



Table 1
Summary of Soil Analytical Results - 2,3,7,8 TCDD
Whitehead/Reliable Property
730 South Myrtle Street
Seattle, Washington

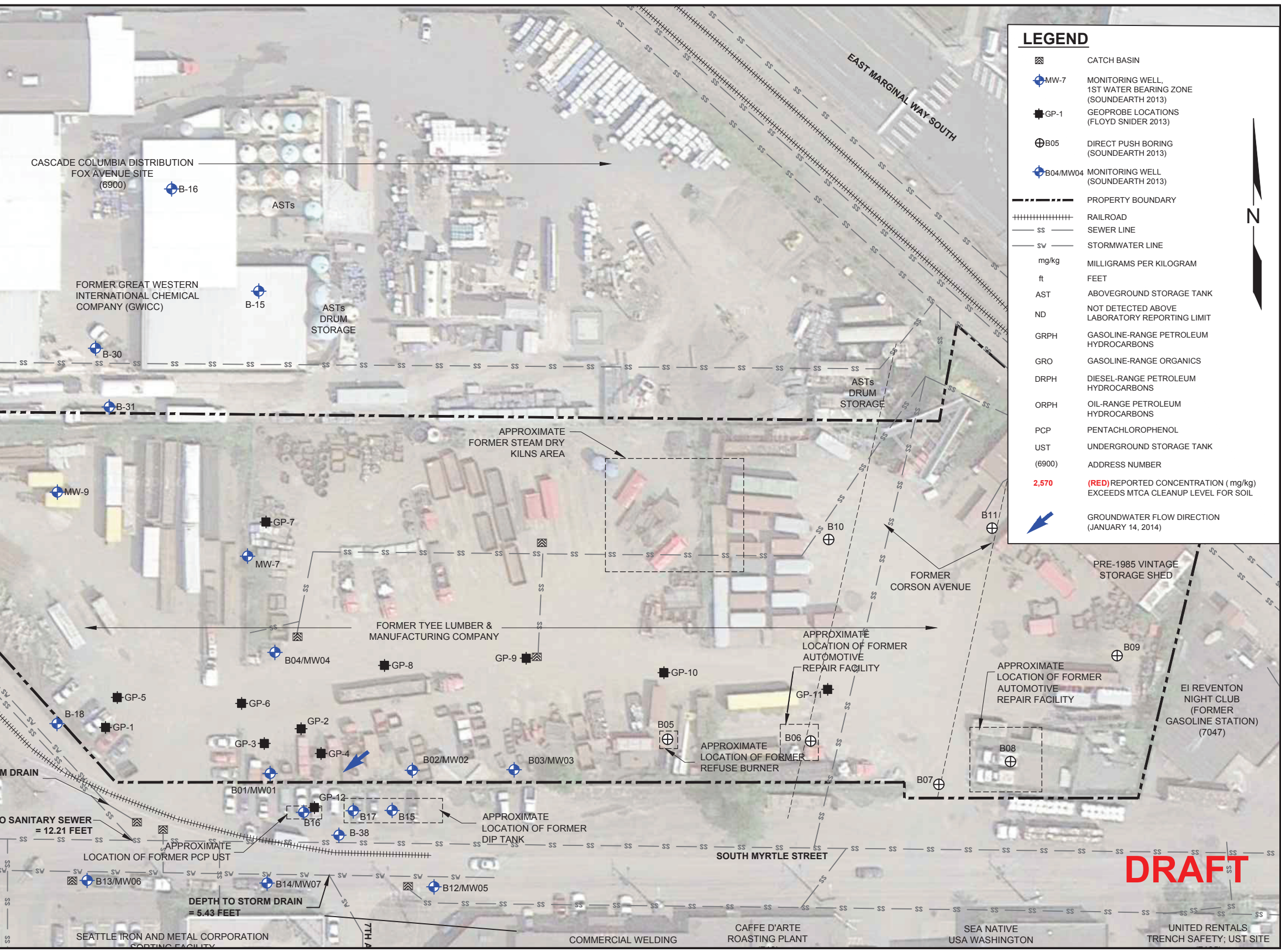
Sample Location	Sample ID	Date Sampled	Sample Depth (feet bgs)	Analytical Results ⁽¹⁾ (picograms per gram or nanograms per kilogram)																		Analytical Results ⁽¹⁾ (nanograms per kilogram)																		2,3,7,8 TCDD - TEQ ⁽⁶⁾														
				Total TCDDs		Total PeCDDs		Total HxCDDs		Total HpCDDs		Total TCDFs		Total PeCDFs		Total HxCDFs		Total HpCDFs		2,3,7,8 TCDD		1,2,3,7,8 PeCDD		1,2,3,4,7,8 HxCDD		1,2,3,6,7,8 HxCDD		1,2,3,7,8,9 HxCDD		1,2,3,4,6,7,8 HpCDD		OCDD		2,3,7,8 TCDF		1,2,3,7,8 PeCDF		2,3,4,7,8 PeCDF			1,2,3,4,7,8 HxCDF		1,2,3,6,7,8 HxCDF		1,2,3,7,8,9 HxCDF		2,3,4,6,7,8 HxCDF		1,2,3,4,6,7,8 HpCDF		1,2,3,4,7,8,9 HpCDF		OCDF	
				Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF		Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF	Measured Concentration	Corrected for TEF
B17	B17-07.5	04/05/14	7.5	61.1	219	53,600	506,000	3,520	20,300	156,000	364,000	1.88	1.88	50.1	50.1	3,630	363	21,900	2,190	1,220	122	368,000	E	3,680	1,130,000	E	339	574	57.4	1,210	36.3	1,230	369	5,240	E	524	1,080	108	696	69.6	736	73.6	77,300	E	773	4,170	41.7	436,000	E	131	8,930			
MTCA Method B Cleanup Level ⁽²⁾				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11					
Nonwastewater UTS ⁽⁴⁾				1,000	1,000	1,000	NE	1,000	1,000	1,000	NE	NE	--	NE	--	NE	--	NE	--	NE	--	NE	--	2,500	--	5,000	--	NE	--	NE	--	NE	--	NE	--	NE	--	NE	--	NE	--	NE	--	NE	--	NE	--	NE	--	NE	--	5,000	--	--
LDR (10 times the UTS)				10,000	10,000	10,000	10,000	10,000	10,000	10,000	NE	NE	--	NE	--	NE	--	NE	--	NE	--	NE	--	25,000	--	50,000	--	NE	--	NE	--	NE	--	NE	--	NE	--	NE	--	NE	--	NE	--	NE	--	NE	--	NE	--	NE	--	50,000	--	--

NOTES:
 Red denotes concentration exceeds MTCA Method B cleanup level.
 Purple denotes concentration exceeds LDR.
 Sample analyses performed by Ceres Analytical Laboratory, Inc., of El Dorado Hills, California.
⁽¹⁾Analyzed by U. S. Environmental Protection Agency Method 8290B.
⁽²⁾MTCA Cleanup Regulation, CLARC Soil, Method B, Carcinogen, Standard Formula Value, Direct Contact (Ingestion only), unrestricted land use. CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARHome.aspx>.
⁽³⁾2,3,7,8 TCDD TEQ calculated by the sum of each congener concentration multiplied by its TEF. When the reported measured concentration is below the laboratory EDL, the congener concentration is considered to be half the EDL.
⁽⁴⁾UTS in 40 CFR part 268, Subpart D - Treatment Standards for Hazardous Wastes. UTS Defined for dioxins/furans in 40 CFR §268.48- Table UTS.
 Laboratory Qualifier:
 E = Concentration found exceeds the Calibration range of the HRGC/HRMS.
 -- = not measured or analyzed
 < = not detected at concentration above the laboratory reporting limit
 CFR = Code of Federal Regulations
 CLARC = Cleanup Levels and Risk Calculations
 Dioxins = polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans
 EDL = estimated detection limit
 HpCDD = heptachlorodibenzo-p-dioxin
 HpCDF = heptachlorodibenzofuran
 HxCDD = hexachlorodibenzo-p-dioxin
 HxCDF = hexachlorodibenzofuran
 LDR = land disposal restrictions
 MTCA = Washington State Model Toxics Control Act
 NE = not established
 OCDD = octachlorodibenzo-p-dioxin
 OCDF = octachlorodibenzofuran
 PeCDD = pentachlorodibenzo-p-dioxin
 PeCDF = pentachlorodibenzofuran
 TCDD = tetrachlorodibenzo-p-dioxin
 TCDF = tetrachlorodibenzofuran
 TEF = Toxicity Equivalency Factor
 TEQ = Toxic Equivalency Quotient
 UTS = Universal Treatment Standard

5/7/2014

P:\0973 WHITEHEAD\0973-001 730 MYRTLE\TECHNICAL\CAD\2013 PEL\0973-001_2014_SD_DFCR_BLR.DWG

Sample Location	Sample Date	Sample Depth (feet bgs)	Analytical Results (mg/kg)							
			GRPH	DRPH	ORPH	DRO	Stoddard Solvents	PCP	PCE	
B01	12/27/13	10	<50	<250	<50	<50	<50	<0.05	<0.05	<0.05
B01	12/27/13	12	<50	<250	<50	<50	<50	<0.05	<0.05	<0.05
B01	12/27/13	15	<50	<250	<50	<50	<50	<0.05	<0.05	<0.05
B02	12/27/13	5	<50	<250	<50	<50	<50	<0.05	<0.05	<0.05
B02	12/27/13	10	<50	<250	<50	<50	<50	<0.05	<0.05	<0.05
B02	12/27/13	15	<50	<250	<50	<50	<50	<0.05	<0.05	<0.05
B03	12/27/13	5	<50	<250	<50	<50	<50	<0.05	<0.05	<0.05
B03	12/27/13	10	<50	<250	<50	<50	<50	<0.05	<0.05	<0.05
B04	12/27/13	5	<50	<250	<50	<50	<50	<0.05	<0.05	<0.05
B04	12/27/13	10	<50	<250	<50	<50	<50	<0.05	<0.05	<0.05
B05	12/26/13	8	<50	<250	<50	<50	<50	<0.05	<0.05	<0.05
B06	12/26/13	5	<2	<50	<250	<50	<50	<0.05	<0.05	<0.05
B06	12/26/13	12	<2	<50	<250	<50	<50	<0.05	<0.05	<0.05
B07	12/26/13	5	<2	<50	<250	<50	<50	<0.05	<0.05	<0.05
B07	12/26/13	11.5	<2	<50	<250	<50	<50	<0.05	<0.05	<0.05
B08	12/26/13	5	<2	<50	<250	<50	<50	<0.05	<0.05	<0.05
B08	12/26/13	11	<2	<50	<250	<50	<50	<0.05	<0.05	<0.05
B09	12/26/13	5	<2	<50	<250	<50	<50	<0.05	<0.05	<0.05
B09	12/26/13	13	<2	<50	<250	<50	<50	<0.05	<0.05	<0.05
B12	04/05/14	10	1,900	2,900	<250	<250	3,300	0.079	<0.025	<0.025
B13	04/05/14	10	<2	<50	<250	<50	<50	<0.05	<0.025	<0.025
B14	04/05/14	10	<2	<50	<250	<50	<50	<0.05	<0.025	<0.025
B15	04/05/14	5	<2	2,300	1,100	<250	2,000	31	<0.025	<0.025
B15	04/05/14	10	2,600	5,700	460	<250	6,600	140	0.067	<0.025
B16	04/05/14	5	<2	<50	<250	<50	<50	<0.05	<0.025	<0.025
B16	04/05/14	10	4,600	6,900	<250	<250	8,200	22	<0.025	<0.025
B17	04/05/14	7.5	10,000	23,000	3,000	<250	25,000	340	0.06	<0.025
B17	04/05/14	10	160	1,700	<250	<250	1,800	85	<0.025	<0.025
GP-2	03/26/13	0-10	<7.01	<24.4	88.3	304	<21.7	8.95	<0.028	<0.025
GP-2	03/26/13	10-13	<6.31	<21.5	78.3	204	<21.7	8.95	<0.025	<0.025
GP-2	03/26/13	12-13	<6.31	<21.5	78.3	204	<21.7	8.95	<0.025	<0.025
GP-3	03/26/13	0-10	<5.59	<22.8	<57.0	<21.7	<21.7	<0.112	<0.023	<0.023
GP-3	03/26/13	10-13	<5.59	<22.8	<57.0	<21.7	<21.7	<0.112	<0.023	<0.023
GP-3	03/26/13	12-13	<5.59	<22.8	<57.0	<21.7	<21.7	<0.112	<0.023	<0.023
GP-4	03/26/13	0-10	<6.67	<23.0	<57.6	<21.7	<21.7	<0.114	<0.027	<0.027
GP-4	03/26/13	10-13	<6.67	<23.0	<57.6	<21.7	<21.7	<0.114	<0.027	<0.027
GP-4	03/26/13	12-13	<6.67	<23.0	<57.6	<21.7	<21.7	<0.114	<0.027	<0.027
GP-5	03/26/13	0-5	<6.81	<22.5	<58.3	<21.7	<21.7	<0.109	<0.142	<0.142
GP-6	03/26/13	0-5	<6.81	<22.5	<58.3	<21.7	<21.7	<0.109	<0.142	<0.142
GP-7	03/26/13	0-5	<6.81	<22.5	<58.3	<21.7	<21.7	<0.109	<0.142	<0.142
GP-8	03/26/13	0-5	<6.81	<22.5	<58.3	<21.7	<21.7	<0.109	<0.142	<0.142
GP-9	03/26/13	0-5	<6.81	<22.5	<58.3	<21.7	<21.7	<0.109	<0.142	<0.142
GP-10	03/26/13	0-5	<6.81	<22.5	<58.3	<21.7	<21.7	<0.109	<0.142	<0.142
GP-11	03/26/13	0-5	<6.81	<22.5	<58.3	<21.7	<21.7	<0.109	<0.142	<0.142
GP-12	03/26/13	0-5	<6.81	<22.5	<58.3	<21.7	<21.7	<0.109	<0.142	<0.142
MTCA Cleanup Level for Soil			30/100	2,000	2,000	2,000	2,000	330	480	480



LEGEND

- CATCH BASIN
- MW-7 MONITORING WELL, 1ST WATER BEARING ZONE (SOUNDEARTH 2013)
- GP-1 GEOPROBE LOCATIONS (FLOYD SNIDER 2013)
- B05 DIRECT PUSH BORING (SOUNDEARTH 2013)
- B04/MW04 MONITORING WELL (SOUNDEARTH 2013)
- PROPERTY BOUNDARY
- RAILROAD
- SEWER LINE
- STORMWATER LINE
- mg/kg MILLIGRAMS PER KILOGRAM
- ft FEET
- AST ABOVEGROUND STORAGE TANK
- ND NOT DETECTED ABOVE LABORATORY REPORTING LIMIT
- GRPH GASOLINE-RANGE PETROLEUM HYDROCARBONS
- GRO GASOLINE-RANGE ORGANICS
- DRPH DIESEL-RANGE PETROLEUM HYDROCARBONS
- ORPH OIL-RANGE PETROLEUM HYDROCARBONS
- PCP PENTACHLOROPHENOL
- UST UNDERGROUND STORAGE TANK (6900) ADDRESS NUMBER
- 2,570 (RED) REPORTED CONCENTRATION (mg/kg) EXCEEDS MTCA CLEANUP LEVEL FOR SOIL
- GROUNDWATER FLOW DIRECTION (JANUARY 14, 2014)

DRAFT

<p>WWW.SOUNDEARTHINC.COM</p>	DATE: 04/03/14	PROJECT NAME: WHITEHEAD/RELIABLE PROPERTY		<p>APPROXIMATE SCALE IN FEET</p>	<p>FIGURE 1 SOIL ANALYTICAL RESULTS (2013)</p>
	DRAWN BY: BLR	PROJECT NUMBER: 0973-001-03			
	CHECKED BY: CGC	STREET ADDRESS: 730 SOUTH MYRTLE STREET			
	CAD FILE: 0973-001_2014_SD	CITY, STATE: SEATTLE, WASHINGTON			

Ceres Analytical Laboratory, Inc.
4919 Windplay Dr., Suite 1
El Dorado Hills, CA 95762

May 13, 2014

Ceres ID: 10339

Friedman and Bruya, Inc.
Mr. Michael Erdahl
3012 16th Ave. W.
Seattle, WA 98119

Mr. Erdahl,

Enclosed please find the results for the one soil sample received on April 30, 2014. This sample was analyzed for tetra through octa chlorinated dibenzo-p-dioxins and dibenzofurans by EPA method 8290A. Routine turn-around time was provided for this work.

This work was authorized under Friedman and Bruya's P.O. # C-904 and Project No. 404113.

This Tier IV report consists of a Cover Letter, Sample Inventory (Section I), Data Summary (Section II), Raw Data (Section III), Continuing Calibration (Section IV), and Initial Calibration (Section V), Sample Tracking (Section VI), and Qualifiers/Abbreviations (Section VII).

Sample results are reported on a dry weight basis.

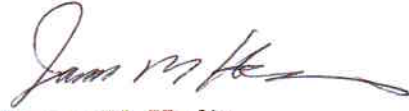
The "*" qualifier on the sample results signify that the results were taken from a dilution due to peak saturation.

The "I" qualifier on the sample signifies an interference (on the ¹³C-OCDD internal standard). The interference caused the isotope ratio to be outside the method specified criteria. The area used in calculations for the native OCDD and OCDF is adjusted to the theoretical ratio for the ¹³C-OCDD.

The Sample Tracking Section includes all external and internal chain of custodies, laboratory bench sheets, and any special instructions received.

If you have any questions regarding this report, please feel free to contact me at (888)932-5011.

Sincerely,

A handwritten signature in black ink, appearing to read "James M. Hedin", with a long horizontal flourish extending to the right.

James M. Hedin
Director of Operations/CEO
jhedin@ceres-lab.com

Section I: Sample Inventory

<u>Ceres Sample ID:</u>	<u>Sample ID</u>	<u>Date Received</u>	<u>Collection Date & Time</u>
10339-001	B17-07.5	4/30/2014	4/5/2014 17:15

Section II: Data Summary

Sample ID: Method Blank		Client Data			Sample Data		Laboratory Data				
Name:	Friedman and Bruya, Inc.	Matrix:	Soil	Lab Sample ID:	0-MB001	Date Received:	NA				
Project:	404113	Sample Size:	10.00 g	QC Batch #:	1188	Date Extracted:	5-May-14				
				ZB-5 MS Analysis Date:	6-May-14						
Analyte	Conc. (pg/g)	DL ^a	EMPC ^b	Qualifiers	Labeled Standards	% R	LCL-UCL ^c	Qualifiers			
2,3,7,8-TCDD	ND	0.194			IS ¹³ C-2,3,7,8-TCDD	96.5	40 - 135				
1,2,3,7,8-PeCDD	ND	0.181			¹³ C-1,2,3,7,8-PeCDD	100	40 - 135				
1,2,3,4,7,8-HxCDD	ND	0.292			¹³ C-1,2,3,4,7,8-HxCDD	104	40 - 135				
1,2,3,6,7,8-HxCDD	ND	0.304			¹³ C-1,2,3,6,7,8-HxCDD	103	40 - 135				
1,2,3,7,8,9-HxCDD	ND	0.302			¹³ C-1,2,3,4,6,7,8-HpCDD	101	40 - 135				
1,2,3,4,6,7,8-HpCDD	ND	0.929			¹³ C-OCDD	89.6	40 - 135				
OCDD	ND	0.863			¹³ C-2,3,7,8-TCDF	120	40 - 135				
2,3,7,8-TCDF	ND	0.157			¹³ C-1,2,3,7,8-PeCDF	109	40 - 135				
1,2,3,7,8-PeCDF	ND	0.191			¹³ C-2,3,4,7,8-PeCDF	105	40 - 135				
2,3,4,7,8-PeCDF	ND	0.180			¹³ C-1,2,3,4,7,8-HxCDF	92.5	40 - 135				
1,2,3,4,7,8-HxCDF	ND	0.193			¹³ C-1,2,3,6,7,8-HxCDF	96.2	40 - 135				
1,2,3,6,7,8-HxCDF	ND	0.187			¹³ C-2,3,4,6,7,8-HxCDF	101	40 - 135				
2,3,4,6,7,8-HxCDF	ND	0.208			¹³ C-1,2,3,7,8,9-HxCDF	98.7	40 - 135				
1,2,3,7,8,9-HxCDF	ND	0.285			¹³ C-1,2,3,4,6,7,8-HpCDF	99.9	40 - 135				
1,2,3,4,6,7,8-HpCDF	ND	0.216			¹³ C-1,2,3,4,7,8,9-HpCDF	110	40 - 135				
1,2,3,4,7,8,9-HpCDF	ND	0.283									
OCDF	ND	0.428			CRS ³⁷ Cl ₄ -2,3,7,8-TCDD	111	40 - 135				
Totals					Toxic Equivalent Quotient (TEQ) Data ^d						
Total TCDD	ND	0.194			TEQ (Min):	0.0					
Total PeCDD	ND	0.181			<i>a.</i> Sample specific estimated detection limit.						
Total HxCDD	ND	0.304			<i>b.</i> Estimated maximum possible concentration.						
Total HpCDD	ND	0.929			<i>c.</i> Lower control limit - upper control limit.						
Total TCDF	ND	0.157			<i>d.</i> TEQ based on (2005) World Health Organization(WHO) Toxic Equivalent Factors.						
Total PeCDF	ND	0.191									
Total HxCDF	ND	0.285									
Total HpCDF	ND	0.283									
Analyst:	JMH					Reviewed by:	BS				

Sample ID: Ongoing Precision and Recovery								
Client Data			Sample Data		Laboratory Data			
Name:	Friedman and Bruya, Inc.		Matrix:	Soil	Lab Sample ID:	0-OPR001	Date Received:	NA
Project:	404113		Sample Size:	10.00 g	QC Batch #:	1188	Date Extracted:	5-May-14
					ZB-5 MS Analysis Date:	6-May-14		
Analyte	Conc. (ng/ml)	Limits ^a	Qualifiers		Labeled Standards	Conc.	Limits ^a	Qualifiers
2,3,7,8-TCDD	11.8	7.0-13.0			IS ¹³ C-2,3,7,8-TCDD	96.0	40-135	
1,2,3,7,8-PeCDD	54.4	35-65			¹³ C-1,2,3,7,8-PeCDD	97.3	40-135	
1,2,3,4,7,8-HxCDD	55.5	35-65			¹³ C-1,2,3,4,7,8-HxCDD	102	40-135	
1,2,3,6,7,8-HxCDD	52.5	35-65			¹³ C-1,2,3,6,7,8-HxCDD	101	40-135	
1,2,3,7,8,9-HxCDD	53.8	35-65			¹³ C-1,2,3,4,6,7,8-HpCDD	102	40-135	
1,2,3,4,6,7,8-HpCDD	53.0	35-65			¹³ C-OCDD	189	80-270	
OCDD	104	70-130			¹³ C-2,3,7,8-TCDF	124	40-135	
2,3,7,8-TCDF	10.2	7.0-13.0			¹³ C-1,2,3,7,8-PeCDF	110	40-135	
1,2,3,7,8-PeCDF	52.7	35-65			¹³ C-2,3,4,7,8-PeCDF	107	40-135	
2,3,4,7,8-PeCDF	53.6	35-65			¹³ C-1,2,3,4,7,8-HxCDF	95.1	40-135	
1,2,3,4,7,8-HxCDF	52.3	35-65			¹³ C-1,2,3,6,7,8-HxCDF	96.1	40-135	
1,2,3,6,7,8-HxCDF	51.5	35-65			¹³ C-2,3,4,6,7,8-HxCDF	102	40-135	
2,3,4,6,7,8-HxCDF	51.1	35-65			¹³ C-1,2,3,7,8,9-HxCDF	101	40-135	
1,2,3,7,8,9-HxCDF	54.5	35-65			¹³ C-1,2,3,4,6,7,8-HpCDF	105	40-135	
1,2,3,4,6,7,8-HpCDF	52.1	35-65			¹³ C-1,2,3,4,7,8,9-HpCDF	116	40-135	
1,2,3,4,7,8,9-HpCDF	53.4	35-65						
OCDF	104	70-130			CRS ³⁷ Cl ₄ -2,3,7,8-TCDD	11.4	4.0-13.0	
<i>a. Method acceptance criteria .</i>								
Analyst: JMH				Reviewed by: BS				

Sample ID: B17-07.5		Client Data		Sample Data		Laboratory Data			
Name: Friedman and Bruya, Inc.		Matrix: Soil		Lab Sample ID: 10339-001		Date Received: 30-Apr-14		30-Apr-14	
Project: 404113		Sample Size: 12.19 g		QC Batch #: 1188		Date Extracted: 5-May-14		5-May-14	
Date Collected: 5-Apr-14		% Solids: 80.7		ZB-5 MS Analysis Date: 5-May-14 & 7-May-14		Q-225 Analysis Date: 10-May-14		10-May-14	
Time Collected: 17:15									
Analyte	Conc. (pg/g)	DL ^a	EMPC ^b	Qualifiers	Labeled Standards	% R	LCL-UCL ^c	Qualifiers	
2,3,7,8-TCDD	1.88				IS ¹³ C-2,3,7,8-TCDD	96.4	40 - 135		
1,2,3,7,8-PeCDD	50.1				¹³ C-1,2,3,7,8-PeCDD	92.1	40 - 135		
1,2,3,4,7,8-HxCDD	3630				¹³ C-1,2,3,4,7,8-HxCDD	134	40 - 135		
1,2,3,6,7,8-HxCDD	21900				¹³ C-1,2,3,6,7,8-HxCDD	82.0	40 - 135		
1,2,3,7,8,9-HxCDD	1220				¹³ C-1,2,3,4,6,7,8-HpCDD	99.0	40 - 135	*	
1,2,3,4,6,7,8-HpCDD	368000			*,E	¹³ C-OCDD	50.9	40 - 135	*,I	
OCDD	1130000			*,E	¹³ C-2,3,7,8-TCDF	122	40 - 135		
2,3,7,8-TCDF	574				¹³ C-1,2,3,7,8-PeCDF	102	40 - 135		
1,2,3,7,8-PeCDF	1210				¹³ C-2,3,4,7,8-PeCDF	100	40 - 135		
2,3,4,7,8-PeCDF	1230				¹³ C-1,2,3,4,7,8-HxCDF	106	40 - 135		
1,2,3,4,7,8-HxCDF	5240			E	¹³ C-1,2,3,6,7,8-HxCDF	95.4	40 - 135		
1,2,3,6,7,8-HxCDF	1080				¹³ C-2,3,4,6,7,8-HxCDF	92.0	40 - 135		
2,3,4,6,7,8-HxCDF	736				¹³ C-1,2,3,7,8,9-HxCDF	86.2	40 - 135		
1,2,3,7,8,9-HxCDF	696				¹³ C-1,2,3,4,6,7,8-HpCDF	101	40 - 135	*	
1,2,3,4,6,7,8-HpCDF	77300			*,E	¹³ C-1,2,3,4,7,8,9-HpCDF	110	40 - 135	*	
1,2,3,4,7,8,9-HpCDF	4170			*					
OCDF	436000			*,E	CRS ³⁷ Cl ₄ -2,3,7,8-TCDD	106	40 - 135		
					Toxic Equivalent Quotient (TEQ) Data ^d				
Total TCDD	61.1		63.5		TEQ (Min):	8930			
Total PeCDD	219		231		a. Sample specific estimated detection limit.				
Total HxCDD	53600			*	b. Estimated maximum possible concentration.				
Total HpCDD	506000			X	c. Lower control limit - upper control limit.				
Total TCDF	3520			X	d. TEQ based on (2005) World Health Organization(WHO) Toxic Equivalent Factors.				
Total PeCDF	20300			*,X	Results are reported in dry weight. Sample size is reported in wet weight.				
Total HxCDF	156000			*					
Total HpCDF	364000			*					
Analyst: JMH					Reviewed by: BS				

Section III: Raw Data

Form 1A

EPA SAMPLE NO.

Page 3 of 3

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

Method Blank

Laboratory Name: Ceres Analytical Laboratory, Inc. Episode No.:
 Contract No.: SAS No.: Lab Sample ID: 0-1188-MB
 Matrix (aqueous/solid/leachate): Solid Sample Wt/Vol: 10.00 g or mL: g
 Sample Receipt Date: na Initial Calibration Date: 5/22/14
 Ext. Date: 5/5/14 Shift: day Instrument ID: MS-1
 Analysis Date: 6-MAY-14 Time: 14:46:54 GC Column ID: ZB-5MS
 Extract Volume (uL): 20 Sample Data Filename: 050614A1 S #: 4
 Injection Volume (uL): 2 Blank Data Filename: 050614A1 S#:4
 Dilution Factor: na Cal. Ver. Data Filename: 050614A1 S#:1
 Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Solids: 100

ANALYTE	PK_RT	RA	CONC.	DL	RRT
2,3,7,8-TCDD	NotF»	*	*	0.194	* 0.999-1.002
1,2,3,7,8-PeCDD	NotF»	*	*	0.181	* 0.999-1.002
1,2,3,4,7,8-HxCDD	NotF»	*	*	0.292	* 0.999-1.001
1,2,3,6,7,8-HxCDD	NotF»	*	*	0.304	* 0.998-1.004
1,2,3,7,8,9-HxCDD	NotF»	*	*	0.302	* 1.000-1.019
1,2,3,4,6,7,8-HpCDD	NotF»	*	*	0.929	* 0.999-1.001
OCDD	NotF»	*	*	0.863	* 0.999-1.001
2,3,7,8-TCDF	NotF»	*	*	0.157	* 0.999-1.003
1,2,3,7,8-PeCDF	NotF»	*	*	0.191	* 0.999-1.002
2,3,4,7,8-PeCDF	NotF»	*	*	0.180	* 0.999-1.002
1,2,3,4,7,8-HxCDF	NotF»	*	*	0.193	* 0.999-1.001
1,2,3,6,7,8-HxCDF	NotF»	*	*	0.187	* 0.997-1.005
2,3,4,6,7,8-HxCDF	NotF»	*	*	0.208	* 0.999-1.001
1,2,3,7,8,9-HxCDF	NotF»	*	*	0.285	* 0.999-1.001
1,2,3,4,6,7,8-HpCDF	NotF»	*	*	0.216	* 0.999-1.001
1,2,3,4,7,8,9-HpCDF	NotF»	*	*	0.283	* 0.999-1.001
OCDF	NotF»	*	*	0.428	* 0.999-1.008
Total Tetra-Dioxins			*	0.194	
Total Penta-Dioxins			*	0.181	
Total Hexa-Dioxins			*	0.300	
Total Hepta-Dioxins			*	0.929	
Total Tetra-Furans			*	0.157	
Total Penta-Furans			0.00	0.186	
Total Hexa-Furans			*	0.215	
Total Hepta-Furans			*	0.247	

Form 2

EPA SAMPLE NO.

Page 3 of 3

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

Method Blank

Laboratory Name: Ceres Analytical Laboratory, Inc. Episode No.:
 Contract No.: SAS No.: Lab Sample ID: 0-1188-MB
 Matrix (aqueous/solid/leachate): Solid Sample Wt/Vol: 10.00 g or mL: g
 Sample Receipt Date: na Initial Calibration Date: 5/22/14
 Ext. Date: 5/5/14 Shift: day Instrument ID: MS-1
 Analysis Date: 6-MAY-14 Time: 14:46:54 GC Column ID: ZB-5MS
 Extract Volume (uL): 20 Sample Data Filename: 050614A1 S #: 4
 Injection Volume (uL): 2 Blank Data Filename: 050614A1 S#:4
 Dilution Factor: na Cal. Ver. Data Filename: 050614A1 S#:1
 Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Solids: 100

ANALYTE	PK_RT	RA	%_REC	Limits	RRT
13C-2,3,7,8-TCDD	28:25	0.79	96.5	25-164	1.008 0.976-1.043
13C-1,2,3,7,8-PeCDD	33:36	0.63	100	25-181	1.192 1.000-1.567
13C-1,2,3,4,7,8-HxCDD	37:40	1.24	104	32-141	0.985 0.977-1.000
13C-1,2,3,6,7,8-HxCDD	37:48	1.26	103	28-130	0.988 0.981-1.003
13C-1,2,3,4,6,7,8-HpCDD	41:51	1.03	101	23-140	1.095 1.086-1.110
13C-OCDD	45:59	0.90	89.6	17-157	1.202 1.032-1.311
13C-2,3,7,8-TCDF	27:27	0.79	120	24-169	0.974 0.923-1.103
13C-1,2,3,7,8-PeCDF	32:23	1.58	109	24-185	1.149 1.000-1.425
13C-2,3,4,7,8-PeCDF	33:13	1.54	105	21-178	1.178 1.011-1.526
13C-1,2,3,4,7,8-HxCDF	36:38	0.52	92.5	26-152	0.958 0.944-0.970
13C-1,2,3,6,7,8-HxCDF	36:47	0.53	96.2	26-123	0.962 0.949-0.975
13C-2,3,4,6,7,8-HxCDF	37:29	0.52	101	28-136	0.980 0.959-1.021
13C-1,2,3,7,8,9-HxCDF	38:35	0.53	98.7	29-147	1.009 0.977-1.047
13C-1,2,3,4,6,7,8-HpCDF	40:38	0.45	99.9	28-143	1.063 1.043-1.085
13C-1,2,3,4,7,8,9-HpCDF	42:24	0.46	110	26-138	1.109 1.057-1.151
37Cl-2,3,7,8-TCDD	28:27		111	35-197	1.009 0.989-1.052

Ceres Analytical Laboratory Inc. Quantitation Summary

Filename: 050614A1 S: 4 Acquired: 6 MAY-14 14:46:54 Analyte: 1613 ICal: 1613-msl-5-22-13

Ceres ID: 0-1188-MB

Client ID: Method Blank

Total Tox: 0.00 Wt/Vol: 10.00

Con CAL: ST050614A1-1

End CAL: ST050614A1-2

Name	RT	Resp	RRF	RA	rrt	Conc	Qual	Noise	* 2.5	DL
2,3,7,8-TCDD	NotF>	* 1.03		* n *		0.999-1.002	*	4670		0.194
1,2,3,7,8-PeCDD	NotF>	* 0.99		* n *		0.999-1.002	*	5090		0.181
1,2,3,4,7,8-HxCDD	NotF>	* 0.99		* n *		0.999-1.001	*	6210		0.292
1,2,3,6,7,8-HxCDD	NotF>	* 0.93		* n *		0.998-1.004	*	6210		0.304
1,2,3,7,8,9-HxCDD	NotF>	* 0.95		* n *		1.000-1.019	*	6210		0.302
1,2,3,4,6,7,8-HpCDD	NotF>	* 1.01		* n *		0.999-1.001	*	16500		0.929
OCDD	NotF>	* 1.00		* n *		0.999-1.001	*	9480		0.863
2,3,7,8-TCDF	NotF>	* 0.96		* n *		0.999-1.003	*	6050		0.157
1,2,3,7,8-PeCDF	NotF>	* 1.01		* n *		0.999-1.002	*	9500		0.191
2,3,4,7,8-PeCDF	NotF>	* 1.02		* n *		0.999-1.002	*	9500		0.180
1,2,3,4,7,8-HxCDF	NotF>	* 1.26		* n *		0.999-1.001	*	7230		0.193
1,2,3,6,7,8-HxCDF	NotF>	* 1.25		* n *		0.997-1.005	*	7230		0.187
2,3,4,6,7,8-HxCDF	NotF>	* 1.36		* n *		0.999-1.001	*	7230		0.208
1,2,3,7,8,9-HxCDF	NotF>	* 1.20		* n *		0.999-1.001	*	7230		0.285
1,2,3,4,6,7,8-HpCDF	NotF>	* 1.53		* n *		0.999-1.001	*	8010		0.216
1,2,3,4,7,8,9-HpCDF	NotF>	* 1.55		* n *		0.999-1.001	*	8010		0.283
OCDF	NotF>	* 1.37		* n *		0.999-1.008	*	6400		0.428

	Rec	Qual
13C-2,3,7,8-TCDD 28:25 4.90e+07 1.00 0.79 y 1.008 0.976-1.043	193	96.5
13C-1,2,3,7,8-PeCDD 33:36 5.03e+07 0.99 0.63 y 1.192 1.000-1.567	201	100
13C-1,2,3,4,7,8-HxCDD 37:40 5.16e+07 0.98 1.24 y 0.985 0.977-1.000	208	104
13C-1,2,3,6,7,8-HxCDD 37:48 5.59e+07 1.08 1.26 y 0.988 0.981-1.003	206	103
13C-1,2,3,4,6,7,8-HpCDD 41:51 4.32e+07 0.85 1.03 y 1.095 1.086-1.110	201	101
13C-OCDD 45:59 6.59e+07 0.73 0.90 y 1.202 1.032-1.311	358	89.6
13C-2,3,7,8-TCDF 27:27 9.10e+07 1.49 0.79 y 0.974 0.923-1.103	240	120
13C-1,2,3,7,8-PeCDF 32:23 8.39e+07 1.51 1.58 y 1.149 1.000-1.425	218	109
13C-2,3,4,7,8-PeCDF 33:13 8.28e+07 1.55 1.54 y 1.178 1.011-1.526	210	105
13C-1,2,3,4,7,8-HxCDF 36:38 6.50e+07 1.39 0.52 y 0.958 0.944-0.970	185	92.5
13C-1,2,3,6,7,8-HxCDF 36:47 7.23e+07 1.49 0.53 y 0.962 0.949-0.975	192	96.2
13C-2,3,4,6,7,8-HxCDF 37:29 6.49e+07 1.27 0.52 y 0.980 0.959-1.021	203	101
13C-1,2,3,7,8,9-HxCDF 38:35 6.04e+07 1.21 0.53 y 1.009 0.977-1.047	197	98.7
13C-1,2,3,4,6,7,8-HpCDF 40:38 5.40e+07 1.07 0.45 y 1.063 1.043-1.085	200	99.9
13C-1,2,3,4,7,8,9-HpCDF 42:24 4.51e+07 0.82 0.46 y 1.109 1.057-1.151	219	110
37Cl-2,3,7,8-TCDD 28:27 6.39e+06 1.14	22.2	111
13C-1,2,3,4-TCDD 28:11 5.08e+07 1.00 0.81 y	200	
13C-1,2,3,7,8,9-HxCDD 38:15 5.05e+07 1.00 1.25 y	200	

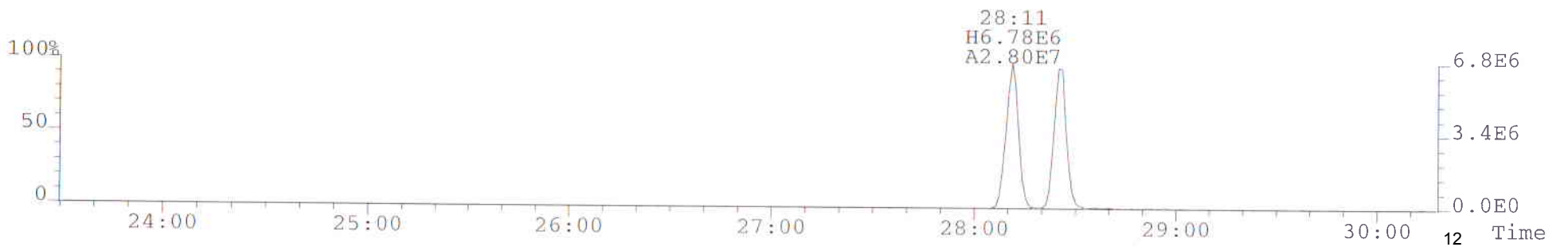
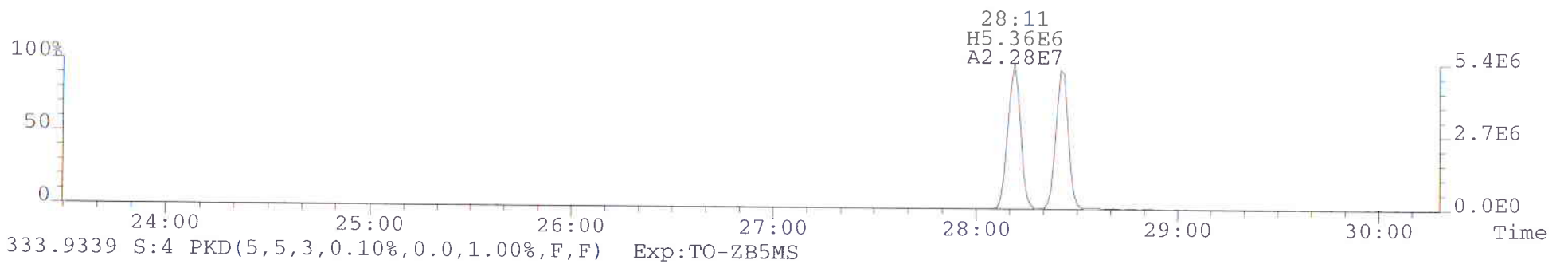
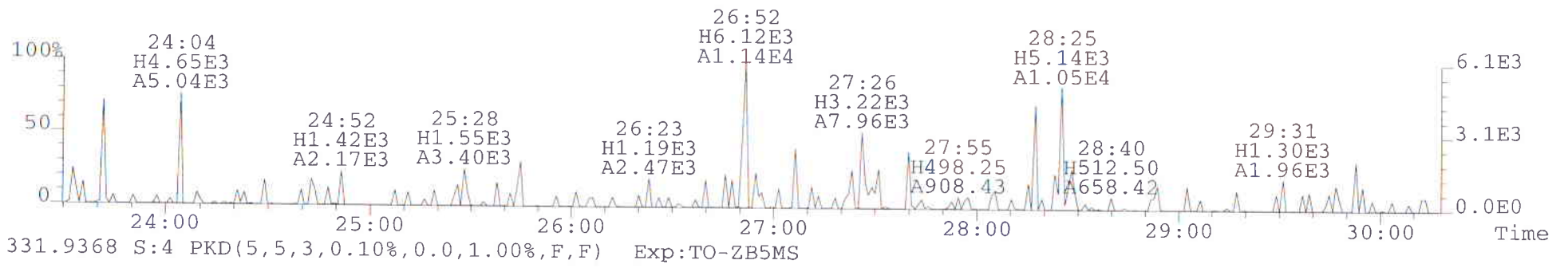
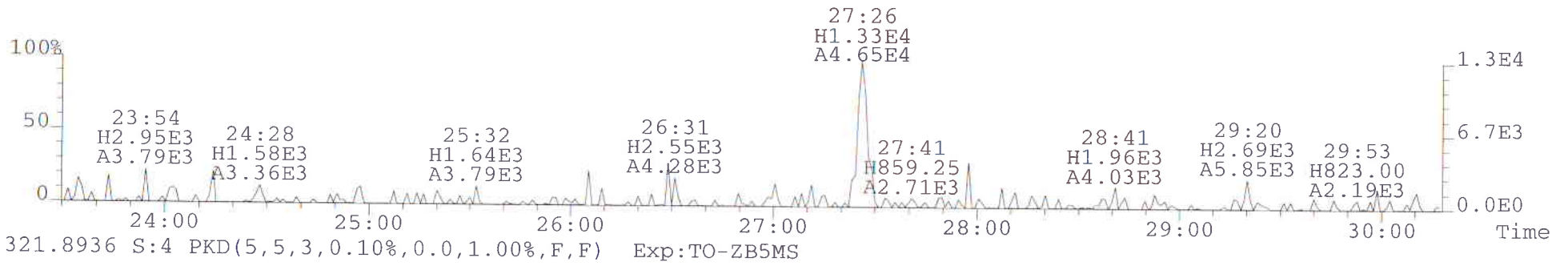
	Conc	EMPC	DL	Qual
Total Tetra-Dioxins	*	*	4670	0.194
Total Penta-Dioxins	*	*	5090	0.181
Total Hexa-Dioxins	*	*	6210	0.300 0.304
Total Hepta-Dioxins	*	*	16500	0.929
Total Tetra-Furans	*	*	6050	0.157
1st Fnc Penta-Furans	*	*	0.00	0.00
Total Penta-Furans	*	*	9500	0.186 0.191
Total Hexa-Furans	*	*	7230	0.215 0.285
Total Hepta-Furans	*	*	8010	0.247 0.283

PeCDF Total: 0.00
PeCDF EMPC: 0.00

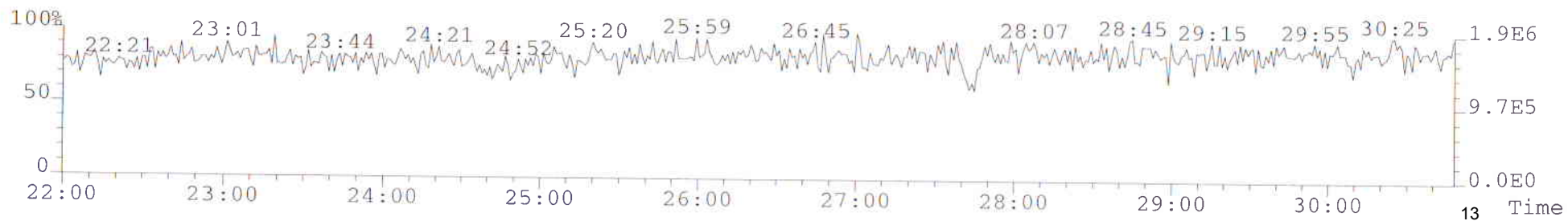
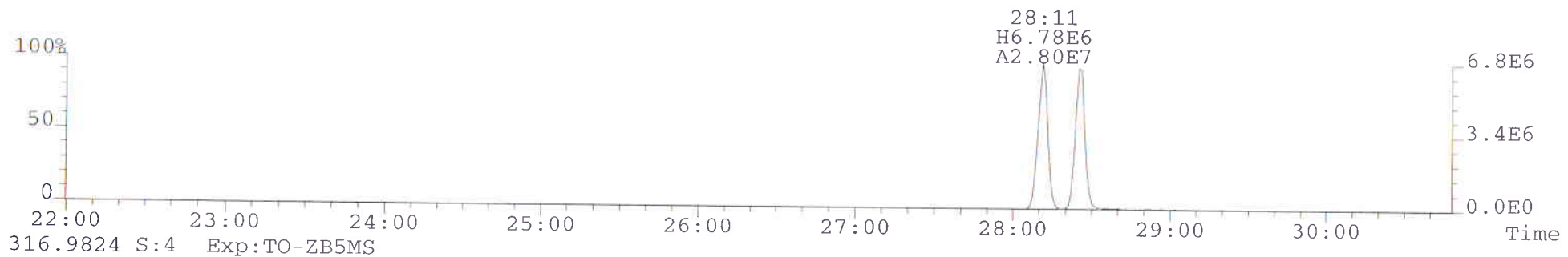
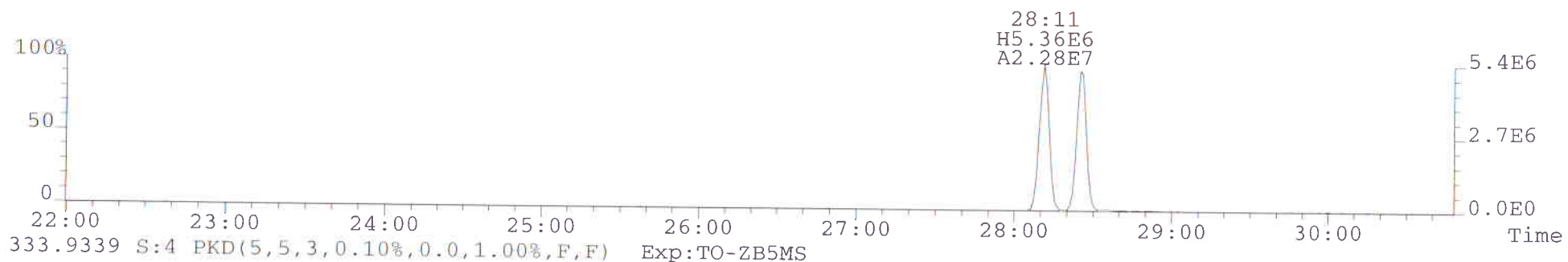
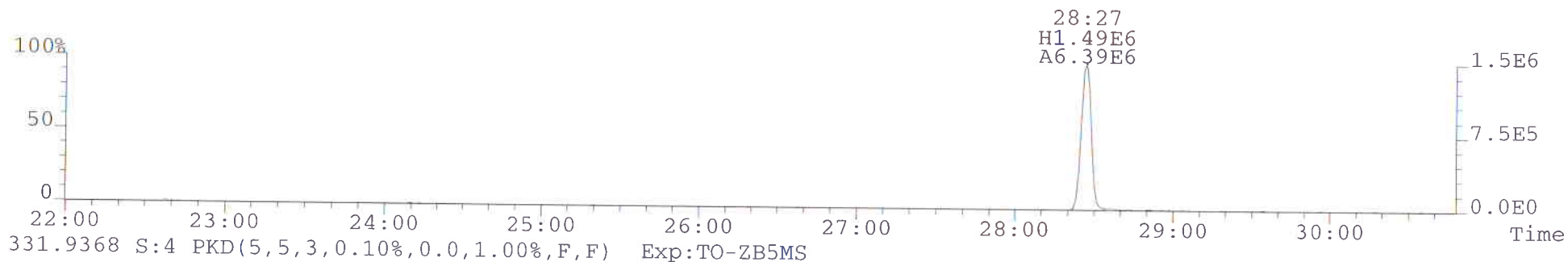
Analyst: *[Signature]*
Date: 5/7/14

Reviewer: *[Signature]*
Date: 5/7/14

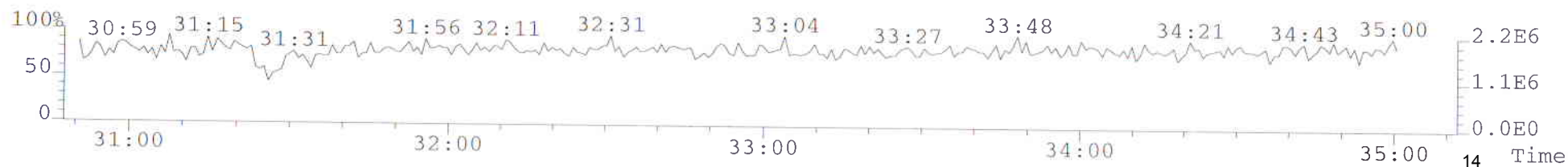
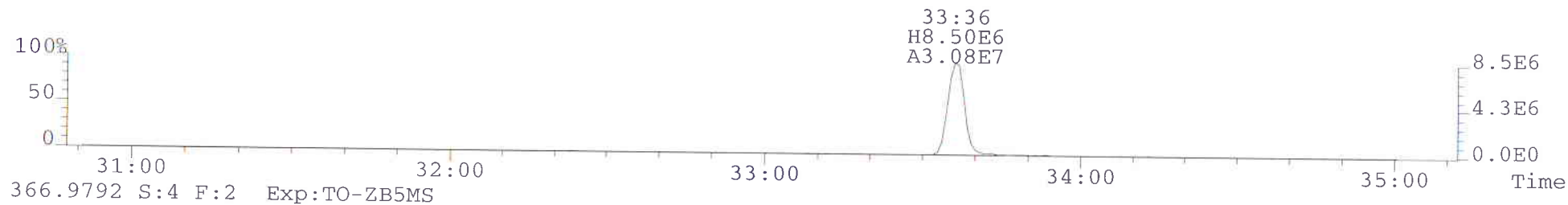
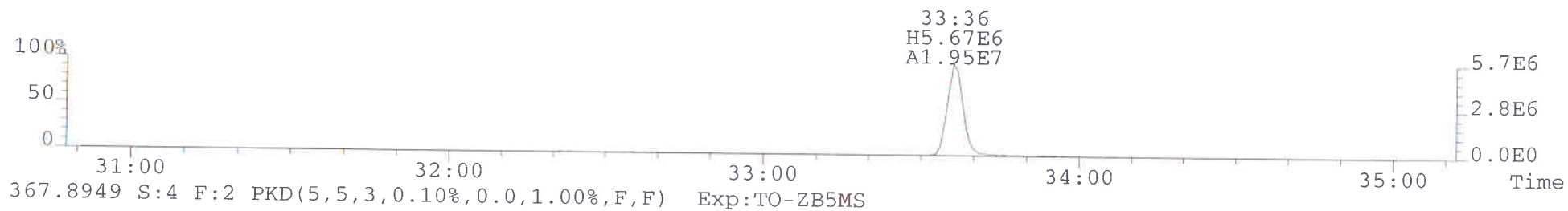
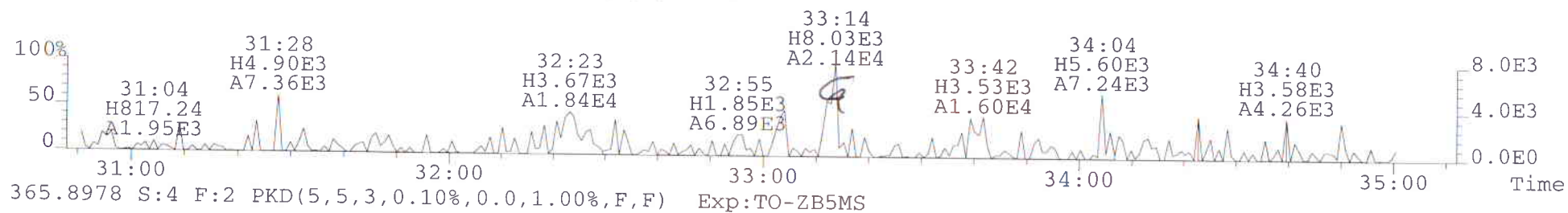
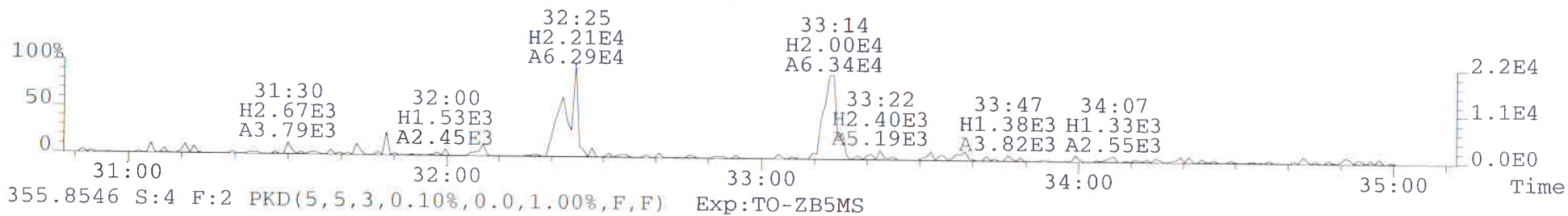
File:050614A1 #1-659 Acq: 6-MAY-2014 14:46:54 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:0-1188-MB
319.8965 S:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



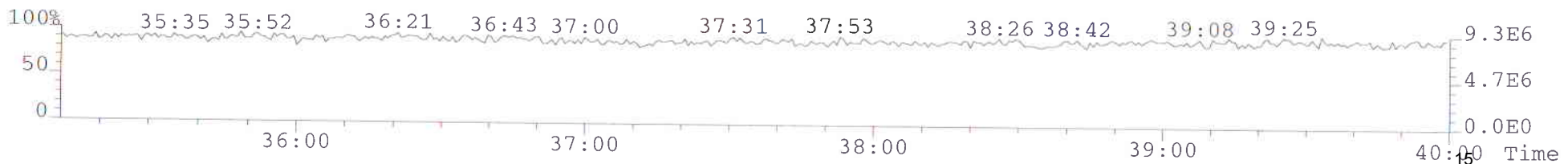
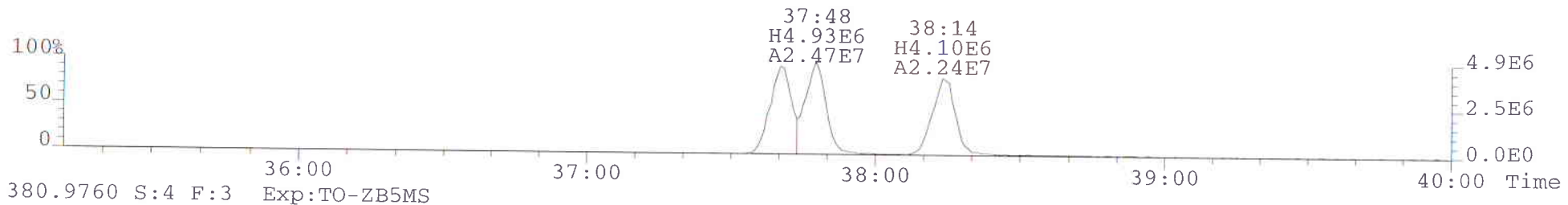
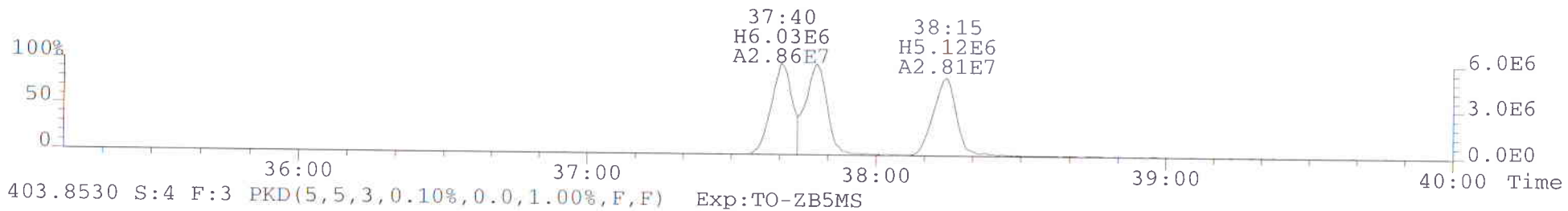
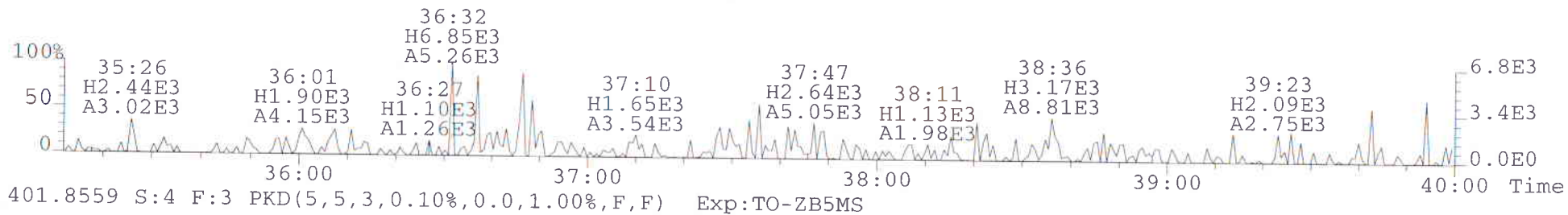
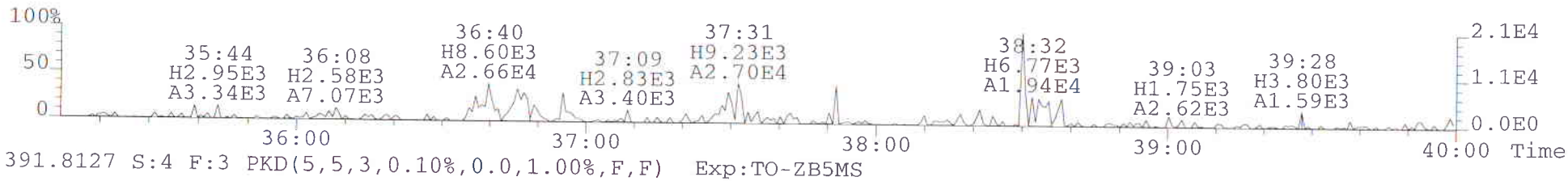
File:050614A1 #1-659 Acq: 6-MAY-2014 14:46:54 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:0-1188-MB
327.8847 S:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



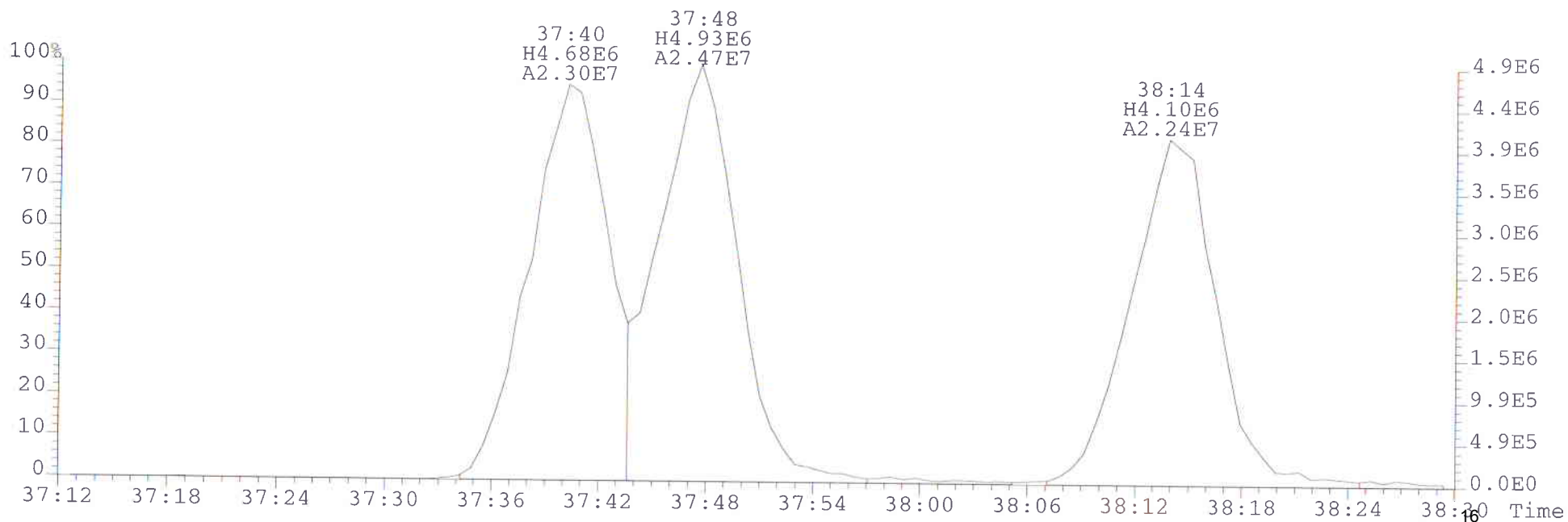
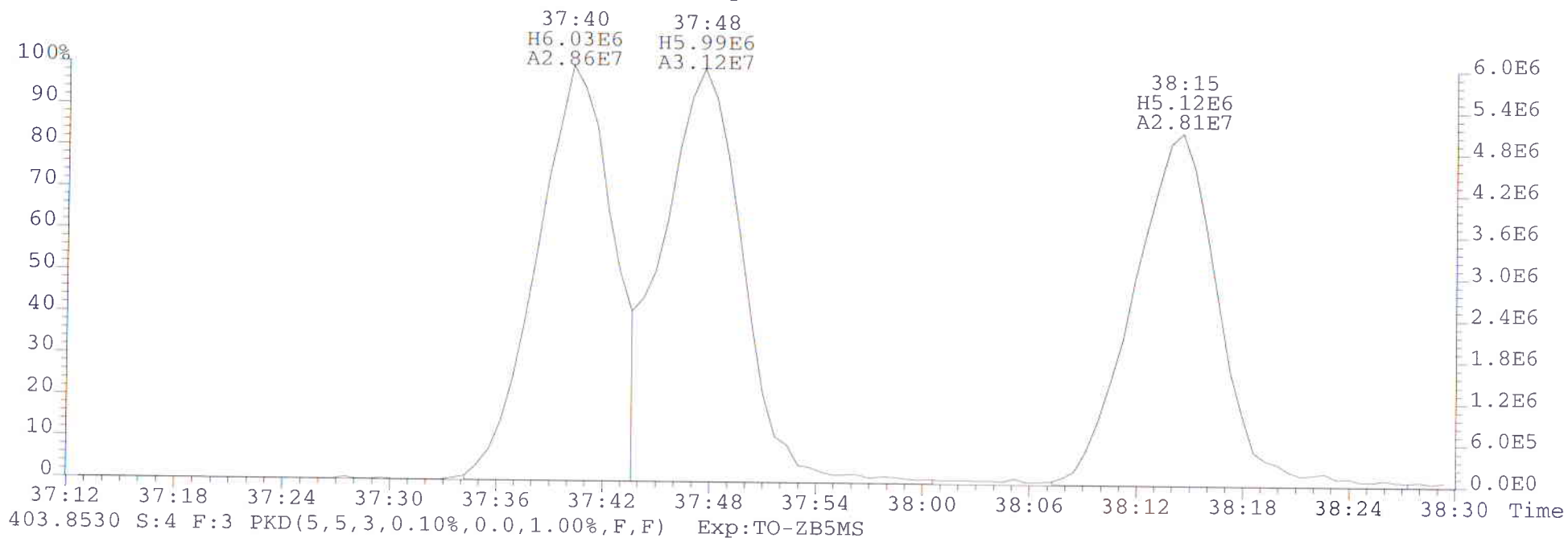
File:050614A1 #1-312 Acq: 6-MAY-2014 14:46:54 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:0-1188-MB
353.8576 S:4 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



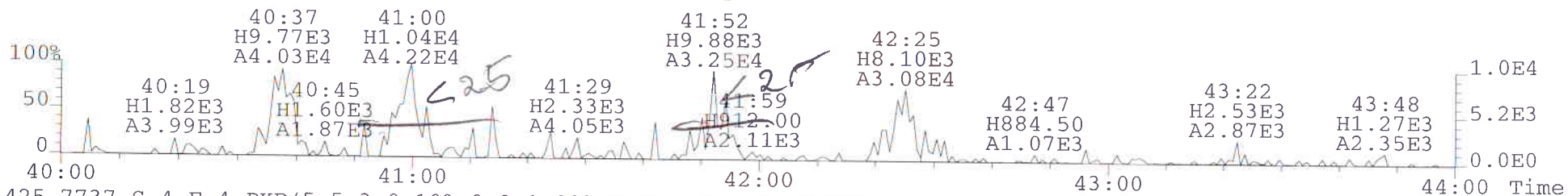
File:050614A1 #1-444 Acq: 6-MAY-2014 14:46:54 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:0-1188-MB
389.8156 S:4 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



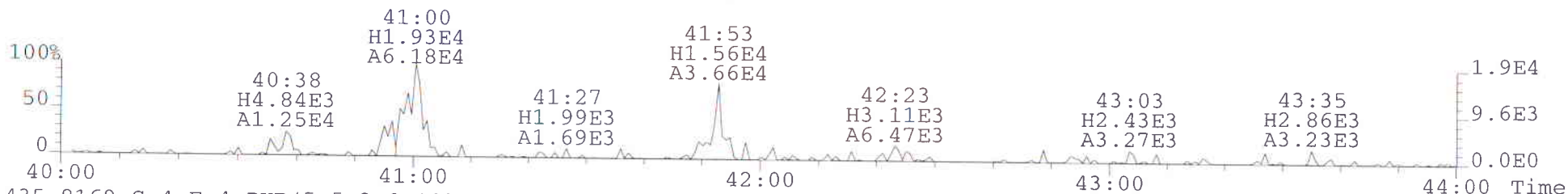
File:050614A1 #1-444 Acq: 6-MAY-2014 14:46:54 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:0-1188-MB
401.8559 S:4 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



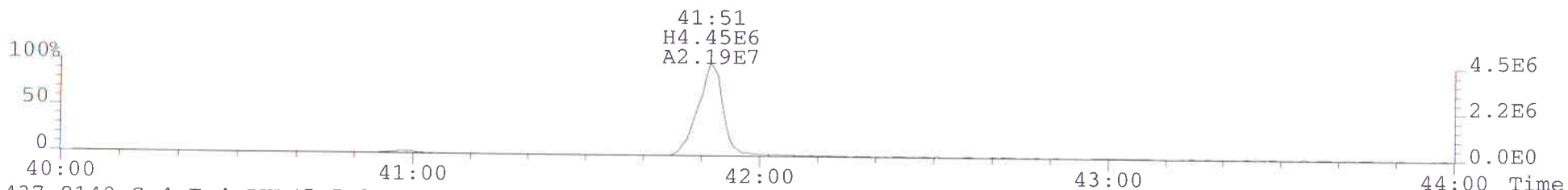
File:050614A1 #1-356 Acq: 6-MAY-2014 14:46:54 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:0-1188-MB
423.7767 S:4 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



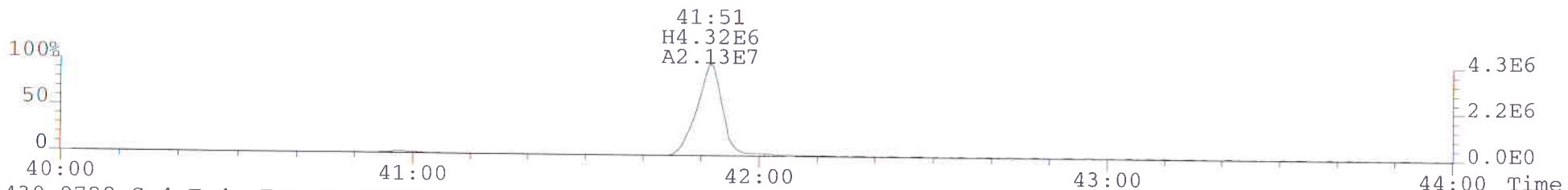
425.7737 S:4 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



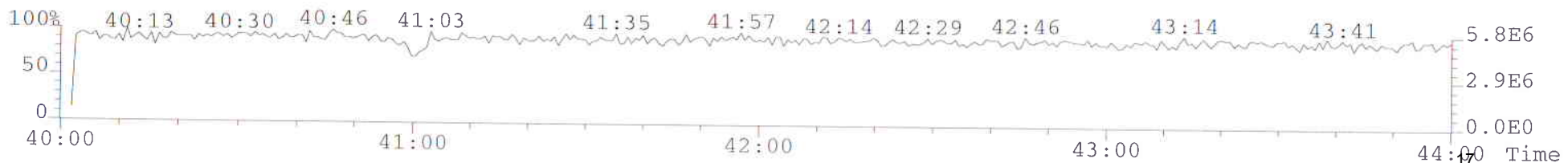
435.8169 S:4 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



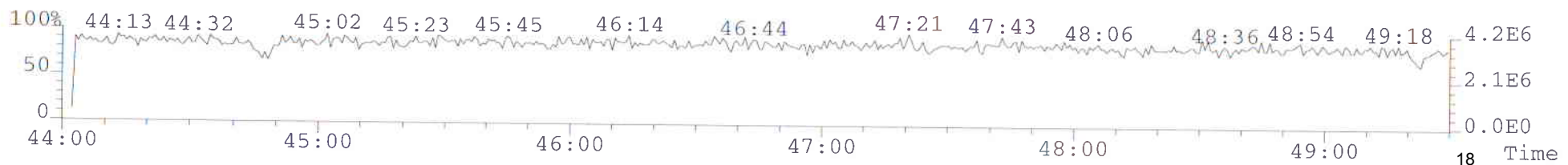
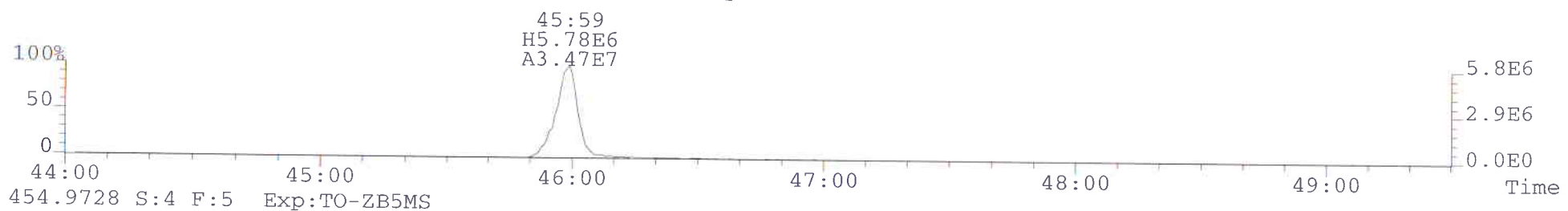
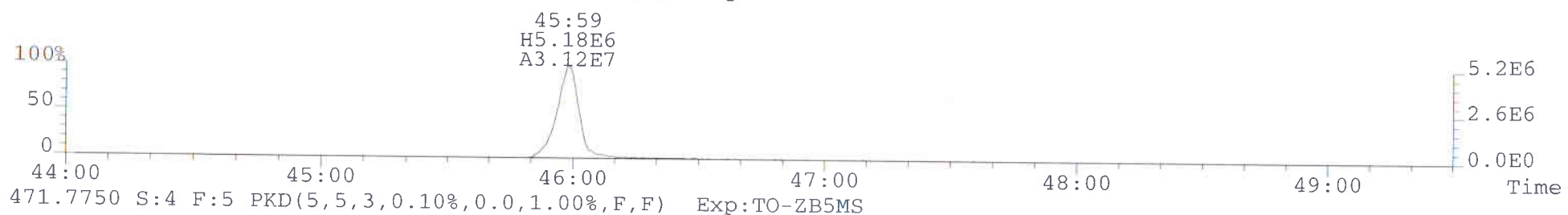
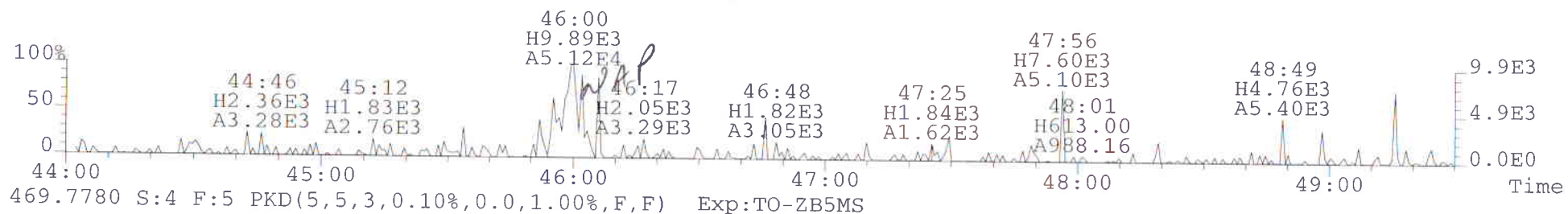
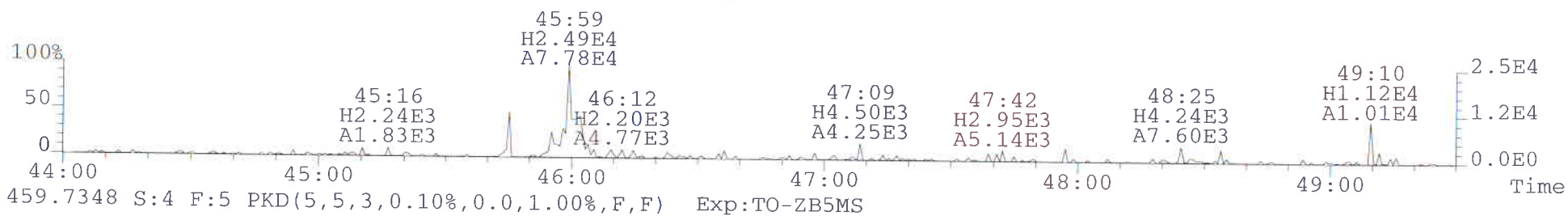
437.8140 S:4 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



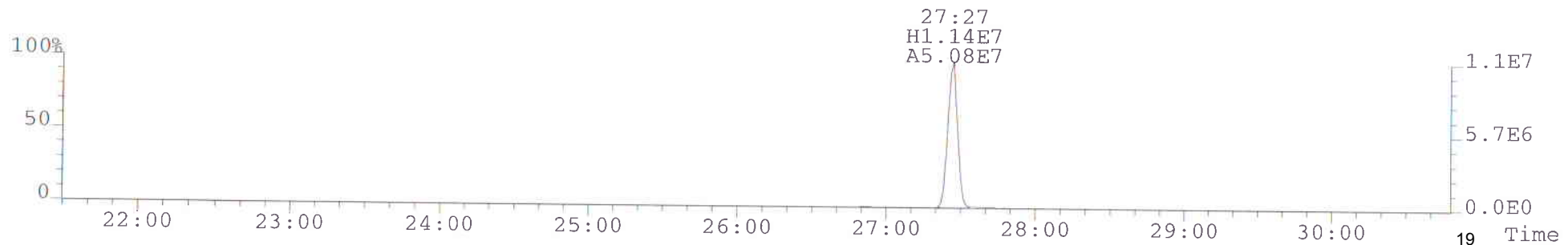
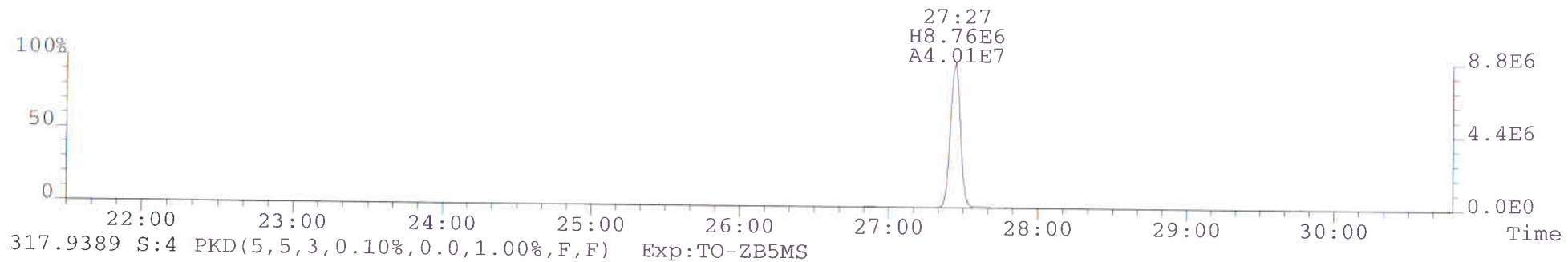
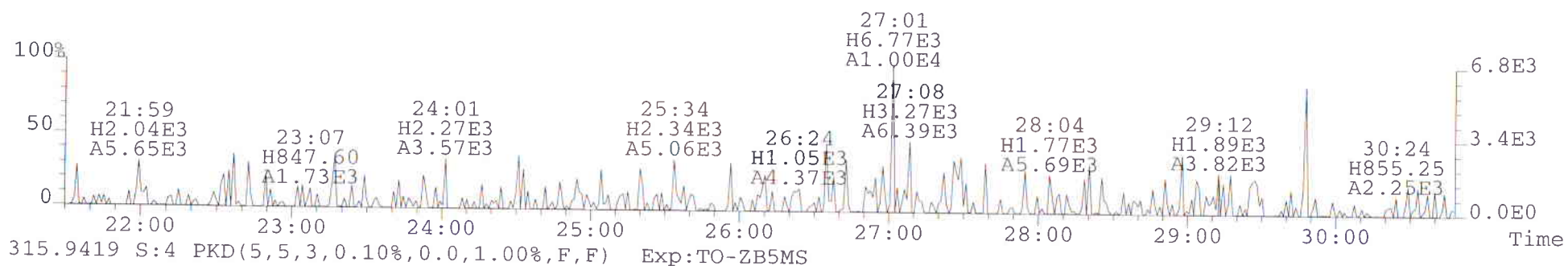
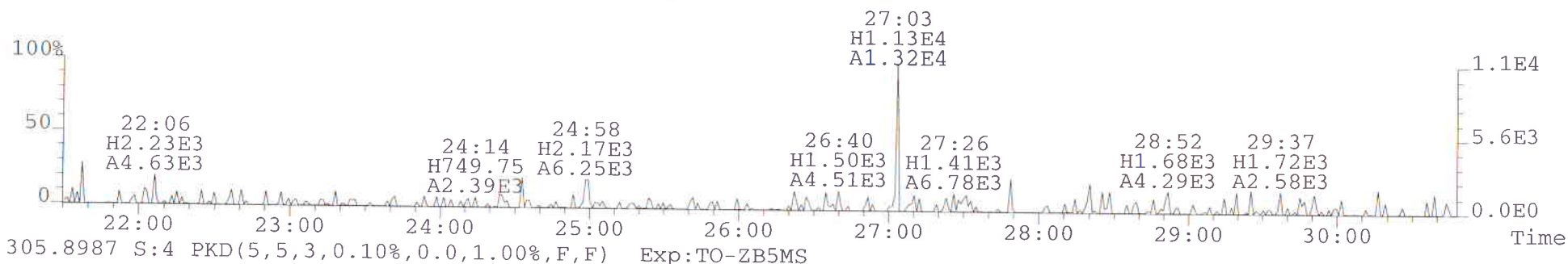
430.9728 S:4 F:4 Exp:TO-ZB5MS



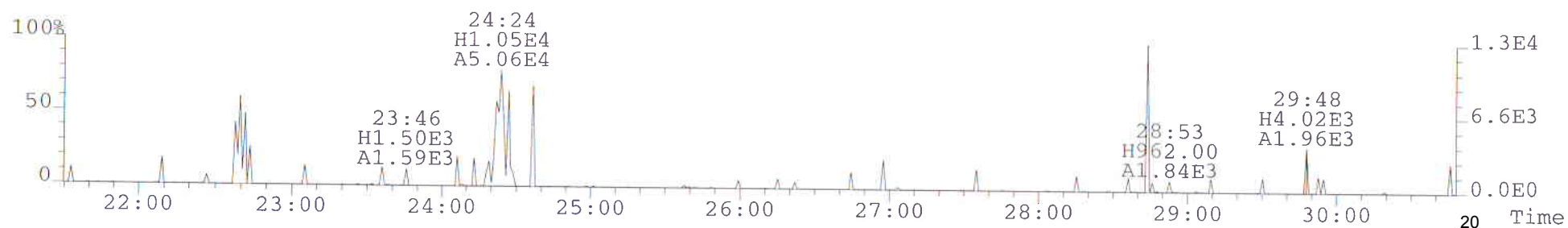
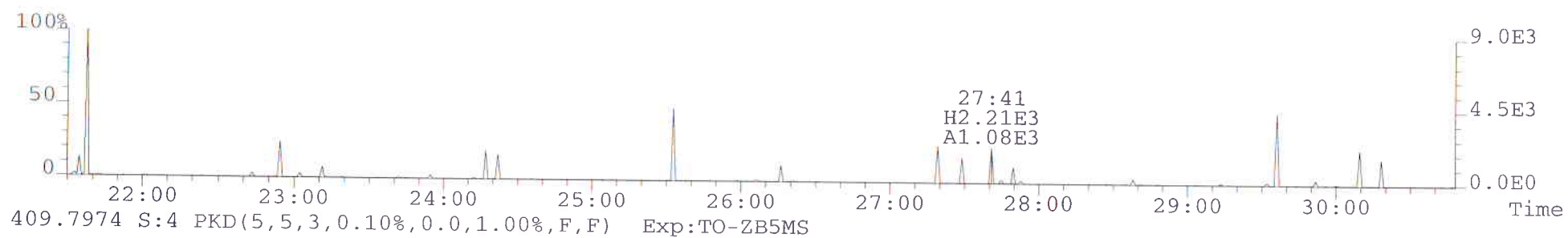
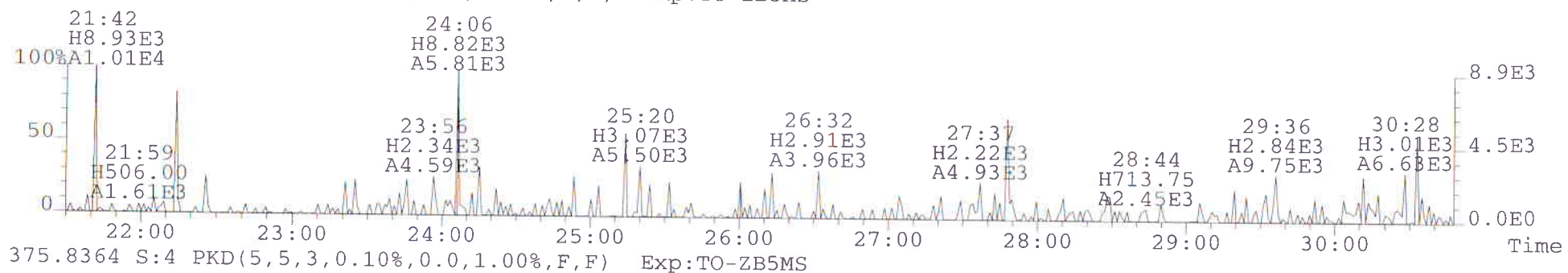
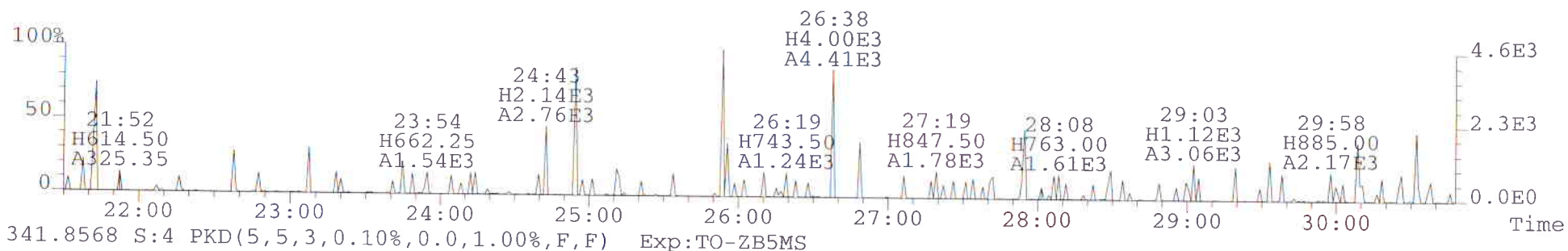
File:050614A1 #1-489 Acq: 6-MAY-2014 14:46:54 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:0-1188-MB
457.7377 S:4 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



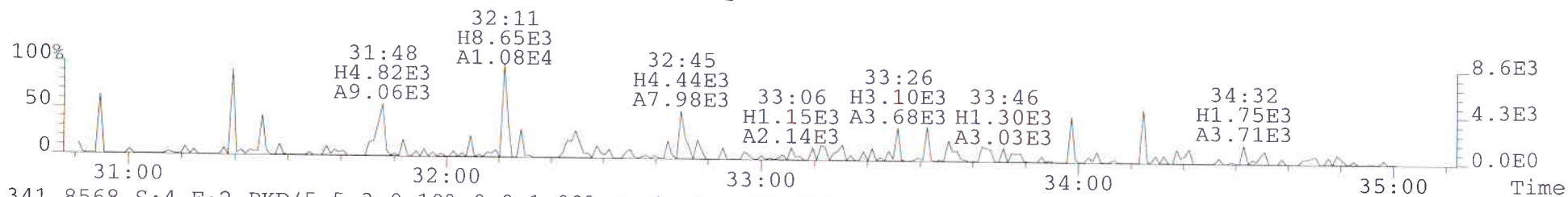
File:050614A1 #1-659 Acq: 6-MAY-2014 14:46:54 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:0-1188-MB
303.9016 S:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



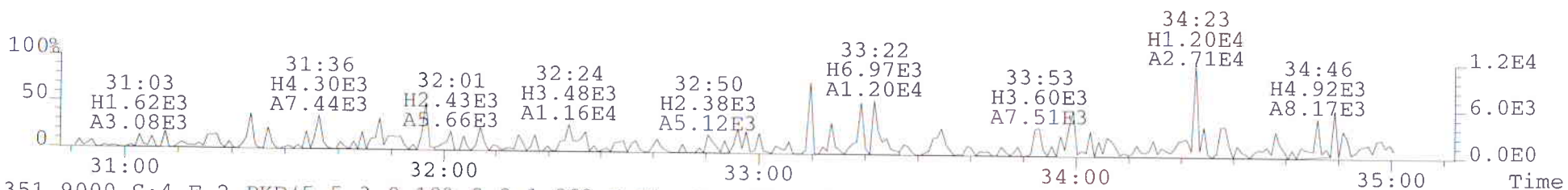
File:050614A1 #1-659 Acq: 6-MAY-2014 14:46:54 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:0-1188-MB
339.8597 S:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



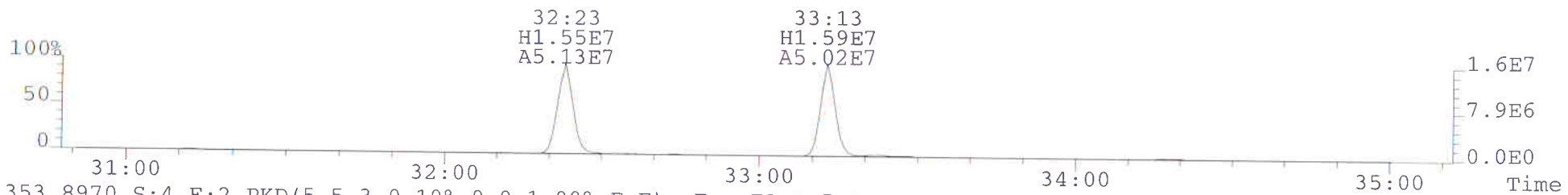
File:050614A1 #1-312 Acq: 6-MAY-2014 14:46:54 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:0-1188-MB
339.8597 S:4 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



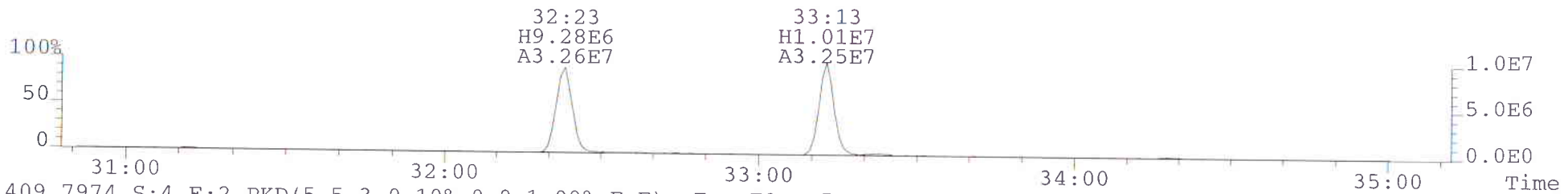
341.8568 S:4 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



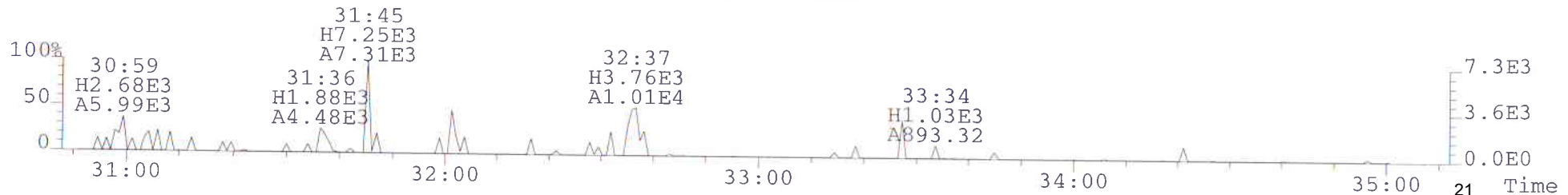
351.9000 S:4 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



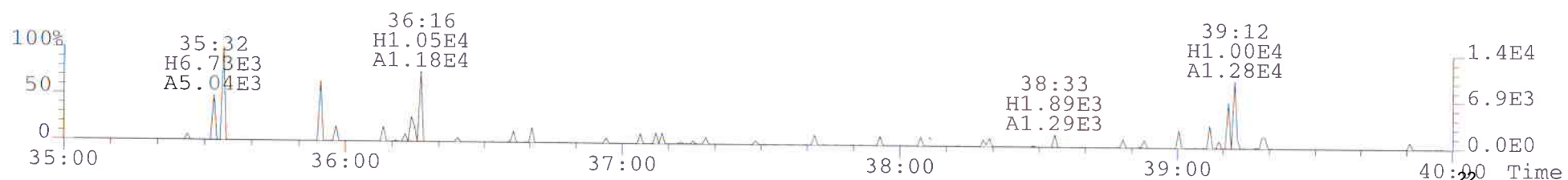
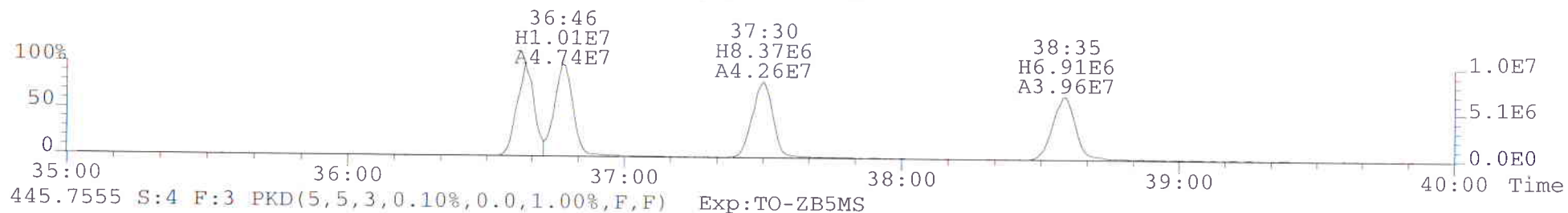
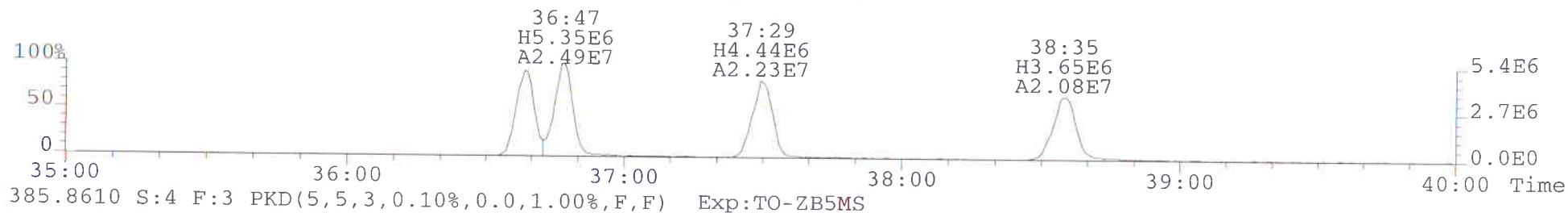
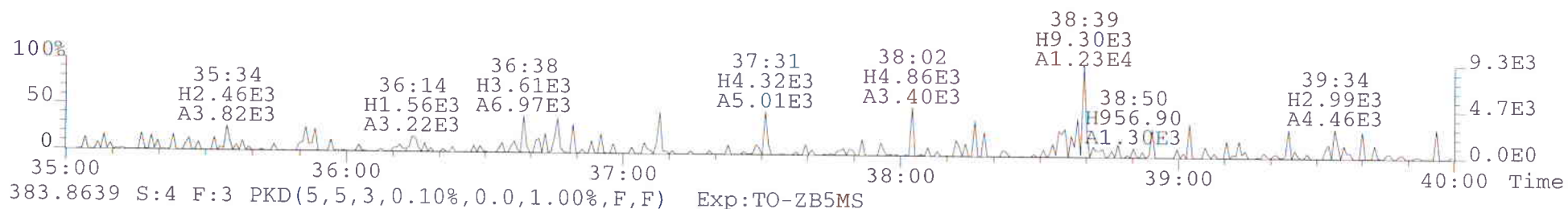
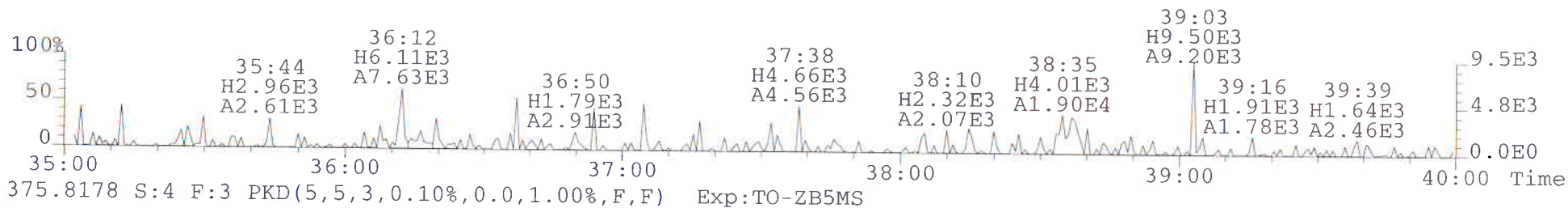
353.8970 S:4 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



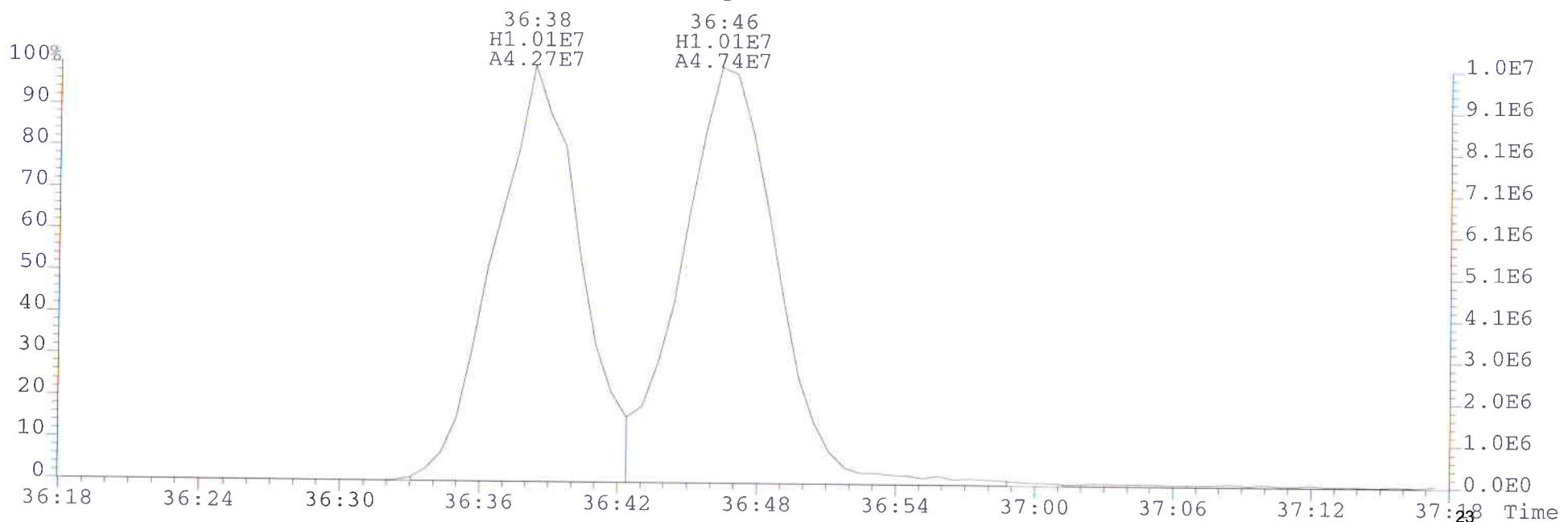
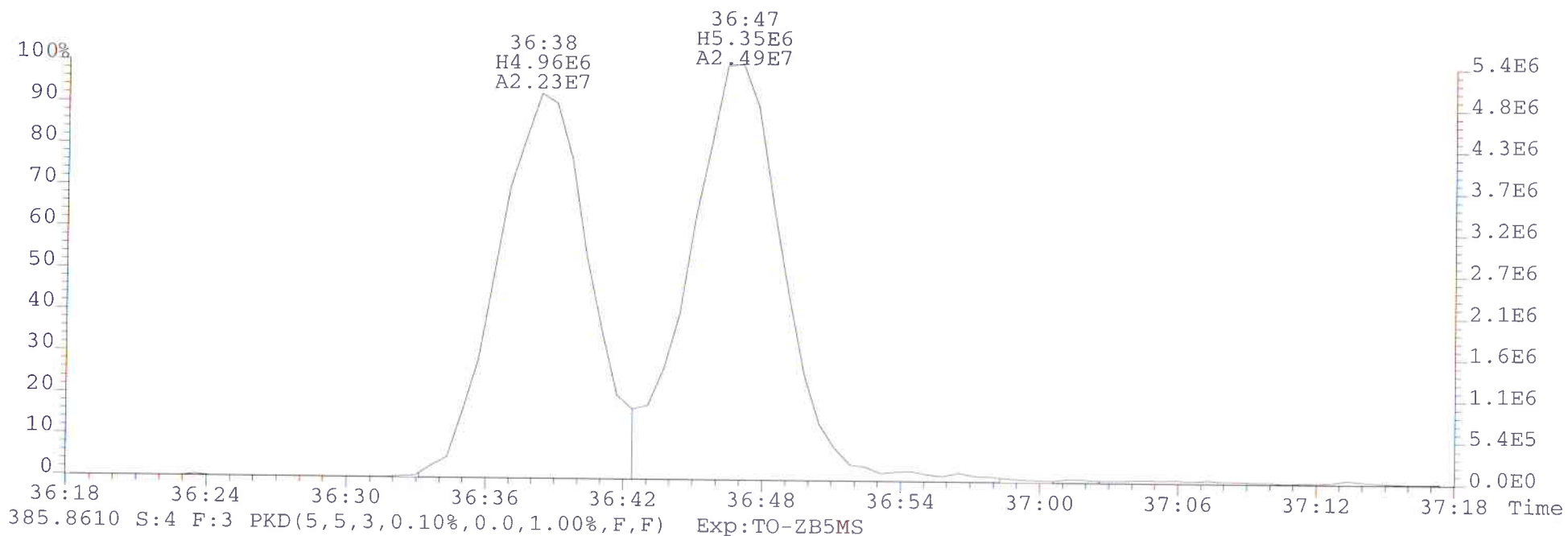
409.7974 S:4 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



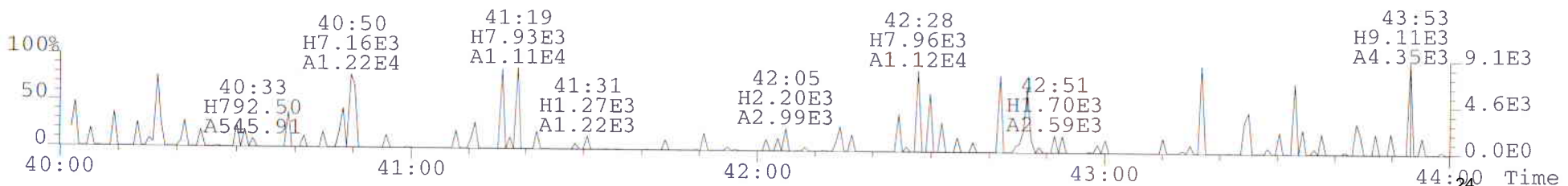
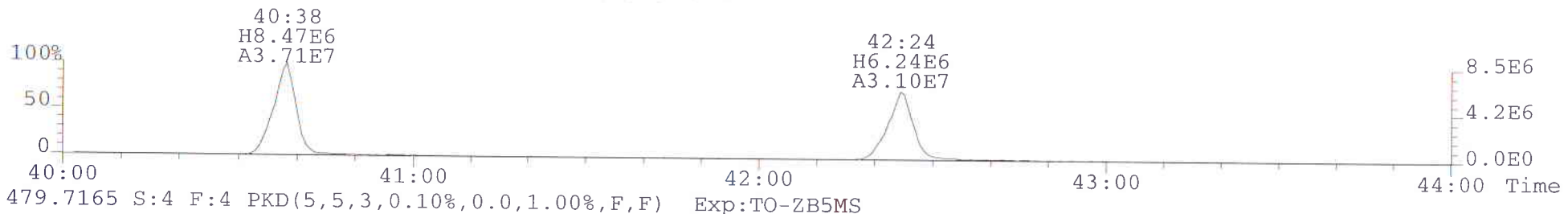
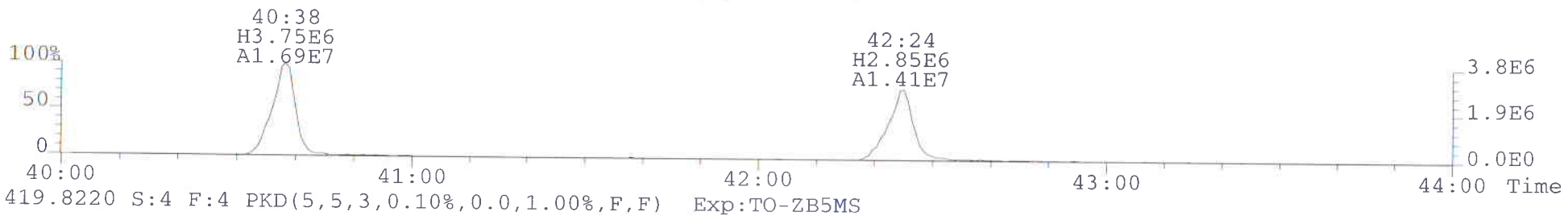
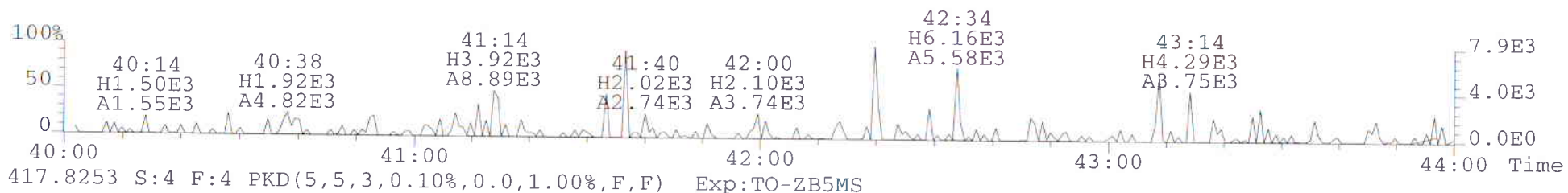
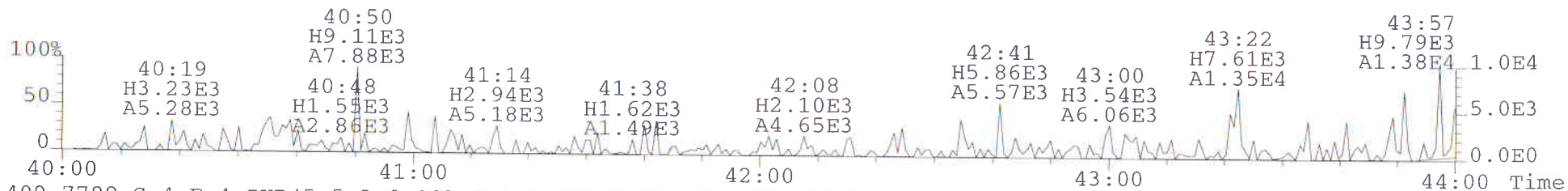
File:050614A1 #1-444 Acq: 6-MAY-2014 14:46:54 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:0-1188-MB
373.8207 S:4 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



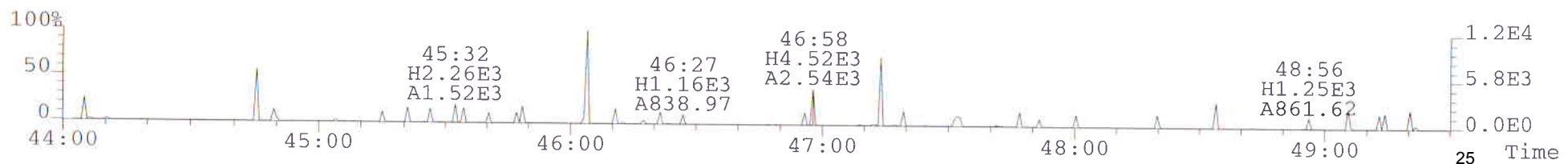
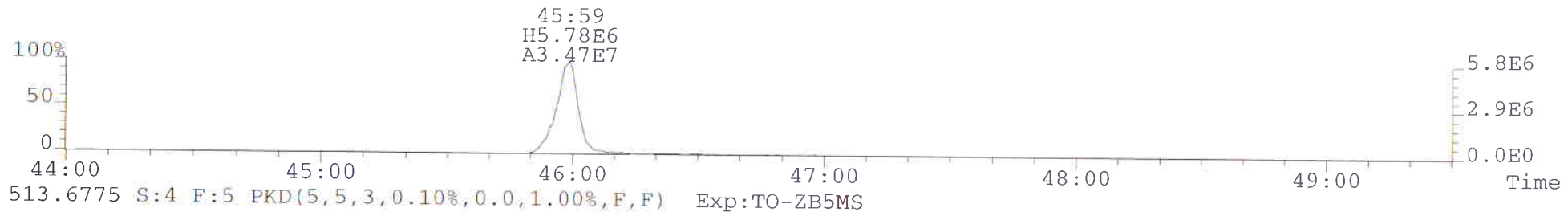
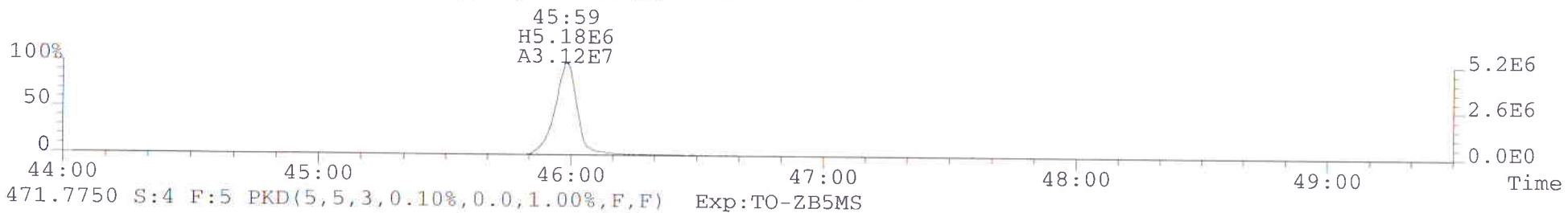
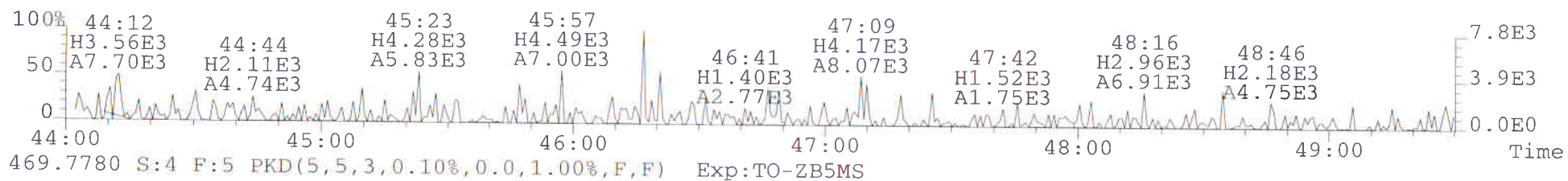
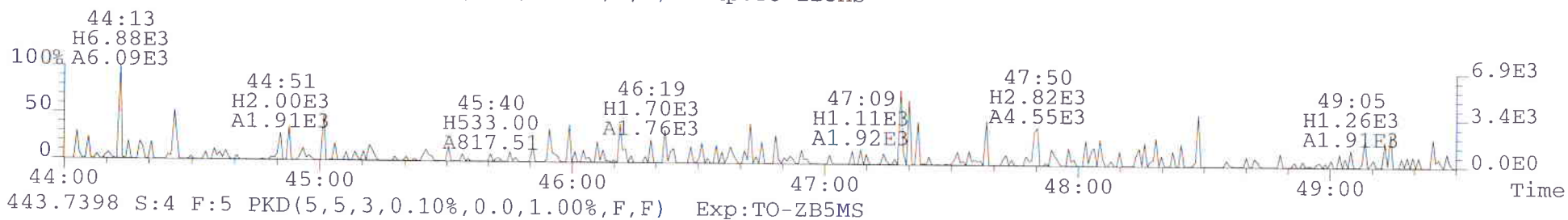
File:050614A1 #1-444 Acq: 6-MAY-2014 14:46:54 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:0-1188-MB
383.8639 S:4 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



File:050614A1 #1-356 Acq: 6-MAY-2014 14:46:54 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:0-1188-MB
407.7818 S:4 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



File:050614A1 #1-489 Acq: 6-MAY-2014 14:46:54 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:0-1188-MB
441.7428 S:4 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



USEPA - ITD

FORM 8A
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: 0-1188-OPR

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): Solid OPR Data Filename: 050614A1 S:2

Ext. Date: 5/5/14 Shift: day Analysis Date: 6-MAY-14 Time: 13:00:06

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	EPA 1613 OPR CONC. LIMITS (1) (ng/mL)	EPA 8290 OPR CONC. LIMITS (ng/mL)
NATIVE ANALYTES				
2,3,7,8-TCDD	10	11.8	6.7 - 15.8	7.0 - 13.0
1,2,3,7,8-PeCDD	50	54.4	35 - 71	35 - 65
1,2,3,4,7,8-HxCDD	50	55.5	35 - 82	35 - 65
1,2,3,6,7,8-HxCDD	50	52.5	38 - 67	35 - 65
1,2,3,7,8,9-HxCDD	50	53.8	32 - 81	35 - 65
1,2,3,4,6,7,8-HpCDD	50	53.0	35 - 70	35 - 65
OCDD	100	104	78 - 144	70 - 130
2,3,7,8-TCDF	10	10.2	7.5 - 15.8	7.0 - 13.0
1,2,3,7,8-PeCDF	50	52.7	40 - 67	35 - 65
2,3,4,7,8-PeCDF	50	53.6	34 - 80	35 - 65
1,2,3,4,7,8-HxCDF	50	52.3	36 - 67	35 - 65
1,2,3,6,7,8-HxCDF	50	51.5	42 - 65	35 - 65
2,3,4,6,7,8-HxCDF	50	51.1	35 - 78	35 - 65
1,2,3,7,8,9-HxCDF	50	54.5	39 - 65	35 - 65
1,2,3,4,6,7,8-HpCDF	50	52.1	41 - 61	35 - 65
1,2,3,4,7,8,9-HpCDF	50	53.4	39 - 69	35 - 65
OCDF	100	104	63 - 170	70 - 130

Analyst: [Signature]
Date: 5/7/14

Reviewer: [Signature]
Date: 5/7/14

(1) Contract-required concentration limits for OPR as specified in Table 7, Method 1613.

USEPA - ITD

FORM 8B
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: 0-1188-OPR

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): Solid OPR Data Filename: 050614A1 S:2

Ext. Date: 5/5/14 Shift: day Analysis Date: 6-MAY-14 Time: 13:00:06

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	EPA 1613 OPR CONC. LIMITS (1) (ng/mL)	EPA 8290 OPR CONC. LIMITS (ng/mL)
LABELED COMPOUNDS				
13C-2,3,7,8-TCDD	100	96.0	20 - 175	40 - 135
13C-1,2,3,7,8-PeCDD	100	97.3	21 - 227	40 - 135
13C-1,2,3,4,7,8-HxCDD	100	102	21 - 193	40 - 135
13C-1,2,3,6,7,8-HxCDD	100	101	25 - 163	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	100	102	26 - 166	40 - 135
13C-OCDD	200	189	26 - 397	80 - 270
13C-2,3,7,8-TCDF	100	124	22 - 152	40 - 135
13C-1,2,3,7,8-PeCDF	100	110	21 - 192	40 - 135
13C-2,3,4,7,8-PeCDF	100	107	13 - 328	40 - 135
13C-1,2,3,4,7,8-HxCDF	100	95.1	19 - 202	40 - 135
13C-1,2,3,6,7,8-HxCDF	100	96.1	21 - 159	40 - 135
13C-2,3,4,6,7,8-HxCDF	100	102	22 - 176	40 - 135
13C-1,2,3,7,8,9-HxCDF	100	101	17 - 205	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	100	105	21 - 158	40 - 135
13C-1,2,3,4,7,8,9-HpCDF	100	116	20 - 186	40 - 135
CLEANUP STANDARD				
37Cl-2,3,7,8-TCDD	10	11.4	3.1 - 19.1	4.0 - 13.0

Analyst: J
Date: 5/7/14

Reviewer: WB
Date: 5/7/14

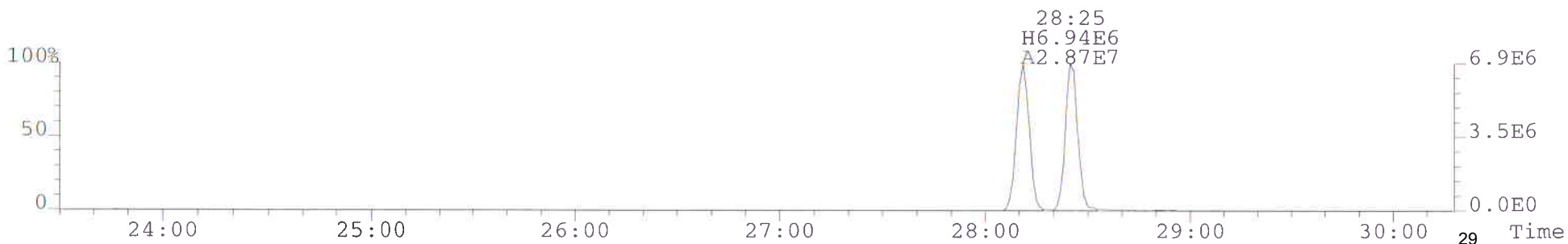
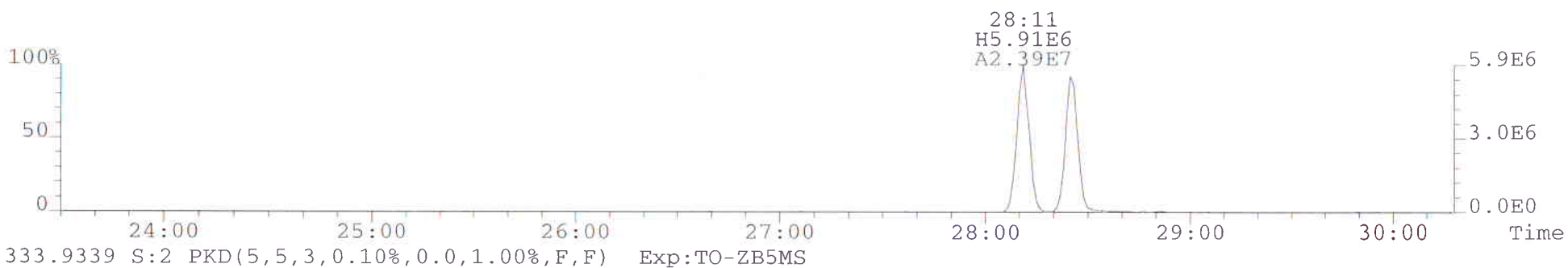
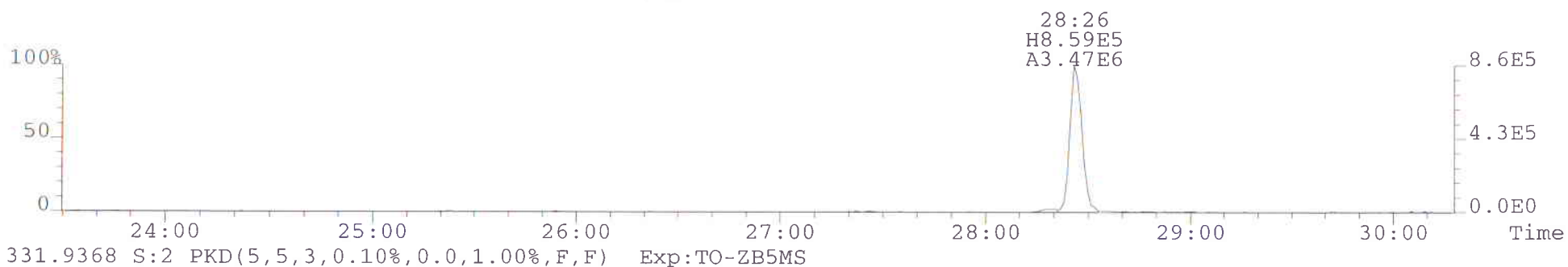
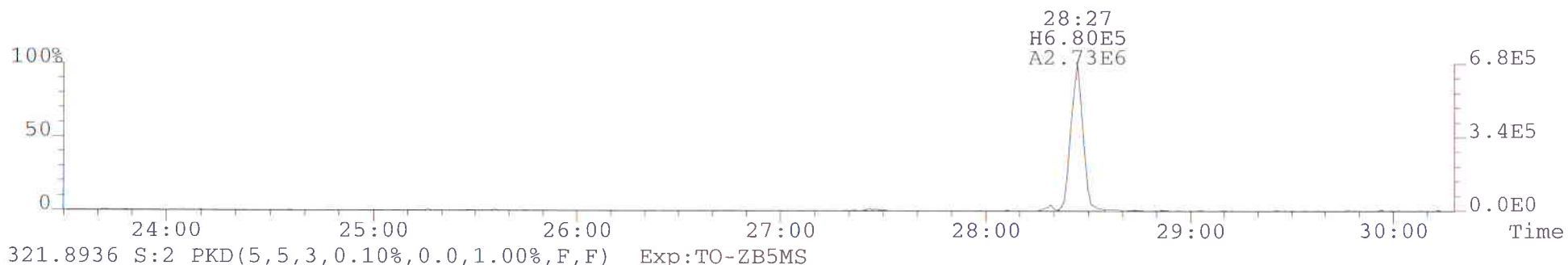
(1) Contract-required concentration limits for OPR as specified in Table 7, Method 1613.

Ceres Analytical Laboratory Inc. Quantitation Summary
 Filename: 050614A1 S: 2 Acquired: 6-MAY-14 13:00:06 Analyte: 1613 ICal: 1613-ms1-5-22-13 Con CAL: ST050614A1-1
 Ceres ID: 0-1188-OPR Client ID: OPR Total Tox: 108.33 Wt/Vol: 1.000 End CAL: ST050614A1-2

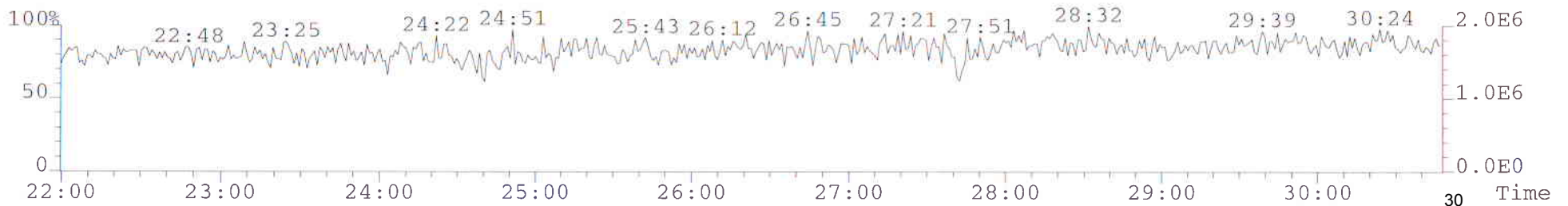
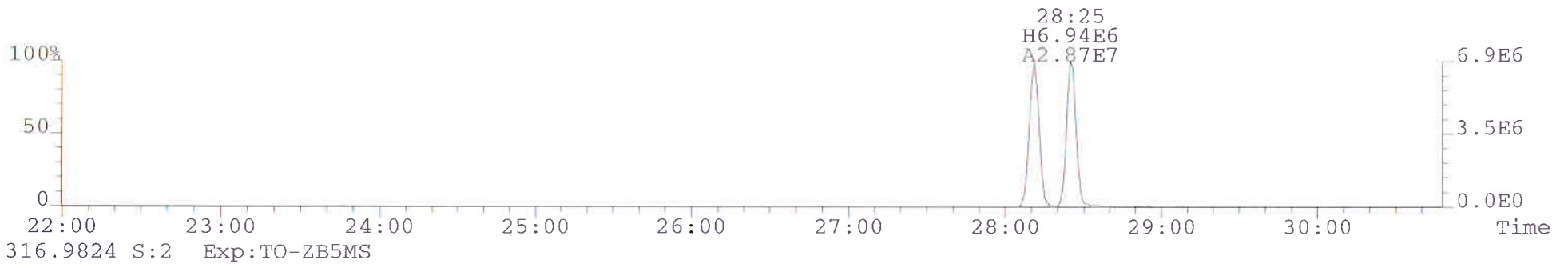
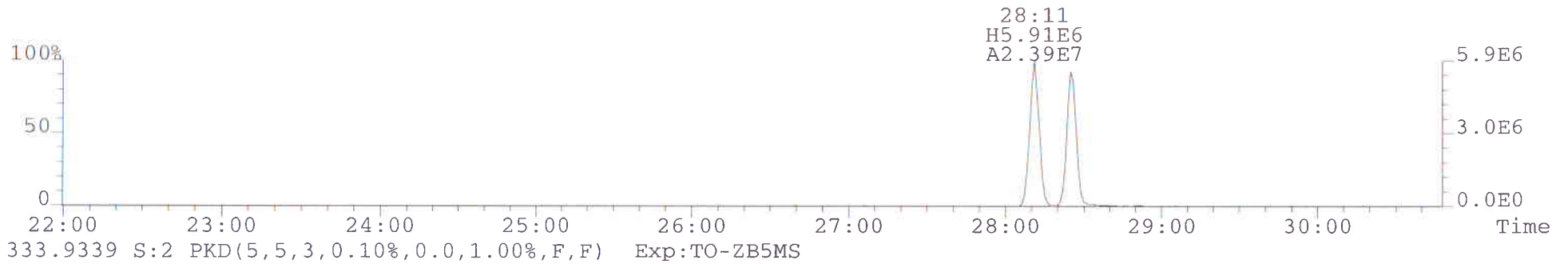
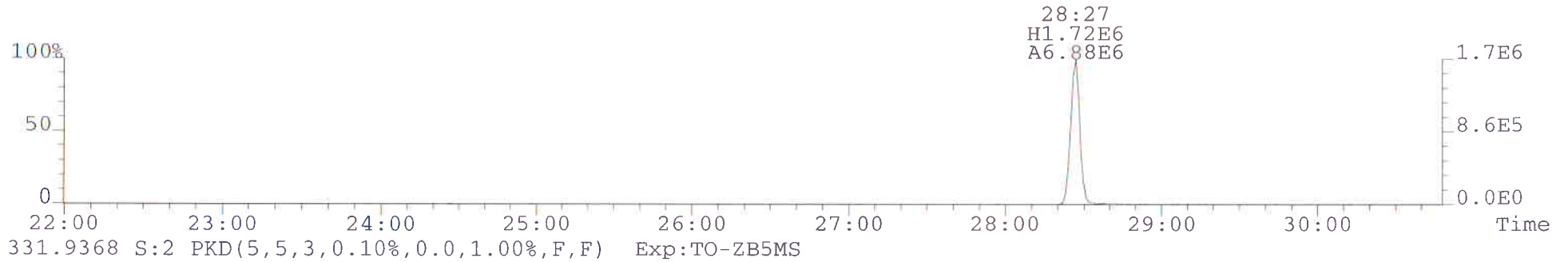
Name	RT	Resp	RRF	RA	rrt	Conc	Qual	Noise * 2.5	DL
2,3,7,8-TCDD	28:27	6.20e+06	1.03	0.79	y	11.8		0.00	0.00
1,2,3,7,8-PeCDD	33:38	2.74e+07	0.99	0.62	y	54.4		0.00	0.00
1,2,3,4,7,8-HxCDD	37:41	2.94e+07	0.99	1.25	y	55.5		0.00	0.00
1,2,3,6,7,8-HxCDD	37:49	2.82e+07	0.93	1.25	y	52.5		0.00	0.00
1,2,3,7,8,9-HxCDD	38:15	2.83e+07	0.95	1.24	y	53.8		0.00	0.00
1,2,3,4,6,7,8-HpCDD	41:52	2.46e+07	1.01	1.06	y	53.0		0.00	0.00
OCDD	45:60	3.81e+07	1.00	0.90	y	104		0.00	0.00
2,3,7,8-TCDF	27:28	9.66e+06	0.96	0.78	y	10.2		0.00	0.00
1,2,3,7,8-PeCDF	32:24	4.74e+07	1.01	1.56	y	52.7		0.00	0.00
2,3,4,7,8-PeCDF	33:13	4.80e+07	1.02	1.64	y	53.6		0.00	0.00
1,2,3,4,7,8-HxCDF	36:40	4.62e+07	1.26	1.33	y	52.3		0.00	0.00
1,2,3,6,7,8-HxCDF	36:48	4.89e+07	1.25	1.24	y	51.5		0.00	0.00
2,3,4,6,7,8-HxCDF	37:31	4.75e+07	1.36	1.31	y	51.1		0.00	0.00
1,2,3,7,8,9-HxCDF	38:36	4.26e+07	1.20	1.31	y	54.5		0.00	0.00
1,2,3,4,6,7,8-HpCDF	40:39	4.75e+07	1.53	1.08	y	52.1		0.00	0.00
1,2,3,4,7,8,9-HpCDF	42:26	4.19e+07	1.55	1.09	y	53.4		0.00	0.00
OCDF	46:13	5.17e+07	1.37	0.93	y	104		0.00	0.00
							Rec	Qual	
13C-2,3,7,8-TCDD	28:25	5.11e+07	1.00	0.78	y	96.0	96.0		
13C-1,2,3,7,8-PeCDD	33:36	5.10e+07	0.99	0.64	y	97.3	97.3		
13C-1,2,3,4,7,8-HxCDD	37:40	5.34e+07	0.98	1.27	y	102	102		
13C-1,2,3,6,7,8-HxCDD	37:47	5.76e+07	1.08	1.26	y	101	101		
13C-1,2,3,4,6,7,8-HpCDD	41:51	4.59e+07	0.85	1.05	y	102	102		
13C-OCDD	45:58	7.29e+07	0.73	0.88	y	189	94.3		
13C-2,3,7,8-TCDF	27:27	9.82e+07	1.49	0.82	y	124	124		
13C-1,2,3,7,8-PeCDF	32:23	8.87e+07	1.51	1.57	y	110	110		
13C-2,3,4,7,8-PeCDF	33:13	8.79e+07	1.55	1.55	y	107	107		
13C-1,2,3,4,7,8-HxCDF	36:39	7.03e+07	1.39	0.50	y	95.1	95.1		
13C-1,2,3,6,7,8-HxCDF	36:47	7.60e+07	1.49	0.50	y	96.1	96.1		
13C-2,3,4,6,7,8-HxCDF	37:29	6.86e+07	1.27	0.53	y	102	102		
13C-1,2,3,7,8,9-HxCDF	38:35	6.49e+07	1.21	0.53	y	101	101		
13C-1,2,3,4,6,7,8-HpCDF	40:37	5.96e+07	1.07	0.45	y	105	105		
13C-1,2,3,4,7,8,9-HpCDF	42:25	5.05e+07	0.82	0.46	y	116	116		
37C1-2,3,7,8-TCDD	28:27	6.88e+06	1.14			11.4	114		
13C-1,2,3,4-TCDD	28:11	5.32e+07	1.00	0.81	y	100			
13C-1,2,3,7,8,9-HxCDD	38:14	5.31e+07	1.00	1.26	y	100			
		Conc	EMPC	DL	Qual				
Total Tetra-Dioxins		12.1	12.3	0.00	0.00				
Total Penta-Dioxins		54.4	54.7	0.00	0.00				
Total Hexa-Dioxins		162	162	0.00	0.00				
Total Hepta-Dioxins		53.3	54.8	0.00	0.00				
Total Tetra-Furans		10.2	10.5	0.00	0.00				
1st Fnc Penta-Furans		*	0.0176	0.00	0.00				
Total Penta-Furans		108	108	0.00	0.00				
Total Hexa-Furans		209	211	0.00	0.00				
Total Hepta-Furans		106	107	0.00	0.00				
						PeCDF Total:	108		
						PeCDF EMPC:	108		

Analyst: J
 Date: 5/7/14
 Reviewer: ML
 Date: 5/7/14

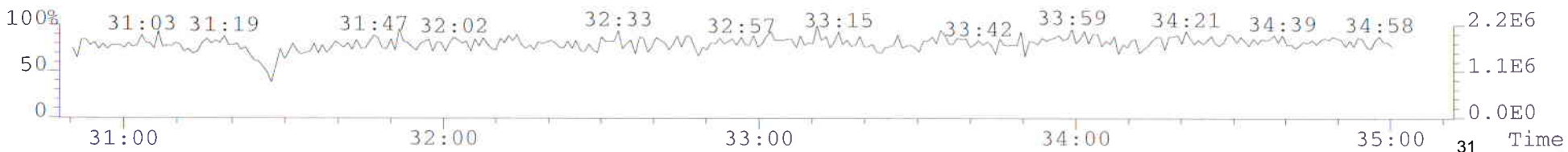
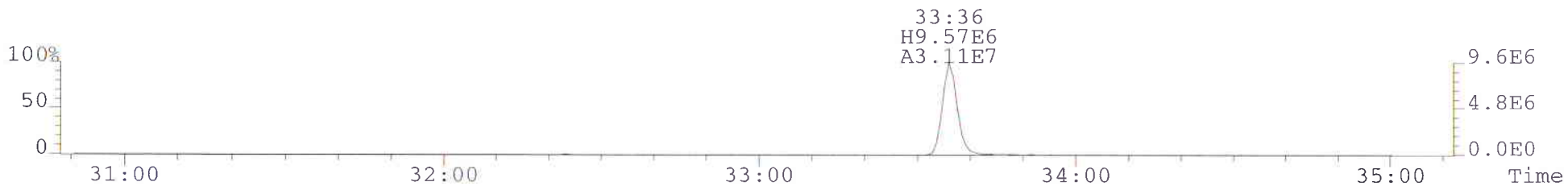
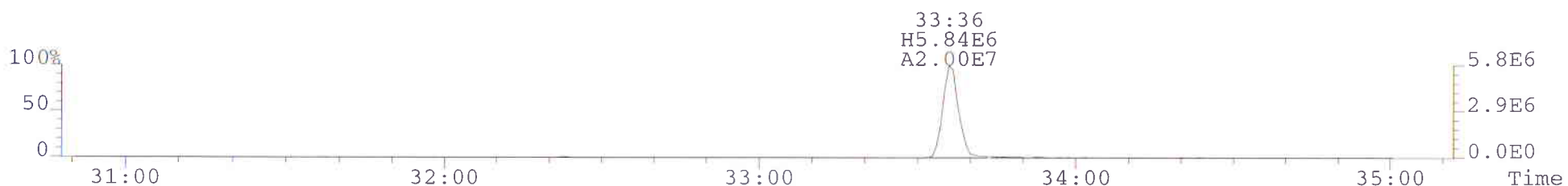
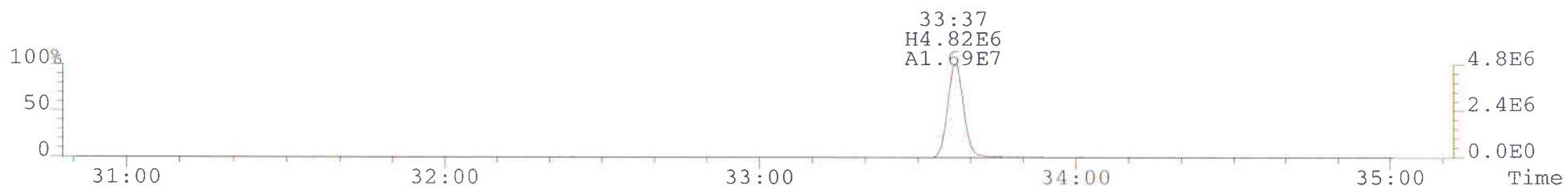
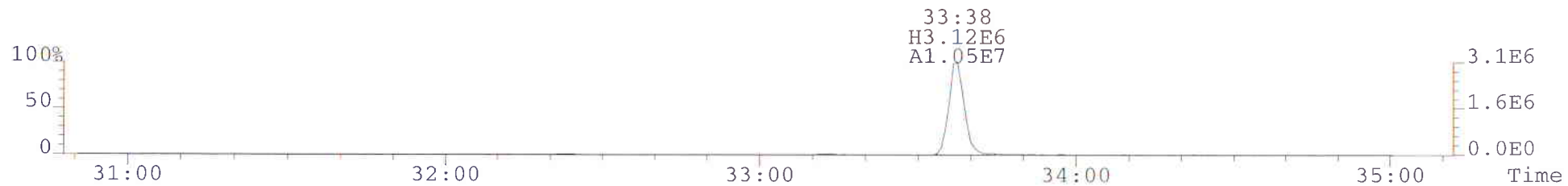
File:050614A1 #1-659 Acq: 6-MAY-2014 13:00:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text:Ceres Analytical Laboratory Text:0-1188-OPR
319.8965 S:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



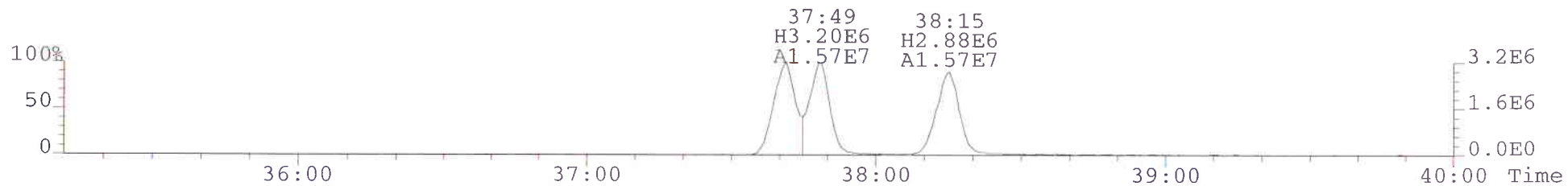
File:050614A1 #1-659 Acq: 6-MAY-2014 13:00:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text:Ceres Analytical Laboratory Text:0-1188-OPR
327.8847 S:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



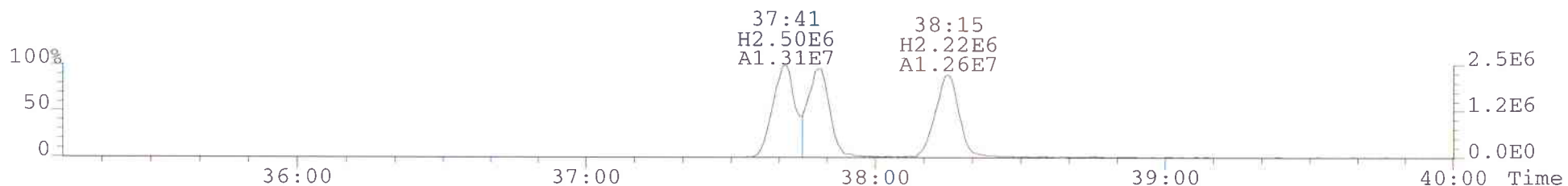
File:050614A1 #1-312 Acq: 6-MAY-2014 13:00:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text:Ceres Analytical Laboratory Text:0-1188-OPR
353.8576 S:2 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



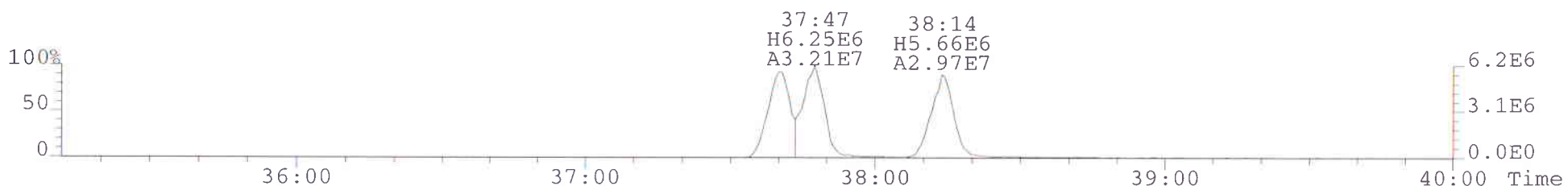
File:050614A1 #1-445 Acq: 6-MAY-2014 13:00:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text:Ceres Analytical Laboratory Text:0-1188-OPR
389.8156 S:2 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



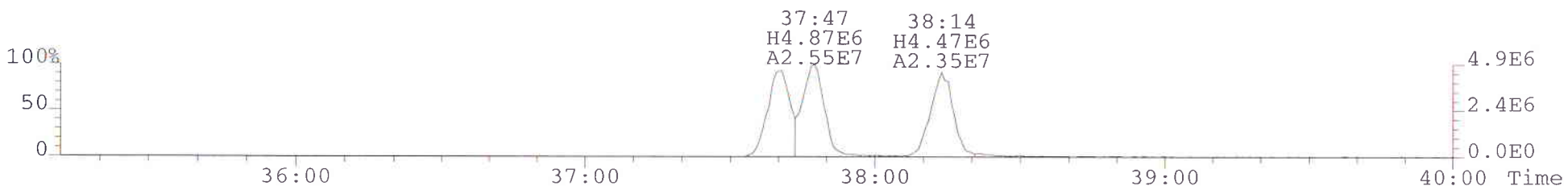
391.8127 S:2 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



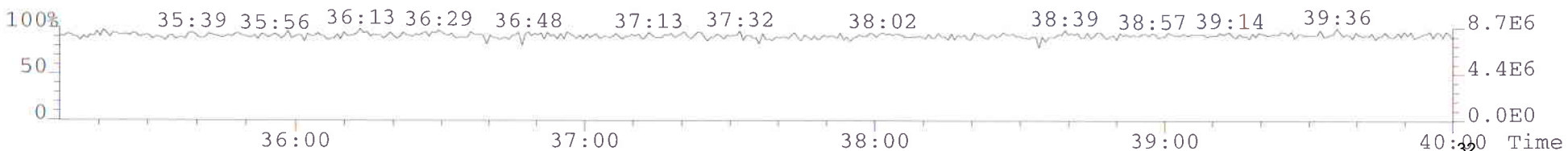
401.8559 S:2 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



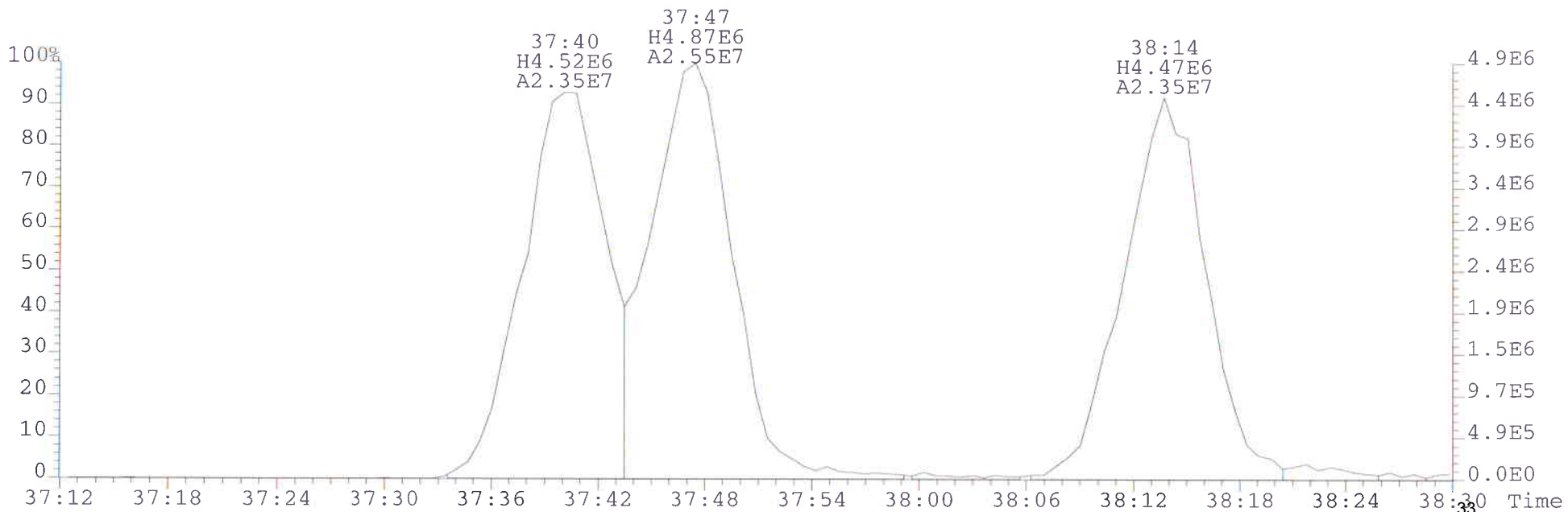
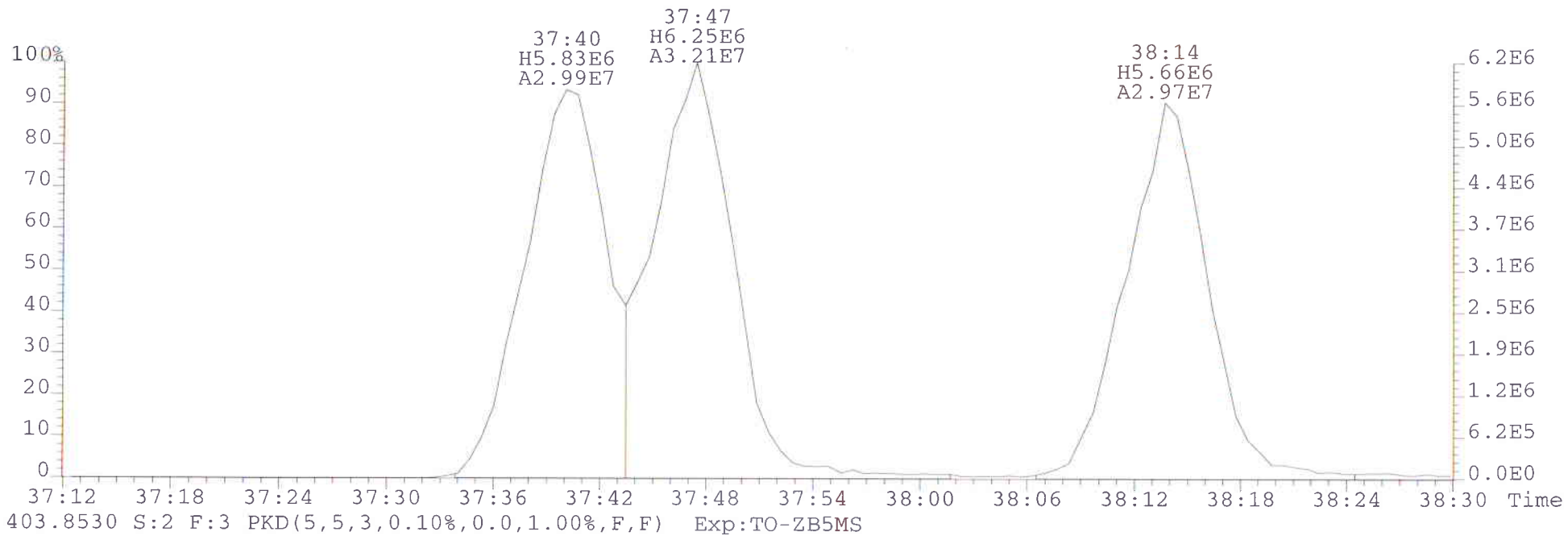
403.8530 S:2 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



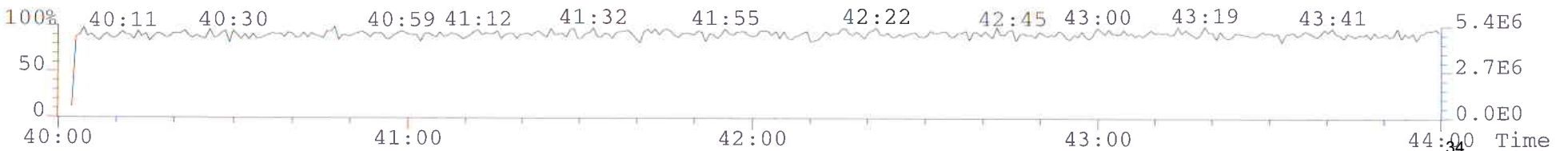
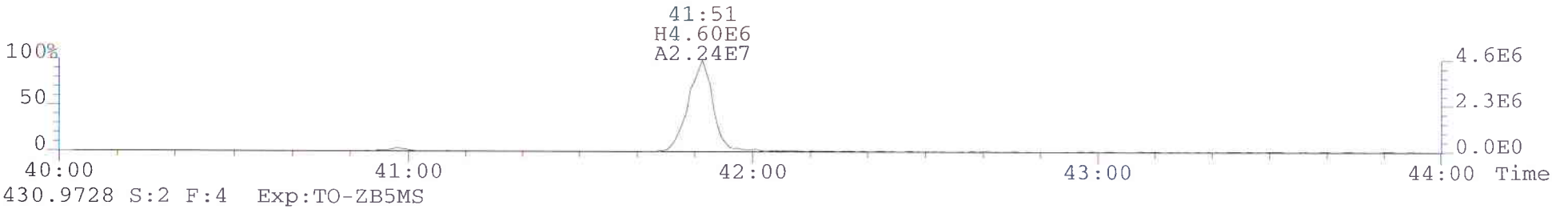
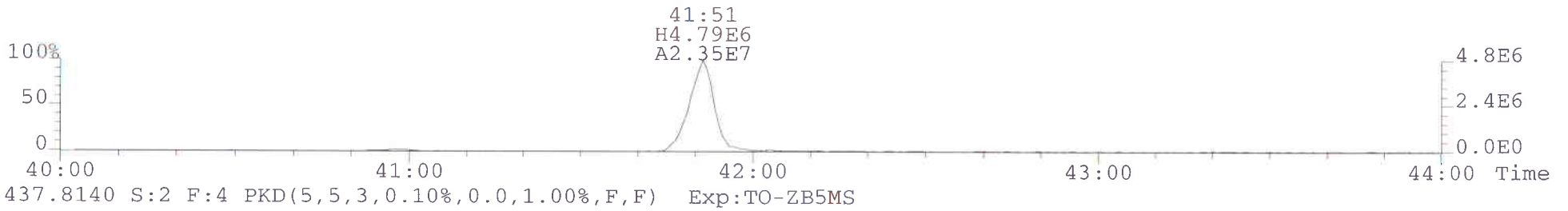
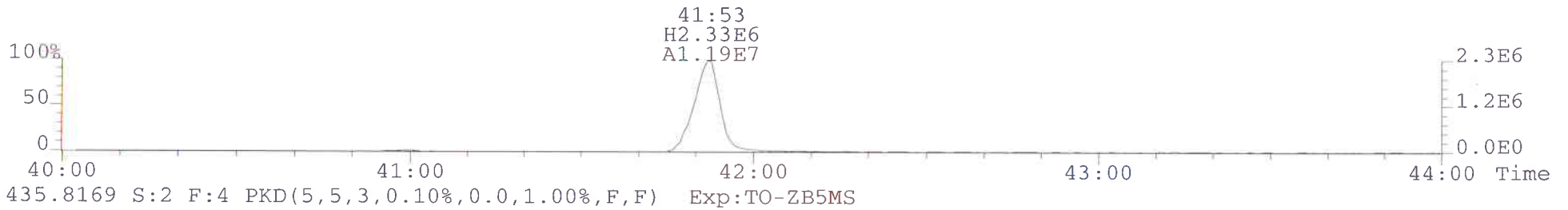
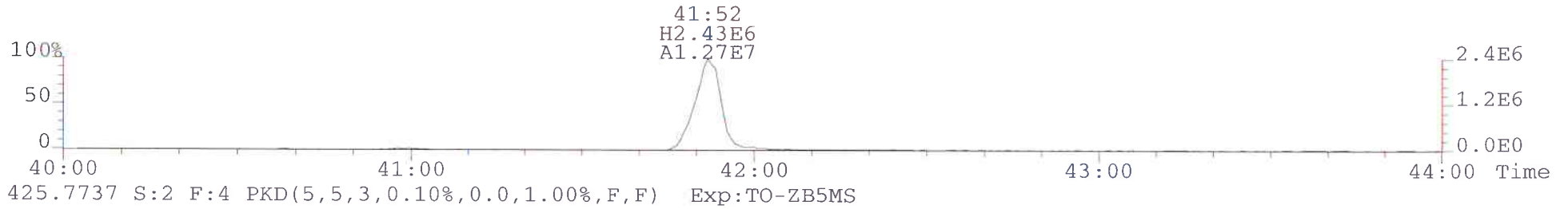
380.9760 S:2 F:3 Exp:TO-ZB5MS



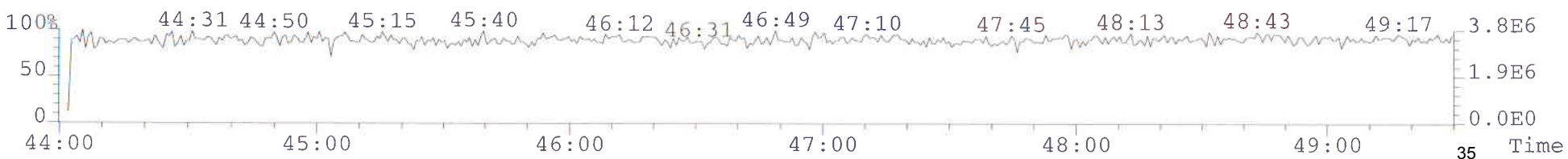
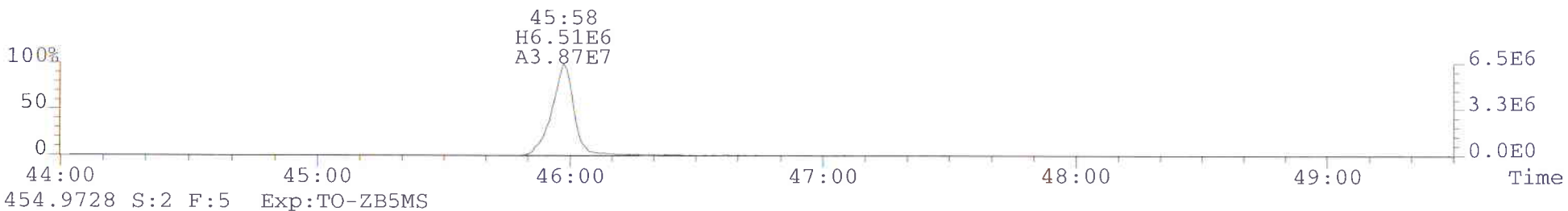
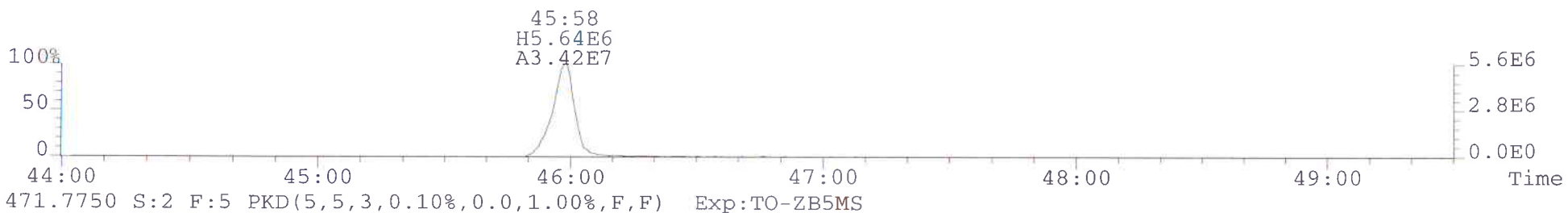
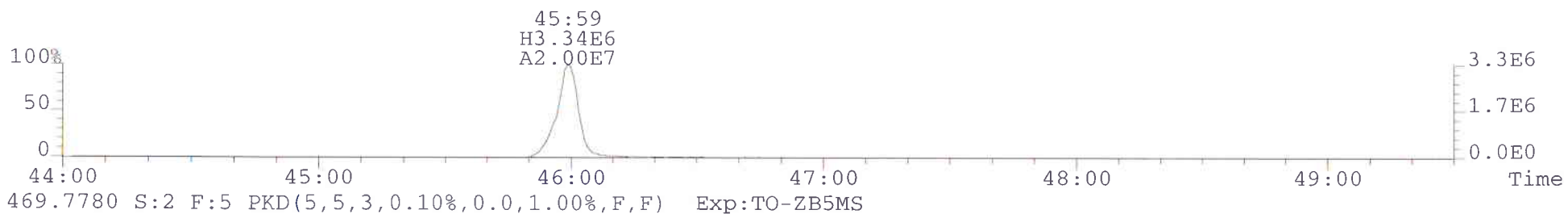
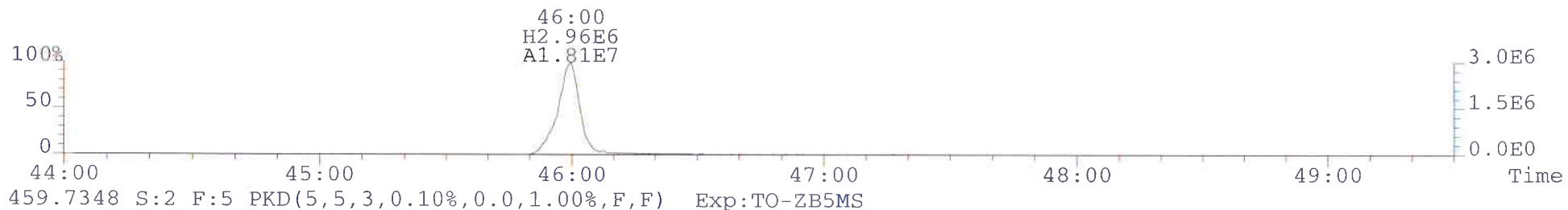
File:050614A1 #1-445 Acq: 6-MAY-2014 13:00:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text:Ceres Analytical Laboratory Text:0-1188-OPR
401.8559 S:2 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



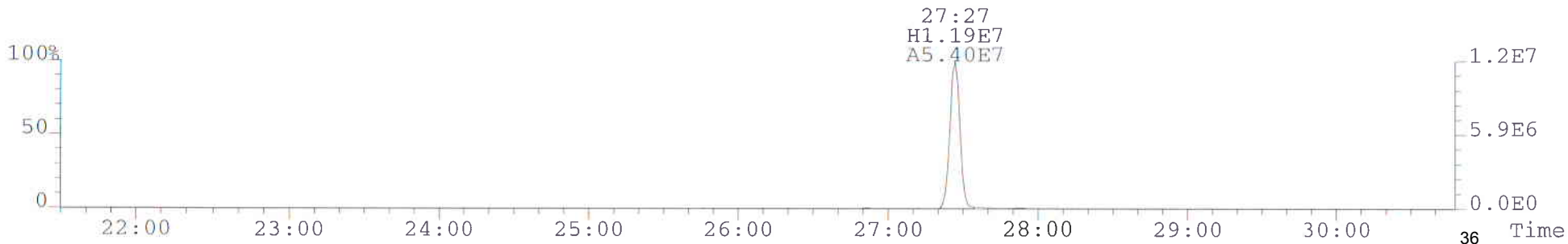
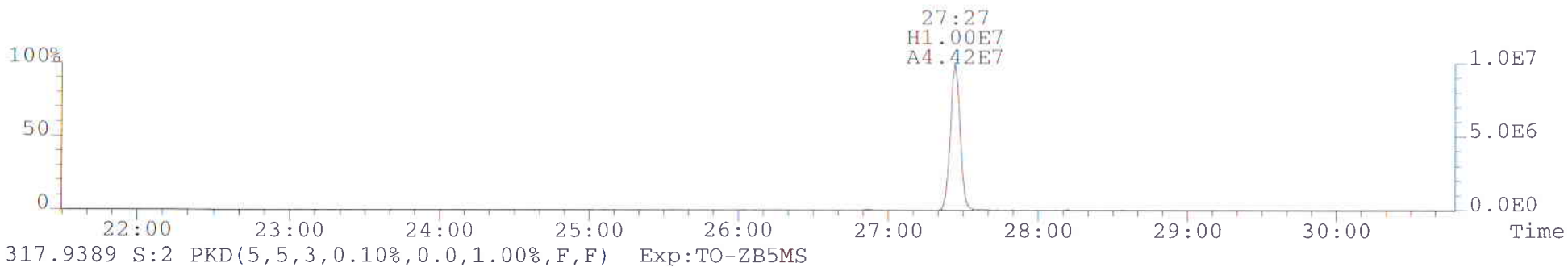
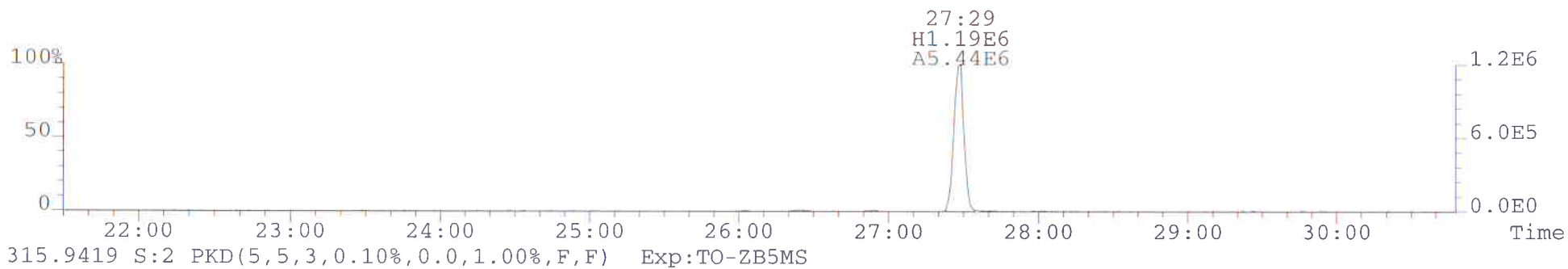
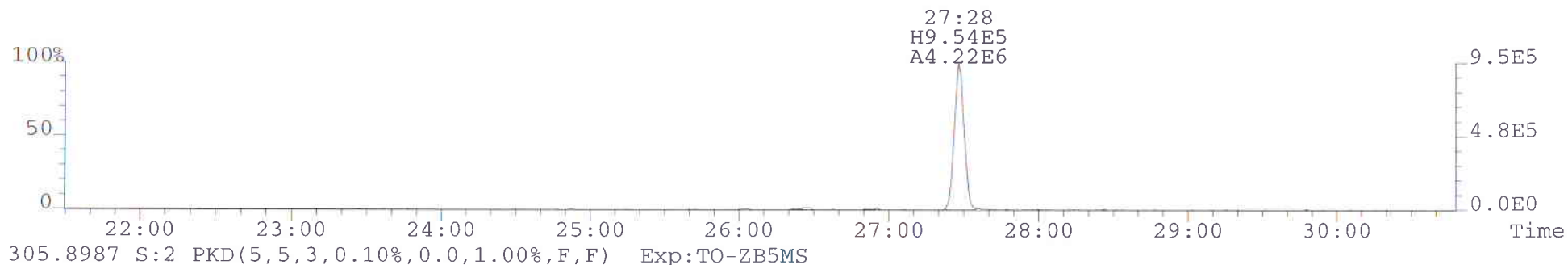
File:050614A1 #1-355 Acq: 6-MAY-2014 13:00:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text:Ceres Analytical Laboratory Text:0-1188-OPR
423.7767 S:2 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



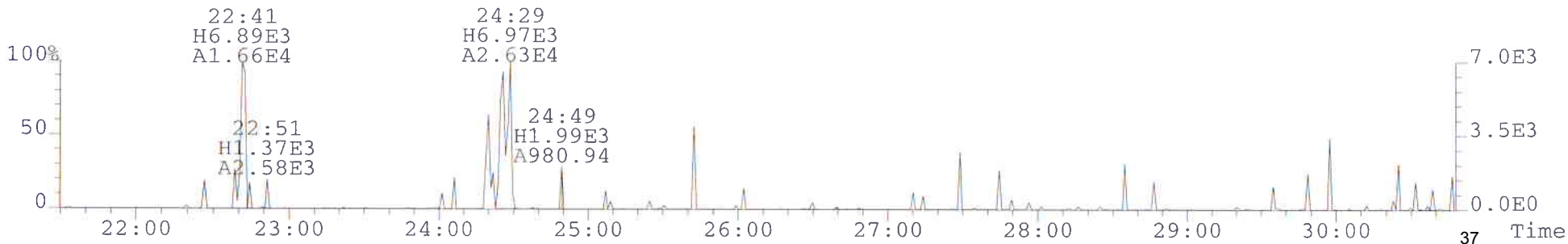
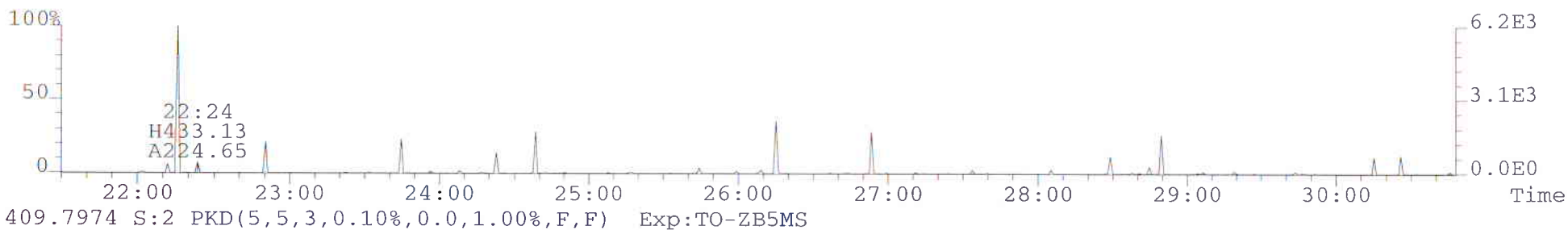
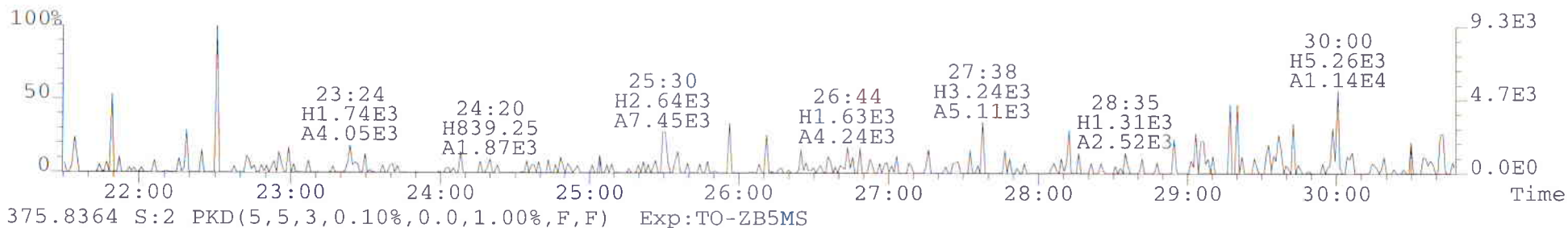
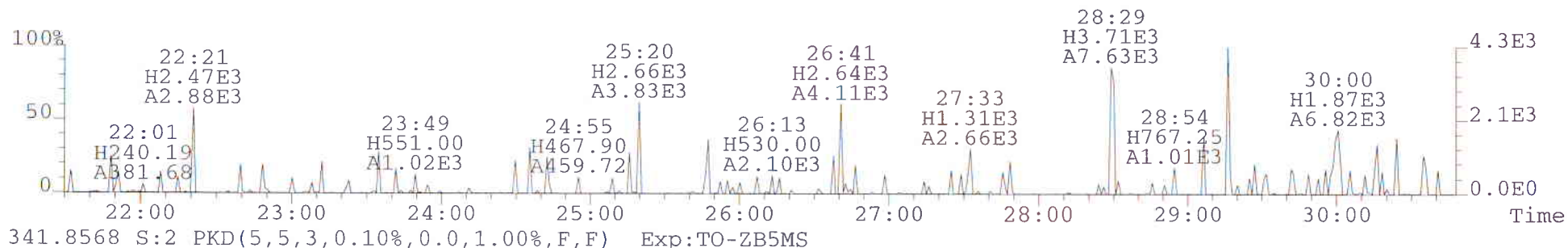
File:050614A1 #1-489 Acq: 6-MAY-2014 13:00:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text:Ceres Analytical Laboratory Text:0-1188-OPR
457.7377 S:2 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



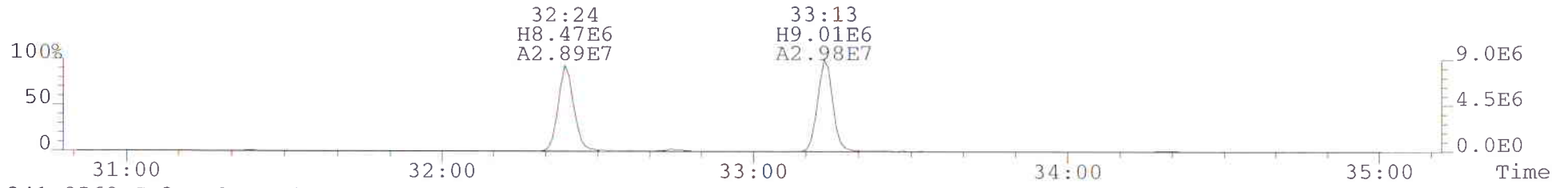
File:050614A1 #1-659 Acq: 6-MAY-2014 13:00:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text:Ceres Analytical Laboratory Text:0-1188-OPR
303.9016 S:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



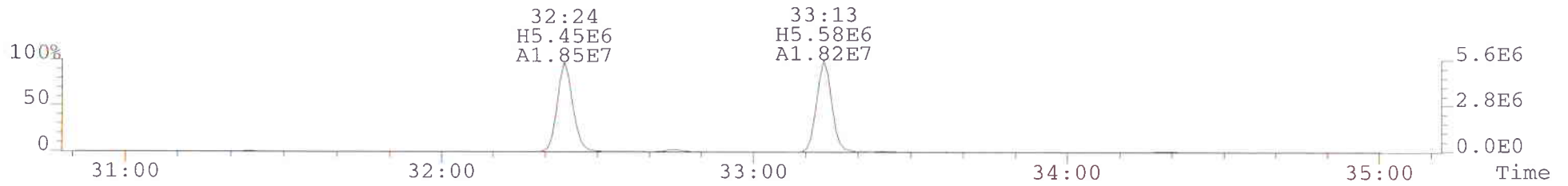
File:050614A1 #1-659 Acq: 6-MAY-2014 13:00:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text:Ceres Analytical Laboratory Text:0-1188-OPR
339.8597 S:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



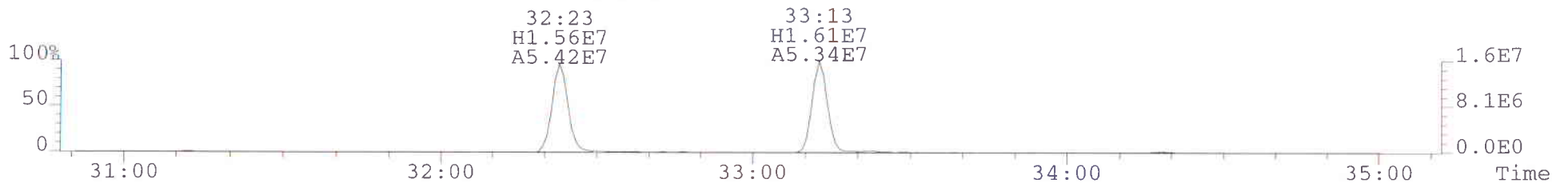
File:050614A1 #1-312 Acq: 6-MAY-2014 13:00:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text:Ceres Analytical Laboratory Text:0-1188-OPR
339.8597 S:2 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



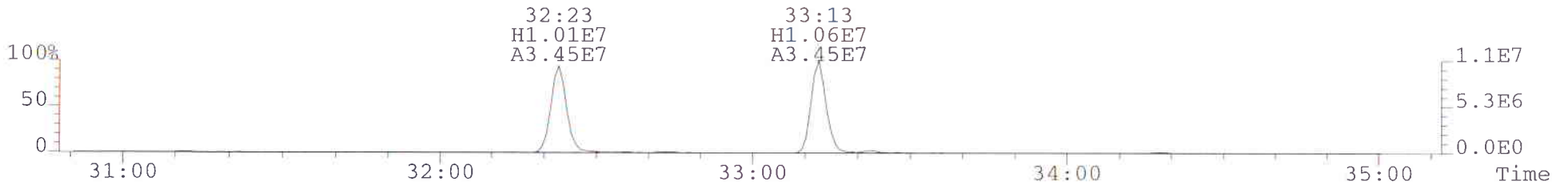
341.8568 S:2 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



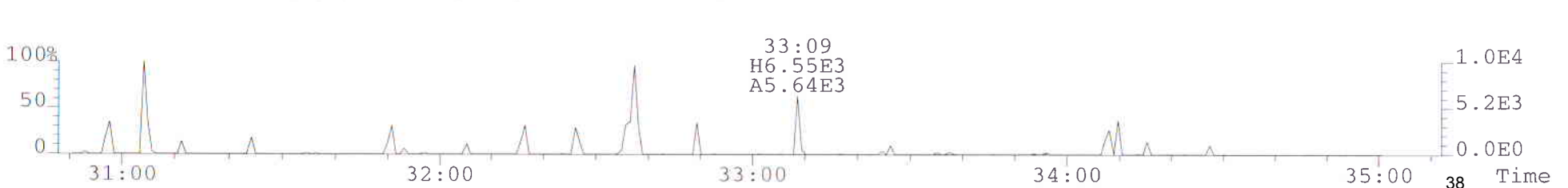
351.9000 S:2 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



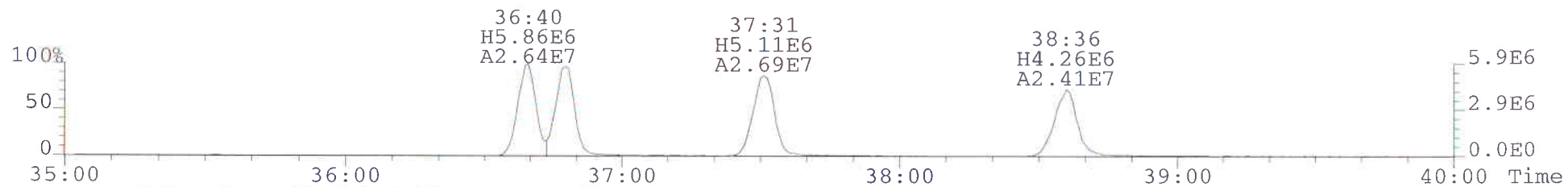
353.8970 S:2 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



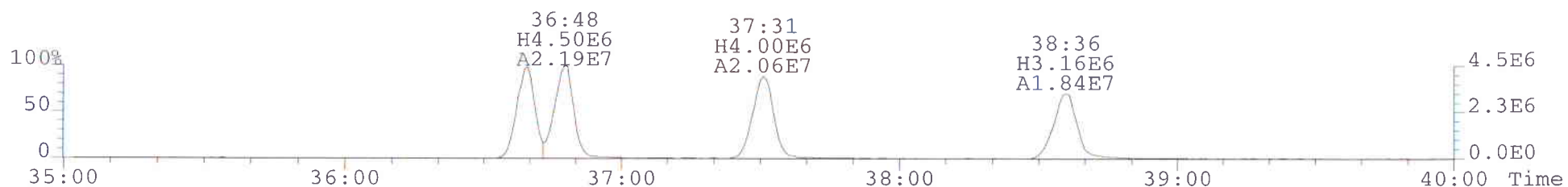
409.7974 S:2 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



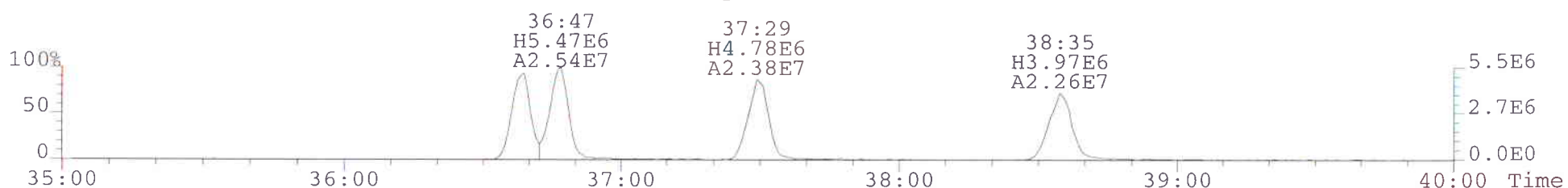
File:050614A1 #1-445 Acq: 6-MAY-2014 13:00:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text:Ceres Analytical Laboratory Text:0-1188-OPR
373.8207 S:2 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



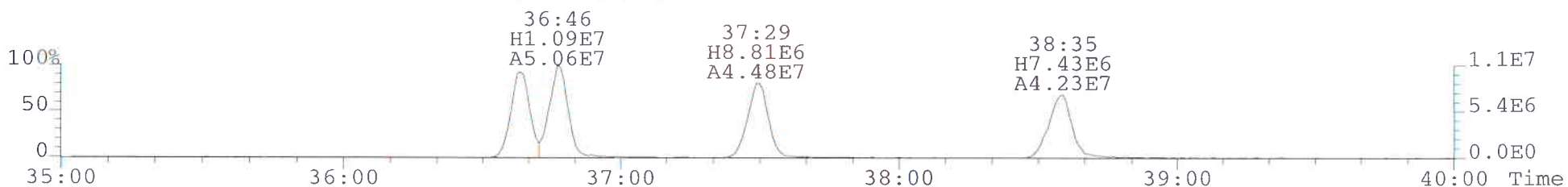
375.8178 S:2 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



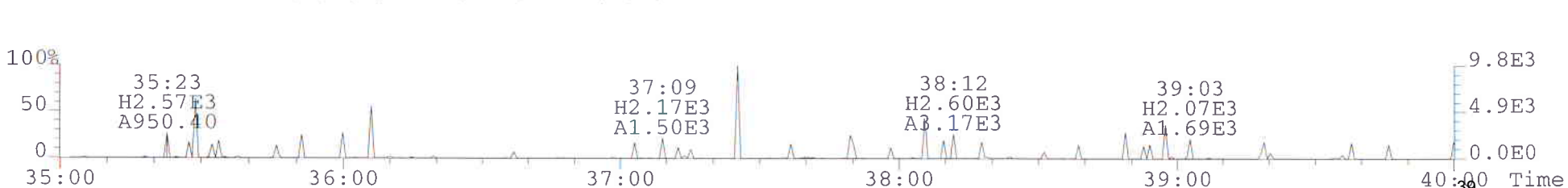
383.8639 S:2 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



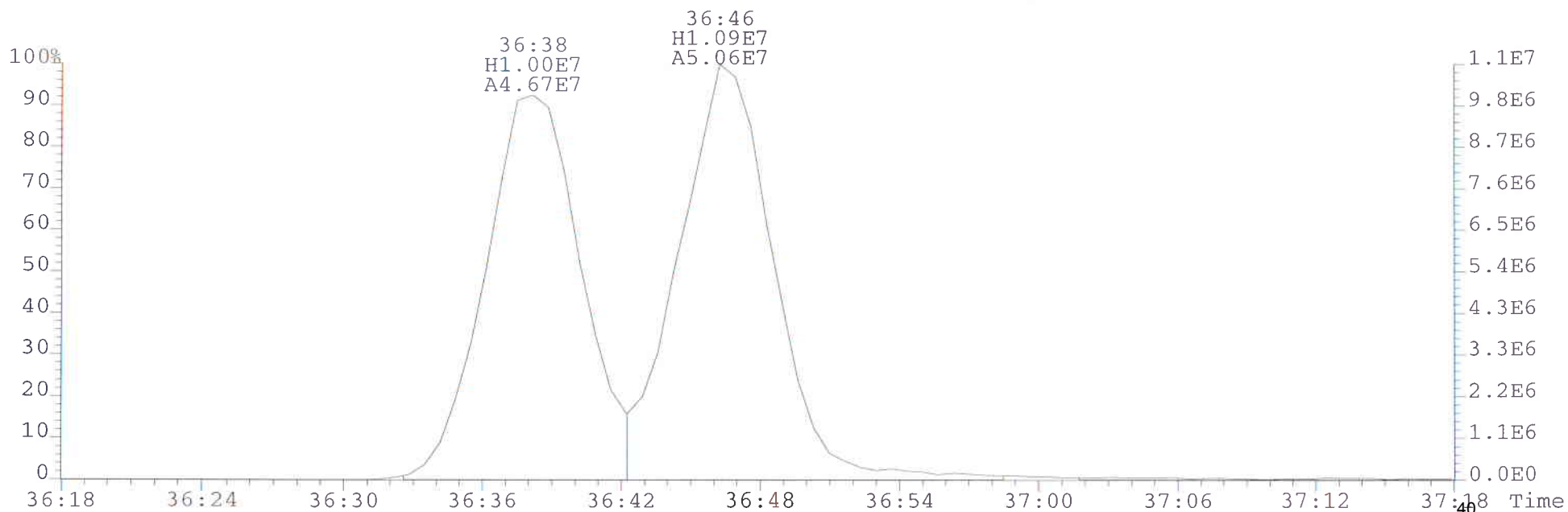
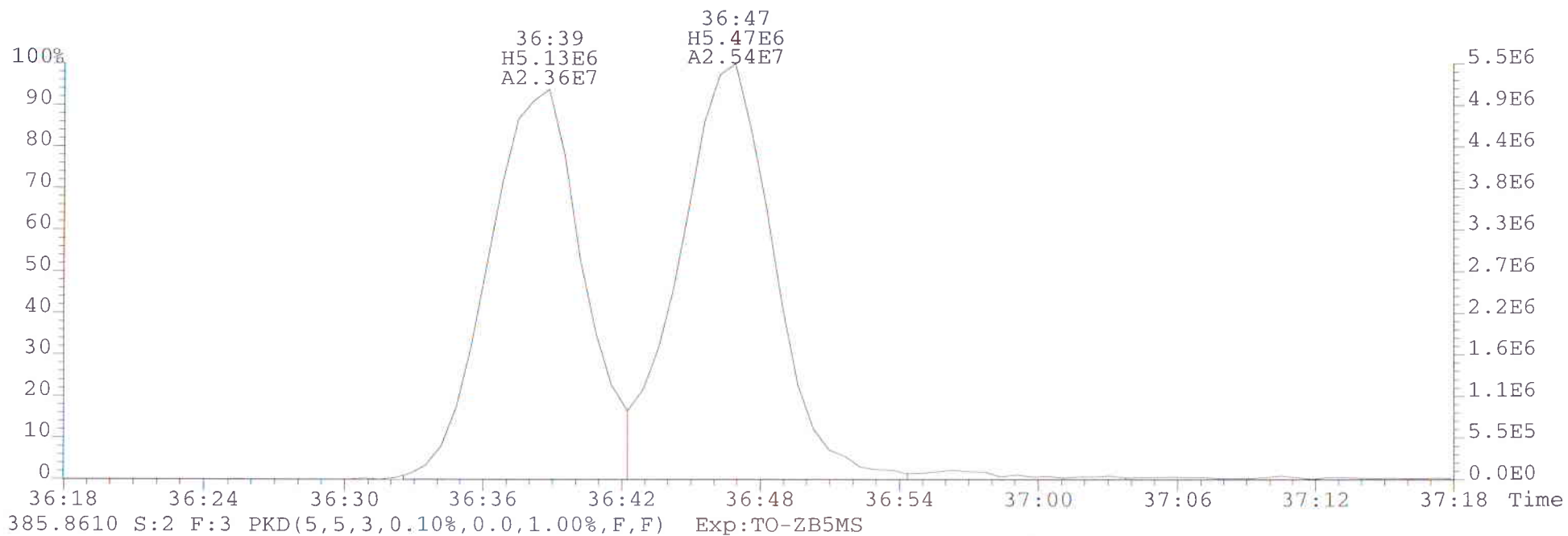
385.8610 S:2 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



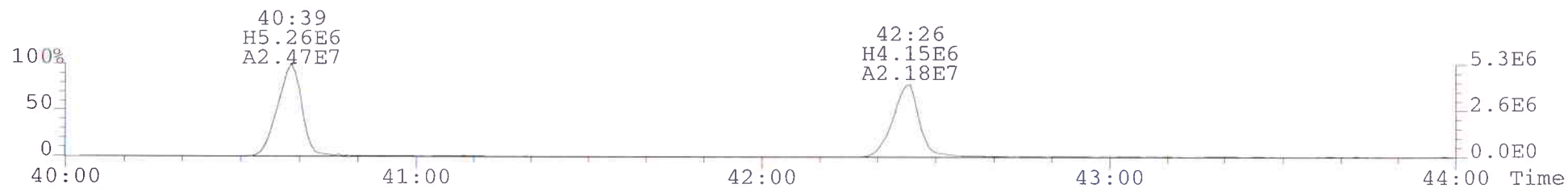
445.7555 S:2 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



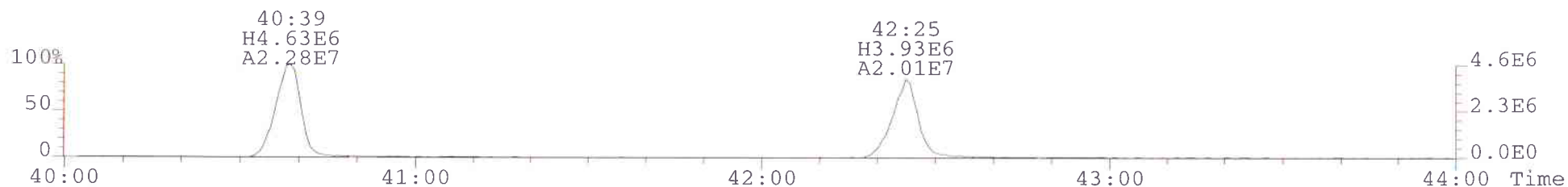
File:050614A1 #1-445 Acq: 6-MAY-2014 13:00:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text:Ceres Analytical Laboratory Text:0-1188-OPR
383.8639 S:2 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



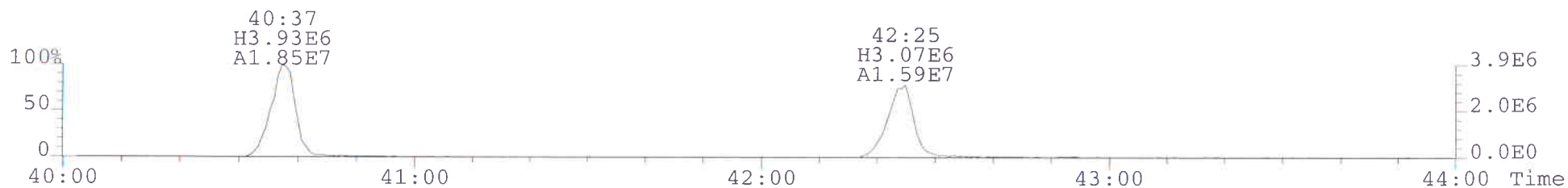
File:050614A1 #1-355 Acq: 6-MAY-2014 13:00:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text:Ceres Analytical Laboratory Text:0-1188-OPR
407.7818 S:2 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



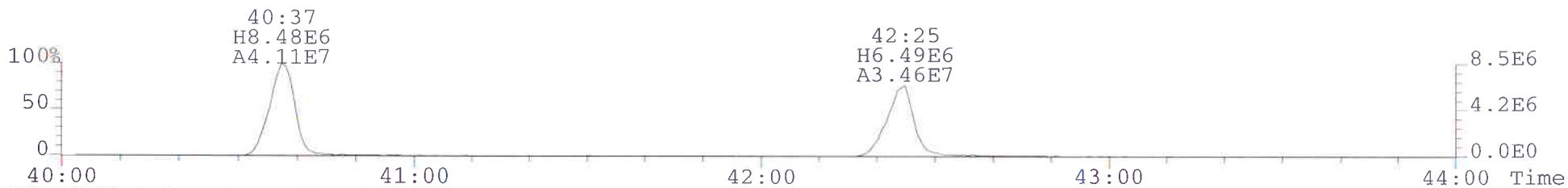
409.7788 S:2 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



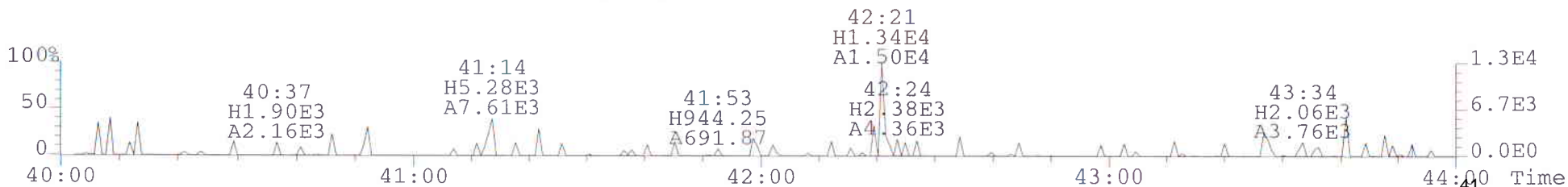
417.8253 S:2 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



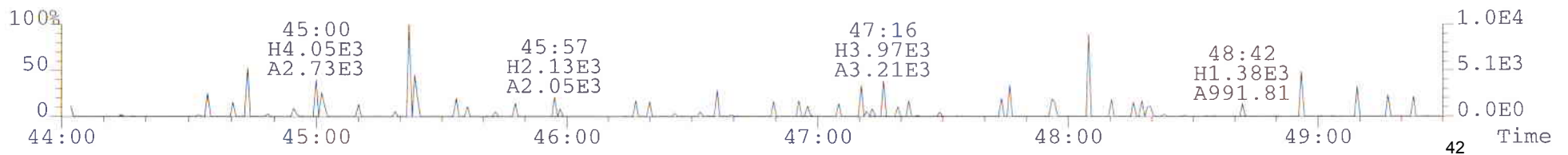
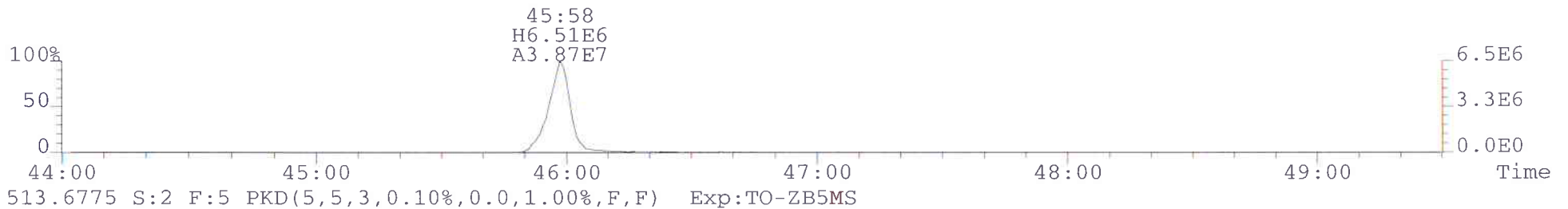
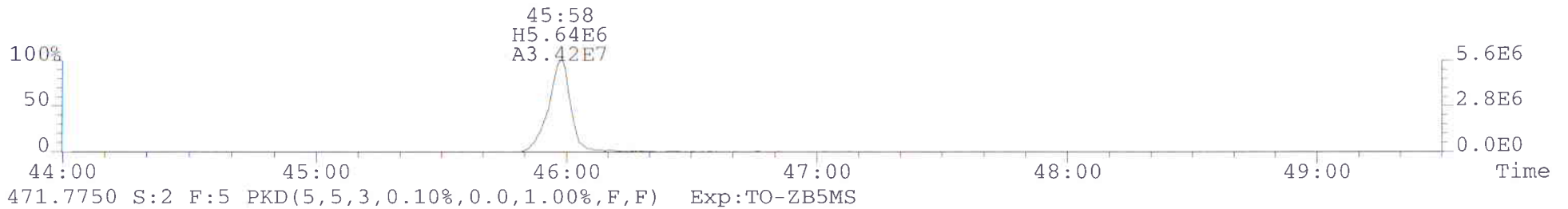
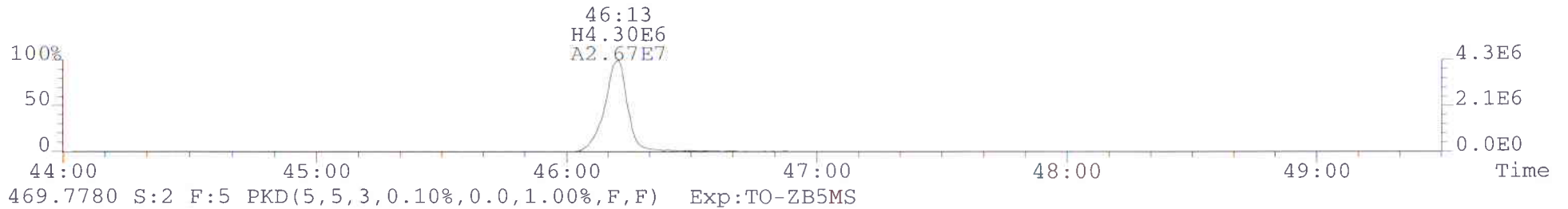
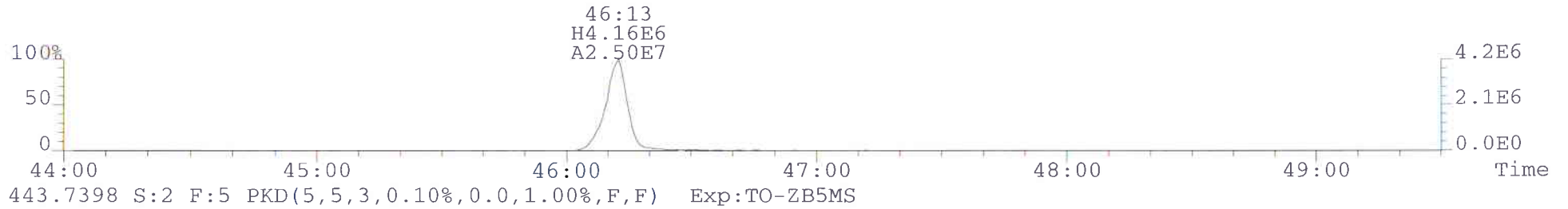
419.8220 S:2 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



479.7165 S:2 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



File:050614A1 #1-489 Acq: 6-MAY-2014 13:00:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text:Ceres Analytical Laboratory Text:0-1188-OPR
441.7428 S:2 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



Form 1A

EPA SAMPLE NO.

