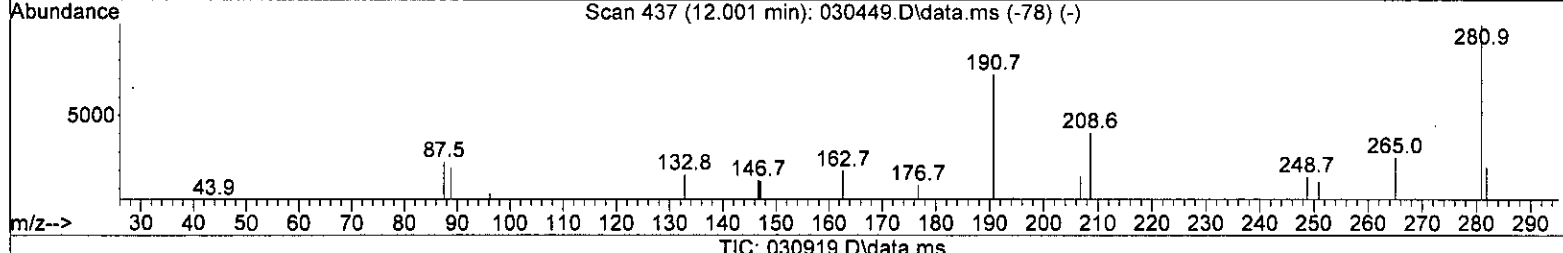
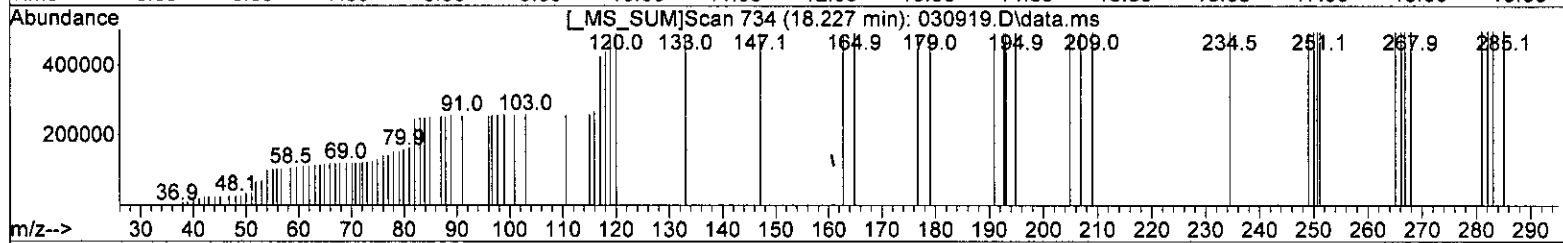
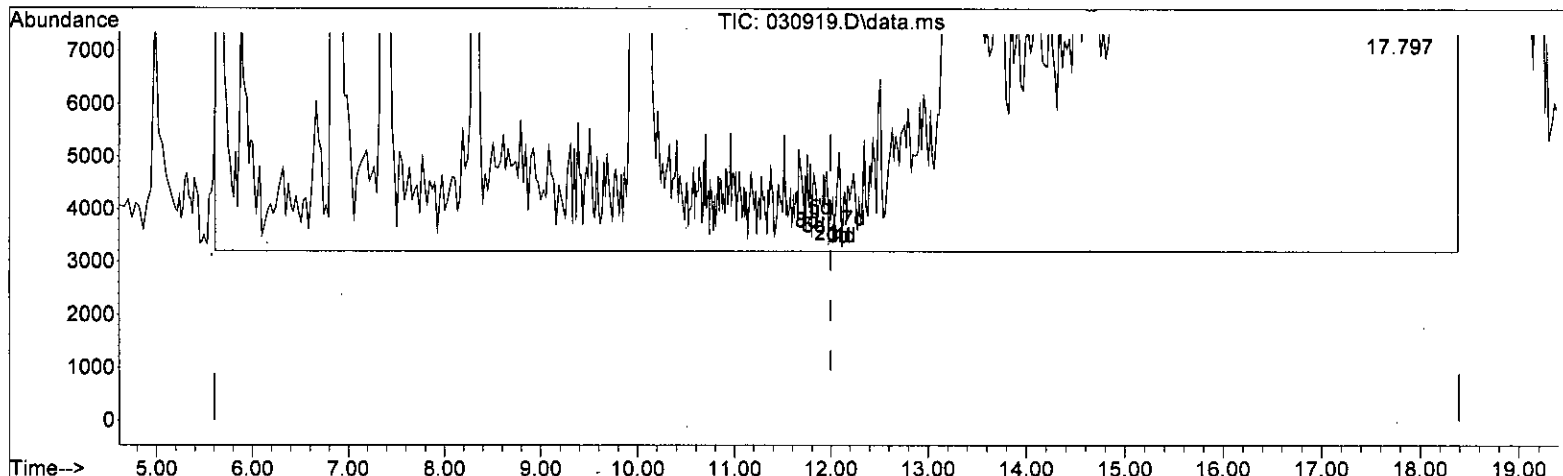
response 4125608

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten:* 3/10/22

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030919.D  
 Acq On : 10 Mar 2022 1:54 am  
 Operator : bat  
 Sample : 203054-01 1/5.9  
 Misc : T5  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 15:50:25 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(19) APH EC5-8 aliphatics (H)

12.004min ( 0.000) 444.518 ug/m3 m

response 9401866

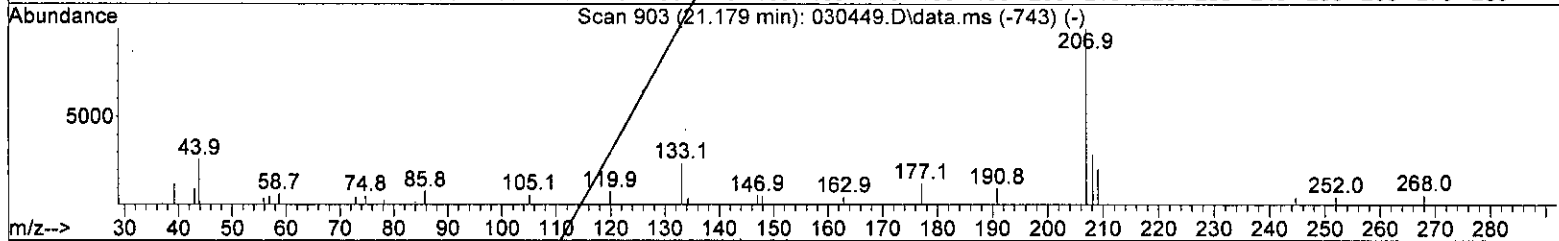
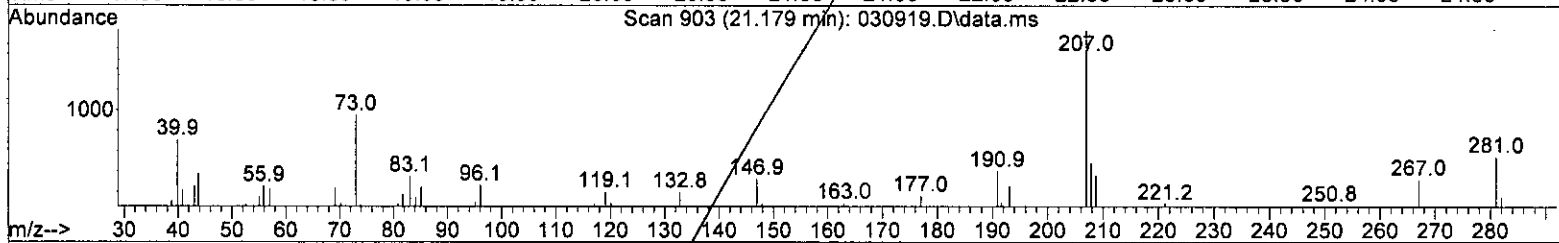
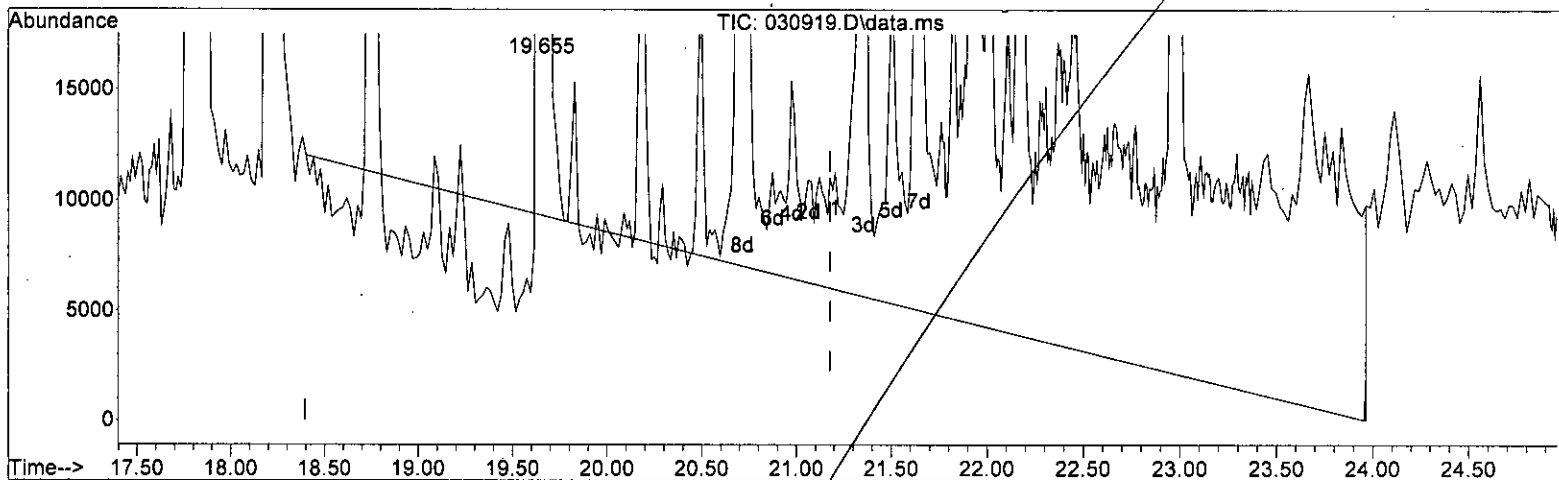
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*  
 3/10/22

Quantitation Report (Qedit)

Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030919.D  
 Acq On : 10 Mar 2022 1:54 am  
 Operator : bat  
 Sample : 203054-01 1/5.9  
 Misc : T5  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 15:50:25 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 85.700 ug/m3 m

response 2145624

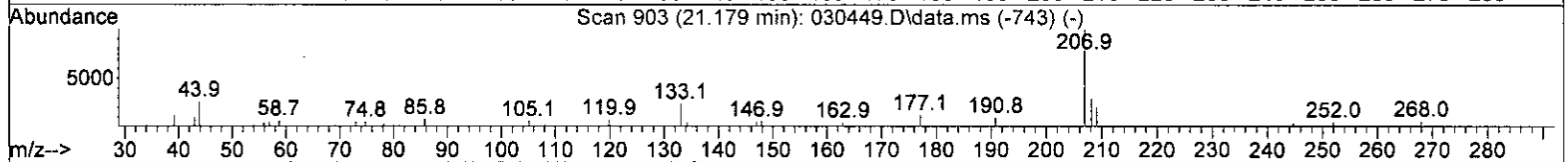
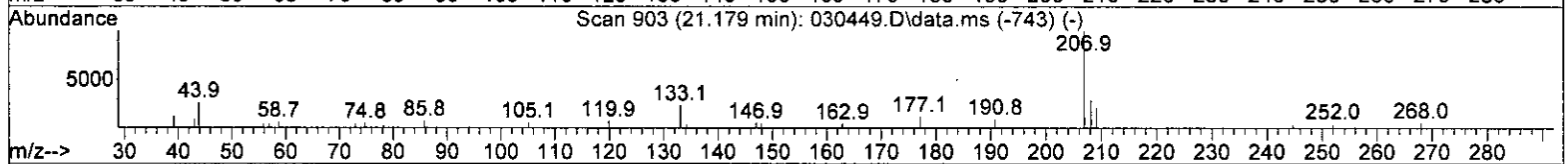
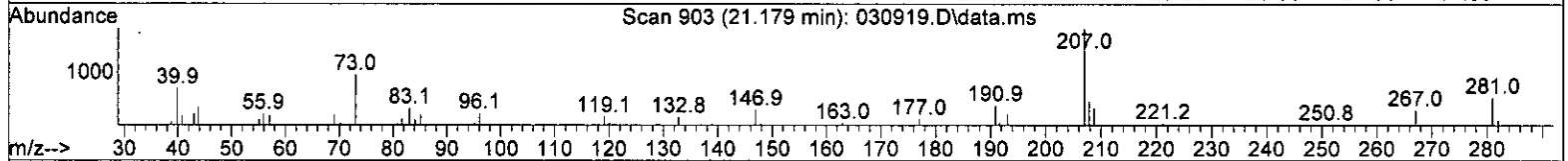
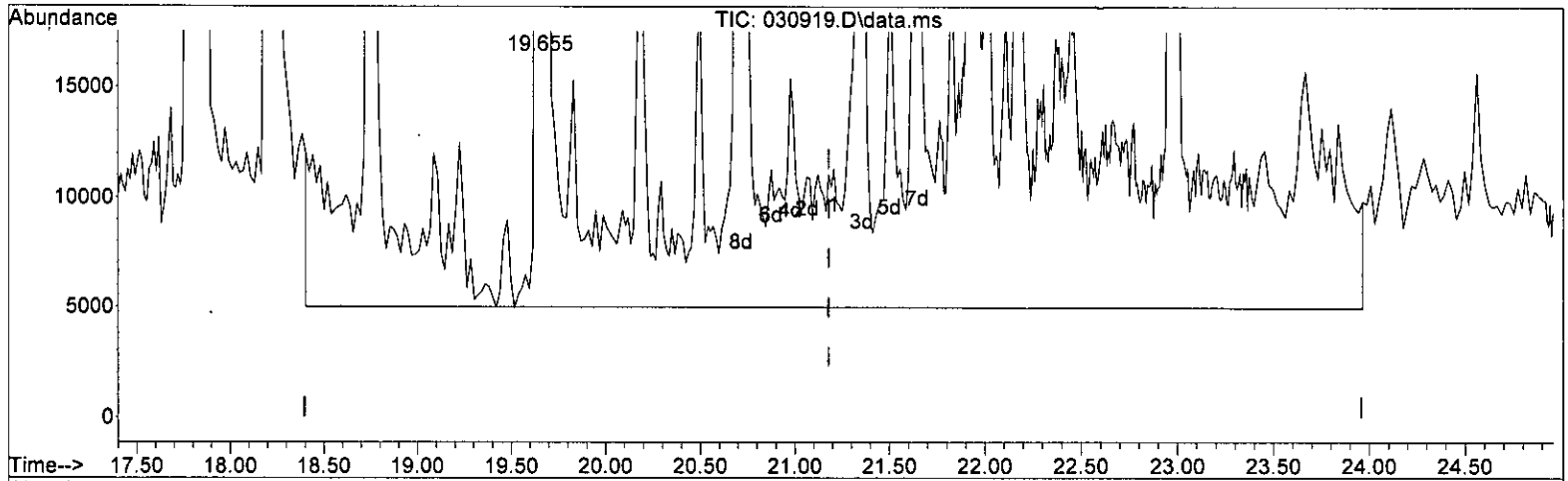
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*B  
3/10/22*

Quantitation Report (Qedit)

Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030919.D  
 Acq On : 10 Mar 2022 1:54 am  
 Operator : bat  
 Sample : 203054-01 1/5.9  
 Misc : T5  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 15:50:25 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030919.D\data.ms

(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 183.992 ug/m3 m

response 4606491

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

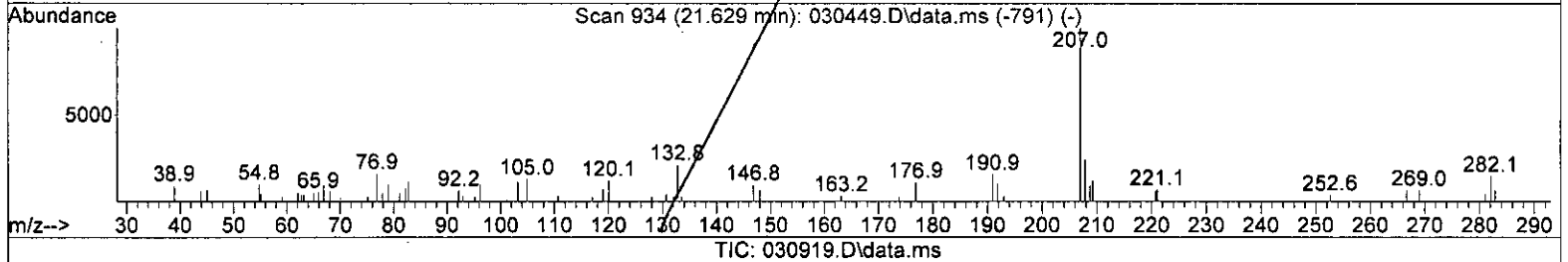
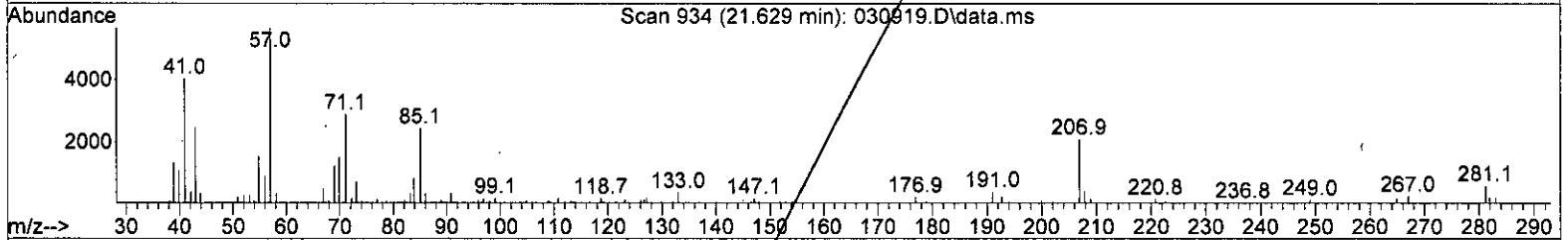
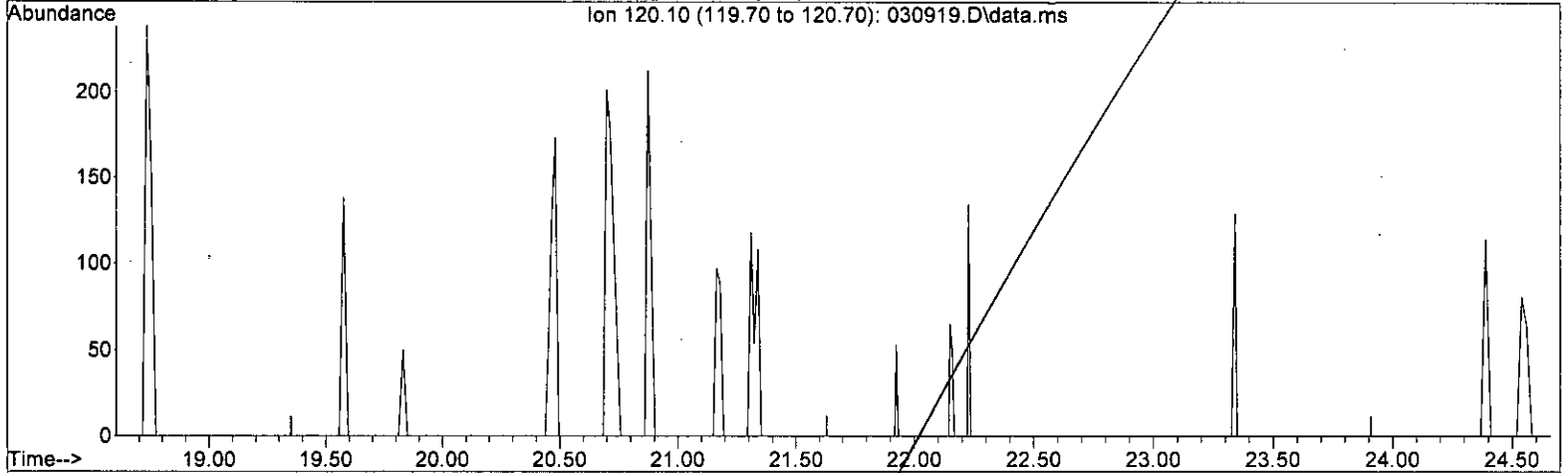
*Handwritten signature/initials*



Quantitation Report (Qedit)

Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030919.D  
 Acq On : 10 Mar 2022 1:54 am  
 Operator : bat  
 Sample : 203054-01 1/5.9  
 Misc : T5  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 15:50:25 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(44) APH EC9-10 aromatics (1) (H)

21.630min ( 0.000) -8.902 ug/m3 m

response -42402

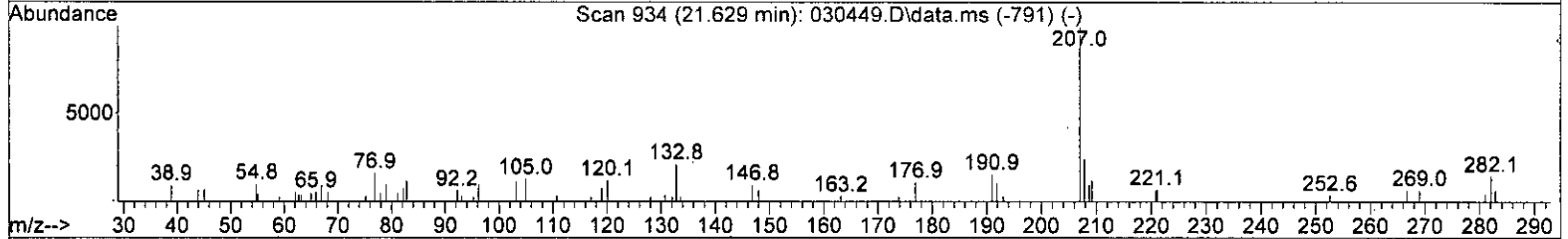
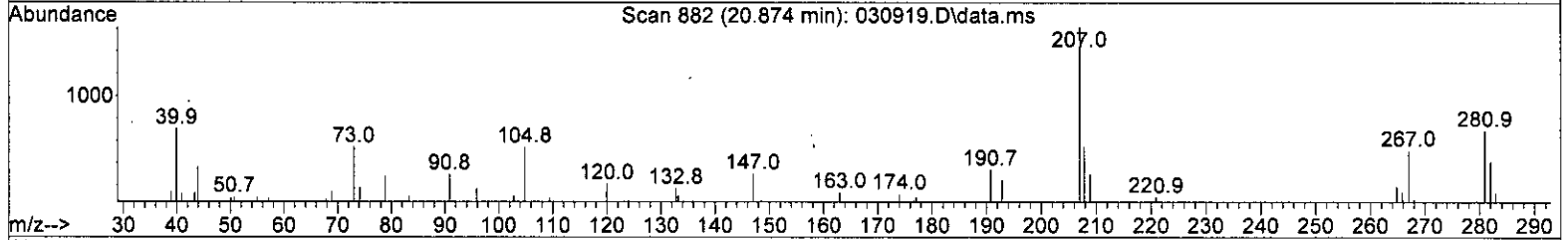
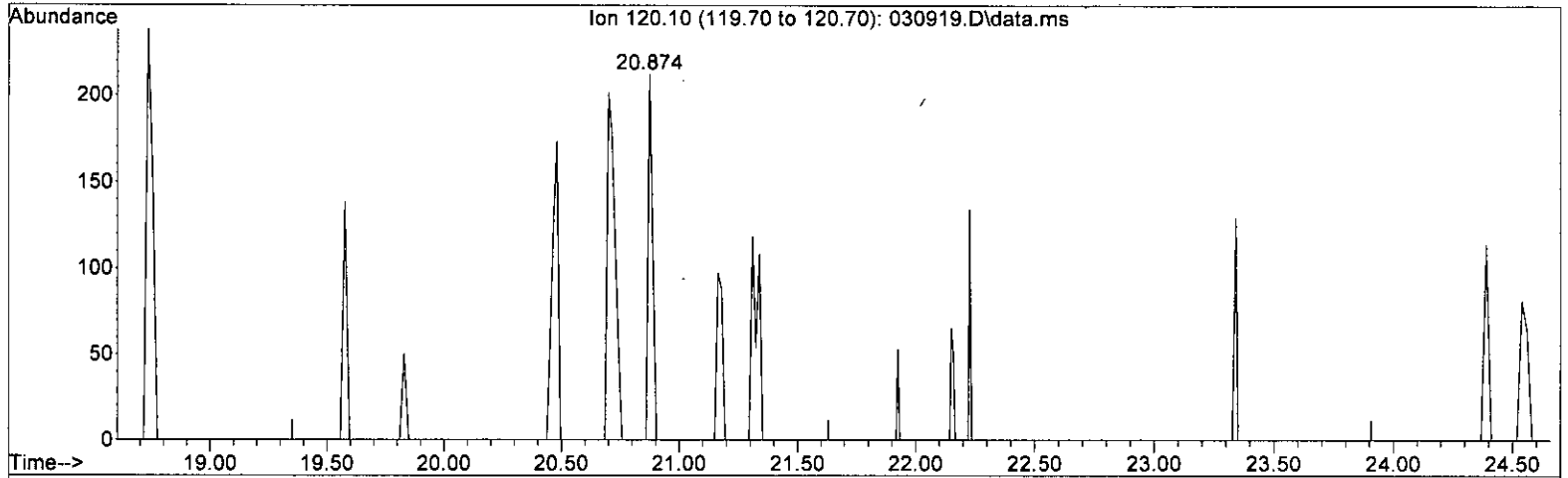
Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature:* 3/10/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030919.D  
 Acq On : 10 Mar 2022 1:54 am  
 Operator : bat  
 Sample : 203054-01 1/5.9  
 Misc : T5  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 15:50:25 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030919.D\data.ms

(44) APH EC9-10 aromatics (1) (H)

21.630min ( 0.000) 0.356 ug/m3 m

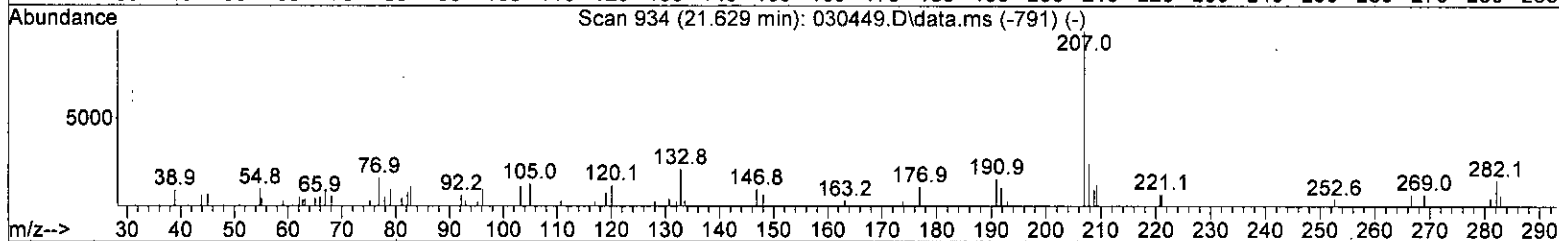
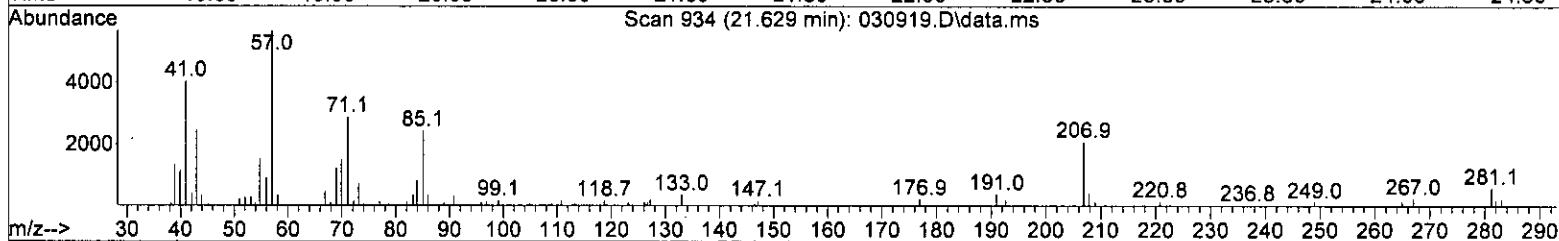
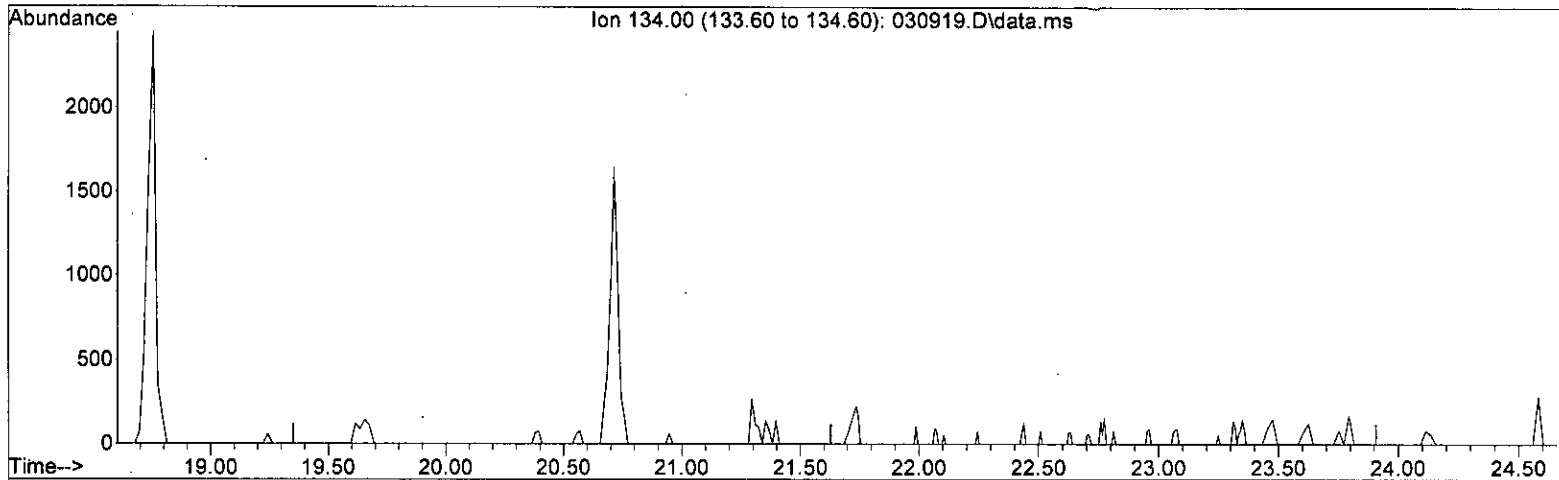
response 1695

Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*R*  
*3/10/22*

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030919.D  
 Acq On : 10 Mar 2022 1:54 am  
 Operator : bat  
 Sample : 203054-01 1/5.9  
 Misc : T5  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 15:50:25 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(45) APH EC9-10 aromatics (2) (H)

21.630min ( 0.000) -14.299 ug/m3 m

response -38341

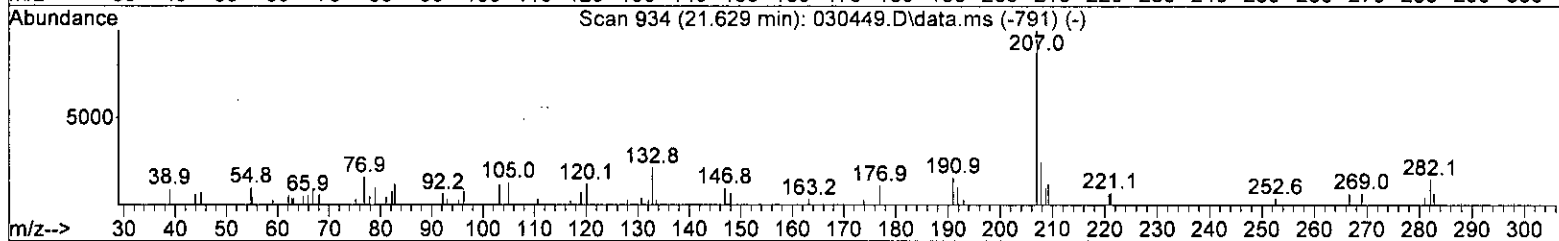
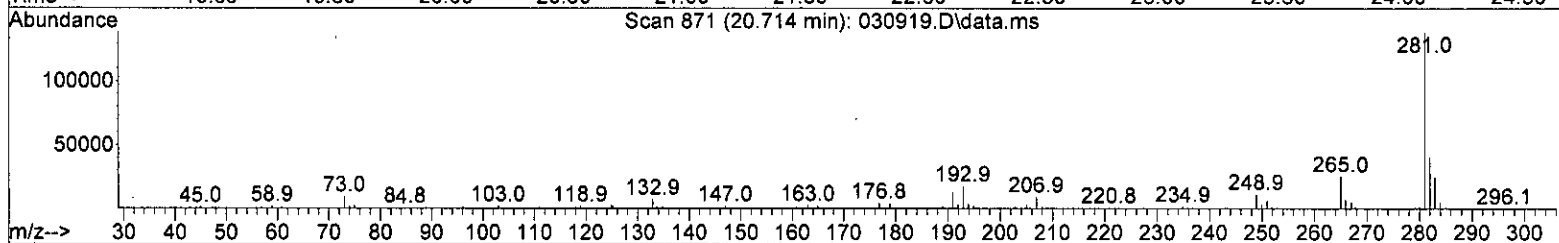
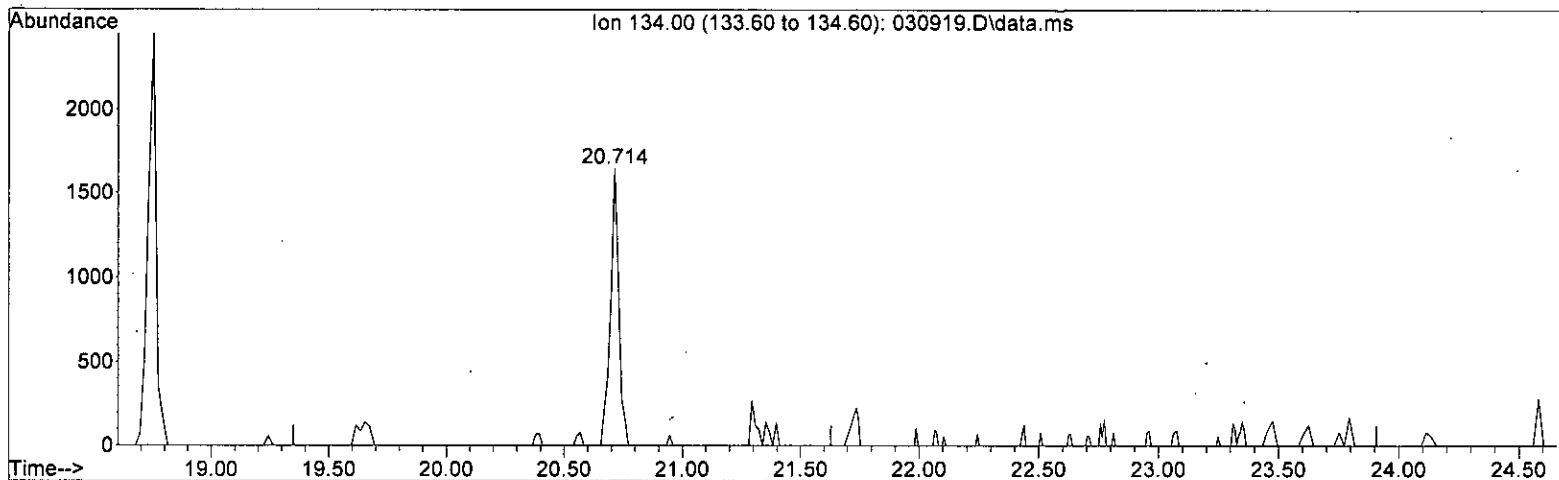
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature/initials*  
 3/10/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030919.D  
 Acq On : 10 Mar 2022 1:54 am  
 Operator : bat  
 Sample : 203054-01 1/5.9  
 Misc : T5  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 15:50:25 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030919.D\data.ms

(45) APH EC9-10 aromatics (2) (H)

21.630min ( 0.000) 2.611 ug/m3 m

response 7000

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* 3/10/22

Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030919.D  
 Acq On : 10 Mar 2022 1:54 am  
 Operator : bat  
 Sample : 203054-01 1/5.9  
 Misc : T5  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 15:52:30 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	9.99	128	103478	50.000	ug/m3	# 0.02
10) 1,4-Difluorobenzene	13.23	114	427871	50.000	ug/m3	0.02
20) Chlorobenzene-d5	18.23	117	393438	50.000	ug/m3	0.02

System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.65	95	257424	63.799	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	89.86%

Target Compounds						Qvalue
2) IS-1 Bromochloromethane	9.99	TIC	712030	49.721	ug/m3	86
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1322848	50.270	ug/m3	72
4) IS-3 Chlorobenzene-d5	18.23	TIC	1223185	47.011	ug/m3	97
5) Methylene chloride	6.85	TIC	193354	581.876	ug/m3	95
6) Acetone	5.65	TIC	49240	13.396	ppbv #	100
7) 2-Propanol	0.00		0	N.D.	d	
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	8.51	73	1635	0.187	ug/m3	45
11) Benzene	12.71	78	752	0.070	ug/m3	55
12) Isopentane	5.65	TIC	49240	3.050	ug/m3#	59
13) Hexane	9.99	TIC	712030	38.325	ug/m3#	63
14) Cyclohexane	13.23	TIC	1278985	57.041	ug/m3	94
15) 2,3-Dimethylpentane	13.75	TIC	17547	1.040	ug/m3#	73
16) Heptane	14.66	TIC	11786	0.612	ug/m3	60
17) Octane	17.80	TIC	2337280	76.591	ug/m3	60
18) APH EC5-8 aliphatics T...	11.96	TIC	4406868m	208.356	ug/m3	
19) APH EC5-8 aliphatics	12.00	TIC	9401866m	444.518	ug/m3	
21) S 4-Bromofluorobenzene	19.65	TIC	1637003	47.851	ug/m3	97
22) Hexamethylcyclotrisilo...	17.80	TIC	3045868	59.707	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	942382	138.454	ppbv	100
24) Toluene	16.41	92	5124	0.834	ug/m3#	75
25) Ethylbenzene	18.62	91	1800	0.140	ug/m3	96
26) m,p-Xylene	18.79	106	2801	0.599	ug/m3#	34
27) o-Xylene	19.22	106	1282	0.287	ug/m3#	32
28) Naphthalene	23.99	128	1074	0.102	ug/m3	75
29) 2,3-Dimethylheptane	18.75	TIC	143683	6.047	ug/m3#	55
30) Nonane	19.36	TIC	3879	0.156	ug/m3#	58
31) Decane	20.98	TIC	13380	0.544	ug/m3	84
32) Butylcyclohexane	21.93	TIC	142177	4.303	ug/m3	69
33) Undecane	22.31	TIC	15473	0.655	ug/m3	86
34) Dodecane	23.84	TIC	14273	0.669	ug/m3#	79
35) APH EC9-12 aliphatics ...	21.06	TIC	332865m	13.295	ug/m3	
36) APH EC9-12 aliphatics	21.18	TIC	4606491m	183.992	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	0.00		0	N.D.		
40) 1,3,5-Trimethylbenzene	20.70	120	616	0.126	ug/m3#	1
41) p-Isopropyltoluene	0.00		0	N.D.		
42) 1,2,3-Trimethylbenzene	0.00		0	N.D.		
43) APH EC9-10 aromatics T...	21.64	TIC	616m	0.143	ug/m3	
44) APH EC9-10 aromatics (1)	21.63	120	1695m	0.356	ug/m3	

Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030919.D  
 Acq On : 10 Mar 2022 1:54 am  
 Operator : bat  
 Sample : 203054-01 1/5.9  
 Misc : T5  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 15:52:30 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

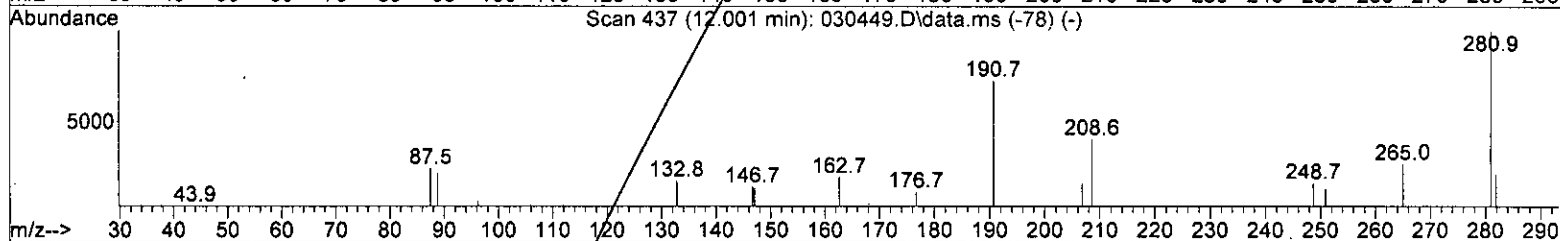
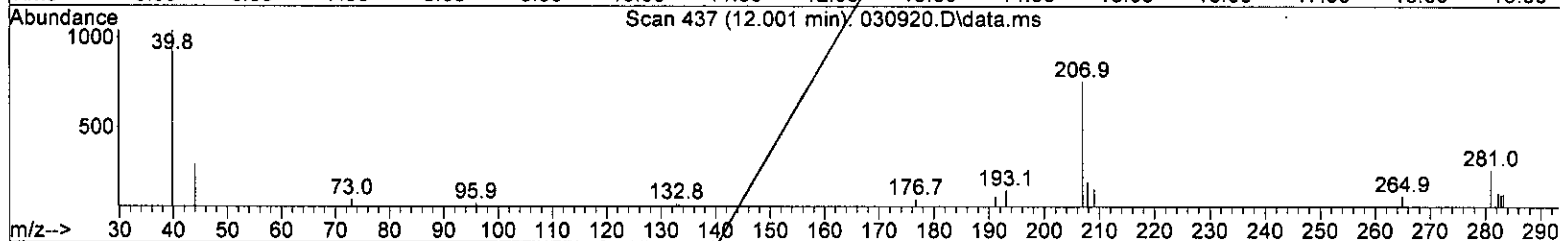
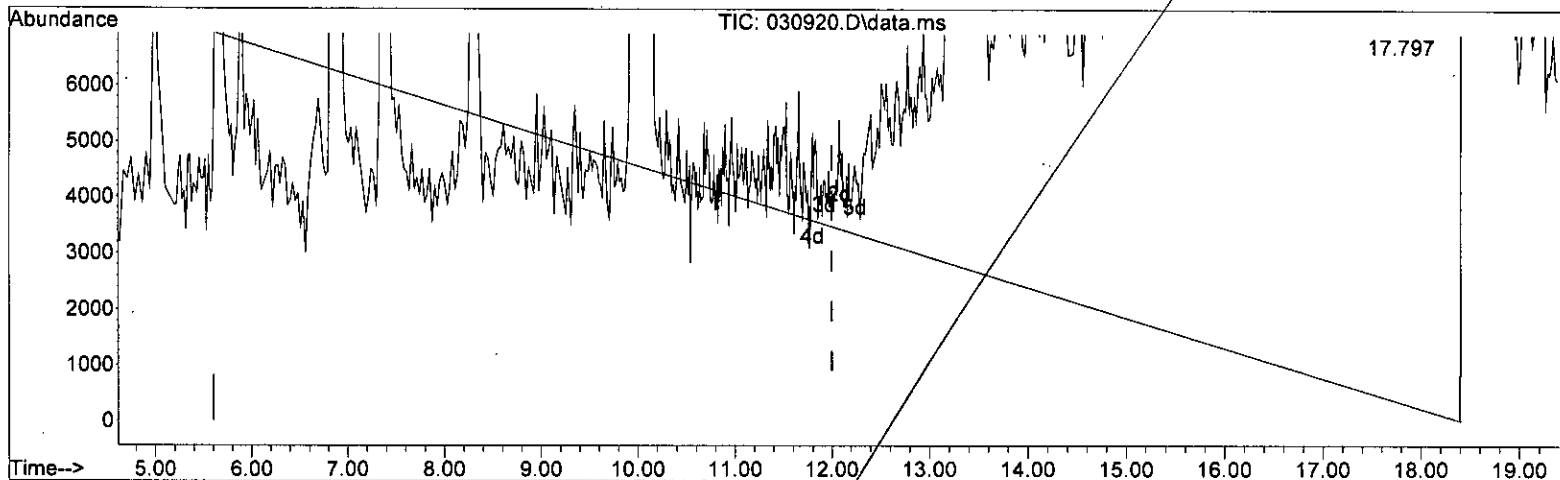
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.63	134	7000m	2.611	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030920.D  
 Acq On : 10 Mar 2022 2:36 am  
 Operator : bat  
 Sample : 203054-01 dup 1/5.9  
 Misc : T5  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 16:19:05 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(19) APH EC5-8 aliphatics (H)

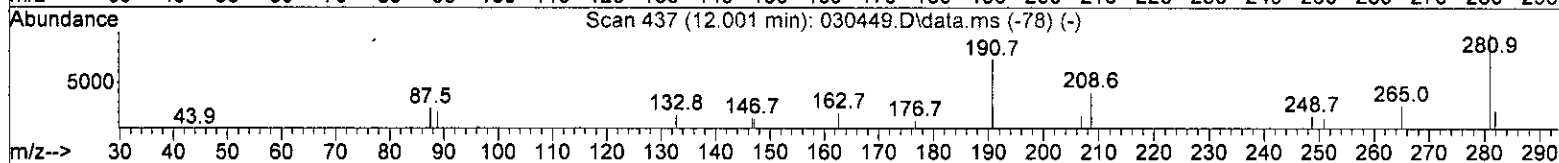
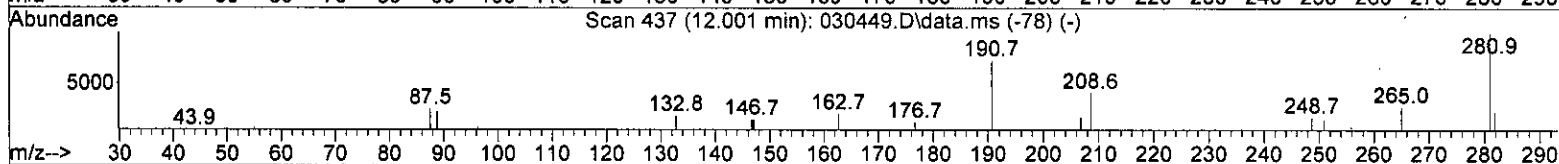
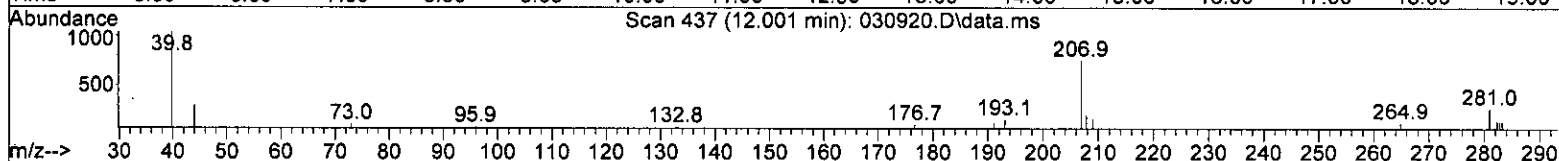
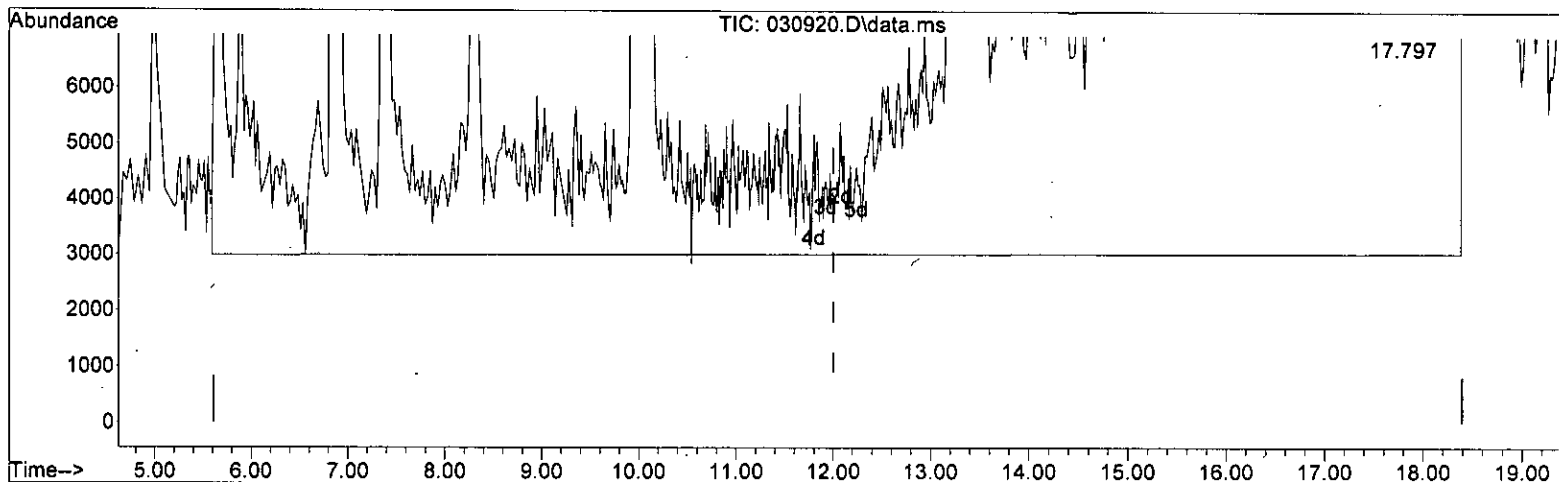
12.004min ( 0.000) 214.860 ug/m3 m

response	4084885	
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature:* 3/10/22