Page 12 of 14

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

B17-07.5

Laboratory Name: Ceres Analytical Laboratory, Inc. Episode No.:
 Contract No.: SAS No.: Lab Sample ID: 10339-1188-001
 Matrix (aqueous/solid/leachate): Solid Sample Wt/Vol: 12.19 g or mL: g
 Sample Receipt Date: 4/30/14 Initial Calibration Date: 5/22/13
 Ext. Date: 5/5/14 Shift: day Instrument ID: MS-1
 Analysis Date: 6-MAY-14 Time: 22:47:36 GC Column ID: ZB-5MS
 Extract Volume (uL): 20 Sample Data Filename: 050614A1 S #: 13
 Injection Volume (uL): 2 Blank Data Filename: 050614A1 S#:4
 Dilution Factor: na Cal. Ver. Data Filename: 050614A1 S#:1
 Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Solids: 80.7

ANALYTE	PK_RT	RA	CONC.	DL	RRT
2,3,7,8-TCDD	28:27	0.70	1.88	0.00	1.001 0.999-1.002
1,2,3,7,8-PeCDD	33:38	0.64	50.1	0.00	1.001 0.999-1.002
1,2,3,4,7,8-HxCDD	37:46	1.23	3630	0.00	1.001 0.999-1.001
1,2,3,6,7,8-HxCDD	37:50	1.26	21900	0.00	1.002 0.998-1.004
1,2,3,7,8,9-HxCDD	38:17	1.24	1220	0.00	1.014 1.000-1.019
1,2,3,4,6,7,8-HpCDD	NotF»	*	*	0.00	* 0.999-1.001
OCDD	NotF»	*	*	0.00	* 0.999-1.001
2,3,7,8-TCDF	27:30	0.81	574	0.00	1.001 0.999-1.003
1,2,3,7,8-PeCDF	32:24	1.53	1210	0.00	1.001 0.999-1.002
2,3,4,7,8-PeCDF	33:14	1.50	1230	0.00	1.001 0.999-1.002
1,2,3,4,7,8-HxCDF	36:39	1.30	5240	0.00	1.000 0.999-1.001
1,2,3,6,7,8-HxCDF	36:47	1.21	1080	0.00	1.000 0.997-1.005
2,3,4,6,7,8-HxCDF	37:32	1.30	736	0.00	1.001 0.999-1.001
1,2,3,7,8,9-HxCDF	38:42	1.29	696	0.00	1.001 0.999-1.001
1,2,3,4,6,7,8-HpCDF	NotF»	*	*	0.00	* 0.999-1.001
1,2,3,4,7,8,9-HpCDF	NotF»	*	*	0.00	* 0.999-1.001
OCDF	NotF»	*	*	0.00	* 0.999-1.008

Total Tetra-Dioxins	61.1	0.00
Total Penta-Dioxins	219	0.00
Total Hexa-Dioxins	53600	0.00
Total Hepta-Dioxins	*	0.00
Total Tetra-Furans	3520	0.00
Total Penta-Furans	20300	0.00
Total Hexa-Furans	68100	0.00
Total Hepta-Furans	*	0.00

Form 2

EPA SAMPLE NO.

Page 12 of 14

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

B17-07.5

Laboratory Name: Ceres Analytical Laboratory, Inc. Episode No.:
 Contract No.: SAS No.: Lab Sample ID: 10339-1188-001
 Matrix (aqueous/solid/leachate): Solid Sample Wt/Vol: 12.19 g or mL: g
 Sample Receipt Date: 4/30/14 Initial Calibration Date: 5/22/13
 Ext. Date: 5/5/14 Shift: day Instrument ID: MS-1
 Analysis Date: 6-MAY-14 Time: 22:47:36 GC Column ID: ZB-5MS
 Extract Volume (uL): 20 Sample Data Filename: 050614A1 S #: 13
 Injection Volume (uL): 2 Blank Data Filename: 050614A1 S#:4
 Dilution Factor: na Cal. Ver. Data Filename: 050614A1 S#:1
 Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Solids: 80.7

ANALYTE	PK_RT	RA	%_REC	Limits	RRT
13C-2,3,7,8-TCDD	28:26	0.79	96.4	25-164	1.008 0.976-1.043
13C-1,2,3,7,8-PeCDD	33:36	0.64	92.1	25-181	1.191 1.000-1.567
13C-1,2,3,4,7,8-HxCDD	37:43	1.31	134	32-141	0.985 0.977-1.000
13C-1,2,3,6,7,8-HxCDD	37:46	1.23	82.0	28-130	0.987 0.981-1.003
13C-1,2,3,4,6,7,8-HpCDD	42:01	1.09	140	23-140	1.097 1.086-1.110
13C-OCDD	46:05	1.54	25.5	17-157	1.204 1.032-1.311
13C-2,3,7,8-TCDF	27:29	0.79	122	24-169	0.974 0.923-1.103
13C-1,2,3,7,8-PeCDF	32:23	1.58	102	24-185	1.148 1.000-1.425
13C-2,3,4,7,8-PeCDF	33:13	1.55	100	21-178	1.178 1.011-1.526
13C-1,2,3,4,7,8-HxCDF	36:38	0.53	106	26-152	0.957 0.944-0.970
13C-1,2,3,6,7,8-HxCDF	36:47	0.53	95.4	26-123	0.961 0.949-0.975
13C-2,3,4,6,7,8-HxCDF	37:30	0.53	92.0	28-136	0.980 0.959-1.021
13C-1,2,3,7,8,9-HxCDF	38:39	0.55	86.2	29-147	1.010 0.977-1.047
13C-1,2,3,4,6,7,8-HpCDF	40:45	0.71	123	28-143	1.064 1.043-1.085
13C-1,2,3,4,7,8,9-HpCDF	42:29	0.48	144	26-138	1.110 1.057-1.151
37C1 2,3,7,8-TCDD	28:27		106	35-197	1.009 0.989-1.052

	conc	TEQ	Results
2,3,7,8-TCDD	1.88	1	1.88
1,2,3,7,8-PeCDD	50.1	1	50.1
1,2,3,4,7,8-HxCDD	3630	0.1	363
1,2,3,6,7,8-HxCDD	21900	0.1	2190
1,2,3,7,8,9-HxCDD	1220	0.1	122
1,2,3,4,6,7,8-HpCDD	368000	0.01	3680
OCDD	1130000	0.0003	339
2,3,7,8-TCDF	534	0.1	53.4
1,2,3,7,8-PeCDF	1210	0.03	36.3
2,3,4,7,8-PeCDF	1230	0.3	369
1,2,3,4,7,8-HxCDF	5240	0.1	524
1,2,3,6,7,8-HxCDF	1080	0.1	108
2,3,4,6,7,8-HxCDF	736	0.1	73.6
1,2,3,7,8,9-HxCDF	696	0.1	69.6
1,2,3,4,6,7,8-HpCDF	77300	0.01	773
1,2,3,4,7,8,9-HpCDF	4170	0.01	41.7
OCDF	436000	0.0003	130.8
	Total	TEQ	8925.38

Ceres Analytical Laboratory Inc. Totals Results

Name: EMPC Tetra-Dioxins F:1 Mass: 319.897 321.894 #Hom:11
 File: 050614A1 S:13 Acq: 6-MAY-14 2Analyte: 1613 ICal: 1613-ms1-5-22-13
 Sample text: 10339-1188-001 B17-07.5 12.19g

		M1 area	M2 area	M1 height	M2 height	RA		Conc.
1	24:57	1.66e+06	2.17e+06	2.98e+05	4.11e+05	0.77	y	15.6
2	25:31	1.26e+06	1.54e+06	2.43e+05	2.90e+05	0.81	y	11.4
3	26:54	6.26e+05	8.19e+05	1.18e+05	1.52e+05	0.76	y	5.89
4	27:15	1.10e+05	1.36e+05	2.41e+04	3.07e+04	0.80	y	1.00
5	27:47	1.76e+05	1.79e+05	4.20e+04	4.78e+04	0.98	n	1.29
6	28:13	2.48e+06	3.18e+06	5.05e+05	6.67e+05	0.78	y	23.1
7	28:27	1.90e+05	2.70e+05	6.45e+04	6.60e+04	0.70	y	1.88
8	28:39	8.67e+04	1.14e+05	2.46e+04	3.95e+04	0.76	y	0.817
9	28:54	1.59e+05	2.06e+05	4.71e+04	5.66e+04	0.77	y	1.49
10	29:32	9.18e+04	5.76e+04	3.01e+04	1.55e+04	1.59	n	0.415
11	29:44	9.67e+04	9.77e+04	2.83e+04	1.98e+04	0.99	n	0.705

2,3,7,8-TCDD

Ceres Analytical Laboratory Inc. Totals Results

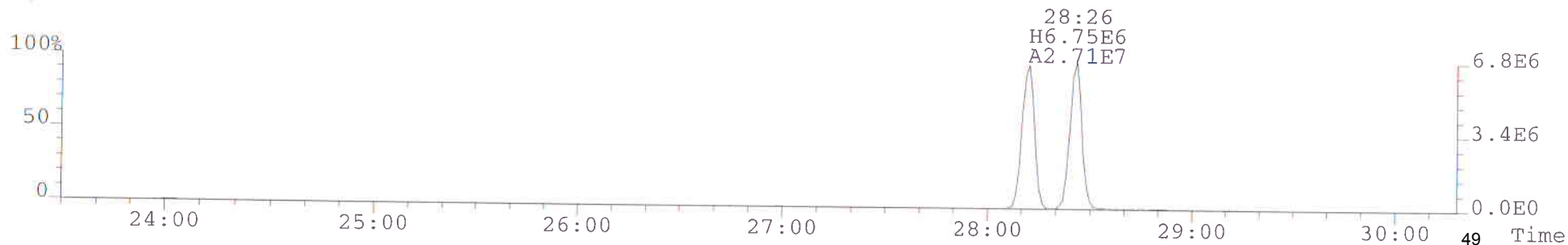
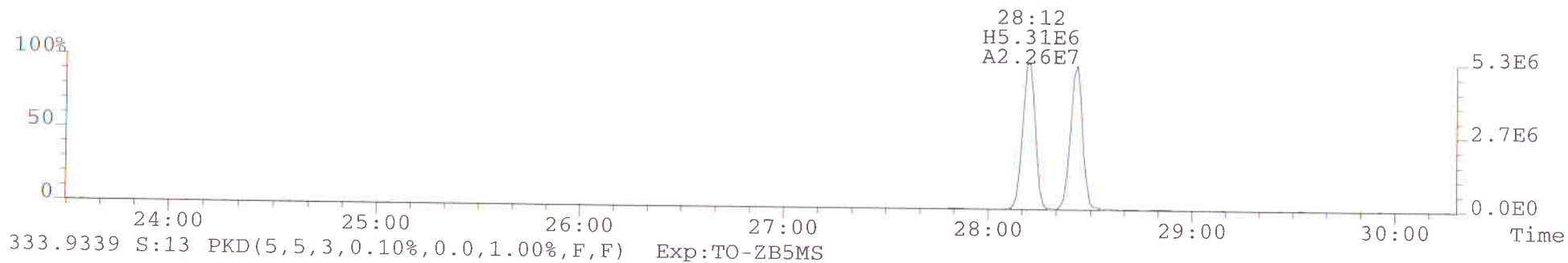
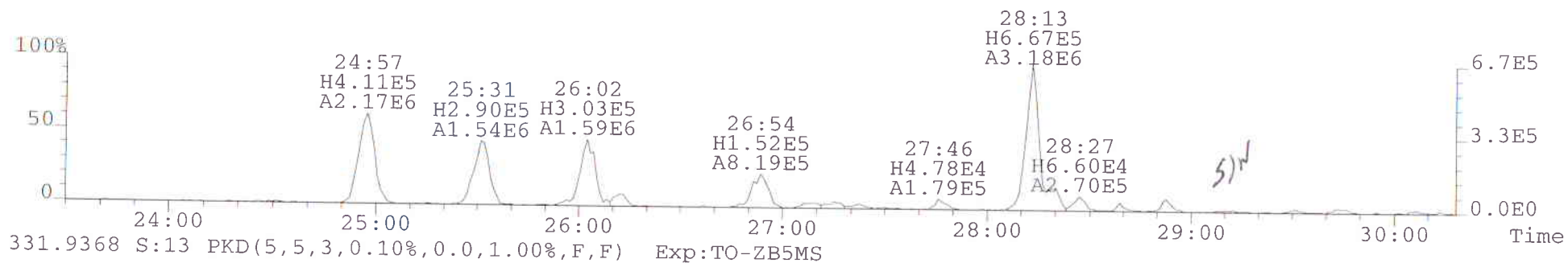
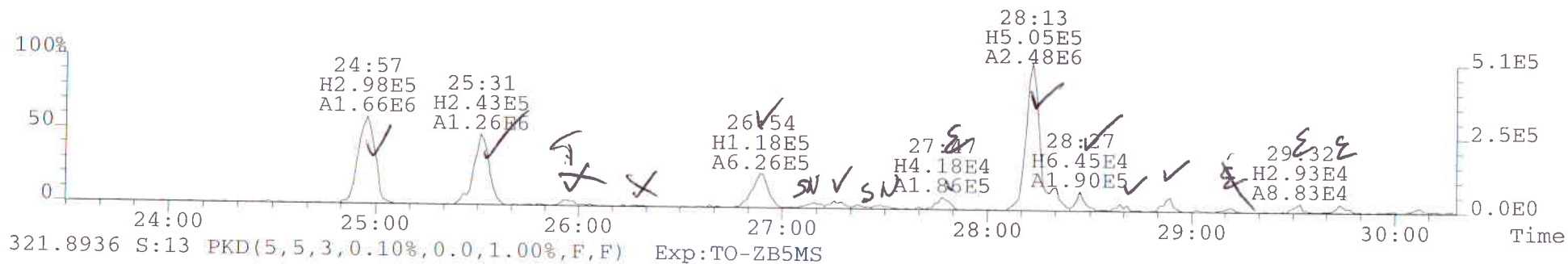
Page 4 of 18

Name: EMPC Penta-Dioxins F:2 Mass: 353.85» 355.855 #Hom:13
File: 050614A1 S:13 Acq: 6-MAY-14 2Analyte: 1613 ICal: 1613-ms1-5-22-13
Sample text: 10339-1188-001 B17-07.5 12.19g

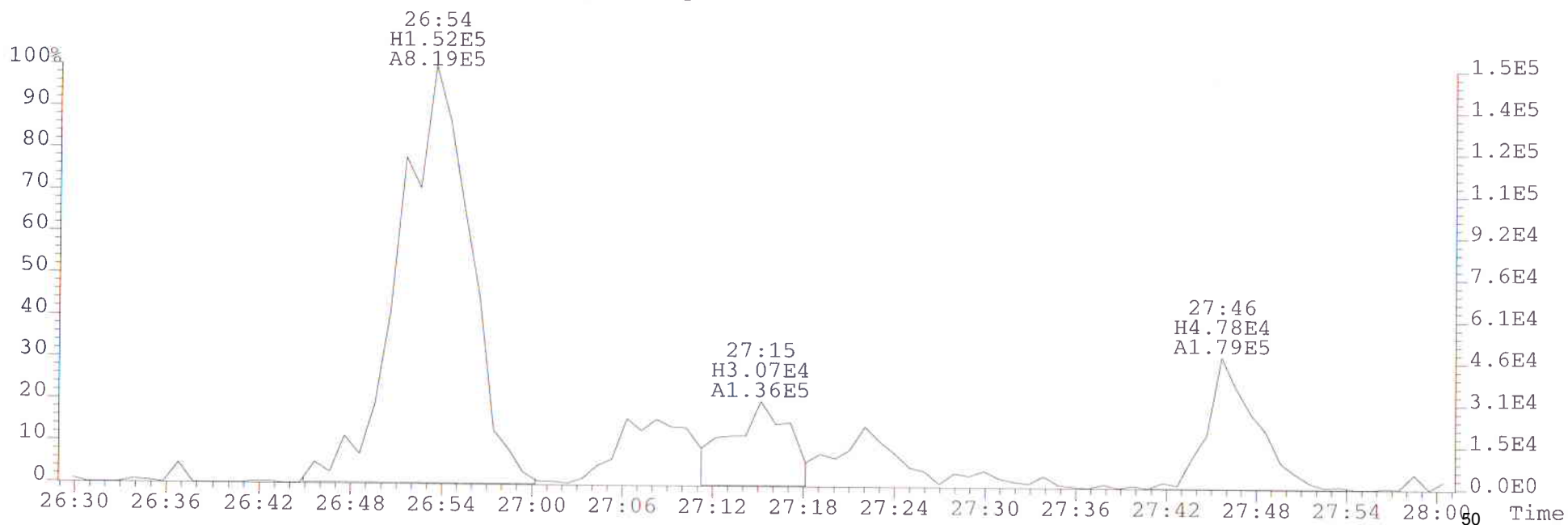
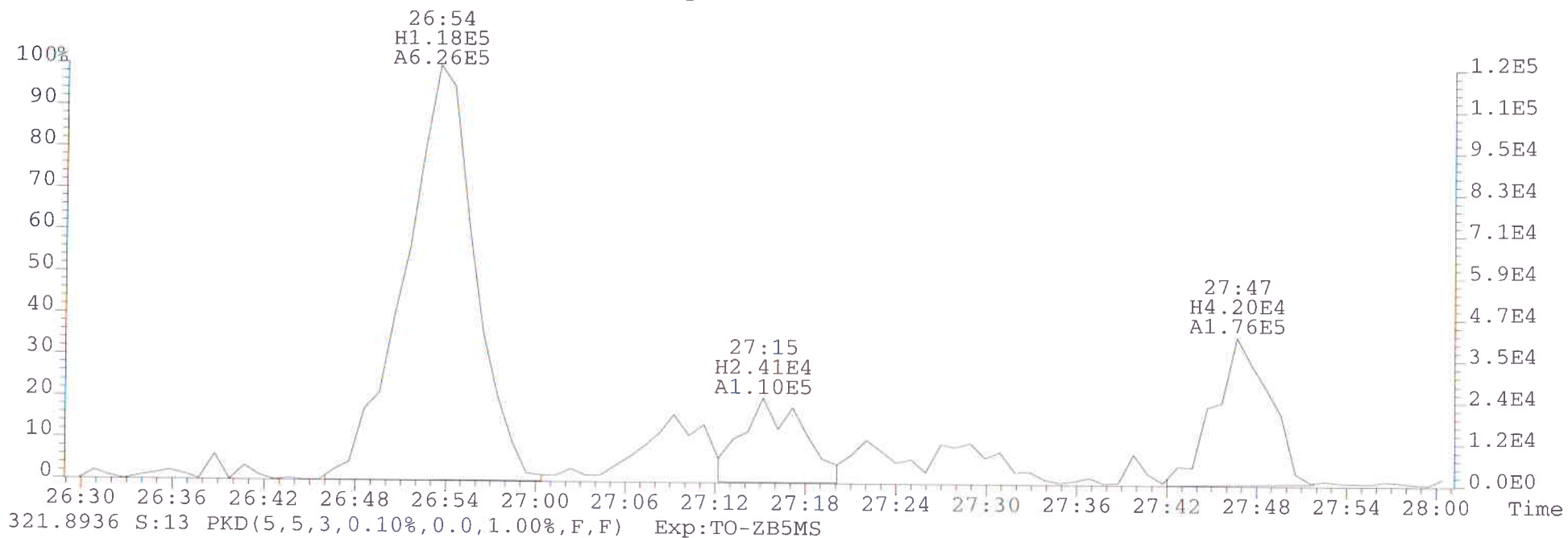
	M1 area	M2 area	M1 height	M2 height	RA		Conc.
1	31:32	2.95e+06	4.88e+06	7.47e+05	1.21e+06	0.60 y	35.4
2	31:58	5.77e+05	4.58e+05	1.53e+05	1.26e+05	1.26 n	3.35
3	32:07	3.58e+05	4.87e+05	1.11e+05	1.46e+05	0.74 n	3.56
4	32:24	4.08e+06	6.48e+06	1.27e+06	1.96e+06	0.63 y	47.7
5	32:33	2.02e+06	3.14e+06	5.62e+05	9.38e+05	0.64 y	23.3
6	32:45	1.66e+06	2.55e+06	5.16e+05	7.55e+05	0.65 y	19.0
7	32:57	6.44e+05	1.15e+06	1.68e+05	2.79e+05	0.56 y	8.11
8	33:03	6.86e+05	1.20e+06	1.51e+05	2.63e+05	0.57 y	8.50
9	33:16	1.09e+06	1.62e+06	2.48e+05	3.83e+05	0.67 y	12.2
10	33:25	6.99e+05	1.05e+06	1.39e+05	2.21e+05	0.66 y	7.91
11	33:38	4.31e+06	6.78e+06	1.18e+06	1.92e+06	0.64 y	50.1
12	33:47	5.48e+05	8.73e+05	1.25e+05	2.47e+05	0.63 y	6.42
13	34:08	5.15e+05	7.17e+05	1.01e+05	1.61e+05	0.72 n	5.24

1,2,3,7,8-PeCDD

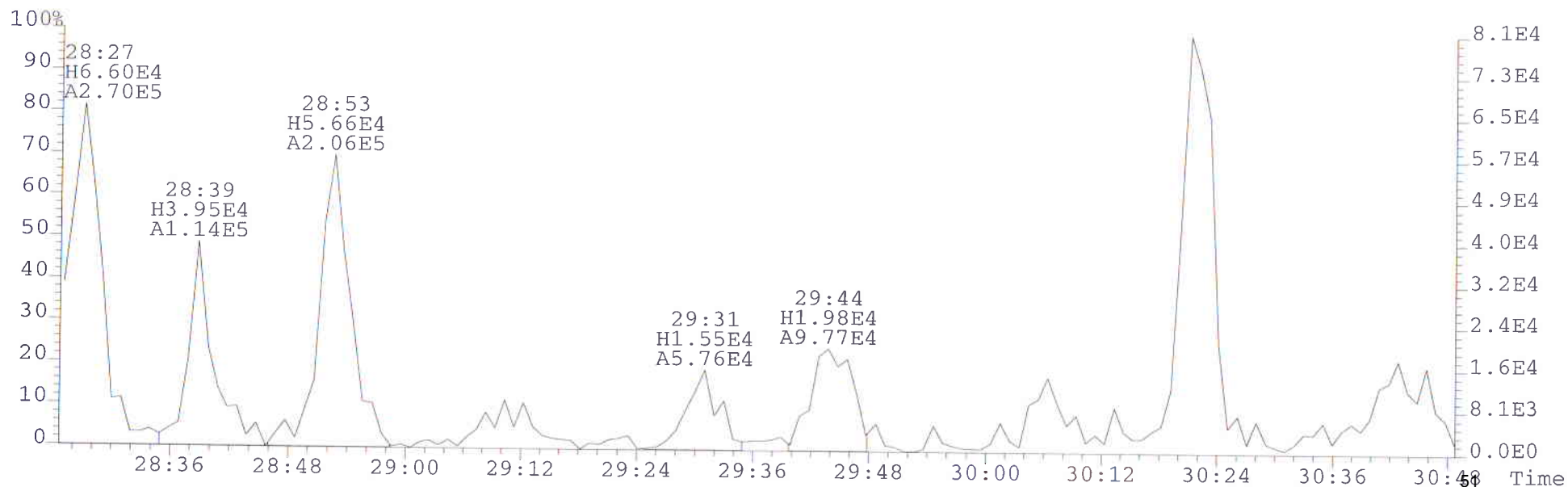
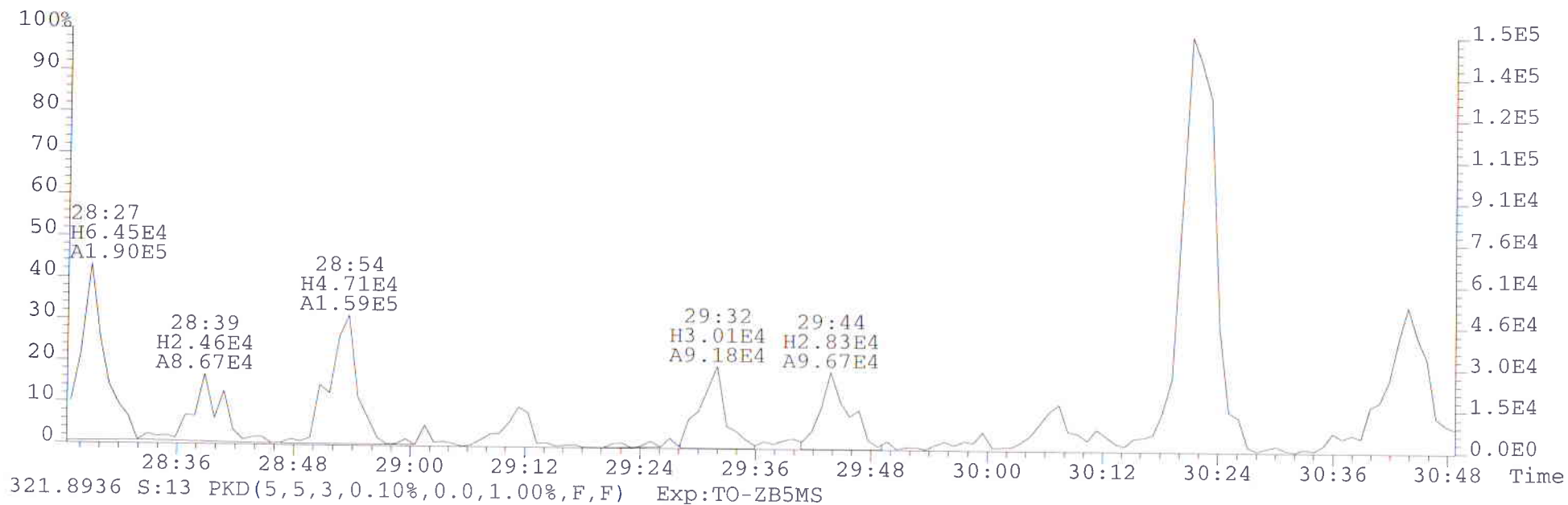
File:050614A1 #1-659 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
 Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
 319.8965 S:13 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



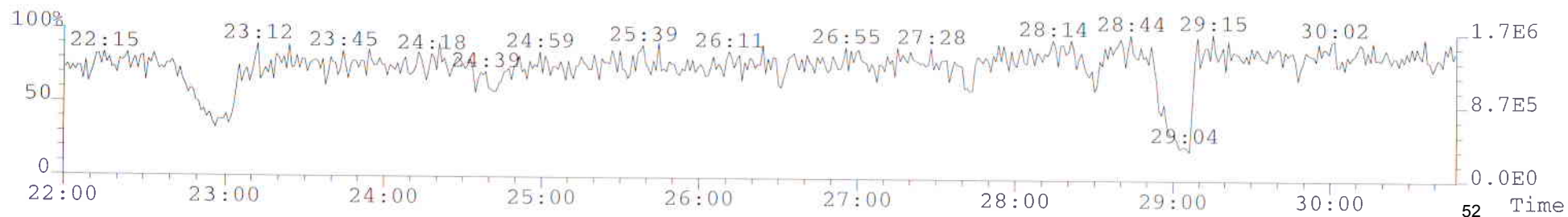
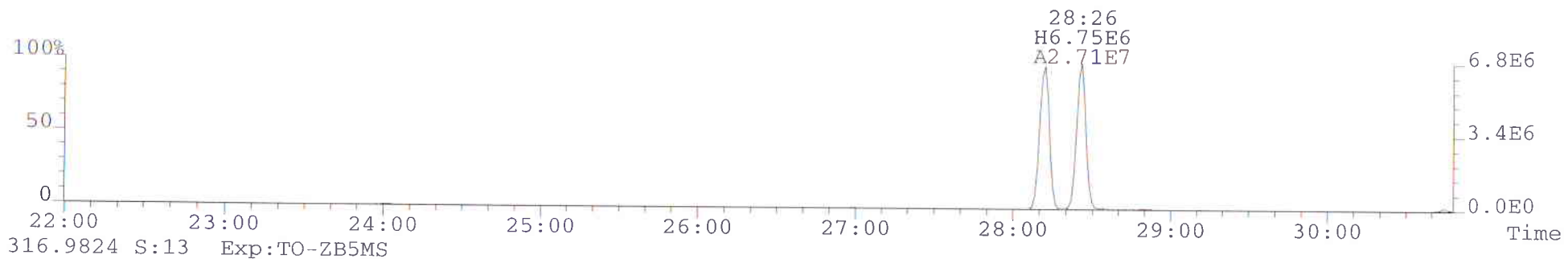
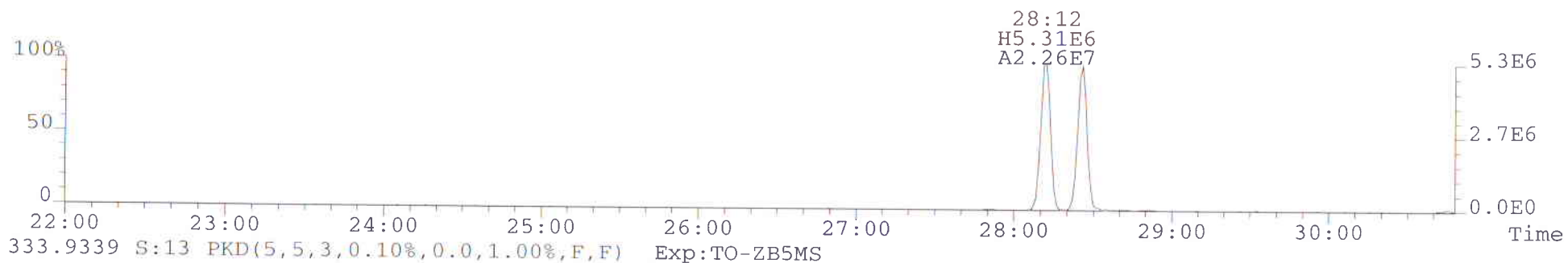
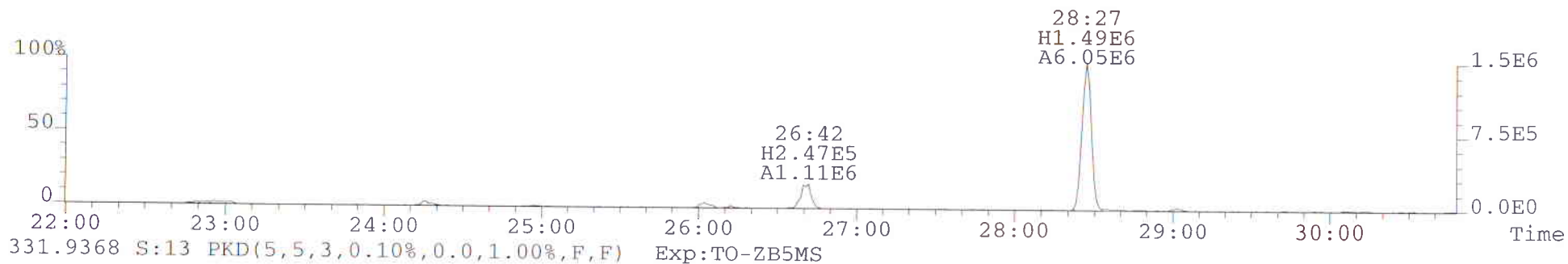
File:050614A1 #1-659 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
319.8965 S:13 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



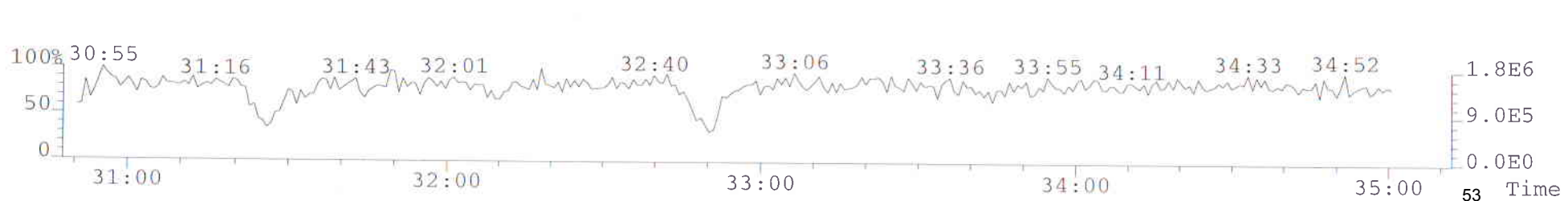
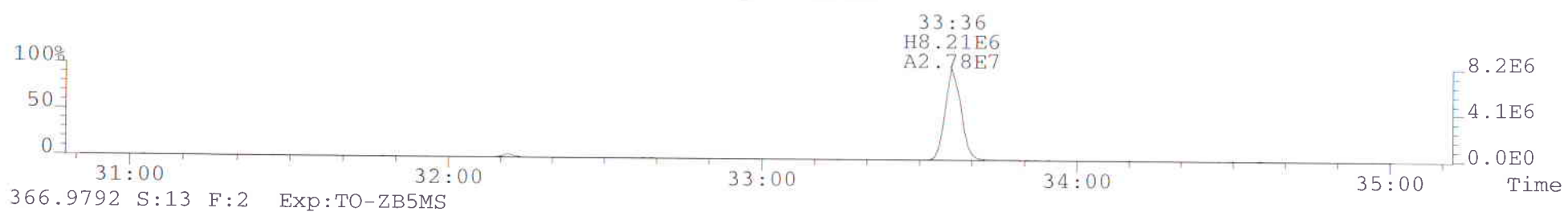
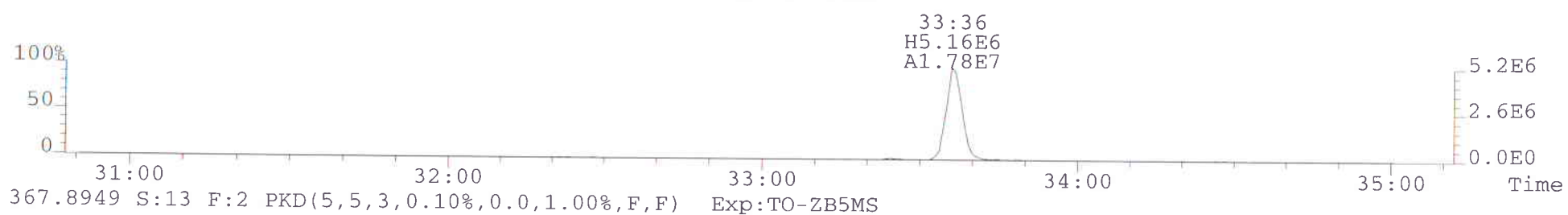
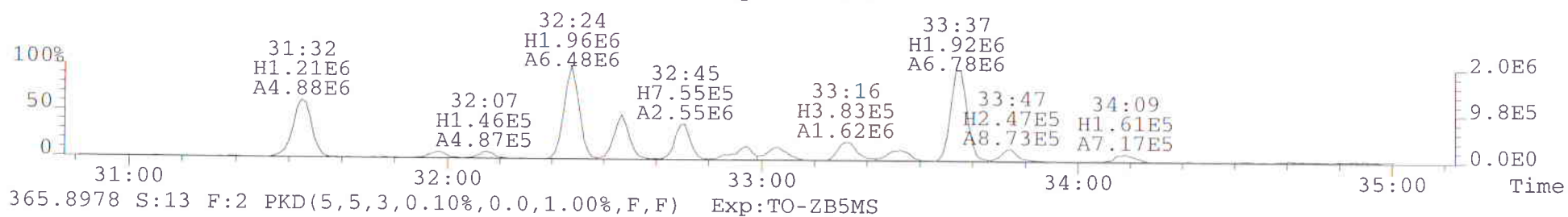
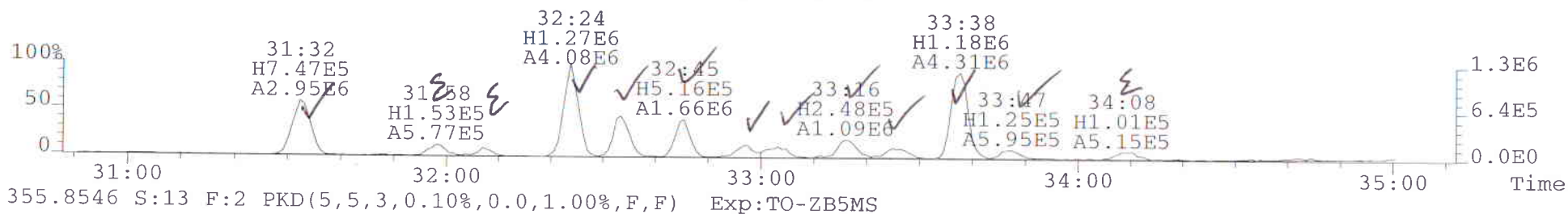
File:050614A1 #1-659 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
 Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
 319.8965 S:13 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



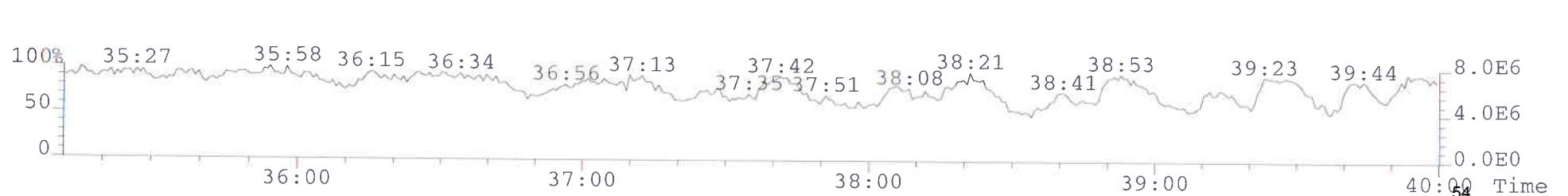
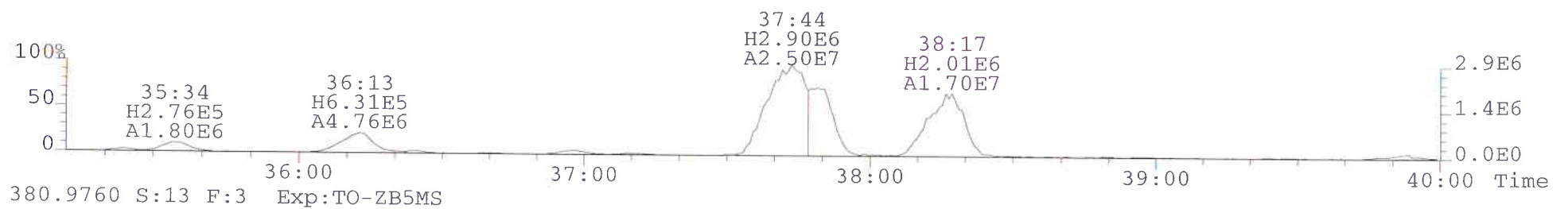
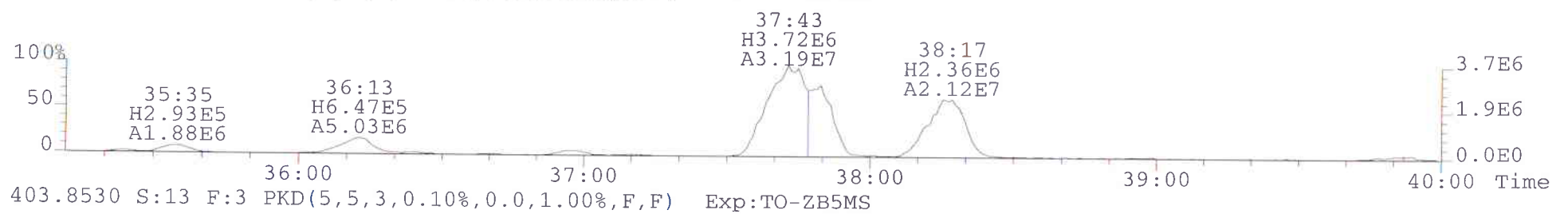
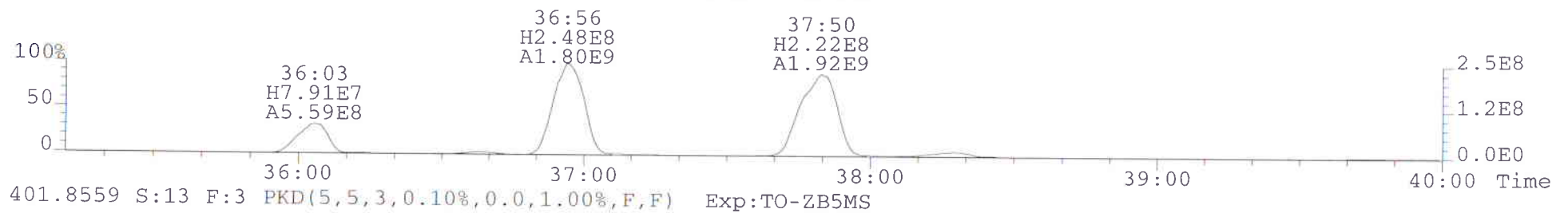
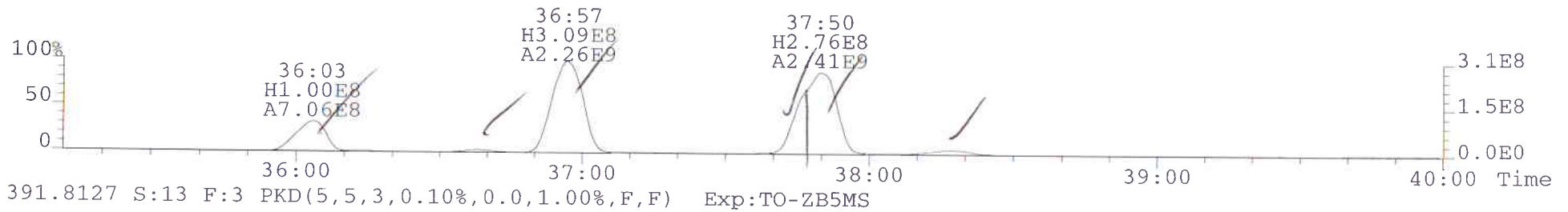
File:050614A1 #1-659 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
327.8847 S:13 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



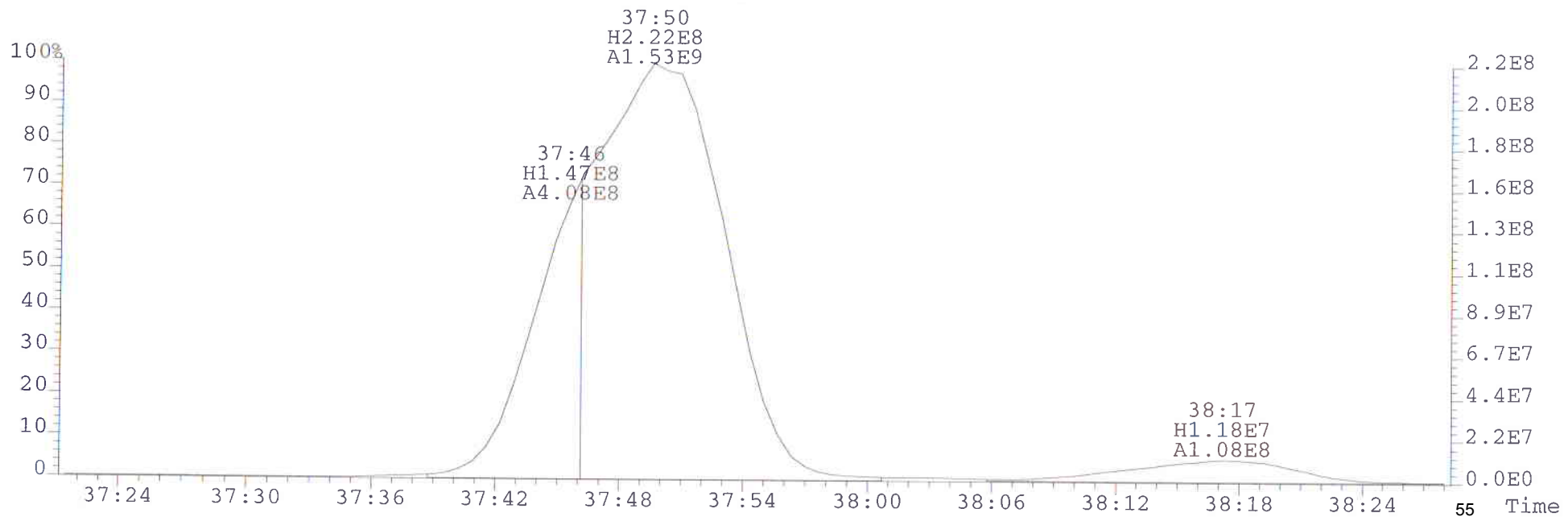
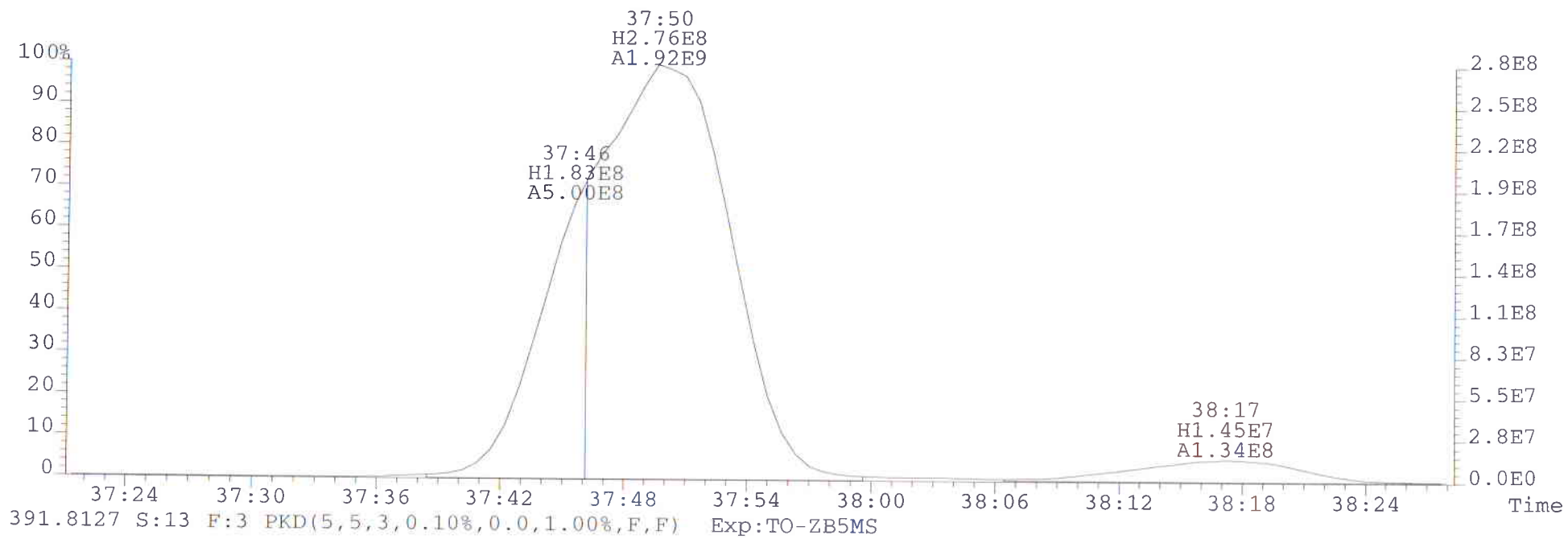
File:050614A1 #1-312 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
353.8576 S:13 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



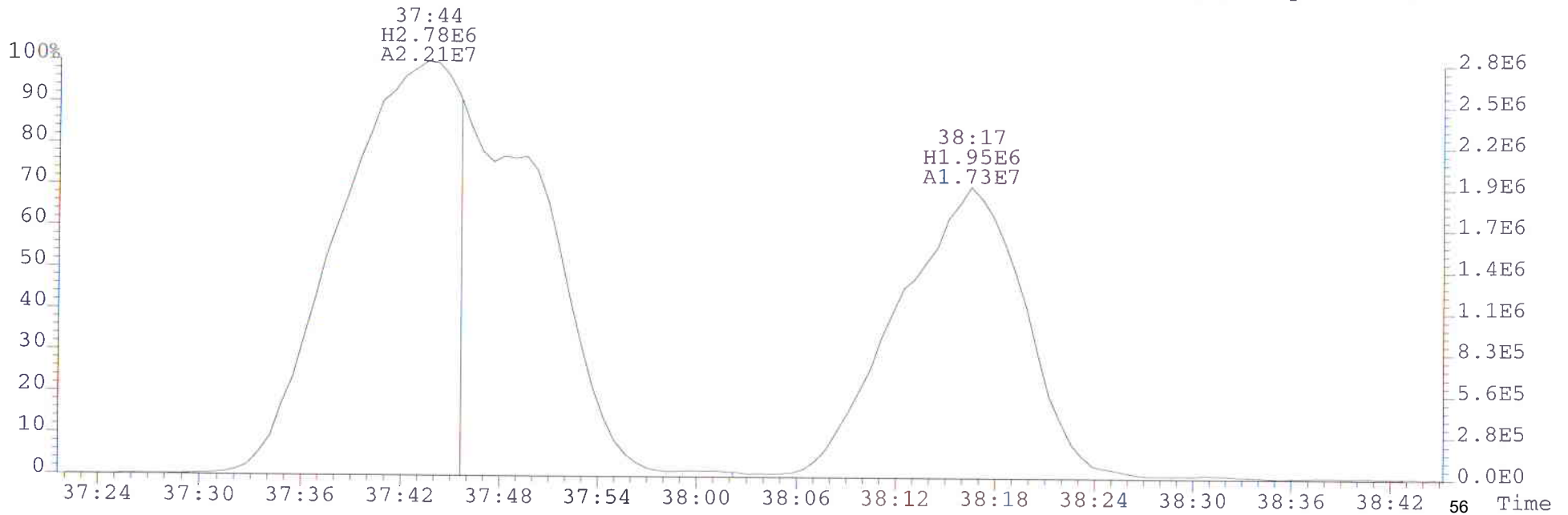
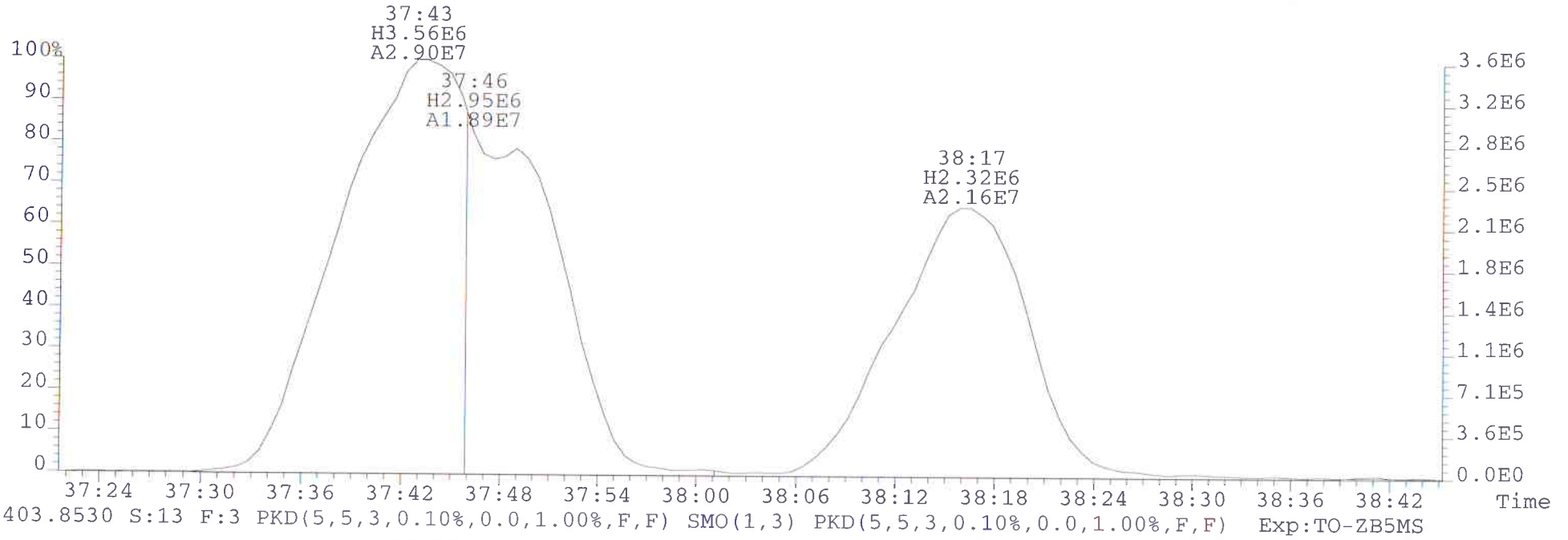
File:050614A1 #1-444 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
389.8156 S:13 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



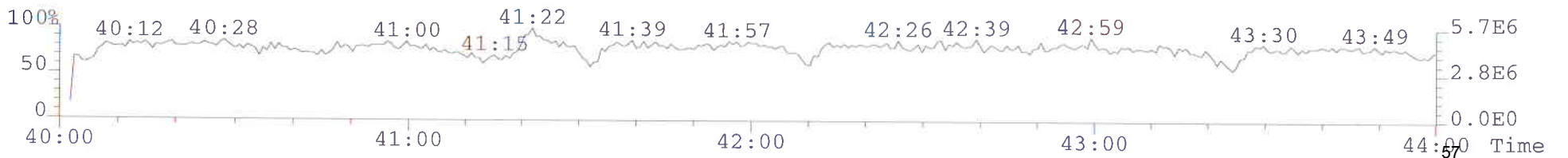
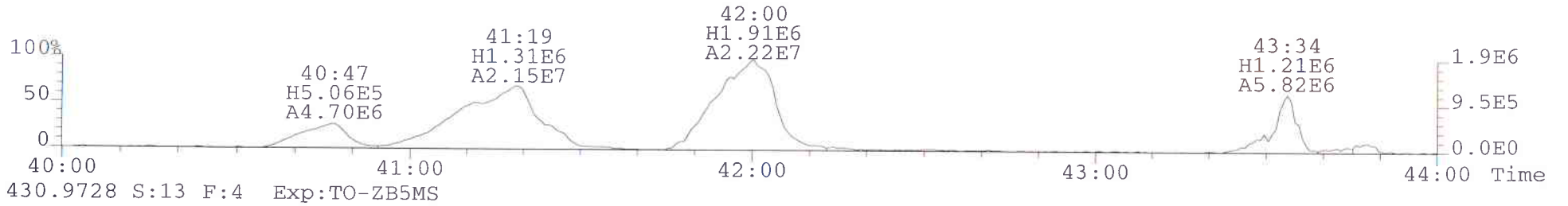
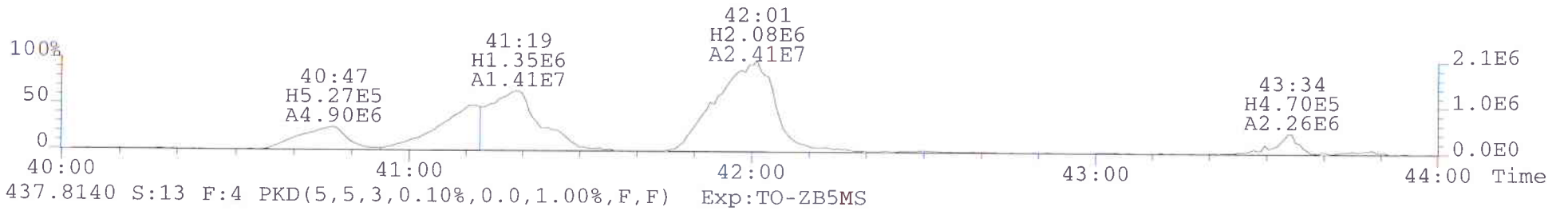
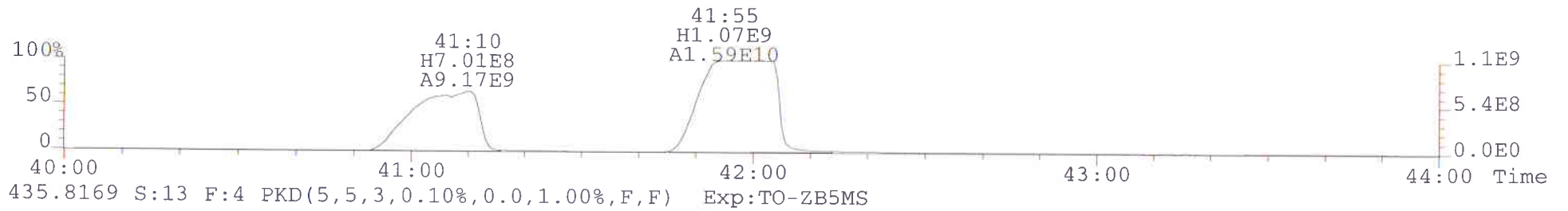
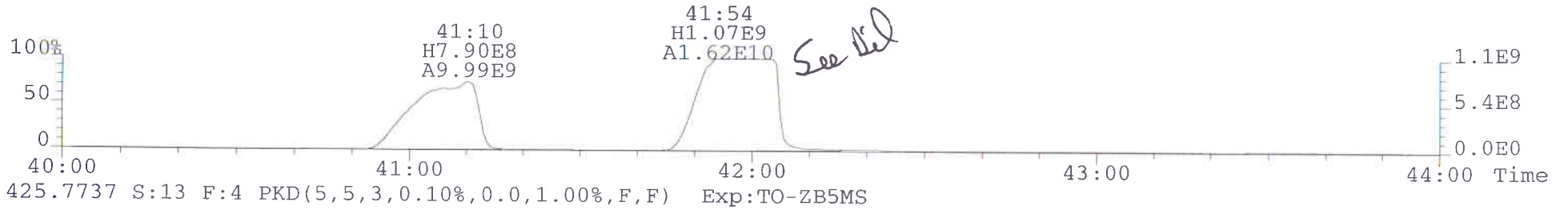
File:050614A1 #1-444 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
389.8156 S:13 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



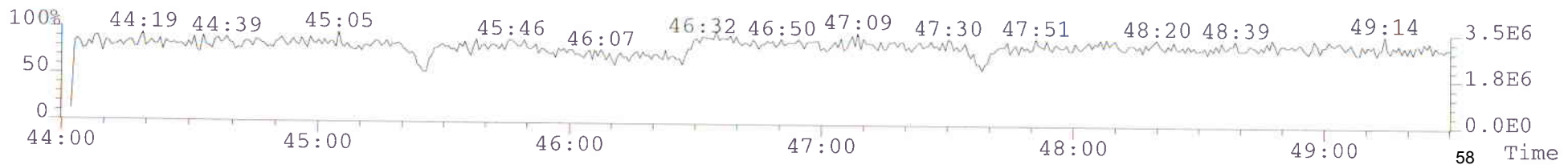
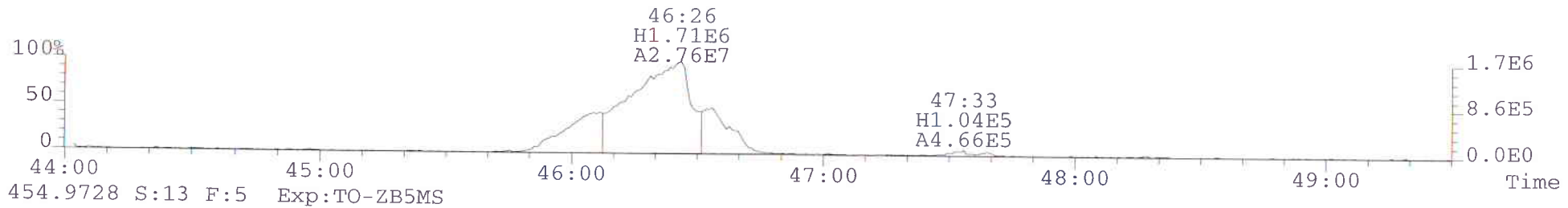
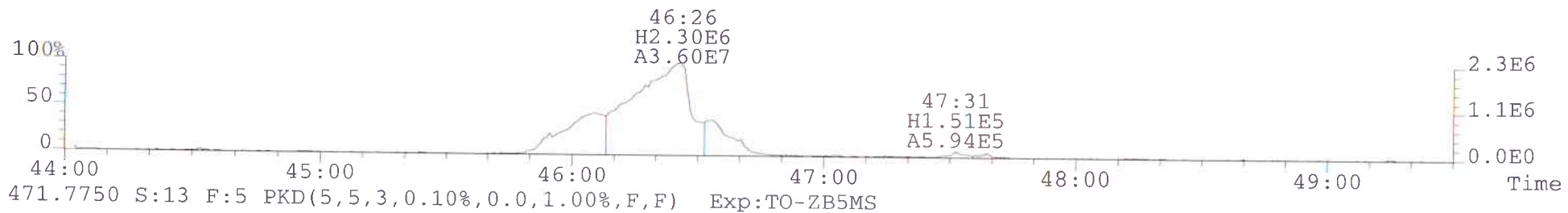
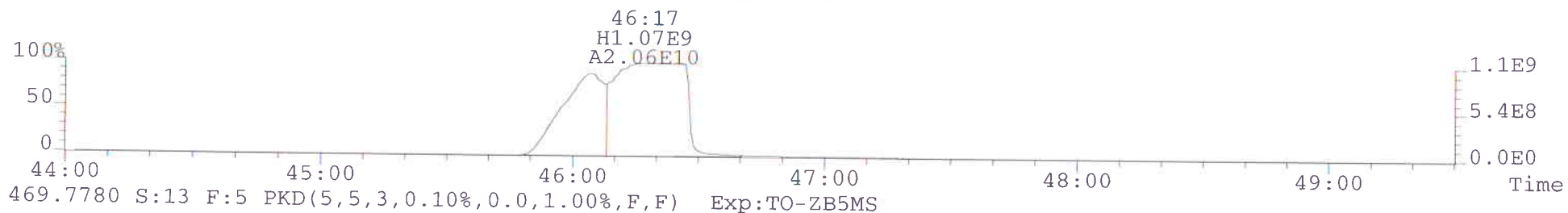
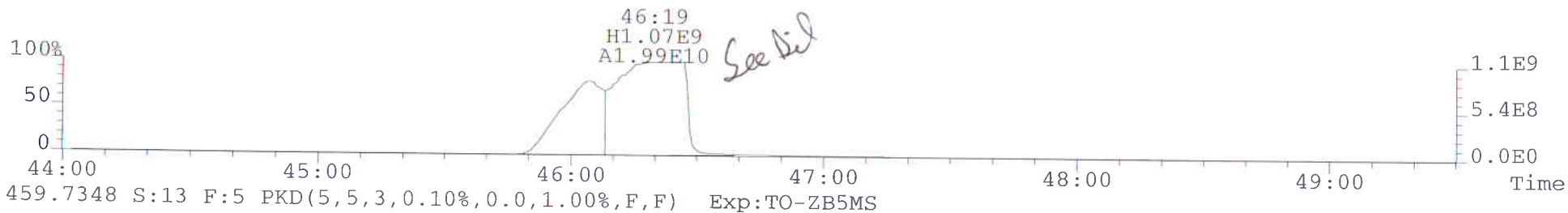
File:050614A1 #1-444 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
 Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
 401.8559 S:13 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) SMO(1,3) PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



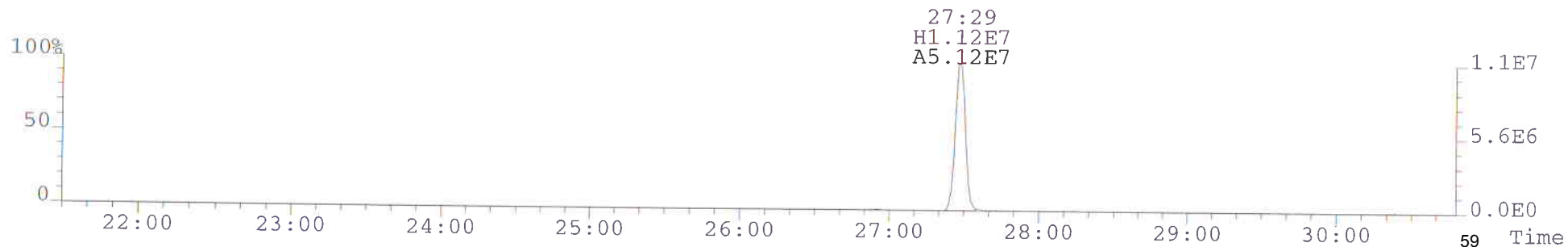
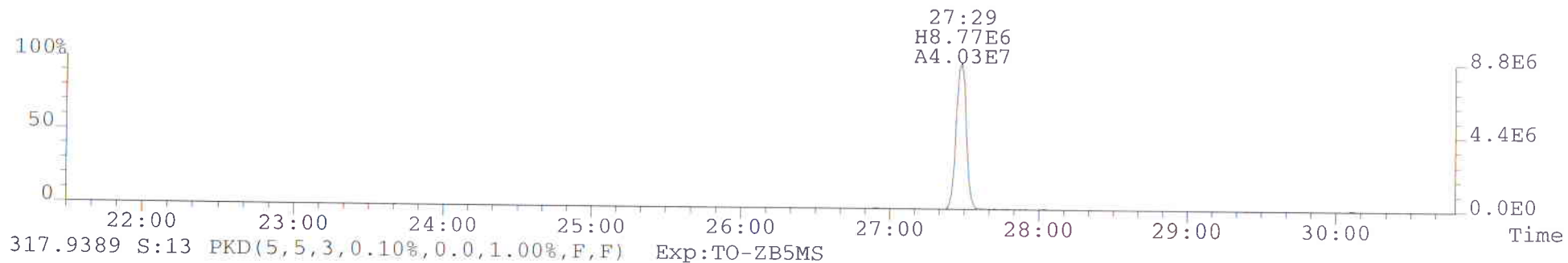
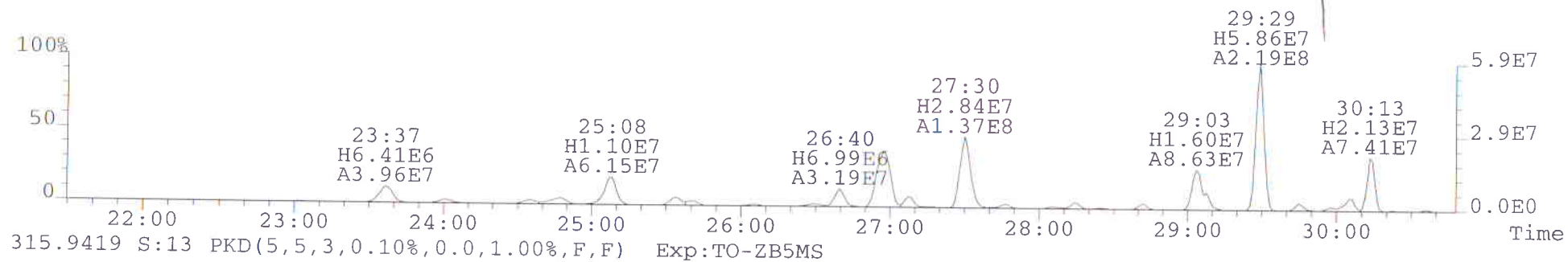
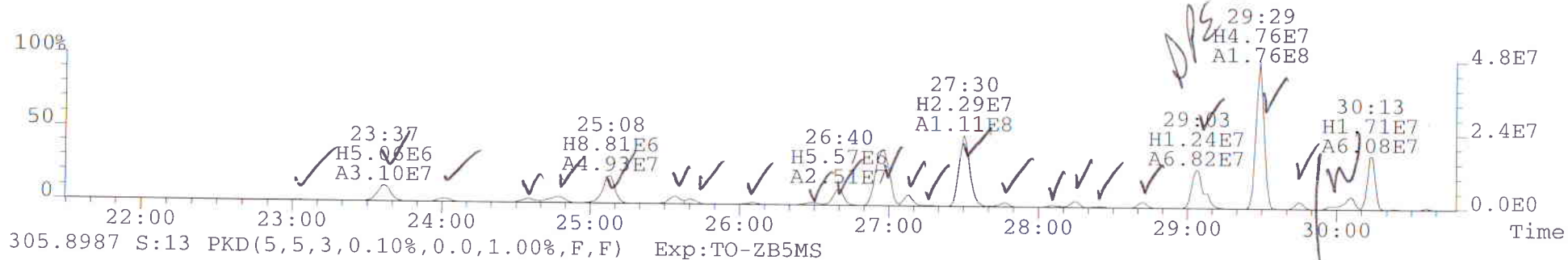
File:050614A1 #1-356 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
423.7767 S:13 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



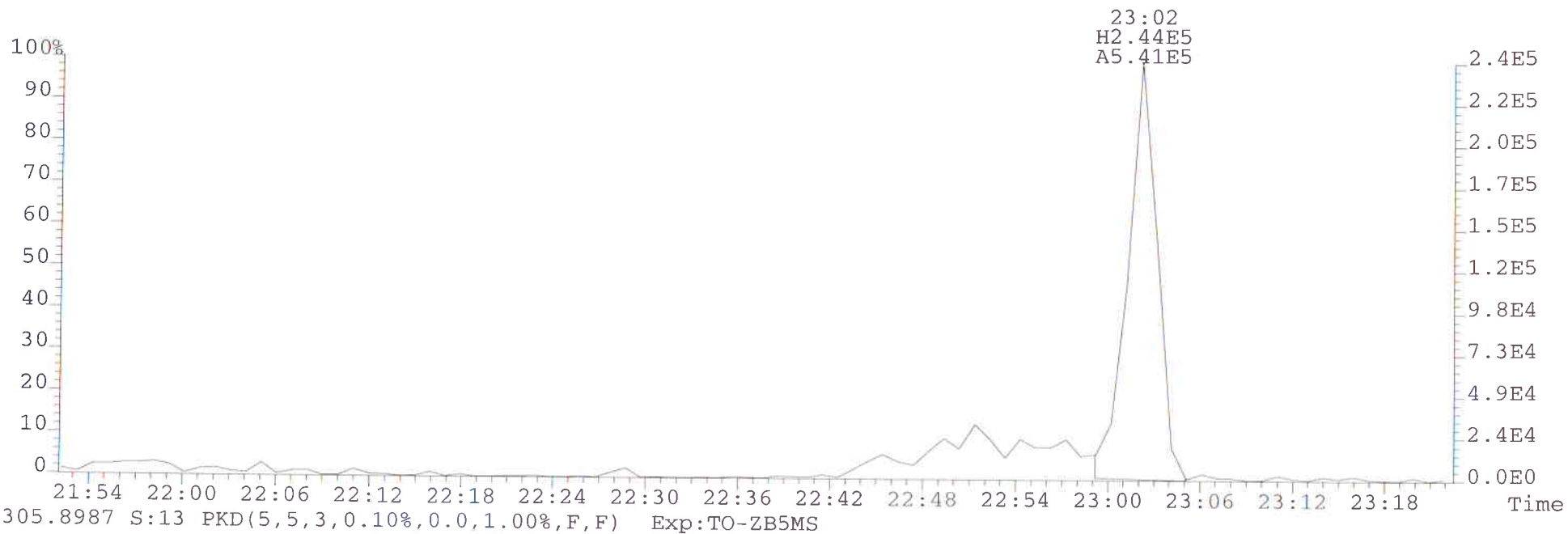
File:050614A1 #1-489 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
457.7377 S:13 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



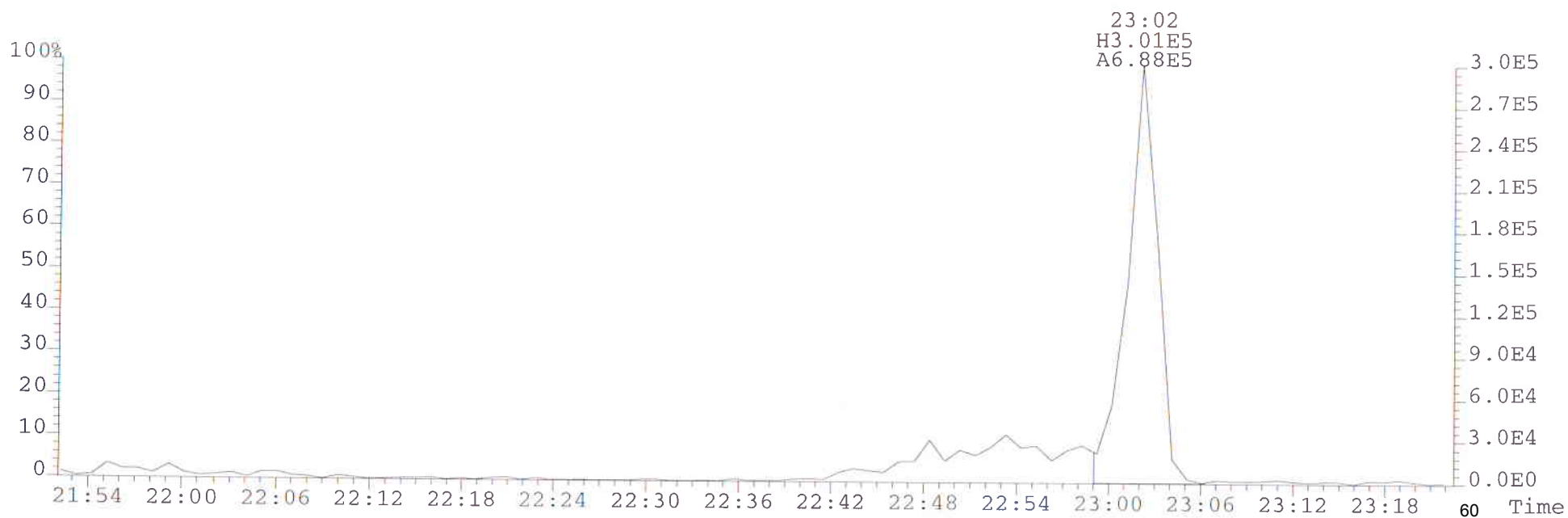
File:050614A1 #1-659 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
303.9016 S:13 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



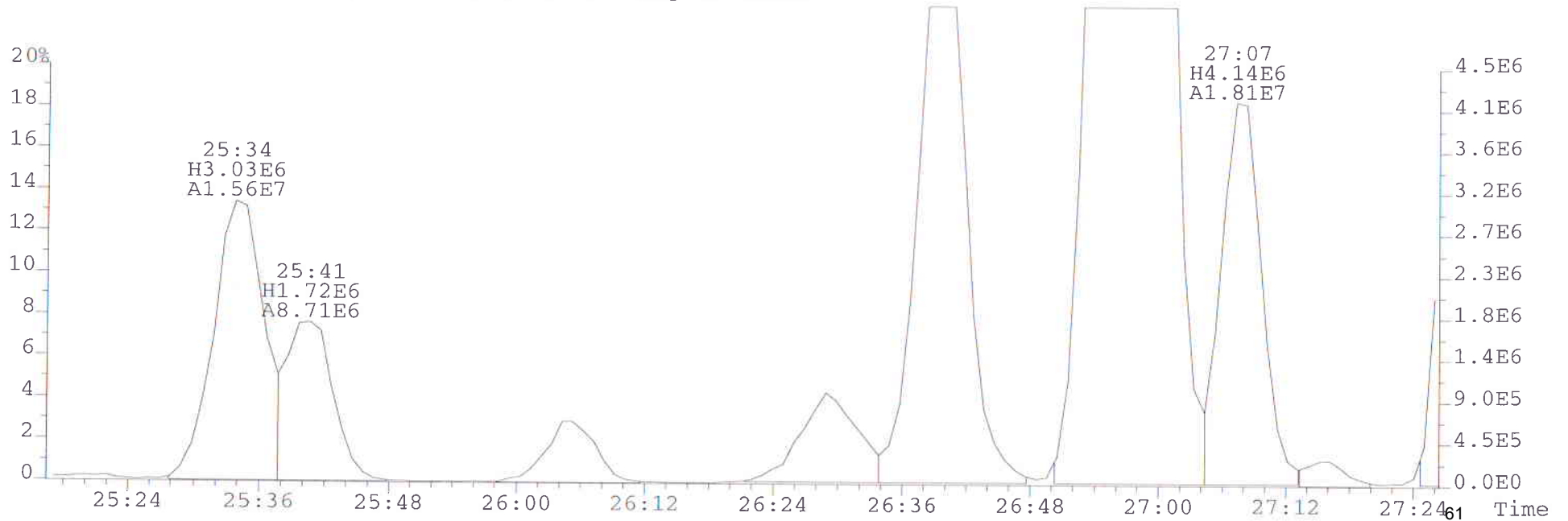
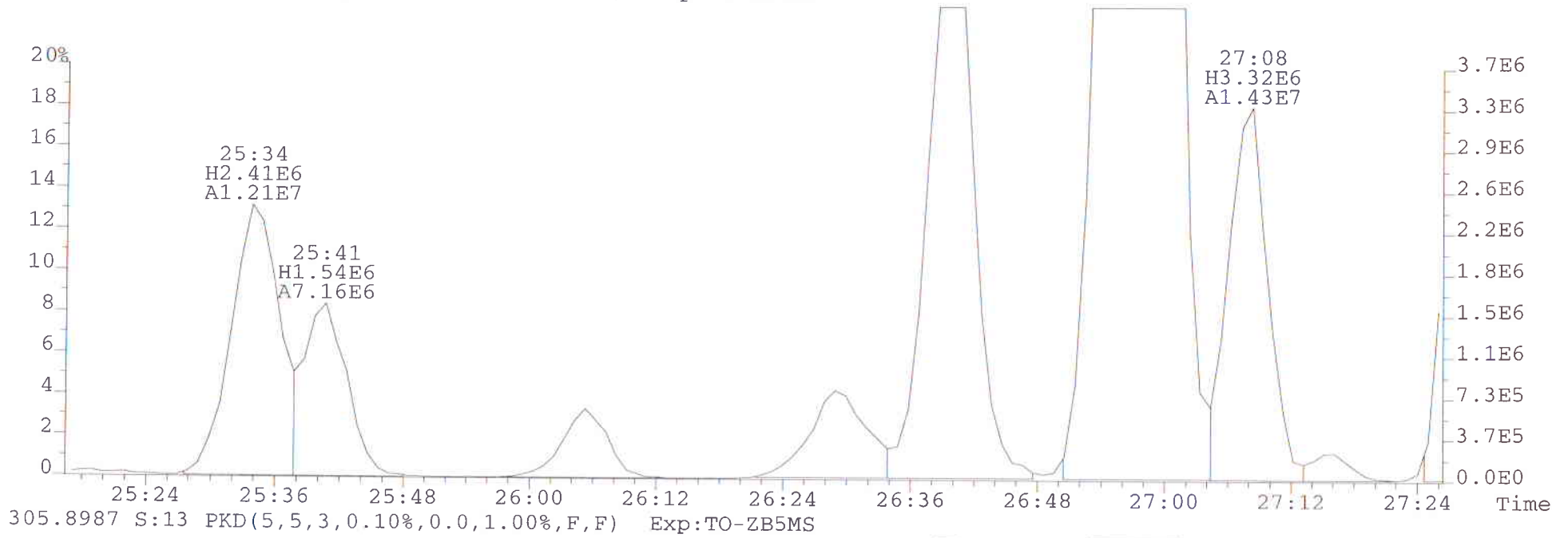
File:050614A1 #1-659 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
303.9016 S:13 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



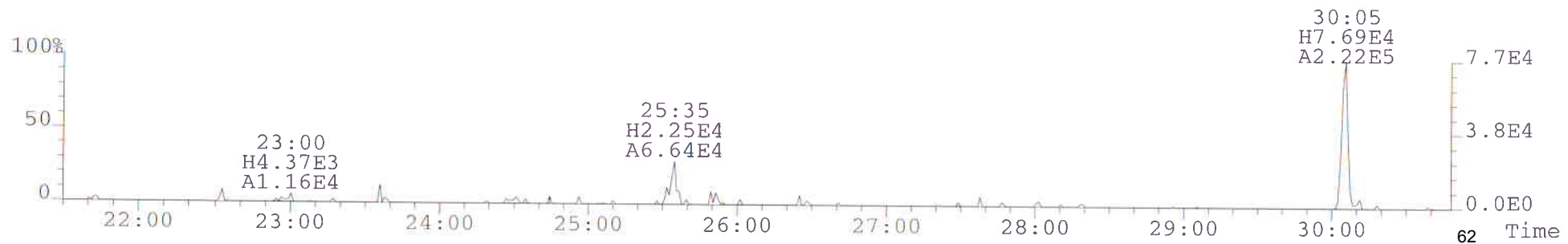
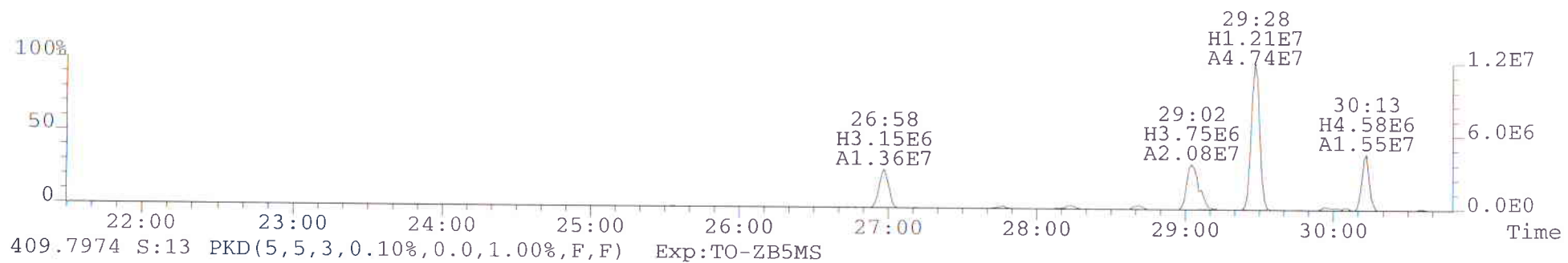
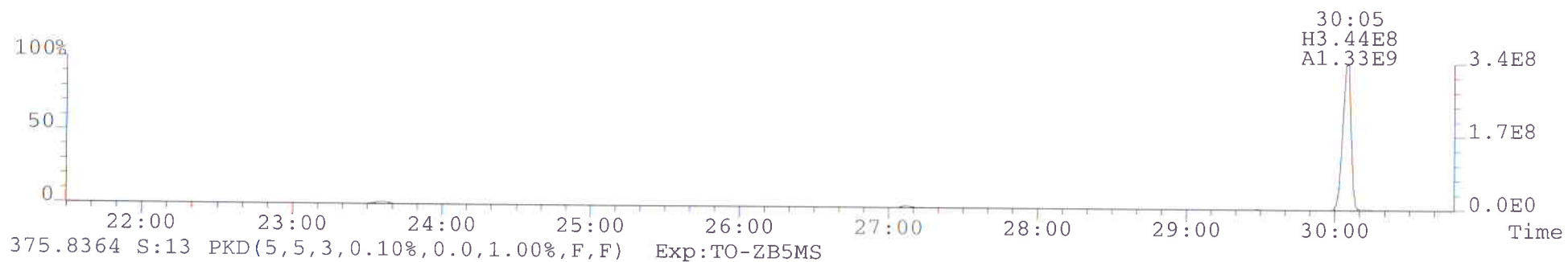
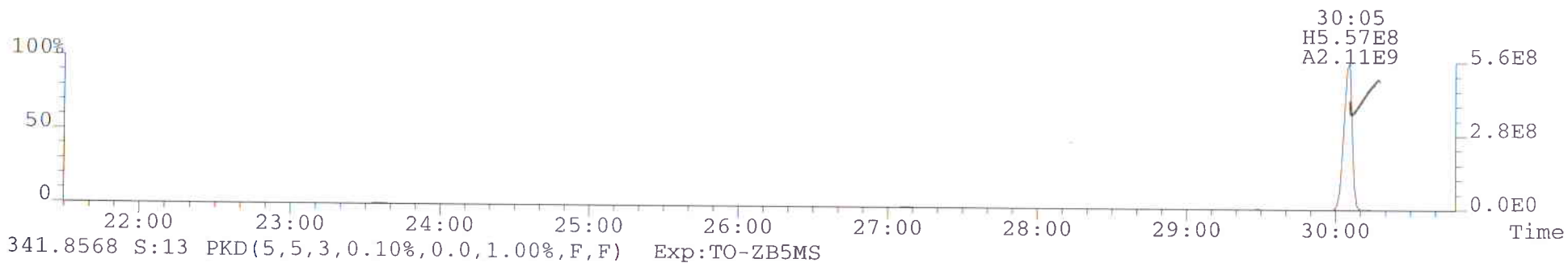
305.8987 S:13 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



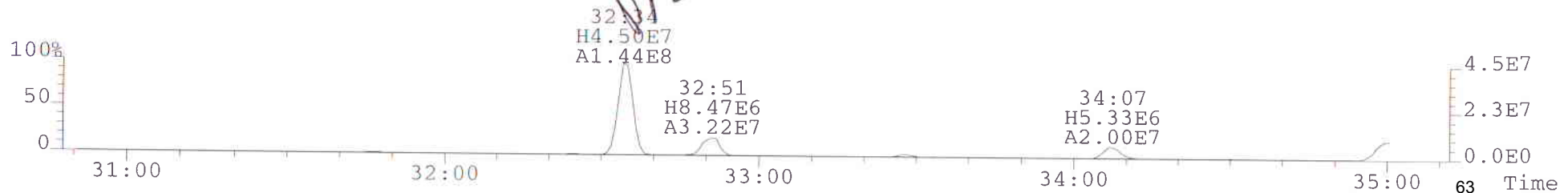
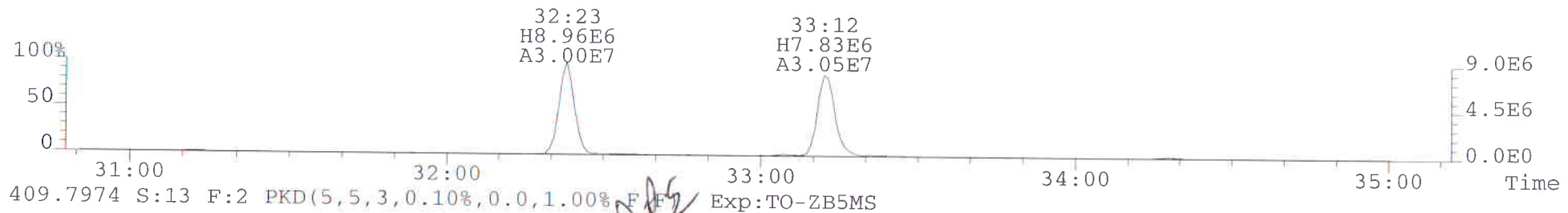
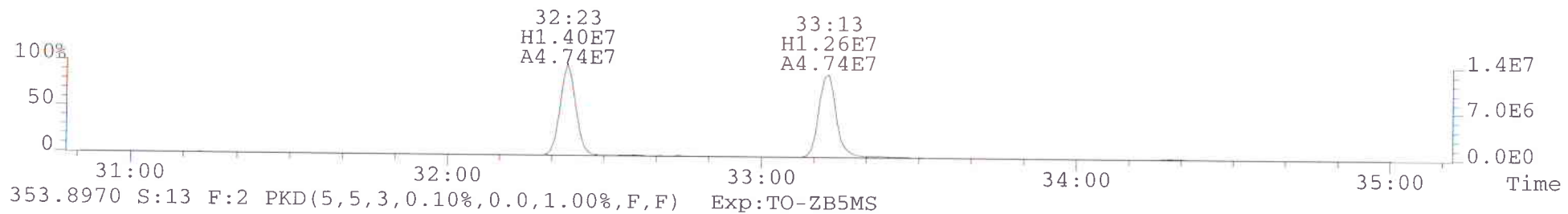
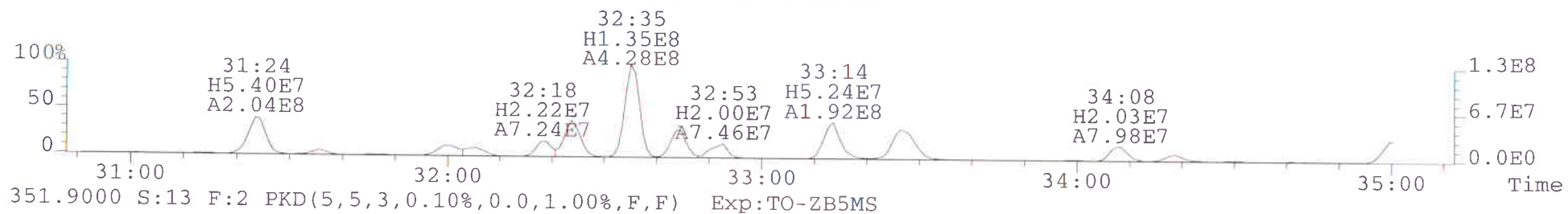
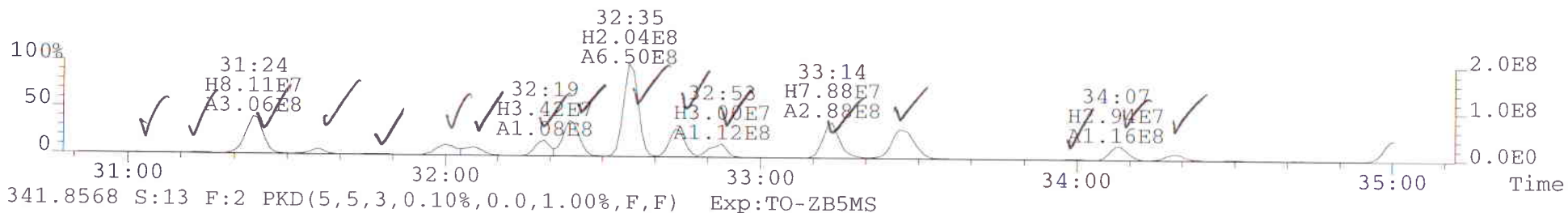
File:050614A1 #1-659 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
303.9016 S:13 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



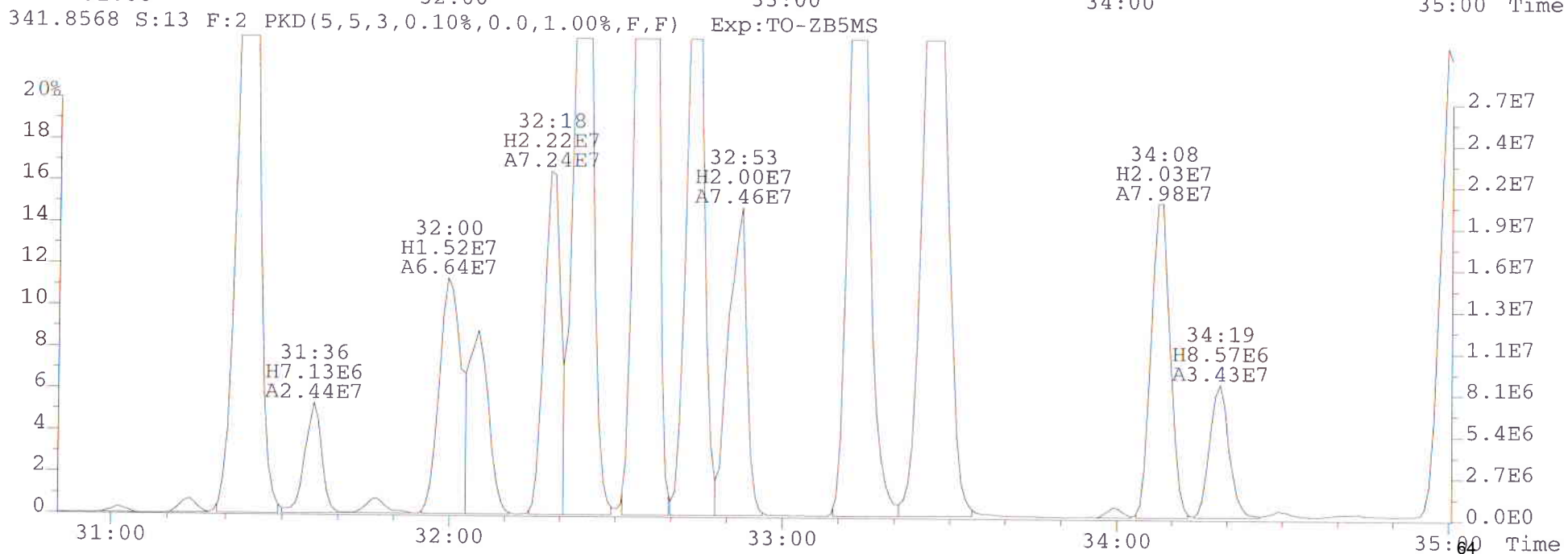
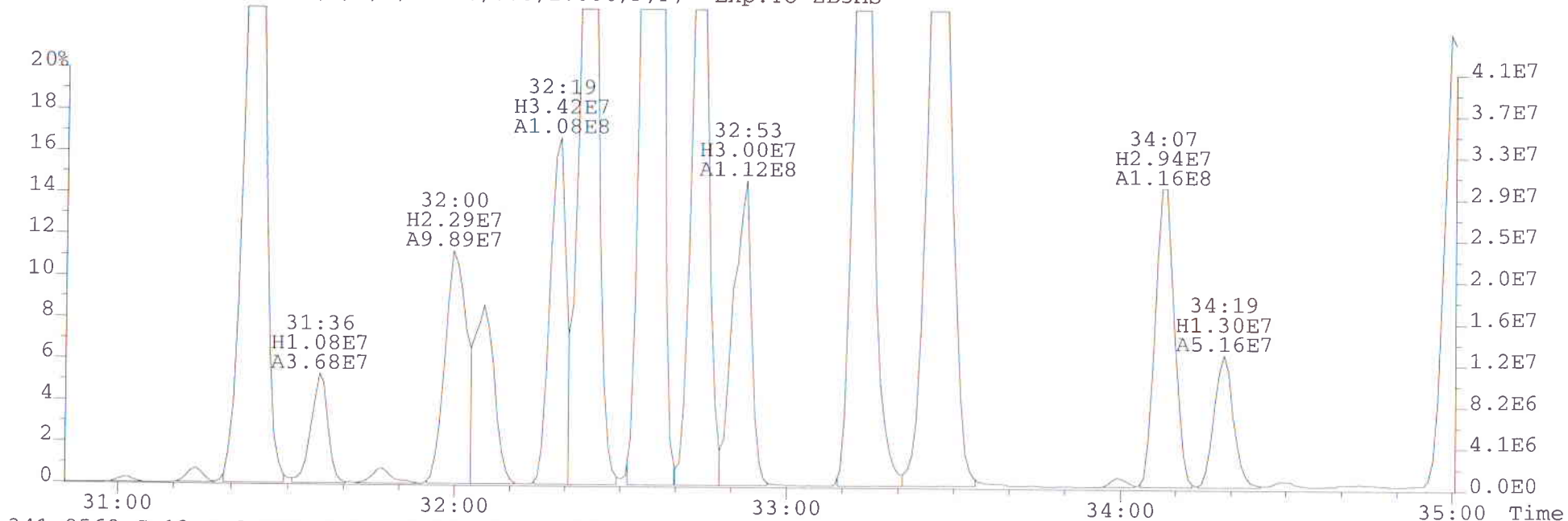
File:050614A1 #1-659 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
339.8597 S:13 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



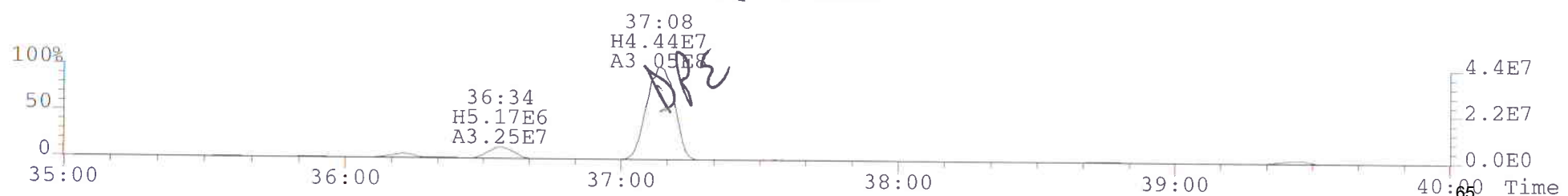
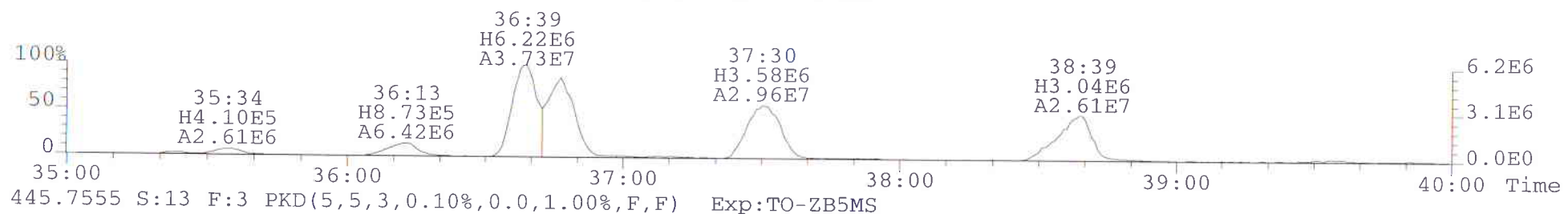
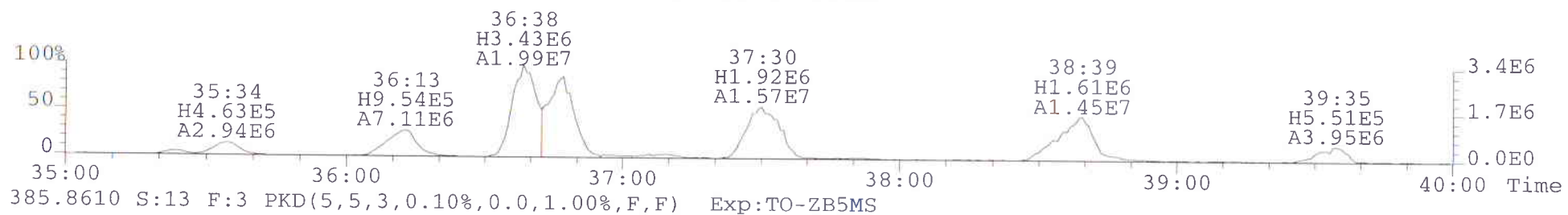
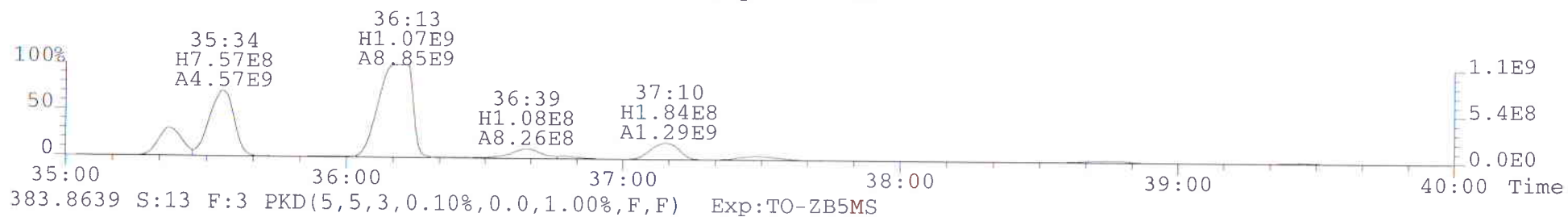
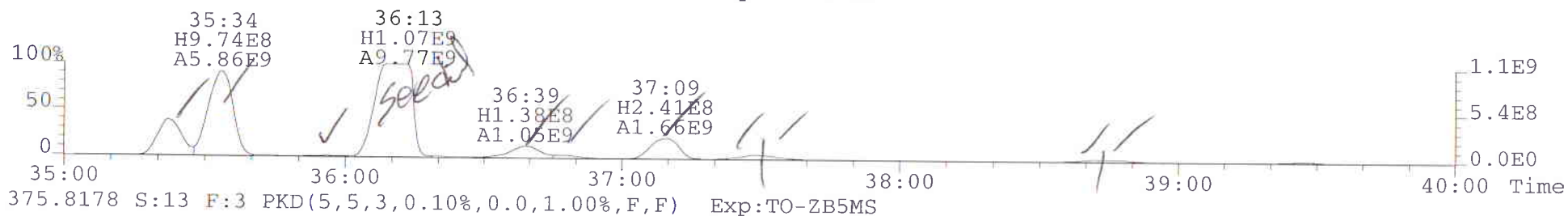
File:050614A1 #1-312 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
339.8597 S:13 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



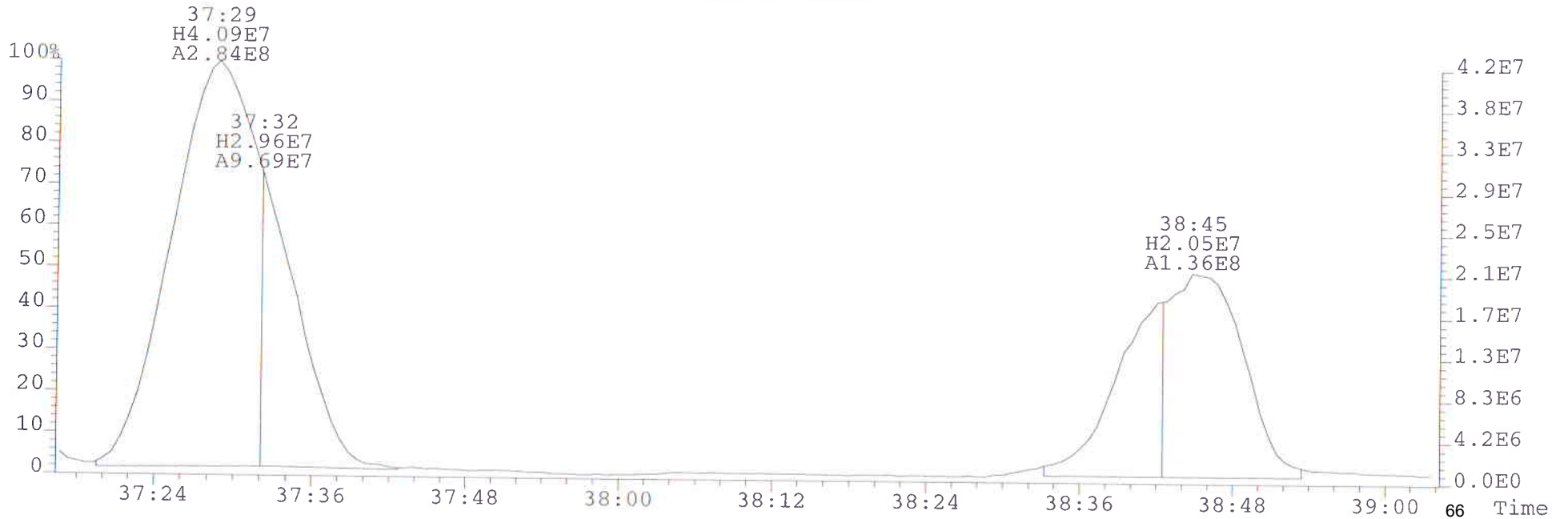
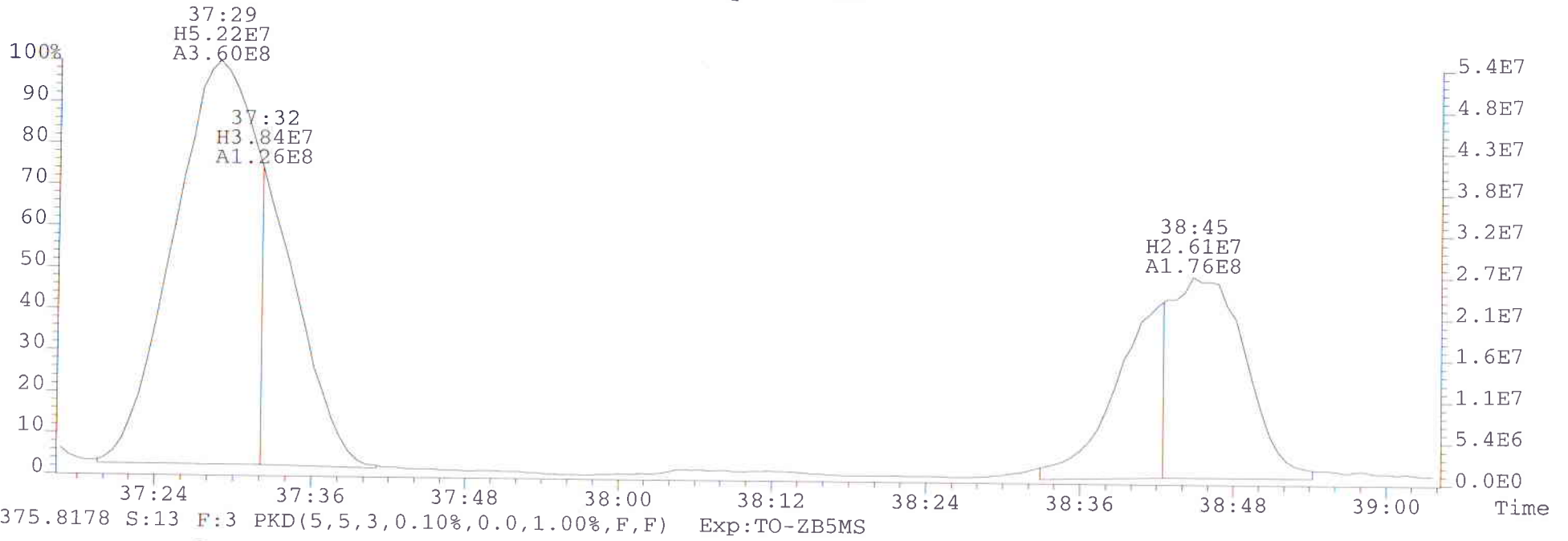
File:050614A1 #1-312 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
339.8597 S:13 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



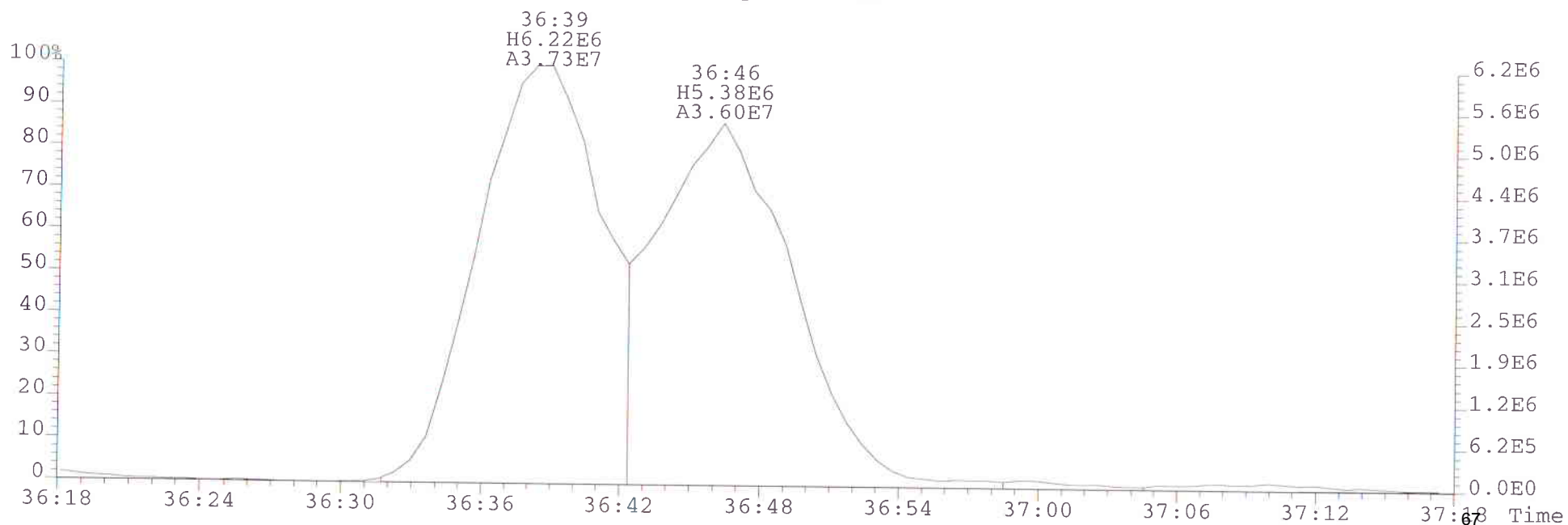
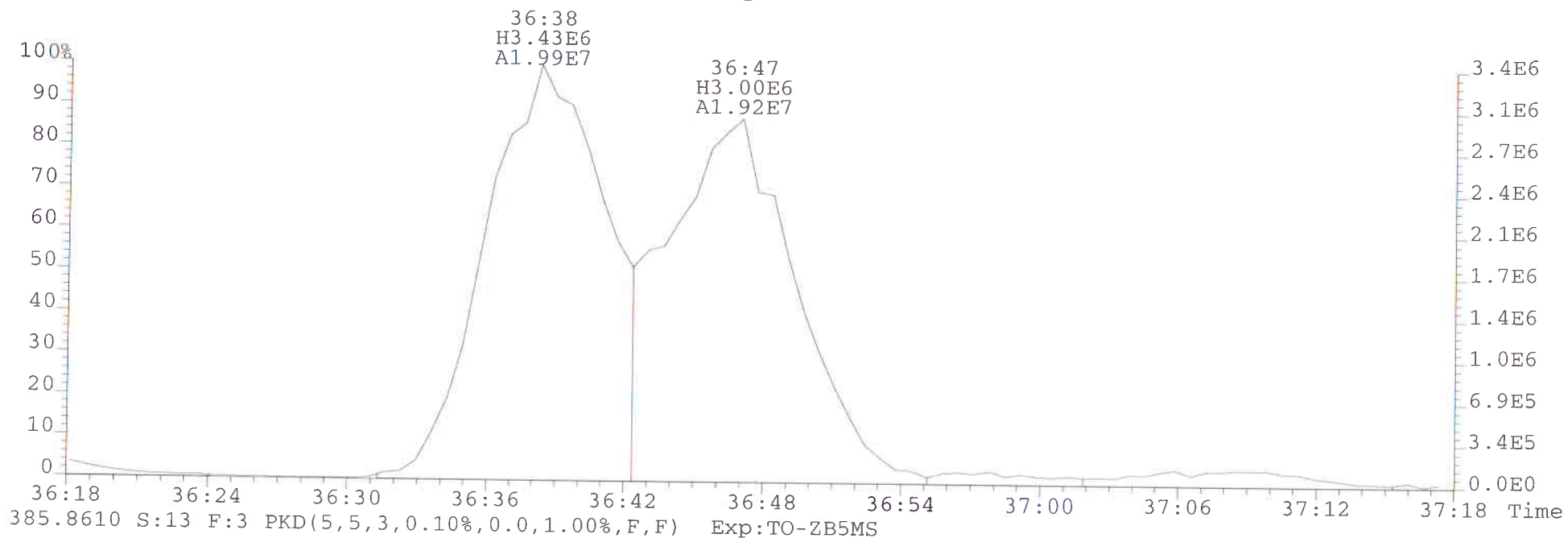
File:050614A1 #1-444 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
373.8207 S:13 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



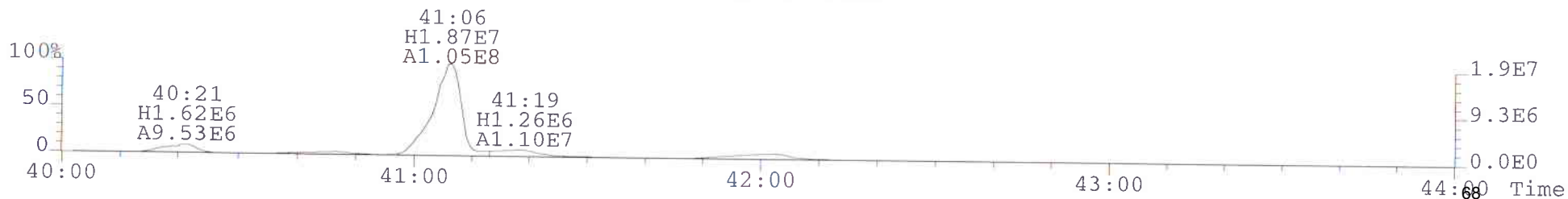
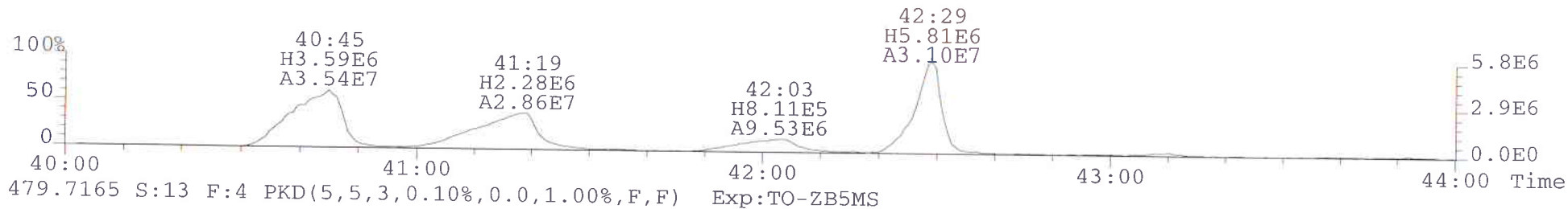
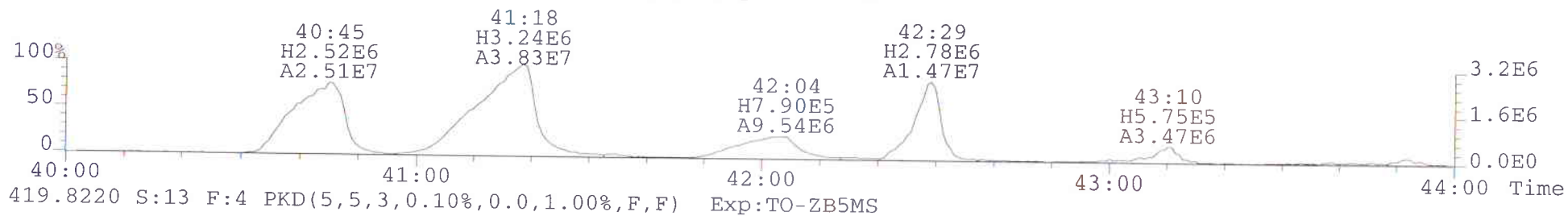
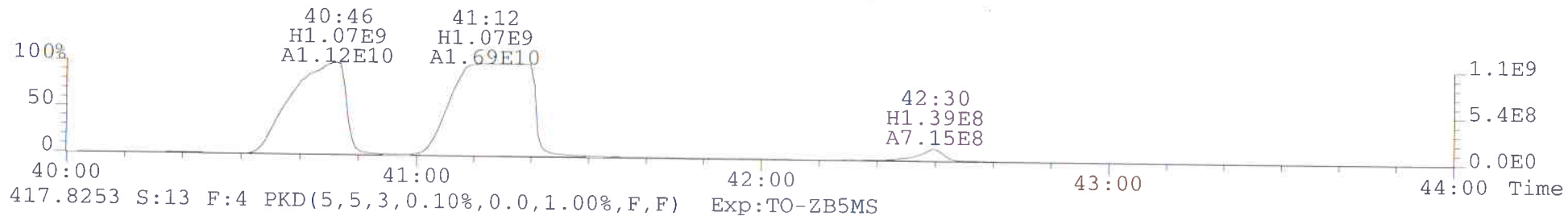
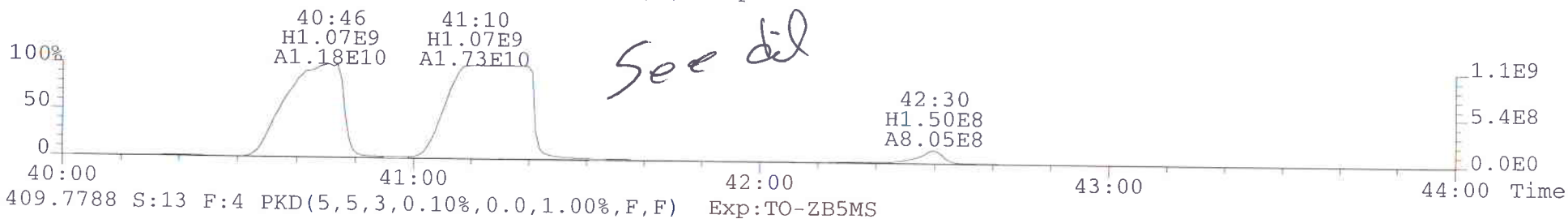
File:050614A1 #1-444 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
373.8207 S:13 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



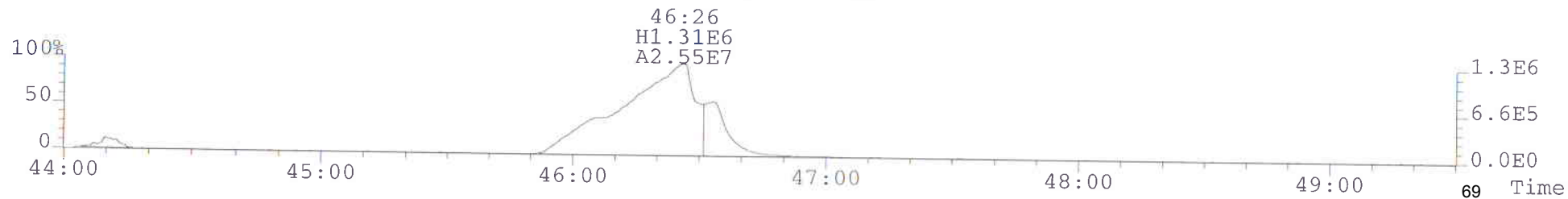
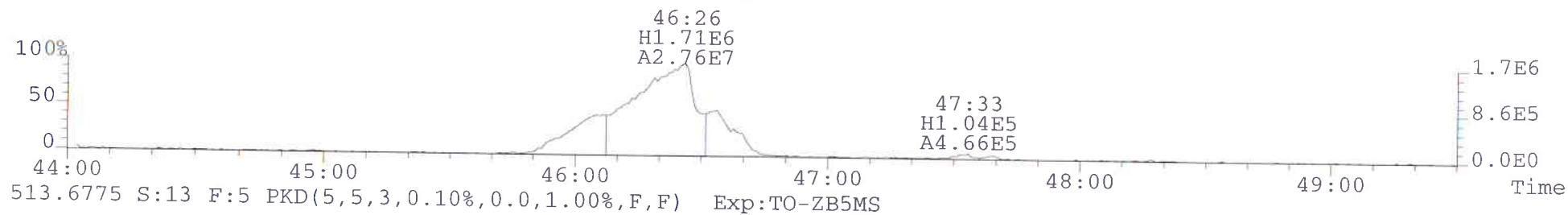
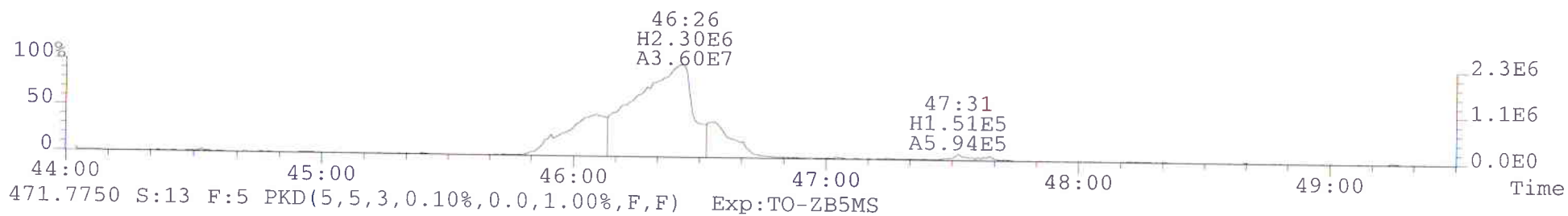
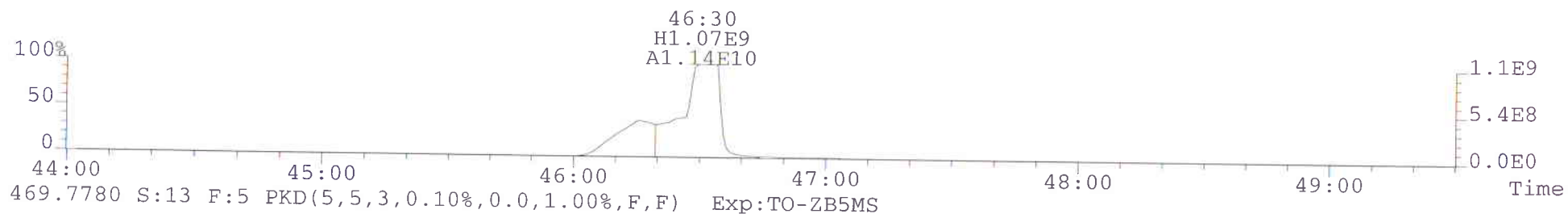
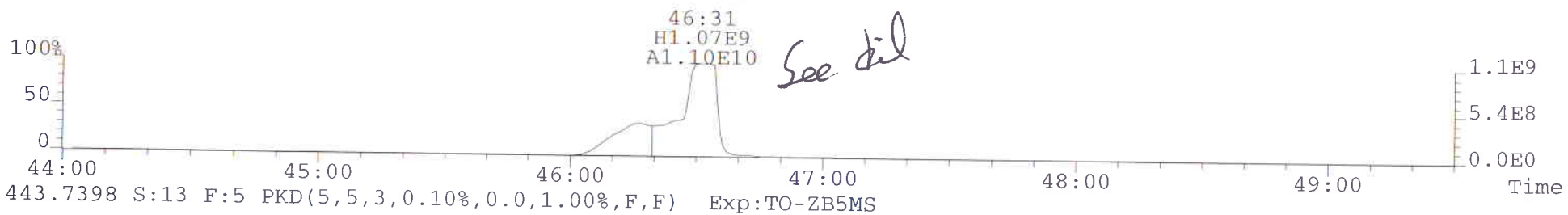
File:050614A1 #1-444 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
383.8639 S:13 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



File:050614A1 #1-356 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
407.7818 S:13 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



File:050614A1 #1-489 Acq: 6-MAY-2014 22:47:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#13 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
441.7428 S:13 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

B17-07.5 1:25

Laboratory Name: Ceres Analytical Laboratory, Inc. Episode No.:
 Contract No.: SAS No.: Lab Sample ID: 10339-1188-001dil
 Matrix (aqueous/solid/leachate): Solid Sample Wt/Vol: 12.19 g or mL: g
 Sample Receipt Date: 4/30/14 Initial Calibration Date: 5/22/14
 Ext. Date: 5/5/14 Shift: day Instrument ID: MS-1
 Analysis Date: 7-MAY-14 Time: 12:03:45 GC Column ID: ZB-5MS
 Extract Volume (uL): 20 Sample Data Filename: 050714A1 S #: 4
 Injection Volume (uL): 2 Blank Data Filename: 050614A1 S#:4
 Dilution Factor: 25 Cal. Ver. Data Filename: 050714A1 S#:1
 Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Solids: 80.7

ANALYTE	PK_RT	RA	CONC.	DL	RRT
2,3,7,8-TCDD	NotF»	*	* 0.00	0.00	* 0.999-1.002
1,2,3,7,8-PeCDD	NotF»	*	* 0.00	0.00	* 0.999-1.002
1,2,3,4,7,8-HxCDD	NotF»	*	* 0.00	0.00	* 0.999-1.001
1,2,3,6,7,8-HxCDD	NotF»	*	* 0.00	0.00	* 0.998-1.004
1,2,3,7,8,9-HxCDD	NotF»	*	* 0.00	0.00	* 1.000-1.019
1,2,3,4,6,7,8-HpCDD	41:48	1.04	368000	0.00	1.000 0.999-1.001
OCDD	45:56	0.90	1130000	0.00	1.000 0.999-1.001
2,3,7,8-TCDF	NotF»	*	* 0.00	0.00	* 0.999-1.003
1,2,3,7,8-PeCDF	NotF»	*	* 0.00	0.00	* 0.999-1.002
2,3,4,7,8-PeCDF	NotF»	*	* 0.00	0.00	* 0.999-1.002
1,2,3,4,7,8-HxCDF	NotF»	*	* 0.00	0.00	* 0.999-1.001
1,2,3,6,7,8-HxCDF	NotF»	*	* 0.00	0.00	* 0.997-1.005
2,3,4,6,7,8-HxCDF	NotF»	*	* 0.00	0.00	* 0.999-1.001
1,2,3,7,8,9-HxCDF	NotF»	*	* 0.00	0.00	* 0.999-1.001
1,2,3,4,6,7,8-HpCDF	40:34	1.05	77300	0.00	1.000 0.999-1.001
1,2,3,4,7,8,9-HpCDF	42:22	1.02	4170	0.00	1.000 0.999-1.001
OCDF	46:10	0.93	436000	0.00	1.005 0.999-1.008
Total Tetra-Dioxins			* 0.00		
Total Penta-Dioxins			* 0.00		
Total Hexa-Dioxins			* 0.00		
Total Hepta-Dioxins			506000	0.00	
Total Tetra-Furans			* 0.00		
Total Penta-Furans			0.00	0.00	
Total Hexa-Furans			88100	0.00	
Total Hepta-Furans			364000	0.00	

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

B17-07.5 1:25

Laboratory Name: Ceres Analytical Laboratory, Inc. Episode No.:
 Contract No.: SAS No.: Lab Sample ID: 10339-1188-001dil
 Matrix (aqueous/solid/leachate): Solid Sample Wt/Vol: 12.19 g or mL: g
 Sample Receipt Date: 4/30/14 Initial Calibration Date: 5/22/14
 Ext. Date: 5/5/14 Shift: day Instrument ID: MS-1
 Analysis Date: 7-MAY-14 Time: 12:03:45 GC Column ID: ZB-5MS
 Extract Volume (uL): 20 Sample Data Filename: 050714A1 S #: 4
 Injection Volume (uL): 2 Blank Data Filename: 050614A1 S#:4
 Dilution Factor: 25 Cal. Ver. Data Filename: 050714A1 S#:1
 Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Solids: 80.7

ANALYTE	PK_RT	RA	%_REC	Limits	RRT
13C-2,3,7,8-TCDD	28:22	0.67	99.4	25-164	1.008 0.976-1.043
13C-1,2,3,7,8-PeCDD	33:33	0.62	93.3	25-181	1.192 1.000-1.567
13C-1,2,3,4,7,8-HxCDD	37:39	1.28	107	32-141	0.987 0.977-1.000
13C-1,2,3,6,7,8-HxCDD	37:41	1.29	101	28-130	0.988 0.981-1.003
13C-1,2,3,4,6,7,8-HpCDD	41:49	1.16	99.0	23-140	1.096 1.086-1.110
13C-OCDD	45:57	1.41	50.9	17-157	1.204 1.032-1.311
13C-2,3,7,8-TCDF	27:24	0.81	128	24-169	0.974 0.923-1.103
13C-1,2,3,7,8-PeCDF	32:18	1.63	98.3	24-185	1.148 1.000-1.425
13C-2,3,4,7,8-PeCDF	33:09	1.65	101	21-178	1.178 1.011-1.526
13C-1,2,3,4,7,8-HxCDF	36:34	0.46	90.8	26-152	0.958 0.944-0.970
13C-1,2,3,6,7,8-HxCDF	36:42	0.58	107	26-123	0.962 0.949-0.975
13C-2,3,4,6,7,8-HxCDF	37:24	0.55	103	28-136	0.980 0.959-1.021
13C-1,2,3,7,8,9-HxCDF	38:29	0.53	115	29-147	1.009 0.977-1.047
13C-1,2,3,4,6,7,8-HpCDF	40:34	0.49	101	28-143	1.063 1.043-1.085
13C-1,2,3,4,7,8,9-HpCDF	42:21	0.42	110	26-138	1.110 1.057-1.151
37Cl-2,3,7,8-TCDD	28:22		117	35-197	1.008 0.989-1.052

Ceres Analytical Laboratory Inc. Quantitation Summary

Filename: 050714A1 S: 4 Acquired: 7-MAY 14 12:03:45 Analyte:
 Ceres ID: 10339 1188-001d1l Client ID: B17-07.5 1:25

ICal: 1613-ms1-5-22-13
 Total Tox:6062.67 Wt/Vol: 9.840

Con CAL: ST050714A1-1
 End CAL: ST050714A1-2

Name	RT	Resp	RRF	RA	rrt	Conc	Qual	Noise	* 2.5	DL
2,3,7,8-TCDD	NotF>	*	1.03	* n	*	0.999-1.002	*		0.00	0.00
1,2,3,7,8-PeCDD	NotF>	*	0.99	* n	*	0.999-1.002	*		0.00	0.00
1,2,3,4,7,8-HxCDD	NotF>	*	0.99	* n	*	0.999-1.001	*		0.00	0.00
1,2,3,6,7,8-HxCDD	NotF>	*	0.93	* n	*	0.998-1.004	*		0.00	0.00
1,2,3,7,8,9-HxCDD	NotF>	*	0.95	* n	*	1.000-1.019	*		0.00	0.00
1,2,3,4,6,7,8-HpCDD	41:48	2.61e+09	1.01	1.04	y	1.000 0.999-1.001	368000	E	0.00	0.00
OCDD	45:56	3.50e+09	1.00	0.90	y	1.000 0.999-1.001	1130000	E	0.00	0.00
2,3,7,8-TCDF	NotF>	*	0.96	* n	*	0.999-1.003	*		0.00	0.00
1,2,3,7,8-PeCDF	NotF>	*	1.01	* n	*	0.999-1.002	*		0.00	0.00
2,3,4,7,8-PeCDF	NotF>	*	1.02	* n	*	0.999-1.002	*		0.00	0.00
1,2,3,4,7,8-HxCDF	NotF>	*	1.26	* n	*	0.999-1.001	*		0.00	0.00
1,2,3,5,7,8-HxCDF	NotF>	*	1.25	* n	*	0.997 1.005	*		0.00	0.00
2,3,4,6,7,8-HxCDF	NotF>	*	1.36	* n	*	0.999-1.001	*		0.00	0.00
1,2,3,7,8,9-HxCDF	NotF>	*	1.20	* n	*	0.999 1.001	*		0.00	0.00
1,2,3,4,6,7,8-HpCDF	40:34	1.05e+09	1.53	1.05	y	1.000 0.999 1.001	77300	E	0.00	0.00
1,2,3,4,7,8,9-HpCDF	42:22	4.83e+07	1.55	1.02	y	1.000 0.999-1.001	4170		0.00	0.00
OCDF	46:10	1.84e+09	1.37	0.93	y	1.005 0.999 1.008	436000	E	0.00	0.00
13C-2,3,7,8-TCDD	28:22	1.93e+06	1.00	0.67	y	1.008 0.976-1.043	202	Rec	Qual	99.4
13C-1,2,3,7,8-PeCDD	33:33	1.78e+06	0.99	0.62	y	1.192 1.000-1.567	190			93.3
13C-1,2,3,4,7,8-HxCDD	37:39	1.78e+06	0.98	1.28	y	0.987 0.977-1.000	217			107
13C-1,2,3,6,7,8-HxCDD	37:41	1.84e+06	1.08	1.29	y	0.988 0.981-1.003	205			101
13C-1,2,3,4,6,7,8-HpCDD	41:49	1.43e+06	0.85	1.16	y	1.096 1.086-1.110	201			99.0
13C-OCDD	45:57	1.25e+06	0.73	1.41	n	1.204 1.032-1.311	207		I	50.9
13C-2,3,7,8-TCDF	27:24	3.71e+06	1.49	0.81	y	0.974 0.923-1.103	260	128		
13C-1,2,3,7,8-PeCDF	32:18	2.89e+06	1.51	1.63	y	1.148 1.000-1.425	200	98.3		
13C-2,3,4,7,8-PeCDF	33:09	3.03e+06	1.55	1.65	y	1.178 1.011-1.526	205	101		
13C-1,2,3,4,7,8-HxCDF	36:34	2.14e+06	1.39	0.46	y	0.958 0.944-0.970	185	90.8		
13C-1,2,3,6,7,8-HxCDF	36:42	2.70e+06	1.49	0.58	y	0.962 0.949-0.975	217	107		
13C-2,3,4,6,7,8-HxCDF	37:24	2.21e+06	1.27	0.55	y	0.980 0.959 1.021	209	103		
13C-1,2,3,7,8,9-HxCDF	38:29	2.36e+06	1.21	0.53	y	1.009 0.977-1.047	234	115		
13C-1,2,3,4,6,7,8-HpCDF	40:34	1.82e+06	1.07	0.49	y	1.063 1.043-1.085	204	101		
13C-1,2,3,4,7,8,9-HpCDF	42:21	1.52e+06	0.82	0.42	y	1.110 1.057-1.151	223	110		
37Cl 2,3,7,8-TCDD	28:22	2.57e+05	1.14			1.008 0.989-1.052	23.7	117		
13C-1,2,3,4-TCDD	28:09	1.94e+06	1.00	0.86	y		203			
13C-1,2,3,7,8,9-HxCDD	38:09	1.69e+06	1.00	1.28	y		203			
Total Tetra-Dioxins		Conc	EMPC			DL	Qual			
Total Penta-Dioxins		*	*	0.00	0.00					
Total Hexa-Dioxins		*	*	0.00	0.00					
Total Hepta-Dioxins		*	*	0.00	0.00					
Total Tetra-Furans	506000		506000	0.00	0.00					
Total Penta-Furans		*	*	0.00	0.00					
1st Fnc Penta-Furans		*	*	0.00	0.00					
Total Hexa-Furans	88100		88100	0.00	0.00					
Total Hepta-Furans	364000		364000	0.00	0.00					
PeCDF Total:									0.00	
PeCDF EMPC:									0.00	

Analyst: J
 Date: 5/7/14
 Reviewer: BC
 Date: 5/8/14

Ceres Analytical Laboratory Inc. Totals Results

Name: EMPC Hepta-Dioxins F:4 Mass: 423.777 425.774 #Hom:2
File: 050714A1 S:4 Acq: 7-MAY-14 lAnalyte: ICal: 1613-ms1-5-22-13
Sample text: 10339-1188-001 B17-07.5 12.19g 1:25

	M1 area	M2 area	M1 height	M2 height	RA	Conc.
1 40:55	4.97e+08	4.83e+08	6.64e+07	6.54e+07	1.03 y	138000
2 41:48	1.33e+09	1.28e+09	1.80e+08	1.70e+08	1.04 y	368000

1,2,3,4,6,7,8-HpCDD

Name: EMPC Hexa-Furans F:3 Mass: 373.821 375.818 #Hom:1
File: 050714A1 S:4 Acq: 7-MAY-14 lAnalyte: lCal: 1613-ms1-5-22-13
Sample text: 10339-1188-001 B17-07.5 12.19g 1:25

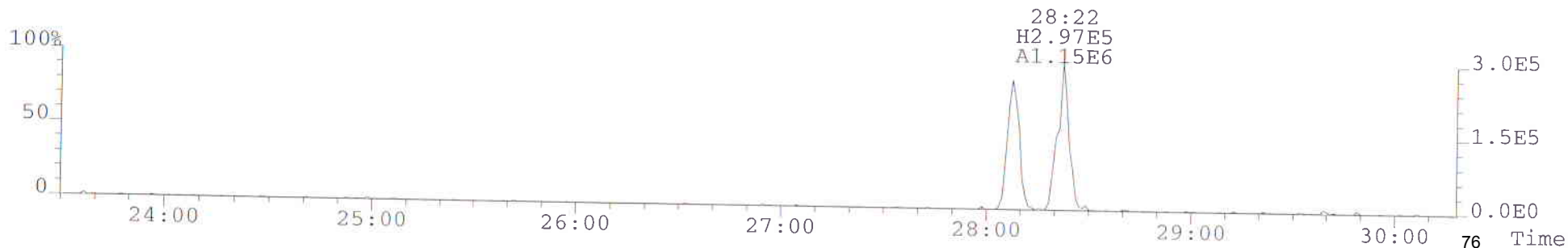
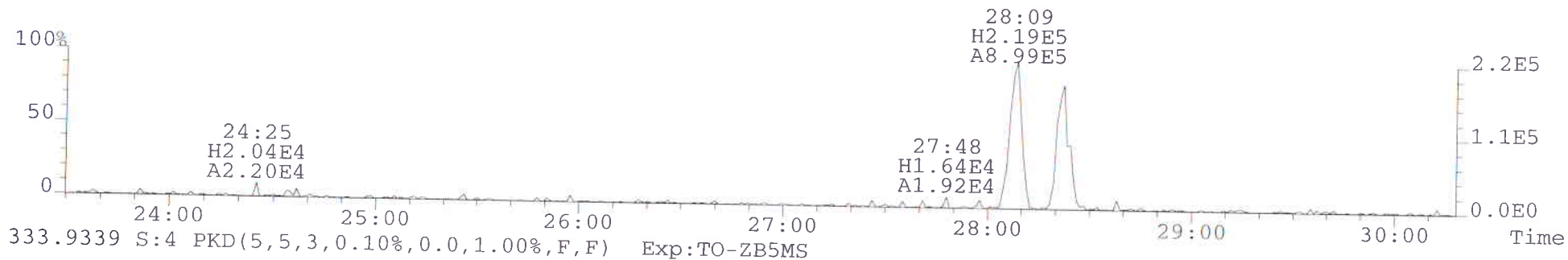
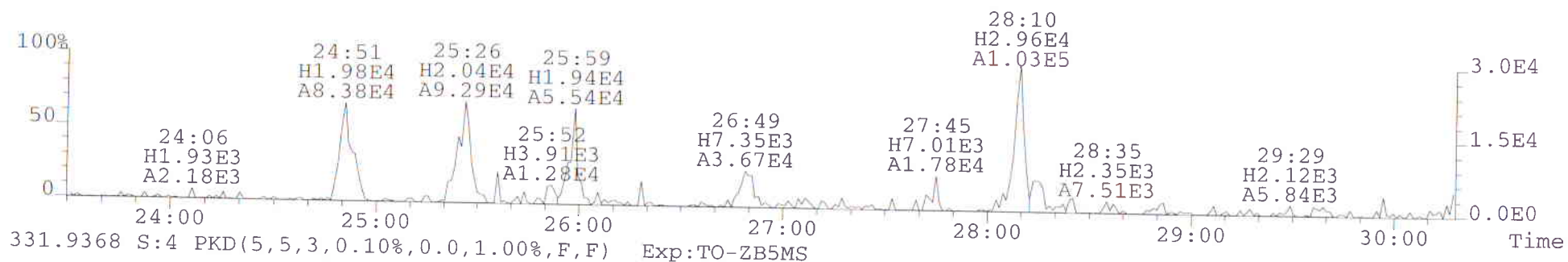
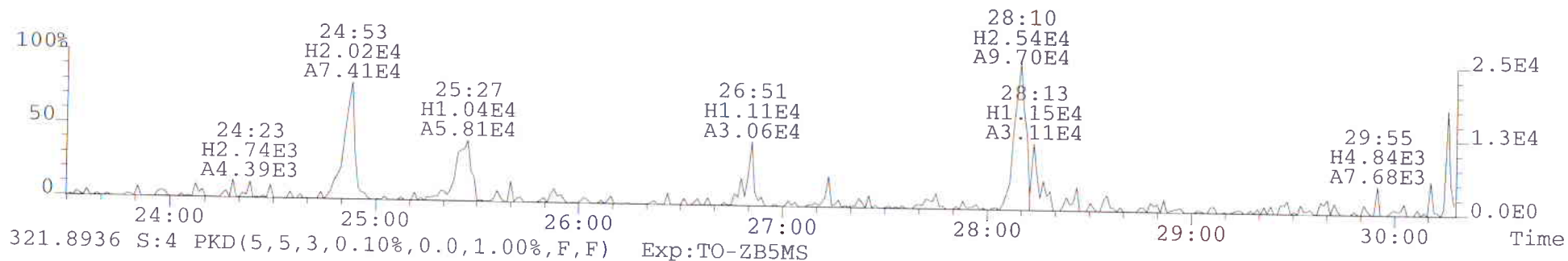
	M1 area	M2 area	M1 height	M2 height	RA	Conc.
1 36:05	7.26e+08	5.64e+08	1.42e+08	1.09e+08	1.29 y	88100

Ceres Analytical Laboratory Inc. Totals Results

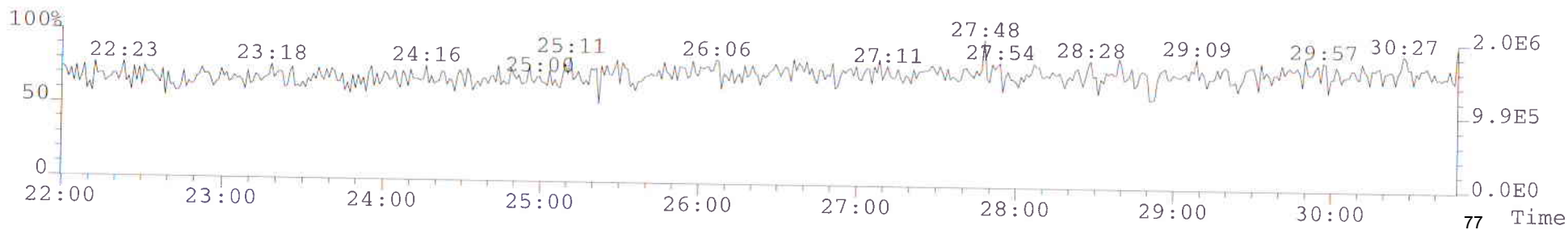
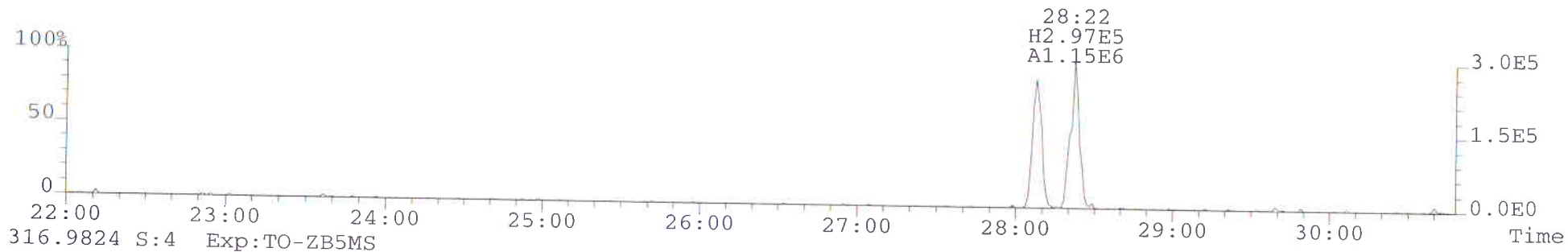
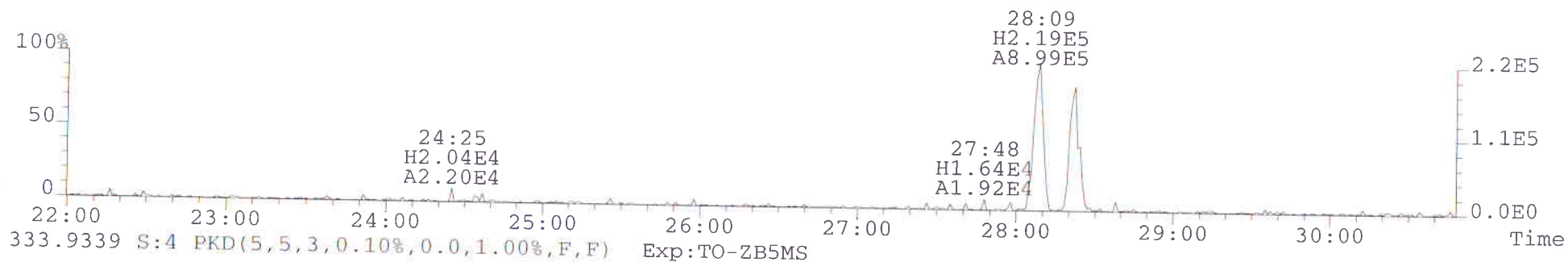
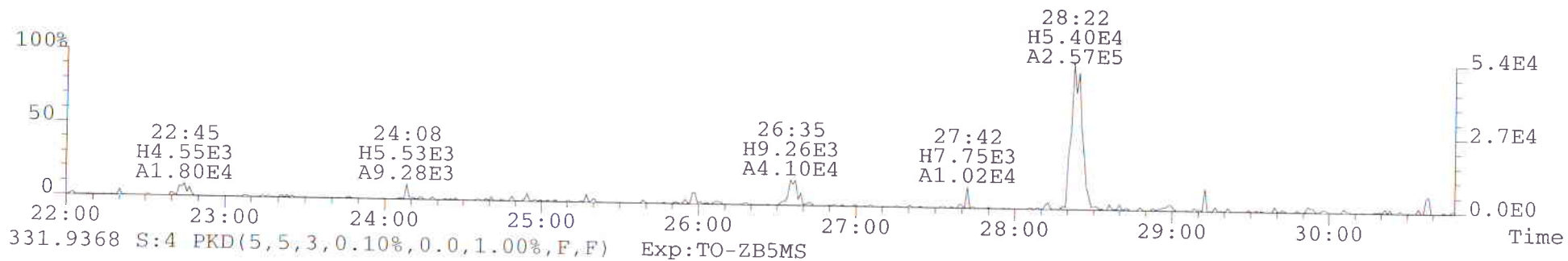
Name: EMPC Hepta-Furans F:4 Mass: 407.782 409.779 #Hom:3
File: 050714A1 S:4 Acq: 7-MAY-14 1Analyte: ICal: 1613-ms1-5-22-13
Sample text: 10339-1188-001 B17-07.5 12.19g 1:25

	M1 area	M2 area	M1 height	M2 height	RA	Conc.	
1	40:34 5.41e+08	5.16e+08	7.65e+07	7.25e+07	1.05 y	77300	1,2,3,4,6,7,8-HpCDF
2	41:03 1.84e+09	1.73e+09	2.58e+08	2.43e+08	1.06 y	282000	
3	42:22 2.44e+07	2.39e+07	3.20e+06	3.06e+06	1.02 y	4170	1,2,3,4,7,8,9-HpCDF

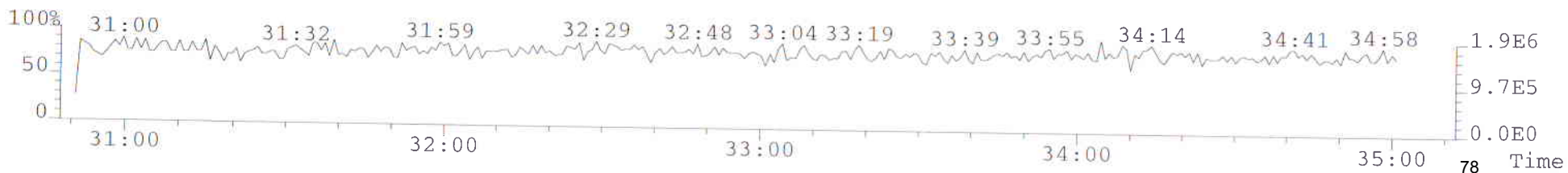
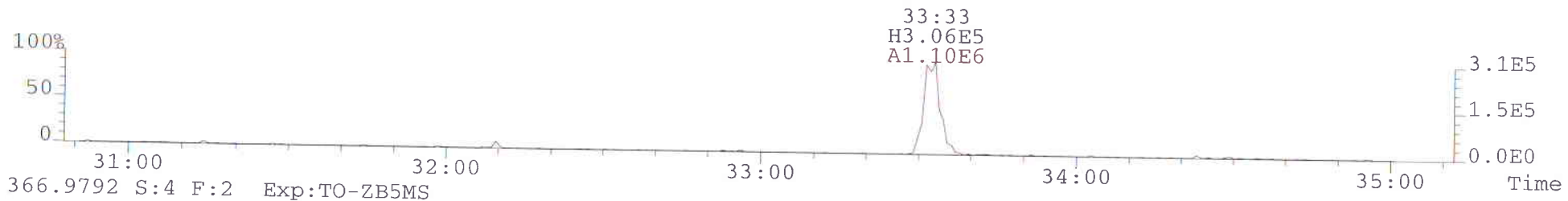
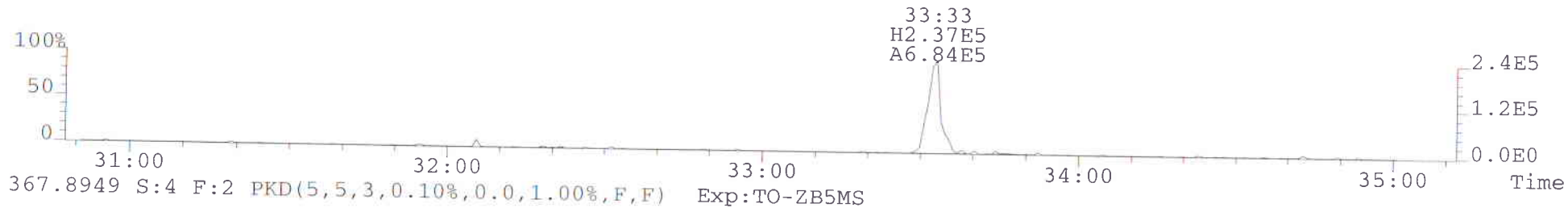
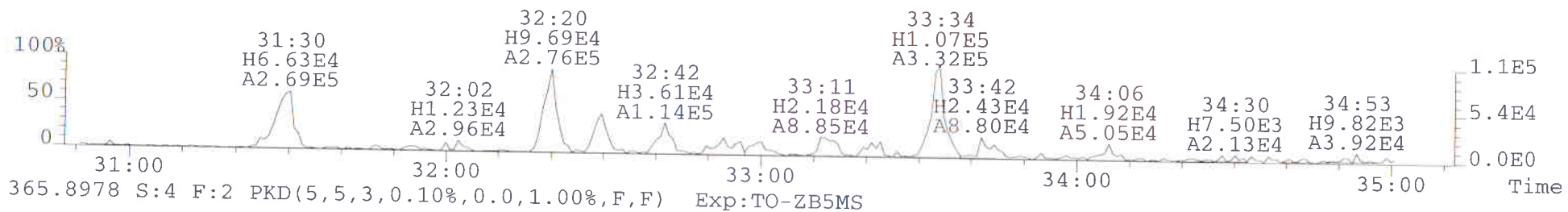
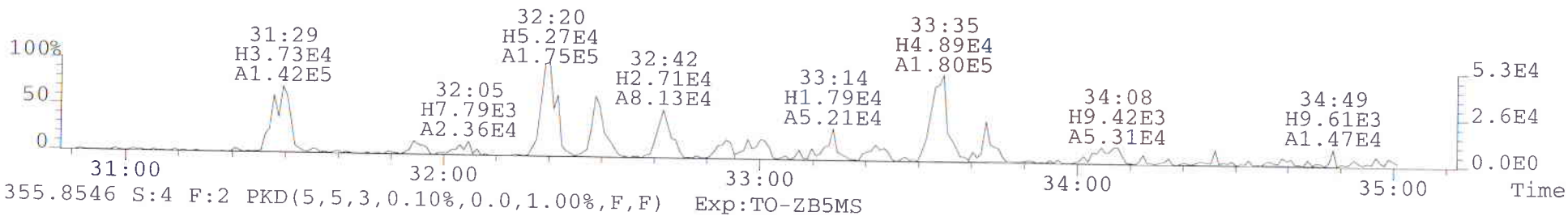
File:050714A1 #1-659 Acq: 7-MAY-2014 12:03:45 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g 1:25
319.8965 S:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



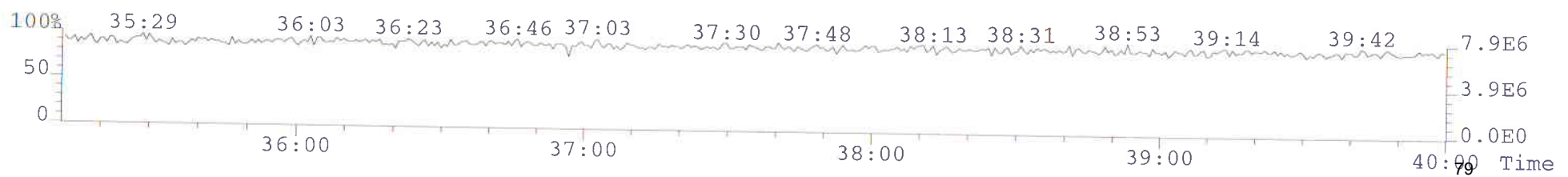
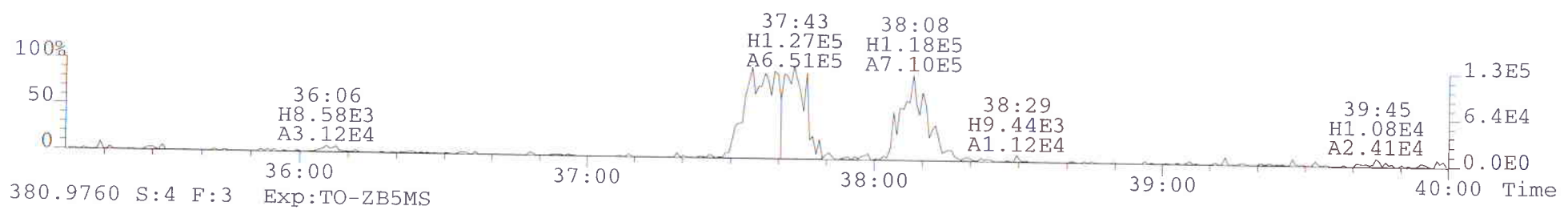
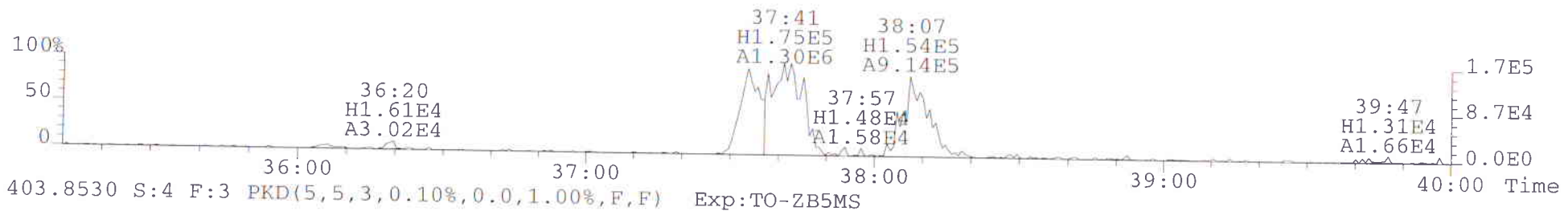
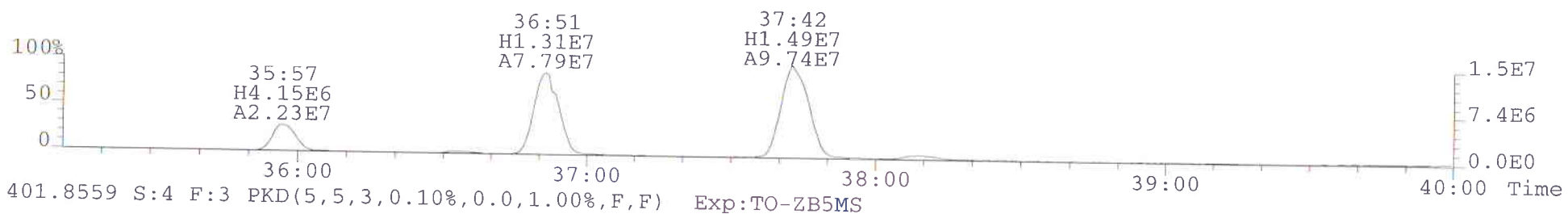
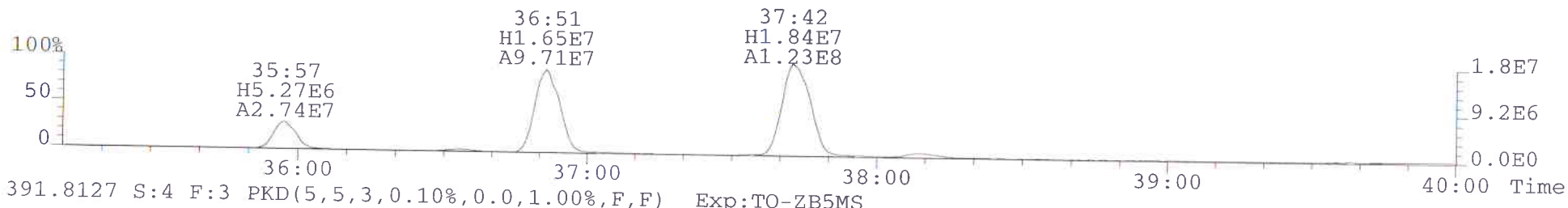
File:050714A1 #1-659 Acq: 7-MAY-2014 12:03:45 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g 1:25
327.8847 S:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



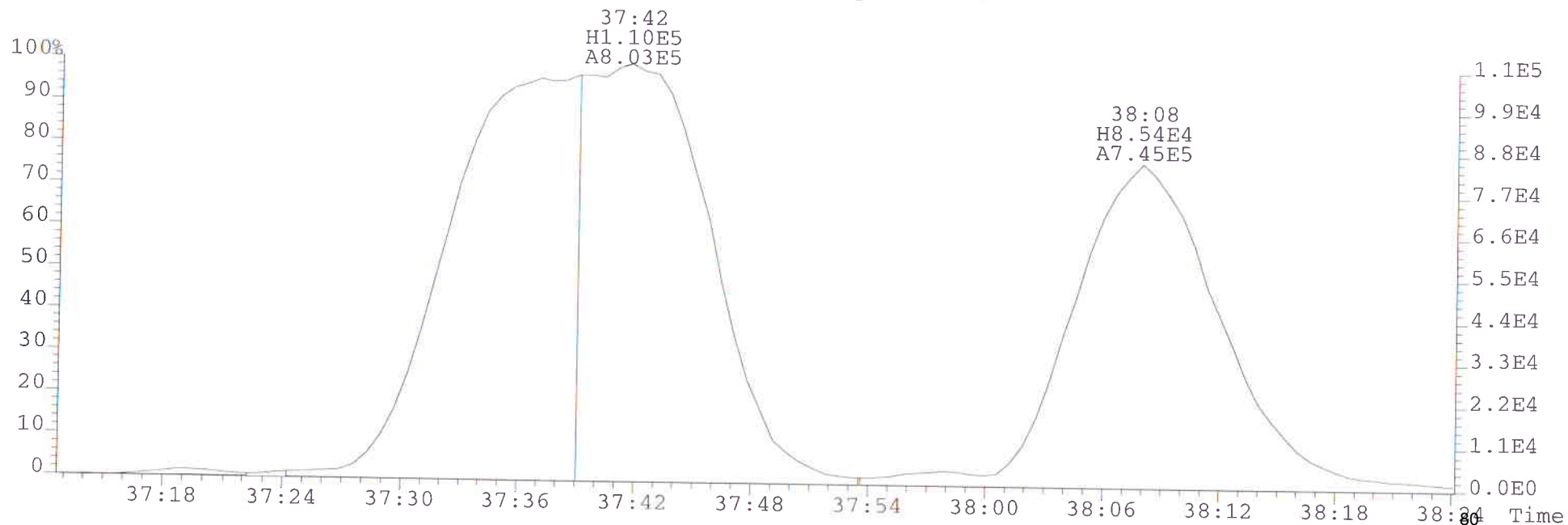
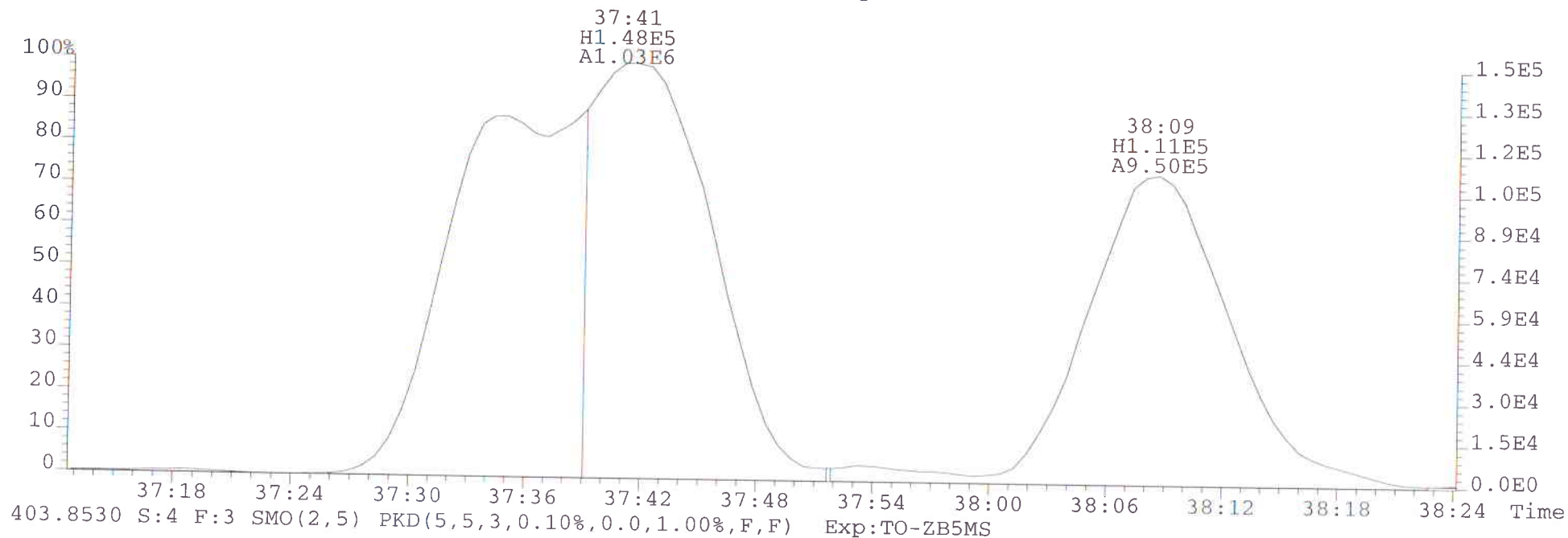
File:050714A1 #1-312 Acq: 7-MAY-2014 12:03:45 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g 1:25
353.8576 S:4 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



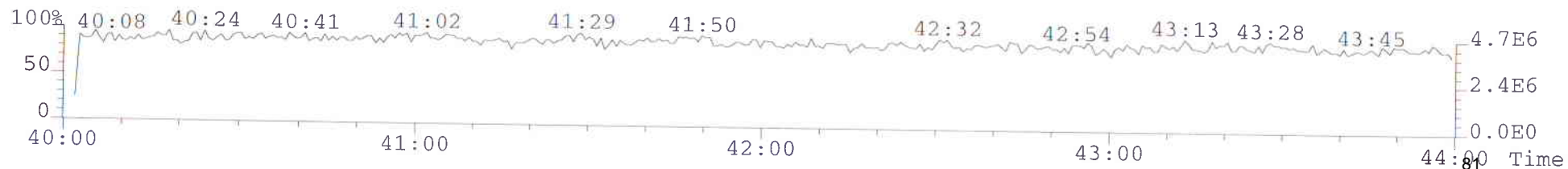
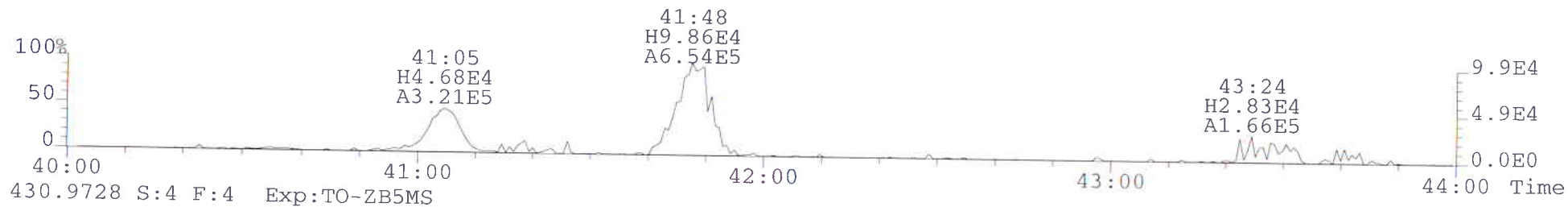
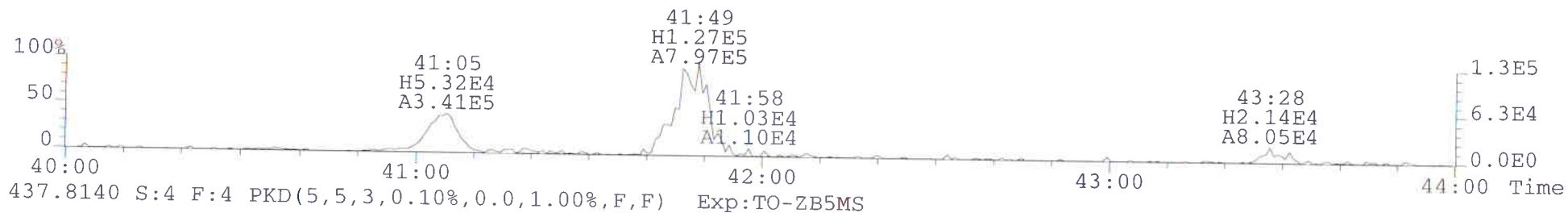
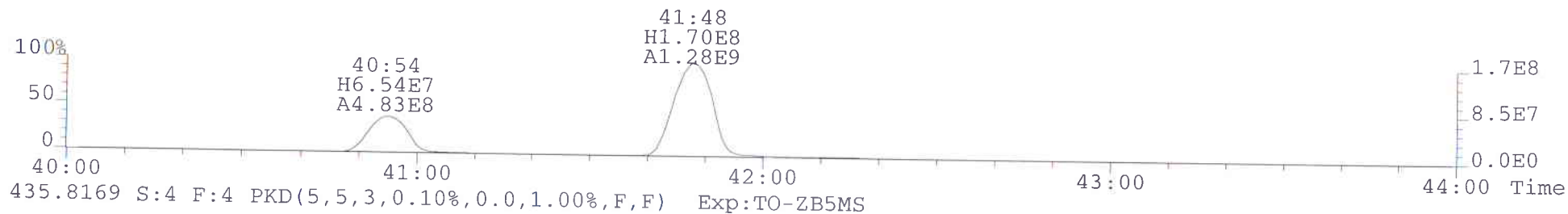
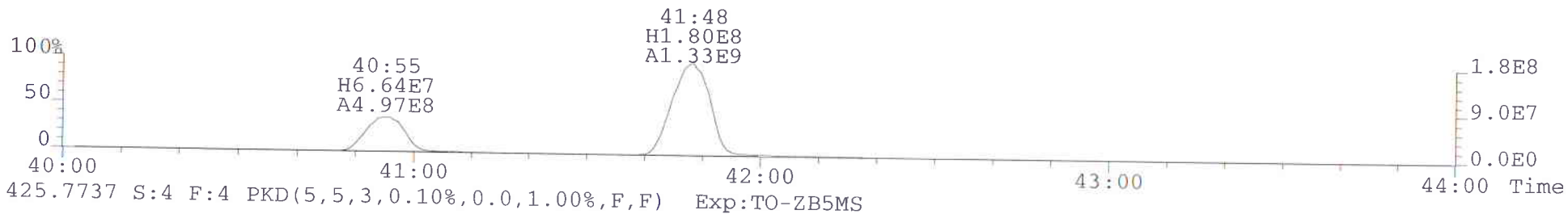
File:050714A1 #1-444 Acq: 7-MAY-2014 12:03:45 GC EI+ Voltage SIR Autospec-Ultima
 Sample#4 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g 1:25
 389.8156 S:4 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



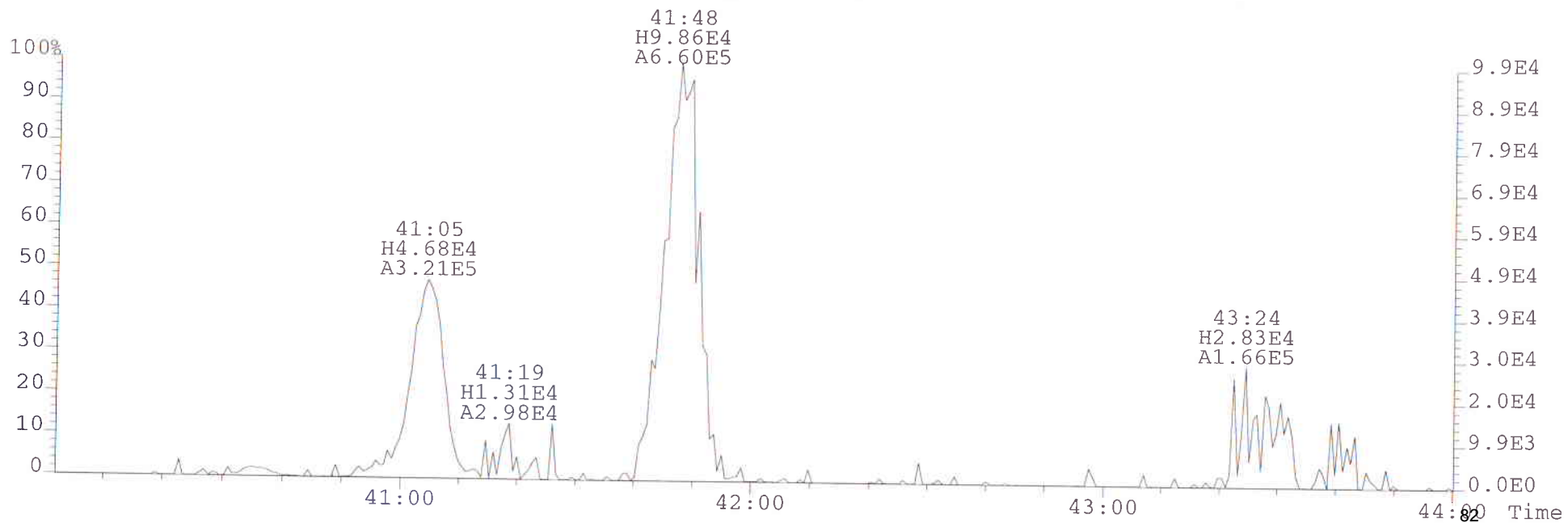
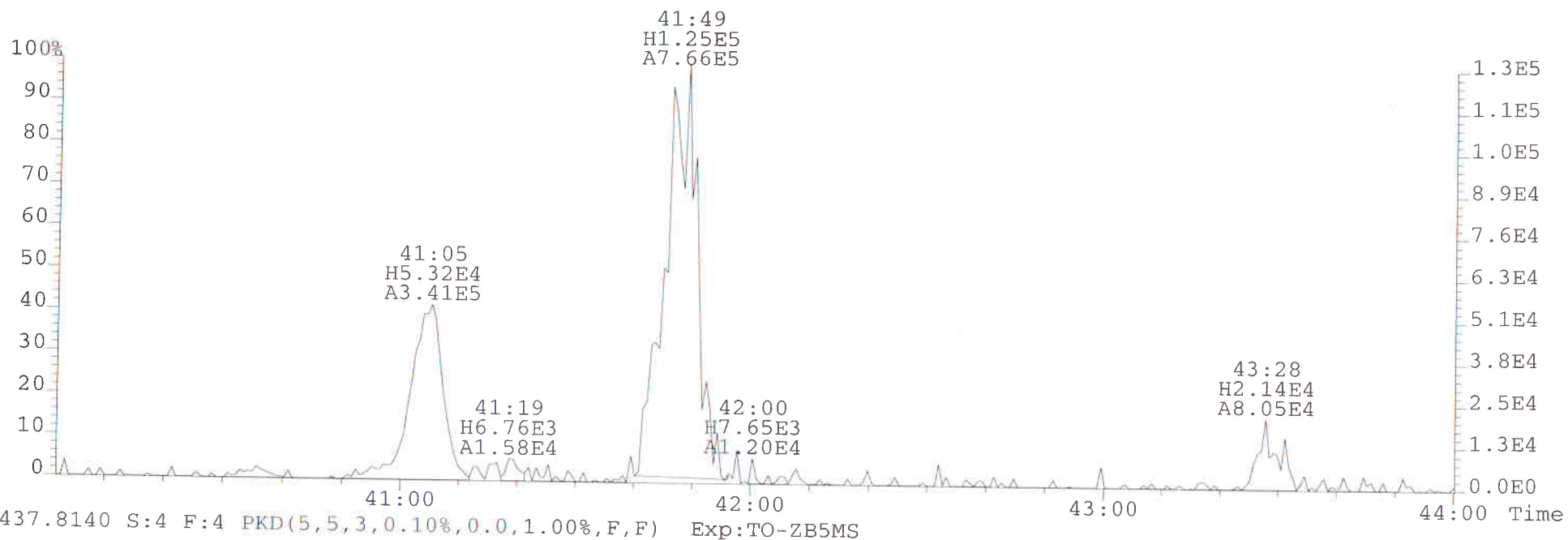
File:050714A1 #1-444 Acq: 7-MAY-2014 12:03:45 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g 1:25
401.8559 S:4 F:3 SMO(2,5) PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



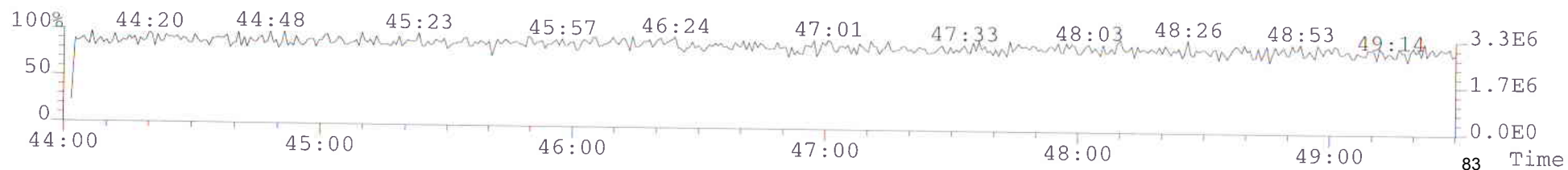
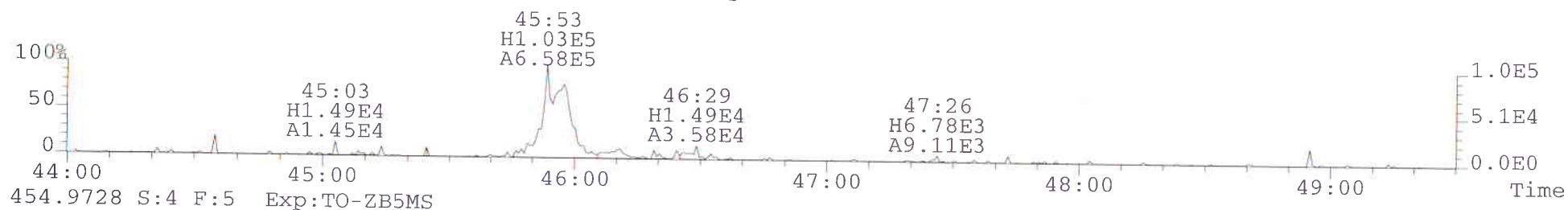
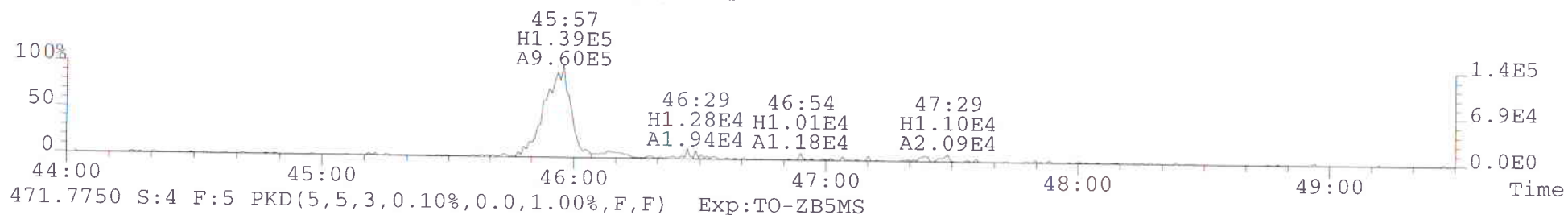
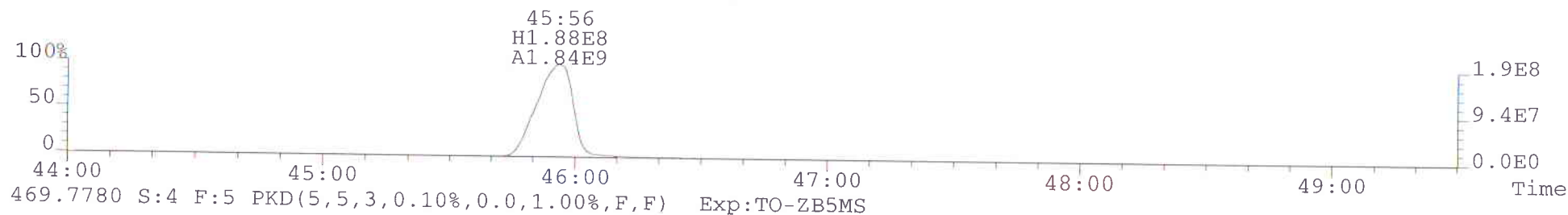
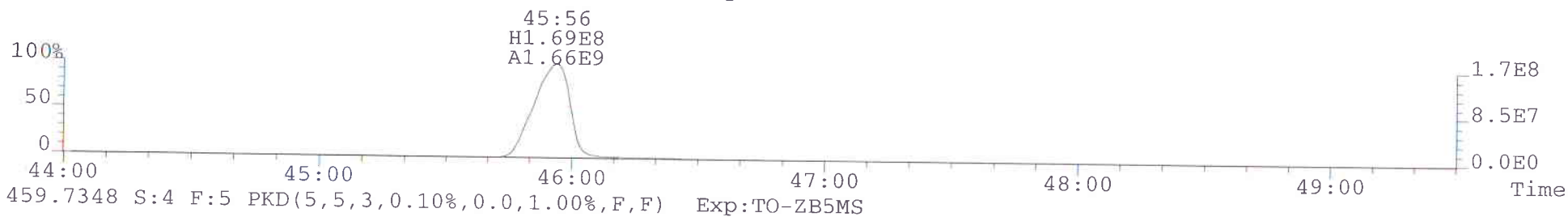
File:050714A1 #1-355 Acq: 7-MAY-2014 12:03:45 GC EI+ Voltage SIR Autospec-Ultima
 Sample#4 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g 1:25
 423.7767 S:4 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



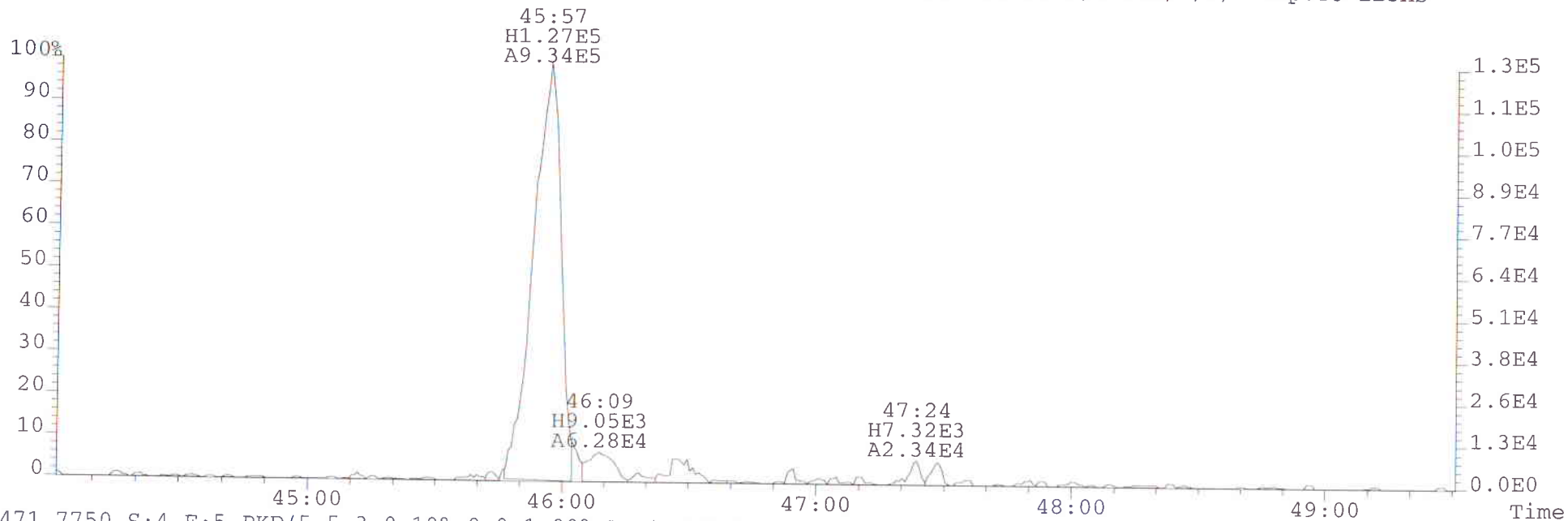
File:050714A1 #1-355 Acq: 7-MAY-2014 12:03:45 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g 1:25
435.8169 S:4 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



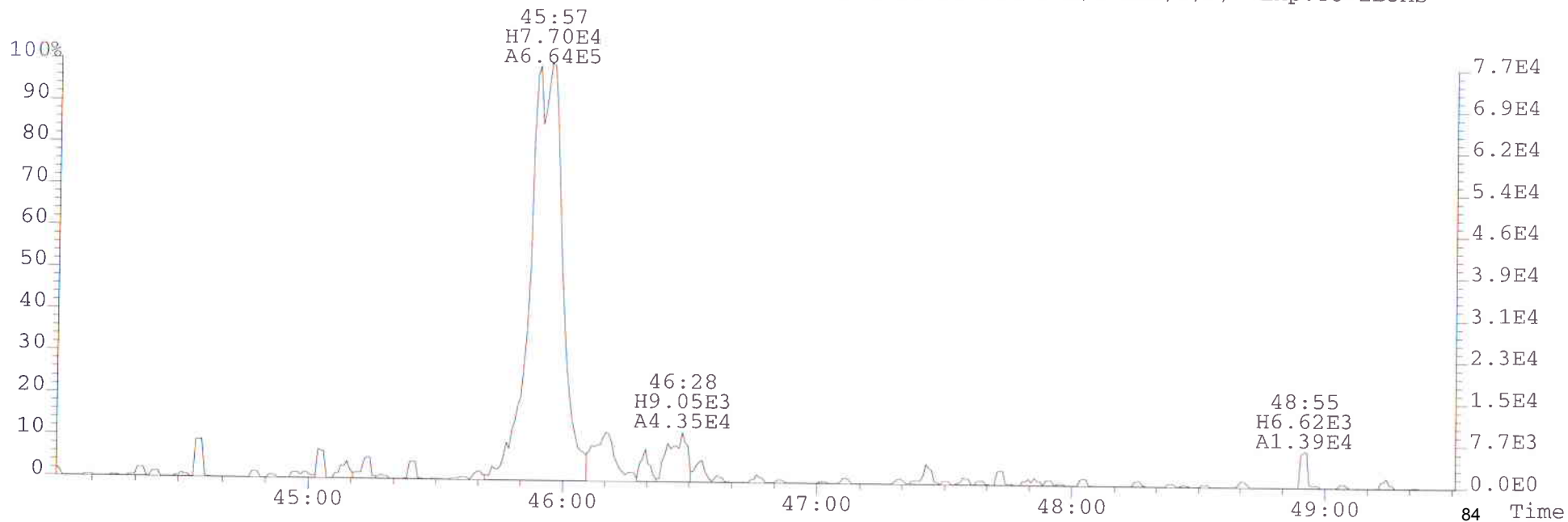
File:050714A1 #1-490 Acq: 7-MAY-2014 12:03:45 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g 1:25
457.7377 S:4 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



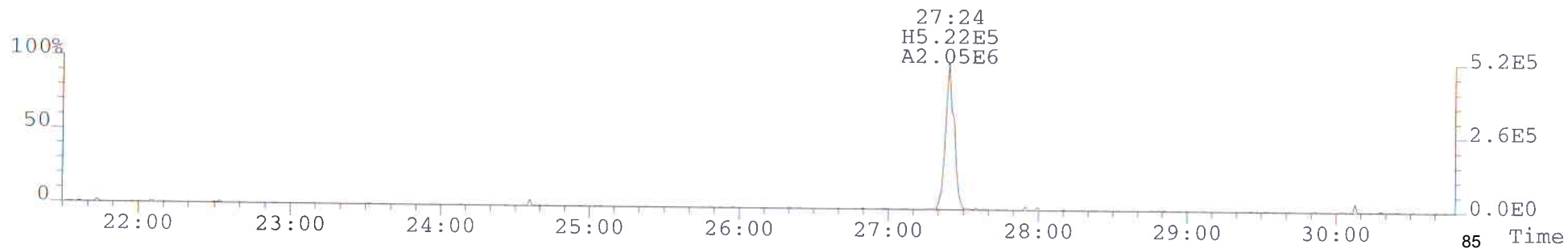
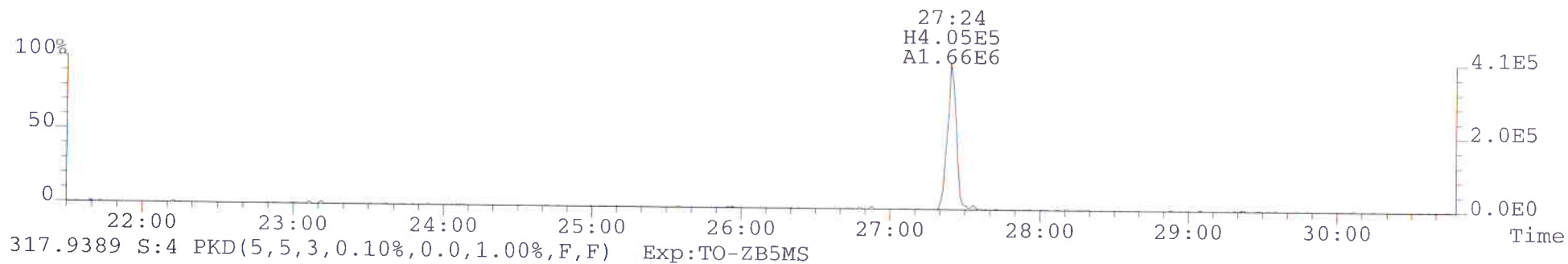
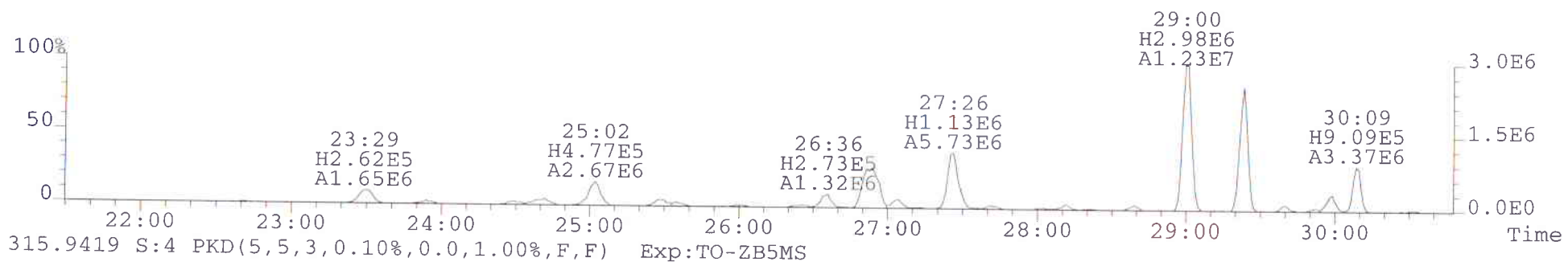
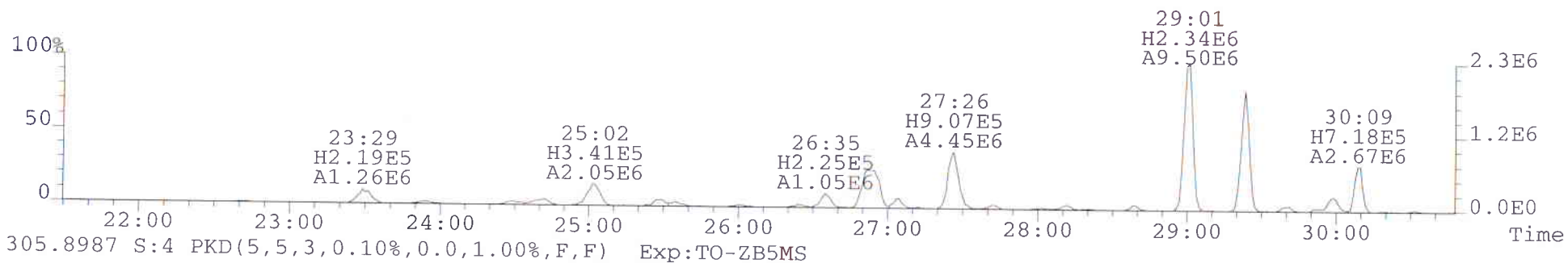
File:050714A1 #1-490 Acq: 7-MAY-2014 12:03:45 GC EI+ Voltage SIR Autospec-Ultima
 Sample#4 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g 1:25
 469.7780 S:4 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) SMO(1,3) PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