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030920.D  
 Acq On : 10 Mar 2022 2:36 am  
 Operator : bat  
 Sample : 203054-01 dup 1/5.9  
 Misc : T5  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 16:19:05 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



TIC: 030920.D\data.ms

(19) APH EC5-8 aliphatics (H)

12.004min ( 0.000) 506.385 ug/m3 m

response 9627331

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

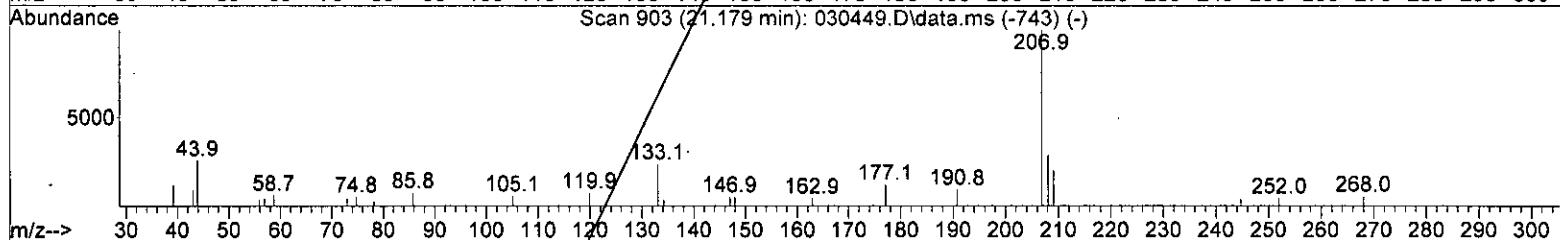
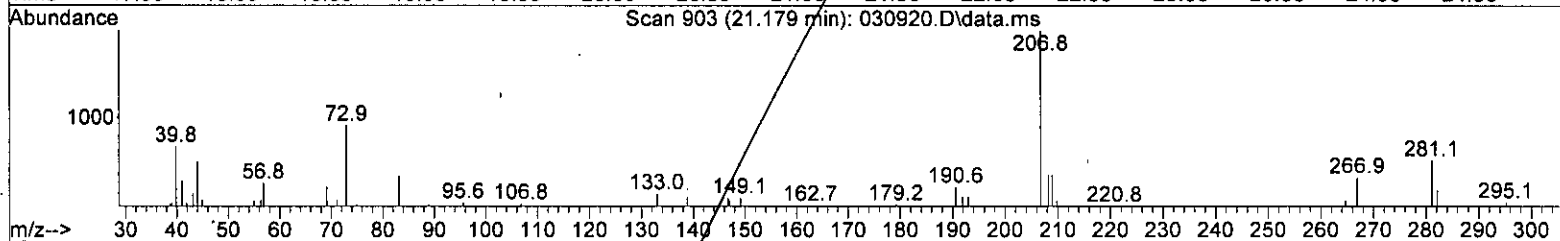
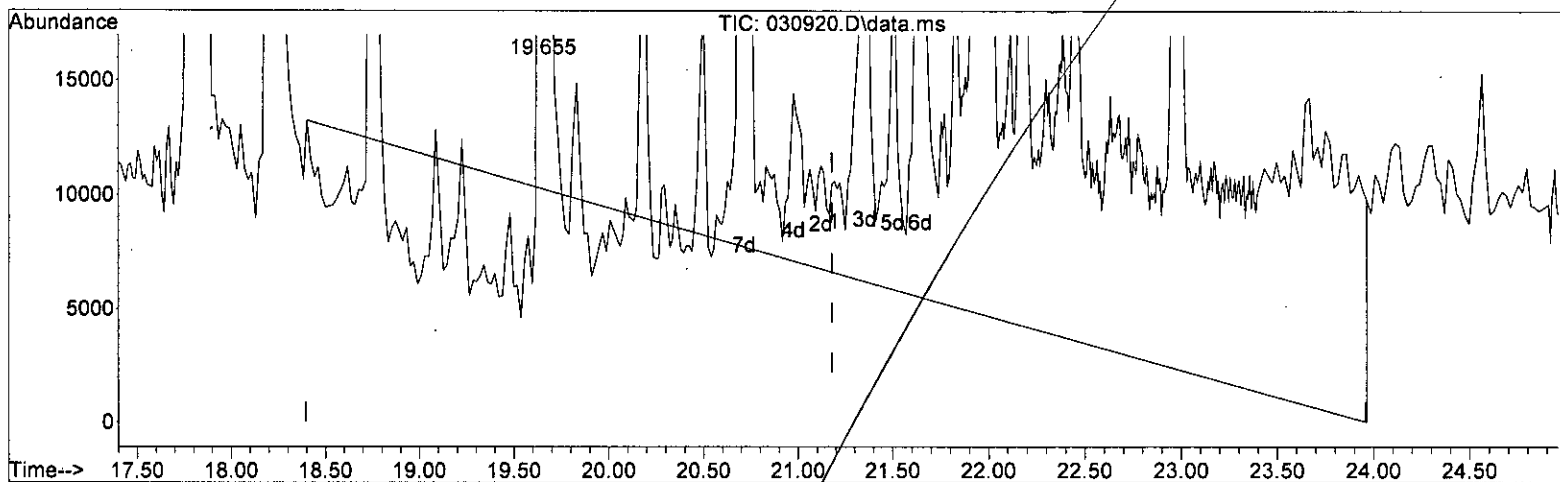
*Handwritten:* 3/10/22



Quantitation Report (Qedit)

Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030920.D  
 Acq On : 10 Mar 2022 2:36 am  
 Operator : bat  
 Sample : 203054-01 dup 1/5.9  
 Misc : T5  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 16:19:05 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 86.828 ug/m3 m

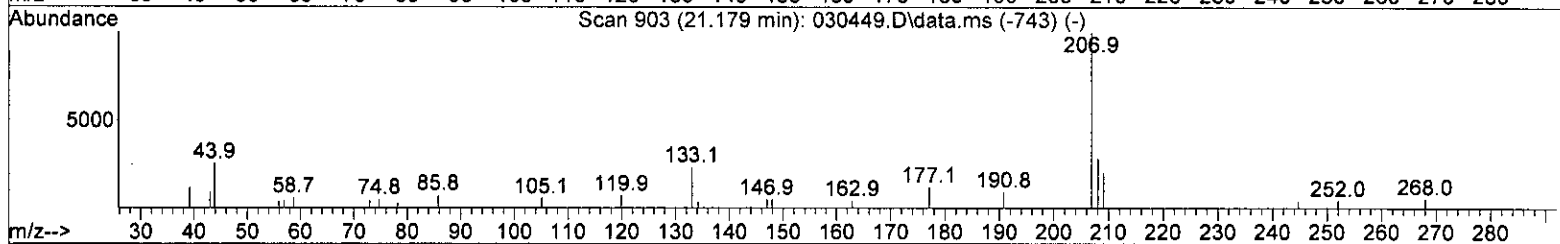
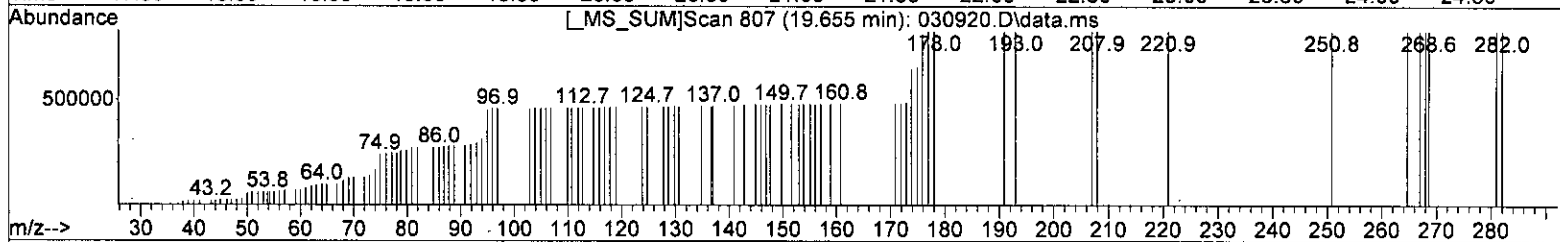
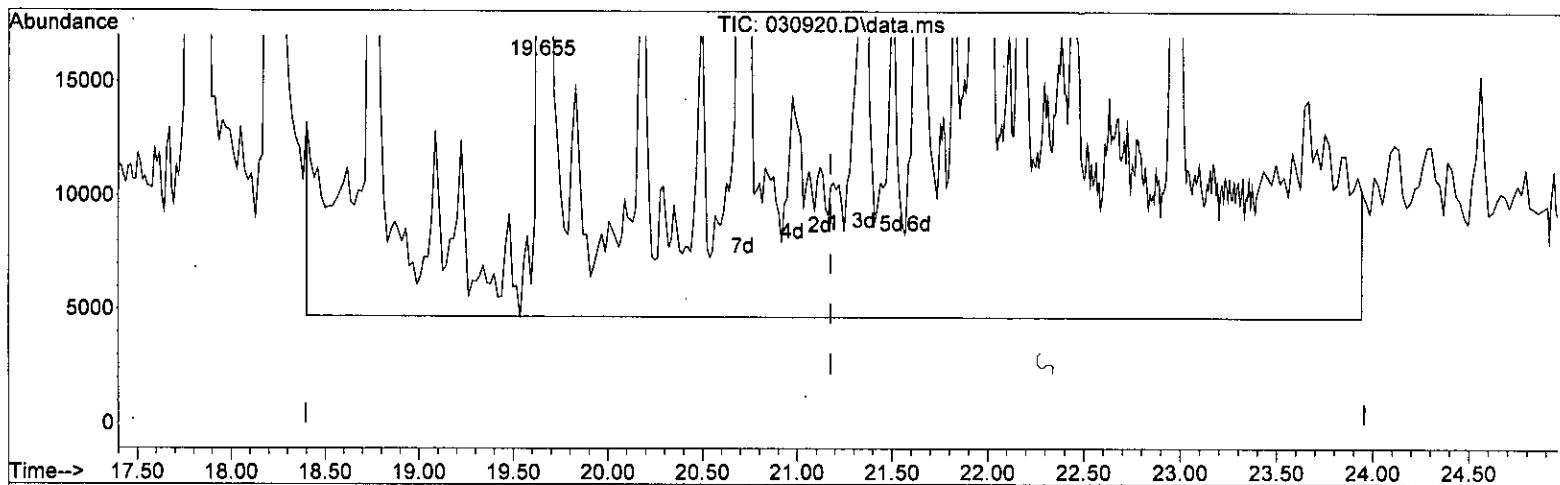
response 2135284

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature and date:*  
 3/10/22

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030920.D  
 Acq On : 10 Mar 2022 2:36 am  
 Operator : bat  
 Sample : 203054-01 dup 1/5.9  
 Misc : T5  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 16:19:05 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(36) APH EC9-12 aliphatics (H)

21.178min ( 0.000) 189.766 ug/m3 m

response 4666717

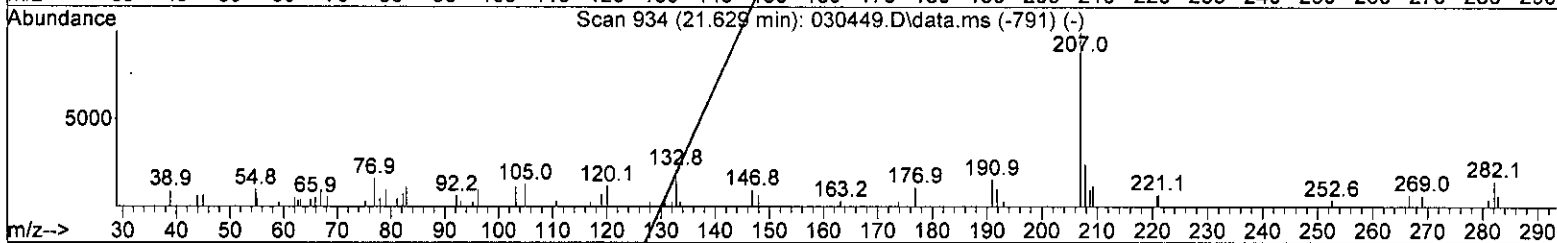
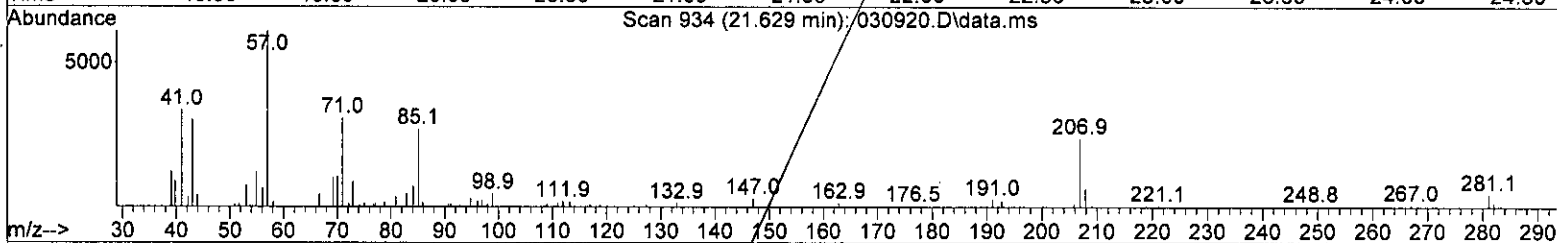
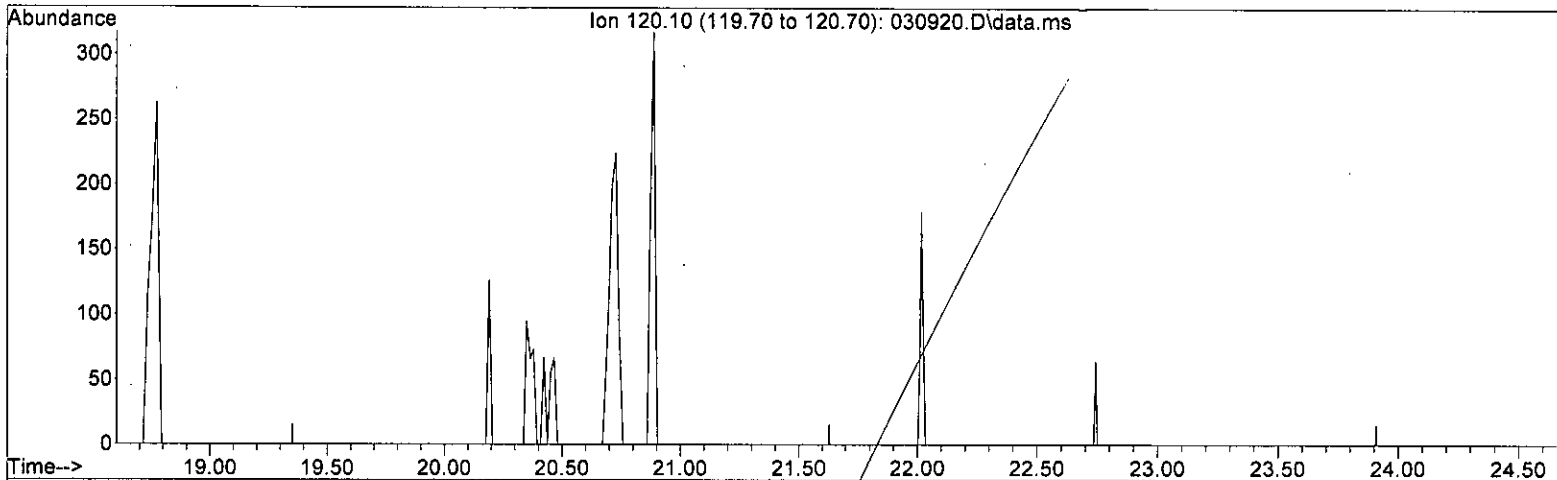
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030920.D  
 Acq On : 10 Mar 2022 2:36 am  
 Operator : bat  
 Sample : 203054-01 dup 1/5.9  
 Misc : T5  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 16:19:05 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(44) APH EC9-10 aromatics (1) (H)

21.630min ( 0.000) -8.811 ug/m3 m

response -41225

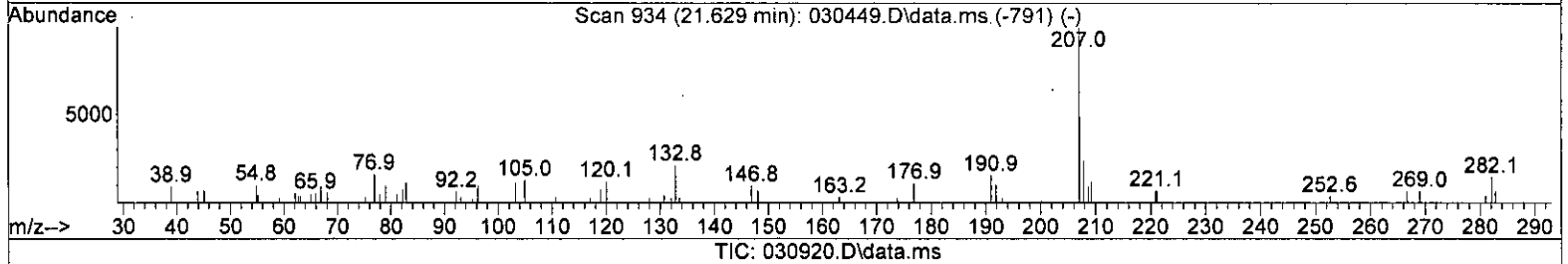
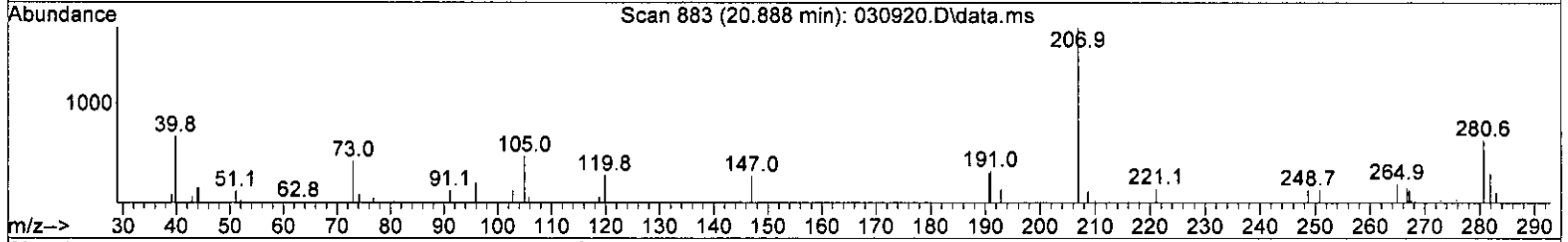
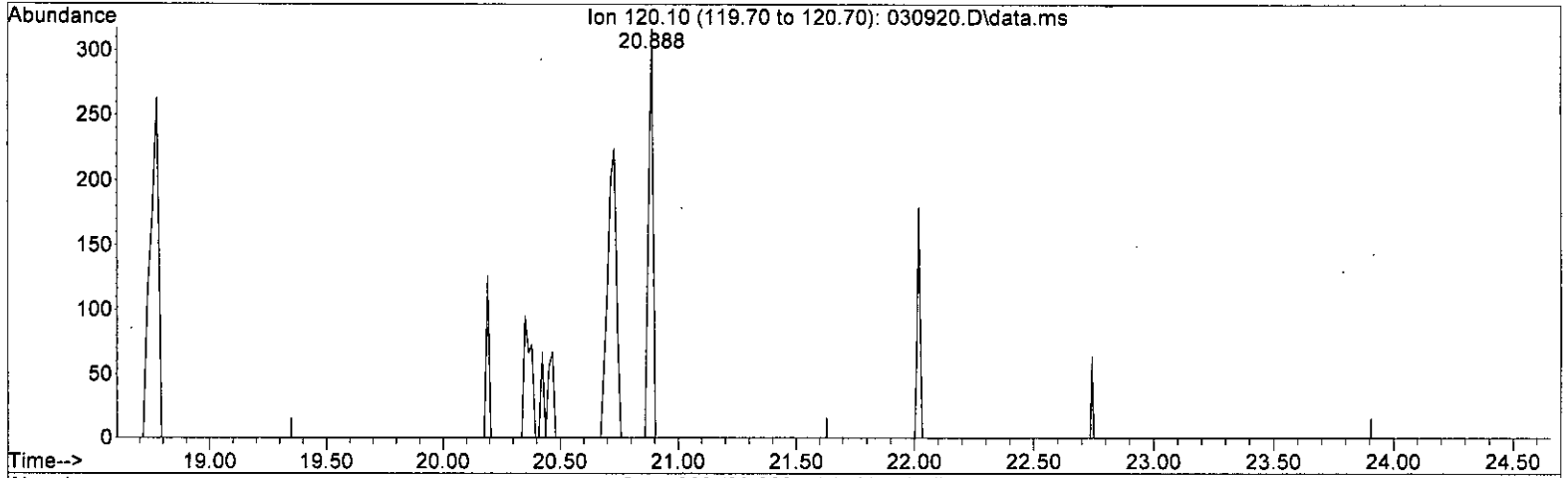
Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten:* N  
3/10/22

Quantitation Report (Qedit)

Data Path : F:\Proc GCMS8\03-09-22\  
 Data File : 030920.D  
 Acq On : 10 Mar 2022 2:36 am  
 Operator : bat  
 Sample : 203054-01 dup 1/5.9  
 Misc : T5  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 16:19:05 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(44) APH EC9-10 aromatics (1) (H)

21.630min ( 0.000) 0.321 ug/m3 m

response 1502

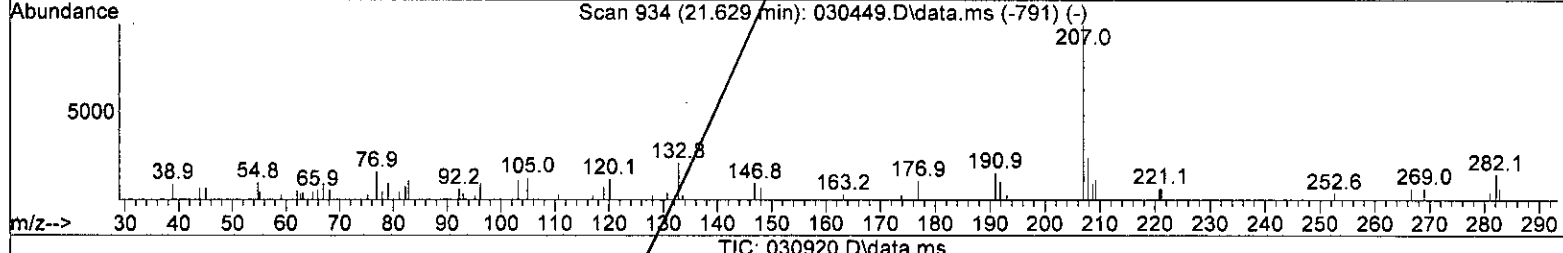
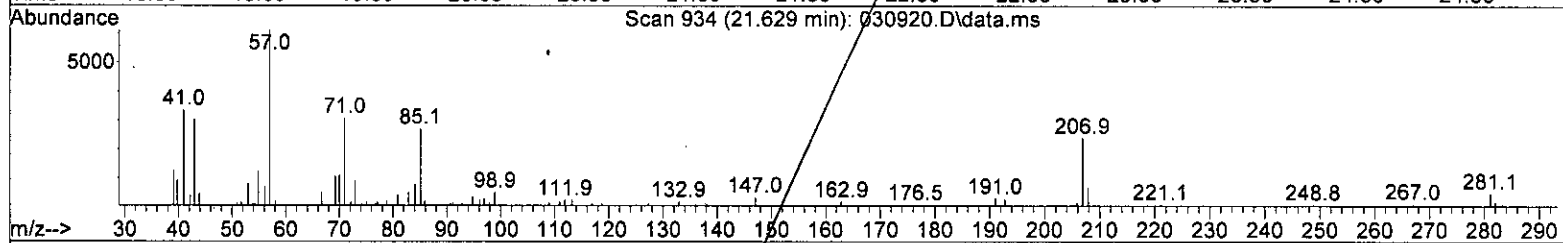
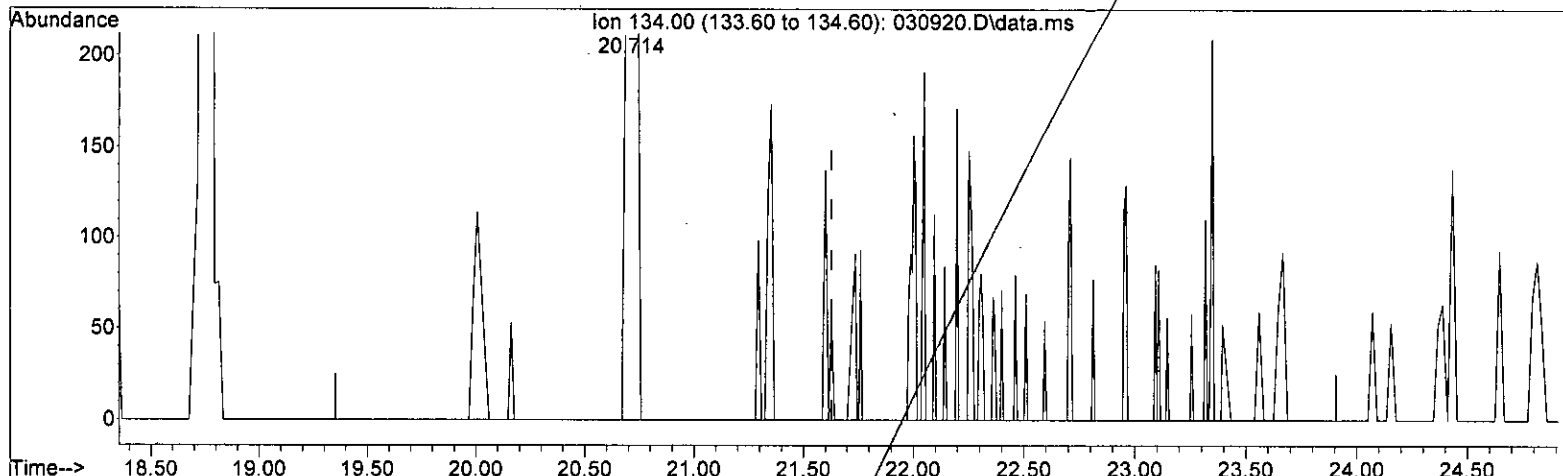
Ion	Exp%	Act%
120.10	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten signature/initials*

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030920.D  
 Acq On : 10 Mar 2022 2:36 am  
 Operator : bat  
 Sample : 203054-01 dup 1/5.9  
 Misc : T5  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 16:19:05 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(45) APH EC9-10 aromatics (2) (H)

21.630min ( 0.000) -14.778 ug/m3 m

response -38921

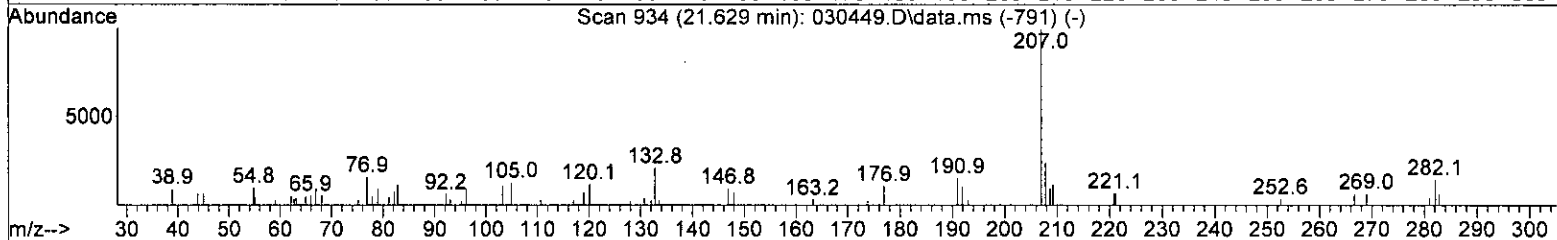
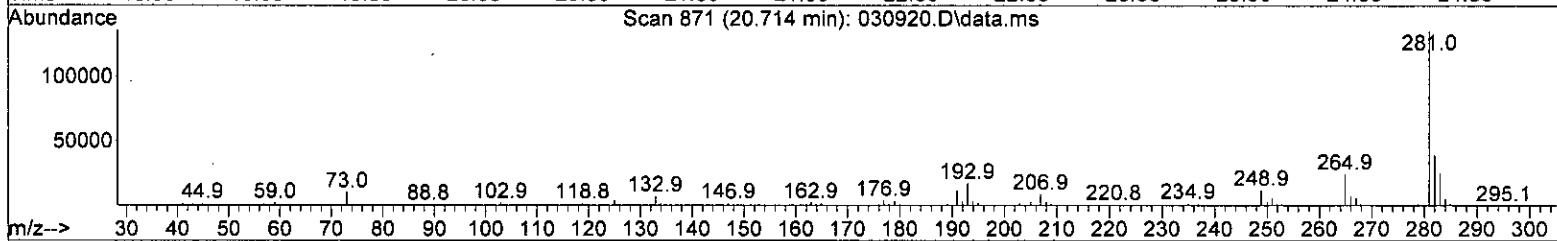
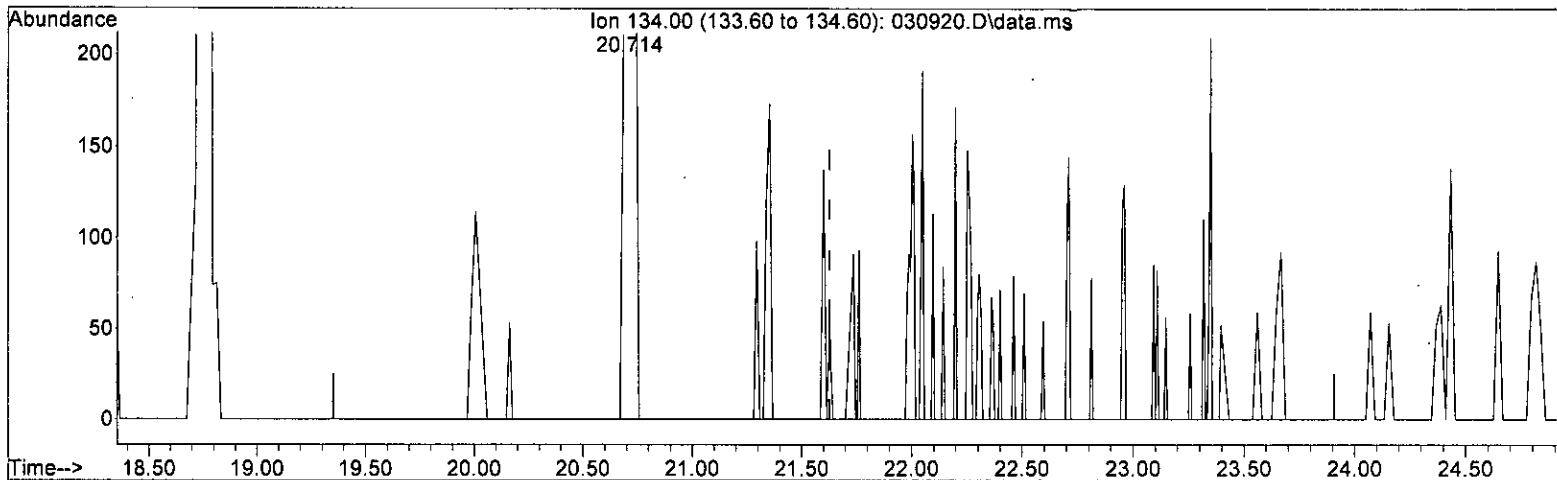
Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	-0.00
0.00	0.00	-0.00
0.00	0.00	-0.00

*Handwritten signature:* 3/10/22

Quantitation Report (Qedit)

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030920.D  
 Acq On : 10 Mar 2022 2:36 am  
 Operator : bat  
 Sample : 203054-01 dup 1/5.9  
 Misc : T5  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 16:19:05 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



(45) APH EC9-10 aromatics (2) (H)

21.630min ( 0.000) 2.150 ug/m3 m

response 5663

Ion	Exp%	Act%
134.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

*Handwritten:* 17/3/10/2

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030920.D  
 Acq On : 10 Mar 2022 2:36 am  
 Operator : bat  
 Sample : 203054-01 dup 1/5.9  
 Misc : T5  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 16:21:47 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) Bromochloromethane	9.98	128	102023	50.000	ug/m3	# 0.00
10) 1,4-Difluorobenzene	13.23	114	384603	50.000	ug/m3	0.02
20) Chlorobenzene-d5	18.23	117	386454	50.000	ug/m3	0.02
System Monitoring Compounds						
37) 4-Bromofluorobenzene	19.65	95	256856	64.808	ug/m3	0.00
Spiked Amount	71.000	Range	70 - 130	Recovery	=	91.28%
Target Compounds						
						Qvalue
2) IS-1 Bromochloromethane	9.98	TIC	712798	50.484	ug/m3	88
3) IS-2 1,4-Difluorobenzene	13.23	TIC	1120583	43.191	ug/m3	73
4) IS-3 Chlorobenzene-d5	18.23	TIC	1256842	48.993	ug/m3	99
5) Methylene chloride	6.85	TIC	236967	723.294	ug/m3	94
6) Acetone	5.63	TIC	48679	13.433	ppbv	# 100
7) 2-Propanol	0.00		0	N.D.	d	
8) 1,3-Butadiene	0.00		0	N.D.		
9) Methyl t-butyl ether	8.53	73	1630	0.189	ug/m3	45
11) Benzene	12.69	78	701	0.072	ug/m3	58
12) Isopentane	5.63	TIC	48679	3.355	ug/m3#	58
13) Hexane	9.98	TIC	712798	42.683	ug/m3#	63
14) Cyclohexane	13.23	TIC	1120583	55.599	ug/m3	94
15) 2,3-Dimethylpentane	13.23	TIC	1120583	73.853	ug/m3	66
16) Heptane	14.66	TIC	19335	1.118	ug/m3	64
17) Octane	17.80	TIC	2329599	84.928	ug/m3	60
18) APH EC5-8 aliphatics T...	11.97	TIC	5351577m	281.486	ug/m3	
19) APH EC5-8 aliphatics	12.00	TIC	9627331m	506.385	ug/m3	
21) S 4-Bromofluorobenzene	19.65	TIC	1631967	48.566	ug/m3	97
22) Hexamethylcyclotrisilo...	17.80	TIC	3137319	62.611	ppbv	100
23) Octamethylcyclotetrasil...	20.71	TIC	913732	136.671	ppbv	100
24) Toluene	16.41	92	4235	0.702	ug/m3	98
25) Ethylbenzene	18.62	91	2528	0.200	ug/m3	75
26) m,p-Xylene	18.77	106	2592	0.565	ug/m3	91
27) o-Xylene	19.22	106	596	0.136	ug/m3#	36
28) Naphthalene	23.96	128	1000	0.097	ug/m3	68
29) 2,3-Dimethylheptane	18.62	TIC	4535	0.194	ug/m3#	70
30) Nonane	19.09	TIC	20510	0.840	ug/m3	80
31) Decane	20.98	TIC	29274	1.212	ug/m3	75
32) Butylcyclohexane	21.64	TIC	153697	4.736	ug/m3#	66
33) Undecane	22.30	TIC	7902	0.340	ug/m3	83
34) Dodecane	23.84	TIC	8126	0.388	ug/m3#	82
35) APH EC9-12 aliphatics ...	21.12	TIC	224044m	9.110	ug/m3	
36) APH EC9-12 aliphatics	21.18	TIC	4666717m	189.766	ug/m3	
38) Isopropylbenzene	0.00		0	N.D.		
39) 1-Methyl-3-ethylbenzene	0.00		0	N.D.		
40) 1,3,5-Trimethylbenzene	0.00		0	N.D.		
41) p-Isopropyltoluene	0.00		0	N.D.		
42) 1,2,3-Trimethylbenzene	0.00		0	N.D.		
43) APH EC9-10 aromatics T...	21.64		0	N.D.		
44) APH EC9-10 aromatics (1)	21.63	120	1502m	0.321	ug/m3	

Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030920.D  
 Acq On : 10 Mar 2022 2:36 am  
 Operator : bat  
 Sample : 203054-01 dup 1/5.9  
 Misc : T5  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 16:21:47 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M

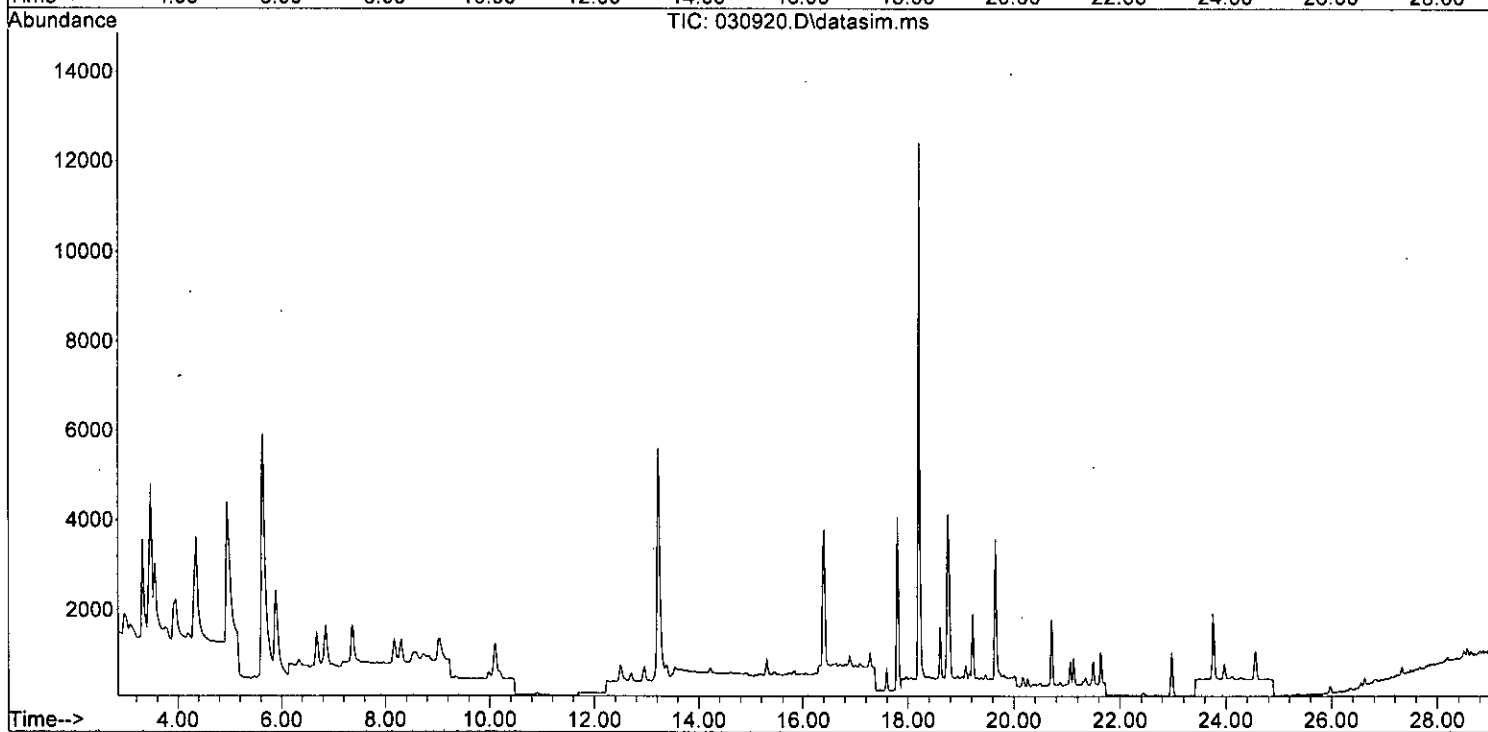
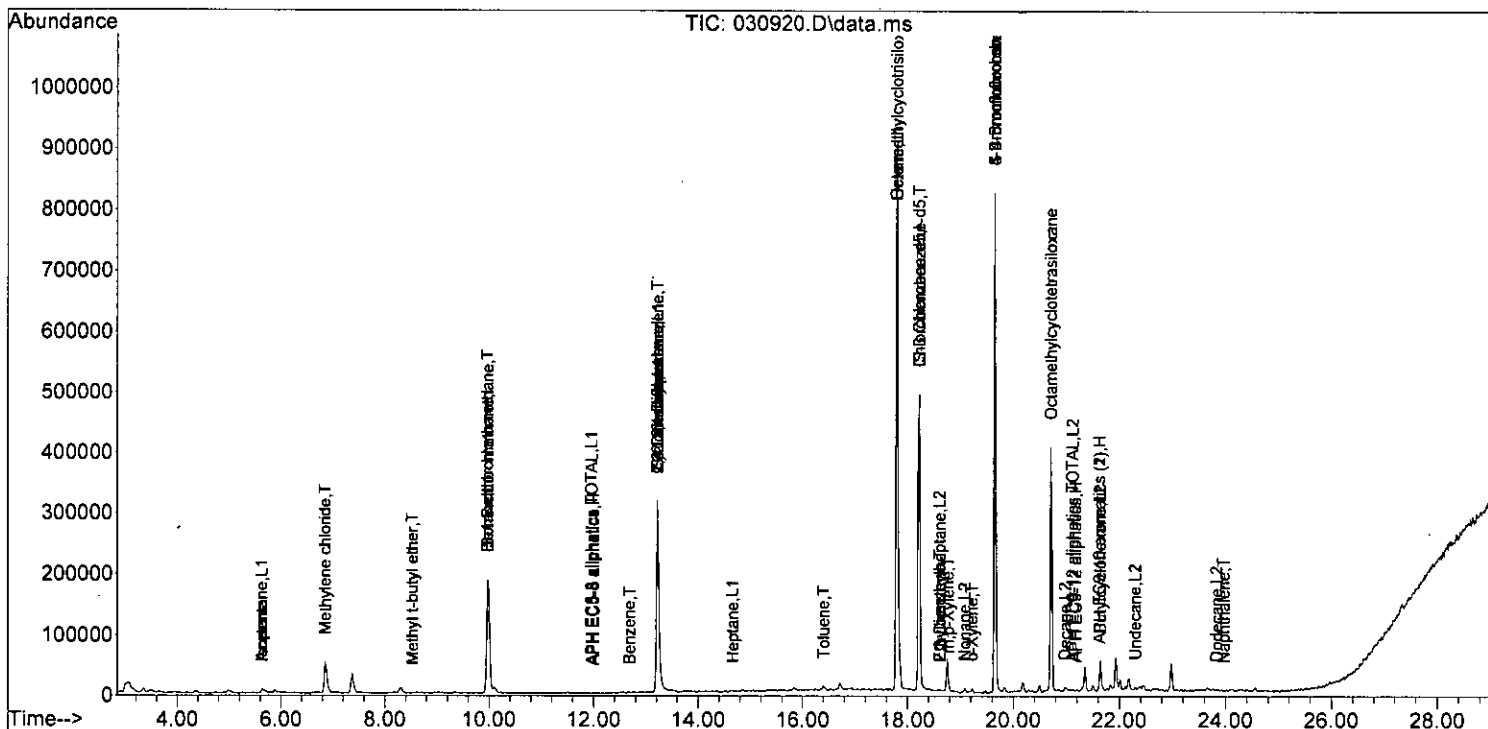
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) APH EC9-10 aromatics (2)	21.63	134	5663m	2.150	ug/m3	

(#) = qualifier out of range (m) = manual integration (+) = signals summed



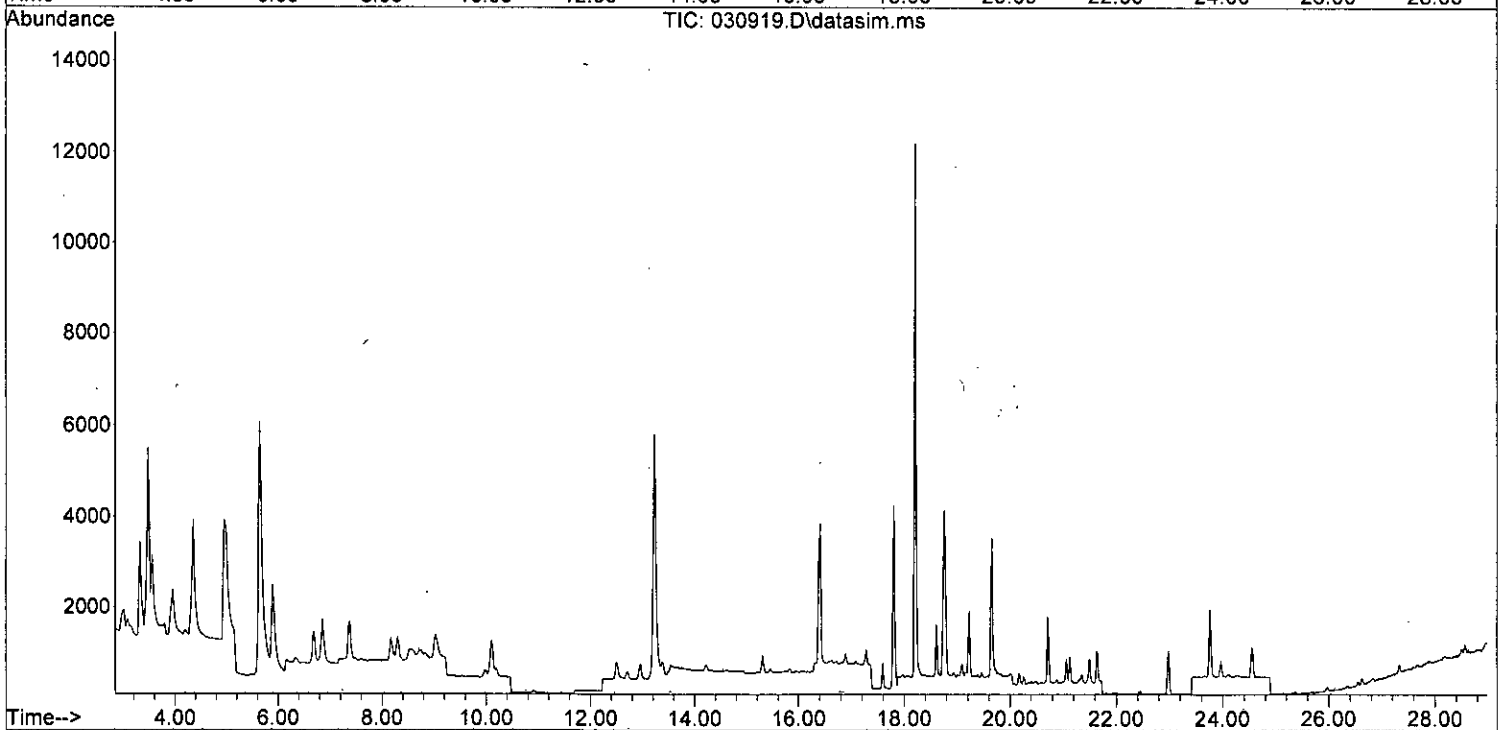
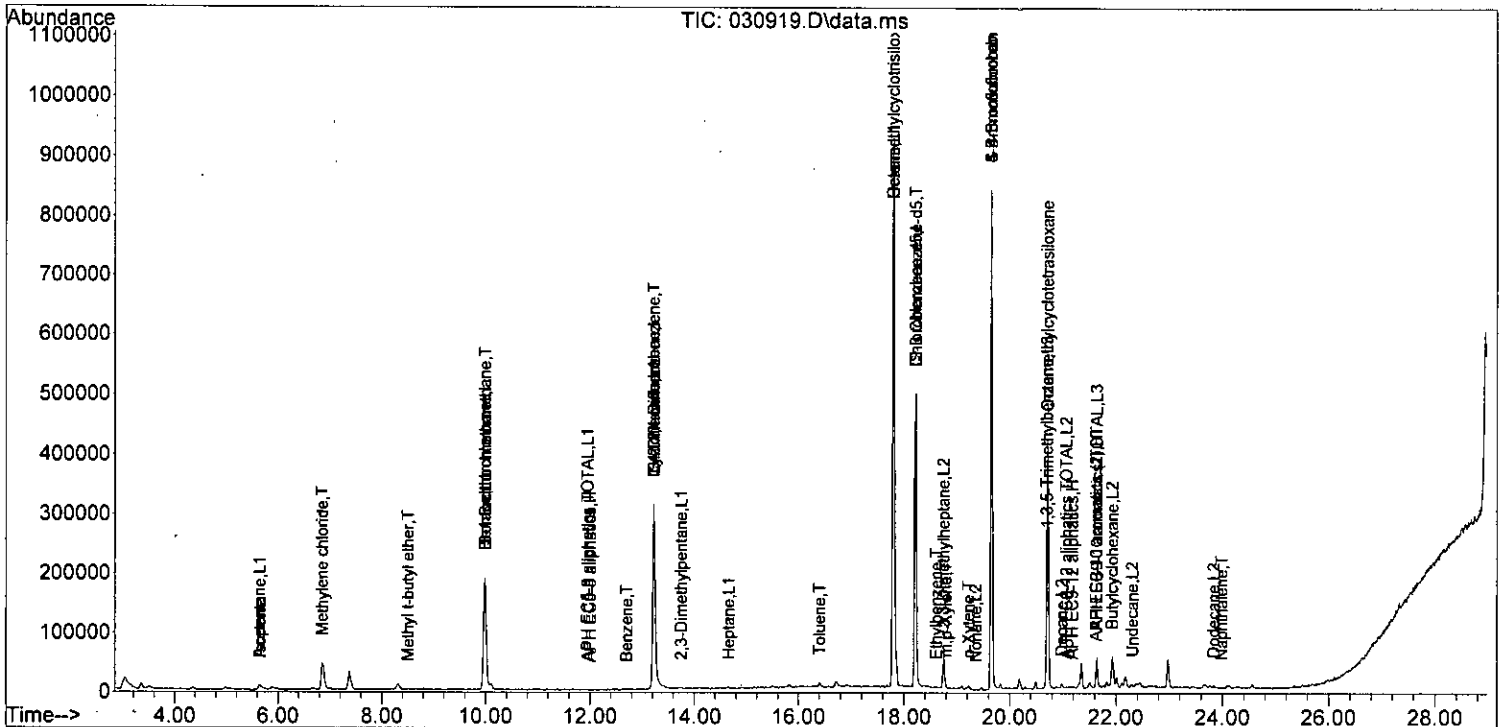
Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030920.D  
 Acq On : 10 Mar 2022 2:36 am  
 Operator : bat  
 Sample : 203054-01 dup 1/5.9  
 Misc : T5  
 ALS Vial : 20 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 16:21:47 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



Data Path : F:\Proc\_GCMS8\03-09-22\  
 Data File : 030919.D  
 Acq On : 10 Mar 2022 1:54 am  
 Operator : bat  
 Sample : 203054-01 1/5.9  
 Misc : T5  
 ALS Vial : 19 Sample Multiplier: 1  
 InstName : GCMS8

Quant Time: Mar 10 15:52:30 2022  
 Quant Method : F:\METHODS\Inst8\0304APH8.M  
 Quant Title : APH TO-15 method  
 QLast Update : Tue Mar 08 17:49:06 2022  
 Response via : Initial Calibration  
 DataAcq Meth:TO15NA.M



EPA TO-15  
Sample Data

F&B Project 203054

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Vineta Mills, M.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

August 10, 2022

Tasya Gray, Project Manager  
Dalton Olmsted Fuglevand  
1001 SW Klickitat Way, Suite 200B  
Seattle, WA 98134

Dear Mr Louviere:

Included are the results from the testing of material submitted on July 28, 2022 from the CE Tacoma-Soil Vapor TWAAFA-001, F&BI 207479 project. There are 14 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: ngray@dofnw.com  
DOF0810R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 28, 2022 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand CE Tacoma-Soil Vapor TWAAFA-001, F&BI 207479 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Dalton Olmsted Fuglevand</u>
207479 -01	TWA-SV-33-072722
207479 -02	TWA-SV-34-072722
207479 -03	TWA-SV-32-072722
207479 -04	TWA-SV-32-072722-D

Non-petroleum compounds identified in the air phase hydrocarbon (APH) ranges were subtracted per the MA-APH method.