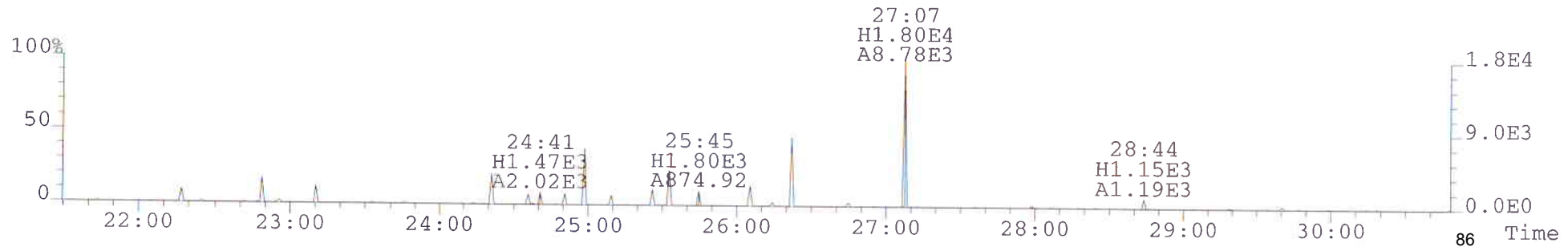
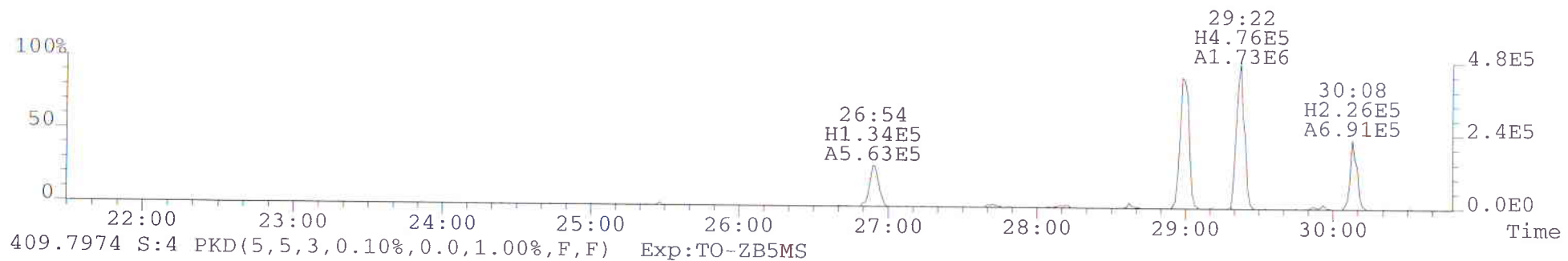
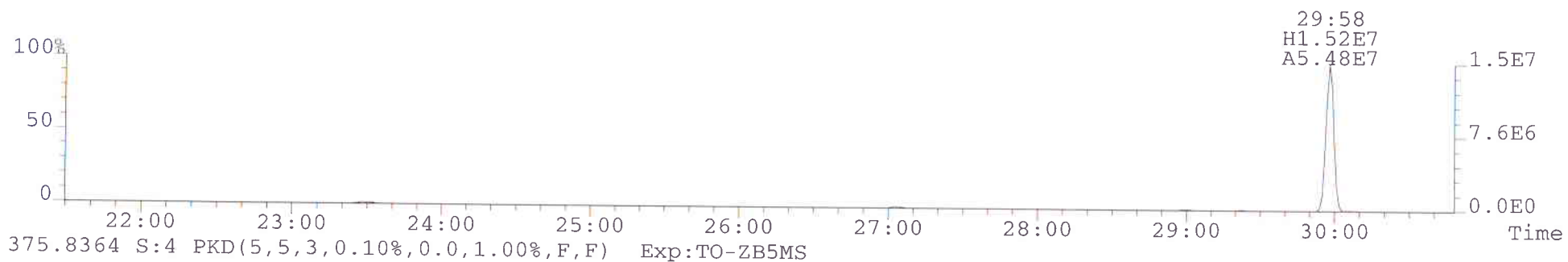
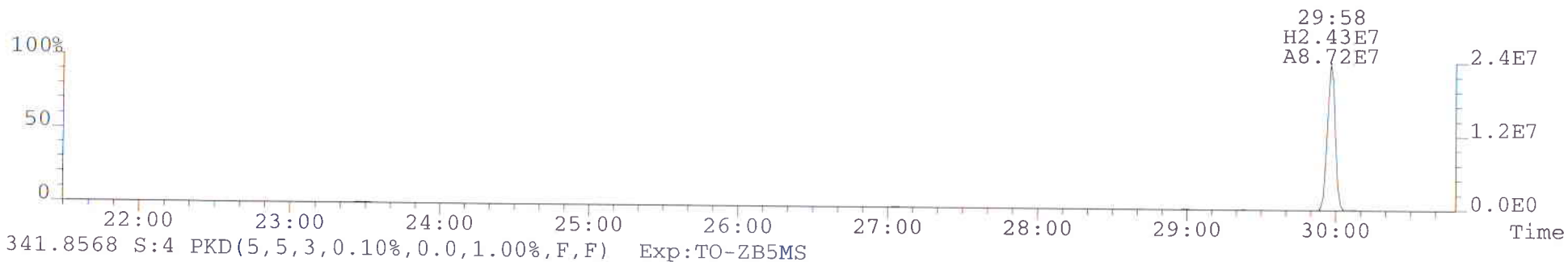
471.7750 S:4 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) SMO(1,3) PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



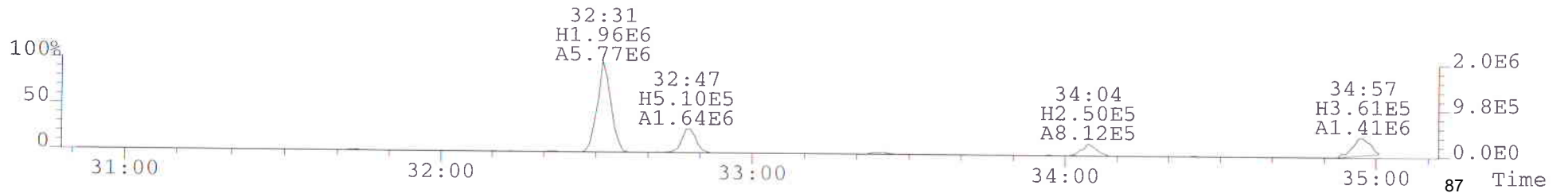
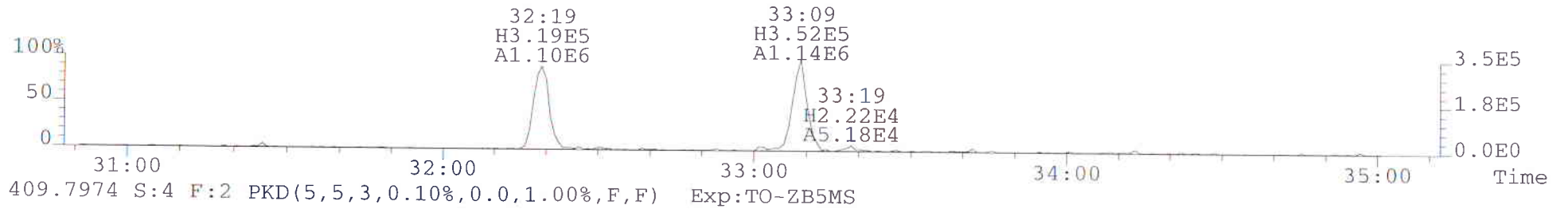
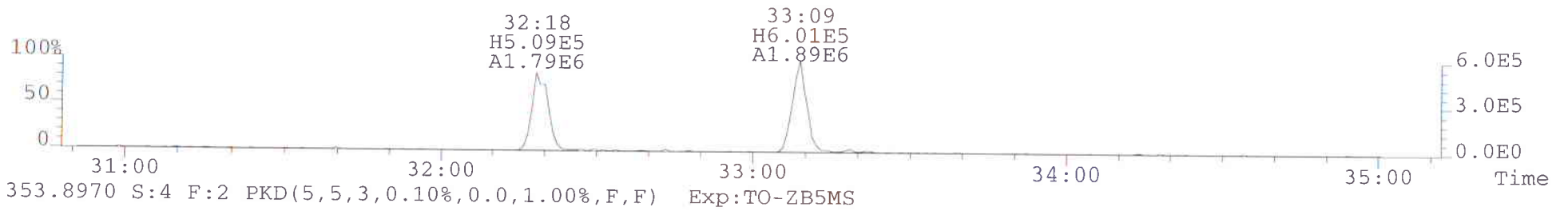
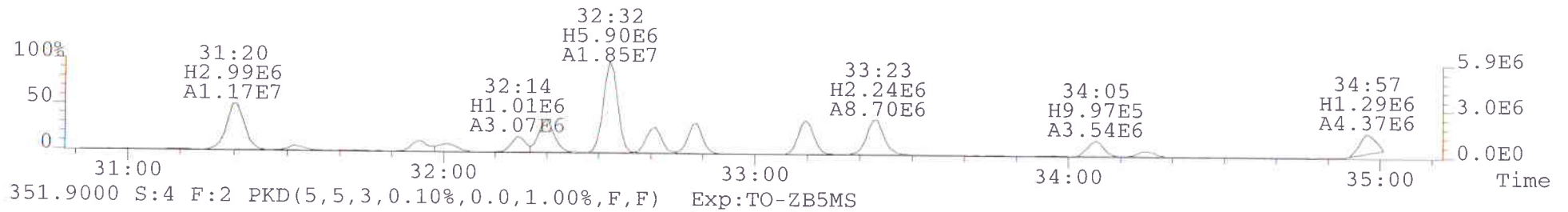
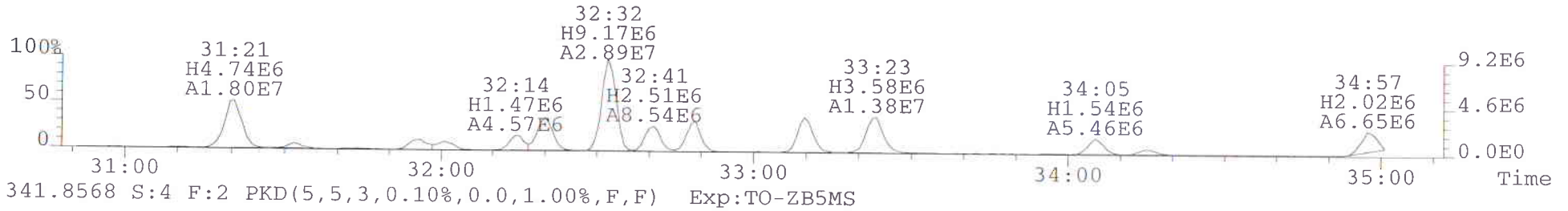
File:050714A1 #1-659 Acq: 7-MAY-2014 12:03:45 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g 1:25
303.9016 S:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



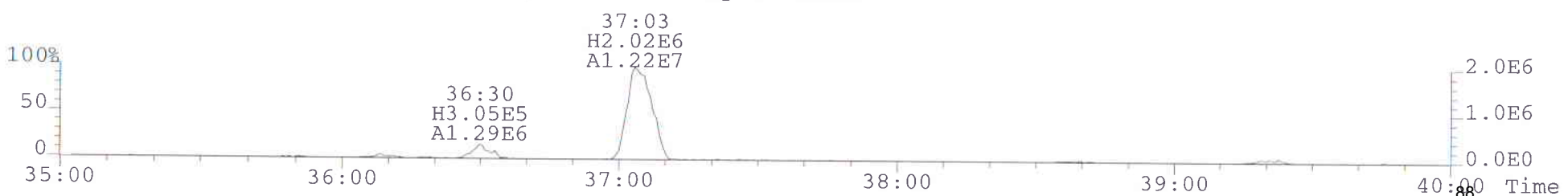
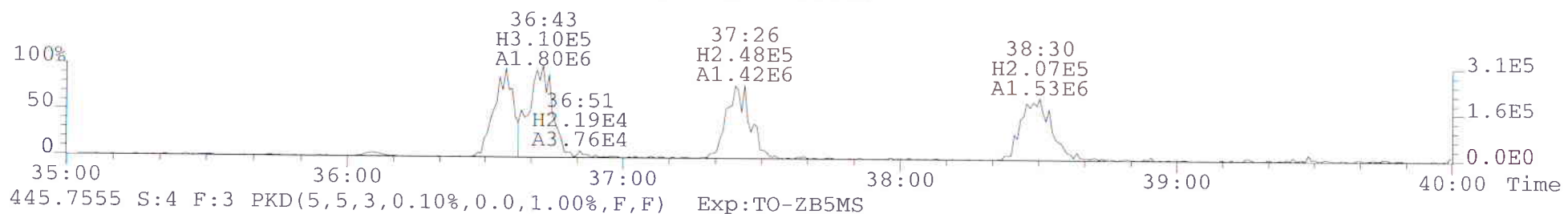
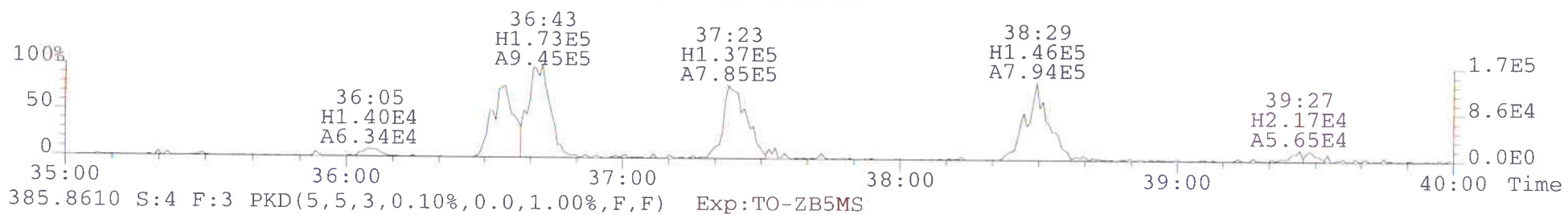
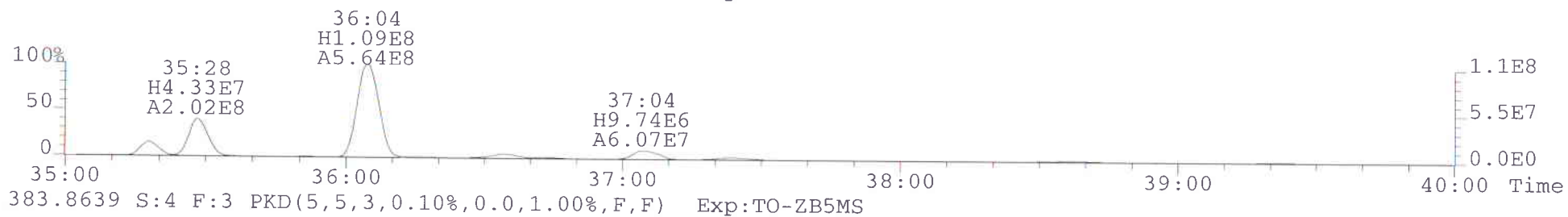
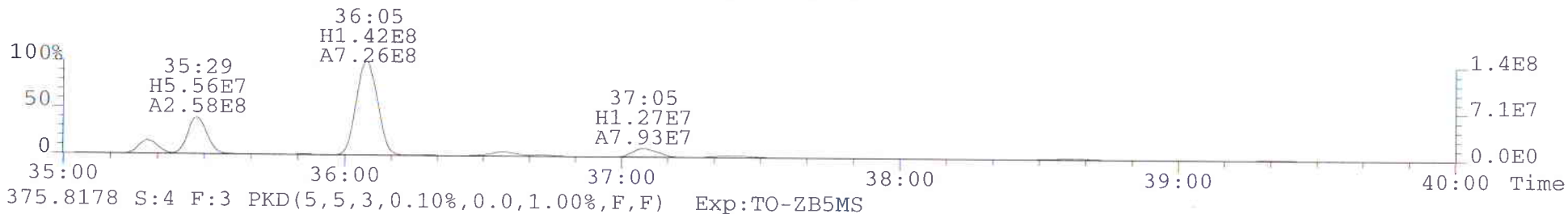
File:050714A1 #1-659 Acq: 7-MAY-2014 12:03:45 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g 1:25
339.8597 S:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



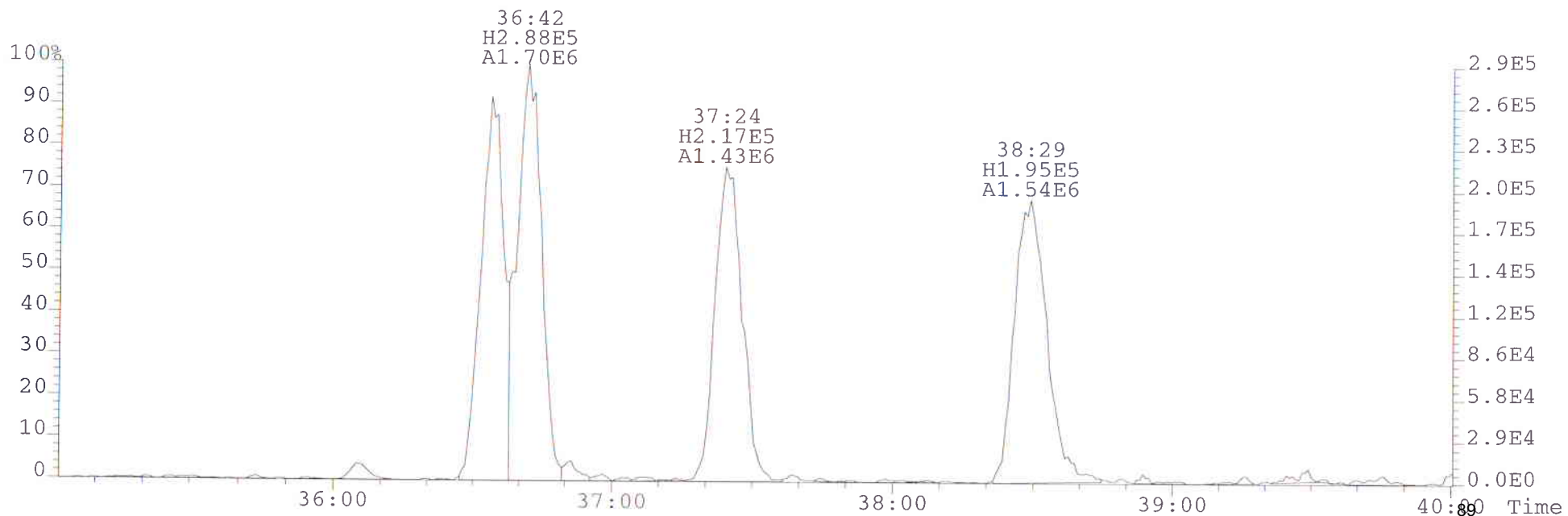
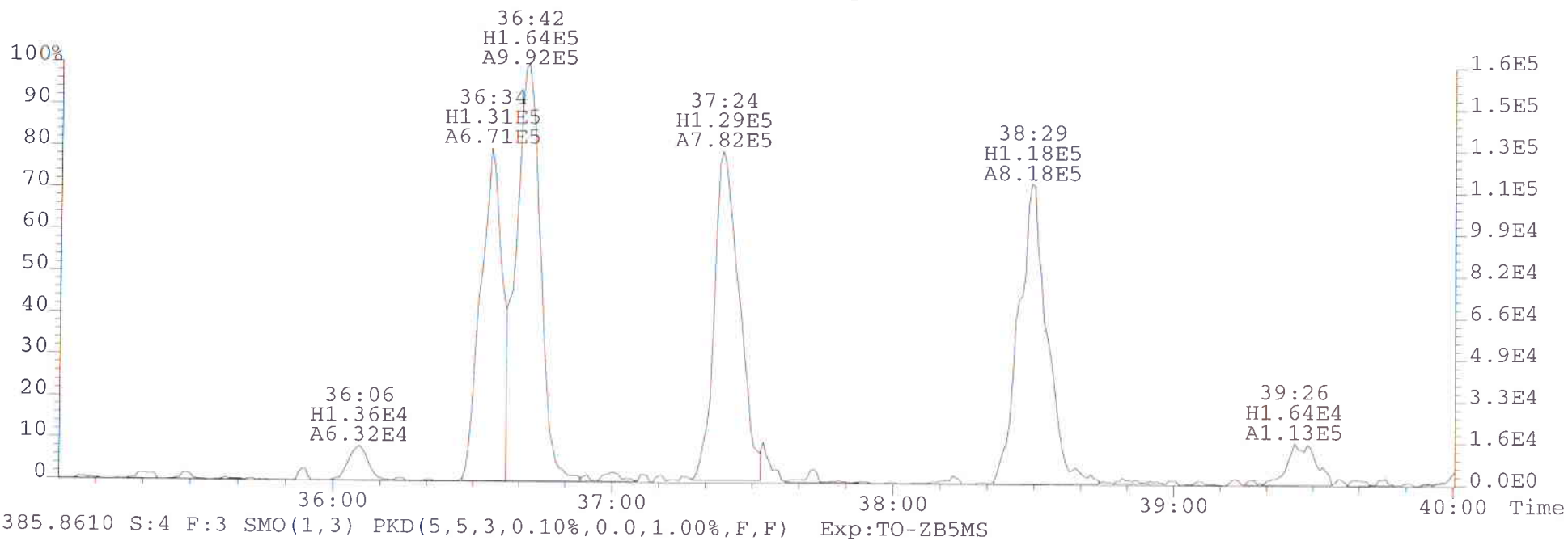
File:050714A1 #1-312 Acq: 7-MAY-2014 12:03:45 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g 1:25
339.8597 S:4 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



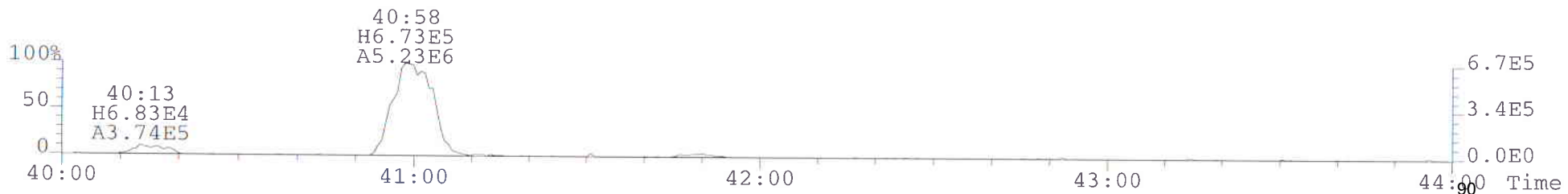
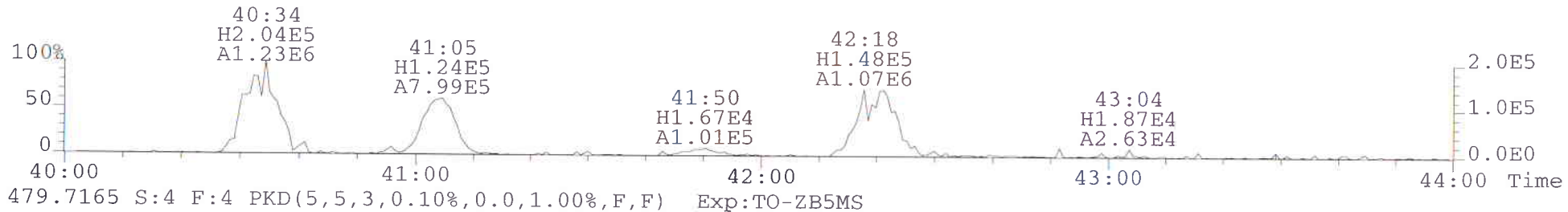
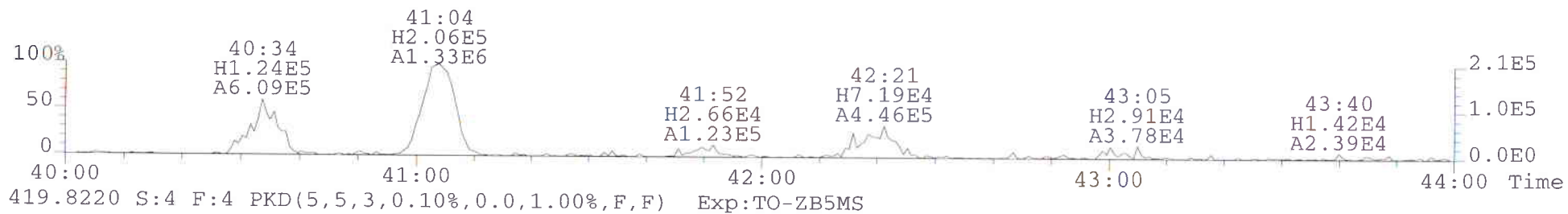
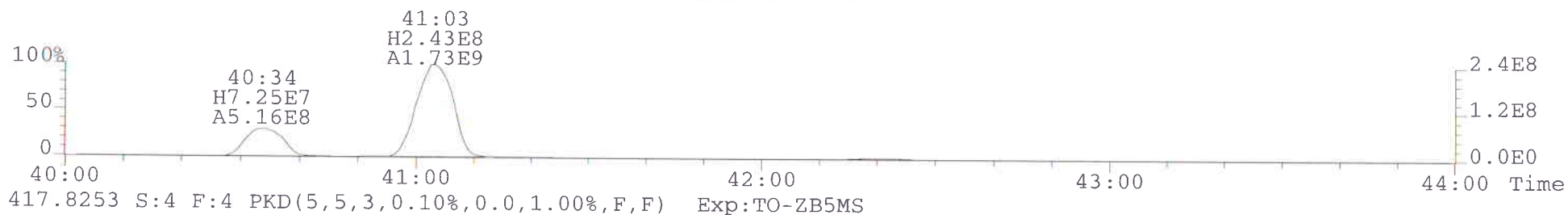
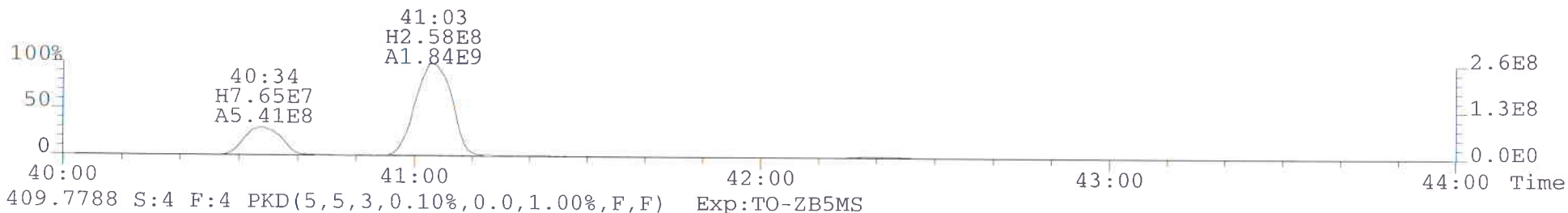
File:050714A1 #1-444 Acq: 7-MAY-2014 12:03:45 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g 1:25
373.8207 S:4 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



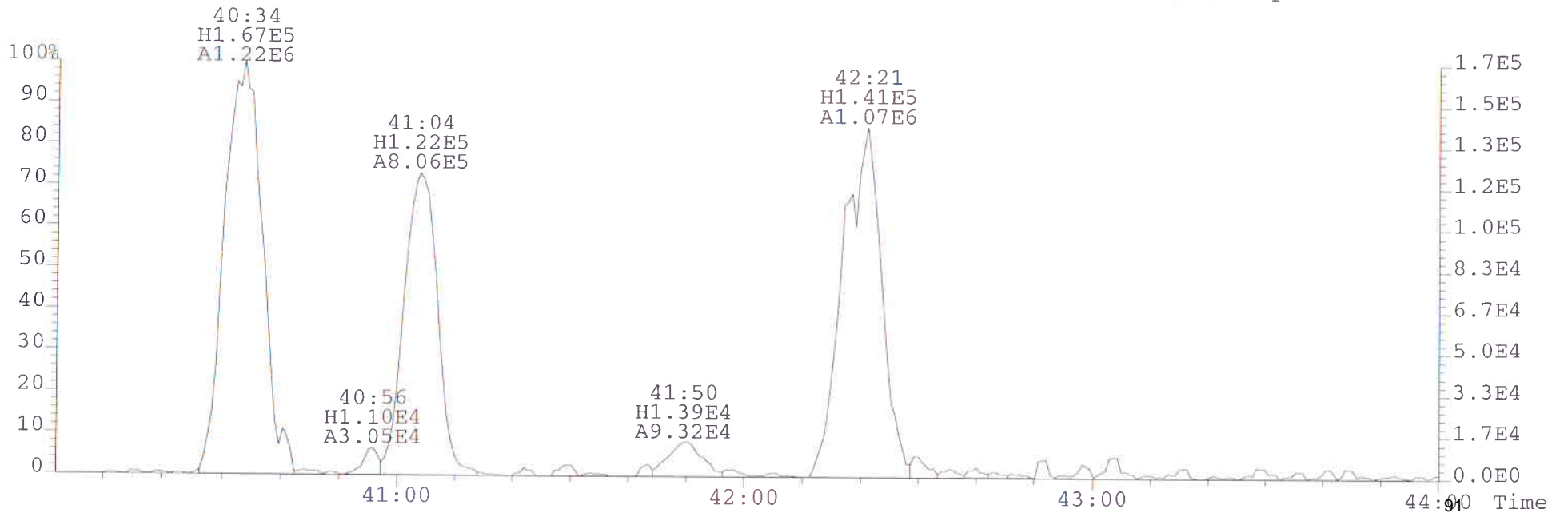
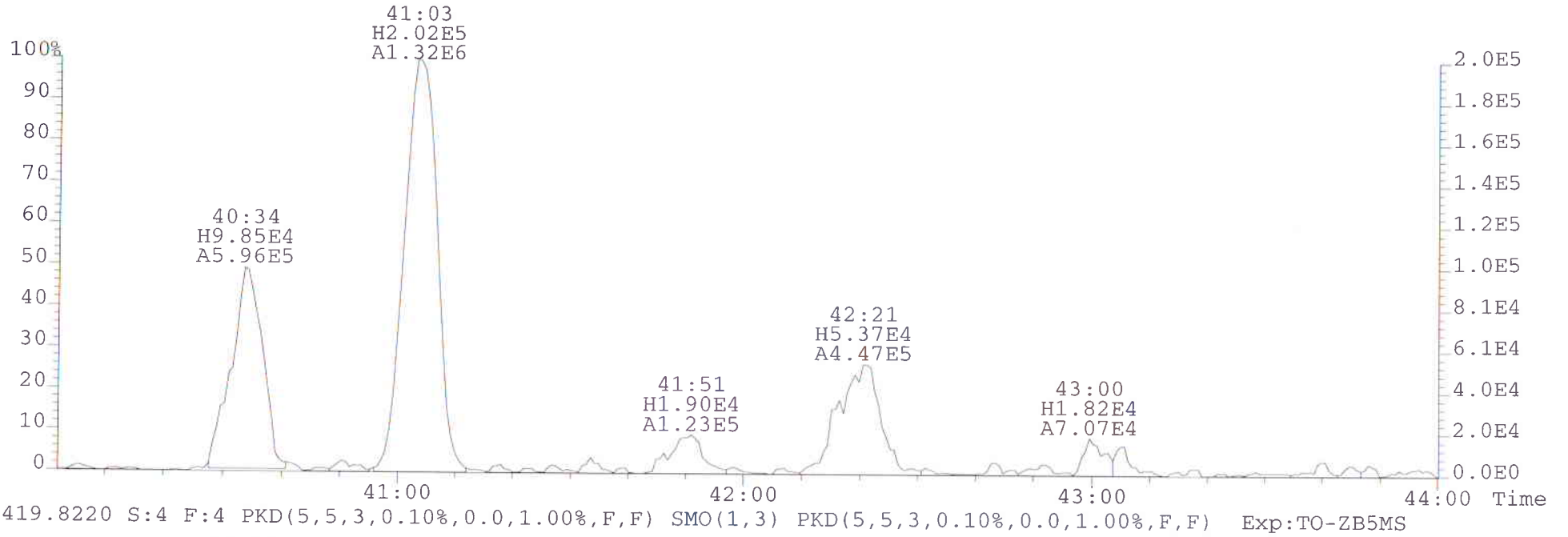
File:050714A1 #1-444 Acq: 7-MAY-2014 12:03:45 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g 1:25
383.8639 S:4 F:3 SMO(1,3) PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



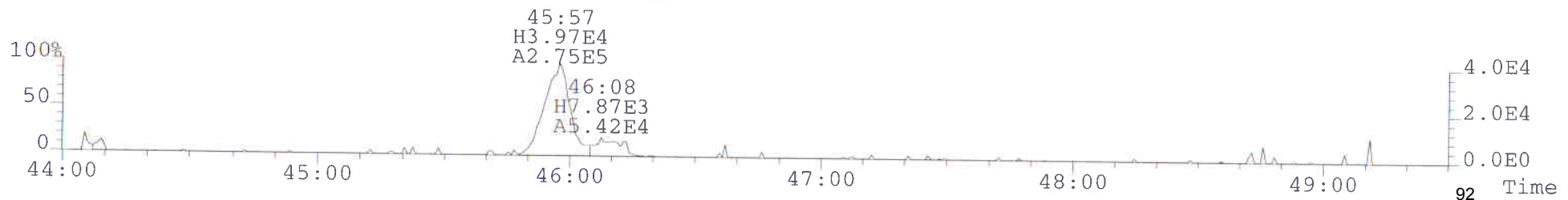
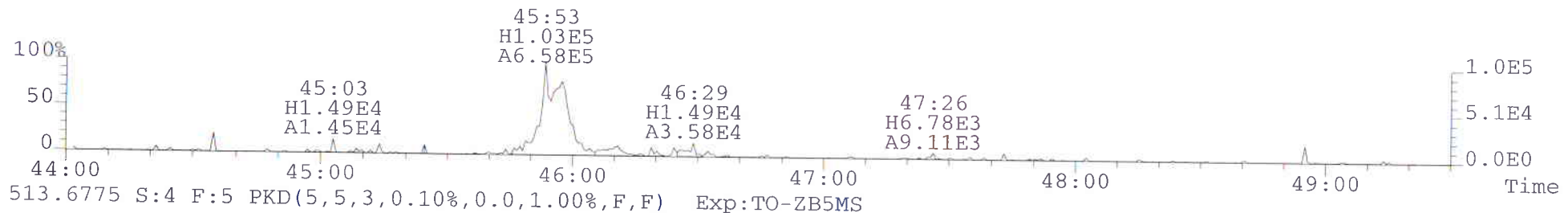
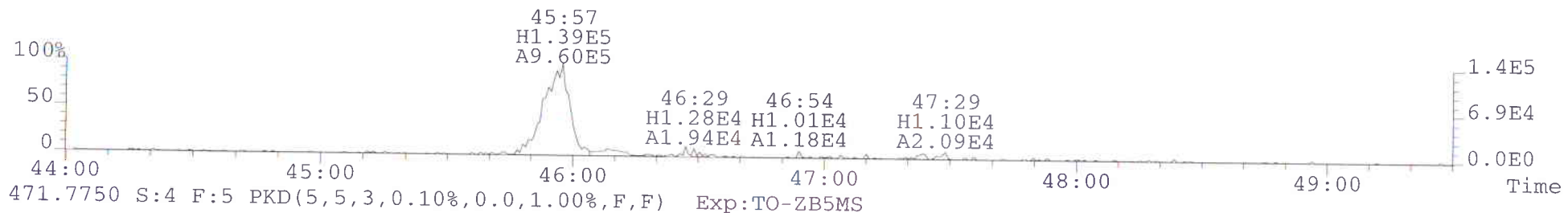
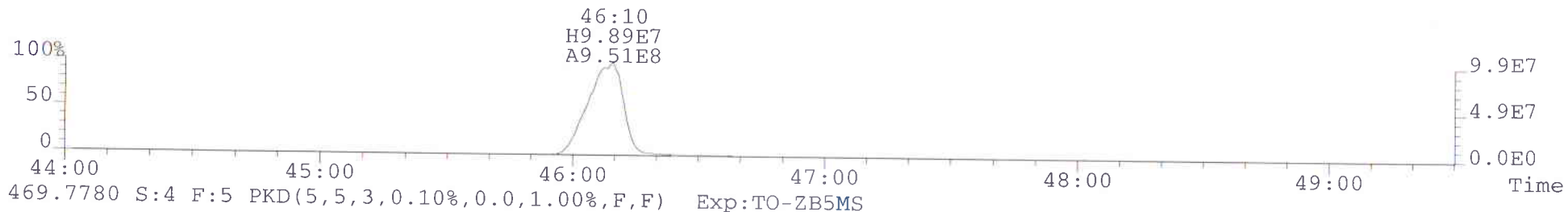
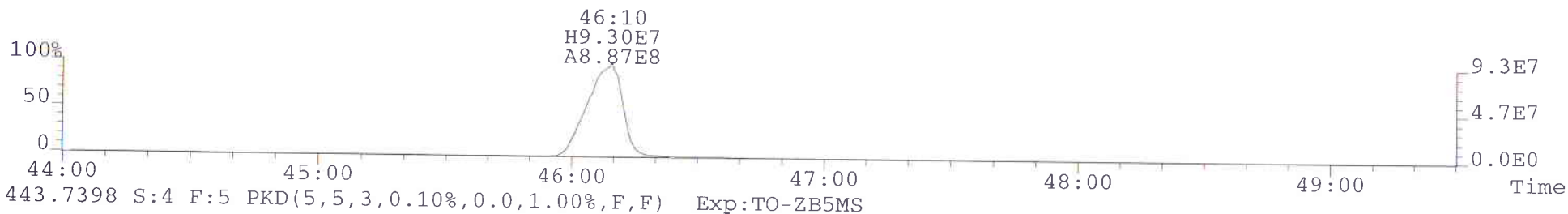
File:050714A1 #1-355 Acq: 7-MAY-2014 12:03:45 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g 1:25
407.7818 S:4 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



File:050714A1 #1-355 Acq: 7-MAY-2014 12:03:45 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g 1:25
417.8253 S:4 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) SMO(1,3) PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



File:050714A1 #1-490 Acq: 7-MAY-2014 12:03:45 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g 1:25
441.7428 S:4 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



Form 1A

EPA SAMPLE NO.

Page 10 of 11

PCDD/PCDF ANALYSIS DATA SHEET
 Use for Sample and Blank Results

B17-07.5

Laboratory Name: Ceres Analytical Laboratory, Inc. Episode No.:
 Contract No.: SAS No.: Lab Sample ID: 10339-1188-001
 Matrix (aqueous/solid/leachate): Solid Sample Wt/Vol: 12.19 g or mL: g
 Sample Receipt Date: 4/30/14 Initial Calibration Date:
 Ext. Date: 5/5/1 Shift: day Instrument ID: MS-1
 Analysis Date: 10-MAY-14 Time: 17:10:13 GC Column ID: ZB-5MS
 Extract Volume (uL): 20 Sample Data Filename: 051014A1 S #: 11
 Injection Volume (uL): 2 Blank Data Filename: 050614A1 S#: 4
 Dilution Factor: na Cal. Ver. Data Filename: 051014A1 S#: 2
 Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Solids: 80.7

ANALYTE	PK_RT	RA	CONC.	RRT
2,3,7,8-TCDF	17:02	0.77	534	1.002 0.999-1.003
13C-2,3,7,8-TCDF	17:00	0.77	202	1.097 0.923-1.103

Ceres Analytical Laboratory Inc. Quantitation Summary

Filename: 051014A1 S: 11 Acquired: 10-MAY-14 17:10:13

ICal: 1613TCDF-MS1-6-5-13

Con CAL: ST051014A1-1

Ceres ID: 10339-1188-001 Client ID: B17-07.5

Wt/Vol: 9.840

End CAL: ST051014A1-2

Name	RT	Resp	RRF	RA	rrt	Conc	IS m2 ht	noise	DL
2,3,7,8-TCDF	17:02	9.19e+07	0.94	0.77	y 1.002 0.999-1.003	534	2.69e+06	56300	2.5
13C-2,3,7,8-TCDF	17:00	3.71e+07	1.36	0.77	y	202	Rec		
13C-1,2,3,4-TCDD	15:30	2.75e+07	1.00	0.87	y	203	99.6		

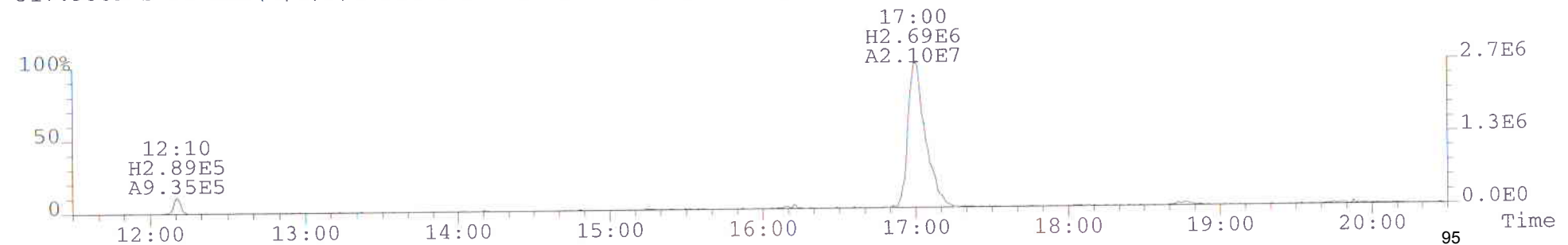
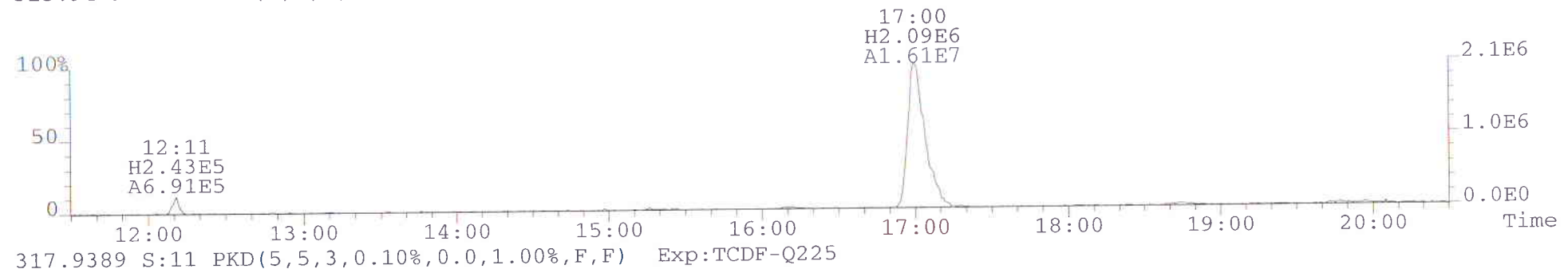
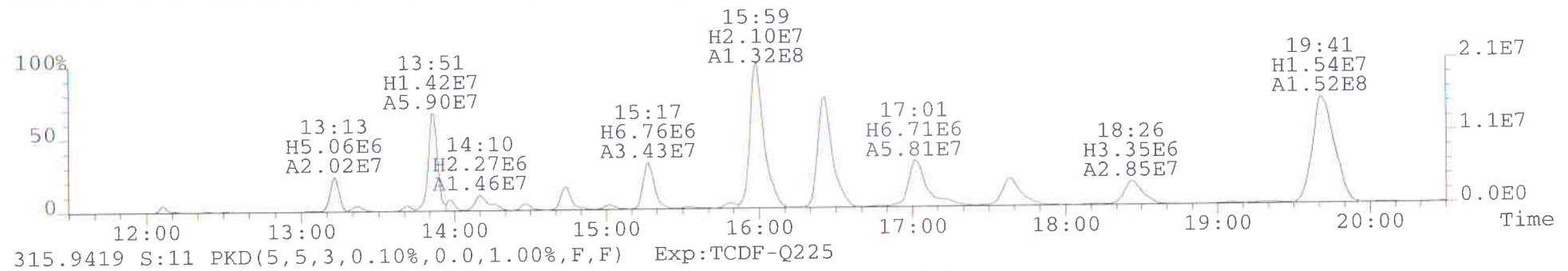
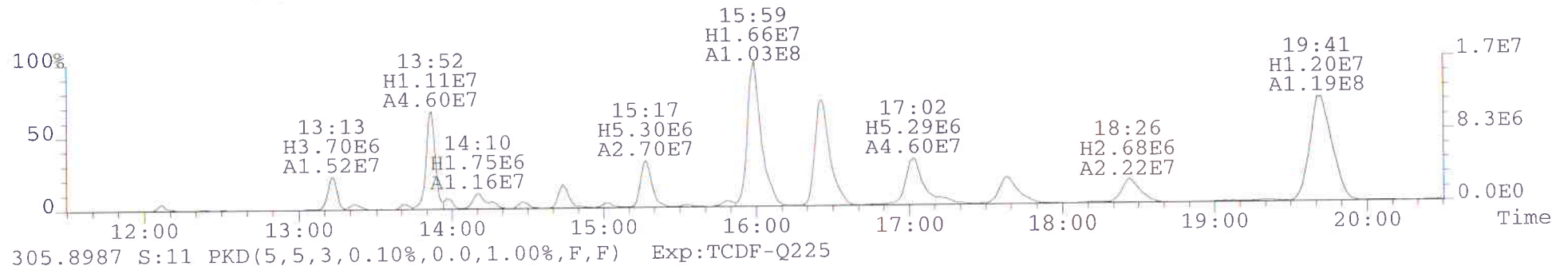
Analyst: J

Date: 5/12/14

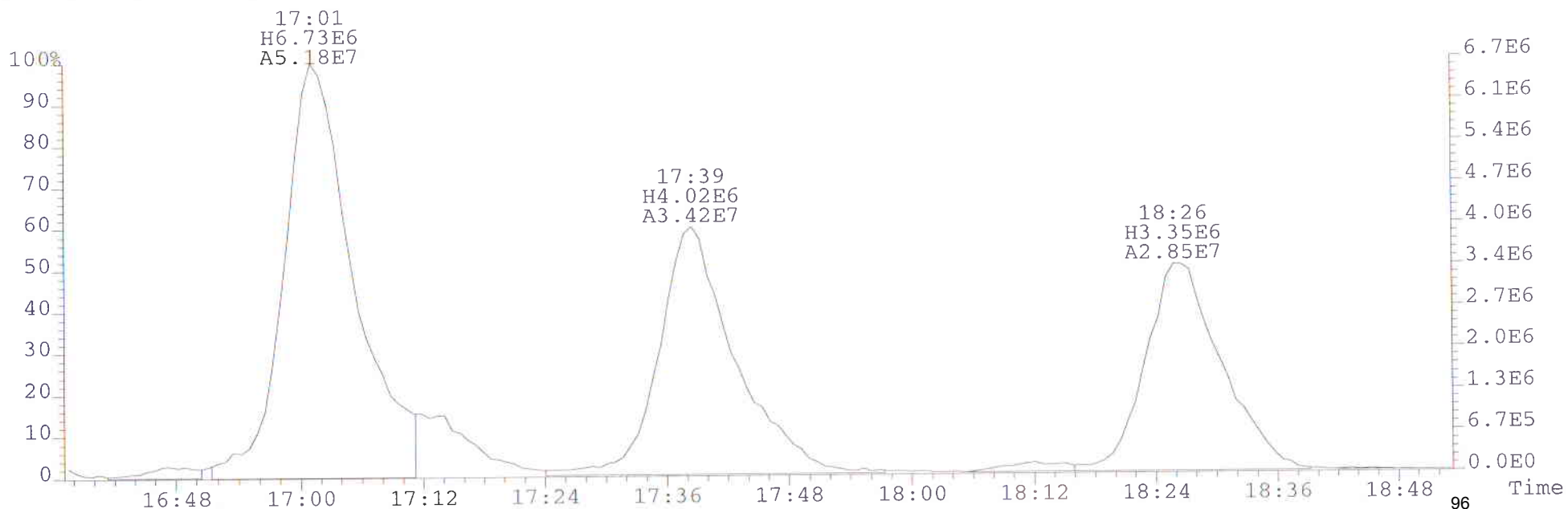
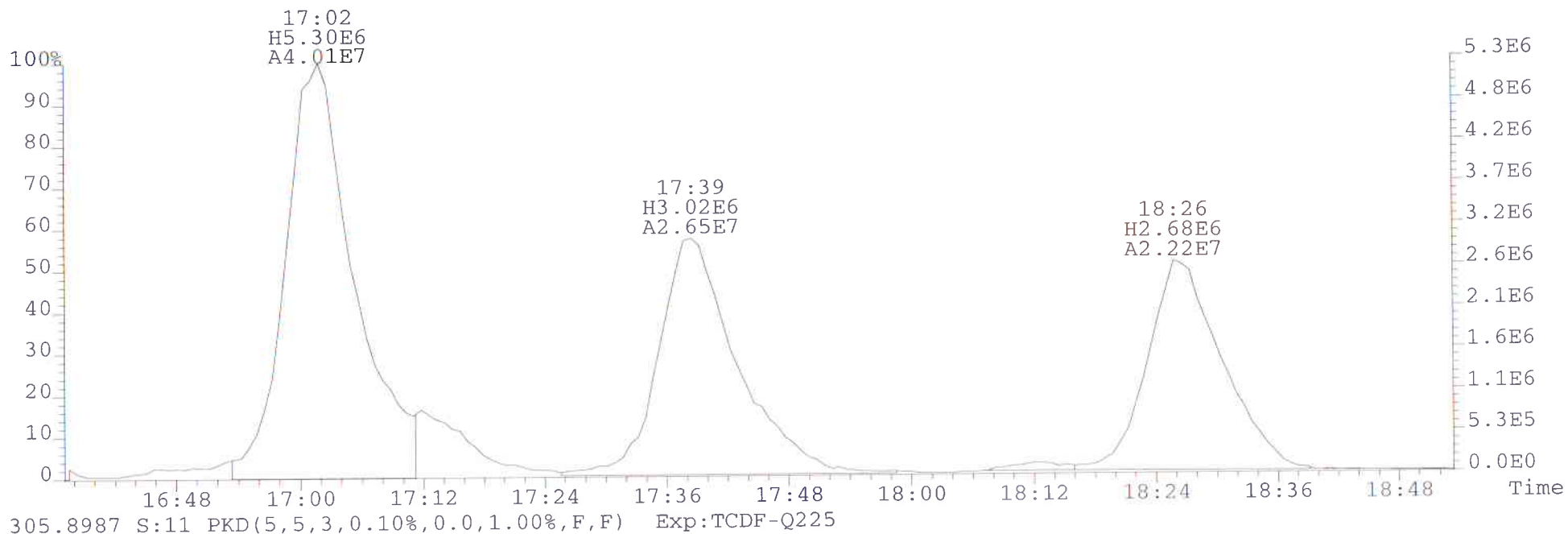
Reviewer: BL

Date: 5/12/14

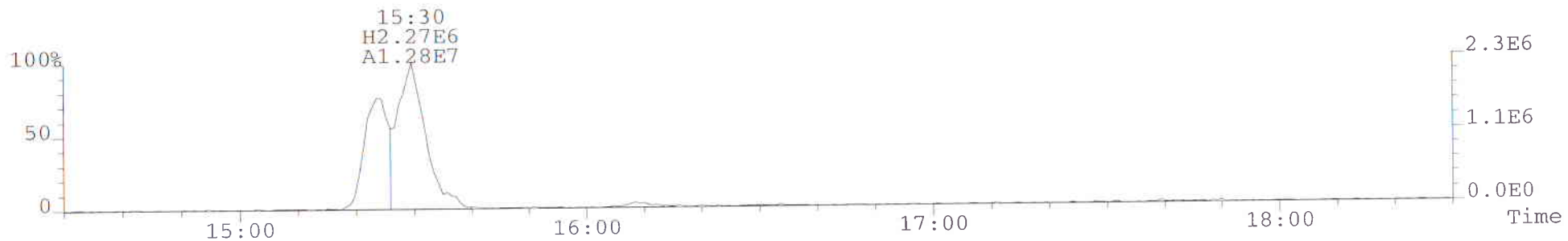
File:051014A1 #1-1494 Acq:10-MAY-2014 17:10:13 GC EI+ Voltage SIR Autospec-Ultima
Sample#11 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
303.9016 S:11 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TCDF-Q225



File:051014A1 #1-1494 Acq:10-MAY-2014 17:10:13 GC EI+ Voltage SIR Autospec-Ultima
Sample#11 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
303.9016 S:11 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TCDF-Q225



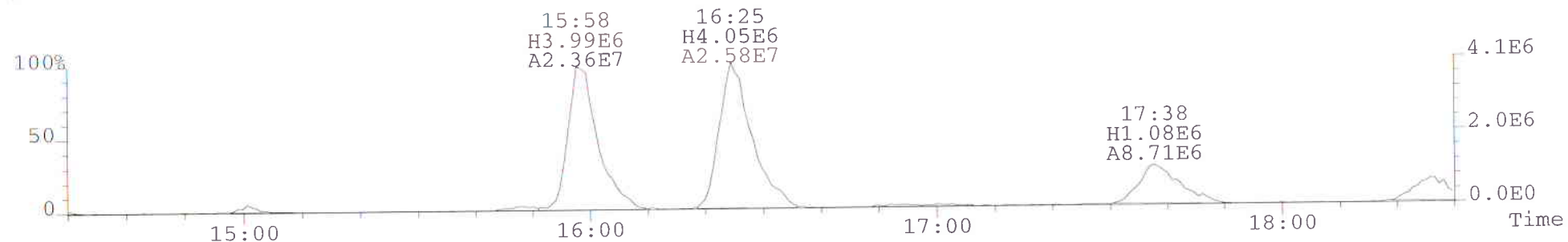
File:051014A1 #1-1494 Acq:10-MAY-2014 17:10:13 GC EI+ Voltage SIR Autospec-Ultima
Sample#11 File Text:Ceres Analytical Laboratory Text:10339-1188-001 B17-07.5 12.19g
331.9368 S:11 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TCDF-Q225



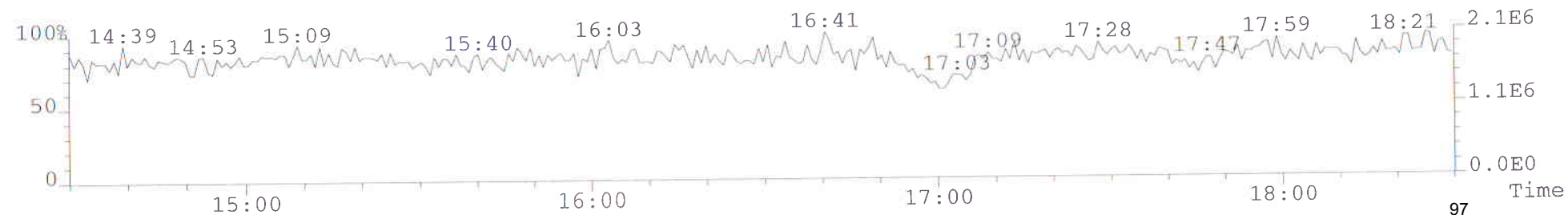
333.9339 S:11 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TCDF-Q225



375.8364 S:11 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TCDF-Q225



316.9824 S:11 Exp:TCDF-Q225



Section IV: Continuing Calibration

USEPA - ITD

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST050614A1-1

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 050614A1 S:1 Analysis Date: 6-MAY-14 Time: 12:06:41

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	EPA 1613	EPA 8290
					CONC. RANGE (3) (ng/mL)	CONC. RANGE (ng/mL)
2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	10.4	7.8-12.9	8.0-12.0
1,2,3,7,8-PeCDD	M/M+2	0.63	0.53-0.71	53.0	39-65	40-60
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	51.0	39-64	40-60
1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	52.8	39-64	40-60
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	52.3	41-61	40-60
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.10	0.88-1.20	49.9	43-58	40-60
OCDD	M+2/M+4	0.88	0.76-1.02	100.2	79-126	80-120
2,3,7,8-TCDF	M/M+2	0.82	0.65-0.89	9.8	8.4-12.0	8.0-12.0
1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	51.4	41-60	40-60
2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	54.2	41-61	40-60
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	50.2	45-56	40-60
1,2,3,6,7,8-HxCDF	M+2/M+4	1.30	1.05-1.43	49.4	44-57	40-60
2,3,4,6,7,8-HxCDF	M+2/M+4	1.29	1.05-1.43	48.9	44-57	40-60
1,2,3,7,8,9-HxCDF	M+2/M+4	1.28	1.05-1.43	49.7	45-56	40-60
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.08	0.88-1.20	51.0	45-55	40-60
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.09	0.88-1.20	49.9	43-58	40-60
OCDF	M+2/M+4	0.93	0.76-1.02	99.5	63-159	80-120

Analyst: J

Date: 5/7/14

Reviewer: ML

Date: 5/7/14

- (1) See Table 3, Method 1613, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 3A, Method 1613.
- (3) Contract-required concentration range as specified in Table 7, Method 1613, under VER 10/94.

USEPA - ITD
FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST050614A1-1

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 050614A1 S:1 Analysis Date: 6-MAY-14 Time: 12:06:41

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	EPA 1613 CONC. RANGE (3) (ng/mL)	EPA 8290 CONC. RANGE (ng/mL)
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	104.9	82 - 121	70 - 130
13C-1,2,3,7,8-PeCDD	M/M+2	0.64	0.53-0.71	96.3	62 - 160	70 - 130
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	97.7	85 - 117	70 - 130
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	99.0	85 - 118	70 - 130
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88-1.20	106.4	72 - 138	70 - 130
13C-OCDD	M+2/M+4	0.91	0.76-1.02	213.9	96 - 415	140 - 260
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	117.1	71 - 140	70 - 130
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	113.3	76 - 130	70 - 130
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	102.9	77 - 130	70 - 130
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	90.9	76 - 131	70 - 130
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.50	0.43-0.59	97.0	70 - 143	70 - 130
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	100.4	73 - 137	70 - 130
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	103.1	74 - 135	70 - 130
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	121.6	78 - 129	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37-0.51	119.4	77 - 129	70 - 130

Clean-up Standard (4)

37Cl-2,3,7,8-TCDD	M			10.4	7.9 - 12.7	7.0 - 13.0
-------------------	---	--	--	------	------------	------------

- (1) See Table 3, Method 1613, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 3A, Method 1613.
- (3) Contract-required concentration range, as specified in Table 7, Method 1613, under VER.
- (4) No ion abundance ratio; report concentration found.

Analyst: [Signature]

Date: 5/17/14

Reviewer: [Signature]

Date: 5/17/14

USEPA - ITD

FORM 5
PCDD/PCDF Window Defining Mix

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST050614A1-1

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 050614a1 S:1 Analysis Date: 6-MAY-14 Time: 12:06:41

NATIVE ANALYTES	RT		RT
1,3,6,8-TCDD(First)	24:54	1,3,6,8-TCDF(First)	22:41
1,2,8,9-TCDD(Last)	29:44	1,2,8,9-TCDF(Last)	29:44
1,2,4,7,9-PeCDD(First)	31:34	1,3,4,6,8-PeCDF(First)	30:02
1,2,3,8,9-PeCDD(Last)	34:11	1,2,3,8,9-PeCDF(Last)	34:20
1,2,4,6,7,9-HxCDD(First)	36:03	1,2,3,4,6,8-HxCDF(First)	35:24
1,2,3,4,6,7-HxCDD(Last)	38:16	1,2,3,4,8,9-HxCDF(Last)	38:37
1,2,3,4,6,7,9-HpCDD(First)	41:00	1,2,3,4,6,7,8-HpCDF(First)	40:40
1,2,3,4,6,7,8-HpCDD(Last)	41:54	1,2,3,4,7,8,9-HpCDF(Last)	42:26

Analyst: J
Date: 5/2/14

Reviewer: ML
Date: 5/2/14

USEPA - ITD
 FORM 6A
 PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST050614A1-1

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB 5MS

VER Data Filename: 050614A1 S:1 Analysis Date: 6-MAY-14 Time: 12:06:41

Compounds Using 13C-1234-TCDD as Internal Standard

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.000	0.999-1.002
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.001	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.000	0.999-1.002
LABELED COMPOUNDS			
13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.008	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.192	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.974	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.149	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.179	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.009	0.989-1.052

Analyst: J
 Date: 5/7/14

Reviewer: MB
 Date: 5/7/14

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

USEPA - ITD

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST050614A1-1

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 050614A1 S:1 Analysis Date: 6-MAY-14 Time: 12:06:41

Compounds Using 13C-123789-HxCDD as Internal Standard

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.001	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.012	1.000-1.019
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.001	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.001	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.001	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDF	13C-OCDD	1.005	0.999-1.008

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,7,8,9-HxCDD	0.985	0.977-1.000
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,7,8,9-HxCDD	0.989	0.981-1.003
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,7,8,9-HxCDD	1.095	1.086-1.110
13C-OCDD	13C-1,2,3,7,8,9-HxCDD	1.203	1.032-1.311
13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,7,8,9-HxCDD	0.959	0.944-0.970
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,7,8,9-HxCDD	0.962	0.949-0.975
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,7,8,9-HxCDD	0.981	0.959-1.021
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDD	1.009	0.977-1.047
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,7,8,9-HxCDD	1.063	1.043-1.085
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,7,8,9-HxCDD	1.109	1.057-1.151

Analyst: 

Date: 5/7/14

Reviewer: 


Date: 5/7/14

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Ceres Analytical Laboratory Inc. Quantitation Summary
 Filename: 050614A1 S: 1 Acquired: 6-MAY-14 12:06:41 Analyte: 1613 ICal: 1613-ms1-5-22-13 Con CAL: ST050614A1-1
 Ceres ID: ST050614A1-1 Client ID: S050913F 1613 CS3WT Total Tox: 104.67 Wt/Vol: 1.000 End CAL: ST050614A1-2

Name	RT	Resp	RRF	RA	rrt	Conc	Qual	Noise * 2.5	DL
2,3,7,8-TCDD	28:28	5.70e+06	1.03	0.78	y	1.001	0.999-1.002	10.4	0.00
1,2,3,7,8-PeCDD	33:39	2.52e+07	0.99	0.63	y	1.000	0.999-1.002	53.0	0.00
1,2,3,4,7,8-HxCDD	37:42	2.28e+07	0.99	1.26	y	1.001	0.999-1.001	51.0	0.00
1,2,3,6,7,8-HxCDD	37:49	2.45e+07	0.93	1.24	y	1.000	0.998-1.004	52.8	0.00
1,2,3,7,8,9-HxCDD	38:16	2.35e+07	0.95	1.24	y	1.012	1.000-1.019	52.3	0.00
1,2,3,4,6,7,8-HpCDD	41:54	2.14e+07	1.01	1.10	y	1.001	0.999-1.001	49.9	0.00
OCDD	46:00	3.66e+07	1.00	0.88	y	1.000	0.999-1.001	100	0.00
2,3,7,8-TCDF	27:30	8.40e+06	0.96	0.82	y	1.001	0.999-1.003	9.83	0.00
1,2,3,7,8-PeCDF	32:25	4.53e+07	1.01	1.60	y	1.001	0.999-1.002	51.4	0.00
2,3,4,7,8-PeCDF	33:15	4.46e+07	1.02	1.61	y	1.000	0.999-1.002	54.2	0.00
1,2,3,4,7,8-HxCDF	36:41	3.74e+07	1.26	1.25	y	1.001	0.999-1.001	50.2	0.00
1,2,3,6,7,8-HxCDF	36:49	4.16e+07	1.25	1.30	y	1.000	0.997-1.005	49.4	0.00
2,3,4,6,7,8-HxCDF	37:32	3.94e+07	1.36	1.29	y	1.001	0.999-1.001	48.9	0.00
1,2,3,7,8,9-HxCDF	38:37	3.49e+07	1.20	1.28	y	1.000	0.999-1.001	49.7	0.00
1,2,3,4,6,7,8-HpCDF	40:40	4.74e+07	1.53	1.08	y	1.000	0.999-1.001	51.0	0.00
1,2,3,4,7,8,9-HpCDF	42:26	3.53e+07	1.55	1.09	y	1.000	0.999-1.001	49.9	0.00
OCDF	46:13	4.95e+07	1.37	0.93	y	1.005	0.999-1.008	99.5	0.00
								Rec	Qual
13C-2,3,7,8-TCDD	28:26	5.32e+07	1.00	0.80	y	1.008	0.976-1.043	105	105
13C-1,2,3,7,8-PeCDD	33:38	4.82e+07	0.99	0.64	y	1.192	1.000-1.567	96.3	96.3
13C-1,2,3,4,7,8-HxCDD	37:41	4.49e+07	0.98	1.27	y	0.985	0.977-1.000	97.7	97.7
13C-1,2,3,6,7,8-HxCDD	37:48	4.98e+07	1.08	1.25	y	0.989	0.981-1.003	99.0	99.0
13C-1,2,3,4,6,7,8-HpCDD	41:52	4.23e+07	0.85	1.02	y	1.095	1.086-1.110	106	106
13C-OCDD	46:00	7.28e+07	0.73	0.91	y	1.203	1.032-1.311	214	107
13C-2,3,7,8-TCDF	27:28	8.88e+07	1.49	0.78	y	0.974	0.923-1.103	117	117
13C-1,2,3,7,8-PeCDF	32:24	8.71e+07	1.51	1.57	y	1.149	1.000-1.425	113	113
13C-2,3,4,7,8-PeCDF	33:14	8.09e+07	1.55	1.58	y	1.179	1.011-1.526	103	103
13C-1,2,3,4,7,8-HxCDF	36:40	5.92e+07	1.39	0.52	y	0.959	0.944-0.970	90.9	90.9
13C-1,2,3,6,7,8-HxCDF	36:49	6.75e+07	1.49	0.50	y	0.962	0.949-0.975	97.0	97.0
13C-2,3,4,6,7,8-HxCDF	37:31	5.94e+07	1.27	0.51	y	0.981	0.959-1.021	100	100
13C-1,2,3,7,8,9-HxCDF	38:36	5.84e+07	1.21	0.52	y	1.009	0.977-1.047	103	103
13C-1,2,3,4,6,7,8-HpCDF	40:39	6.08e+07	1.07	0.45	y	1.063	1.043-1.085	122	122
13C-1,2,3,4,7,8,9-HpCDF	42:25	4.56e+07	0.82	0.46	y	1.109	1.057-1.151	119	119
37Cl-2,3,7,8-TCDD	28:27	5.99e+06	1.14			1.009	0.989-1.052	10.4	104
13C-1,2,3,4-TCDD	28:12	5.08e+07	1.00	0.81	y			100	
13C-1,2,3,7,8,9-HxCDD	38:15	4.68e+07	1.00	1.26	y			100	
		Conc	EMPC	DL	Qual				
Total Tetra-Dioxins		52.0	56.8	0.00	0.00				
Total Penta-Dioxins		186	187	0.00	0.00				
Total Hexa-Dioxins		222	224	0.00	0.00				
Total Hepta-Dioxins		110	112	0.00	0.00				
Total Tetra-Furans		29.5	29.7	0.00	0.00				
1st Fnc Penta-Furans		40.7	40.7	0.00	0.00				
Total Penta-Furans		160	161	0.00	0.00				
Total Hexa-Furans		257	258	0.00	0.00				
Total Hepta-Furans		103	103	0.00	0.00				
						PeCDF Total:	201		
						PeCDF EMPC:	201		

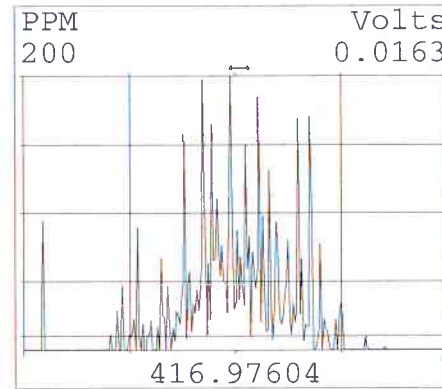
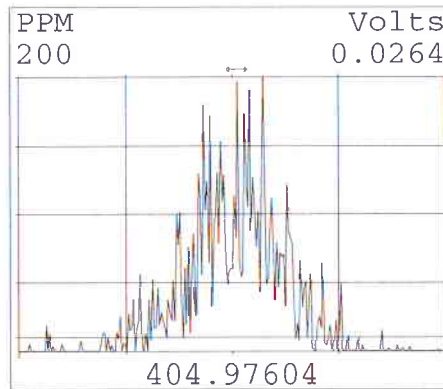
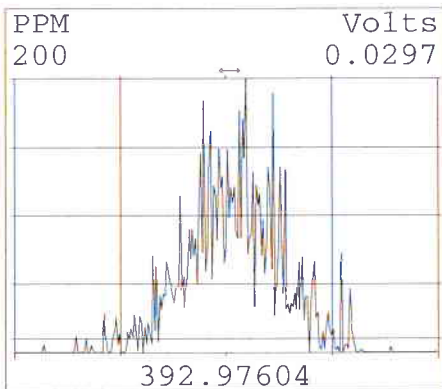
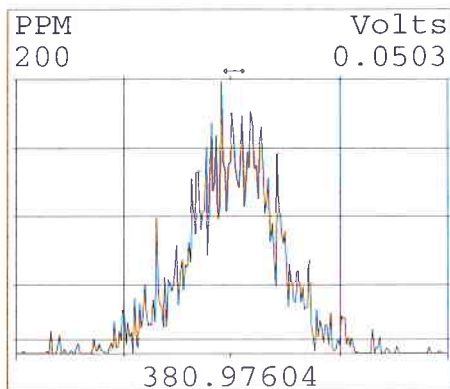
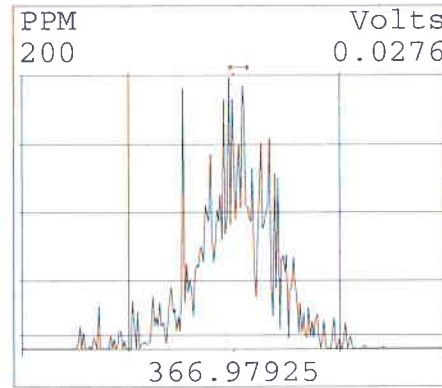
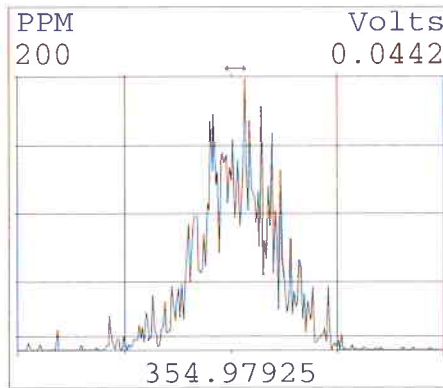
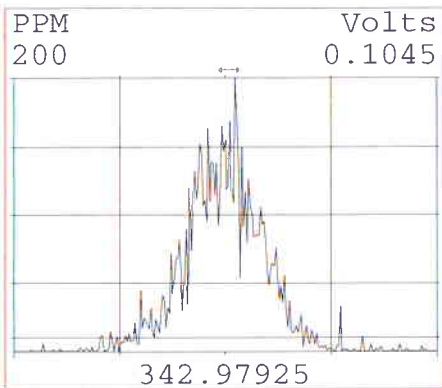
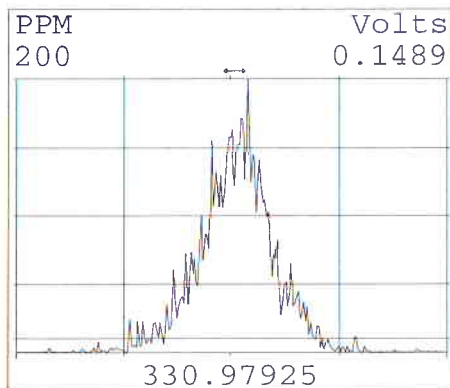
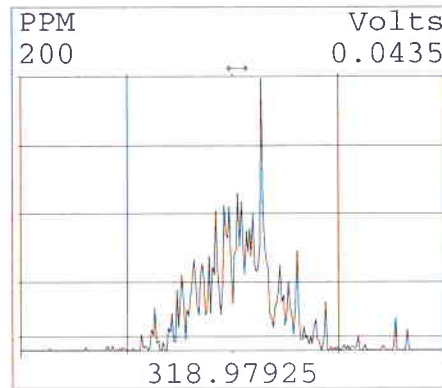
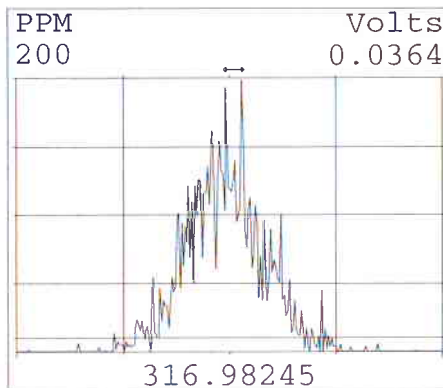
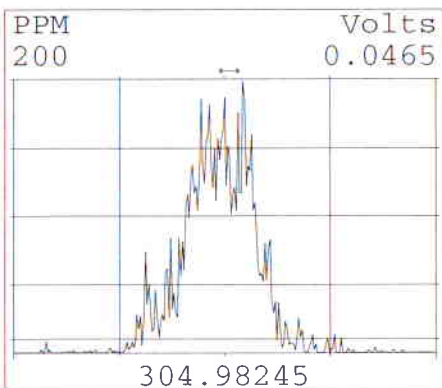
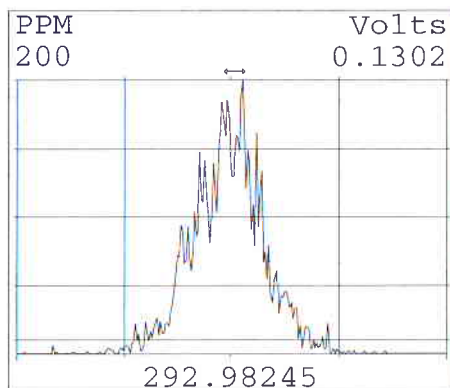
Analyst: 
 Date: 5/7/14

Reviewer: 
 Date: 5/7/14

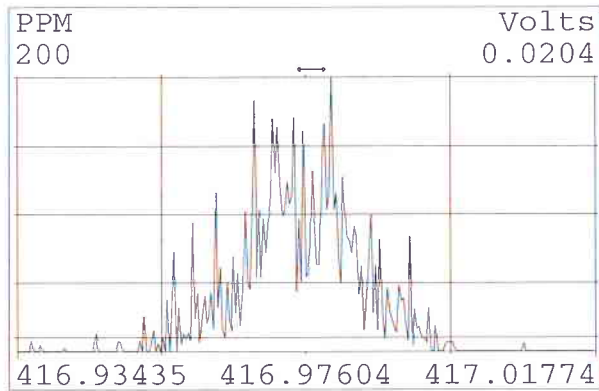
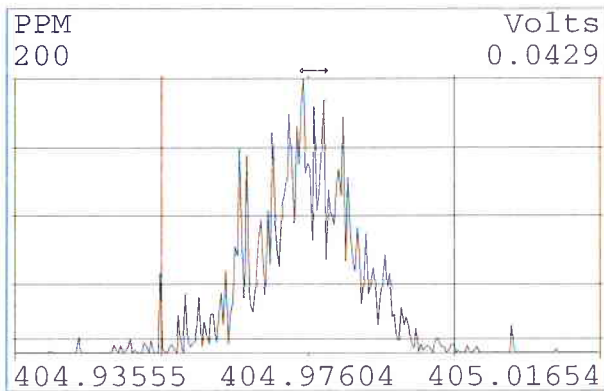
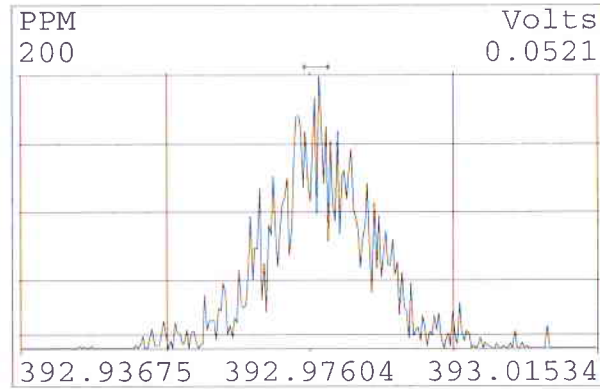
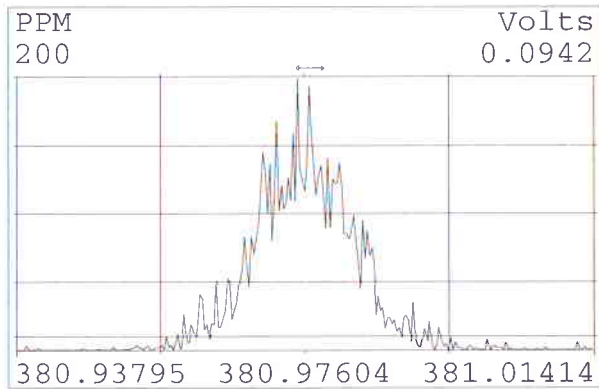
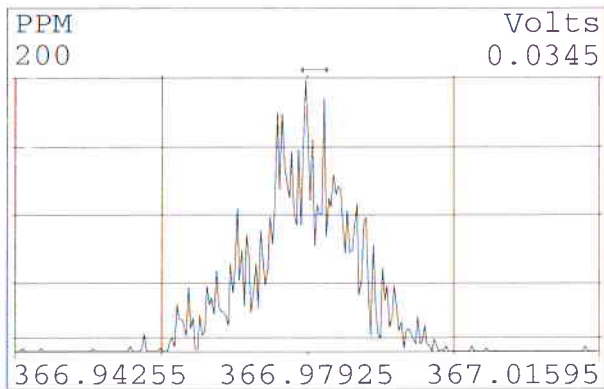
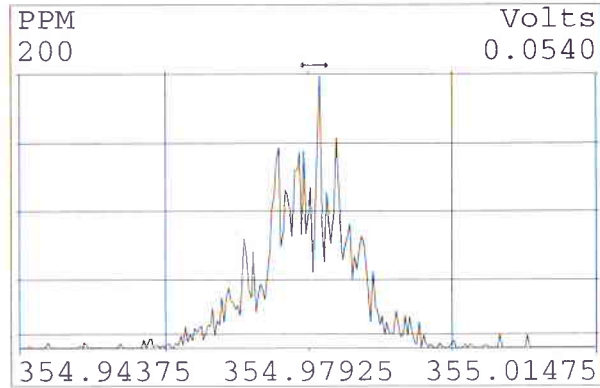
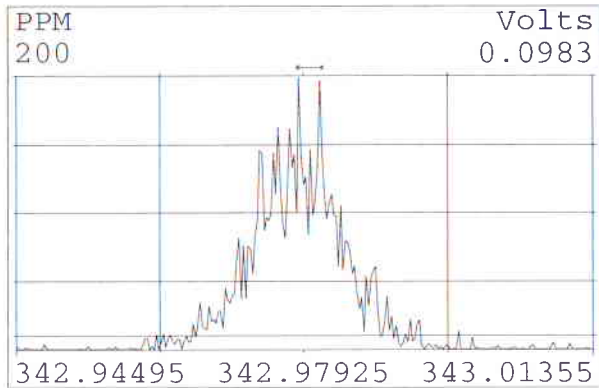
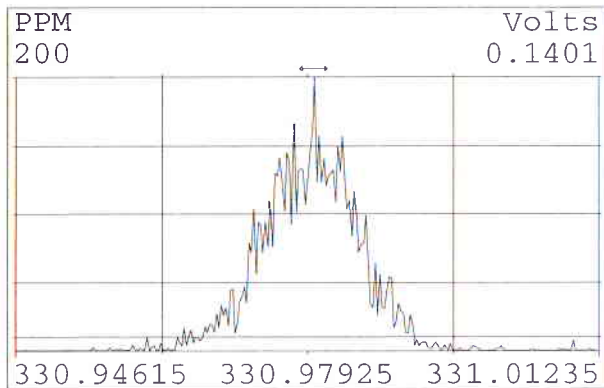
	c/q	Data File S	Ceres ID	Acquired	Time	Con Cal	End Cal
1	q	050614A1	1 ST050614A1-1	6-MAY-14	12:06:41	ST050614A1-1	ST050614A1-2 y
2	q	050614A1	2 0-1188-OPR	6-MAY-14	13:00:06	ST050614A1-1	ST050614A1-2 y
3	q	050614A1	3 solvent blank	6-MAY-14	13:53:29	ST050614A1-1	ST050614A1-2 y
4	q	050614A1	4 0-1188-MB	6-MAY-14	14:46:54	ST050614A1-1	ST050614A1-2 y
5	q	050614A1	5 10343-1188-001	6-MAY-14	15:40:23	ST050614A1-1	ST050614A1-2 y
6	q	050614A1	6 10343-1188-002	6-MAY-14	16:33:47	ST050614A1-1	ST050614A1-2 y
7	q	050614A1	7 10343-1188-003	6-MAY-14	17:27:11	ST050614A1-1	ST050614A1-2 y
8	q	050614A1	8 10343-1188-004	6-MAY-14	18:20:35	ST050614A1-1	ST050614A1-2 y
9	q	050614A1	9 10344-1188-001	6-MAY-14	19:14:00	ST050614A1-1	ST050614A1-2 y
10	q	050614A1	10 10344-1188-002	6-MAY-14	20:07:24	ST050614A1-1	ST050614A1-2 y
11	q	050614A1	11 10344-1188-003	6-MAY-14	21:00:48	ST050614A1-1	ST050614A1-2 y
12	q	050614A1	12 10344-1188-004	6-MAY-14	21:54:12	ST050614A1-1	ST050614A1-2 y
13	q	050614A1	13 10339-1188-001	6-MAY-14	22:47:36	ST050614A1-1	ST050614A1-2 y
14	q	050614A1	14 10341-1188-001	6-MAY-14	23:41:01	ST050614A1-1	ST050614A1-2 y
15	q	050614A1	15 solvent blank	7-MAY-14	00:34:25	ST050614A1-1	ST050614A1-2 y
16	q	050614A1	16 ST050614A1-2	7-MAY-14	01:27:51	ST050614A1-1	ST050614A1-2 y

Peak Locate Examination: 6-MAY-2014:12:05 File:050614A1

Experiment:TO-ZB5MS Function:1 Reference:PFK

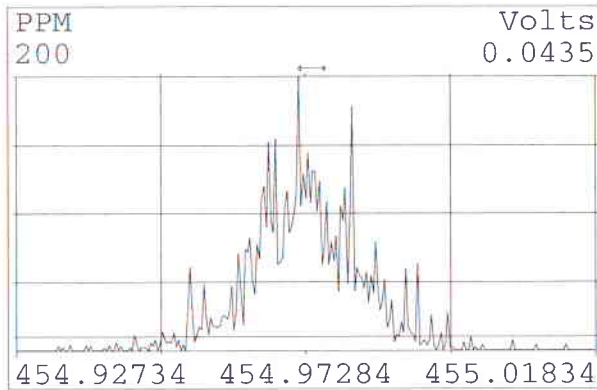
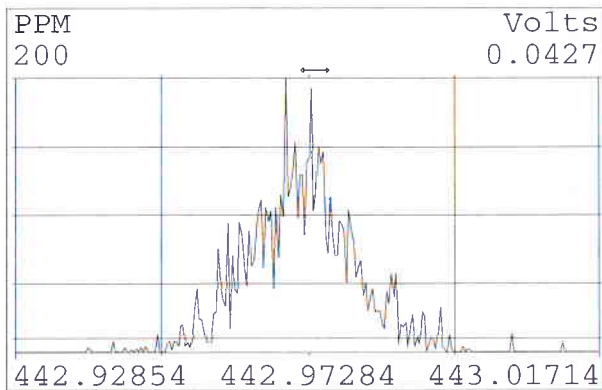
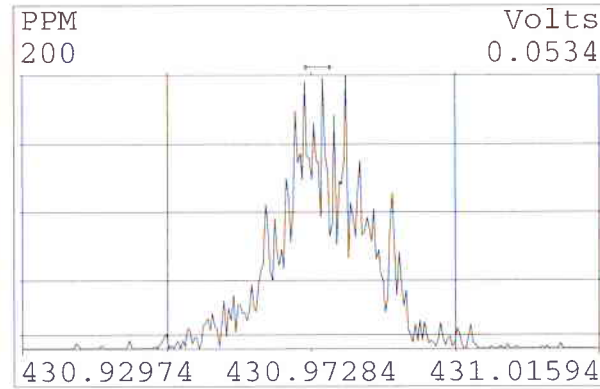
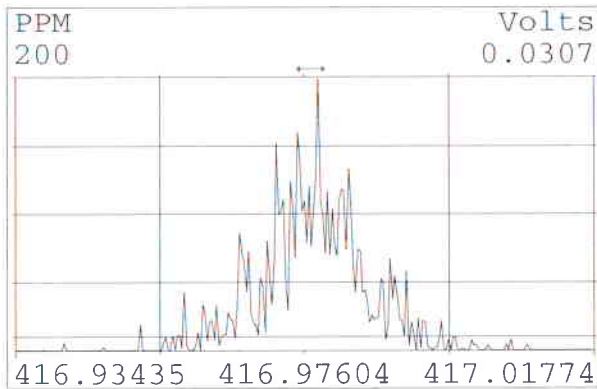
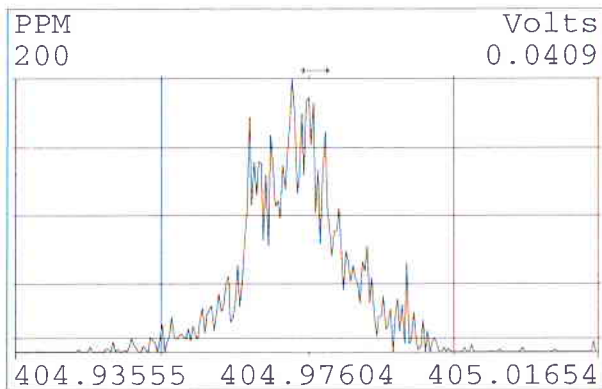
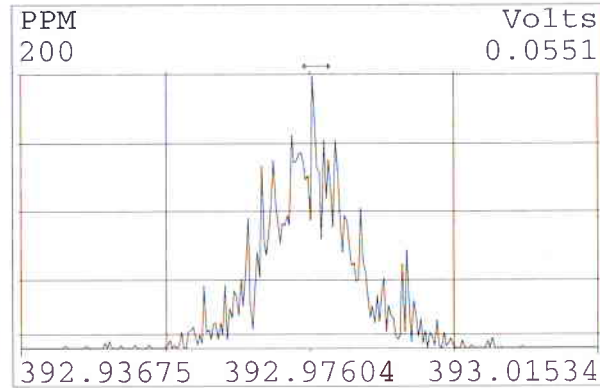
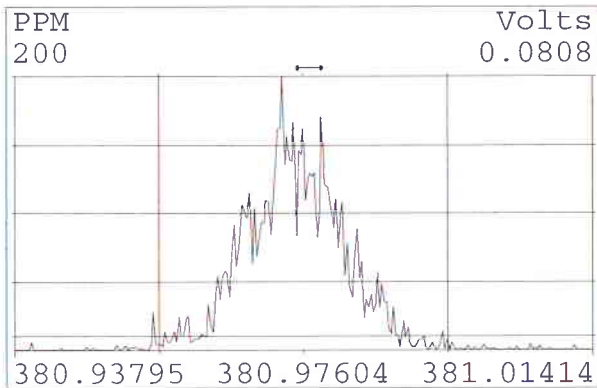
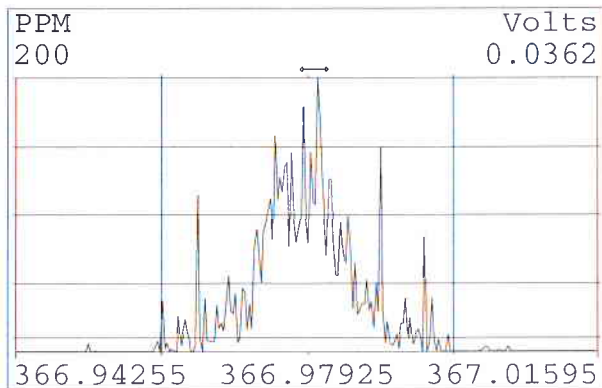


Peak Locate Examination: 6-MAY-2014:12:05 File:050614A1
Experiment:TO-ZB5MS Function:2 Reference:PFK



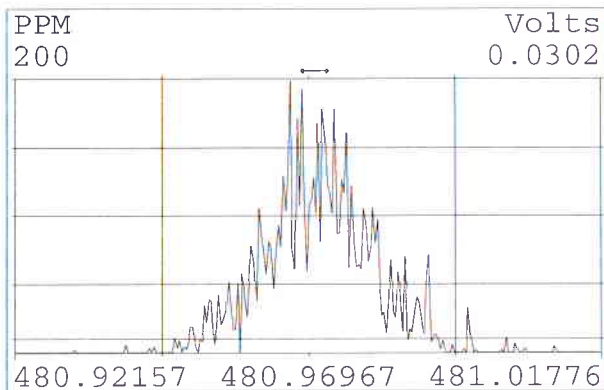
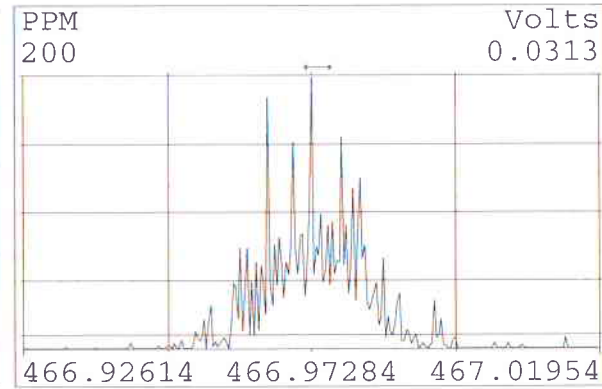
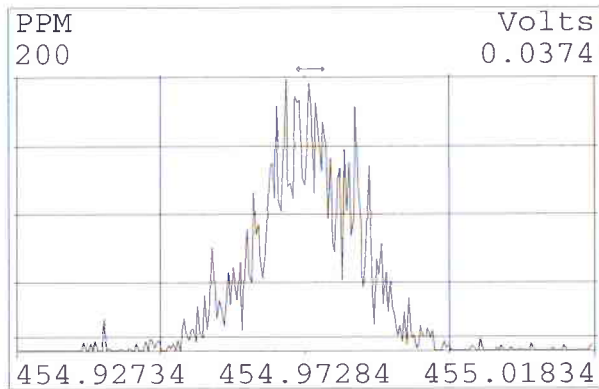
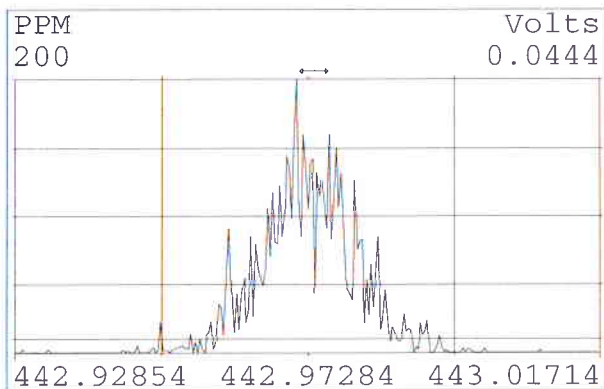
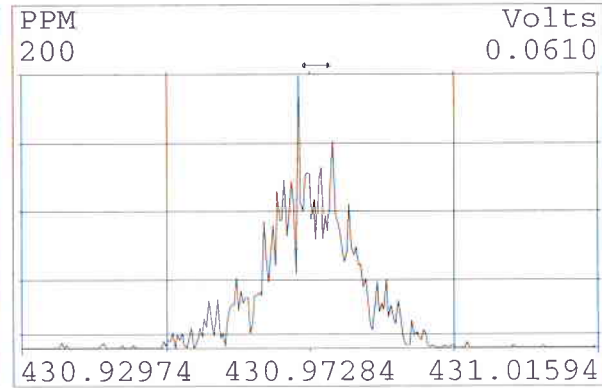
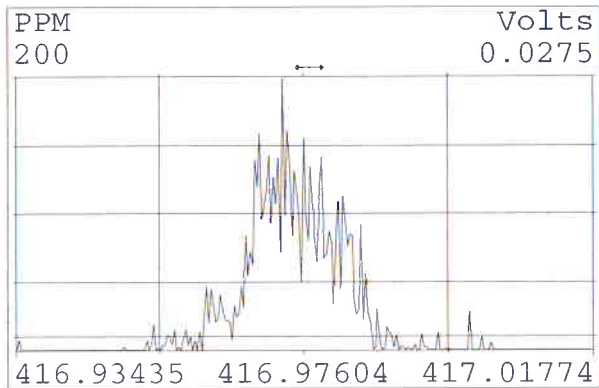
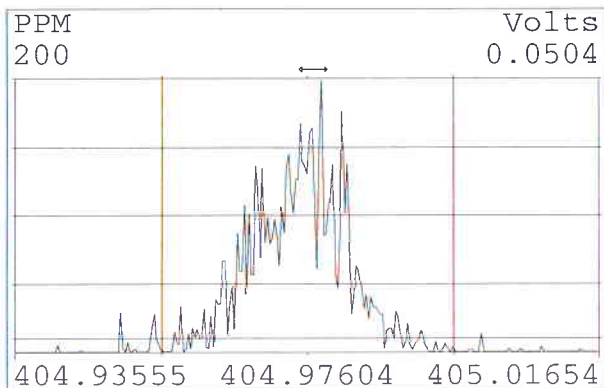
Peak Locate Examination: 6-MAY-2014:12:05 File:050614A1

Experiment:TO-ZB5MS Function:3 Reference:PFK

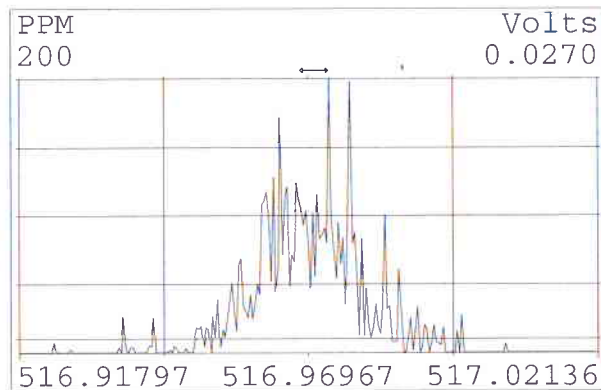
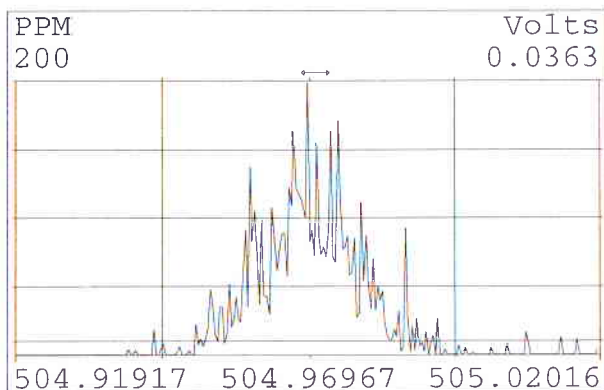
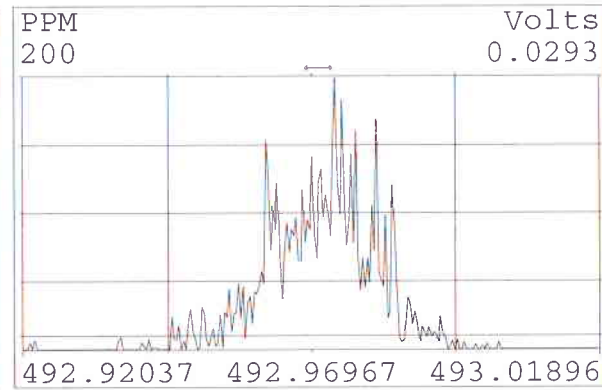
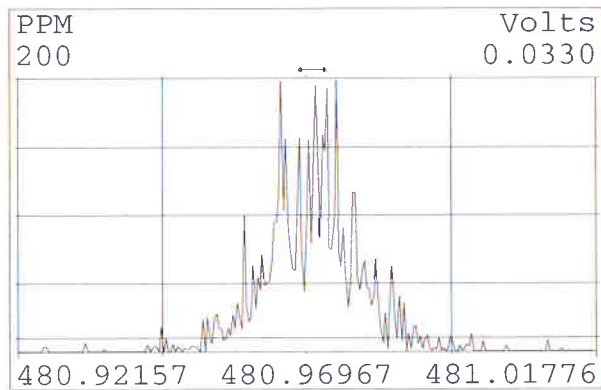
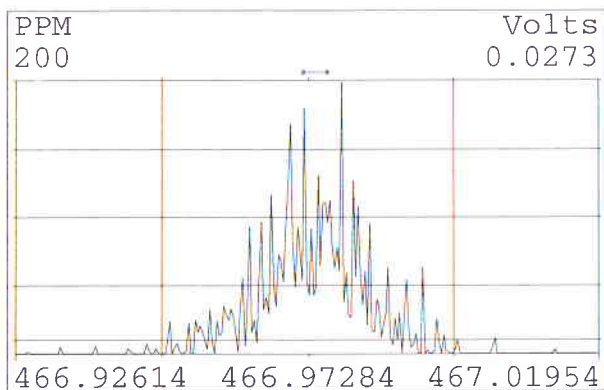
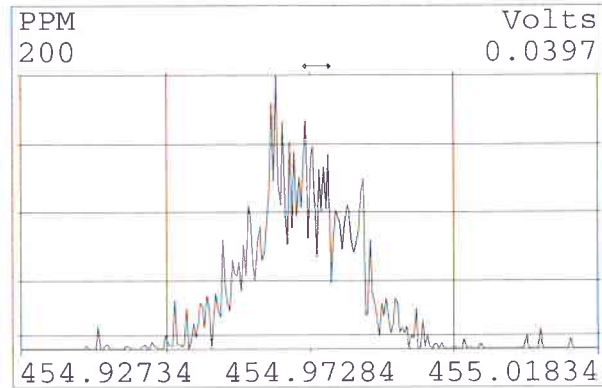
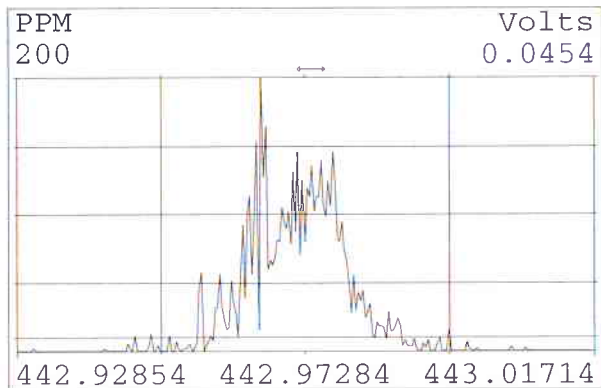
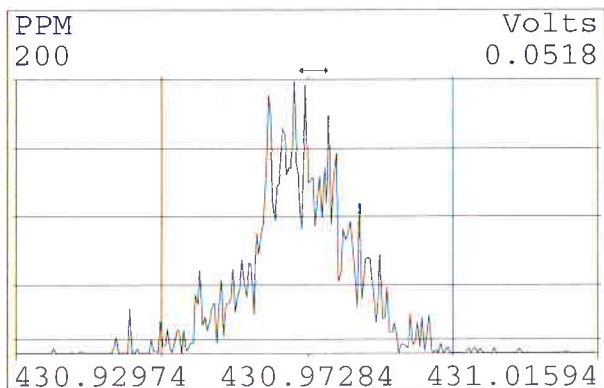


Peak Locate Examination: 6-MAY-2014:12:05 File:050614A1

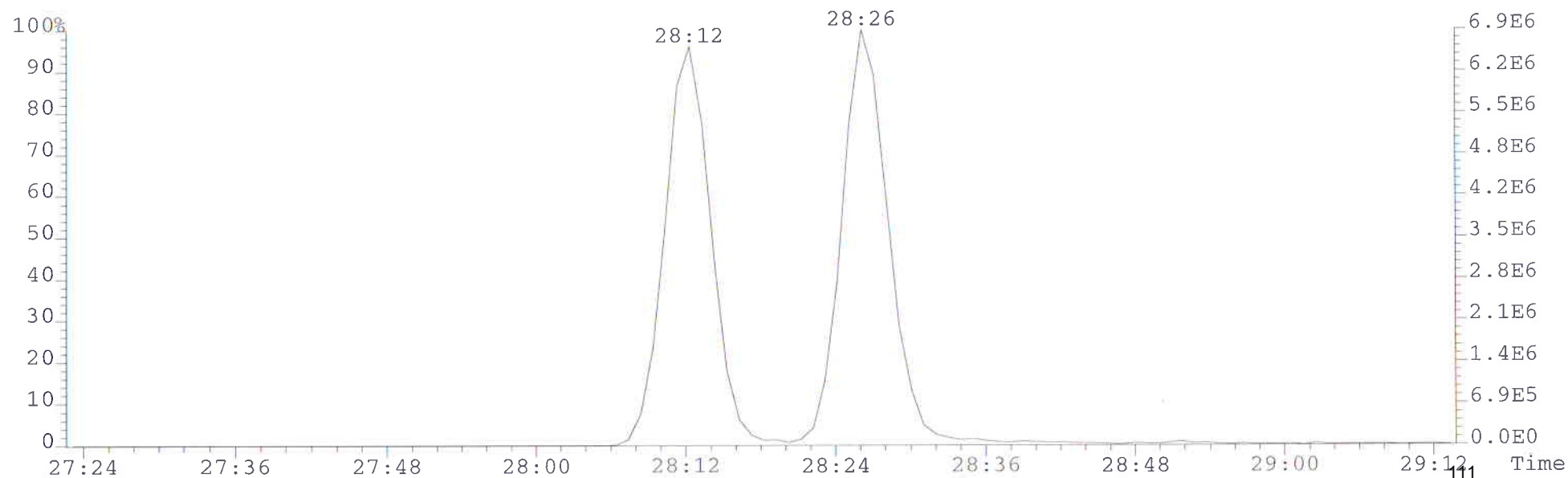
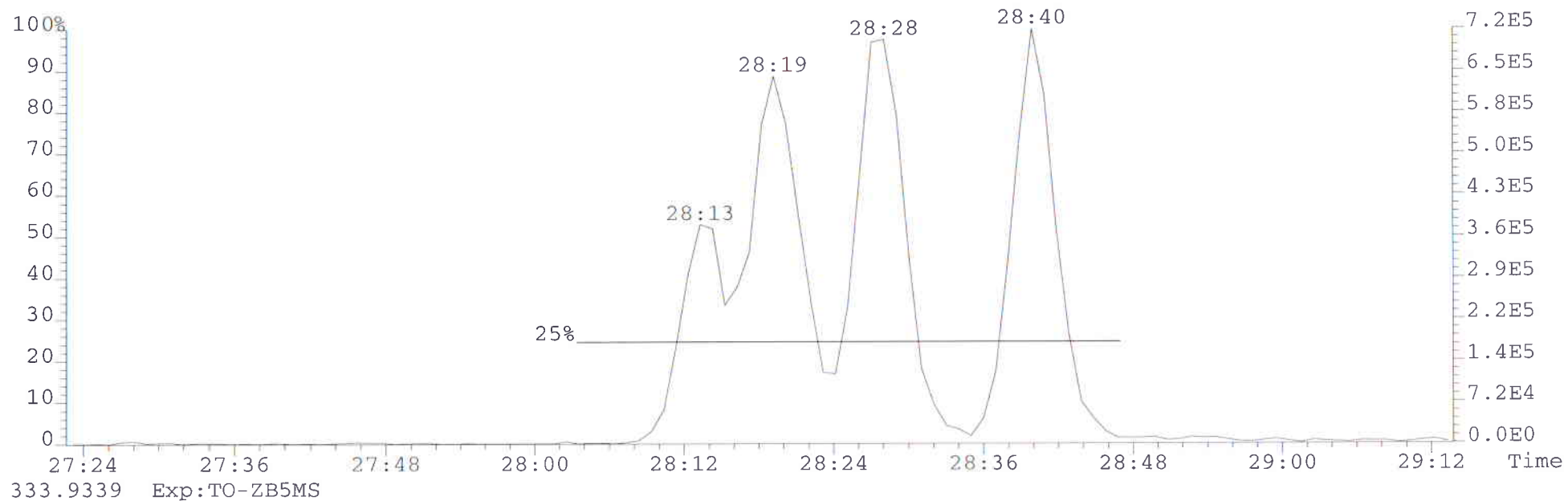
Experiment:TO-ZB5MS Function:4 Reference:PFK



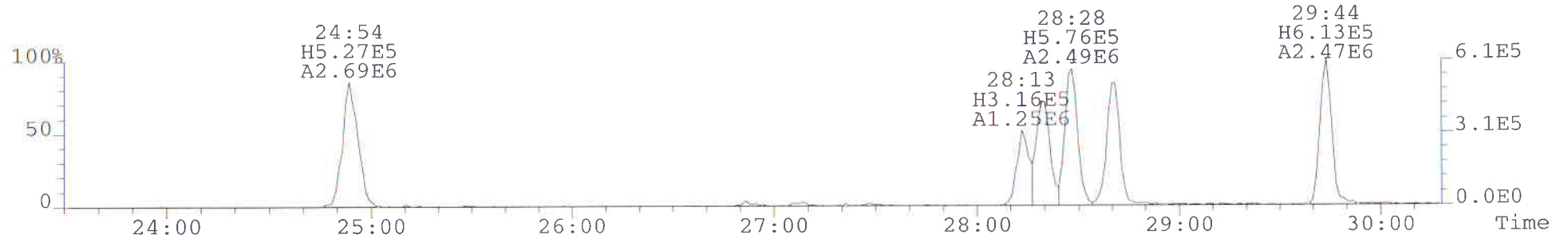
Peak Locate Examination: 6-MAY-2014:12:06 File:050614A1
Experiment:TO-ZB5MS Function:5 Reference:PFK



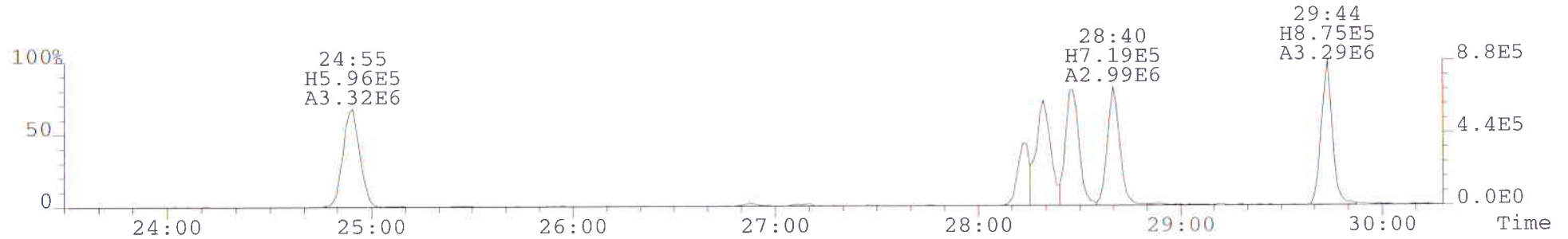
File:050614A1 #1-436 Acq: 6-MAY-2014 12:06:41 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050614A1-1 S050913F 1613 CS3WT
321.8936 Exp:TO-ZB5MS



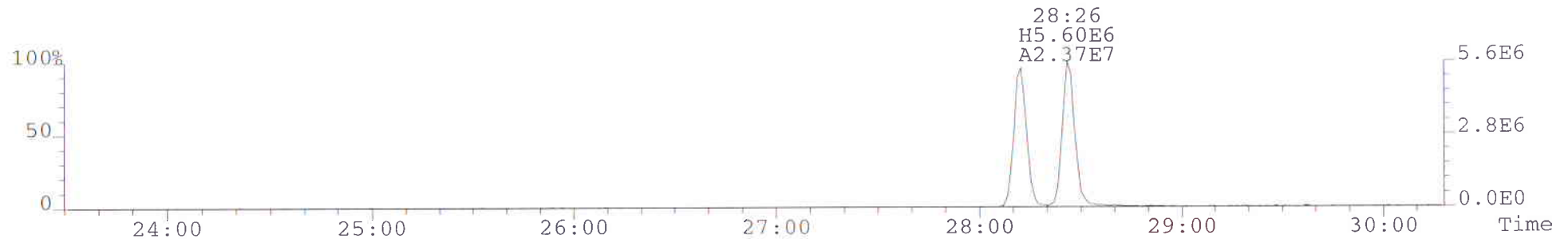
File:050614A1 #1-659 Acq: 6-MAY-2014 12:06:41 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050614A1-1 S050913F 1613 CS3WT
319.8965 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



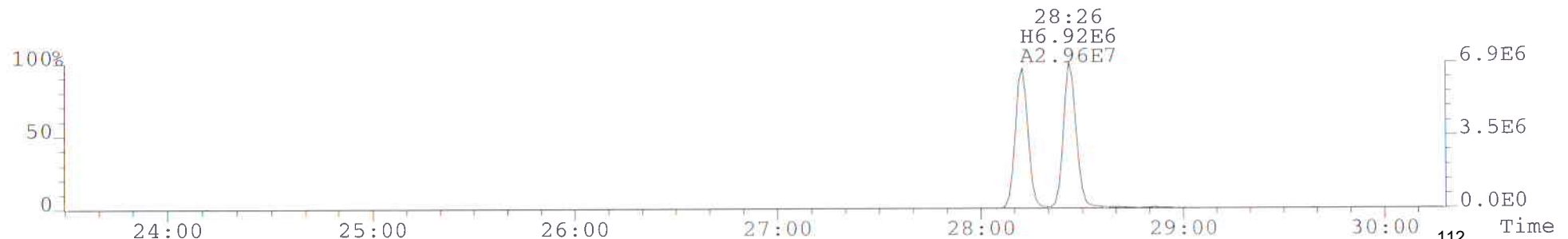
321.8936 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



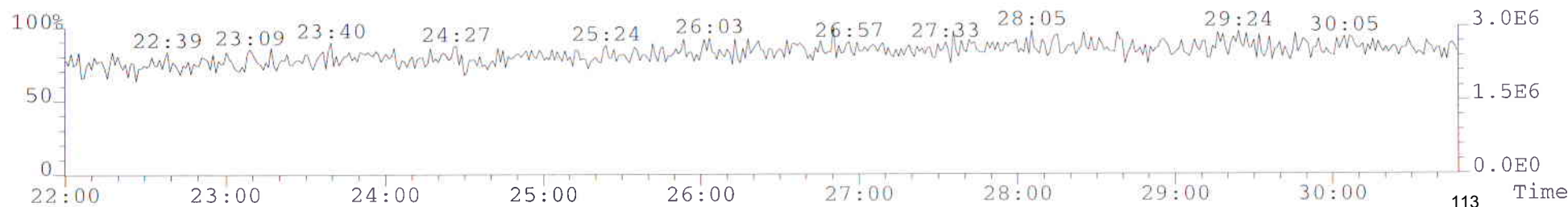
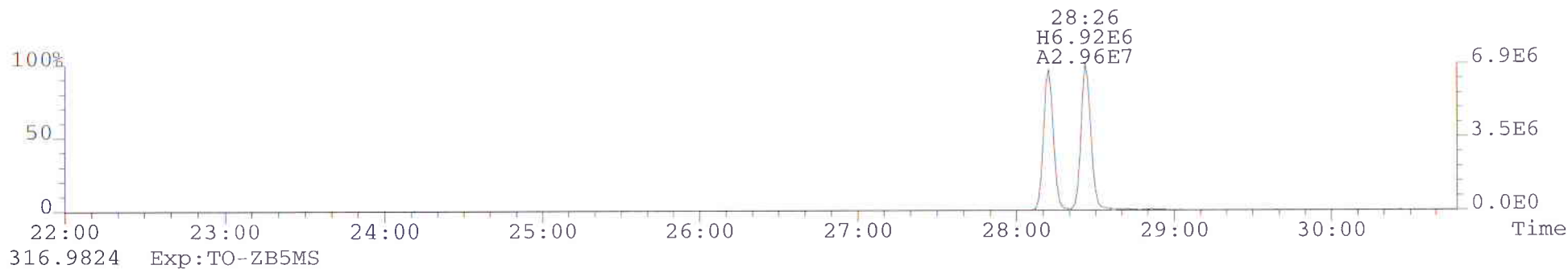
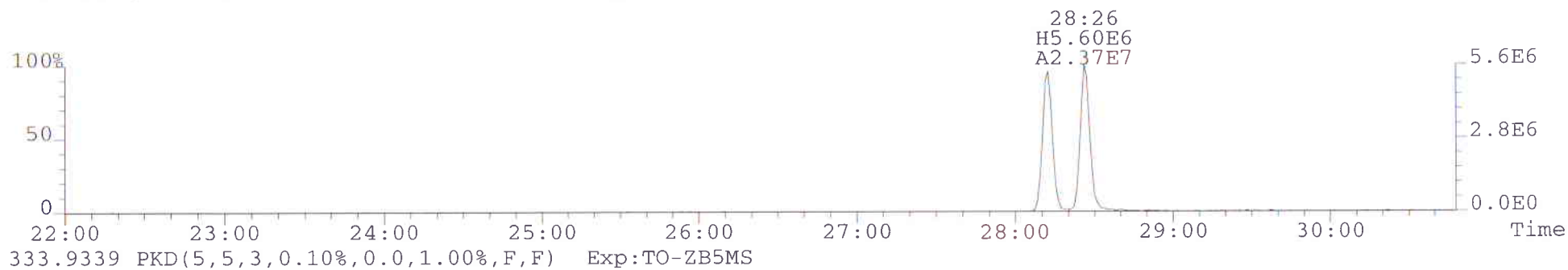
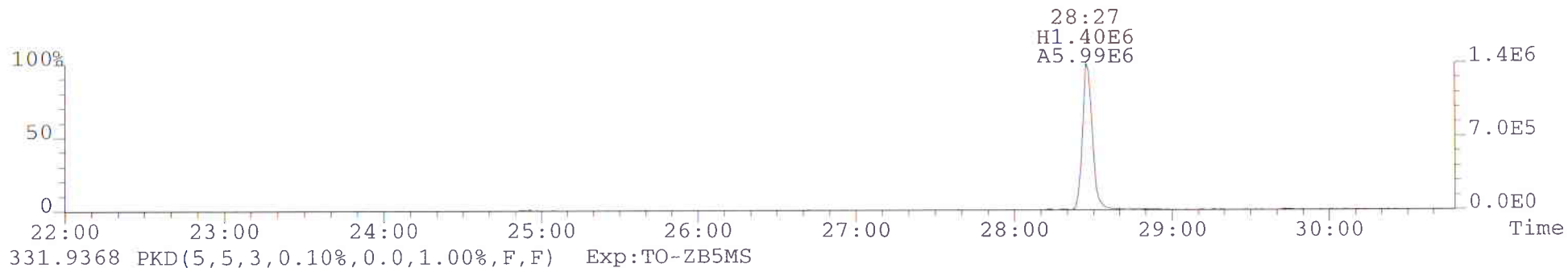
331.9368 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



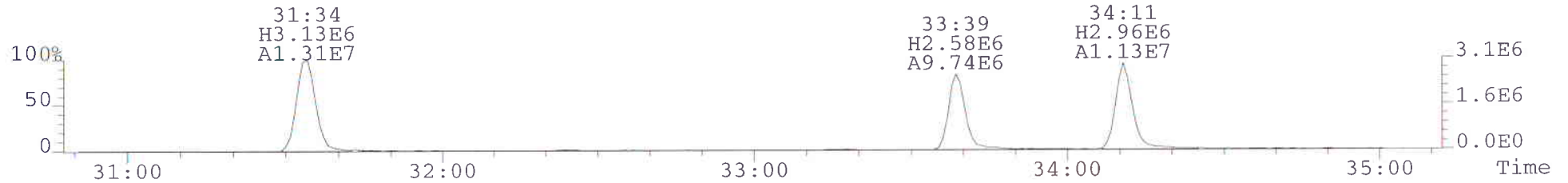
333.9339 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



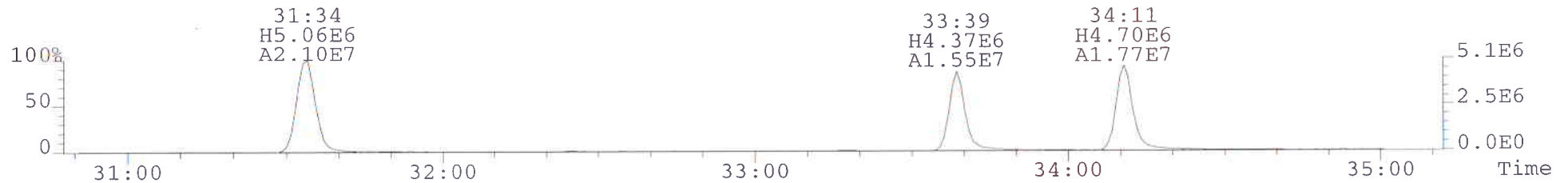
File:050614A1 #1-659 Acq: 6-MAY-2014 12:06:41 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050614A1-1 S050913F 1613 CS3WT
327.8847 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



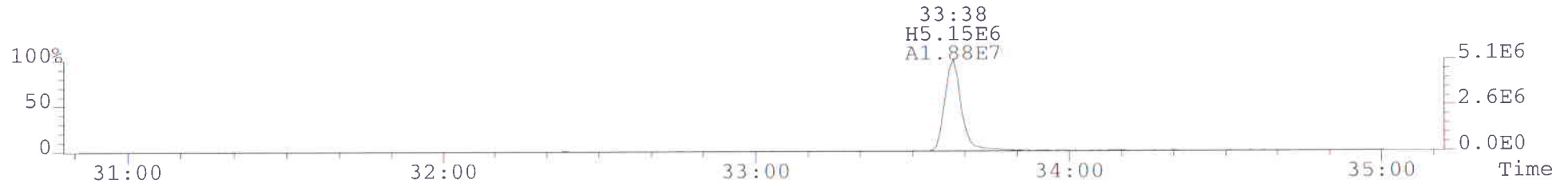
File:050614A1 #1-312 Acq: 6-MAY-2014 12:06:41 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050614A1-1 S050913F 1613 CS3WT
353.8576 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



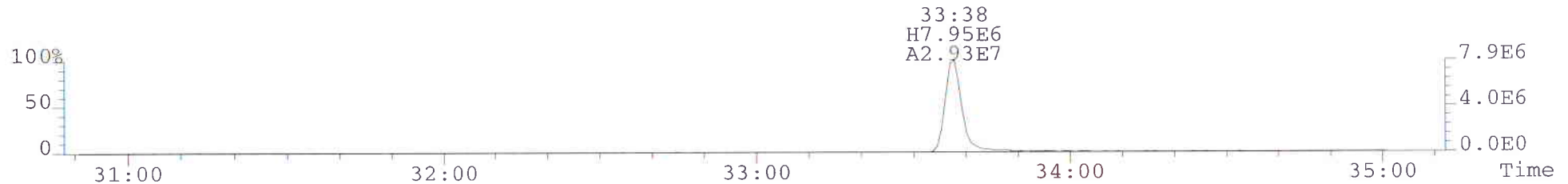
355.8546 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



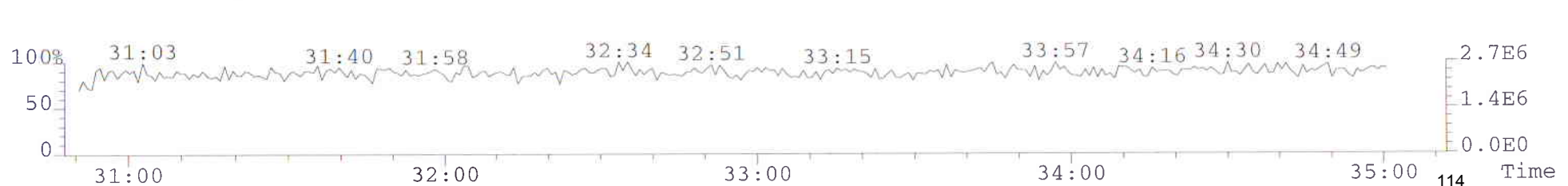
365.8978 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



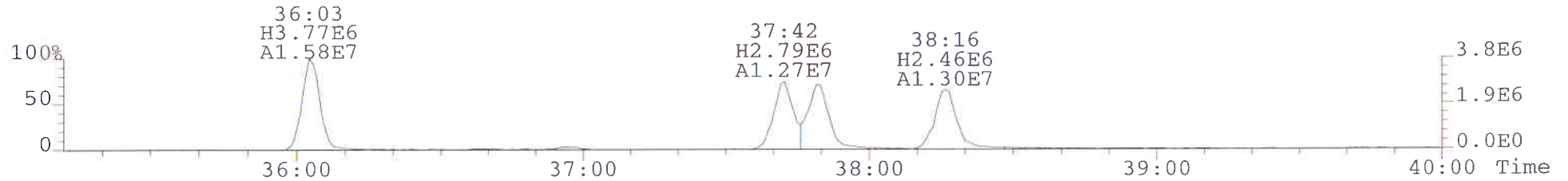
367.8949 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



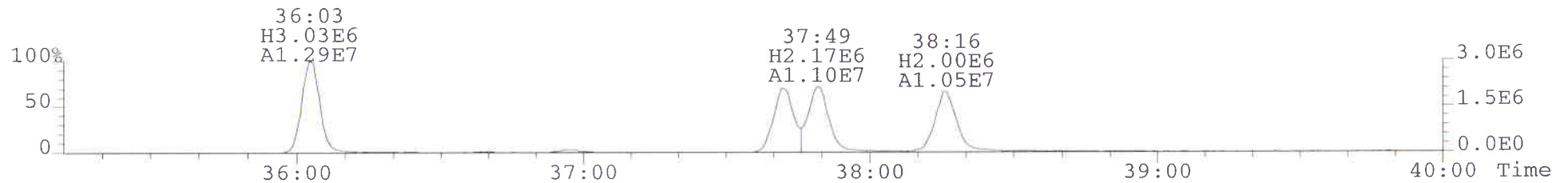
366.9792 F:2 Exp:TO-ZB5MS



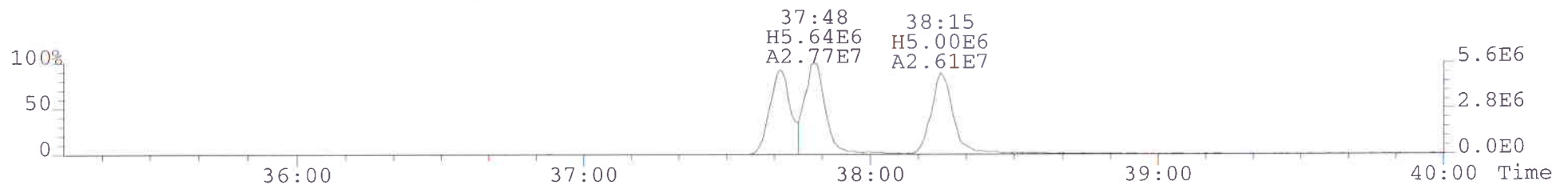
File:050614A1 #1-444 Acq: 6-MAY-2014 12:06:41 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050614A1-1 S050913F 1613 CS3WT
389.8156 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



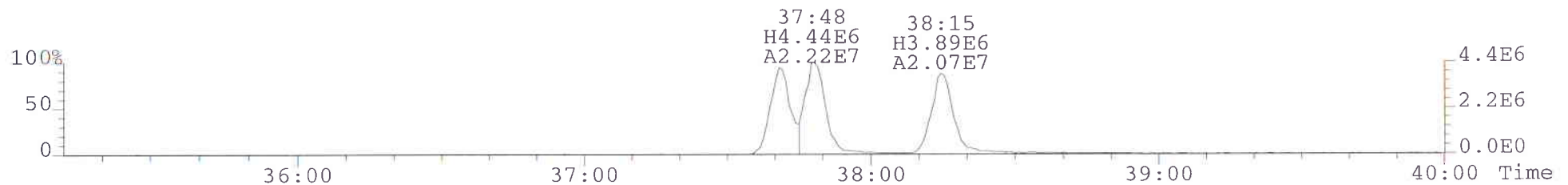
391.8127 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



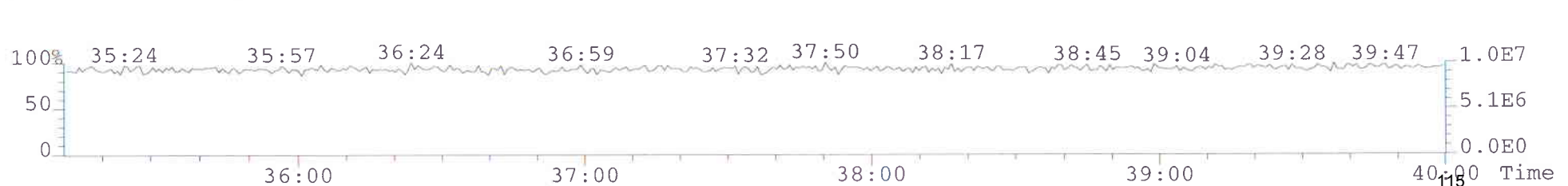
401.8559 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



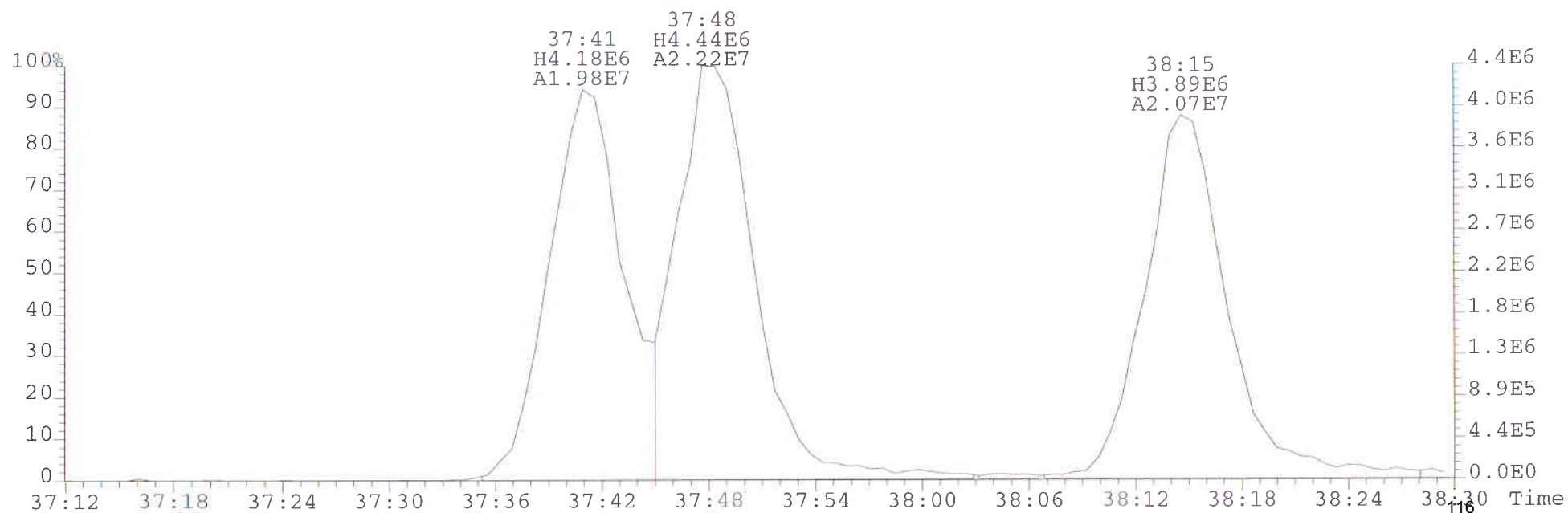
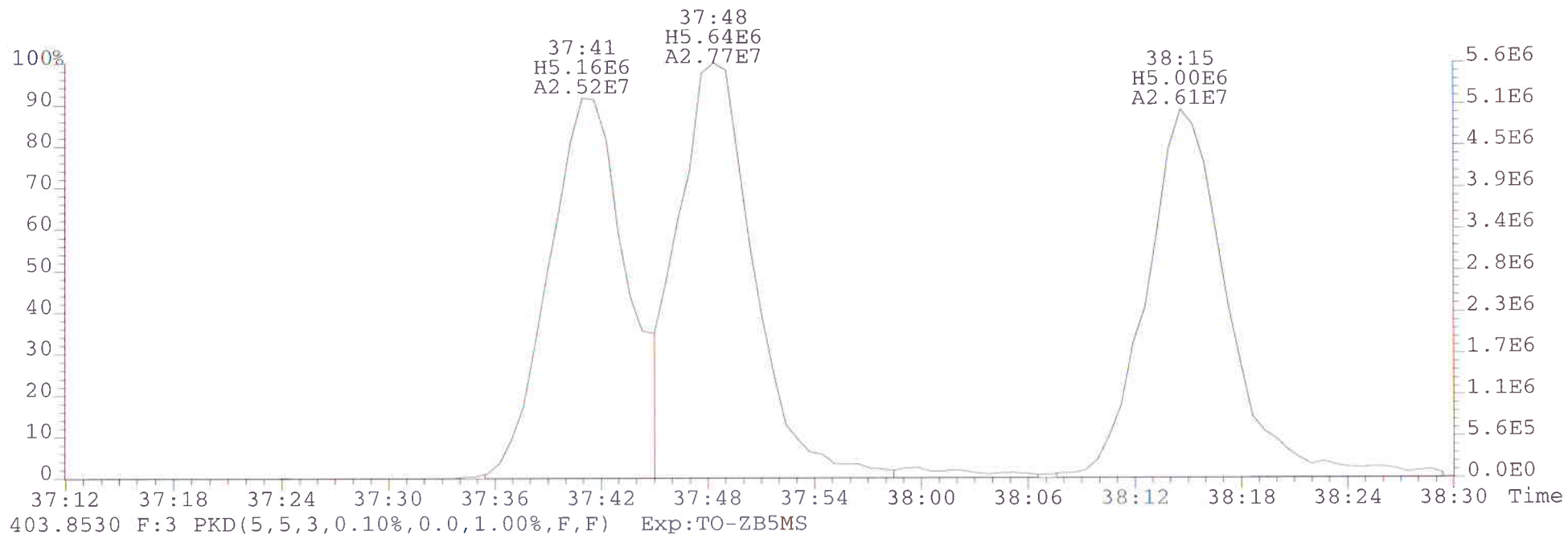
403.8530 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



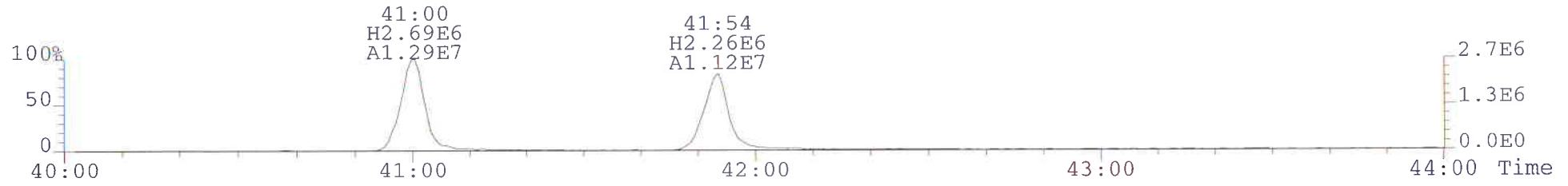
380.9760 F:3 Exp:TO-ZB5MS



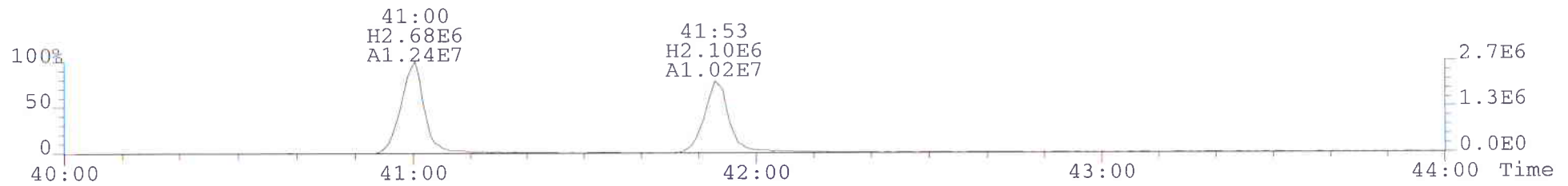
File:050614A1 #1-444 Acq: 6-MAY-2014 12:06:41 GC EI+ Voltage SIR Autospec-Ultima
 Sample#1 File Text:Ceres Analytical Laboratory Text:ST050614A1-1 S050913F 1613 CS3WT
 401.8559 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



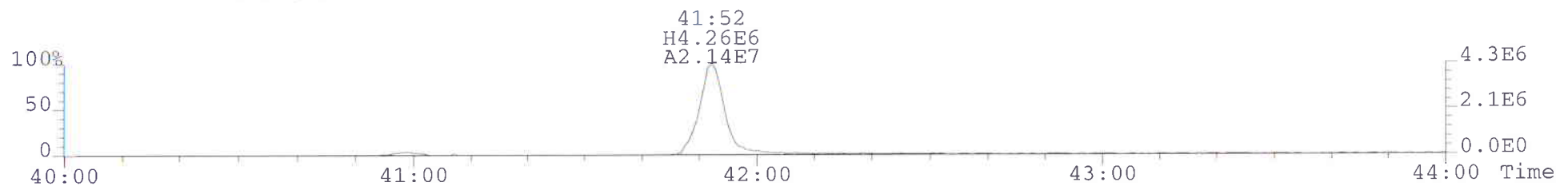
File:050614A1 #1-356 Acq: 6-MAY-2014 12:06:41 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050614A1-1 S050913F 1613 CS3WT
423.7767 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



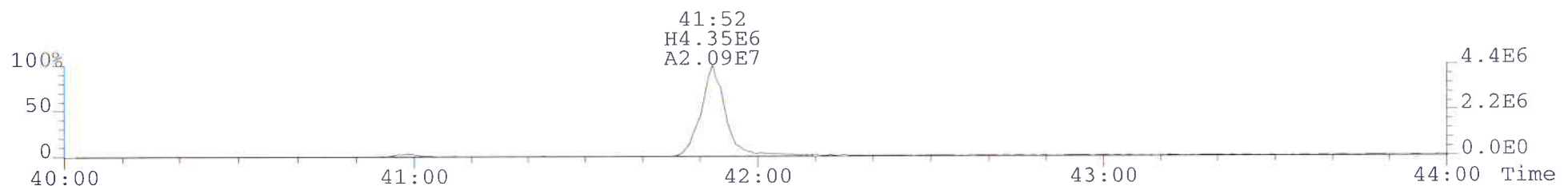
425.7737 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



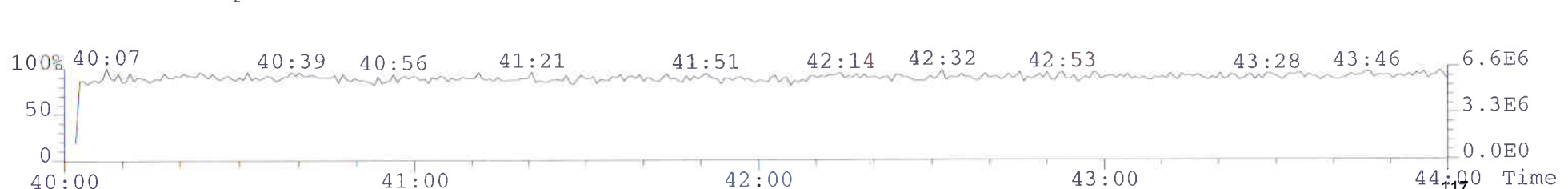
435.8169 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



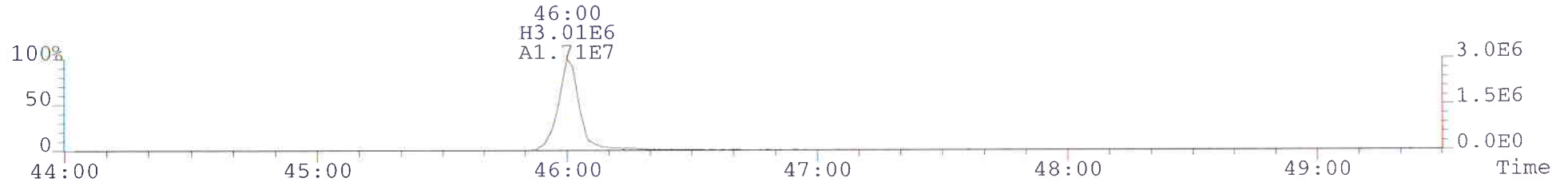
437.8140 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



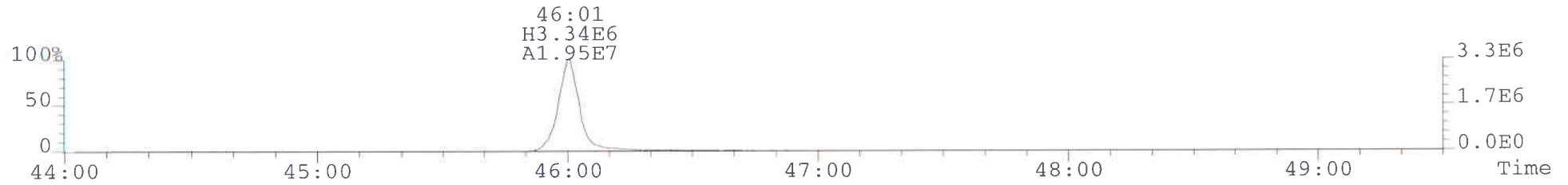
430.9728 F:4 Exp:TO-ZB5MS



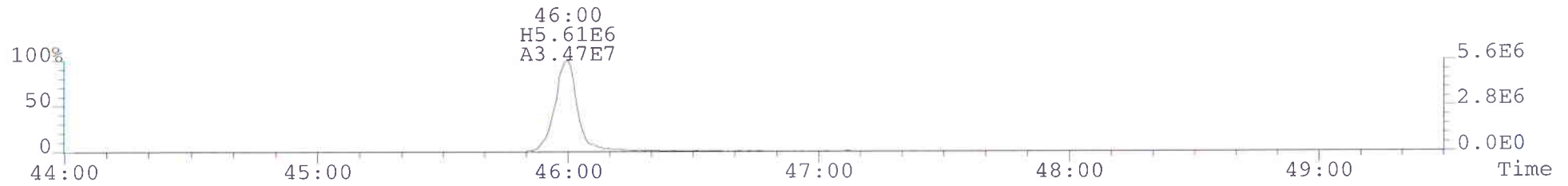
File:050614A1 #1-489 Acq: 6-MAY-2014 12:06:41 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050614A1-1 S050913F 1613 CS3WT
457.7377 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



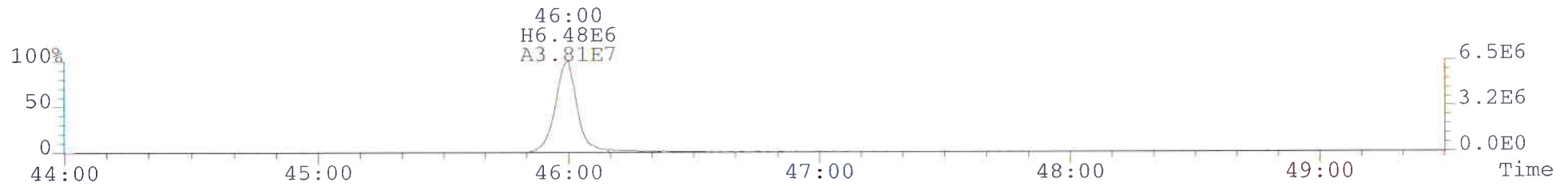
459.7348 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



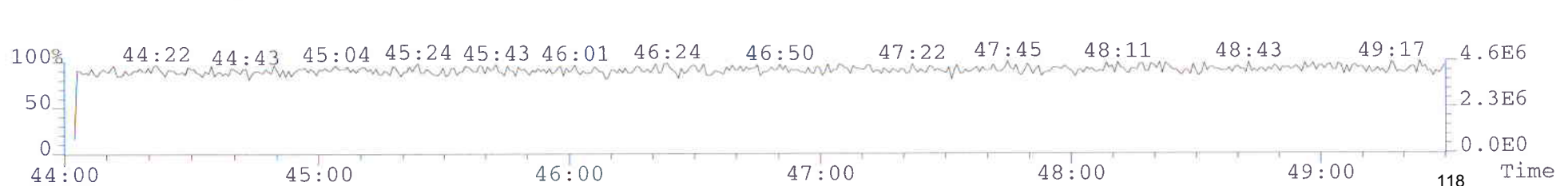
469.7780 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



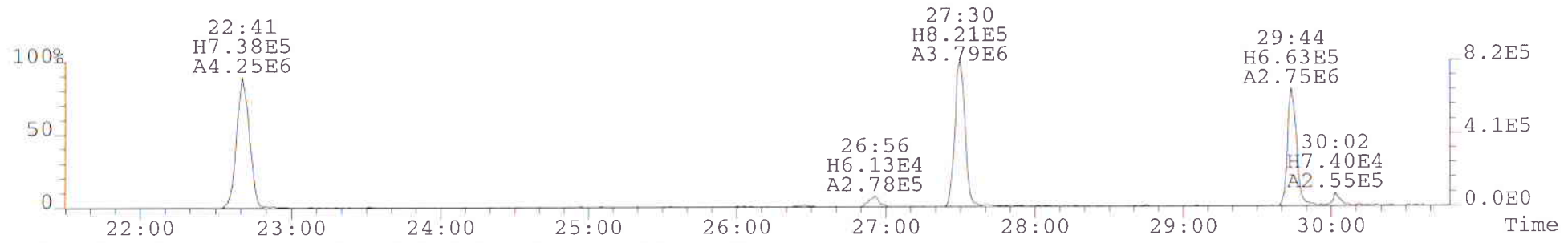
471.7750 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



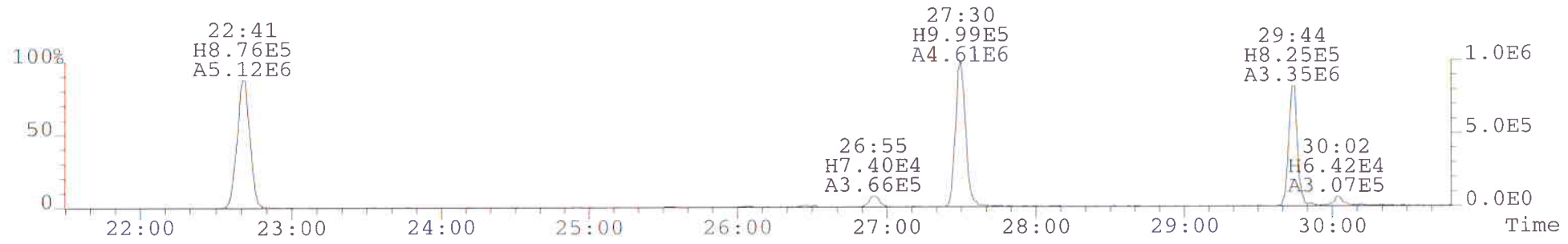
454.9728 F:5 Exp:TO-ZB5MS



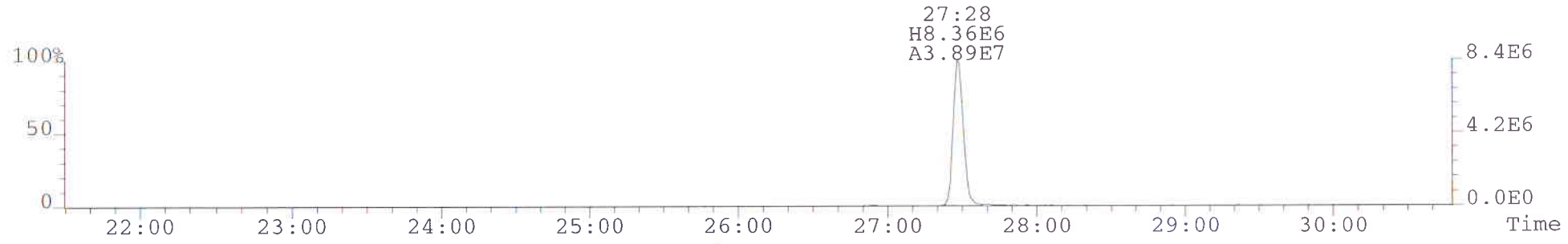
File:050614A1 #1-659 Acq: 6-MAY-2014 12:06:41 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050614A1-1 S050913F 1613 CS3WT
303.9016 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



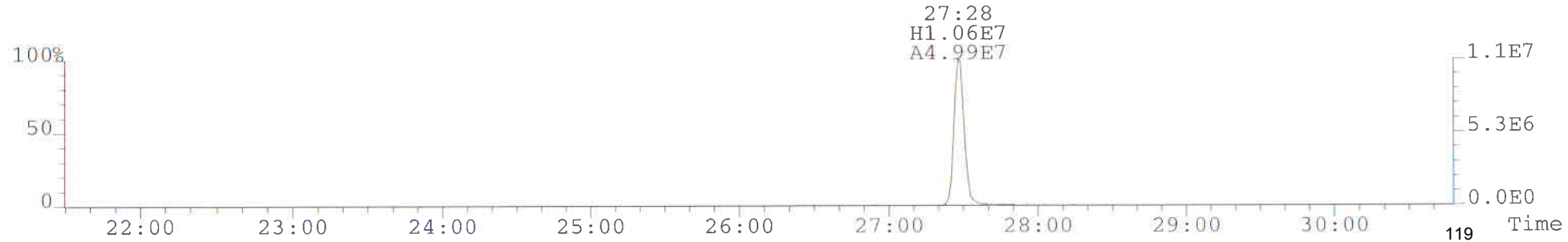
305.8987 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



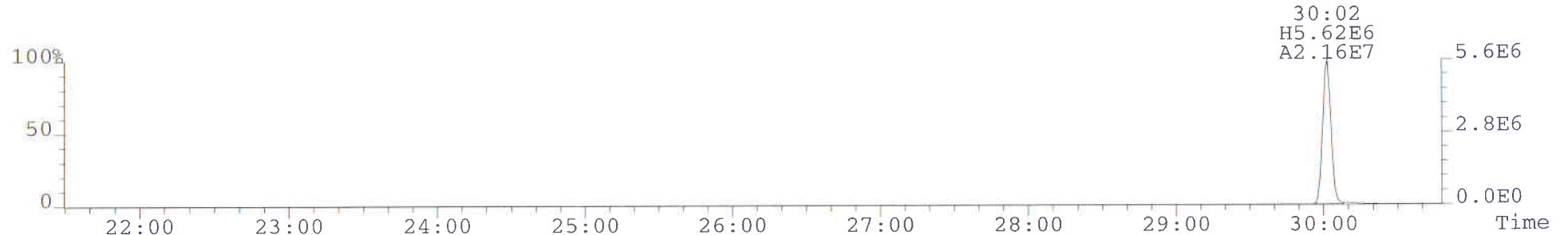
315.9419 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



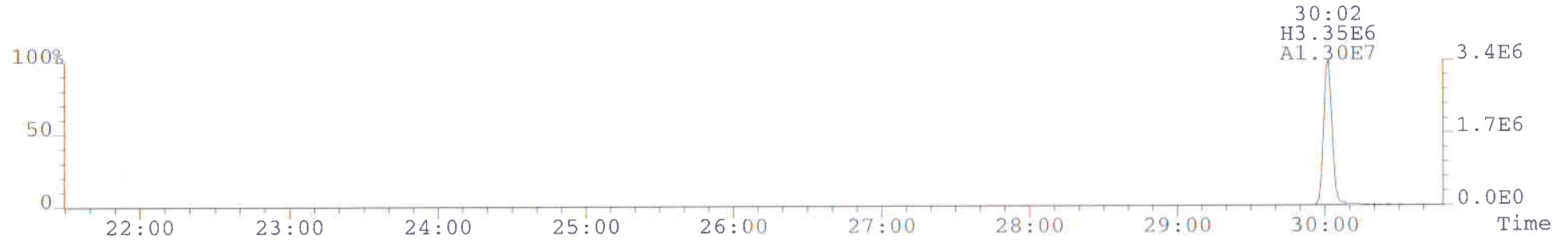
317.9389 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



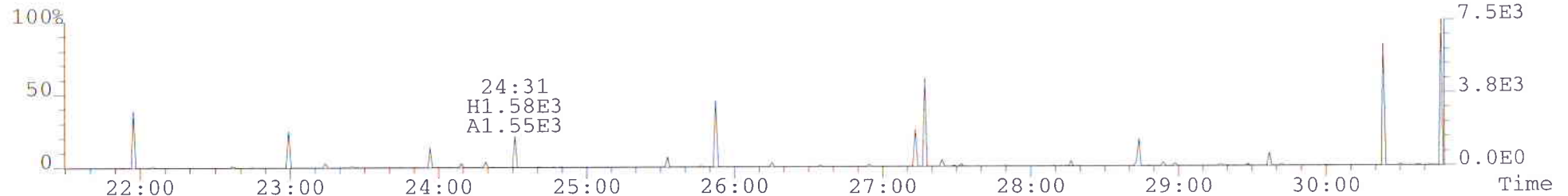
File:050614A1 #1-659 Acq: 6-MAY-2014 12:06:41 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050614A1-1 S050913F 1613 CS3WT
339.8597 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



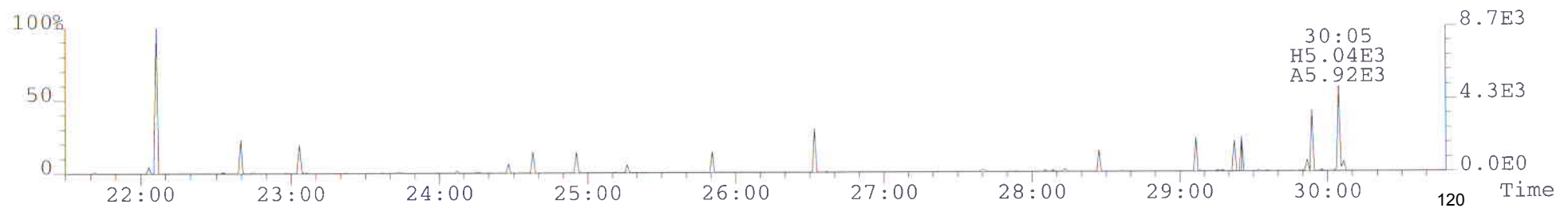
341.8568 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



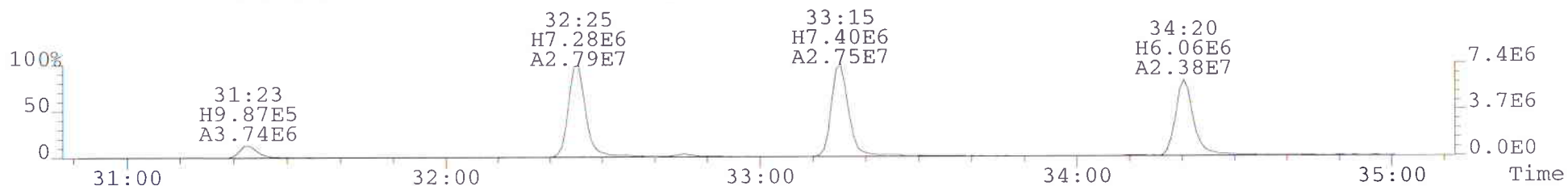
375.8364 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



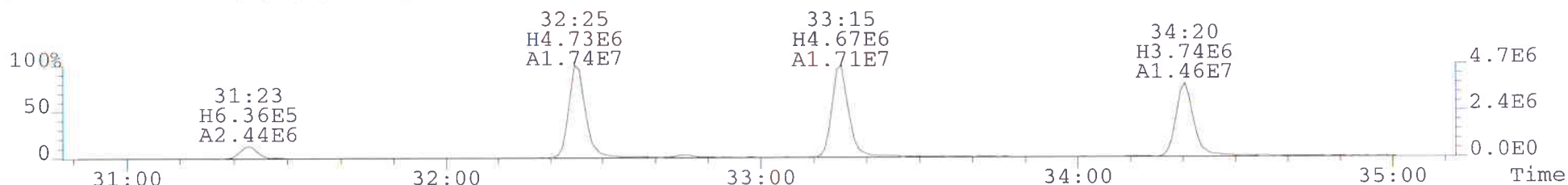
409.7974 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



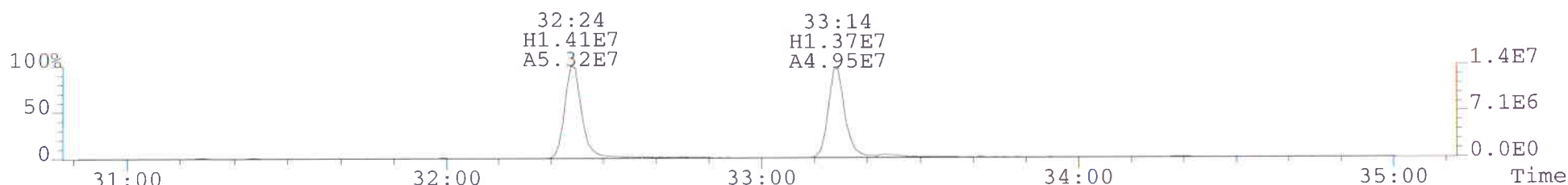
File:050614A1 #1-312 Acq: 6-MAY-2014 12:06:41 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050614A1-1 S050913F 1613 CS3WT
339.8597 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



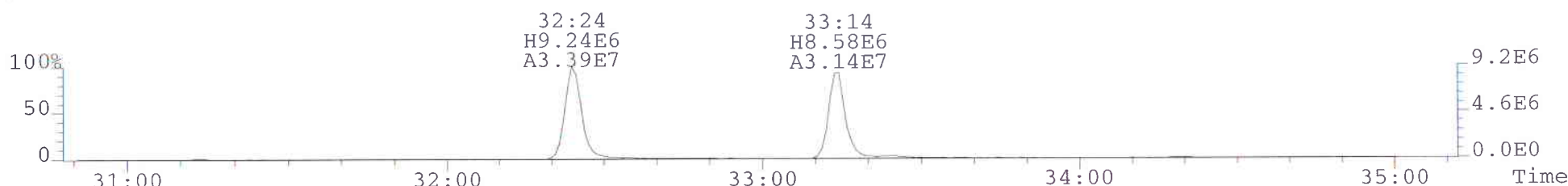
341.8568 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



351.9000 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



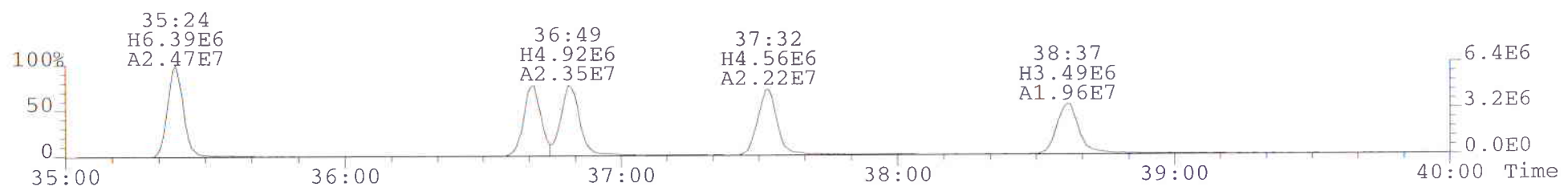
353.8970 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



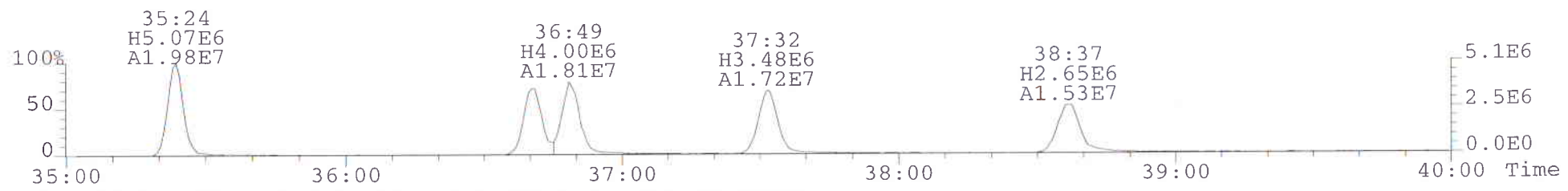
409.7974 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



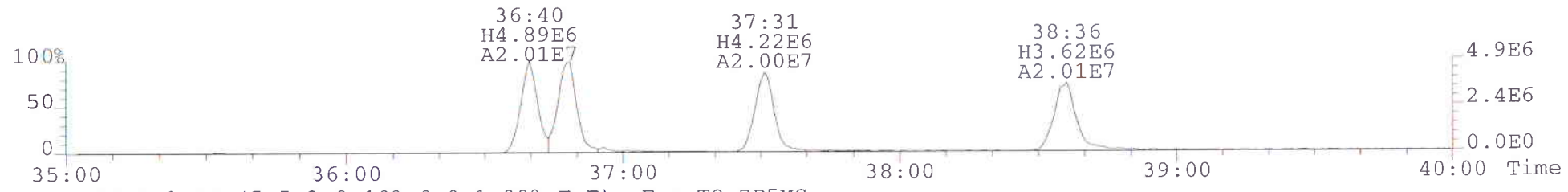
File:050614A1 #1-444 Acq: 6-MAY-2014 12:06:41 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050614A1-1 S050913F 1613 CS3WT
373.8207 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



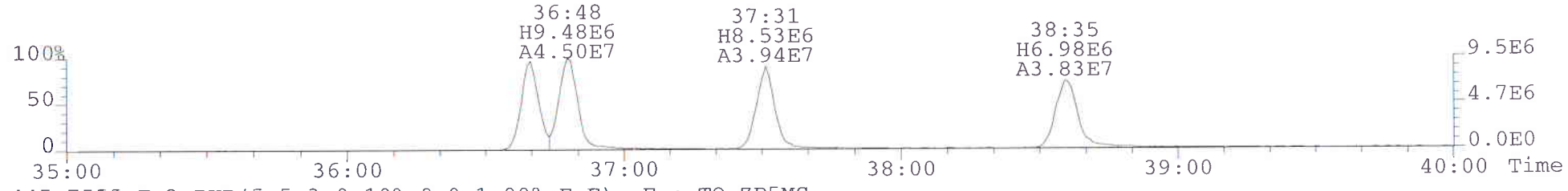
375.8178 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



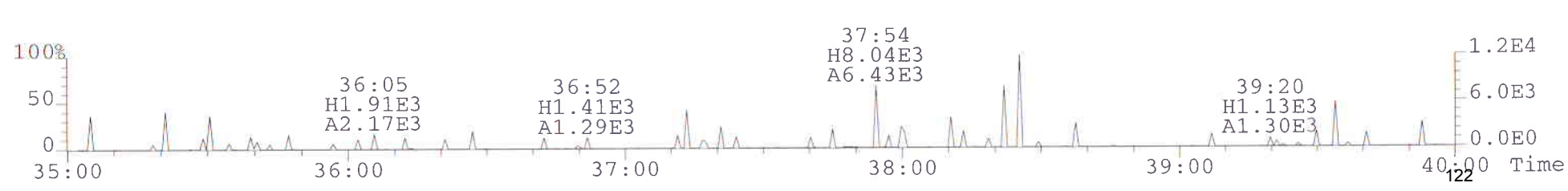
383.8639 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



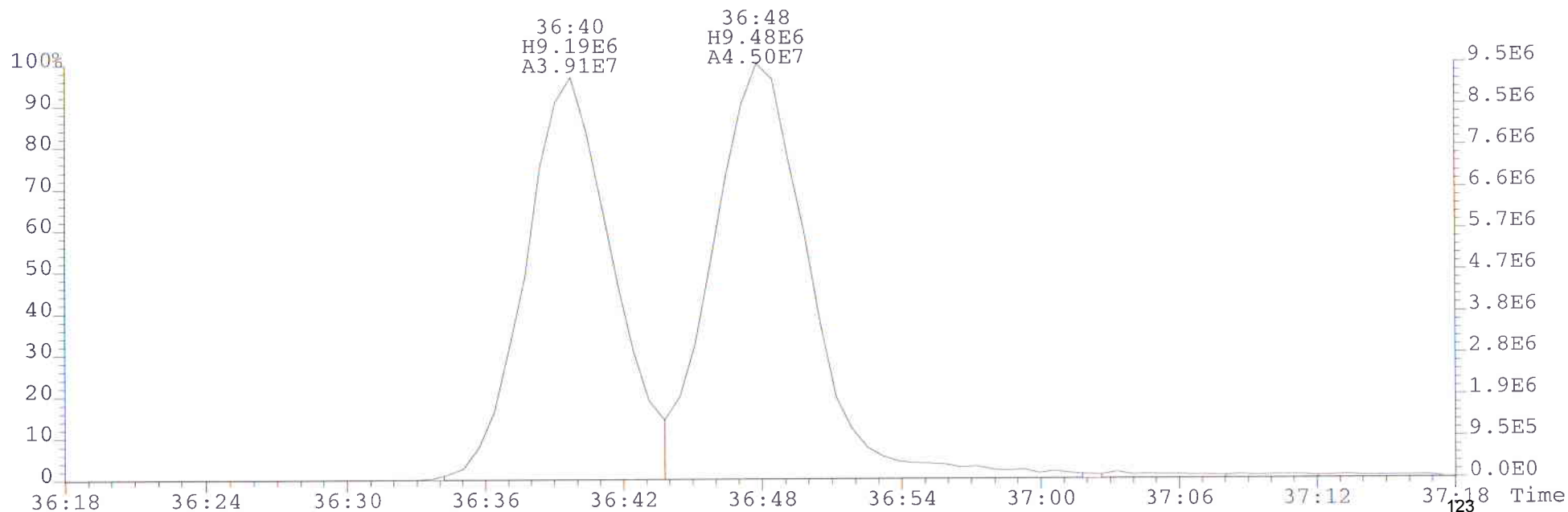
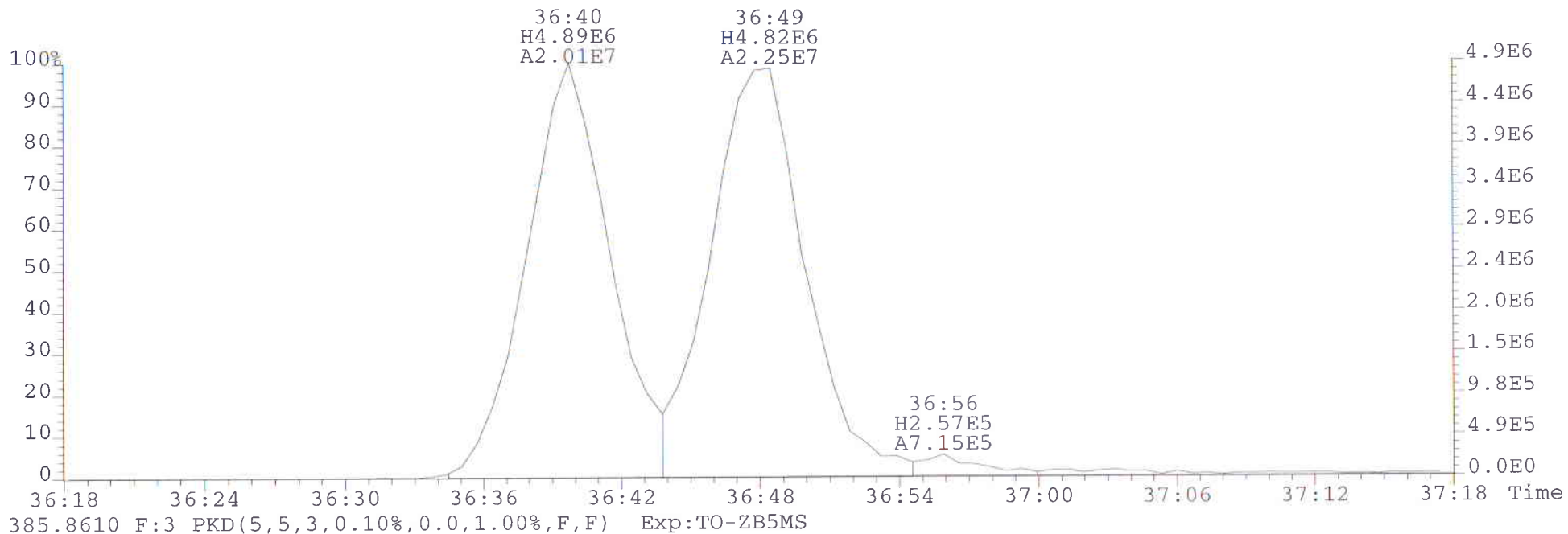
385.8610 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



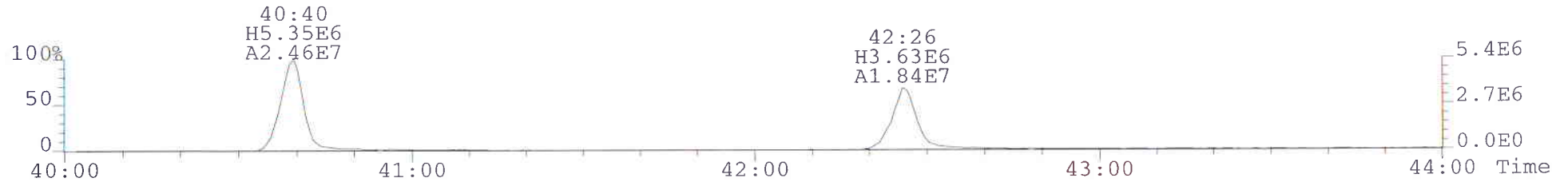
445.7555 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



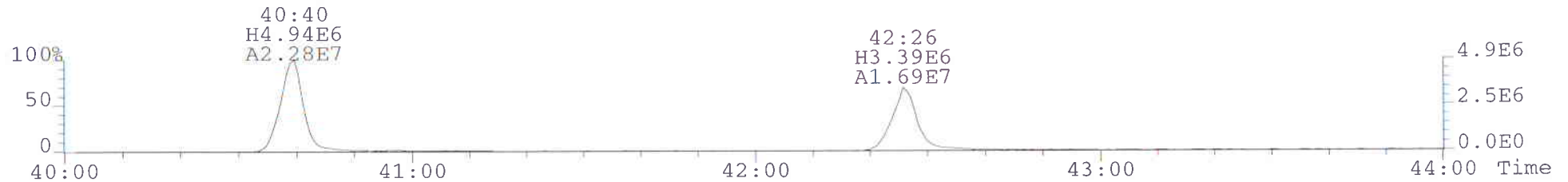
File:050614A1 #1-444 Acq: 6-MAY-2014 12:06:41 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050614A1-1 S050913F 1613 CS3WT
383.8639 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



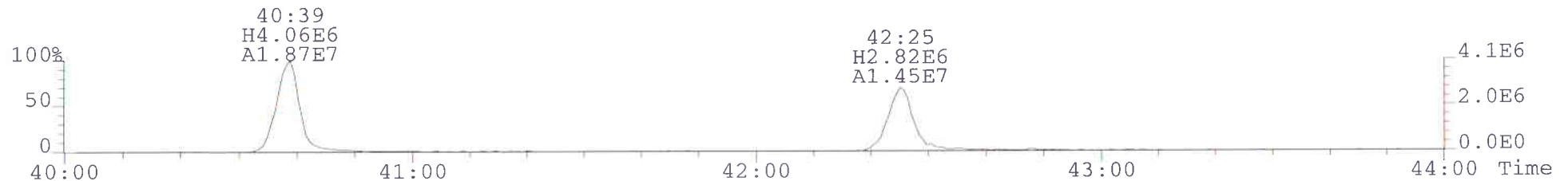
File:050614A1 #1-356 Acq: 6-MAY-2014 12:06:41 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050614A1-1 S050913F 1613 CS3WT
407.7818 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



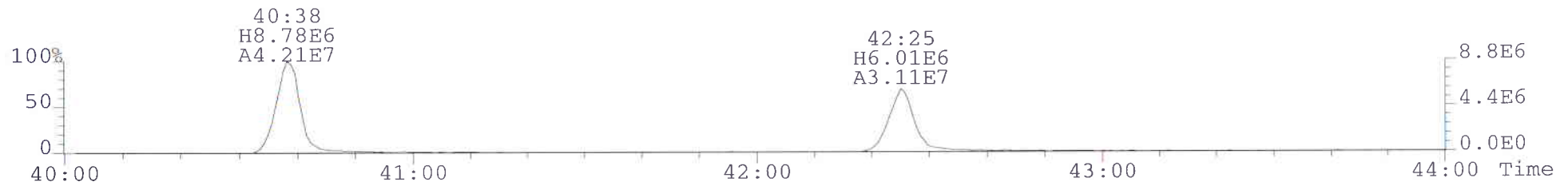
409.7788 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



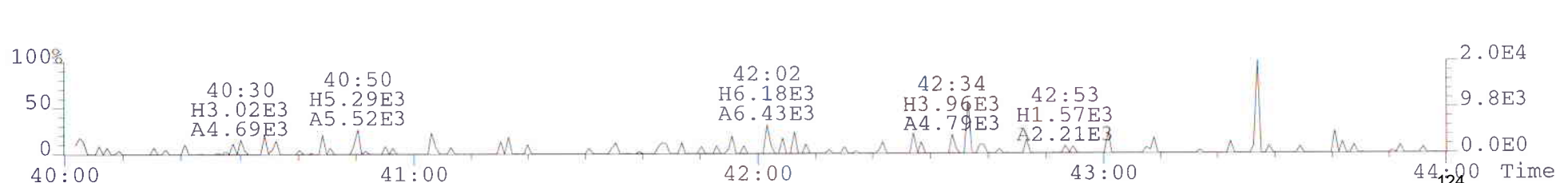
417.8253 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



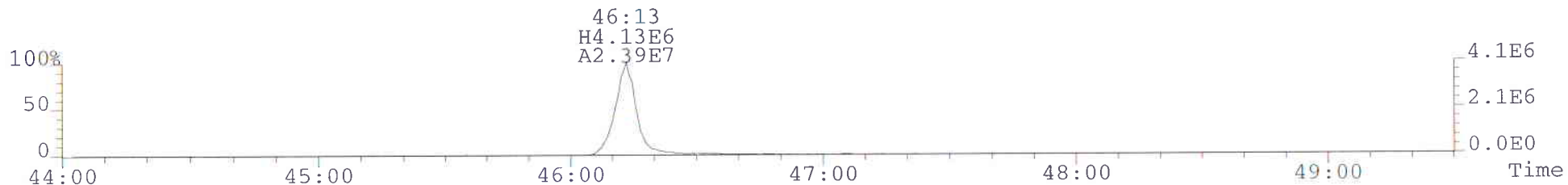
419.8220 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



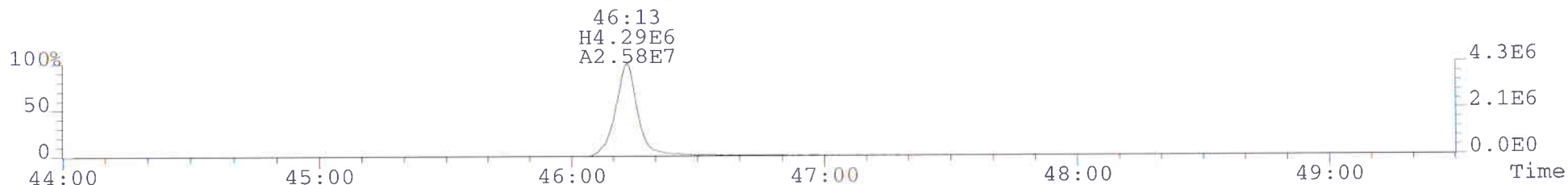
479.7165 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



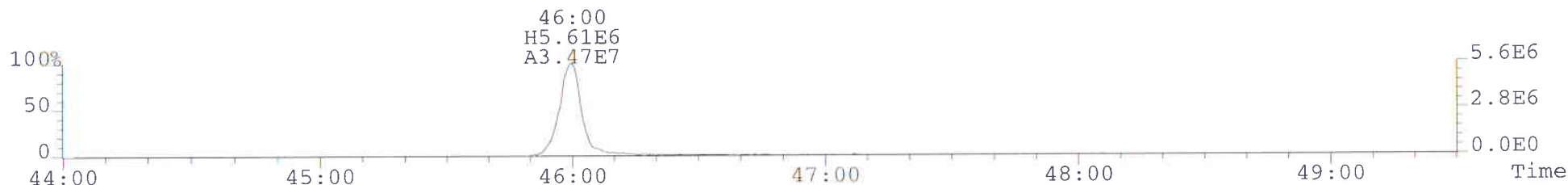
File:050614A1 #1-489 Acq: 6-MAY-2014 12:06:41 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050614A1-1 S050913F 1613 CS3WT
441.7428 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



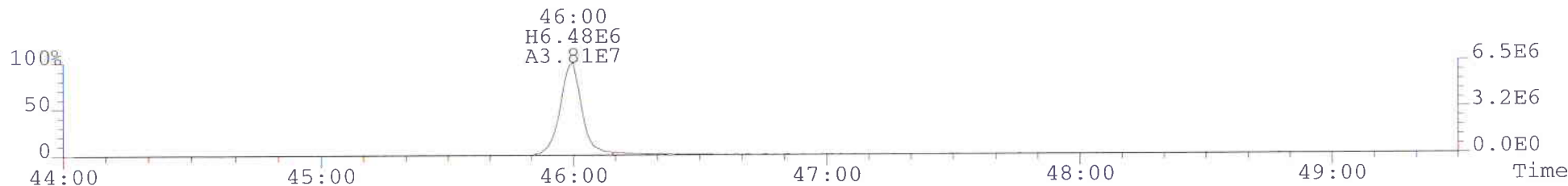
443.7398 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



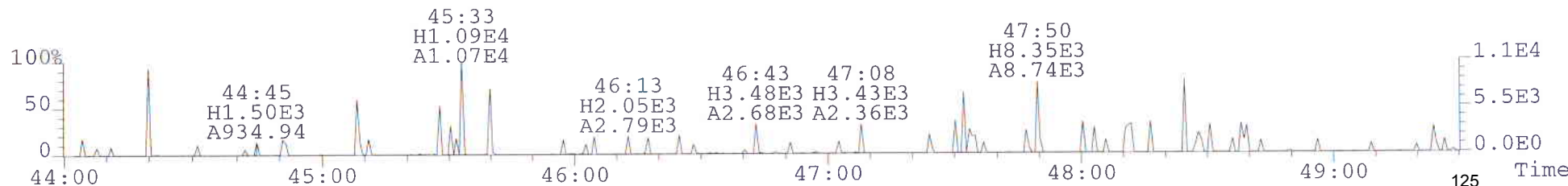
469.7780 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



471.7750 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



513.6775 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



USEPA - ITD

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST050614A1-2

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 050614A1 S:16 Analysis Date: 7-MAY-14 Time: 01:27:51

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	EPA 1613 CONC. RANGE (3) (ng/mL)	EPA 8290 CONC. RANGE (ng/mL)
2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	11.3	7.8-12.9	8.0 12.0
1,2,3,7,8 PeCDD	M/M+2	0.62	0.53-0.71	55.5	39 - 65	40 - 60
1,2,3,4,7,8 HxCDD	M+2/M+4	1.25	1.05-1.43	50.3	39 - 64	40 - 60
1,2,3,6,7,8 HxCDD	M+2/M+4	1.24	1.05-1.43	55.3	39 - 64	40 - 60
1,2,3,7,8,9 HxCDD	M+2/M+4	1.29	1.05-1.43	51.9	41 - 61	40 - 60
1,2,3,4,6,7,8 HpCDD	M+2/M+4	1.05	0.88-1.20	54.6	43 - 58	40 - 60
OCDD	M+2/M+4	0.90	0.76-1.02	107.8	79 - 126	80 - 120
2,3,7,8 TCDF	M/M+2	0.84	0.65-0.89	9.7	8.4-12.0	8.0-12.0
1,2,3,7,8 PeCDF	M+2/M+4	1.49	1.32-1.78	50.6	41 - 60	40 - 60
2,3,4,7,8-PeCDF	M+2/M+4	1.48	1.32-1.78	52.2	41 - 61	40 - 60
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	52.2	45 - 56	40 - 60
1,2,3,6,7,8-HxCDF	M+2/M+4	1.35	1.05-1.43	51.4	44 - 57	40 - 60
2,3,4,6,7,8-HxCDF	M+2/M+4	1.28	1.05-1.43	53.0	44 - 57	40 - 60
1,2,3,7,8,9-HxCDF	M+2/M+4	1.34	1.05-1.43	53.2	45 - 56	40 - 60
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.06	0.88-1.20	56.3	45 - 55	40 - 60
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88-1.20	54.7	43 - 58	40 - 60
OCDF	M+2/M+4	0.92	0.76-1.02	109.9	63 - 159	80 - 120

Analyst: [Signature]

Date: 5/7/14

Reviewer: [Signature]

Date: 5/7/14

(1) See Table 3, Method 1613, for m/z specifications.
 (2) Ion Abundance Ratio Control Limits as specified in Table 3A, Method 1613.
 (3) Contract-required concentration range as specified in Table 7, Method 1613, under VER 10/94.

USEPA - ITD

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST050614A1-2

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 050614A1 S:16 Analysis Date: 7-MAY-14 Time: 01:27:51

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	EPA 1613 CONC. RANGE (3) (ng/mL)	EPA 8290 CONC. RANGE (ng/mL)
13C-2,3,7,8-TCDD	M/M+2	0.76	0.65-0.89	106.3	82 - 121	70 - 130
13C-1,2,3,7,8-PeCDD	M/M+2	0.65	0.53-0.71	95.0	62 - 160	70 - 130
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	95.6	85 - 117	70 - 130
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	108.1	85 - 118	70 - 130
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	108.1	72 - 138	70 - 130
13C OCDD	M+2/M+4	0.90	0.76-1.02	223.0	96 - 415	140 - 260
13C 2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	121.9	71 - 140	70 - 130
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	103.4	76 - 130	70 - 130
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	98.3	77 - 130	70 - 130
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	93.9	76 - 131	70 - 130
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	99.3	70 - 143	70 - 130
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	102.0	73 - 137	70 - 130
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.55	0.43-0.59	106.9	74 - 135	70 - 130
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37-0.51	116.6	78 - 129	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.46	0.37-0.51	128.0	77 - 129	70 - 130

Clean-up Standard (4)

37Cl-2,3,7,8-TCDD	M			10.7	7.9 - 12.7	7.0 - 13.0
-------------------	---	--	--	------	------------	------------

- (1) See Table 3, Method 1613, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 3A, Method 1613.
- (3) Contract-required concentration range, as specified in Table 7, Method 1613, under VER.
- (4) No ion abundance ratio; report concentration found.