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-33-072722	Client:	Dalton Olmsted Fuglevand
Date Received:	07/28/22	Project:	TWAAFA-001, F&BI 207479
Date Collected:	08/02/22	Lab ID:	207479-01 1/12
Date Analyzed:	08/03/22	Data File:	080230.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	81	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	2,000
APH EC9-12 aliphatics	340
APH EC9-10 aromatics	<300

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-34-072722	Client:	Dalton Olmsted Fuglevand
Date Received:	07/28/22	Project:	TWAAFA-001, F&BI 207479
Date Collected:	08/02/22	Lab ID:	207479-02 1/10
Date Analyzed:	08/03/22	Data File:	080231.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	81	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<750
APH EC9-12 aliphatics	<250
APH EC9-10 aromatics	<250

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-32-072722	Client:	Dalton Olmsted Fuglevand
Date Received:	07/28/22	Project:	TWAAFA-001, F&BI 207479
Date Collected:	08/02/22	Lab ID:	207479-03 1/9.2
Date Analyzed:	08/03/22	Data File:	080232.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	79	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	690
APH EC9-12 aliphatics	<230
APH EC9-10 aromatics	<230



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-32-072722-D	Client:	Dalton Olmsted Fuglevand
Date Received:	07/28/22	Project:	TWAAFA-001, F&BI 207479
Date Collected:	08/02/22	Lab ID:	207479-04 1/9.6
Date Analyzed:	08/03/22	Data File:	080233.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	84	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<720
APH EC9-12 aliphatics	<240
APH EC9-10 aromatics	<240

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 207479
Date Collected:	Not Applicable	Lab ID:	02-1781 MB
Date Analyzed:	08/02/22	Data File:	080215.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	79	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-33-072722	Client:	Dalton Olmsted Fuglevand
Date Received:	07/28/22	Project:	TWAAFA-001, F&BI 207479
Date Collected:	08/02/22	Lab ID:	207479-01 1/12
Date Analyzed:	08/03/22	Data File:	080230.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	83	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<3.1	<1.2
Methylene chloride	<420	<120
cis-1,2-Dichloroethene	<4.8	<1.2
Benzene	<3.8	<1.2
Trichloroethene	<1.3	<0.24
Toluene	<230	<60
Tetrachloroethene	<81	<12
Ethylbenzene	<5.2	<1.2
m,p-Xylene	<10	<2.4
o-Xylene	<5.2	<1.2
Naphthalene	<2.4	<0.45

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-34-072722	Client:	Dalton Olmsted Fuglevand
Date Received:	07/28/22	Project:	TWAAFA-001, F&BI 207479
Date Collected:	08/02/22	Lab ID:	207479-02 1/10
Date Analyzed:	08/03/22	Data File:	080231.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	82	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<2.6	<1
Methylene chloride	<350	<100
cis-1,2-Dichloroethene	<4	<1
Benzene	<3.2	<1
Trichloroethene	1.2	0.22
Toluene	<190	<50
Tetrachloroethene	<68	<10
Ethylbenzene	<4.3	<1
m,p-Xylene	<8.7	<2
o-Xylene	<4.3	<1
Naphthalene	<2.4	<0.45

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-32-072722	Client:	Dalton Olmsted Fuglevand
Date Received:	07/28/22	Project:	TWAAFA-001, F&BI 207479
Date Collected:	08/02/22	Lab ID:	207479-03 1/9.2
Date Analyzed:	08/03/22	Data File:	080232.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	81	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<2.4	<0.92
Methylene chloride	<320	<92
cis-1,2-Dichloroethene	<3.6	<0.92
Benzene	<2.9	<0.92
Trichloroethene	<0.99	<0.18
Toluene	<170	<46
Tetrachloroethene	<62	<9.2
Ethylbenzene	<4	<0.92
m,p-Xylene	<8	<1.8
o-Xylene	<4	<0.92
Naphthalene	<2.4	<0.45

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-32-072722-D	Client:	Dalton Olmsted Fuglevand
Date Received:	07/28/22	Project:	TWAAFA-001, F&BI 207479
Date Collected:	08/02/22	Lab ID:	207479-04 1/9.6
Date Analyzed:	08/03/22	Data File:	080233.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	86	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<2.5	<0.96
Methylene chloride	<330	<96
cis-1,2-Dichloroethene	<3.8	<0.96
Benzene	<3.1	<0.96
Trichloroethene	<1	<0.19
Toluene	<180	<48
Tetrachloroethene	<65	<9.6
Ethylbenzene	<4.2	<0.96
m,p-Xylene	<8.3	<1.9
o-Xylene	<4.2	<0.96
Naphthalene	<2.4	<0.45

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 207479
Date Collected:	Not Applicable	Lab ID:	02-1781 MB
Date Analyzed:	08/02/22	Data File:	080215.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	81	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
Methylene chloride	<35	<10
cis-1,2-Dichloroethene	<0.4	<0.1
Benzene	<0.32	<0.1
Trichloroethene	<0.11	<0.02
Toluene	<19	<5
Tetrachloroethene	<6.8	<1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.16	<0.03

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/10/22

Date Received: 07/28/22

Project: CE Tacoma-Soil Vapor TWAAFA-001, F&BI 207479

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD MA-APH**

Laboratory Code: 207462-01 1/9.1 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	960	940	2
APH EC9-12 aliphatics	ug/m3	<230	<230	nm
APH EC9-10 aromatics	ug/m3	<230	<230	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	93	70-130
APH EC9-12 aliphatics	ug/m3	67	127	70-130
APH EC9-10 aromatics	ug/m3	67	102	70-130



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/10/22

Date Received: 07/28/22

Project: CE Tacoma-Soil Vapor TWAAFA-001, F&BI 207479

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD TO-15**

Laboratory Code: 207462-01 1/9.1 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<2.3	<2.3	nm
Methylene chloride	ug/m3	<320	<320	nm
cis-1,2-Dichloroethene	ug/m3	<3.6	<3.6	nm
Benzene	ug/m3	<2.9	<2.9	nm
Trichloroethene	ug/m3	<0.98	<0.98	nm
Toluene	ug/m3	<170	<170	nm
Tetrachloroethene	ug/m3	900	900	0
Ethylbenzene	ug/m3	<4	<4	nm
m,p-Xylene	ug/m3	<7.9	<7.9	nm
o-Xylene	ug/m3	<4	<4	nm
Naphthalene	ug/m3	<2.4	<2.4	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	87	70-130
Methylene chloride	ug/m3	94	100	70-130
cis-1,2-Dichloroethene	ug/m3	54	93	70-130
Benzene	ug/m3	43	86	70-130
Trichloroethene	ug/m3	73	111	70-130
Toluene	ug/m3	51	104	70-130
Tetrachloroethene	ug/m3	92	127	70-130
Ethylbenzene	ug/m3	59	89	70-130
m,p-Xylene	ug/m3	120	98	70-130
o-Xylene	ug/m3	59	102	70-130
Naphthalene	ug/m3	71	122	70-130

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

SAMPLE CHAIN OF CUSTODY

7/28/22

Page # 1 of 1

202479-TASYA GRAY  
Report to

Company DOF

Address 1001 SW WICKMPT WAY STE 200B

City, State, ZIP SEATTLE WA 98134

Phone 206.325.0211 Email NGRAY@DOFW.WA.GOV

SAMPLERS (signature)

PROJECT NAME & ADDRESS

OE TACOMA - SOIL VAPOR

PO #

TUAREA-001

NOTES: PLEASE SEE TUAREA

REPORT FOR USE LIST NUMBERED

INVOICE TO

DOF

TURNAROUND TIME

Standard  
 RUSH  
Rush charges authorized by:

SAMPLE DISPOSAL  
 Default: Clean after 3 days  
 Archive (Fee may apply)

SAMPLE INFORMATION

ANALYSIS REQUESTED

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. (°Hg)	Field Initial Time	Final Vac. (°Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH	Helium	Notes
TWA-SV-33-07222	01	2303	65	IA / <u>SG</u>	7/24/22	29	1045	5	1052						
TWA-SV-34-07222	02	2304	280	IA / <u>SG</u>	7/24/22	29	1210	5	1217						
TWA-SV-32-07222	03	2297	256	IA / <u>SG</u>	7/24/22	30	1320	5	1325						
TWA-SV-32-07222-D	04	3312	243	IA / <u>SG</u>	7/24/22	28	1320	5	1324						
				IA / SG											
				IA / SG											
				IA / SG											
				IA / SG											

Friedman & Bruye, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COC\COCTO-15.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	EZRA BEAVER	DOF	7/28/22	1110
Received by: <u>W. Madden</u>	W. Madden	F+BI	7/28/22	1110
Relinquished by:				
Received by:		Samples received at	2400	

# DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

PROJECT NO. M0615.20.003 | AUGUST 12, 2022 | PORT OF TACOMA

Maul Foster & Alongi, Inc. (MFA), conducted an independent stage 2A review of the quality of tier II analytical results for sub-slab soil vapor samples and associated quality control samples collected at the Potter property located at 1801 E Alexander Avenue in Tacoma, Washington, on July 26 and 27, 2022.

Friedman & Bruya, Inc. (FBI), and Fremont Analytical, Inc. (Fremont), performed the analyses. FBI report number 207462 and Fremont report number 2207392 were reviewed. Portions of samples were subcontracted from FBI to Fremont for major gases analysis, and Fremont report 2207392 is appended to FBI report 207462. The analyses performed and samples analyzed are listed below.

Per project requirements, FBI and Fremont released additional tier IV data packages for reports 207462 and 2207392, respectively. The reviewer performed a quality assurance review and completeness check of the tier IV data packages.

Analysis	Reference
Air-phase petroleum hydrocarbons	MA-APH
Helium	ASTM D1946
Major gases	EPA 3C
Volatile organic compounds	EPA TO-15
<b>Notes</b> ASTM = ASTM International. EPA = U.S. Environmental Protection Agency. MA-APH = Massachusetts Department of Environmental Protection Method for the Determination of Air-Phase Petroleum Hydrocarbons. TO = toxic organics.	

Samples Analyzed	
Reports 207462/2207392	
TWA-SV-42-072622	TWA-SV-40-072622
TWA-SV-41-072622	TWA-SV-43-072722
TWA-SV-35-072622	TWA-SV-39-072722
TWA-SV-DUP-072622	TWA-SV-38-072722
TWA-SV-36-072622	TWA-SV-DUP-072722
TWA-SV-37-072622	--

## DATA QUALIFICATION

Analytical results were evaluated according to applicable sections of U.S. Environmental Protection Agency (EPA) guidelines for data review (EPA 2020) and appropriate laboratory- and method-specific guidelines (EPA 1986, FBI 2019, Fremont 2020).

Data validation procedures were modified, as appropriate, to accommodate quality control requirements for methods that EPA data review procedures do not specifically address (e.g., Massachusetts Department of Environmental Protection Method for the Determination of Air-Phase Petroleum Hydrocarbons [MA-APH]).

Based on the results of the data quality review procedures described below, the data are considered acceptable for their intended use, with the appropriate final data qualifiers assigned. Final data qualifiers represent qualifiers originating from the laboratory and accepted by the reviewer, as well as data qualifiers assigned by the reviewer during validation.

- Final data qualifiers:
  - J = result is estimated.
  - U = result is non-detect at the method reporting limit (MRL).
  - UJ = result is non-detect with an estimated detection limit.

The reviewer confirmed that sub-slab soil gas samples were collected under a helium shroud to detect leaks in the collection system. All associated sample results were non-detect for helium by ASTM International [ASTM] Method D1946.

According to the case narrative accompanying report 207462, several non-petroleum compounds identified in the air-phase hydrocarbon ranges were subtracted per the MA-APH method. The compounds are summarized in the tier II report case narrative, and details of specific data adjustments and the presence of non-air-phase petroleum compounds are disclosed in MA-APH sample data section of the tier IV report, in accordance with the method. The reviewer performed a completeness check of this information. No further action was required for stage 2A validation.

According to report 207462, several MA-APH and EPA Method TO-15 results exceeded the instrument calibration range and were reported as estimates. The reviewer confirmed with the laboratory that samples were screened to determine appropriate sample dilutions and were subsequently diluted to the highest reasonable extent to achieve low reporting limits for the analytes at lower concentrations, as well as to avoid potential bias from multiple serial dilutions. The over-calibration results are much greater than their applicable screening levels, where present, and the reviewer confirmed with the MFA project manager that the estimated results are acceptable for reporting without reanalysis. The reviewer qualified the associated sample results with “J,” as shown in the following table.

Report	Sample	Analysis	Component	Original Result (ug/m <sup>3</sup> )	Qualified Result (ug/m <sup>3</sup> )
207462	TWA-SV-35-072622	MA-APH	C5-C8 aliphatic hydrocarbons	770,000	770,000 J
		EPA TO-15	Hexane	27,000	27,000 J
			Cyclohexane	21,000	21,000 J
			2,2,4-Trimethylpentane	50,000	50,000 J
			Heptane	42,000	42,000 J
	TWA-SV-DUP-072622	MA-APH	C5-C8 aliphatic hydrocarbons	780,000	780,000 J
		EPA TO-15	C9-C12 aliphatic hydrocarbons	260,000	260,000 J
			Hexane	28,000	28,000 J
			Cyclohexane	21,000	21,000 J
			2,2,4-Trimethylpentane	51,000	51,000 J
			Heptane	43,000	43,000 J
TWA-SV-41-072622	EPA TO-15	Tetrachloroethene	8,200	8,200 J	
<b>Notes</b> EPA = U.S. Environmental Protection Agency. J = result is estimated. MA-APH = Massachusetts Department of Environmental Protection Method for the Determination of Air-Phase Petroleum Hydrocarbons. TO = toxic organics. ug/m <sup>3</sup> = micrograms per cubic meter.					

According to report 207462, some naphthalene results for EPA Method TO-15 were reported at a level below the lowest calibration standard, and the reported laboratory detection limits are considered estimates. The reviewer qualified associated sample results with “UJ,” as shown in the following table.

Report	Sample	Component	Original Result (ug/m <sup>3</sup> )	Qualified Result (ug/m <sup>3</sup> )
207462	TWA-SV-41-072622	Naphthalene	2.4 U	2.4 UJ
	TWA-SV-36-072622		2.4 U	2.4 UJ
	TWA-SV-37-072622		2.4 U	2.4 UJ
	TWA-SV-43-072722		2.4 U	2.4 UJ
	TWA-SV-DUP-072722		2.4 U	2.4 UJ
<b>Notes</b> U = result is non-detect at the laboratory detection limit. ug/m <sup>3</sup> = micrograms per cubic meter. UJ = result is non-detect with an estimated detection limit.				

## HOLDING TIMES, PRESERVATION, AND SAMPLE STORAGE

### Holding Times

Extractions and analyses were performed within the recommended holding time criteria.

### Preservation and Sample Storage

The samples were preserved and stored appropriately.

## BLANKS

### Method Blanks

Laboratory method blanks are used to assess whether laboratory contamination was introduced during sample preparation and analysis. Laboratory method blank analyses were performed at the required frequencies. For purposes of data qualification, the laboratory method blanks were associated with all samples prepared in the analytical batch.

In subcontracted report 2207392, Fremont did not report a laboratory method blank for EPA Method 3C. The method does not require a laboratory method blank.

All laboratory method blank results were non-detect to MRLs.

## LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RESULTS

A laboratory control sample (LCS) and a laboratory control sample duplicate (LCSD) are spiked with target analytes to provide information about laboratory precision and accuracy. FBI and Fremont did not report LCSDs for any methods; the reviewer evaluated laboratory precision using laboratory duplicate results. FBI did not report LCSs for ASTM D1946, as it is not required by the method; the reviewer confirmed with the laboratory that initial calibration and continuing calibration passed for this method.

The LCSs were extracted and analyzed at the required frequency, and all results were within acceptance limits for percent recovery.

## LABORATORY DUPLICATE RESULTS

Laboratory duplicate results are used to evaluate laboratory precision. All laboratory duplicate samples were extracted and analyzed at the required frequency. Laboratory duplicate results greater than five times the MRL were compared to laboratory relative percent difference (RPD) control limits. Where laboratory duplicate results were less than five times the MRL, including non-detect results, the reviewer compared the absolute difference of the laboratory duplicate and parent sample result to the MRL of the parent sample.

All laboratory duplicate results met the acceptance criteria.

## MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

Matrix spike (MS) and matrix spike duplicate (MSD) results are used to evaluate laboratory precision and accuracy as well as the effect of the sample matrix on sample preparation and analysis.

FBI and Fremont did not report MSs or MSDs, as they are not required by the methods.

## SURROGATE RECOVERY RESULTS

The samples were spiked with surrogate compounds to evaluate laboratory performance for individual samples. FBI reported surrogate results for MA-APH and EPA TO-15 sample results, but not for batch quality control results.

All surrogate results were within percent recovery acceptance limits.

## FIELD DUPLICATE RESULTS

Field duplicate samples measure both field and laboratory precision. The following field duplicate and parent sample pairs were submitted for analysis:

Reports	Parent Sample	Field Duplicate Sample
207462/2207392	TWA-SV-35-072622	TWA-SV-DUP-072622
	TWA-SV-38-072722	TWA-SV-DUP-072722

MFA uses acceptance criteria of 100 percent RPD for results that are less than five times the MRL, or 50 percent RPD for results that are greater than five times the MRL. Non-detect data are not used in the evaluation of field duplicate results.

All field duplicate results met the RPD acceptance criteria.

## REPORTING LIMITS

FBI and Fremont used routine reporting limits for non-detect results. Samples requiring dilutions because of high analyte concentrations and/or matrix interferences were reported with raised MRLs and required no action by the reviewer.

## DATA PACKAGE

The data package was reviewed for transcription errors, omissions, and anomalies.

FBI report 207462 was revised on September 2, 2022, to include an expanded case narrative concerning sample dilutions. Subcontracted Fremont report 2207392 within the FBI report was also revised due to a sample switch at the laboratory. Samples TWA-SV-DUP-072622 and



TWA-SV-DUP-072722 had been mislabeled during sample receipt. The reviewer confirmed with the laboratory that no other samples were mislabeled and all EPA Method 3C results are correct in the revised report. The reviewer initiated a corrective action investigation with the laboratory, and corrective action responses are included in the report 2207392 tier IV data package.

No other issues were found.

## REFERENCES

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EPA. 1986. *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*. EPA publication SW-846. 3rd ed. U.S. Environmental Protection Agency. Final updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), V (2015), VI phase I (2017), VI phase II (2018), VI phase III (2019), VII phase I (2019), and VII phase II (2020).

EPA. 2020. *National Functional Guidelines for Organic Superfund Methods Data Review*. EPA 540-R-20-005. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation: Washington, DC. November.

FBI. 2019. *Quality Assurance Manual*. Rev. 17. Friedman & Bruya, Inc.: Seattle, WA. November 6.

Fremont. 2020. *Quality Assurance*. Rev. 3.5. Fremont Analytical, Inc.: Seattle, WA. August 17.

FRIEDMAN & BRUYA, INC.

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September 2, 2022

Audrey Hackett, Project Manager  
Maul Foster Alongi  
2815 2<sup>nd</sup> Ave, Suite 540  
Seattle, WA 98121

Dear Ms Hackett:

Included are the amended results from the testing of material submitted on July 27, 2022 from the Potter Property M0615.20.002, F&BI 207462 project. The case narrative was expanded.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Amanda Bixby  
MFA0810R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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August 10, 2022

Audrey Hackett, Project Manager  
Maul Foster Alongi  
2815 2<sup>nd</sup> Ave, Suite 540  
Seattle, WA 98121

Dear Ms Hackett:

Included are the results from the testing of material submitted on July 27, 2022 from the Potter Property M0615.20.002, F&BI 207462 project. There are 33 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Amanda Bixby  
MFA0810R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 27, 2022 by Friedman & Bruya, Inc. from the Maul Foster Alongi Potter Property M0615.20.002, F&BI 207462 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Maul Foster Alongi</u>
207462 -01	TWA-SV-42-072622
207462 -02	TWA-SV-41-072622
207462 -03	TWA-SV-35-072622
207462 -04	TWA-SV-DUP-072622
207462 -05	TWA-SV-36-072622
207462 -06	TWA-SV-37-072622
207462 -07	TWA-SV-40-072622
207462 -08	TWA-SV-43-072722
207462 -09	TWA-SV-39-072722
207462 -10	TWA-SV-38-072722
207462 -11	TWA-SV-DUP-072722

Individually certified canisters were provided for TO-15 sampling.

The canisters were pressurized and screened prior to analysis. The screening data were reviewed to determine applicable dilution levels. Samples TWA-SV-35-072622 and TWA-SV-DUP-072622 were serially diluted into a separate canister due to elevated analyte concentrations. The concentration of several analytes exceeded the calibration range of the instrument in those samples. The data were flagged accordingly.

The samples were sent to Fremont Analytical for major gasses analysis. The report is enclosed.

Non-petroleum compounds identified in the air phase hydrocarbon (APH) ranges were subtracted per the MA-APH method. The following compounds were subtracted, if present – methylene chloride, acetone, 2-propanol, methyl t-butyl ether (MTBE), hexamethylcyclotrisiloxane, octamethylcyclotetrasiloxane, and tetrachloroethene.