Analyst: J

Date: 5/7/14

Reviewer: ML

Date: 5/7/14

USEPA - ITD

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST050614A1-2

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 050614A1 S:16 Analysis Date: 7-MAY-14 Time: 01:27:51

Compounds Using 13C-1234-TCDD as Internal Standard

NATIVE ANALYTES	RETENTION TIME		RRT	RRT QC LIMITS (1)
	REFERENCE			
2,3,7,8-TCDD	13C-2,3,7,8-TCDD		1.001	0.999-1.002
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD		1.000	0.999-1.002
2,3,7,8-TCDF	13C-2,3,7,8-TCDF		1.001	0.999-1.003
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF		1.000	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF		1.000	0.999-1.002
LABELED COMPOUNDS				
13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD		1.009	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD		1.192	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD		0.974	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD		1.149	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD		1.178	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD		1.009	0.989-1.052

Analyst: J
Date: 5/7/14

Reviewer: BL
Date: 5/7/14

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

USEPA - ITD

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST050614A1-2

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 050614A1 S:16 Analysis Date: 7-MAY-14 Time: 01:27:51

Compounds Using 13C-123789-HxCDD as Internal Standard

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.000	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.001	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.012	1.000-1.019
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.001	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.001	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.000	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.001	0.999-1.001
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDF	13C-OCDD	1.004	0.999-1.008

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,7,8,9-HxCDD	0.985	0.977-1.000
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,7,8,9-HxCDD	0.988	0.981-1.003
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,7,8,9-HxCDD	1.095	1.086-1.110
13C-OCDD	13C-1,2,3,7,8,9-HxCDD	1.204	1.032-1.311
13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,7,8,9-HxCDD	0.958	0.944-0.970
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,7,8,9-HxCDD	0.962	0.949-0.975
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,7,8,9-HxCDD	0.981	0.959-1.021
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDD	1.009	0.977-1.047
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,7,8,9-HxCDD	1.063	1.043-1.085
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,7,8,9-HxCDD	1.110	1.057-1.151

Analyst: J

Date: 5/7/14

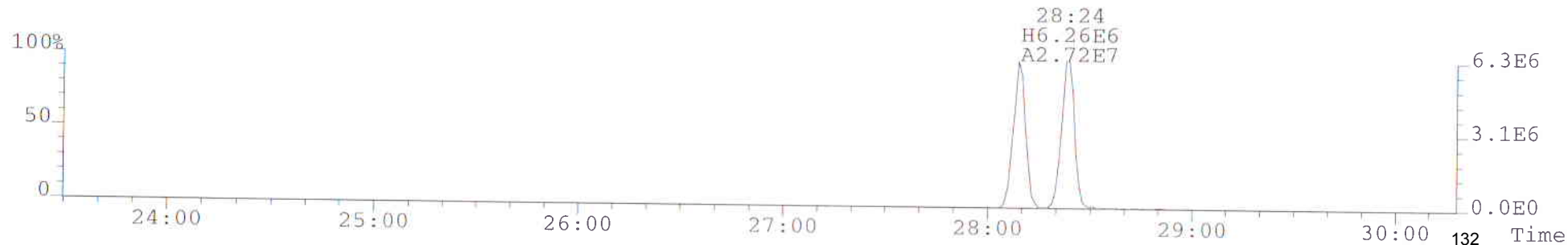
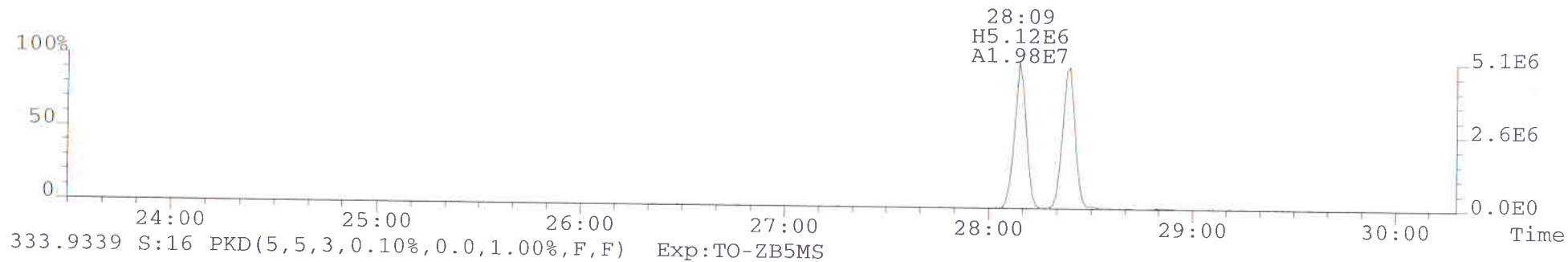
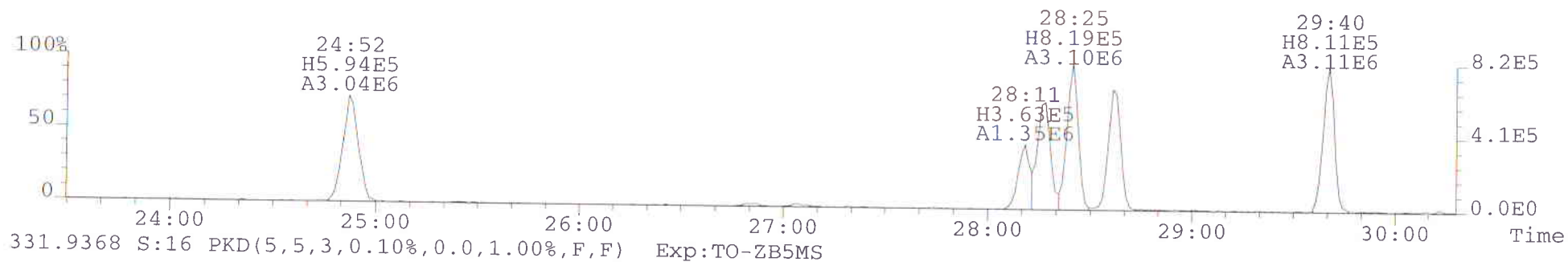
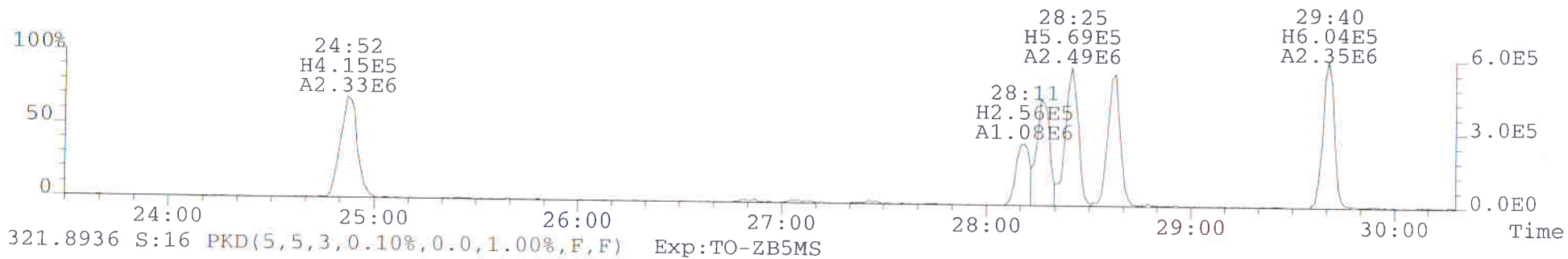
Reviewer: BA

Date: 5/7/14

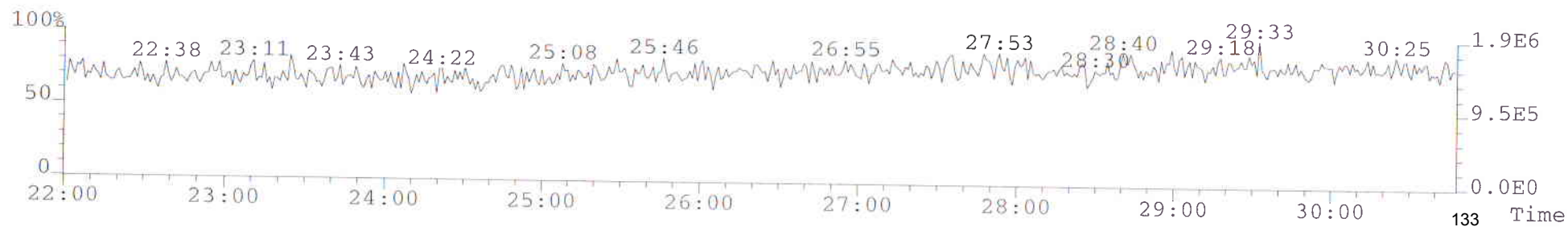
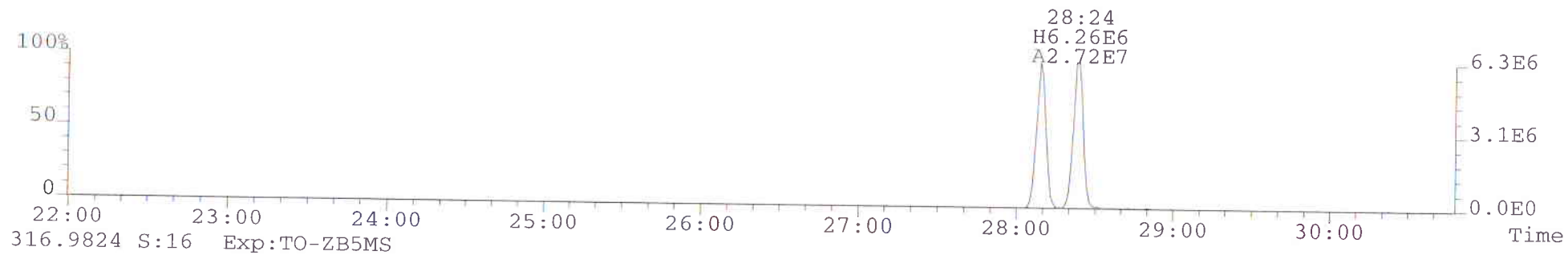
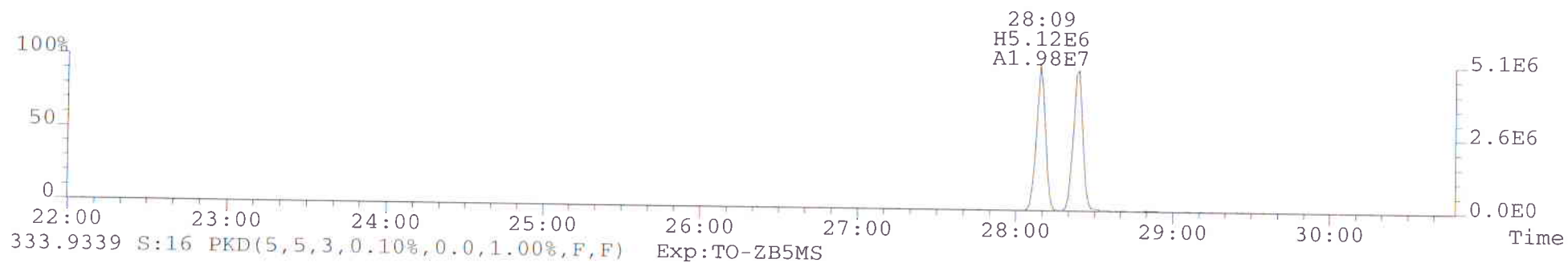
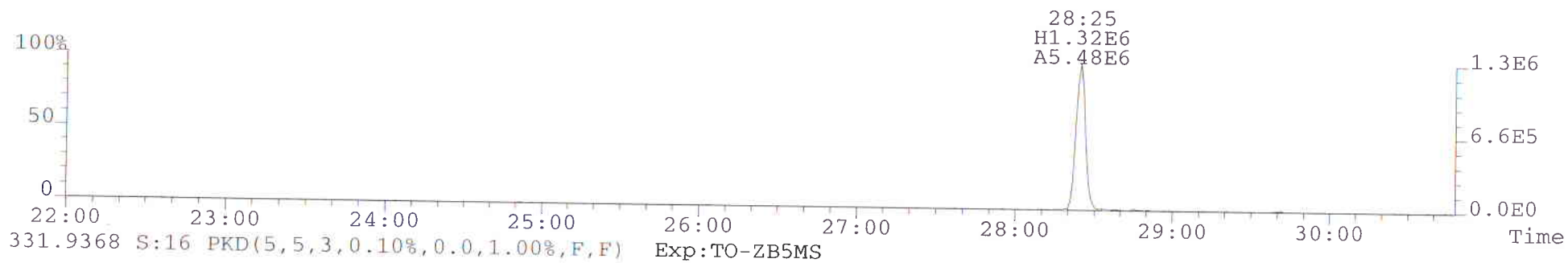
(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

	c/q	Data File	S	Ceres ID	Acquired	Time	Con Cal	End Cal
1	q	050614A1	1	ST050614A1-1	6-MAY-14	12:06:41	ST050614A1-1	ST050614A1-2 Y
2	q	050614A1	2	0-1188-OPR	6-MAY-14	13:00:06	ST050614A1-1	ST050614A1-2 Y
3	q	050614A1	3	solvent blank	6-MAY-14	13:53:29	ST050614A1-1	ST050614A1-2 Y
4	q	050614A1	4	0-1188-MB	6-MAY-14	14:46:54	ST050614A1-1	ST050614A1-2 Y
5	q	050614A1	5	10343-1188-001	6-MAY-14	15:40:23	ST050614A1-1	ST050614A1-2 Y
6	q	050614A1	6	10343-1188-002	6-MAY-14	16:33:47	ST050614A1-1	ST050614A1-2 Y
7	q	050614A1	7	10343-1188-003	6-MAY-14	17:27:11	ST050614A1-1	ST050614A1-2 Y
8	q	050614A1	8	10343-1188-004	6-MAY-14	18:20:35	ST050614A1-1	ST050614A1-2 Y
9	q	050614A1	9	10344-1188-001	6-MAY-14	19:14:00	ST050614A1-1	ST050614A1-2 Y
10	q	050614A1	10	10344-1188-002	6-MAY-14	20:07:24	ST050614A1-1	ST050614A1-2 Y
11	q	050614A1	11	10344-1188-003	6-MAY-14	21:00:48	ST050614A1-1	ST050614A1-2 Y
12	q	050614A1	12	10344-1188-004	6-MAY-14	21:54:12	ST050614A1-1	ST050614A1-2 Y
13	q	050614A1	13	10339-1188-001	6-MAY-14	22:47:36	ST050614A1-1	ST050614A1-2 Y
14	q	050614A1	14	10341-1188-001	6-MAY-14	23:41:01	ST050614A1-1	ST050614A1-2 Y
15	q	050614A1	15	solvent blank	7-MAY-14	00:34:25	ST050614A1-1	ST050614A1-2 Y
16	q	050614A1	16	ST050614A1-2	7-MAY-14	01:27:51	ST050614A1-1	ST050614A1-2 Y

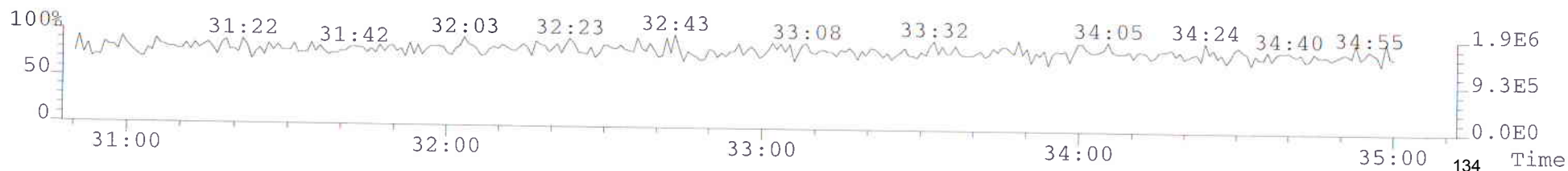
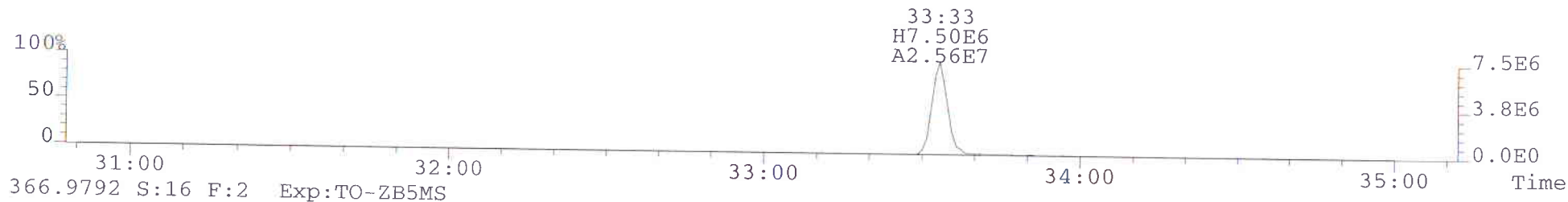
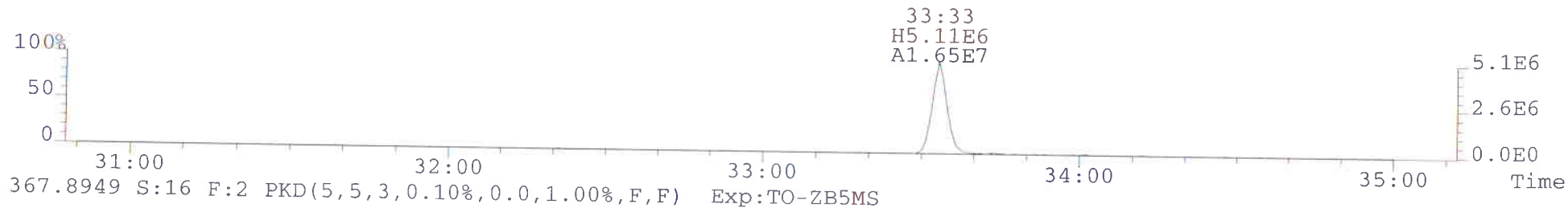
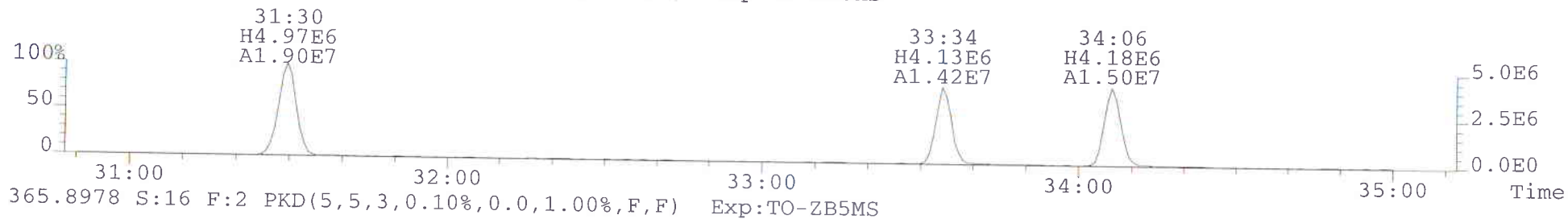
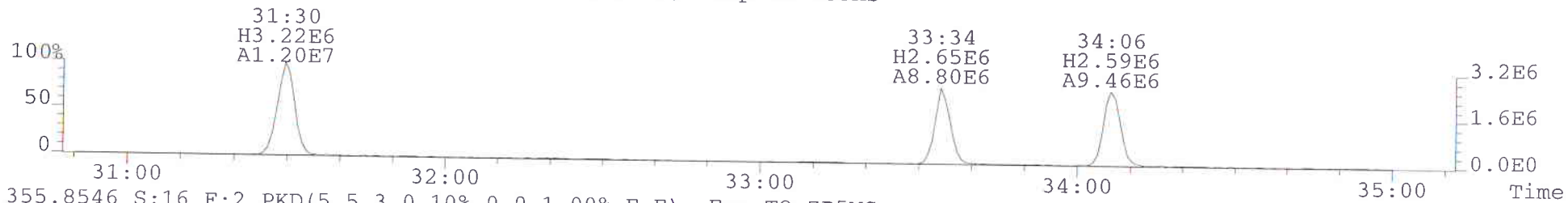
File:050614A1 #1-658 Acq: 7-MAY-2014 01:27:51 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text:Ceres Analytical Laboratory Text:ST050614A1-2 S050913F 1613 CS3WT
319.8965 S:16 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



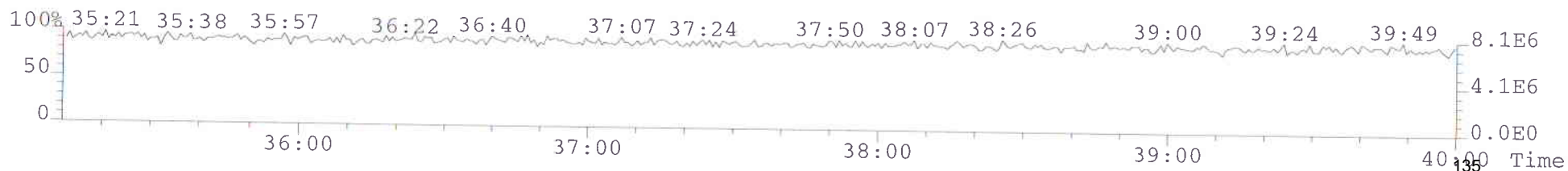
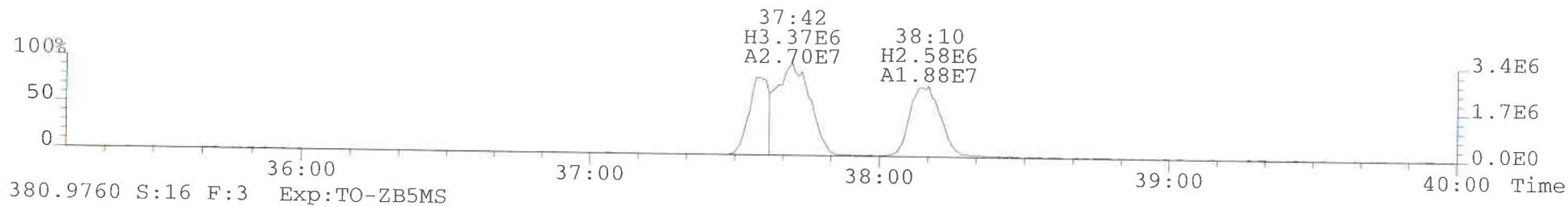
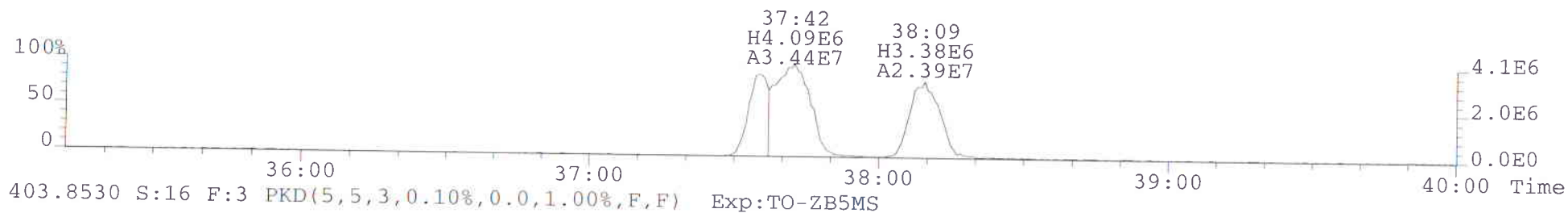
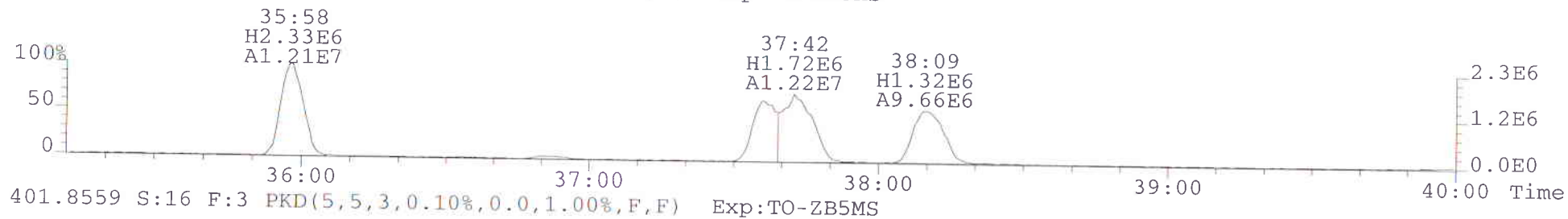
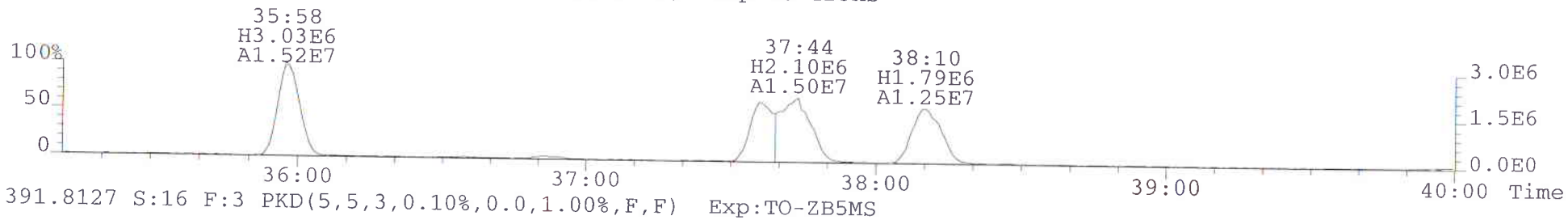
File:050614A1 #1-658 Acq: 7-MAY-2014 01:27:51 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text:Ceres Analytical Laboratory Text:ST050614A1-2 S050913F 1613 CS3WT
327.8847 S:16 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



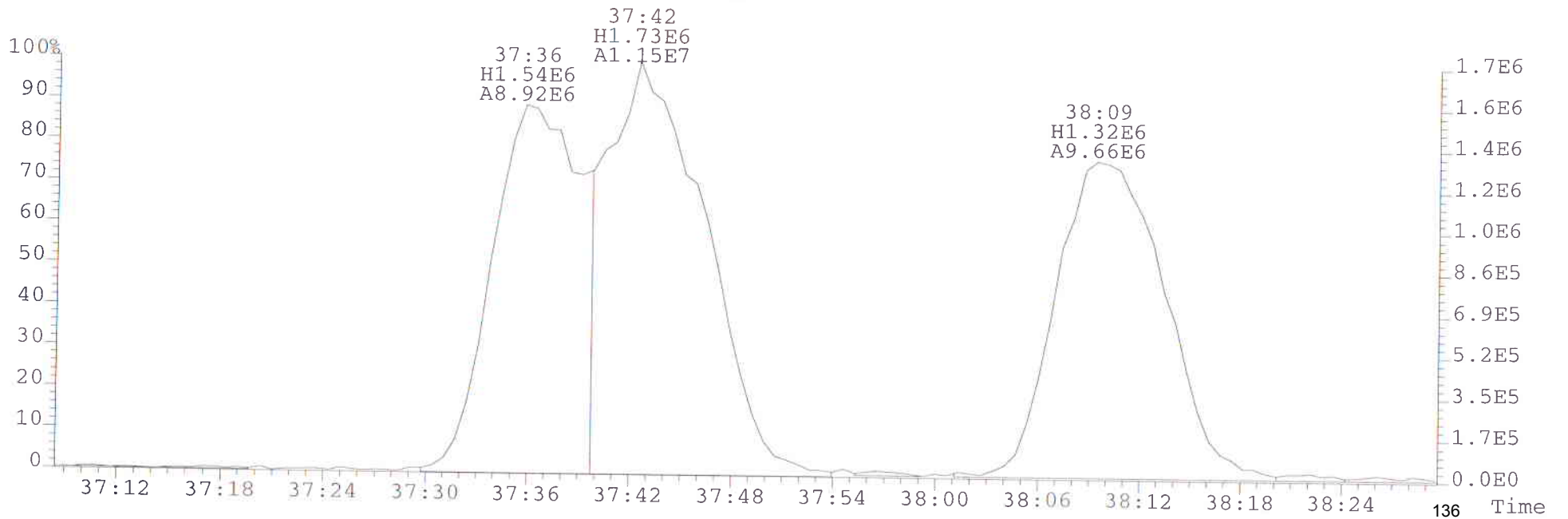
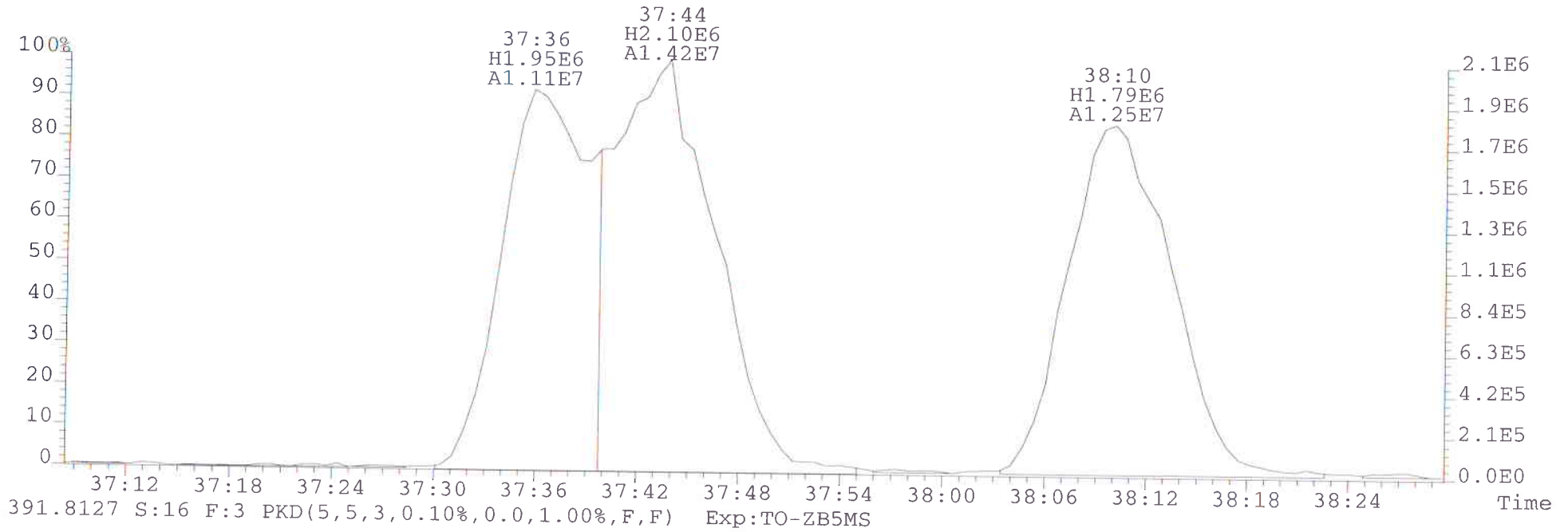
File:050614A1 #1-312 Acq: 7-MAY-2014 01:27:51 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text:Ceres Analytical Laboratory Text:ST050614A1-2 S050913F 1613 CS3WT
353.8576 S:16 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



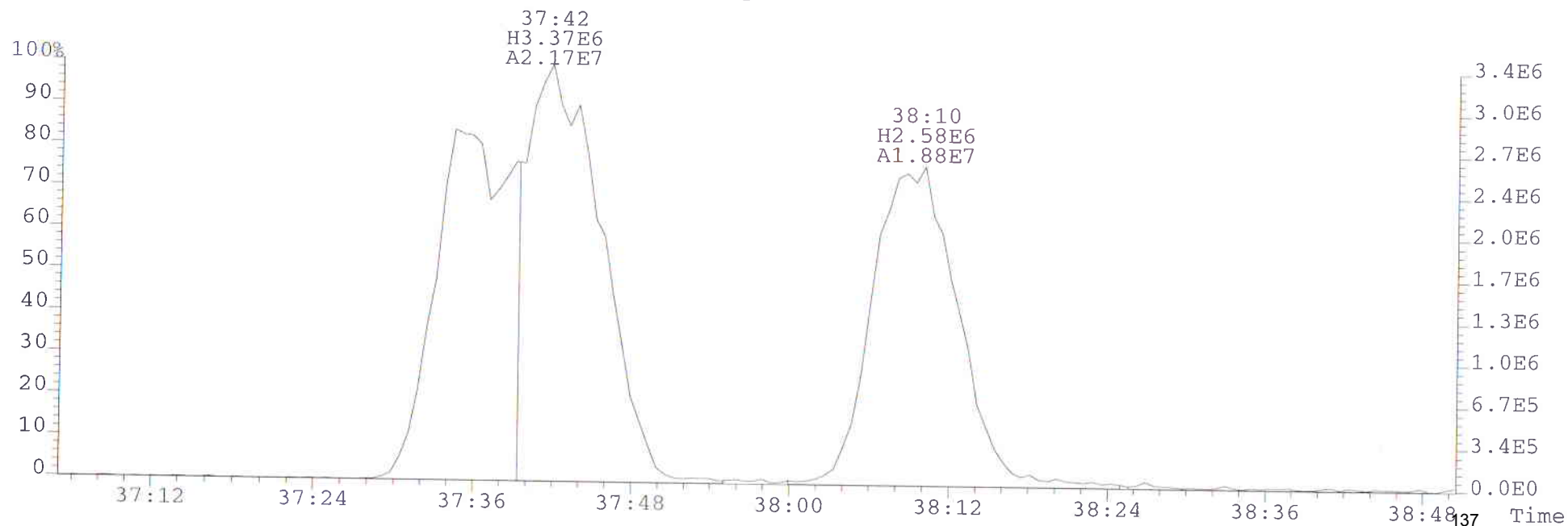
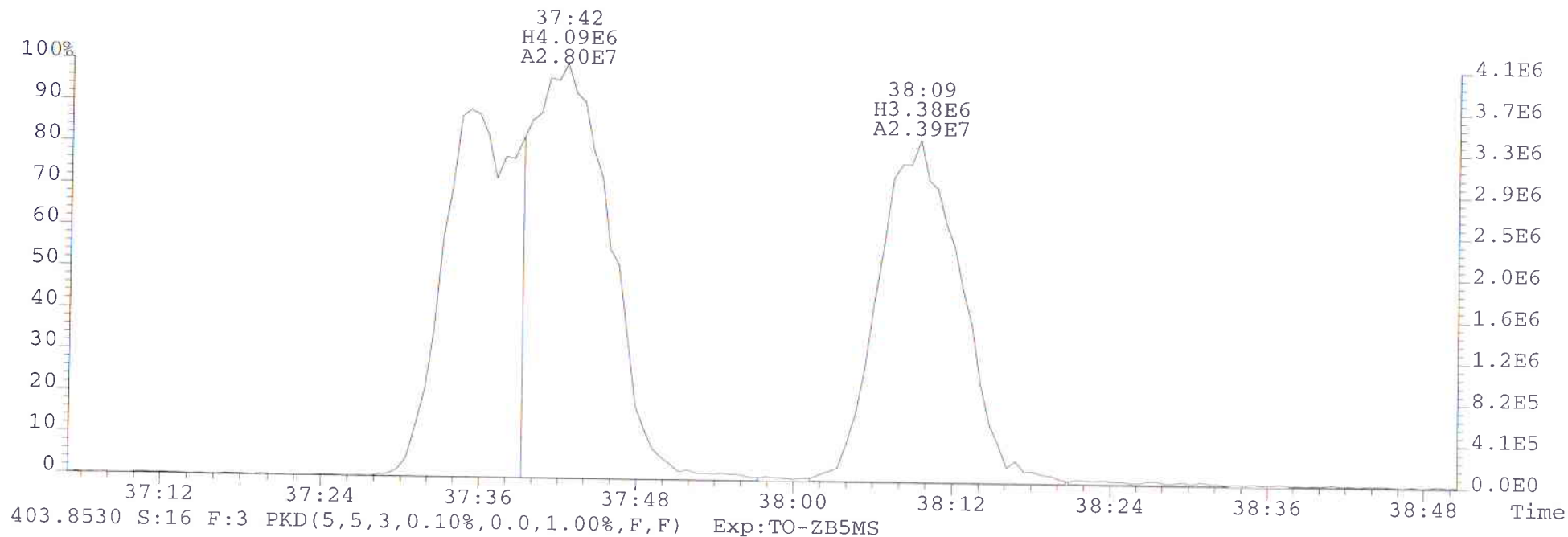
File:050614A1 #1-445 Acq: 7-MAY-2014 01:27:51 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text:Ceres Analytical Laboratory Text:ST050614A1-2 S050913F 1613 CS3WT
389.8156 S:16 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



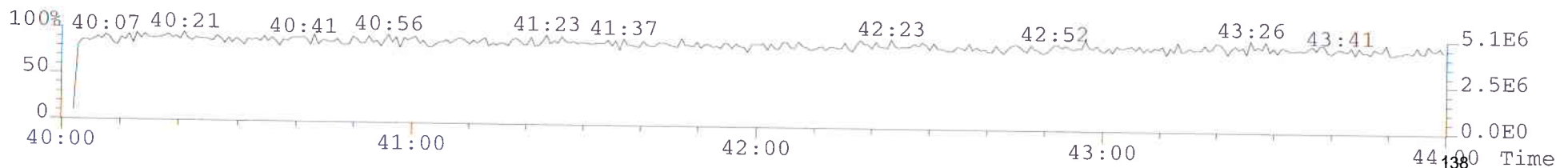
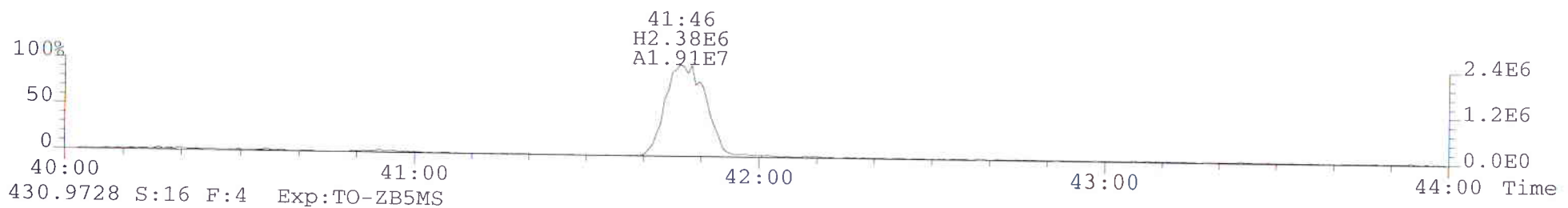
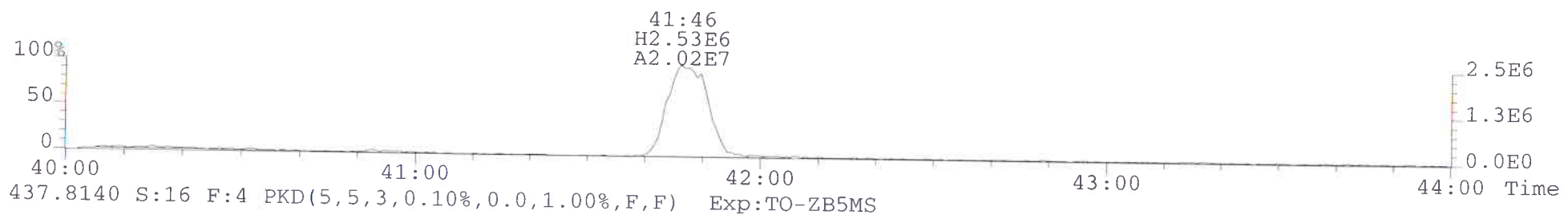
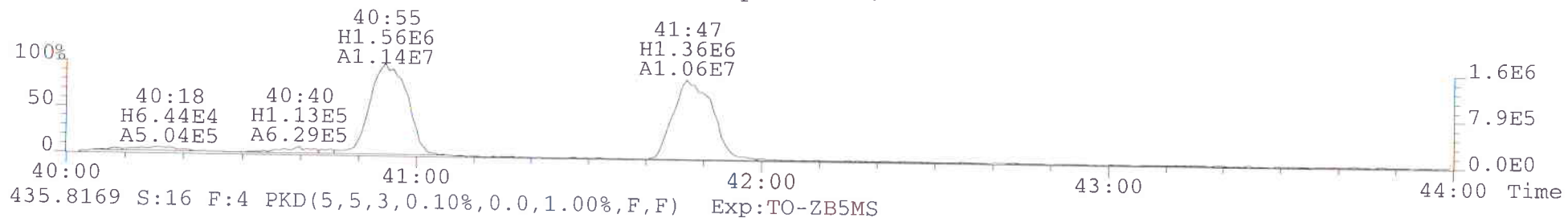
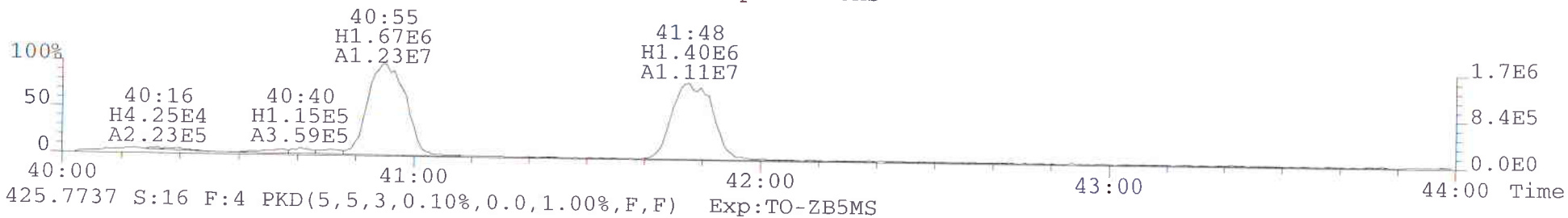
File:050614A1 #1-445 Acq: 7-MAY-2014 01:27:51 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text:Ceres Analytical Laboratory Text:ST050614A1-2 S050913F 1613 CS3WT
389.8156 S:16 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



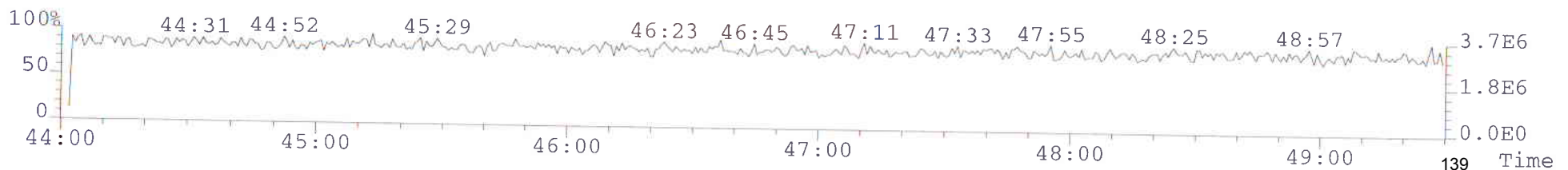
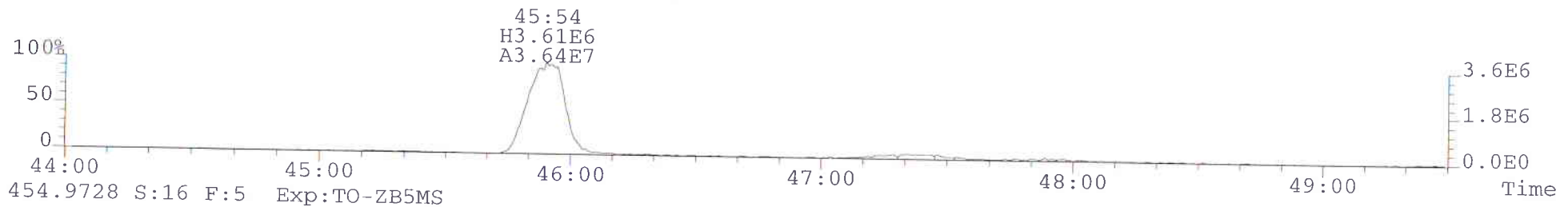
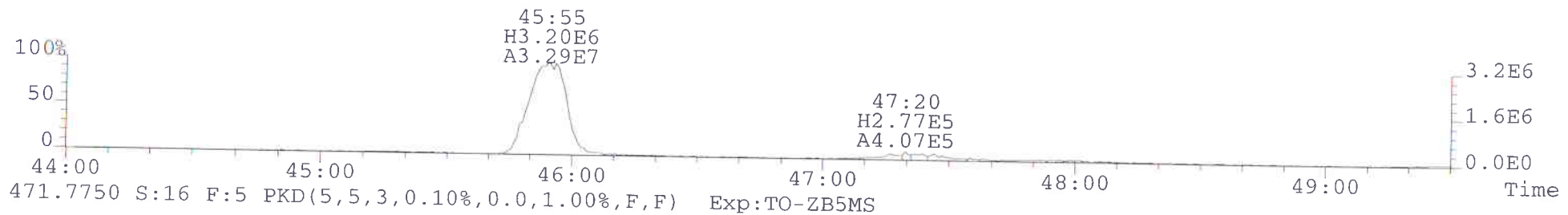
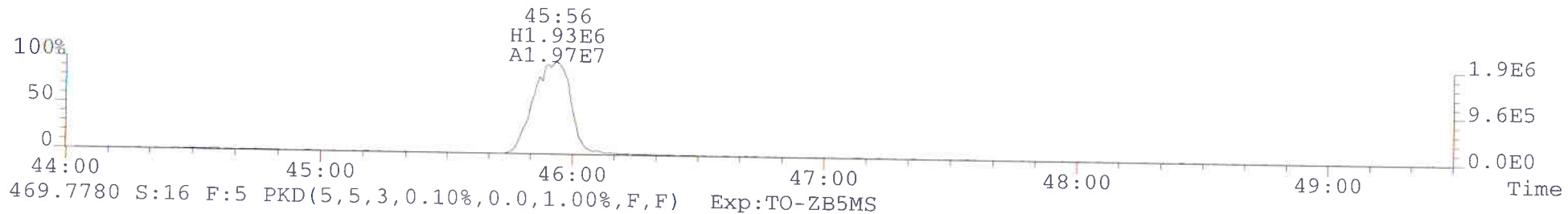
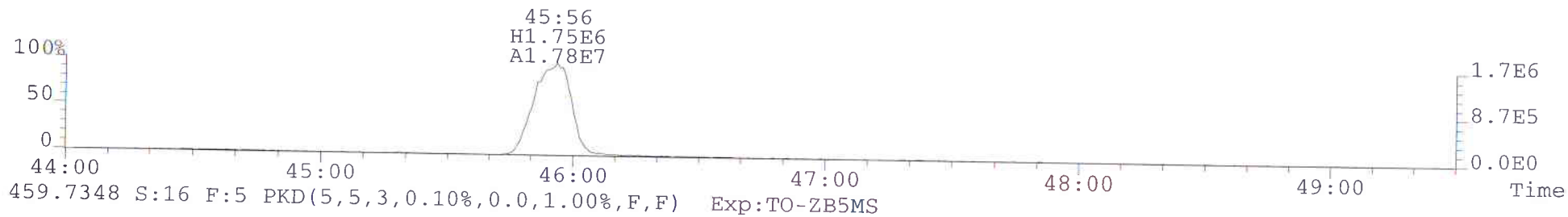
File:050614A1 #1-445 Acq: 7-MAY-2014 01:27:51 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text:Ceres Analytical Laboratory Text:ST050614A1-2 S050913F 1613 CS3WT
401.8559 S:16 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



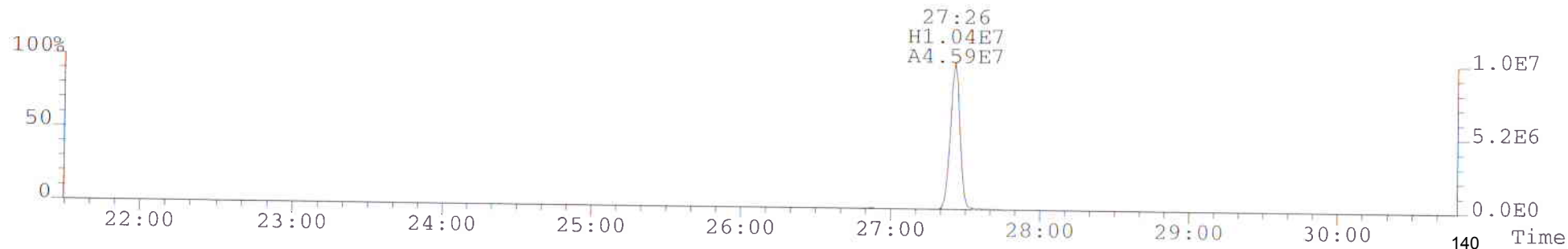
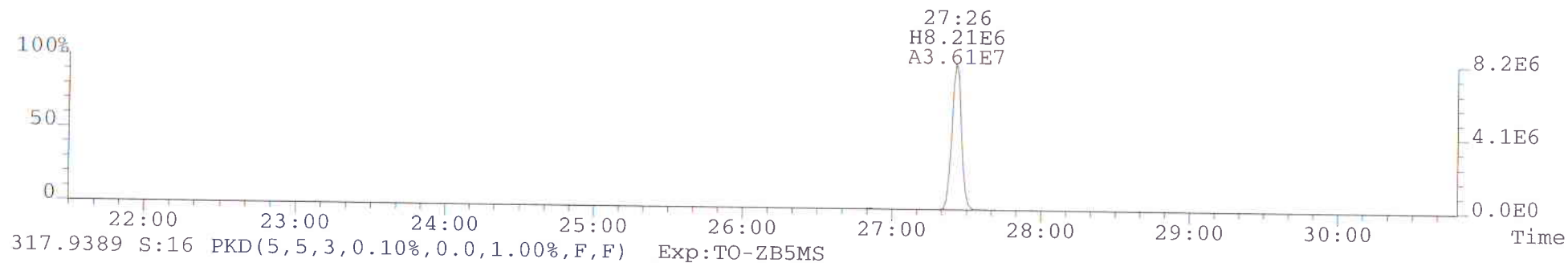
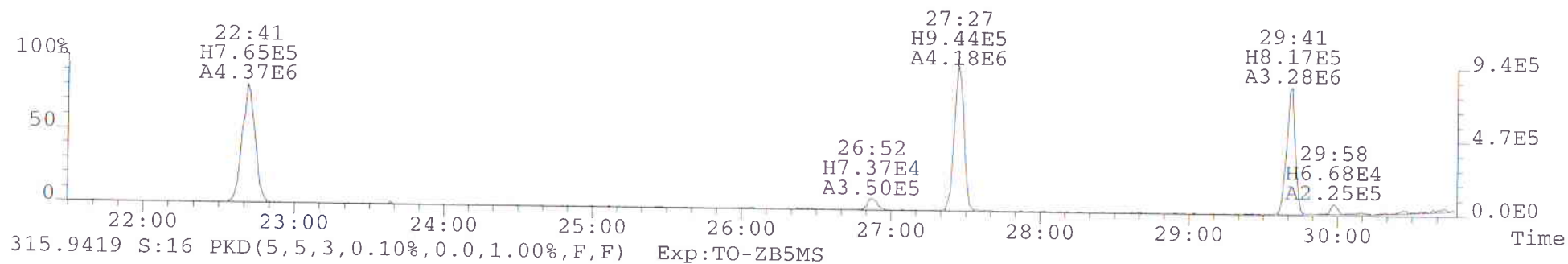
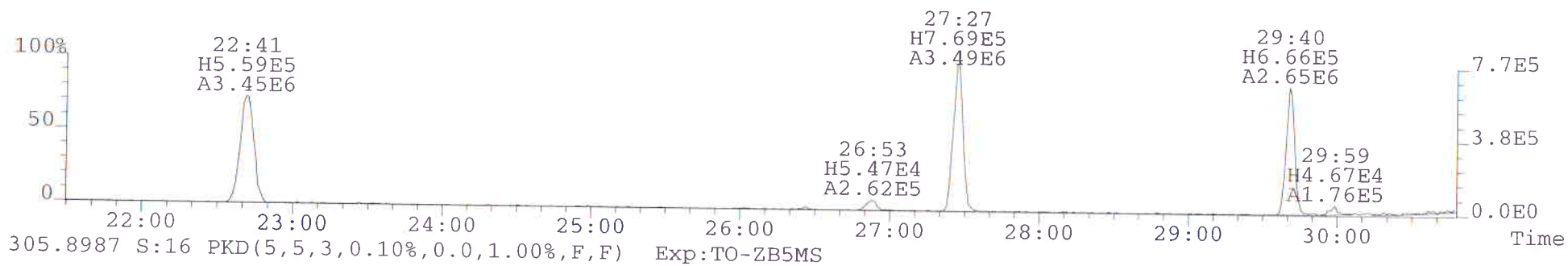
File:050614A1 #1-355 Acq: 7-MAY-2014 01:27:51 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text:Ceres Analytical Laboratory Text:ST050614A1-2 S050913F 1613 CS3WT
423.7767 S:16 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



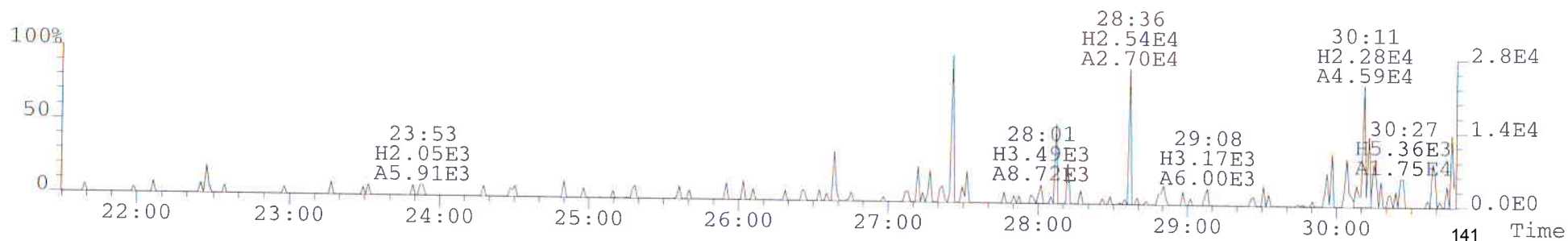
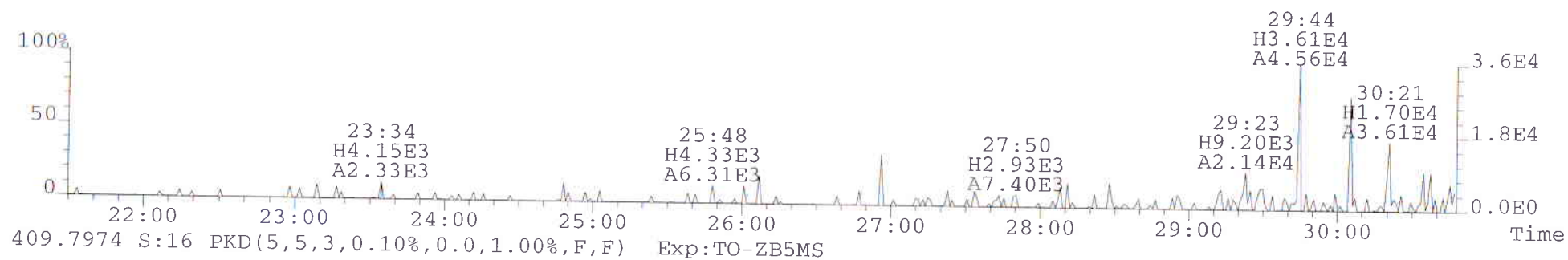
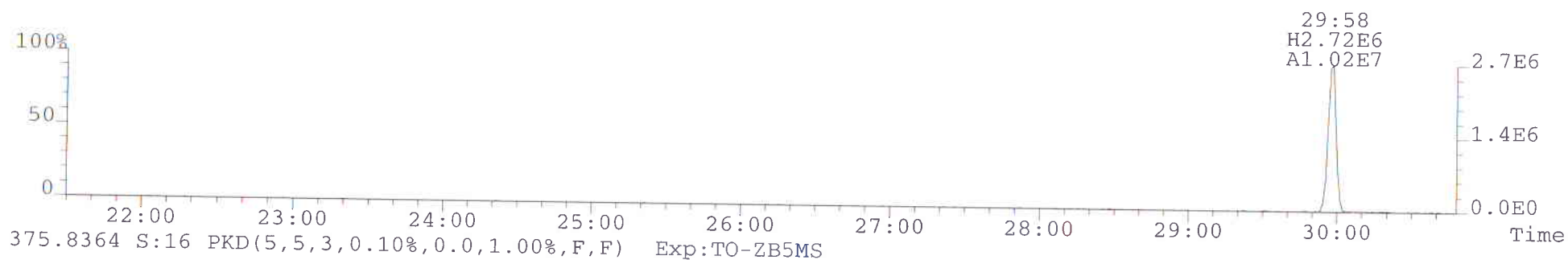
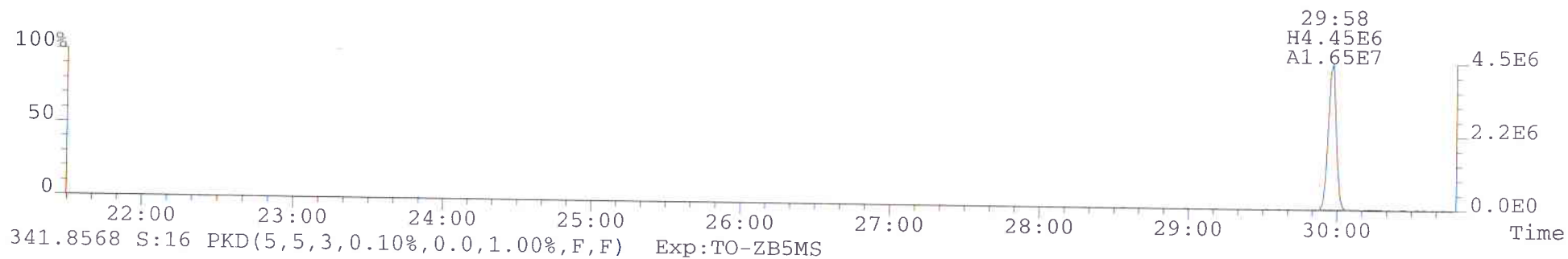
File:050614A1 #1-489 Acq: 7-MAY-2014 01:27:51 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text:Ceres Analytical Laboratory Text:ST050614A1-2 S050913F 1613 CS3WT
457.7377 S:16 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



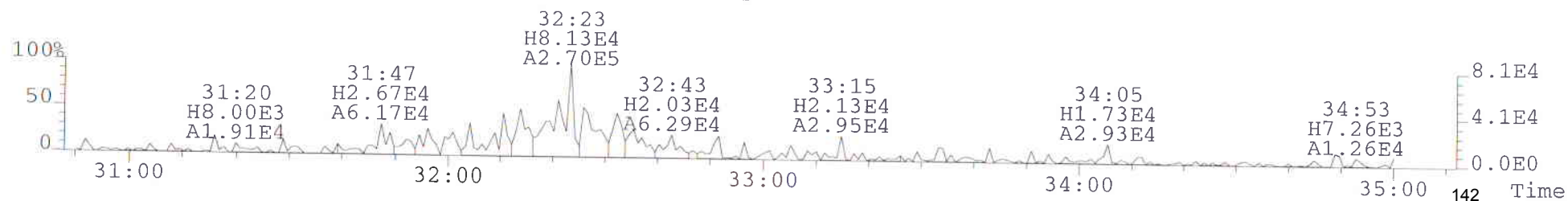
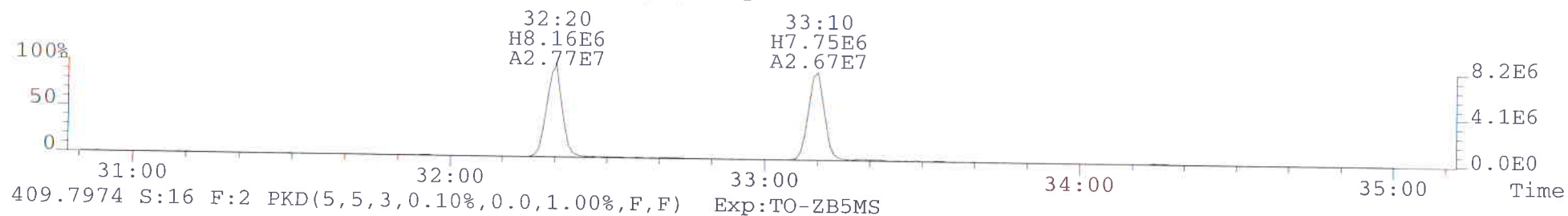
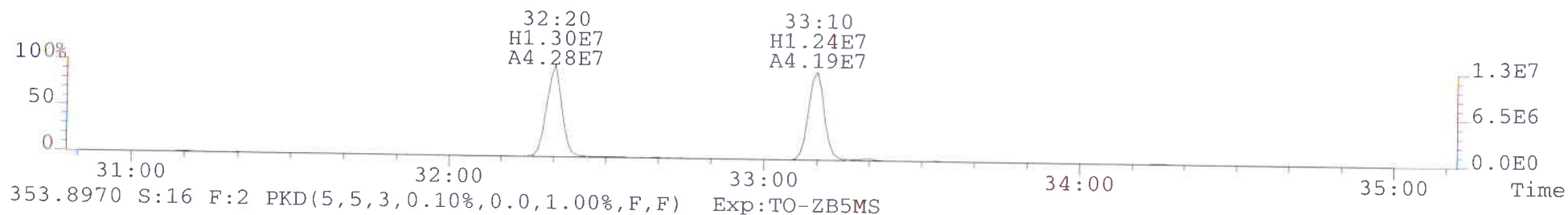
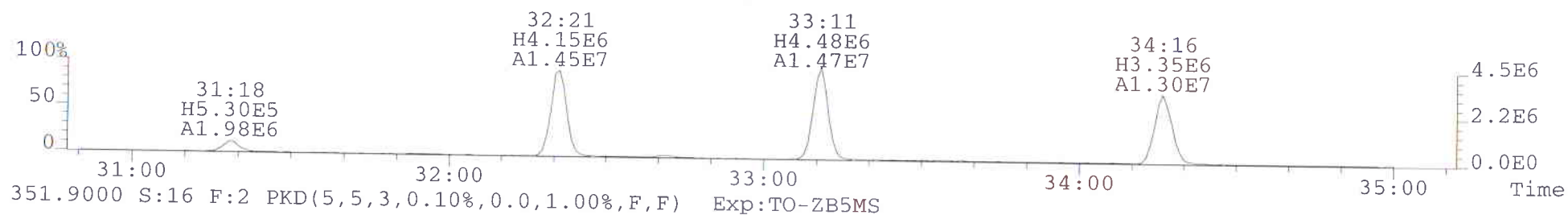
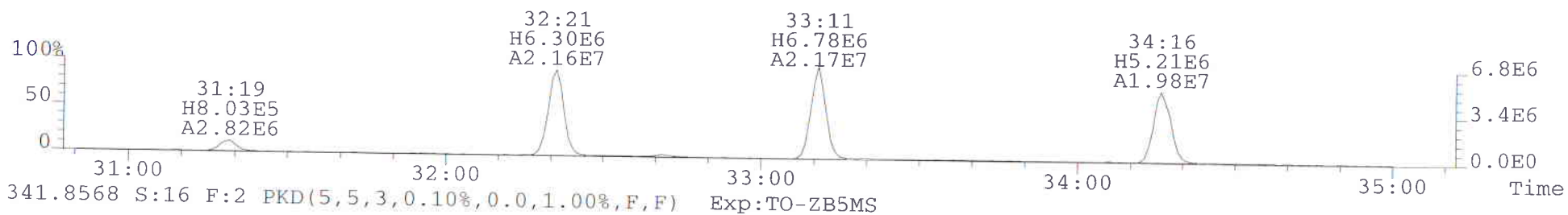
File:050614A1 #1-658 Acq: 7-MAY-2014 01:27:51 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text:Ceres Analytical Laboratory Text:ST050614A1-2 S050913F 1613 CS3WT
303.9016 S:16 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



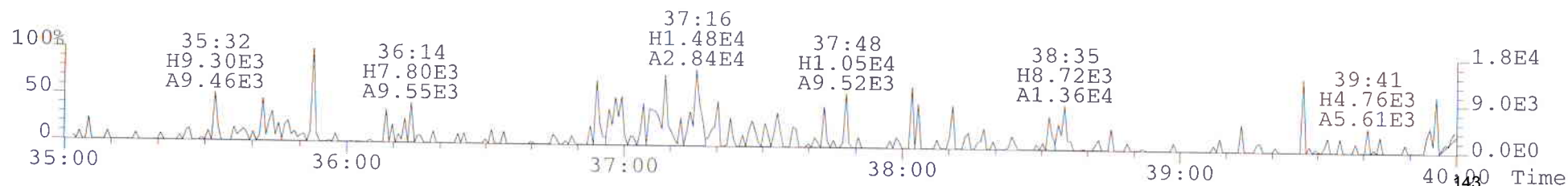
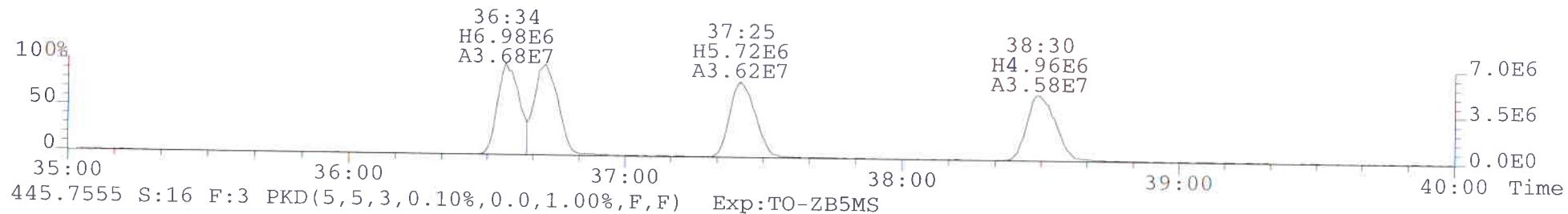
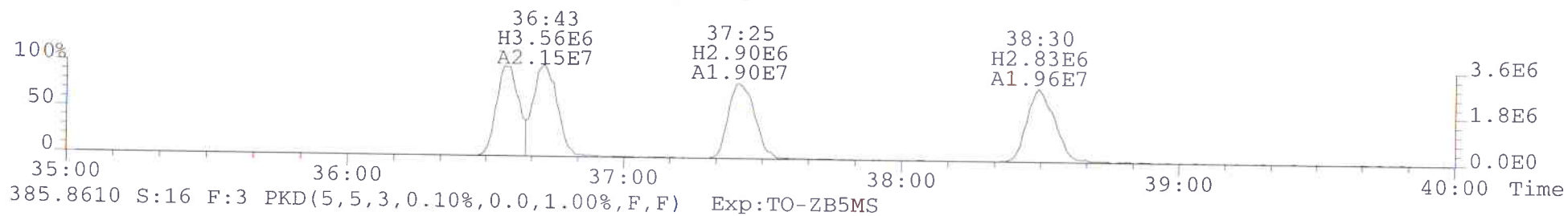
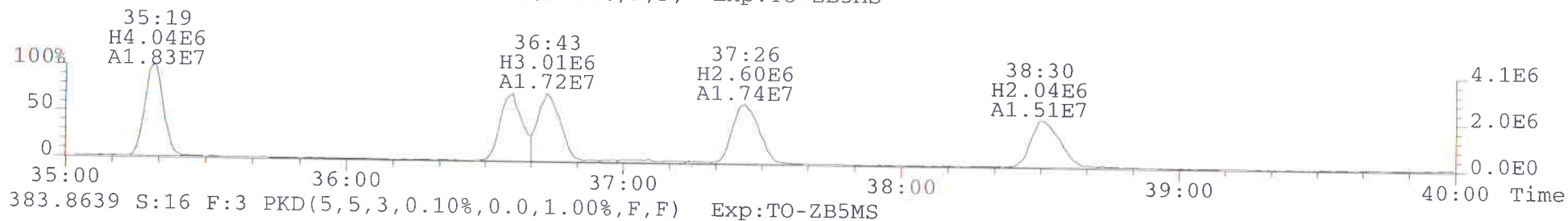
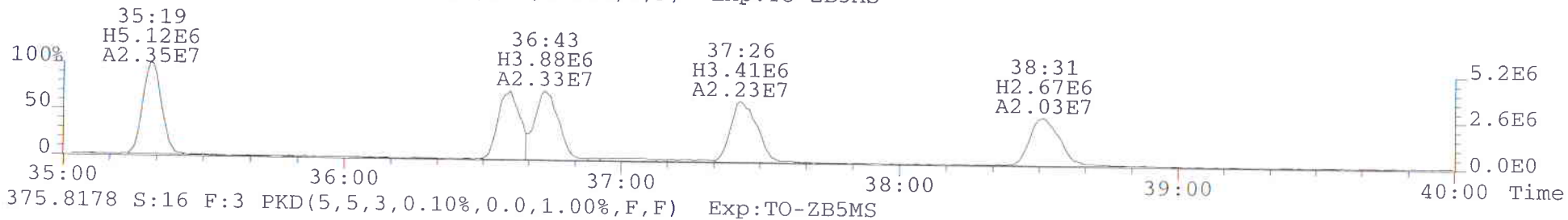
File:050614A1 #1-658 Acq: 7-MAY-2014 01:27:51 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text:Ceres Analytical Laboratory Text:ST050614A1-2 S050913F 1613 CS3WT
339.8597 S:16 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



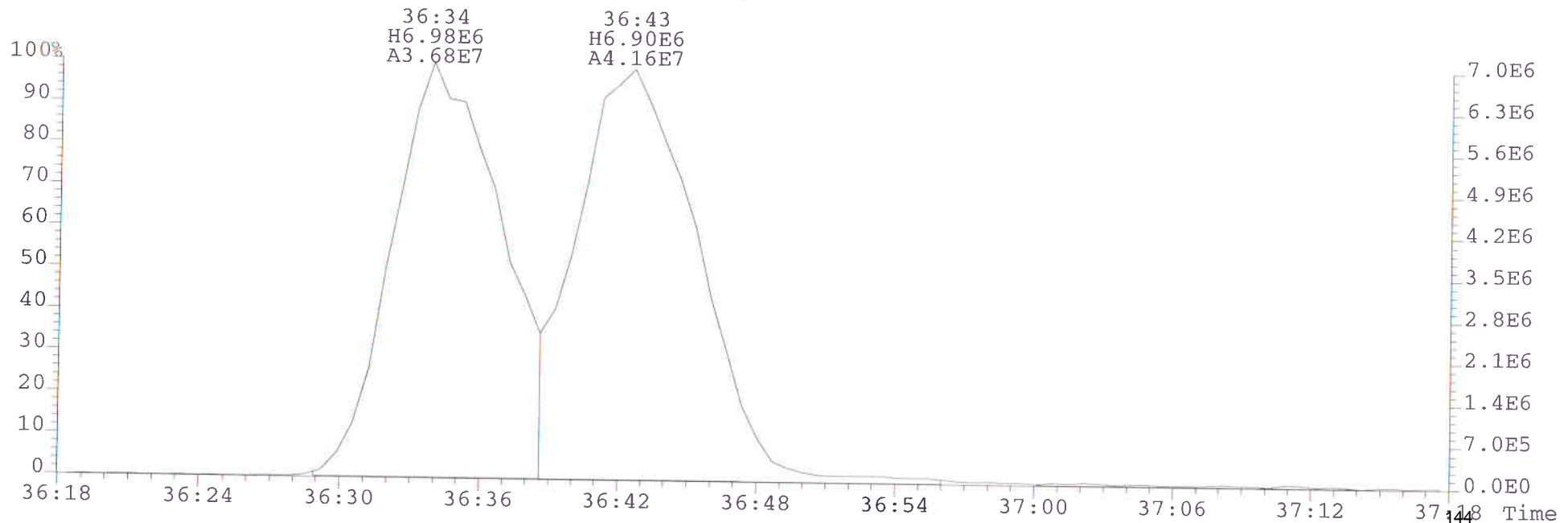
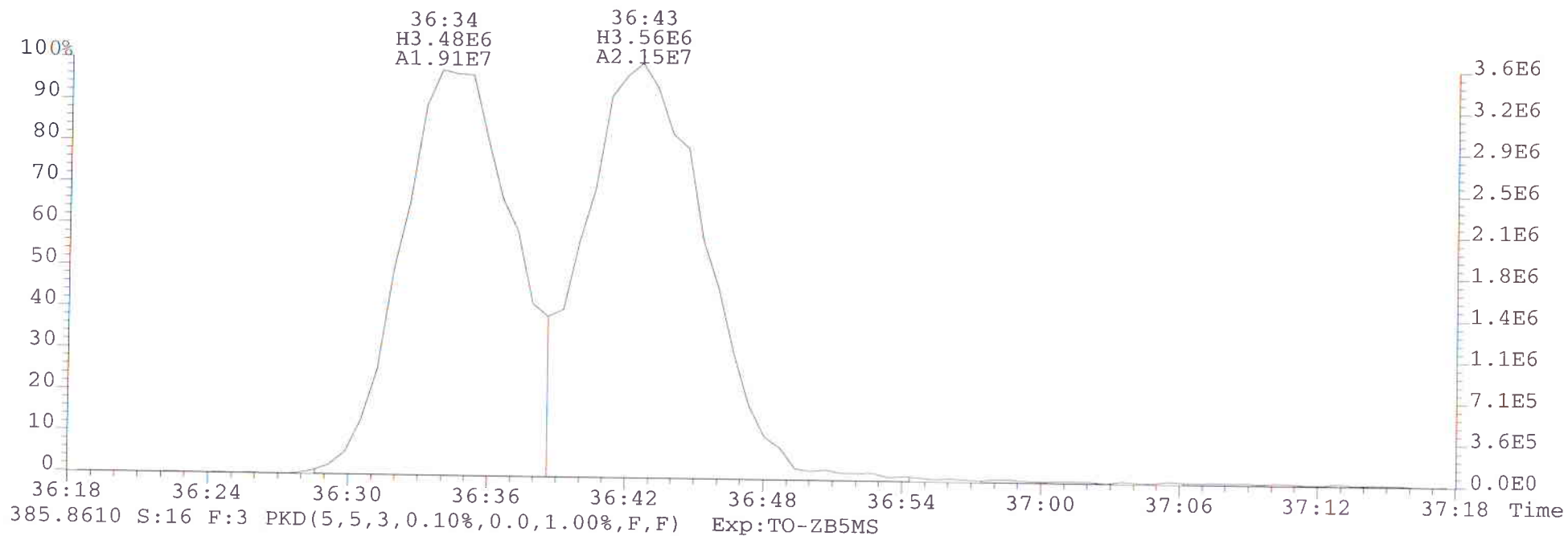
File:050614A1 #1-312 Acq: 7-MAY-2014 01:27:51 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text:Ceres Analytical Laboratory Text:ST050614A1-2 S050913F 1613 CS3WT
339.8597 S:16 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



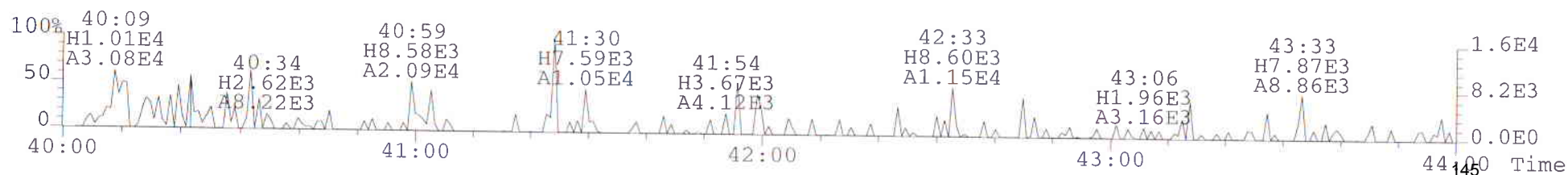
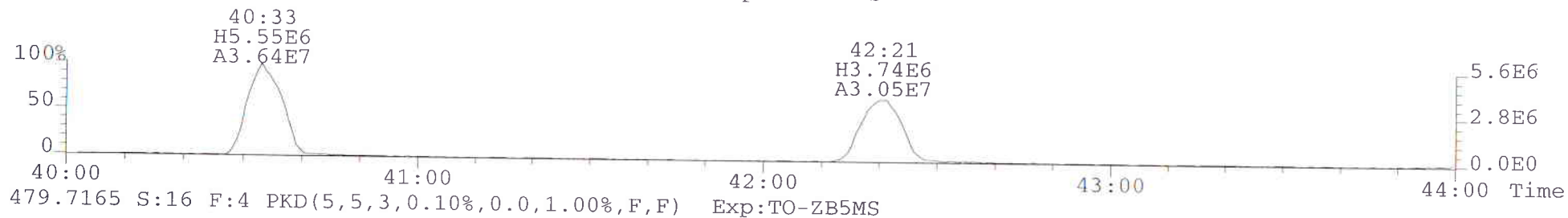
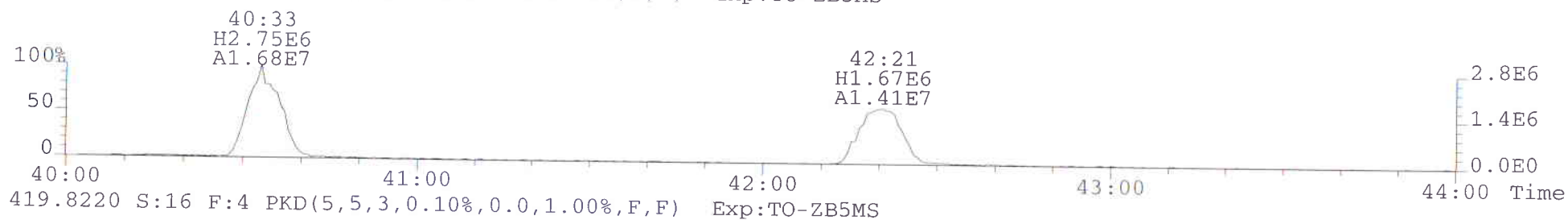
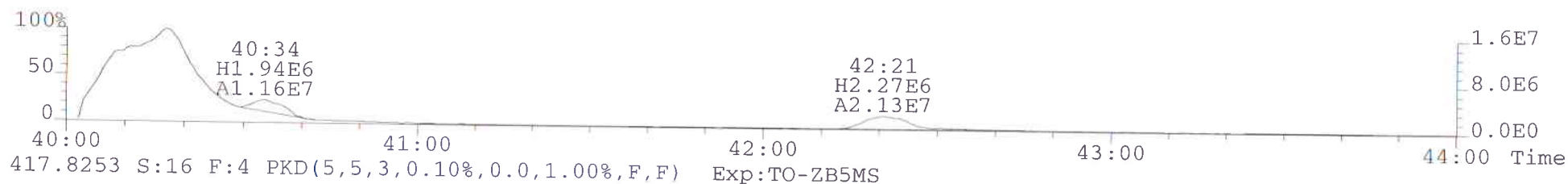
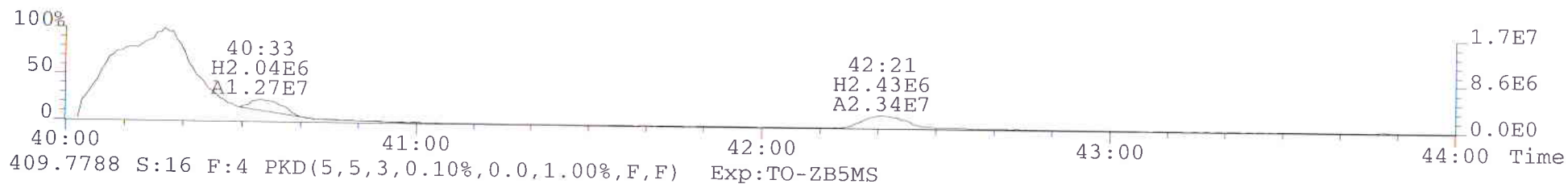
File:050614A1 #1-445 Acq: 7-MAY-2014 01:27:51 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text:Ceres Analytical Laboratory Text:ST050614A1-2 S050913F 1613 CS3WT
373.8207 S:16 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



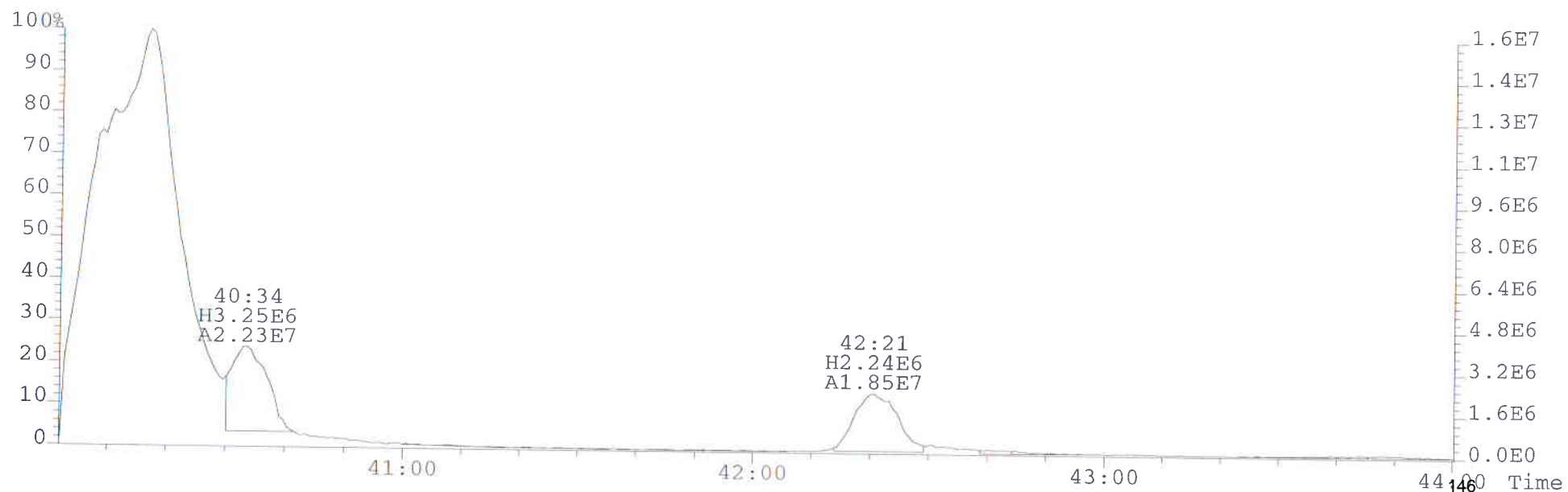
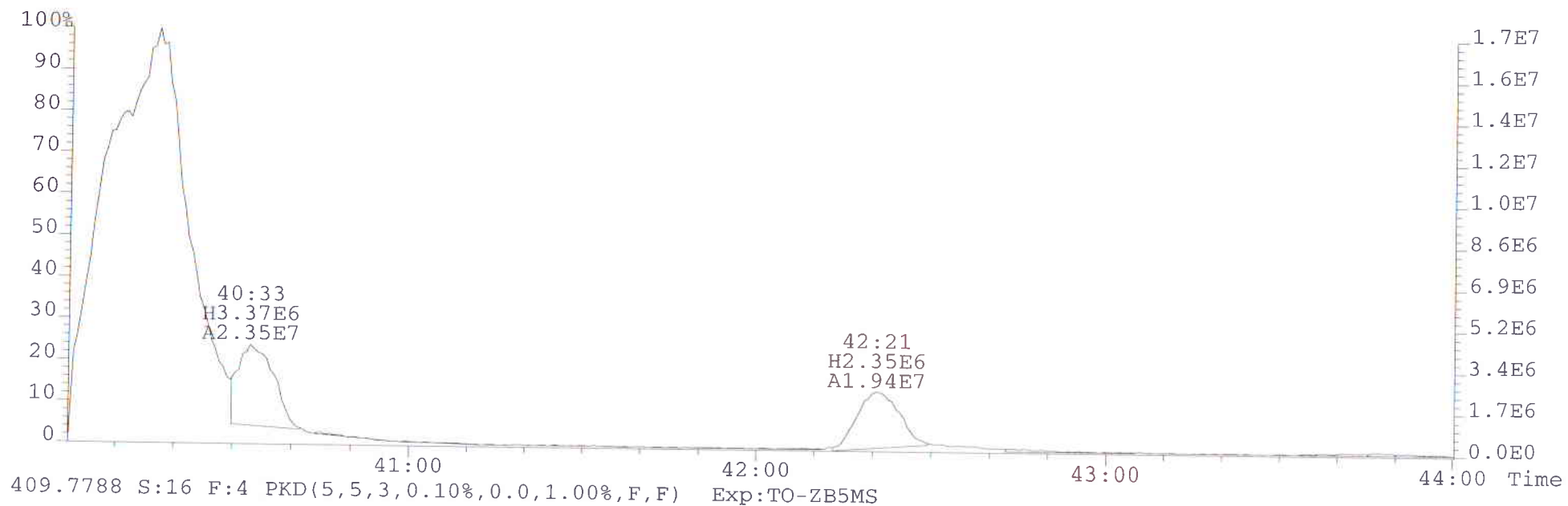
File:050614A1 #1-445 Acq: 7-MAY-2014 01:27:51 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text:Ceres Analytical Laboratory Text:ST050614A1-2 S050913F 1613 CS3WT
383.8639 S:16 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



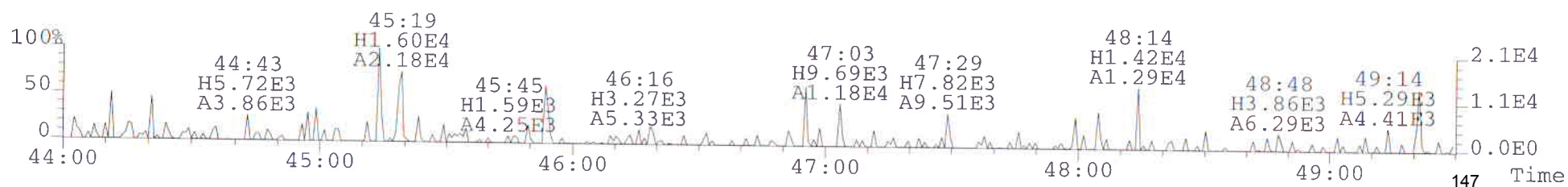
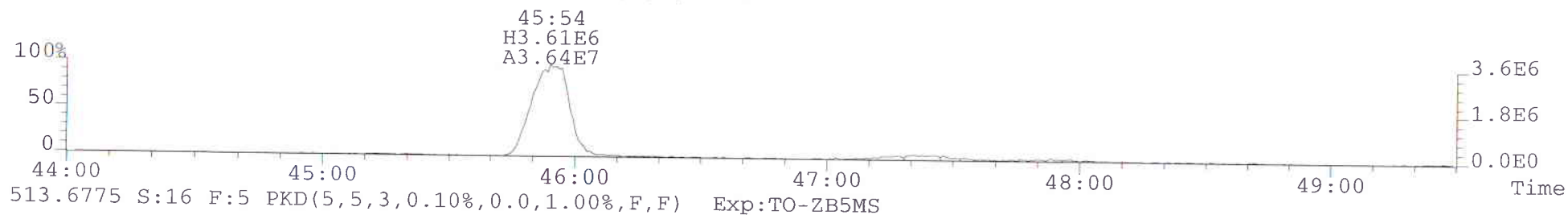
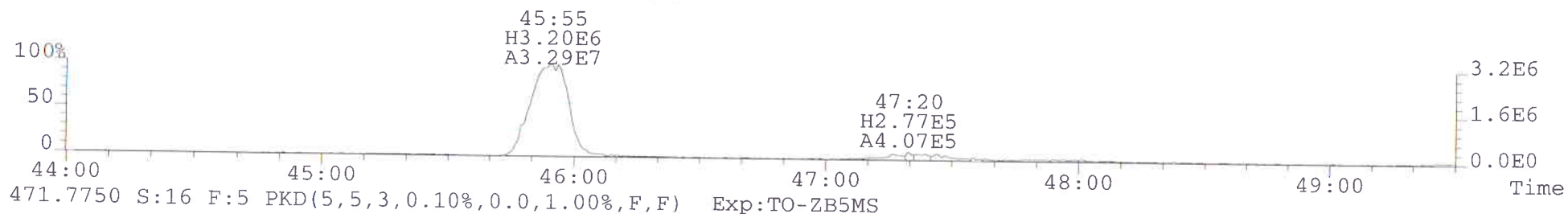
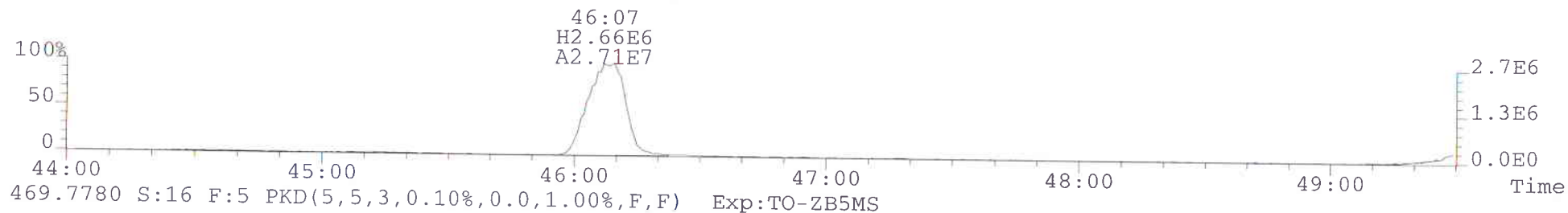
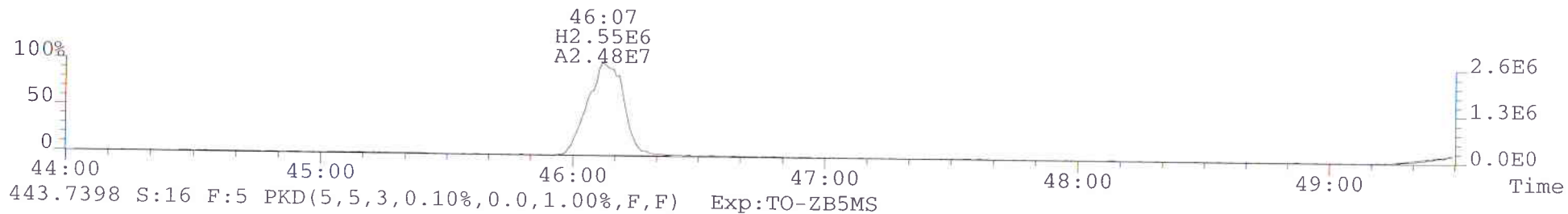
File:050614A1 #1-355 Acq: 7-MAY-2014 01:27:51 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text:Ceres Analytical Laboratory Text:ST050614A1-2 S050913F 1613 CS3WT
407.7818 S:16 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



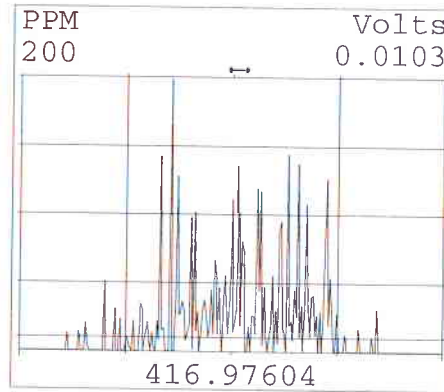
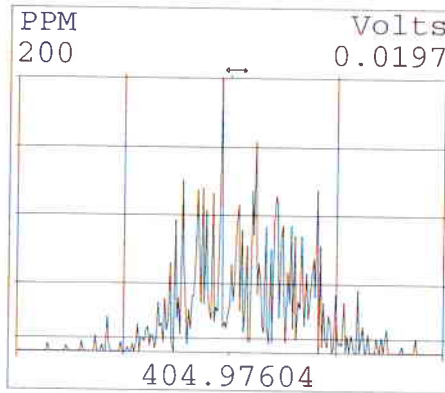
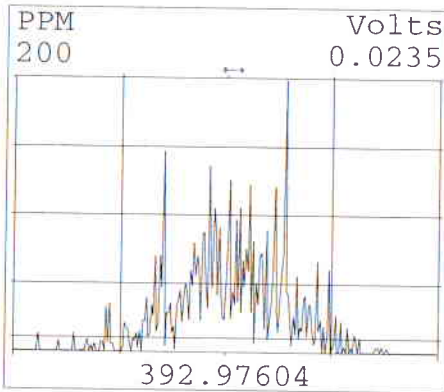
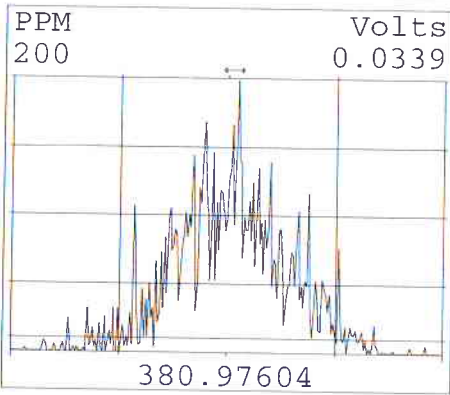
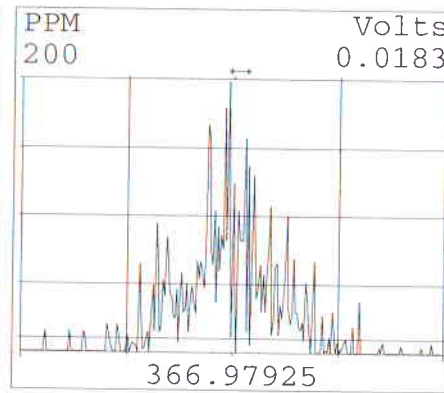
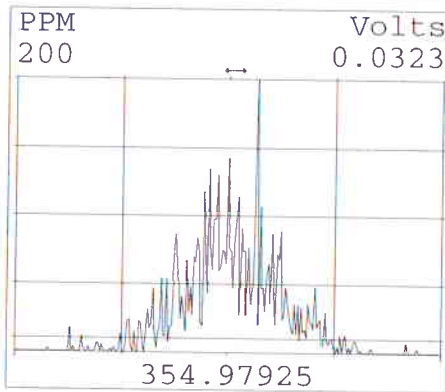
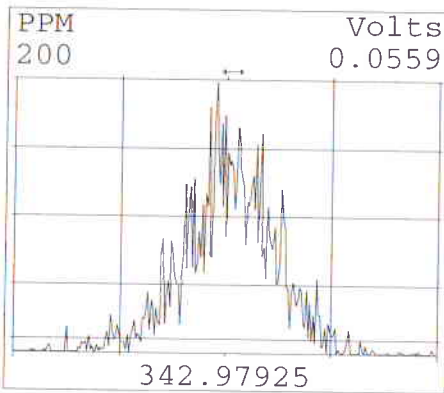
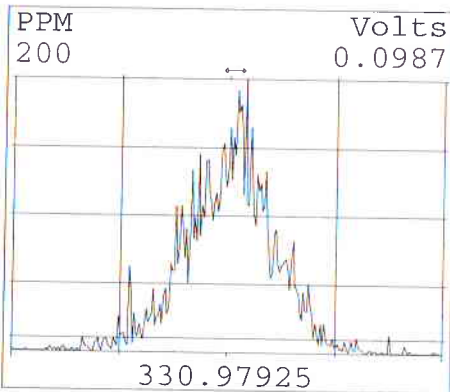
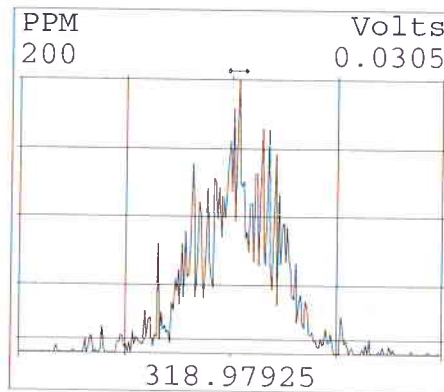
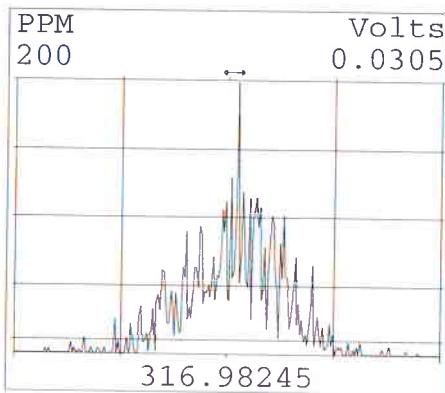
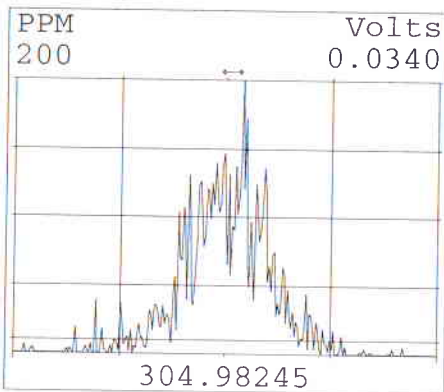
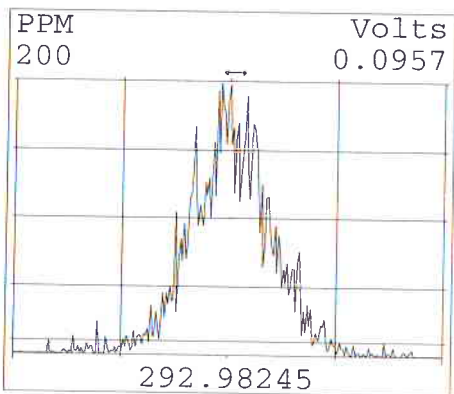
File:050614A1 #1-355 Acq: 7-MAY-2014 01:27:51 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text:Ceres Analytical Laboratory Text:ST050614A1-2 S050913F 1613 CS3WT
407.7818 S:16 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



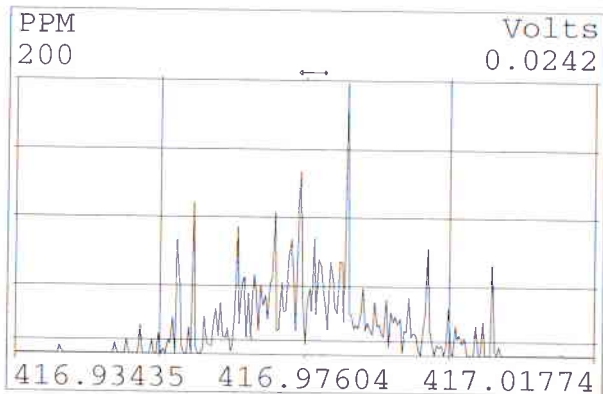
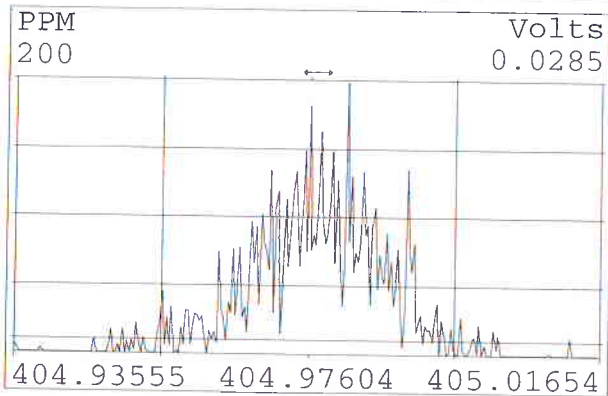
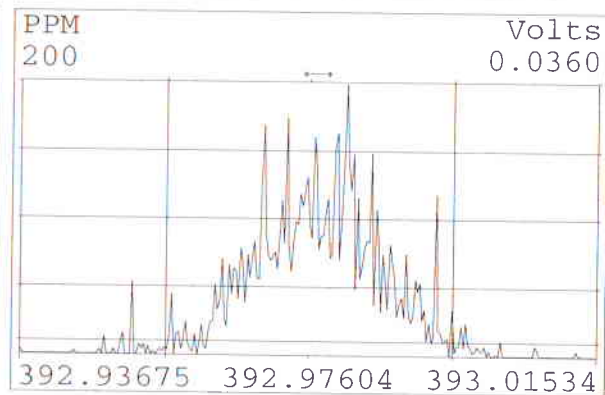
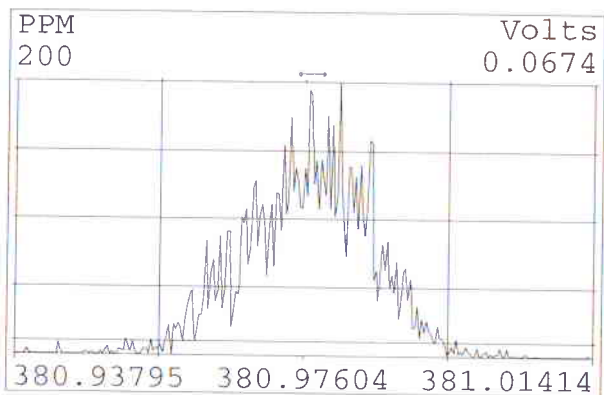
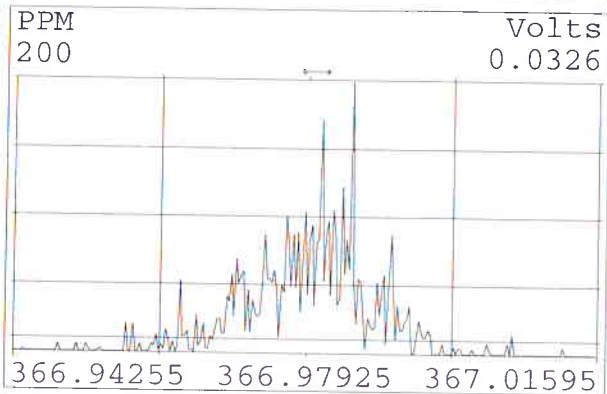
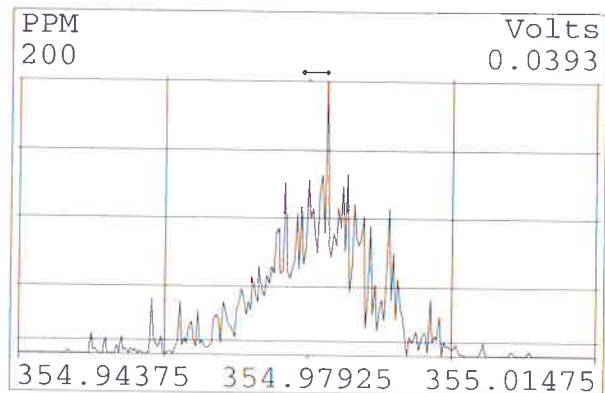
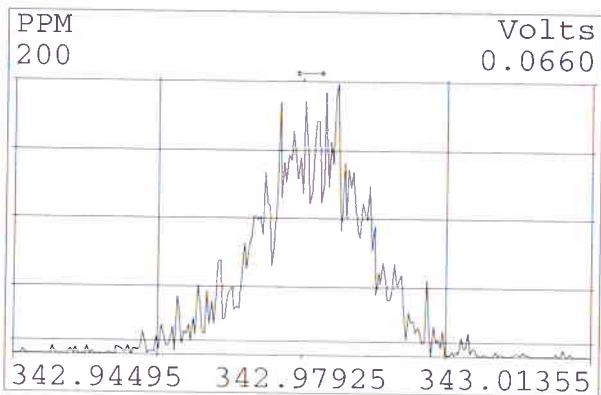
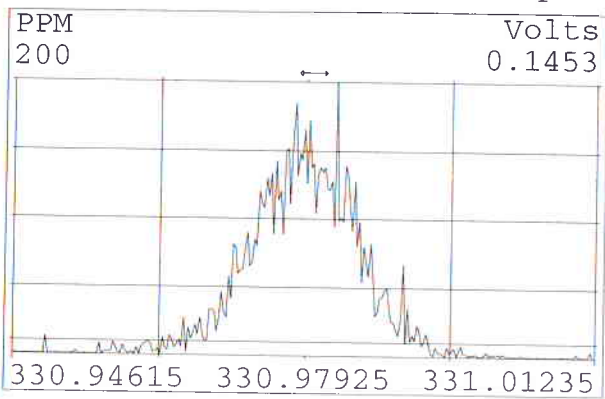
File:050614A1 #1-489 Acq: 7-MAY-2014 01:27:51 GC EI+ Voltage SIR Autospec-Ultima
Sample#16 File Text:Ceres Analytical Laboratory Text:ST050614A1-2 S050913F 1613 CS3WT
441.7428 S:16 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



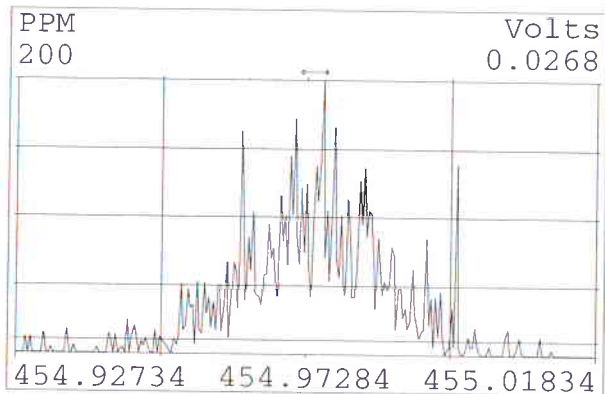
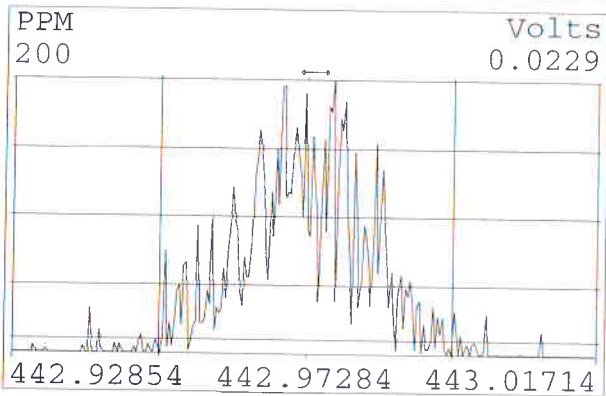
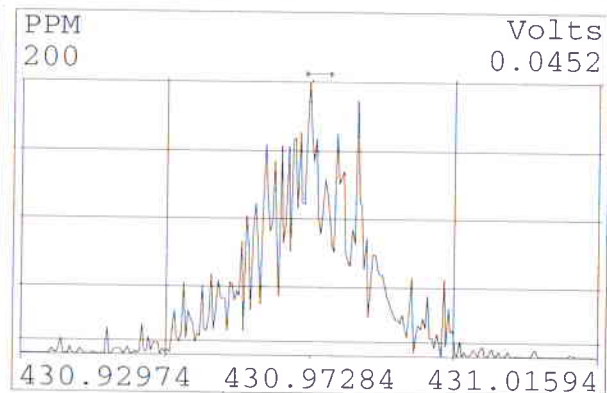
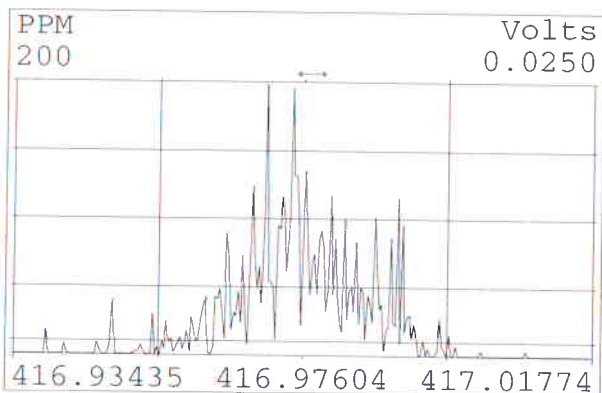
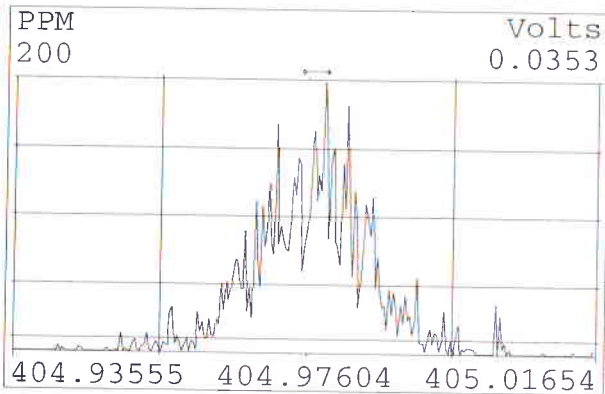
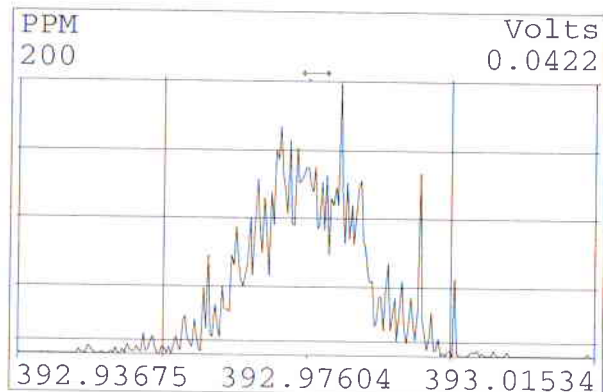
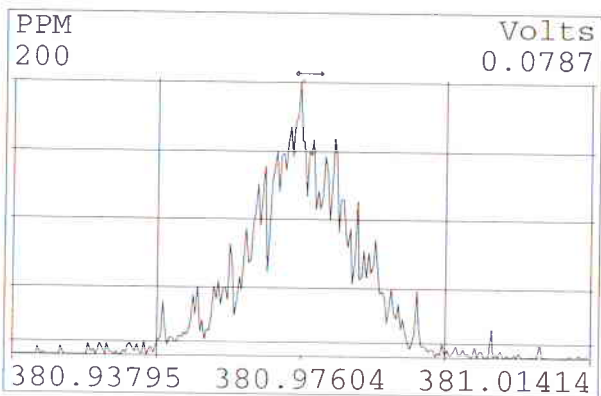
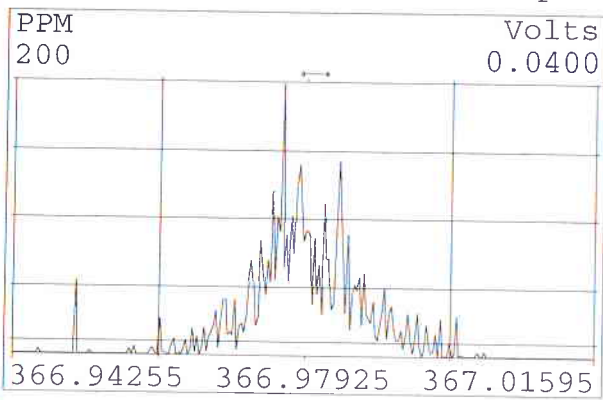
Peak Locate Examination: 7-MAY-2014:02:30 File:RES_CHECK
Experiment:TO-ZB5MS Function:1 Reference:PFK



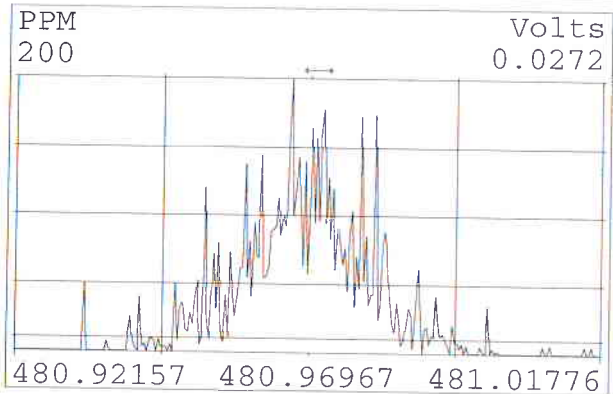
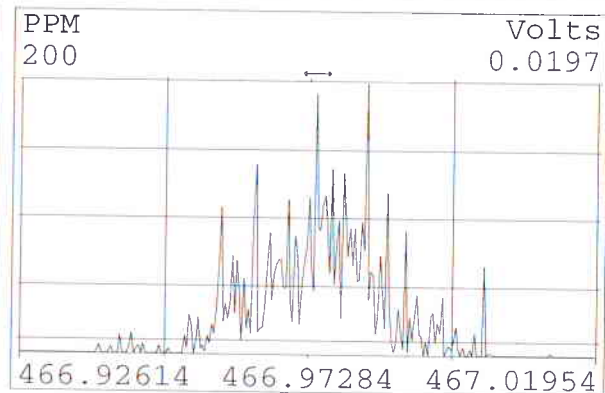
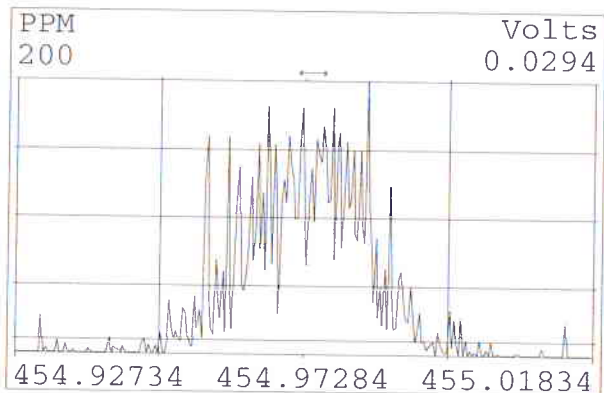
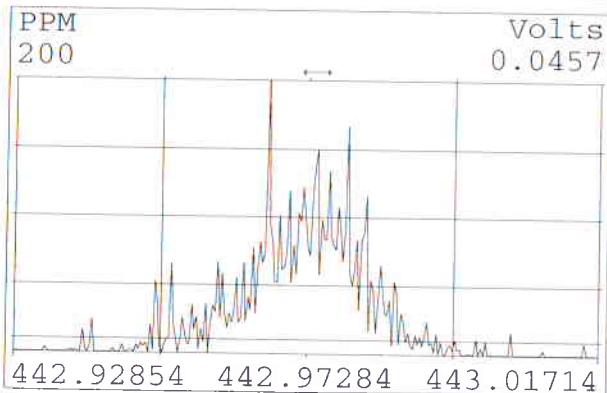
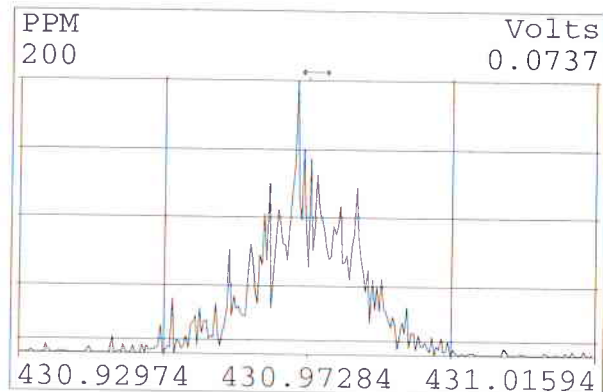
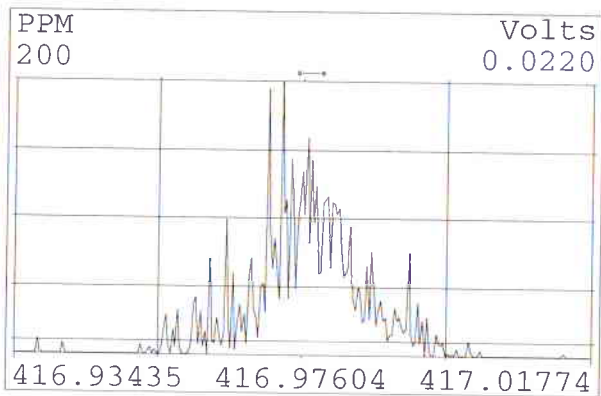
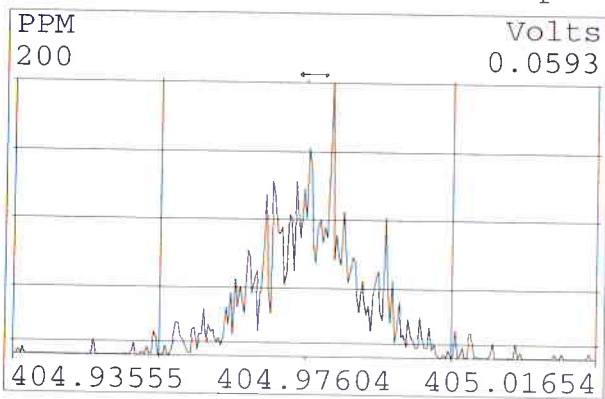
Peak Locate Examination: 7-MAY-2014:02:31 File:RES_CHECK
Experiment:TO-ZB5MS Function:2 Reference:PFK



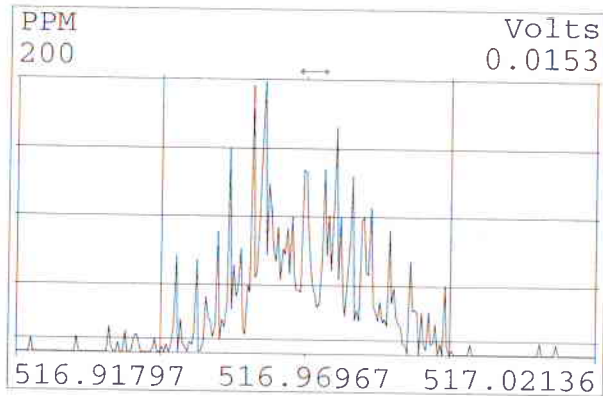
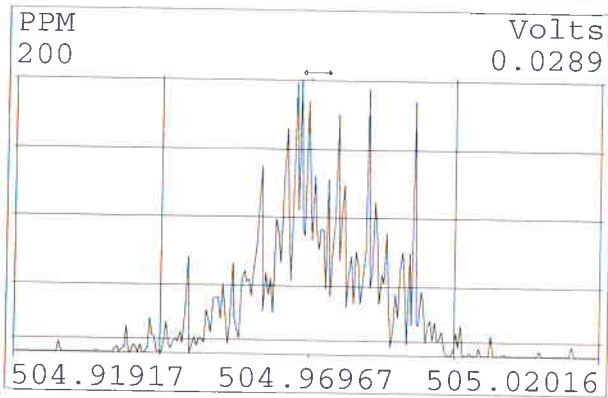
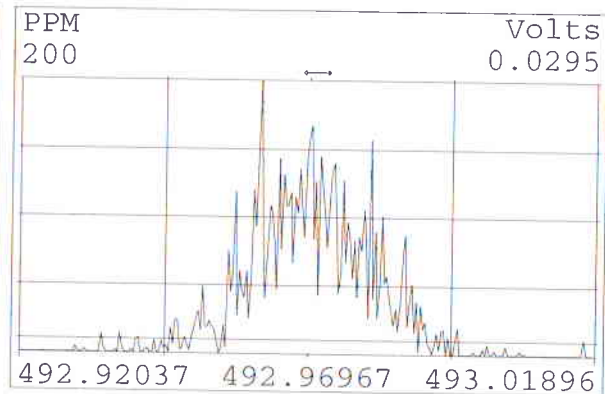
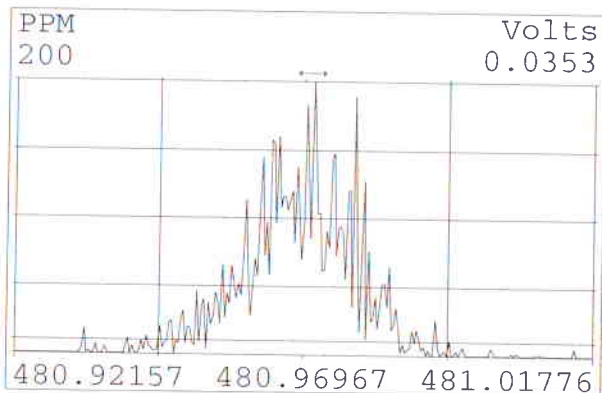
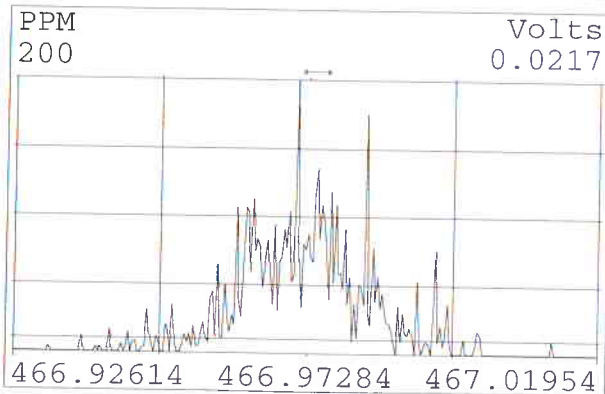
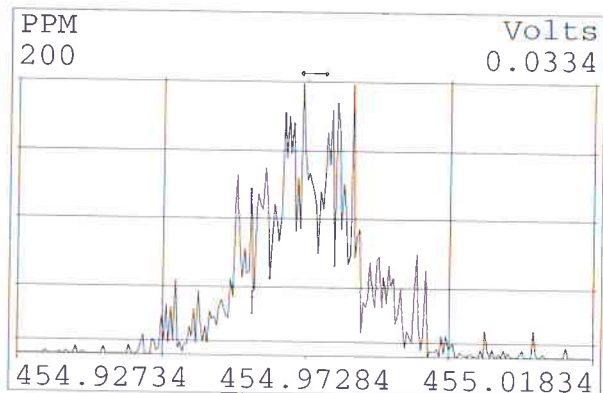
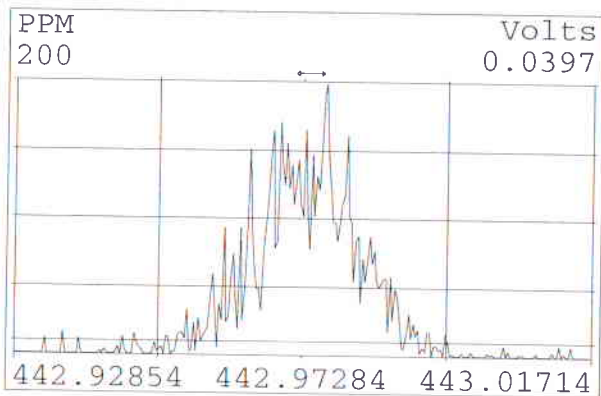
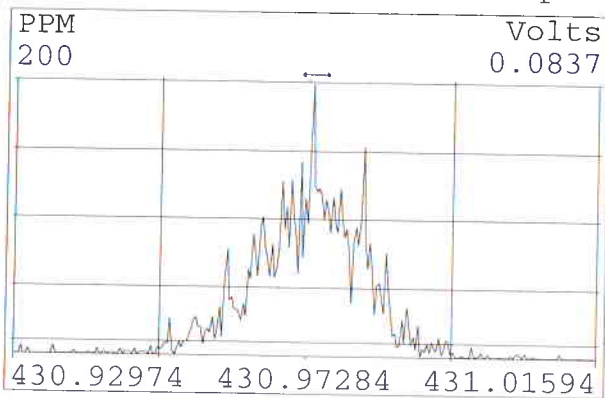
Peak Locate Examination: 7-MAY-2014:02:31 File:RES_CHECK
Experiment:TO-ZB5MS Function:3 Reference:PFK



Peak Locate Examination: 7-MAY-2014:02:32 File:RES_CHECK
Experiment:TO-ZB5MS Function:4 Reference:PFK



Peak Locate Examination: 7-MAY-2014:02:33 File:RES_CHECK
Experiment:TO-ZB5MS Function:5 Reference:PFK



USEPA - ITD
 FORM 4A
 PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST050714A1-1


Contract No.: SAS No.:


Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 050714A1 S:1 Analysis Date: 7-MAY-14 Time: 09:23:33

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	EPA 1613	EPA 8290
					CONC. RANGE (3) (ng/mL)	CONC. RANGE (ng/mL)
NATIVE ANALYTES						
2,3,7,8 TCDD	M/M+2	0.74	0.65-0.89	11.1	7.8-12.9	8.0-12.0
1,2,3,7,8-PeCDD	M/M+2	0.63	0.53-0.71	51.7	39-65	40-60
1,2,3,4,7,8 HxCDD	M+2/M+4	1.24	1.05-1.43	52.0	39-64	40-60
1,2,3,6,7,8 HxCDD	M+2/M+4	1.28	1.05-1.43	52.3	39-64	40-60
1,2,3,7,8,9 HxCDD	M+2/M+4	1.27	1.05-1.43	52.3	41-61	40-60
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	51.8	43-58	40-60
OCDD	M+2/M+4	0.92	0.76-1.02	105.4	79-126	80-120
2,3,7,8 TCDF	M/M+2	0.75	0.65-0.89	9.8	8.4-12.0	8.0-12.0
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	52.0	41-60	40-60
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	54.2	41-61	40-60
1,2,3,4,7,8-HxCDF	M+2/M+4	1.30	1.05-1.43	51.3	45-56	40-60
1,2,3,6,7,8-HxCDF	M+2/M+4	1.31	1.05-1.43	51.4	44-57	40-60
2,3,4,6,7,8-HxCDF	M+2/M+4	1.32	1.05-1.43	50.4	44-57	40-60
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05-1.43	50.3	45-56	40-60
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.07	0.88-1.20	50.9	45-55	40-60
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	49.9	43-58	40-60
OCDF	M+2/M+4	0.95	0.76-1.02	105.3	63-159	80-120

Analyst: 
 Date: 5/7/14

Reviewer: 
 Date: 5/8/14

(1) See Table 3, Method 1613, for m/z specifications.
 (2) Ion Abundance Ratio Control Limits as specified in Table 3A, Method 1613.
 (3) Contract-required concentration range as specified in Table 7, Method 1613, under VER 10/94.

USEPA - ITD

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST050714A1-1

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 050714A1 S:1 Analysis Date: 7-MAY-14 Time: 09:23:33

Labeled Compounds	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	EPA 1613	EPA 8290
					CONC. RANGE (3) (ng/mL)	CONC. RANGE (ng/mL)
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	103.3	82 - 121	70 - 130
13C-1,2,3,7,8-PeCDD	M/M+2	0.64	0.53-0.71	91.8	62 - 160	70 - 130
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	100.1	85 - 117	70 - 130
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	103.8	85 - 118	70 - 130
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.08	0.88-1.20	105.6	72 - 138	70 - 130
13C OCDD	M+2/M+4	0.86	0.76-1.02	197.8	96 - 415	140 - 260
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	117.1	71 - 140	70 - 130
13C 1,2,3,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	95.9	76 - 130	70 - 130
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	91.0	77 - 130	70 - 130
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	99.8	76 - 131	70 - 130
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	100.6	70 - 143	70 - 130
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	106.0	73 - 137	70 - 130
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	108.0	74 - 135	70 - 130
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	112.4	78 - 129	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37-0.51	117.4	77 - 129	70 - 130

Clean-up Standard (4)

37Cl-2,3,7,8-TCDD	M			10.5	7.9 - 12.7	7.0 - 13.0
-------------------	---	--	--	------	------------	------------

- (1) See Table 3, Method 1613, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 3A, Method 1613.
- (3) Contract-required concentration range, as specified in Table 7, Method 1613, under VER.
- (4) No ion abundance ratio; report concentration found.

Analyst: [Signature]
Date: 5/7/14

Reviewer: [Signature]
Date: 5/8/14

USEPA - ITD

FORM 5
PCDD/PCDF Window Defining Mix

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST050714A1-1

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 050714a1 S:1 Analysis Date: 7-MAY-14 Time: 09:23:33

NATIVE ANALYTES	RT		RT
1,3,6,8-TCDD(First)	24:48	1,3,6,8-TCDF(First)	22:35
1,2,8,9-TCDD(Last)	29:40	1,2,8,9-TCDF(Last)	29:40
1,2,4,7,9-PeCDD(First)	31:31	1,3,4,6,8-PeCDF(First)	29:58
1,2,3,8,9-PeCDD(Last)	34:08	1,2,3,8,9-PeCDF(Last)	34:18
1,2,4,6,7,9-HxCDD(First)	36:00	1,2,3,4,6,8-HxCDF(First)	35:21
1,2,3,4,6,7-HxCDD(Last)	38:13	1,2,3,4,8,9-HxCDF(Last)	38:34
1,2,3,4,6,7,9-HpCDD(First)	40:58	1,2,3,4,6,7,8 HpCDF(First)	40:38
1,2,3,4,6,7,8 HpCDD(Last)	41:51	1,2,3,4,7,8,9-HpCDF(Last)	42:23

Analyst: [Signature]
Date: 5/7/14

Reviewer: [Signature]
Date: 5/8/14

USEPA - ITD

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST050714A1-1

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 050714A1 S:1 Analysis Date: 7-MAY-14 Time: 09:23:33

Compounds Using 13C-1234-TCDD as Internal Standard

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.001	0.999-1.002
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.001	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.000	0.999-1.002
LABELED COMPOUNDS			
13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.009	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.194	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.974	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.150	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.180	1.011-1.526
37Cl 2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.009	0.989-1.052

Analyst: J
Date: 5/7/14

Reviewer: W
Date: 5/8/14

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

USEPA - ITD

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST050714A1-1

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 050714A1 S:1 Analysis Date: 7-MAY-14 Time: 09:23:33

Compounds Using 13C-123789-HxCDD as Internal Standard

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.000	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.012	1.000-1.019
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.001	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.001	0.999-1.001
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.001	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDF	13C-OCDD	1.005	0.999-1.008

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,7,8,9-HxCDD	0.985	0.977-1.000
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,7,8,9-HxCDD	0.989	0.981-1.003
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,7,8,9-HxCDD	1.095	1.086-1.110
13C-OCDD	13C-1,2,3,7,8,9-HxCDD	1.203	1.032-1.311
13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,7,8,9-HxCDD	0.959	0.944-0.970
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,7,8,9-HxCDD	0.962	0.949-0.975
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,7,8,9-HxCDD	0.981	0.959-1.021
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDD	1.009	0.977-1.047
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,7,8,9-HxCDD	1.063	1.043-1.085
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,7,8,9-HxCDD	1.110	1.057-1.151

Analyst: J

Date: 5/7/14

Reviewer: ML

Date: 5/8/14

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Ceres Analytical Laboratory Inc. Quantitation Summary

Filename: 050714A1 S: 1 Acquired: 7-MAY-14 09:23:33 Analyte: 1613 ICal: 1613-ms1-5-22-13
 Ceres ID: ST050714A1-1 Client ID: S050913F 1613 CS3WT Total Tox: 105.36 Wt/Vol: 1.000

Con CAL: ST050714A1-1
 End CAL: ST050714A1-2

Name	RT	Resp	RRF	RA	rrt	Conc	Qual	Noise * 2.5	DL
2,3,7,8-TCDD	28:23	4.87e+06	1.03	0.74	y	1.001 0.999-1.002		11.1	0.00
1,2,3,7,8-PeCDD	33:36	1.90e+07	0.99	0.63	y	1.001 0.999-1.002		51.7	0.00
1,2,3,4,7,8-HxCDD	37:39	1.75e+07	0.99	1.24	y	1.000 0.999-1.001		52.0	0.00
1,2,3,6,7,8-HxCDD	37:46	1.88e+07	0.93	1.28	y	1.000 0.998-1.004		52.3	0.00
1,2,3,7,8,9-HxCDD	38:13	1.79e+07	0.95	1.27	y	1.012 1.000-1.019		52.3	0.00
1,2,3,4,6,7,8-HpCDD	41:51	1.62e+07	1.01	1.04	y	1.000 0.999-1.001		51.8	0.00
OCDD	45:58	2.62e+07	1.00	0.92	y	1.000 0.999-1.001		105	0.00
2,3,7,8-TCDF	27:25	6.81e+06	0.96	0.75	y	1.001 0.999-1.003		9.83	0.00
1,2,3,7,8-PeCDF	32:22	3.15e+07	1.01	1.54	y	1.001 0.999-1.002		52.0	0.00
2,3,4,7,8-PeCDF	33:12	3.20e+07	1.02	1.53	y	1.000 0.999-1.002		54.2	0.00
1,2,3,4,7,8-HxCDF	36:38	3.09e+07	1.26	1.30	y	1.000 0.999-1.001		51.3	0.00
1,2,3,6,7,8-HxCDF	36:47	3.31e+07	1.25	1.31	y	1.000 0.997-1.005		51.4	0.00
2,3,4,6,7,8-HxCDF	37:29	3.16e+07	1.36	1.32	y	1.001 0.999-1.001		50.4	0.00
1,2,3,7,8,9-HxCDF	38:34	2.73e+07	1.20	1.26	y	1.001 0.999-1.001		50.3	0.00
1,2,3,4,6,7,8-HpCDF	40:38	3.21e+07	1.53	1.07	y	1.001 0.999-1.001		50.9	0.00
1,2,3,4,7,8,9-HpCDF	42:23	2.56e+07	1.55	1.05	y	1.000 0.999-1.001		49.9	0.00
OCDF	46:10	3.56e+07	1.37	0.95	y	1.005 0.999-1.008		105	0.00
							Rec	Qual	
13C-2,3,7,8-TCDD	28:22	4.26e+07	1.00	0.80	y	1.009 0.976-1.043		103	103
13C-1,2,3,7,8-PeCDD	33:35	3.73e+07	0.99	0.64	y	1.194 1.000-1.567		91.8	91.8
13C-1,2,3,4,7,8-HxCDD	37:38	3.39e+07	0.98	1.24	y	0.985 0.977-1.000		100	100
13C-1,2,3,6,7,8-HxCDD	37:46	3.85e+07	1.08	1.26	y	0.989 0.981-1.003		104	104
13C-1,2,3,4,6,7,8-HpCDD	41:50	3.09e+07	0.85	1.08	y	1.095 1.086-1.110		106	106
13C-OCDD	45:57	4.96e+07	0.73	0.86	y	1.203 1.032-1.311		198	98.9
13C-2,3,7,8-TCDF	27:24	7.21e+07	1.49	0.77	y	0.974 0.923-1.103		117	117
13C-1,2,3,7,8-PeCDF	32:21	5.98e+07	1.51	1.53	y	1.150 1.000-1.425		95.9	95.9
13C-2,3,4,7,8-PeCDF	33:11	5.81e+07	1.55	1.54	y	1.180 1.011-1.526		91.0	91.0
13C-1,2,3,4,7,8-HxCDF	36:37	4.78e+07	1.39	0.52	y	0.959 0.944-0.970		99.8	99.8
13C-1,2,3,6,7,8-HxCDF	36:46	5.16e+07	1.49	0.53	y	0.962 0.949-0.975		101	101
13C-2,3,4,6,7,8-HxCDF	37:28	4.62e+07	1.27	0.51	y	0.981 0.959-1.021		106	106
13C-1,2,3,7,8,9-HxCDF	38:33	4.50e+07	1.21	0.52	y	1.009 0.977-1.047		108	108
13C-1,2,3,4,6,7,8-HpCDF	40:36	4.14e+07	1.07	0.45	y	1.063 1.043-1.085		112	112
13C-1,2,3,4,7,8,9-HpCDF	42:23	3.30e+07	0.82	0.44	y	1.110 1.057-1.151		117	117
37Cl-2,3,7,8-TCDD	28:23	4.91e+06	1.14			1.009 0.989-1.052		10.5	105
13C-1,2,3,4-TCDD	28:08	4.12e+07	1.00	0.77	y			100	
13C-1,2,3,7,8,9-HxCDD	38:12	3.44e+07	1.00	1.25	y			100	
		Conc	EMPC		DL	Qual			
Total Tetra-Dioxins		58.6	58.9	0.00	0.00				
Total Penta-Dioxins		180	182	0.00	0.00				
Total Hexa-Dioxins		227	229	0.00	0.00				
Total Hepta-Dioxins		110	111	0.00	0.00				
Total Tetra-Furans		29.5	29.8	0.00	0.00				
1st Fnc Penta-Furans		43.8	43.8	0.00	0.00				
Total Penta-Furans		159	160	0.00	0.00				
Total Hexa-Furans		261	262	0.00	0.00				
Total Hepta-Furans		102	103	0.00	0.00				
						PeCDF Total:	202		
						PeCDF EMPC:	204		

Analyst: *[Signature]*

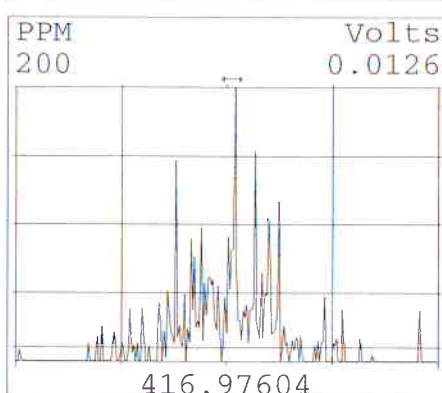
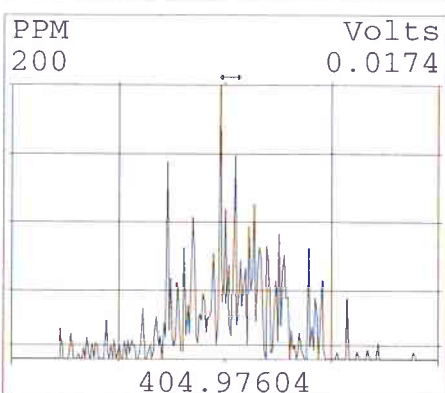
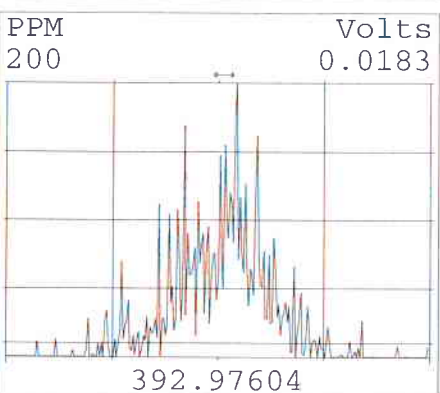
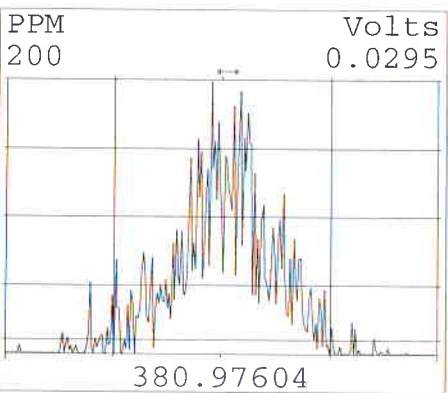
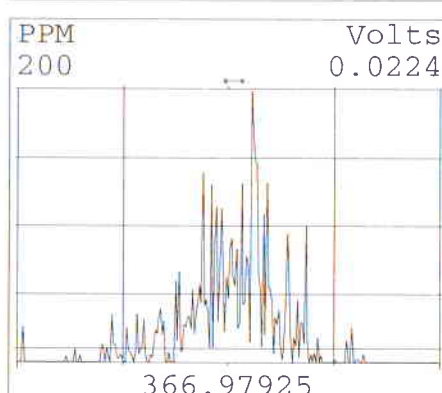
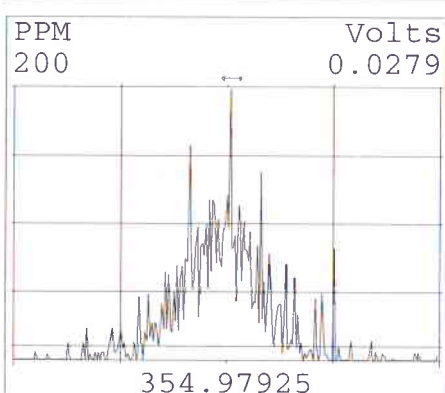
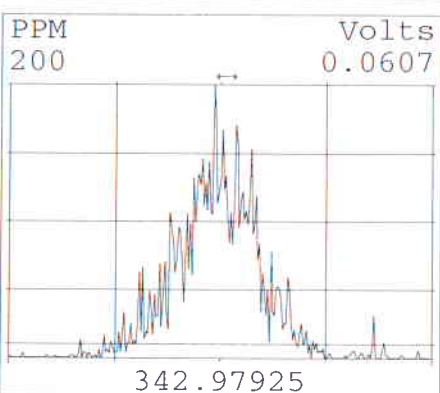
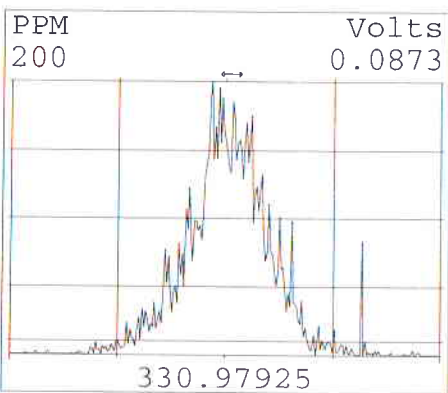
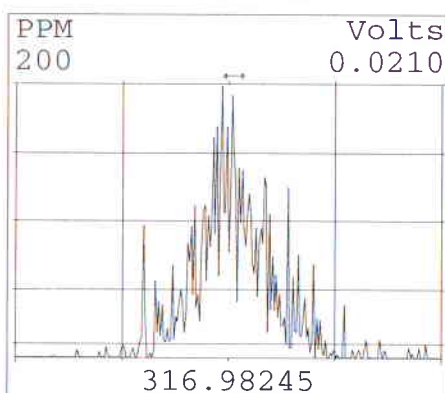
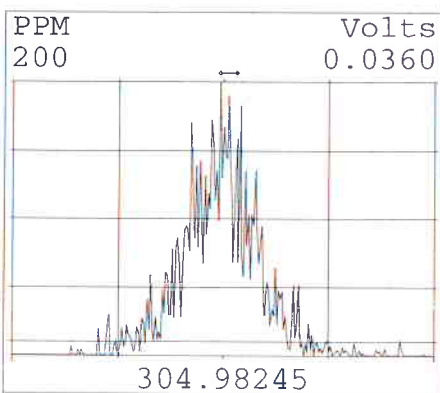
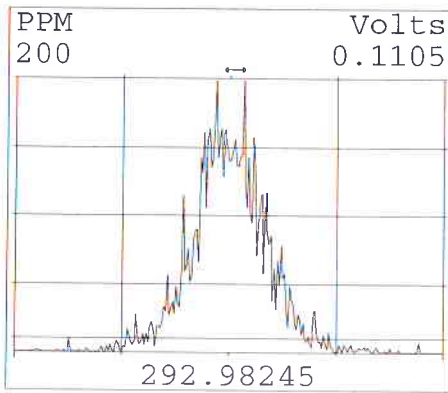
Date: *5/7/14*

Reviewer: *[Signature]*

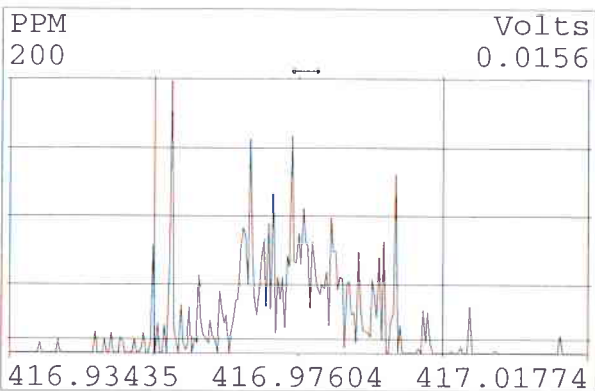
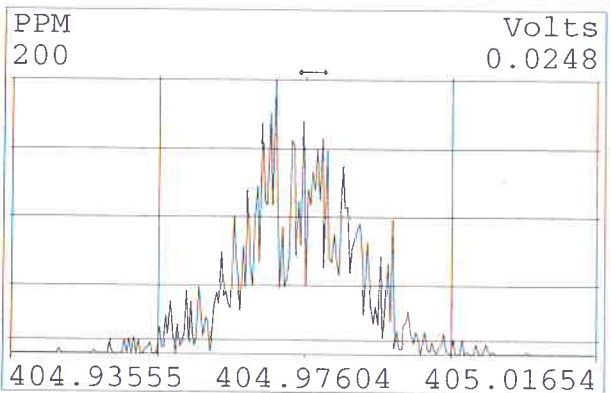
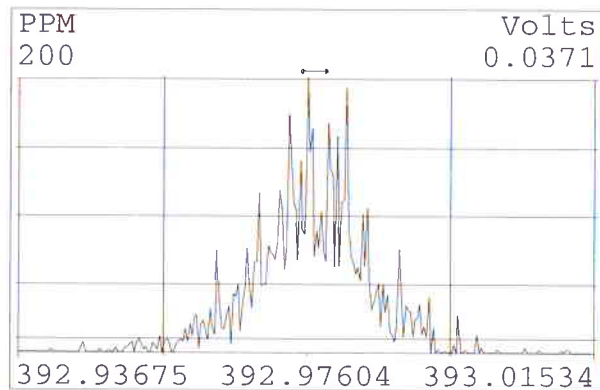
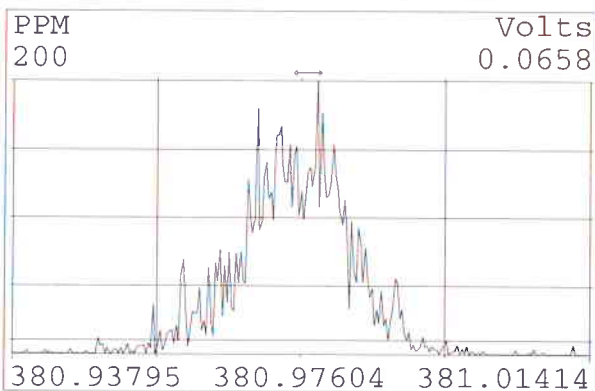
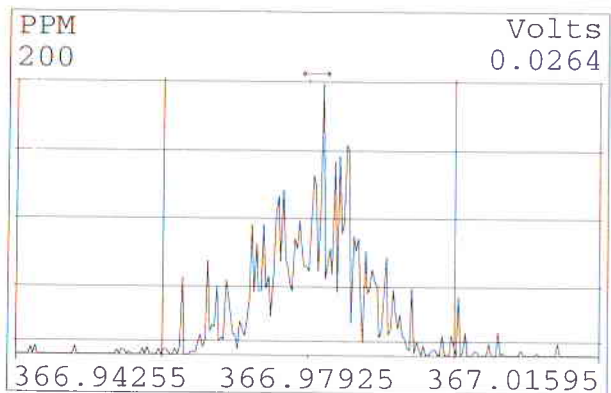
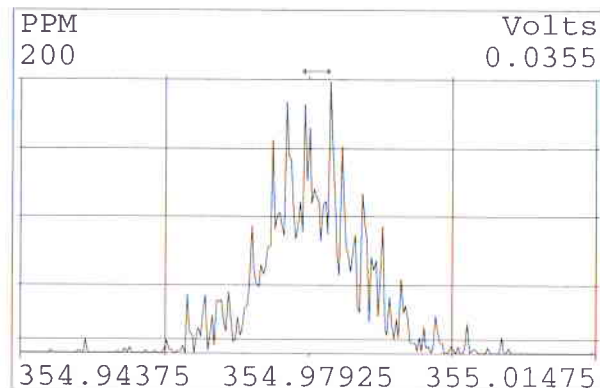
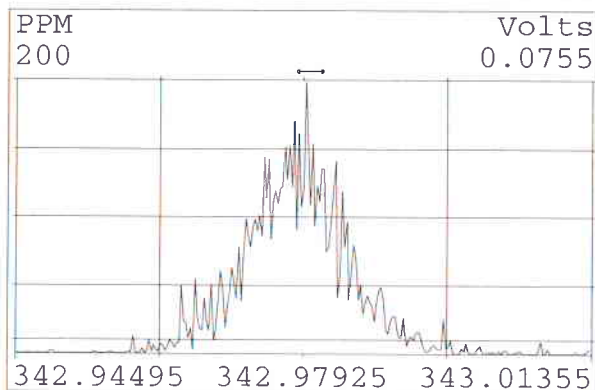
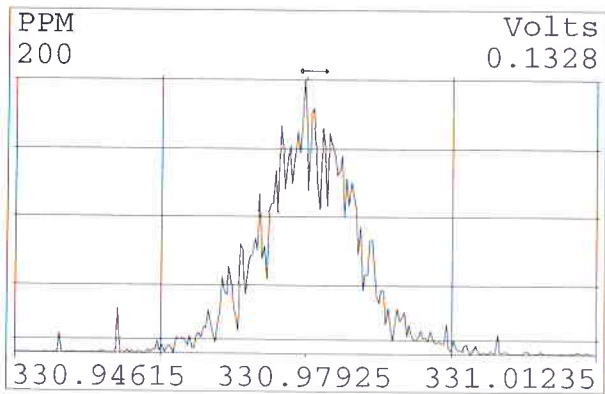
Date: *5/8/14*

	c/q	Data File	S	Ceres ID	Acquired	Time	Con Cal	End Cal
1	q	050714A1	1	ST050714A1-1	7-MAY-14	09:23:33	ST050714A1-1	ST050714A1-2 y
2	q	050714A1	2	solvent blank	7-MAY-14	10:16:57	ST050714A1-1	ST050714A1-2 y
3	q	050714A1	3	10341-1188-001	7-MAY-14	11:10:21	ST050714A1-1	ST050714A1-2 y
4	q	050714A1	4	10339-1188-00»	7-MAY-14	12:03:45	ST050714A1-1	ST050714A1-2 y
5	q	050714A1	5	solvent blank	7-MAY-14	12:57:10	ST050714A1-1	ST050714A1-2 y
6	q	050714A1	6	ST050714A1-2	7-MAY-14	13:50:34	ST050714A1-1	ST050714A1-2 y

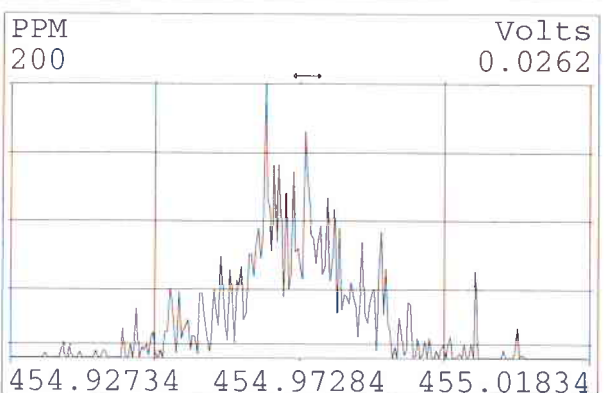
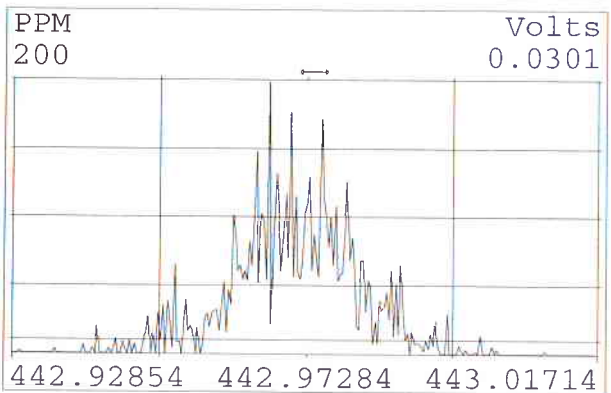
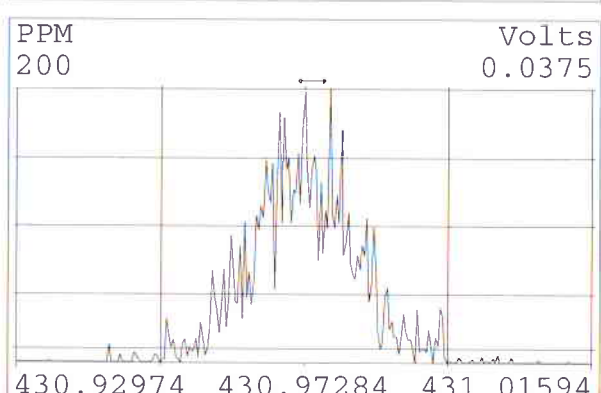
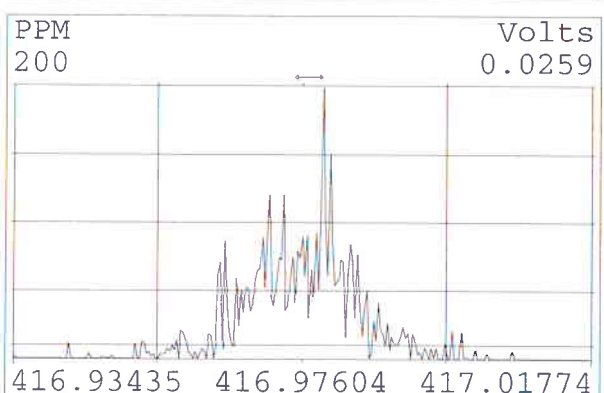
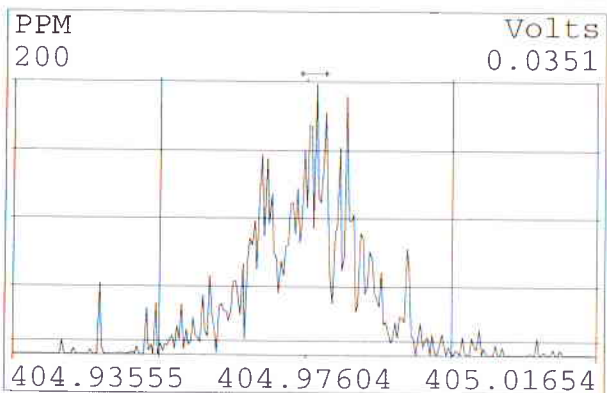
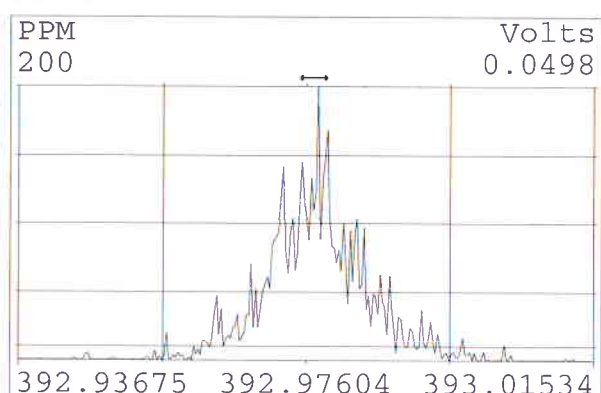
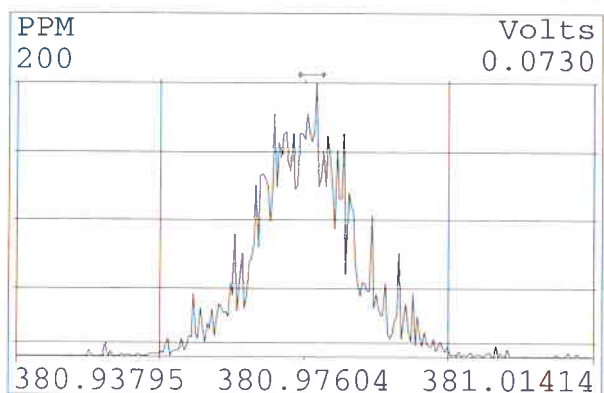
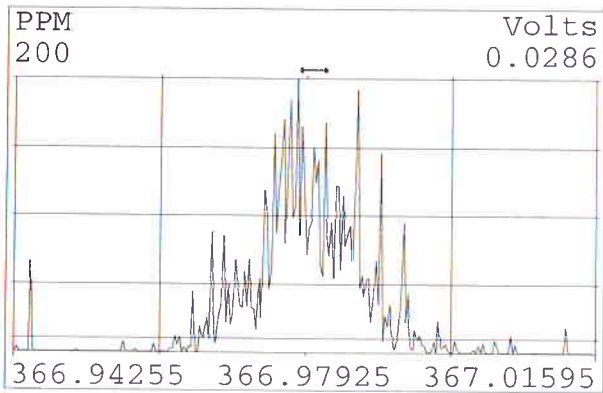
Peak Locate Examination: 7-MAY-2014:08:30 File:050714A1
Experiment:TO-ZB5MS Function:1 Reference:PFK



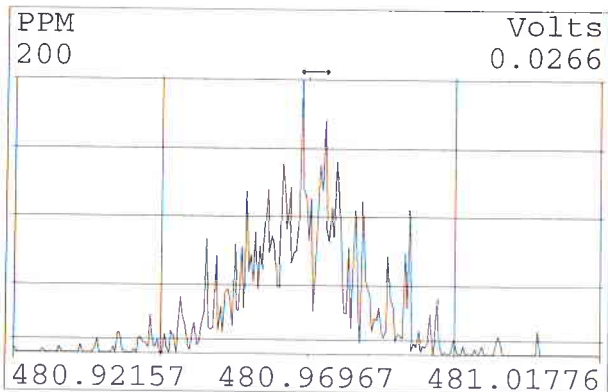
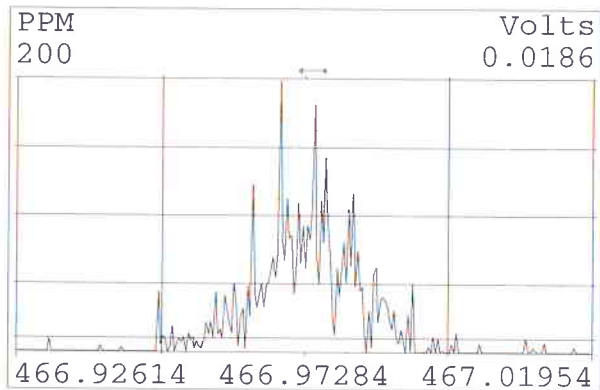
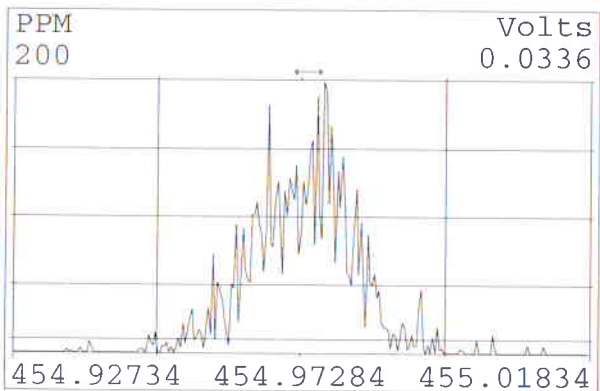
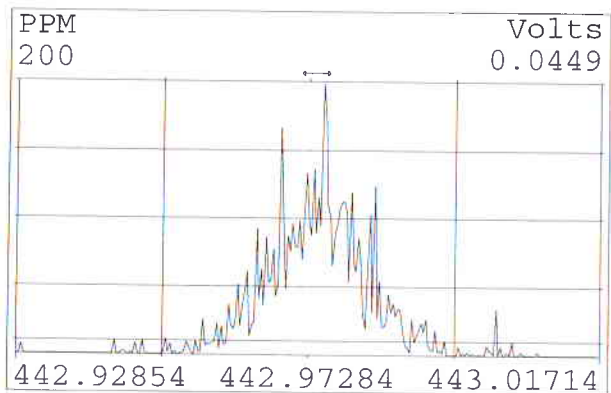
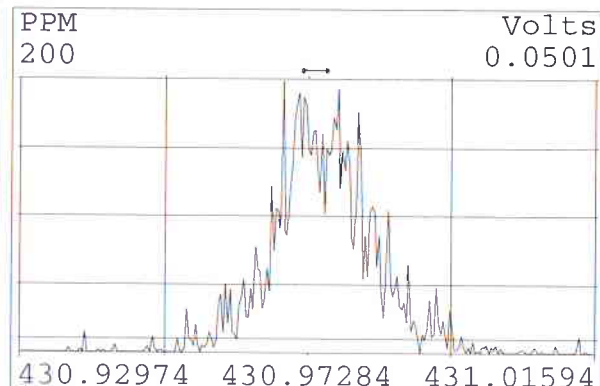
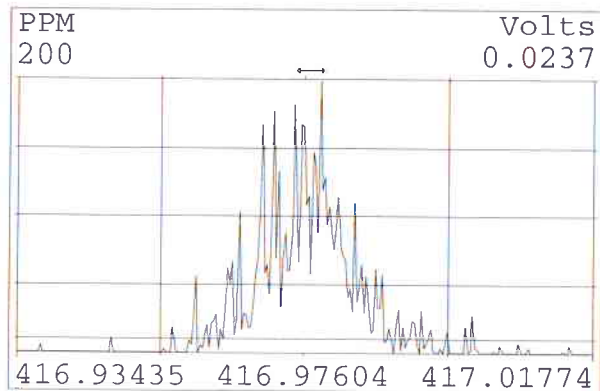
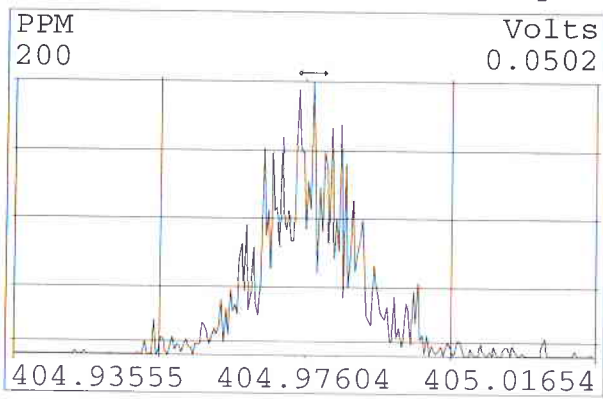
Peak Locate Examination: 7-MAY-2014:08:30 File:050714A1
Experiment:T0-ZB5MS Function:2 Reference:PFK



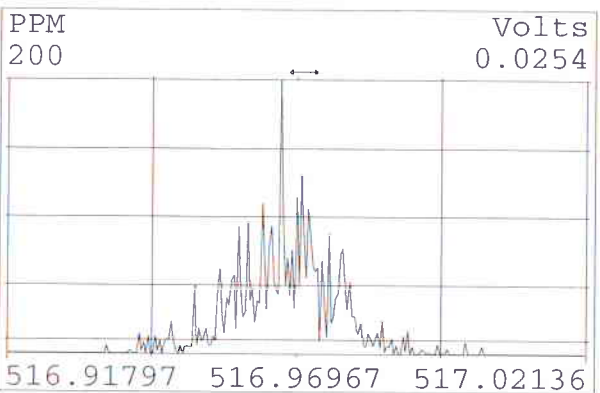
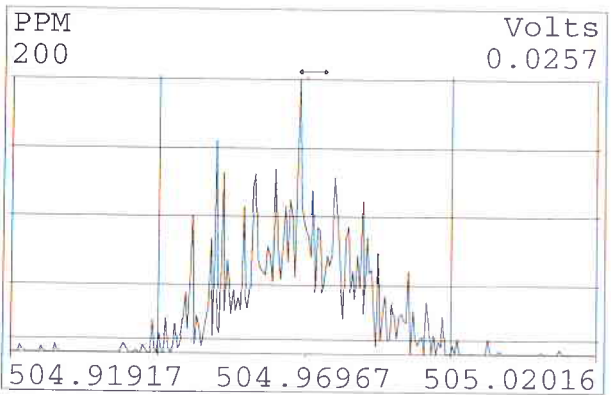
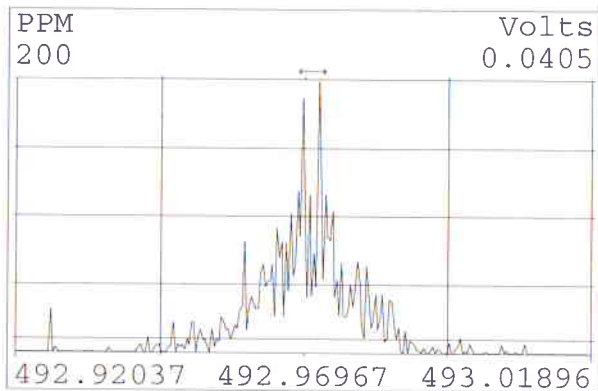
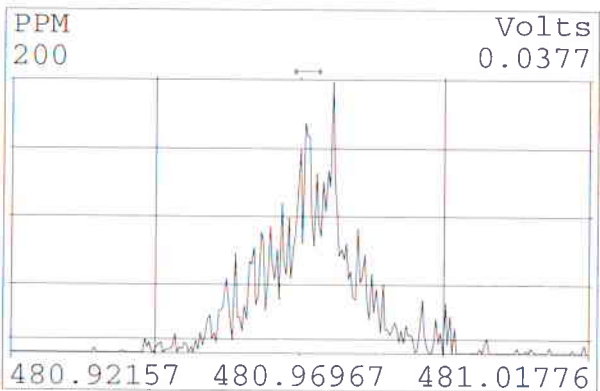
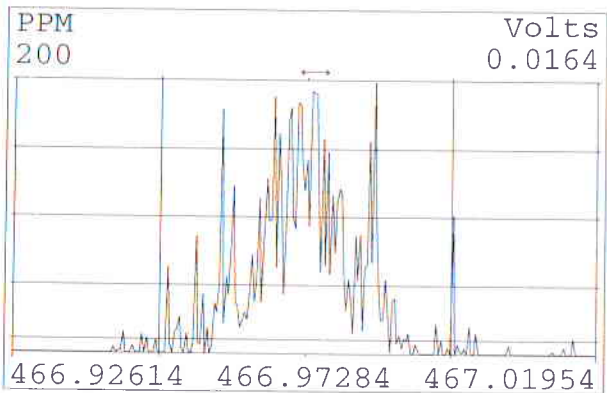
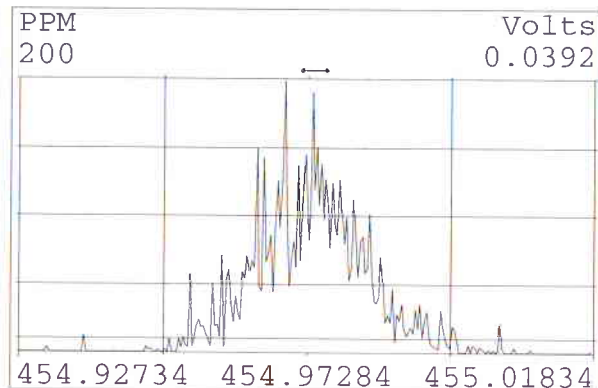
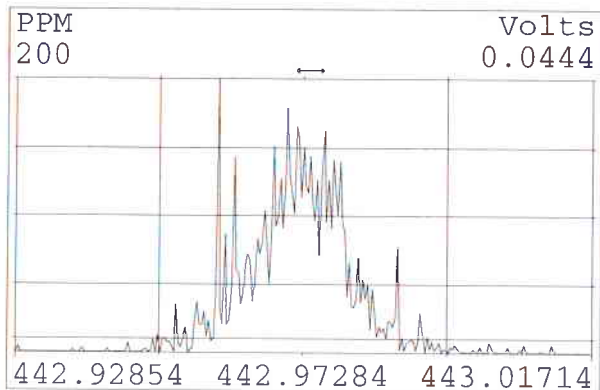
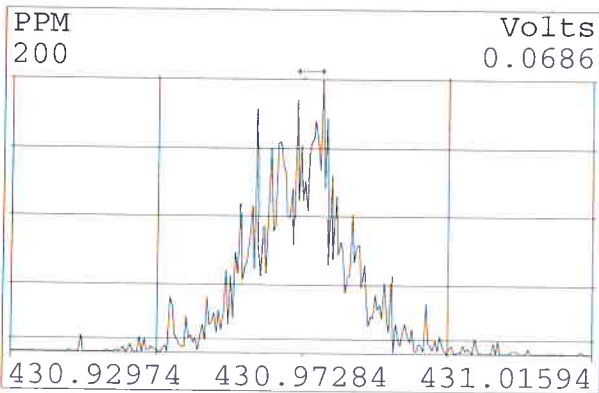
Peak Locate Examination: 7-MAY-2014:08:30 File:050714A1
Experiment:TO-ZB5MS Function:3 Reference:PFK



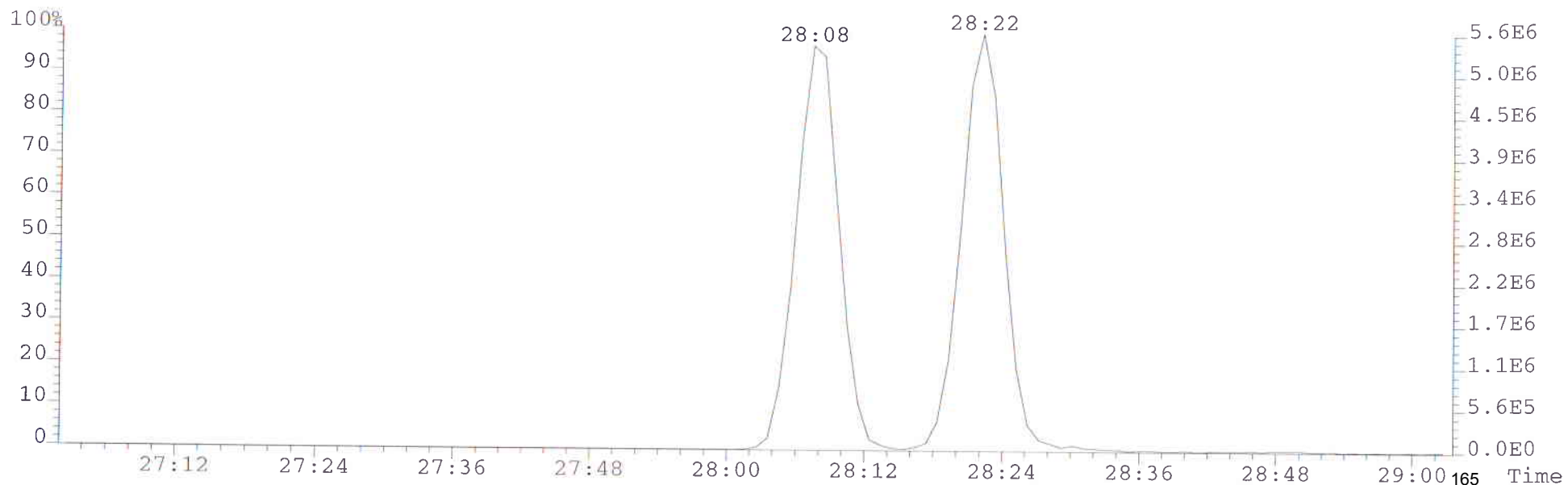
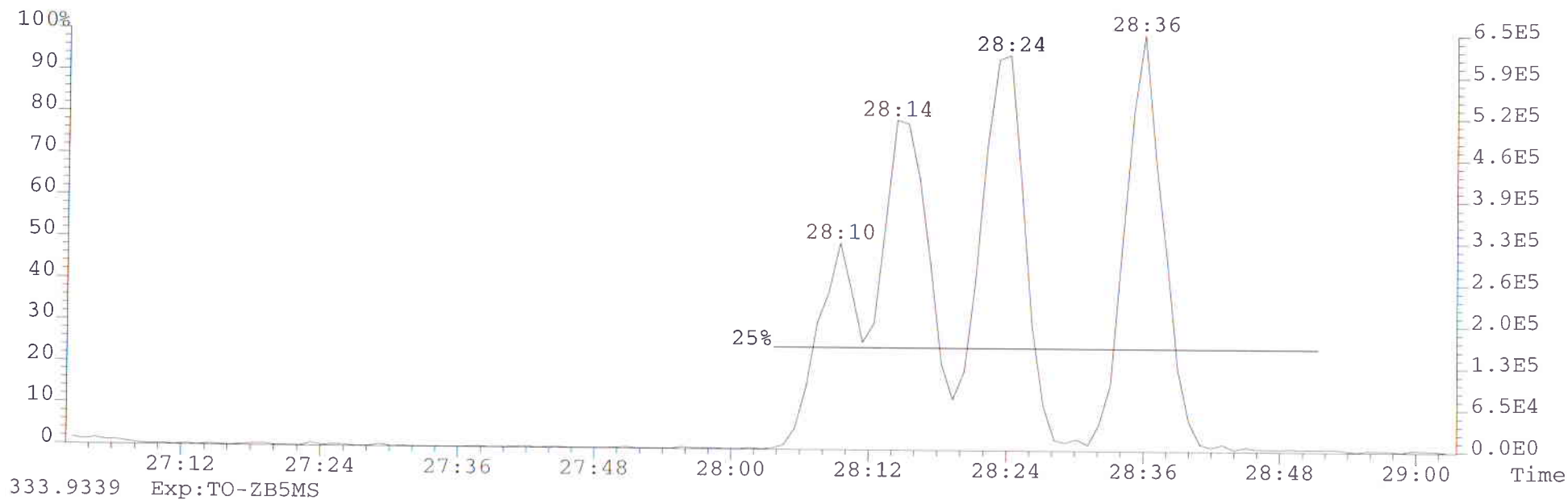
Peak Locate Examination: 7-MAY-2014:08:30 File:050714A1
Experiment:TO-ZB5MS Function:4 Reference:PFK



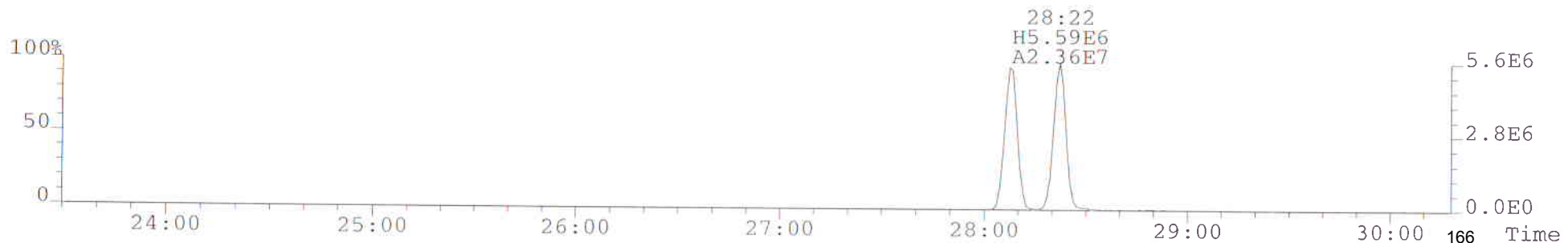
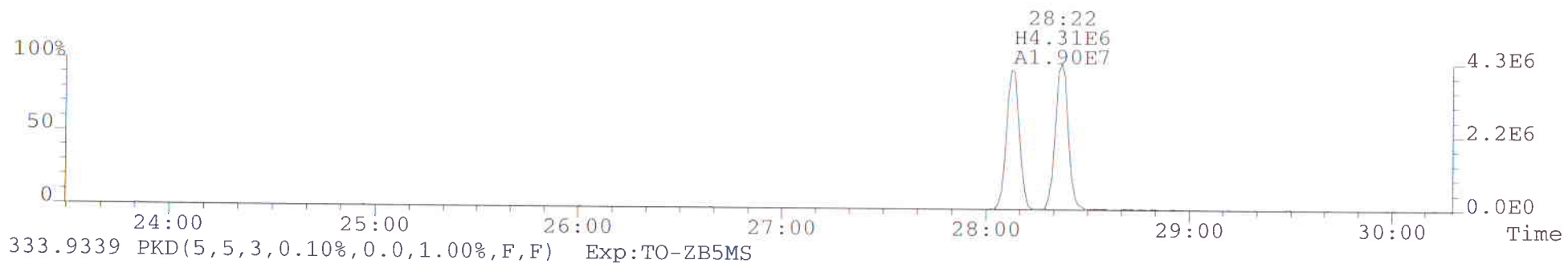
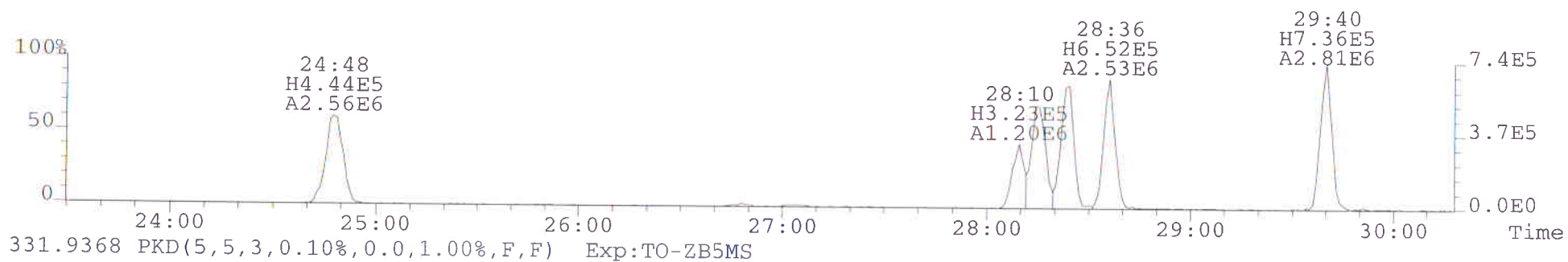
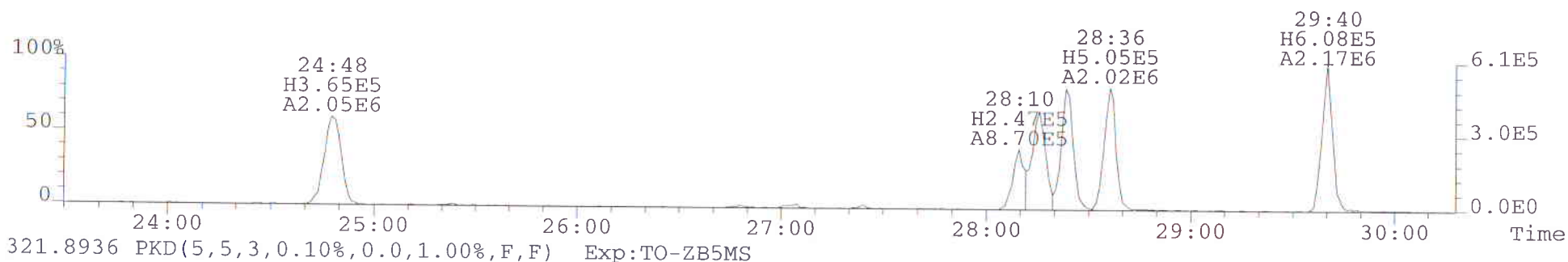
Peak Locate Examination: 7-MAY-2014:08:31 File:050714A1
Experiment:TO-ZB5MS Function:5 Reference:PFK



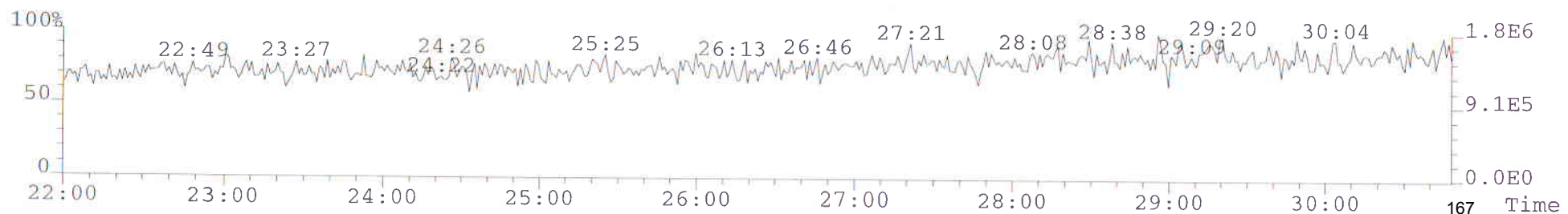
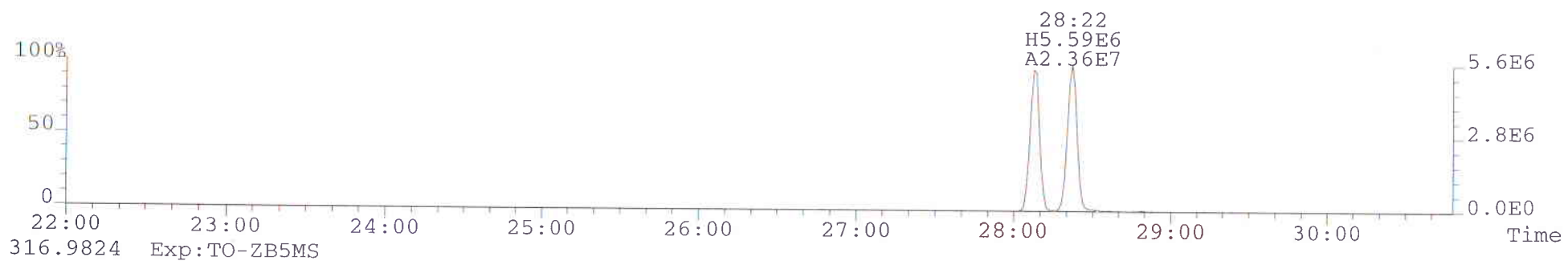
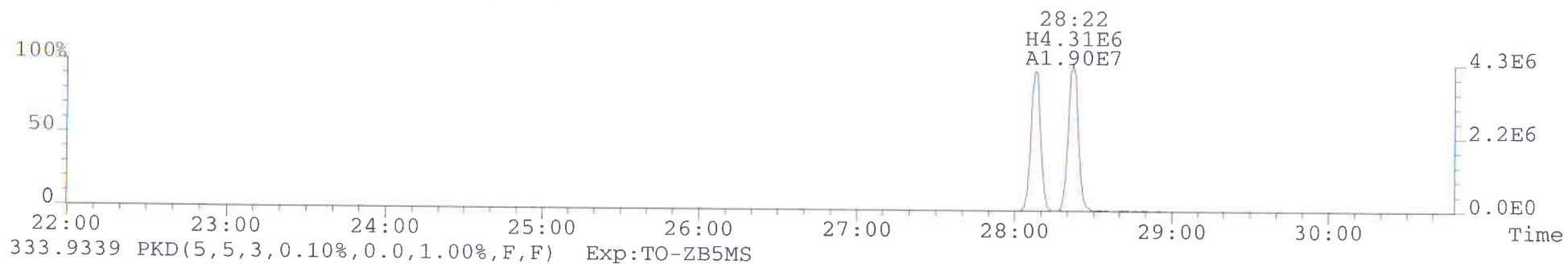
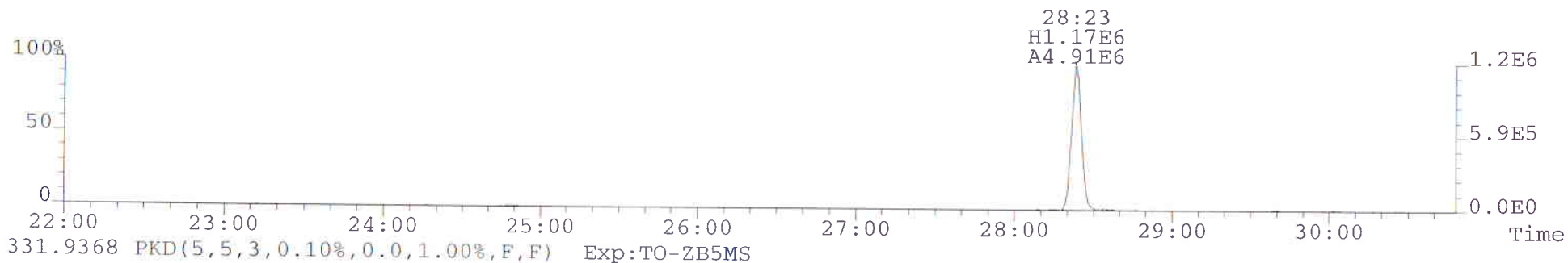
File:050714A1 #1-659 Acq: 7-MAY-2014 09:23:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050714A1-1 S050913F 1613 CS3WT
321.8936 Exp:TO-ZB5MS



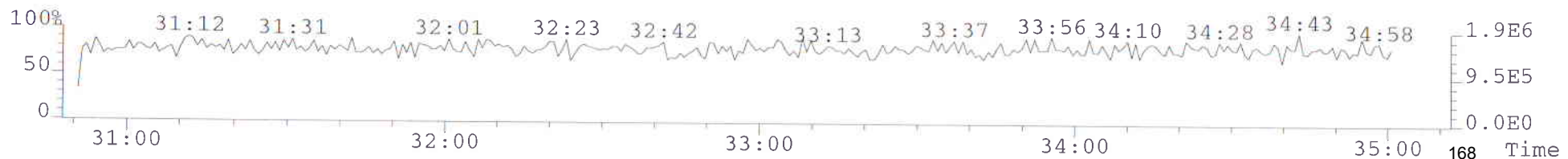
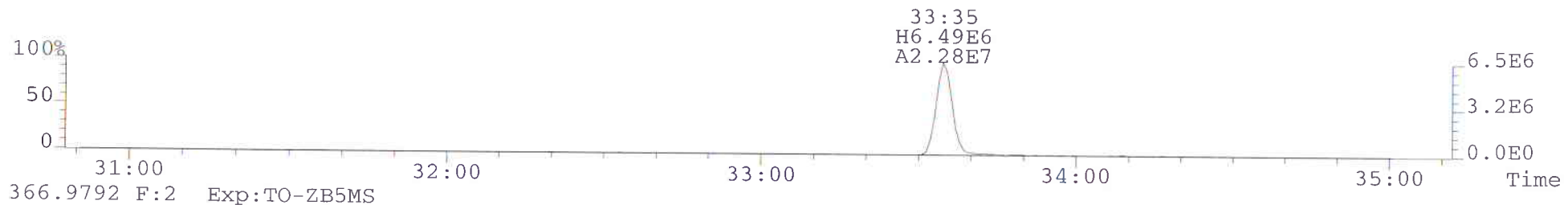
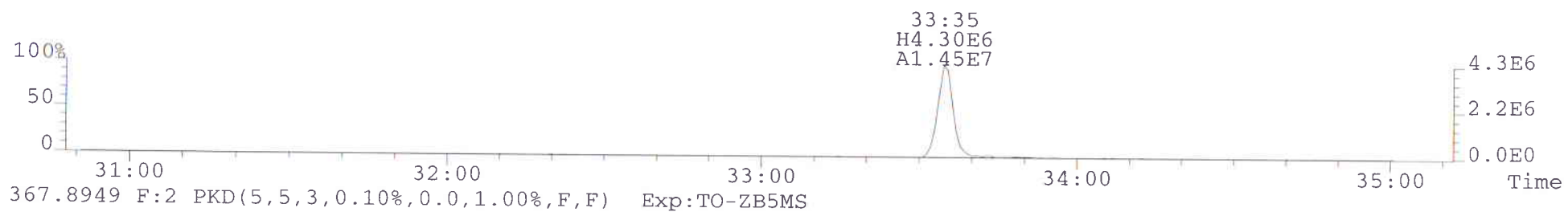
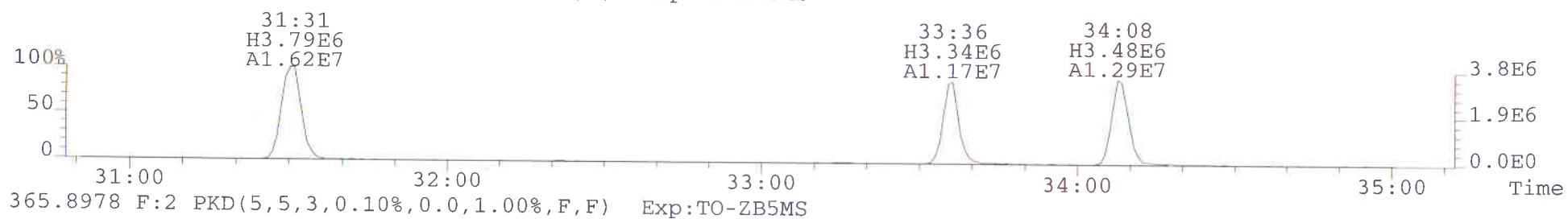
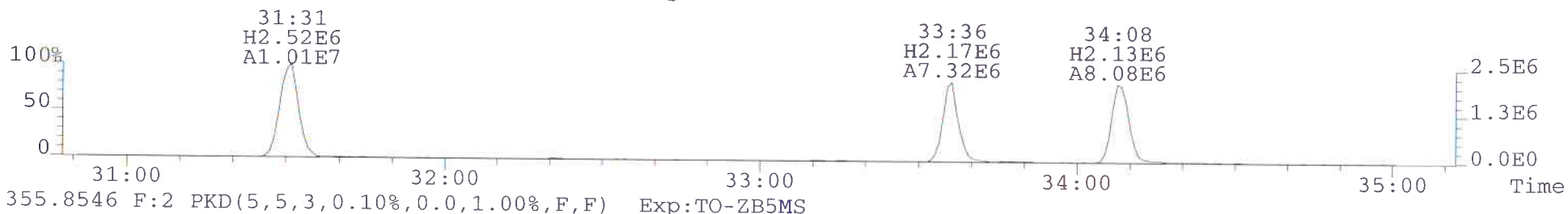
File:050714A1 #1-659 Acq: 7-MAY-2014 09:23:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050714A1-1 S050913F 1613 CS3WT
319.8965 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



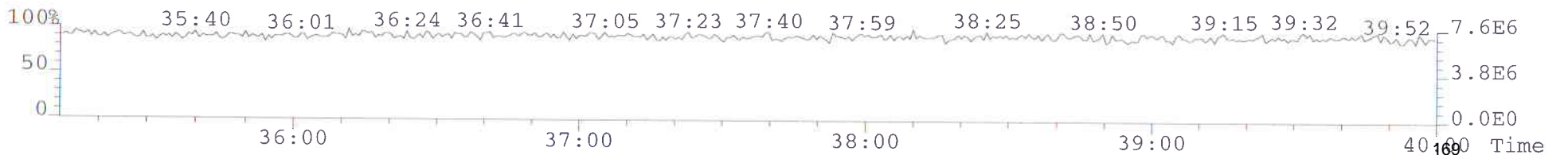
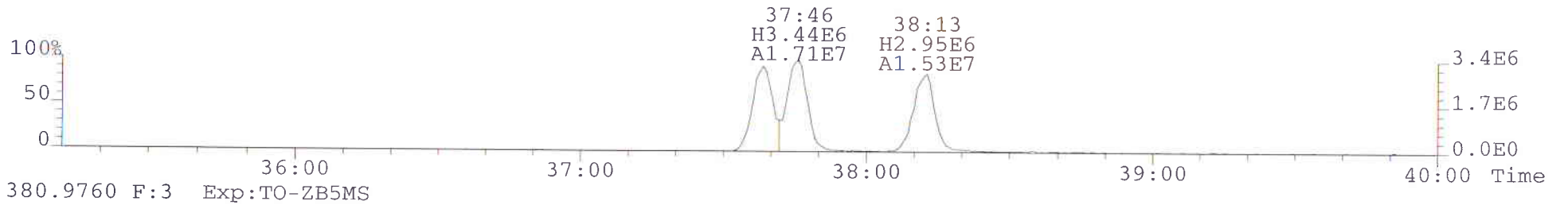
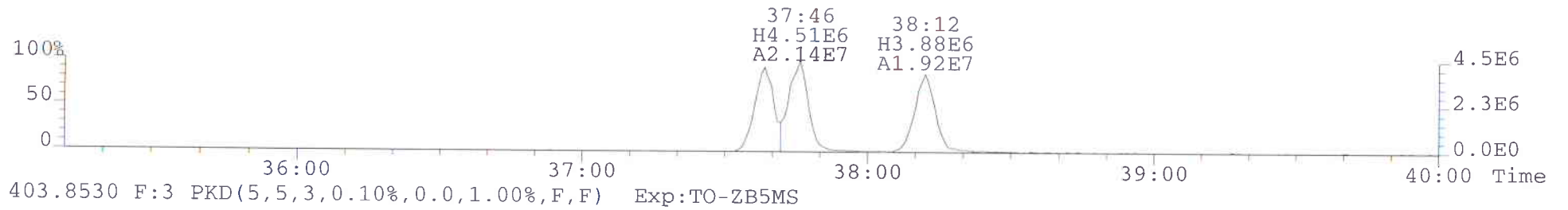
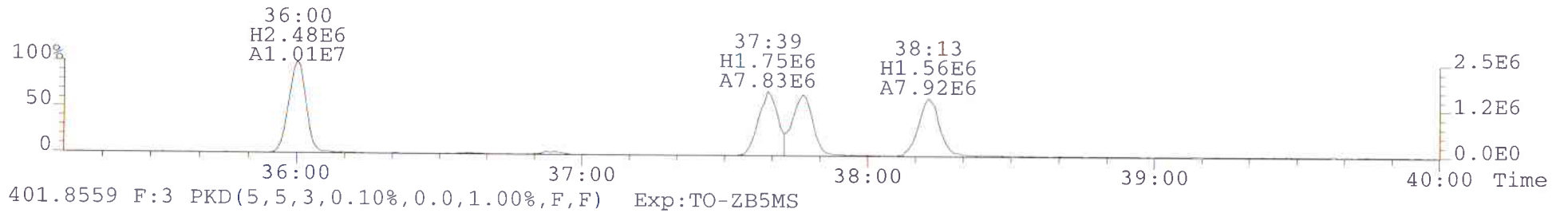
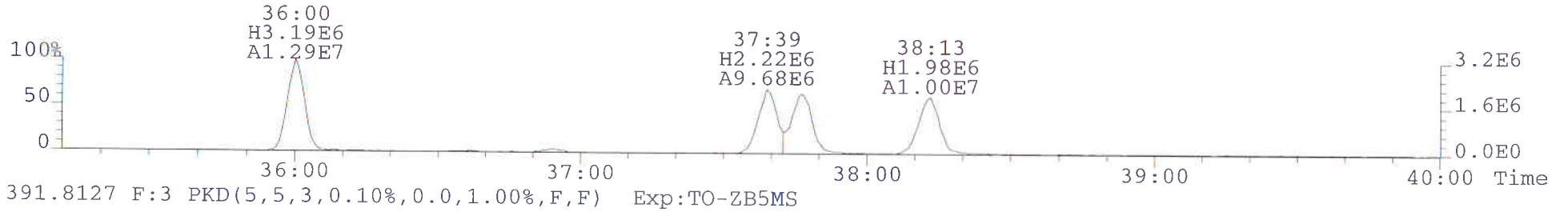
File:050714A1 #1-659 Acq: 7-MAY-2014 09:23:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050714A1-1 S050913F 1613 CS3WT
327.8847 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



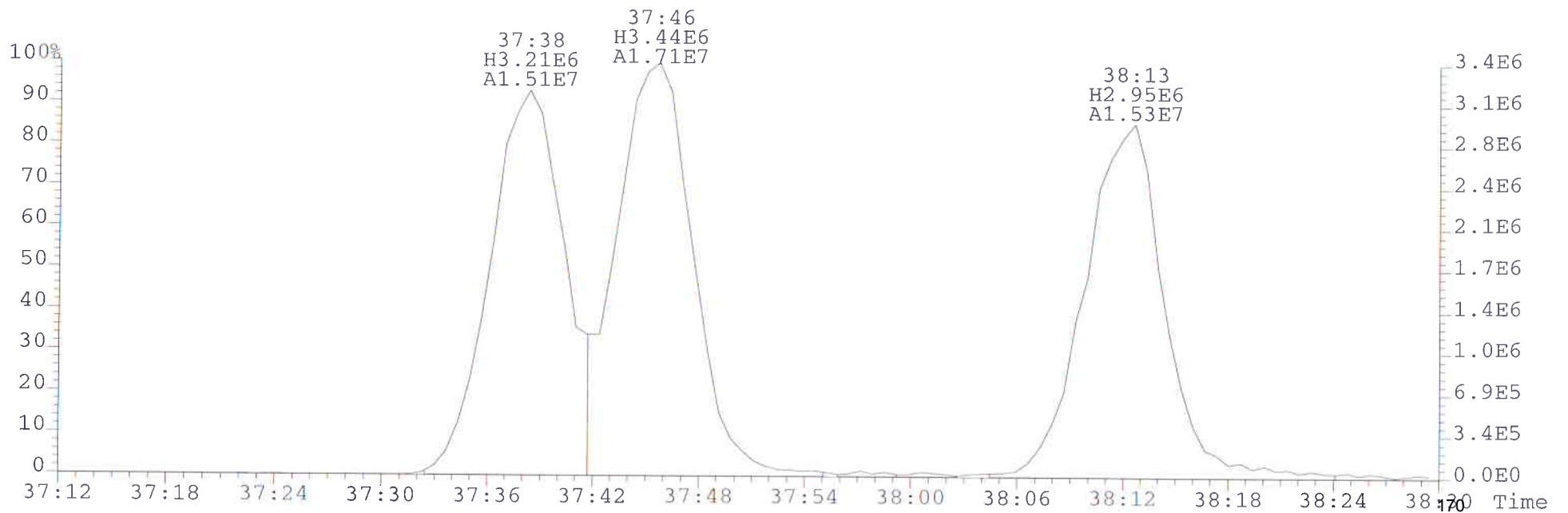
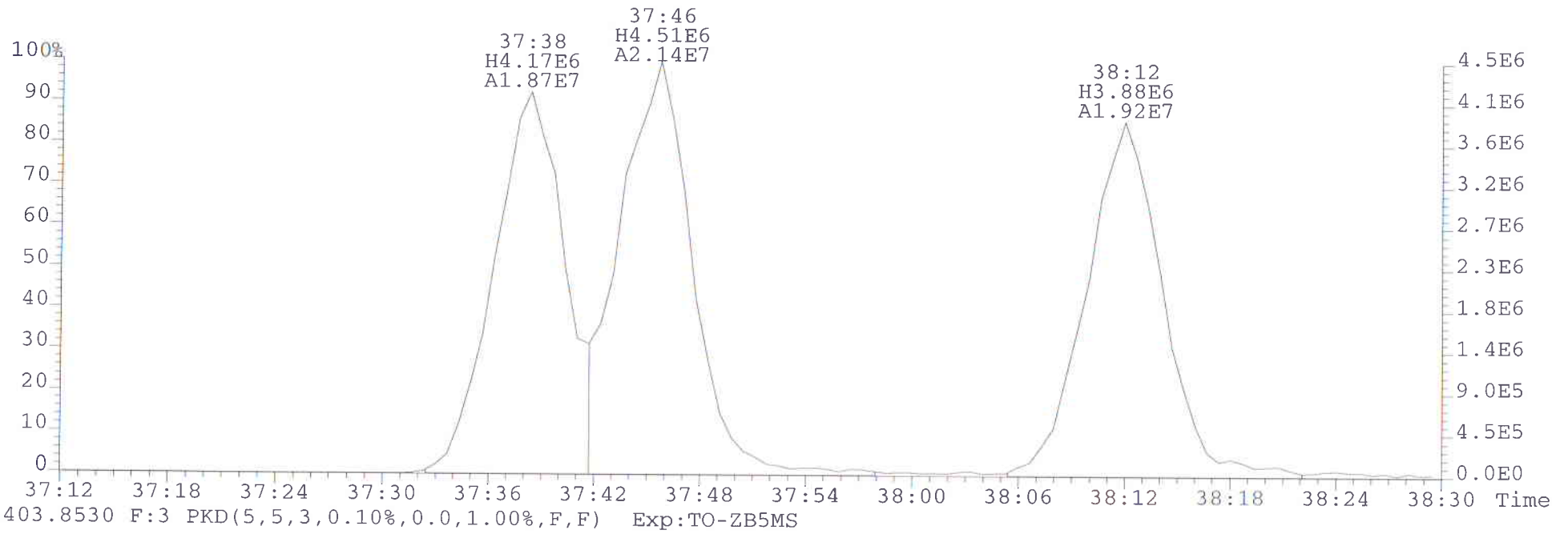
File:050714A1 #1-312 Acq: 7-MAY-2014 09:23:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050714A1-1 S050913F 1613 CS3WT
353.8576 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



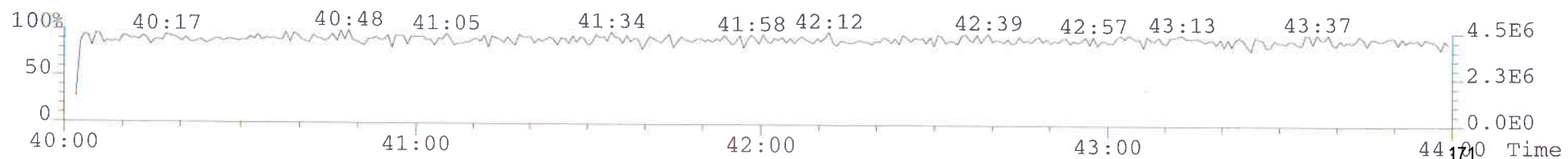
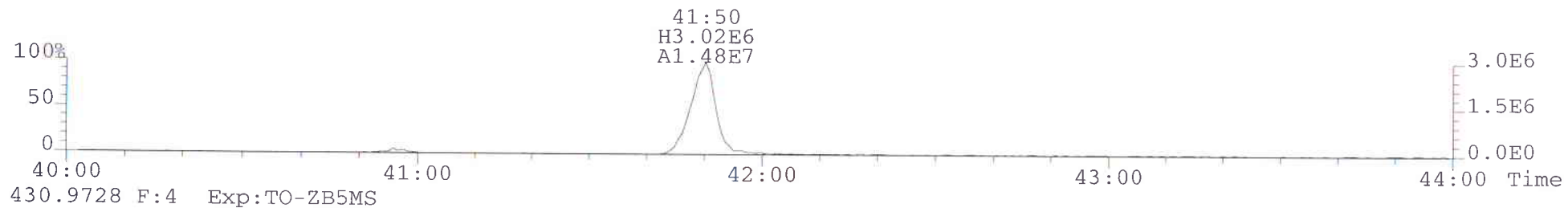
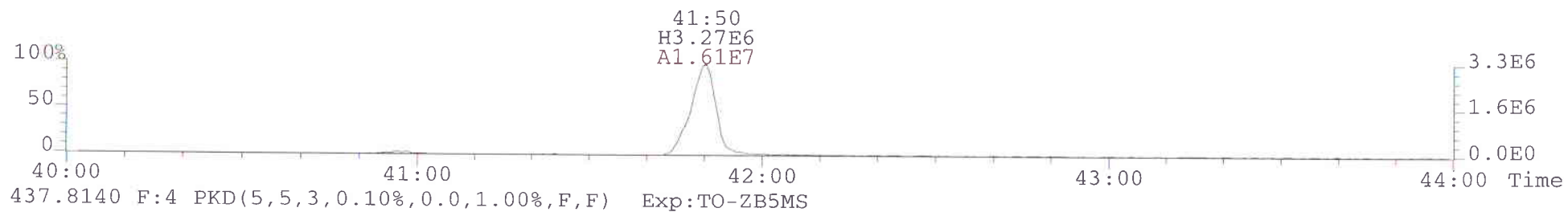
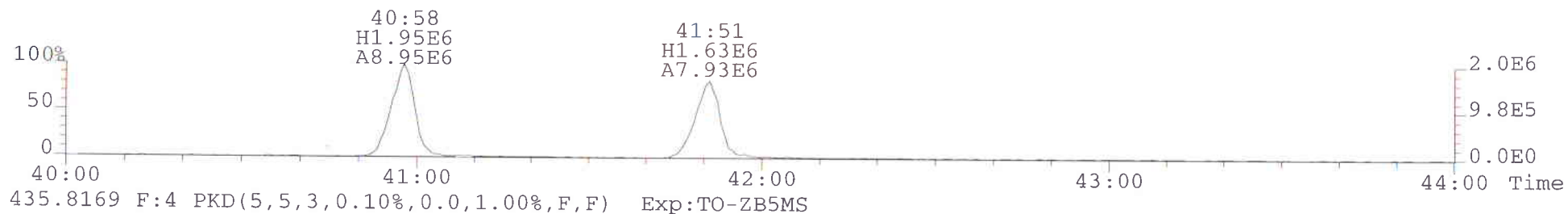
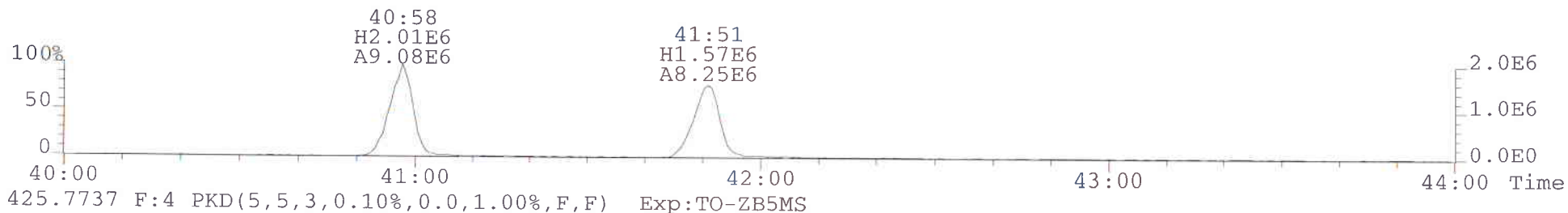
File:050714A1 #1-444 Acq: 7-MAY-2014 09:23:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050714A1-1 S050913F 1613 CS3WT
389.8156 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