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-42-072622	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-01 1/9.1
Date Analyzed:	08/02/22	Data File:	080217.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	86	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	960
APH EC9-12 aliphatics	<230
APH EC9-10 aromatics	<230

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-41-072622	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-02 1/18
Date Analyzed:	08/03/22	Data File:	080222.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	82	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	4,000
APH EC9-12 aliphatics	<450
APH EC9-10 aromatics	<450

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-35-072622	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-03 1/280
Date Analyzed:	08/03/22	Data File:	080226.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	94	70	130

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	770,000 ve
APH EC9-12 aliphatics	240,000
APH EC9-10 aromatics	7,600



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-DUP-072622	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-04 1/290
Date Analyzed:	08/03/22	Data File:	080227.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	95	70	130

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	780,000 ve
APH EC9-12 aliphatics	260,000 ve
APH EC9-10 aromatics	<7,200

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-36-072622	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-05 1/20
Date Analyzed:	08/02/22	Data File:	080221.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	79	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	1,600
APH EC9-12 aliphatics	<500
APH EC9-10 aromatics	<500

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-37-072622	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-06 1/9.5
Date Analyzed:	08/02/22	Data File:	080218.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	87	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<710
APH EC9-12 aliphatics	250
APH EC9-10 aromatics	<240

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-40-072622	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-07 1/8.9
Date Analyzed:	08/02/22	Data File:	080219.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	82	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<670
APH EC9-12 aliphatics	450
APH EC9-10 aromatics	<220

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-43-072722	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-08 1/20
Date Analyzed:	08/03/22	Data File:	080225.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	81	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	2,000
APH EC9-12 aliphatics	<500
APH EC9-10 aromatics	<500

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-39-072722	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-09 1/9.3
Date Analyzed:	08/02/22	Data File:	080220.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	79	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	940
APH EC9-12 aliphatics	<230
APH EC9-10 aromatics	<230

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-38-072722	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-10 1/8.7
Date Analyzed:	08/03/22	Data File:	080223.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	81	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<650
APH EC9-12 aliphatics	<220
APH EC9-10 aromatics	<220

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	TWA-SV-DUP-072722	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-11 1/9.9
Date Analyzed:	08/03/22	Data File:	080224.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	78	70	130

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	<740
APH EC9-12 aliphatics	<250
APH EC9-10 aromatics	<250



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	M0615.20.002, F&BI 207462
Date Collected:	Not Applicable	Lab ID:	02-1781 MB
Date Analyzed:	08/02/22	Data File:	080215.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	79	70	130

Compounds:	Concentration
	ug/m3
APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-42-072622	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-01 1/9.1
Date Analyzed:	08/02/22	Data File:	080217.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	87	70	130

Compounds:	Concentration		Compounds:	Concentration	
	ug/m3	ppbv		ug/m3	ppbv
Propene	<11	<6.4	1,2-Dichloropropane	<2.1	<0.45
Dichlorodifluoromethane	<9	<1.8	1,4-Dioxane	<3.3	<0.91
Chloromethane	<34	<16	2,2,4-Trimethylpentane	<43	<9.1
F-114	<19	<2.7	Methyl methacrylate	<37	<9.1
Vinyl chloride	<2.3	<0.91	Heptane	<37	<9.1
1,3-Butadiene	<0.4	<0.18	Bromodichloromethane	<0.61	<0.091
Butane	<43	<18	Trichloroethene	<0.98	<0.18
Bromomethane	<35	<9.1	cis-1,3-Dichloropropene	<8.3	<1.8
Chloroethane	<24	<9.1	4-Methyl-2-pentanone	<37	<9.1
Vinyl bromide	<4	<0.91	trans-1,3-Dichloropropene	<4.1	<0.91
Ethanol	<69	<36	Toluene	<170	<45
Acrolein	<1	<0.45	1,1,2-Trichloroethane	<0.5	<0.091
Pentane	<54	<18	2-Hexanone	<37	<9.1
Trichlorofluoromethane	<20	<3.6	Tetrachloroethene	900	130
Acetone	<43	<18	Dibromochloromethane	<0.78	<0.091
2-Propanol	<78	<32	1,2-Dibromoethane (EDB)	<0.7	<0.091
1,1-Dichloroethene	<3.6	<0.91	Chlorobenzene	<4.2	<0.91
trans-1,2-Dichloroethene	<3.6	<0.91	Ethylbenzene	<4	<0.91
Methylene chloride	<320	<91	1,1,2,2-Tetrachloroethane	<1.2	<0.18
t-Butyl alcohol (TBA)	<110	<36	Nonane	<48	<9.1
3-Chloropropene	<28	<9.1	Isopropylbenzene	<89	<18
CFC-113	<7	<0.91	2-Chlorotoluene	<47	<9.1
Carbon disulfide	<57	<18	Propylbenzene	<45	<9.1
Methyl t-butyl ether (MTBE)	<66	<18	4-Ethyltoluene	<45	<9.1
Vinyl acetate	<64	<18	m,p-Xylene	<7.9	<1.8
1,1-Dichloroethane	<3.7	<0.91	o-Xylene	<4	<0.91
cis-1,2-Dichloroethene	<3.6	<0.91	Styrene	<7.8	<1.8
Hexane	<32	<9.1	Bromoform	<19	<1.8
Chloroform	0.67	0.14	Benzyl chloride	<0.47	<0.091
Ethyl acetate	<66	<18	1,3,5-Trimethylbenzene	<45	<9.1
Tetrahydrofuran	<5.4	<1.8	1,2,4-Trimethylbenzene	<45	<9.1
2-Butanone (MEK)	<54	<18	1,3-Dichlorobenzene	<5.5	<0.91
1,2-Dichloroethane (EDC)	<0.37	<0.091	1,4-Dichlorobenzene	<2.1	<0.35
1,1,1-Trichloroethane	<5	<0.91	1,2-Dichlorobenzene	<5.5	<0.91
Carbon tetrachloride	<2.9	<0.45	1,2,4-Trichlorobenzene	<6.8	<0.91
Benzene	<2.9	<0.91	Naphthalene	<2.4	<0.45
Cyclohexane	<63	<18	Hexachlorobutadiene	<1.9	<0.18

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-41-072622	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-02 1/18
Date Analyzed:	08/03/22	Data File:	080222.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	84	70	130

Compounds:	Concentration		Compounds:	Concentration	
	ug/m3	ppbv		ug/m3	ppbv
Propene	<22	<13	1,2-Dichloropropane	<4.2	<0.9
Dichlorodifluoromethane	<18	<3.6	1,4-Dioxane	<6.5	<1.8
Chloromethane	<67	<32	2,2,4-Trimethylpentane	<84	<18
F-114	<38	<5.4	Methyl methacrylate	<74	<18
Vinyl chloride	<4.6	<1.8	Heptane	<74	<18
1,3-Butadiene	<0.8	<0.36	Bromodichloromethane	<1.2	<0.18
Butane	<86	<36	Trichloroethene	100	19
Bromomethane	<70	<18	cis-1,3-Dichloropropene	<16	<3.6
Chloroethane	<47	<18	4-Methyl-2-pentanone	<74	<18
Vinyl bromide	<7.9	<1.8	trans-1,3-Dichloropropene	<8.2	<1.8
Ethanol	<140	<72	Toluene	<340	<90
Acrolein	<2.1	<0.9	1,1,2-Trichloroethane	<0.98	<0.18
Pentane	<110	<36	2-Hexanone	<74	<18
Trichlorofluoromethane	<40	<7.2	Tetrachloroethene	8,200 ve	1,200 ve
Acetone	<86	<36	Dibromochloromethane	<1.5	<0.18
2-Propanol	<150	<63	1,2-Dibromoethane (EDB)	<1.4	<0.18
1,1-Dichloroethene	<7.1	<1.8	Chlorobenzene	<8.3	<1.8
trans-1,2-Dichloroethene	<7.1	<1.8	Ethylbenzene	<7.8	<1.8
Methylene chloride	<630	<180	1,1,2,2-Tetrachloroethane	<2.5	<0.36
t-Butyl alcohol (TBA)	<220	<72	Nonane	<94	<18
3-Chloropropene	<56	<18	Isopropylbenzene	<180	<36
CFC-113	<14	<1.8	2-Chlorotoluene	<93	<18
Carbon disulfide	<110	<36	Propylbenzene	<88	<18
Methyl t-butyl ether (MTBE)	<130	<36	4-Ethyltoluene	<88	<18
Vinyl acetate	<130	<36	m,p-Xylene	<16	<3.6
1,1-Dichloroethane	<7.3	<1.8	o-Xylene	<7.8	<1.8
cis-1,2-Dichloroethene	<7.1	<1.8	Styrene	<15	<3.6
Hexane	<63	<18	Bromoform	<37	<3.6
Chloroform	2.2	0.45	Benzyl chloride	<0.93	<0.18
Ethyl acetate	<130	<36	1,3,5-Trimethylbenzene	<88	<18
Tetrahydrofuran	<11	<3.6	1,2,4-Trimethylbenzene	<88	<18
2-Butanone (MEK)	<110	<36	1,3-Dichlorobenzene	<11	<1.8
1,2-Dichloroethane (EDC)	<0.73	<0.18	1,4-Dichlorobenzene	<4.1	<0.68
1,1,1-Trichloroethane	<9.8	<1.8	1,2-Dichlorobenzene	<11	<1.8
Carbon tetrachloride	<5.7	<0.9	1,2,4-Trichlorobenzene	<13	<1.8
Benzene	<5.8	<1.8	Naphthalene	<2.4 j	<0.45 j
Cyclohexane	<120	<36	Hexachlorobutadiene	<3.8	<0.36

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-35-072622	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-03 1/280
Date Analyzed:	08/03/22	Data File:	080226.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	104	70	130

Compounds:	Concentration ug/m3	ppbv	Compounds:	Concentration ug/m3	ppbv
Propene	<340	<200	1,2-Dichloropropane	<65	<14
Dichlorodifluoromethane	<280	<56	1,4-Dioxane	<100	<28
Chloromethane	<1,000	<500	2,2,4-Trimethylpentane	50,000 ve	11,000 ve
F-114	<590	<84	Methyl methacrylate	<1,100	<280
Vinyl chloride	<72	<28	Heptane	42,000 ve	10,000 ve
1,3-Butadiene	<12	<5.6	Bromodichloromethane	<19	<2.8
Butane	<1,300	<560	Trichloroethene	<30	<5.6
Bromomethane	<1,100	<280	cis-1,3-Dichloropropene	<250	<56
Chloroethane	<740	<280	4-Methyl-2-pentanone	<1,100	<280
Vinyl bromide	<120	<28	trans-1,3-Dichloropropene	<130	<28
Ethanol	<2,100	<1,100	Toluene	<5,300	<1,400
Acrolein	<32	<14	1,1,2-Trichloroethane	<15	<2.8
Pentane	1,900	650	2-Hexanone	<1,100	<280
Trichlorofluoromethane	<630	<110	Tetrachloroethene	<1,900	<280
Acetone	<1,300	<560	Dibromochloromethane	<24	<2.8
2-Propanol	<2,400	<980	1,2-Dibromoethane (EDB)	<22	<2.8
1,1-Dichloroethene	<110	<28	Chlorobenzene	<130	<28
trans-1,2-Dichloroethene	<110	<28	Ethylbenzene	<120	<28
Methylene chloride	<9,700	<2,800	1,1,2,2-Tetrachloroethane	<38	<5.6
t-Butyl alcohol (TBA)	<3,400	<1,100	Nonane	<1,500	<280
3-Chloropropene	<880	<280	Isopropylbenzene	<2,800	<560
CFC-113	<210	<28	2-Chlorotoluene	<1,400	<280
Carbon disulfide	<1,700	<560	Propylbenzene	<1,400	<280
Methyl t-butyl ether (MTBE)	<2,000	<560	4-Ethyltoluene	<1,400	<280
Vinyl acetate	<2,000	<560	m,p-Xylene	<240	<56
1,1-Dichloroethane	<110	<28	o-Xylene	190	43
cis-1,2-Dichloroethene	<110	<28	Styrene	<240	<56
Hexane	27,000 ve	7,800 ve	Bromoform	<580	<56
Chloroform	<14	<2.8	Benzyl chloride	<14	<2.8
Ethyl acetate	<2,000	<560	1,3,5-Trimethylbenzene	<1,400	<280
Tetrahydrofuran	<170	<56	1,2,4-Trimethylbenzene	<1,400	<280
2-Butanone (MEK)	<1,700	<560	1,3-Dichlorobenzene	<170	<28
1,2-Dichloroethane (EDC)	<11	<2.8	1,4-Dichlorobenzene	<64	<11
1,1,1-Trichloroethane	<150	<28	1,2-Dichlorobenzene	170	28
Carbon tetrachloride	<88	<14	1,2,4-Trichlorobenzene	<210	<28
Benzene	<89	<28	Naphthalene	<73	<14
Cyclohexane	21,000 ve	6,100 ve	Hexachlorobutadiene	<60	<5.6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-DUP-072622	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-04 1/290
Date Analyzed:	08/03/22	Data File:	080227.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	98	70	130

Compounds:	Concentration		Compounds:	Concentration	
	ug/m3	ppbv		ug/m3	ppbv
Propene	<350	<200	1,2-Dichloropropane	<67	<14
Dichlorodifluoromethane	<290	<58	1,4-Dioxane	<100	<29
Chloromethane	<1,100	<520	2,2,4-Trimethylpentane	51,000 ve	11,000 ve
F-114	<610	<87	Methyl methacrylate	<1,200	<290
Vinyl chloride	<74	<29	Heptane	43,000 ve	10,000 ve
1,3-Butadiene	<13	<5.8	Bromodichloromethane	<19	<2.9
Butane	<1,400	<580	Trichloroethene	<31	<5.8
Bromomethane	<1,100	<290	cis-1,3-Dichloropropene	<260	<58
Chloroethane	<770	<290	4-Methyl-2-pentanone	<1,200	<290
Vinyl bromide	<130	<29	trans-1,3-Dichloropropene	<130	<29
Ethanol	<2,200	<1,200	Toluene	<5,500	<1,400
Acrolein	<33	<14	1,1,2-Trichloroethane	<16	<2.9
Pentane	1,900	660	2-Hexanone	<1,200	<290
Trichlorofluoromethane	<650	<120	Tetrachloroethene	<2,000	<290
Acetone	<1,400	<580	Dibromochloromethane	<25	<2.9
2-Propanol	<2,500	<1,000	1,2-Dibromoethane (EDB)	<22	<2.9
1,1-Dichloroethene	<110	<29	Chlorobenzene	<130	<29
trans-1,2-Dichloroethene	<110	<29	Ethylbenzene	<130	<29
Methylene chloride	<10,000	<2,900	1,1,2,2-Tetrachloroethane	<40	<5.8
t-Butyl alcohol (TBA)	<3,500	<1,200	Nonane	<1,500	<290
3-Chloropropene	<910	<290	Isopropylbenzene	<2,900	<580
CFC-113	<220	<29	2-Chlorotoluene	<1,500	<290
Carbon disulfide	<1,800	<580	Propylbenzene	<1,400	<290
Methyl t-butyl ether (MTBE)	<2,100	<580	4-Ethyltoluene	<1,400	<290
Vinyl acetate	<2,000	<580	m,p-Xylene	<250	<58
1,1-Dichloroethane	<120	<29	o-Xylene	180	42
cis-1,2-Dichloroethene	<110	<29	Styrene	<250	<58
Hexane	28,000 ve	7,900 ve	Bromoform	<600	<58
Chloroform	<14	<2.9	Benzyl chloride	<15	<2.9
Ethyl acetate	<2,100	<580	1,3,5-Trimethylbenzene	<1,400	<290
Tetrahydrofuran	<170	<58	1,2,4-Trimethylbenzene	<1,400	<290
2-Butanone (MEK)	<1,700	<580	1,3-Dichlorobenzene	<170	<29
1,2-Dichloroethane (EDC)	<12	<2.9	1,4-Dichlorobenzene	<66	<11
1,1,1-Trichloroethane	<160	<29	1,2-Dichlorobenzene	<170	<29
Carbon tetrachloride	<91	<14	1,2,4-Trichlorobenzene	<220	<29
Benzene	<93	<29	Naphthalene	<76	<14
Cyclohexane	21,000 ve	6,100 ve	Hexachlorobutadiene	<62	<5.8

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-36-072622	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-05 1/20
Date Analyzed:	08/02/22	Data File:	080221.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	80	70	130

Compounds:	Concentration		Compounds:	Concentration	
	ug/m3	ppbv		ug/m3	ppbv
Propene	<24	<14	1,2-Dichloropropane	<4.6	<1
Dichlorodifluoromethane	<20	<4	1,4-Dioxane	<7.2	<2
Chloromethane	<74	<36	2,2,4-Trimethylpentane	<93	<20
F-114	<42	<6	Methyl methacrylate	<82	<20
Vinyl chloride	<5.1	<2	Heptane	<82	<20
1,3-Butadiene	<0.88	<0.4	Bromodichloromethane	<1.3	<0.2
Butane	<95	<40	Trichloroethene	<2.1	<0.4
Bromomethane	<78	<20	cis-1,3-Dichloropropene	<18	<4
Chloroethane	<53	<20	4-Methyl-2-pentanone	<82	<20
Vinyl bromide	<8.7	<2	trans-1,3-Dichloropropene	<9.1	<2
Ethanol	<150	<80	Toluene	<380	<100
Acrolein	<2.3	<1	1,1,2-Trichloroethane	<1.1	<0.2
Pentane	<120	<40	2-Hexanone	<82	<20
Trichlorofluoromethane	<45	<8	Tetrachloroethene	<140	<20
Acetone	100	42	Dibromochloromethane	<1.7	<0.2
2-Propanol	<170	<70	1,2-Dibromoethane (EDB)	<1.5	<0.2
1,1-Dichloroethene	<7.9	<2	Chlorobenzene	<9.2	<2
trans-1,2-Dichloroethene	<7.9	<2	Ethylbenzene	<8.7	<2
Methylene chloride	<690	<200	1,1,2,2-Tetrachloroethane	<2.7	<0.4
t-Butyl alcohol (TBA)	<240	<80	Nonane	<100	<20
3-Chloropropene	<63	<20	Isopropylbenzene	<200	<40
CFC-113	<15	<2	2-Chlorotoluene	<100	<20
Carbon disulfide	<120	<40	Propylbenzene	<98	<20
Methyl t-butyl ether (MTBE)	<140	<40	4-Ethyltoluene	<98	<20
Vinyl acetate	<140	<40	m,p-Xylene	<17	<4
1,1-Dichloroethane	<8.1	<2	o-Xylene	<8.7	<2
cis-1,2-Dichloroethene	<7.9	<2	Styrene	<17	<4
Hexane	<70	<20	Bromoform	<41	<4
Chloroform	4.1	0.84	Benzyl chloride	<1	<0.2
Ethyl acetate	<140	<40	1,3,5-Trimethylbenzene	<98	<20
Tetrahydrofuran	<12	<4	1,2,4-Trimethylbenzene	<98	<20
2-Butanone (MEK)	<120	<40	1,3-Dichlorobenzene	<12	<2
1,2-Dichloroethane (EDC)	<0.81	<0.2	1,4-Dichlorobenzene	<4.6	<0.76
1,1,1-Trichloroethane	<11	<2	1,2-Dichlorobenzene	<12	<2
Carbon tetrachloride	<6.3	<1	1,2,4-Trichlorobenzene	<15	<2
Benzene	<6.4	<2	Naphthalene	<2.4 j	<0.46 j
Cyclohexane	<140	<40	Hexachlorobutadiene	<4.3	<0.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-37-072622	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-06 1/9.5
Date Analyzed:	08/02/22	Data File:	080218.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	% Recovery:	Lower Limit:	Upper Limit:
Surrogates:			
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration		Compounds:	Concentration	
	ug/m3	ppbv		ug/m3	ppbv
Propene	<11	<6.6	1,2-Dichloropropane	<2.2	<0.47
Dichlorodifluoromethane	<9.4	<1.9	1,4-Dioxane	<3.4	<0.95
Chloromethane	<35	<17	2,2,4-Trimethylpentane	<44	<9.5
F-114	<20	<2.8	Methyl methacrylate	<39	<9.5
Vinyl chloride	<2.4	<0.95	Heptane	<39	<9.5
1,3-Butadiene	<0.42	<0.19	Bromodichloromethane	<0.64	<0.095
Butane	<45	<19	Trichloroethene	<1	<0.19
Bromomethane	<37	<9.5	cis-1,3-Dichloropropene	<8.6	<1.9
Chloroethane	<25	<9.5	4-Methyl-2-pentanone	<39	<9.5
Vinyl bromide	<4.2	<0.95	trans-1,3-Dichloropropene	<4.3	<0.95
Ethanol	<72	<38	Toluene	<180	<47
Acrolein	<1.1	<0.47	1,1,2-Trichloroethane	<0.52	<0.095
Pentane	<56	<19	2-Hexanone	<39	<9.5
Trichlorofluoromethane	<21	<3.8	Tetrachloroethene	<64	<9.5
Acetone	<45	<19	Dibromochloromethane	<0.81	<0.095
2-Propanol	<82	<33	1,2-Dibromoethane (EDB)	<0.73	<0.095
1,1-Dichloroethene	<3.8	<0.95	Chlorobenzene	<4.4	<0.95
trans-1,2-Dichloroethene	<3.8	<0.95	Ethylbenzene	<4.1	<0.95
Methylene chloride	<330	<95	1,1,2,2-Tetrachloroethane	<1.3	<0.19
t-Butyl alcohol (TBA)	<120	<38	Nonane	<50	<9.5
3-Chloropropene	<30	<9.5	Isopropylbenzene	<93	<19
CFC-113	<7.3	<0.95	2-Chlorotoluene	<49	<9.5
Carbon disulfide	<59	<19	Propylbenzene	<47	<9.5
Methyl t-butyl ether (MTBE)	<69	<19	4-Ethyltoluene	<47	<9.5
Vinyl acetate	<67	<19	m,p-Xylene	<8.3	<1.9
1,1-Dichloroethane	<3.8	<0.95	o-Xylene	<4.1	<0.95
cis-1,2-Dichloroethene	<3.8	<0.95	Styrene	<8.1	<1.9
Hexane	<33	<9.5	Bromoform	<20	<1.9
Chloroform	1.1	0.23	Benzyl chloride	<0.49	<0.095
Ethyl acetate	<68	<19	1,3,5-Trimethylbenzene	<47	<9.5
Tetrahydrofuran	<5.6	<1.9	1,2,4-Trimethylbenzene	<47	<9.5
2-Butanone (MEK)	<56	<19	1,3-Dichlorobenzene	<5.7	<0.95
1,2-Dichloroethane (EDC)	<0.38	<0.095	1,4-Dichlorobenzene	<2.2	<0.36
1,1,1-Trichloroethane	<5.2	<0.95	1,2-Dichlorobenzene	<5.7	<0.95
Carbon tetrachloride	<3	<0.47	1,2,4-Trichlorobenzene	<7.1	<0.95
Benzene	<3	<0.95	Naphthalene	<2.4 j	<0.46 j
Cyclohexane	<65	<19	Hexachlorobutadiene	<2	<0.19

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-40-072622	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-07 1/8.9
Date Analyzed:	08/02/22	Data File:	080219.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	84	70	130

Compounds:	Concentration		Compounds:	Concentration	
	ug/m3	ppbv		ug/m3	ppbv
Propene	<11	<6.2	1,2-Dichloropropane	<2.1	<0.44
Dichlorodifluoromethane	<8.8	<1.8	1,4-Dioxane	<3.2	<0.89
Chloromethane	<33	<16	2,2,4-Trimethylpentane	<42	<8.9
F-114	<19	<2.7	Methyl methacrylate	<36	<8.9
Vinyl chloride	<2.3	<0.89	Heptane	<36	<8.9
1,3-Butadiene	<0.39	<0.18	Bromodichloromethane	<0.6	<0.089
Butane	<42	<18	Trichloroethene	<0.96	<0.18
Bromomethane	<35	<8.9	cis-1,3-Dichloropropene	<8.1	<1.8
Chloroethane	<23	<8.9	4-Methyl-2-pentanone	<36	<8.9
Vinyl bromide	<3.9	<0.89	trans-1,3-Dichloropropene	<4	<0.89
Ethanol	<67	<36	Toluene	<170	<44
Acrolein	<1	<0.44	1,1,2-Trichloroethane	<0.49	<0.089
Pentane	<53	<18	2-Hexanone	<36	<8.9
Trichlorofluoromethane	<20	<3.6	Tetrachloroethene	68	10
Acetone	<42	<18	Dibromochloromethane	<0.76	<0.089
2-Propanol	<77	<31	1,2-Dibromoethane (EDB)	<0.68	<0.089
1,1-Dichloroethene	<3.5	<0.89	Chlorobenzene	<4.1	<0.89
trans-1,2-Dichloroethene	<3.5	<0.89	Ethylbenzene	<3.9	<0.89
Methylene chloride	<310	<89	1,1,2,2-Tetrachloroethane	<1.2	<0.18
t-Butyl alcohol (TBA)	<110	<36	Nonane	<47	<8.9
3-Chloropropene	<28	<8.9	Isopropylbenzene	<88	<18
CFC-113	<6.8	<0.89	2-Chlorotoluene	<46	<8.9
Carbon disulfide	<55	<18	Propylbenzene	<44	<8.9
Methyl t-butyl ether (MTBE)	<64	<18	4-Ethyltoluene	<44	<8.9
Vinyl acetate	<63	<18	m,p-Xylene	<7.7	<1.8
1,1-Dichloroethane	<3.6	<0.89	o-Xylene	<3.9	<0.89
cis-1,2-Dichloroethene	<3.5	<0.89	Styrene	<7.6	<1.8
Hexane	<31	<8.9	Bromoform	<18	<1.8
Chloroform	2.6	0.53	Benzyl chloride	<0.46	<0.089
Ethyl acetate	<64	<18	1,3,5-Trimethylbenzene	<44	<8.9
Tetrahydrofuran	<5.2	<1.8	1,2,4-Trimethylbenzene	<44	<8.9
2-Butanone (MEK)	<52	<18	1,3-Dichlorobenzene	<5.4	<0.89
1,2-Dichloroethane (EDC)	<0.36	<0.089	1,4-Dichlorobenzene	<2	<0.34
1,1,1-Trichloroethane	<4.9	<0.89	1,2-Dichlorobenzene	<5.4	<0.89
Carbon tetrachloride	<2.8	<0.44	1,2,4-Trichlorobenzene	<6.6	<0.89
Benzene	<2.8	<0.89	Naphthalene	<2.3	<0.44
Cyclohexane	<61	<18	Hexachlorobutadiene	<1.9	<0.18



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-43-072722	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-08 1/20
Date Analyzed:	08/03/22	Data File:	080225.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	% Recovery:	Lower Limit:	Upper Limit:
Surrogates:			
4-Bromofluorobenzene	82	70	130

Compounds:	Concentration		Compounds:	Concentration	
	ug/m3	ppbv		ug/m3	ppbv
Propene	<24	<14	1,2-Dichloropropane	<4.6	<1
Dichlorodifluoromethane	<20	<4	1,4-Dioxane	<7.2	<2
Chloromethane	<74	<36	2,2,4-Trimethylpentane	<93	<20
F-114	<42	<6	Methyl methacrylate	<82	<20
Vinyl chloride	<5.1	<2	Heptane	<82	<20
1,3-Butadiene	<0.88	<0.4	Bromodichloromethane	<1.3	<0.2
Butane	<95	<40	Trichloroethene	<2.1	<0.4
Bromomethane	<78	<20	cis-1,3-Dichloropropene	<18	<4
Chloroethane	<53	<20	4-Methyl-2-pentanone	<82	<20
Vinyl bromide	<8.7	<2	trans-1,3-Dichloropropene	<9.1	<2
Ethanol	<150	<80	Toluene	<380	<100
Acrolein	<2.3	<1	1,1,2-Trichloroethane	<1.1	<0.2
Pentane	<120	<40	2-Hexanone	<82	<20
Trichlorofluoromethane	<45	<8	Tetrachloroethene	500	73
Acetone	<95	<40	Dibromochloromethane	<1.7	<0.2
2-Propanol	<170	<70	1,2-Dibromoethane (EDB)	<1.5	<0.2
1,1-Dichloroethene	<7.9	<2	Chlorobenzene	<9.2	<2
trans-1,2-Dichloroethene	<7.9	<2	Ethylbenzene	<8.7	<2
Methylene chloride	<690	<200	1,1,2,2-Tetrachloroethane	<2.7	<0.4
t-Butyl alcohol (TBA)	<240	<80	Nonane	<100	<20
3-Chloropropene	<63	<20	Isopropylbenzene	<200	<40
CFC-113	<15	<2	2-Chlorotoluene	<100	<20
Carbon disulfide	<120	<40	Propylbenzene	<98	<20
Methyl t-butyl ether (MTBE)	<140	<40	4-Ethyltoluene	<98	<20
Vinyl acetate	<140	<40	m,p-Xylene	<17	<4
1,1-Dichloroethane	<8.1	<2	o-Xylene	<8.7	<2
cis-1,2-Dichloroethene	<7.9	<2	Styrene	<17	<4
Hexane	<70	<20	Bromoform	<41	<4
Chloroform	<0.98	<0.2	Benzyl chloride	<1	<0.2
Ethyl acetate	<140	<40	1,3,5-Trimethylbenzene	<98	<20
Tetrahydrofuran	<12	<4	1,2,4-Trimethylbenzene	<98	<20
2-Butanone (MEK)	<120	<40	1,3-Dichlorobenzene	<12	<2
1,2-Dichloroethane (EDC)	<0.81	<0.2	1,4-Dichlorobenzene	<4.6	<0.76
1,1,1-Trichloroethane	<11	<2	1,2-Dichlorobenzene	<12	<2
Carbon tetrachloride	<6.3	<1	1,2,4-Trichlorobenzene	<15	<2
Benzene	<6.4	<2	Naphthalene	<2.4 j	<0.46 j
Cyclohexane	<140	<40	Hexachlorobutadiene	<4.3	<0.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-39-072722	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-09 1/9.3
Date Analyzed:	08/02/22	Data File:	080220.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	% Recovery:	Lower Limit:	Upper Limit:
Surrogates:			
4-Bromofluorobenzene	81	70	130

Compounds:	Concentration		Compounds:	Concentration	
	ug/m3	ppbv		ug/m3	ppbv
Propene	<11	<6.5	1,2-Dichloropropane	<2.1	<0.46
Dichlorodifluoromethane	<9.2	<1.9	1,4-Dioxane	<3.4	<0.93
Chloromethane	<35	<17	2,2,4-Trimethylpentane	<43	<9.3
F-114	<20	<2.8	Methyl methacrylate	<38	<9.3
Vinyl chloride	<2.4	<0.93	Heptane	<38	<9.3
1,3-Butadiene	<0.41	<0.19	Bromodichloromethane	<0.62	<0.093
Butane	<44	<19	Trichloroethene	<1	<0.19
Bromomethane	<36	<9.3	cis-1,3-Dichloropropene	<8.4	<1.9
Chloroethane	<25	<9.3	4-Methyl-2-pentanone	<38	<9.3
Vinyl bromide	<4.1	<0.93	trans-1,3-Dichloropropene	<4.2	<0.93
Ethanol	<70	<37	Toluene	<180	<46
Acrolein	<1.1	<0.46	1,1,2-Trichloroethane	<0.51	<0.093
Pentane	<55	<19	2-Hexanone	<38	<9.3
Trichlorofluoromethane	<21	<3.7	Tetrachloroethene	<63	<9.3
Acetone	<44	<19	Dibromochloromethane	<0.79	<0.093
2-Propanol	<80	<33	1,2-Dibromoethane (EDB)	<0.71	<0.093
1,1-Dichloroethene	<3.7	<0.93	Chlorobenzene	<4.3	<0.93
trans-1,2-Dichloroethene	<3.7	<0.93	Ethylbenzene	<4	<0.93
Methylene chloride	<320	<93	1,1,2,2-Tetrachloroethane	<1.3	<0.19
t-Butyl alcohol (TBA)	<110	<37	Nonane	<49	<9.3
3-Chloropropene	<29	<9.3	Isopropylbenzene	<91	<19
CFC-113	<7.1	<0.93	2-Chlorotoluene	<48	<9.3
Carbon disulfide	<58	<19	Propylbenzene	<46	<9.3
Methyl t-butyl ether (MTBE)	<67	<19	4-Ethyltoluene	<46	<9.3
Vinyl acetate	<65	<19	m,p-Xylene	<8.1	<1.9
1,1-Dichloroethane	<3.8	<0.93	o-Xylene	<4	<0.93
cis-1,2-Dichloroethene	<3.7	<0.93	Styrene	<7.9	<1.9
Hexane	<33	<9.3	Bromoform	<19	<1.9
Chloroform	1.8	0.36	Benzyl chloride	<0.48	<0.093
Ethyl acetate	<67	<19	1,3,5-Trimethylbenzene	<46	<9.3
Tetrahydrofuran	<5.5	<1.9	1,2,4-Trimethylbenzene	<46	<9.3
2-Butanone (MEK)	<55	<19	1,3-Dichlorobenzene	<5.6	<0.93
1,2-Dichloroethane (EDC)	<0.38	<0.093	1,4-Dichlorobenzene	<2.1	<0.35
1,1,1-Trichloroethane	43	7.8	1,2-Dichlorobenzene	<5.6	<0.93
Carbon tetrachloride	<2.9	<0.46	1,2,4-Trichlorobenzene	<6.9	<0.93
Benzene	<3	<0.93	Naphthalene	<2.4	<0.46
Cyclohexane	<64	<19	Hexachlorobutadiene	<2	<0.19

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-38-072722	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-10 1/8.7
Date Analyzed:	08/03/22	Data File:	080223.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	83	70	130

Compounds:	Concentration		Compounds:	Concentration	
	ug/m3	ppbv		ug/m3	ppbv
Propene	<10	<6.1	1,2-Dichloropropane	<2	<0.43
Dichlorodifluoromethane	<8.6	<1.7	1,4-Dioxane	<3.1	<0.87
Chloromethane	<32	<16	2,2,4-Trimethylpentane	<41	<8.7
F-114	<18	<2.6	Methyl methacrylate	<36	<8.7
Vinyl chloride	<2.2	<0.87	Heptane	<36	<8.7
1,3-Butadiene	<0.38	<0.17	Bromodichloromethane	<0.58	<0.087
Butane	<41	<17	Trichloroethene	<0.94	<0.17
Bromomethane	<34	<8.7	cis-1,3-Dichloropropene	<7.9	<1.7
Chloroethane	<23	<8.7	4-Methyl-2-pentanone	<36	<8.7
Vinyl bromide	<3.8	<0.87	trans-1,3-Dichloropropene	<3.9	<0.87
Ethanol	<66	<35	Toluene	<160	<43
Acrolein	<1	<0.43	1,1,2-Trichloroethane	<0.47	<0.087
Pentane	<51	<17	2-Hexanone	<36	<8.7
Trichlorofluoromethane	<20	<3.5	Tetrachloroethene	<59	<8.7
Acetone	<41	<17	Dibromochloromethane	<0.74	<0.087
2-Propanol	<75	<30	1,2-Dibromoethane (EDB)	<0.67	<0.087
1,1-Dichloroethene	<3.4	<0.87	Chlorobenzene	<4	<0.87
trans-1,2-Dichloroethene	<3.4	<0.87	Ethylbenzene	<3.8	<0.87
Methylene chloride	<300	<87	1,1,2,2-Tetrachloroethane	<1.2	<0.17
t-Butyl alcohol (TBA)	<110	<35	Nonane	<46	<8.7
3-Chloropropene	<27	<8.7	Isopropylbenzene	<86	<17
CFC-113	<6.7	<0.87	2-Chlorotoluene	<45	<8.7
Carbon disulfide	<54	<17	Propylbenzene	<43	<8.7
Methyl t-butyl ether (MTBE)	<63	<17	4-Ethyltoluene	<43	<8.7
Vinyl acetate	<61	<17	m,p-Xylene	<7.6	<1.7
1,1-Dichloroethane	<3.5	<0.87	o-Xylene	<3.8	<0.87
cis-1,2-Dichloroethene	<3.4	<0.87	Styrene	<7.4	<1.7
Hexane	<31	<8.7	Bromoform	<18	<1.7
Chloroform	3.2	0.66	Benzyl chloride	<0.45	<0.087
Ethyl acetate	<63	<17	1,3,5-Trimethylbenzene	<43	<8.7
Tetrahydrofuran	<5.1	<1.7	1,2,4-Trimethylbenzene	<43	<8.7
2-Butanone (MEK)	<51	<17	1,3-Dichlorobenzene	<5.2	<0.87
1,2-Dichloroethane (EDC)	<0.35	<0.087	1,4-Dichlorobenzene	<2	<0.33
1,1,1-Trichloroethane	<4.7	<0.87	1,2-Dichlorobenzene	<5.2	<0.87
Carbon tetrachloride	<2.7	<0.43	1,2,4-Trichlorobenzene	<6.5	<0.87
Benzene	<2.8	<0.87	Naphthalene	<2.3	<0.43
Cyclohexane	<60	<17	Hexachlorobutadiene	<1.9	<0.17

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	TWA-SV-DUP-072722	Client:	Maul Foster Alongi
Date Received:	07/27/22	Project:	M0615.20.002, F&BI 207462
Date Collected:	08/02/22	Lab ID:	207462-11 1/9.9
Date Analyzed:	08/03/22	Data File:	080224.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	80	70	130

Compounds:	Concentration		Compounds:	Concentration	
	ug/m3	ppbv		ug/m3	ppbv
Propene	<12	<6.9	1,2-Dichloropropane	<2.3	<0.49
Dichlorodifluoromethane	<9.8	<2	1,4-Dioxane	<3.6	<0.99
Chloromethane	<37	<18	2,2,4-Trimethylpentane	<46	<9.9
F-114	<21	<3	Methyl methacrylate	<41	<9.9
Vinyl chloride	<2.5	<0.99	Heptane	<41	<9.9
1,3-Butadiene	<0.44	<0.2	Bromodichloromethane	<0.66	<0.099
Butane	<47	<20	Trichloroethene	<1.1	<0.2
Bromomethane	<38	<9.9	cis-1,3-Dichloropropene	<9	<2
Chloroethane	<26	<9.9	4-Methyl-2-pentanone	<41	<9.9
Vinyl bromide	<4.3	<0.99	trans-1,3-Dichloropropene	<4.5	<0.99
Ethanol	<75	<40	Toluene	<190	<49
Acrolein	<1.1	<0.49	1,1,2-Trichloroethane	<0.54	<0.099
Pentane	<58	<20	2-Hexanone	<41	<9.9
Trichlorofluoromethane	<22	<4	Tetrachloroethene	<67	<9.9
Acetone	<47	<20	Dibromochloromethane	<0.84	<0.099
2-Propanol	<85	<35	1,2-Dibromoethane (EDB)	<0.76	<0.099
1,1-Dichloroethene	<3.9	<0.99	Chlorobenzene	<4.6	<0.99
trans-1,2-Dichloroethene	<3.9	<0.99	Ethylbenzene	<4.3	<0.99
Methylene chloride	<340	<99	1,1,2,2-Tetrachloroethane	<1.4	<0.2
t-Butyl alcohol (TBA)	<120	<40	Nonane	<52	<9.9
3-Chloropropene	<31	<9.9	Isopropylbenzene	<97	<20
CFC-113	<7.6	<0.99	2-Chlorotoluene	<51	<9.9
Carbon disulfide	<62	<20	Propylbenzene	<49	<9.9
Methyl t-butyl ether (MTBE)	<71	<20	4-Ethyltoluene	<49	<9.9
Vinyl acetate	<70	<20	m,p-Xylene	<8.6	<2
1,1-Dichloroethane	<4	<0.99	o-Xylene	<4.3	<0.99
cis-1,2-Dichloroethene	<3.9	<0.99	Styrene	<8.4	<2
Hexane	<35	<9.9	Bromoform	<20	<2
Chloroform	3.3	0.67	Benzyl chloride	<0.51	<0.099
Ethyl acetate	<71	<20	1,3,5-Trimethylbenzene	<49	<9.9
Tetrahydrofuran	<5.8	<2	1,2,4-Trimethylbenzene	<49	<9.9
2-Butanone (MEK)	<58	<20	1,3-Dichlorobenzene	<6	<0.99
1,2-Dichloroethane (EDC)	<0.4	<0.099	1,4-Dichlorobenzene	<2.3	<0.38
1,1,1-Trichloroethane	<5.4	<0.99	1,2-Dichlorobenzene	<6	<0.99
Carbon tetrachloride	<3.1	<0.49	1,2,4-Trichlorobenzene	<7.3	<0.99
Benzene	<3.2	<0.99	Naphthalene	<2.4 j	<0.46 j
Cyclohexane	<68	<20	Hexachlorobutadiene	<2.1	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	M0615.20.002, F&BI 207462
Date Collected:	Not Applicable	Lab ID:	02-1781 MB
Date Analyzed:	08/02/22	Data File:	080215.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

	%	Lower	Upper
Surrogates:	Recovery:	Limit:	Limit:
4-Bromofluorobenzene	81	70	130

Compounds:	Concentration		Compounds:	Concentration	
	ug/m3	ppbv		ug/m3	ppbv
Propene	<1.2	<0.7	1,2-Dichloropropane	<0.23	<0.05
Dichlorodifluoromethane	<0.99	<0.2	1,4-Dioxane	<0.36	<0.1
Chloromethane	<3.7	<1.8	2,2,4-Trimethylpentane	<4.7	<1
F-114	<2.1	<0.3	Methyl methacrylate	<4.1	<1
Vinyl chloride	<0.26	<0.1	Heptane	<4.1	<1
1,3-Butadiene	<0.044	<0.02	Bromodichloromethane	<0.067	<0.01
Butane	<4.8	<2	Trichloroethene	<0.11	<0.02
Bromomethane	<3.9	<1	cis-1,3-Dichloropropene	<0.91	<0.2
Chloroethane	<2.6	<1	4-Methyl-2-pentanone	<4.1	<1
Vinyl bromide	<0.44	<0.1	trans-1,3-Dichloropropene	<0.45	<0.1
Ethanol	<7.5	<4	Toluene	<19	<5
Acrolein	<0.11	<0.05	1,1,2-Trichloroethane	<0.055	<0.01
Pentane	<5.9	<2	2-Hexanone	<4.1	<1
Trichlorofluoromethane	<2.2	<0.4	Tetrachloroethene	<6.8	<1
Acetone	<4.8	<2	Dibromochloromethane	<0.085	<0.01
2-Propanol	<8.6	<3.5	1,2-Dibromoethane (EDB)	<0.077	<0.01
1,1-Dichloroethene	<0.4	<0.1	Chlorobenzene	<0.46	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1	Ethylbenzene	<0.43	<0.1
Methylene chloride	<35	<10	1,1,2,2-Tetrachloroethane	<0.14	<0.02
t-Butyl alcohol (TBA)	<12	<4	Nonane	<5.2	<1
3-Chloropropene	<3.1	<1	Isopropylbenzene	<9.8	<2
CFC-113	<0.77	<0.1	2-Chlorotoluene	<5.2	<1
Carbon disulfide	<6.2	<2	Propylbenzene	<4.9	<1
Methyl t-butyl ether (MTBE)	<7.2	<2	4-Ethyltoluene	<4.9	<1
Vinyl acetate	<7	<2	m,p-Xylene	<0.87	<0.2
1,1-Dichloroethane	<0.4	<0.1	o-Xylene	<0.43	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1	Styrene	<0.85	<0.2
Hexane	<3.5	<1	Bromoform	<2.1	<0.2
Chloroform	<0.049	<0.01	Benzyl chloride	<0.052	<0.01
Ethyl acetate	<7.2	<2	1,3,5-Trimethylbenzene	<4.9	<1
Tetrahydrofuran	<0.59	<0.2	1,2,4-Trimethylbenzene	<4.9	<1
2-Butanone (MEK)	<5.9	<2	1,3-Dichlorobenzene	<0.6	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01	1,4-Dichlorobenzene	<0.23	<0.038
1,1,1-Trichloroethane	<0.55	<0.1	1,2-Dichlorobenzene	<0.6	<0.1
Carbon tetrachloride	<0.31	<0.05	1,2,4-Trichlorobenzene	<0.74	<0.1
Benzene	<0.32	<0.1	Naphthalene	<0.12 j	<0.023 j
Cyclohexane	<6.9	<2	Hexachlorobutadiene	<0.21	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/10/22

Date Received: 07/27/22

Project: Potter Property M0615.20.002, F&BI 207462

Date Extracted: 08/08/22

Date Analyzed: 08/08/22

**RESULTS FROM THE ANALYSIS OF AIR SAMPLES  
FOR HELIUM USING METHOD ASTM D1946**

Results Reported as % Helium

<u>Sample ID</u> Laboratory ID	<u>Helium</u>
TWA-SV-42-072622 207462-01	<0.6
TWA-SV-41-072622 207462-02	<0.6
TWA-SV-35-072622 207462-03	<0.6
TWA-SV-DUP-072622 207462-04	<0.6
TWA-SV-36-072622 207462-05	<0.6
TWA-SV-37-072622 207462-06	<0.6
TWA-SV-40-072622 207462-07	<0.6
TWA-SV-43-072722 207462-08	<0.6
TWA-SV-39-072722 207462-09	<0.6
TWA-SV-38-072722 207462-10	<0.6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/10/22

Date Received: 07/27/22

Project: Potter Property M0615.20.002, F&BI 207462

Date Extracted: 08/08/22

Date Analyzed: 08/08/22

**RESULTS FROM THE ANALYSIS OF AIR SAMPLES  
FOR HELIUM USING METHOD ASTM D1946**

Results Reported as % Helium

<u>Sample ID</u> Laboratory ID	<u>Helium</u>
TWA-SV-DUP-072722 207462-11	<0.6
Method Blank 02-1908 MB	<0.6
Method Blank 02-1910 MB	<0.6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/10/22

Date Received: 07/27/22

Project: Potter Property M0615.20.002, F&BI 207462

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD MA-APH**

Laboratory Code: 207462-01 1/9.1 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	960	940	2
APH EC9-12 aliphatics	ug/m3	<230	<230	nm
APH EC9-10 aromatics	ug/m3	<230	<230	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	93	70-130
APH EC9-12 aliphatics	ug/m3	67	127	70-130
APH EC9-10 aromatics	ug/m3	67	102	70-130



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/10/22

Date Received: 07/27/22

Project: Potter Property M0615.20.002, F&BI 207462

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD TO-15**

Laboratory Code: 207462-01 1/9.1 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Propene	ug/m3	<11	<11	nm
Dichlorodifluoromethane	ug/m3	<9	<9	nm
Chloromethane	ug/m3	<34	<34	nm
F-114	ug/m3	<19	<19	nm
Vinyl chloride	ug/m3	<2.3	<2.3	nm
1,3-Butadiene	ug/m3	<0.4	<0.4	nm
Butane	ug/m3	<43	<43	nm
Bromomethane	ug/m3	<35	<35	nm
Chloroethane	ug/m3	<24	<24	nm
Vinyl bromide	ug/m3	<4	<4	nm
Ethanol	ug/m3	<69	<69	nm
Acrolein	ug/m3	<1	<1	nm
Pentane	ug/m3	<54	<54	nm
Trichlorofluoromethane	ug/m3	<20	<20	nm
Acetone	ug/m3	<43	<43	nm
2-Propanol	ug/m3	<78	<78	nm
1,1-Dichloroethene	ug/m3	<3.6	<3.6	nm
trans-1,2-Dichloroethene	ug/m3	<3.6	<3.6	nm
Methylene chloride	ug/m3	<320	<320	nm
t-Butyl alcohol (TBA)	ug/m3	<110	<110	nm
3-Chloropropene	ug/m3	<28	<28	nm
CFC-113	ug/m3	<7	<7	nm
Carbon disulfide	ug/m3	<57	<57	nm
Methyl t-butyl ether (MTBE)	ug/m3	<66	<66	nm
Vinyl acetate	ug/m3	<64	<64	nm
1,1-Dichloroethane	ug/m3	<3.7	<3.7	nm
cis-1,2-Dichloroethene	ug/m3	<3.6	<3.6	nm
Hexane	ug/m3	<32	<32	nm
Chloroform	ug/m3	0.67	0.62	8
Ethyl acetate	ug/m3	<66	<66	nm
Tetrahydrofuran	ug/m3	<5.4	<5.4	nm
2-Butanone (MEK)	ug/m3	<54	<54	nm
1,2-Dichloroethane (EDC)	ug/m3	<0.37	<0.37	nm
1,1,1-Trichloroethane	ug/m3	<5	<5	nm
Carbon tetrachloride	ug/m3	<2.9	<2.9	nm
Benzene	ug/m3	<2.9	<2.9	nm
Cyclohexane	ug/m3	<63	<63	nm
1,2-Dichloropropane	ug/m3	<2.1	<2.1	nm
1,4-Dioxane	ug/m3	<3.3	<3.3	nm
2,2,4-Trimethylpentane	ug/m3	<43	<43	nm
Methyl methacrylate	ug/m3	<37	<37	nm
Heptane	ug/m3	<37	<37	nm
Bromodichloromethane	ug/m3	<0.61	<0.61	nm
Trichloroethene	ug/m3	<0.98	<0.98	nm
cis-1,3-Dichloropropene	ug/m3	<8.3	<8.3	nm
4-Methyl-2-pentanone	ug/m3	<37	<37	nm
trans-1,3-Dichloropropene	ug/m3	<4.1	<4.1	nm
Toluene	ug/m3	<170	<170	nm
1,1,2-Trichloroethane	ug/m3	<0.5	<0.5	nm
2-Hexanone	ug/m3	<37	<37	nm
Tetrachloroethene	ug/m3	900	900	0
Dibromochloromethane	ug/m3	<0.78	<0.78	nm
1,2-Dibromoethane (EDB)	ug/m3	<0.7	<0.7	nm
Chlorobenzene	ug/m3	<4.2	<4.2	nm
Ethylbenzene	ug/m3	<4	<4	nm
1,1,2,2-Tetrachloroethane	ug/m3	<1.2	<1.2	nm
Nonane	ug/m3	<48	<48	nm
Isopropylbenzene	ug/m3	<89	<89	nm
2-Chlorotoluene	ug/m3	<47	<47	nm
Propylbenzene	ug/m3	<45	<45	nm
4-Ethyltoluene	ug/m3	<45	<45	nm
m,p-Xylene	ug/m3	<7.9	<7.9	nm
o-Xylene	ug/m3	<4	<4	nm
Styrene	ug/m3	<7.8	<7.8	nm
Bromoform	ug/m3	<19	<19	nm
Benzyl chloride	ug/m3	<0.47	<0.47	nm
1,3,5-Trimethylbenzene	ug/m3	<45	<45	nm
1,2,4-Trimethylbenzene	ug/m3	<45	<45	nm
1,3-Dichlorobenzene	ug/m3	<5.5	<5.5	nm
1,4-Dichlorobenzene	ug/m3	<2.1	<2.1	nm
1,2-Dichlorobenzene	ug/m3	<5.5	<5.5	nm