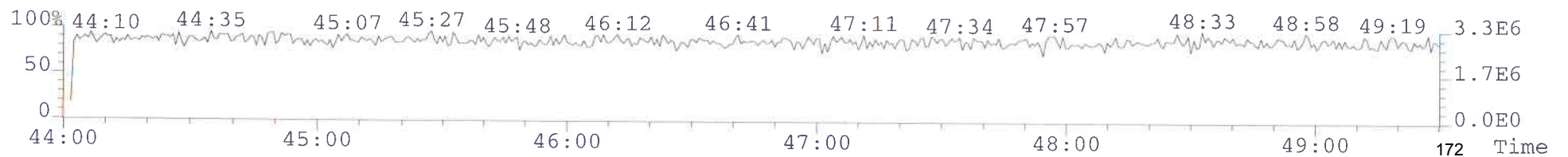
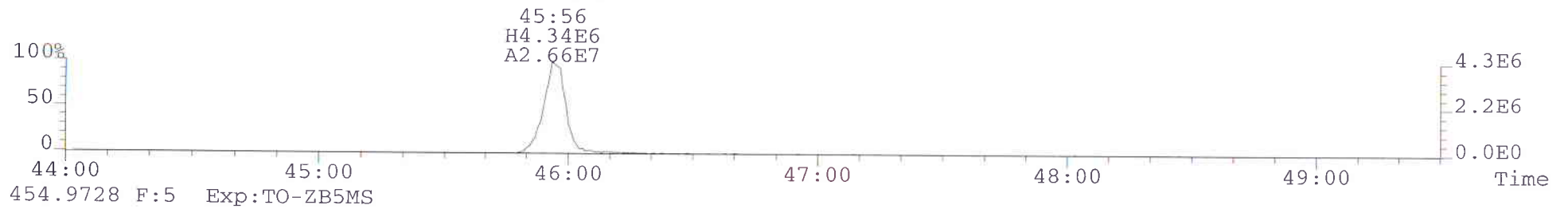
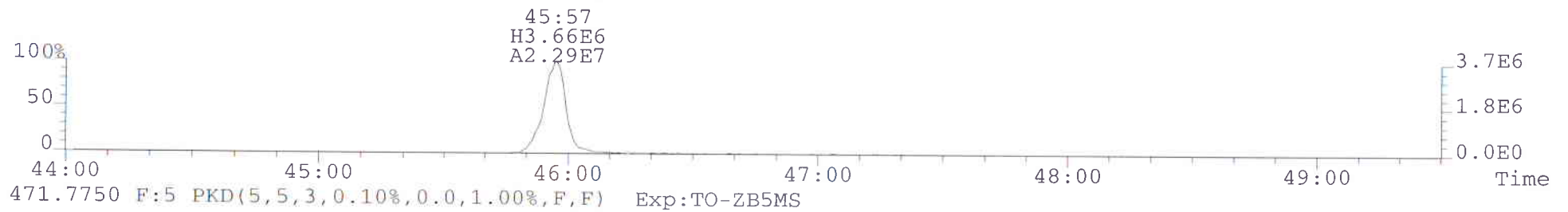
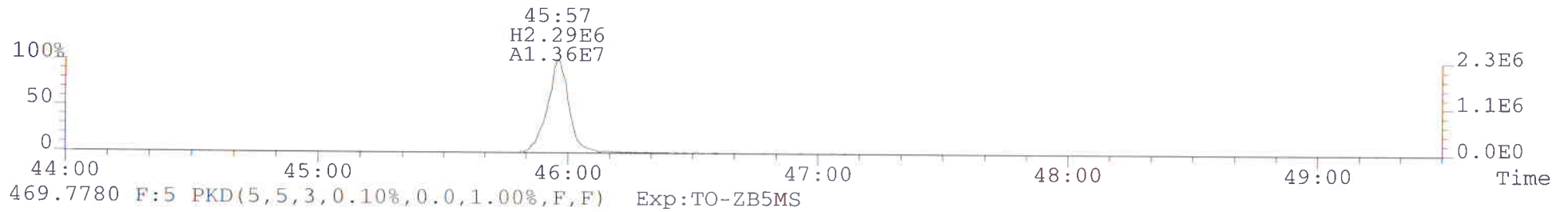
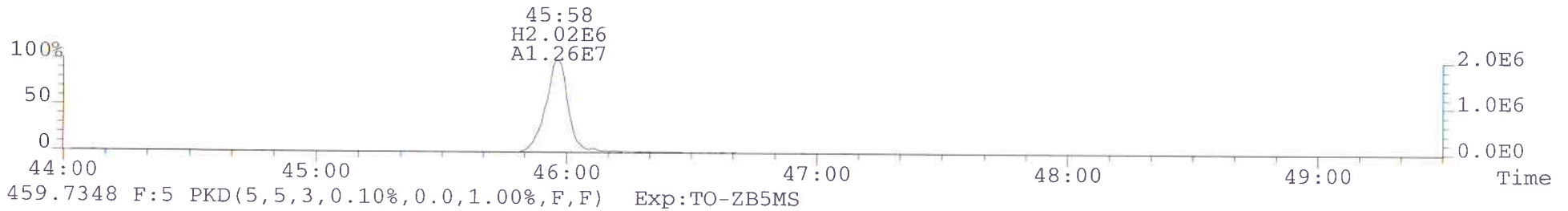
File:050714A1 #1-444 Acq: 7-MAY-2014 09:23:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050714A1-1 S050913F 1613 CS3WT
401.8559 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



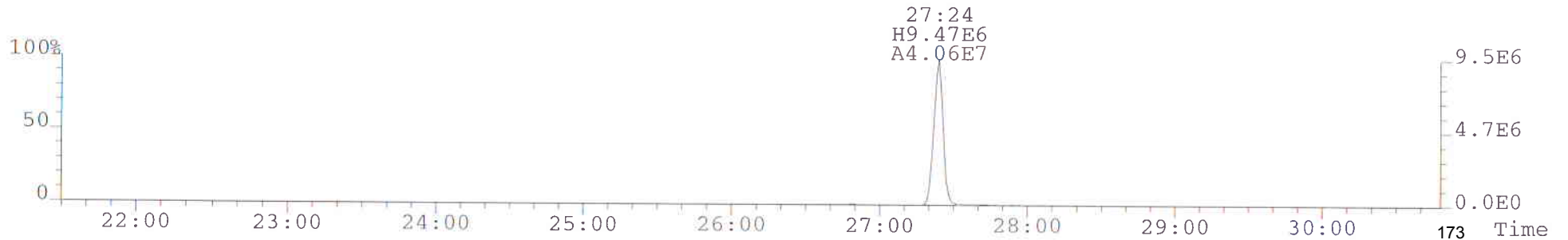
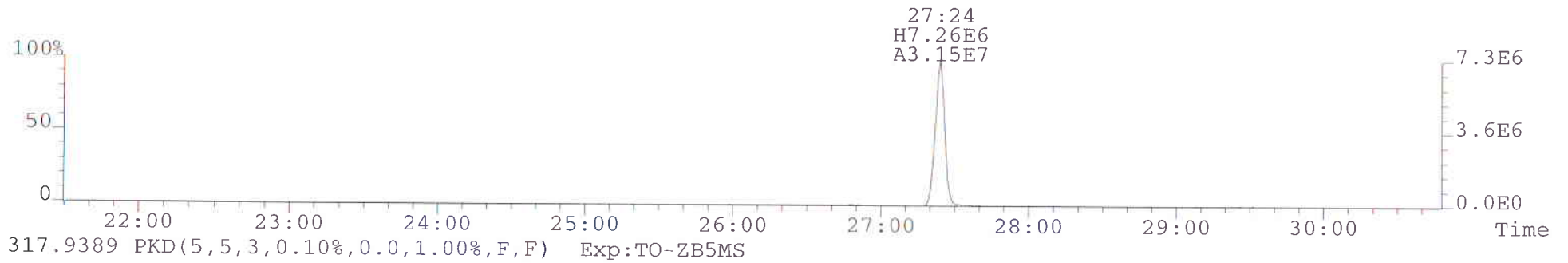
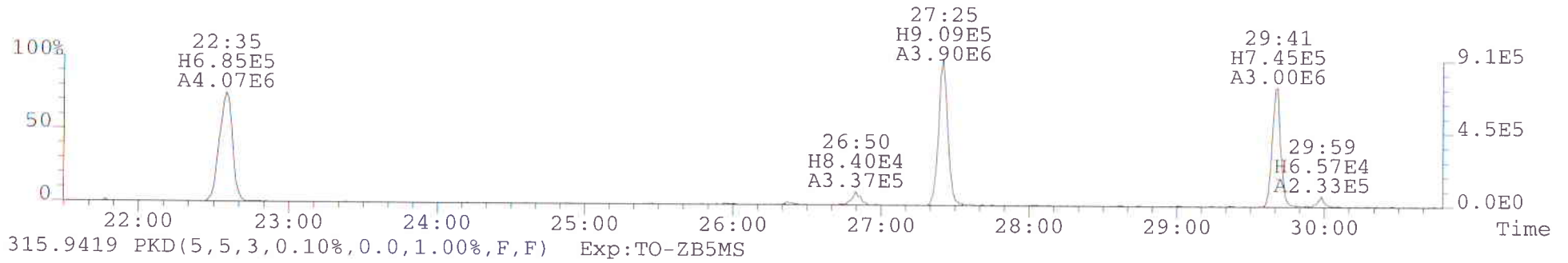
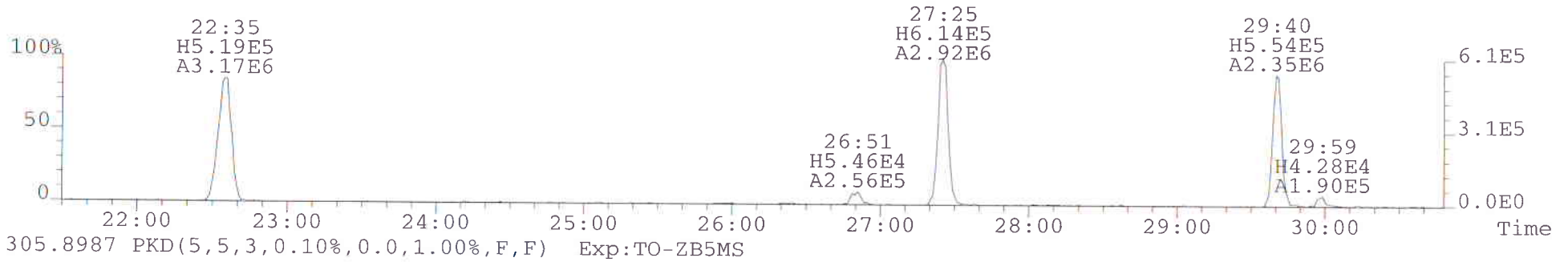
File:050714A1 #1-355 Acq: 7-MAY-2014 09:23:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050714A1-1 S050913F 1613 CS3WT
423.7767 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



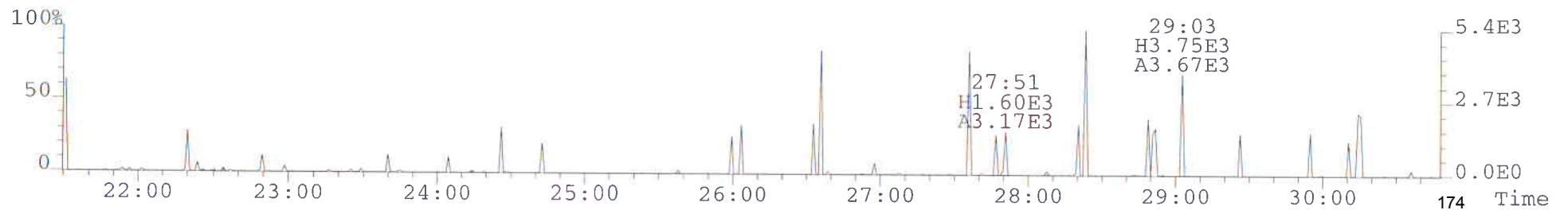
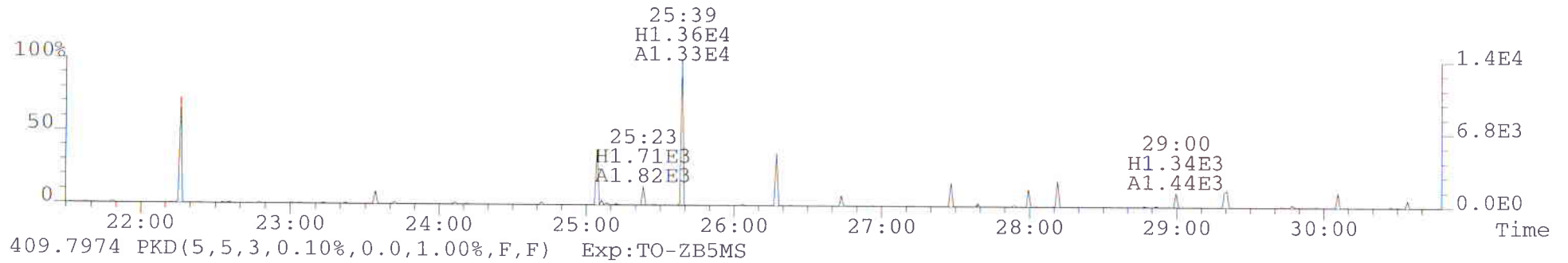
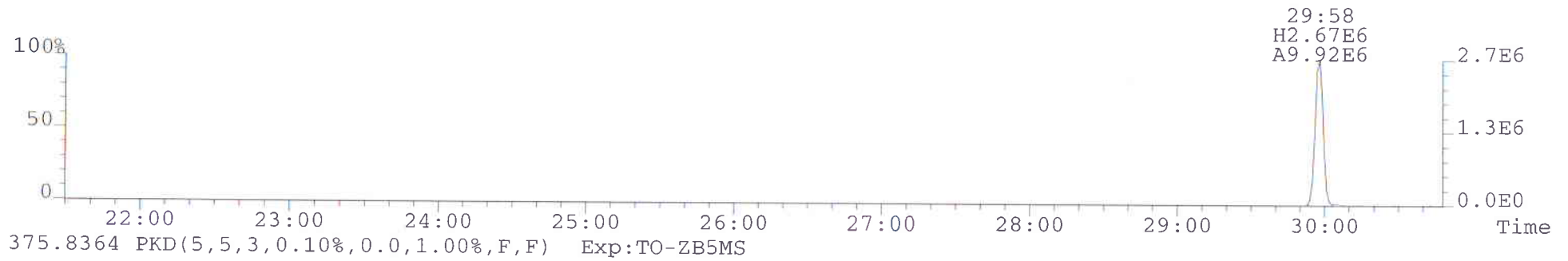
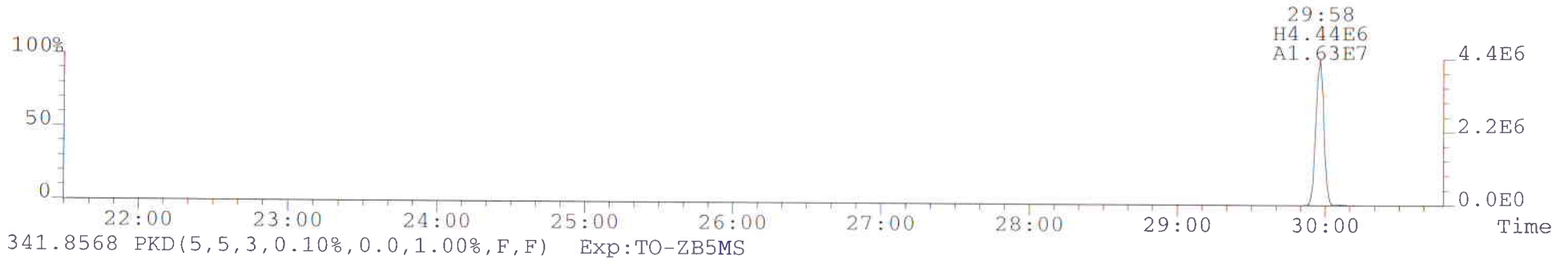
File:050714A1 #1-490 Acq: 7-MAY-2014 09:23:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050714A1-1 S050913F 1613 CS3WT
457.7377 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



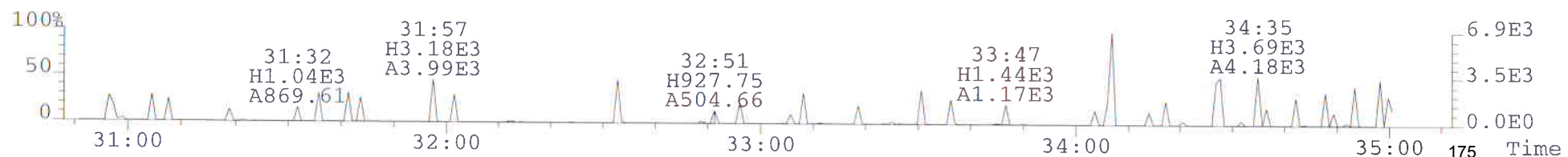
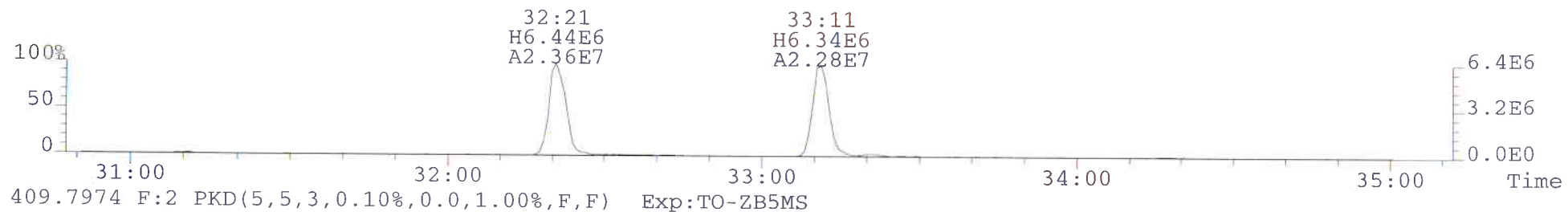
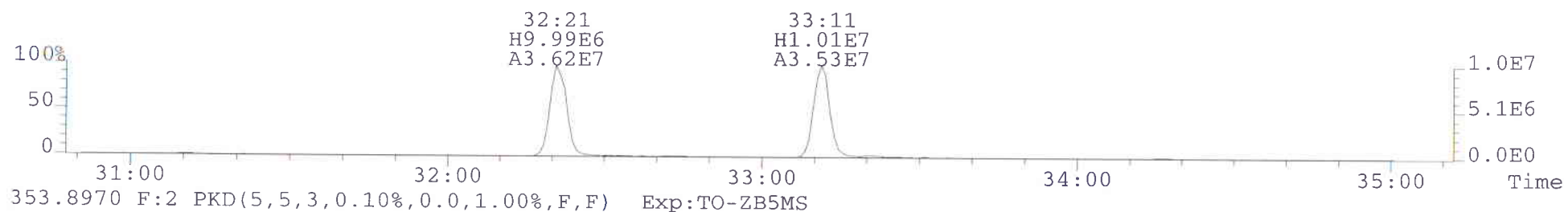
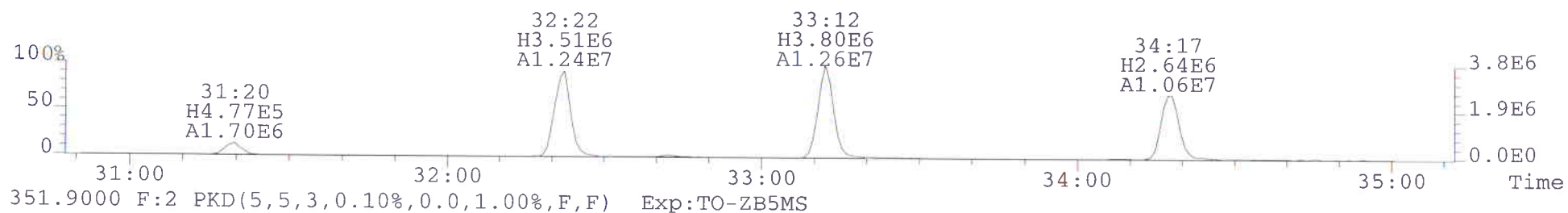
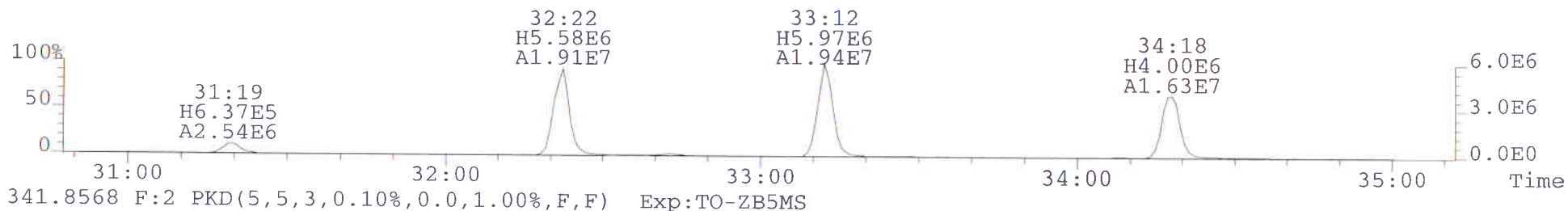
File:050714A1 #1-659 Acq: 7-MAY-2014 09:23:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050714A1-1 S050913F 1613 CS3WT
303.9016 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



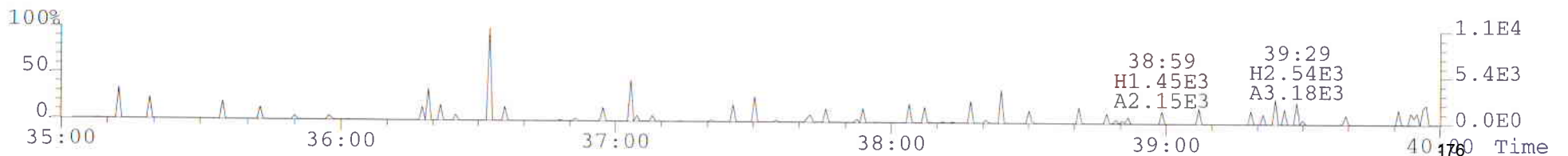
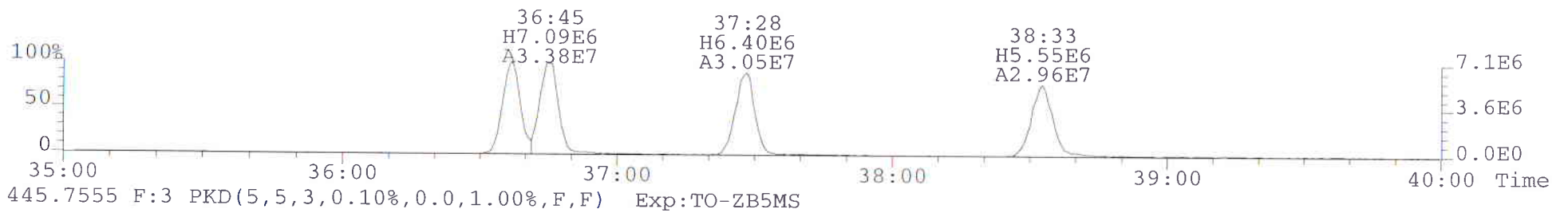
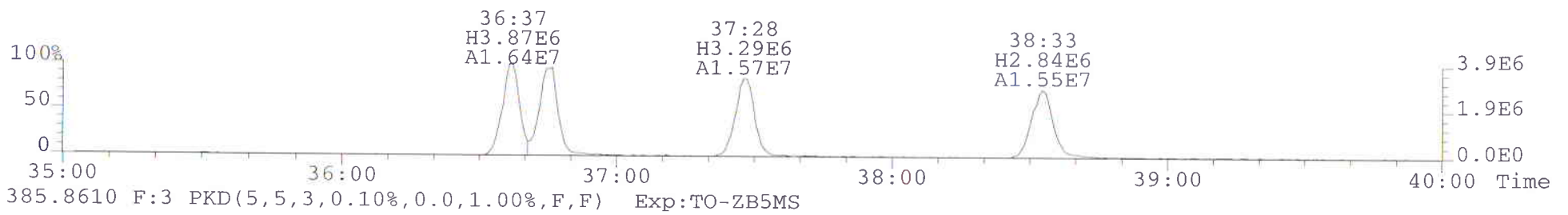
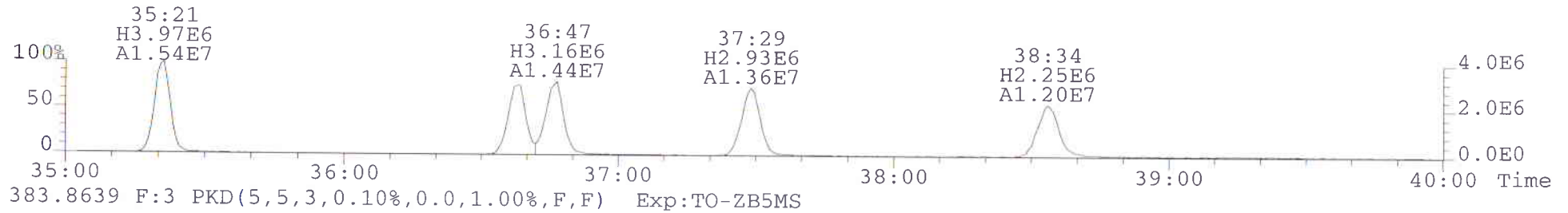
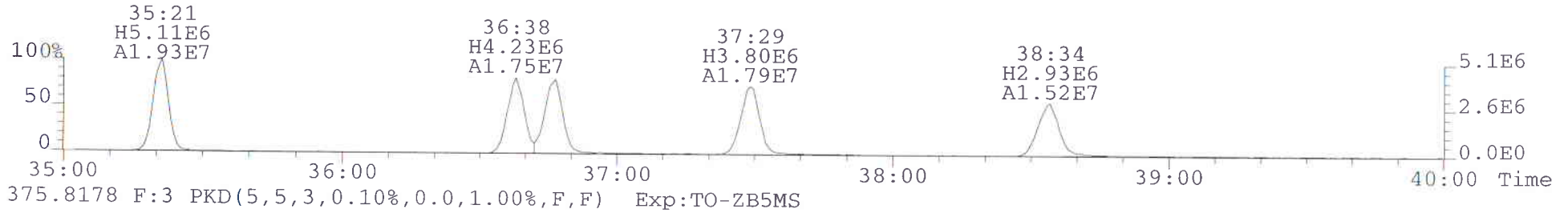
File:050714A1 #1-659 Acq: 7-MAY-2014 09:23:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050714A1-1 S050913F 1613 CS3WT
339.8597 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



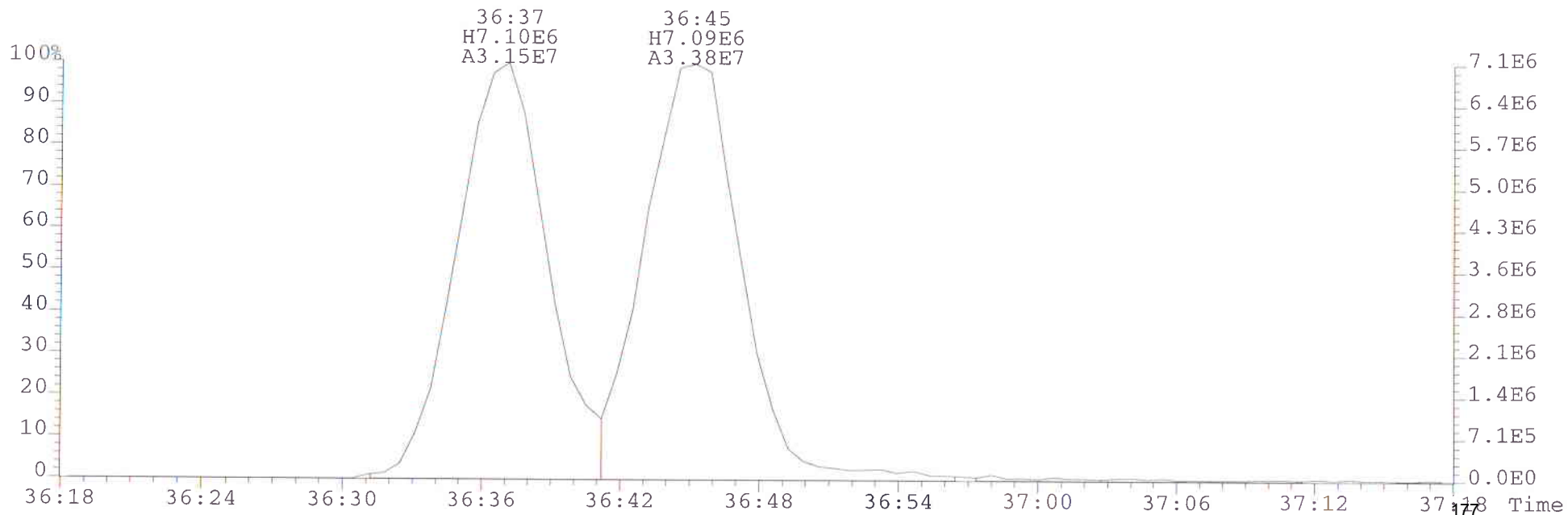
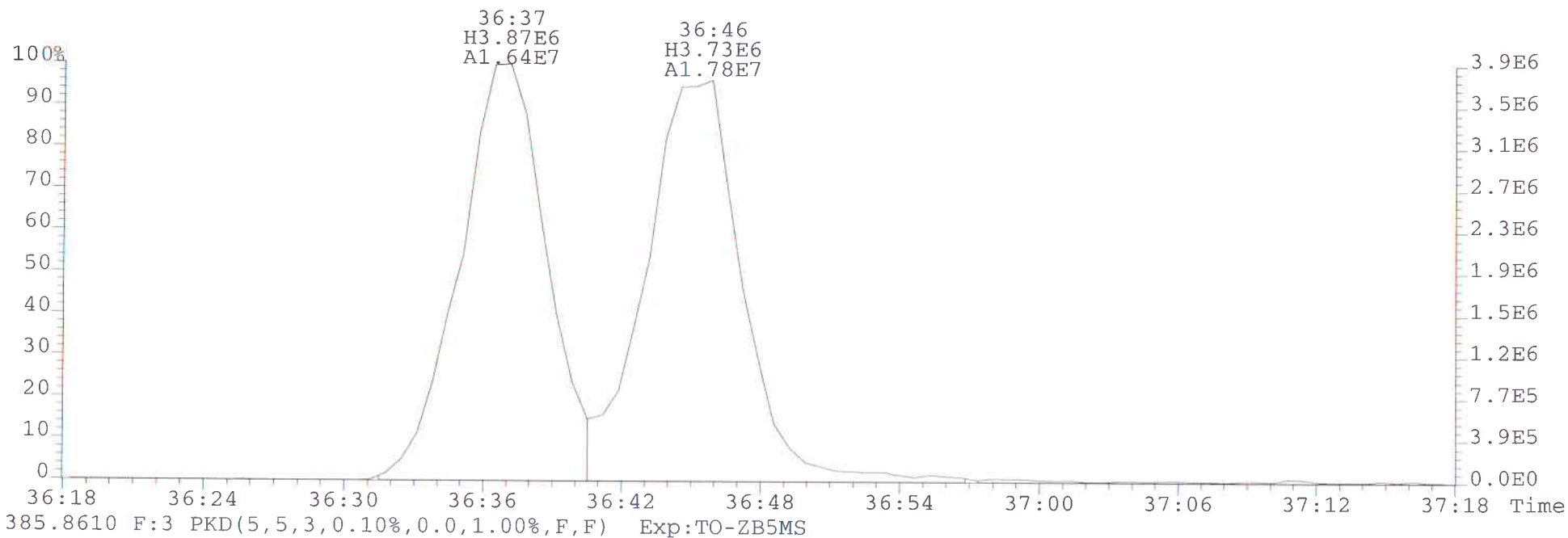
File:050714A1 #1-312 Acq: 7-MAY-2014 09:23:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050714A1-1 S050913F 1613 CS3WT
339.8597 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



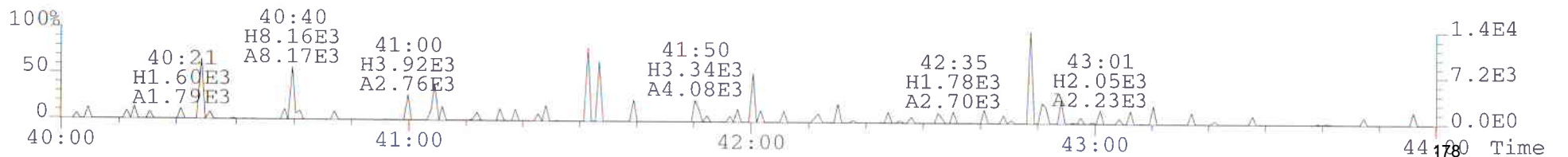
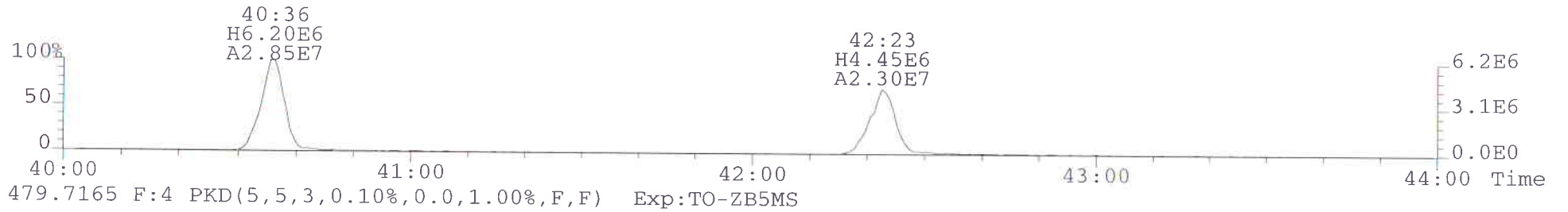
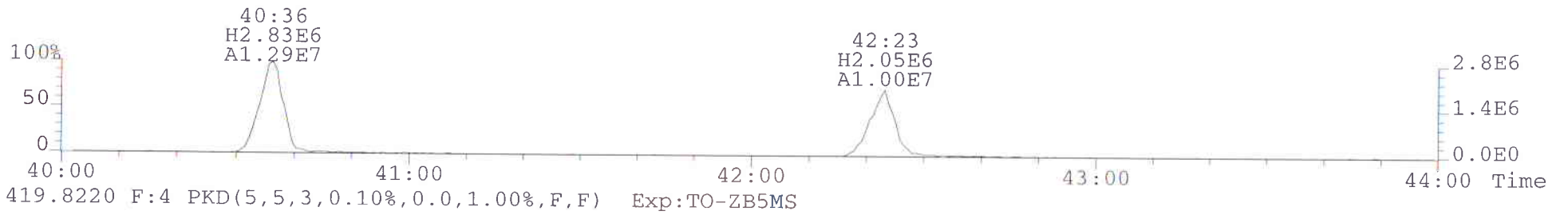
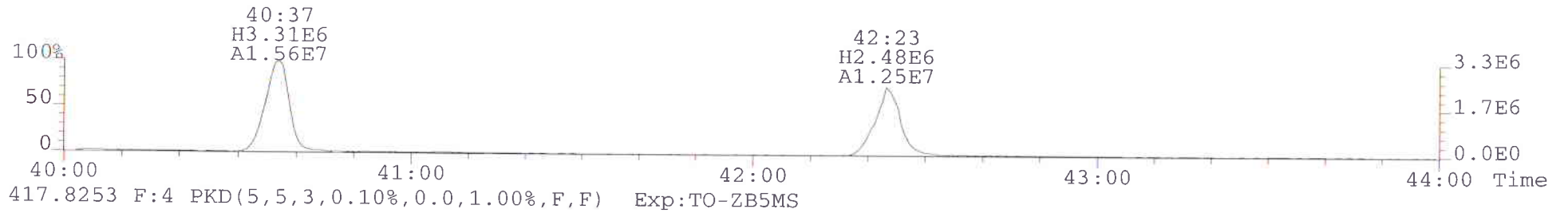
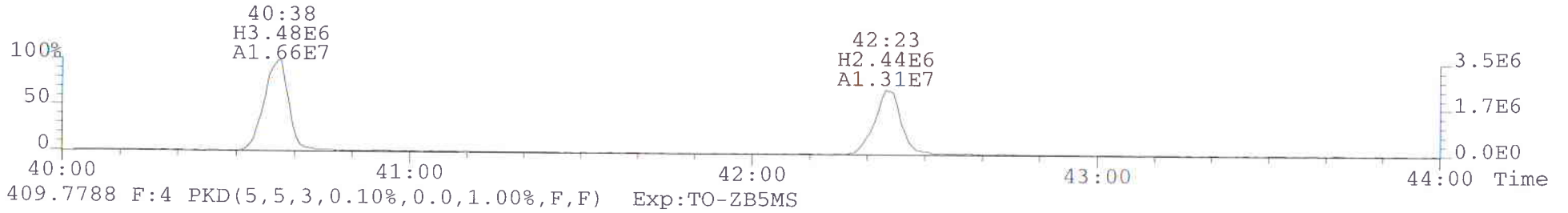
File:050714A1 #1-444 Acq: 7-MAY-2014 09:23:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050714A1-1 S050913F 1613 CS3WT
373.8207 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



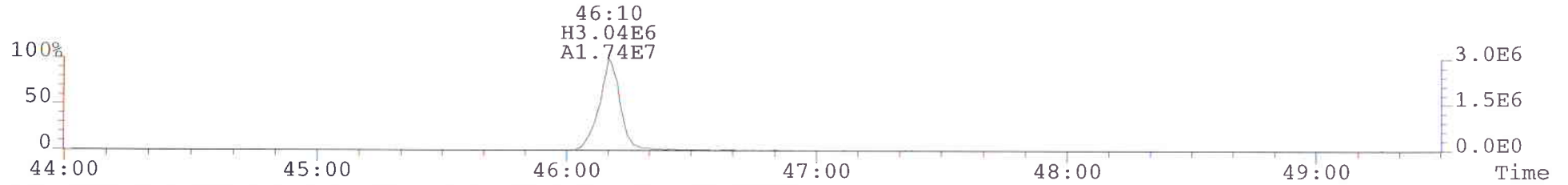
File:050714A1 #1-444 Acq: 7-MAY-2014 09:23:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050714A1-1 S050913F 1613 CS3WT
383.8639 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



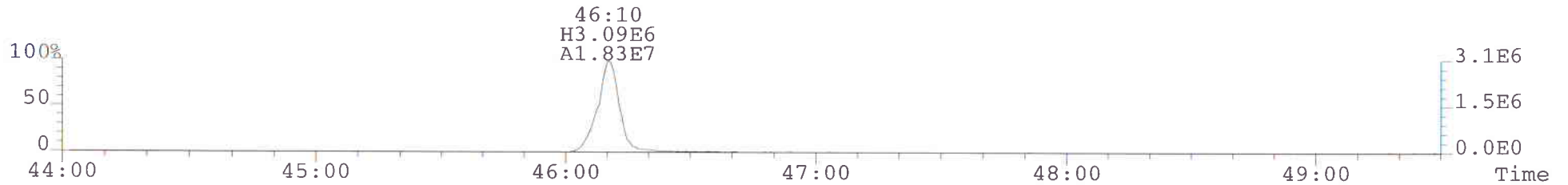
File:050714A1 #1-355 Acq: 7-MAY-2014 09:23:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050714A1-1 S050913F 1613 CS3WT
407.7818 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



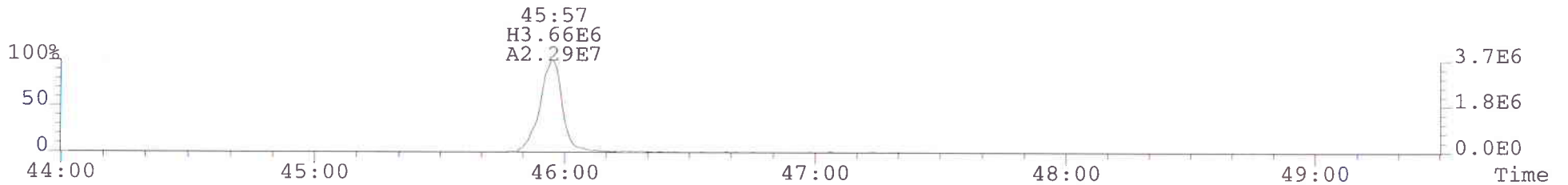
File:050714A1 #1-490 Acq: 7-MAY-2014 09:23:33 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST050714A1-1 S050913F 1613 CS3WT
441.7428 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



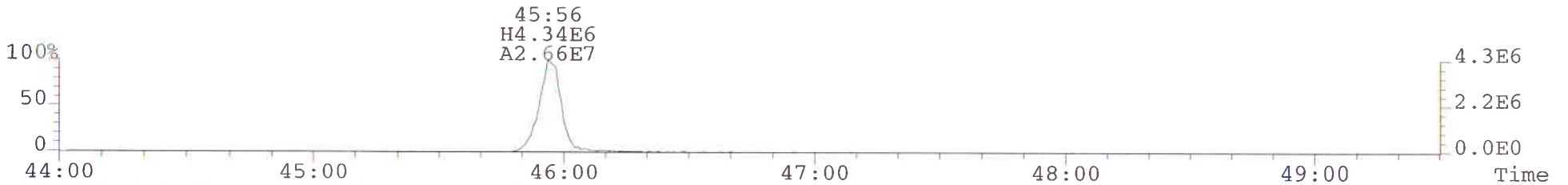
443.7398 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



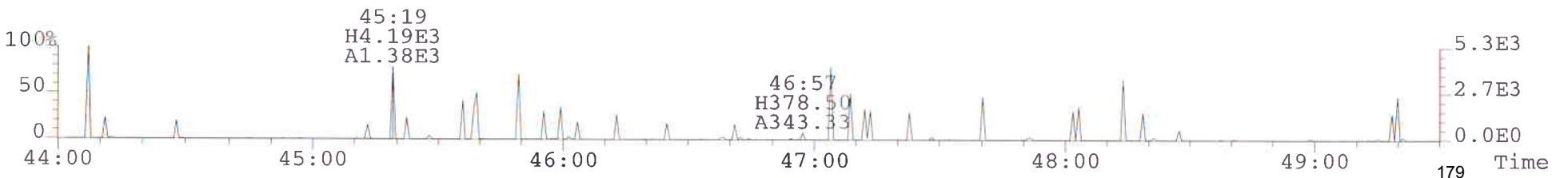
469.7780 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



471.7750 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



513.6775 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



USEPA - ITD

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST050714A1-2

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 050714A1 S:6 Analysis Date: 7-MAY-14 Time: 13:50:34

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	EPA 1613	EPA 8290
					CONC. RANGE (3) (ng/mL)	CONC. RANGE (ng/mL)
2,3,7,8-TCDD	M/M+2	0.85	0.65-0.89	11.4	7.8-12.9	8.0-12.0
1,2,3,7,8 PeCDD	M/M+2	0.63	0.53-0.71	51.1	39-65	40-60
1,2,3,4,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	47.0	39-64	40-60
1,2,3,6,7,8 HxCDD	M+2/M+4	1.22	1.05-1.43	59.3	39-64	40-60
1,2,3,7,8,9 HxCDD	M+2/M+4	1.23	1.05-1.43	53.2	41-61	40-60
1,2,3,4,6,7,8 HpCDD	M+2/M+4	1.04	0.88-1.20	51.6	43-58	40-60
OCDD	M+2/M+4	0.92	0.76-1.02	104.0	79-126	80-120
2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	9.9	8.4-12.0	8.0-12.0
1,2,3,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	53.5	41-60	40-60
2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	53.2	41-61	40-60
1,2,3,4,7,8 HxCDF	M+2/M+4	1.28	1.05-1.43	50.2	45-56	40-60
1,2,3,6,7,8-HxCDF	M+2/M+4	1.31	1.05-1.43	51.3	44-57	40-60
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	49.5	44-57	40-60
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05-1.43	51.2	45-56	40-60
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.06	0.88-1.20	50.9	45-55	40-60
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.08	0.88-1.20	52.6	43-58	40-60
OCDF	M+2/M+4	0.95	0.76-1.02	105.3	63-159	80-120

Analyst: [Signature]
Date: 5/7/14

Reviewer: [Signature]

Date: 5/8/14

(1) See Table 3, Method 1613, for m/z specifications.
 (2) Ion Abundance Ratio Control Limits as specified in Table 3A, Method 1613.
 (3) Contract-required concentration range as specified in Table 7, Method 1613, under VER 10/94.

USEPA - ITD
FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST050714A1-2

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 050714A1 S:6 Analysis Date: 7-MAY-14 Time: 13:50:34

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	EPA 1613	EPA 8290
					CONC. RANGE (3) (ng/mL)	CONC. RANGE (ng/mL)
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	102.9	82 - 121	70 - 130
13C-1,2,3,7,8-PeCDD	M/M+2	0.65	0.53-0.71	87.9	62 - 160	70 - 130
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	88.0	85 - 117	70 - 130
13C 1,2,3,6,7,8 HxCDD	M+2/M+4	1.25	1.05-1.43	112.8	85 - 118	70 - 130
13C 1,2,3,4,6,7,8 HpCDD	M+2/M+4	1.06	0.88 1.20	111.4	72 - 138	70 - 130
13C-OCDD	M+2/M+4	0.89	0.76-1.02	216.8	96 - 415	140 - 260
13C 2,3,7,8 TCDF	M/M+2	0.79	0.65-0.89	120.6	71 - 140	70 - 130
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	92.2	76 - 130	70 - 130
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	87.2	77 - 130	70 - 130
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.50	0.43-0.59	100.4	76 - 131	70 - 130
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.50	0.43-0.59	100.2	70 - 143	70 - 130
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.50	0.43-0.59	105.4	73 - 137	70 - 130
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	111.0	74 - 135	70 - 130
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	116.0	78 - 129	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37-0.51	122.8	77 - 129	70 - 130

Clean-up Standard (4)

37C1-2,3,7,8-TCDD	M			10.9	7.9 - 12.7	7.0 - 13.0
-------------------	---	--	--	------	------------	------------

- (1) See Table 3, Method 1613, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 3A, Method 1613.
- (3) Contract-required concentration range, as specified in Table 7, Method 1613, under VER.
- (4) No ion abundance ratio; report concentration found.

Analyst: J
Date: 5/7/14

Reviewer: ML

Date: 5/8/14

USEPA - ITD

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST050714A1-2

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 050714A1 S:6 Analysis Date: 7-MAY-14 Time: 13:50:34

Compounds Using 13C-1234-TCDD as Internal Standard

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8 TCDD	1.001	0.999-1.002
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.001	0.999-1.002
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PeCDF	13C-1,2,3,7,8 PeCDF	1.000	0.999-1.002
2,3,4,7,8-PeCDF	13C 2,3,4,7,8 PeCDF	1.001	0.999-1.002
LABELED COMPOUNDS			
13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.008	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.192	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.974	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.148	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4 TCDD	1.178	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4 TCDD	1.009	0.989-1.052

Analyst: J
Date: 5/7/14

Reviewer: WZ
Date: 5/8/14

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

USEPA - ITD

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST050714A1-2

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 050714A1 S:6 Analysis Date: 7-MAY-14 Time: 13:50:34

Compounds Using 13C-123789-HxCDD as Internal Standard

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.000	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.011	1.000-1.019
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.001	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.000	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.001	0.999-1.001
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.001	0.999-1.001
OCDF	13C-OCDD	1.005	0.999-1.008

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,7,8,9-HxCDD	0.986	0.977-1.000
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,7,8,9-HxCDD	0.989	0.981-1.003
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,7,8,9-HxCDD	1.095	1.086-1.110
13C-OCDD	13C-1,2,3,7,8,9-HxCDD	1.204	1.032-1.311
13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,7,8,9-HxCDD	0.959	0.944-0.970
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,7,8,9-HxCDD	0.963	0.949-0.975
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,7,8,9-HxCDD	0.981	0.959-1.021
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDD	1.009	0.977-1.047
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,7,8,9-HxCDD	1.063	1.043-1.085
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,7,8,9-HxCDD	1.109	1.057-1.151

Analyst: [Signature]
Date: 5/2/14

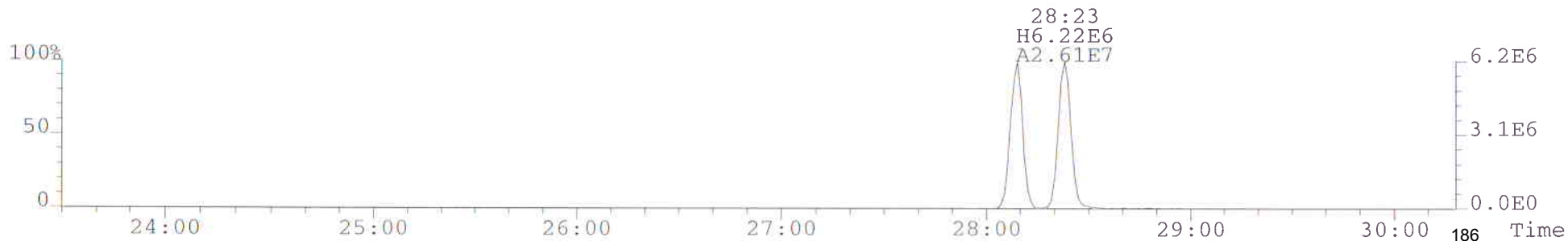
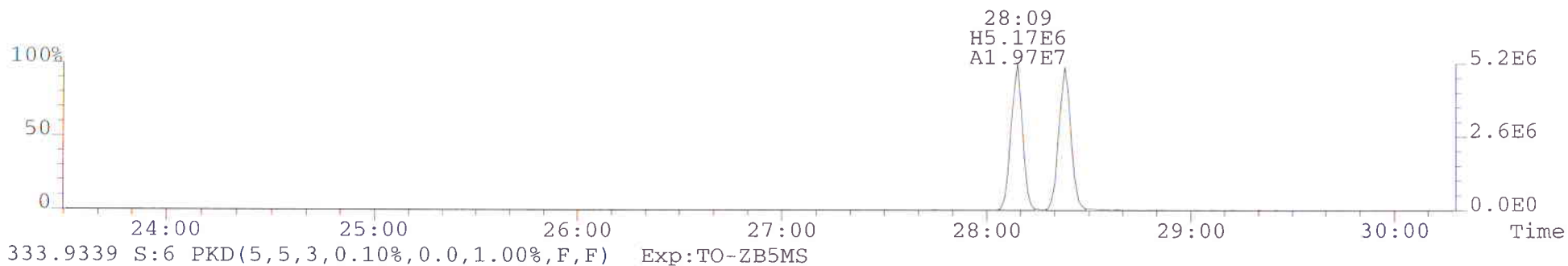
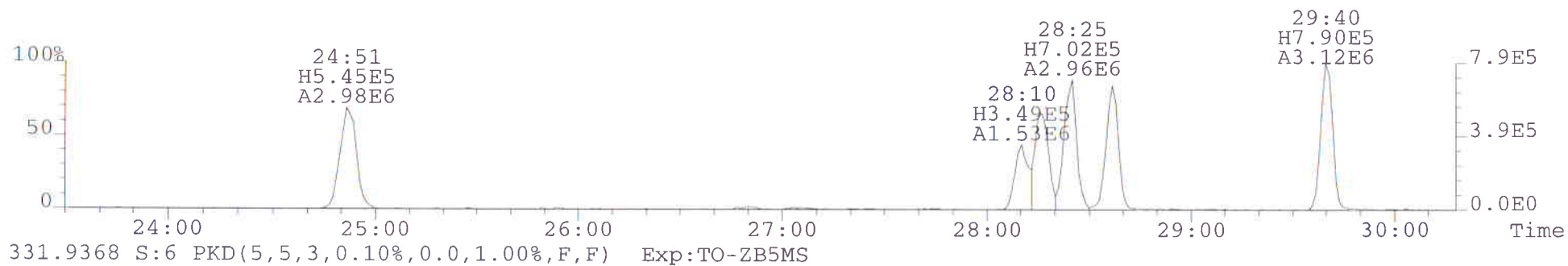
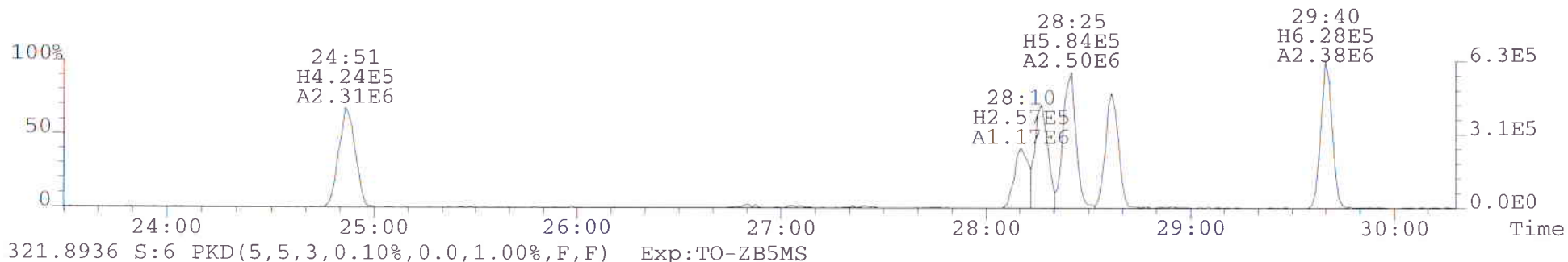
Reviewer: [Signature]

Date: 5/8/14

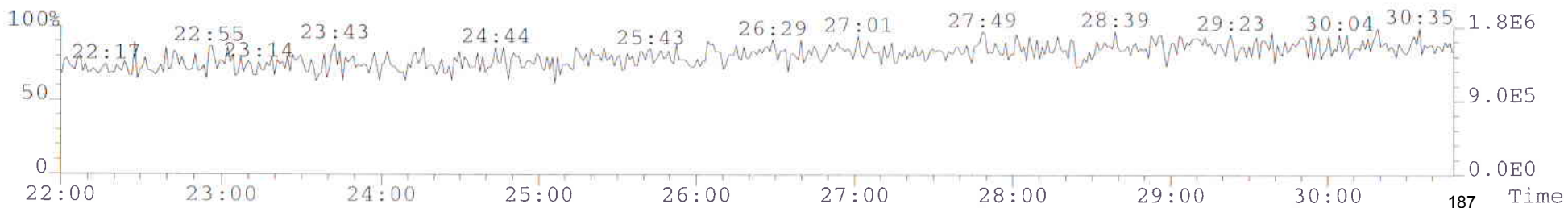
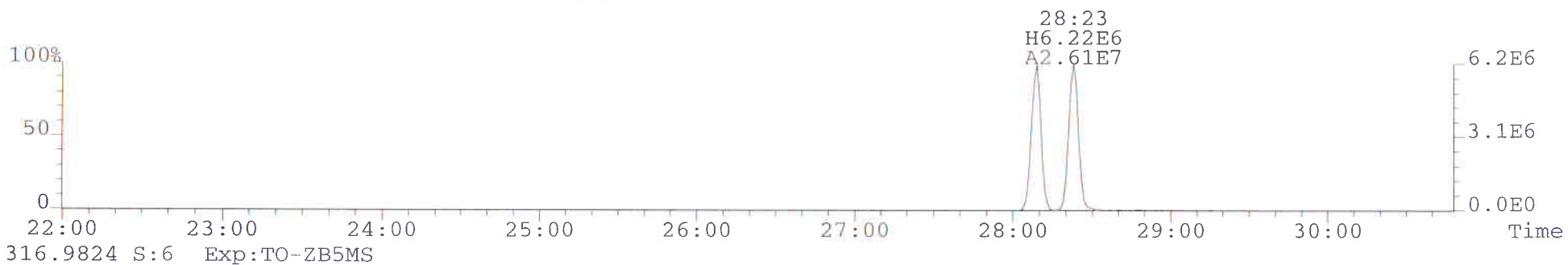
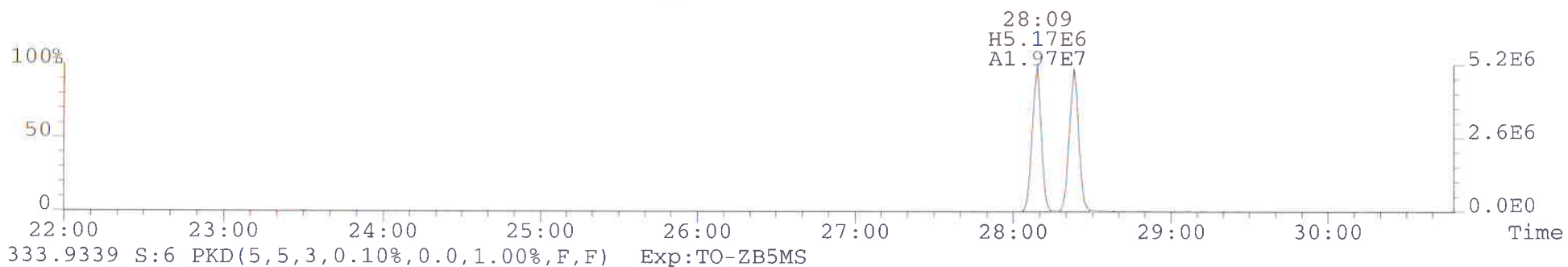
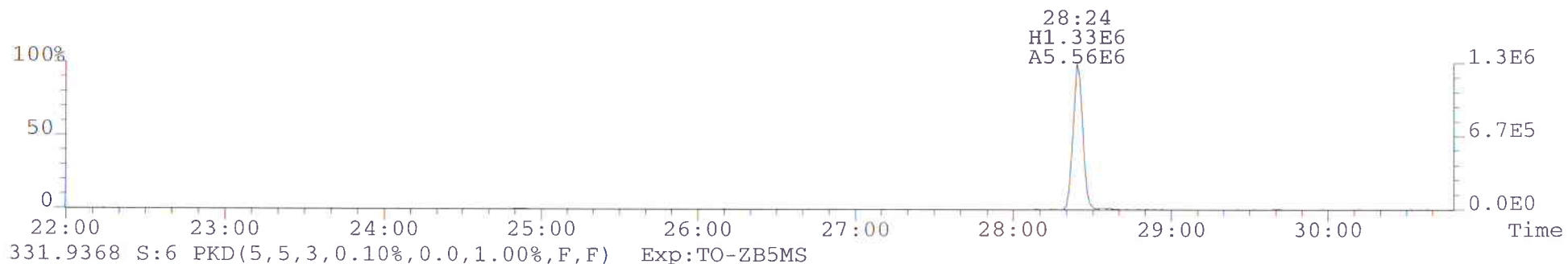
(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

	c/q	Data File	S	Ceres ID	Acquired	Time	Con Cal	End Cal
1	q	050714A1	1	ST050714A1-1	7-MAY-14	09:23:33	ST050714A1-1	ST050714A1-2 y
2	q	050714A1	2	solvent blank	7-MAY-14	10:16:57	ST050714A1-1	ST050714A1-2 y
3	q	050714A1	3	10341-1188-001	7-MAY-14	11:10:21	ST050714A1-1	ST050714A1-2 y
4	q	050714A1	4	10339-1188-00»	7-MAY-14	12:03:45	ST050714A1-1	ST050714A1-2 y
5	q	050714A1	5	solvent blank	7-MAY-14	12:57:10	ST050714A1-1	ST050714A1-2 y
6	q	050714A1	6	ST050714A1-2	7-MAY-14	13:50:34	ST050714A1-1	ST050714A1-2 y

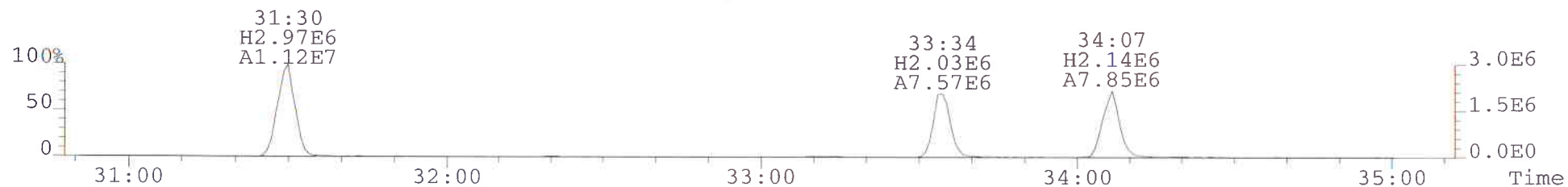
File:050714A1 #1-659 Acq: 7-MAY-2014 13:50:34 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST050714A1-2 S050913F 1613 CS3WT
319.8965 S:6 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



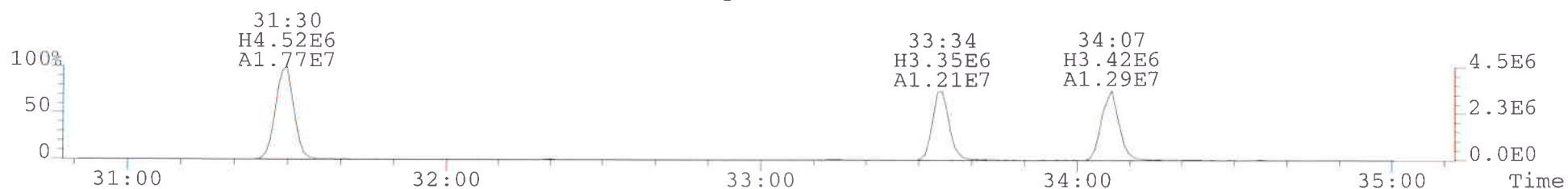
File:050714A1 #1-659 Acq: 7-MAY-2014 13:50:34 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST050714A1-2 S050913F 1613 CS3WT
327.8847 S:6 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



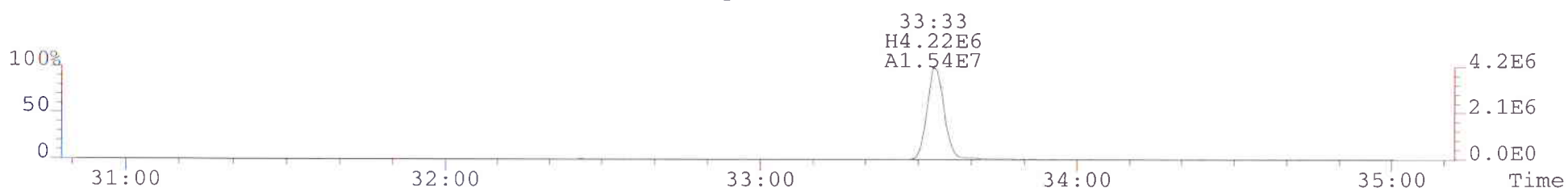
File:050714A1 #1-312 Acq: 7-MAY-2014 13:50:34 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST050714A1-2 S050913F 1613 CS3WT
353.8576 S:6 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



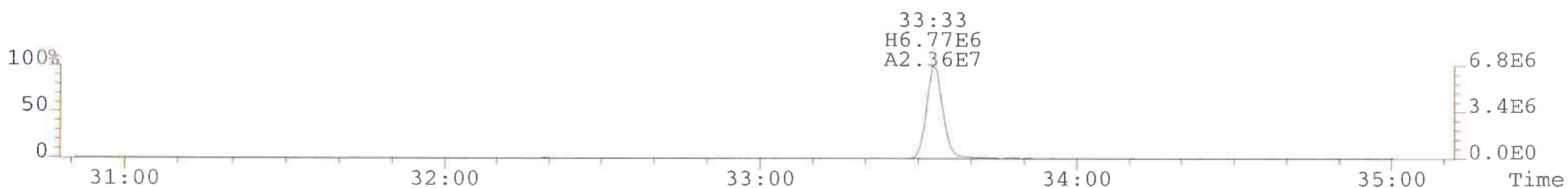
355.8546 S:6 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



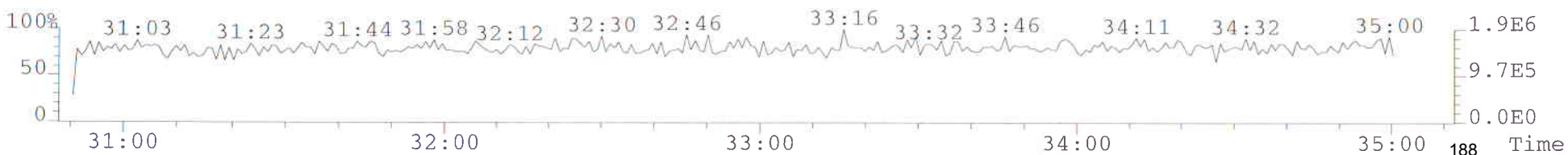
365.8978 S:6 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



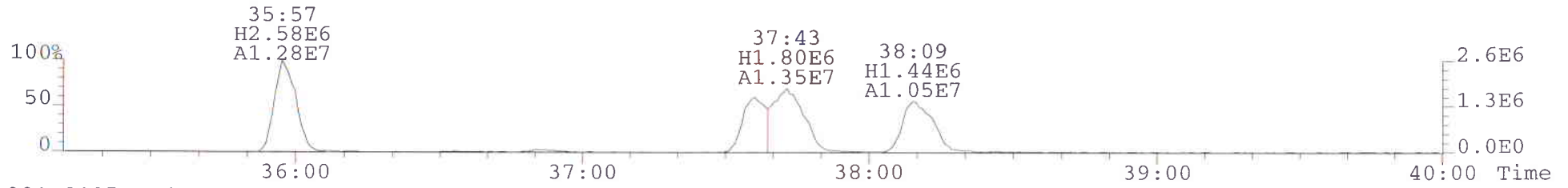
367.8949 S:6 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



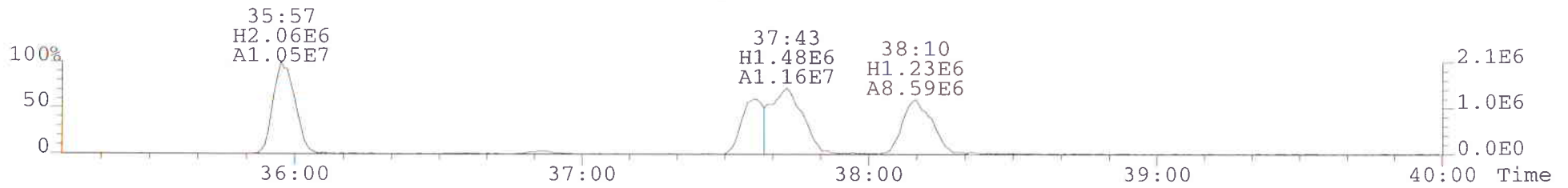
366.9792 S:6 F:2 Exp:TO-ZB5MS



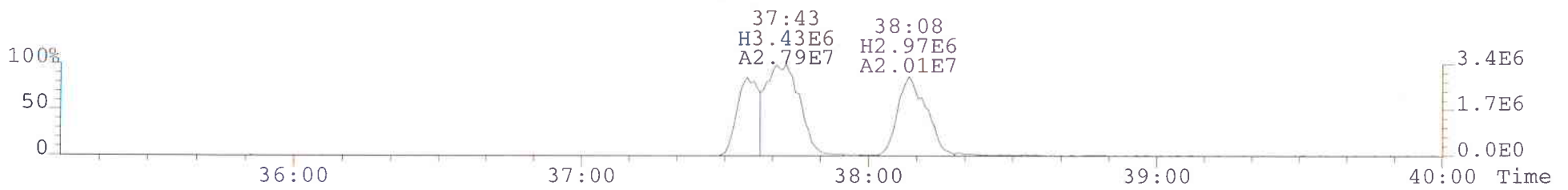
File:050714A1 #1-444 Acq: 7-MAY-2014 13:50:34 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST050714A1-2 S050913F 1613 CS3WT
389.8156 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



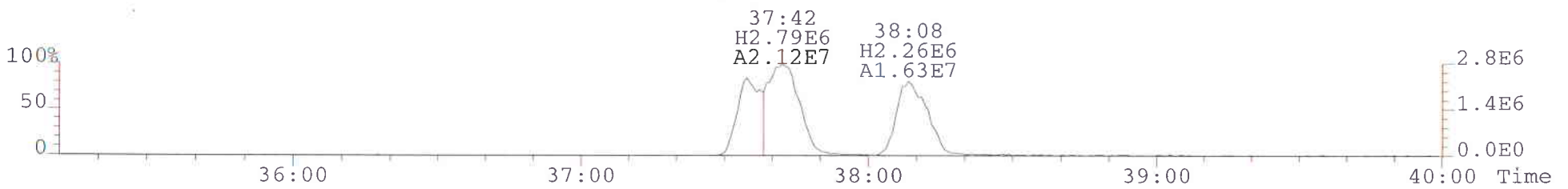
391.8127 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



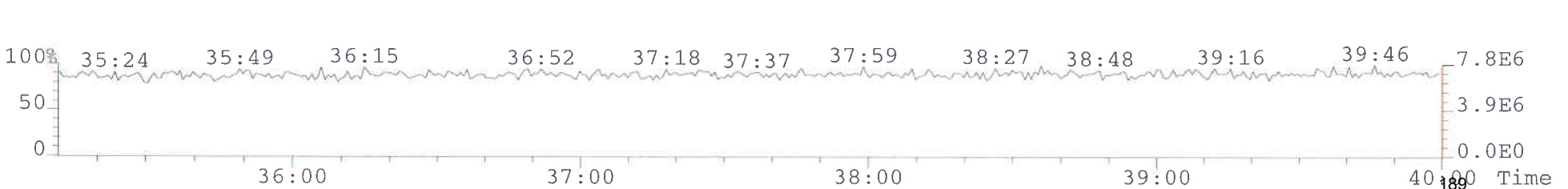
401.8559 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



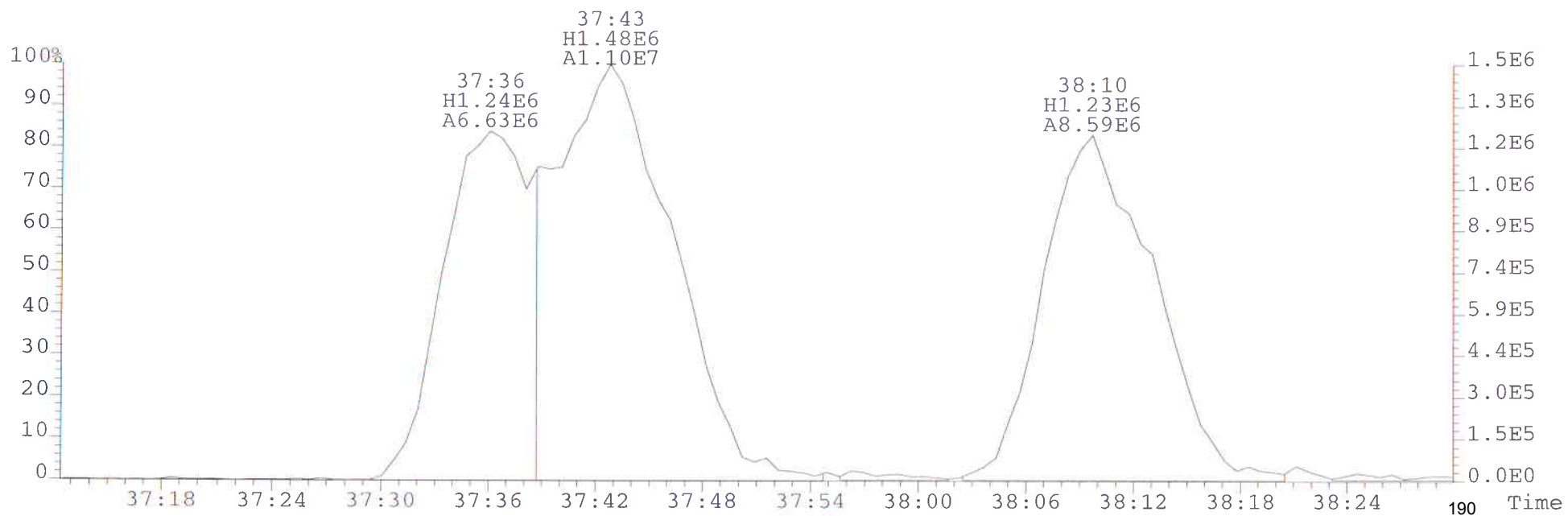
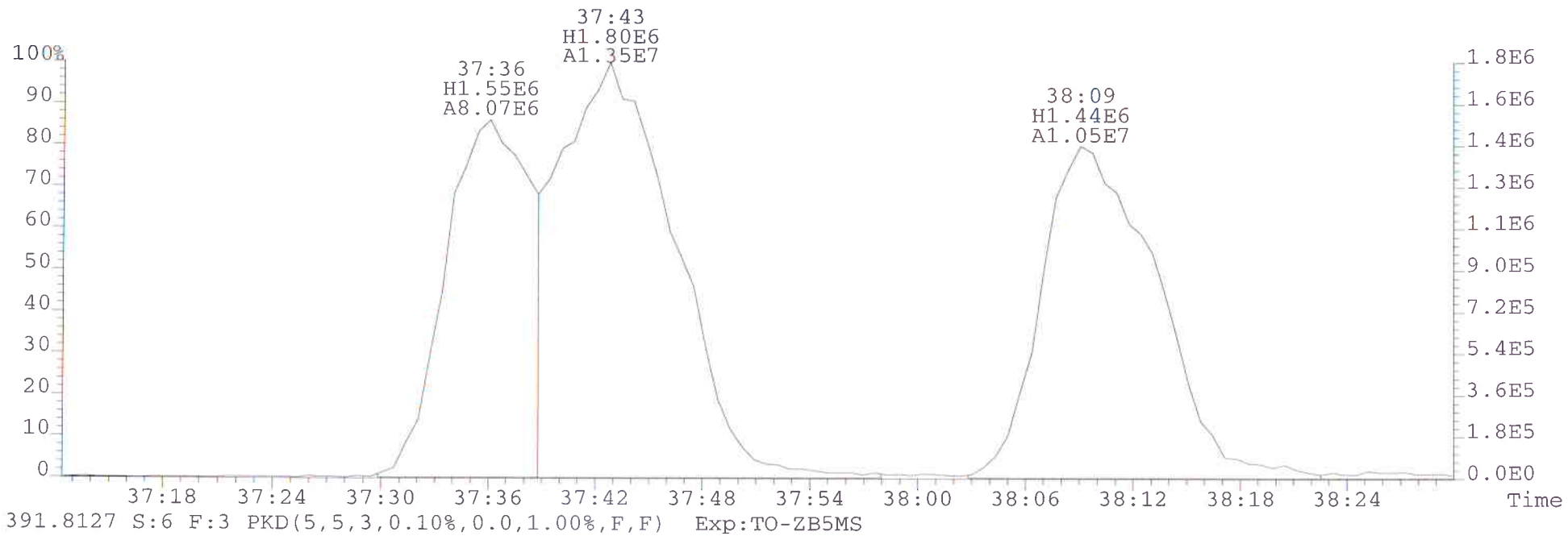
403.8530 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



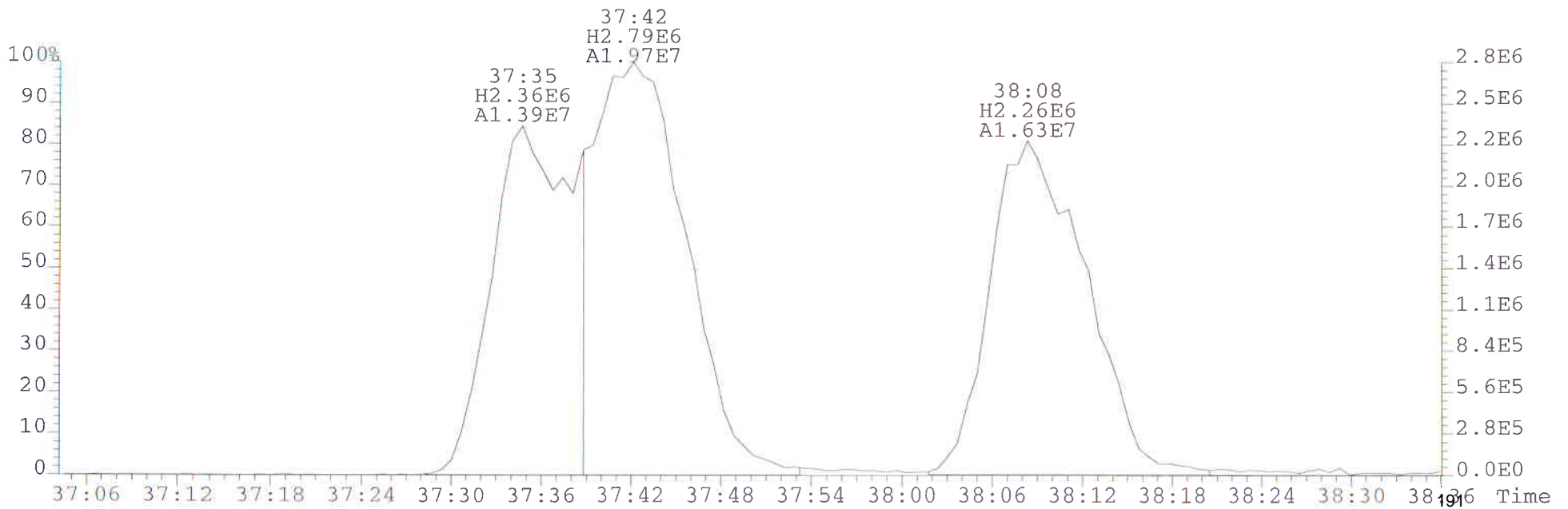
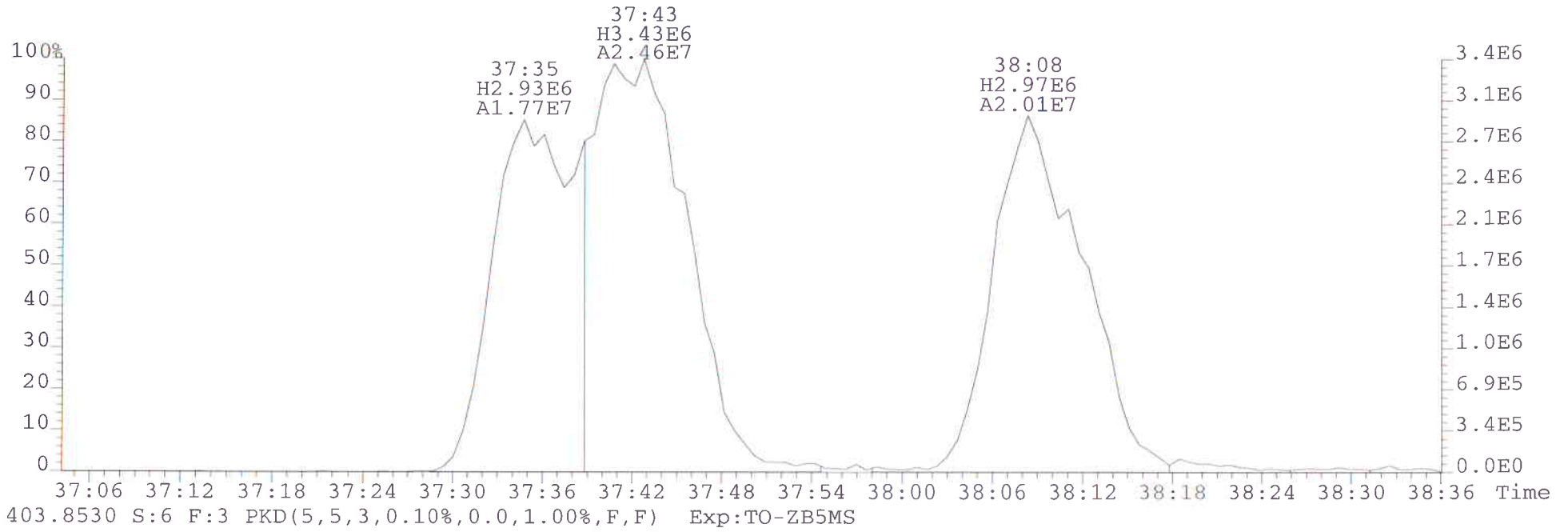
380.9760 S:6 F:3 Exp:TO-ZB5MS



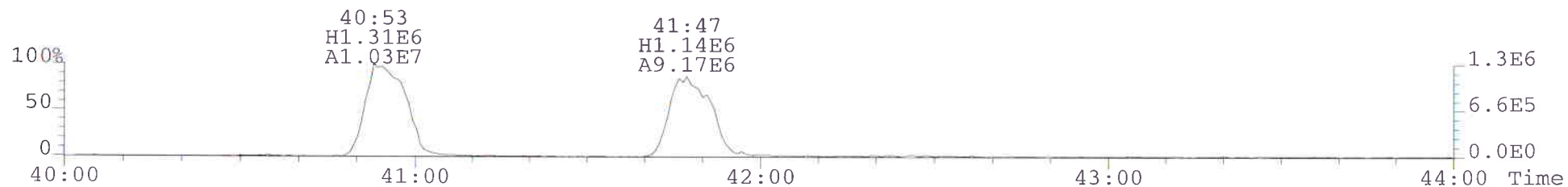
File:050714A1 #1-444 Acq: 7-MAY-2014 13:50:34 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST050714A1-2 S050913F 1613 CS3WT
391.8156 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



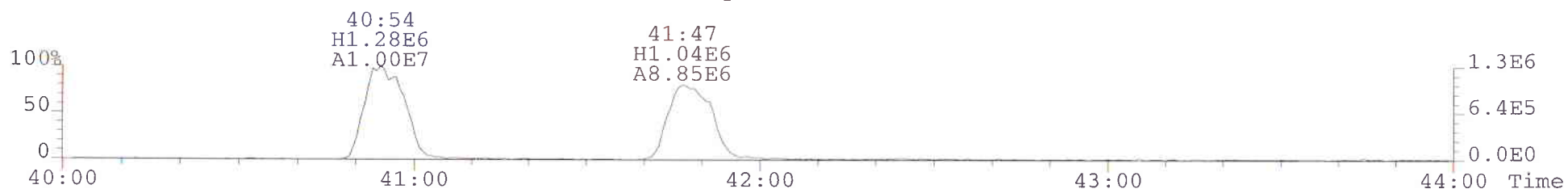
File:050714A1 #1-444 Acq: 7-MAY-2014 13:50:34 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST050714A1-2 S050913F 1613 CS3WT
401.8559 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



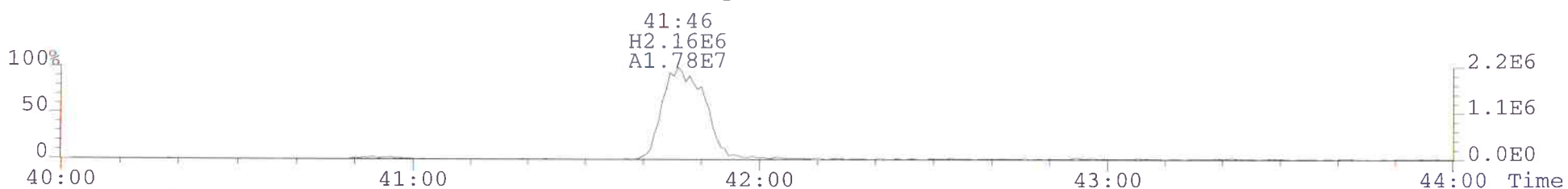
File:050714A1 #1-356 Acq: 7-MAY-2014 13:50:34 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST050714A1-2 S050913F 1613 CS3WT
423.7767 S:6 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



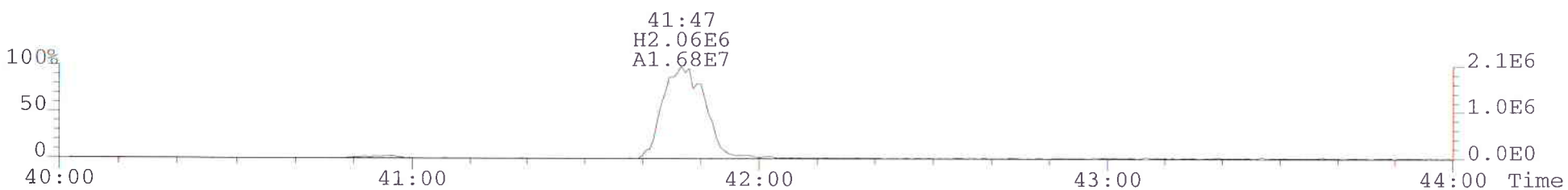
425.7737 S:6 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



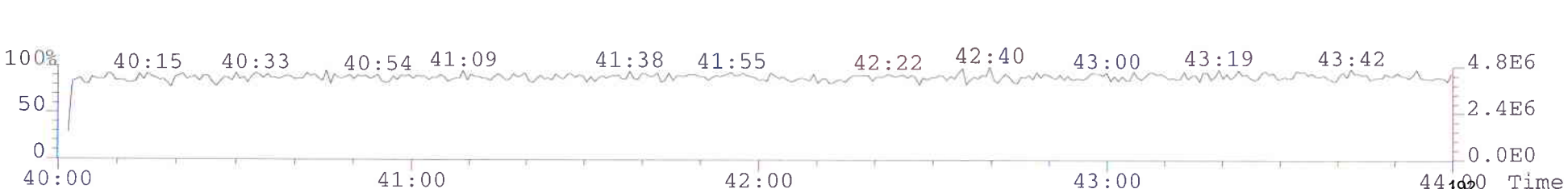
435.8169 S:6 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



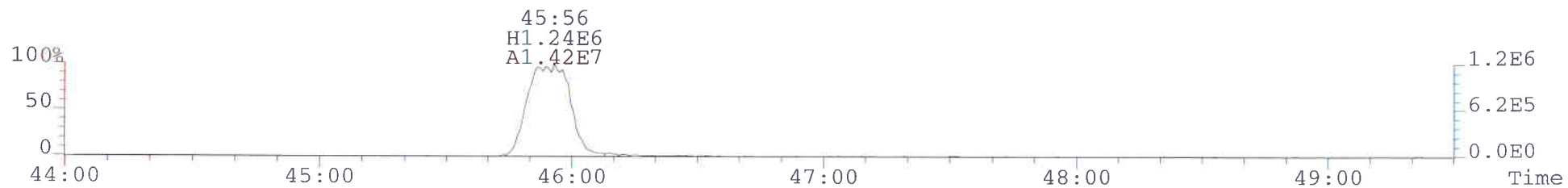
437.8140 S:6 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



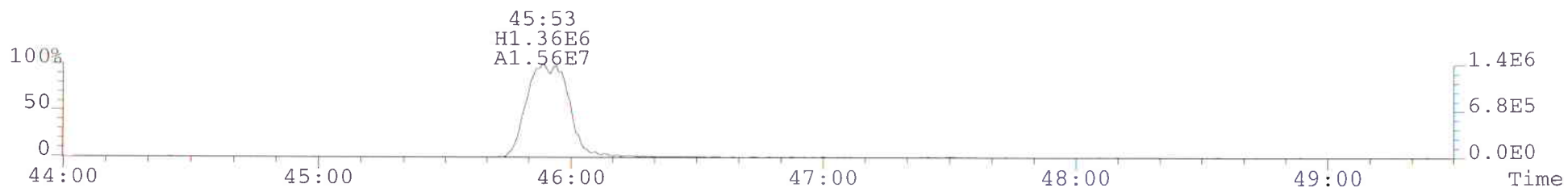
430.9728 S:6 F:4 Exp:TO-ZB5MS



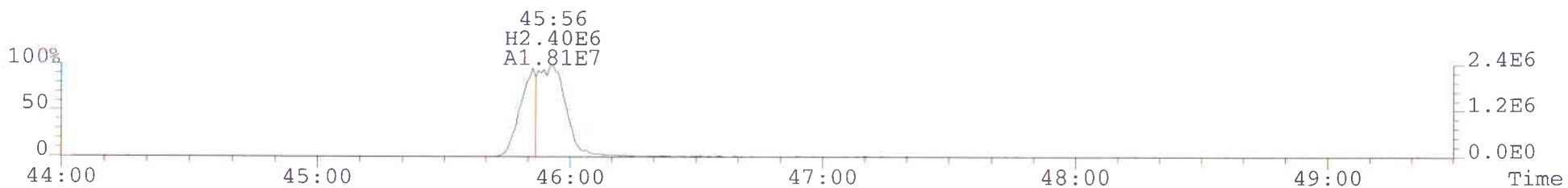
File:050714A1 #1-489 Acq: 7-MAY-2014 13:50:34 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST050714A1-2 S050913F 1613 CS3WT
457.7377 S:6 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



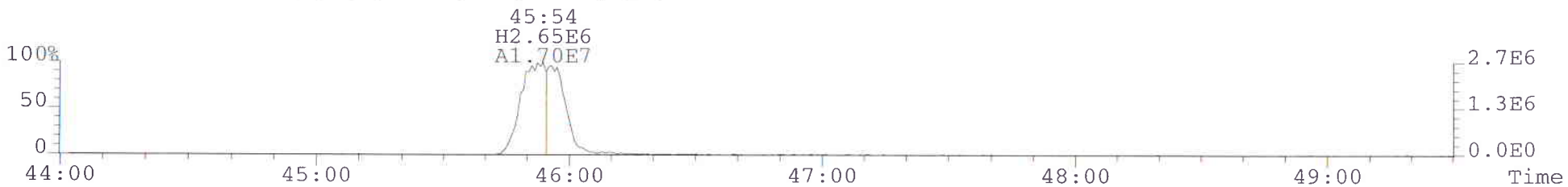
459.7348 S:6 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



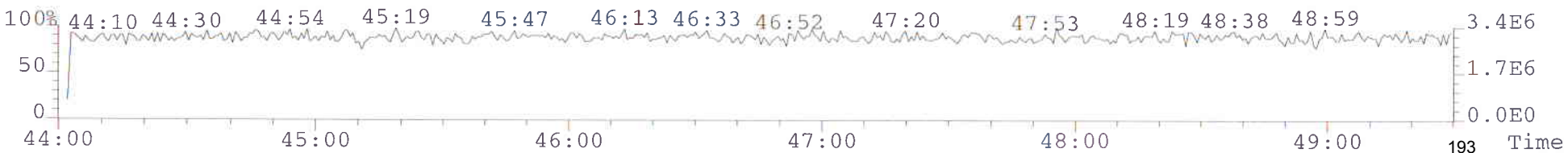
469.7780 S:6 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



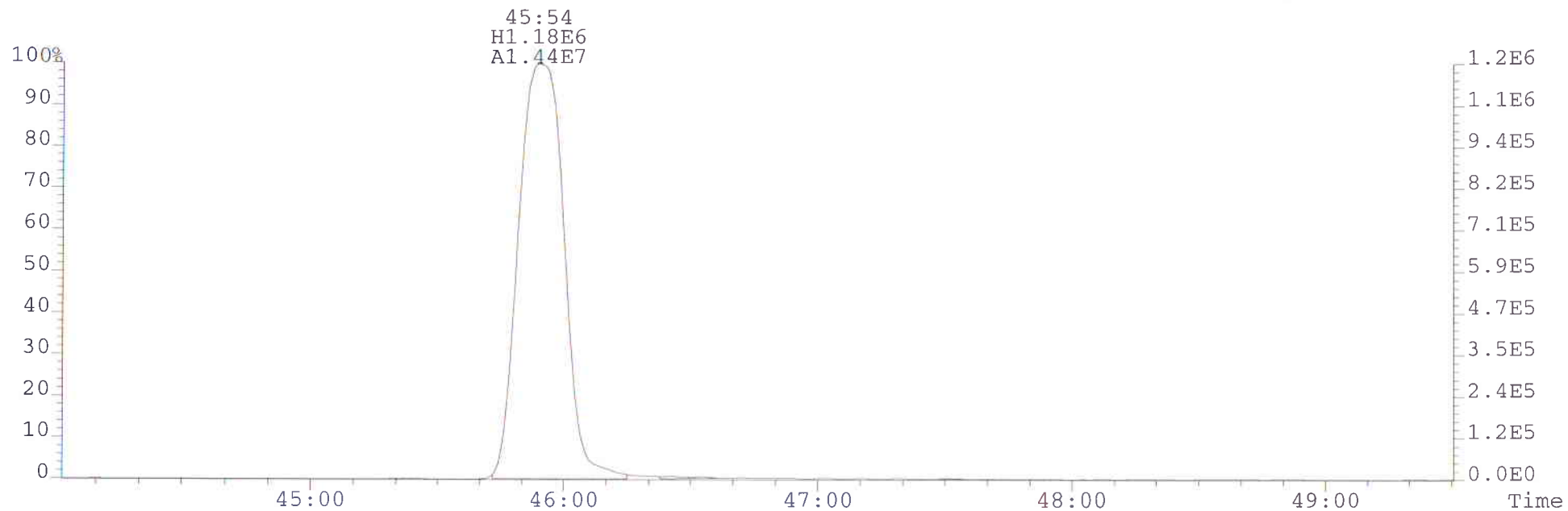
471.7750 S:6 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



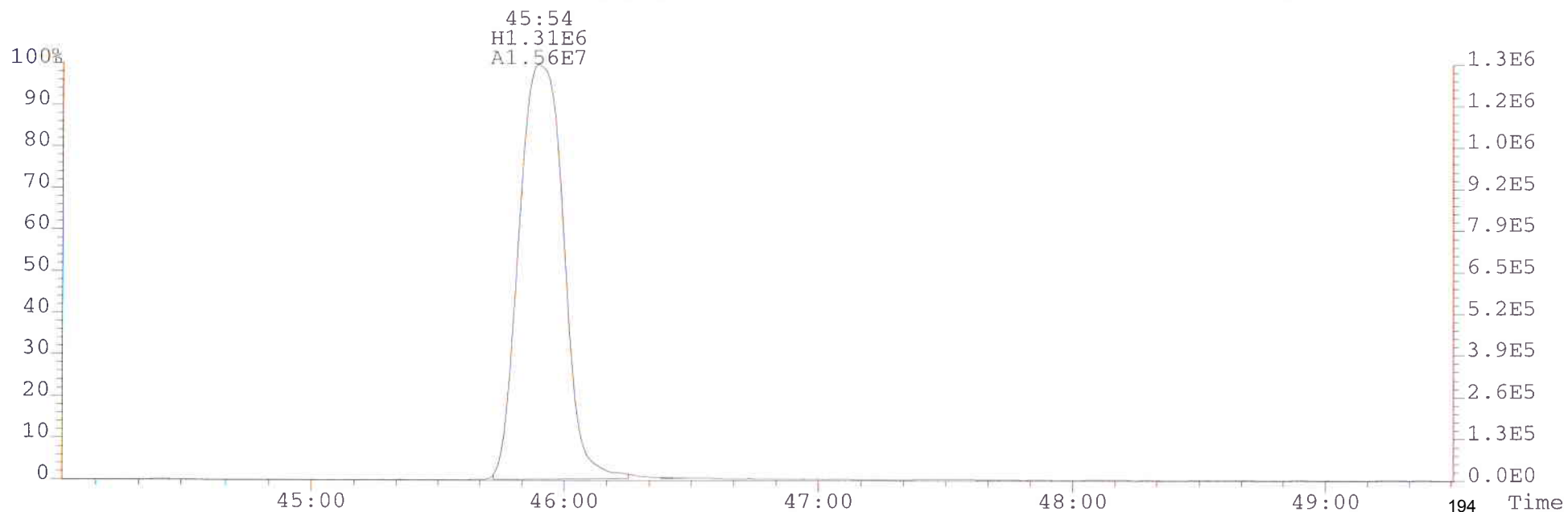
454.9728 S:6 F:5 Exp:TO-ZB5MS



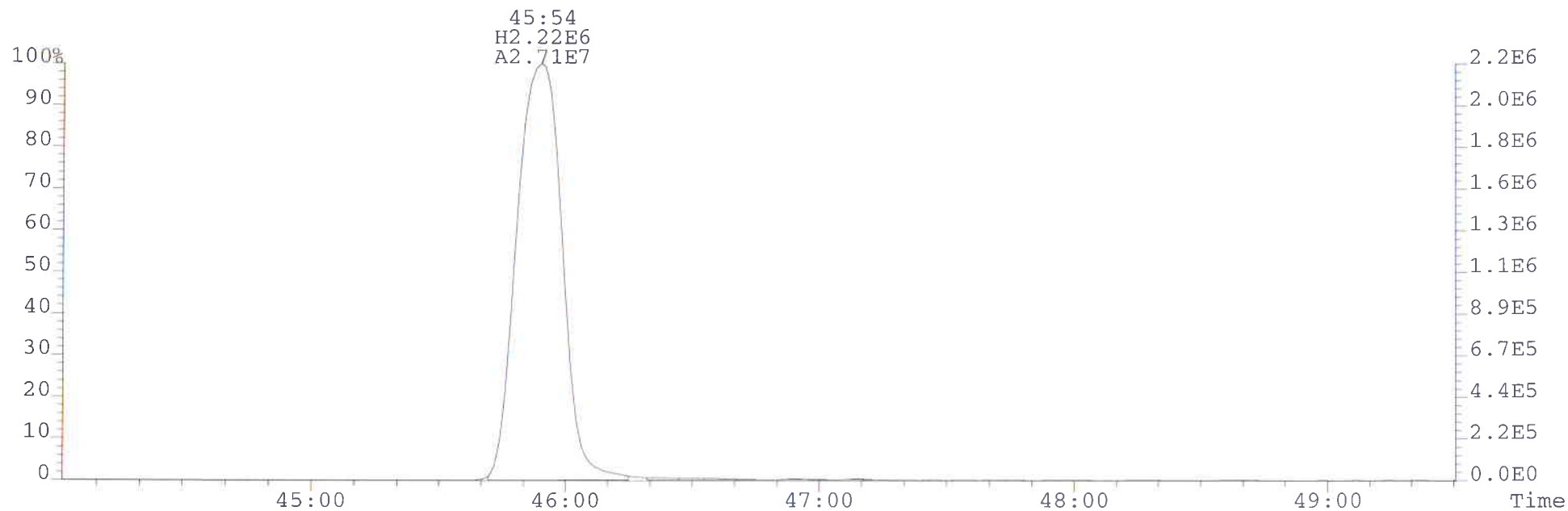
File:050714A1 #1-489 Acq: 7-MAY-2014 13:50:34 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST050714A1-2 S050913F 1613 CS3WT
457.7377 S:6 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) SMO(2,5) PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



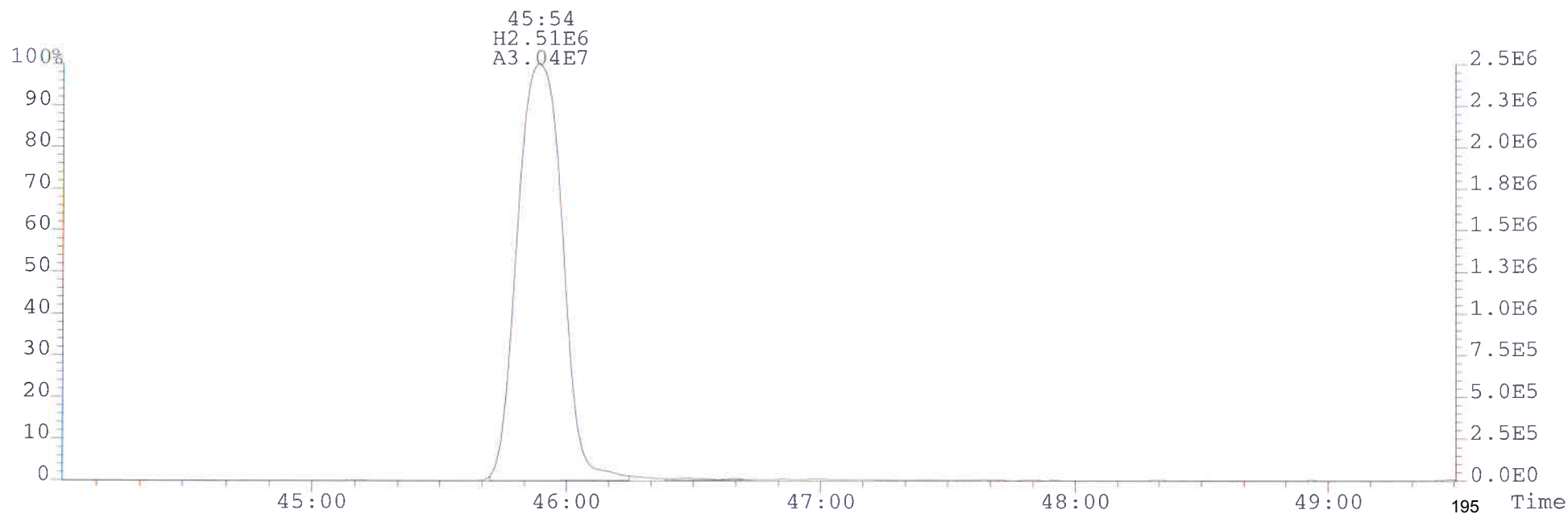
459.7348 S:6 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) SMO(2,5) PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



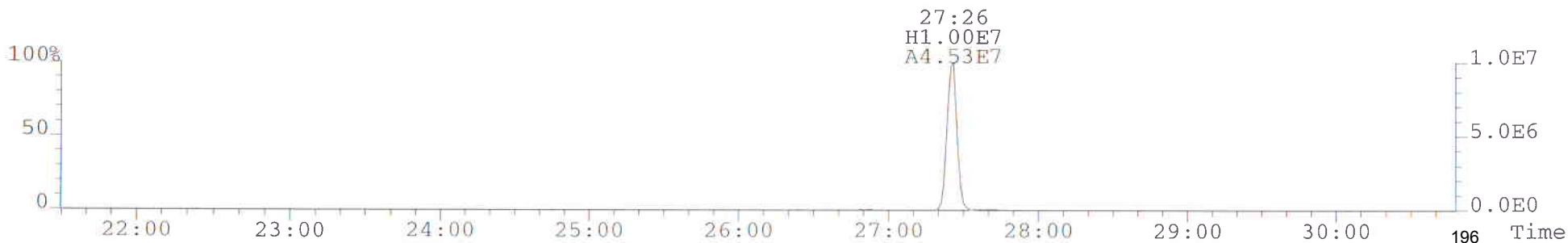
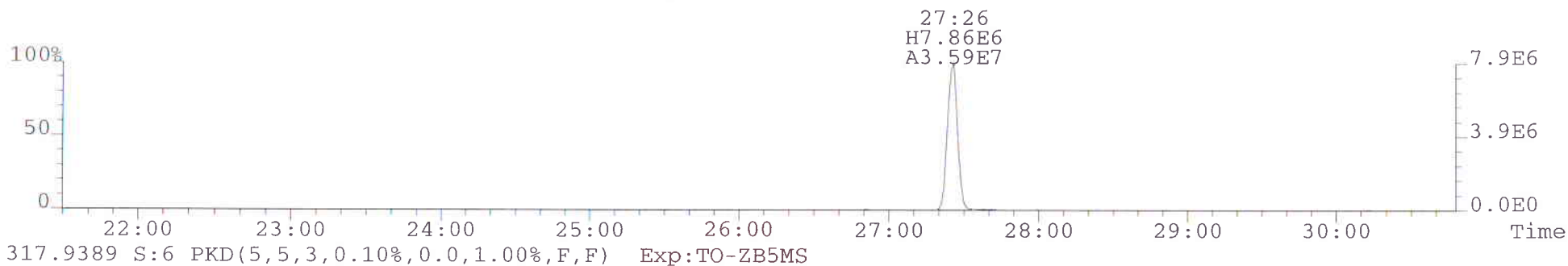
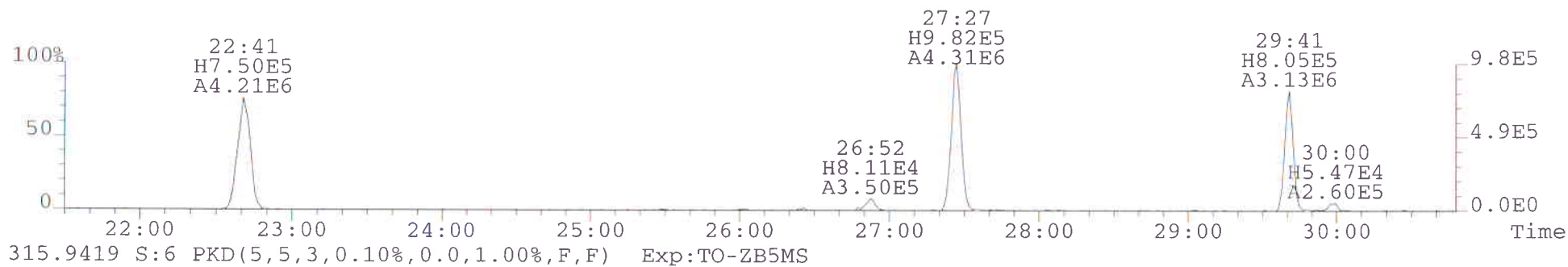
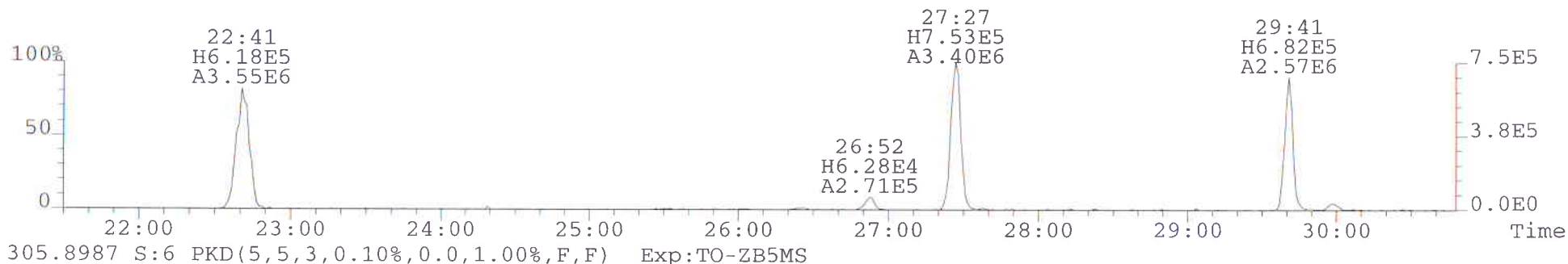
File:050714A1 #1-489 Acq: 7-MAY-2014 13:50:34 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST050714A1-2 S050913F 1613 CS3WT
469.7780 S:6 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) SMO(1,3) PKD(5,5,3,0.10%,0.0,1.00%,F,F) SMO(2,3) PKD(5,5,3,0.1>



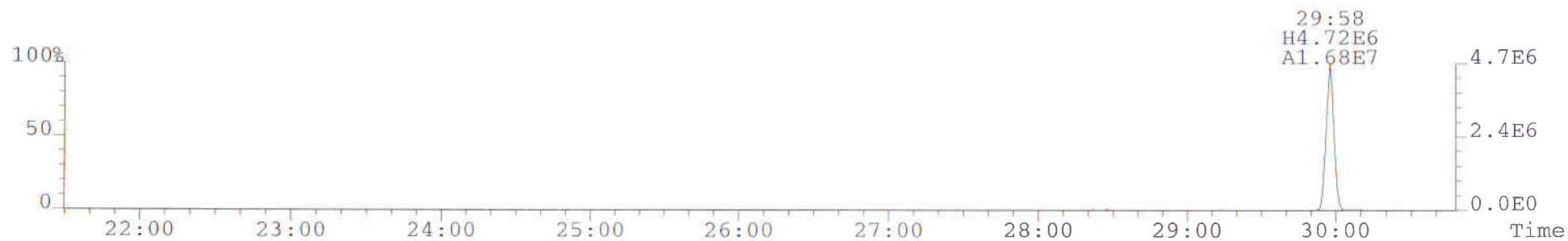
471.7750 S:6 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) SMO(1,3) PKD(5,5,3,0.10%,0.0,1.00%,F,F) SMO(2,3) PKD(5,5,3,0.1>



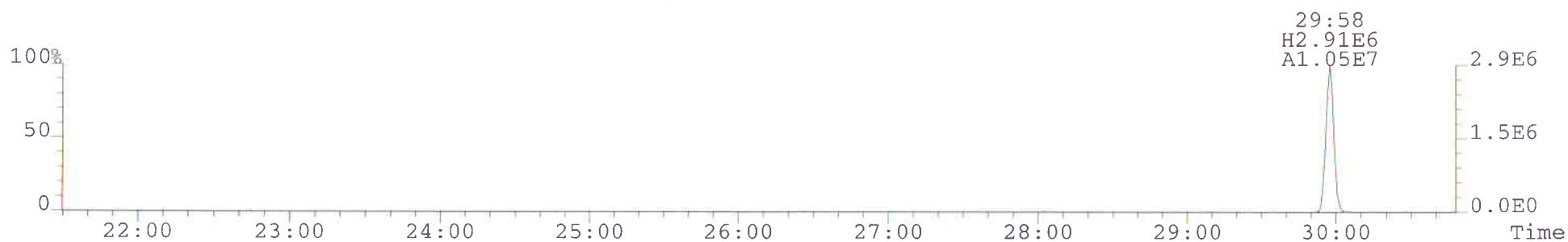
File:050714A1 #1-659 Acq: 7-MAY-2014 13:50:34 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST050714A1-2 S050913F 1613 CS3WT
303.9016 S:6 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



File:050714A1 #1-659 Acq: 7-MAY-2014 13:50:34 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST050714A1-2 S050913F 1613 CS3WT
339.8597 S:6 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



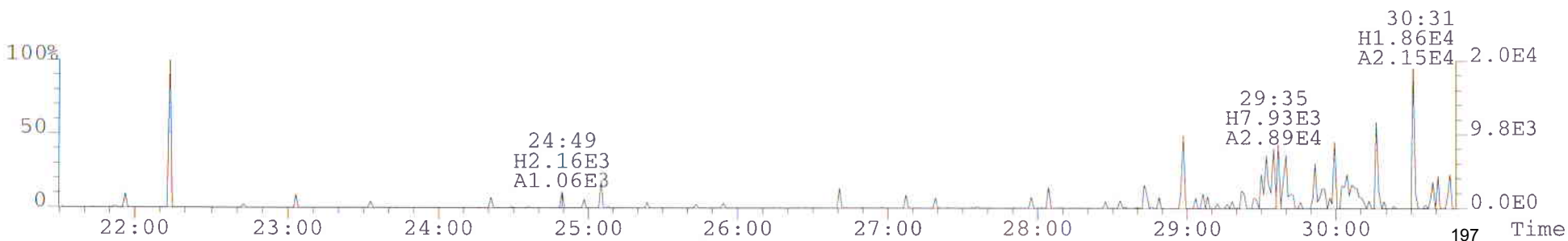
341.8568 S:6 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



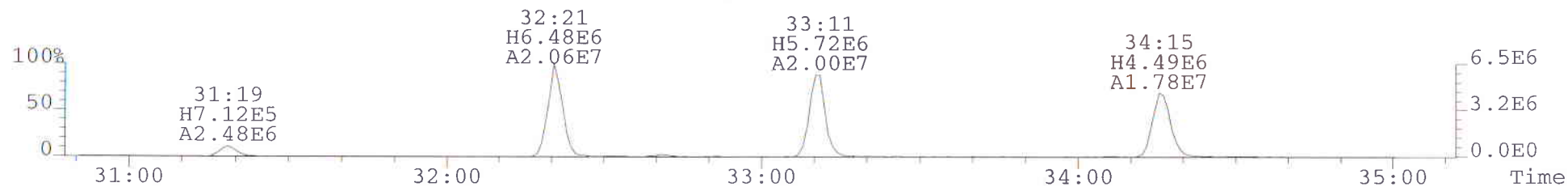
375.8364 S:6 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



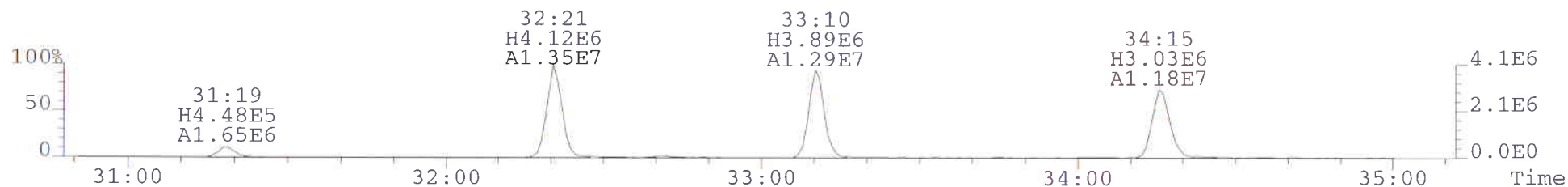
409.7974 S:6 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



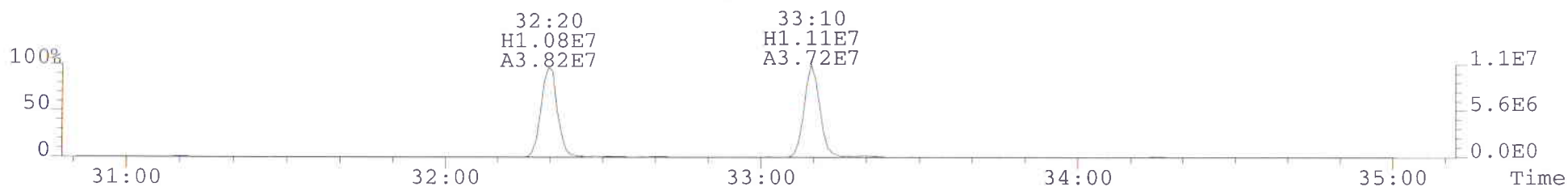
File:050714A1 #1-312 Acq: 7-MAY-2014 13:50:34 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST050714A1-2 S050913F 1613 CS3WT
339.8597 S:6 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



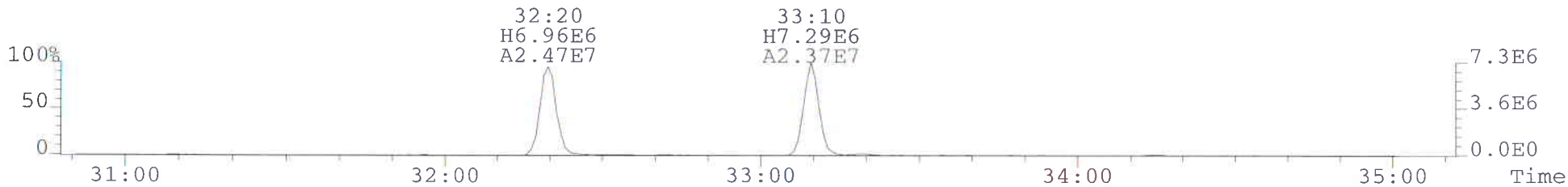
341.8568 S:6 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



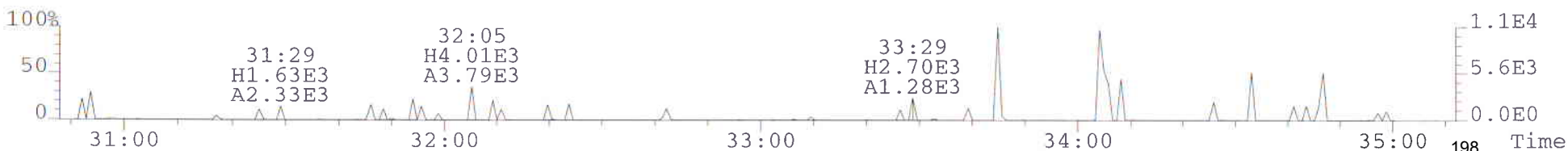
351.9000 S:6 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



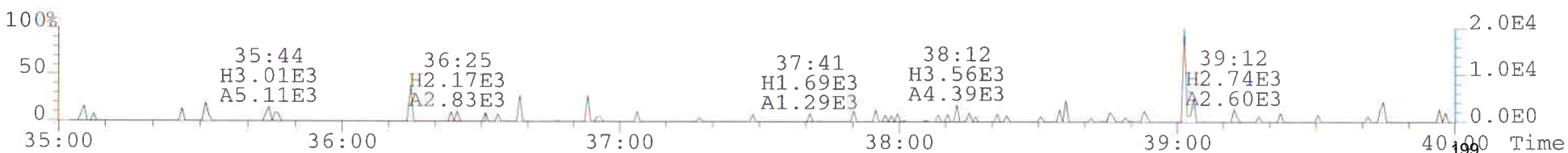
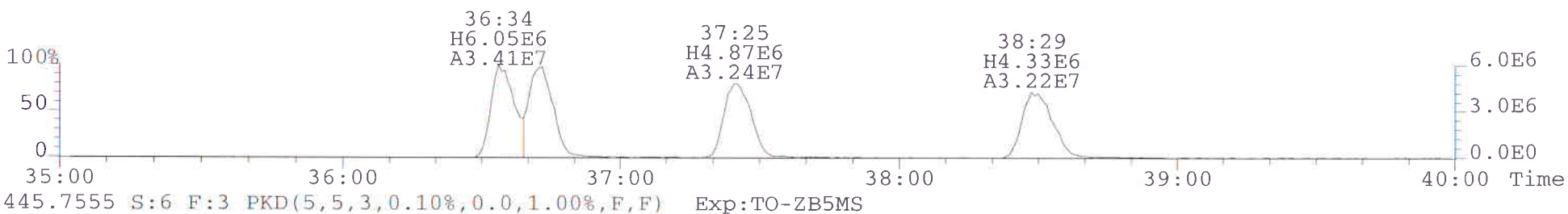
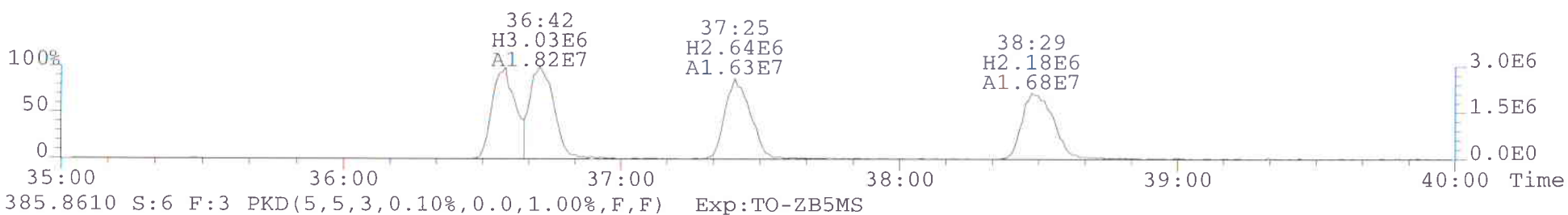
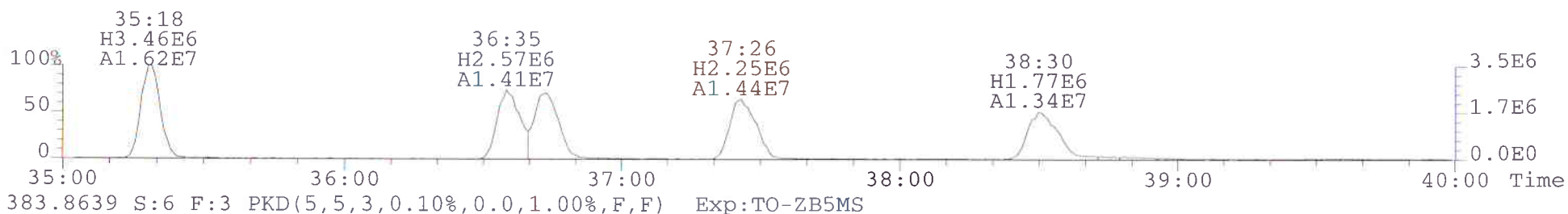
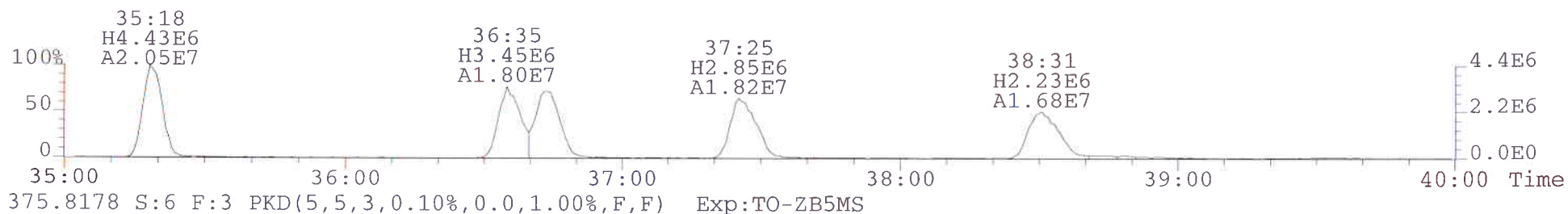
353.8970 S:6 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



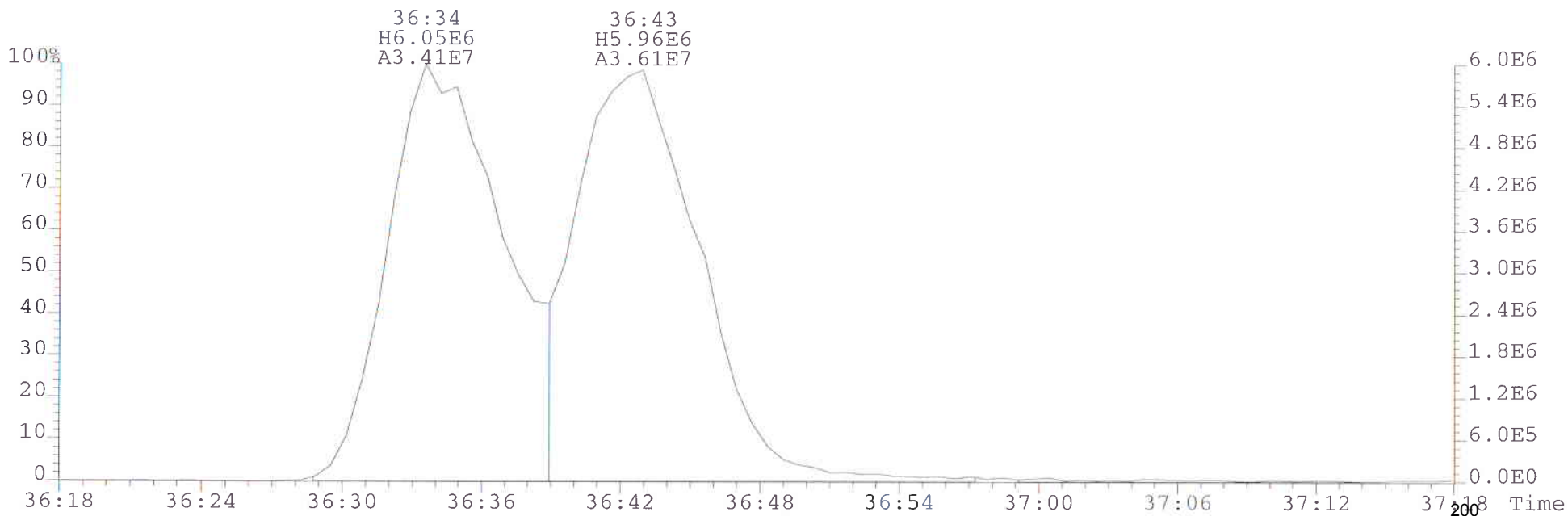
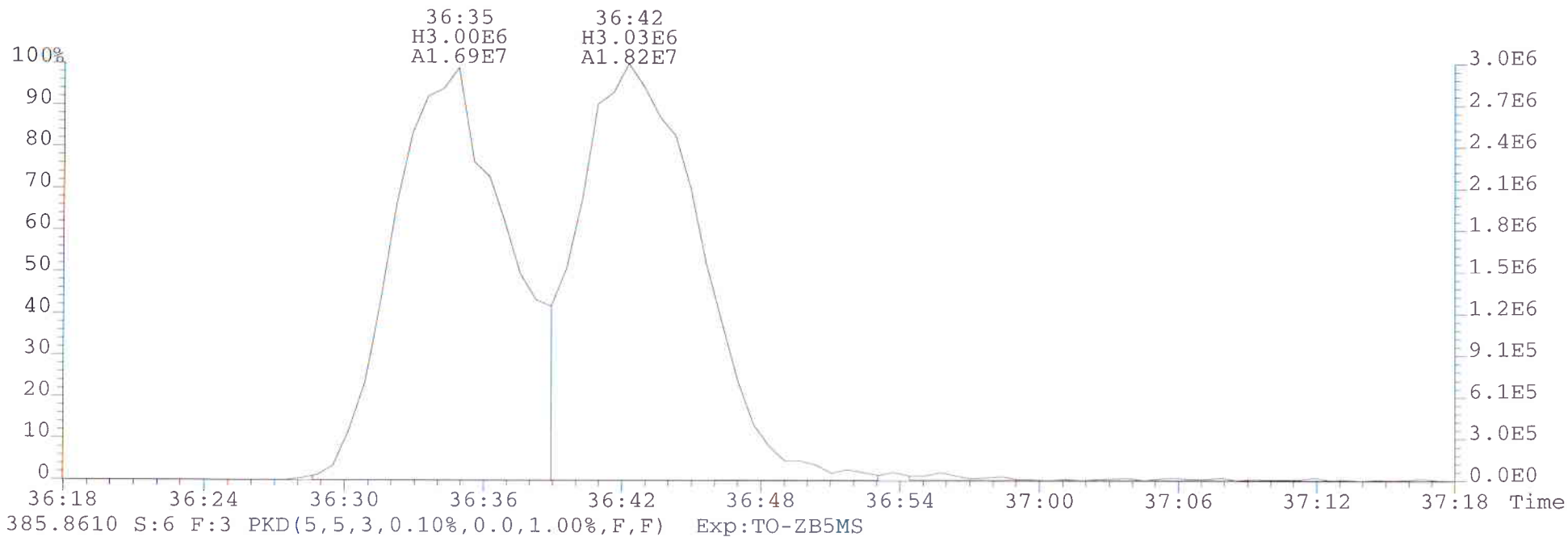
409.7974 S:6 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



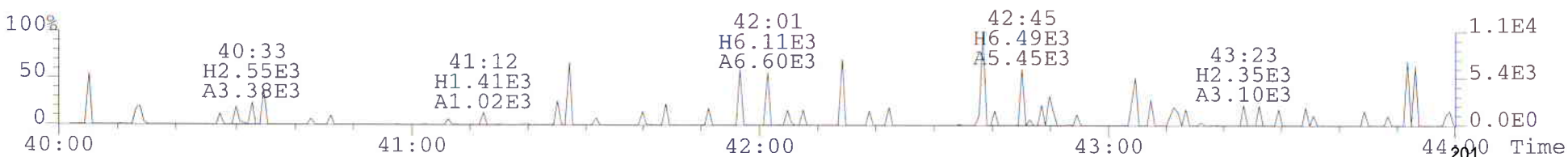
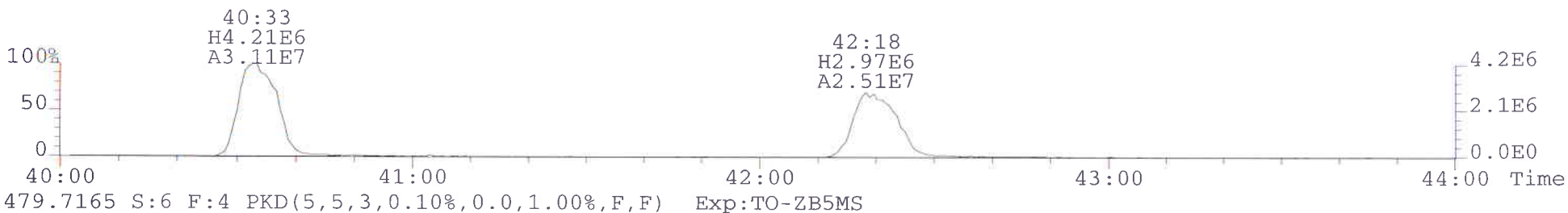
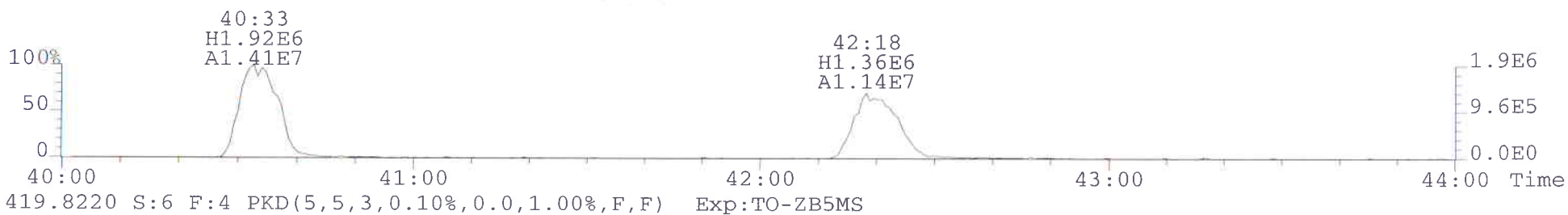
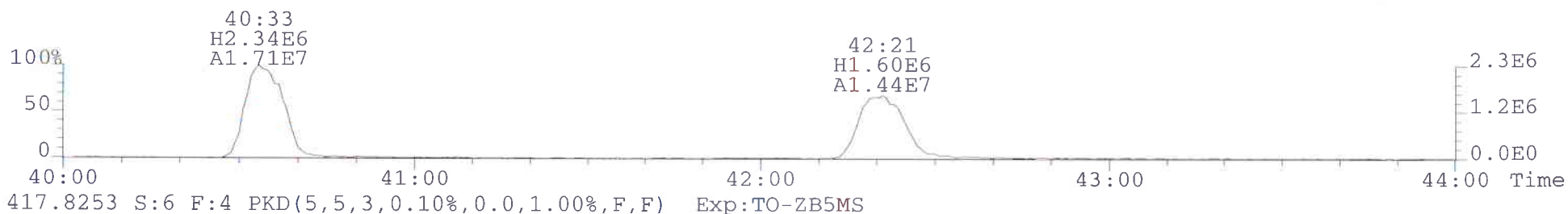
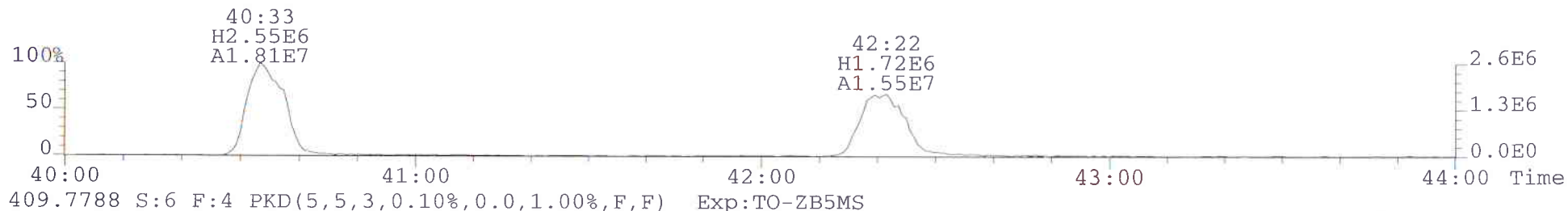
File:050714A1 #1-444 Acq: 7-MAY-2014 13:50:34 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST050714A1-2 S050913F 1613 CS3WT
373.8207 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



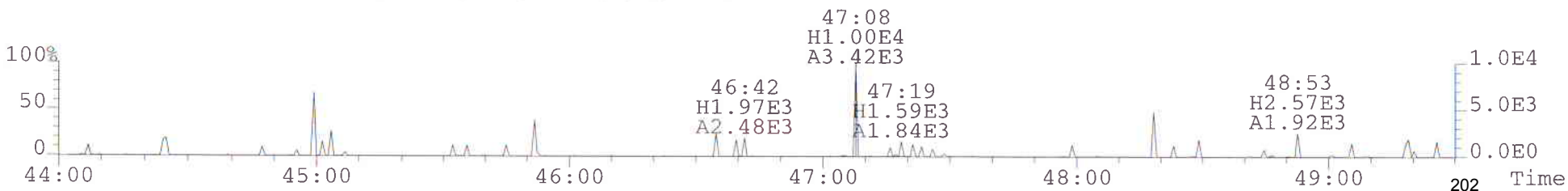
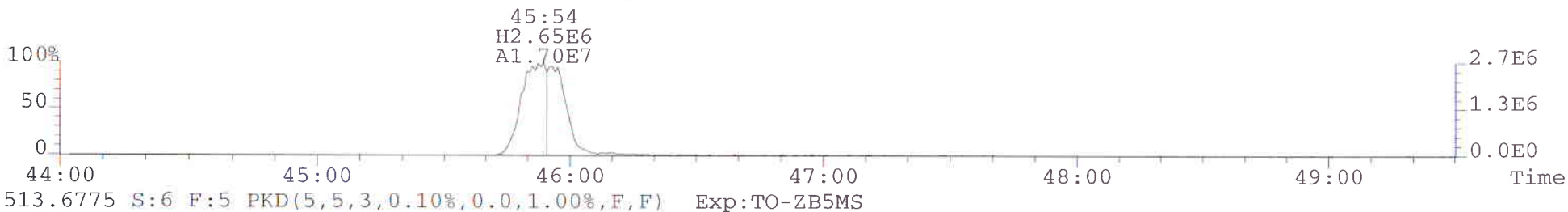
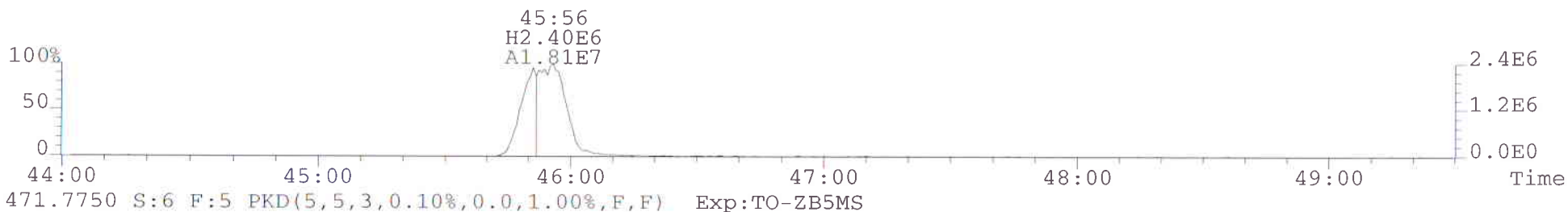
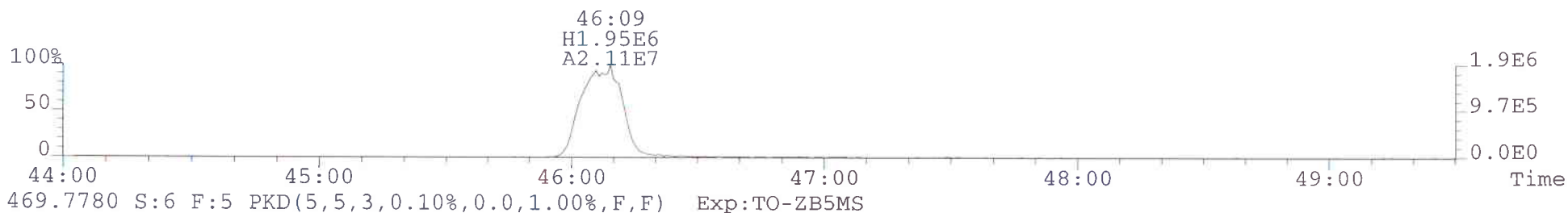
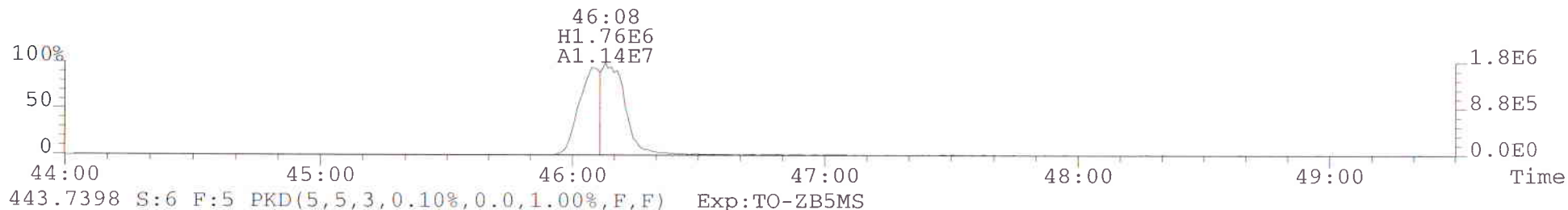
File:050714A1 #1-444 Acq: 7-MAY-2014 13:50:34 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST050714A1-2 S050913F 1613 CS3WT
383.8639 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



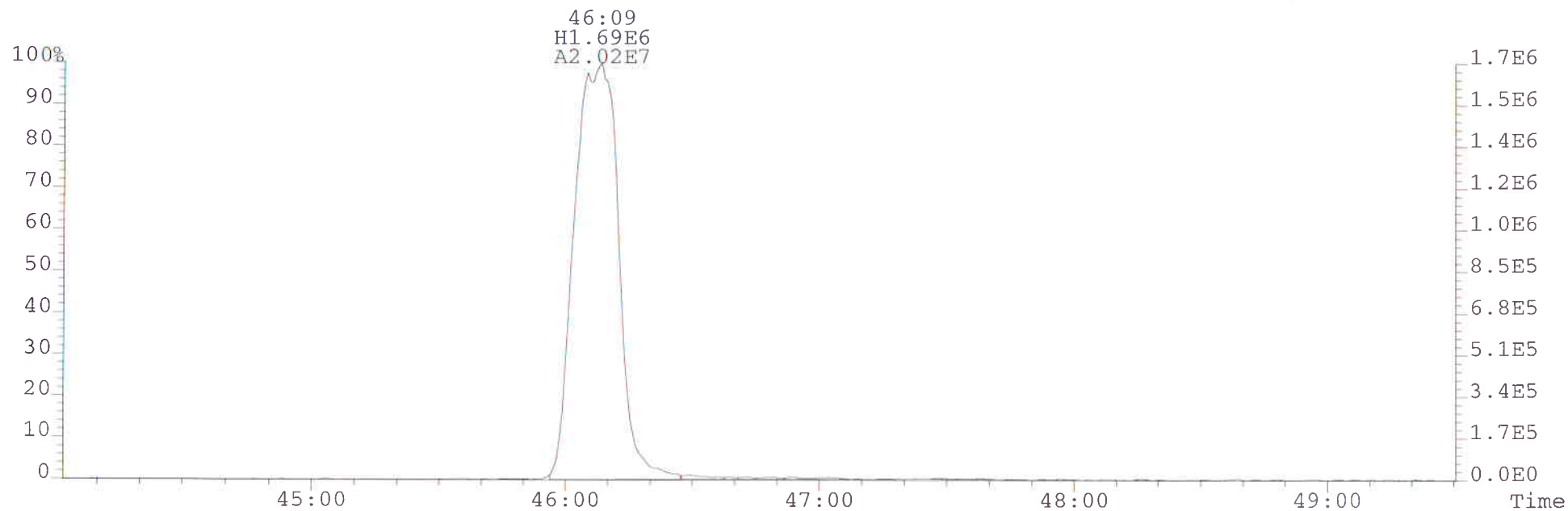
File:050714A1 #1-356 Acq: 7-MAY-2014 13:50:34 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST050714A1-2 S050913F 1613 CS3WT
407.7818 S:6 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



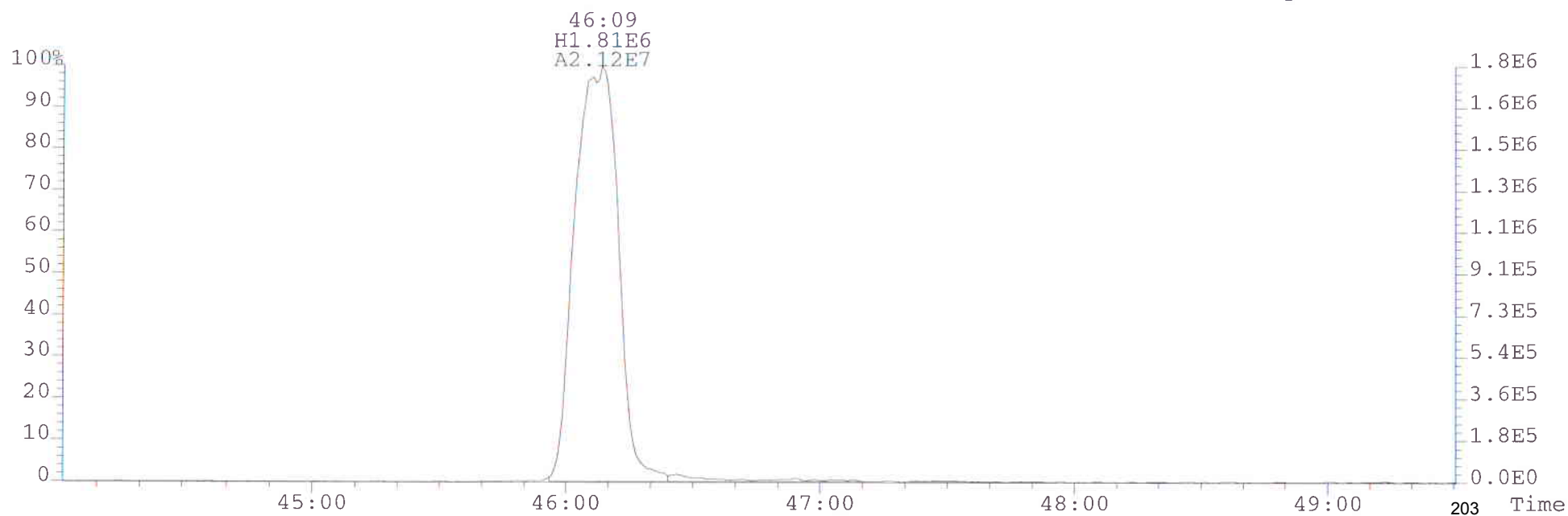
File:050714A1 #1-489 Acq: 7-MAY-2014 13:50:34 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST050714A1-2 S050913F 1613 CS3WT
441.7428 S:6 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



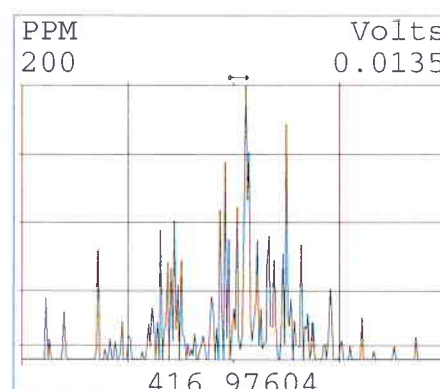
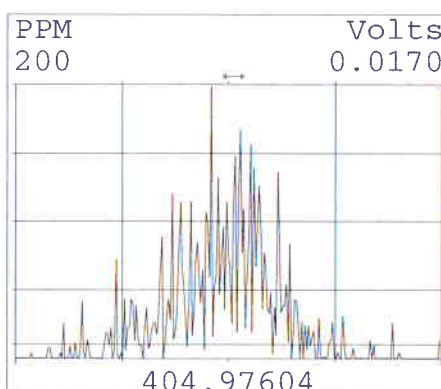
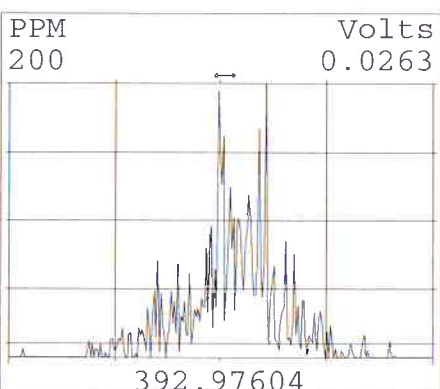
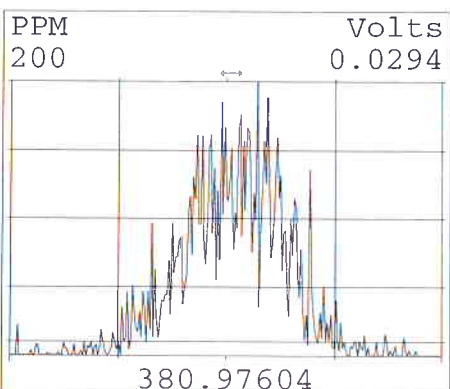
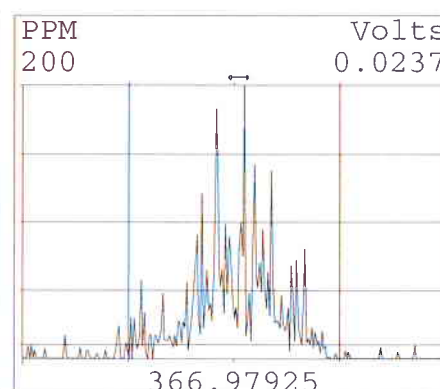
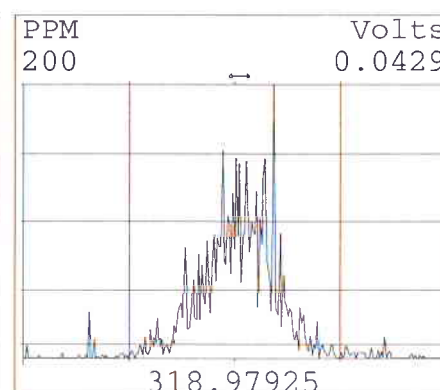
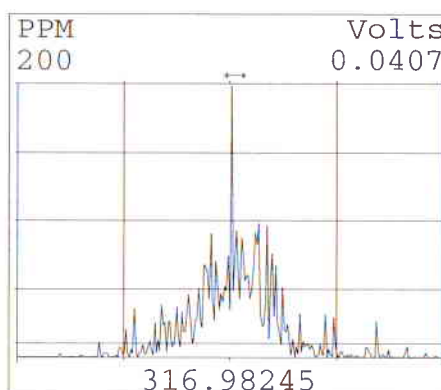
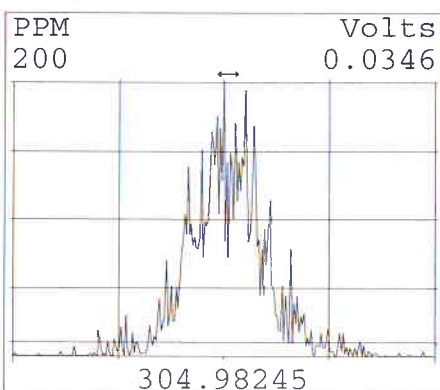
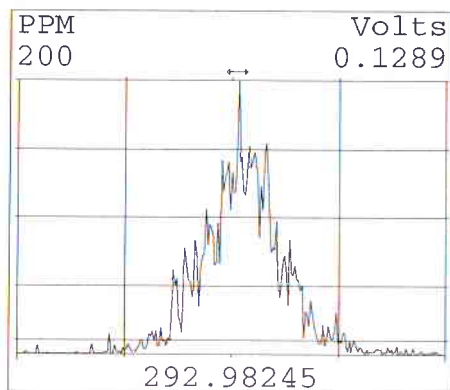
File:050714A1 #1-489 Acq: 7-MAY-2014 13:50:34 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST050714A1-2 S050913F 1613 CS3WT
441.7428 S:6 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) SMO(1,3) PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



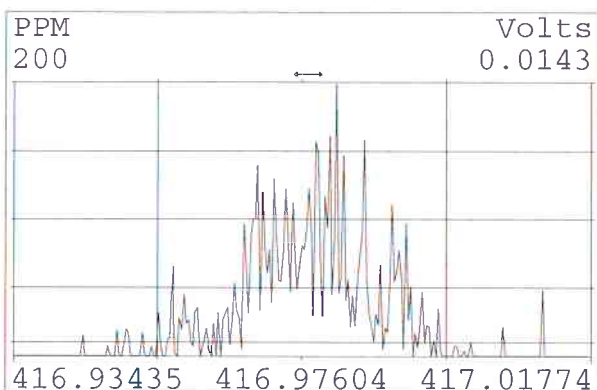
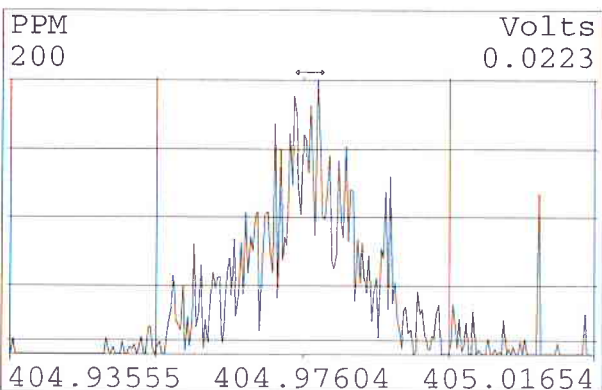
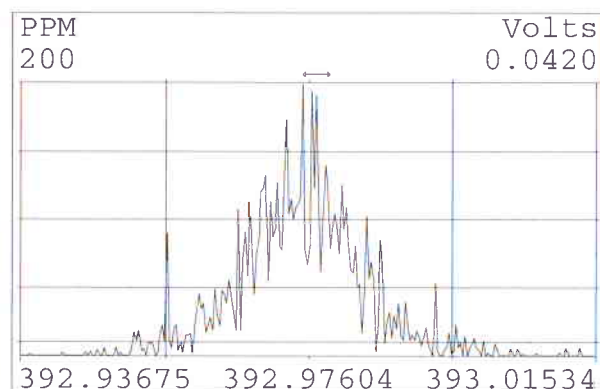
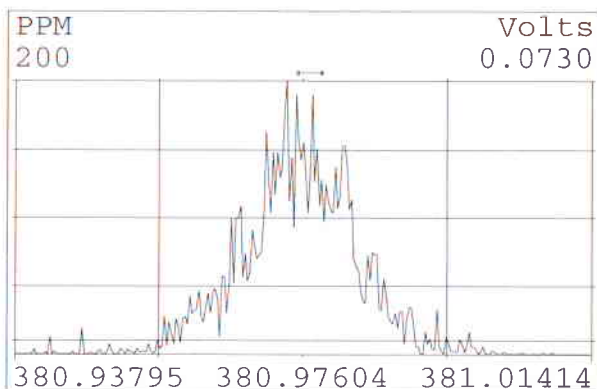
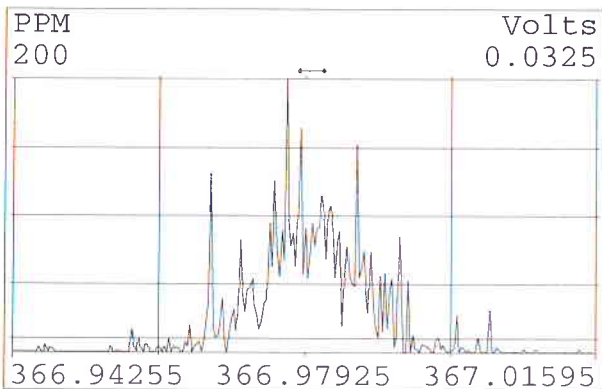
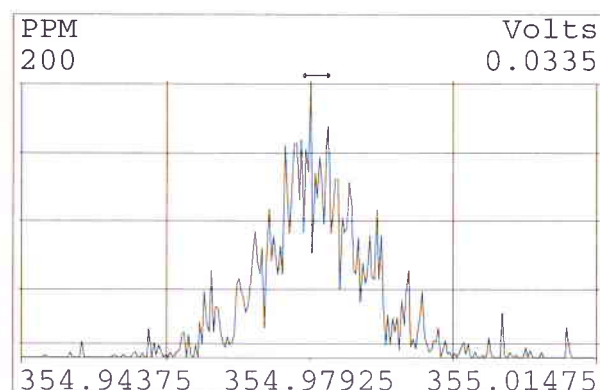
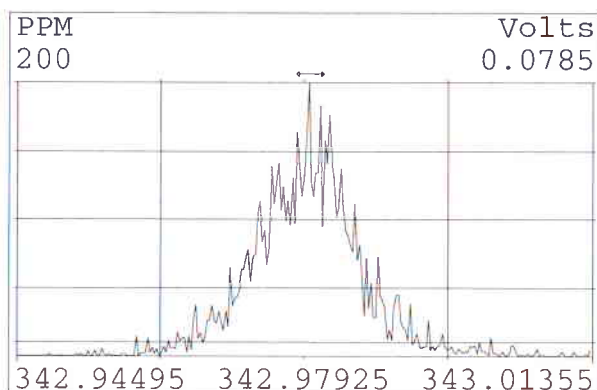
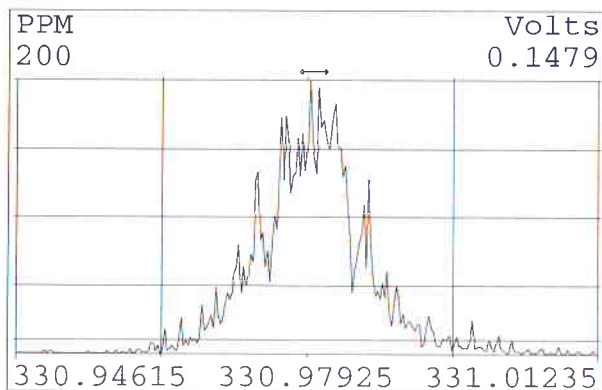
443.7398 S:6 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,F) SMO(1,3) PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



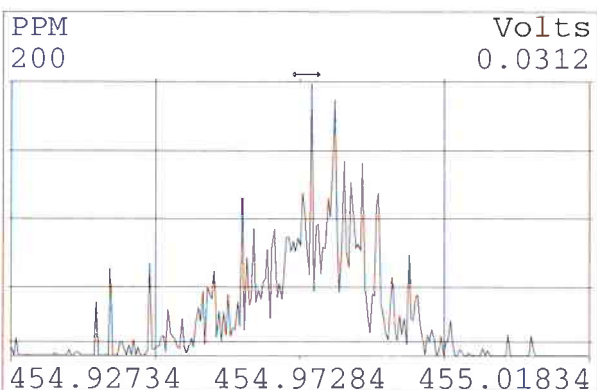
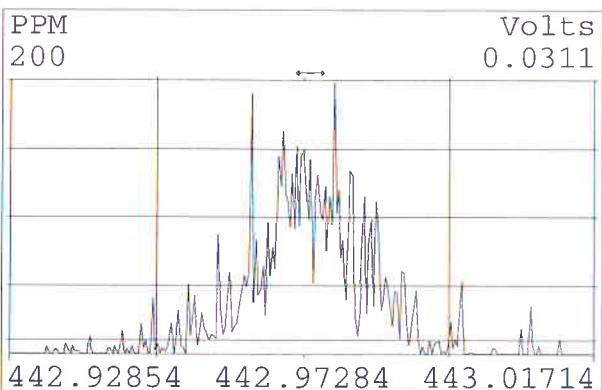
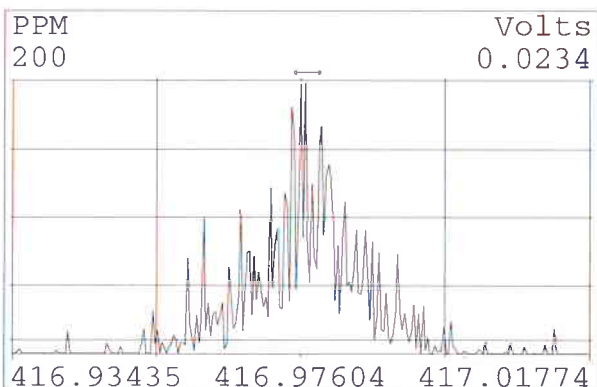
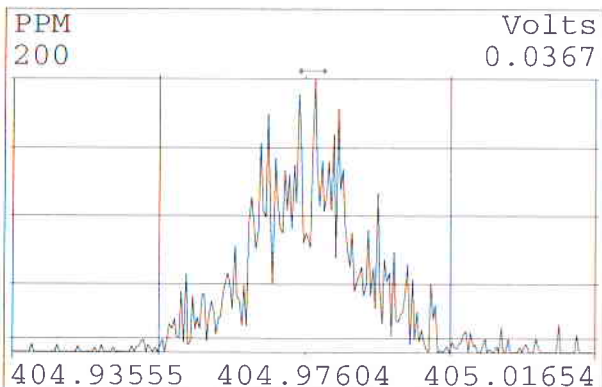
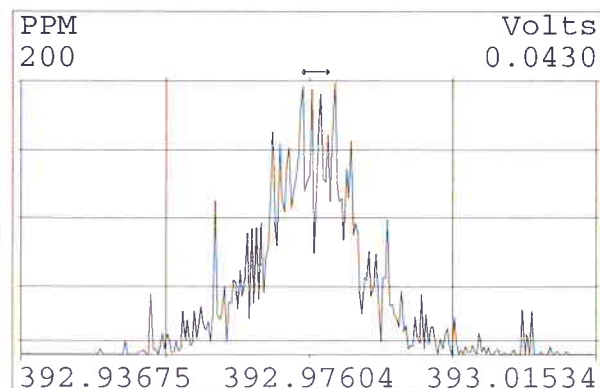
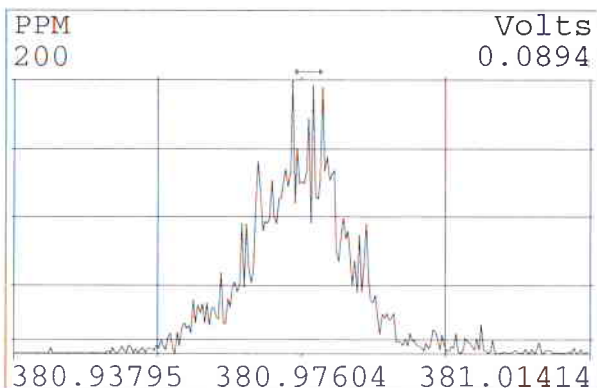
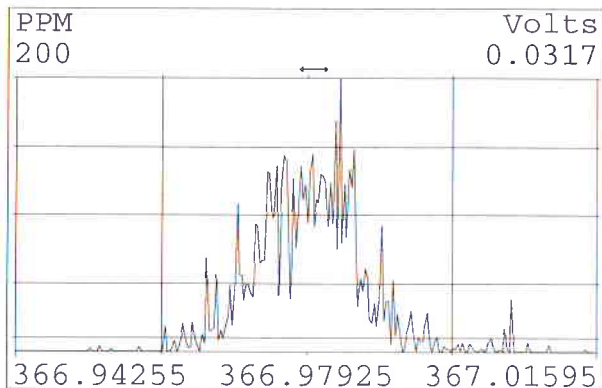
Peak Locate Examination: 7-MAY-2014:14:53 File:RES_CHECK
Experiment:TO-ZB5MS Function:1 Reference:PFK



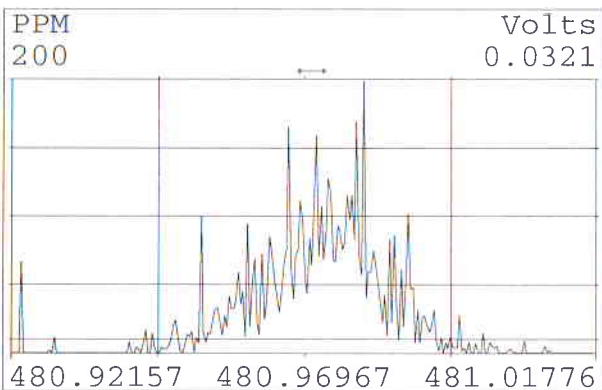
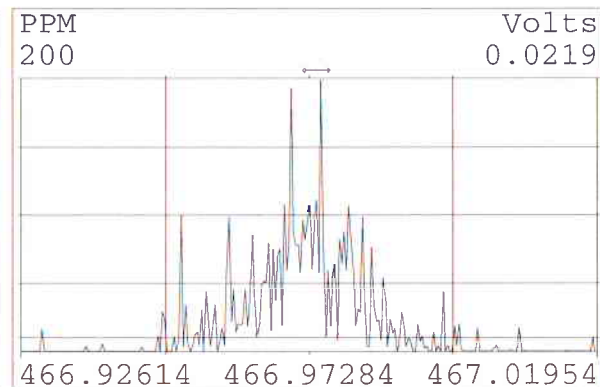
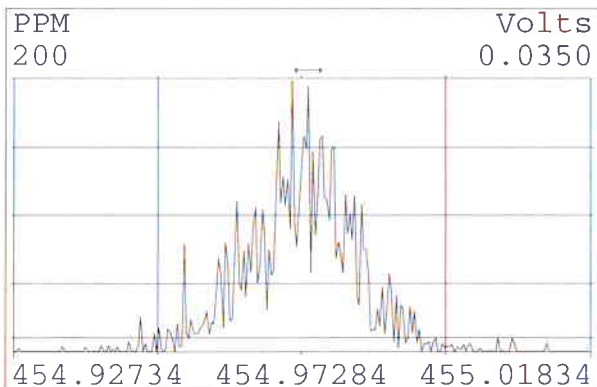
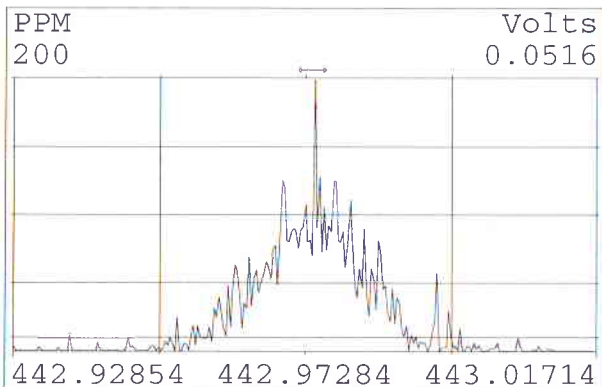
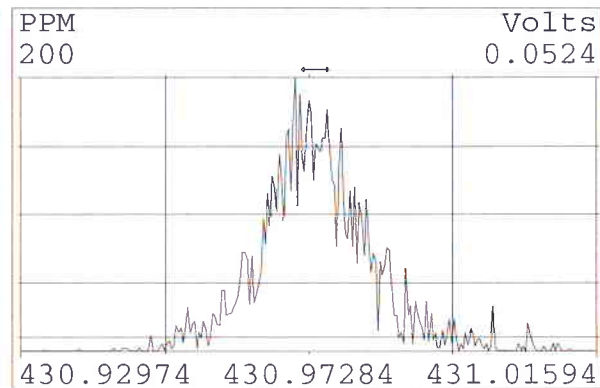
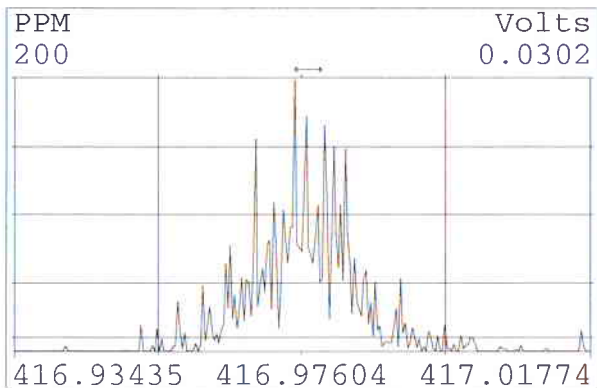
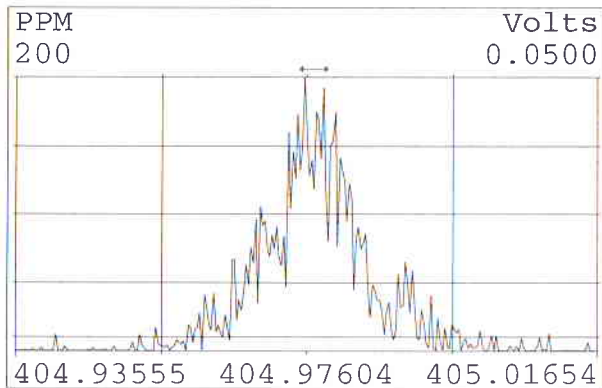
Peak Locate Examination: 7-MAY-2014:14:54 File:RES_CHECK
Experiment:TO-ZB5MS Function:2 Reference:PFK



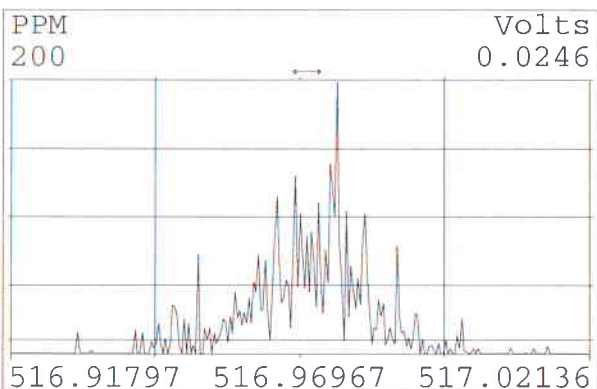
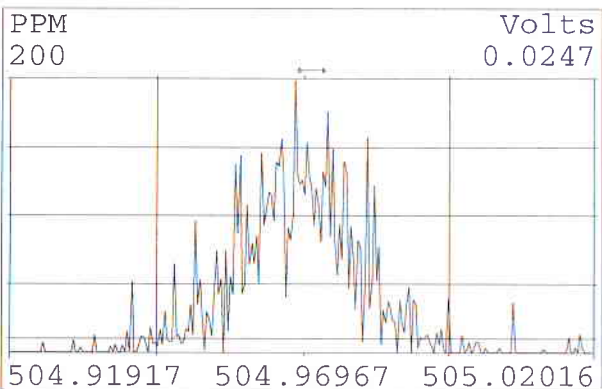
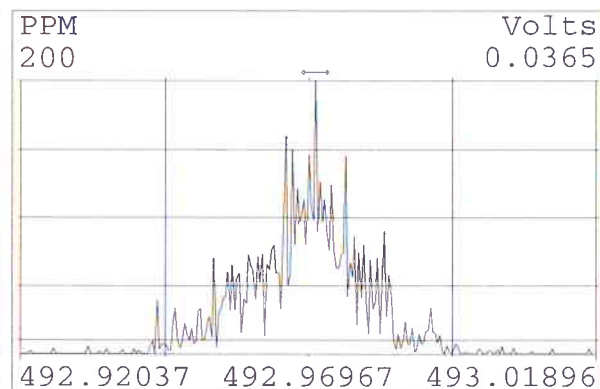
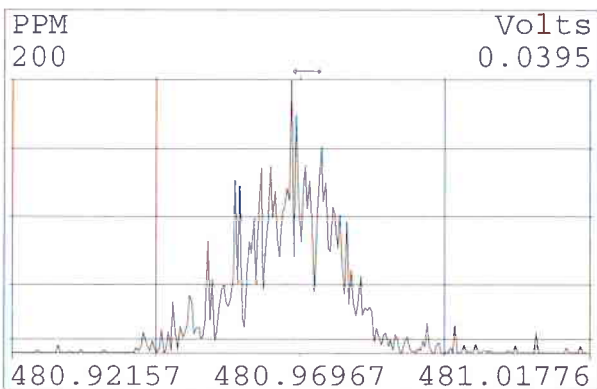
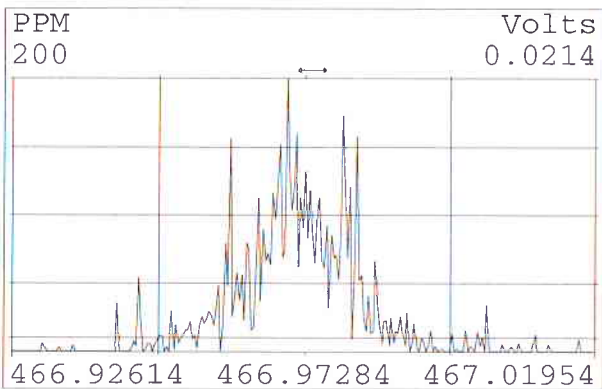
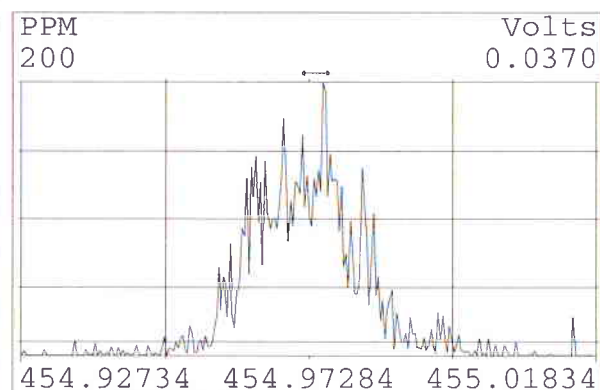
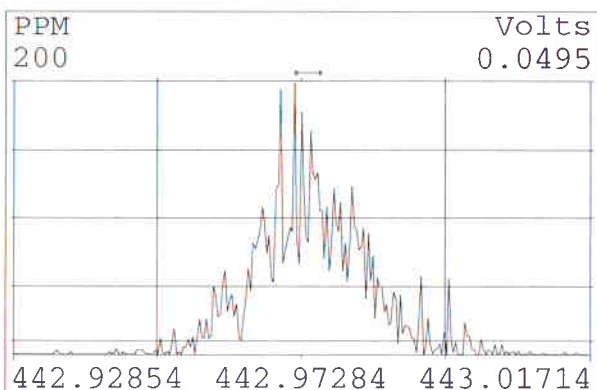
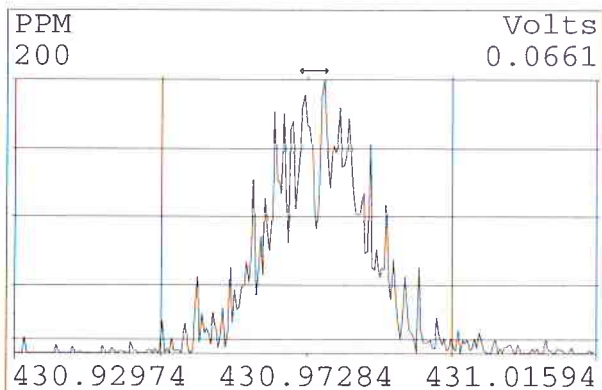
Peak Locate Examination: 7-MAY-2014:14:55 File:RES_CHECK
Experiment:TO-ZB5MS Function:3 Reference:PFK



Peak Locate Examination: 7-MAY-2014:14:56 File:RES_CHECK
Experiment:TO-ZB5MS Function:4 Reference:PFK



Peak Locate Examination: 7-MAY-2014:14:57 File:RES_CHECK
Experiment:TO-ZB5MS Function:5 Reference:PFK



USEPA - ITD

FORM 4A/B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST051014A1-1

Contract No.: SAS No.:

Initial Calibration Date: 6/5/14

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 051014A1 S:2 Analysis Date: 10-MAY-14 Time: 10:43:14

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	EPA 1613	EPA 8290
					CONC. RANGE (3) (ng/mL)	CONC. RANGE (ng/mL)
2,3,7,8-TCDF	M/M+2	0.72	0.65-0.89	9.4	8.4 12.0	8.0 12.0
13C-2,3,7,8-TCDF	M/M+2	0.83	0.65-0.89	107.0	71 140	70 130

Analyst: J
Date: 5/12/14

Reviewer: ML
Date: 5/12/14

(1) See Table 3, Method 1613, for m/z specifications.
 (2) Ion Abundance Ratio Control Limits as specified in Table 3A, Method 1613.
 (3) Contract-required concentration range as specified in Table 7, Method 1613, under VER 10/94.

Ceres Analytical Laboratory Inc. Quantitation Summary
Filename: 051014A1 S: 2 Acquired: 10-MAY-14 10:43:14
Ceres ID: ST051014A1-1 Client ID: S050913F 1613 CS3WT

Ical: 1613TCDF-MS1-6-5-13
Wt/Vol: 1.000

Con CAL: ST050914A2-1
End CAL: ST050914A2-2

Name	RT	Resp	RRF	RA	rrt	Conc	IS m2 ht	noise	DL
2,3,7,8-TCDF	16:60	7.61e+06	0.94	0.72	y 1.001 0.999-1.003	9.40	7.80e+06	7890	2.5
13C-2,3,7,8-TCDF	16:58	8.61e+07	1.36	0.83	y	107			
13C-1,2,3,4-TCDD	15:26	5.94e+07	1.00	0.77	y	100			

Analyst: J

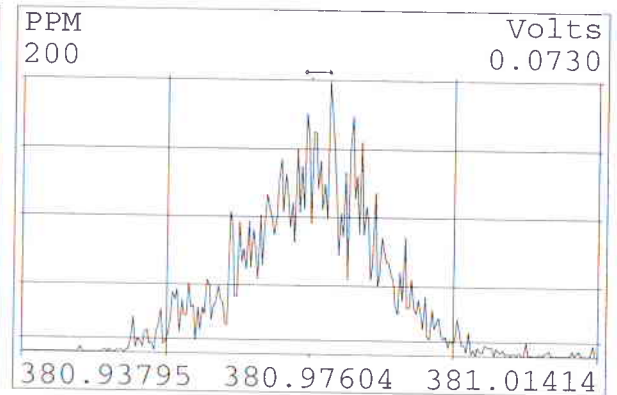
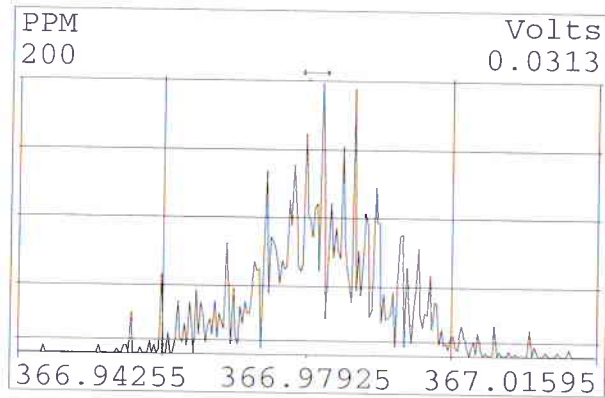
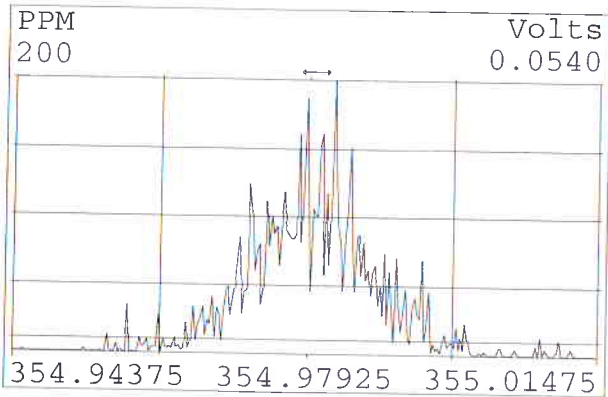
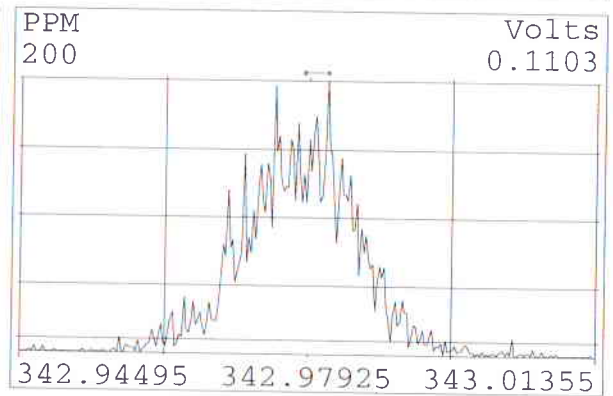
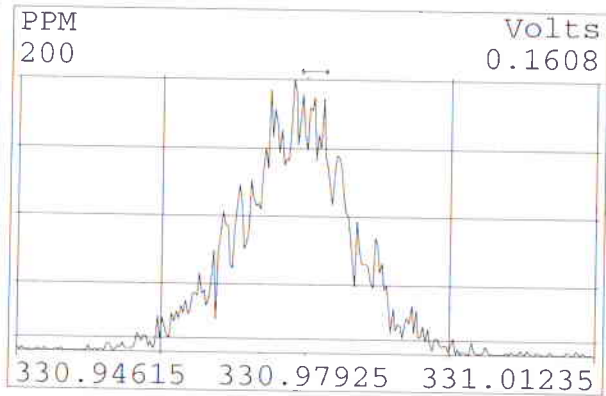
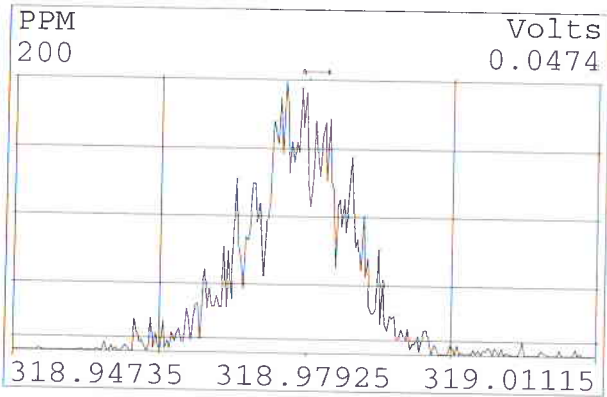
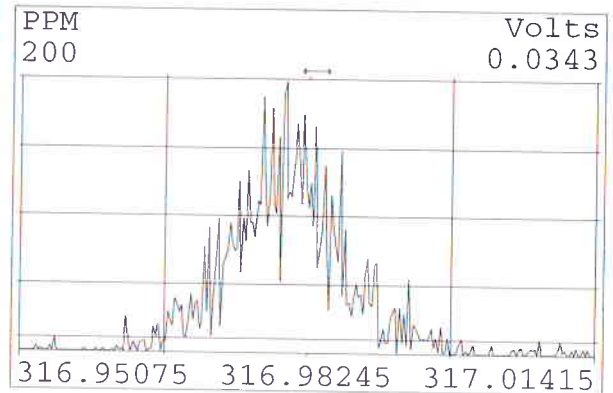
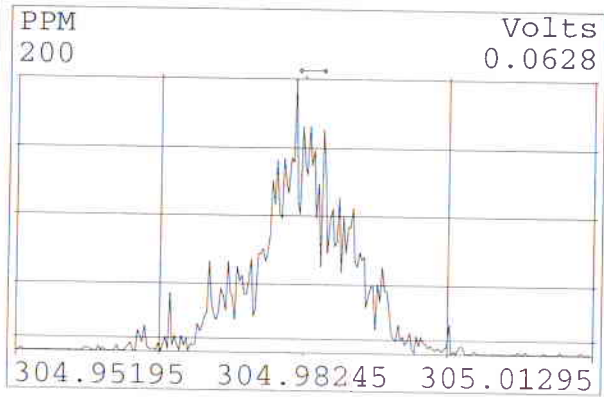
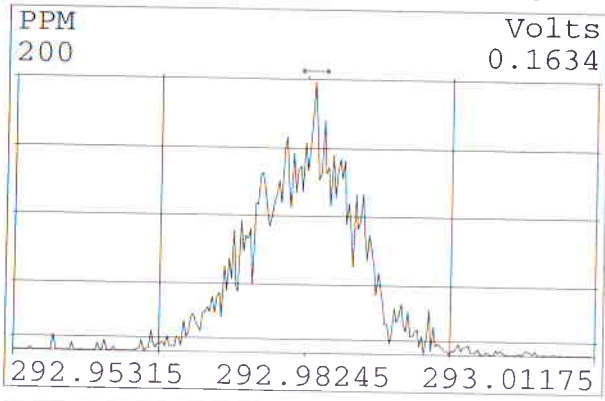
Date: 5/12/14

Reviewer: BL

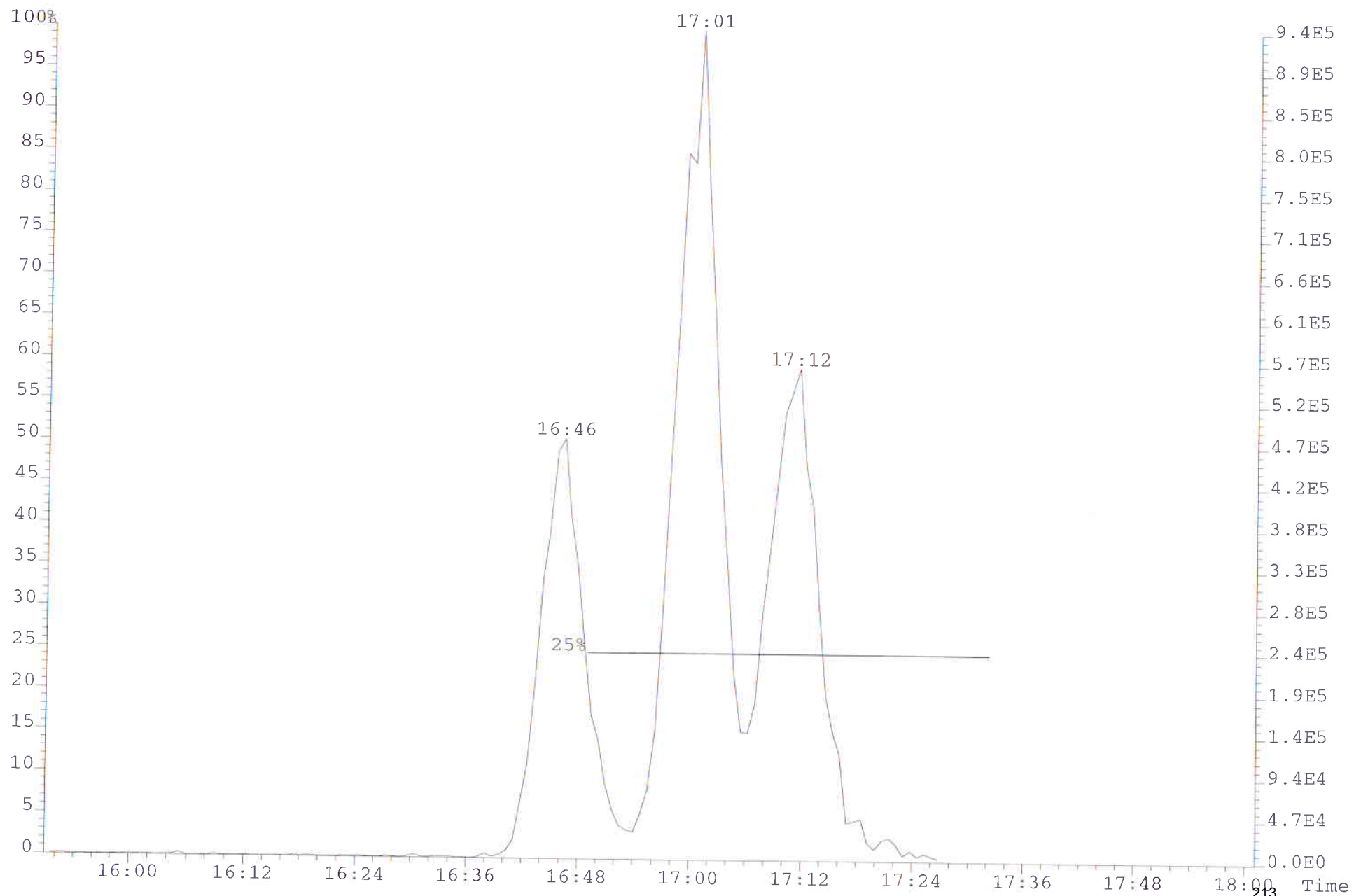
Date: 5/12/14

	c/q	Data File	S	Ceres ID	Acquired	Time	Con Cal	End Cal
1	q	051014A1	1	CP051014A1-1	10-MAY-14	10:00:11		
2	q	051014A1	2	ST051014A1-1	10-MAY-14	10:43:14	ST050914A2-1	ST050914A2-2 y
3	q	051014A1	3	solvent blank	10-MAY-14	11:26:18	ST050914A2-1	ST050914A2-2 y
4	q	051014A1	4	10351-1191-004	10-MAY-14	12:09:21	ST050914A2-1	ST050914A2-2 y
5	q	051014A1	5	10345-1191-003	10-MAY-14	12:52:25	ST050914A2-1	ST050914A2-2 y
6	q	051014A1	6	10345-1191-004	10-MAY-14	13:35:29	ST050914A2-1	ST050914A2-2 y
7	q	051014A1	7	10343-1188-003	10-MAY-14	14:18:33	ST050914A2-1	ST050914A2-2 y
8	q	051014A1	8	10343-1188-004	10-MAY-14	15:01:37	ST050914A2-1	ST050914A2-2 y
9	q	051014A1	9	10345-1191-001	10-MAY-14	15:44:41	ST050914A2-1	ST050914A2-2 y
10	q	051014A1	10	10345-1191-002	10-MAY-14	16:27:09	ST050914A2-1	ST050914A2-2 y
11	q	051014A1	11	10339-1188-001	10-MAY-14	17:10:13	ST050914A2-1	ST050914A2-2 y
12	q	051014A1	12	10341-1188-001	10-MAY-14	17:52:41	ST050914A2-1	ST050914A2-2 y
13	q	051014A1	13	solvent blank	10-MAY-14	18:35:45	ST050914A2-1	ST050914A2-2 y
14	q	051014A1	14	ST051014A1-2	10-MAY-14	19:18:13	ST050914A2-1	ST050914A2-2 y

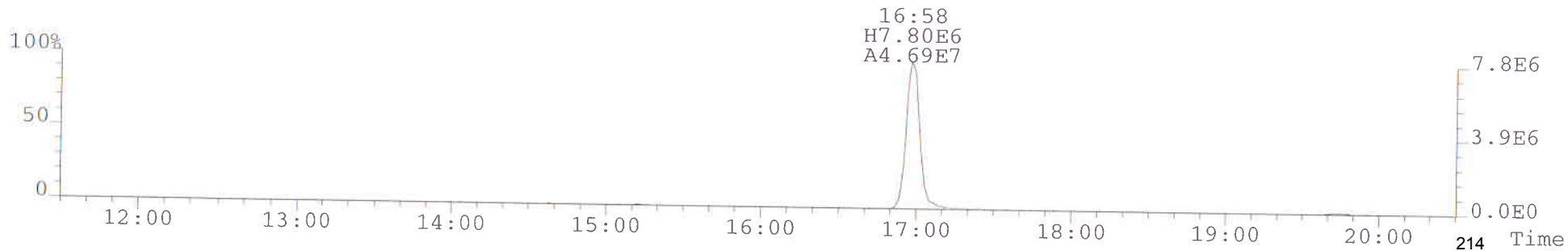
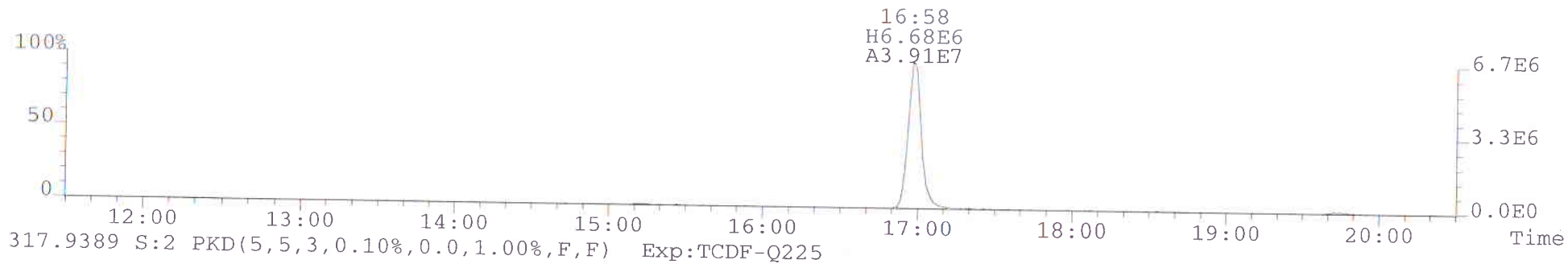
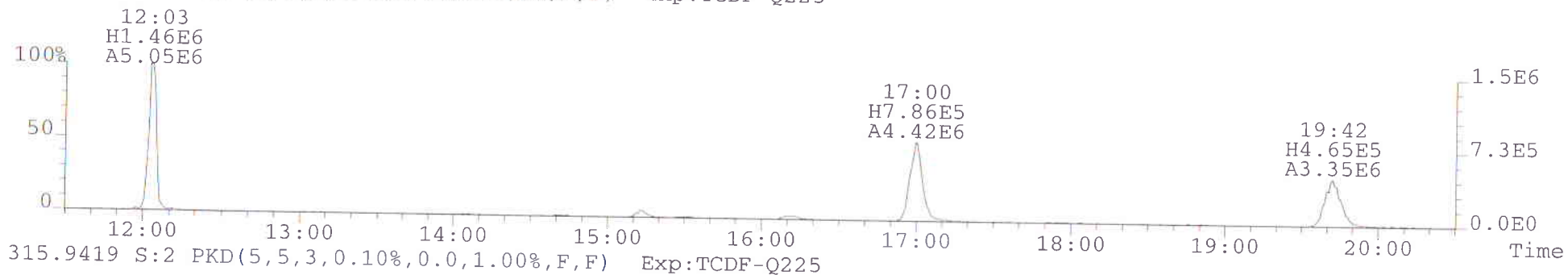
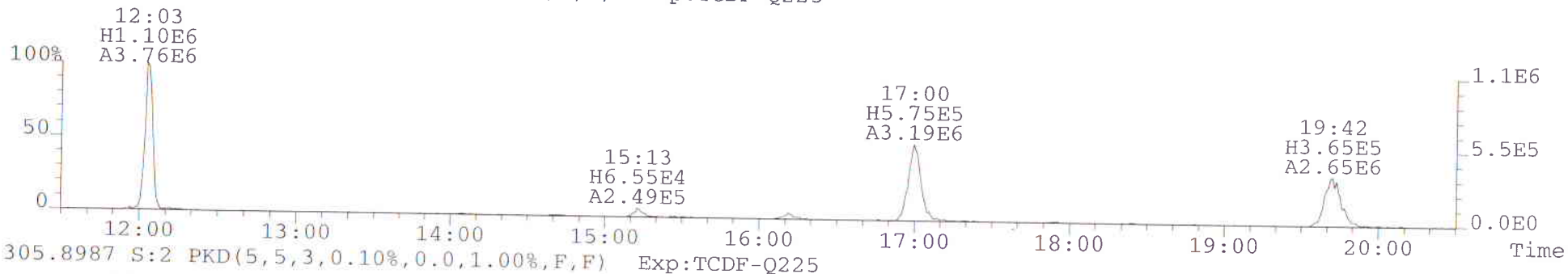
Peak Locate Examination:10-MAY-2014:09:05 File:051014A1
Experiment:TCDF-Q225 Function:1 Reference:PFK



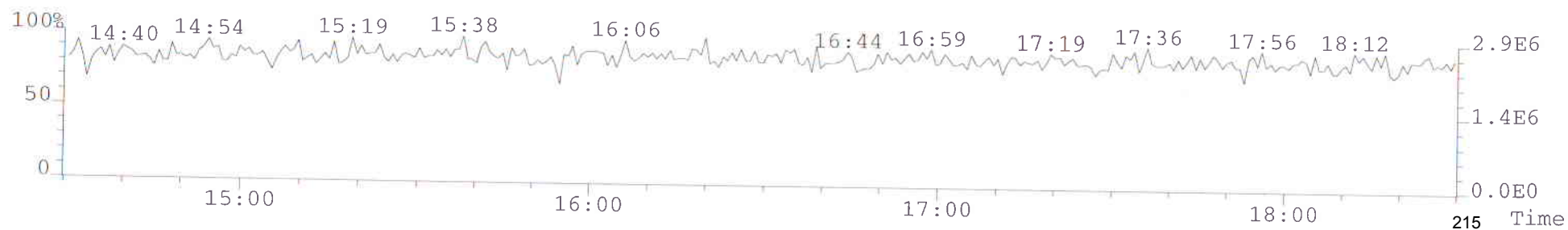
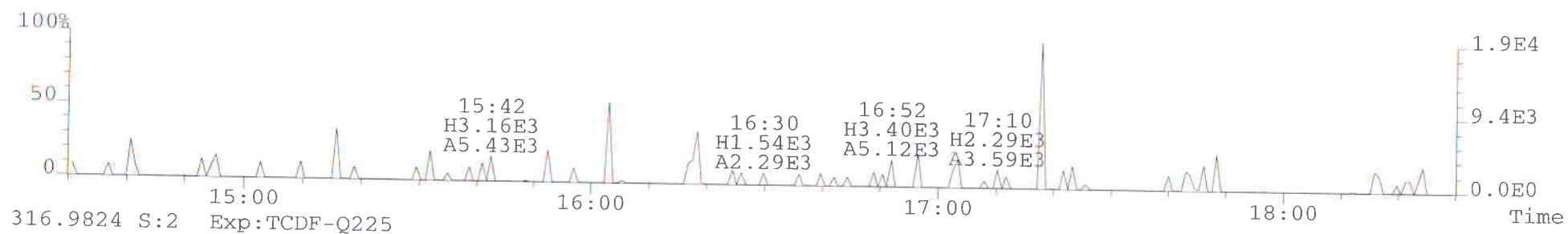
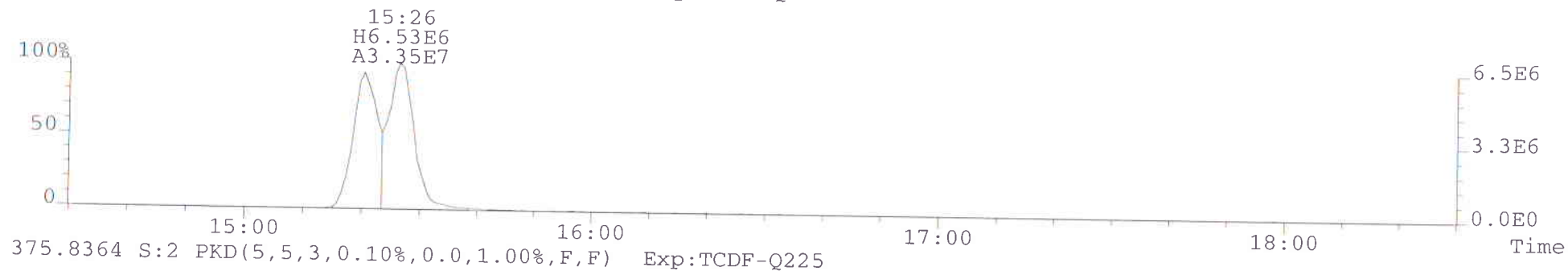
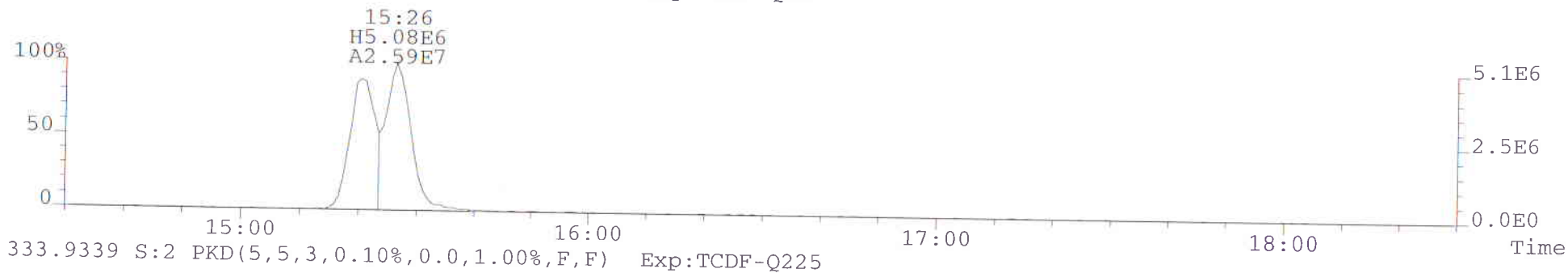
File:051014A1 #1-482 Acq:10-MAY-2014 10:00:11 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:CP051014A1-1 q-225 CPSM
305.8987 Exp:TCDF-Q225



File:051014A1 #1-1494 Acq:10-MAY-2014 10:43:14 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text:Ceres Analytical Laboratory Text:ST051014A1-1 S050913F 1613 CS3WT
303.9016 S:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TCDF-Q225



File:051014A1 #1-1494 Acq:10-MAY-2014 10:43:14 GC EI+ Voltage SIR Autospec-Ultima
 Sample#2 File Text:Ceres Analytical Laboratory Text:ST051014A1-1 S050913F 1613 CS3WT
 331.9368 S:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TCDF-Q225



USEPA - ITD

FORM 4A/B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST051014A1-2

Contract No.: SAS No.:

Initial Calibration Date: 6/5/14

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 051014A1 S:14 Analysis Date: 10-MAY-14 Time: 19:18:13

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	EPA 1613	EPA 8290
					CONC. RANGE (3) (ng/mL)	CONC. RANGE (ng/mL)
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	9.7	8.4 12.0	8.0-12.0
13C-2,3,7,8 TCDF	M/M+2	0.80	0.65-0.89	95.5	71 140	70 - 130

Analyst: J
Date: 5/12/14

Reviewer: MB
Date: 5/12/14

- (1) See Table 3, Method 1613, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 3A, Method 1613.
- (3) Contract required concentration range as specified in Table 7, Method 1613, under VER 10/94.

Ceres Analytical Laboratory Inc. Quantitation Summary
 Filename: 051014A1 S: 14 Acquired: 10-MAY-14 19:18:13
 Ceres ID: ST051014A1-2 Client ID: S050913F 1613 CS3WT

ICal: 1613TCDF-MS1-6-5-13
 Wt/Vol: 1.000

Con CAL: ST050914A2-1
 End CAL: ST050914A2-2

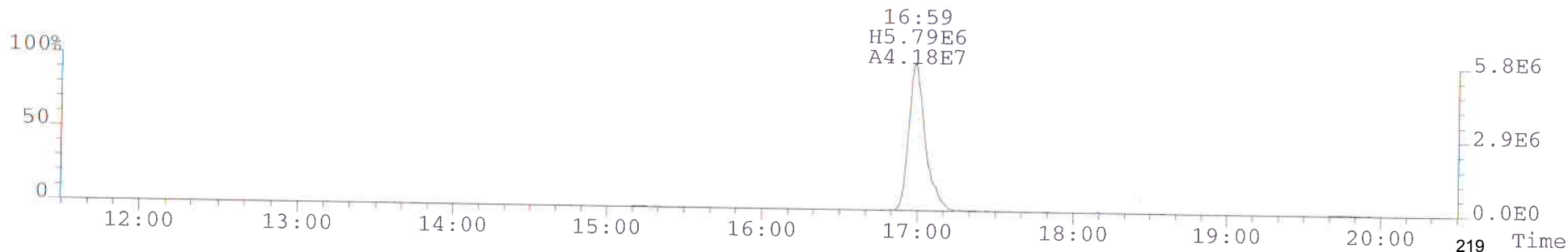
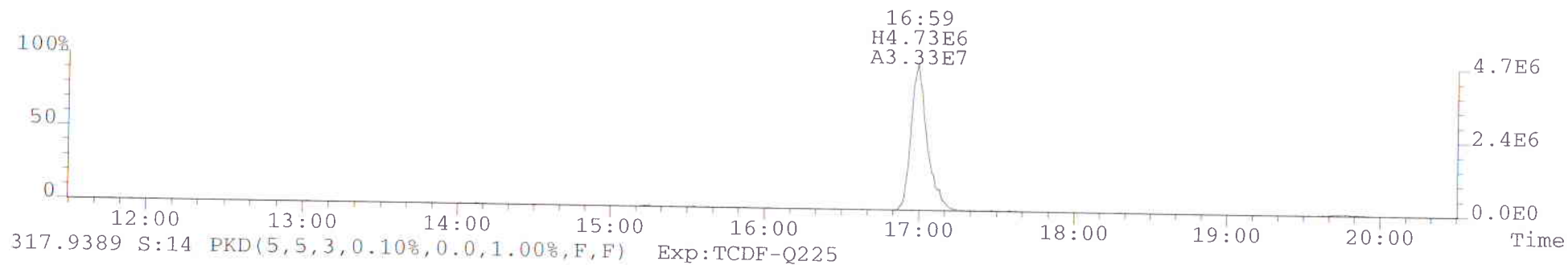
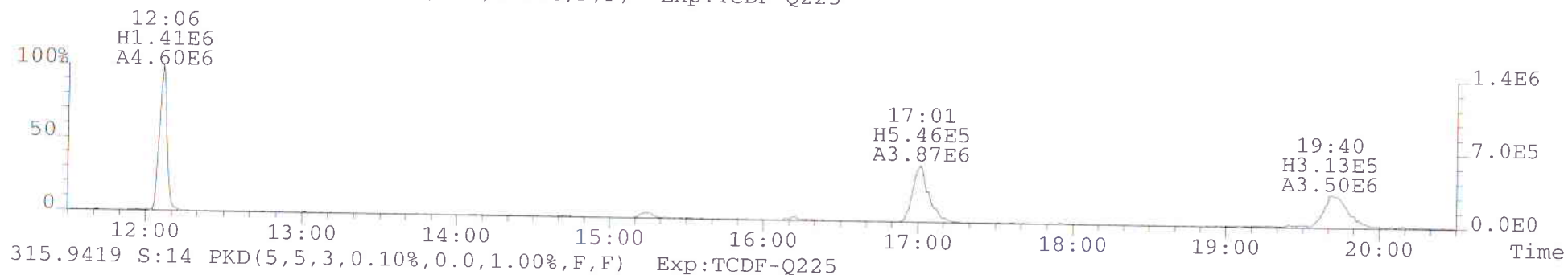
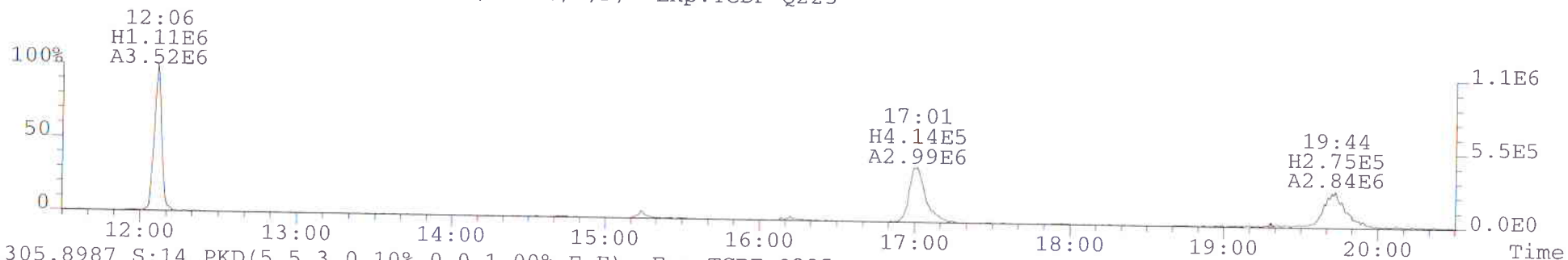
Name	RT	Resp	RRF	RA	rrt	Conc	IS m2 ht	noise	DL
2,3,7,8-TCDF	17:01	6.87e+06	0.94	0.77 y	1.001 0.999-1.003	9.72	5.79e+06	7380	2.5
13C-2,3,7,8-TCDF	16:59	7.50e+07	1.36	0.80 y		95.5			
13C-1,2,3,4-TCDD	15:27	5.80e+07	1.00	0.73 y		100			

Analyst: J
 Date: 5/12/14

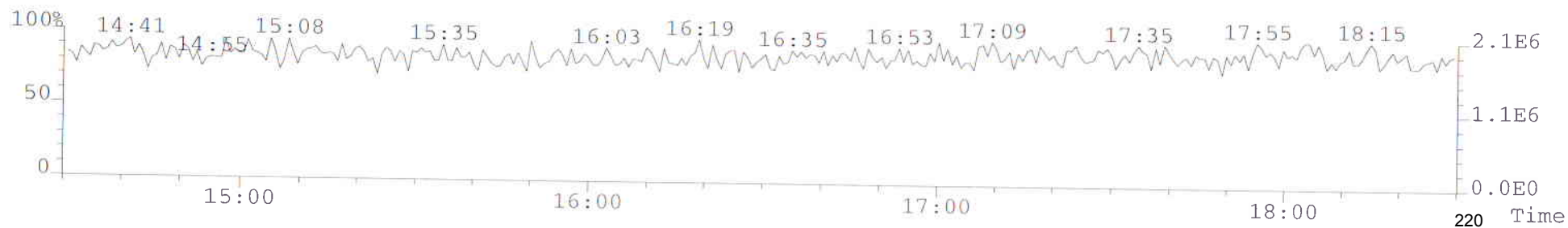
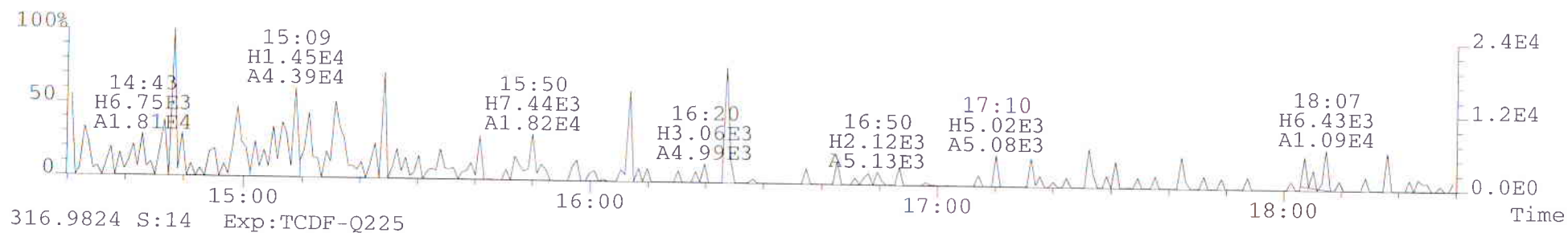
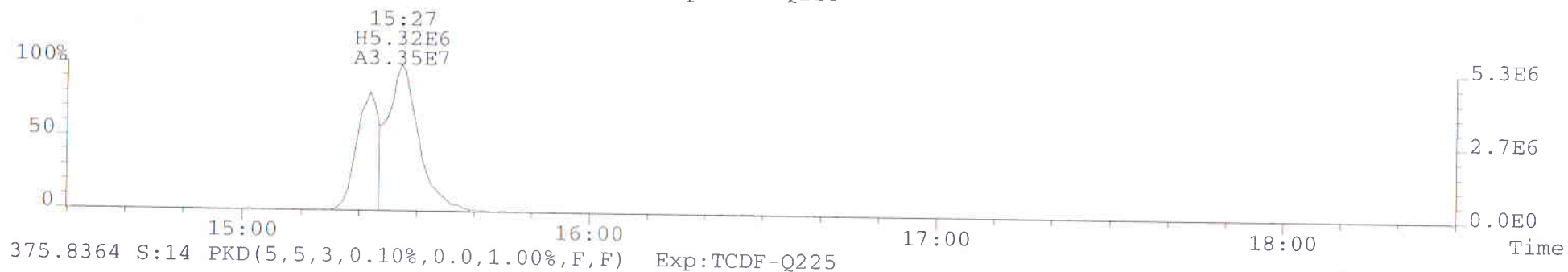
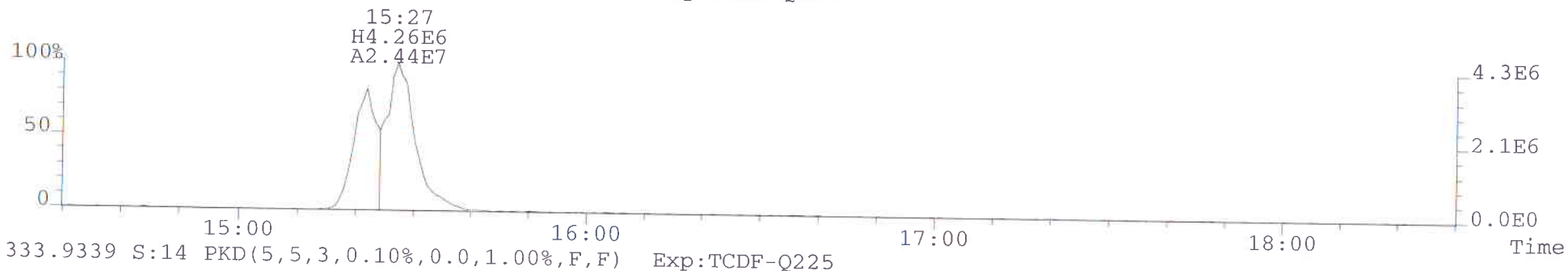
Reviewer: BL
 Date: 5/12/14

c/q	Data File	S	Ceres ID	Acquired	Time	Con Cal	End Cal
1	q 051014A1	1	CP051014A1-1	10-MAY-14	10:00:11		
2	q 051014A1	2	ST051014A1-1	10-MAY-14	10:43:14	ST050914A2-1	ST050914A2-2 y
3	q 051014A1	3	solvent blank	10-MAY-14	11:26:18	ST050914A2-1	ST050914A2-2 y
4	q 051014A1	4	10351-1191-004	10-MAY-14	12:09:21	ST050914A2-1	ST050914A2-2 y
5	q 051014A1	5	10345-1191-003	10-MAY-14	12:52:25	ST050914A2-1	ST050914A2-2 y
6	q 051014A1	6	10345-1191-004	10-MAY-14	13:35:29	ST050914A2-1	ST050914A2-2 y
7	q 051014A1	7	10343-1188-003	10-MAY-14	14:18:33	ST050914A2-1	ST050914A2-2 y
8	q 051014A1	8	10343-1188-004	10-MAY-14	15:01:37	ST050914A2-1	ST050914A2-2 y
9	q 051014A1	9	10345-1191-001	10-MAY-14	15:44:41	ST050914A2-1	ST050914A2-2 y
10	q 051014A1	10	10345-1191-002	10-MAY-14	16:27:09	ST050914A2-1	ST050914A2-2 y
11	q 051014A1	11	10339-1188-001	10-MAY-14	17:10:13	ST050914A2-1	ST050914A2-2 y
12	q 051014A1	12	10341-1188-001	10-MAY-14	17:52:41	ST050914A2-1	ST050914A2-2 y
13	q 051014A1	13	solvent blank	10-MAY-14	18:35:45	ST050914A2-1	ST050914A2-2 y
14	q 051014A1	14	ST051014A1-2	10-MAY-14	19:18:13	ST050914A2-1	ST050914A2-2 y

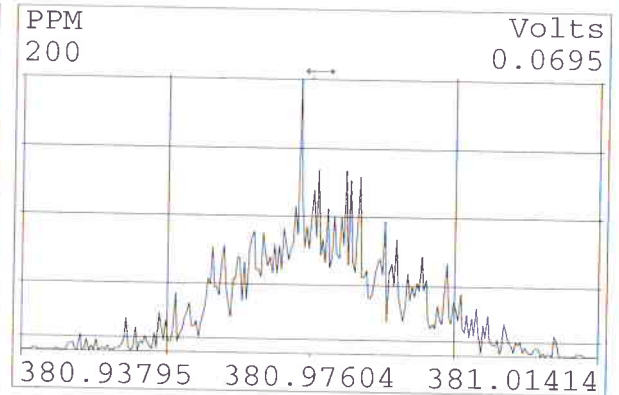
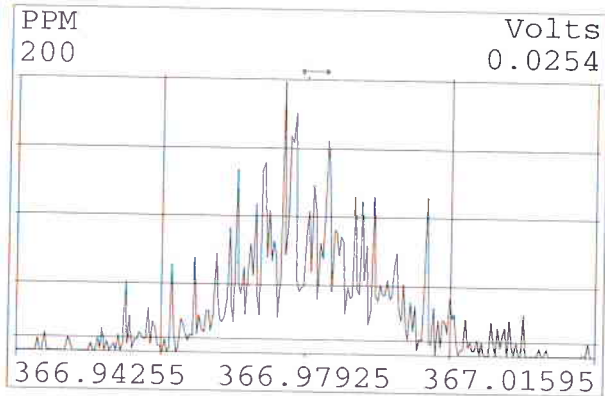
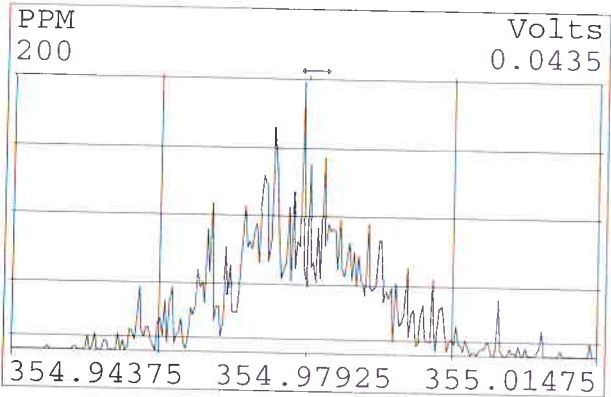
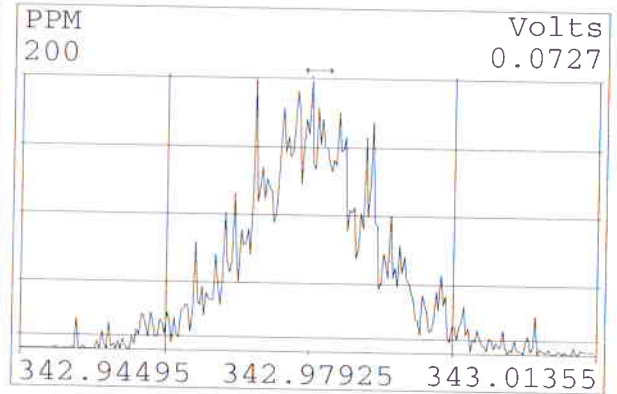
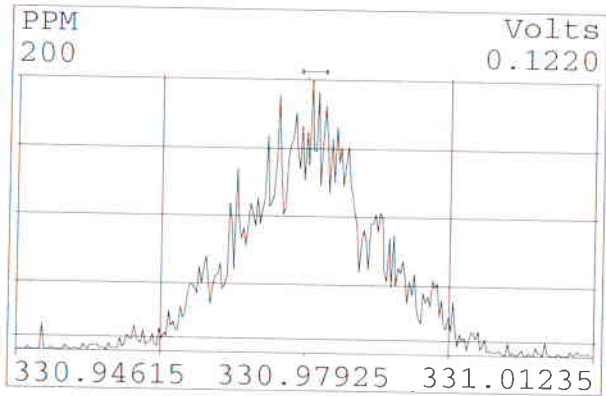
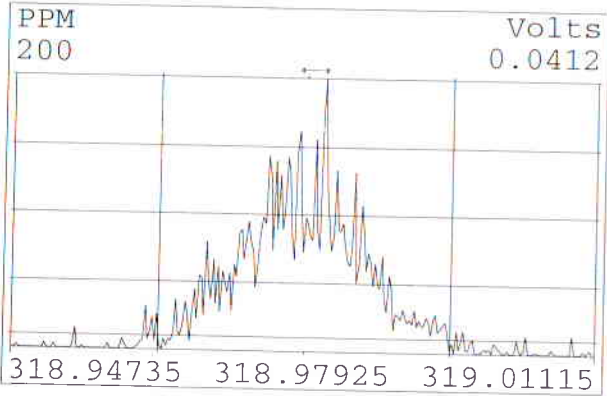
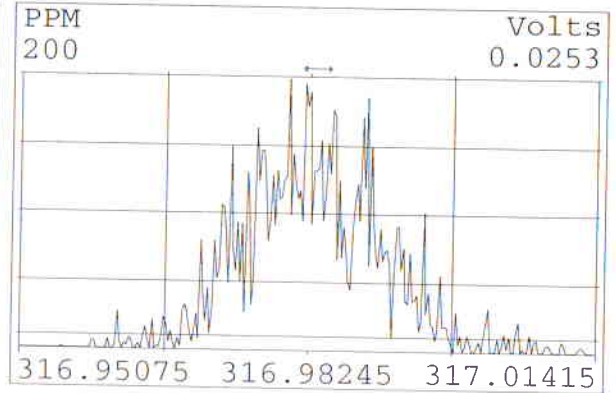
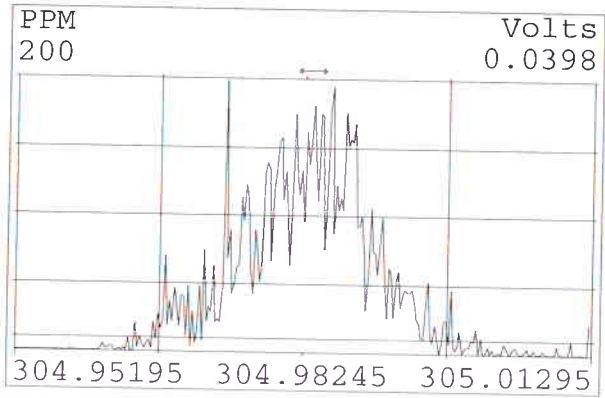
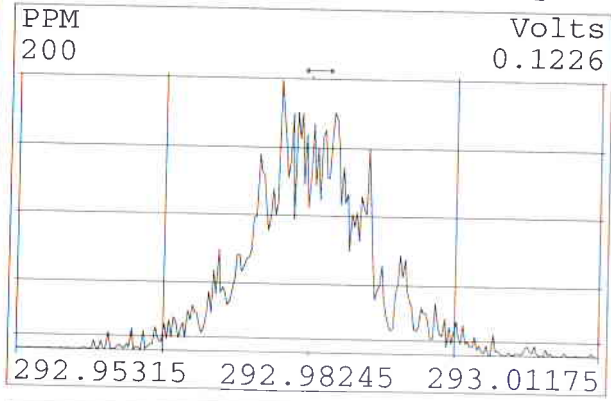
File:051014A1 #1-1494 Acq:10-MAY-2014 19:18:13 GC EI+ Voltage SIR Autospec-Ultima
Sample#14 File Text:Ceres Analytical Laboratory Text:ST051014A1-2 S050913F 1613 CS3WT
303.9016 S:14 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TCDF-Q225



File:051014A1 #1-1494 Acq:10-MAY-2014 19:18:13 GC EI+ Voltage SIR Autospec-Ultima
Sample#14 File Text:Ceres Analytical Laboratory Text:ST051014A1-2 S050913F 1613 CS3WT
331.9368 S:14 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TCDF-Q225



Peak Locate Examination:10-MAY-2014:20:03 File:RES_CHECK
Experiment:TCDF-Q225 Function:1 Reference:PFK



Section V: Initial Calibration

Analyte: 1613

ICal: 1613 ms1 5 22 13

Data Filename: 052213A1				S:3		S:4			S:5		S:6		S:7	
Name	Mean	RRF	S. D.	%RSD	RRF#1	SD	RRF#2	SD	RRF#3	SD	RRF#4	SD	RRF#5	SD
2,3,7,8 TCDD	1.03	0.02	1.58	%	1.05	1.2	1.02	0.6	1.01	1.1	1.02	0.3	1.04	0.9
1,2,3,7,8 PeCDD	0.99	0.01	1.27	%	1.00	0.7	0.96	1.7	0.99	0.1	0.99	0.6	0.99	0.4
1,2,3,4,7,8 HxCDD	0.99	0.03	3.15	%	1.00	0.1	0.95	1.5	1.03	1.3	0.99	0.0	1.00	0.1
1,2,3,6,7,8-HxCDD	0.93	0.02	2.41	%	0.95	0.6	0.93	0.1	0.89	1.7	0.95	0.6	0.94	0.5
1,2,3,7,8,9 HxCDD	0.95	0.02	1.78	%	0.97	1.1	0.93	1.1	0.93	1.0	0.95	0.3	0.96	0.7
1,2,3,4,6,7,8 HpCDD	1.01	0.02	1.50	%	1.03	1.0	0.99	1.1	1.00	1.0	1.01	0.1	1.03	0.9
OCDD	1.00	0.02	2.12	%	1.00	0.1	0.97	1.5	1.00	0.1	1.03	1.2	1.01	0.3
2,3,7,8-TCDF	0.96	0.02	2.00	%	0.99	1.5	0.96	0.2	0.94	1.1	0.95	0.7	0.97	0.5
1,2,3,7,8 PeCDF	1.01	0.02	1.62	%	1.02	0.7	0.99	1.6	1.01	0.3	1.02	0.4	1.03	0.8
2,3,4,7,8-PeCDF	1.02	0.01	0.50	%	1.01	0.9	1.01	1.2	1.02	1.1	1.02	0.5	1.02	0.5
1,2,3,4,7,8 HxCDF	1.26	0.02	1.71	%	1.24	0.6	1.23	1.0	1.27	0.8	1.25	0.4	1.29	1.3
1,2,3,6,7,8 HxCDF	1.25	0.01	1.07	%	1.25	0.1	1.23	1.4	1.24	0.4	1.27	1.4	1.25	0.3
2,3,4,6,7,8 HxCDF	1.36	0.03	1.90	%	1.39	1.2	1.32	1.5	1.35	0.3	1.35	0.1	1.37	0.6
1,2,3,7,8,9 HxCDF	1.20	0.01	1.08	%	1.21	0.6	1.18	1.6	1.20	0.3	1.21	0.9	1.21	0.4
1,2,3,4,6,7,8 HpCDF	1.53	0.03	1.83	%	1.49	1.4	1.51	0.6	1.53	0.1	1.55	0.8	1.56	1.0
1,2,3,4,7,8,9-HpCDF	1.55	0.03	1.70	%	1.55	0.3	1.52	1.4	1.56	0.2	1.56	0.2	1.59	1.4
OCDF	1.37	0.05	3.34	%	1.38	0.3	1.29	1.6	1.35	0.3	1.41	1.0	1.39	0.5
13C 2,3,7,8 TCDD	1.00	0.03	3.00	%	0.97	0.9	0.99	0.3	0.99	0.4	1.00	0.1	1.05	1.7
13C 1,2,3,7,8 PeCDD	0.99	0.04	4.10	%	0.97	0.4	0.96	0.6	0.97	0.4	0.97	0.3	1.06	1.8
3C 1,2,3,4,7,8 HxCDD	0.98	0.01	1.36	%	0.97	1.0	0.99	0.3	0.97	1.1	1.00	1.1	0.99	0.7
3C 1,2,3,6,7,8 HxCDD	1.08	0.02	1.95	%	1.09	0.6	1.06	0.8	1.11	1.5	1.07	0.4	1.06	0.8
1,2,3,4,6,7,8 HpCDD	0.85	0.01	1.74	%	0.86	0.6	0.85	0.2	0.85	0.3	0.83	1.6	0.86	1.0
13C OCDD	0.73	0.04	5.78	%	0.69	0.8	0.71	0.5	0.71	0.4	0.73	0.0	0.80	1.7
13C 2,3,7,8 TCDF	1.49	0.02	1.35	%	1.50	0.4	1.49	0.4	1.50	0.1	1.47	1.4	1.52	1.3
13C 1,2,3,7,8 PeCDF	1.51	0.06	4.13	%	1.47	0.7	1.48	0.5	1.50	0.2	1.49	0.4	1.62	1.8
13C 2,3,4,7,8 PeCDF	1.55	0.07	4.61	%	1.50	0.6	1.49	0.8	1.53	0.2	1.54	0.1	1.67	1.7
3C 1,2,3,4,7,8 HxCDF	1.39	0.01	0.90	%	1.39	0.4	1.39	0.2	1.40	1.0	1.40	0.9	1.37	1.4
3C 1,2,3,6,7,8 HxCDF	1.49	0.02	1.58	%	1.50	0.4	1.49	0.3	1.51	0.8	1.50	0.3	1.45	1.8
3C 2,3,4,6,7,8 HxCDF	1.27	0.01	1.12	%	1.28	0.8	1.27	0.1	1.28	0.7	1.27	0.0	1.24	1.7
3C 1,2,3,7,8,9 HxCDF	1.21	0.01	0.92	%	1.21	0.1	1.20	0.7	1.23	1.6	1.20	0.9	1.21	0.1
1,2,3,4,6,7,8 HpCDF	1.07	0.03	2.67	%	1.09	0.6	1.05	0.6	1.07	0.0	1.03	1.3	1.10	1.2
1,2,3,4,7,8,9 HpCDF	0.82	0.06	6.78	%	0.91	1.7	0.78	0.7	0.80	0.2	0.78	0.7	0.81	0.2
37Cl 2,3,7,8 TCDD	1.14	0.08	6.68	%	1.23	1.3	1.11	0.3	1.03	1.3	1.12	0.2	1.18	0.6
13C-1,2,3,4 TCDD	1.00	0.00	0.00	%	1.00	0.0	1.00	0.0	1.00	0.0	1.00	0.0	1.00	0.0
3C-1,2,3,7,8,9 HxCDD	1.00	0.00	0.00	%	1.00	0.0	1.00	0.0	1.00	0.0	1.00	0.0	1.00	0.0
Total Tetra Dioxins	1.03	0.02	1.58	%	1.05	1.2	1.02	0.6	1.01	1.1	1.02	0.3	1.04	0.9
EMPC Tetra Dioxins	1.03	0.02	1.58	%	1.05	1.2	1.02	0.6	1.01	1.1	1.02	0.3	1.04	0.9
Total Penta Dioxins	0.99	0.01	1.27	%	1.00	0.7	0.96	1.7	0.99	0.1	0.99	0.6	0.99	0.4
EMPC Penta Dioxins	0.99	0.01	1.27	%	1.00	0.7	0.96	1.7	0.99	0.1	0.99	0.6	0.99	0.4
Total Hexa Dioxins	0.96	0.01	1.44	%	0.97	0.9	0.94	1.5	0.95	0.5	0.96	0.5	0.97	0.7
EMPC Hexa Dioxins	0.96	0.01	1.44	%	0.97	0.9	0.94	1.5	0.95	0.5	0.96	0.5	0.97	0.7
Total Hepta Dioxins	1.01	0.02	1.50	%	1.03	1.0	0.99	1.1	1.00	1.0	1.01	0.1	1.03	0.9

JG 6/13
2261513

EMPC Hepta Dioxins	1.01	0.02	1.50 %	1.03	1.0	0.99	-1.1	1.00	1.0	1.01	0.1	1.03	0.9
Total Tetra Furans	0.96	0.02	2.00 %	0.99	1.5	0.96	0.2	0.94	1.1	0.95	0.7	0.97	0.5
EMPC Tetra Furans	0.96	0.02	2.00 %	0.99	1.5	0.96	0.2	0.94	1.1	0.95	0.7	0.97	0.5
1st Fnc Penta Furans	1.01	0.01	0.92 %	1.02	0.4	1.00	-1.7	1.01	0.0	1.02	0.5	1.02	0.9
st EMPC Penta Furans	1.01	0.01	0.92 %	1.02	0.4	1.00	-1.7	1.01	0.0	1.02	0.5	1.02	0.9
Total Penta Furans	1.01	0.01	0.92 %	1.02	0.4	1.00	-1.7	1.01	0.0	1.02	0.5	1.02	0.9
EMPC Penta Furans	1.01	0.01	0.92 %	1.02	0.4	1.00	-1.7	1.01	0.0	1.02	0.5	1.02	0.9
Total Hexa Furans	1.27	0.01	1.14 %	1.27	0.4	1.24	-1.7	1.27	0.0	1.27	0.3	1.28	0.9
EMPC Hexa Furans	1.27	0.01	1.14 %	1.27	0.4	1.24	-1.7	1.27	0.0	1.27	0.3	1.28	0.9
Total Hepta Furans	1.54	0.02	1.61 %	1.51	1.0	1.51	-1.0	1.54	0.1	1.55	0.6	1.57	1.3
EMPC Hepta Furans	1.54	0.02	1.61 %	1.51	1.0	1.51	-1.0	1.54	0.1	1.55	0.6	1.57	1.3

USEPA ITD

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST052213A1-1

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS 1 GC Column ID: ZB 5MS

VER Data Filename: 052213A1 S:1 Analysis Date: 22 MAY 13 Time: 07:57:16

CS3 WT

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	EPA 1613			EPA 8290	
				CONC. FOUND	CONC. RANGE (3)	(ng/mL)	CONC. RANGE	(ng/mL)
2,3,7,8 TCDD	M/M+2	0.80	0.65 0.89	10.4	7.8 12.9		8.0 12.0	
1,2,3,7,8 PeCDD	M/M+2	0.62	0.53 0.71	48.6	39 65		40 60	
1,2,3,4,7,8 HxCDD	M+2/M+4	1.24	1.05 1.43	50.9	39 64		40 60	
1,2,3,6,7,8 HxCDD	M+2/M+4	1.22	1.05 1.43	48.4	39 64		40 60	
1,2,3,7,8,9 HxCDD	M+2/M+4	1.23	1.05 1.43	50.5	41 61		40 60	
1,2,3,4,6,7,8 HpCDD	M+2/M+4	1.08	0.88 1.20	49.8	43 58		40 60	
OCDD	M+2/M+4	0.91	0.76 1.02	99.7	79 126		80 120	
2,3,7,8 TCDF	M/M+2	0.82	0.65 0.89	9.5	8.4 12.0		8.0 12.0	
1,2,3,7,8 PeCDF	M+2/M+4	1.54	1.32 1.78	48.8	41 60		40 60	
2,3,4,7,8 PeCDF	M+2/M+4	1.50	1.32 1.78	47.7	41 61		40 60	
1,2,3,4,7,8 HxCDF	M+2/M+4	1.30	1.05 1.43	49.9	45 56		40 60	
1,2,3,6,7,8 HxCDF	M+2/M+4	1.30	1.05 1.43	50.4	44 57		40 60	
2,3,4,6,7,8 HxCDF	M+2/M+4	1.28	1.05 1.43	49.6	44 57		40 60	
1,2,3,7,8,9 HxCDF	M+2/M+4	1.29	1.05 1.43	49.0	45 56		40 60	
1,2,3,4,6,7,8 HpCDF	M+2/M+4	1.11	0.88 1.20	50.9	45 55		40 60	
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.08	0.88 1.20	50.0	43 58		40 60	
OCDF	M+2/M+4	0.95	0.76 1.02	98.3	63 159		80 120	

Analyst: J
Date: 6/4/13

Reviewer: MA

Date: 6/5/13

(1) See Table 3, Method 1613, for m/z specifications.
 (2) Ion Abundance Ratio Control Limits as specified in Table 3A, Method 1613.
 (3) Contract required concentration range as specified in Table 7, Method 1613, under VER 10/94.

USEPA ITD

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST052213A1 1

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB 5MS

VER Data Filename: 052213A1 S:1 Analysis Date: 22 MAY-13 Time: 07:57:16

Labeled Compounds	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	EPA 1613 CONC. RANGE (3)		EPA 8290 CONC. RANGE	
					(ng/mL)		(ng/mL)	
13C 2,3,7,8 TCDD	M/M+2	0.75	0.65 0.89	91.4	82	121	70	130
13C 1,2,3,7,8 PeCDD	M/M+2	0.64	0.53 0.71	76.6	62	160	70	130
13C 1,2,3,4,7,8 HxCDD	M+2/M+4	1.23	1.05 1.43	98.4	85	117	70	130
13C 1,2,3,6,7,8 HxCDD	M+2/M+4	1.21	1.05 1.43	100.5	85	118	70	130
13C 1,2,3,4,6,7,8 HpCDD	M+2/M+4	1.07	0.88 1.20	107.1	72	138	70	130
13C OCDD	M+2/M+4	0.88	0.76 1.02	223.7	96	415	140	260
13C 2,3,7,8 TCDF	M/M+2	0.78	0.65 0.89	94.1	71	140	70	130
13C 1,2,3,7,8 PeCDF	M+2/M+4	1.55	1.32 1.78	77.2	76	130	70	130
13C 2,3,4,7,8 PeCDF	M+2/M+4	1.56	1.32 1.78	78.3	77	130	70	130
13C 1,2,3,4,7,8 HxCDF	M/M+2	0.51	0.43 0.59	98.5	76	131	70	130
13C 1,2,3,6,7,8 HxCDF	M/M+2	0.53	0.43 0.59	97.2	70	143	70	130
13C 2,3,4,6,7,8 HxCDF	M/M+2	0.52	0.43 0.59	100.4	73	137	70	130
13C 1,2,3,7,8,9 HxCDF	M/M+2	0.53	0.43 0.59	100.0	74	135	70	130
13C 1,2,3,4,6,7,8 HpCDF	M/M+2	0.48	0.37 0.51	103.7	78	129	70	130
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.48	0.37 0.51	109.4	77	129	70	130
Clean up Standard (4)								
37Cl-2,3,7,8-TCDD	M			8.70	7.9	12.7	7.0	13.0

Analyst: J

Date: 6/4/13

Reviewer: MS

Date: 6/5/13

(1) See Table 3, Method 1613, for m/z specifications.
 (2) Ion Abundance Ratio*Control Limits as specified in Table 3A, Method 1613.
 (3) Contract-required concentration range, as specified in Table 7, Method 1613, under VER.
 (4) No ion abundance ratio; report concentration found.

USEPA ITD

FORM 5
PCDD/PCDF Window Defining Mix

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST052213A1 1

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS 1 GC Column ID: ZB 5MS

VER Data Filename: 052213A1 S:1 Analysis Date: 22 MAY 13 Time: 07:57:16

NATIVE ANALYTES	RT		RT
1,3,6,8-TCDD(First)	24:42	1,3,6,8 TCDF(First)	22:21
1,2,8,9 TCDD(Last)	29:45	1,2,8,9 TCDF(Last)	29:56
1,2,4,7,9 PeCDD(First)	31:35	1,3,4,6,8 PeCDF(First)	29:53
1,2,3,8,9 PeCDD(Last)	34:19	1,2,3,8,9 PeCDF(Last)	34:36
1,2,4,6,7,9 HxCDD(First)	35:59	1,2,3,4,6,8 HxCDF(First)	35:21
1,2,3,4,6,7 HxCDD(Last)	38:14	1,2,3,4,8,9 HxCDF(Last)	38:41
1,2,3,4,6,7,9 HpCDD(First)	40:54	1,2,3,4,6,7,8 HpCDF(First)	40:34
1,2,3,4,6,7,8 HpCDD(Last)	41:49	1,2,3,4,7,8,9 HpCDF(Last)	42:28

Analyst: J
Date: 6/4/13

Reviewer: MA
Date: 6/5/13

USEPA - ITD

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST052213A1 1

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS 1 GC Column ID: ZB 5MS

VER Data Filename: 052213A1 S:1 Analysis Date: 22 MAY 13 Time: 07:57:16

Compounds Using 13C-1234 TCDD as Internal Standard

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
2,3,7,8 TCDD	13C 2,3,7,8 TCDD	1.001	0.999 1.002
1,2,3,7,8 PeCDD	13C 1,2,3,7,8 PeCDD	1.000	0.999 1.002
2,3,7,8 TCDF	13C 2,3,7,8 TCDF	1.001	0.999 1.003
1,2,3,7,8 PeCDF	13C 1,2,3,7,8 PeCDF	1.001	0.999 1.002
2,3,4,7,8 PeCDF	13C 2,3,4,7,8 PeCDF	1.000	0.999 1.002
LABELED COMPOUNDS			
13C 2,3,7,8 TCDD	13C 1,2,3,4 TCDD	1.024	0.976 1.043
13C 1,2,3,7,8 PeCDD	13C 1,2,3,4 TCDD	1.208	1.000 1.567
13C 2,3,7,8 TCDF	13C 1,2,3,4 TCDD	0.992	0.923 1.103
13C 1,2,3,7,8 PeCDF	13C 1,2,3,4 TCDD	1.161	1.000 1.425
13C 2,3,4,7,8 PeCDF	13C 1,2,3,4 TCDD	1.197	1.011 1.526
37Cl 2,3,7,8 TCDD	13C 1,2,3,4 TCDD	1.025	0.989 1.052

Analyst: J

Date: 6/4/13

Reviewer: ML

Date: 6/5/13

(1) Contract required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

USEPA ITD

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST052213A1 1

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB 5MS

VER Data Filename: 052213A1 S:1 Analysis Date: 22-MAY 13 Time: 07:57:16

Compounds Using 13C 123789-HxCDD as Internal Standard

NATIVE ANALYTES	RETENTION TIME		RRT	
	REFERENCE	RRT	QC LIMITS (1)	
1,2,3,4,7,8 HxCDD	13C 1,2,3,4,7,8 HxCDD	1.000	0.999	1.001
1,2,3,6,7,8 HxCDD	13C 1,2,3,6,7,8 HxCDD	1.001	0.998	1.004
1,2,3,7,8,9 HxCDD	13C 1,2,3,6,7,8 HxCDD	1.010	1.000	1.019
1,2,3,4,6,7,8 HpCDD	13C 1,2,3,4,6,7,8 HpCDD	1.001	0.999	1.001
OCDD	13C OCDD	1.000	0.999	1.001
1,2,3,4,7,8 HxCDF	13C 1,2,3,4,7,8 HxCDF	1.000	0.999	1.001
1,2,3,6,7,8 HxCDF	13C 1,2,3,6,7,8 HxCDF	1.001	0.997	1.005
2,3,4,6,7,8 HxCDF	13C 2,3,4,6,7,8 HxCDF	1.001	0.999	1.001
1,2,3,7,8,9 HxCDF	13C 1,2,3,7,8,9 HxCDF	1.000	0.999	1.001
1,2,3,4,6,7,8 HpCDF	13C 1,2,3,4,6,7,8 HpCDF	1.000	0.999	1.001
1,2,3,4,7,8,9 HpCDF	13C 1,2,3,4,7,8,9 HpCDF	1.000	0.999	1.001
OCDF	13C OCDD	1.006	0.999	1.008

LABELED COMPOUNDS

13C 1,2,3,4,7,8 HxCDD	13C 1,2,3,7,8,9 HxCDD	0.988	0.977	1.000
13C 1,2,3,6,7,8 HxCDD	13C 1,2,3,7,8,9 HxCDD	0.991	0.981	1.003
13C 1,2,3,4,6,7,8 HpCDD	13C 1,2,3,7,8,9 HxCDD	1.094	1.086	1.110
13C-OCDD	13C-1,2,3,7,8,9 HxCDD	1.193	1.032	1.311
13C 1,2,3,4,7,8 HxCDF	13C 1,2,3,7,8,9 HxCDD	0.961	0.944	0.970
13C-1,2,3,6,7,8 HxCDF	13C 1,2,3,7,8,9 HxCDD	0.964	0.949	0.975
13C-2,3,4,6,7,8 HxCDF	13C-1,2,3,7,8,9 HxCDD	0.983	0.959	1.021
13C-1,2,3,7,8,9 HxCDF	13C 1,2,3,7,8,9 HxCDD	1.012	0.977	1.047
13C-1,2,3,4,6,7,8 HpCDF	13C 1,2,3,7,8,9 HxCDD	1.061	1.043	1.085
13C 1,2,3,4,7,8,9 HpCDF	13C 1,2,3,7,8,9 HxCDD	1.111	1.057	1.151

Analyst: JA

Date: 6/4/13

Reviewer: JA

Date: 6/5/13

(1) Contract required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Ceres Analytical Laboratory Inc. Quantitation Summary

Filename: 052213A1 S: 1 Acquired: 22 MAY-13 07:57:16 Analyte: 1613 ICal: 1613 ms1 5 22 13 Con CAL: na
Ceres ID: ST052213A1 1 Client ID: S050913F 1613 CS3WT Total Tox: 98.53 Wt/Vol: 1.000 End CAL: na

Name	RT	Resp	RRF	RA	rft	Conc	IS m2 ht	DL
2,3,7,8-TCDD	28:46	1.11e+07	1.03	0.80	y	1.001 0.999 1.002	10.4 1.29e+07 17400 2.5	
1,2,3,7,8-PeCDD	33:54	4.12e+07	0.99	0.62	y	1.000 0.999 1.002	48.6 1.34e+07 251000 2.5	
1,2,3,4,7,8-HxCDD	37:46	3.80e+07	0.99	1.24	y	1.000 0.999 1.001	50.9 8.05e+06 7870000 2.5	
1,2,3,6,7,8-HxCDD	37:53	3.80e+07	0.93	1.22	y	1.001 0.998 1.004	48.4 8.24e+06 7870000 2.5	
1,2,3,7,8,9-HxCDD	38:14	3.81e+07	0.95	1.23	y	1.010 1.000 1.019	50.5 8.24e+06 7870000 2.5	
1,2,3,4,6,7,8-HpCDD	41:49	3.56e+07	1.01	1.08	y	1.001 0.999 1.001	49.8 7.45e+06 30500 2.5	
OCDD	45:36	6.32e+07	1.00	0.91	y	1.000 0.999 1.001	99.7 1.27e+07 291000 2.5	
2,3,7,8-TCDF	27:50	1.46e+07	0.96	0.82	y	1.001 0.999 1.003	9.50 1.76e+07 21600 2.5	
1,2,3,7,8-PeCDF	32:36	6.57e+07	1.01	1.54	y	1.001 0.999 1.002	48.8 1.38e+07 26900 2.5	
2,3,4,7,8-PeCDF	33:36	6.70e+07	1.02	1.50	y	1.000 0.999 1.002	47.7 1.47e+07 26900 2.5	
1,2,3,4,7,8-HxCDF	36:44	6.68e+07	1.26	1.30	y	1.000 0.999 1.001	49.9 1.73e+07 0.00 2.5	
1,2,3,6,7,8-HxCDF	36:52	7.07e+07	1.25	1.30	y	1.001 0.997 1.005	50.4 1.69e+07 0.00 2.5	
2,3,4,6,7,8-HxCDF	37:34	6.65e+07	1.36	1.28	y	1.001 0.999 1.001	49.6 1.52e+07 0.00 2.5	
1,2,3,7,8,9-HxCDF	38:41	5.54e+07	1.20	1.29	y	1.000 0.999 1.001	49.0 1.18e+07 0.00 2.5	
1,2,3,4,6,7,8-HpCDF	40:34	6.69e+07	1.53	1.11	y	1.000 0.999 1.001	50.9 1.48e+07 309000 2.5	
1,2,3,4,7,8,9-HpCDF	42:28	5.38e+07	1.55	1.08	y	1.000 0.999 1.001	50.0 9.37e+06 309000 2.5	
OCDF	45:53	8.49e+07	1.37	0.95	y	1.006 0.999 1.008	98.3 1.27e+07 34400 2.5	
							Rec	
13C 2,3,7,8-TCDD	28:44	1.04e+08	1.00	0.75	y	1.024 0.976 1.043	91.4 91.4	
13C 1,2,3,7,8-PeCDD	33:54	8.59e+07	0.99	0.64	y	1.208 1.000 1.567	76.6 76.6	
13C 1,2,3,4,7,8-HxCDD	37:45	7.50e+07	0.98	1.23	y	0.988 0.977 1.000	98.4 98.4	
13C 1,2,3,6,7,8-HxCDD	37:52	8.40e+07	1.08	1.21	y	0.991 0.981 1.003	101 101	
13C 1,2,3,4,6,7,8-HpCDD	41:47	7.07e+07	0.85	1.07	y	1.094 1.086 1.110	107 107	
13C OCDD	45:35	1.26e+08	0.73	0.88	y	1.193 1.032 1.311	224 112	
13C 2,3,7,8-TCDF	27:50	1.60e+08	1.49	0.78	y	0.992 0.923 1.103	94.1 94.1	
13C 1,2,3,7,8-PeCDF	32:34	1.33e+08	1.51	1.55	y	1.161 1.000 1.425	77.2 77.2	
13C 2,3,4,7,8-PeCDF	33:35	1.38e+08	1.55	1.56	y	1.197 1.011 1.526	78.3 78.3	
13C 1,2,3,4,7,8-HxCDF	36:43	1.06e+08	1.39	0.51	y	0.961 0.944 0.970	98.5 98.5	
13C 1,2,3,6,7,8-HxCDF	36:51	1.12e+08	1.49	0.53	y	0.964 0.949 0.975	97.2 97.2	
13C 2,3,4,6,7,8-HxCDF	37:33	9.88e+07	1.27	0.52	y	0.983 0.959 1.021	100 100	
13C 1,2,3,7,8,9-HxCDF	38:40	9.40e+07	1.21	0.53	y	1.012 0.977 1.047	100.0 100.0	
13C 1,2,3,4,6,7,8-HpCDF	40:33	8.61e+07	1.07	0.48	y	1.061 1.043 1.085	104 104	
13C 1,2,3,4,7,8,9-HpCDF	42:27	6.93e+07	0.82	0.48	y	1.111 1.057 1.151	109 109	
37Cl-2,3,7,8-TCDD	28:45	1.12e+07	1.14			1.025 0.989 1.052	8.70 87.0	
13C 1,2,3,4-TCDD	28:03	1.14e+08	1.00	0.77	y		100	
13C 1,2,3,7,8,9-HxCDD	38:12	7.77e+07	1.00	1.21	y		100	
		Conc	EMPC				DL	
Total Tetra-Dioxins		54.9	55.4	17400				
Total Penta-Dioxins		173	173	251000				
Total Hexa-Dioxins		218	218	7890000				
Total Hepta-Dioxins		106	106	30500				
Total Tetra-Furans		30.1	30.7	21600				
1st Fnc Penta-Furans		49.7	49.7	0.00				
Total Penta-Furans		150	150	26900				
Total Hexa-Furans		259	259	0.00				
Total Hepta-Furans		101	101	309000 》				
						Penta Furan Total:	200	
						Penta Furan EMPC:	200	

Analyst: J

Date: 6/4/13

Reviewer: ME

Date: 6/5/13

USEPA - ITD

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST052213A1-4

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS 1 GC Column ID: ZB 5MS

VER Data Filename: 052213A1 S:5 Analysis Date: 22 MAY-13 Time: 11:32:08

CS3 mid pt

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	EPA 1613 CONC. RANGE (3)		EPA 8290 CONC. RANGE	
					(ng/mL)	(ng/mL)	(ng/mL)	(ng/mL)
2,3,7,8 TCDD	M/M+2	0.80	0.65 0.89	9.8	7.8 12.9	8.0 12.0		
1,2,3,7,8 PeCDD	M/M+2	0.61	0.53 0.71	50.0	39 65	40 60		
1,2,3,4,7,8 HxCDD	M+2/M+4	1.23	1.05 1.43	52.0	39 64	40 60		
1,2,3,6,7,8 HxCDD	M+2/M+4	1.26	1.05 1.43	47.9	39 64	40 60		
1,2,3,7,8,9 HxCDD	M+2/M+4	1.22	1.05 1.43	49.1	41 61	40 60		
1,2,3,4,6,7,8 HpCDD	M+2/M+4	1.07	0.88 1.20	49.3	43 58	40 60		
OCDD	M+2/M+4	0.90	0.76 1.02	99.8	79 126	80 120		
2,3,7,8 TCDF	M/M+2	0.77	0.65 0.89	9.8	8.4 12.0	8.0 12.0		
1,2,3,7,8 PeCDF	M+2/M+4	1.59	1.32 1.78	49.7	41 60	40 60		
2,3,4,7,8 PeCDF	M+2/M+4	1.66	1.32 1.78	50.3	41 61	40 60		
1,2,3,4,7,8 HxCDF	M+2/M+4	1.28	1.05 1.43	50.7	45 56	40 60		
1,2,3,6,7,8 HxCDF	M+2/M+4	1.31	1.05 1.43	49.8	44 57	40 60		
2,3,4,6,7,8 HxCDF	M+2/M+4	1.30	1.05 1.43	49.8	44 57	40 60		
1,2,3,7,8,9 HxCDF	M+2/M+4	1.31	1.05 1.43	49.8	45 56	40 60		
1,2,3,4,6,7,8 HpCDF	M+2/M+4	1.12	0.88 1.20	50.1	45 55	40 60		
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.12	0.88 1.20	50.1	43 58	40 60		
OCDF	M+2/M+4	0.94	0.76-1.02	99.0	63 159	80 120		

Analyst: *J*

Date: *6/4/13*

Reviewer: *ML*

Date: *6/5/13*

(1) See Table 3, Method 1613, for m/z specifications.
 (2) Ion Abundance Ratio Control Limits as specified in Table 3A, Method 1613.
 (3) Contract required concentration range as specified in Table 7, Method 1613, under VER 10/94.

USEPA ITD

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST052213A1-4

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS 1 GC Column ID: ZB-5MS

VER Data Filename: 052213A1 S:5 Analysis Date: 22 MAY 13 Time: 11:32:08

Labeled Compounds	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	EPA 1613	EPA 8290
					CONC. RANGE (3) (ng/mL)	CONC. RANGE (ng/mL)
13C 2,3,7,8 TCDD	M/M+2	0.74	0.65 0.89	98.8	82 - 121	70 - 130
13C 1,2,3,7,8 PeCDD	M/M+2	0.64	0.53 0.71	98.3	62 - 160	70 - 130
13C 1,2,3,4,7,8 HxCDD	M+2/M+4	1.24	1.05 1.43	98.4	85 - 117	70 - 130
13C 1,2,3,6,7,8 HxCDD	M+2/M+4	1.24	1.05 1.43	102.9	85 - 118	70 - 130
13C 1,2,3,4,6,7,8 HpCDD	M+2/M+4	1.07	0.88 1.20	100.4	72 - 138	70 - 130
13C OCDD	M+2/M+4	0.89	0.76 1.02	195.5	96 - 415	140 - 260
13C 2,3,7,8 TCDF	M/M+2	0.78	0.65 0.89	100.1	71 - 140	70 - 130
13C 1,2,3,7,8 PeCDF	M+2/M+4	1.58	1.32 1.78	99.3	76 - 130	70 - 130
13C 2,3,4,7,8 PeCDF	M+2/M+4	1.61	1.32 1.78	99.0	77 - 130	70 - 130
13C 1,2,3,4,7,8 HxCDF	M/M+2	0.53	0.43 0.59	100.9	76 - 131	70 - 130
13C 1,2,3,6,7,8 HxCDF	M/M+2	0.53	0.43 0.59	101.2	70 - 143	70 - 130
13C 2,3,4,6,7,8 HxCDF	M/M+2	0.52	0.43 0.59	100.8	73 - 137	70 - 130
13C 1,2,3,7,8,9 HxCDF	M/M+2	0.53	0.43 0.59	101.5	74 - 135	70 - 130
13C-1,2,3,4,6,7,8 HpCDF	M/M+2	0.48	0.37 0.51	100.1	78 - 129	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.49	0.37 0.51	98.4	77 - 129	70 - 130

Clean-up Standard (4)

37Cl-2,3,7,8-TCDD M 9.11 7.9 - 12.7 7.0 - 13.0

- (1) See Table 3, Method 1613, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 3A, Method 1613.
- (3) Contract-required concentration range, as specified in Table 7, Method 1613, under VER.
- (4) No ion abundance ratio; report concentration found.

Analyst: J
Date: 6/4/13

Reviewer: MB
Date: 6/5/13

USEPA ITD

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST052213A1 4

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS 1 GC Column ID: ZB 5MS

VER Data Filename: 052213A1 S:5 Analysis Date: 22 MAY 13 Time: 11:32:08

Compounds Using 13C 1234 TCDD as Internal Standard

NATIVE ANALYTES	RETENTION TIME		RRT	
	REFERENCE	RRT	QC LIMITS (1)	
2,3,7,8-TCDD	13C-2,3,7,8 TCDD	1.001	0.999	1.002
1,2,3,7,8 PeCDD	13C 1,2,3,7,8 PeCDD	1.001	0.999	1.002
2,3,7,8 TCDF	13C 2,3,7,8 TCDF	1.001	0.999	1.003
1,2,3,7,8 PeCDF	13C 1,2,3,7,8 PeCDF	1.000	0.999	1.002
2,3,4,7,8 PeCDF	13C-2,3,4,7,8 PeCDF	1.000	0.999	1.002
LABELED COMPOUNDS				
13C 2,3,7,8-TCDD	13C 1,2,3,4 TCDD	1.024	0.976	1.043
13C 1,2,3,7,8 PeCDD	13C 1,2,3,4 TCDD	1.208	1.000	1.567
13C 2,3,7,8 TCDF	13C 1,2,3,4 TCDD	0.992	0.923	1.103
13C 1,2,3,7,8 PeCDF	13C 1,2,3,4 TCDD	1.161	1.000	1.425
13C 2,3,4,7,8 PeCDF	13C 1,2,3,4 TCDD	1.197	1.011	1.526
37C1 2,3,7,8 TCDD	13C 1,2,3,4 TCDD	1.025	0.989	1.052

Analyst: J

Date: 6/4/13

Reviewer: JS

Date: 6/5/13

(1) Contract required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

USEPA ITD

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST052213A1 4

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB 5MS

VER Data Filename: 052213A1 S:5 Analysis Date: 22 MAY-13 Time: 11:32:08

Compounds Using 13C-123789 HxCDD as Internal Standard

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
1,2,3,4,7,8 HxCDD	13C 1,2,3,4,7,8 HxCDD	1.001	0.999 1.001
1,2,3,6,7,8 HxCDD	13C 1,2,3,6,7,8 HxCDD	1.001	0.998 1.004
1,2,3,7,8,9 HxCDD	13C 1,2,3,6,7,8 HxCDD	1.010	1.000 1.019
1,2,3,4,6,7,8 HpCDD	13C 1,2,3,4,6,7,8 HpCDD	1.000	0.999 1.001
OCDD	13C OCDD	1.000	0.999 1.001
1,2,3,4,7,8 HxCDF	13C 1,2,3,4,7,8 HxCDF	1.000	0.999 1.001
1,2,3,6,7,8 HxCDF	13C 1,2,3,6,7,8 HxCDF	1.001	0.997 1.005
2,3,4,6,7,8 HxCDF	13C 2,3,4,6,7,8 HxCDF	1.001	0.999 1.001
1,2,3,7,8,9 HxCDF	13C 1,2,3,7,8,9 HxCDF	1.001	0.999 1.001
1,2,3,4,6,7,8 HpCDF	13C 1,2,3,4,6,7,8 HpCDF	1.000	0.999 1.001
1,2,3,4,7,8,9 HpCDF	13C 1,2,3,4,7,8,9 HpCDF	1.000	0.999 1.001
OCDF	13C OCDD	1.006	0.999 1.008

LABELED COMPOUNDS

13C 1,2,3,4,7,8 HxCDD	13C-1,2,3,7,8,9 HxCDD	0.988	0.977 1.000
13C 1,2,3,6,7,8 HxCDD	13C 1,2,3,7,8,9 HxCDD	0.991	0.981 1.003
13C 1,2,3,4,6,7,8 HpCDD	13C 1,2,3,7,8,9 HxCDD	1.094	1.086 1.110
13C-OCDD	13C 1,2,3,7,8,9 HxCDD	1.194	1.032 1.311
13C 1,2,3,4,7,8 HxCDF	13C 1,2,3,7,8,9 HxCDD	0.961	0.944 0.970
13C 1,2,3,6,7,8 HxCDF	13C 1,2,3,7,8,9 HxCDD	0.964	0.949 0.975
13C 2,3,4,6,7,8 HxCDF	13C 1,2,3,7,8,9 HxCDD	0.983	0.959 1.021
13C 1,2,3,7,8,9 HxCDF	13C 1,2,3,7,8,9 HxCDD	1.012	0.977 1.047
13C 1,2,3,4,6,7,8 HpCDF	13C-1,2,3,7,8,9 HxCDD	1.061	1.043 1.085
13C-1,2,3,4,7,8,9 HpCDF	13C 1,2,3,7,8,9 HxCDD	1.111	1.057 1.151

Analyst: J

Date: 6/4/13

Reviewer: WA

Date: 6/5/13

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Ceres Analytical Laboratory Inc. Quantitation Summary

Filename: 052213A1 S: 5 Acquired: 22 MAY 13 11:32:08 Analyte: 1613 ICal: 1613 ms1 5 22 13
 Ceres ID: ST052213A1 4 Client ID: S050913C 1613 CS3 Total Tox: 100.00 Wt/Vol: 1.000 Con CAL: na
 End CAL: na

Name	RT	Resp	RRF	RA	rrt	Conc	IS m2 ht	DL
2,3,7,8 TCDD	28:44	9.55e+06	1.03	0.80	y	1.001 0.999 1.002	9.82	1.23e+07 26800 2.5
1,2,3,7,8 PeCDD	33:55	4.56e+07	0.99	0.61	y	1.001 0.999 1.002	50.0	1.60e+07 28800 2.5
1,2,3,4,7,8-HxCDD	37:46	4.08e+07	0.99	1.23	y	1.001 0.999 1.001	52.0	8.39e+06 17500 2.5
1,2,3,6,7,8 HxCDD	37:53	4.03e+07	0.93	1.26	y	1.001 0.998 1.004	47.9	8.36e+06 17500 2.5
1,2,3,7,8,9-HxCDD	38:14	3.94e+07	0.95	1.22	y	1.010 1.000 1.019	49.1	8.36e+06 17500 2.5
1,2,3,4,6,7,8 HpCDD	41:49	3.47e+07	1.01	1.07	y	1.000 0.999 1.001	49.3	7.46e+06 20700 2.5
OCDD	45:37	5.81e+07	1.00	0.90	y	1.000 0.999 1.001	99.8	1.11e+07 42900 2.5
2,3,7,8-TCDF	27:50	1.35e+07	0.96	0.77	y	1.001 0.999 1.003	9.79	1.52e+07 15700 2.5
1,2,3,7,8 PeCDF	32:34	7.24e+07	1.01	1.59	y	1.000 0.999 1.002	49.7	1.52e+07 32300 2.5
2,3,4,7,8-PeCDF	33:35	7.50e+07	1.02	1.66	y	1.000 0.999 1.002	50.3	1.48e+07 32300 2.5
1,2,3,4,7,8 HxCDF	36:44	7.31e+07	1.26	1.28	y	1.000 0.999 1.001	50.7	1.85e+07 0.00 2.5
1,2,3,6,7,8 HxCDF	36:53	7.65e+07	1.25	1.31	y	1.001 0.997 1.005	49.8	1.81e+07 0.00 2.5
2,3,4,6,7,8 HxCDF	37:34	7.03e+07	1.36	1.30	y	1.001 0.999 1.001	49.8	1.60e+07 0.00 2.5
1,2,3,7,8,9 HxCDF	38:42	6.01e+07	1.20	1.31	y	1.001 0.999 1.001	49.8	1.31e+07 0.00 2.5
1,2,3,4,6,7,8 HpCDF	40:34	6.68e+07	1.53	1.12	y	1.000 0.999 1.001	50.1	1.55e+07 310000> 2.5
1,2,3,4,7,8,9 HpCDF	42:28	5.10e+07	1.55	1.12	y	1.000 0.999 1.001	50.1	9.12e+06 310000> 2.5
OCDF	45:54	7.85e+07	1.37	0.94	y	1.006 0.999 1.008	99.0	1.11e+07 17400 2.5
Rec								
13C 2,3,7,8 TCDD	28:43	9.44e+07	1.00	0.74	y	1.024 0.976 1.043	98.8	98.8
13C 1,2,3,7,8 PeCDD	33:53	9.26e+07	0.99	0.64	y	1.208 1.000 1.567	98.3	98.3
13C 1,2,3,4,7,8 HxCDD	37:44	7.89e+07	0.98	1.24	y	0.988 0.977 1.000	98.4	98.4
13C 1,2,3,6,7,8 HxCDD	37:52	9.03e+07	1.08	1.24	y	0.991 0.981 1.003	103	103
13C 1,2,3,4,6,7,8 HpCDD	41:48	6.97e+07	0.85	1.07	y	1.094 1.086 1.110	100	100
13C OCDD	45:37	1.16e+08	0.73	0.89	y	1.194 1.032 1.311	196	97.8
13C 2,3,7,8-TCDF	27:49	1.43e+08	1.49	0.78	y	0.992 0.923 1.103	100	100
13C 1,2,3,7,8 PeCDF	32:34	1.44e+08	1.51	1.58	y	1.161 1.000 1.425	99.3	99.3
13C 2,3,4,7,8 PeCDF	33:35	1.47e+08	1.55	1.61	y	1.197 1.011 1.526	99.0	99.0
13C 1,2,3,4,7,8 HxCDF	36:43	1.15e+08	1.39	0.53	y	0.961 0.944 0.970	101	101
13C 1,2,3,6,7,8 HxCDF	36:51	1.23e+08	1.49	0.53	y	0.964 0.949 0.975	101	101
13C 2,3,4,6,7,8 HxCDF	37:33	1.04e+08	1.27	0.52	y	0.983 0.959 1.021	101	101
13C 1,2,3,7,8,9 HxCDF	38:40	1.00e+08	1.21	0.53	y	1.012 0.977 1.047	101	101
13C 1,2,3,4,6,7,8 HpCDF	40:34	8.73e+07	1.07	0.48	y	1.061 1.043 1.085	100	100
13C 1,2,3,4,7,8,9 HpCDF	42:28	6.55e+07	0.82	0.49	y	1.111 1.057 1.151	98.4	98.4
37Cl-2,3,7,8-TCDD	28:44	9.89e+06	1.14			1.025 0.989 1.052	9.11	91.1
13C 1,2,3,4-TCDD	28:03	9.56e+07	1.00	0.75	y		100	
13C 1,2,3,7,8,9-HxCDD	38:13	8.16e+07	1.00	1.20	y		100	
		Conc	EMPC			DL		
Total Tetra-Dioxins	10.1	10.4	26800					
Total Penta-Dioxins	50.0	50.2	28800					
Total Hexa Dioxins	149	149	17500					
Total Hepta-Dioxins	49.6	49.9	20700					
Total Tetra Furans	10.00	10.2	15700					
1st Pnc Penta-Furans	*	0.0804	0.00					
Total Penta Furans	102	103	32300			Penta Furan Total:	102	
Total Hexa Furans	200	200	0.00			Penta Furan EMPC:	103	
Total Hepta Furans	100	101	310000>					

Analyst: J

Date: 6/4/13

Reviewer: WA

Date: 6/5/13

Filename: 052213A1 S: 3 Acquired: 22 MAY 13 09:44:42
 ICal: 1613-ms1-5 22-13 Analyte: 1613
 Sample text: ST052213A1-2 S050913A 1613 CS1

Name	RT	Amount	Resp	RA	RRF	rrt	Modified?
2,3,7,8-TCDD	28:44	0.50	5.27e+05	0.88	y 1.05	1.001 0.999 1.002	Y
1,2,3,7,8-PeCDD	33:54	2.50	3.49e+06	0.66	y 1.00	1.000 0.999 1.002	n
1,2,3,4,7,8-HxCDD	37:46	2.50	2.10e+06	1.12	y 1.00	1.001 0.999 1.001	n
1,2,3,6,7,8-HxCDD	37:53	2.50	2.24e+06	1.23	y 0.95	1.000 0.998 1.004	n
1,2,3,7,8,9-HxCDD	38:14	2.50	2.16e+06	1.21	y 0.97	1.009 1.000 1.019	n
1,2,3,4,6,7,8 HpCDD	41:49	2.50	1.91e+06	1.04	y 1.03	1.000 0.999 1.001	n
OCDD	45:37	5.00	3.03e+06	0.88	y 1.00	1.000 0.999 1.001	n
2,3,7,8 TCDF	27:50	0.50	7.68e+05	0.81	y 0.99	1.001 0.999 1.003	n
1,2,3,7,8-PeCDF	32:34	2.50	3.89e+06	1.60	y 1.02	1.000 0.999 1.002	n
2,3,4,7,8 PeCDF	33:36	2.50	3.93e+06	1.64	y 1.01	1.001 0.999 1.002	n
1,2,3,4,7,8 HxCDF	36:44	2.50	3.75e+06	1.24	y 1.24	1.001 0.999 1.001	n
1,2,3,6,7,8 HxCDF	36:53	2.50	4.07e+06	1.30	y 1.25	1.001 0.997 1.005	n
2,3,4,6,7,8 HxCDF	37:34	2.50	3.85e+06	1.26	y 1.39	1.000 0.999 1.001	n
1,2,3,7,8,9-HxCDF	38:41	2.50	3.18e+06	1.32	y 1.21	1.000 0.999 1.001	n
1,2,3,4,6,7,8 HpCDF	40:34	2.50	3.51e+06	1.12	y 1.49	1.000 0.999 1.001	n
1,2,3,4,7,8,9 HpCDF	42:28	2.50	3.06e+06	1.18	y 1.55	1.000 0.999 1.001	n
OCDF	45:55	5.00	4.17e+06	0.97	y 1.38	1.007 0.999 1.008	n
13C 2,3,7,8 TCDD	28:43	100.00	1.01e+08	0.73	y 0.97	1.024 0.976 1.043	n
13C 1,2,3,7,8-PeCDD	33:53	100.00	1.00e+08	0.64	y 0.97	1.208 1.000 1.567	n
13C 1,2,3,4,7,8 HxCDD	37:44	100.00	8.42e+07	1.24	y 0.97	0.988 0.977 1.000	n
13C 1,2,3,6,7,8 HxCDD	37:53	100.00	9.46e+07	1.21	y 1.09	0.991 0.981 1.003	n
13C 1,2,3,4,6,7,8 HpCDD	41:48	100.00	7.46e+07	1.04	y 0.86	1.094 1.086 1.110	n
13C OCDD	45:37	200.00	1.21e+08	0.90	y 0.69	1.194 1.032 1.311	n
13C-2,3,7,8 TCDF	27:49	100.00	1.55e+08	0.78	y 1.50	0.992 0.923 1.103	n
13C 1,2,3,7,8 PeCDF	32:34	100.00	1.52e+08	1.58	y 1.47	1.161 1.000 1.425	n
13C 2,3,4,7,8 PeCDF	33:35	100.00	1.55e+08	1.56	y 1.50	1.197 1.011 1.526	n
13C 1,2,3,4,7,8 HxCDF	36:43	100.00	1.21e+08	0.52	y 1.39	0.961 0.944 0.970	n
13C 1,2,3,6,7,8 HxCDF	36:51	100.00	1.30e+08	0.53	y 1.50	0.964 0.949 0.975	n
13C 2,3,4,6,7,8 HxCDF	37:33	100.00	1.11e+08	0.52	y 1.28	0.983 0.959 1.021	n
13C-1,2,3,7,8,9-HxCDF	38:40	100.00	1.05e+08	0.52	y 1.21	1.012 0.977 1.047	n
13C 1,2,3,4,6,7,8 HpCDF	40:34	100.00	9.44e+07	0.48	y 1.09	1.061 1.043 1.085	n
13C-1,2,3,4,7,8,9 HpCDF	42:27	100.00	7.93e+07	0.49	y 0.91	1.111 1.057 1.151	n
37Cl-2,3,7,8 TCDD	28:44	0.50	6.37e+05		1.23	1.025 0.989 1.052	n
13C-1,2,3,4-TCDD	28:03	100.00	1.03e+08	0.74	y 1.00	* 0.000 0.000	n
13C-1,2,3,7,8,9-HxCDD	38:13	100.00	8.69e+07	1.19	y 1.00	* 0.000 0.000	n
Total Tetra Dioxins	-	0.00	-	-	n 1.05	- 0.000 0.000	n
EMPC Tetra Dioxins	-	0.00	-	-	n 1.05	- 0.000 0.000	n
Total Penta Dioxins	-	0.00	-	-	n 1.00	- 0.000 0.000	n
EMPC Penta Dioxins	-	0.00	-	-	n 1.00	- 0.000 0.000	n
Total Hexa Dioxins	-	0.00	-	-	n 0.97	- 0.000 0.000	n
EMPC Hexa Dioxins	-	0.00	-	-	n 0.97	- 0.000 0.000	n

Total Hepta Dioxins	0.00	-	n 1.03	-	0.999-0.000	n
EMPC Hepta Dioxins	0.00	*	n 1.03	-	0.999-0.000	n
Total Tetra Furans	0.00	*	n 0.99	-	0.000-0.000	n
EMPC Tetra Furans	0.00	-	n 0.99	-	0.000-0.000	n
1st Fnc Penta Furans	0.00	*	n 1.02	-	0.000-0.000	n
1st EMPC Penta Furans	0.00	*	n 1.02	-	0.000-0.000	n
Total Penta Furans	0.00	-	n 1.02	-	0.000-0.000	n
EMPC Penta Furans	0.00	*	n 1.02	-	0.000-0.000	n
Total Hexa Furans	0.00	-	n 1.27	-	0.000-0.000	n
EMPC Hexa Furans	0.00	*	n 1.27	-	0.000-0.000	n
Total Hepta Furans	0.00	-	n 1.51	-	0.000-0.000	n
EMPC Hepta Furans	0.00	-	n 1.51	-	0.000-0.000	n

Filename: 052213A1 S: 4 Acquired: 22 MAY 13 10:38:25
 ICal: 1613 ms1 5 22-13 Analyte: 1613
 Sample text: ST052213A1 3 S050913B 1613 CS2

Name	RT	Amount	Resp	RA	RRF	rrt	Modified?
2,3,7,8-TCDD	28:45	2.00	2.02e+06	0.87	y 1.02	1.001 0.999 1.002	n
1,2,3,7,8-PeCDD	33:54	10.00	9.27e+06	0.63	y 0.96	1.000 0.999-1.002	n
1,2,3,4,7,8-HxCDD	37:46	10.00	7.95e+06	1.22	y 0.95	1.001 0.999-1.001	n
1,2,3,6,7,8-HxCDD	37:53	10.00	8.42e+06	1.25	y 0.93	1.000 0.998-1.004	n
1,2,3,7,8,9-HxCDD	38:14	10.00	8.10e+06	1.23	y 0.93	1.009 1.000-1.019	n
1,2,3,4,6,7,8-HpCDD	41:49	10.00	7.17e+06	1.08	y 0.99	1.000 0.999-1.001	n
OCDD	45:38	20.00	1.17e+07	0.87	y 0.97	1.000 0.999 1.001	n
2,3,7,8-TCDF	27:50	2.00	2.85e+06	0.82	y 0.96	1.001 0.999 1.003	n
1,2,3,7,8-PeCDF	32:35	10.00	1.46e+07	1.59	y 0.99	1.000 0.999 1.002	n
2,3,4,7,8-PeCDF	33:36	10.00	1.51e+07	1.54	y 1.01	1.000 0.999 1.002	n
1,2,3,4,7,8-HxCDF	36:44	10.00	1.46e+07	1.26	y 1.23	1.001 0.999 1.001	n
1,2,3,6,7,8-HxCDF	36:53	10.00	1.57e+07	1.25	y 1.23	1.001 0.997 1.005	n
2,3,4,6,7,8-HxCDF	37:34	10.00	1.42e+07	1.30	y 1.32	1.000 0.999 1.001	n
1,2,3,7,8,9-HxCDF	38:42	10.00	1.21e+07	1.29	y 1.18	1.001 0.999 1.001	n
1,2,3,4,6,7,8-HpCDF	40:35	10.00	1.36e+07	1.10	y 1.51	1.000 0.999 1.001	n
1,2,3,4,7,8,9-HpCDF	42:29	10.00	1.01e+07	1.15	y 1.52	1.001 0.999 1.001	n
OCDF	45:54	20.00	1.55e+07	0.97	y 1.29	1.006 0.999 1.008	n
13C 2,3,7,8-TCDD	28:43	100.00	9.90e+07	0.72	y 0.99	1.024 0.976 1.043	n
13C 1,2,3,7,8-PeCDD	33:54	100.00	9.60e+07	0.62	y 0.96	1.209 1.000 1.567	n
13C 1,2,3,4,7,8-HxCDD	37:45	100.00	8.40e+07	1.25	y 0.99	0.988 0.977 1.000	n
13C 1,2,3,6,7,8-HxCDD	37:52	100.00	9.01e+07	1.21	y 1.06	0.991 0.981 1.003	n
13C-1,2,3,4,6,7,8-HpCDD	41:49	100.00	7.21e+07	1.05	y 0.85	1.094 1.086 1.110	n
13C OCDD	45:37	200.00	1.20e+08	0.88	y 0.71	1.194 1.032 1.311	n
13C 2,3,7,8-TCDF	27:48	100.00	1.49e+08	0.78	y 1.49	0.992 0.923 1.103	n
13C 1,2,3,7,8-PeCDF	32:34	100.00	1.48e+08	1.58	y 1.48	1.162 1.000 1.425	n
13C 2,3,4,7,8-PeCDF	33:35	100.00	1.49e+08	1.55	y 1.49	1.198 1.011 1.526	n
13C 1,2,3,4,7,8-HxCDF	36:43	100.00	1.18e+08	0.52	y 1.39	0.961 0.944 0.970	n
13C 1,2,3,6,7,8-HxCDF	36:52	100.00	1.27e+08	0.51	y 1.49	0.965 0.949 0.975	n
13C 2,3,4,6,7,8-HxCDF	37:33	100.00	1.08e+08	0.52	y 1.27	0.983 0.959 1.021	n
13C 1,2,3,7,8,9-HxCDF	38:41	100.00	1.02e+08	0.53	y 1.20	1.012 0.977 1.047	n
13C-1,2,3,4,6,7,8-HpCDF	40:34	100.00	8.96e+07	0.49	y 1.05	1.061 1.043 1.085	n
13C-1,2,3,4,7,8,9-HpCDF	42:28	100.00	6.63e+07	0.49	y 0.78	1.111 1.057 1.151	n
37Cl-2,3,7,8-TCDD	28:45	2.00	2.22e+06		1.11	1.025 0.989 1.052	n
13C 1,2,3,4-TCDD	28:02	100.00	1.00e+08	0.74	y 1.00	* 0.000 0.000	n
13C 1,2,3,7,8,9-HxCDD	38:13	100.00	8.51e+07	1.24	y 1.00	* 0.000 0.000	n
Total Tetra Dioxins		0.00		n	1.02	0.000 0.000	n
EMPC Tetra Dioxins		0.00		n	1.02	0.000 0.000	n
Total Penta Dioxins		0.00		n	0.96	0.000 0.000	n
EMPC Penta Dioxins		0.00		n	0.96	0.000 0.000	n
Total Hexa Dioxins		0.00		n	0.94	0.000 0.000	n
EMPC Hexa Dioxins		0.00		n	0.94	0.000 0.000	n

Total Hepta-Dioxins	0.00	n	0.99	0.999	0.000	n
EMPC Hepta-Dioxins	0.00	n	0.99	0.999	0.000	n
Total Tetra-Furans	0.00	n	0.96	0.000	0.000	n
EMPC Tetra-Furans	0.00	n	0.96	0.000	0.000	n
1st Fnc Penta-Furans	0.00	n	1.00	0.000	0.000	n
1st EMPC Penta-Furans	0.00	n	1.00	0.000	0.000	n
Total Penta-Furans	0.00	n	1.00	0.000	0.000	n
EMPC Penta-Furans	0.00	n	1.00	0.000	0.000	n
Total Hexa-Furans	0.00	n	1.24	0.000	0.000	n
EMPC Hexa-Furans	0.00	n	1.24	0.000	0.000	n
Total Hepta-Furans	0.00	n	1.51	0.000	0.000	n
EMPC Hepta-Furans	0.00	n	1.51	0.000	0.000	n

Filename: 052213A1 S: 5 Acquired: 22 MAY 13 11:32:08
 ICal: 1613.ms1 5-22-13 Analyte: 1613
 Sample text: ST052213A1 4 S050913C 1613 CS3

Name	RT	Amount	Resp	RA	RRF	rrt	Modified?
2,3,7,8 TCDD	28:44	10.00	9.55e+06	0.80 y	1.01	1.001 0.999 1.002	n
1,2,3,7,8-PeCDD	33:55	50.00	4.56e+07	0.61 y	0.99	1.001 0.999 1.002	n
1,2,3,4,7,8 HxCDD	37:46	50.00	4.08e+07	1.23 y	1.03	1.001 0.999 1.001	n
1,2,3,6,7,8-HxCDD	37:53	50.00	4.03e+07	1.26 y	0.89	1.001 0.998 1.004	n
1,2,3,7,8,9 HxCDD	38:14	50.00	3.94e+07	1.22 y	0.93	1.010 1.000 1.019	n
1,2,3,4,6,7,8-HpCDD	41:49	50.00	3.47e+07	1.07 y	1.00	1.000 0.999 1.001	n
OCDD	45:37	100.00	5.81e+07	0.90 y	1.00	1.000 0.999 1.001	n
2,3,7,8-TCDF	27:50	10.00	1.35e+07	0.77 y	0.94	1.001 0.999 1.003	n
1,2,3,7,8 PeCDF	32:34	50.00	7.24e+07	1.59 y	1.01	1.000 0.999 1.002	n
2,3,4,7,8 PeCDF	33:35	50.00	7.50e+07	1.66 y	1.02	1.000 0.999 1.002	n
1,2,3,4,7,8 HxCDF	36:44	50.00	7.31e+07	1.28 y	1.27	1.000 0.999 1.001	n
1,2,3,6,7,8 HxCDF	36:53	50.00	7.65e+07	1.31 y	1.24	1.001 0.997 1.005	n
2,3,4,6,7,8 HxCDF	37:34	50.00	7.03e+07	1.30 y	1.35	1.001 0.999 1.001	n
1,2,3,7,8,9 HxCDF	38:42	50.00	6.01e+07	1.31 y	1.20	1.001 0.999 1.001	n
1,2,3,4,6,7,8 HpCDF	40:34	50.00	6.68e+07	1.12 y	1.53	1.000 0.999 1.001	n
1,2,3,4,7,8,9 HpCDF	42:28	50.00	5.10e+07	1.12 y	1.56	1.000 0.999 1.001	n
OCDF	45:54	100.00	7.85e+07	0.94 y	1.35	1.006 0.999 1.008	n
13C 2,3,7,8 TCDD	28:43	100.00	9.44e+07	0.74 y	0.99	1.024 0.976 1.043	n
13C 1,2,3,7,8 PeCDD	33:53	100.00	9.26e+07	0.64 y	0.97	1.208 1.000 1.567	n
13C 1,2,3,4,7,8 HxCDD	37:44	100.00	7.89e+07	1.24 y	0.97	0.988 0.977 1.000	n
13C 1,2,3,6,7,8 HxCDD	37:52	100.00	9.03e+07	1.24 y	1.11	0.991 0.981 1.003	n
13C 1,2,3,4,6,7,8 HpCDD	41:48	100.00	6.97e+07	1.07 y	0.85	1.094 1.086 1.110	n
13C OCDD	45:37	200.00	1.16e+08	0.89 y	0.71	1.194 1.032 1.311	n
13C 2,3,7,8 TCDF	27:49	100.00	1.43e+08	0.78 y	1.50	0.992 0.923 1.103	n
13C 1,2,3,7,8 PeCDF	32:34	100.00	1.44e+08	1.58 y	1.50	1.161 1.000 1.425	n
13C 2,3,4,7,8 PeCDF	33:35	100.00	1.47e+08	1.61 y	1.53	1.197 1.011 1.526	n
13C 1,2,3,4,7,8 HxCDF	36:43	100.00	1.15e+08	0.53 y	1.40	0.961 0.944 0.970	n
13C 1,2,3,6,7,8 HxCDF	36:51	100.00	1.23e+08	0.53 y	1.51	0.964 0.949 0.975	n
13C 2,3,4,6,7,8 HxCDF	37:33	100.00	1.04e+08	0.52 y	1.28	0.983 0.959 1.021	n
13C 1,2,3,7,8,9 HxCDF	38:40	100.00	1.00e+08	0.53 y	1.23	1.012 0.977 1.047	n
13C 1,2,3,4,6,7,8 HpCDF	40:34	100.00	8.73e+07	0.48 y	1.07	1.061 1.043 1.085	n
13C 1,2,3,4,7,8,9 HpCDF	42:28	100.00	6.55e+07	0.49 y	0.80	1.111 1.057 1.151	n
37Cl-2,3,7,8 TCDD	28:44	10.00	9.89e+06		1.03	1.025 0.989 1.052	n
13C-1,2,3,4-TCDD	28:03	100.00	9.56e+07	0.75 y	1.00	* 0.000 0.000	n
13C 1,2,3,7,8,9 HxCDD	38:13	100.00	8.16e+07	1.20 y	1.00	* 0.000 0.000	n
Total Tetra Dioxins		0.00		n	1.01	0.000 0.000	n
EMPC Tetra Dioxins		0.00		n	1.01	0.000 0.000	n
Total Penta Dioxins		0.00		n	0.99	0.000 0.000	n
EMPC Penta Dioxins		0.00		n	0.99	0.000 0.000	n
Total Hexa Dioxins		0.00		n	0.95	0.000 0.000	n
EMPC Hexa Dioxins		0.00		n	0.95	0.000 0.000	n

Total Hepta-Dioxins	0.00	n	1.00	0.999	0.000	n
EMPC Hepta-Dioxins	0.00	n	1.00	0.999	0.000	n
Total Tetra-Furans	0.00	n	0.94	0.000	0.000	n
EMPC Tetra-Furans	0.00	n	0.94	0.000	0.000	n
1st Fnc Penta-Furans	0.00	n	1.01	0.000	0.000	n
1st EMPC Penta-Furans	0.00	n	1.01	0.000	0.000	n
Total Penta-Furans	0.00	n	1.01	0.000	0.000	n
EMPC Penta-Furans	0.00	n	1.01	0.000	0.000	n
Total Hexa-Furans	0.00	n	1.27	0.000	0.000	n
EMPC Hexa-Furans	0.00	n	1.27	0.000	0.000	n
Total Hepta-Furans	0.00	n	1.54	0.000	0.000	n
EMPC Hepta-Furans	0.00	n	1.54	0.000	0.000	n

Filename: 052213A1 S: 6 Acquired: 22-MAY 13 12:25:52
 ICal: 1613.ms1 5-22-13 Analyte: 1613
 Sample text: ST052213A1 5 S050913D 1613 CS4

Name	RT	Amount	Resp	RA	RRF	rrt	Modified?
2,3,7,8-TCDD	28:45	40.00	4.00e+07	0.78	y 1.02	1.001 0.999 1.002	n
1,2,3,7,8 PeCDD	33:54	200.00	1.89e+08	0.61	y 0.99	1.000 0.999-1.002	n
1,2,3,4,7,8 HxCDD	37:45	200.00	1.65e+08	1.23	y 0.99	1.000 0.999 1.001	n
1,2,3,6,7,8 HxCDD	37:54	200.00	1.69e+08	1.25	y 0.95	1.001 0.998-1.004	n
1,2,3,7,8,9-HxCDD	38:14	200.00	1.64e+08	1.22	y 0.95	1.009 1.000-1.019	n
1,2,3,4,6,7,8 HpCDD	41:49	200.00	1.40e+08	1.11	y 1.01	1.001 0.999-1.001	n
OCDD	45:38	400.00	2.50e+08	0.89	y 1.03	1.000 0.999-1.001	n
2,3,7,8 TCDF	27:50	40.00	5.44e+07	0.80	y 0.95	1.001 0.999 1.003	n
1,2,3,7,8 PeCDF	32:35	200.00	2.97e+08	1.60	y 1.02	1.000 0.999-1.002	n
2,3,4,7,8-PeCDF	33:36	200.00	3.08e+08	1.63	y 1.02	1.001 0.999-1.002	n
1,2,3,4,7,8 HxCDF	36:44	200.00	2.93e+08	1.29	y 1.25	1.000 0.999 1.001	n
1,2,3,6,7,8 HxCDF	36:52	200.00	3.17e+08	1.31	y 1.27	1.000 0.997 1.005	n
2,3,4,6,7,8 HxCDF	37:34	200.00	2.86e+08	1.30	y 1.35	1.000 0.999 1.001	n
1,2,3,7,8,9 HxCDF	38:41	200.00	2.43e+08	1.30	y 1.21	1.001 0.999 1.001	n
1,2,3,4,6,7,8 HpCDF	40:35	200.00	2.67e+08	1.12	y 1.55	1.000 0.999 1.001	n
1,2,3,4,7,8,9 HpCDF	42:28	200.00	2.03e+08	1.14	y 1.56	1.000 0.999 1.001	n
OCDF	45:54	400.00	3.43e+08	0.94	y 1.41	1.006 0.999 1.008	n
13C 2,3,7,8 TCDD	28:43	100.00	9.75e+07	0.77	y 1.00	1.023 0.976 1.043	n
13C 1,2,3,7,8 PeCDD	33:54	100.00	9.52e+07	0.64	y 0.97	1.208 1.000 1.567	n
13C 1,2,3,4,7,8 HxCDD	37:45	100.00	8.32e+07	1.25	y 1.00	0.988 0.977 1.000	n
13C-1,2,3,6,7,8 HxCDD	37:52	100.00	8.92e+07	1.27	y 1.07	0.991 0.981 1.003	n
13C 1,2,3,4,6,7,8 HpCDD	41:48	100.00	6.90e+07	1.06	y 0.83	1.094 1.086 1.110	n
13C OCDD	45:37	200.00	1.21e+08	0.87	y 0.73	1.194 1.032 1.311	n
13C 2,3,7,8 TCDF	27:49	100.00	1.43e+08	0.79	y 1.47	0.992 0.923 1.103	n
13C 1,2,3,7,8 PeCDF	32:34	100.00	1.46e+08	1.59	y 1.49	1.161 1.000 1.425	n
13C-2,3,4,7,8 PeCDF	33:34	100.00	1.51e+08	1.58	y 1.54	1.197 1.011 1.526	n
13C 1,2,3,4,7,8 HxCDF	36:43	100.00	1.17e+08	0.53	y 1.40	0.961 0.944 0.970	n
13C 1,2,3,6,7,8 HxCDF	36:52	100.00	1.25e+08	0.54	y 1.50	0.965 0.949 0.975	n
13C-2,3,4,6,7,8 HxCDF	37:33	100.00	1.06e+08	0.53	y 1.27	0.983 0.959 1.021	n
13C-1,2,3,7,8,9-HxCDF	38:40	100.00	1.00e+08	0.53	y 1.20	1.012 0.977 1.047	n
13C-1,2,3,4,6,7,8 HpCDF	40:34	100.00	8.61e+07	0.50	y 1.03	1.061 1.043 1.085	n
13C-1,2,3,4,7,8,9-HpCDF	42:28	100.00	6.50e+07	0.50	y 0.78	1.111 1.057 1.151	n
37Cl-2,3,7,8 TCDD	28:45	40.00	4.37e+07		1.12	1.025 0.989-1.052	n
13C 1,2,3,4 TCDD	28:03	100.00	9.78e+07	0.76	y 1.00	* 0.000 0.000	n
13C 1,2,3,7,8,9 HxCDD	38:13	100.00	8.35e+07	1.22	y 1.00	* 0.000-0.000	n
Total Tetra Dioxins	-	0.00	-	n	1.02	0.000 0.000	n
EMPC Tetra Dioxins	-	0.00	-	n	1.02	0.000 0.000	n
Total Penta Dioxins	-	0.00	-	n	0.99	0.000 0.000	n
EMPC Penta Dioxins	-	0.00	-	n	0.99	0.000 0.000	n
Total Hexa Dioxins	-	0.00	-	n	0.96	0.000 0.000	n
EMPC Hexa Dioxins	-	0.00	-	n	0.96	0.000 0.000	n

Total Hepta-Dioxins	0.00	n	1.01	0.999	0.000	n
EMPC Hepta-Dioxins	0.00	n	1.01	0.999	0.000	n
Total Tetra-Furans	0.00	n	0.95	0.000	0.000	n
EMPC Tetra-Furans	0.00	n	0.95	0.000	0.000	n
1st Fnc Penta-Furans	0.00	n	1.02	0.000	0.000	n
1st EMPC Penta-Furans	0.00	n	1.02	0.000	0.000	n
Total Penta-Furans	0.00	n	1.02	0.000	0.000	n
EMPC Penta-Furans	0.00	n	1.02	0.000	0.000	n
Total Hexa-Furans	0.00	n	1.27	0.000	0.000	n
EMPC Hexa-Furans	0.00	n	1.27	0.000	0.000	n
Total Hepta-Furans	0.00	n	1.55	0.000	0.000	n
EMPC Hepta-Furans	0.00	n	1.55	0.000	0.000	n

Filename: 052213A1 S: 7 Acquired: 22-MAY-13 13:19:36
 ICal: 1613.ms1 5 22-13 Analyte: 1613
 Sample text: ST052213A1 6 S050913E 1613 CS5

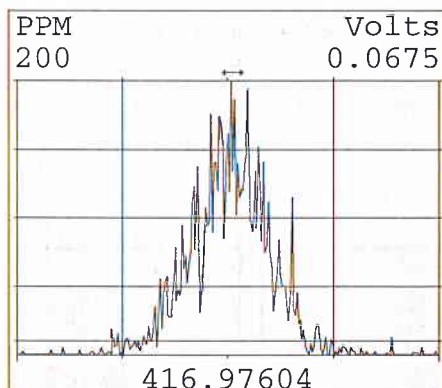
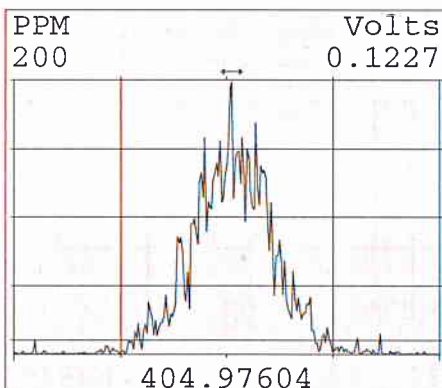
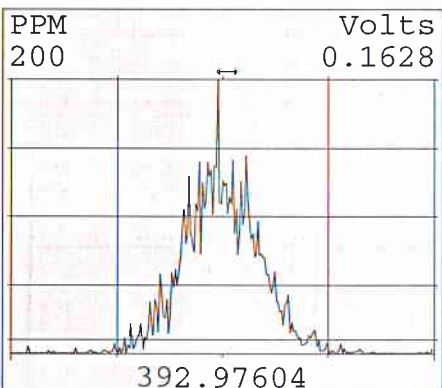
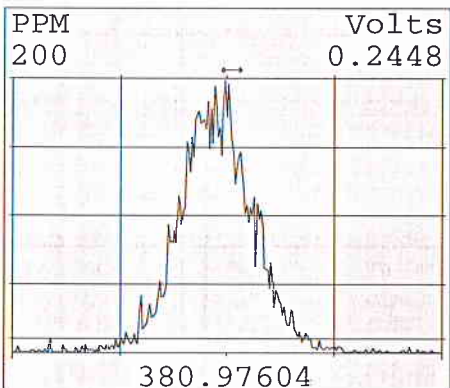
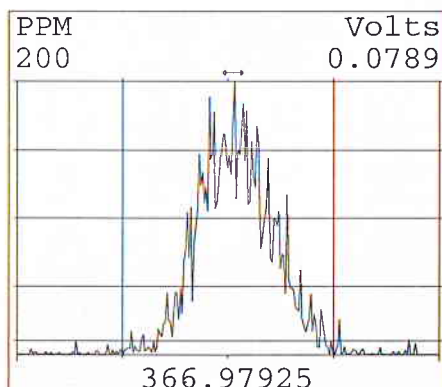
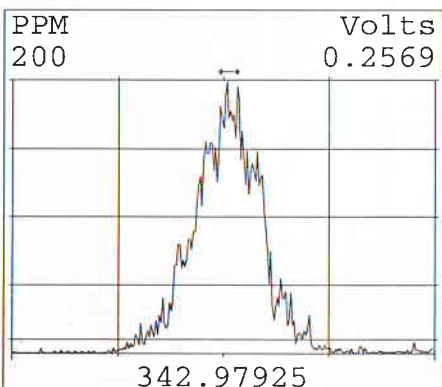
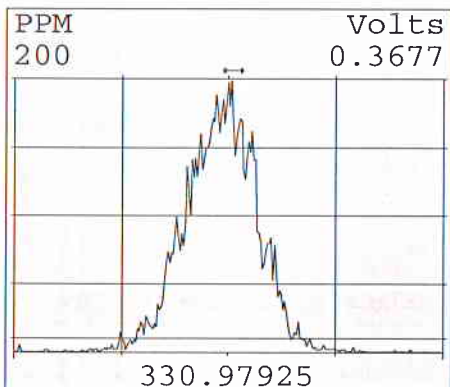
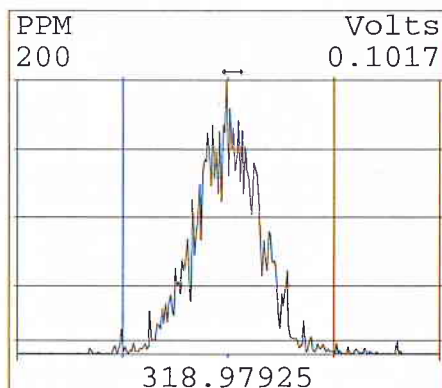
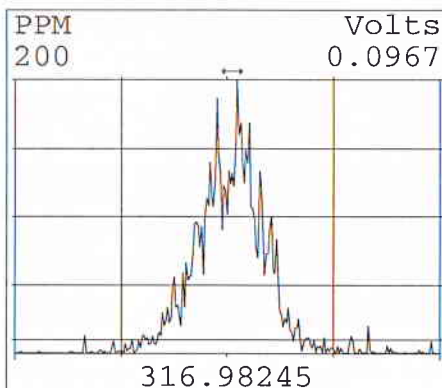
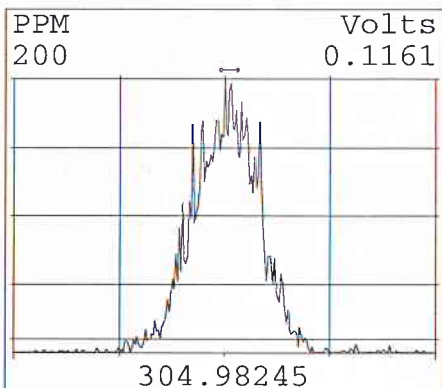
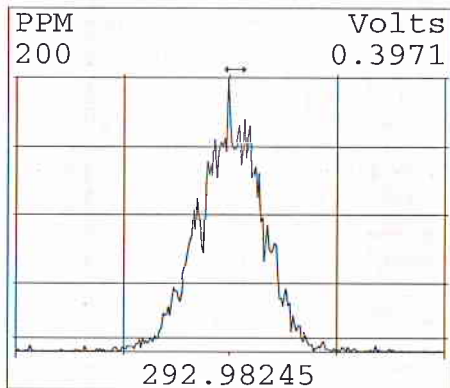
Name	RT	Amount	Resp	RA	RRF	rrt	Modified?
2,3,7,8 TCDD	28:44	200.00	2.03e+08	0.77 y	1.04	1.001 0.999-1.002	n
1,2,3,7,8 PeCDD	33:55	1000.00	9.71e+08	0.62 y	0.99	1.001 0.999-1.002	n
1,2,3,4,7,8 HxCDD	37:46	1000.00	8.84e+08	1.23 y	1.00	1.000 0.999-1.001	n
1,2,3,6,7,8-HxCDD	37:52	1000.00	8.93e+08	1.23 y	0.94	1.000 0.998-1.004	n
1,2,3,7,8,9 HxCDD	38:13	1000.00	8.80e+08	1.24 y	0.96	1.009 1.000-1.019	n
1,2,3,4,6,7,8-HpCDD	41:49	1000.00	7.93e+08	1.08 y	1.03	1.000 0.999-1.001	n
OCDD	45:38	2000.00	1.44e+09	0.89 y	1.01	1.000 0.999-1.001	n
2,3,7,8-TCDF	27:50	200.00	2.73e+08	0.79 y	0.97	1.001 0.999-1.003	n
1,2,3,7,8 PeCDF	32:34	1000.00	1.54e+09	1.64 y	1.03	1.000 0.999-1.002	n
2,3,4,7,8 PeCDF	33:35	1000.00	1.58e+09	1.61 y	1.02	1.000 0.999-1.002	n
1,2,3,4,7,8 HxCDF	36:44	1000.00	1.58e+09	1.31 y	1.29	1.001 0.999-1.001	n
1,2,3,6,7,8 HxCDF	36:53	1000.00	1.62e+09	1.29 y	1.25	1.001 0.997-1.005	n
2,3,4,6,7,8 HxCDF	37:34	1000.00	1.52e+09	1.30 y	1.37	1.001 0.999-1.001	n
1,2,3,7,8,9 HxCDF	38:41	1000.00	1.31e+09	1.29 y	1.21	1.001 0.999-1.001	n
1,2,3,4,6,7,8 HpCDF	40:34	1000.00	1.54e+09	1.10 y	1.56	1.000 0.999-1.001	n
1,2,3,4,7,8,9 HpCDF	42:29	1000.00	1.15e+09	1.12 y	1.59	1.001 0.999-1.001	n
OCDF	45:55	2000.00	1.99e+09	0.95 y	1.39	1.006 0.999-1.008	n
13C 2,3,7,8 TCDD	28:43	100.00	9.74e+07	0.78 y	1.05	1.024 0.976-1.043	n
13C 1,2,3,7,8 PeCDD	33:53	100.00	9.79e+07	0.63 y	1.06	1.208 1.000-1.567	n
13C 1,2,3,4,7,8 HxCDD	37:45	100.00	8.87e+07	1.25 y	0.99	0.988 0.977-1.000	n
13C 1,2,3,6,7,8 HxCDD	37:52	100.00	9.47e+07	1.20 y	1.06	0.991 0.981-1.003	n
13C 1,2,3,4,6,7,8 HpCDD	41:48	100.00	7.73e+07	1.05 y	0.86	1.094 1.086-1.110	n
13C OCDD	45:37	200.00	1.43e+08	0.89 y	0.80	1.194 1.032-1.311	n
13C 2,3,7,8 TCDF	27:49	100.00	1.41e+08	0.78 y	1.52	0.992 0.923-1.103	n
13C 1,2,3,7,8 PeCDF	32:34	100.00	1.50e+08	1.60 y	1.62	1.161 1.000-1.425	n
13C 2,3,4,7,8 PeCDF	33:35	100.00	1.55e+08	1.58 y	1.67	1.197 1.011-1.526	n
13C 1,2,3,4,7,8 HxCDF	36:43	100.00	1.23e+08	0.52 y	1.37	0.961 0.944-0.970	n
13C 1,2,3,6,7,8 HxCDF	36:51	100.00	1.29e+08	0.54 y	1.45	0.964 0.949-0.975	n
13C 2,3,4,6,7,8-HxCDF	37:33	100.00	1.11e+08	0.53 y	1.24	0.983 0.959-1.021	n
13C 1,2,3,7,8,9 HxCDF	38:40	100.00	1.08e+08	0.53 y	1.21	1.012 0.977-1.047	n
13C 1,2,3,4,6,7,8 HpCDF	40:34	100.00	9.87e+07	0.49 y	1.10	1.061 1.043-1.085	n
13C-1,2,3,4,7,8,9 HpCDF	42:27	100.00	7.21e+07	0.50 y	0.81	1.111 1.057-1.151	n
37Cl 2,3,7,8 TCDD	28:44	200.00	2.19e+08		1.18	1.025 0.989-1.052	n
13C 1,2,3,4 TCDD	28:03	100.00	9.26e+07	0.76 y	1.00	* 0.000 0.000	n
13C-1,2,3,7,8,9 HxCDD	38:13	100.00	8.94e+07	1.23 y	1.00	* 0.000-0.000	n
Total Tetra Dioxins		0.00		n	1.04	0.000 0.000	n
EMPC Tetra Dioxins		0.00		n	1.04	0.000 0.000	n
Total Penta Dioxins		0.00		n	0.99	0.000 0.000	n
EMPC Penta Dioxins		0.00		n	0.99	0.000 0.000	n
Total Hexa Dioxins		0.00		n	0.97	0.000 0.000	n
EMPC Hexa Dioxins		0.00		n	0.97	0.000 0.000	n

Total Hepta Dioxins	=	0.00	n	1.03	0.999	0.000	n
EMPC Hepta Dioxins	=	0.00	n	1.03	0.999	0.000	n
Total Tetra Furans	=	0.00	n	0.97	0.000	0.000	n
EMPC Tetra Furans	=	0.00	n	0.97	0.000	0.000	n
1st Fnc Penta Furans	=	0.00	n	1.02	0.000	0.000	n
1st EMPC Penta Furans	=	0.00	n	1.02	0.000	0.000	n
Total Penta Furans	=	0.00	n	1.02	0.000	0.000	n
EMPC Penta Furans	=	0.00	n	1.02	0.000	0.000	n
Total Hexa Furans	=	0.00	n	1.28	0.000	0.000	n
EMPC Hexa Furans	=	0.00	n	1.28	0.000	0.000	n
Total Hepta Furans	=	0.00	n	1.57	0.000	0.000	n
EMPC Hepta Furans	=	0.00	n	1.57	0.000	0.000	n

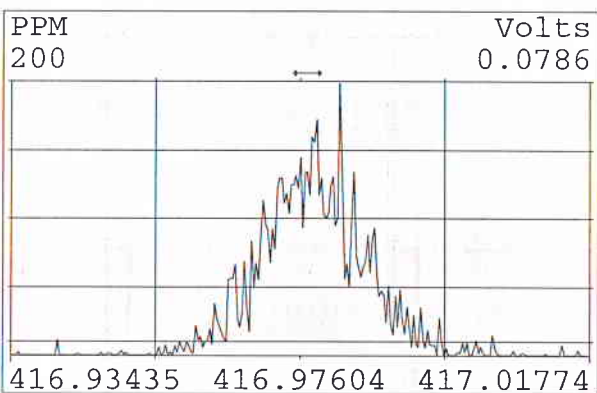
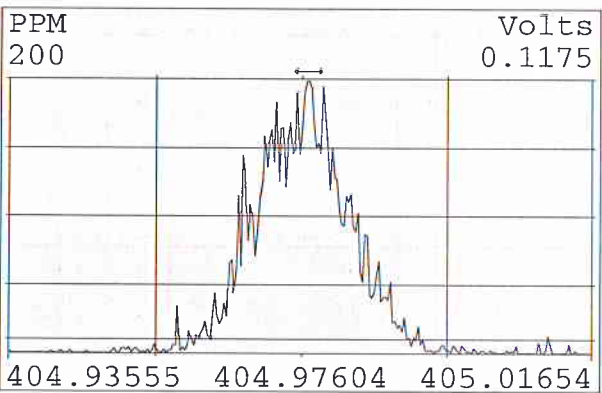
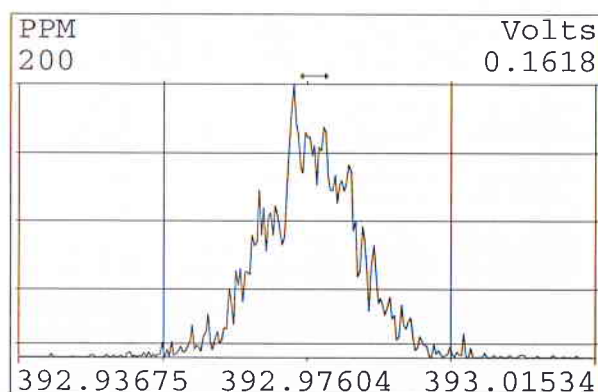
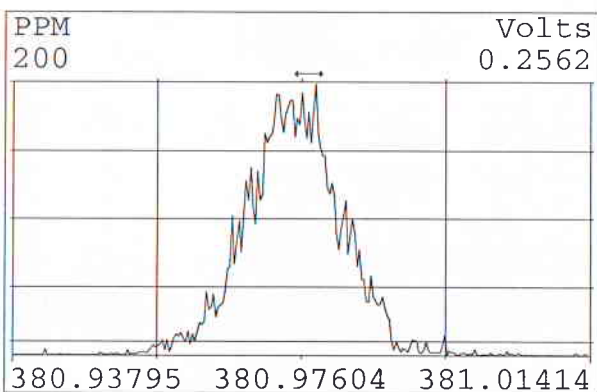
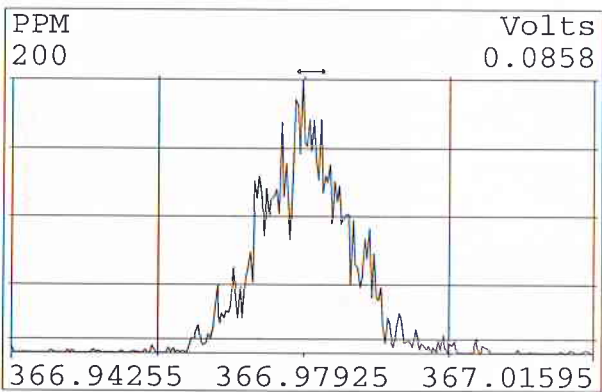
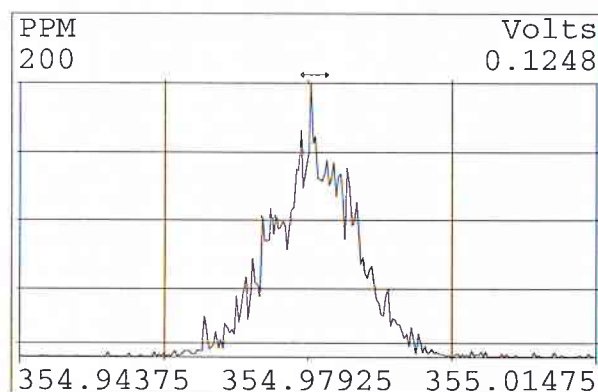
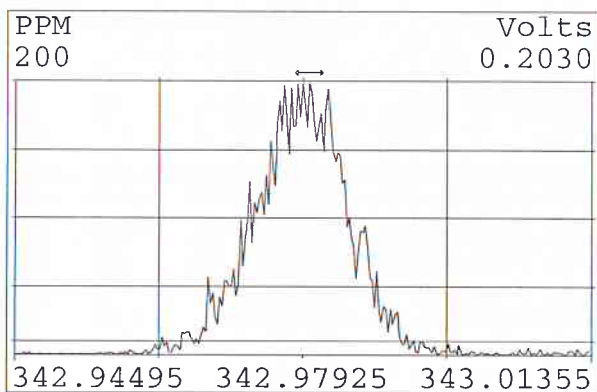
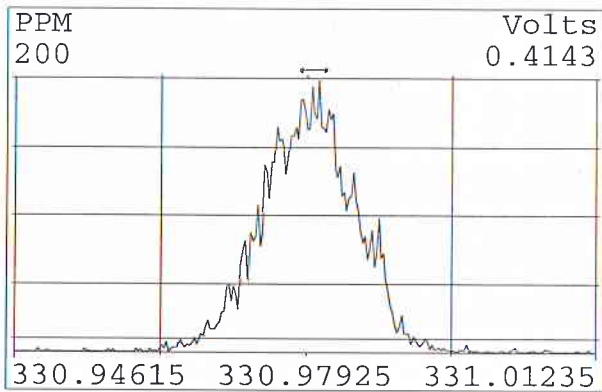
	c/q	Data File	S	Ceres ID	Acquired	Time	Con Cal	End Cal	
1	q	052213A1	1	ST052213A1-1	22-MAY-13	07:57:16	na	na	y
2	q	052213A1	2	solvent blank	22-MAY-13	08:50:59	na	na	y
3	q	052213A1	3	ST052213A1-2	22-MAY-13	09:44:42	na	na	y
4	q	052213A1	4	ST052213A1-3	22-MAY-13	10:38:25	na	na	y
5	q	052213A1	5	ST052213A1-4	22-MAY-13	11:32:08	na	na	y
6	q	052213A1	6	ST052213A1-5	22-MAY-13	12:25:52	na	na	y
7	q	052213A1	7	ST052213A1-6	22-MAY-13	13:19:36	na	na	y
8	q	052213A1	8	solvent blank	22-MAY-13	14:13:14	na	na	y
9	q	052213A1	9	ST052213A1-7	22-MAY-13	15:06:53	na	na	y

Peak Locate Examination:22-MAY-2013:07:55 File:052213A1

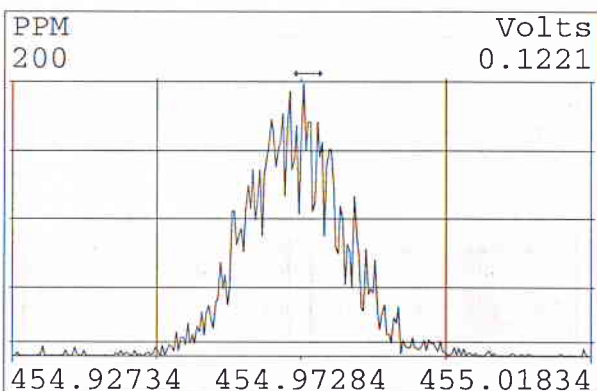
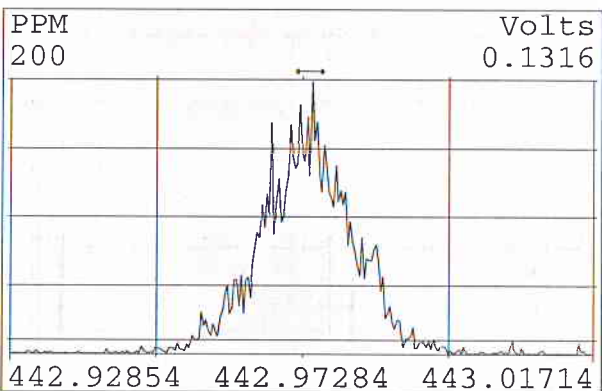
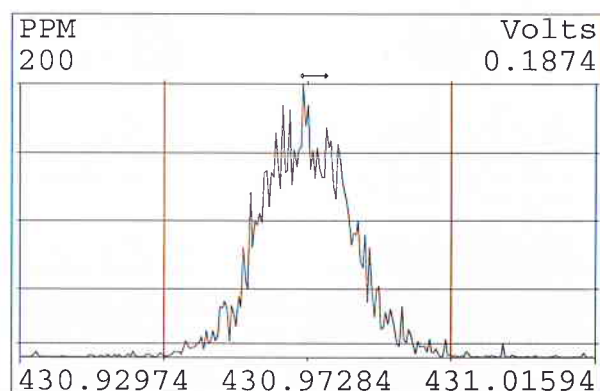
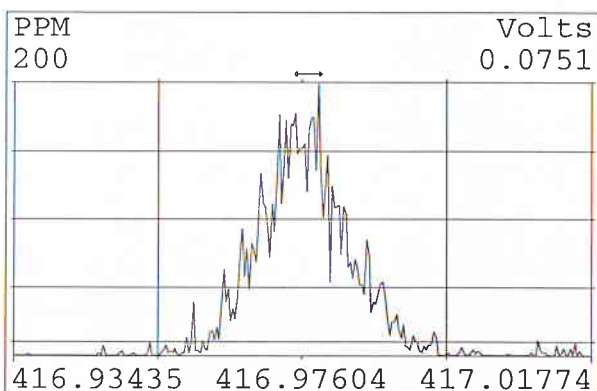
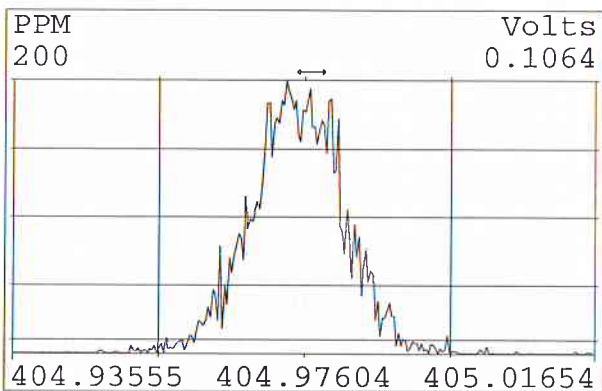
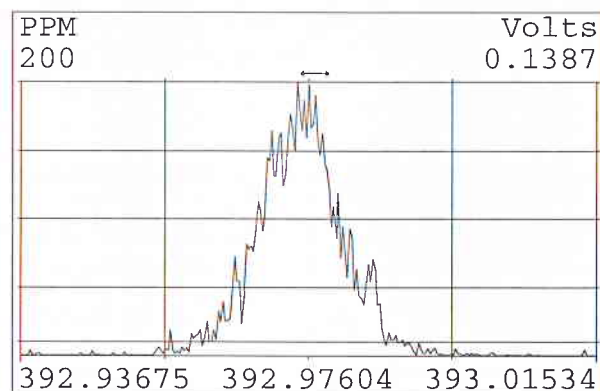
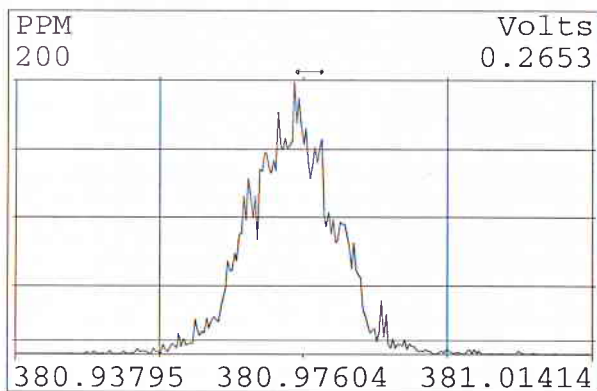
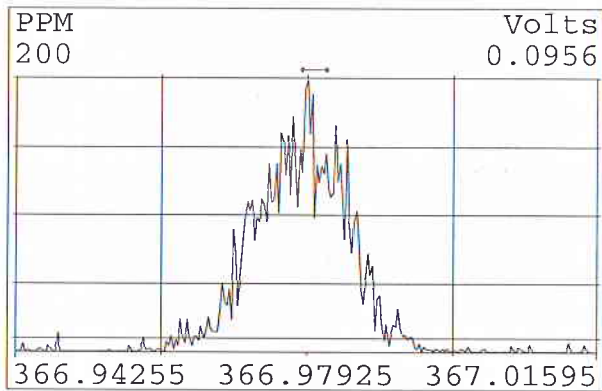
Experiment:TO-ZB5MS Function:1 Reference:PFK



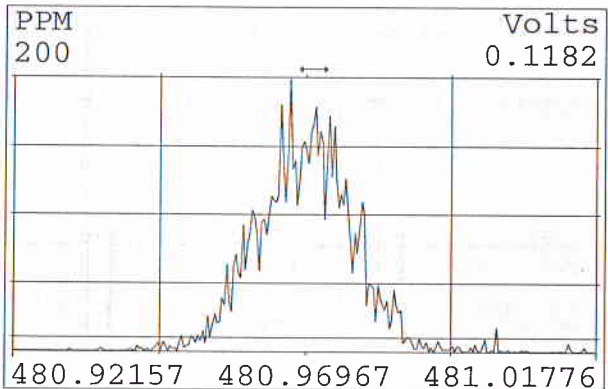
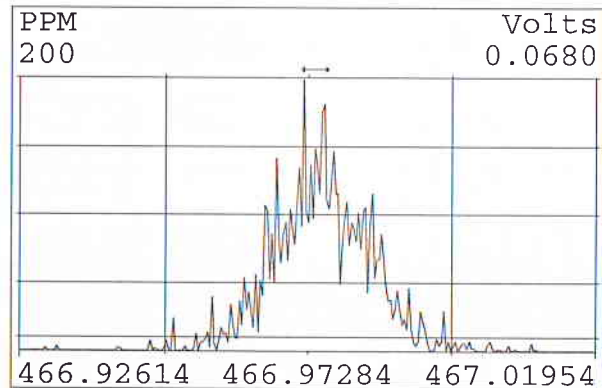
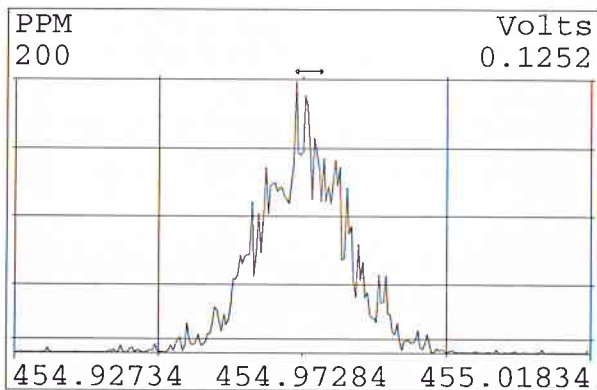
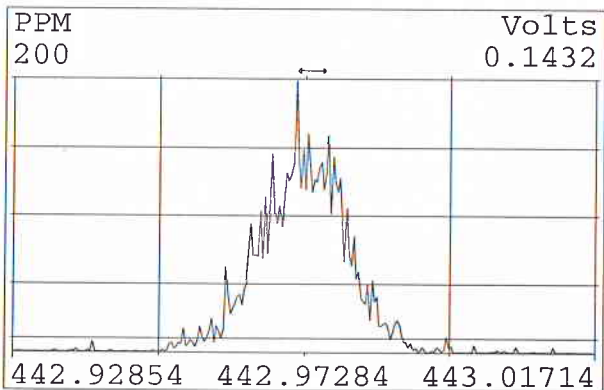
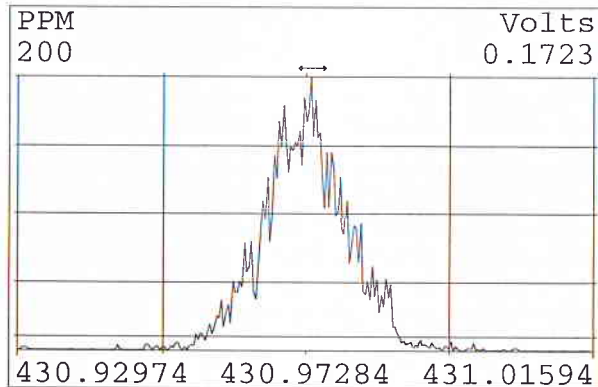
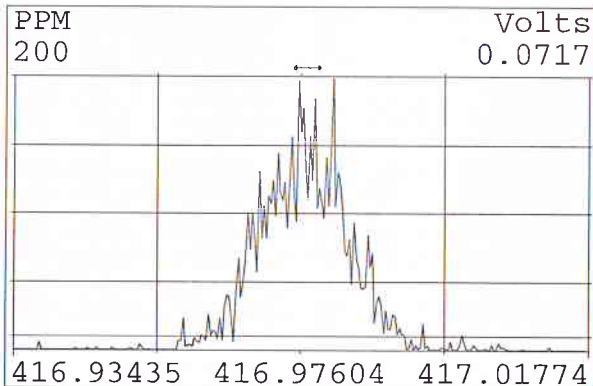
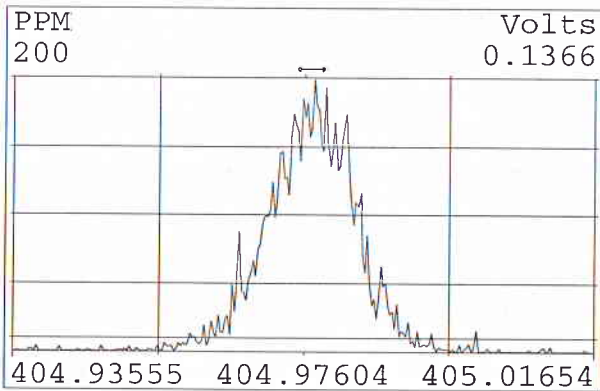
Peak Locate Examination:22-MAY-2013:07:55 File:052213A1
Experiment:TO-ZB5MS Function:2 Reference:PFK



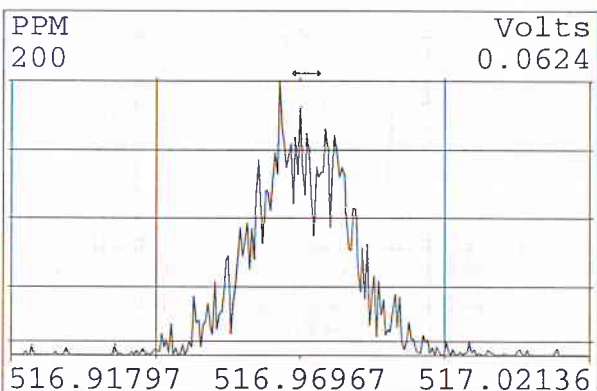
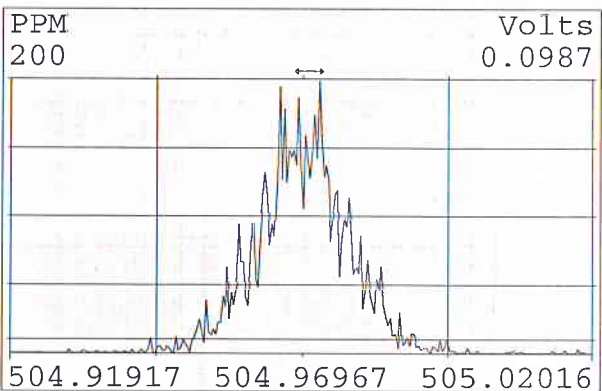
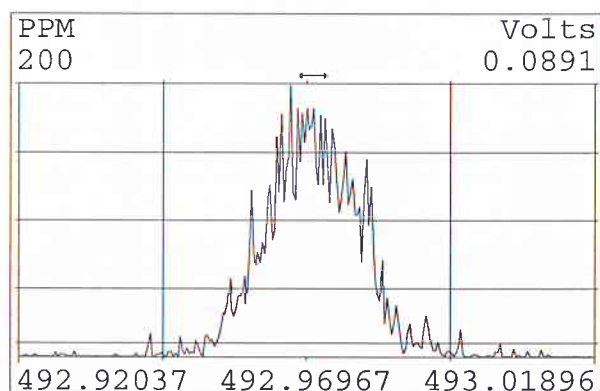
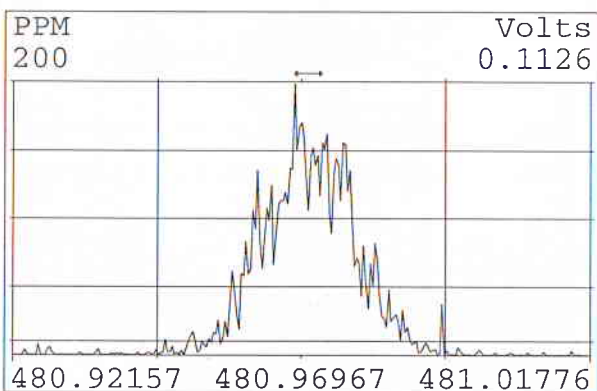
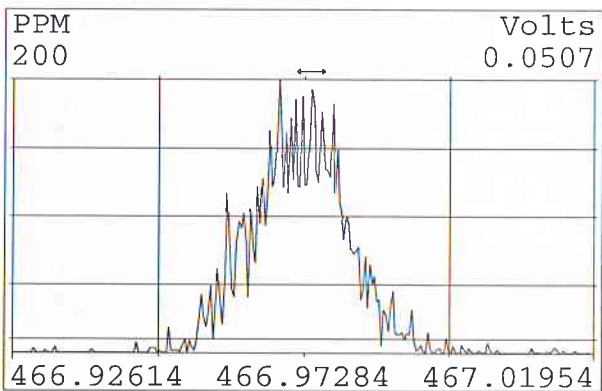
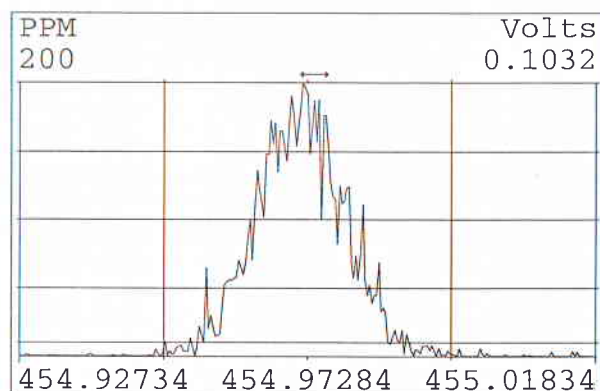
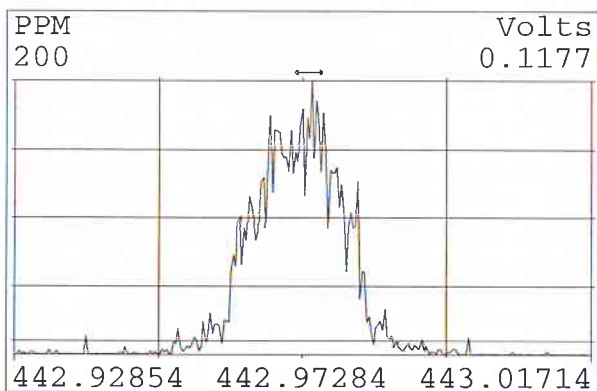
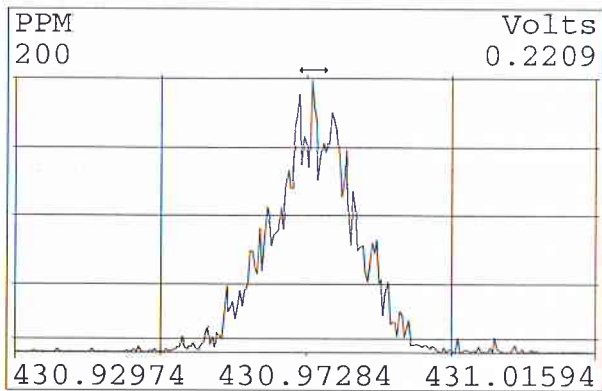
Peak Locate Examination:22-MAY-2013:07:56 File:052213A1
Experiment:TO-ZB5MS Function:3 Reference:PFK



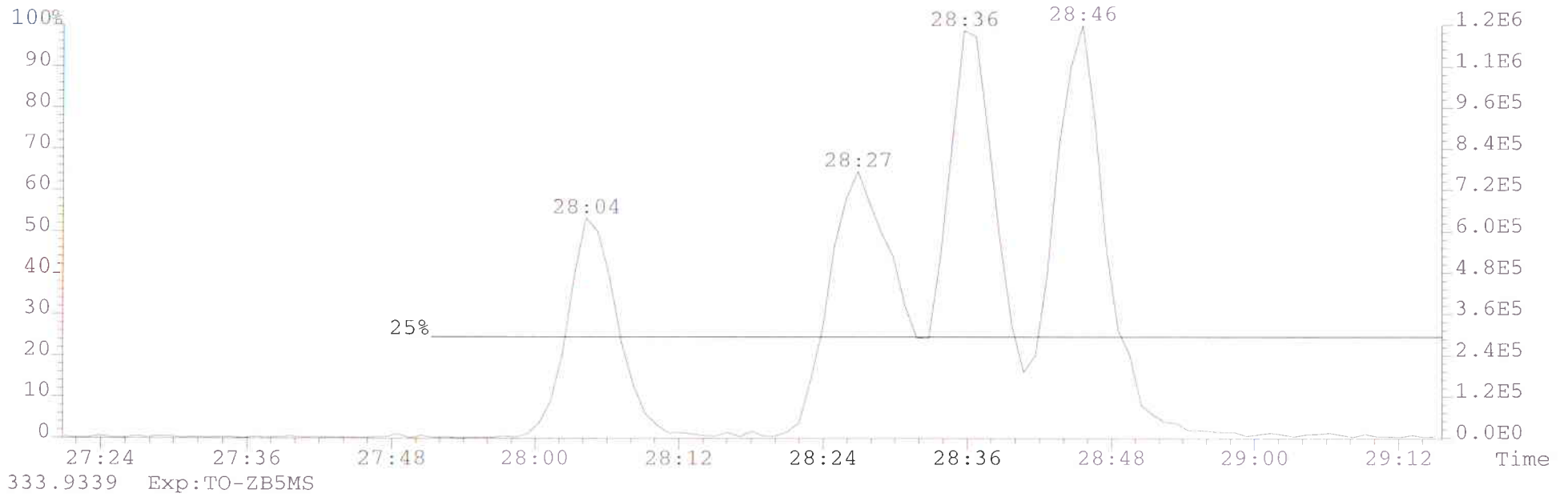
Peak Locate Examination: 22-MAY-2013:07:56 File:052213A1
Experiment: TO-ZB5MS Function: 4 Reference: PFK



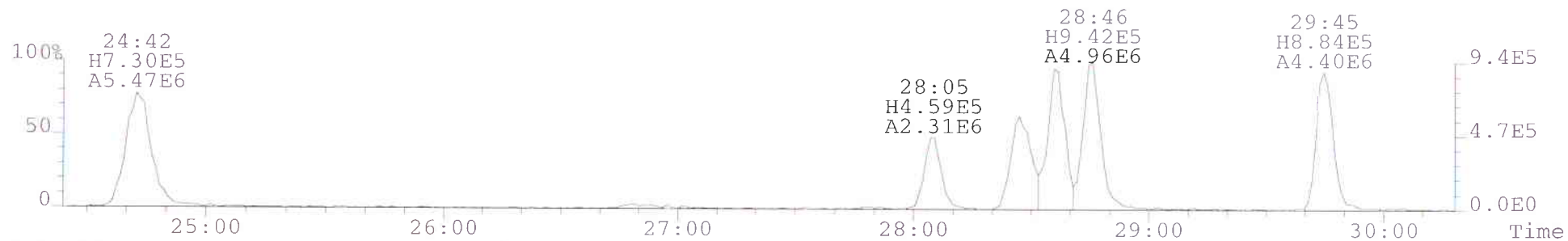
Peak Locate Examination:22-MAY-2013:07:56 File:052213A1
Experiment:TO-ZB5MS Function:5 Reference:PFK



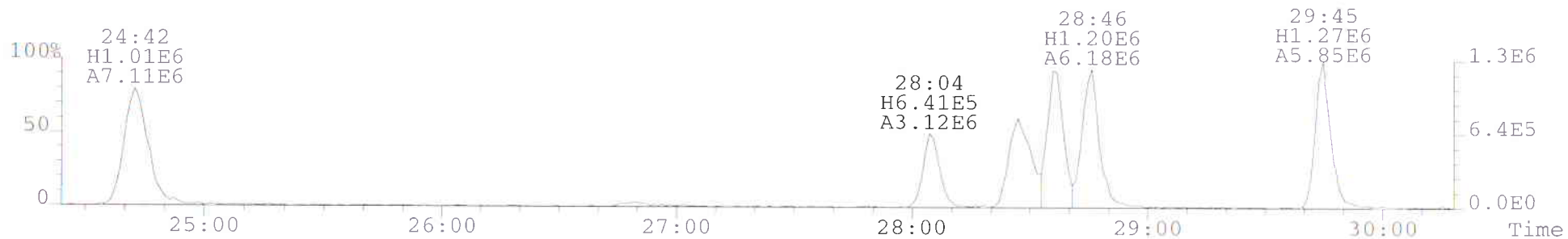
File:052213A1 #1-658 Acq:22-MAY-2013 07:57:16 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST052213A1-1 S050913F 1613 CS3WT
321.8936 Exp:TO-ZB5MS



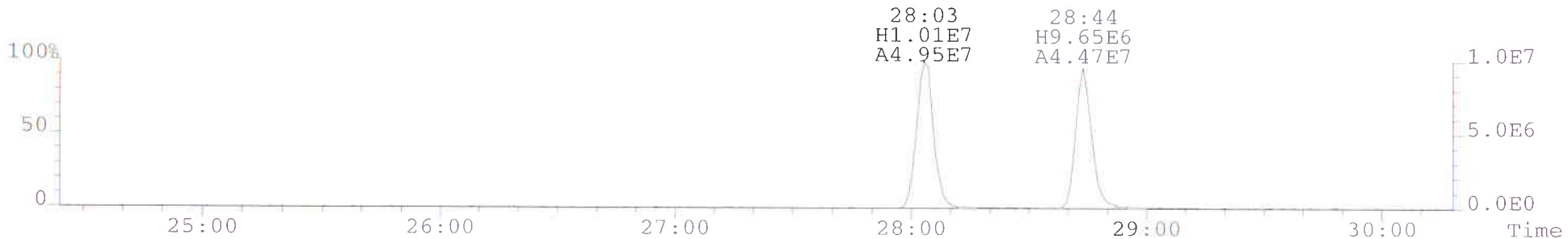
File:052213A1 #1-658 Acq:22-MAY-2013 07:57:16 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST052213A1-1 S050913F 1613 CS3WT
319.8965 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



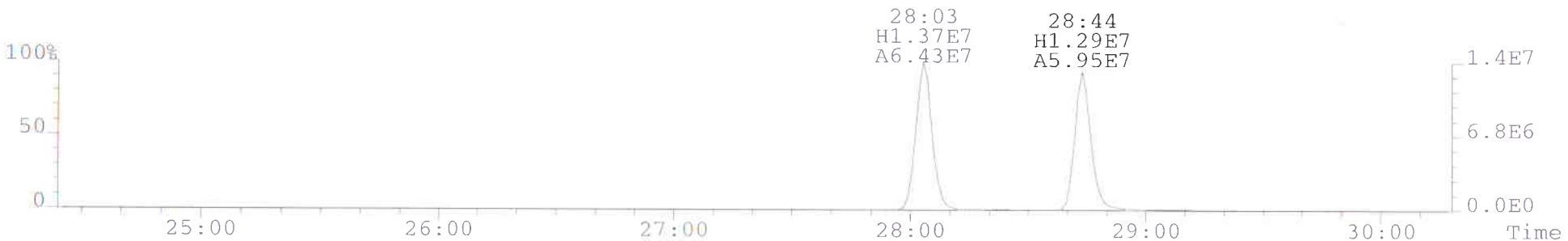
321.8936 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



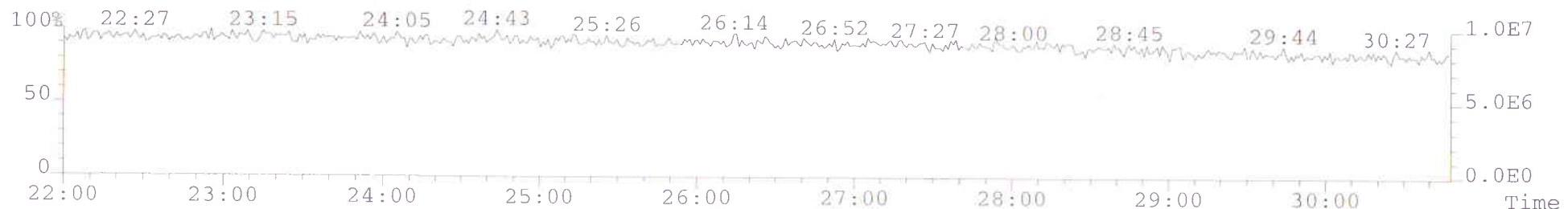
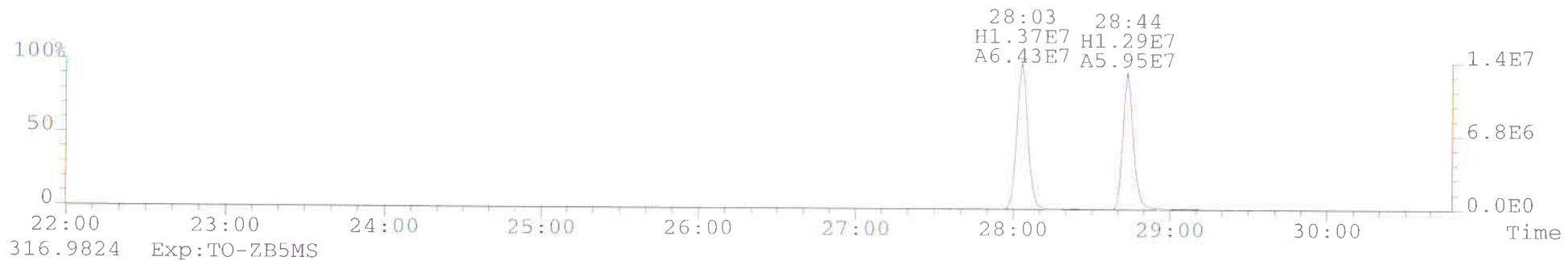
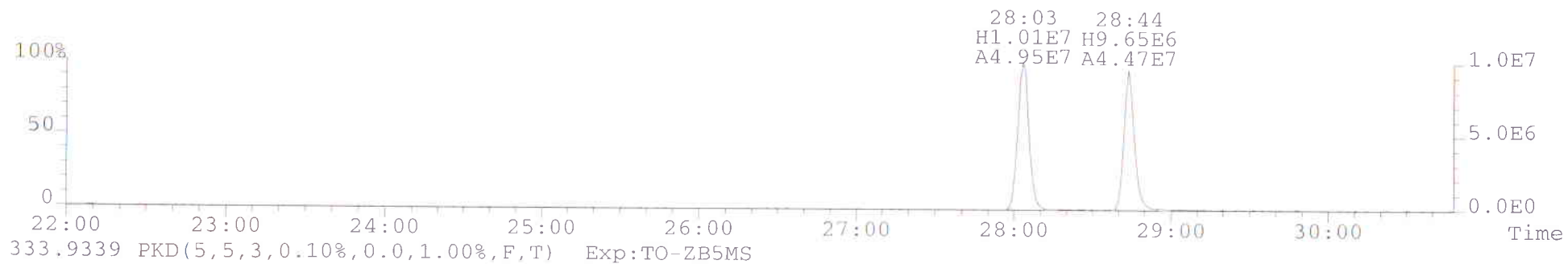
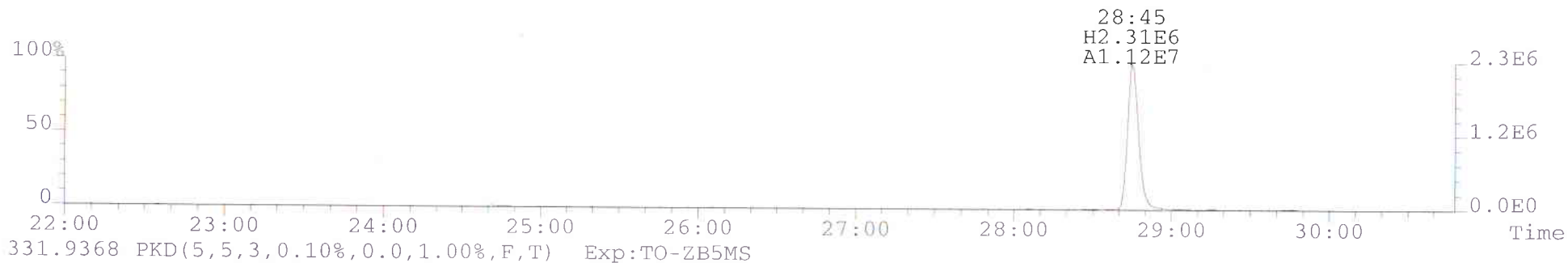
331.9368 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



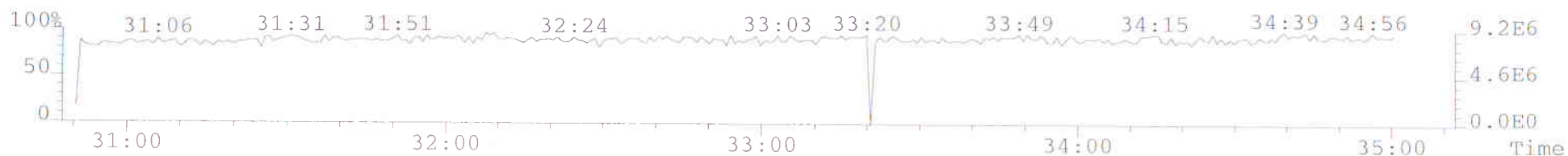
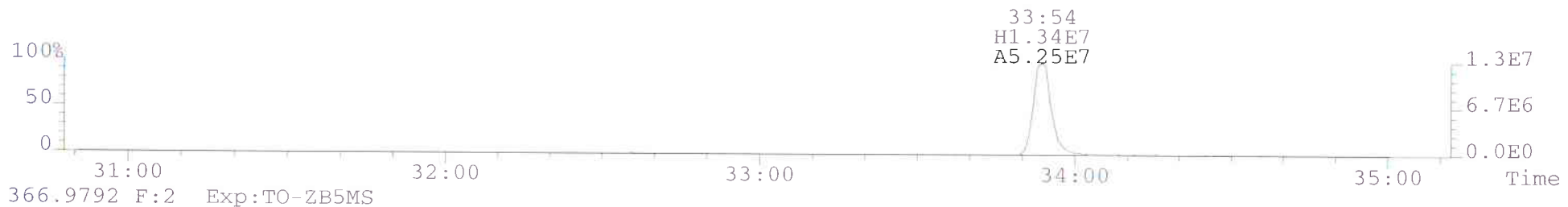
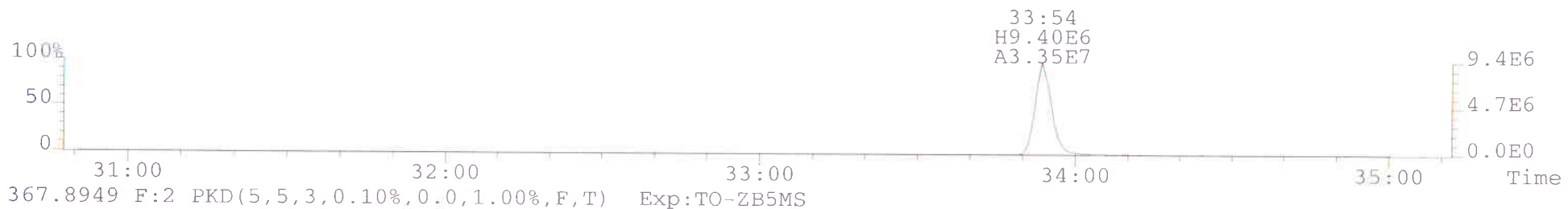
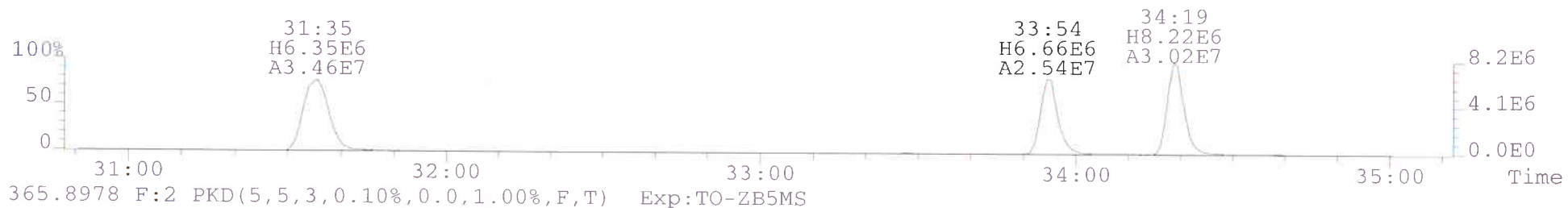
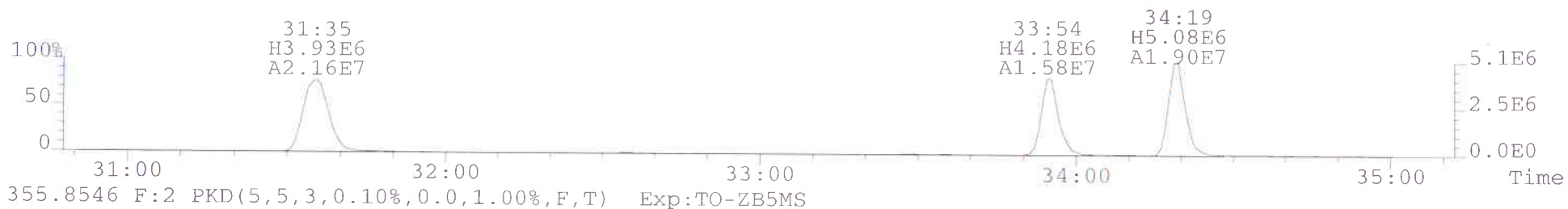
333.9339 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



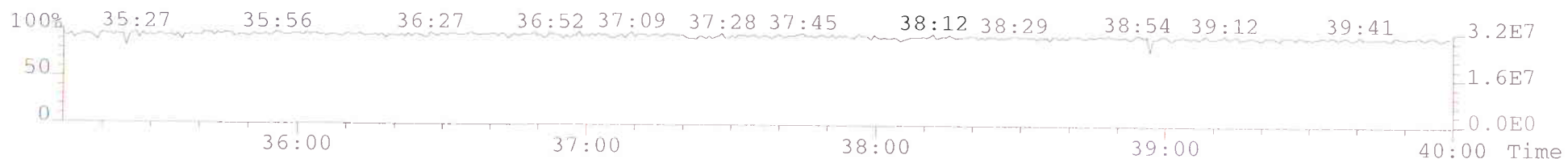
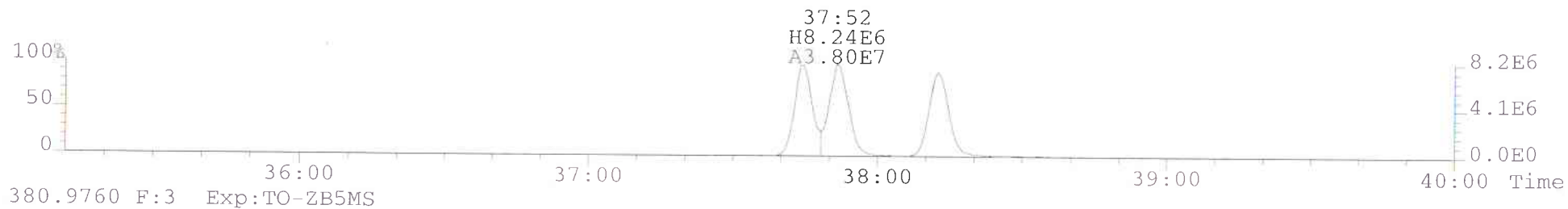
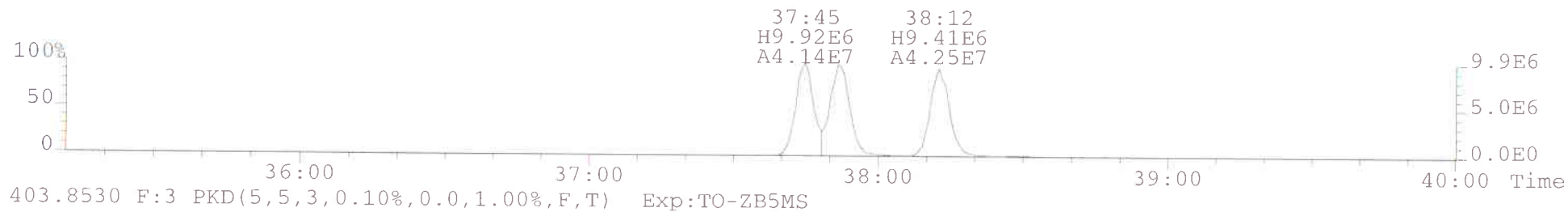
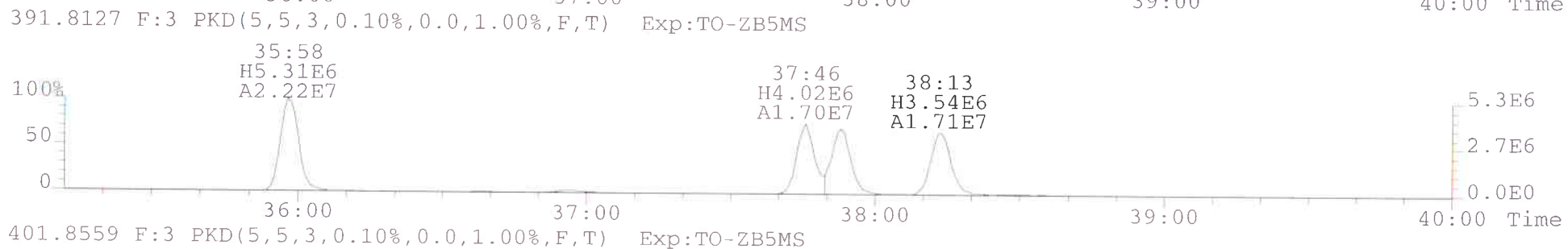
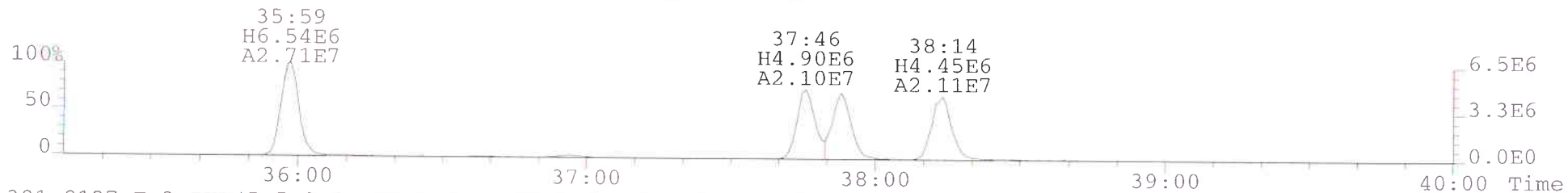
File:052213A1 #1-658 Acq:22-MAY-2013 07:57:16 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST052213A1-1 S050913F 1613 CS3WT
327.8847 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



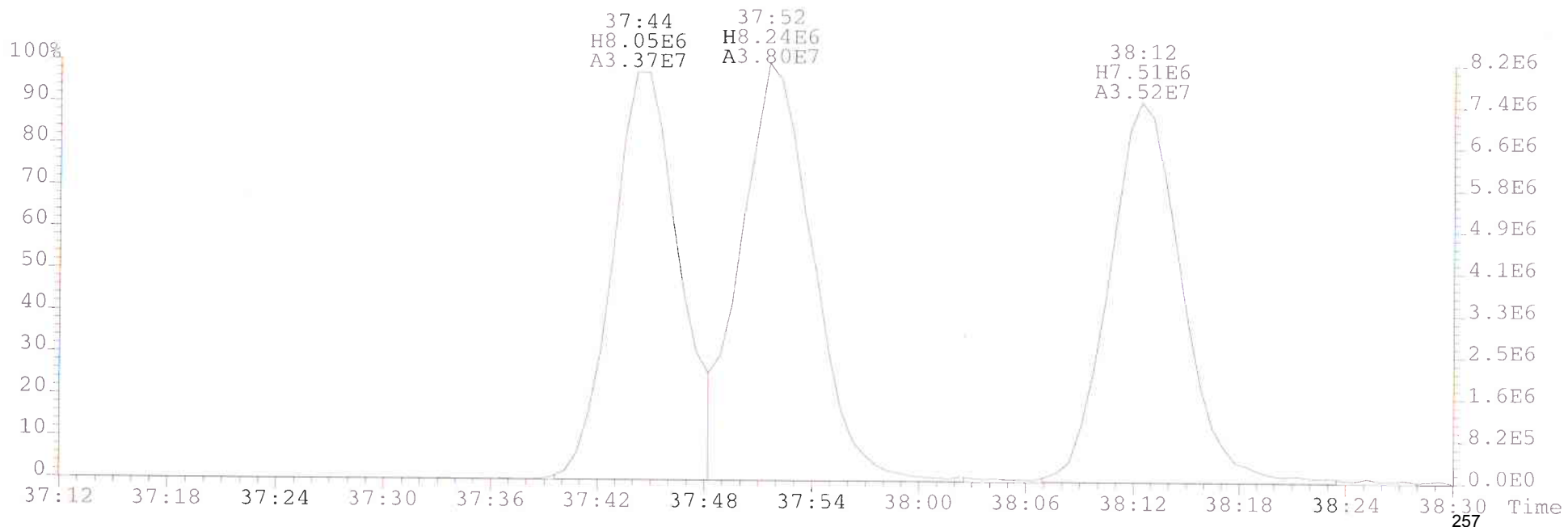
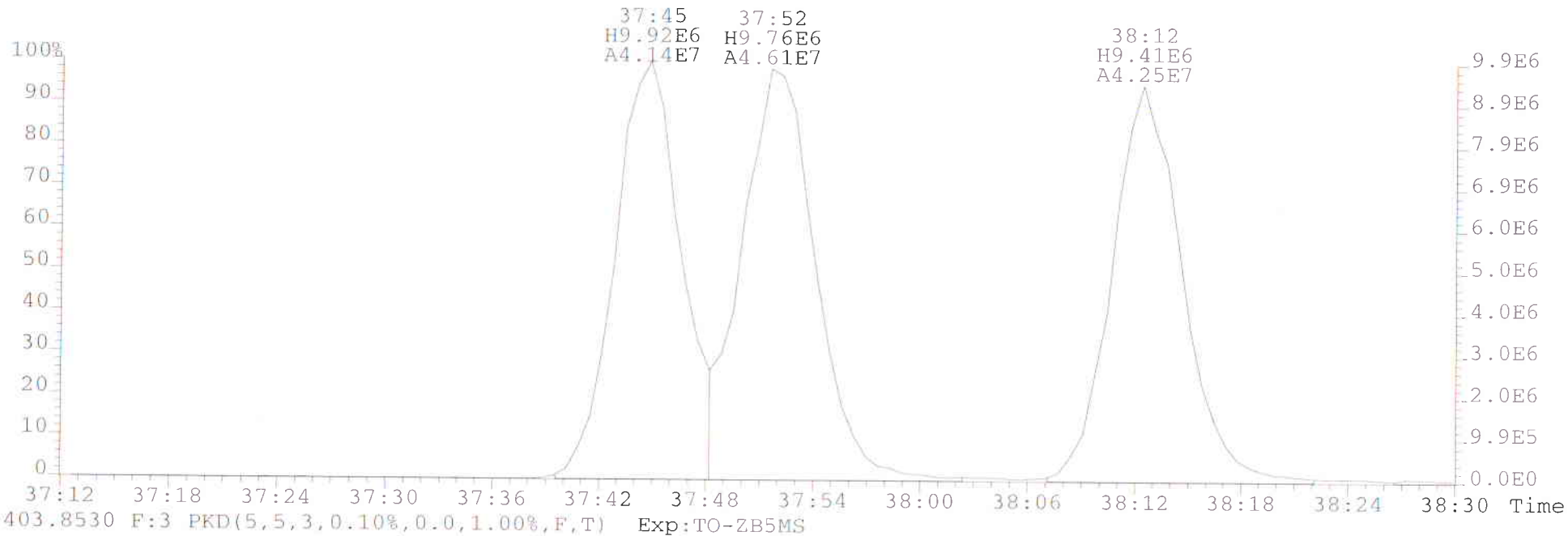
File:052213A1 #1-312 Acq:22-MAY-2013 07:57:16 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST052213A1-1 S050913F 1613 CS3WT
353.8576 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



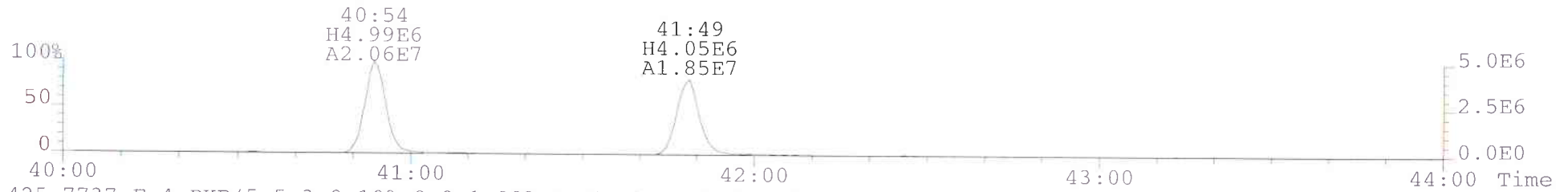
File:052213A1 #1-444 Acq:22-MAY-2013 07:57:16 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST052213A1-1 S050913F 1613 CS3WT
389.8156 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



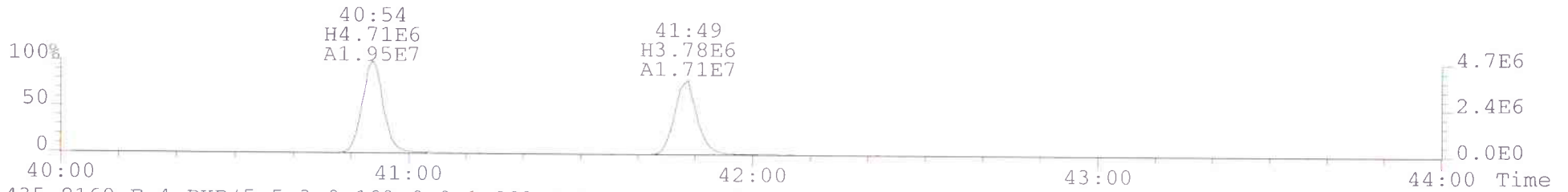
File:052213A1 #1-444 Acq:22-MAY-2013 07:57:16 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST052213A1-1 S050913F 1613 CS3WT
401.8559 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



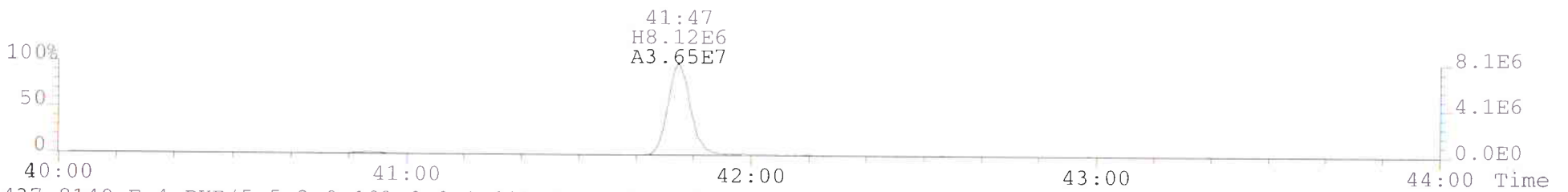
File:052213A1 #1-356 Acq:22-MAY-2013 07:57:16 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST052213A1-1 S050913F 1613 CS3WT
423.7767 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



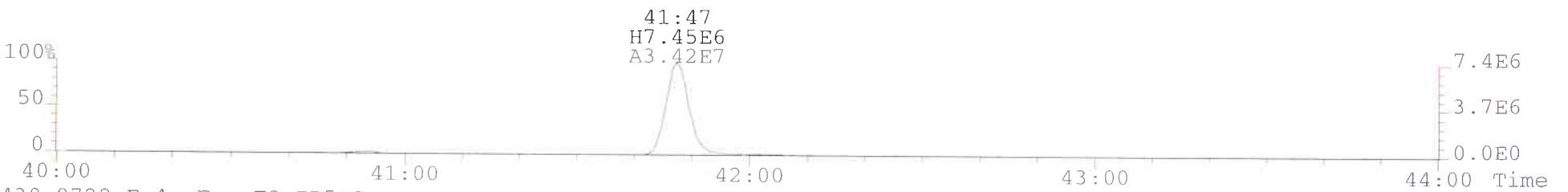
425.7737 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



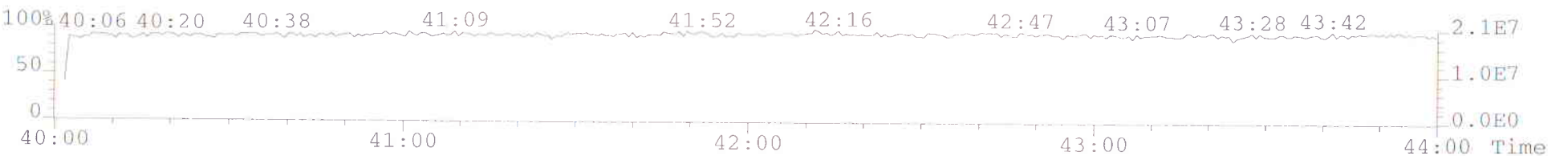
435.8169 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



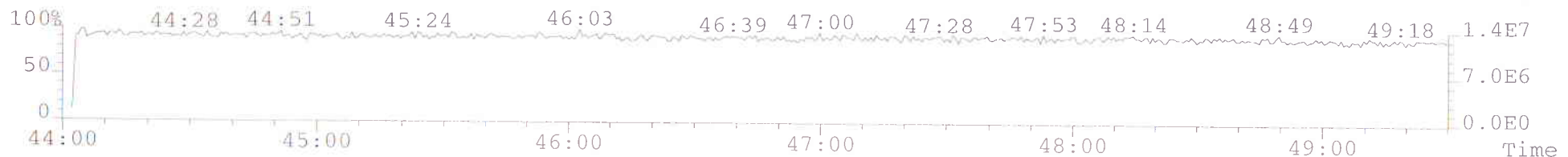
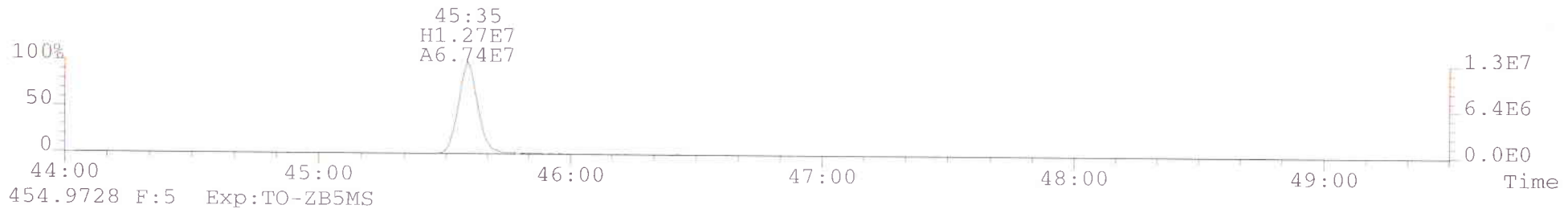
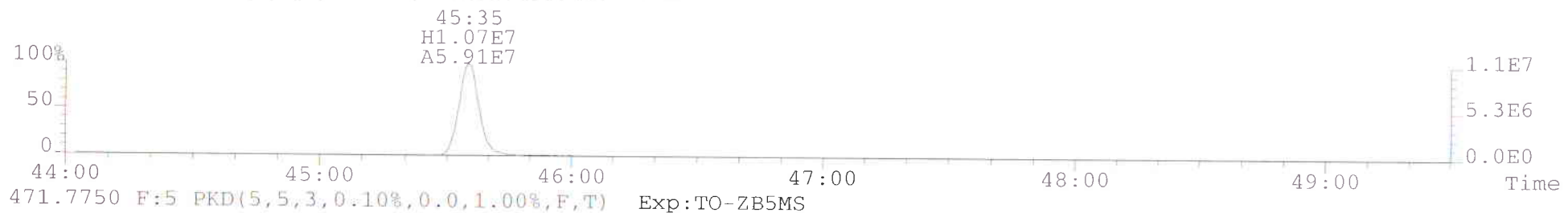
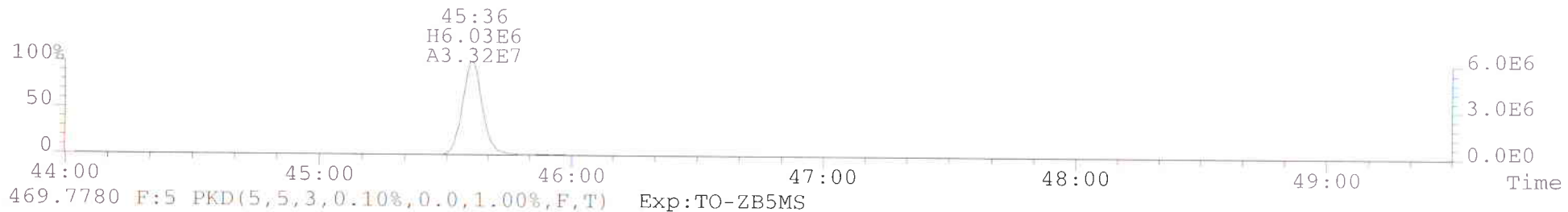
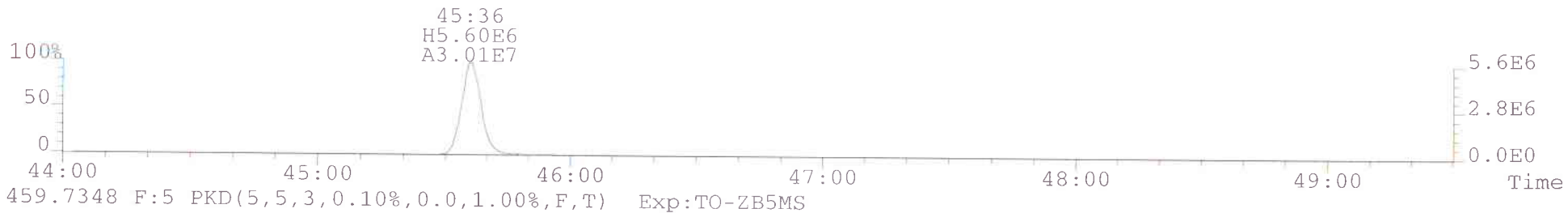
437.8140 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



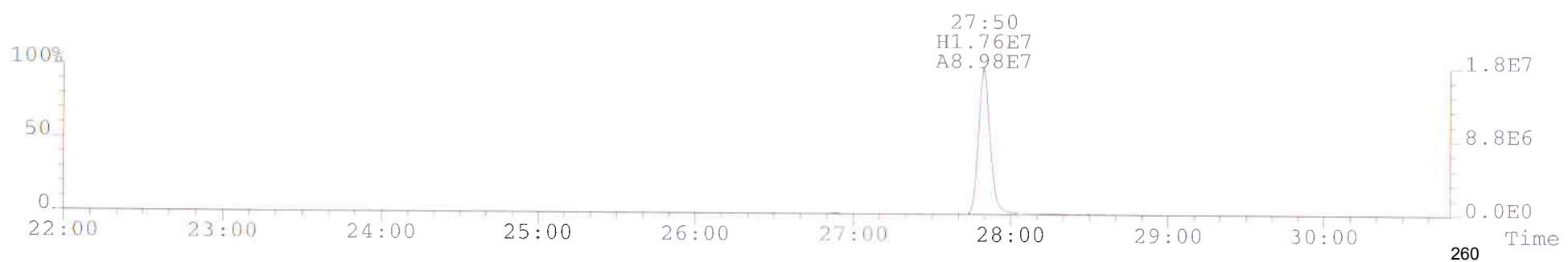
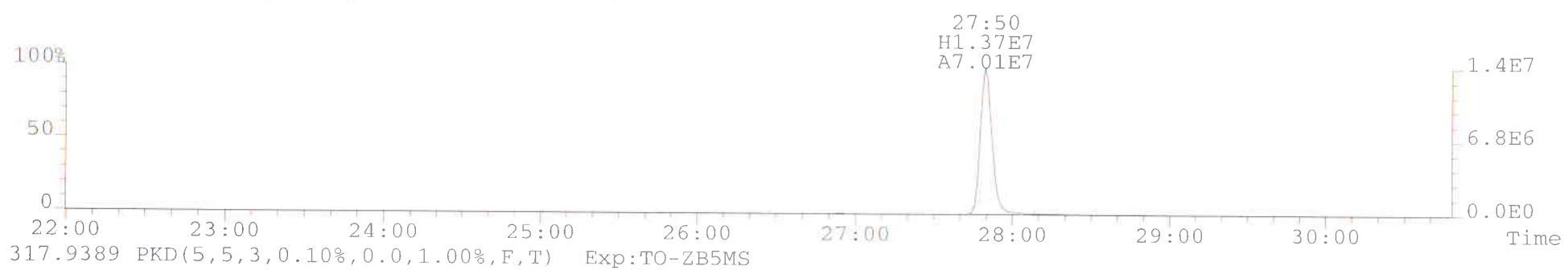
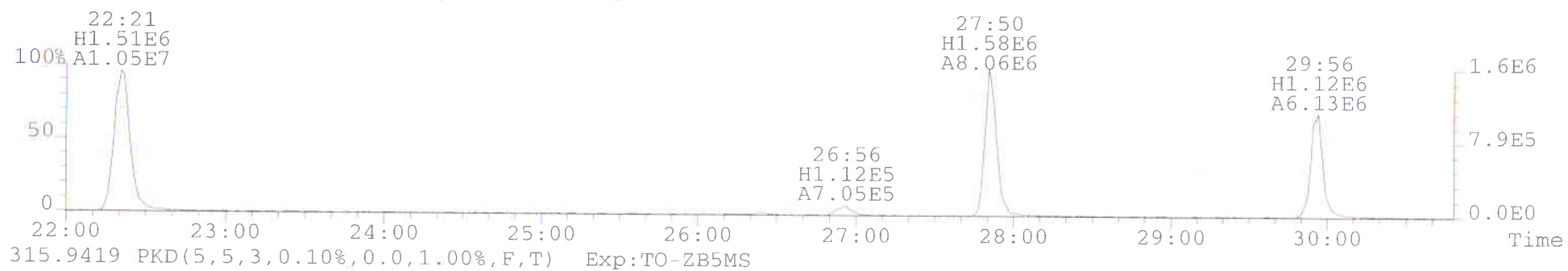
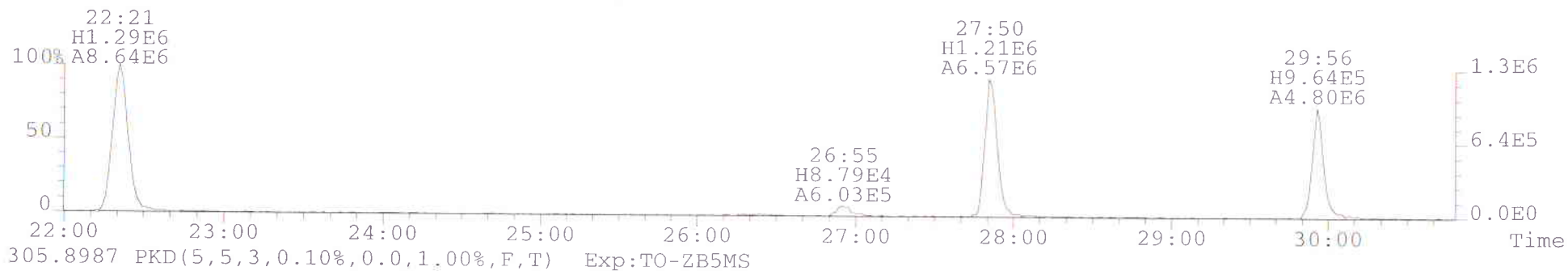
430.9728 F:4 Exp:TO-ZB5MS



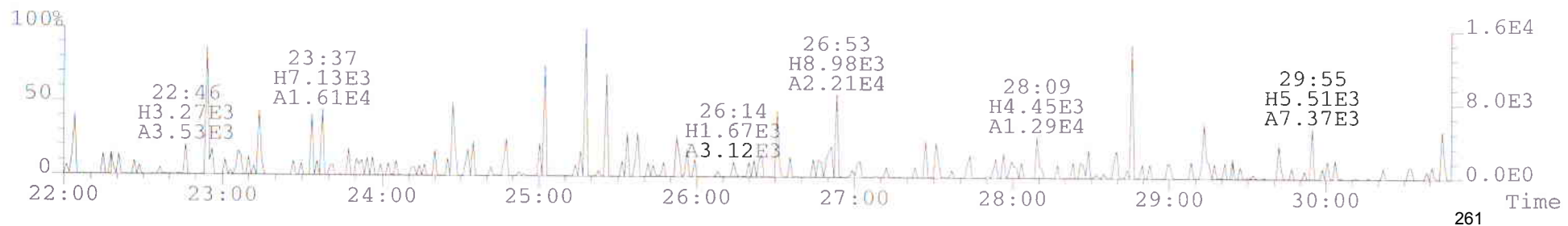
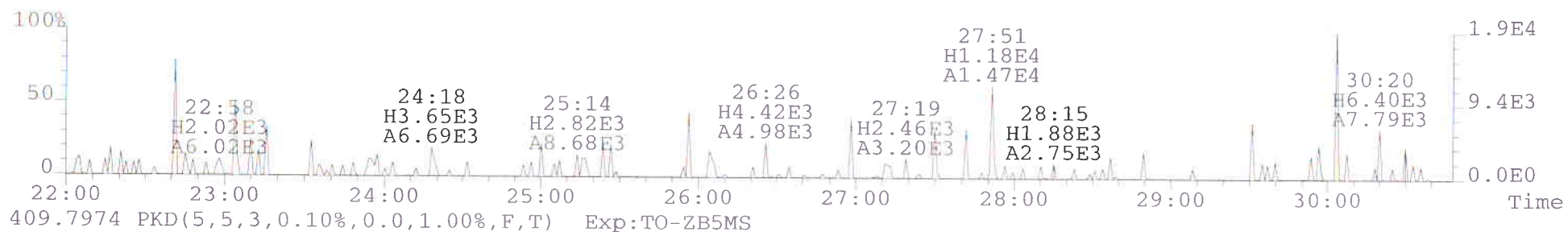
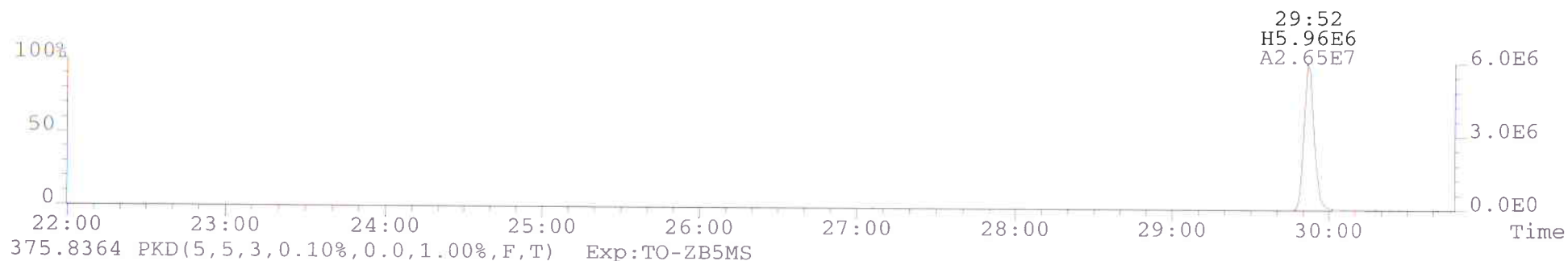
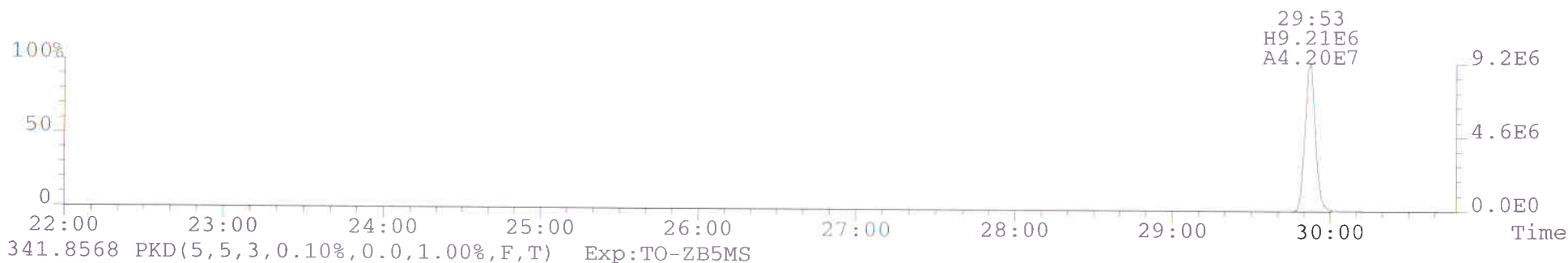
File:052213A1 #1-489 Acq:22-MAY-2013 07:57:16 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST052213A1-1 S050913F 1613 CS3WT
457.7377 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



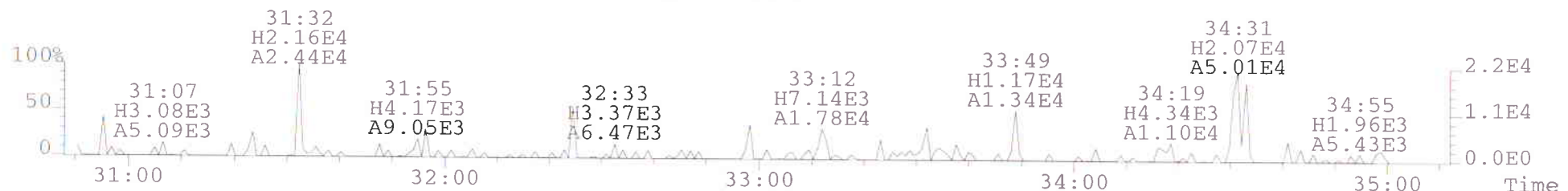
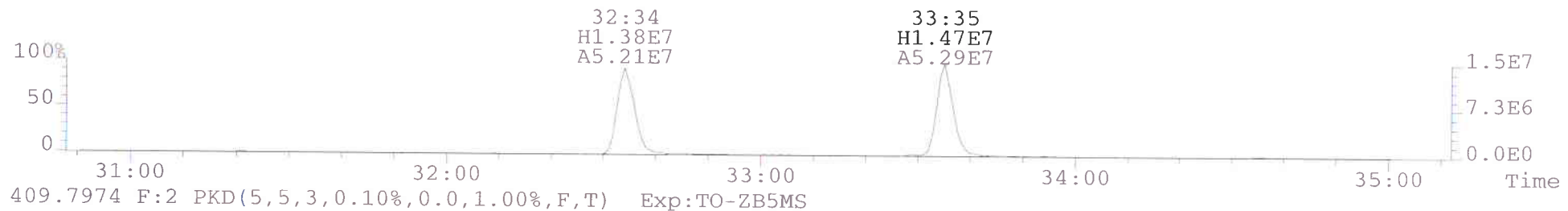
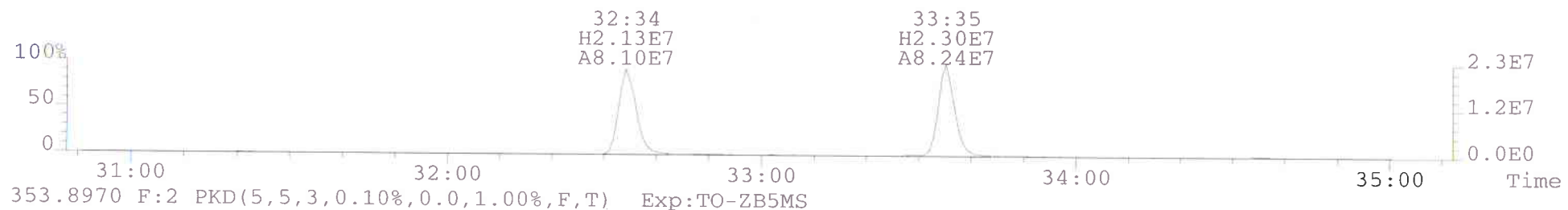
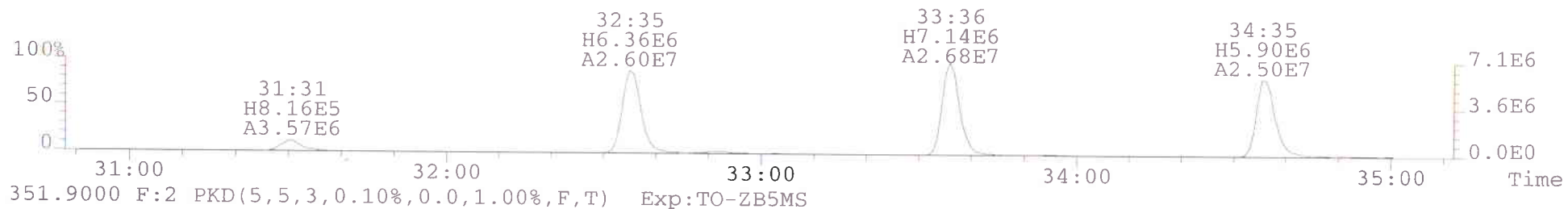
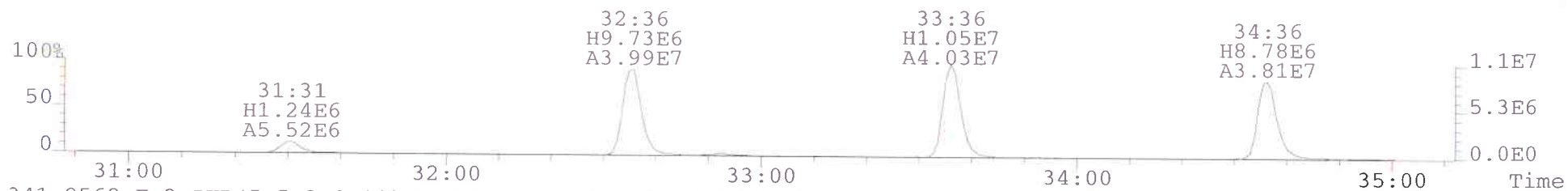
File:052213A1 #1-658 Acq:22-MAY-2013 07:57:16 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST052213A1-1 S050913F 1613 CS3WT
303.9016 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