# FRIEDMAN & BRUYA, INC.

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## ENVIRONMENTAL CHEMISTS

1,2,4-Trichlorobenzene	ug/m3	<6.8	<6.8	nm
Naphthalene	ug/m3	<2.4	<2.4	nm
Hexachlorobutadiene	ug/m3	<1.9	<1.9	nm

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/10/22

Date Received: 07/27/22

Project: Potter Property M0615.20.002, F&BI 207462

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD TO-15**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	Acceptance
			Recovery LCS	Criteria
Propene	ug/m3	23	81	70-130
Dichlorodifluoromethane	ug/m3	67	104	70-130
Chloromethane	ug/m3	28	93	70-130
F-114	ug/m3	94	103	70-130
Vinyl chloride	ug/m3	35	87	70-130
1,3-Butadiene	ug/m3	30	83	70-130
Butane	ug/m3	32	81	70-130
Bromomethane	ug/m3	52	107	70-130
Chloroethane	ug/m3	36	97	70-130
Vinyl bromide	ug/m3	59	107	70-130
Ethanol	ug/m3	25	76	70-130
Acrolein	ug/m3	31	78	70-130
Pentane	ug/m3	40	73	70-130
Trichlorofluoromethane	ug/m3	76	104	70-130
Acetone	ug/m3	32	93	70-130
2-Propanol	ug/m3	33	83	70-130
1,1-Dichloroethene	ug/m3	54	99	70-130
trans-1,2-Dichloroethene	ug/m3	54	95	70-130
Methylene chloride	ug/m3	94	100	70-130
t-Butyl alcohol (TBA)	ug/m3	41	82	70-130
3-Chloropropene	ug/m3	42	78	70-130
CFC-113	ug/m3	100	109	70-130
Carbon disulfide	ug/m3	42	93	70-130
Methyl t-butyl ether (MTBE)	ug/m3	49	81	70-130
Vinyl acetate	ug/m3	48	72	70-130
1,1-Dichloroethane	ug/m3	55	95	70-130
cis-1,2-Dichloroethene	ug/m3	54	93	70-130
Hexane	ug/m3	48	76	70-130
Chloroform	ug/m3	66	99	70-130
Ethyl acetate	ug/m3	49	86	70-130
Tetrahydrofuran	ug/m3	40	75	70-130
2-Butanone (MEK)	ug/m3	40	83	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	95	70-130
1,1,1-Trichloroethane	ug/m3	74	102	70-130
Carbon tetrachloride	ug/m3	85	103	70-130
Benzene	ug/m3	43	86	70-130
Cyclohexane	ug/m3	46	79	70-130
1,2-Dichloropropane	ug/m3	62	105	70-130
1,4-Dioxane	ug/m3	49	98	70-130
2,2,4-Trimethylpentane	ug/m3	63	95	70-130
Methyl methacrylate	ug/m3	55	90	70-130
Heptane	ug/m3	55	85	70-130
Bromodichloromethane	ug/m3	90	115	70-130
Trichloroethene	ug/m3	73	111	70-130
cis-1,3-Dichloropropene	ug/m3	61	104	70-130
4-Methyl-2-pentanone	ug/m3	55	122	70-130
trans-1,3-Dichloropropene	ug/m3	61	101	70-130
Toluene	ug/m3	51	104	70-130
1,1,2-Trichloroethane	ug/m3	74	117	70-130
2-Hexanone	ug/m3	55	84	70-130
Tetrachloroethene	ug/m3	92	127	70-130
Dibromochloromethane	ug/m3	120	128	70-130
1,2-Dibromoethane (EDB)	ug/m3	100	111	70-130
Chlorobenzene	ug/m3	62	108	70-130
Ethylbenzene	ug/m3	59	89	70-130
1,1,2,2-Tetrachloroethane	ug/m3	93	111	70-130
Nonane	ug/m3	71	82	70-130
Isopropylbenzene	ug/m3	66	97	70-130
2-Chlorotoluene	ug/m3	70	102	70-130
Propylbenzene	ug/m3	66	100	70-130
4-Ethyltoluene	ug/m3	66	94	70-130
m,p-Xylene	ug/m3	120	98	70-130
o-Xylene	ug/m3	59	102	70-130
Styrene	ug/m3	58	95	70-130
Bromoform	ug/m3	140	121	70-130
Benzyl chloride	ug/m3	70	105	70-130
1,3,5-Trimethylbenzene	ug/m3	66	93	70-130
1,2,4-Trimethylbenzene	ug/m3	66	91	70-130
1,3-Dichlorobenzene	ug/m3	81	119	70-130
1,4-Dichlorobenzene	ug/m3	81	115	70-130
1,2-Dichlorobenzene	ug/m3	81	119	70-130
1,2,4-Trichlorobenzene	ug/m3	100	130	70-130

# FRIEDMAN & BRUYA, INC.

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## ENVIRONMENTAL CHEMISTS

Naphthalene  
Hexachlorobutadiene

ug/m3  
ug/m3

71  
140

122  
126

70-130  
70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/10/22

Date Received: 07/27/22

Project: Potter Property M0615.20.002, F&BI 207462

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR HELIUM  
USING METHOD ASTM D1946**

Laboratory Code: 207462-01 (Duplicate)

Analyte	Sample Result (%)	Duplicate Result (%)	Relative Percent Difference	Acceptance Criteria
Helium	<0.6	<0.6	nm	0-20

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/10/22

Date Received: 07/27/22

Project: Potter Property M0615.20.002, F&BI 207462

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR HELIUM  
USING METHOD ASTM D1946**

Laboratory Code: 207462-11 (Duplicate)

Analyte	Sample Result (%)	Duplicate Result (%)	Relative Percent Difference	Acceptance Criteria
Helium	<0.6	<0.6	nm	0-20

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

207462

SAMPLE CHAIN OF CUSTODY

07-27-22

Page # 1 of 2

Report To: Judrey Hackett

Company: Maul Foster & Alongi

Address: 2815 2nd Ave, #540

City, State, ZIP: Seattle, WA 98121

Phone: 206-331-1835 Email: ahackett@maulfoster.com

SAMPLERS (signature)

*Charles Bixby*

PROJECT NAME & ADDRESS

Potter Property

PO #

MOG15.20.002

NOTES: Please cc A. Bixby on all results.

INVOICE TO accounting @ maulfoster.com

TURNAROUND TIME

Standard

RUSH

Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL

Default: Clean after 3 days

Archive (Fee may apply)

SAMPLE INFORMATION

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	VOCs by TO15	TO15 BTEXN	TO15 cVOCs	APH	Helium	Methane, Oxygen, Carbon Dioxide by EPA 3C	Notes
TWA-SV-42-07262201		4181	68	IA / <u>SG</u>	7/26/22	-30	0928	-5	0933	X			X	X	X	1 1L Summa & 1 Tedlar per Sample
TWA-SV-41-07262202		2436	105	IA / <u>SG</u>	7/26/22	-30	1039	-5	1044	X			X	X	X	
TWA-SV-35-07262203		3386	35	IA / <u>SG</u>	7/26/22	-30	1201	-5	1208	X			X	X	X	**
TWA-SV-DVP-07262204		2434	109	IA / <u>SG</u>	7/26/22	-29	1201	-5	1208	X			X	X	X	**
TWA-SV-36-07262205		8527	308	IA / <u>SG</u>	7/26/22	-29	1325	-5	1330	X			X	X	X	
TWA-SV-37-07262206		9565	54	IA / <u>SG</u>	7/26/22	-30	1416	-5	1421	X			X	X	X	
TWA-SV-40-07262207		3390	62	IA / <u>SG</u>	7/26/22	-30	1504	-5	1509	X			X	X	X	
TWA-SV-43-07272208		8533	305	IA / <u>SG</u>	7/27/22	-28	0830	-5	0835	X			X	X	X	**

ANALYSIS REQUESTED

Friedman & Bruno, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029  
Ph. (206) 285-8282  
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<i>Charles Bixby</i>	Amwanda Bixby	MFA	7/27/22	1200
<i>W. Madden</i>	W. Madden	F+BT	7/27/22	1200
Received by:		Samples received at		ITC



207462

SAMPLE CHAIN OF CUSTODY 07-27-22

Report To Audrey Hackett

Company Maui Foster & Alongi

Address 2815 2nd Ave, # 540

City, State, ZIP Seattle, WA 98121

Phone 206-331-1835 Email ahackett@mauifoster.com

SAMPLERS (signature) Carol Bixby

PROJECT NAME & ADDRESS Potter Property

PO # MO615.20002

NOTES: Please CC A. Bixby on all results.

INVOICE TO accounting@mauifoster.com

TURNAROUND TIME  
 Standard  
 RUSH  
Rush charges authorized by:

SAMPLE DISPOSAL  
 Default: Clean after 3 days  
 Archive (Fee may apply)

SAMPLE INFORMATION ANALYSIS REQUESTED

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	VOCs by TO15 <del>XXXXXXXXXX</del>	TO15 BTEXN	TO15 eVOCs	APH	Helium	Methane, Oxygen, & Carbon Dioxide	EPA 3C	Notes
TWA-SV-39-07272209		4183	255	IA / (SG)	7/27/22	-29	0918	-5	0923	X			X	X	X		711L Summa & 1 Tedlar per sample
TWA-SV-38-07272210		9560	301	IA / (SG)	7/27/22	-30+	0956	-5	1000	X			X	X	X		**
TWA-SV-0VP-07272211		9562	306	IA / (SG)	7/27/22	-30+	0956	-6	1000	X			X	X	X		**
				IA / SG													
				IA / SG													
				IA / SG													
				IA / SG													

Friedman & Bruya, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029  
Ph. (206) 285-8282  
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>Carol Bixby</u>	<u>Amarda Bixby</u>	<u>MFA</u>	<u>7/27/22</u>	<u>1200</u>
<u>W. Madden</u>	<u>W. Madden</u>	<u>FBI</u>	<u>7/27/22</u>	<u>1200</u>
Received by:				
Relinquished by:				

Received by: \_\_\_\_\_

Relinquished by: \_\_\_\_\_



3600 Fremont Ave. N.  
Seattle, WA 98103  
T: (206) 352-3790  
F: (206) 352-7178  
info@fremontanalytical.com

**Friedman & Bruya**  
Michael Erdahl  
3012 16th Ave. W.  
Seattle, WA 98119

**RE: 207462**  
**Work Order Number: 2207392**

August 19, 2022

**Attention Michael Erdahl:**

Fremont Analytical, Inc. received 11 sample(s) on 7/27/2022 for the analyses presented in the following report.

***Major Gases by EPA Method 3C***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes  
Project Manager

*DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing  
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing  
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910*

Revision v1

[www.fremontanalytical.com](http://www.fremontanalytical.com)

**CLIENT:** Friedman & Bruya  
**Project:** 207462  
**Work Order:** 2207392

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2207392-001	TWA-SV-42-072622	07/26/2022 9:33 AM	07/27/2022 3:23 PM
2207392-002	TWA-SV-41-072622	07/26/2022 10:44 AM	07/27/2022 3:23 PM
2207392-003	TWA-SV-35-072622	07/26/2022 12:08 PM	07/27/2022 3:23 PM
2207392-004	TWA-SV-DUP-072622	07/26/2022 12:08 PM	07/27/2022 3:23 PM
2207392-005	TWA-SV-36-072622	07/26/2022 1:30 PM	07/27/2022 3:23 PM
2207392-006	TWA-SV-37-072622	07/26/2022 2:21 PM	07/27/2022 3:23 PM
2207392-007	TWA-SV-40-072622	07/26/2022 3:09 PM	07/27/2022 3:23 PM
2207392-008	TWA-SV-43-072722	07/27/2022 8:35 AM	07/27/2022 3:23 PM
2207392-009	TWA-SV-39-072722	07/27/2022 9:23 AM	07/27/2022 3:23 PM
2207392-010	TWA-SV-38-072722	07/27/2022 10:00 AM	07/27/2022 3:23 PM
2207392-011	TWA-SV-DUP-072722	07/27/2022 10:00 AM	07/27/2022 3:23 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

---

**CLIENT:** Friedman & Bruya

**Project:** 207462

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**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Major gases are reported as % ratio of the Major Gases analyzed (Carbon dioxide, Carbon Monoxide, Methane, Nitrogen, Oxygen and Hydrogen).

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS). The LCS is processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

8/19/2022: Revision 1 includes corrected data for "TWA-SV-DUP-072622" and "TWA-SV-DUP-072722".

---

### Qualifiers:

- \* - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

### Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- DUP - Sample Duplicate
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MCL - Maximum Contaminant Level
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- REP - Sample Replicate
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



**CLIENT:** Friedman & Bruya  
**Project:** 207462

**Lab ID:** 2207392-001

**Collection Date:** 7/26/2022 9:33:00 AM

**Client Sample ID:** TWA-SV-42-072622

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>Major Gases by EPA Method 3C</b>						Batch ID: R77187 Analyst: TC
Carbon Dioxide	3.11	0.0500		%	1	7/29/2022 10:20:00 AM
Methane	ND	0.0500		%	1	7/29/2022 10:20:00 AM
Oxygen	24.9	0.0500		%	1	7/29/2022 10:20:00 AM

**Lab ID:** 2207392-002

**Collection Date:** 7/26/2022 10:44:00 AM

**Client Sample ID:** TWA-SV-41-072622

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>Major Gases by EPA Method 3C</b>						Batch ID: R77187 Analyst: TC
Carbon Dioxide	ND	0.0500		%	1	7/29/2022 10:32:00 AM
Methane	ND	0.0500		%	1	7/29/2022 10:32:00 AM
Oxygen	24.8	0.0500		%	1	7/29/2022 10:32:00 AM

**Lab ID:** 2207392-003

**Collection Date:** 7/26/2022 12:08:00 PM

**Client Sample ID:** TWA-SV-35-072622

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>Major Gases by EPA Method 3C</b>						Batch ID: R77187 Analyst: TC
Carbon Dioxide	19.0	0.0500		%	1	7/29/2022 11:11:00 AM
Methane	2.12	0.0500		%	1	7/29/2022 11:11:00 AM
Oxygen	2.10	0.0500		%	1	7/29/2022 11:11:00 AM



**CLIENT:** Friedman & Bruya  
**Project:** 207462

**Lab ID:** 2207392-004

**Collection Date:** 7/26/2022 12:08:00 PM

**Client Sample ID:** TWA-SV-DUP-072622

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R77187 Analyst: TC

Carbon Dioxide	19.2	0.0500		%	1	7/29/2022 12:48:00 PM
Methane	2.11	0.0500		%	1	7/29/2022 12:48:00 PM
Oxygen	1.86	0.0500		%	1	7/29/2022 12:48:00 PM

**Lab ID:** 2207392-005

**Collection Date:** 7/26/2022 1:30:00 PM

**Client Sample ID:** TWA-SV-36-072622

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R77187 Analyst: TC

Carbon Dioxide	6.48	0.0500		%	1	7/29/2022 11:35:00 AM
Methane	ND	0.0500		%	1	7/29/2022 11:35:00 AM
Oxygen	18.7	0.0500		%	1	7/29/2022 11:35:00 AM

**Lab ID:** 2207392-006

**Collection Date:** 7/26/2022 2:21:00 PM

**Client Sample ID:** TWA-SV-37-072622

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R77187 Analyst: TC

Carbon Dioxide	5.74	0.0500		%	1	7/29/2022 11:47:00 AM
Methane	ND	0.0500		%	1	7/29/2022 11:47:00 AM
Oxygen	17.1	0.0500		%	1	7/29/2022 11:47:00 AM



# Analytical Report

Work Order: 2207392  
Date Reported: 8/19/2022

CLIENT: Friedman & Bruya  
Project: 207462

Lab ID: 2207392-007      Collection Date: 7/26/2022 3:09:00 PM  
Client Sample ID: TWA-SV-40-072622      Matrix: Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**      Batch ID: R77187      Analyst: TC

Carbon Dioxide	8.81	0.0500		%	1	7/29/2022 12:00:00 PM
Methane	ND	0.0500		%	1	7/29/2022 12:00:00 PM
Oxygen	18.7	0.0500		%	1	7/29/2022 12:00:00 PM

Lab ID: 2207392-008      Collection Date: 7/27/2022 8:35:00 AM  
Client Sample ID: TWA-SV-43-072722      Matrix: Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**      Batch ID: R77187      Analyst: TC

Carbon Dioxide	5.79	0.0500		%	1	7/29/2022 12:12:00 PM
Methane	ND	0.0500		%	1	7/29/2022 12:12:00 PM
Oxygen	21.7	0.0500		%	1	7/29/2022 12:12:00 PM

Lab ID: 2207392-009      Collection Date: 7/27/2022 9:23:00 AM  
Client Sample ID: TWA-SV-39-072722      Matrix: Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**      Batch ID: R77187      Analyst: TC

Carbon Dioxide	15.3	0.0500		%	1	7/29/2022 12:24:00 PM
Methane	ND	0.0500		%	1	7/29/2022 12:24:00 PM
Oxygen	8.57	0.0500		%	1	7/29/2022 12:24:00 PM





**CLIENT:** Friedman & Bruya  
**Project:** 207462

**Lab ID:** 2207392-010

**Collection Date:** 7/27/2022 10:00:00 AM

**Client Sample ID:** TWA-SV-38-072722

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R77187      Analyst: TC

Carbon Dioxide	11.2	0.0500		%	1	7/29/2022 12:36:00 PM
Methane	ND	0.0500		%	1	7/29/2022 12:36:00 PM
Oxygen	9.68	0.0500		%	1	7/29/2022 12:36:00 PM

**Lab ID:** 2207392-011

**Collection Date:** 7/27/2022 10:00:00 AM

**Client Sample ID:** TWA-SV-DUP-072722

**Matrix:** Air

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Major Gases by EPA Method 3C**

Batch ID: R77187      Analyst: TC

Carbon Dioxide	11.3	0.0500		%	1	7/29/2022 11:23:00 AM
Methane	ND	0.0500		%	1	7/29/2022 11:23:00 AM
Oxygen	9.75	0.0500		%	1	7/29/2022 11:23:00 AM

**Work Order:** 2207392  
**CLIENT:** Friedman & Bruya  
**Project:** 207462

**QC SUMMARY REPORT**  
**Major Gases by EPA Method 3C**

Sample ID: <b>LCS-R77187</b>		SampType: <b>LCS</b>			Units: %			Prep Date: <b>7/29/2022</b>		RunNo: <b>77187</b>		
Client ID: <b>LCSW</b>		Batch ID: <b>R77187</b>						Analysis Date: <b>7/29/2022</b>		SeqNo: <b>1585662</b>		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Carbon Dioxide	100	0.0500	100.0	0	100	70	130					
Methane	100	0.0500	100.0	0	100	70	130					
Oxygen	99.3	0.0500	100.0	0	99.3	70	130					

Sample ID: <b>2207392-001AREP</b>		SampType: <b>REP</b>			Units: %			Prep Date: <b>7/29/2022</b>		RunNo: <b>77187</b>		
Client ID: <b>TWA-SV-42-072622</b>		Batch ID: <b>R77187</b>						Analysis Date: <b>7/29/2022</b>		SeqNo: <b>1585660</b>		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Carbon Dioxide	3.10	0.0500						3.113	0.543	30		
Methane	ND	0.0500						0		30		
Oxygen	24.8	0.0500						24.86	0.275	30		

Client Name: FB  
 Logged by: Clare Griggs

Work Order Number: 2207392  
 Date Received: 7/27/2022 3:23:00 PM

### Chain of Custody

1. Is Chain of Custody complete? Yes  No  Not Present   
 2. How was the sample delivered? Courier

### Log In

3. Coolers are present? Yes  No  NA   
Air Samples  
 4. Shipping container/cooler in good condition? Yes  No   
 5. Custody Seals present on shipping container/cooler?  
 (Refer to comments for Custody Seals not intact) Yes  No  Not Present   
 6. Was an attempt made to cool the samples? Yes  No  NA   
 7. Were all items received at a temperature of >2°C to 6°C \* Yes  No  NA   
 8. Sample(s) in proper container(s)? Yes  No   
 9. Sufficient sample volume for indicated test(s)? Yes  No   
 10. Are samples properly preserved? Yes  No   
 11. Was preservative added to bottles? Yes  No  NA   
 12. Is there headspace in the VOA vials? Yes  No  NA   
 13. Did all samples containers arrive in good condition(unbroken)? Yes  No   
 14. Does paperwork match bottle labels? Yes  No   
 15. Are matrices correctly identified on Chain of Custody? Yes  No   
 16. Is it clear what analyses were requested? Yes  No   
 17. Were all holding times able to be met? Yes  No

### Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

### Item Information

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

**SUBCONTRACT SAMPLE CHAIN OF CUSTODY**

**2207392**

Page # 1 of 1

SUBCONTRACTER **Fruwirth**

PROJECT NAME/NO. **207462** PO # **C-280**

REMARKS **Please Email Results EQUUS EDD**

TURNAROUND TIME  
 Standard TAT  
 RUSH  
 Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL  
 Dispose after 30 days  
 Return samples  
 Will call with instructions

Send Report To Michael Erdahl  
 Company Friedman and Bruya, Inc.  
 Address 3012 16th Ave W  
 City, State, ZIP Seattle, WA 98119  
 Phone # (206) 285-8282 merdahl@friedmanandbruya.com

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED							Notes		
						Method 3C O2, CH4, CO2	COD	BOD	Chloride	Sulfate	Sulfide				
TWA-SV-42-072622		7/26/2022	933	air	1	<input checked="" type="checkbox"/>									
TWA-SV-41-072622		7/26/2022	1044	air	1	<input checked="" type="checkbox"/>									
TWA-SV-35-072622		7/26/2022	1208	air	1	<input checked="" type="checkbox"/>									
TWA-SV-DUP-072622		7/26/2022	1208	air	1	<input checked="" type="checkbox"/>									
TWA-SV-36-072622		7/26/2022	1330	air	1	<input checked="" type="checkbox"/>									
TWA-SV-37-072622		7/26/2022	1421	air	1	<input checked="" type="checkbox"/>									
TWA-SV-40-072622		7/26/2022	1509	air	1	<input checked="" type="checkbox"/>									
TWA-SV-43-072722		7/27/2022	835	air	1	<input checked="" type="checkbox"/>									
TWA-SV-39-072722		7/27/2022	923	air	1	<input checked="" type="checkbox"/>									
TWA-SV-38-072722		7/27/2022	1000	air	1	<input checked="" type="checkbox"/>									
TWA-SV-DUP-072722		7/27/2022	1000	air	1	<input checked="" type="checkbox"/>									

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
Friedman & Bruya, Inc.		Michael Erdahl		Friedman & Bruya			
3012 16th Avenue West							
Seattle, WA 98119-2029							
Pl. (206) 285-8282		Relinquished by:					
Fax (206) 283-5044		Received by:					

**SUBCONTRACT SAMPLE CHAIN OF CUSTODY 2207392**

Send Report To Michael Erdahl  
 Company Friedman and Bryya, Inc.  
 Address 3012 16th Ave W  
 City, State, ZIP Seattle, WA 98119  
 Phone # (206) 285-8282 mordahl@friedmanandbryya.com

SUBCONTRACTER <u>Fruant</u>	
PROJECT NAME/NO. <u>207462</u>	PO # <u>C-280</u>
REMARKS <u>Please Email Results EQOIS EDD</u>	

Page # 1 of 1

TURNAROUND TIME  
 Standard TAT  
 RUSH  
 Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL  
 Dispose after 30 days  
 Return samples  
 Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED							Notes		
						Method 3C O2, CH4, CO2	COD	BOD	Chloride	Sulfate	Sulfide				
TWA-SV-42-072622		7/26/2022	933	air	1	<input checked="" type="checkbox"/>									
TWA-SV-41-072622		7/26/2022	1044	air	1	<input checked="" type="checkbox"/>									
TWA-SV-35-072622		7/26/2022	1208	air	1	<input checked="" type="checkbox"/>									
TWA-SV-DUP-072622		7/26/2022	1208	air	1	<input checked="" type="checkbox"/>									
TWA-SV-36-072622		7/26/2022	1330	air	1	<input checked="" type="checkbox"/>									
TWA-SV-37-072622		7/26/2022	1421	air	1	<input checked="" type="checkbox"/>									
TWA-SV-40-072622		7/26/2022	1509	air	1	<input checked="" type="checkbox"/>									
TWA-SV-43-072722		7/27/2022	835	air	1	<input checked="" type="checkbox"/>									
TWA-SV-39-072722		7/27/2022	923	air	1	<input checked="" type="checkbox"/>									
TWA-SV-38-072722		7/27/2022	1000	air	1	<input checked="" type="checkbox"/>									
TWA-SV-DUP-072722		7/27/2022	1000	air	1	<input checked="" type="checkbox"/>									

Friedman & Bryya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-3099  
 Pl. (206) 285-8282  
 Fax (206) 283-5044

Relinquished by: <u>[Signature]</u>	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Received by: <u>Brianna Barnes</u>	<u>Michael Erdahl</u>	<u>Eric Loun</u>	Friedman & Bryya	7/27/22	1300
Relinquished by:			FAI	7/27/22	1523
Received by:					