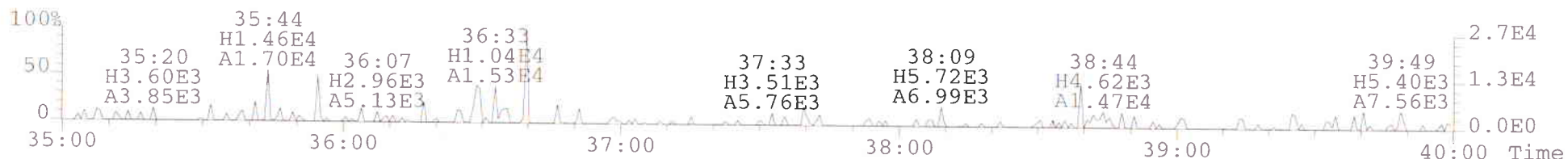
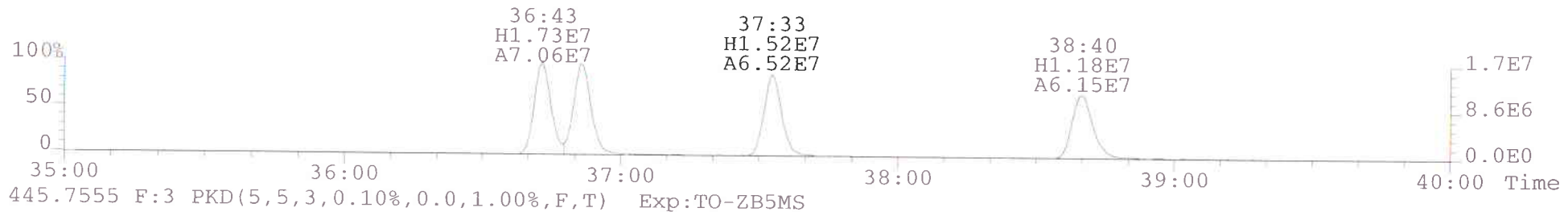
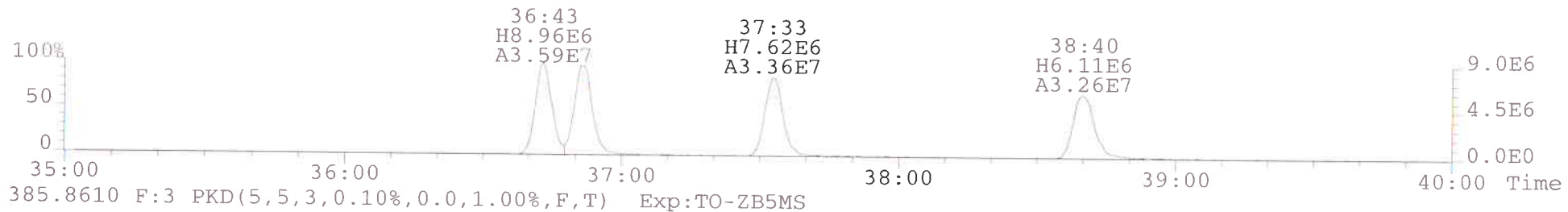
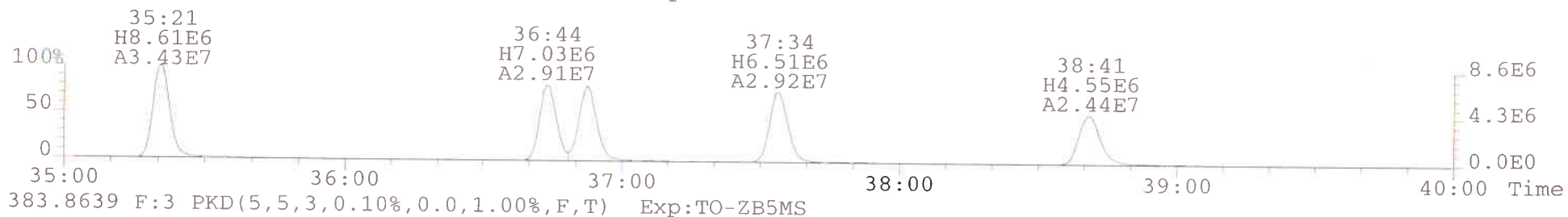
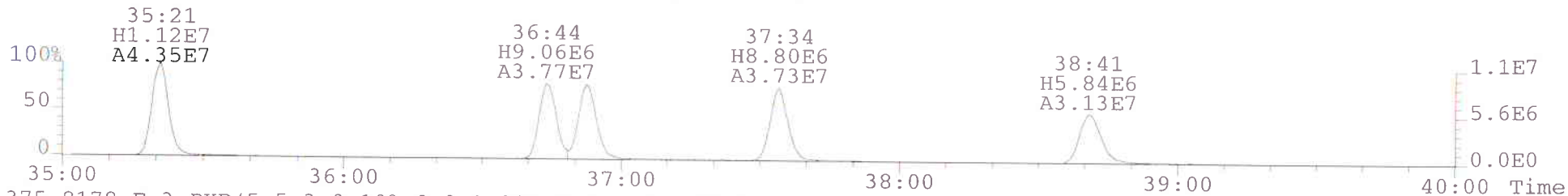
File:052213A1 #1-658 Acq:22-MAY-2013 07:57:16 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST052213A1-1 S050913F 1613 CS3WT
339.8597 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



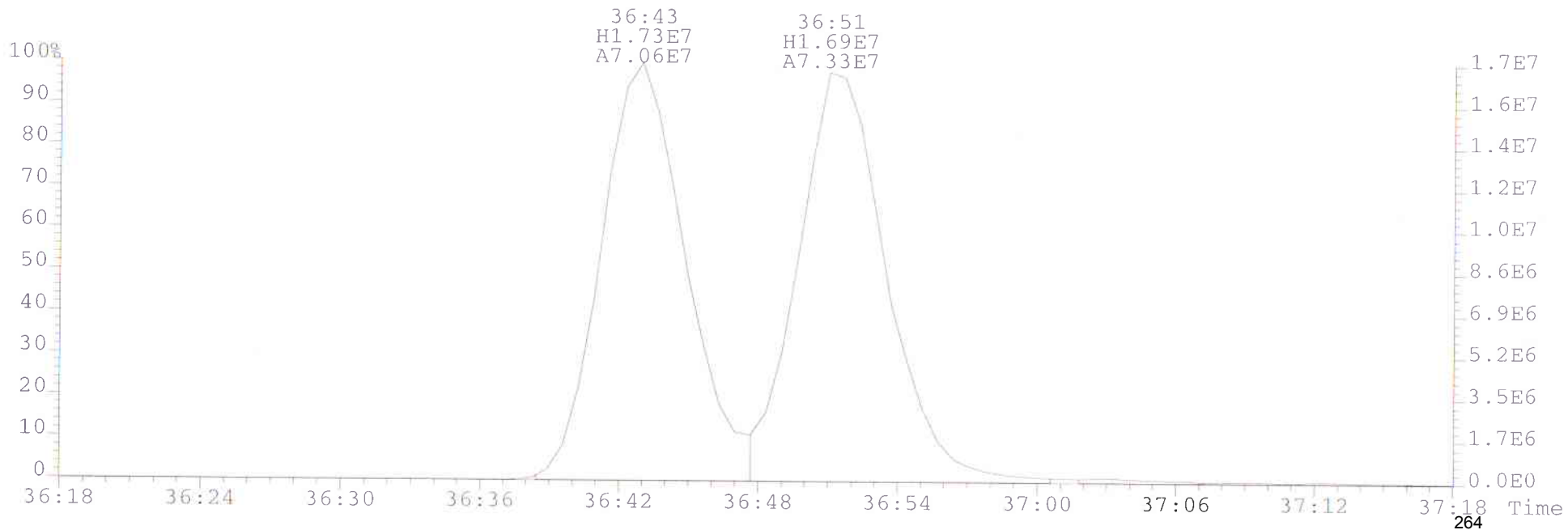
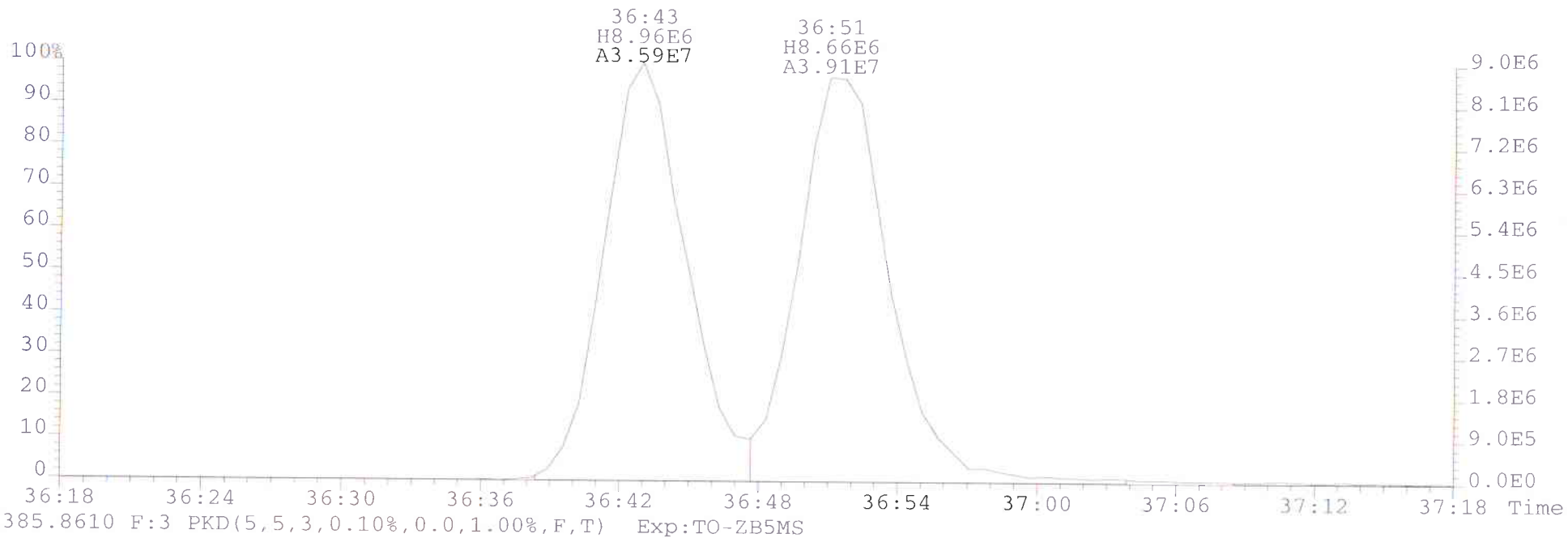
File:052213A1 #1-312 Acq:22-MAY-2013 07:57:16 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST052213A1-1 S050913F 1613 CS3WT
339.8597 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



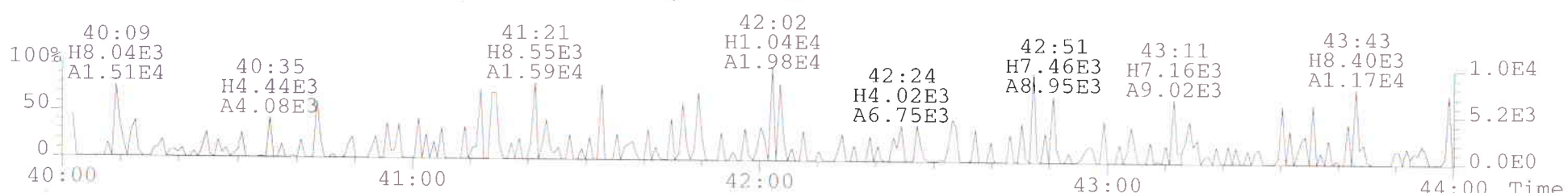
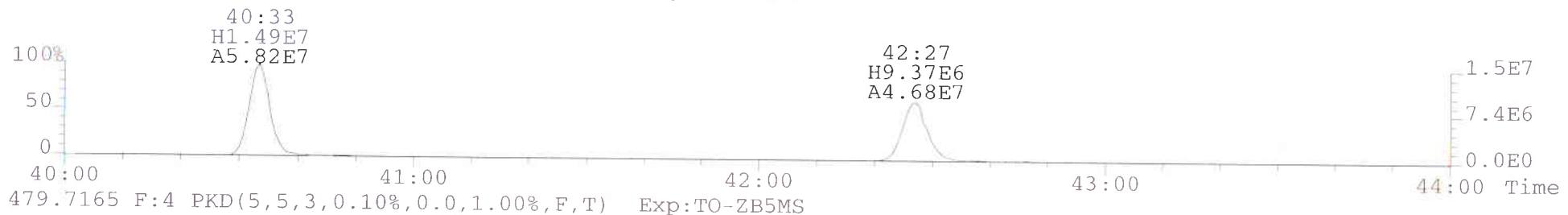
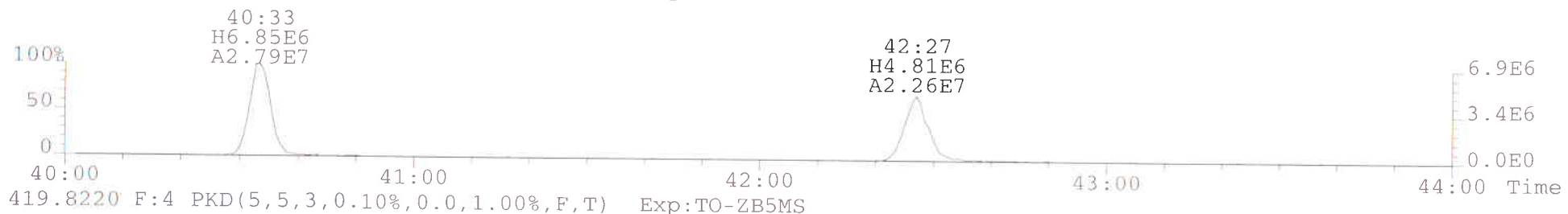
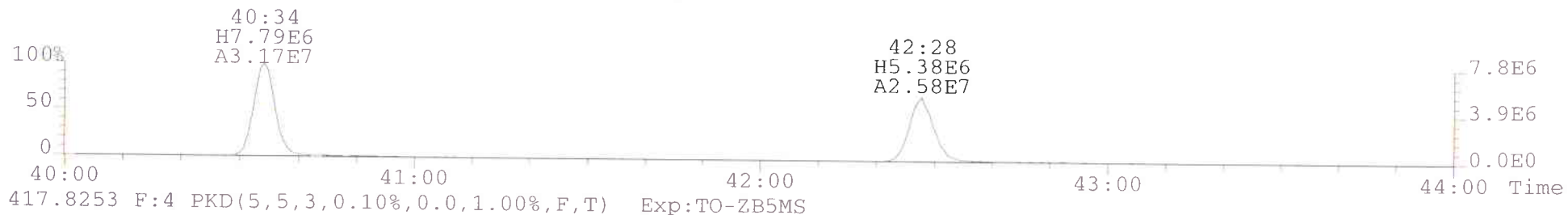
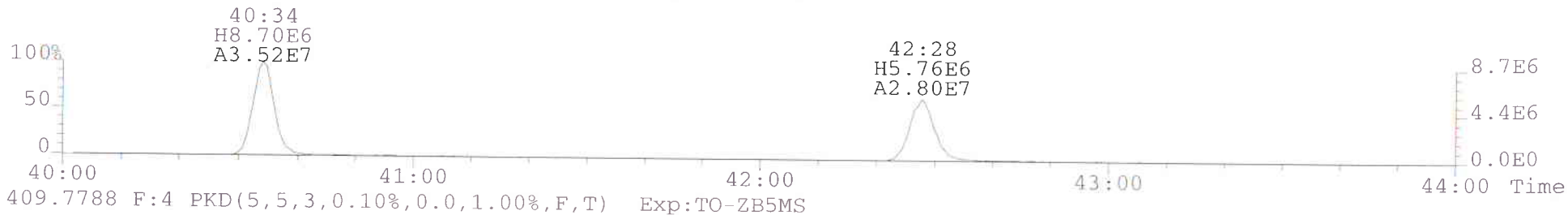
File:052213A1 #1-444 Acq:22-MAY-2013 07:57:16 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST052213A1-1 S050913F 1613 CS3WT
373.8207 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



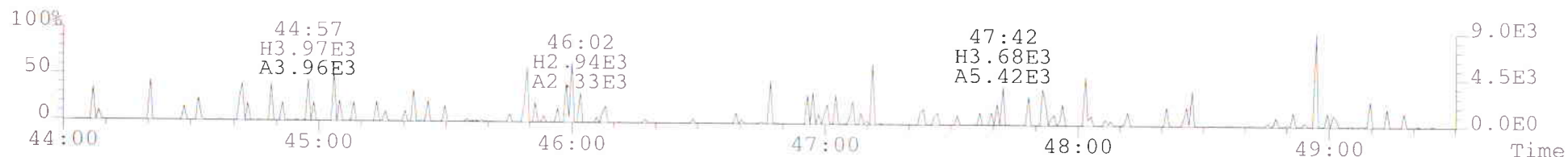
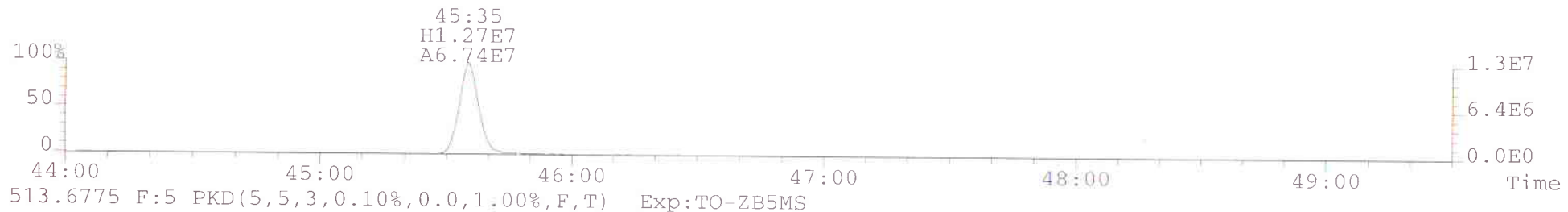
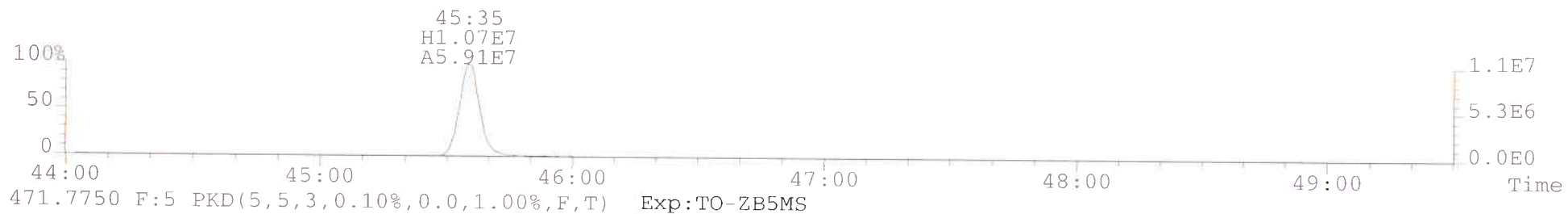
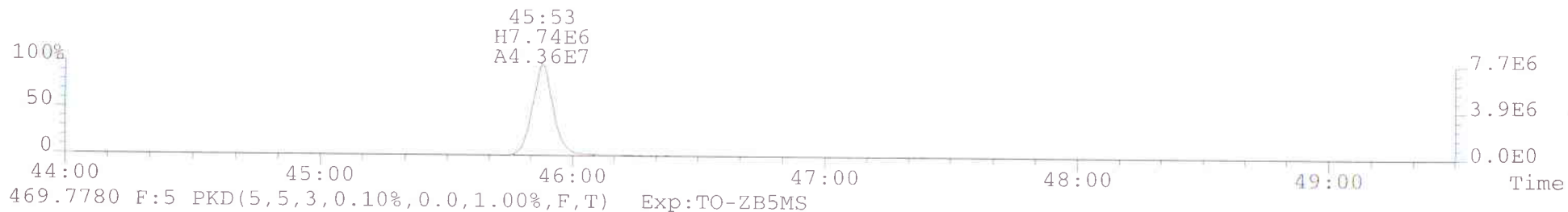
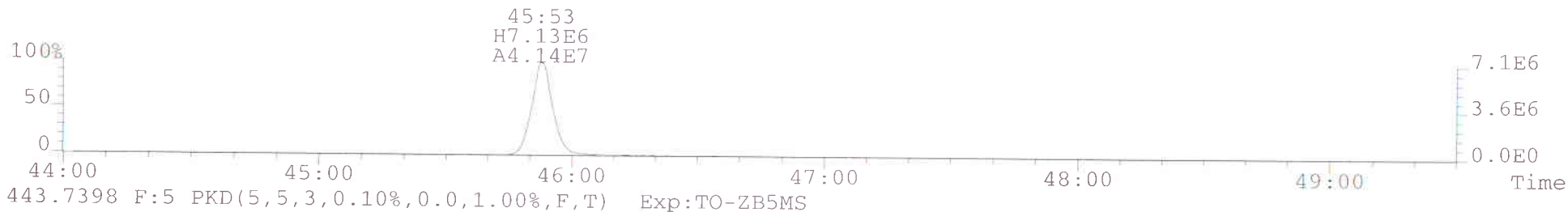
File:052213A1 #1-444 Acq:22-MAY-2013 07:57:16 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST052213A1-1 S050913F 1613 CS3WT
383.8639 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



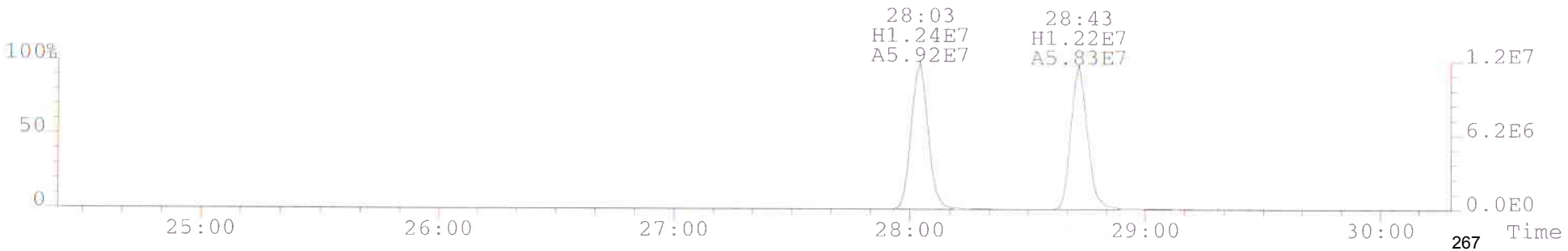
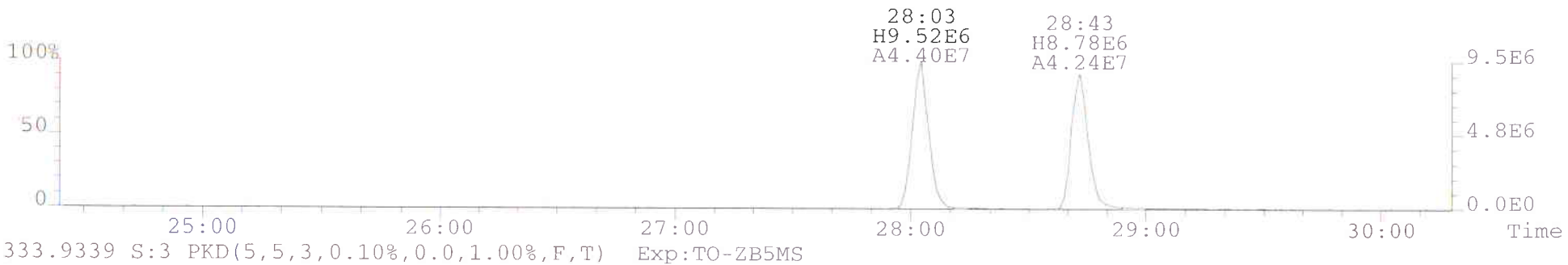
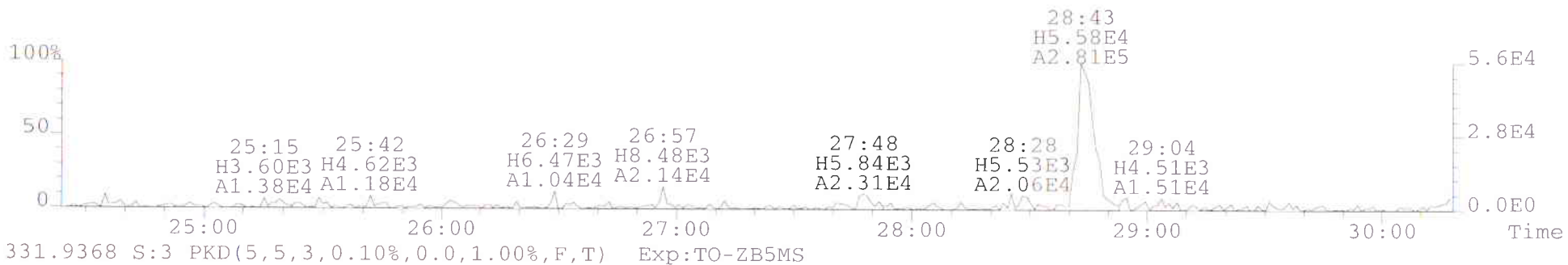
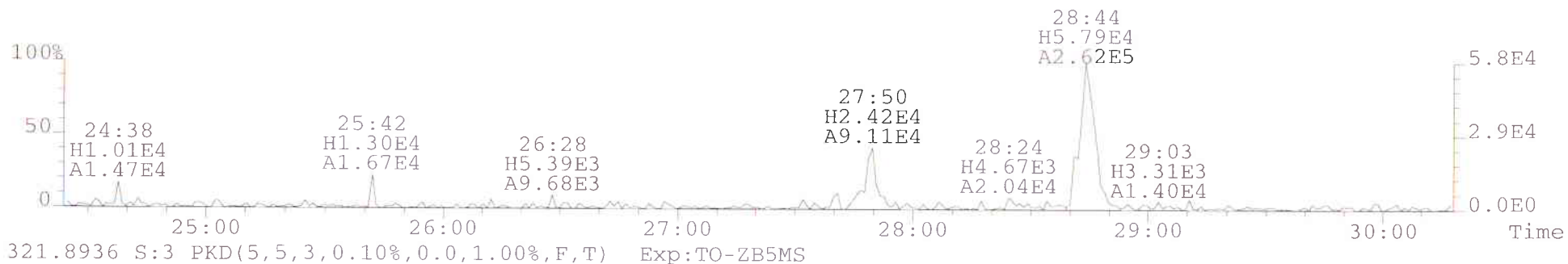
File:052213A1 #1-356 Acq:22-MAY-2013 07:57:16 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST052213A1-1 S050913F 1613 CS3WT
407.7818 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



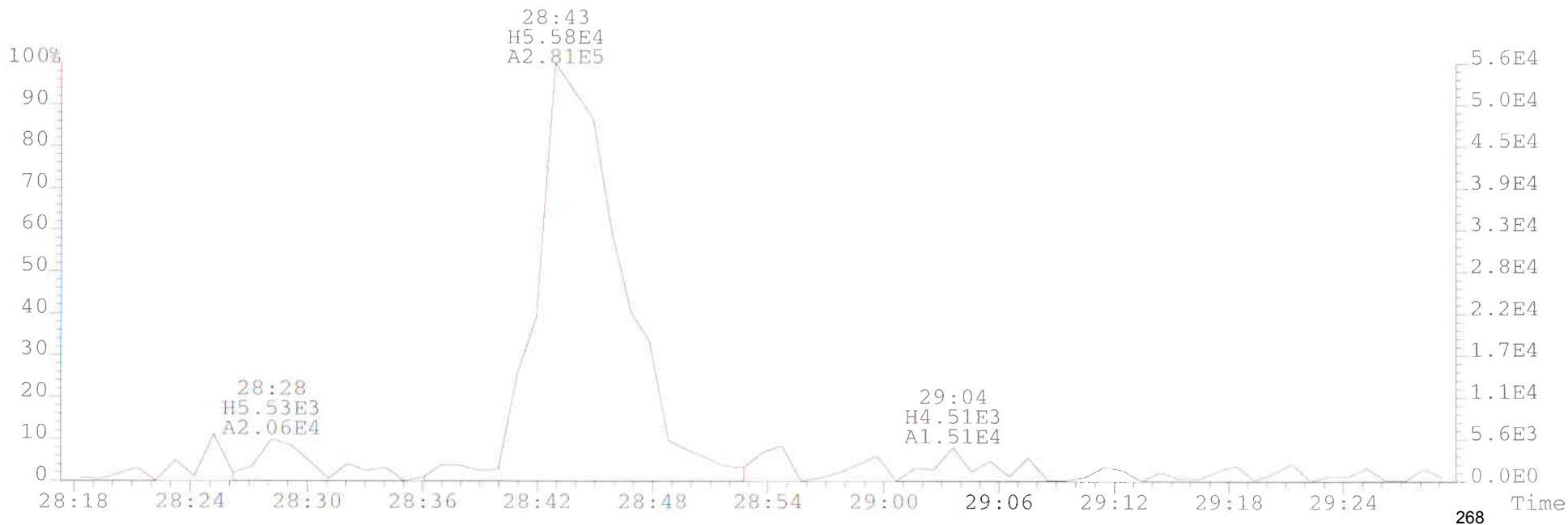
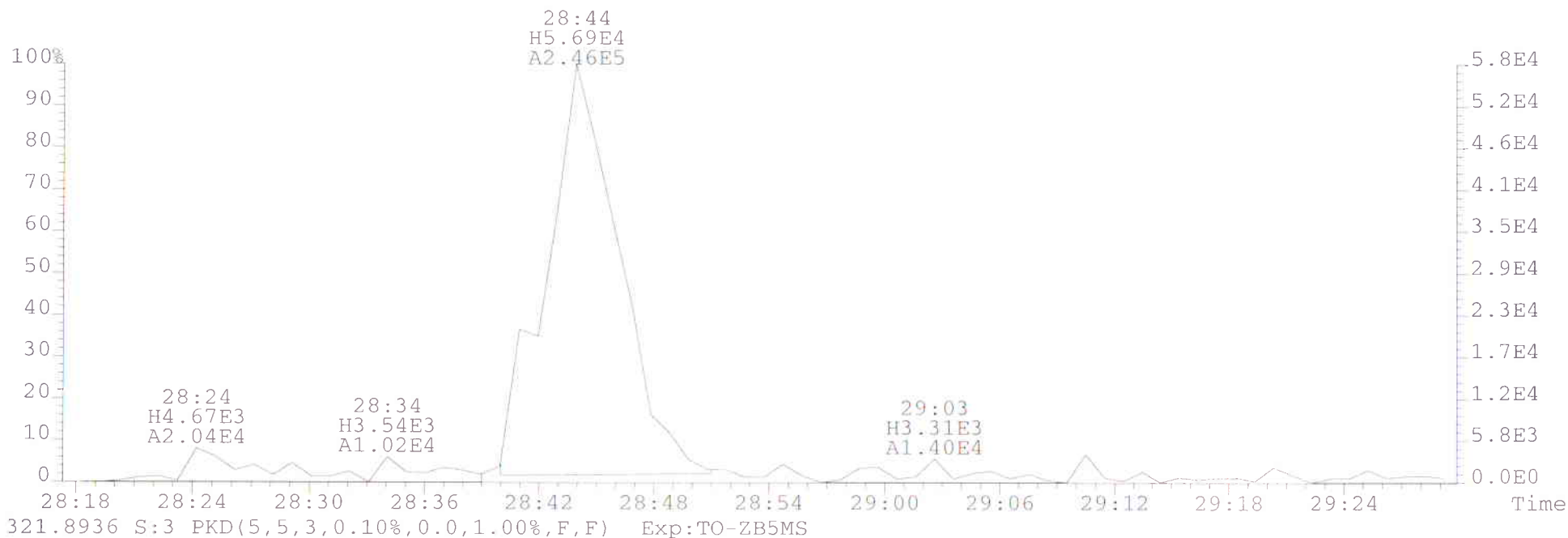
File:052213A1 #1-489 Acq:22-MAY-2013 07:57:16 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:ST052213A1-1 S050913F 1613 CS3WT
441.7428 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



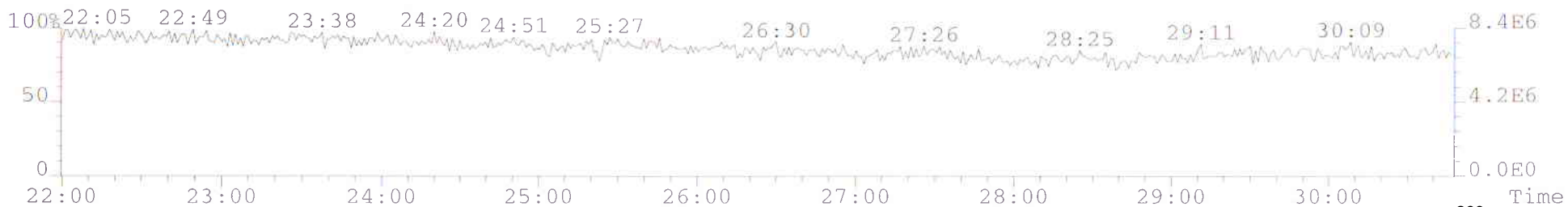
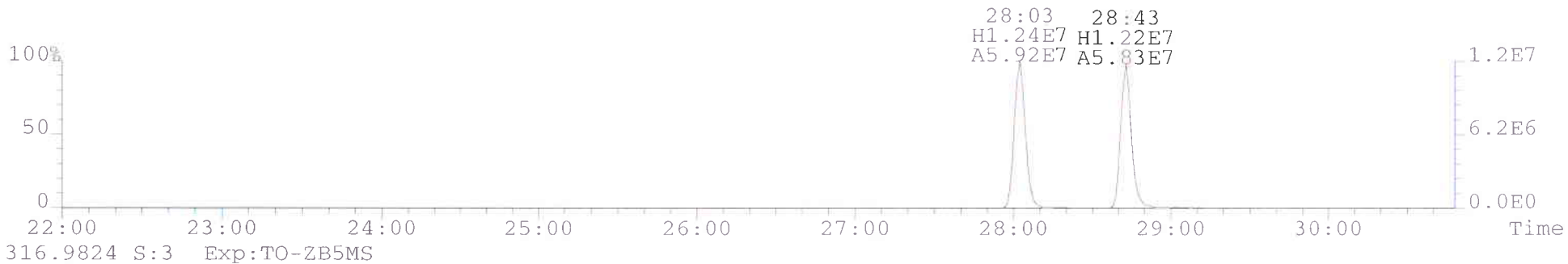
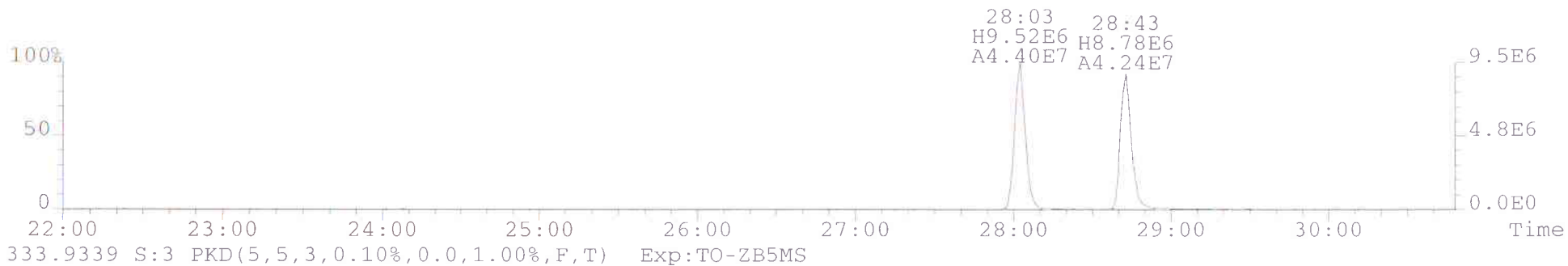
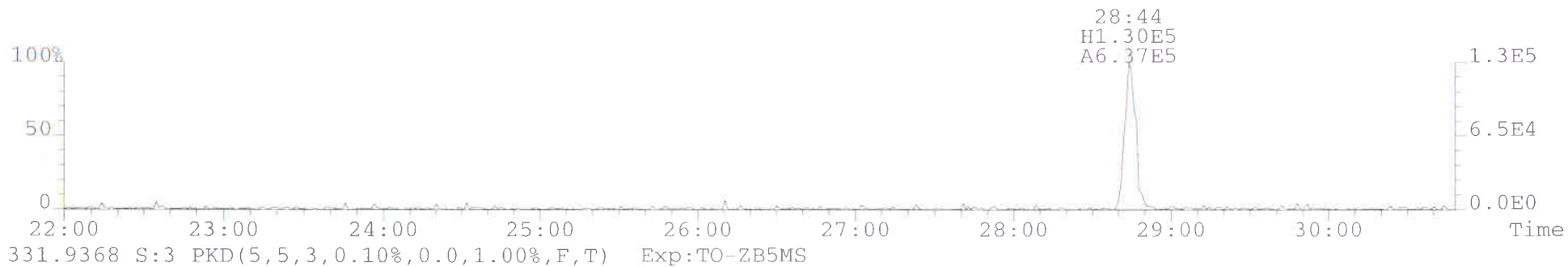
File:052213A1 #1-659 Acq:22-MAY-2013 09:44:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text:Ceres Analytical Laboratory Text:ST052213A1-2 S050913A 1613 CS1
319.8965 S:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



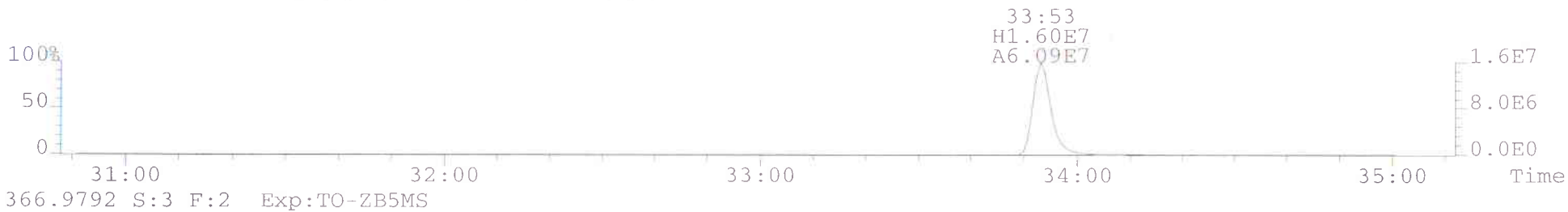
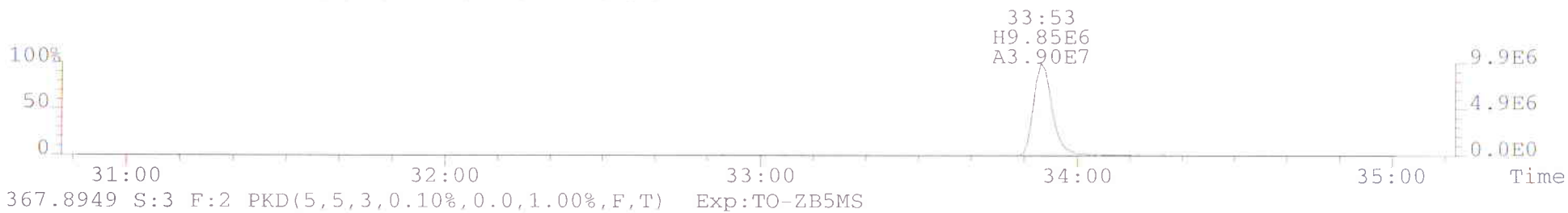
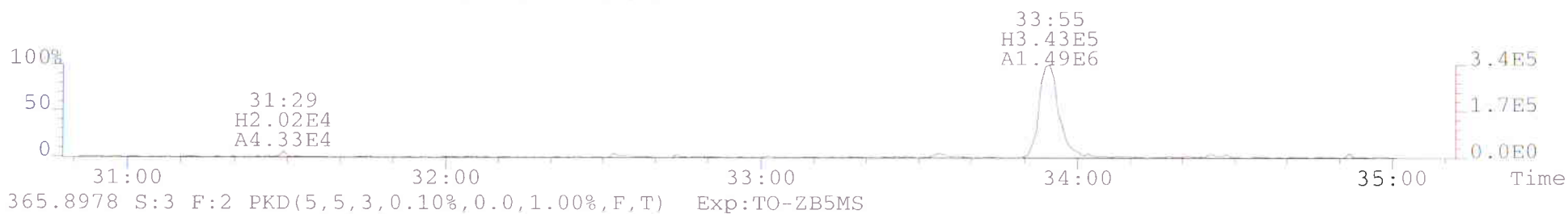
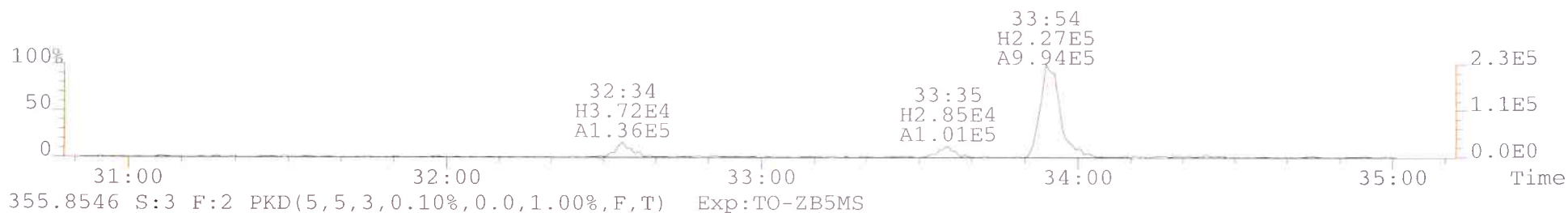
File:052213A1 #1-659 Acq:22-MAY-2013 09:44:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text:Ceres Analytical Laboratory Text:ST052213A1-2 S050913A 1613 CS1
319.8965 S:3 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TO-ZB5MS



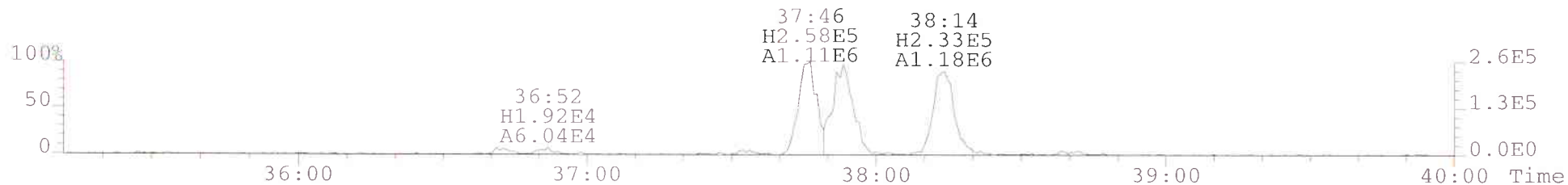
File:052213A1 #1-659 Acq:22-MAY-2013 09:44:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text:Ceres Analytical Laboratory Text:ST052213A1-2 S050913A 1613 CS1
327.8847 S:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



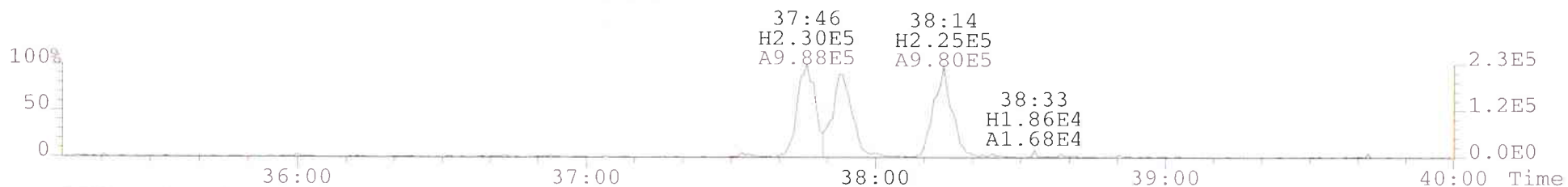
File:052213A1 #1-312 Acq:22-MAY-2013 09:44:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text:Ceres Analytical Laboratory Text:ST052213A1-2 S050913A 1613 CS1
353.8576 S:3 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



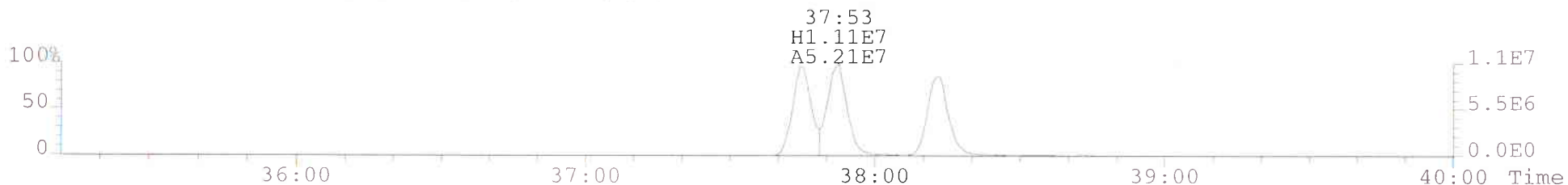
File:052213A1 #1-444 Acq:22-MAY-2013 09:44:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text:Ceres Analytical Laboratory Text:ST052213A1-2 S050913A 1613 CS1
389.8156 S:3 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



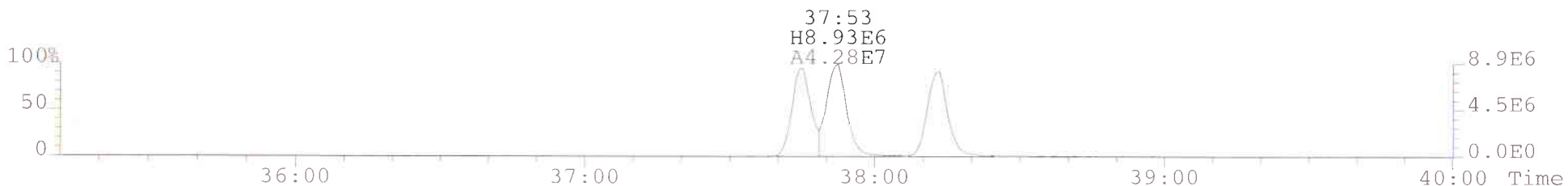
391.8127 S:3 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



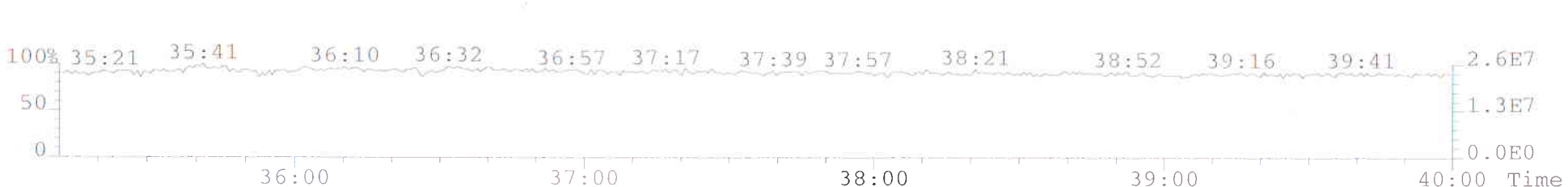
401.8559 S:3 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



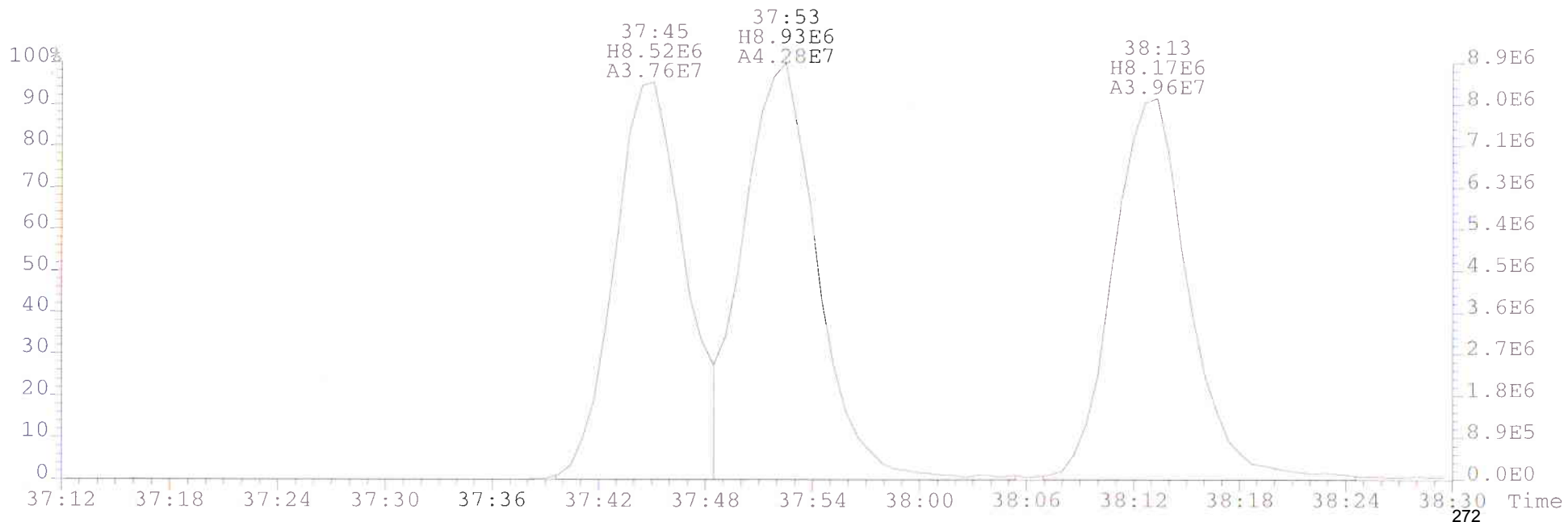
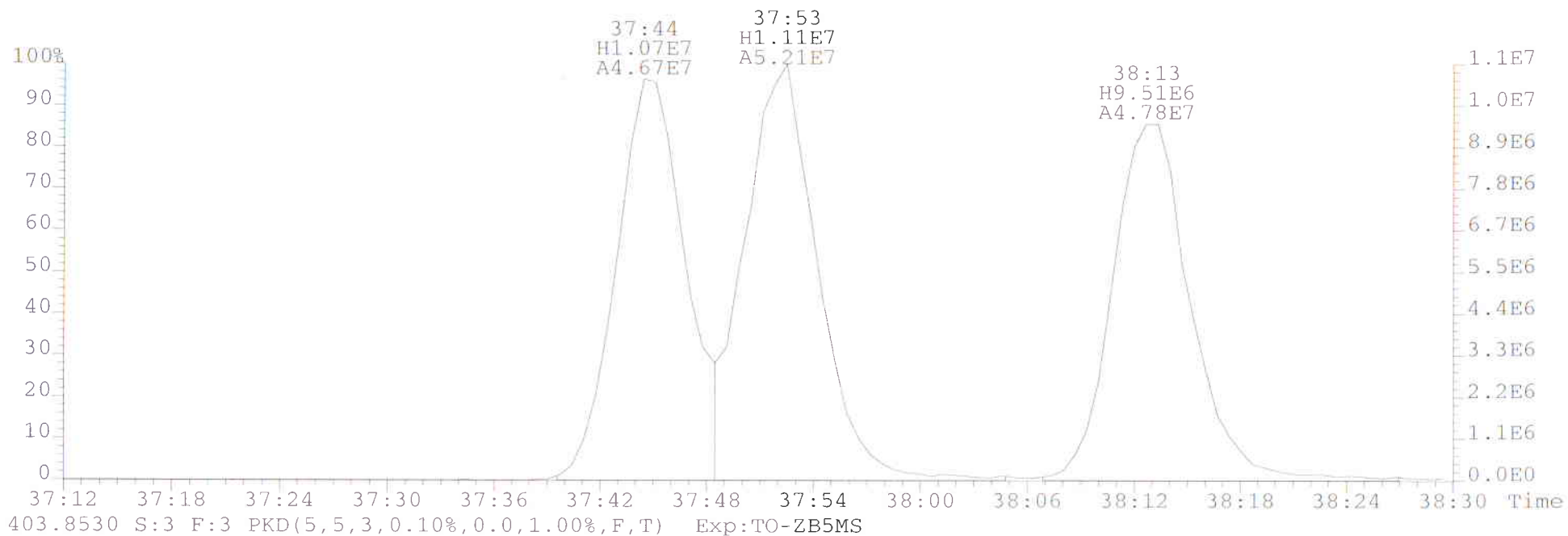
403.8530 S:3 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



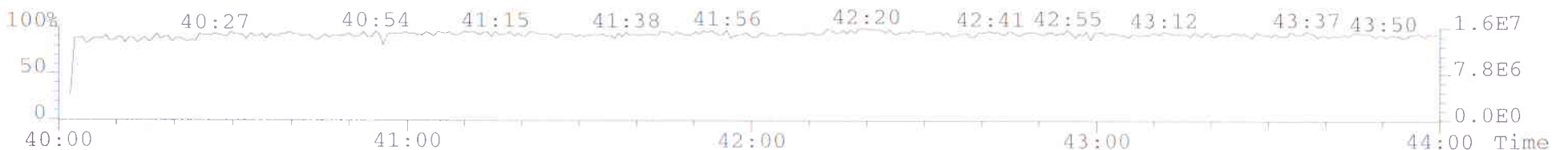
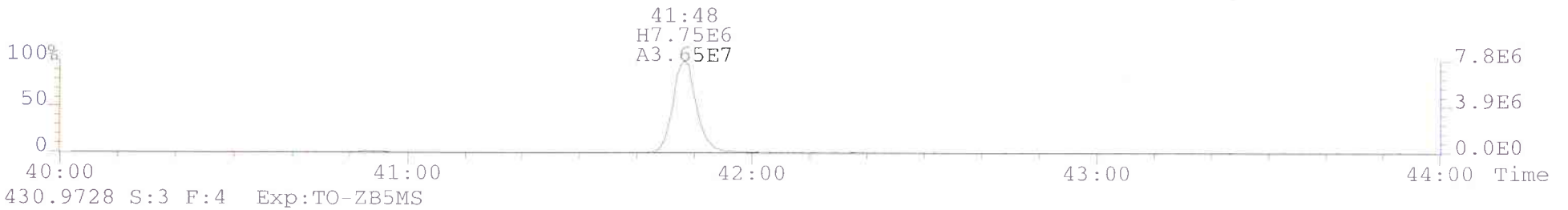
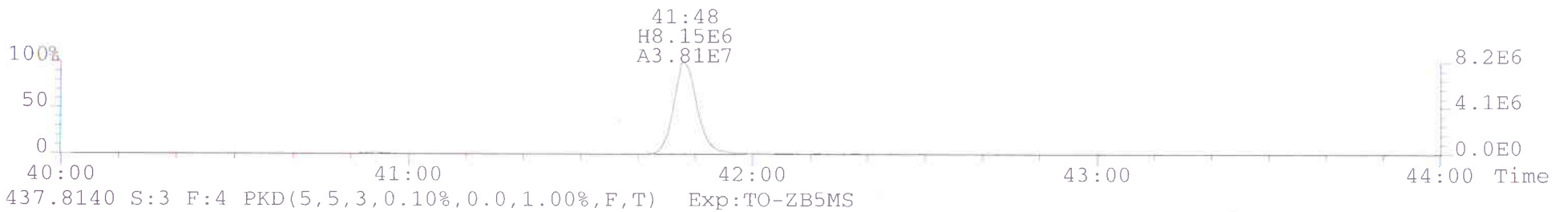
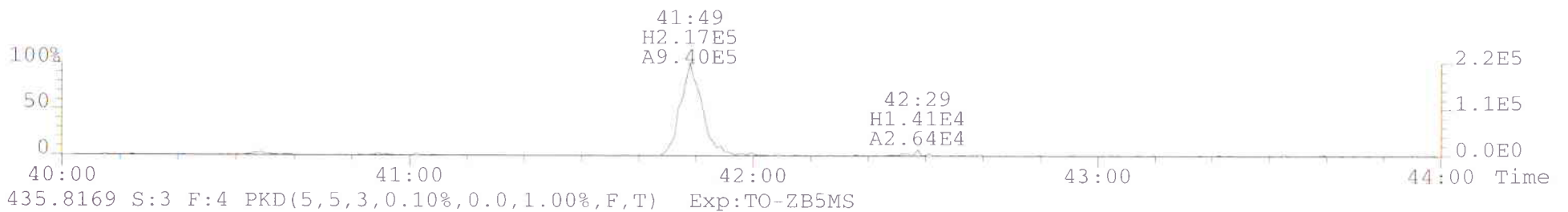
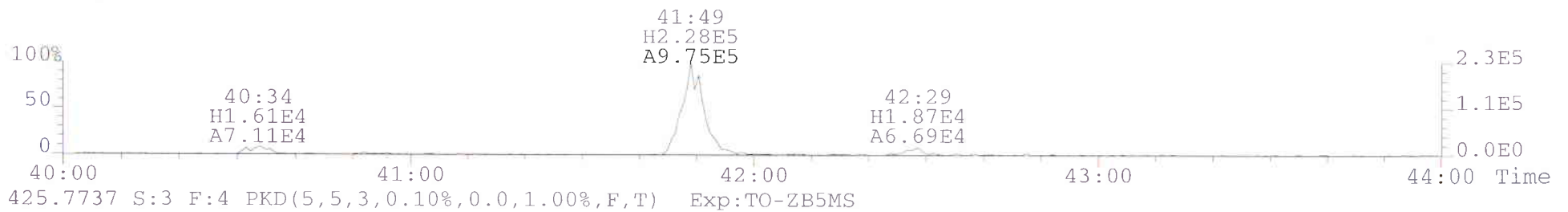
380.9760 S:3 F:3 Exp:TO-ZB5MS



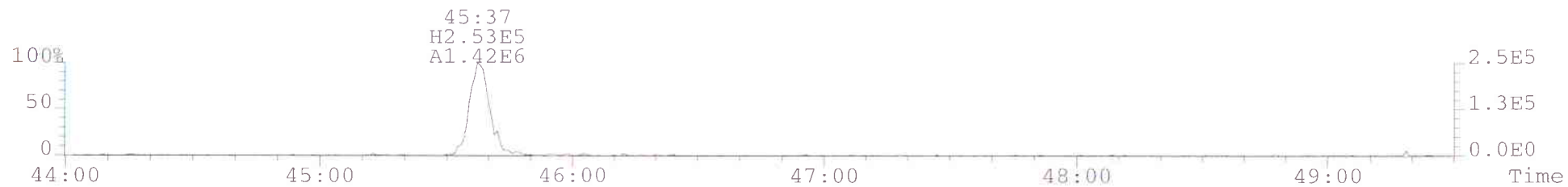
File:052213A1 #1-444 Acq:22-MAY-2013 09:44:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text:Ceres Analytical Laboratory Text:ST052213A1-2 S050913A 1613 CS1
401.8559 S:3 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



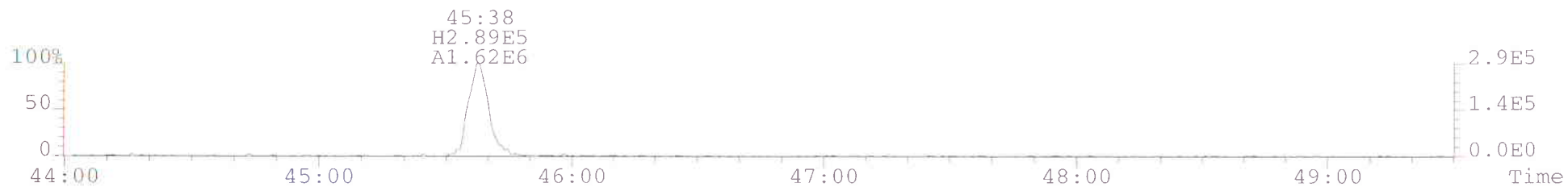
File:052213A1 #1-355 Acq:22-MAY-2013 09:44:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text:Ceres Analytical Laboratory Text:ST052213A1-2 S050913A 1613 CS1
423.7767 S:3 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



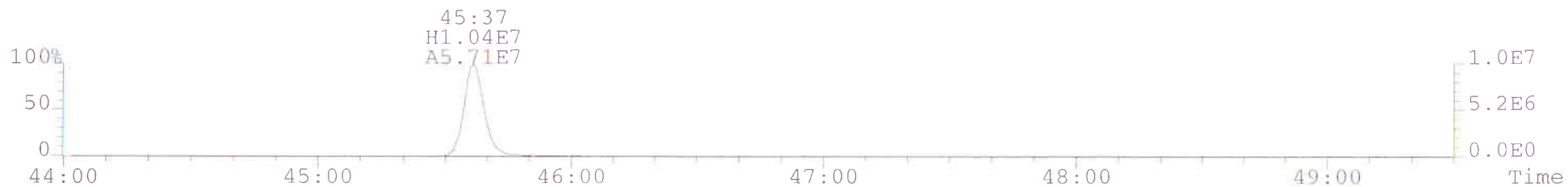
File:052213A1 #1-489 Acq:22-MAY-2013 09:44:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text:Ceres Analytical Laboratory Text:ST052213A1-2 S050913A 1613 CS1
457.7377 S:3 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



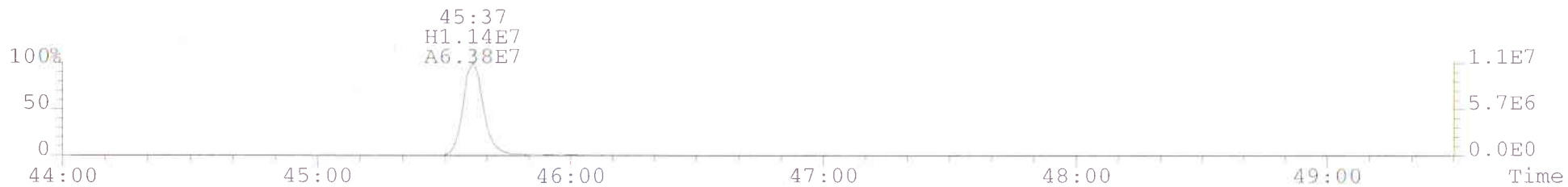
459.7348 S:3 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



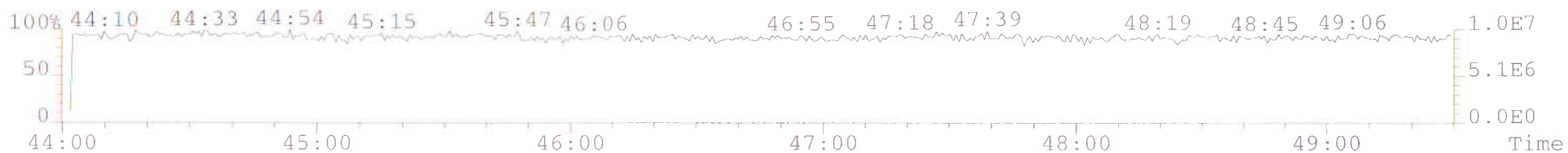
469.7780 S:3 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



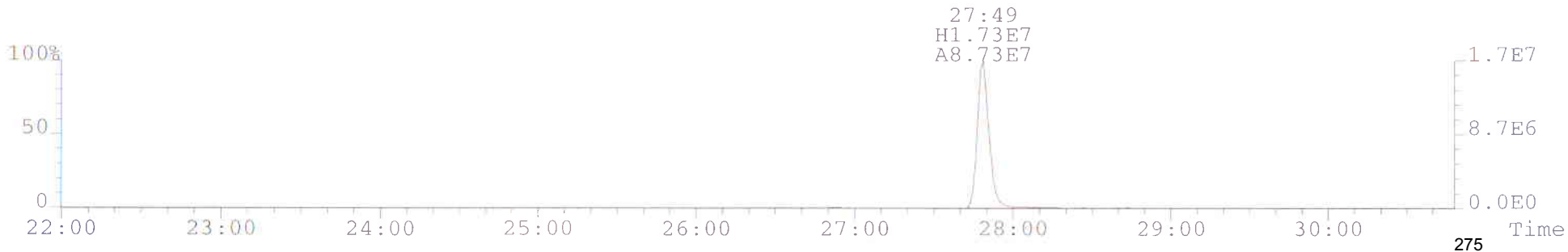
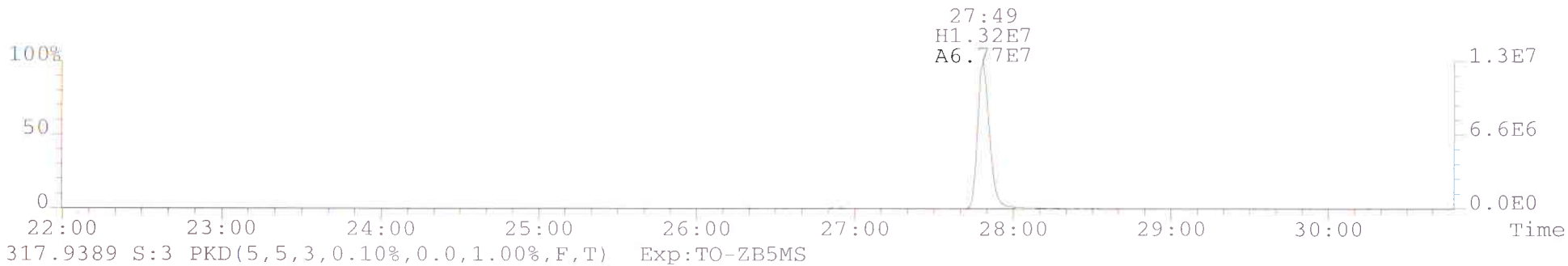
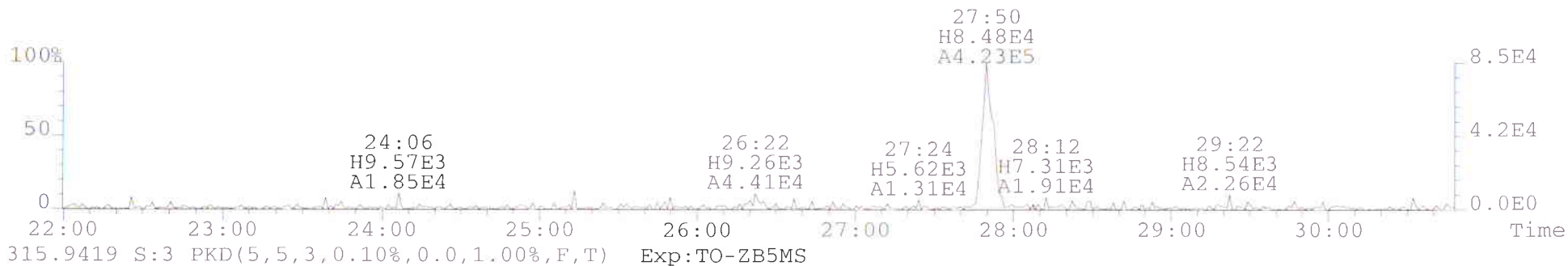
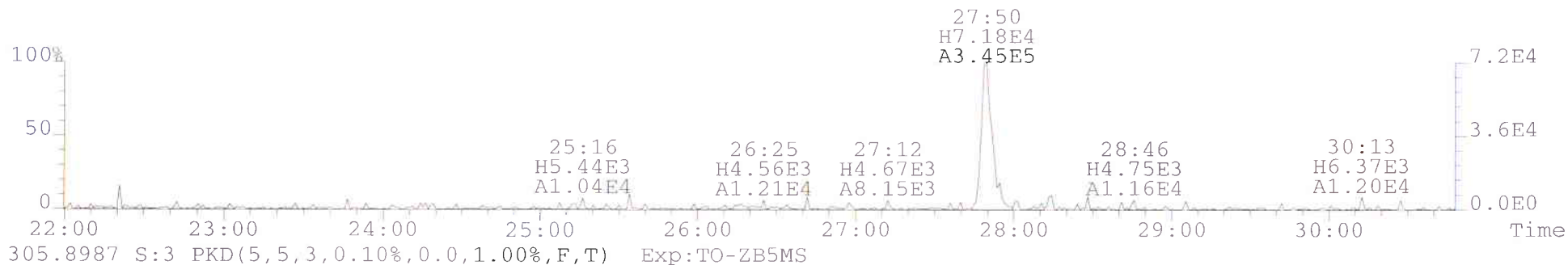
471.7750 S:3 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



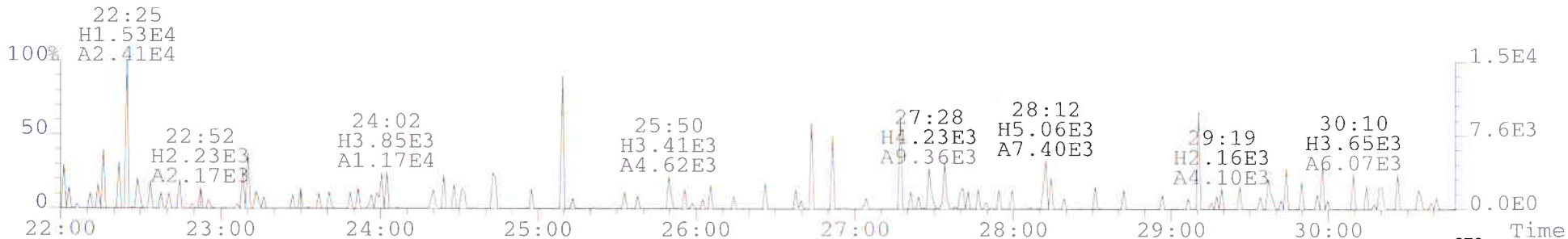
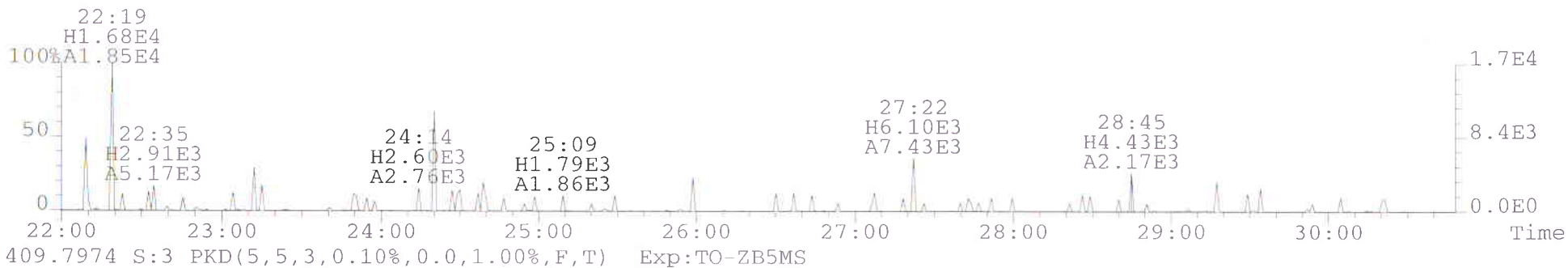
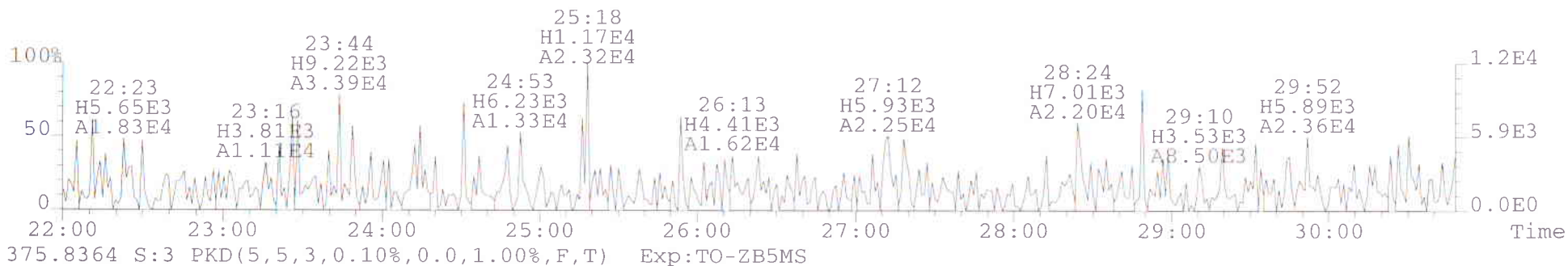
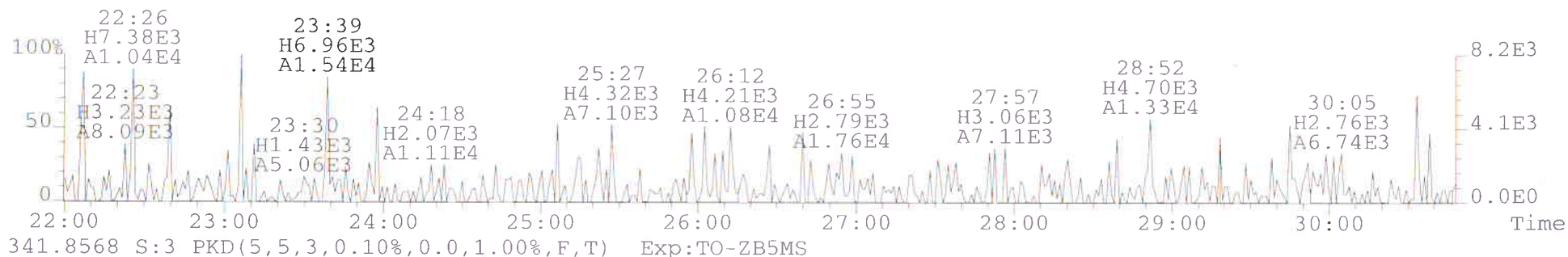
454.9728 S:3 F:5 Exp:TO-ZB5MS



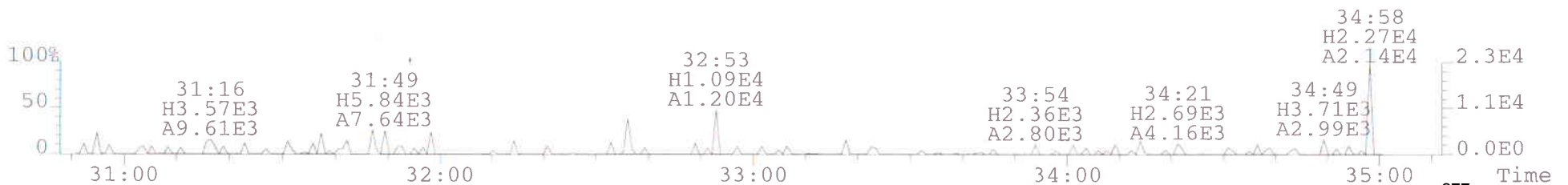
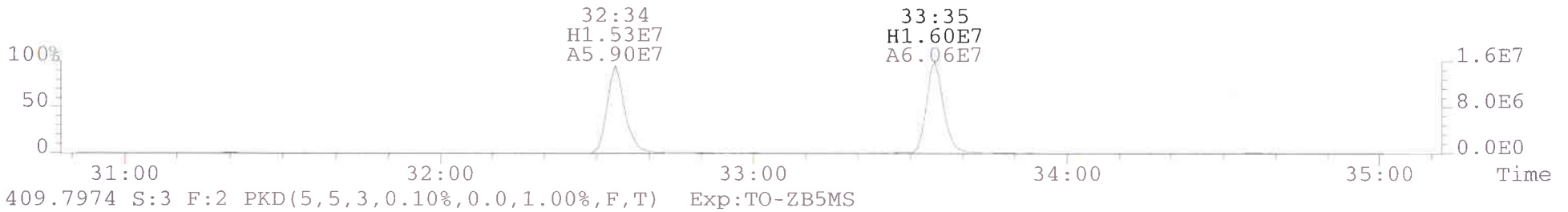
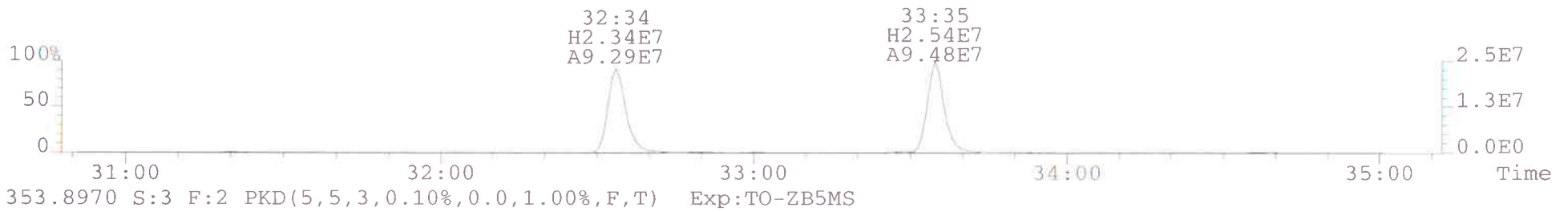
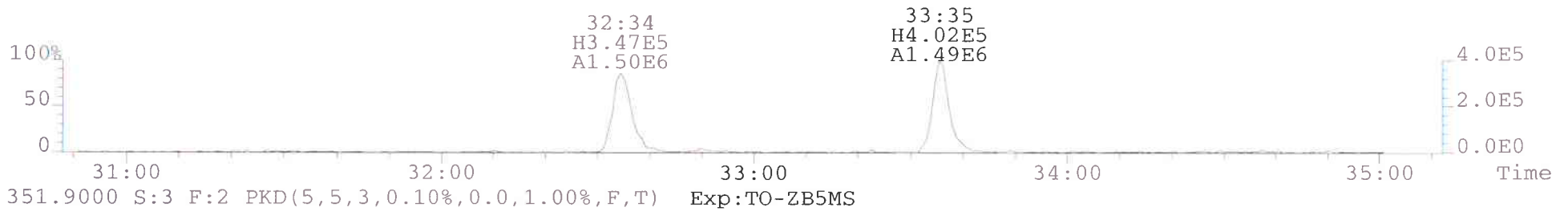
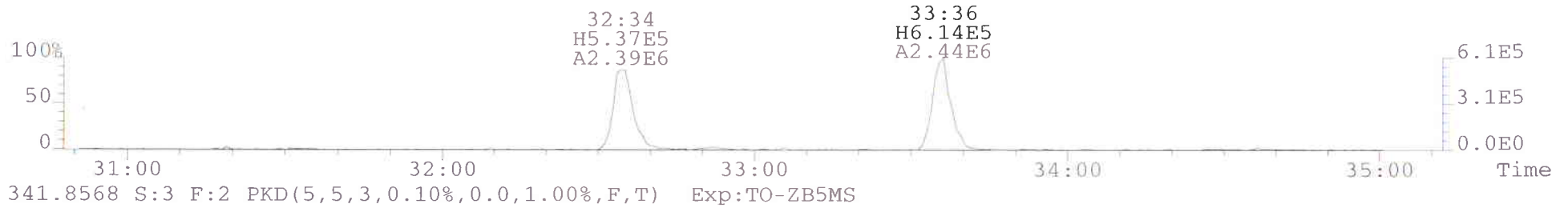
File:052213A1 #1-659 Acq:22-MAY-2013 09:44:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text:Ceres Analytical Laboratory Text:ST052213A1-2 S050913A 1613 CS1
303.9016 S:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



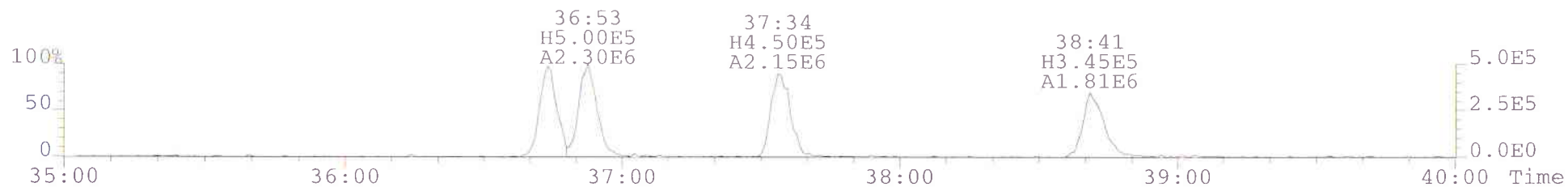
File:052213A1 #1-659 Acq:22-MAY-2013 09:44:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text:Ceres Analytical Laboratory Text:ST052213A1-2 S050913A 1613 CS1
339.8597 S:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



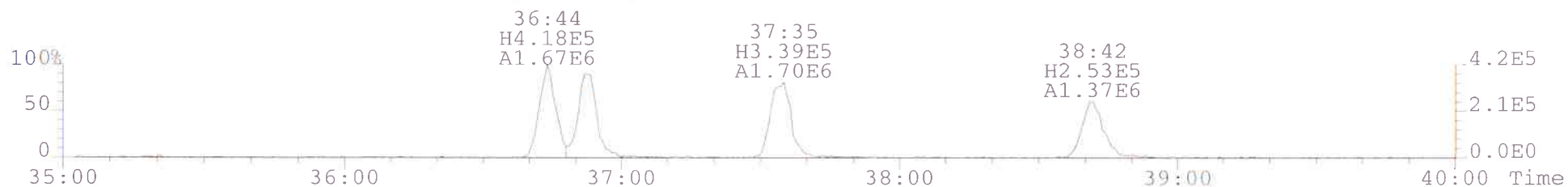
File:052213A1 #1-312 Acq:22-MAY-2013 09:44:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text:Ceres Analytical Laboratory Text:ST052213A1-2 S050913A 1613 CS1
339.8597 S:3 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



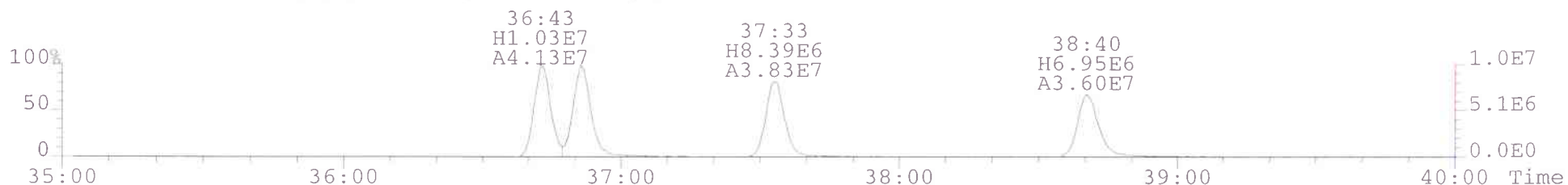
File:052213A1 #1-444 Acq:22-MAY-2013 09:44:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text:Ceres Analytical Laboratory Text:ST052213A1-2 S050913A 1613 CS1
373.8207 S:3 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



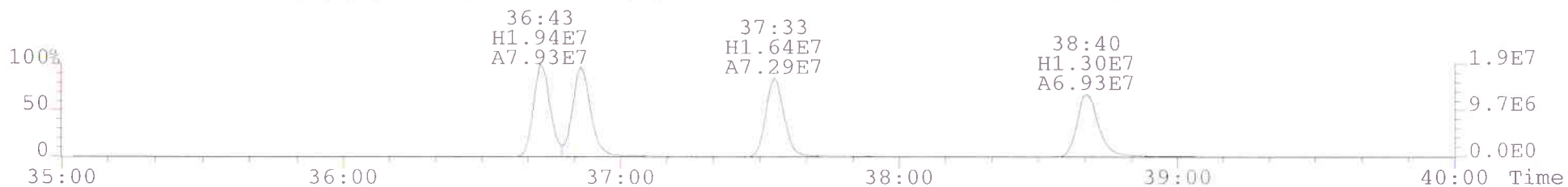
375.8178 S:3 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



383.8639 S:3 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



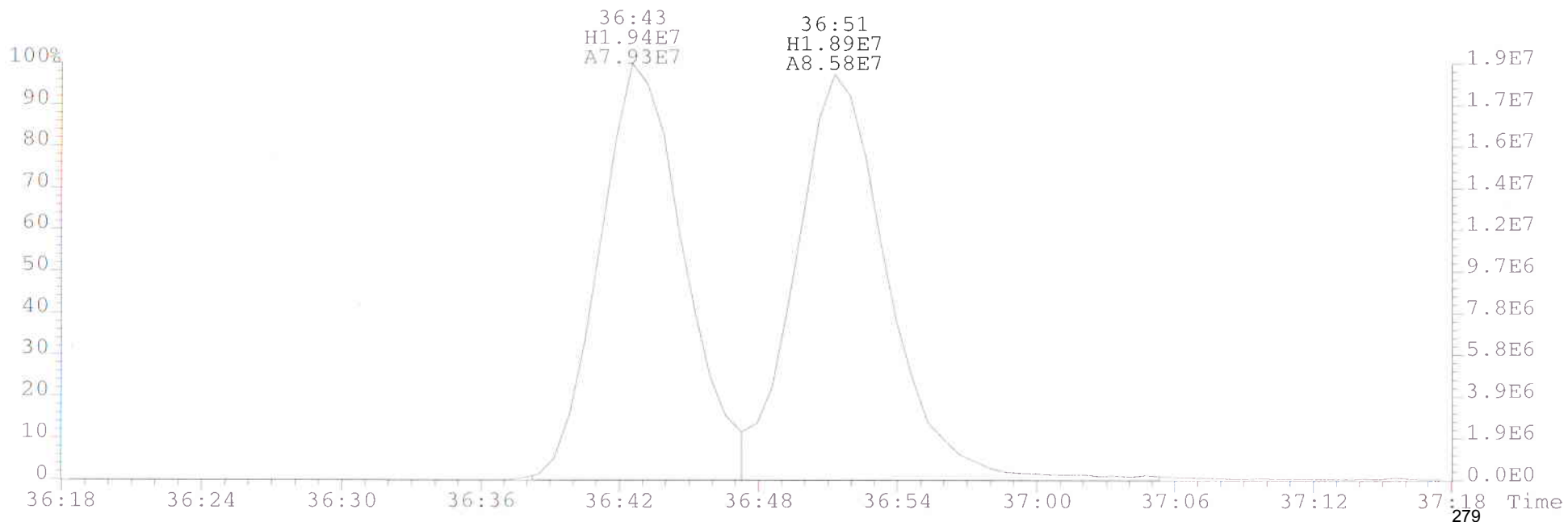
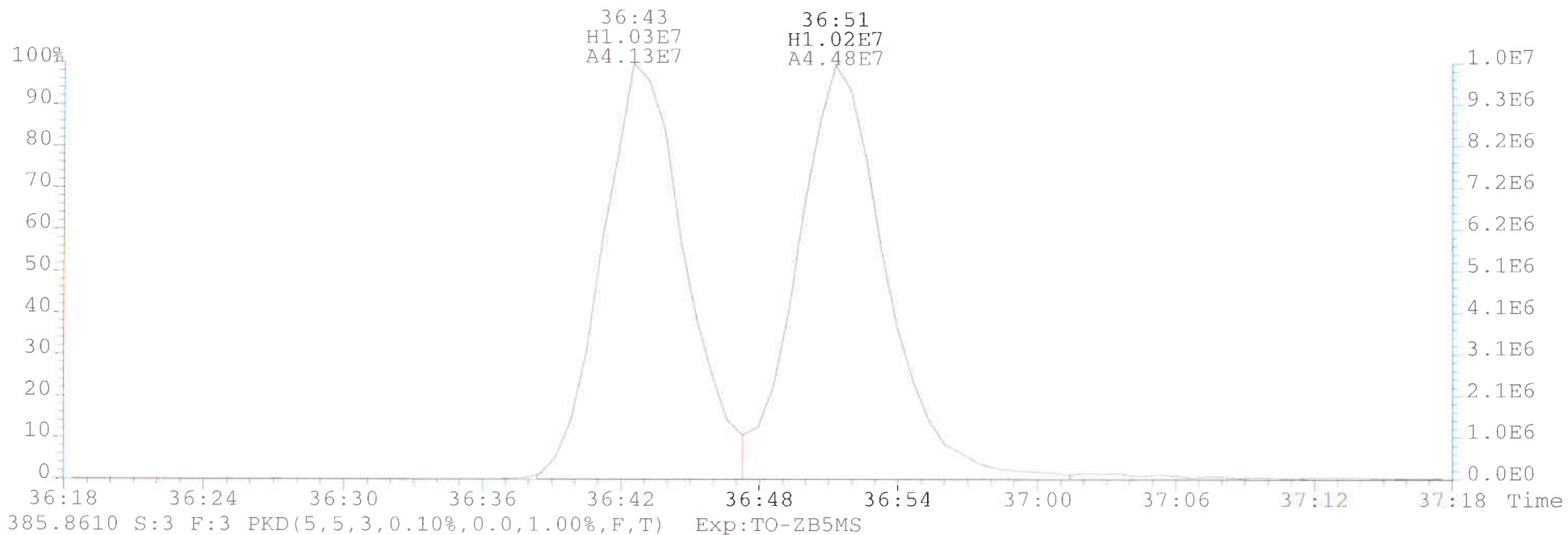
385.8610 S:3 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



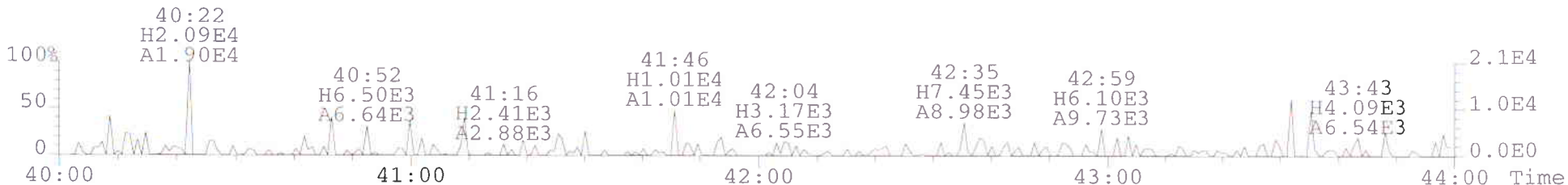
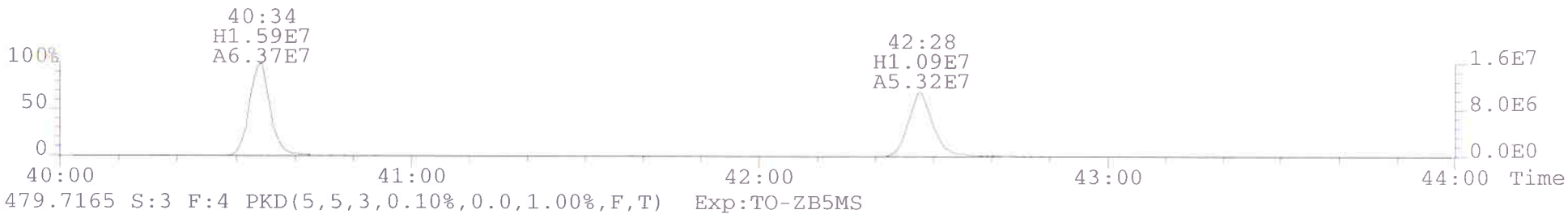
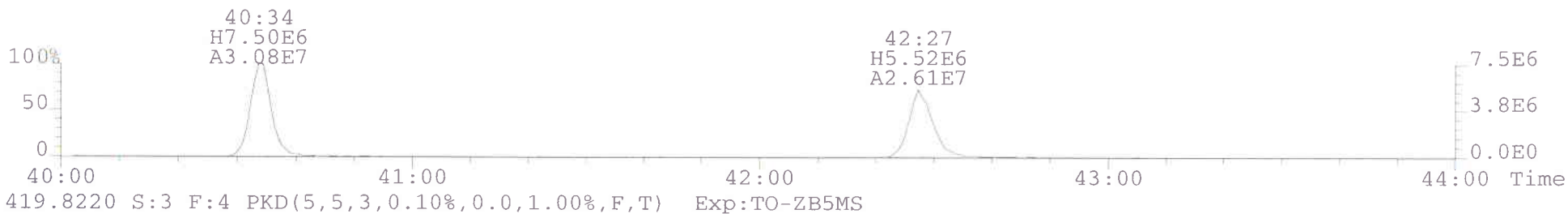
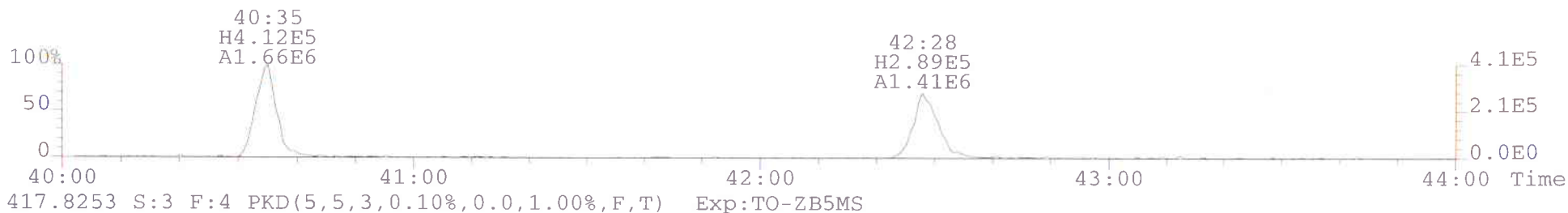
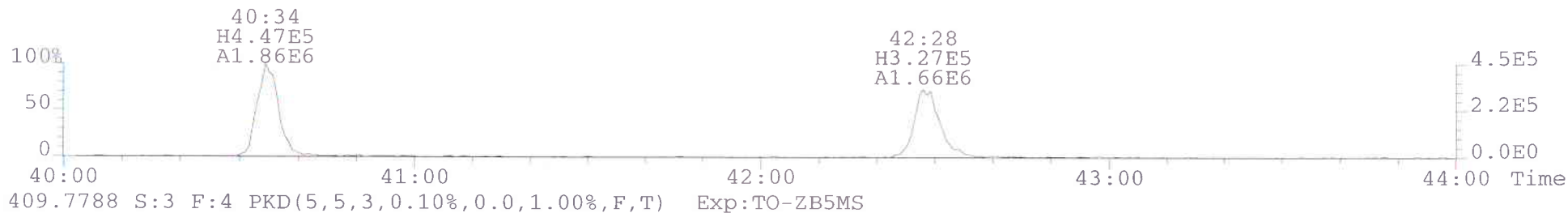
445.7555 S:3 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



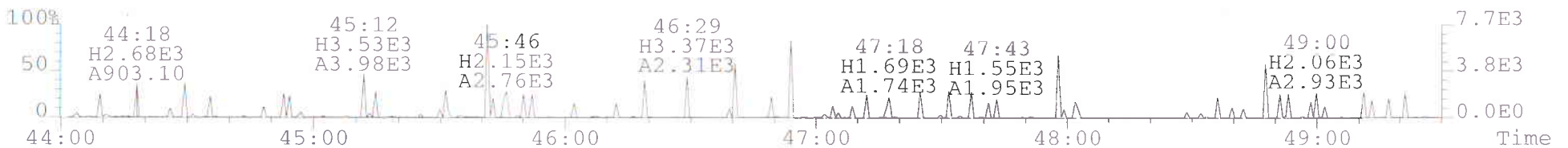
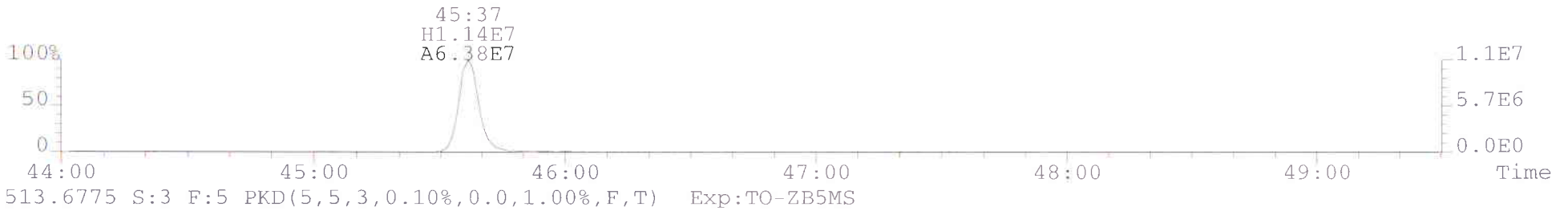
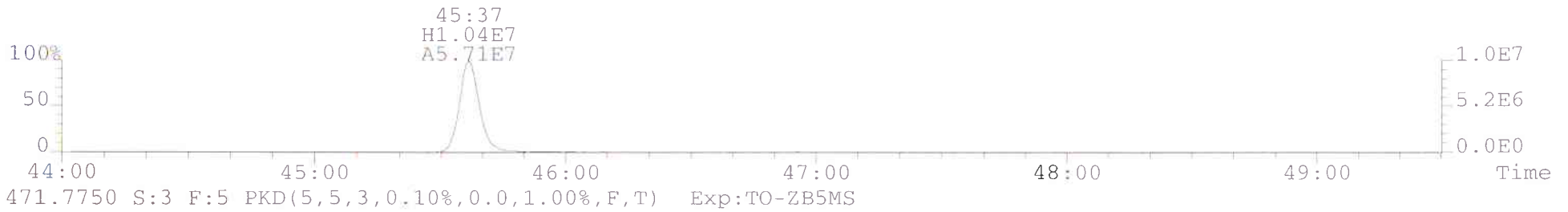
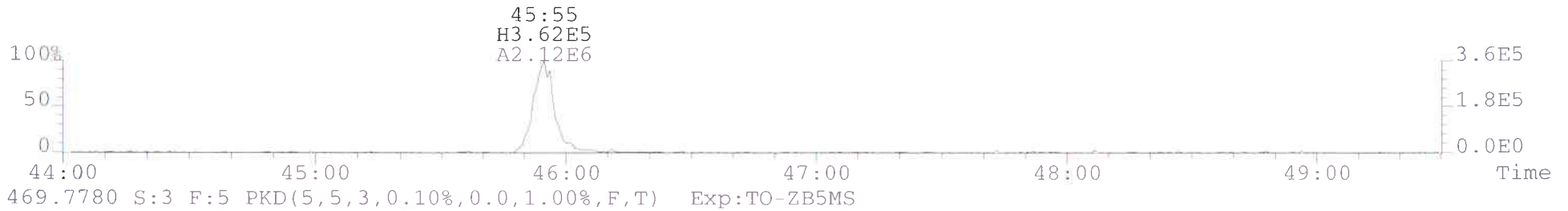
File:052213A1 #1-444 Acq:22-MAY-2013 09:44:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text:Ceres Analytical Laboratory Text:ST052213A1-2 S050913A 1613 CS1
383.8639 S:3 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



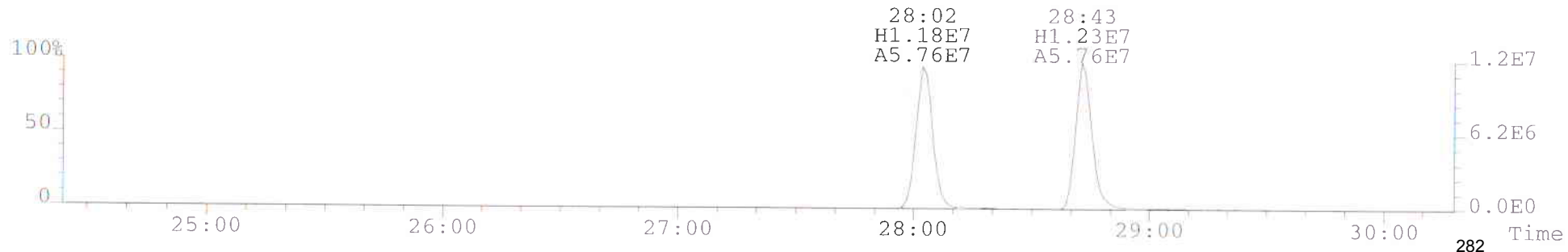
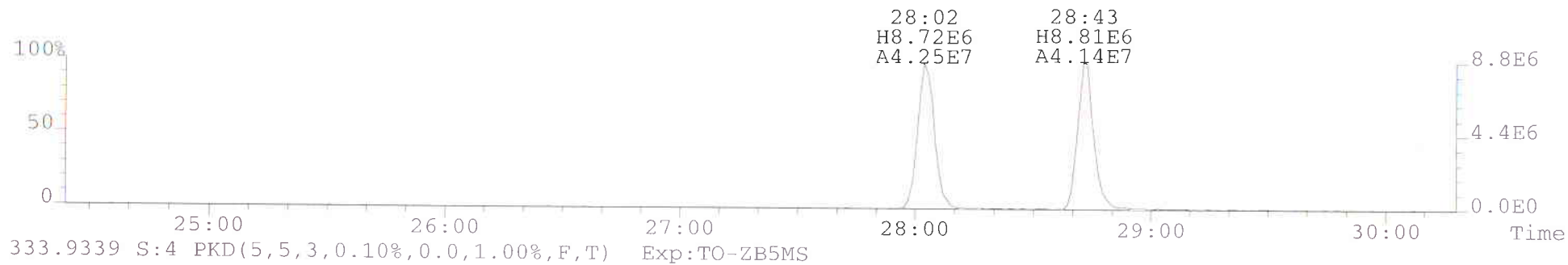
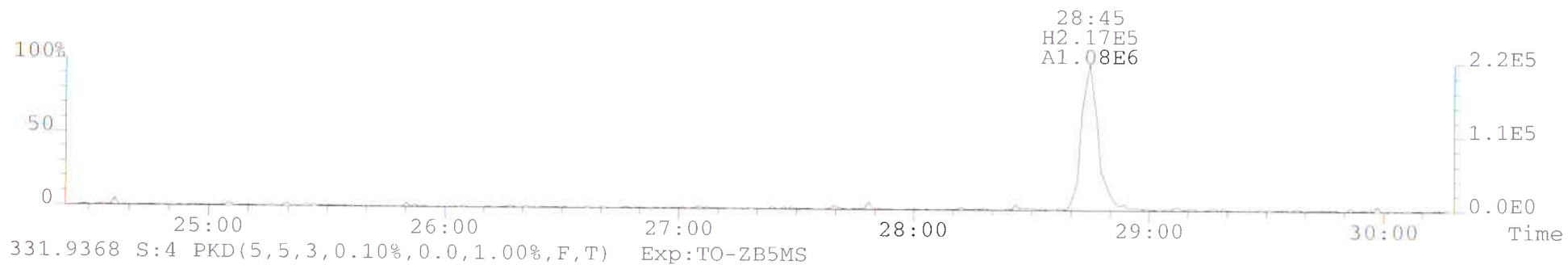
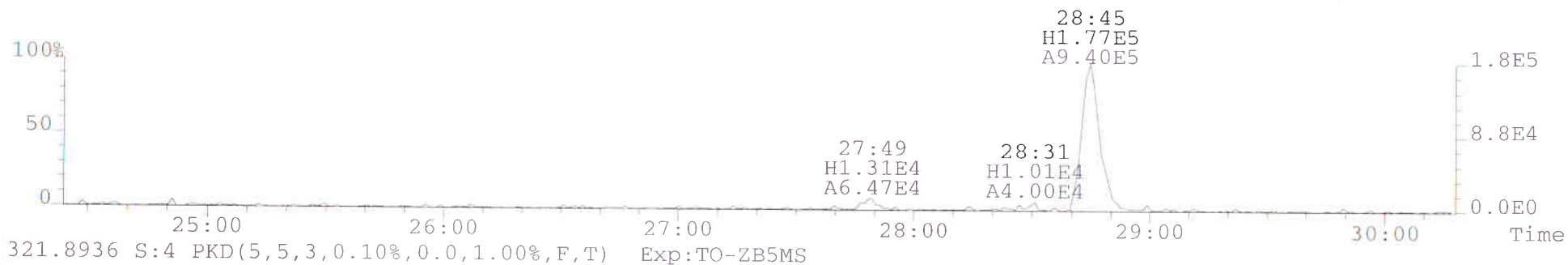
File:052213A1 #1-355 Acq:22-MAY-2013 09:44:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text:Ceres Analytical Laboratory Text:ST052213A1-2 S050913A 1613 CS1
407.7818 S:3 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



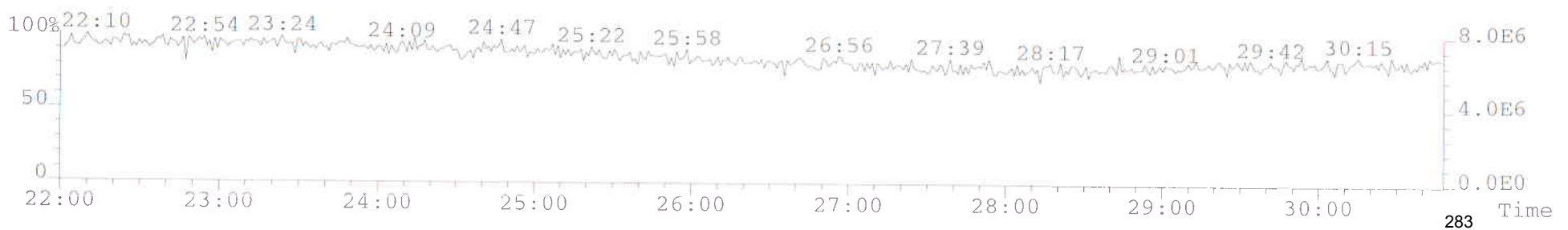
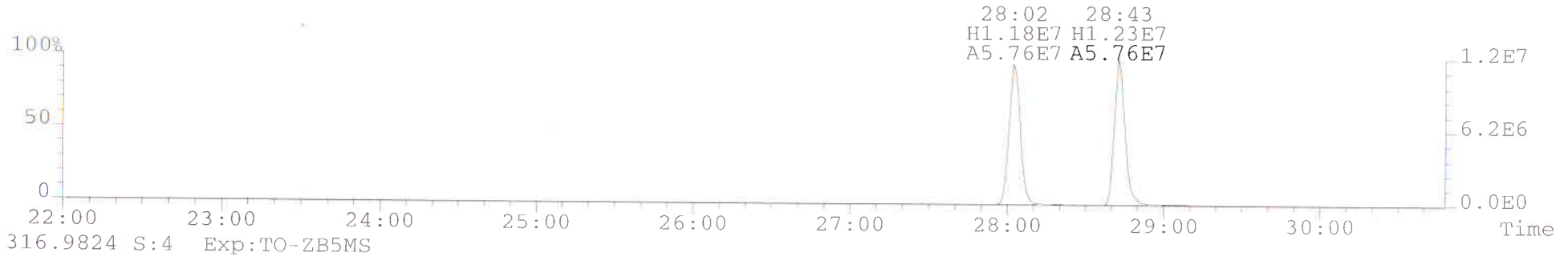
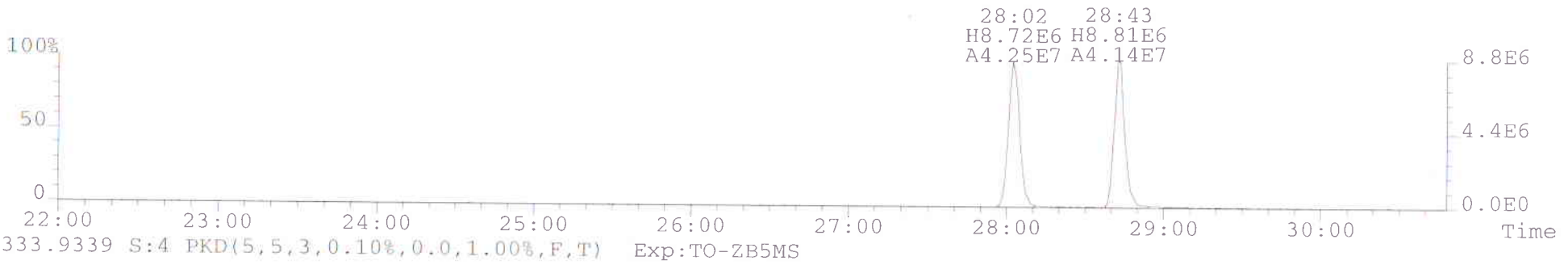
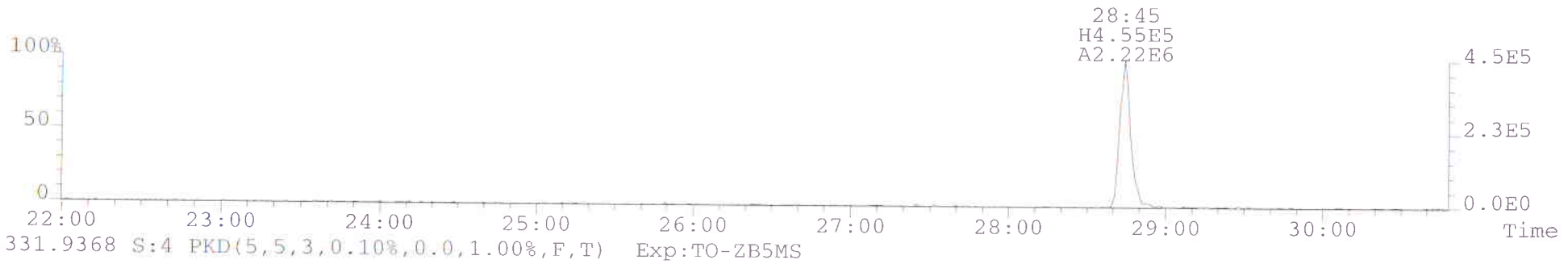
File:052213A1 #1-489 Acq:22-MAY-2013 09:44:42 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text:Ceres Analytical Laboratory Text:ST052213A1-2 S050913A 1613 CS1
441.7428 S:3 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



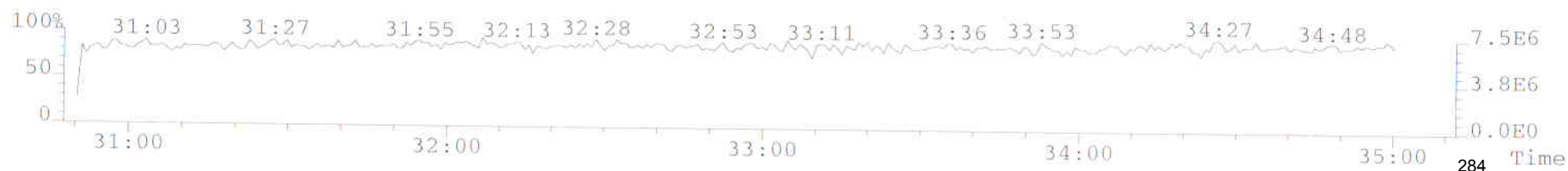
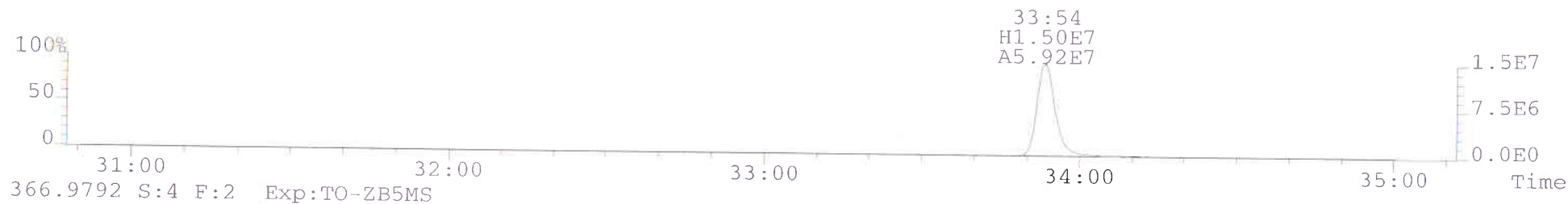
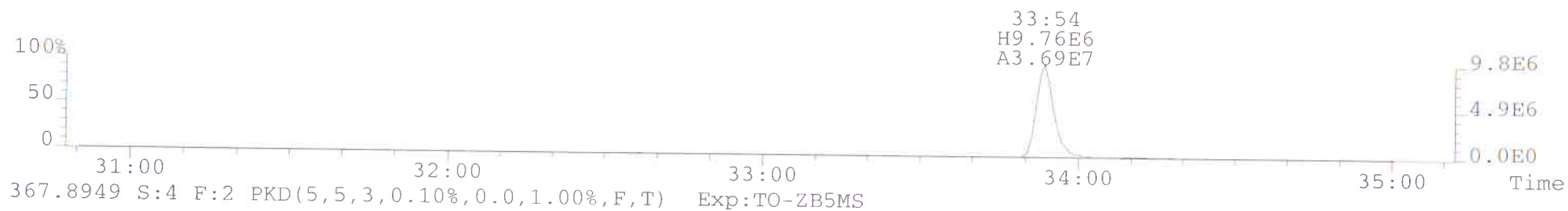
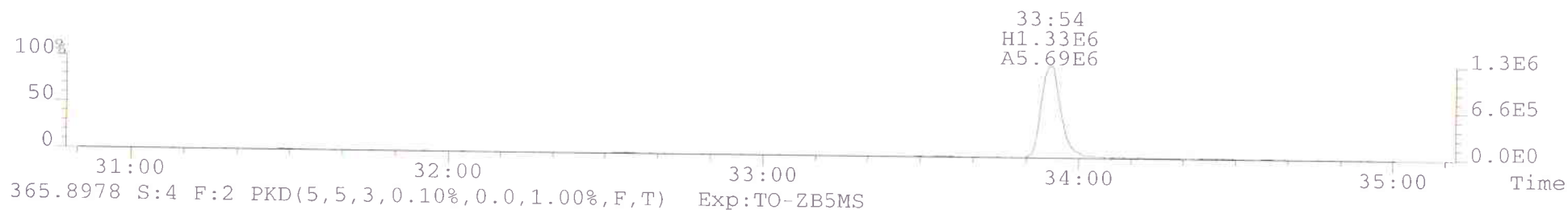
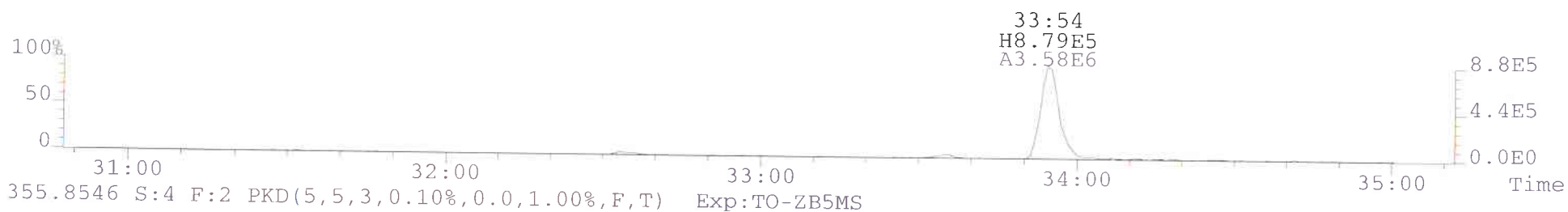
File:052213A1 #1-658 Acq:22-MAY-2013 10:38:25 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:ST052213A1-3 S050913B 1613 CS2
319.8965 S:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



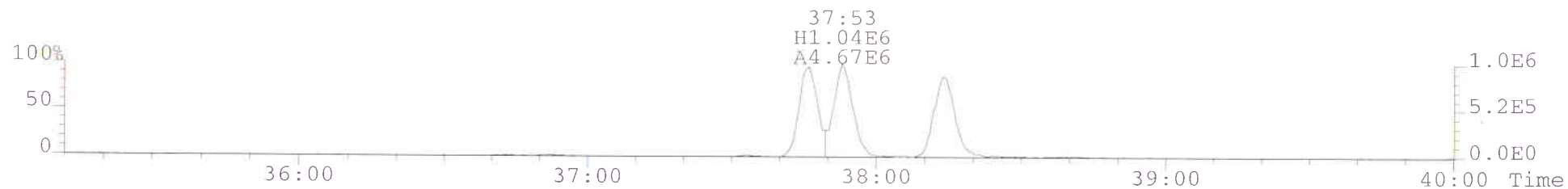
File:052213A1 #1-658 Acq:22-MAY-2013 10:38:25 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:ST052213A1-3 S050913B 1613 CS2
327.8847 S:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



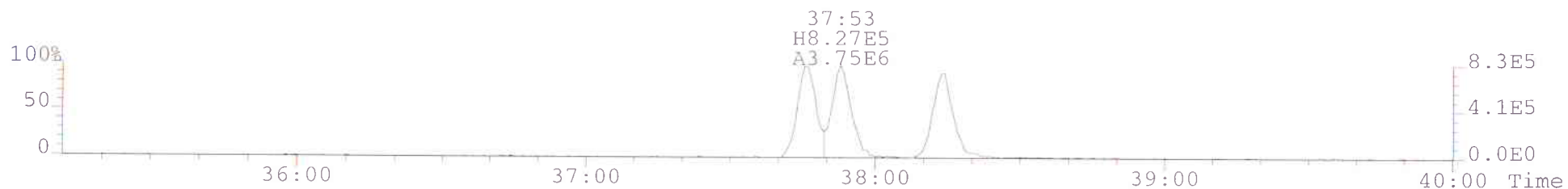
File:052213A1 #1-312 Acq:22-MAY-2013 10:38:25 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:ST052213A1-3 S050913B 1613 CS2
353.8576 S:4 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



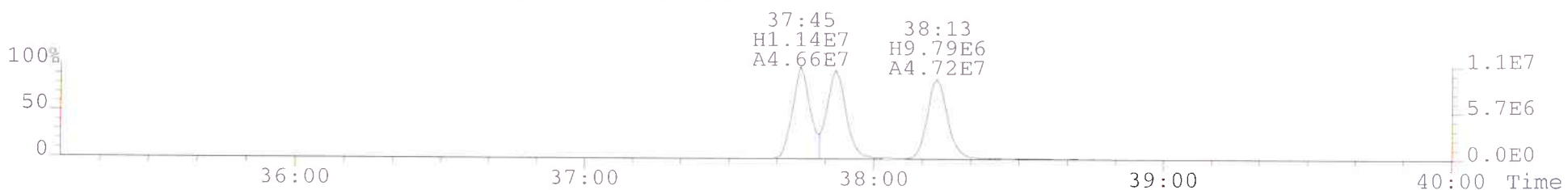
File:052213A1 #1-445 Acq:22-MAY-2013 10:38:25 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:ST052213A1-3 S050913B 1613 CS2
389.8156 S:4 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



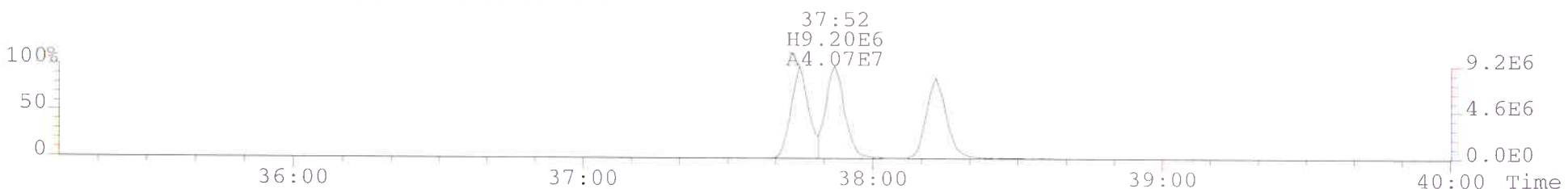
391.8127 S:4 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



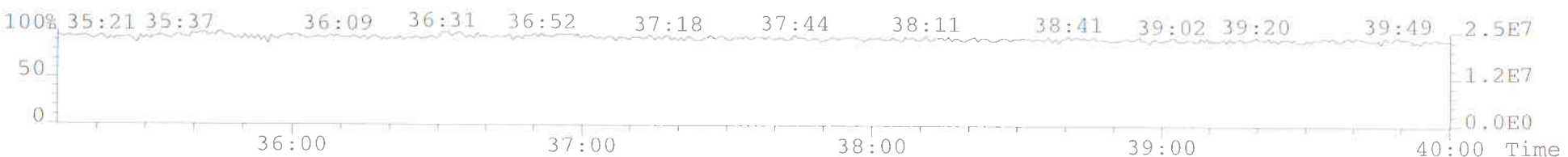
401.8559 S:4 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



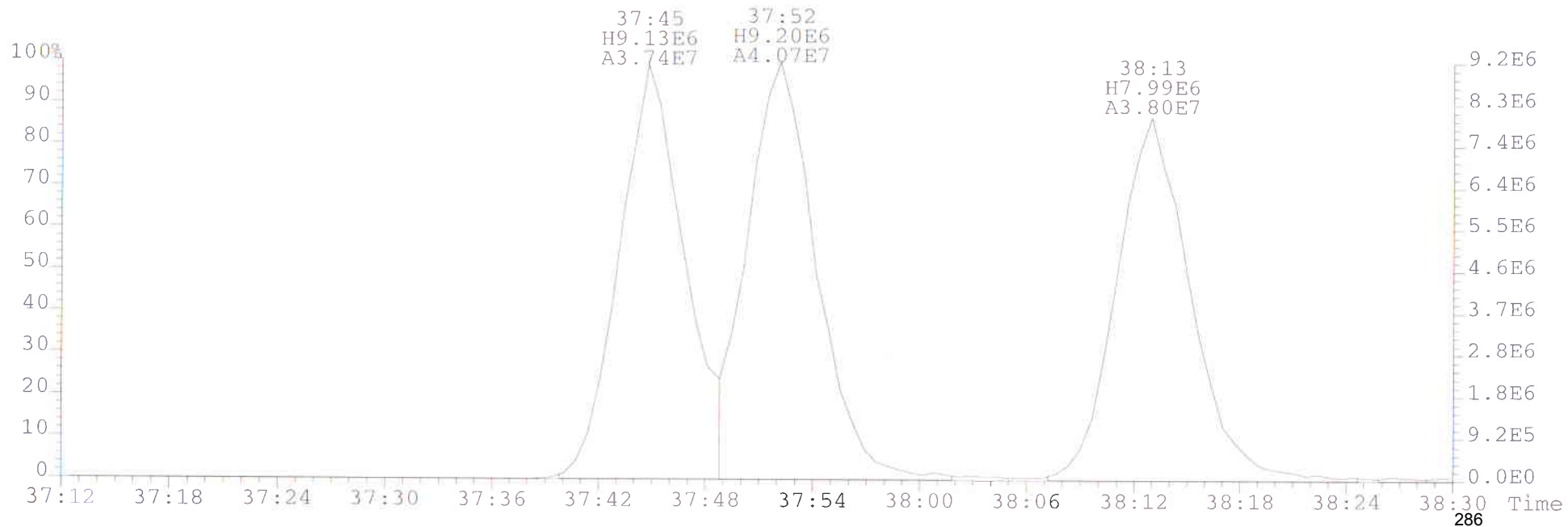
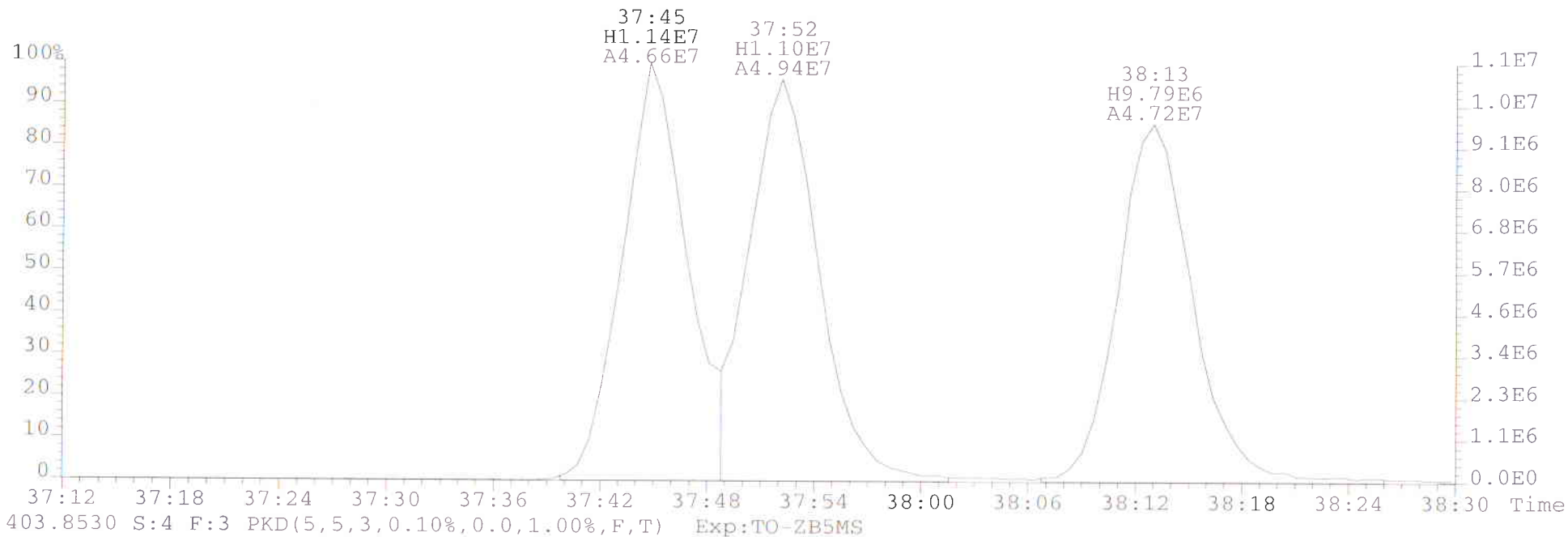
403.8530 S:4 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



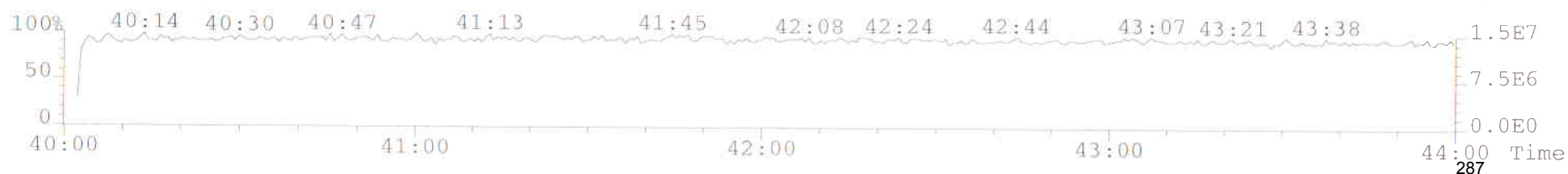
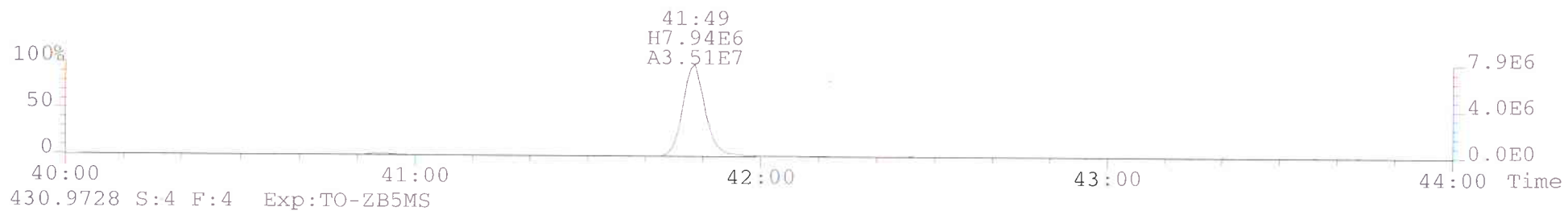
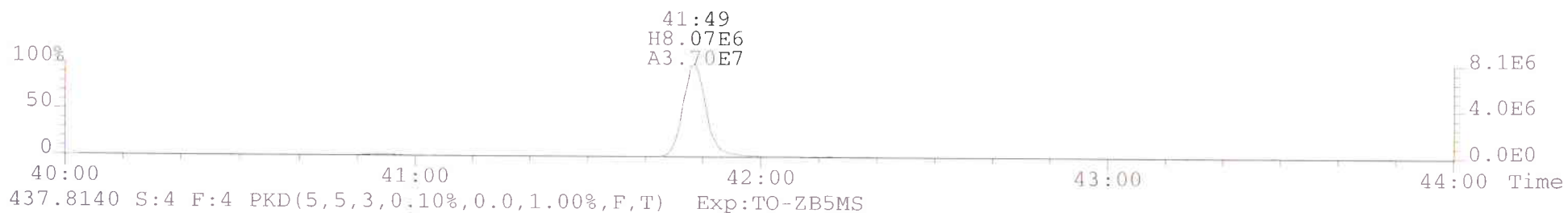
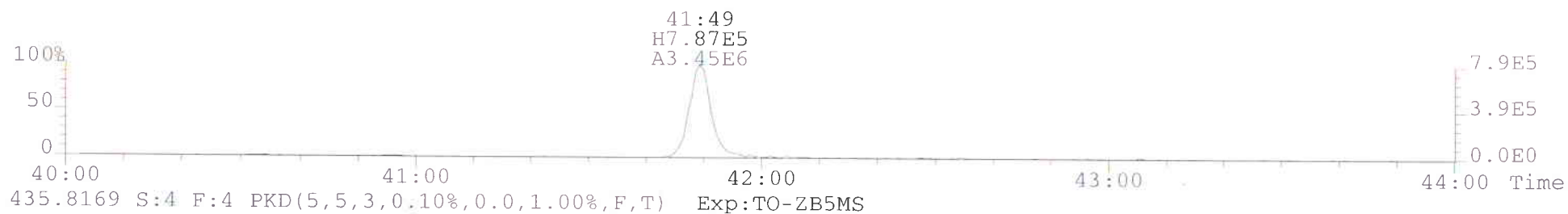
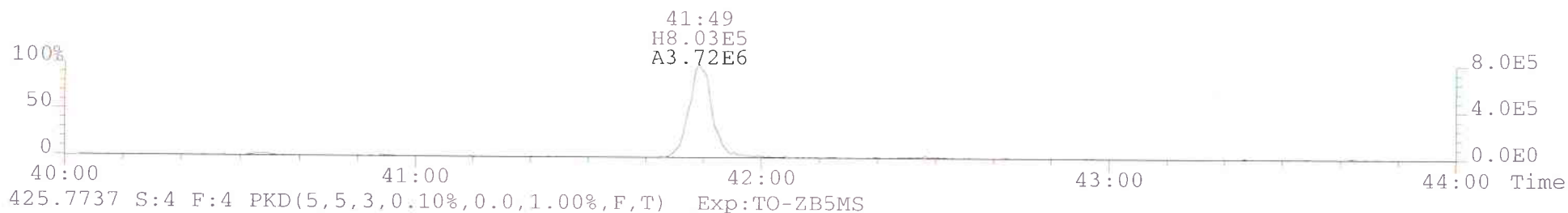
380.9760 S:4 F:3 Exp:TO-ZB5MS



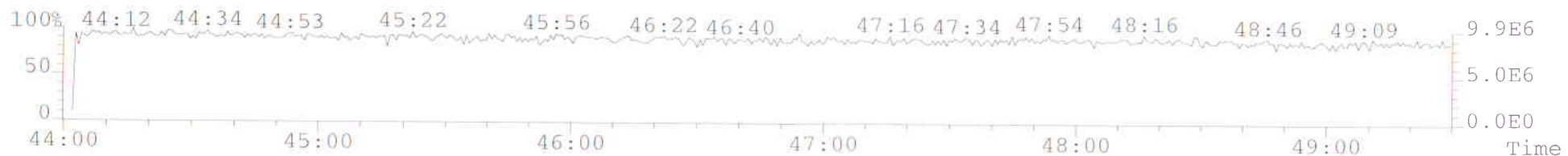
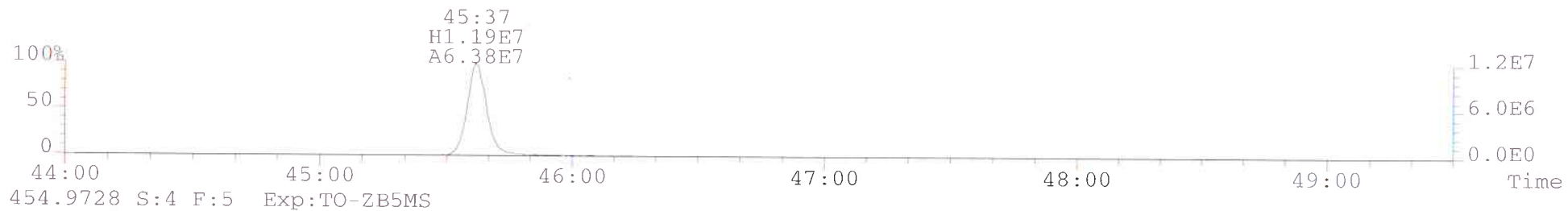
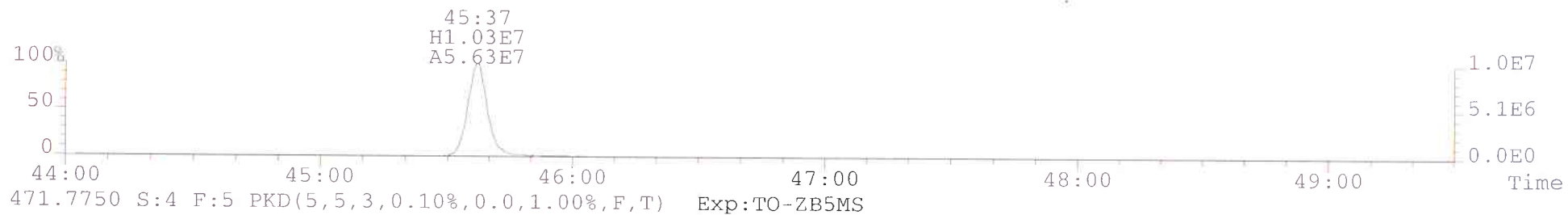
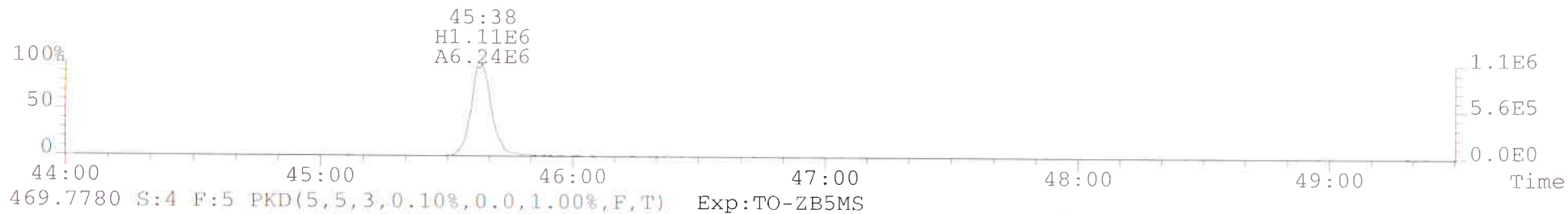
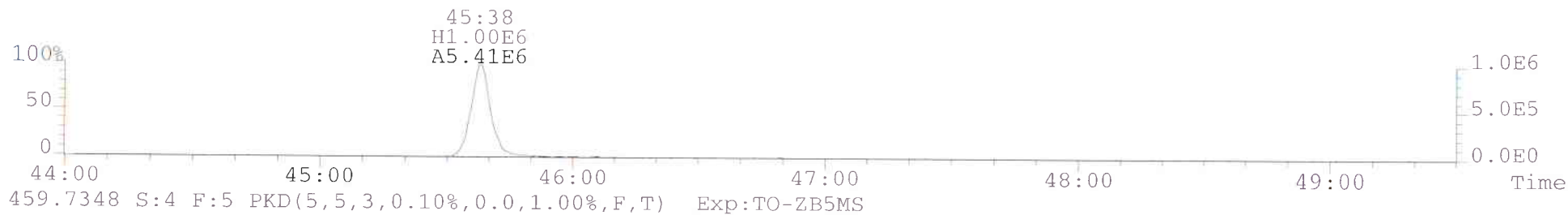
File:052213A1 #1-445 Acq:22-MAY-2013 10:38:25 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:ST052213A1-3 S050913B 1613 CS2
401.8559 S:4 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



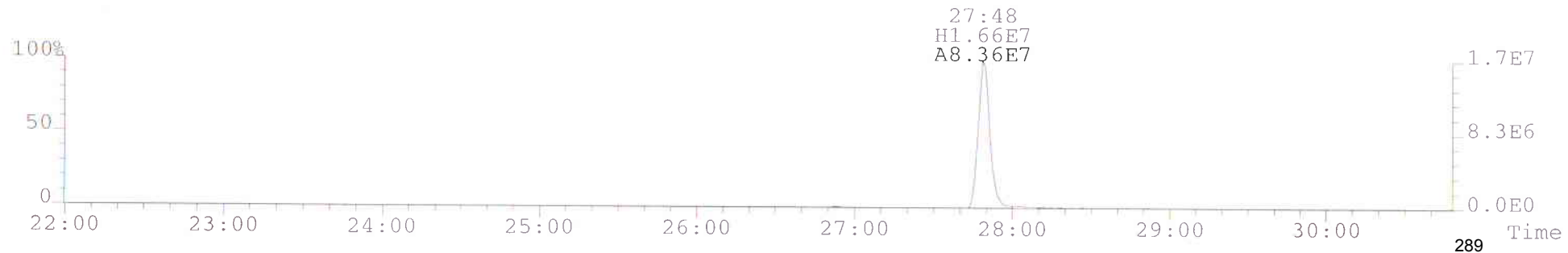
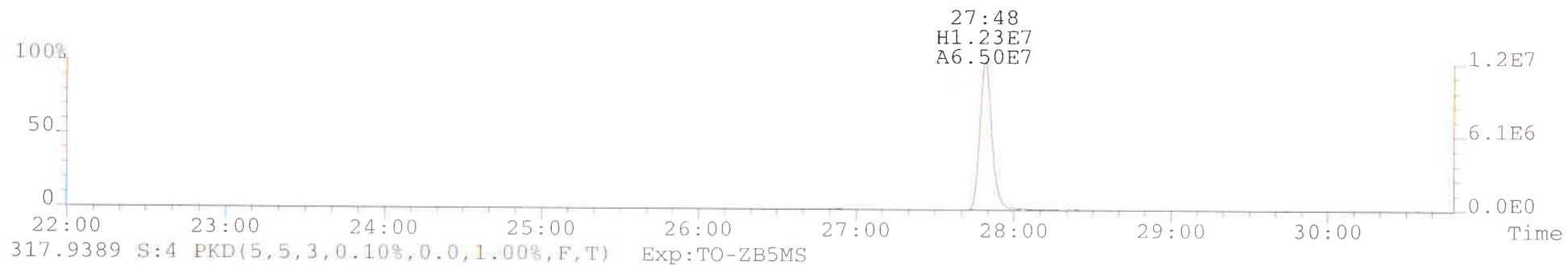
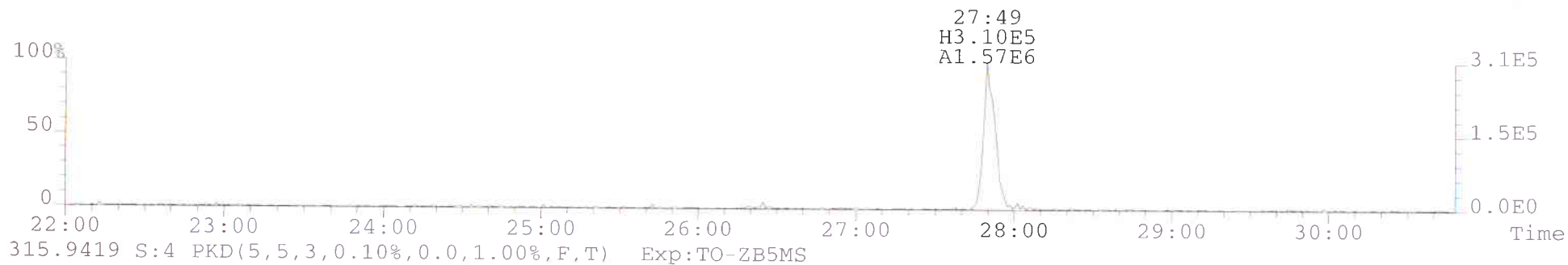
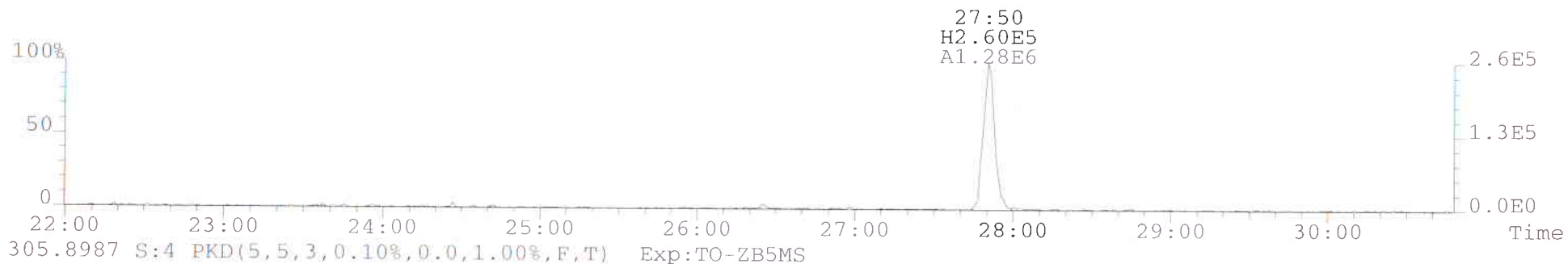
File:052213A1 #1-355 Acq:22-MAY-2013 10:38:25 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:ST052213A1-3 S050913B 1613 CS2
423.7767 S:4 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



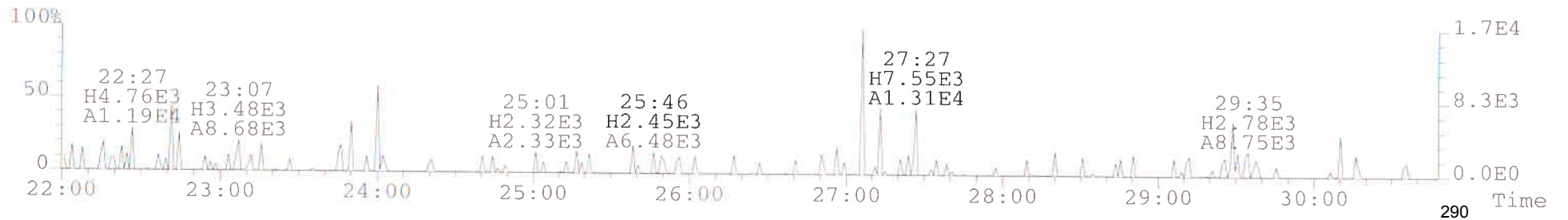
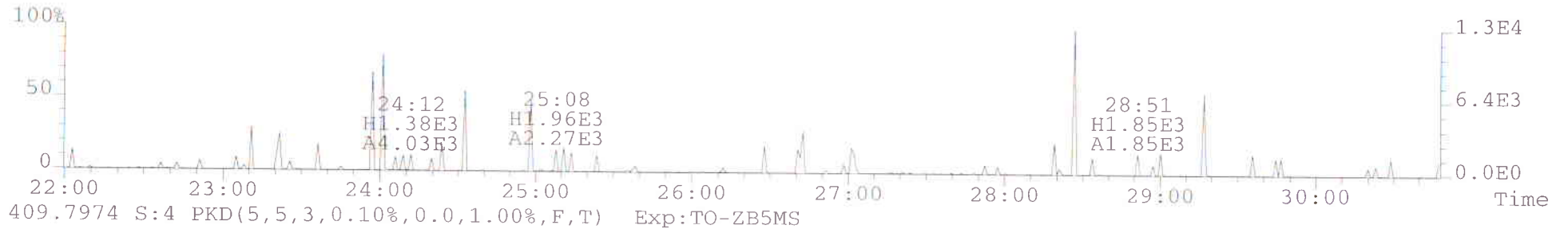
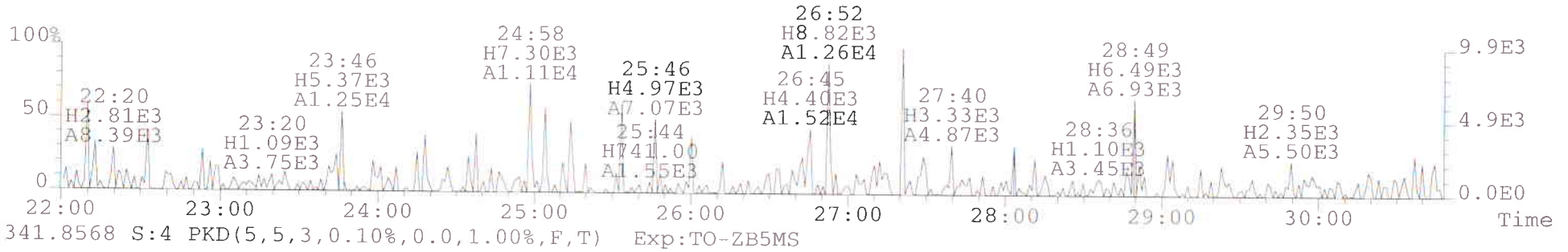
File:052213A1 #1-489 Acq:22-MAY-2013 10:38:25 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:ST052213A1-3 S050913B 1613 CS2
457.7377 S:4 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



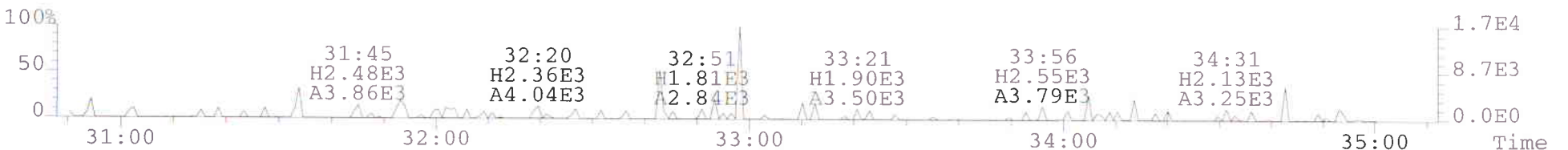
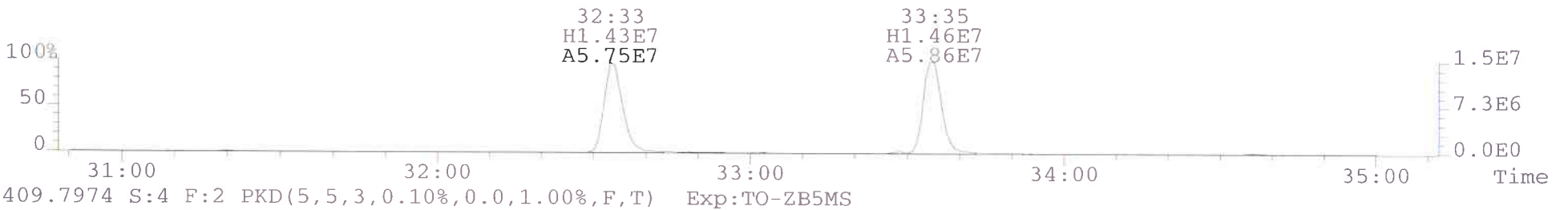
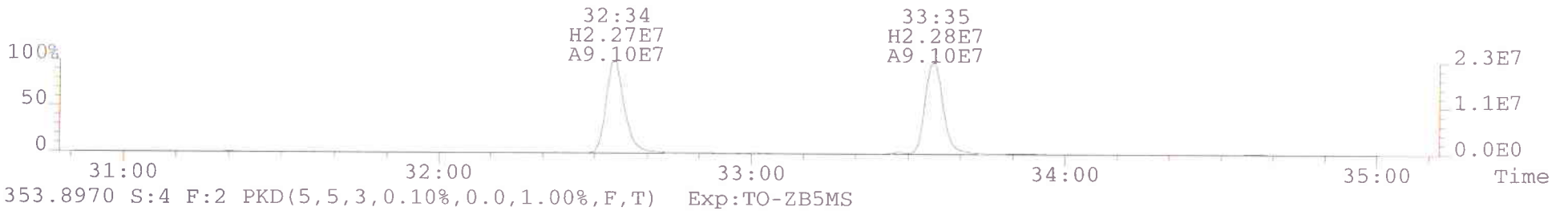
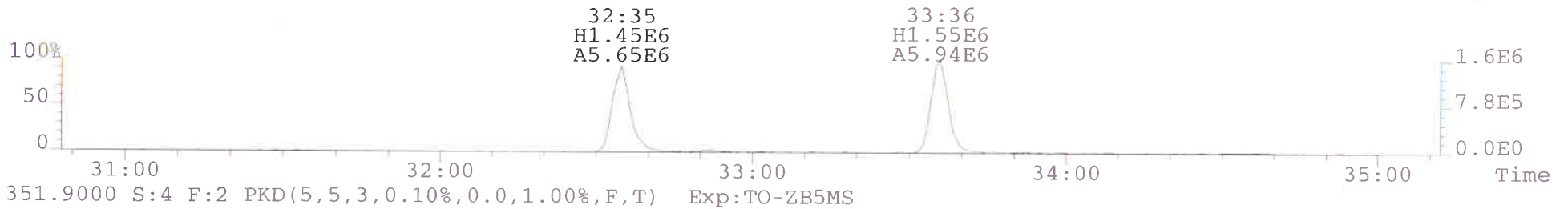
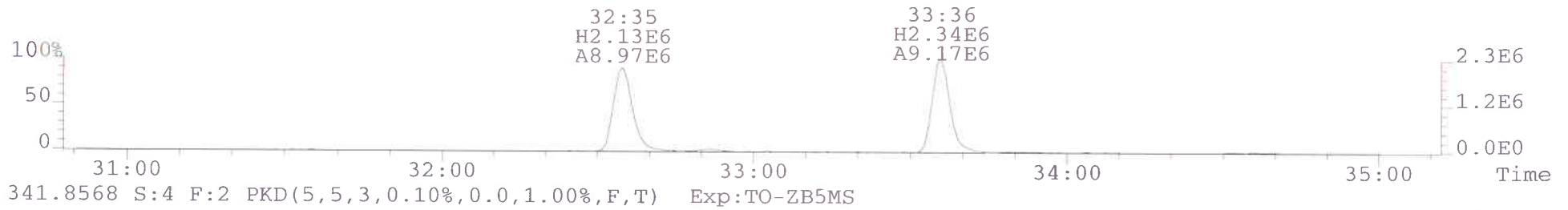
File:052213A1 #1-658 Acq:22-MAY-2013 10:38:25 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:ST052213A1-3 S050913B 1613 CS2
303.9016 S:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



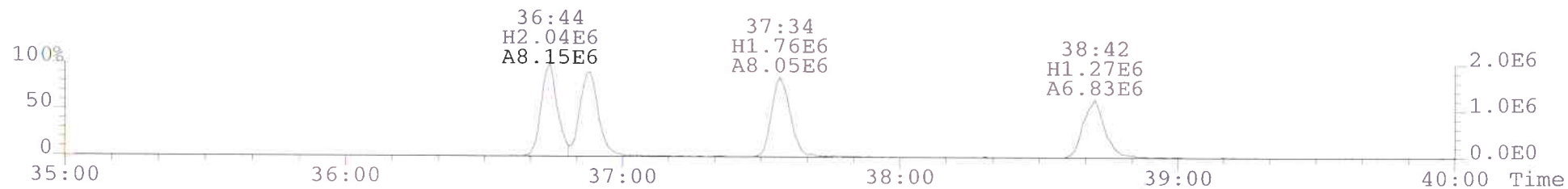
File:052213A1 #1-658 Acq:22-MAY-2013 10:38:25 GC EI+ Voltage SIR Autospec-Ultima
 Sample#4 File Text:Ceres Analytical Laboratory Text:ST052213A1-3 S050913B 1613 CS2
 339.8597 S:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



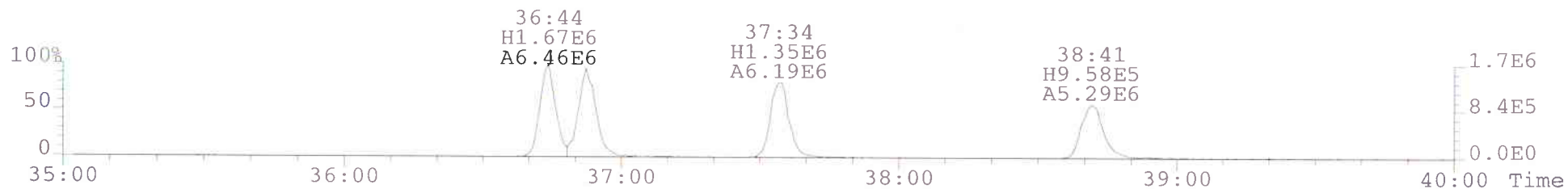
File:052213A1 #1-312 Acq:22-MAY-2013 10:38:25 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:ST052213A1-3 S050913B 1613 CS2
339.8597 S:4 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



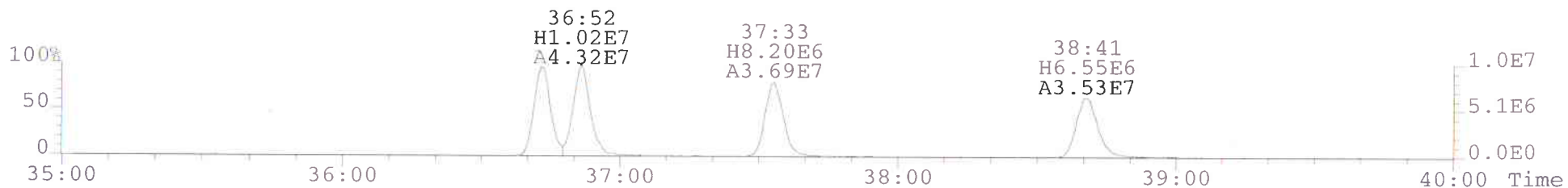
File:052213A1 #1-445 Acq:22-MAY-2013 10:38:25 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:ST052213A1-3 S050913B 1613 CS2
373.8207 S:4 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



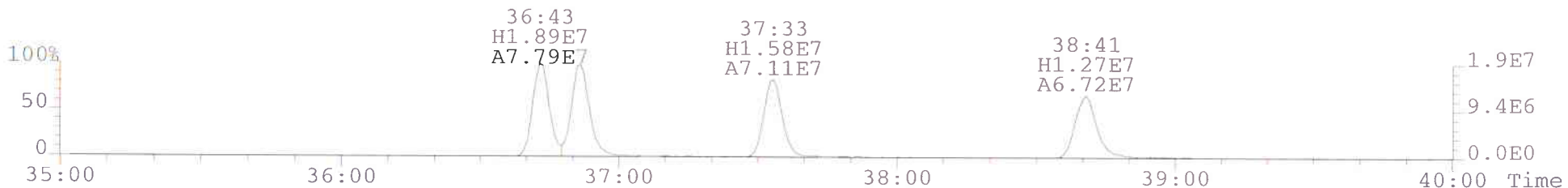
375.8178 S:4 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



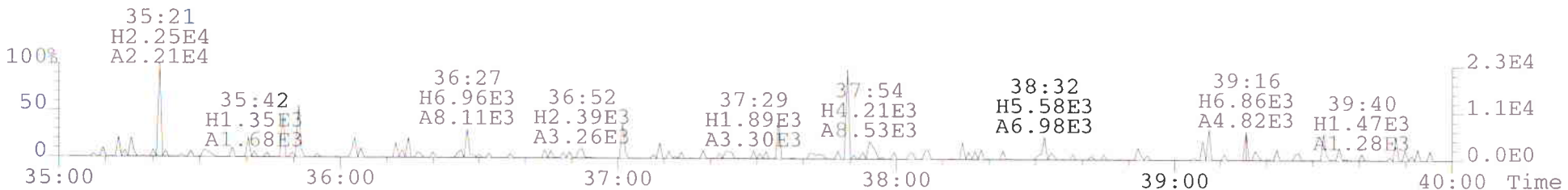
383.8639 S:4 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



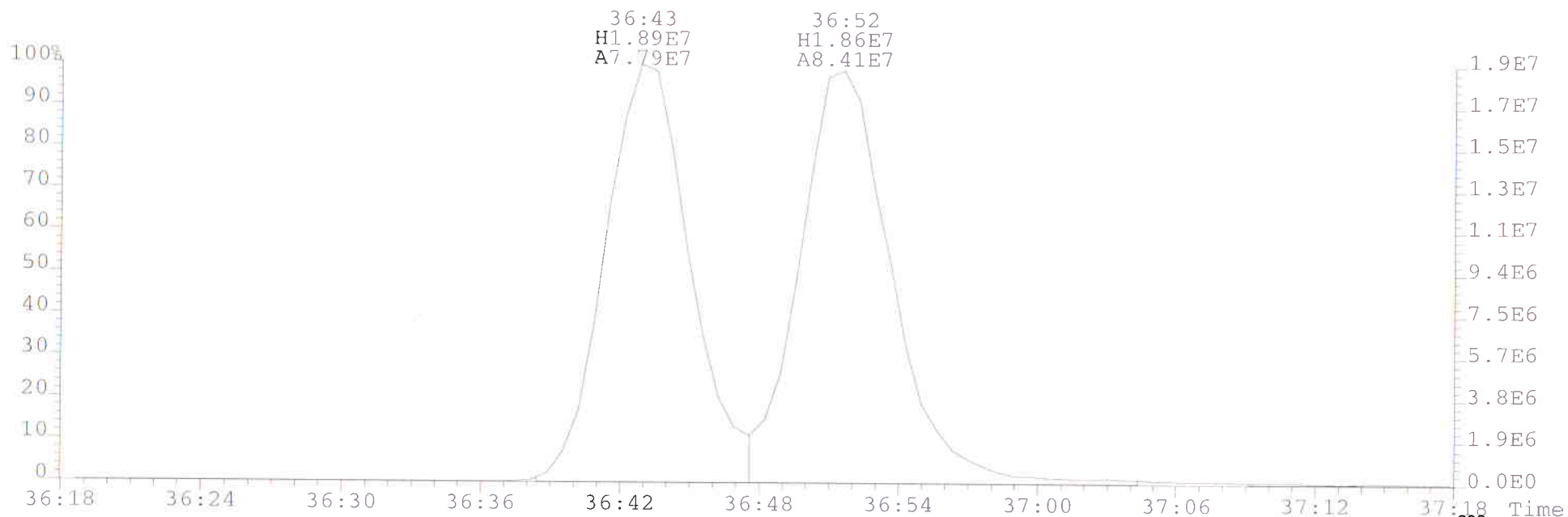
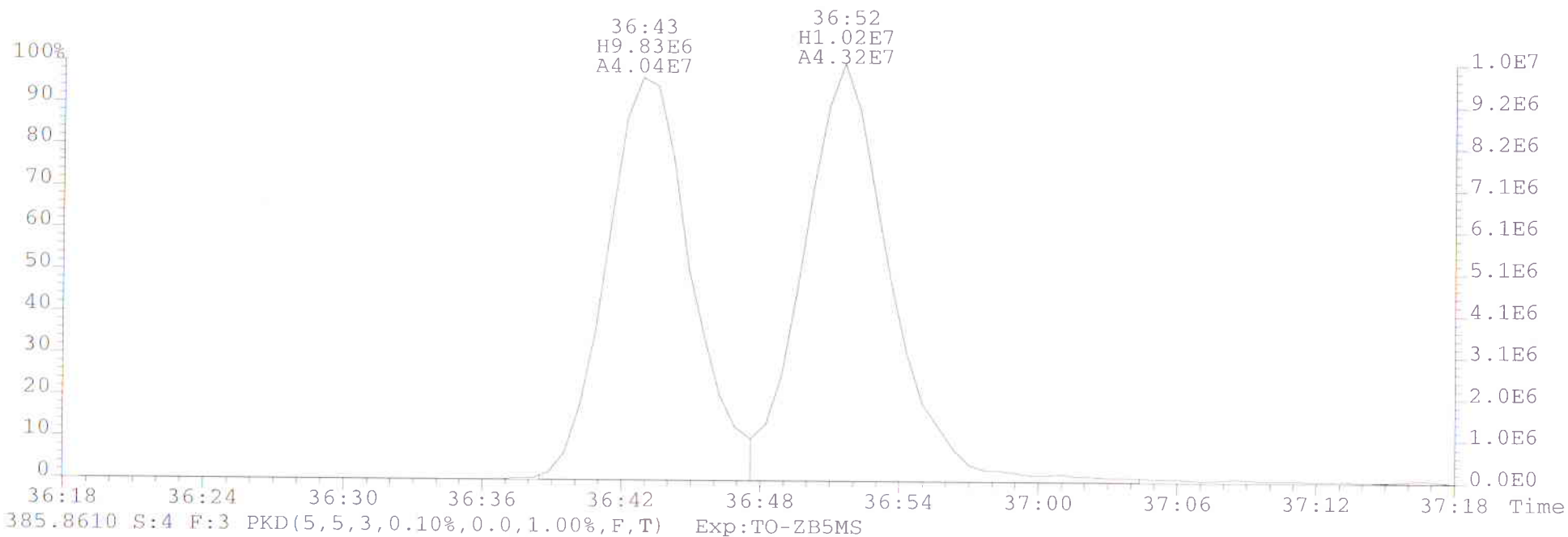
385.8610 S:4 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



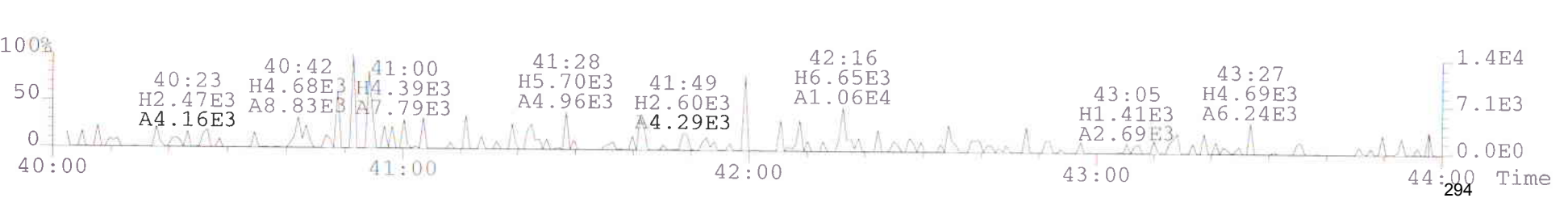
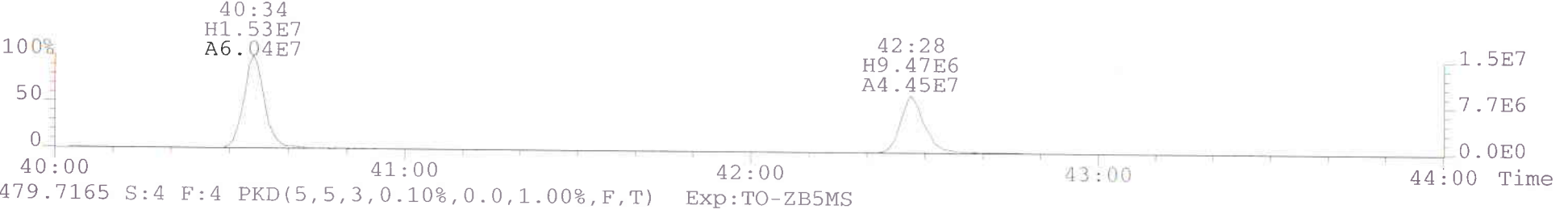
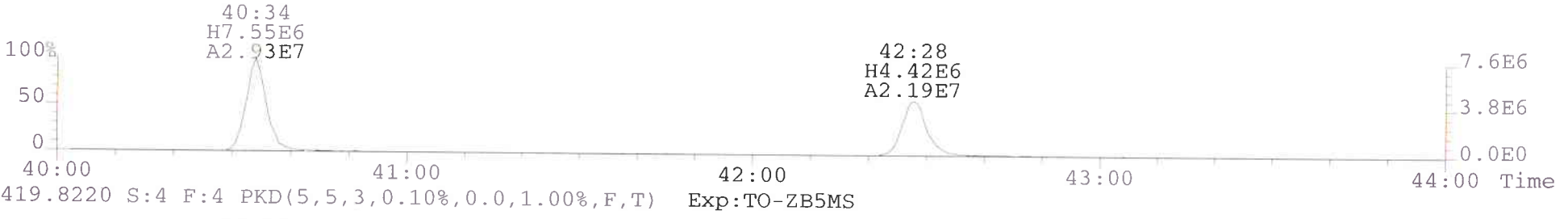
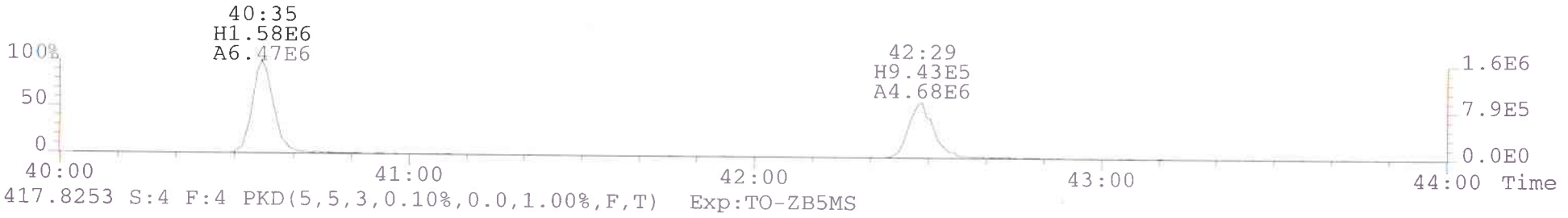
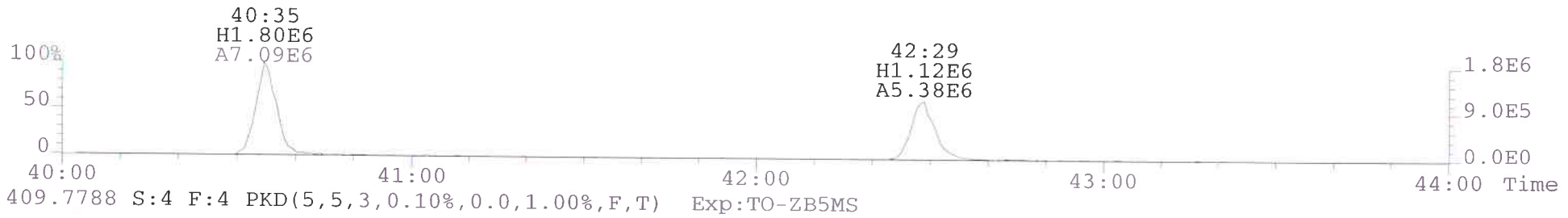
445.7555 S:4 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



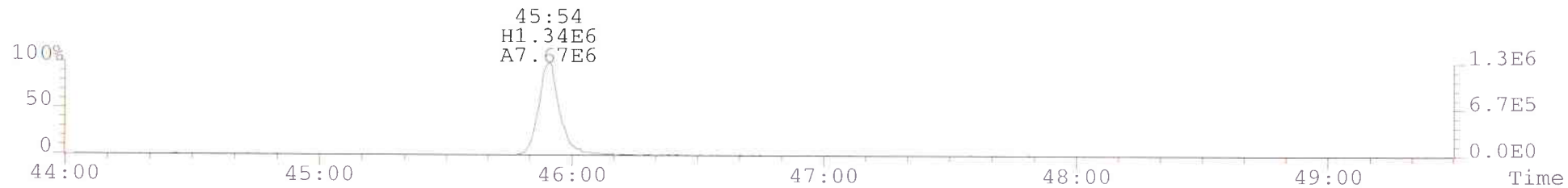
File:052213A1 #1-445 Acq:22-MAY-2013 10:38:25 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:ST052213A1-3 S050913B 1613 CS2
383.8639 S:4 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



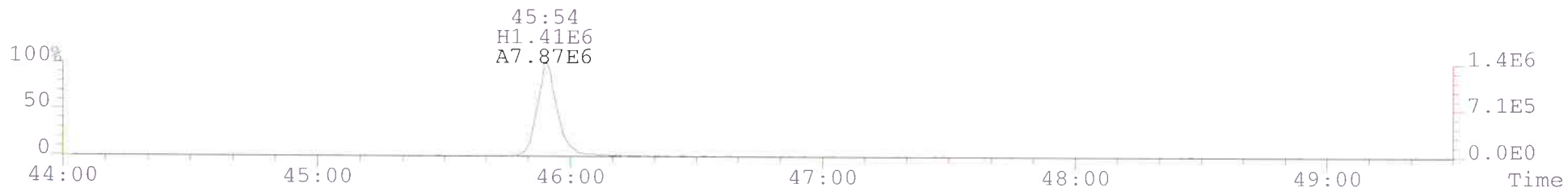
File:052213A1 #1-355 Acq:22-MAY-2013 10:38:25 GC EI+ Voltage SIR Autospec-Ultima
 Sample#4 File Text:Ceres Analytical Laboratory Text:ST052213A1-3 S050913B 1613 CS2
 407.7818 S:4 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



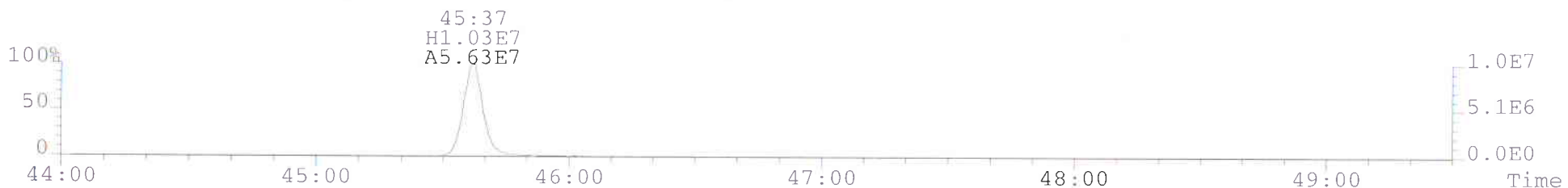
File:052213A1 #1-489 Acq:22-MAY-2013 10:38:25 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:ST052213A1-3 S050913B 1613 CS2
441.7428 S:4 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



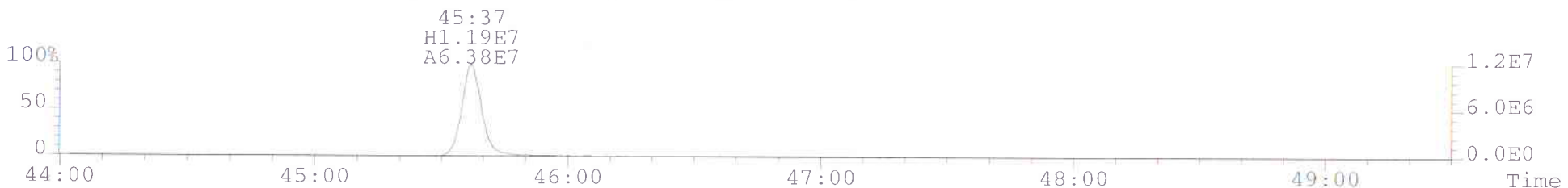
443.7398 S:4 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



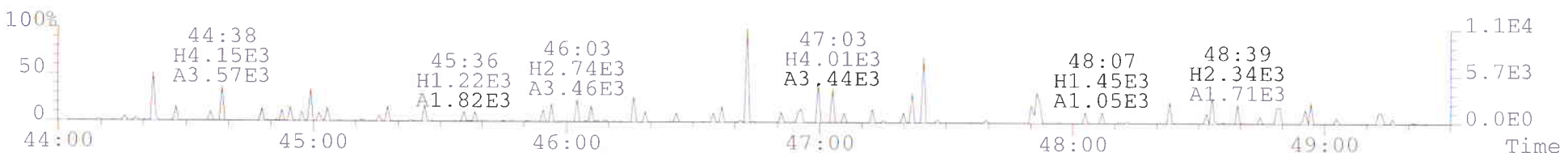
469.7780 S:4 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



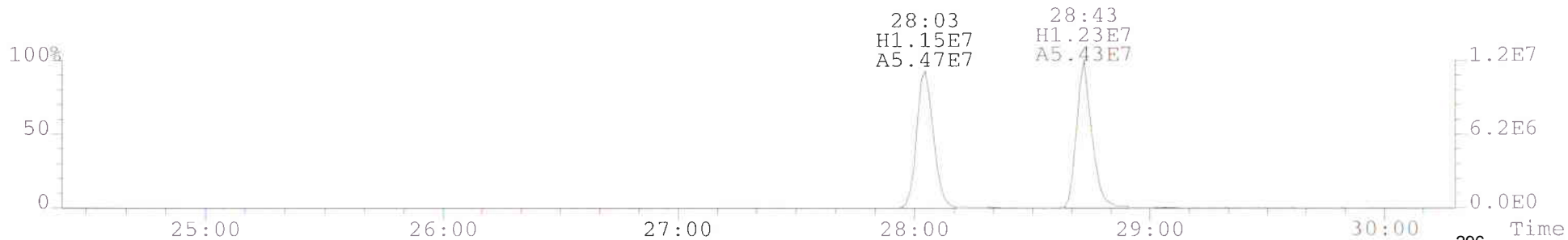
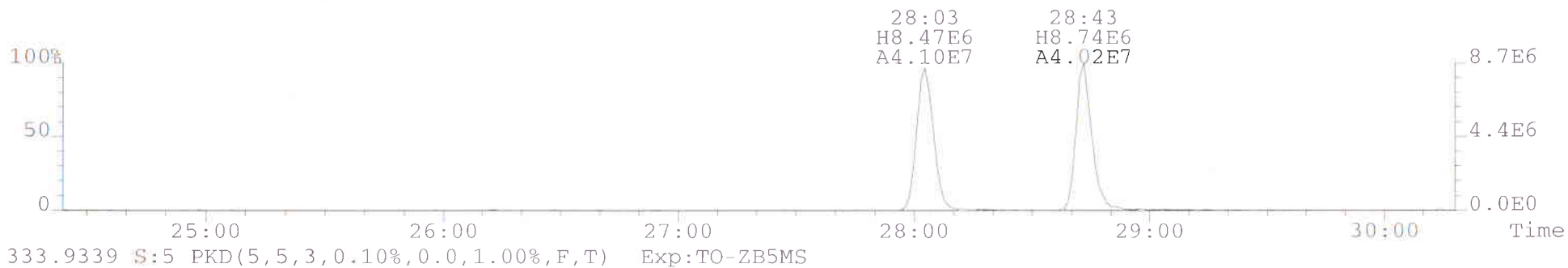
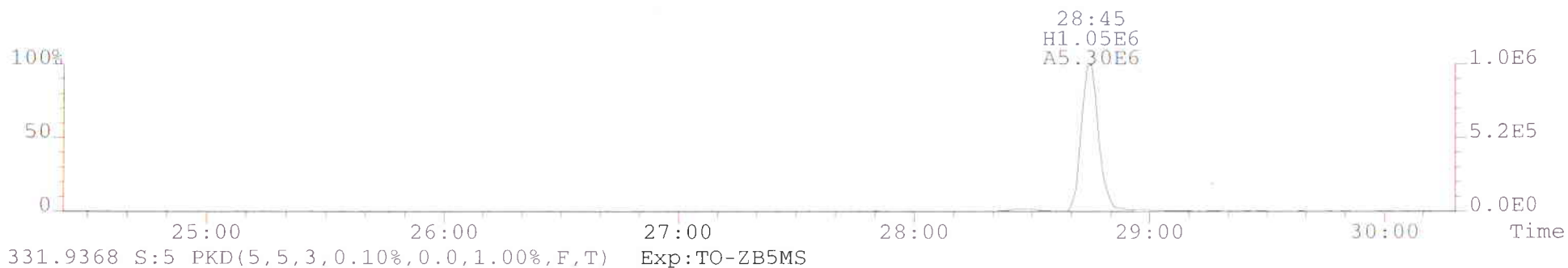
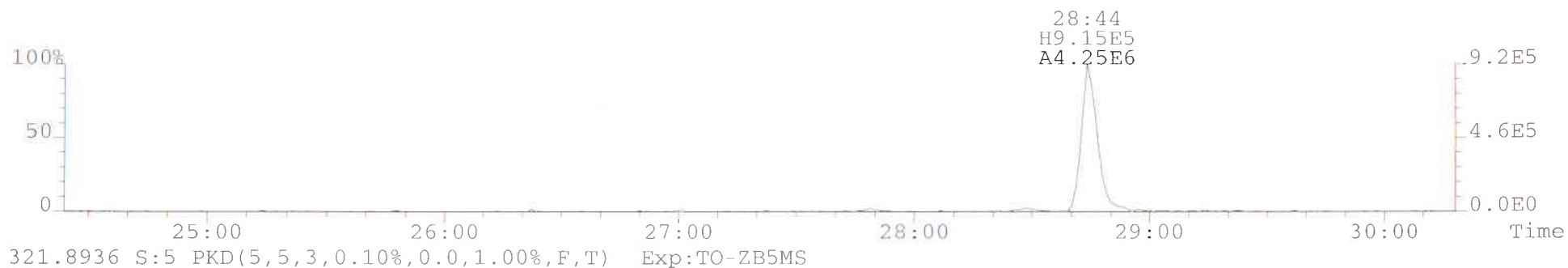
471.7750 S:4 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



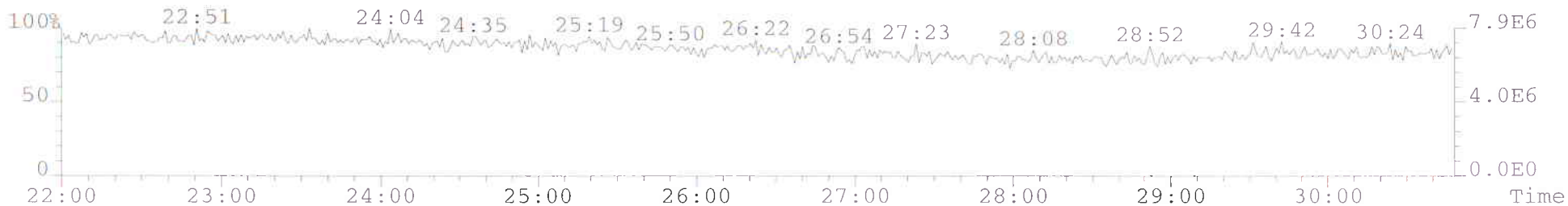
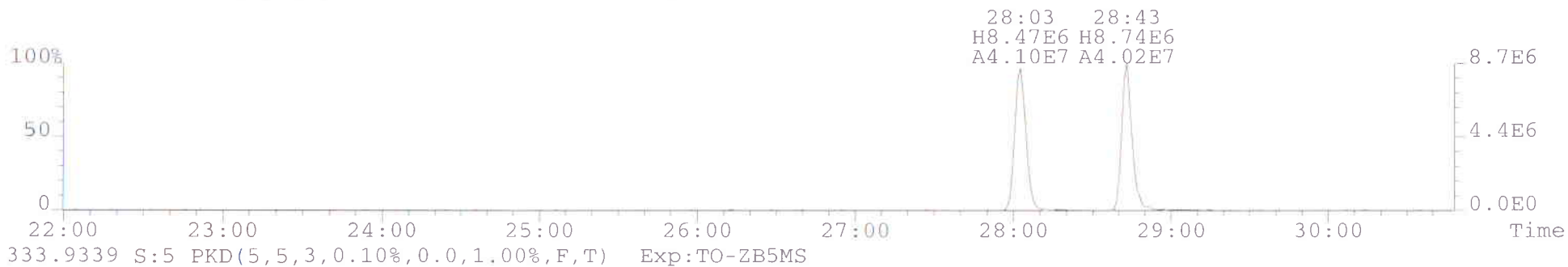
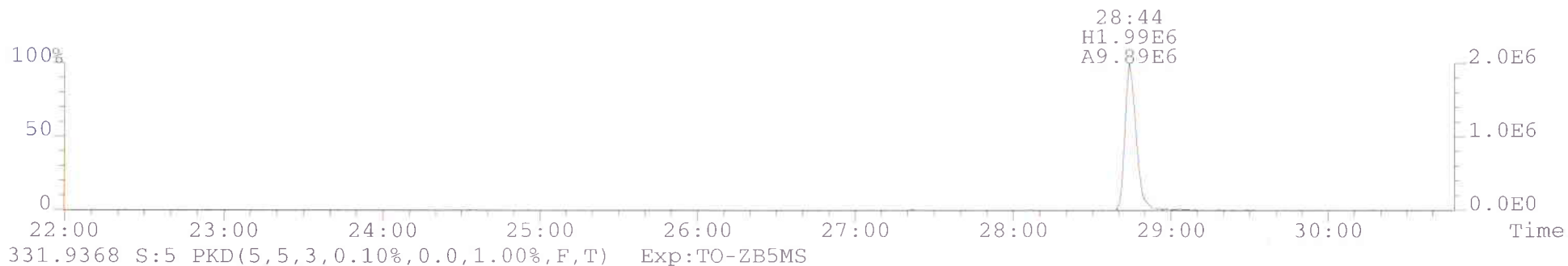
513.6775 S:4 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



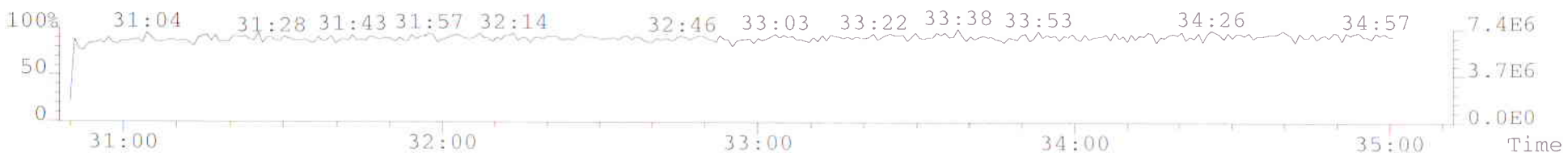
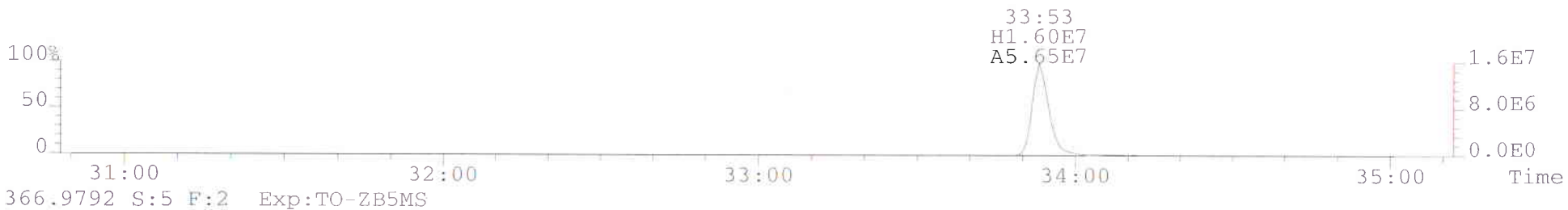
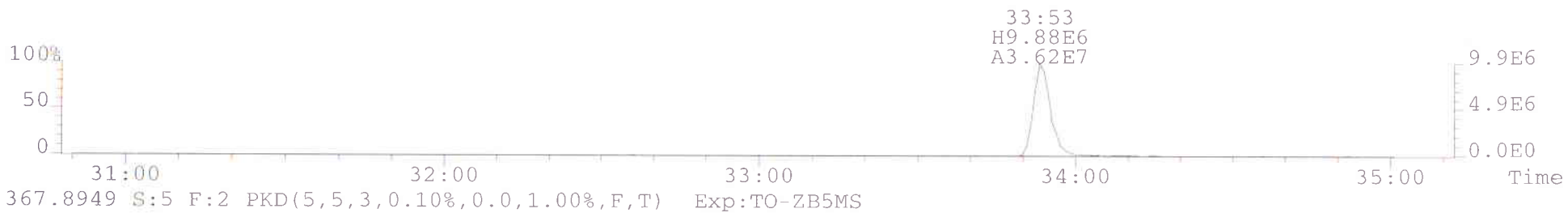
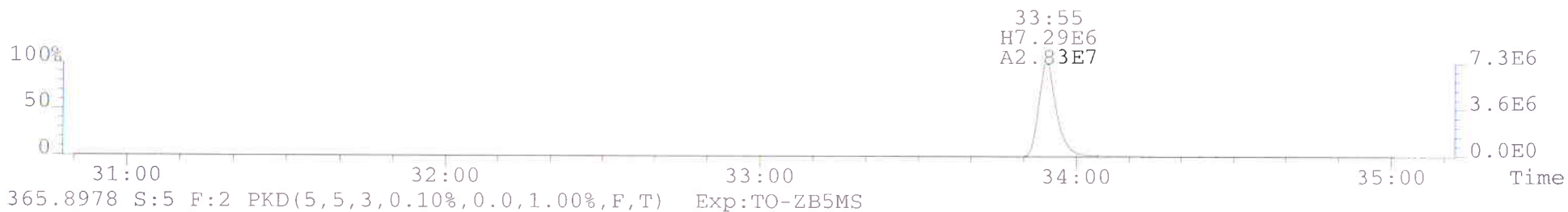
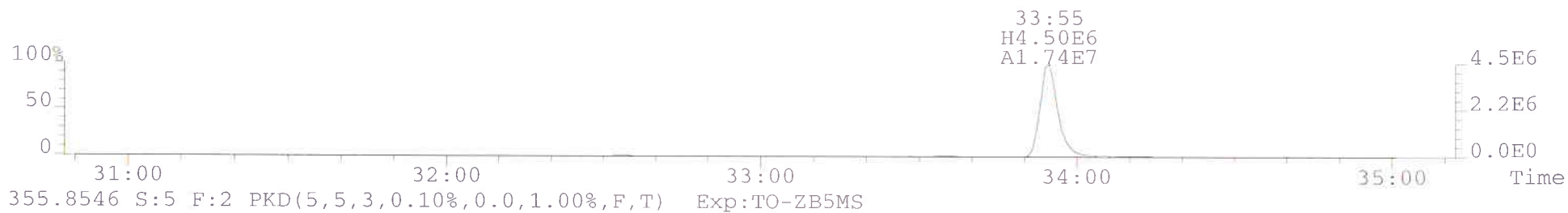
File:052213A1 #1-658 Acq:22-MAY-2013 11:32:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text:Ceres Analytical Laboratory Text:ST052213A1-4 S050913C 1613 CS3
319.8965 S:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



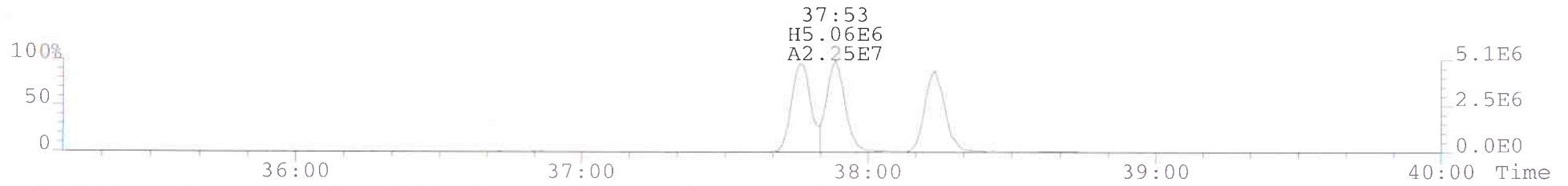
File:052213A1 #1-658 Acq:22-MAY-2013 11:32:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text:Ceres Analytical Laboratory Text:ST052213A1-4 S050913C 1613 CS3
327.8847 S:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



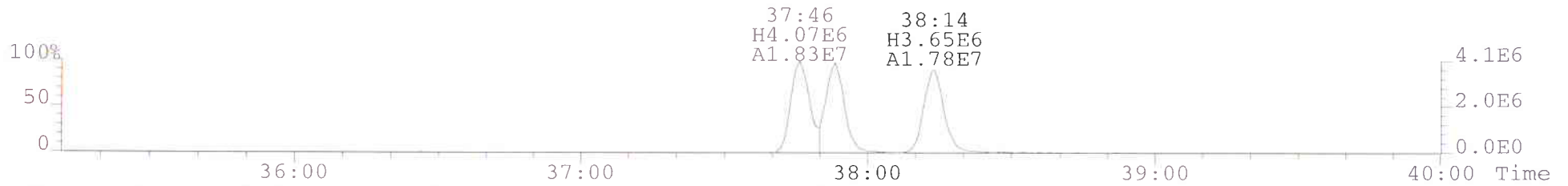
File:052213A1 #1-313 Acq:22-MAY-2013 11:32:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text:Ceres Analytical Laboratory Text:ST052213A1-4 S050913C 1613 CS3
353.8576 S:5 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



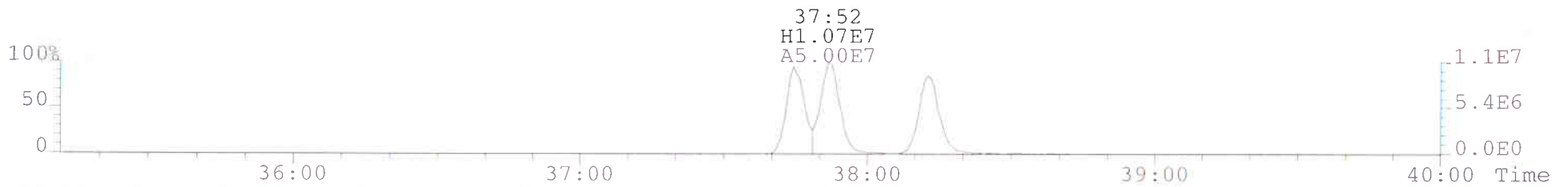
File:052213A1 #1-444 Acq:22-MAY-2013 11:32:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text:Ceres Analytical Laboratory Text:ST052213A1-4 S050913C 1613 CS3
389.8156 S:5 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



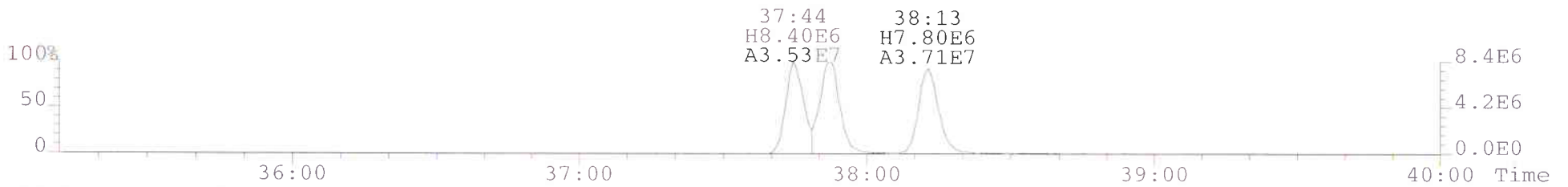
391.8127 S:5 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



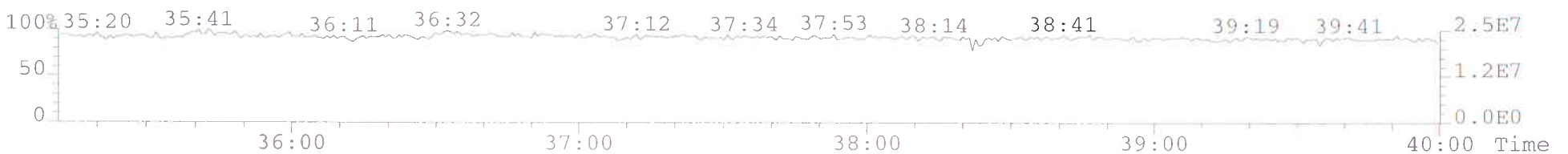
401.8559 S:5 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



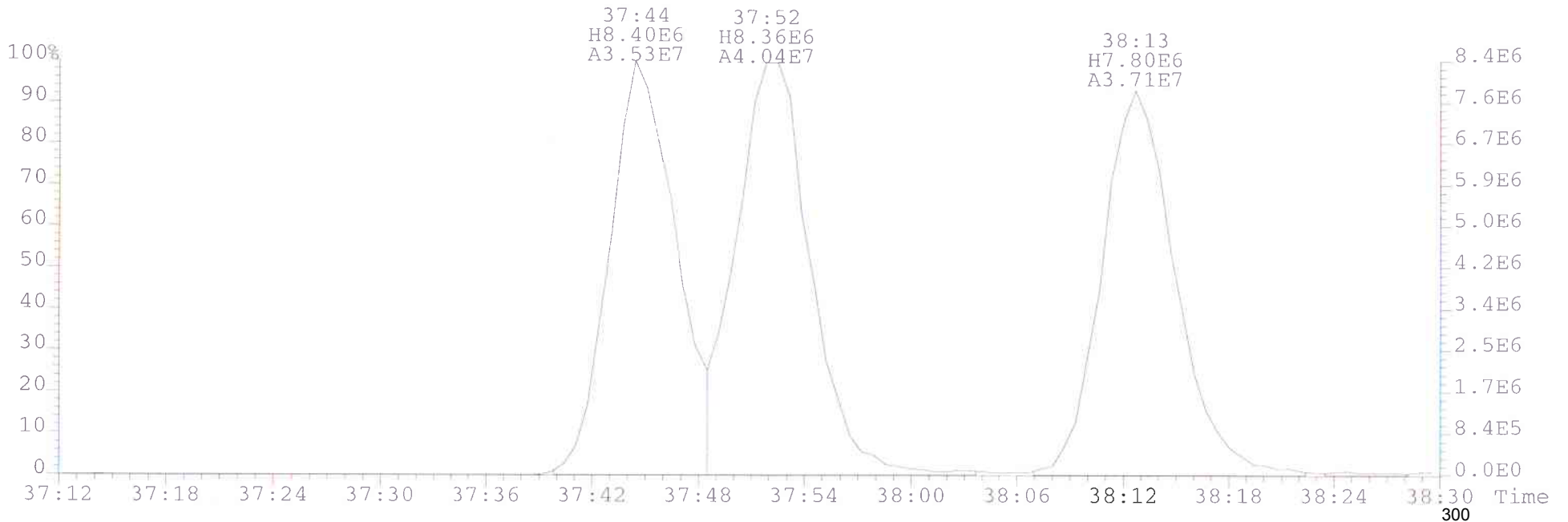
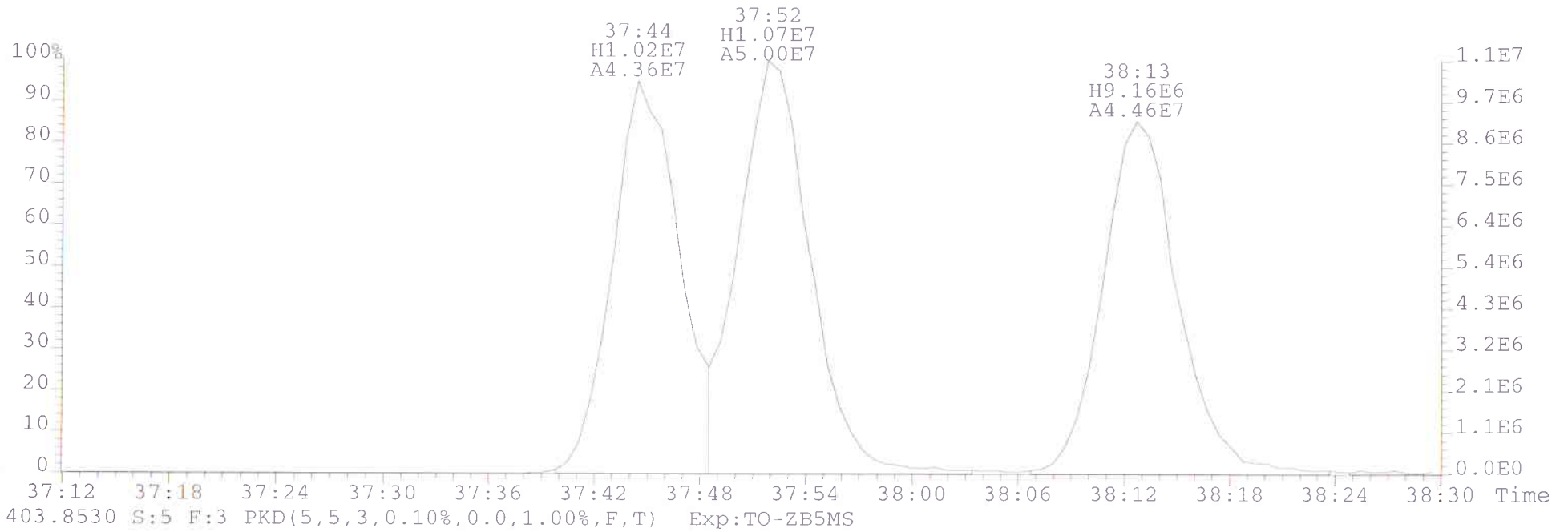
403.8530 S:5 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



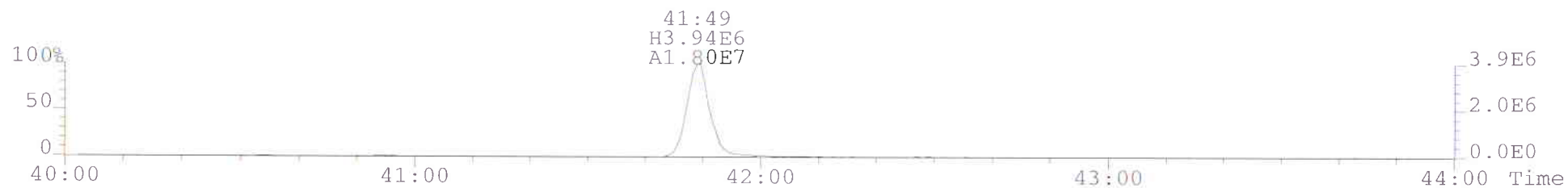
380.9760 S:5 F:3 Exp:TO-ZB5MS



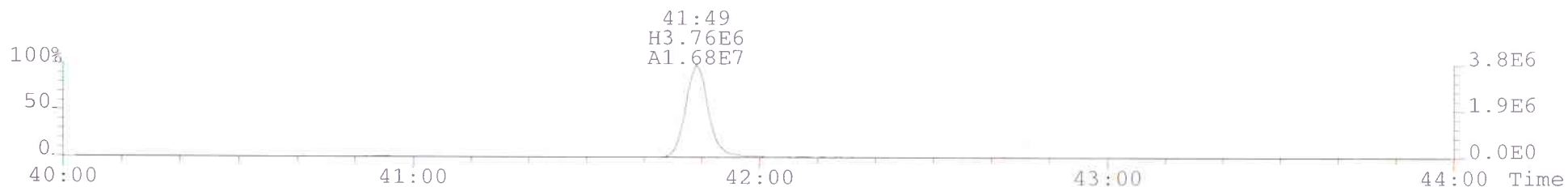
File:052213A1 #1-444 Acq:22-MAY-2013 11:32:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text:Ceres Analytical Laboratory Text:ST052213A1-4 S050913C 1613 CS3
401.8559 S:5 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



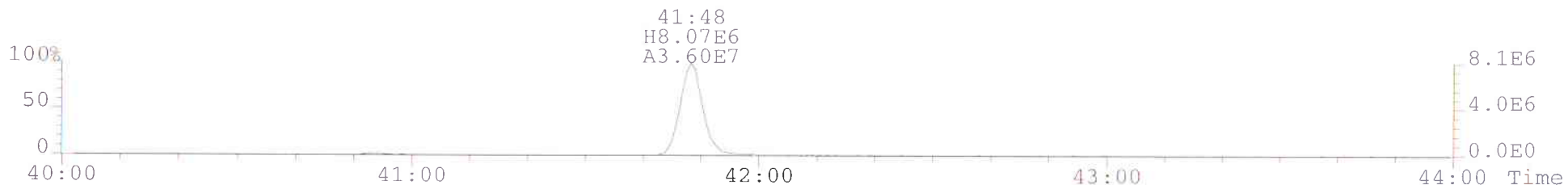
File:052213A1 #1-355 Acq:22-MAY-2013 11:32:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text:Ceres Analytical Laboratory Text:ST052213A1-4 S050913C 1613 CS3
423.7767 S:5 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



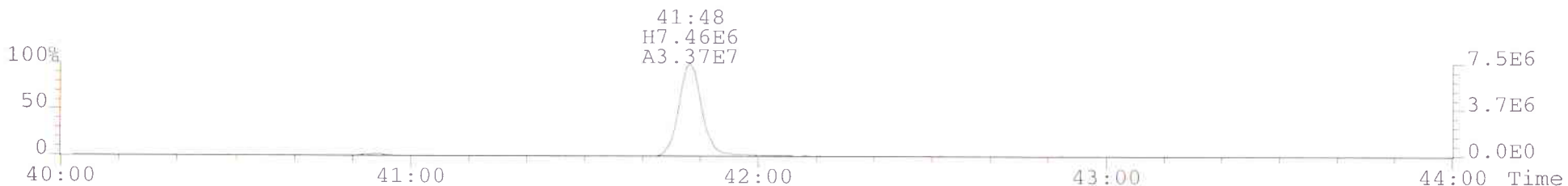
425.7737 S:5 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



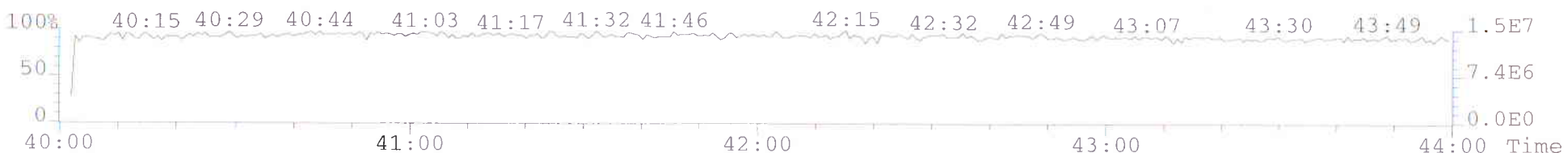
435.8169 S:5 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



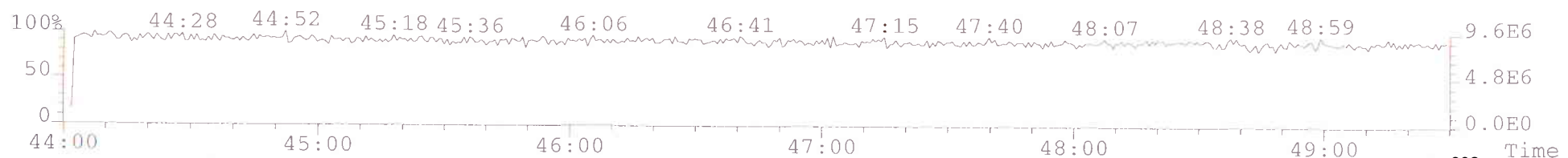
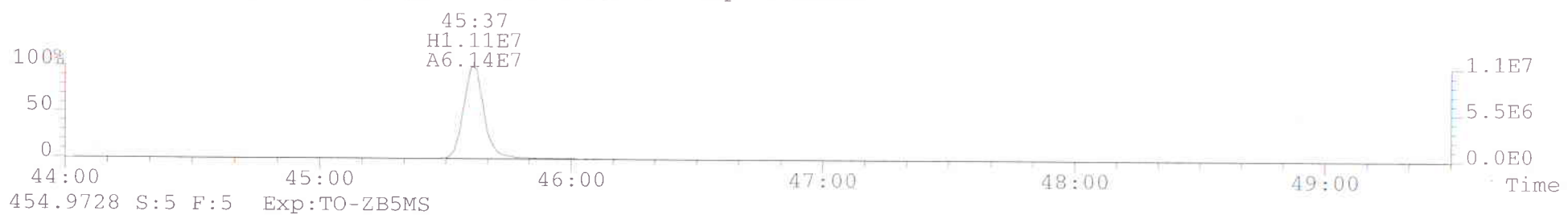
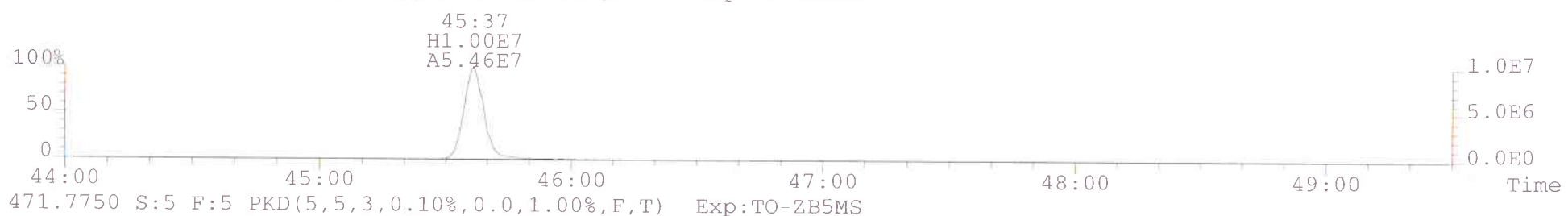
437.8140 S:5 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



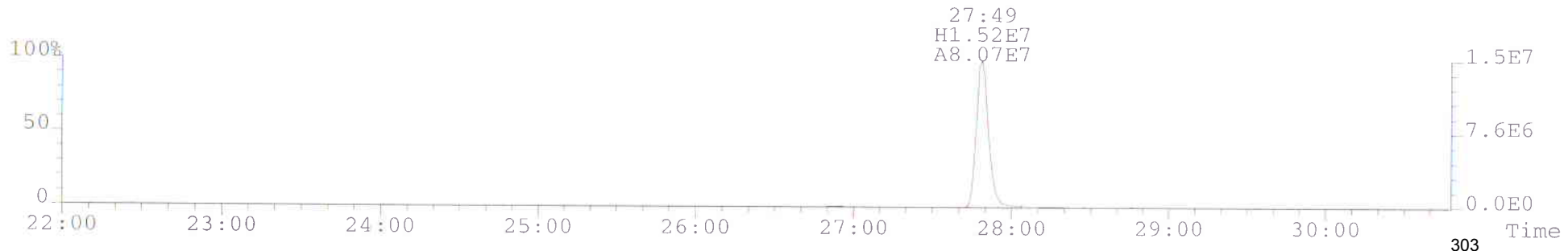
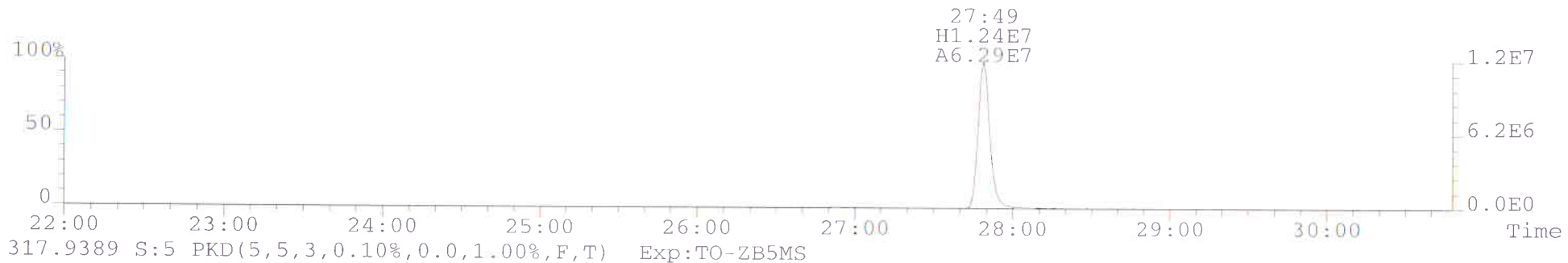
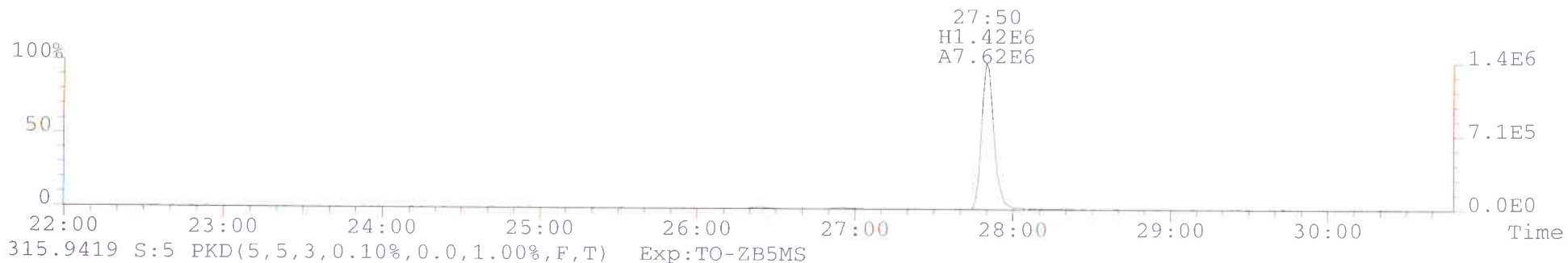
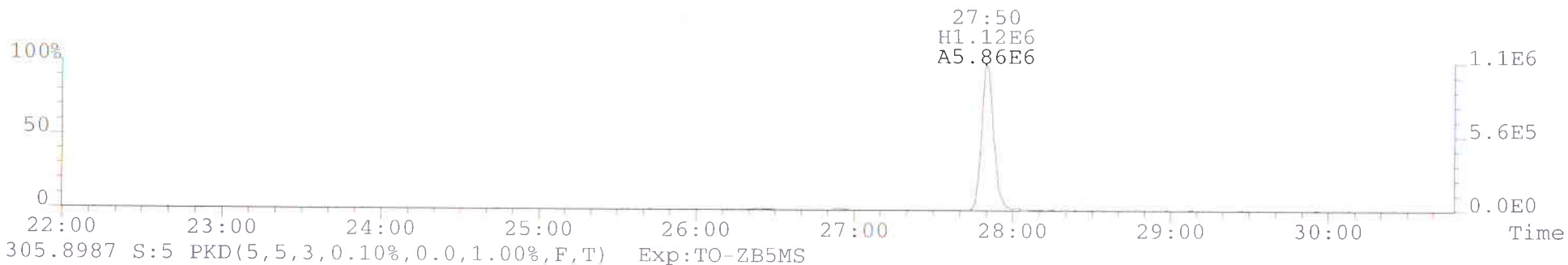
430.9728 S:5 F:4 Exp:TO-ZB5MS



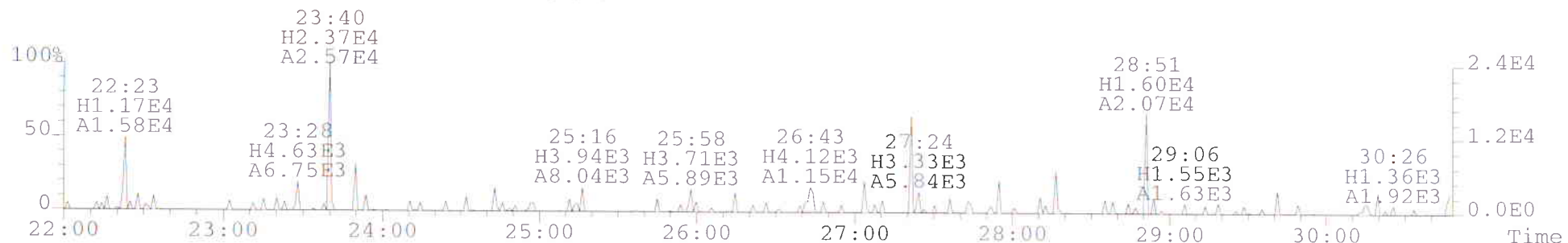
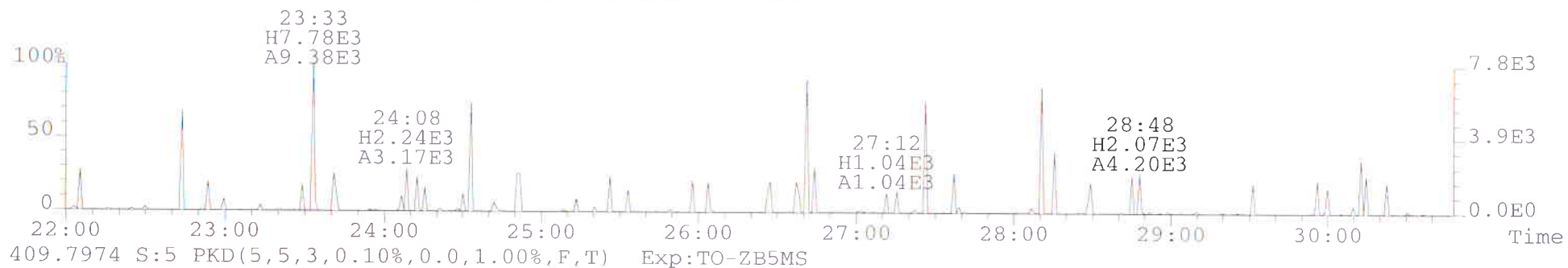
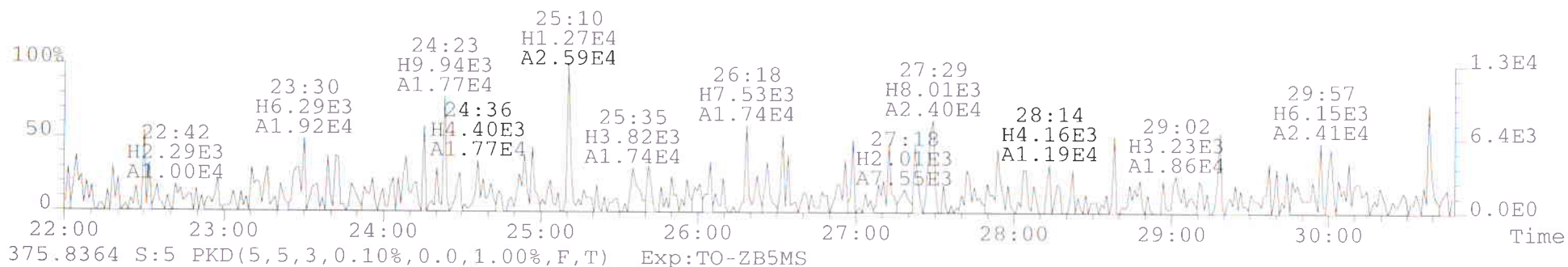
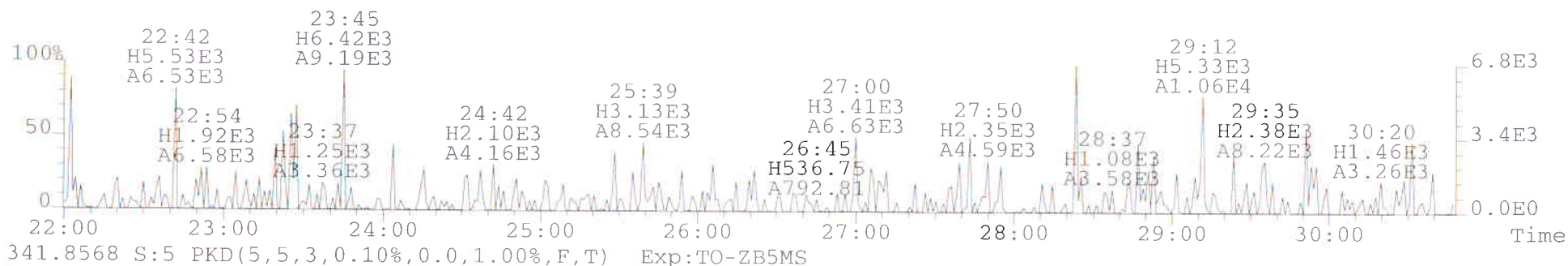
File:052213A1 #1-489 Acq:22-MAY-2013 11:32:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text:Ceres Analytical Laboratory Text:ST052213A1-4 S050913C 1613 CS3
457.7377 S:5 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



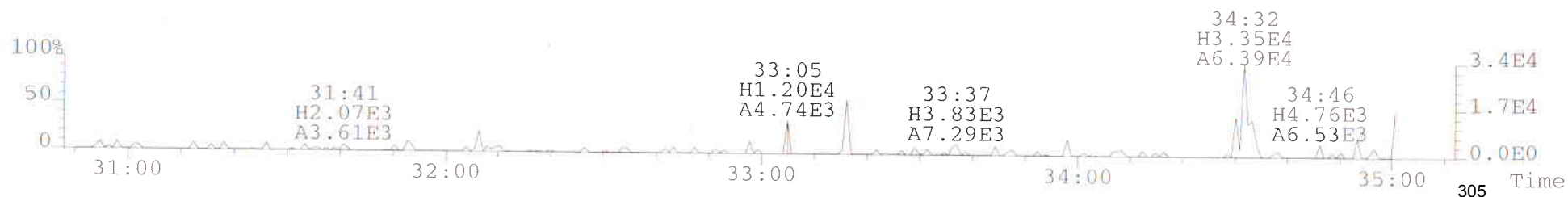
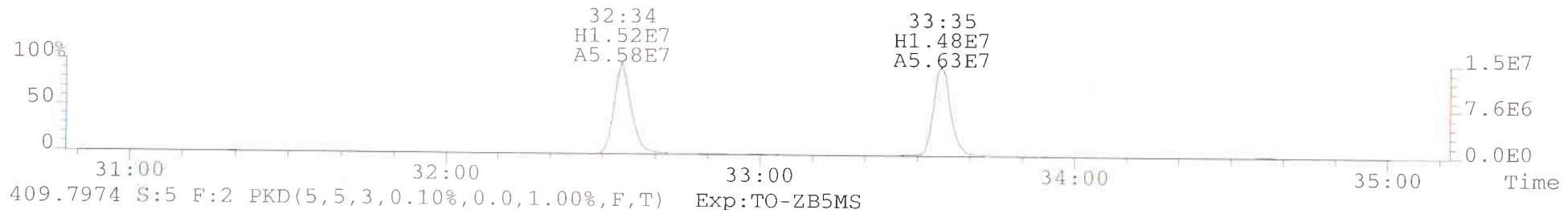
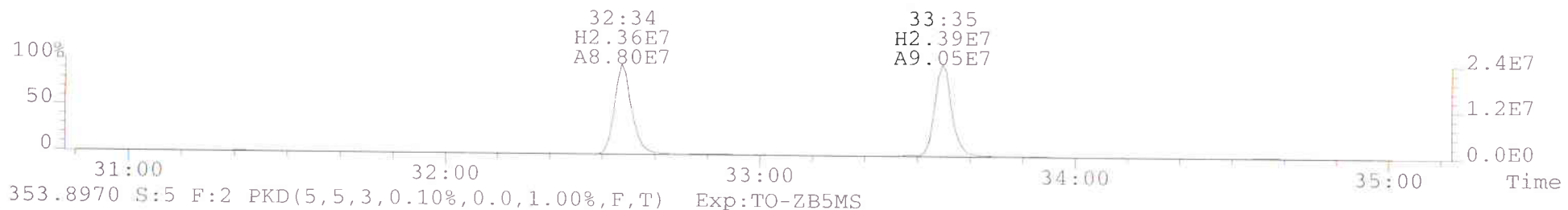
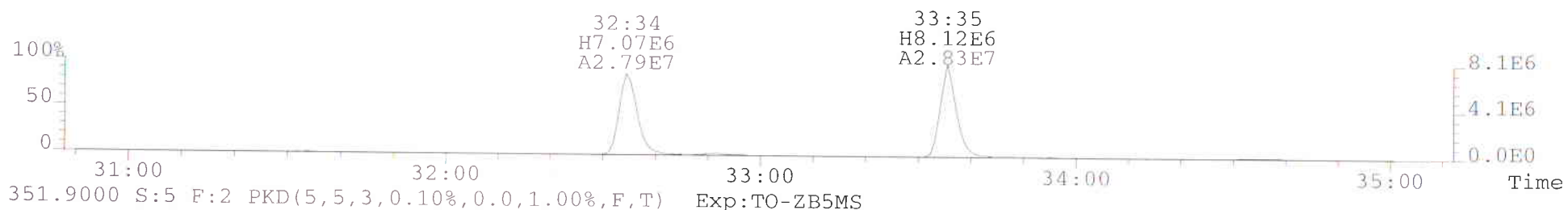
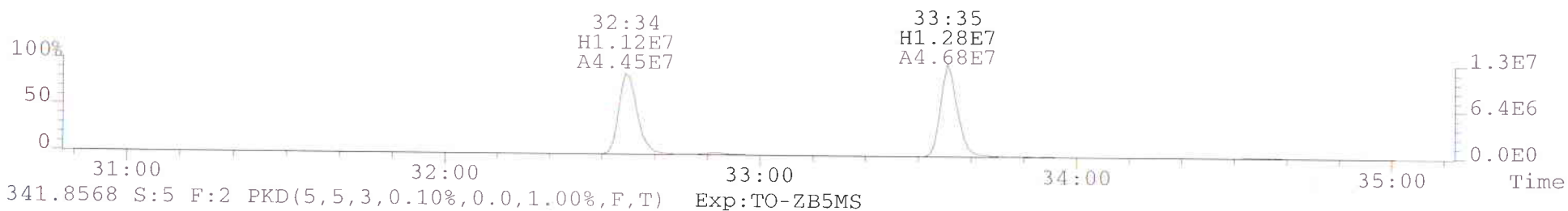
File:052213A1 #1-658 Acq:22-MAY-2013 11:32:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text:Ceres Analytical Laboratory Text:ST052213A1-4 S050913C 1613 CS3
303.9016 S:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



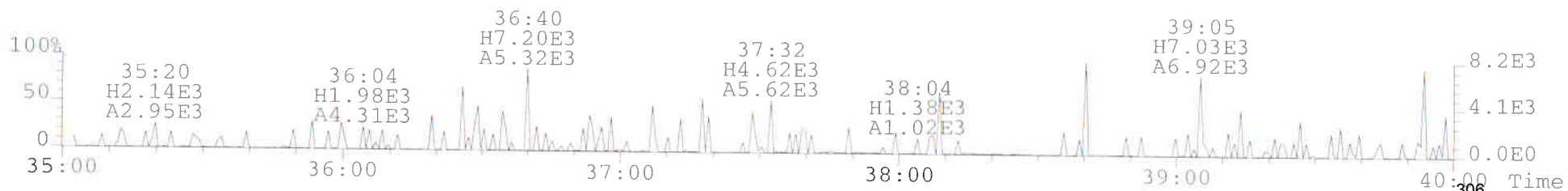
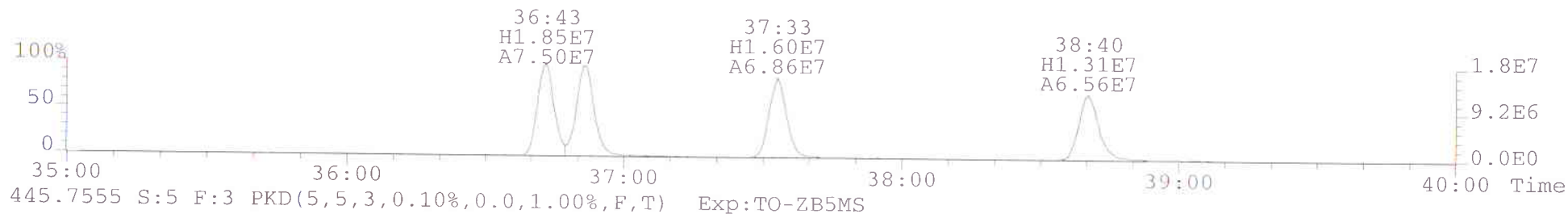
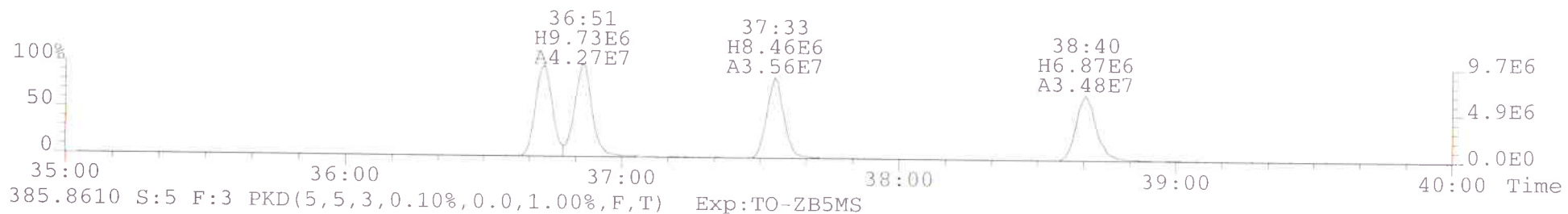
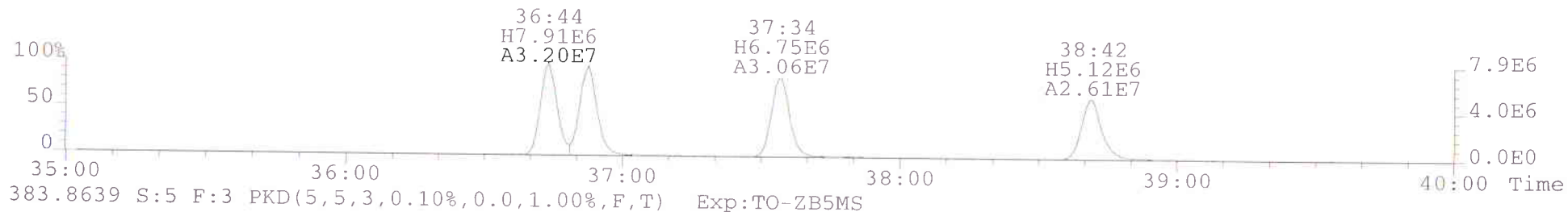
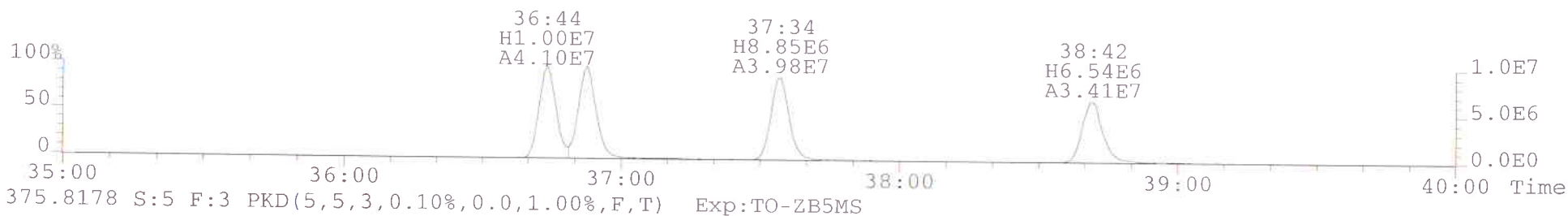
File:052213A1 #1-658 Acq:22-MAY-2013 11:32:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text:Ceres Analytical Laboratory Text:ST052213A1-4 S050913C 1613 CS3
339.8597 S:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



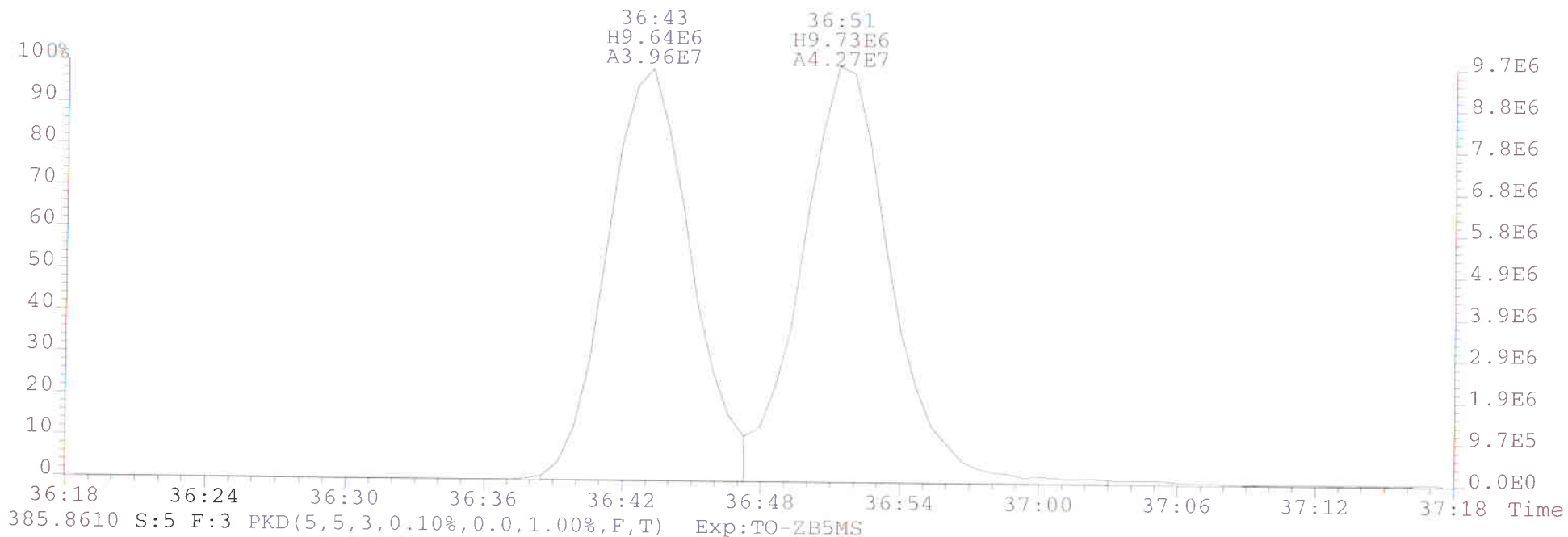
File:052213A1 #1-313 Acq:22-MAY-2013 11:32:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text:Ceres Analytical Laboratory Text:ST052213A1-4 S050913C 1613 CS3
339.8597 S:5 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



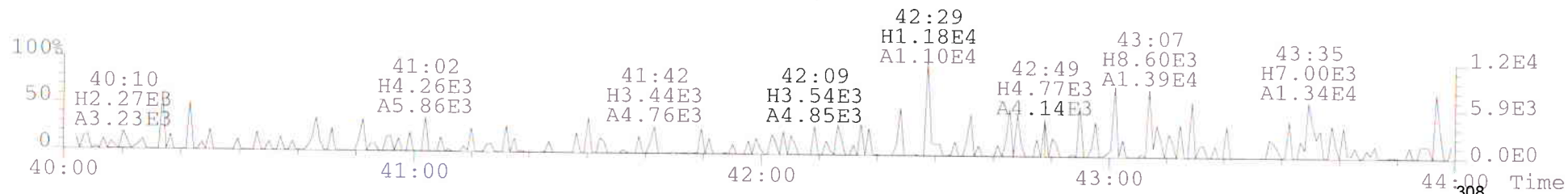
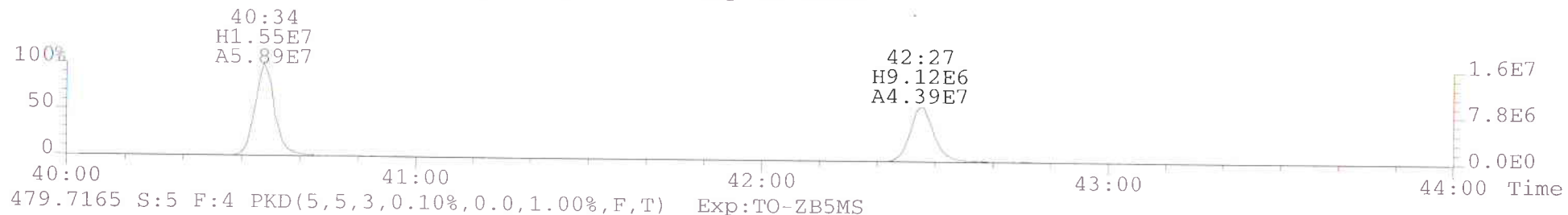
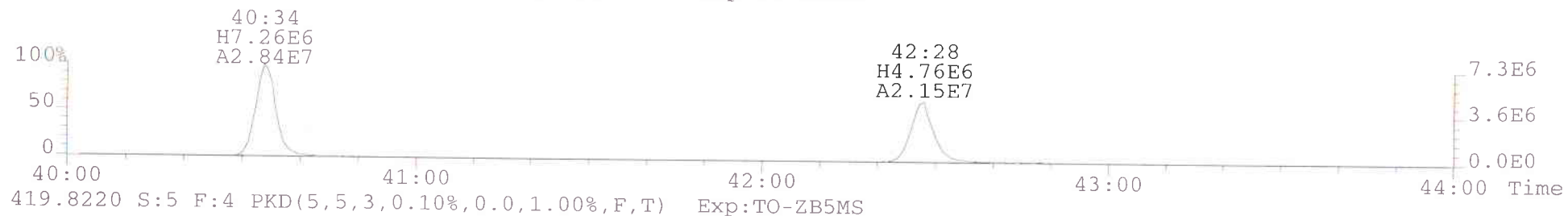
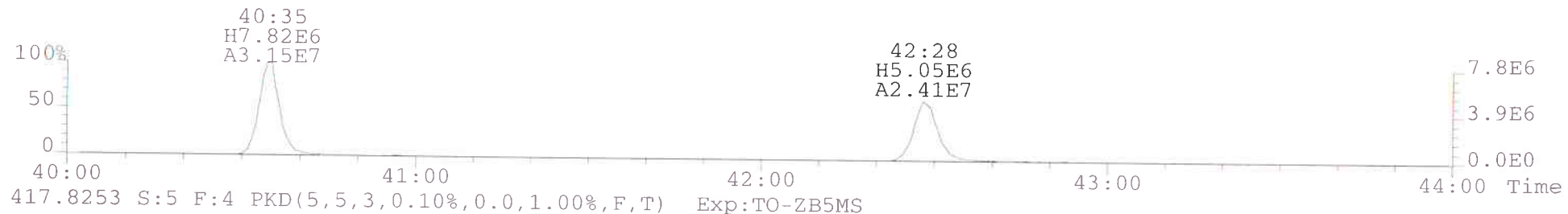
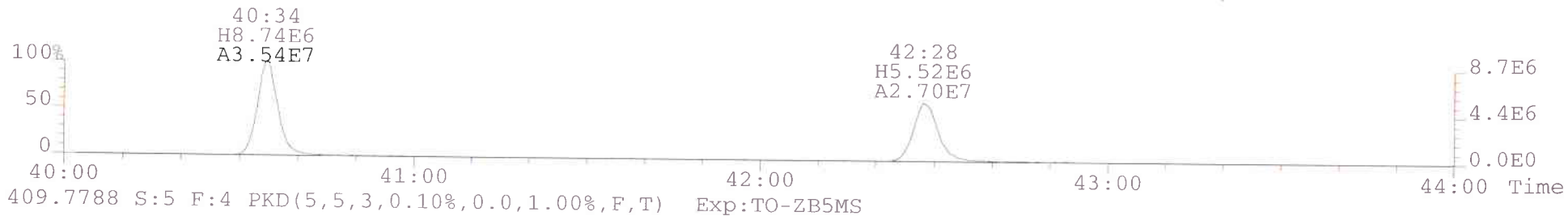
File:052213A1 #1-444 Acq:22-MAY-2013 11:32:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text:Ceres Analytical Laboratory Text:ST052213A1-4 S050913C 1613 CS3
373.8207 S:5 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



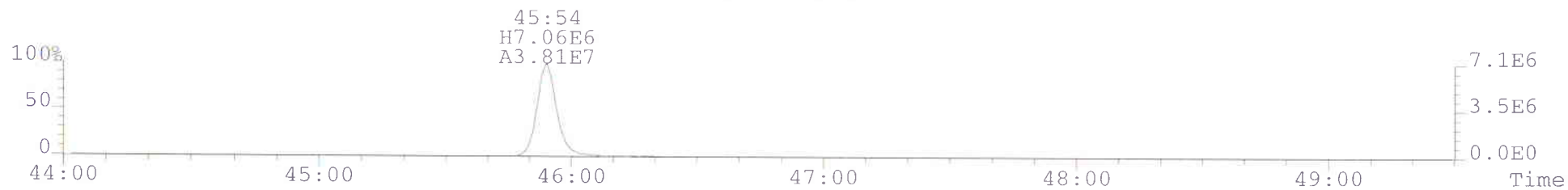
File:052213A1 #1-444 Acq:22-MAY-2013 11:32:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text:Ceres Analytical Laboratory Text:ST052213A1-4 S050913C 1613 CS3
383.8639 S:5 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



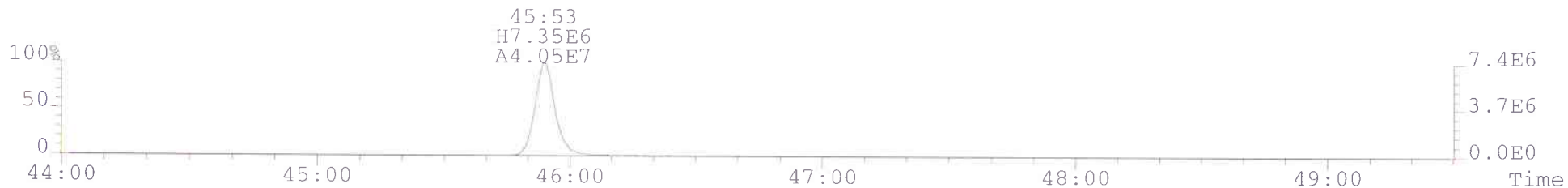
File:052213A1 #1-355 Acq:22-MAY-2013 11:32:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text:Ceres Analytical Laboratory Text:ST052213A1-4 S050913C 1613 CS3
407.7818 S:5 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



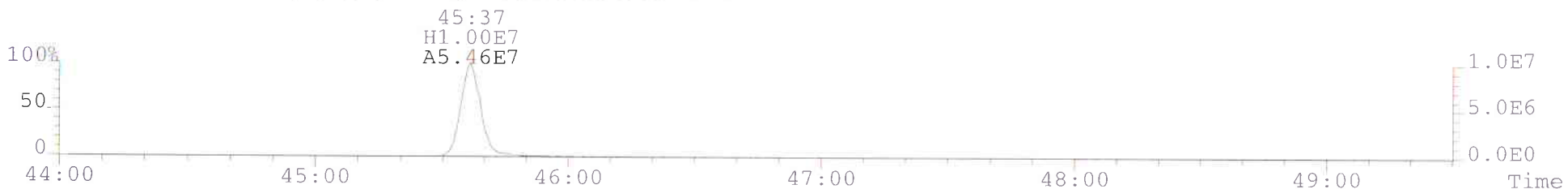
File:052213A1 #1-489 Acq:22-MAY-2013 11:32:08 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text:Ceres Analytical Laboratory Text:ST052213A1-4 S050913C 1613 CS3
441.7428 S:5 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



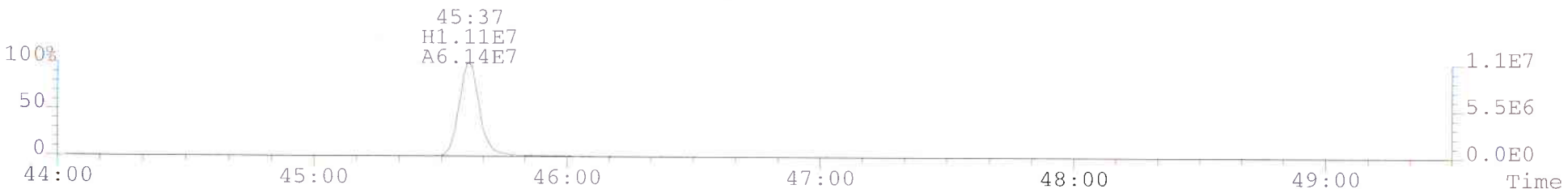
443.7398 S:5 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



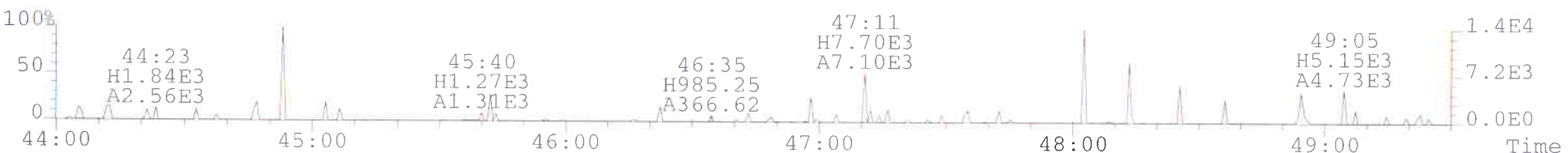
469.7780 S:5 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



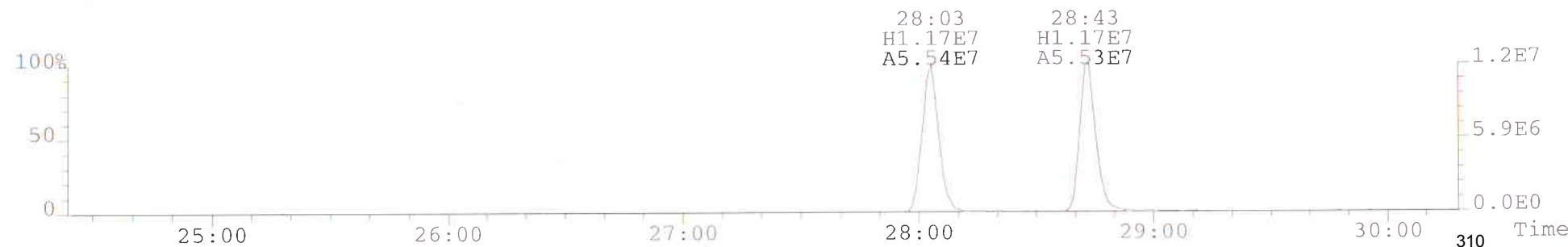
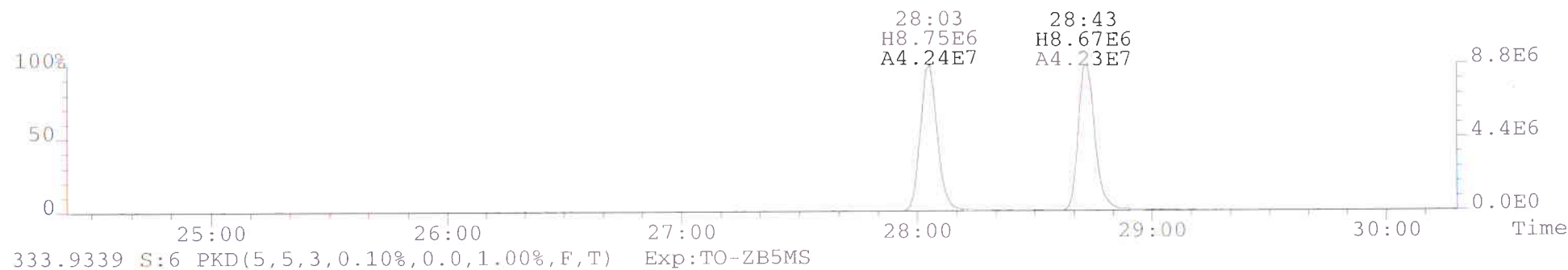
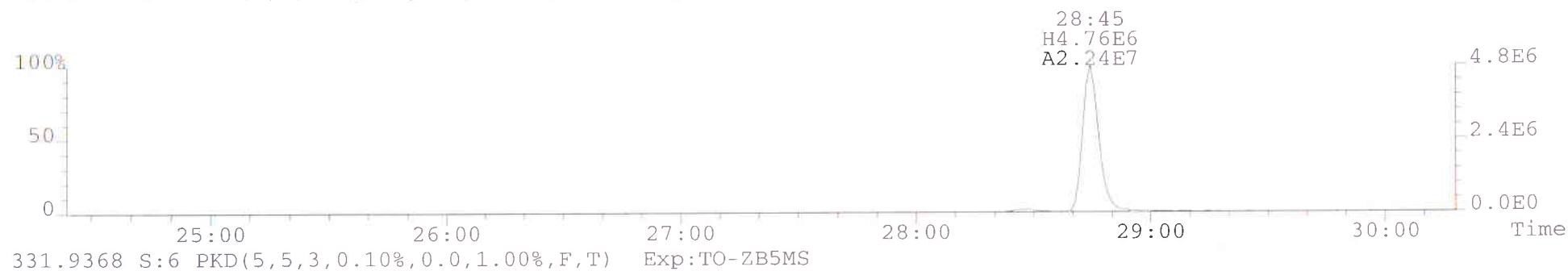
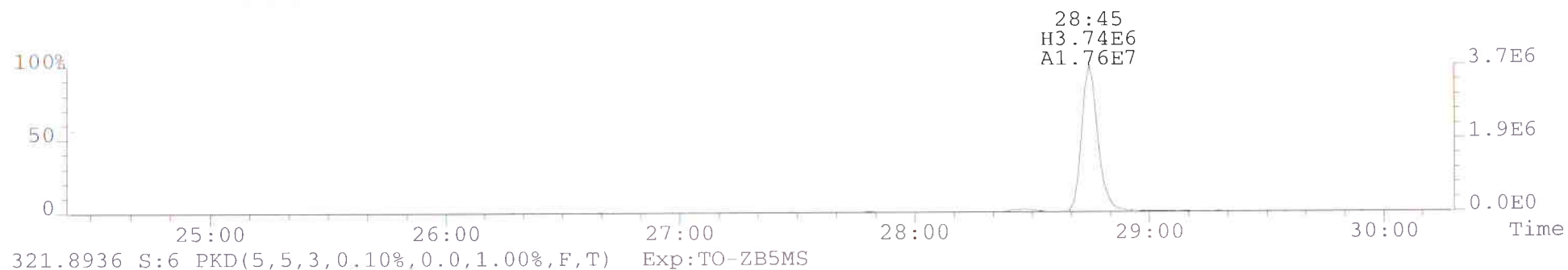
471.7750 S:5 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



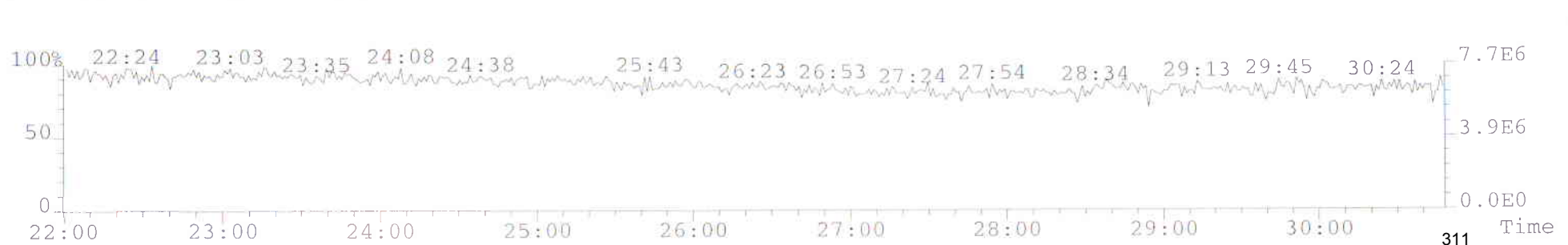
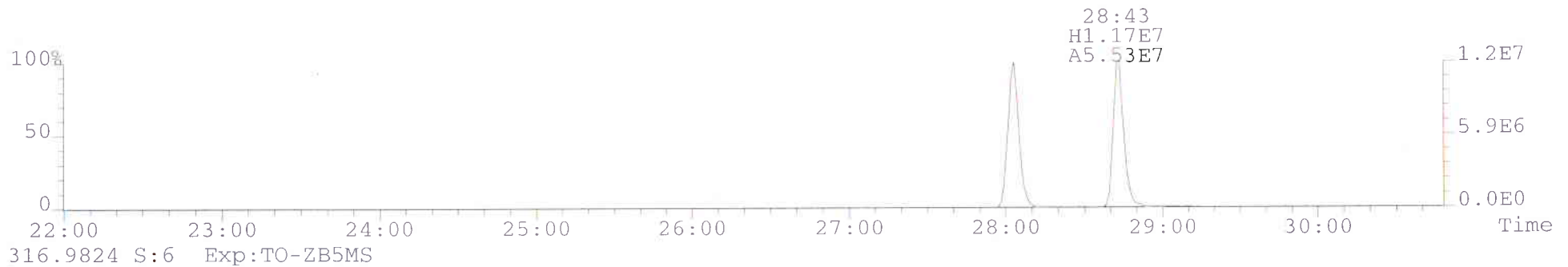
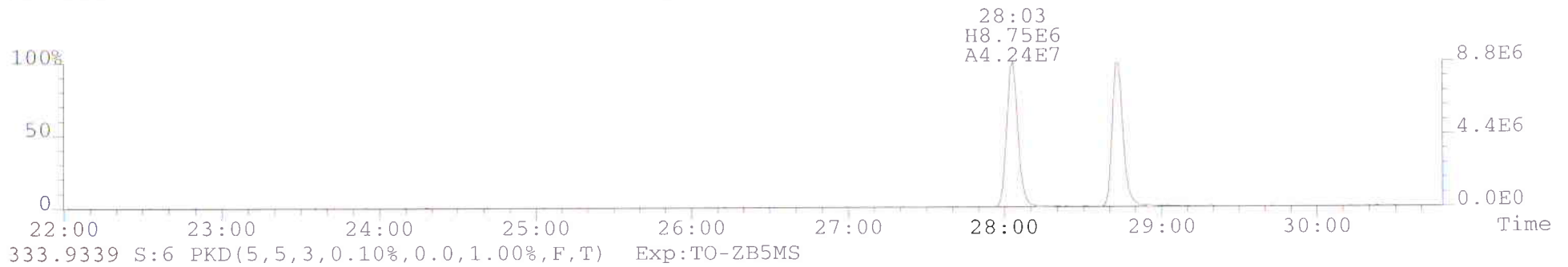
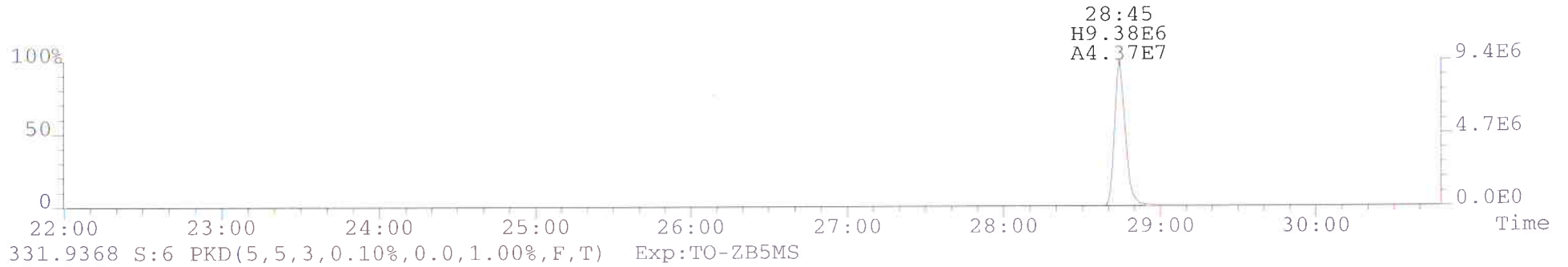
513.6775 S:5 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



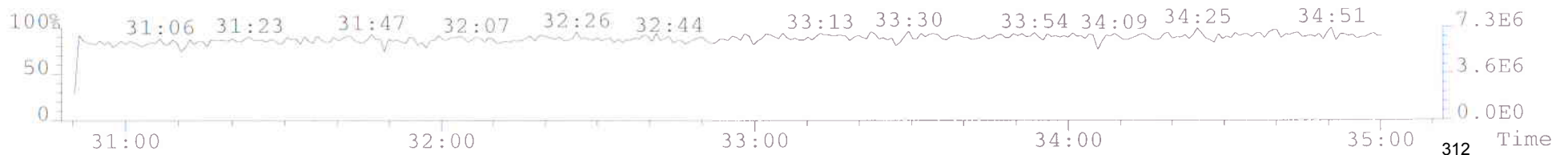
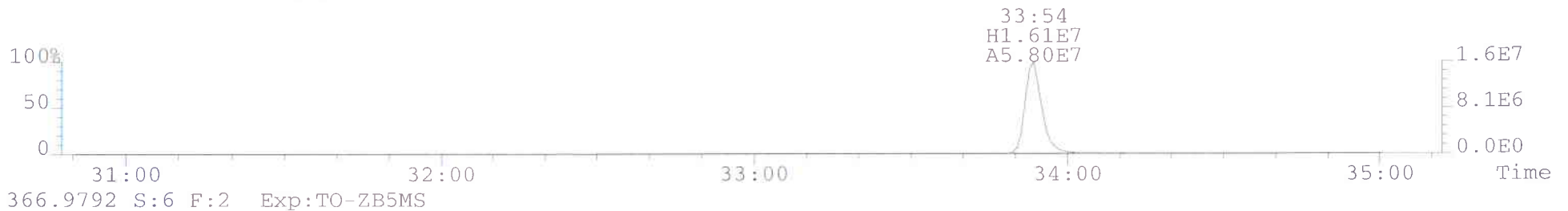
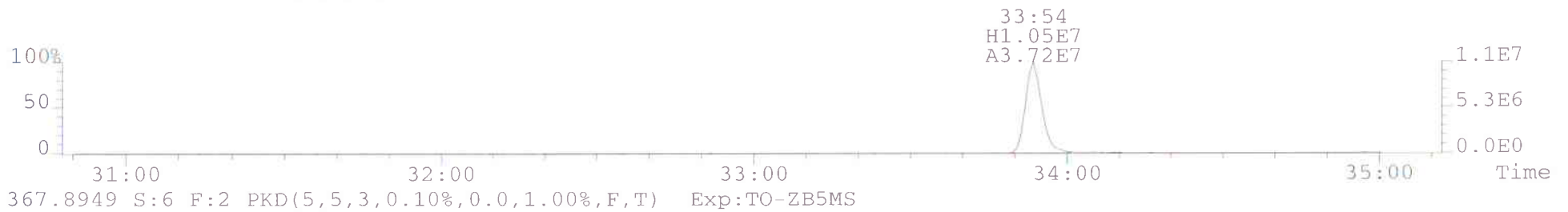
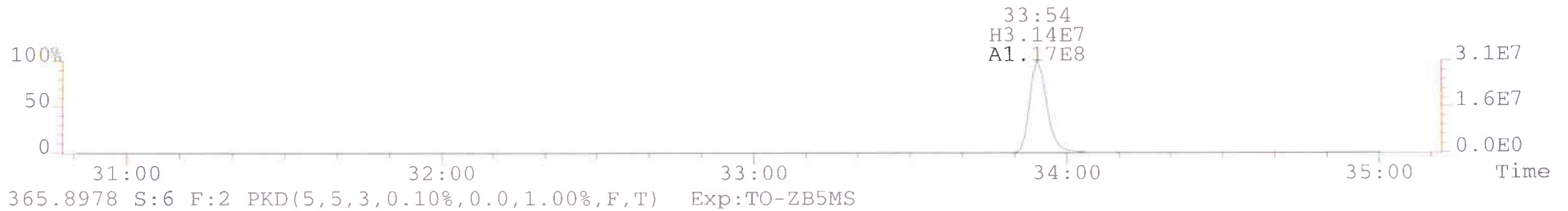
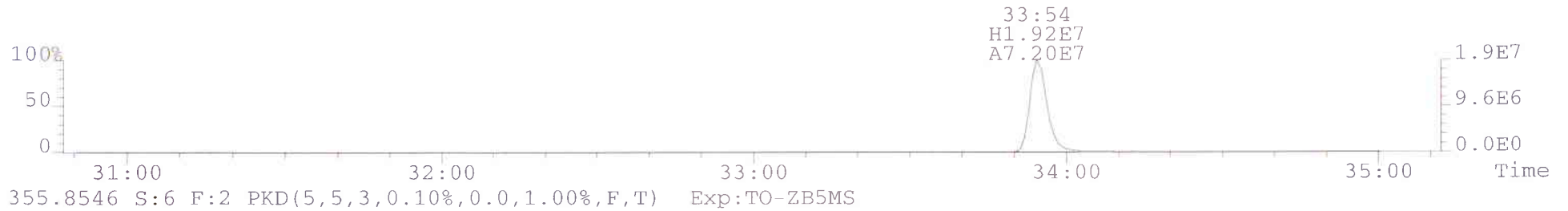
File:052213A1 #1-658 Acq:22-MAY-2013 12:25:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST052213A1-5 S050913D 1613 CS4
319.8965 S:6 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



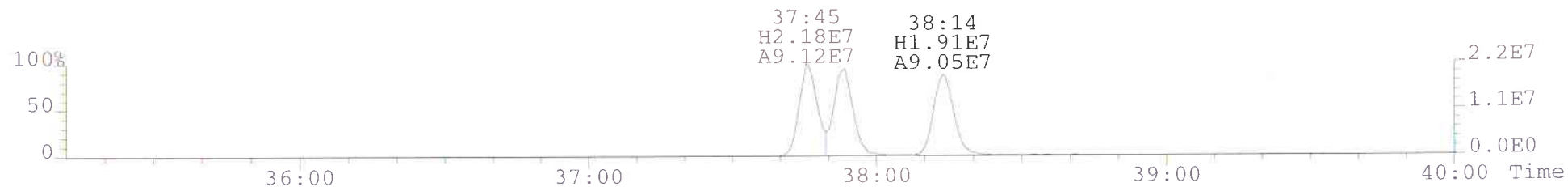
File:052213A1 #1-658 Acq:22-MAY-2013 12:25:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST052213A1-5 S050913D 1613 CS4
327.8847 S:6 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



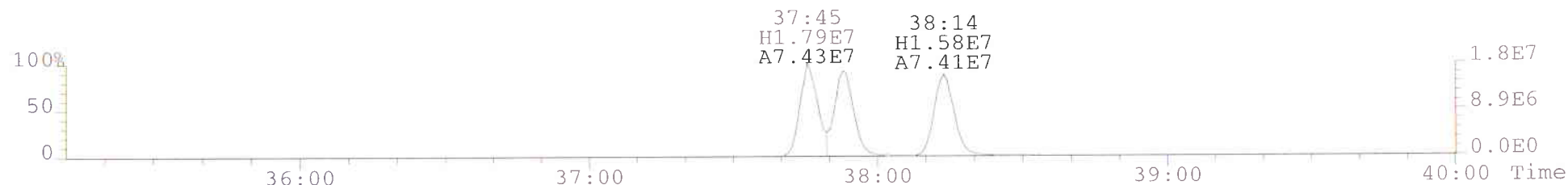
File:052213A1 #1-312 Acq:22-MAY-2013 12:25:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST052213A1-5 S050913D 1613 CS4
353.8576 S:6 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



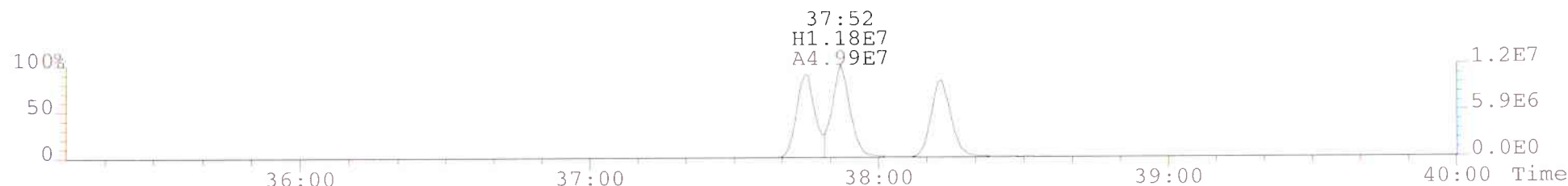
File:052213A1 #1-445 Acq:22-MAY-2013 12:25:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST052213A1-5 S050913D 1613 CS4
389.8156 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



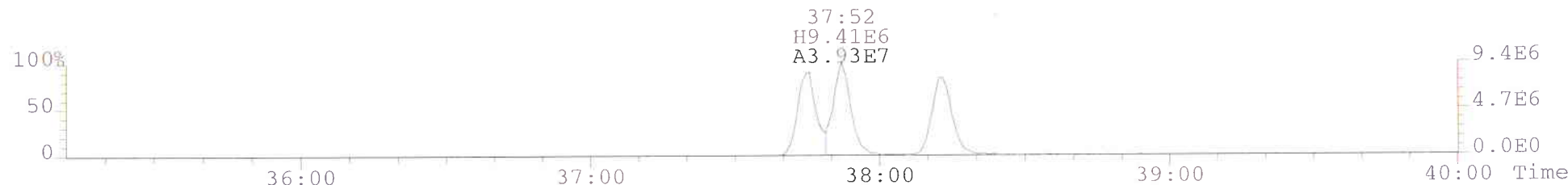
391.8127 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



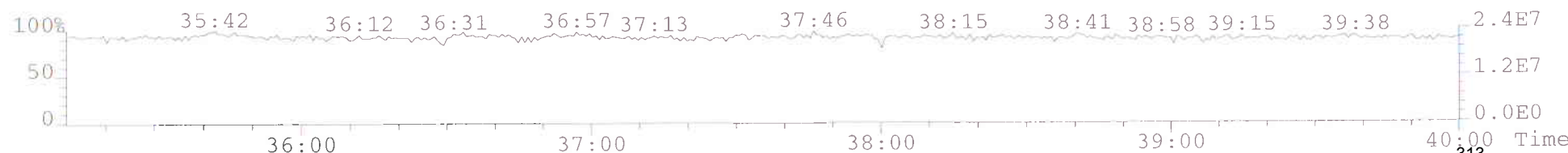
401.8559 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



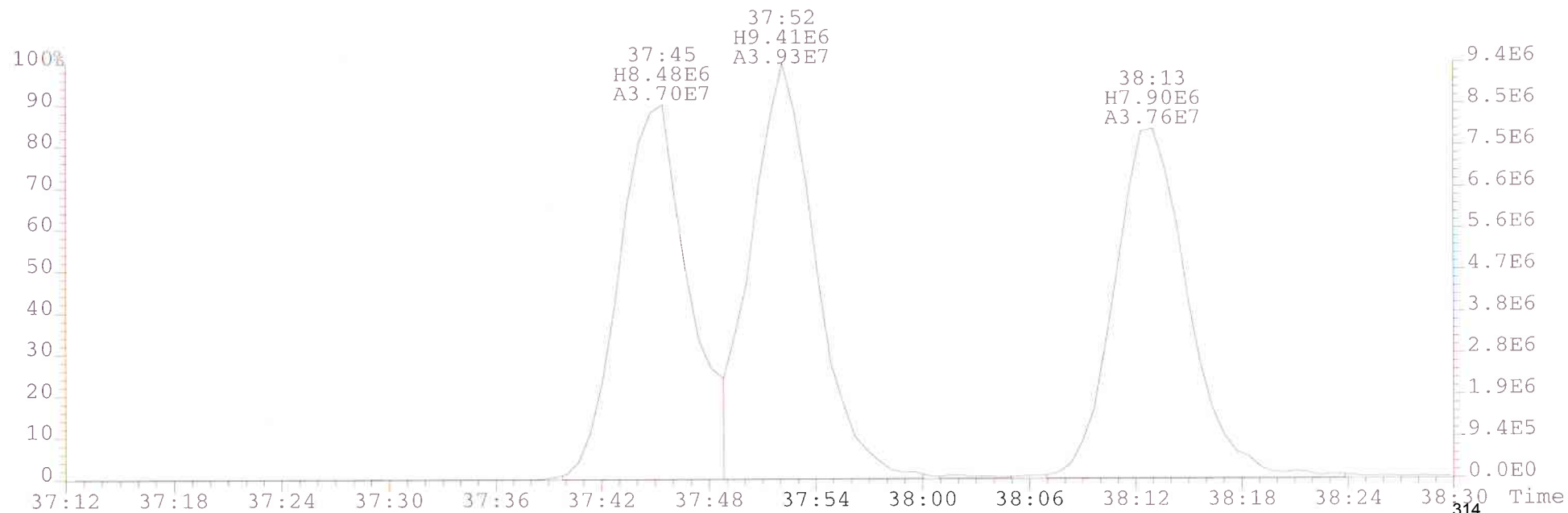
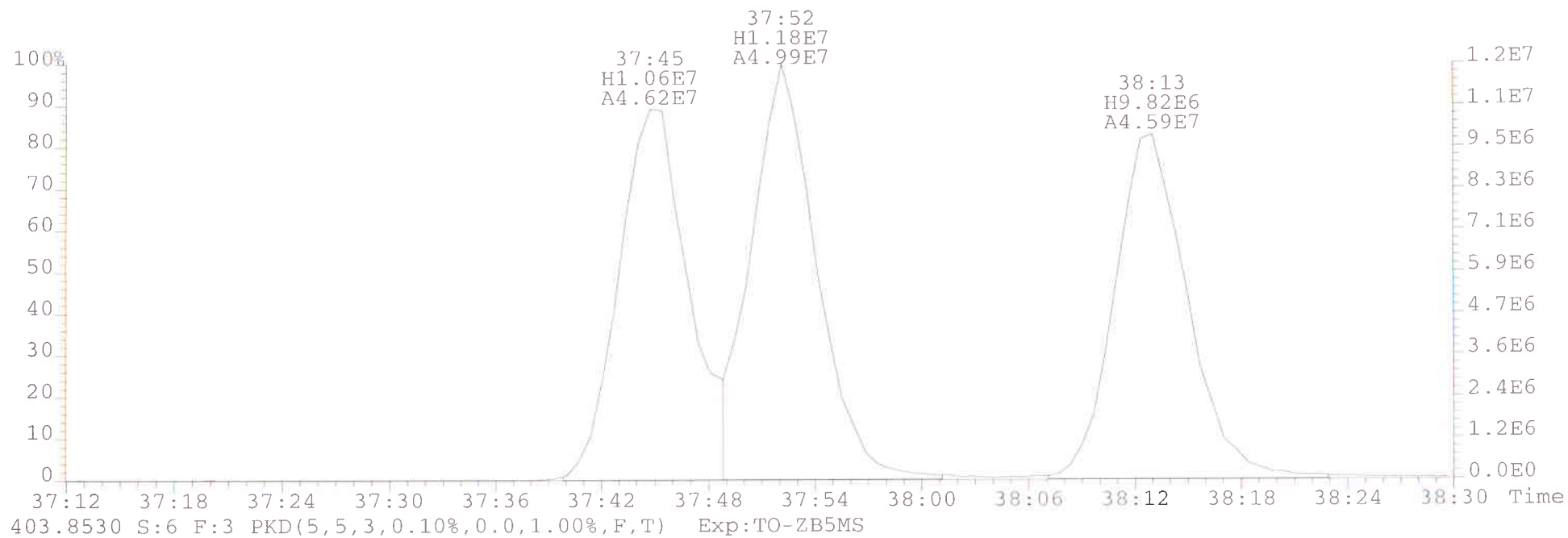
403.8530 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



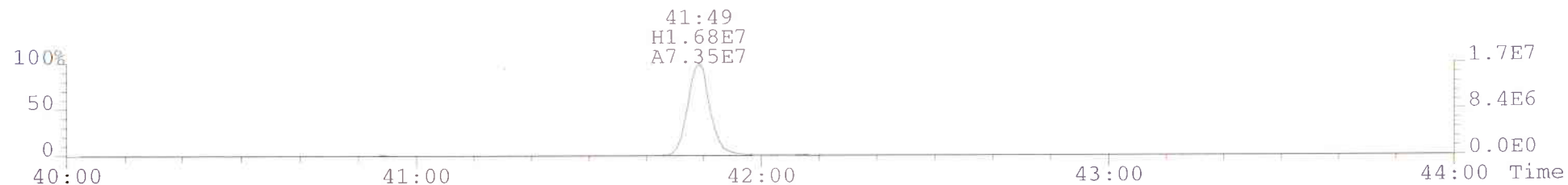
380.9760 S:6 F:3 Exp:TO-ZB5MS



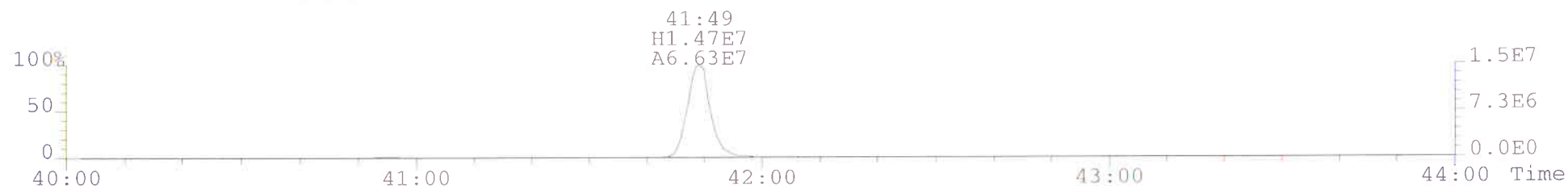
File:052213A1 #1-445 Acq:22-MAY-2013 12:25:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST052213A1-5 S050913D 1613 CS4
401.8559 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



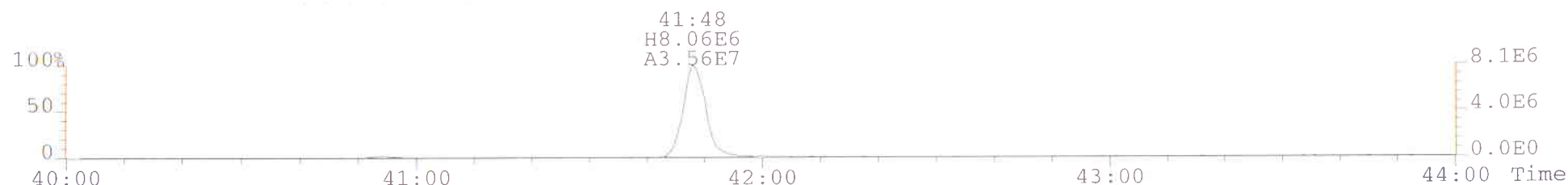
File:052213A1 #1-355 Acq:22-MAY-2013 12:25:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST052213A1-5 S050913D 1613 CS4
423.7767 S:6 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



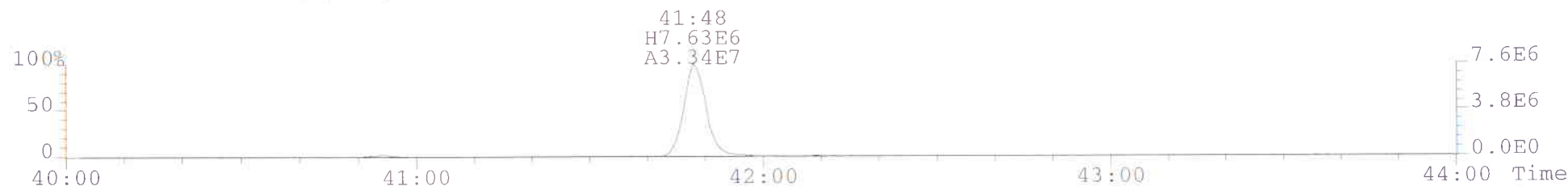
425.7737 S:6 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



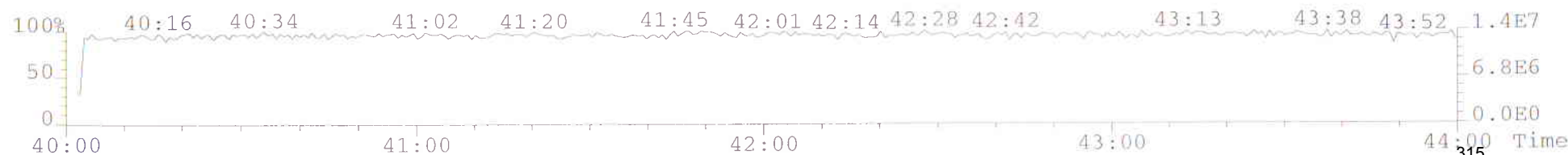
435.8169 S:6 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



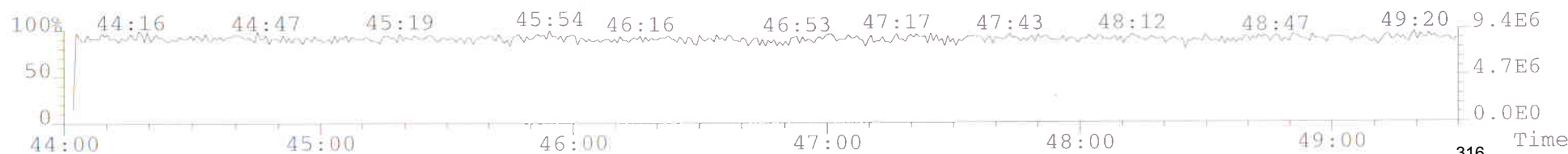
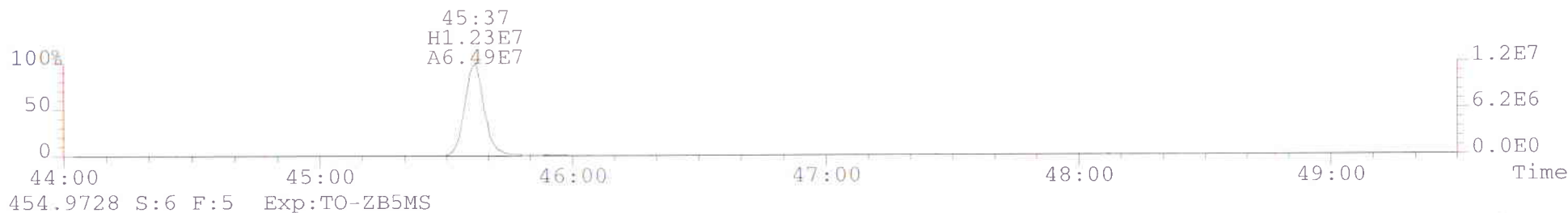
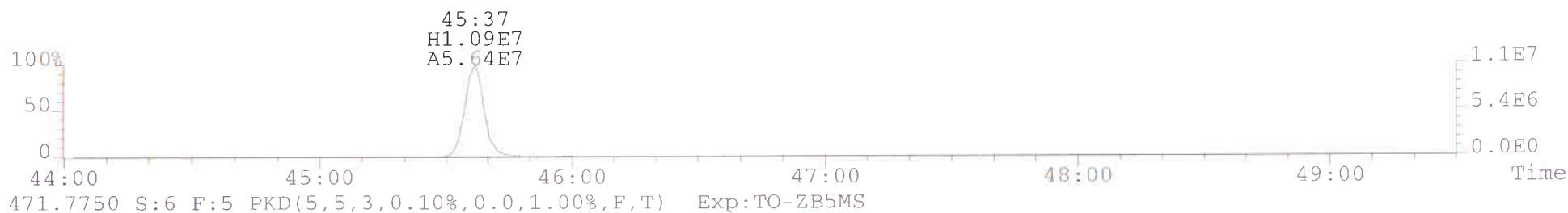
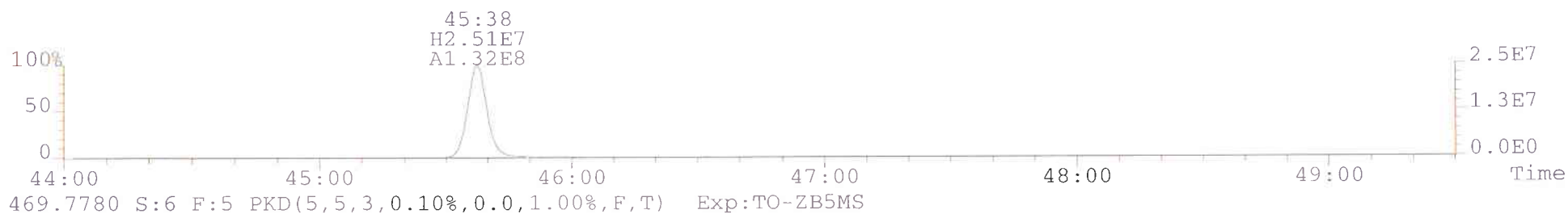
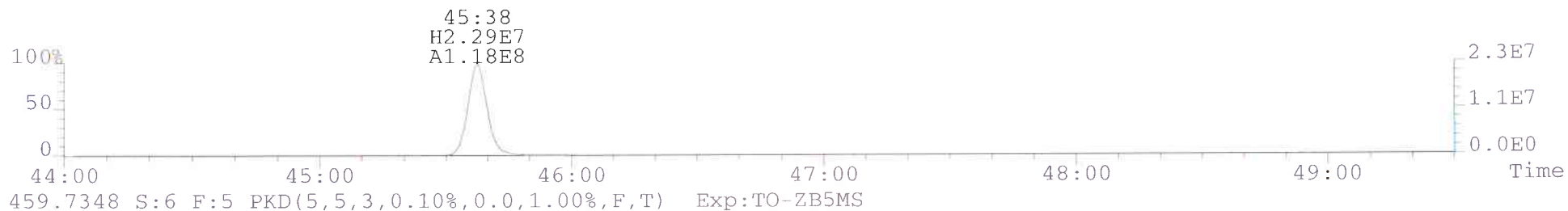
437.8140 S:6 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



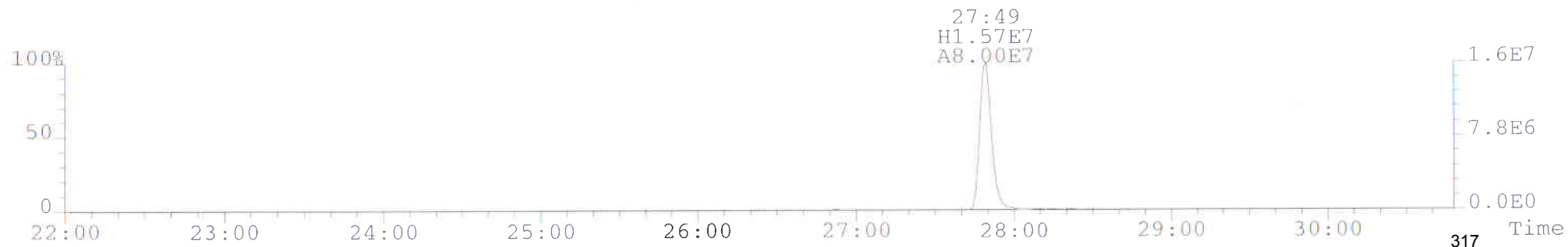
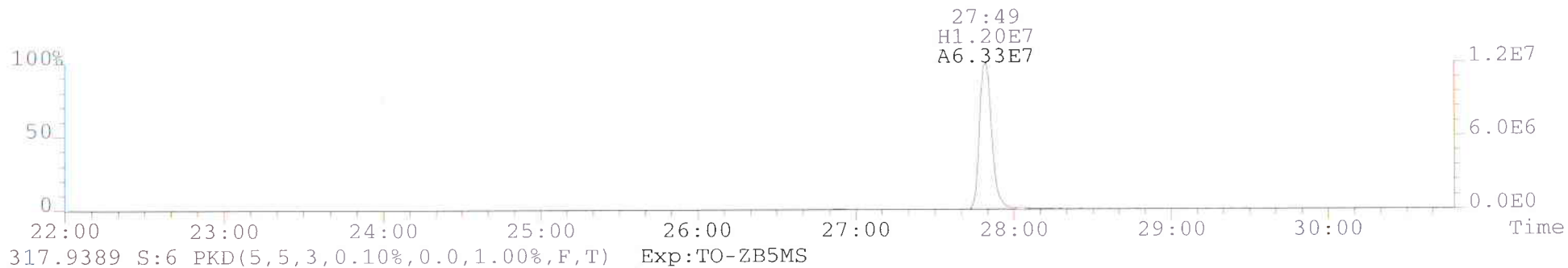
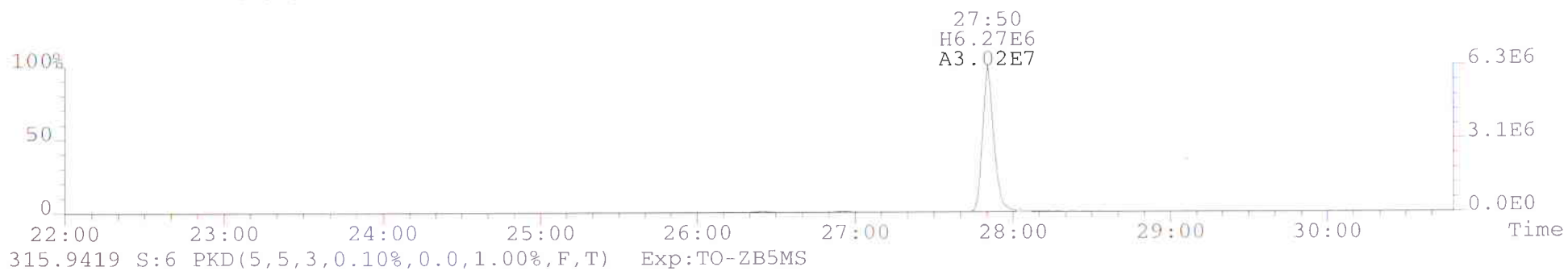
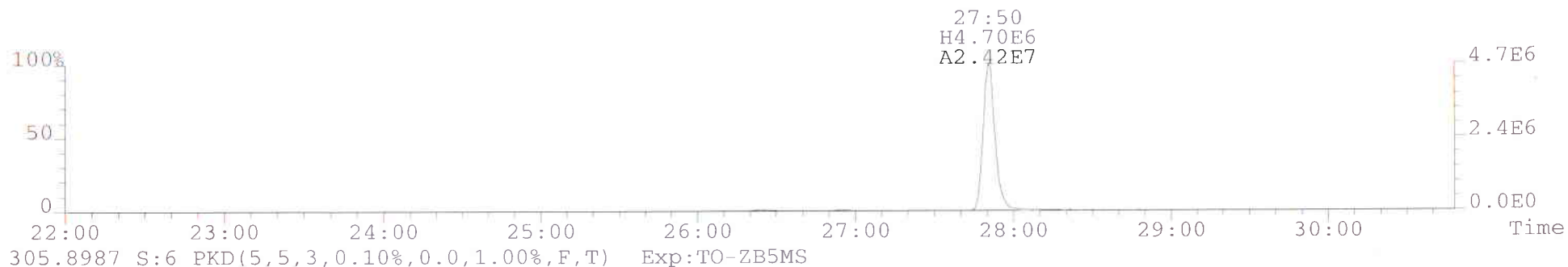
430.9728 S:6 F:4 Exp:TO-ZB5MS



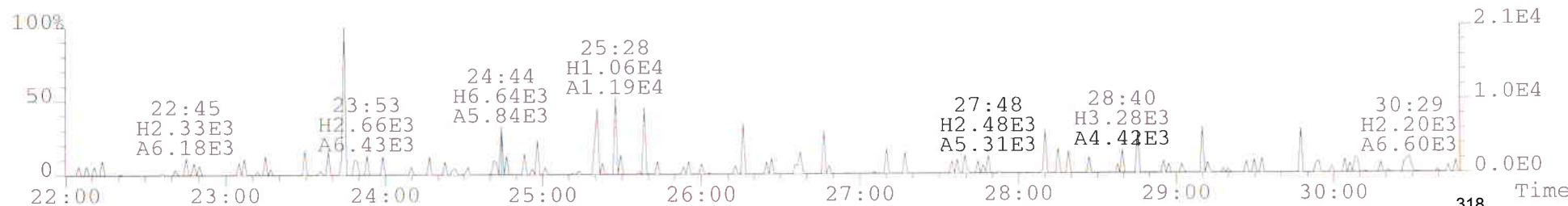
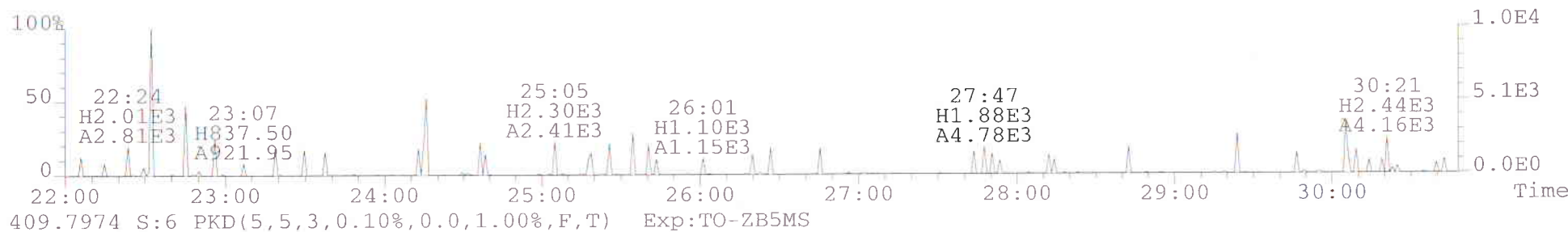
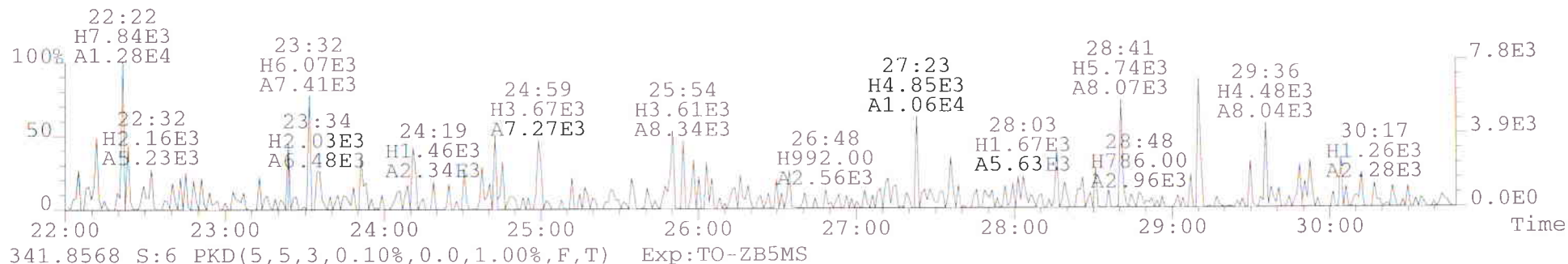
File:052213A1 #1-489 Acq:22-MAY-2013 12:25:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST052213A1-5 S050913D 1613 CS4
457.7377 S:6 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



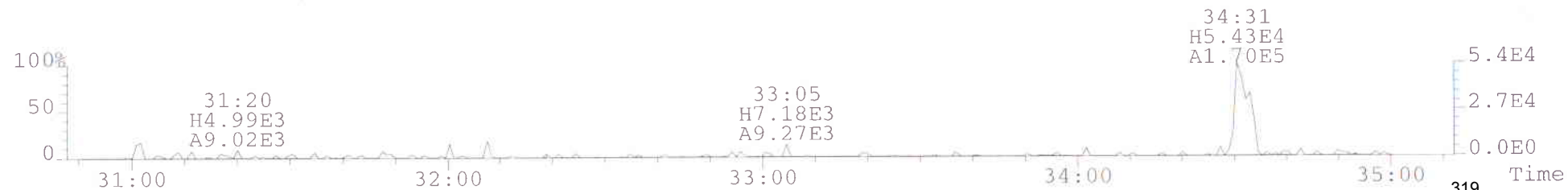
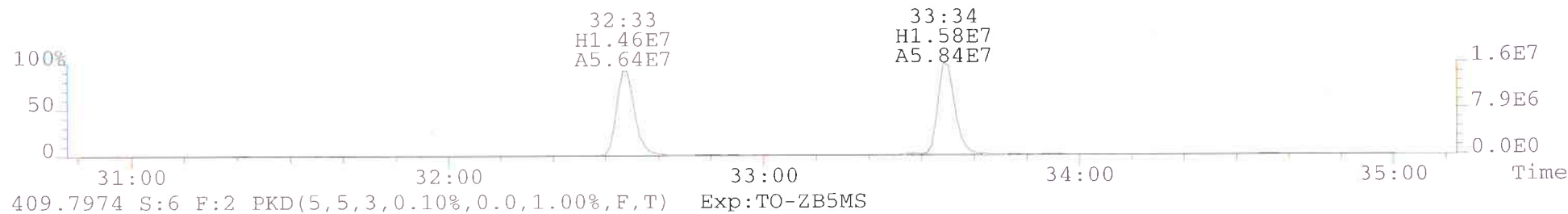
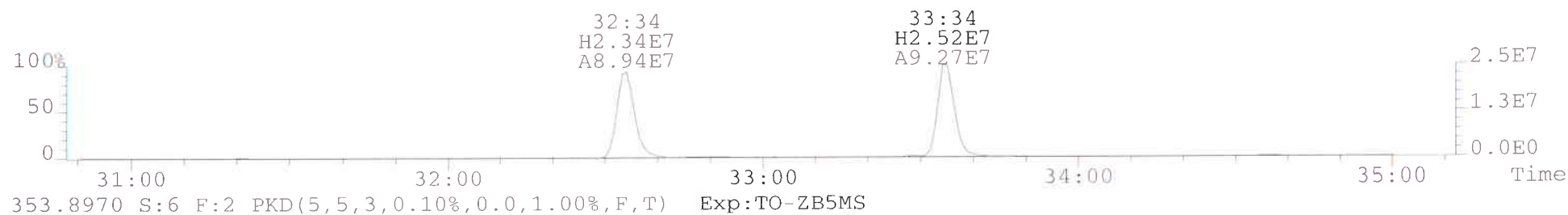
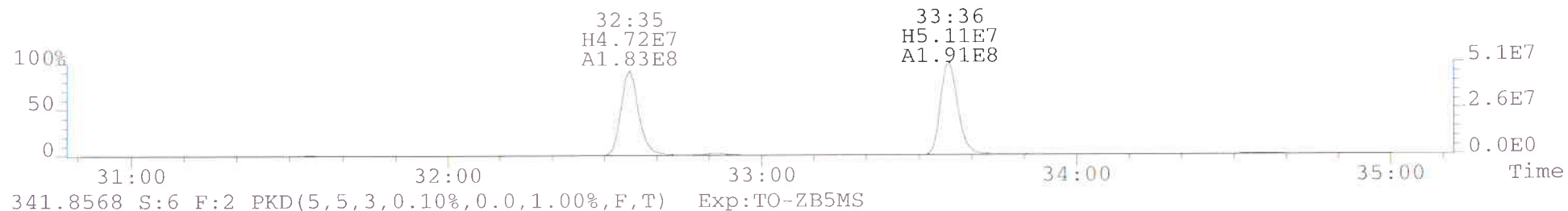
File:052213A1 #1-658 Acq:22-MAY-2013 12:25:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST052213A1-5 S050913D 1613 CS4
303.9016 S:6 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



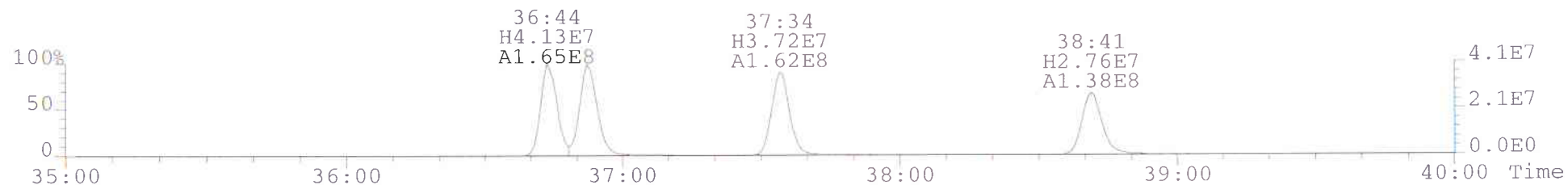
File:052213A1 #1-658 Acq:22-MAY-2013 12:25:52 GC EI+ Voltage SIR Autospec-Ultima
 Sample#6 File Text:Ceres Analytical Laboratory Text:ST052213A1-5 S050913D 1613 CS4
 339.8597 S:6 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



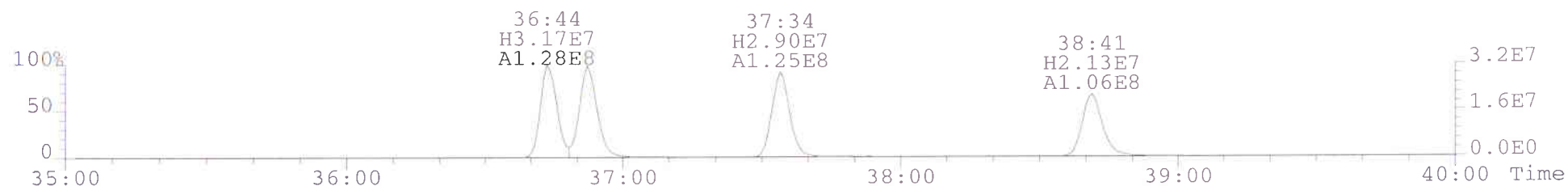
File:052213A1 #1-312 Acq:22-MAY-2013 12:25:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST052213A1-5 S050913D 1613 CS4
339.8597 S:6 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



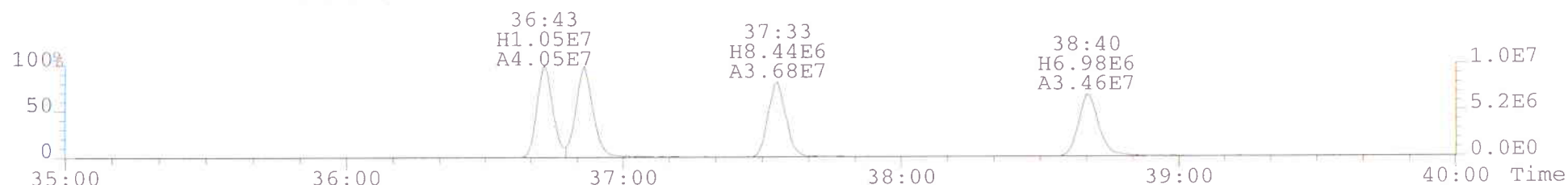
File:052213A1 #1-445 Acq:22-MAY-2013 12:25:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST052213A1-5 S050913D 1613 CS4
373.8207 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



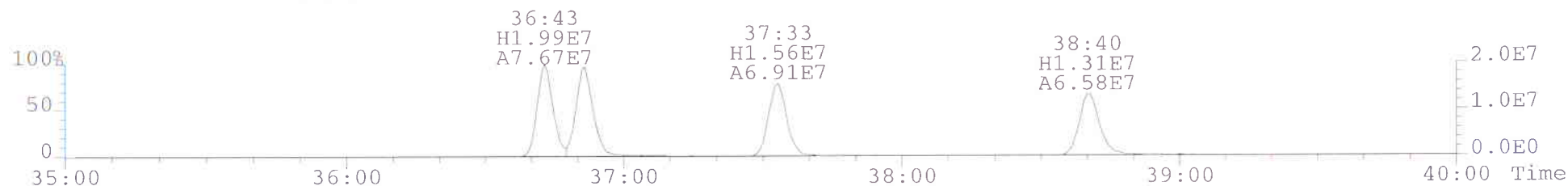
375.8178 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



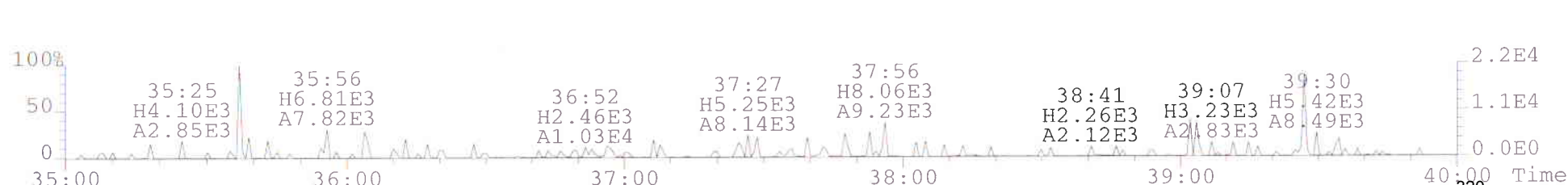
383.8639 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



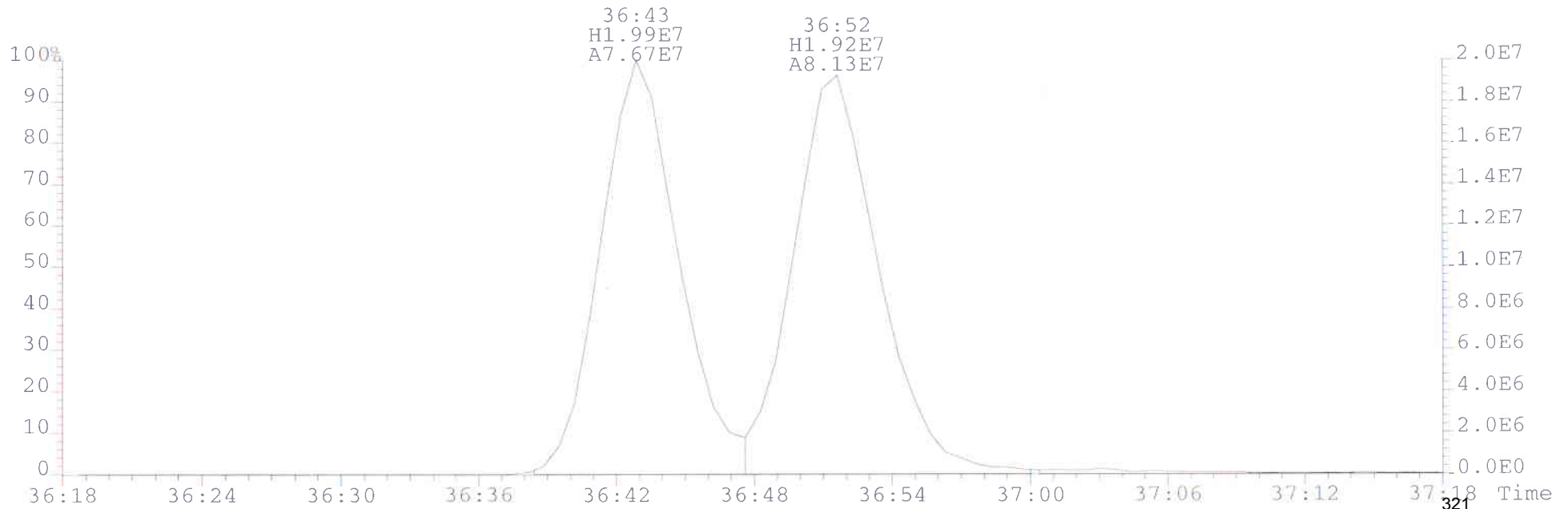
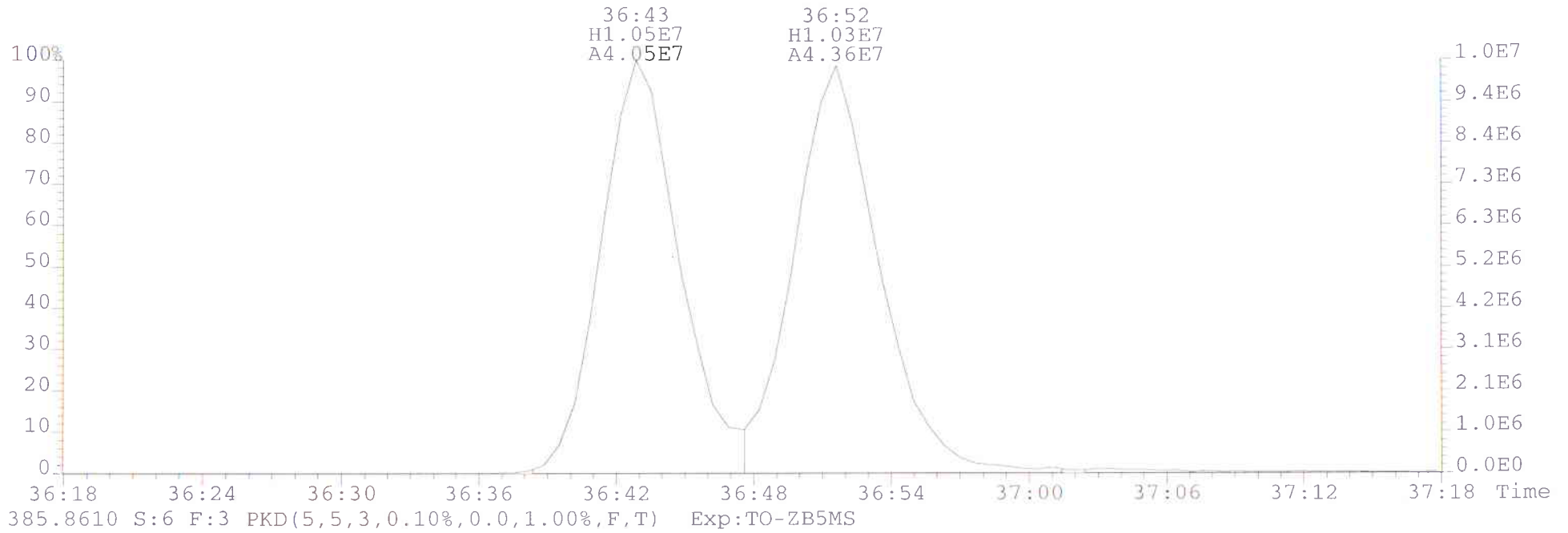
385.8610 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



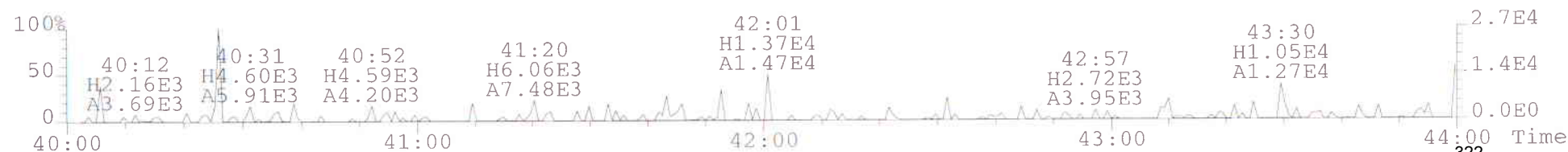
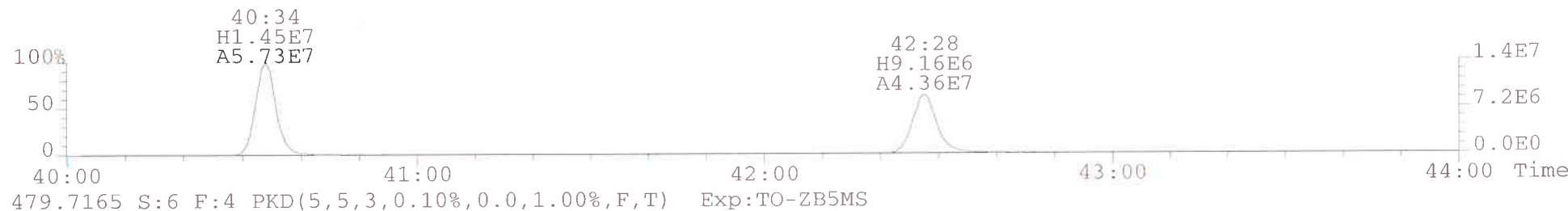
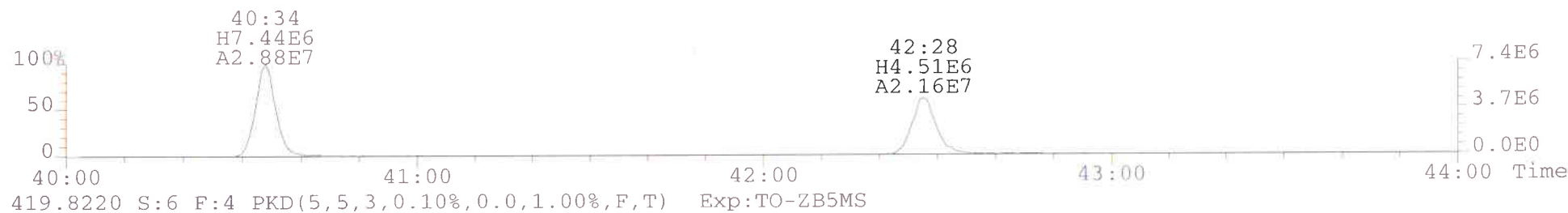
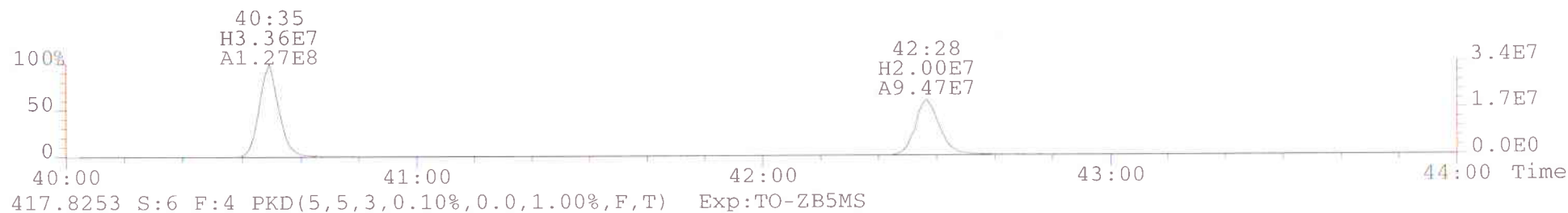
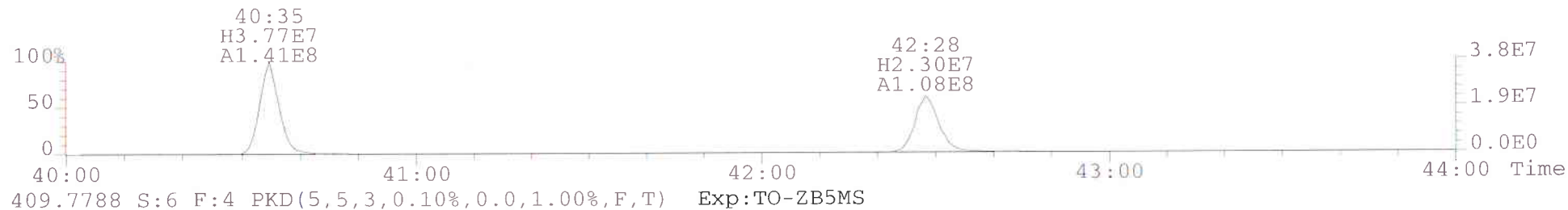
445.7555 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



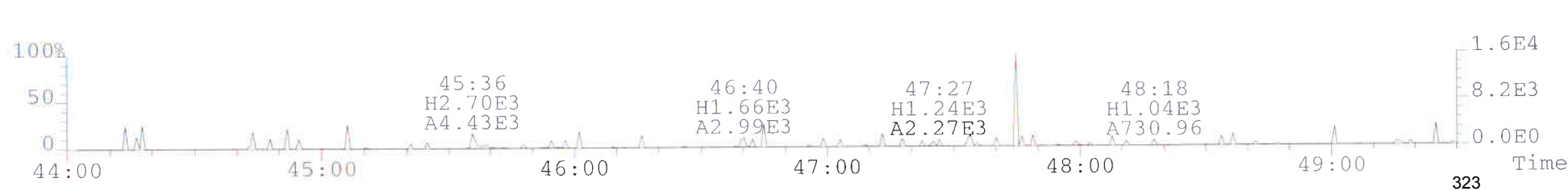
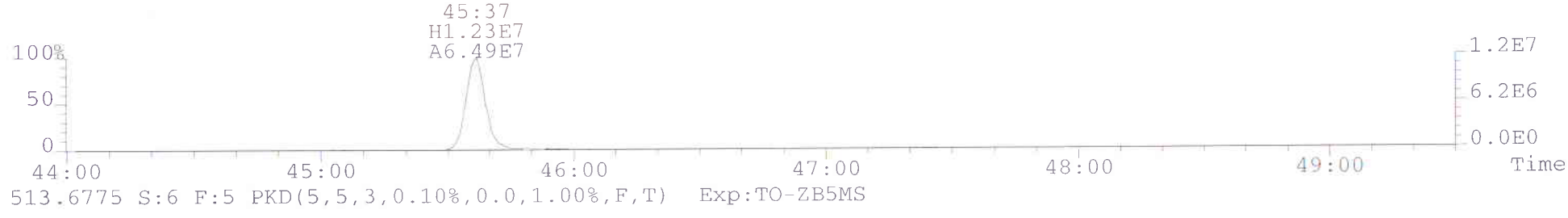
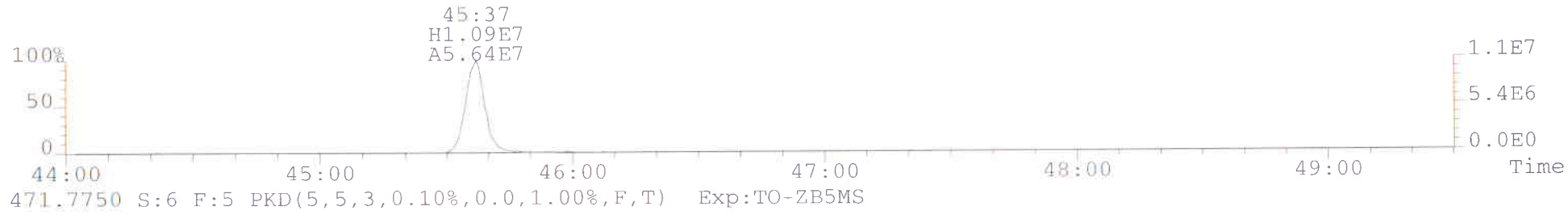
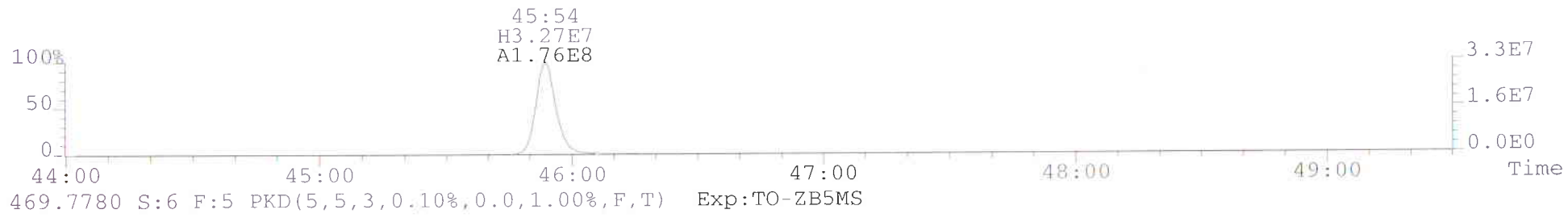
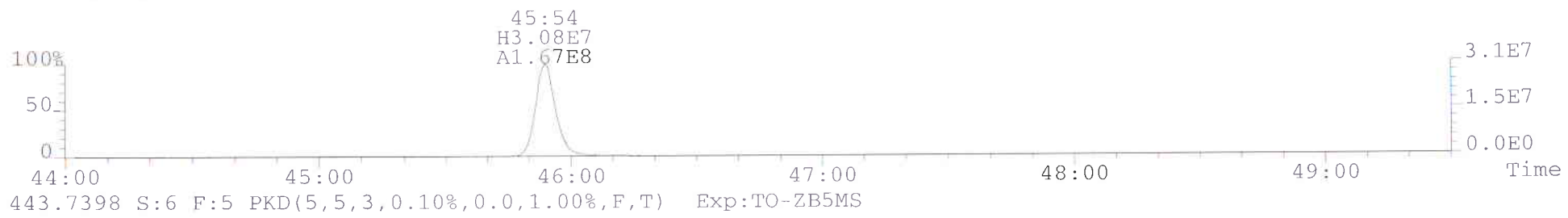
File:052213A1 #1-445 Acq:22-MAY-2013 12:25:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST052213A1-5 S050913D 1613 CS4
383.8639 S:6 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



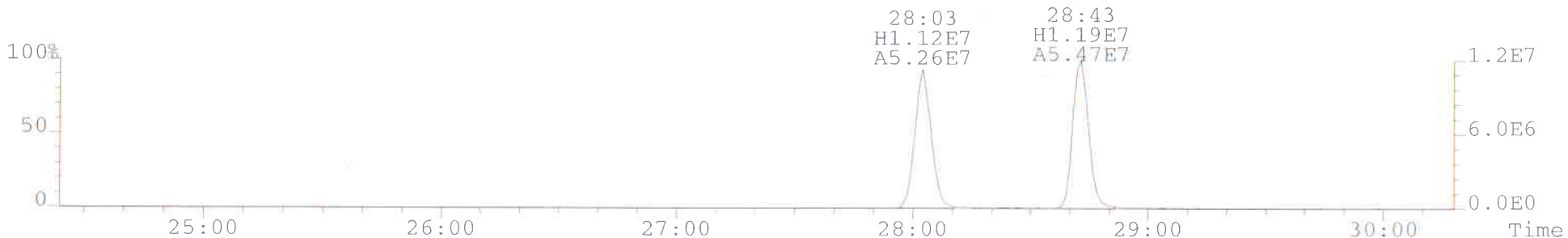
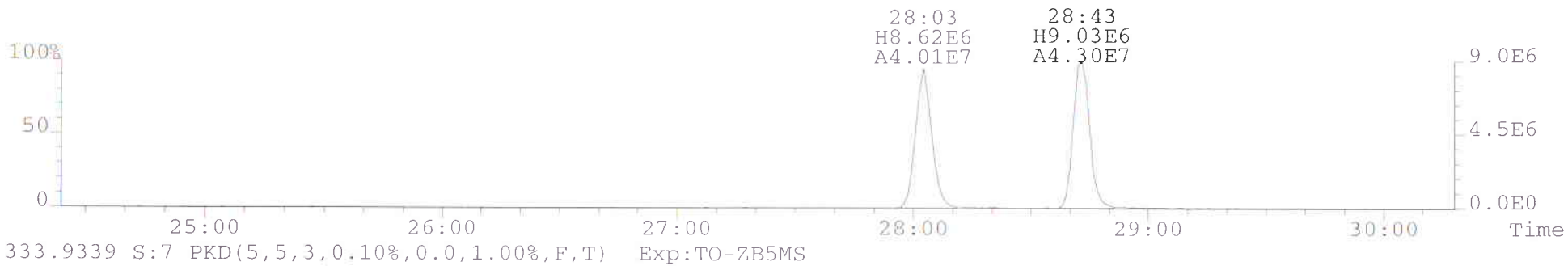
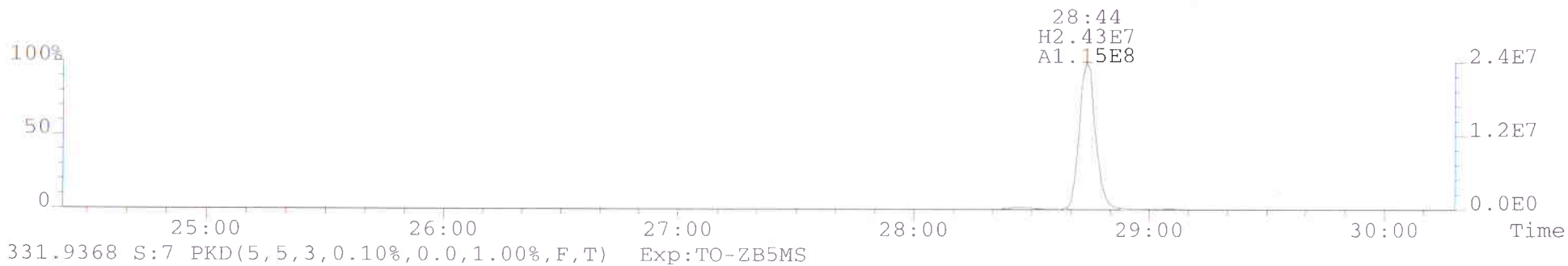
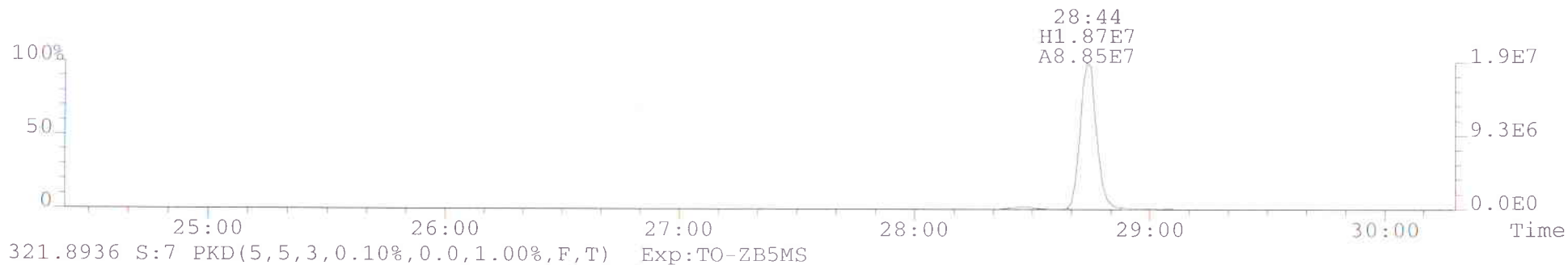
File:052213A1 #1-355 Acq:22-MAY-2013 12:25:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST052213A1-5 S050913D 1613 CS4
407.7818 S:6 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



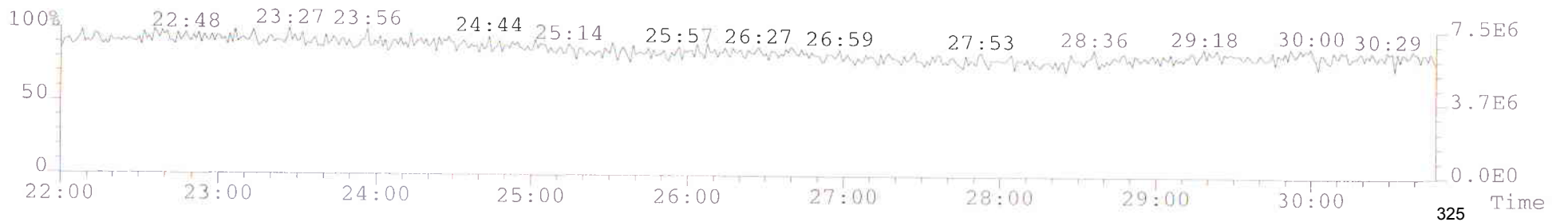
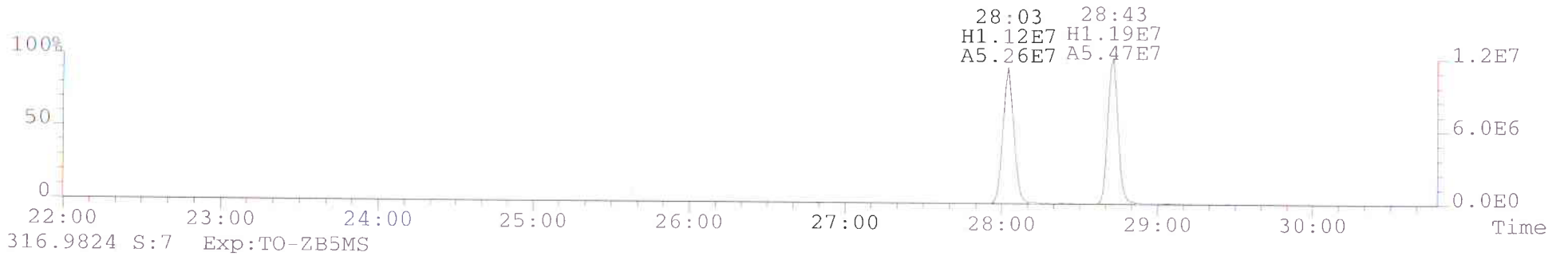
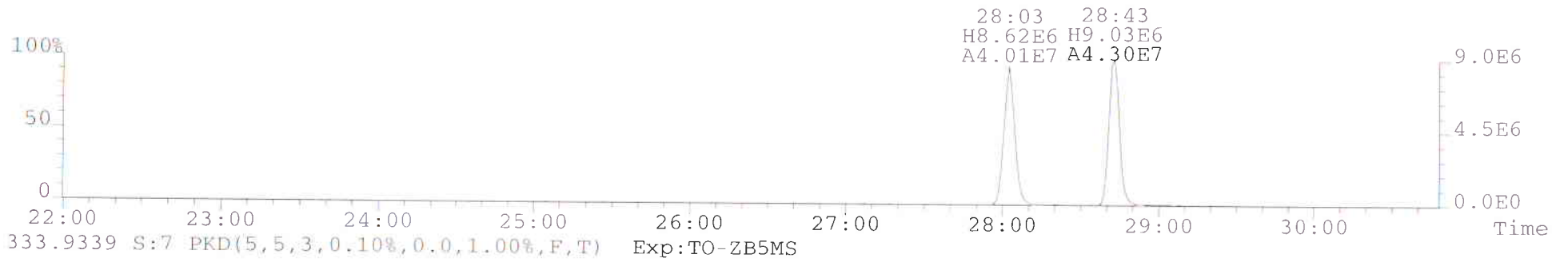
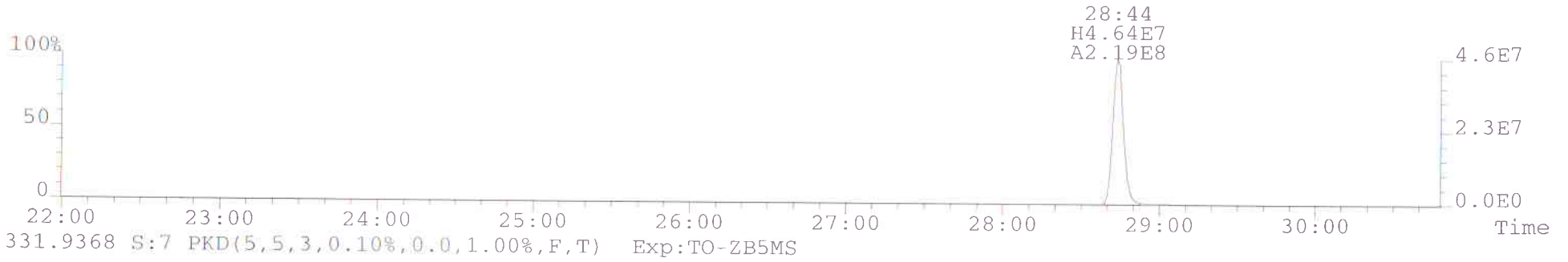
File:052213A1 #1-489 Acq:22-MAY-2013 12:25:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST052213A1-5 S050913D 1613 CS4
441.7428 S:6 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



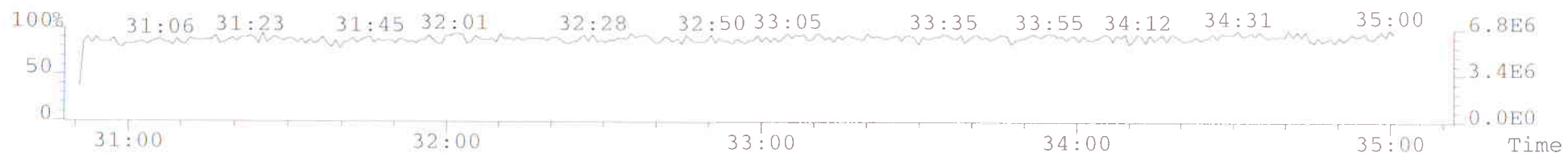
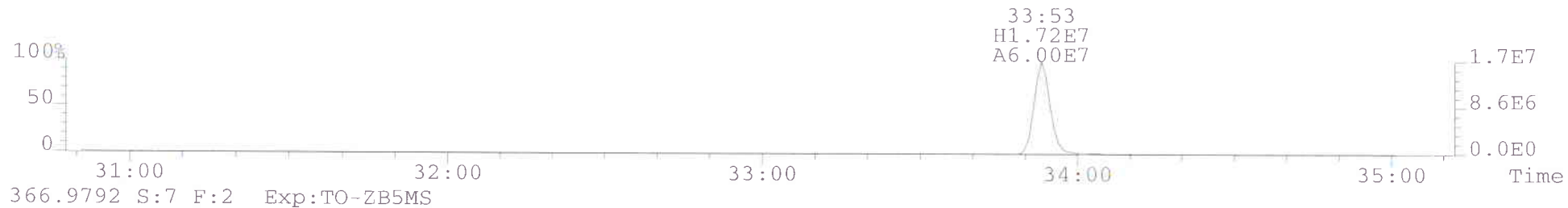
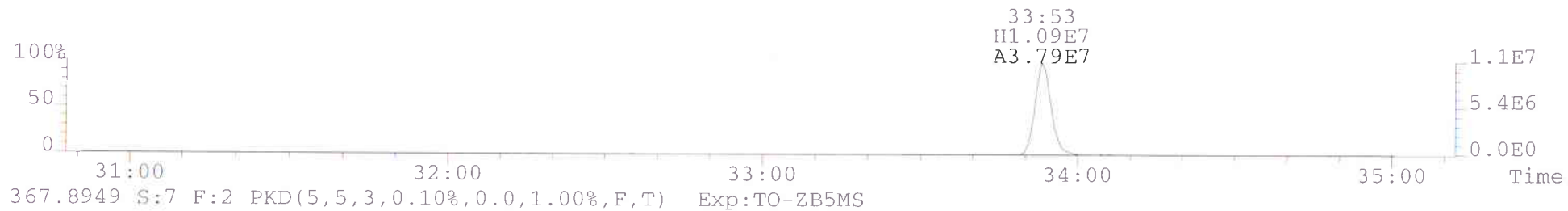
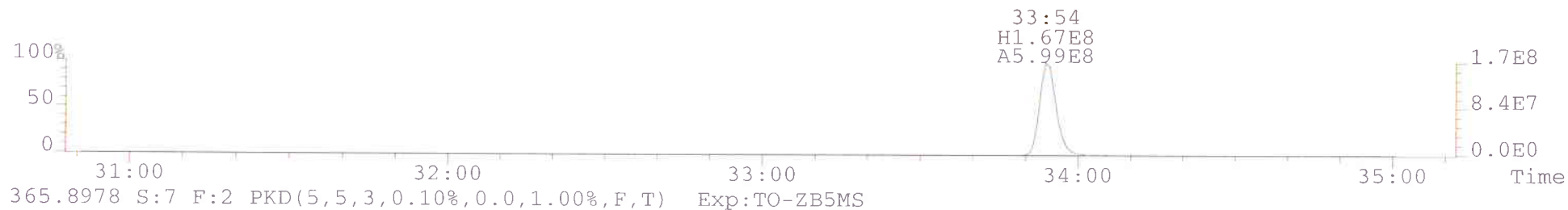
File:052213A1 #1-659 Acq:22-MAY-2013 13:19:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text:Ceres Analytical Laboratory Text:ST052213A1-6 S050913E 1613 CS5
319.8965 S:7 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



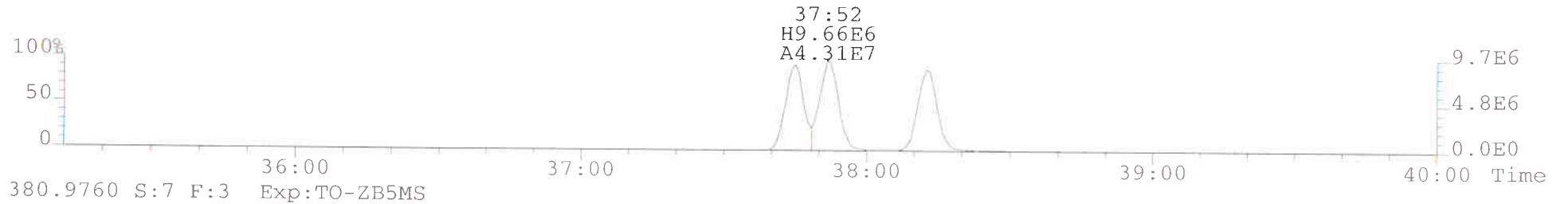
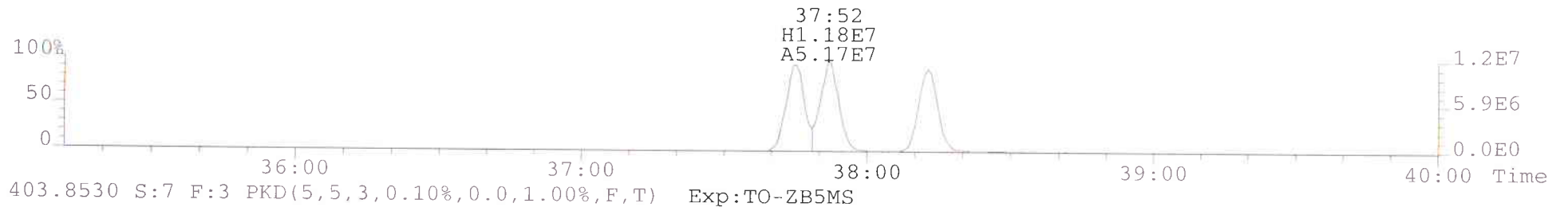
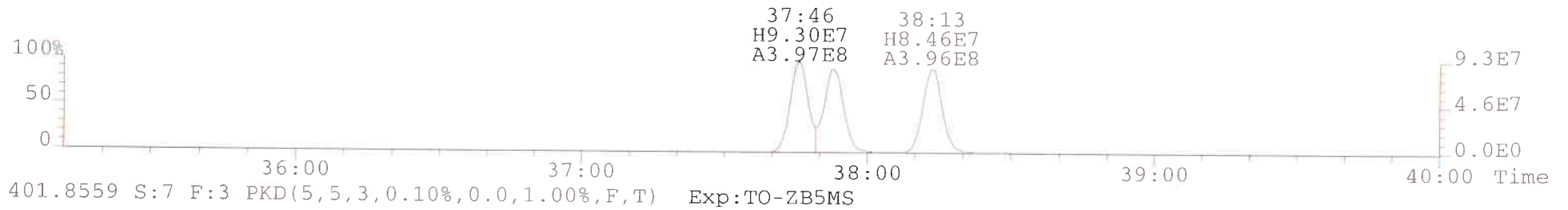
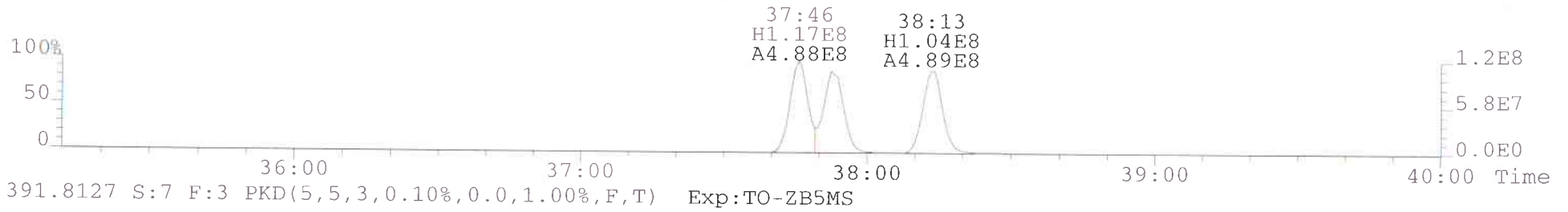
File:052213A1 #1-659 Acq:22-MAY-2013 13:19:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text:Ceres Analytical Laboratory Text:ST052213A1-6 S050913E 1613 CS5
327.8847 S:7 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



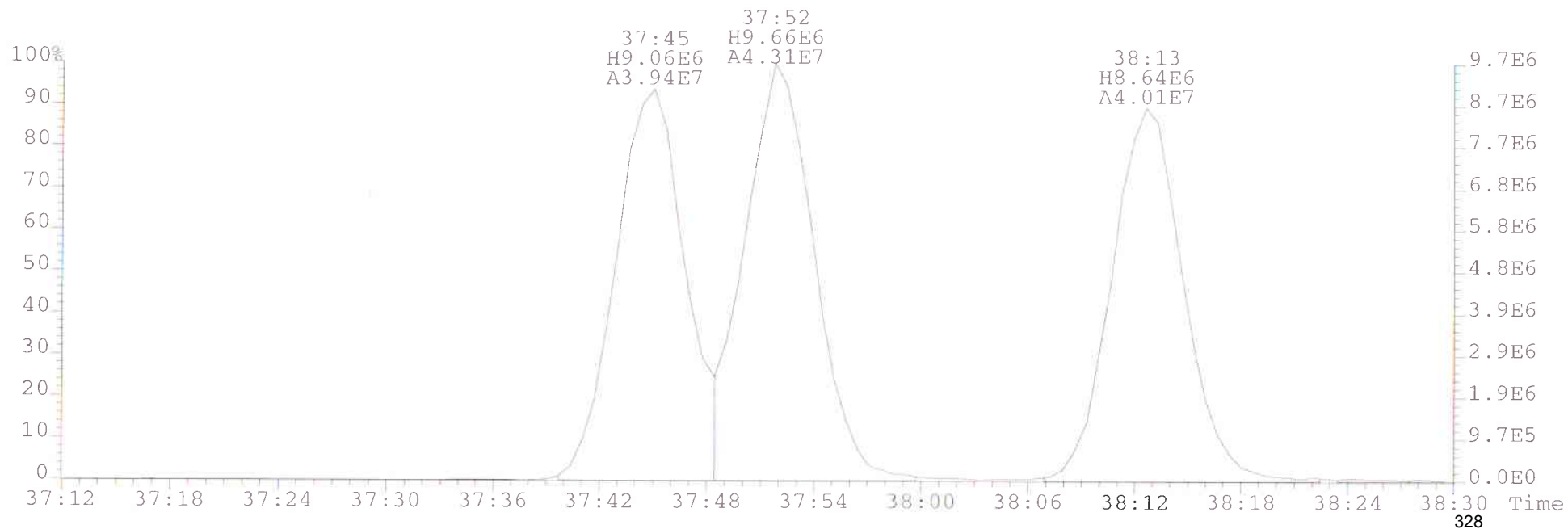
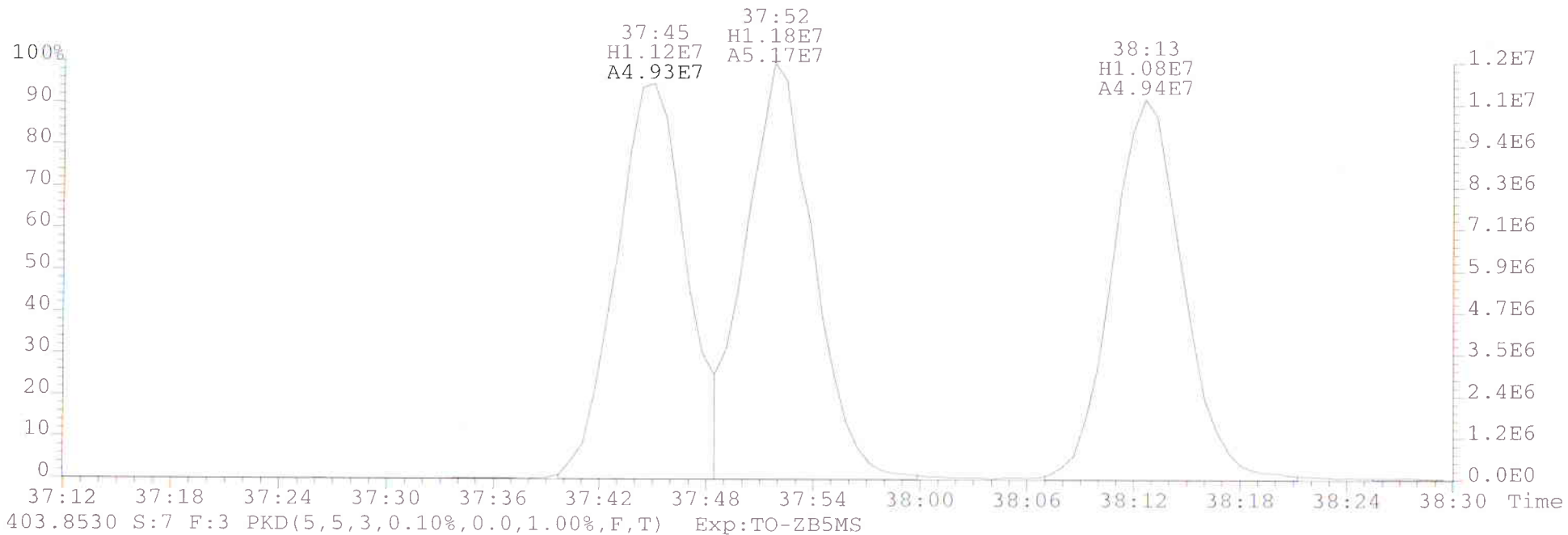
File:052213A1 #1-312 Acq:22-MAY-2013 13:19:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text:Ceres Analytical Laboratory Text:ST052213A1-6 S050913E 1613 CS5
353.8576 S:7 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



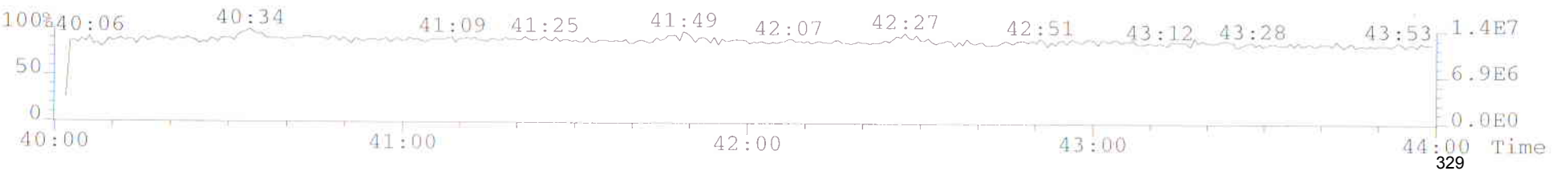
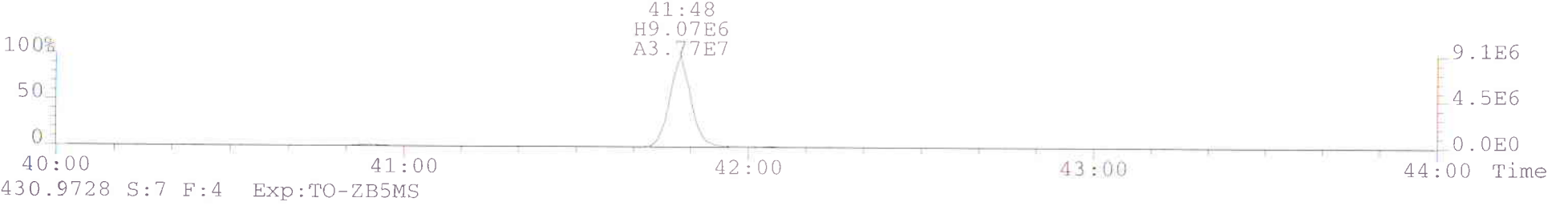
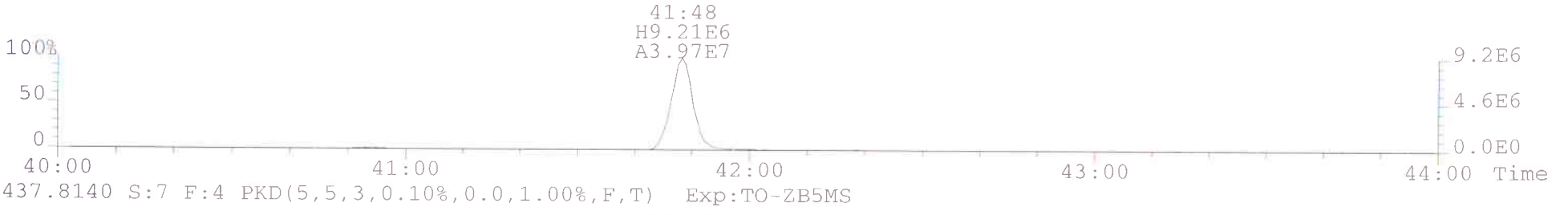
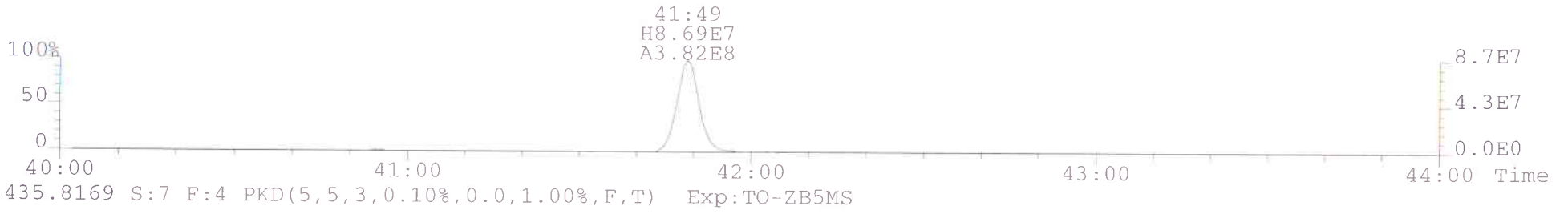
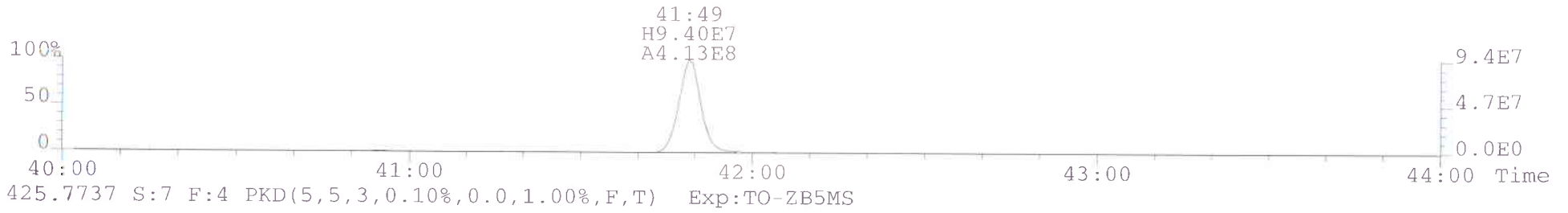
File:052213A1 #1-444 Acq:22-MAY-2013 13:19:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text:Ceres Analytical Laboratory Text:ST052213A1-6 S050913E 1613 CS5
389.8156 S:7 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



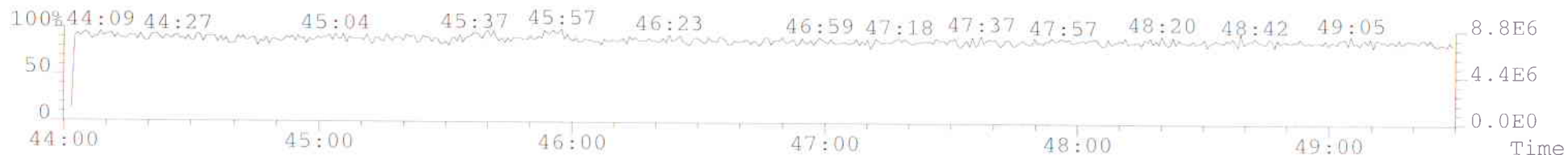
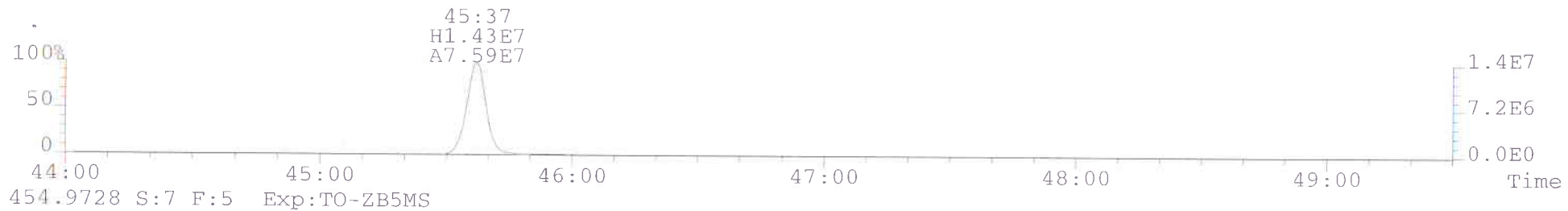
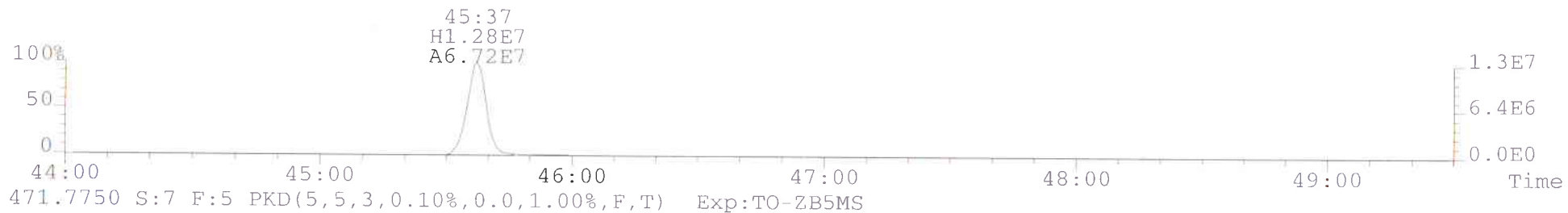
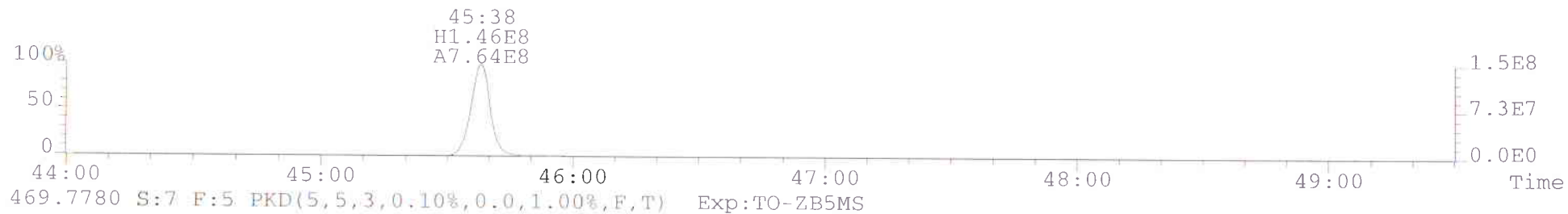
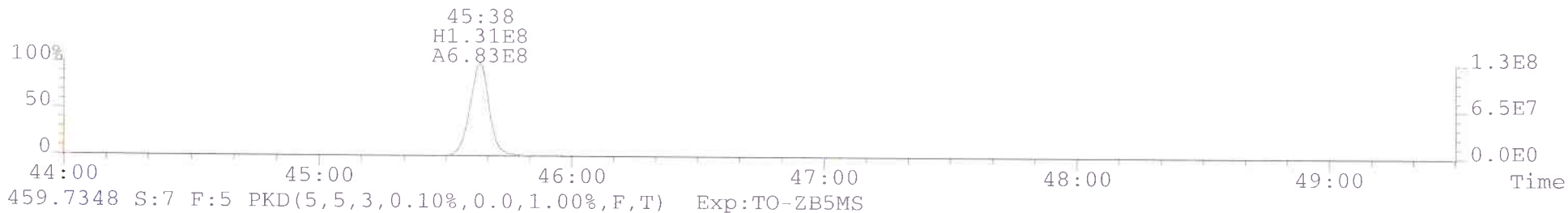
File:052213A1 #1-444 Acq:22-MAY-2013 13:19:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text:Ceres Analytical Laboratory Text:ST052213A1-6 S050913E 1613 CS5
401.8559 S:7 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



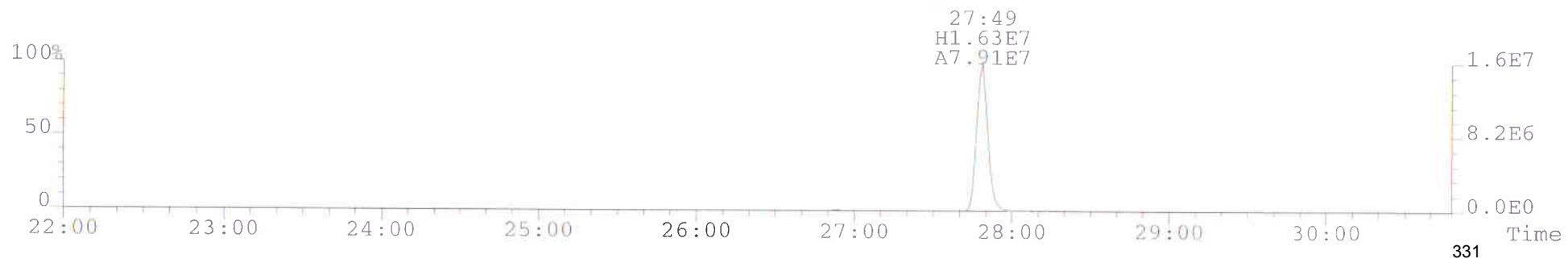
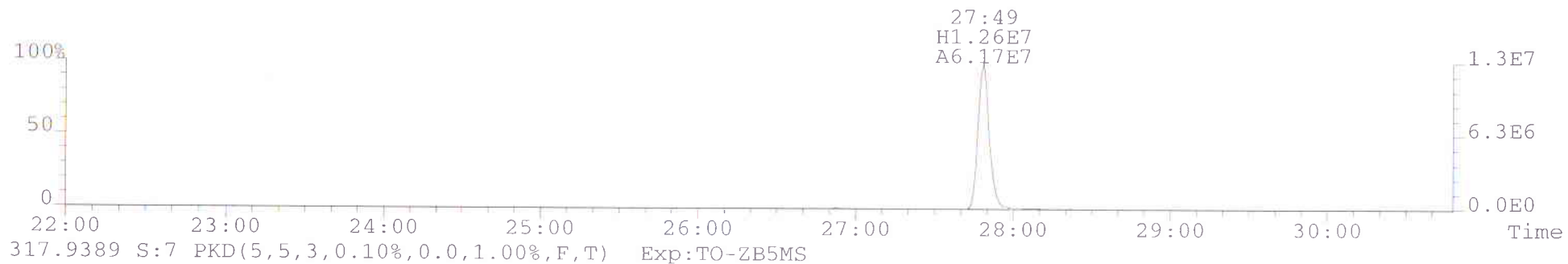
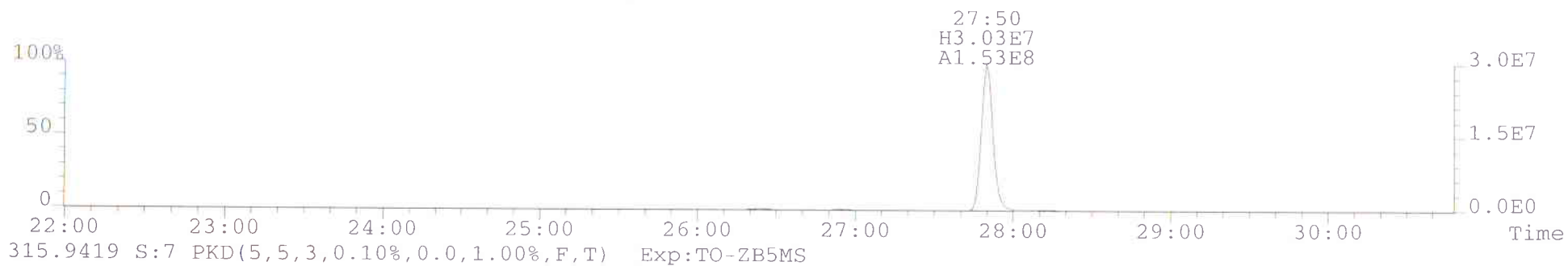
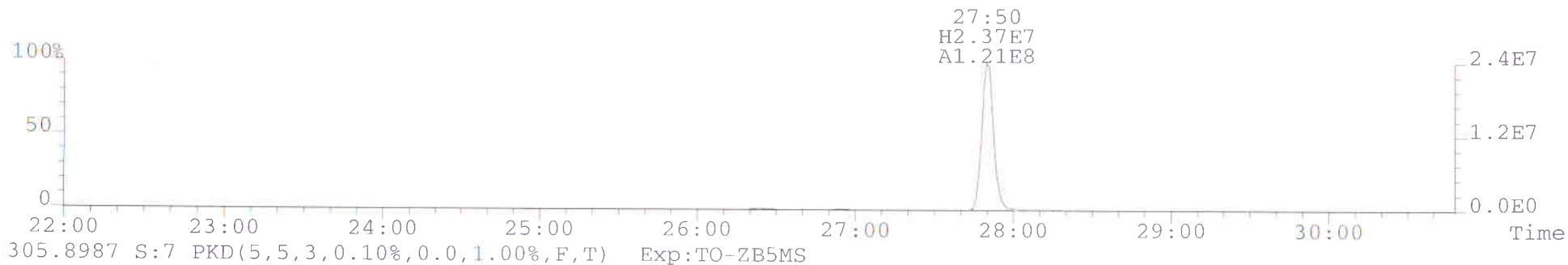
File:052213A1 #1-355 Acq:22-MAY-2013 13:19:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text:Ceres Analytical Laboratory Text:ST052213A1-6 S050913E 1613 CS5
423.7767 S:7 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



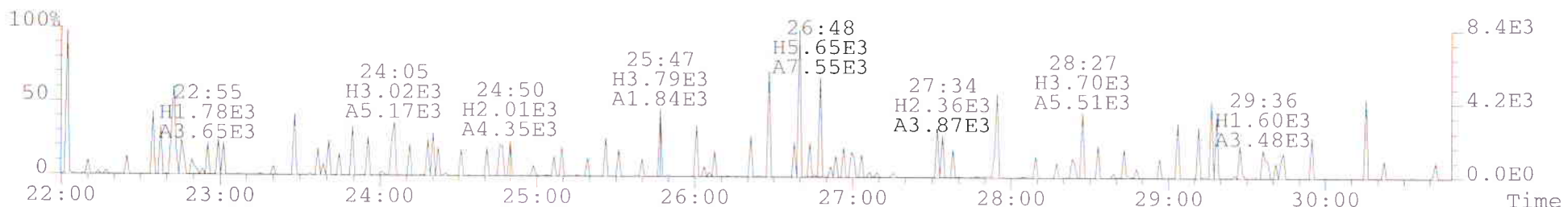
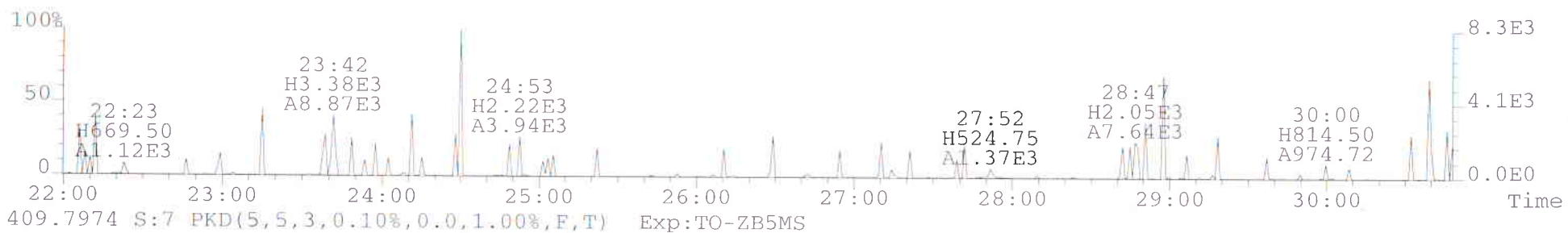
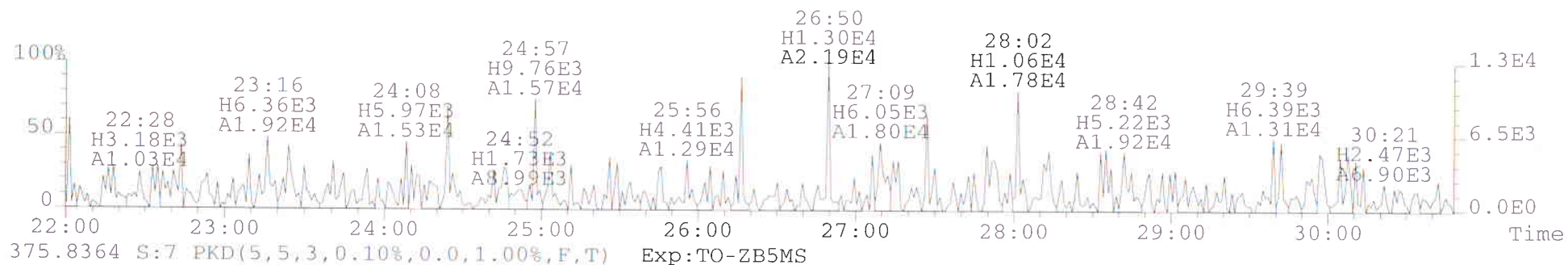
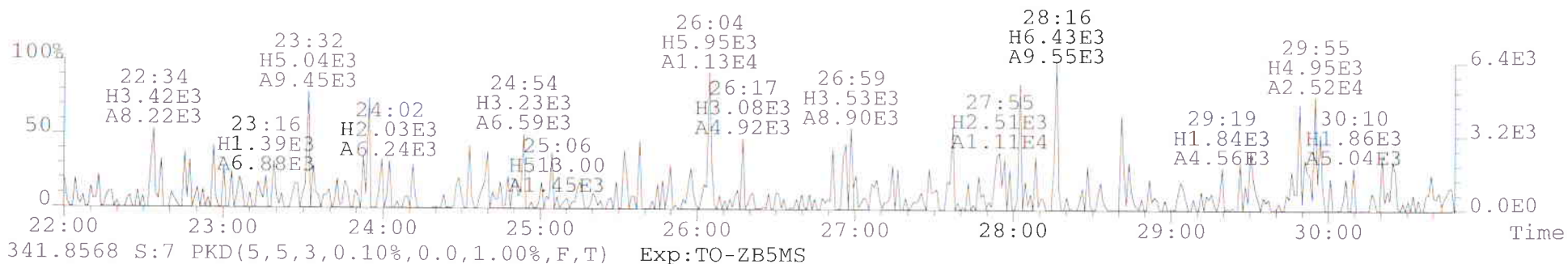
File:052213A1 #1-489 Acq:22-MAY-2013 13:19:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text:Ceres Analytical Laboratory Text:ST052213A1-6 S050913E 1613 CS5
457.7377 S:7 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



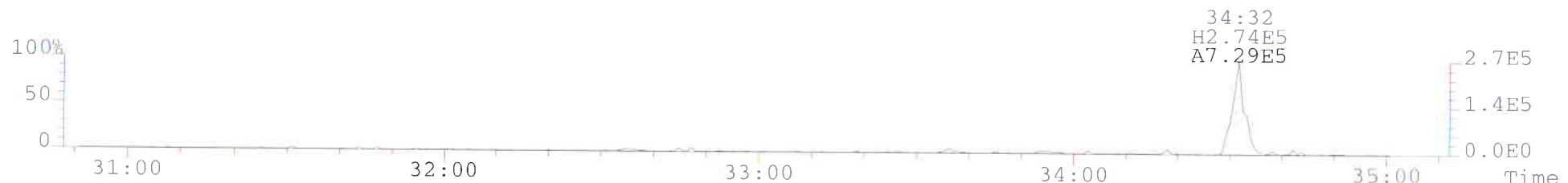
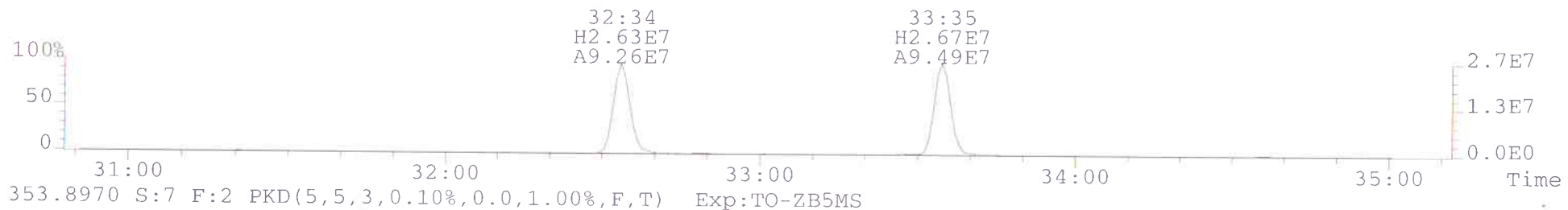
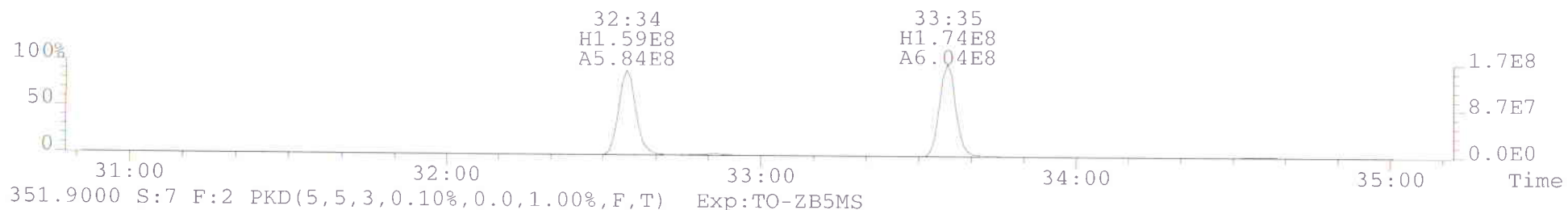
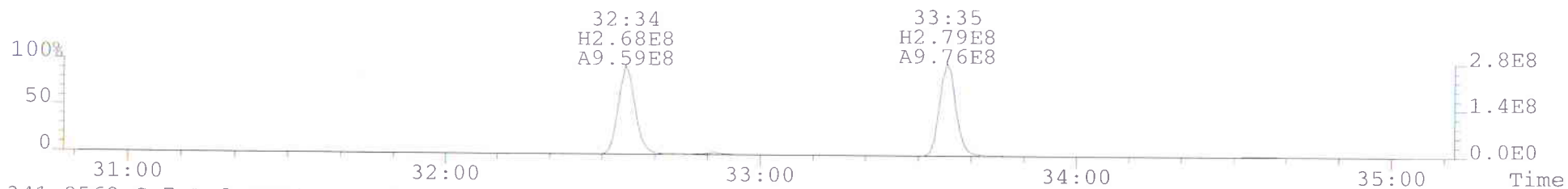
File:052213A1 #1-659 Acq:22-MAY-2013 13:19:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text:Ceres Analytical Laboratory Text:ST052213A1-6 S050913E 1613 CS5
303.9016 S:7 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



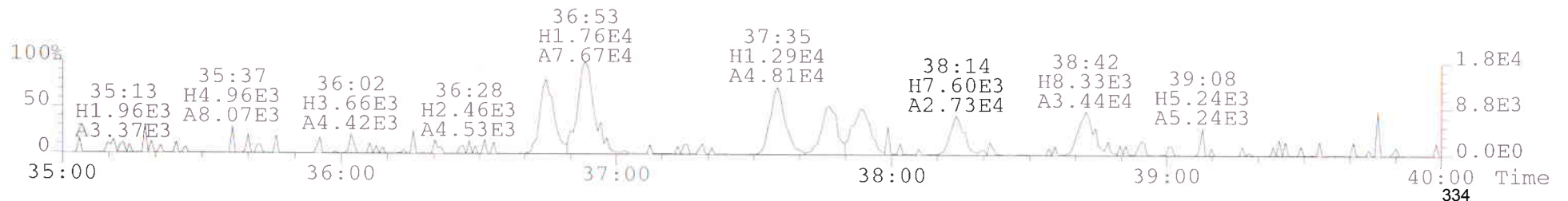
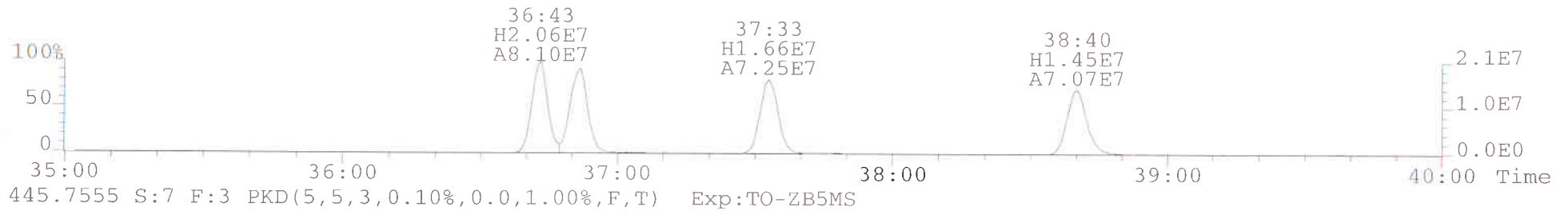
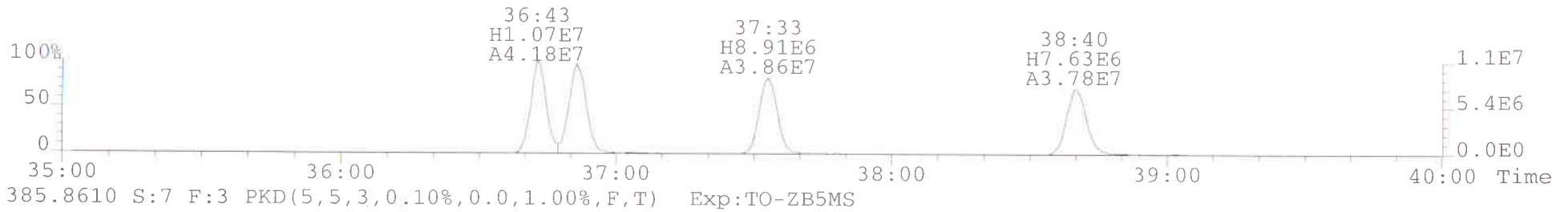
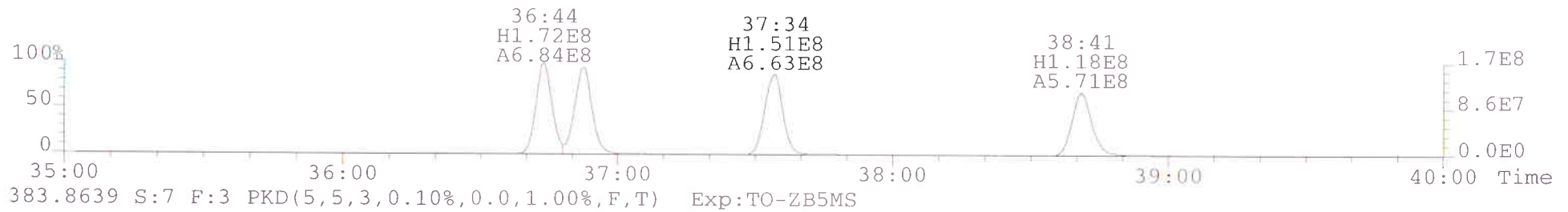
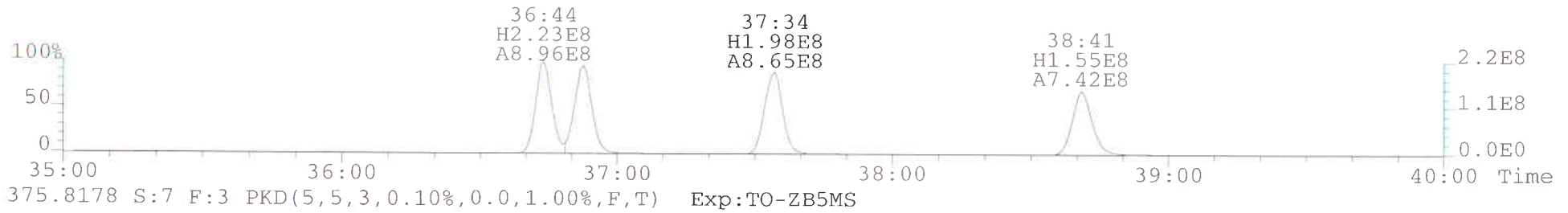
File:052213A1 #1-659 Acq:22-MAY-2013 13:19:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text:Ceres Analytical Laboratory Text:ST052213A1-6 S050913E 1613 CS5
339.8597 S:7 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



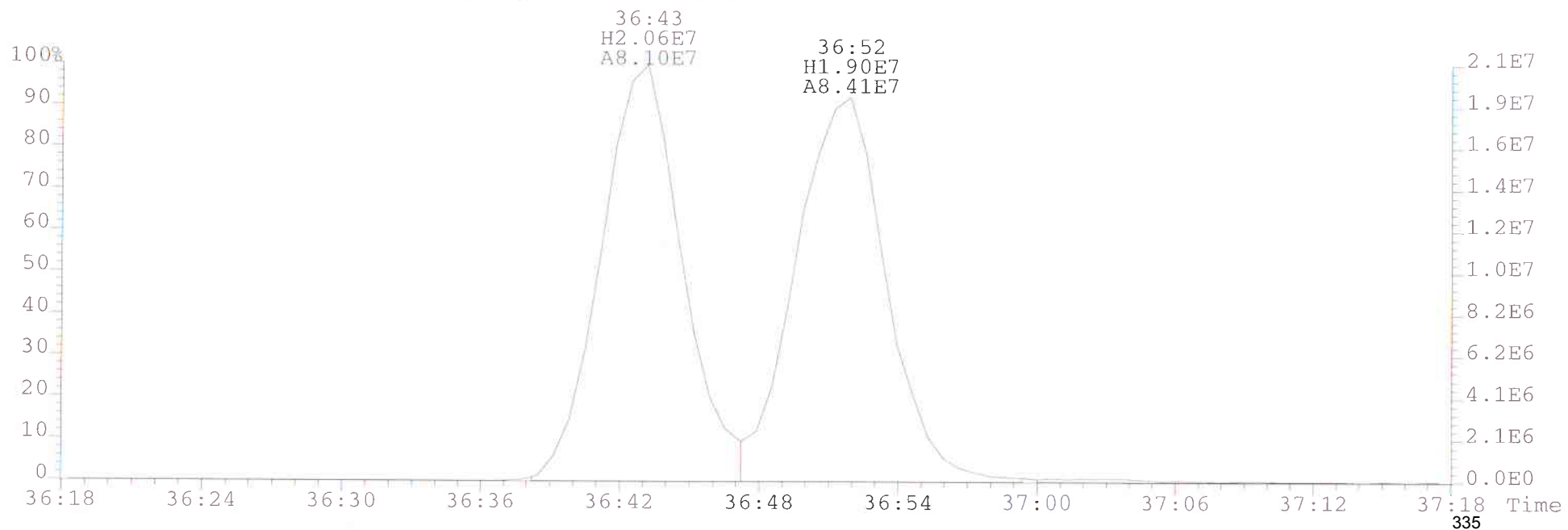
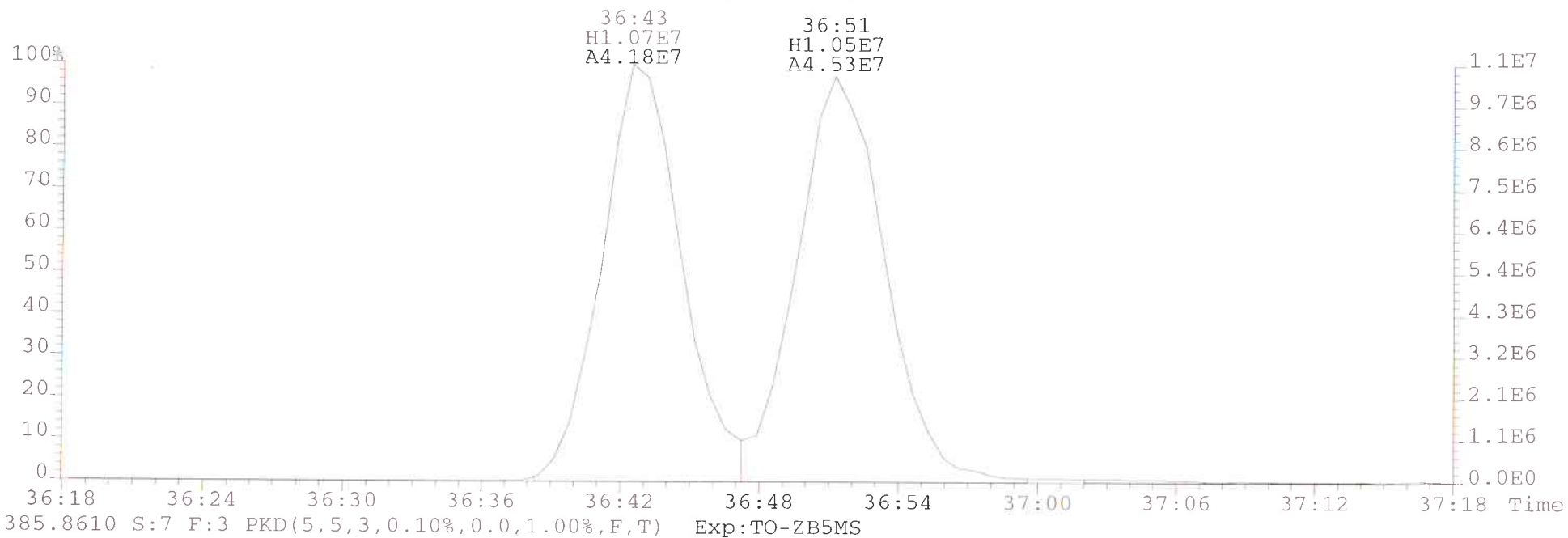
File:052213A1 #1-312 Acq:22-MAY-2013 13:19:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text:Ceres Analytical Laboratory Text:ST052213A1-6 S050913E 1613 CS5
339.8597 S:7 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



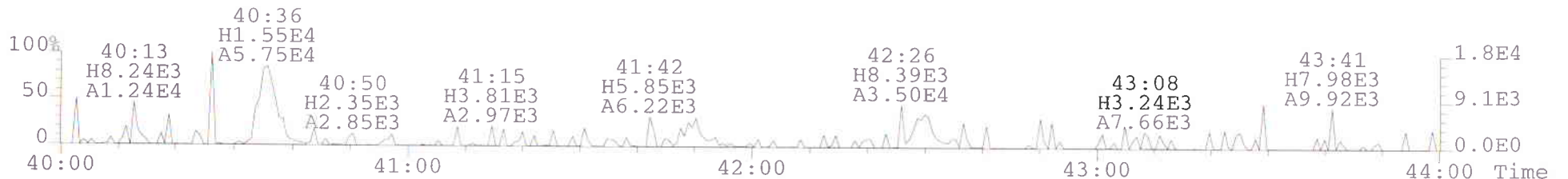
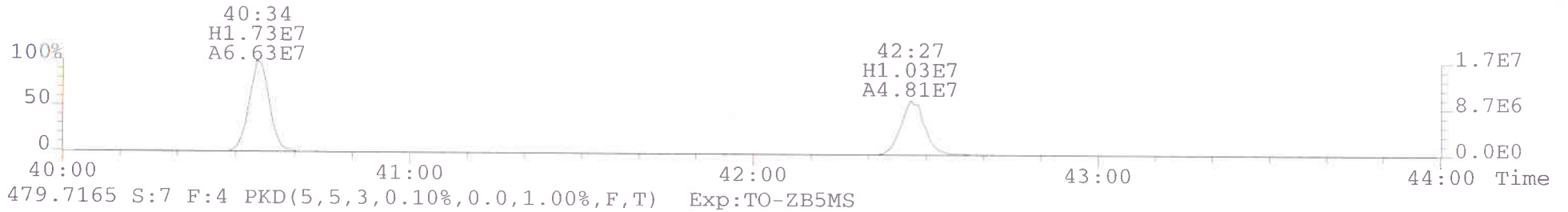
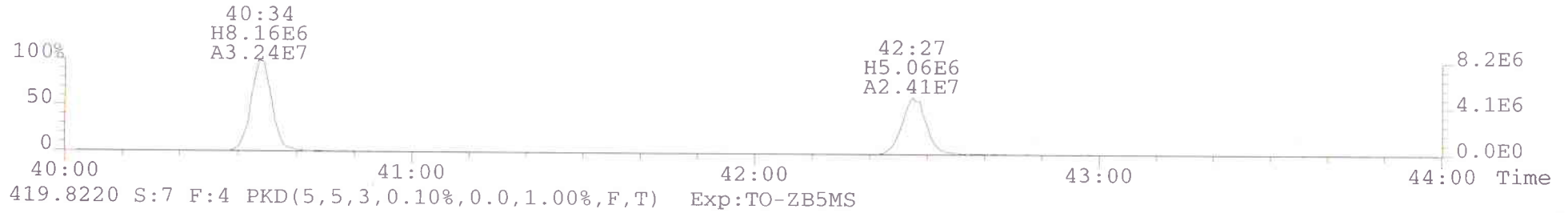
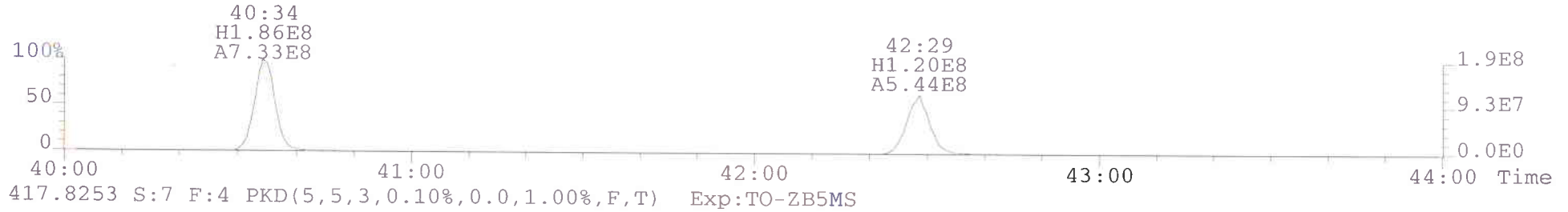
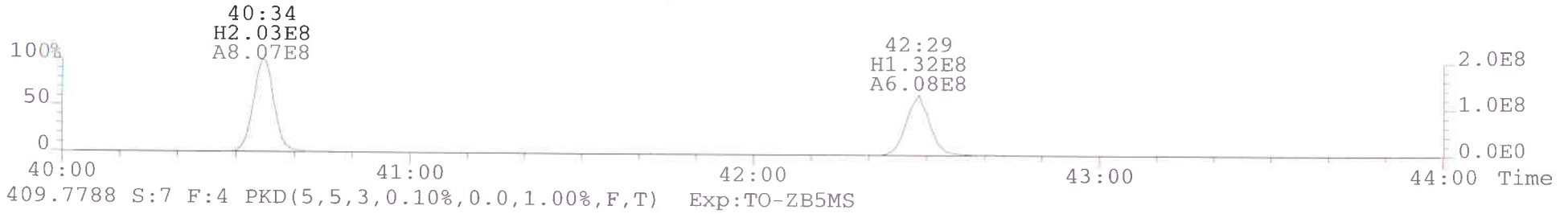
File:052213A1 #1-444 Acq:22-MAY-2013 13:19:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text:Ceres Analytical Laboratory Text:ST052213A1-6 S050913E 1613 CS5
373.8207 S:7 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



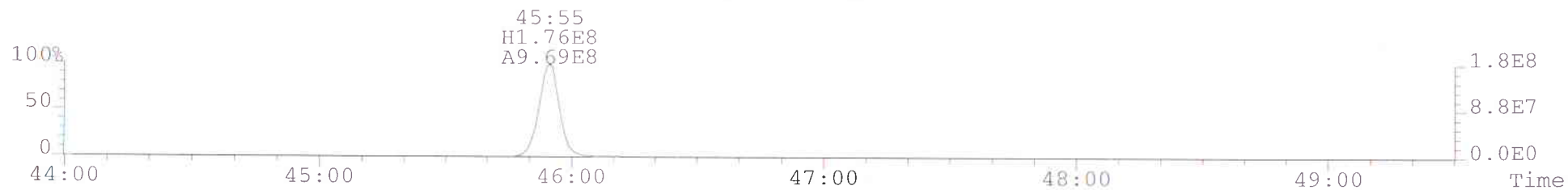
File:052213A1 #1-444 Acq:22-MAY-2013 13:19:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text:Ceres Analytical Laboratory Text:ST052213A1-6 S050913E 1613 CS5
383.8639 S:7 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



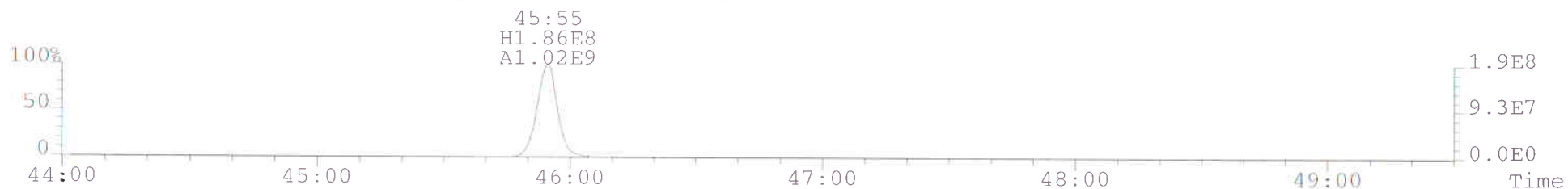
File:052213A1 #1-355 Acq:22-MAY-2013 13:19:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text:Ceres Analytical Laboratory Text:ST052213A1-6 S050913E 1613 CS5
407.7818 S:7 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



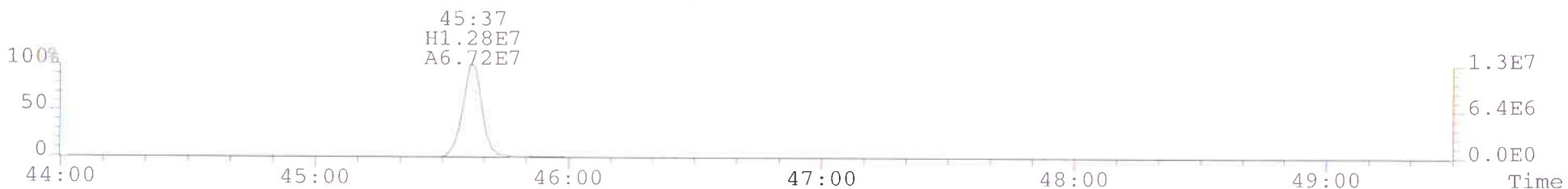
File:052213A1 #1-489 Acq:22-MAY-2013 13:19:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#7 File Text:Ceres Analytical Laboratory Text:ST052213A1-6 S050913E 1613 CS5
441.7428 S:7 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



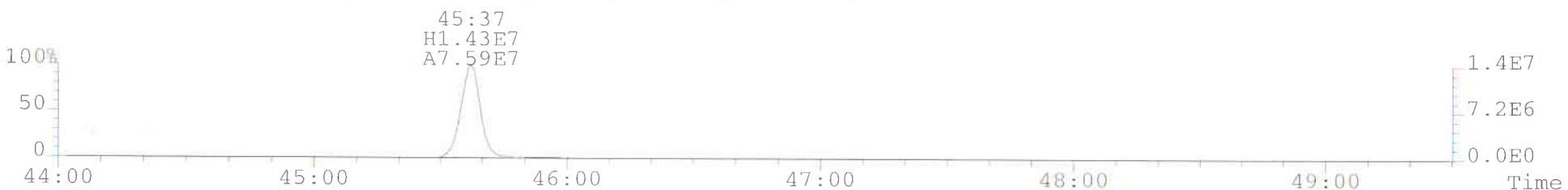
443.7398 S:7 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



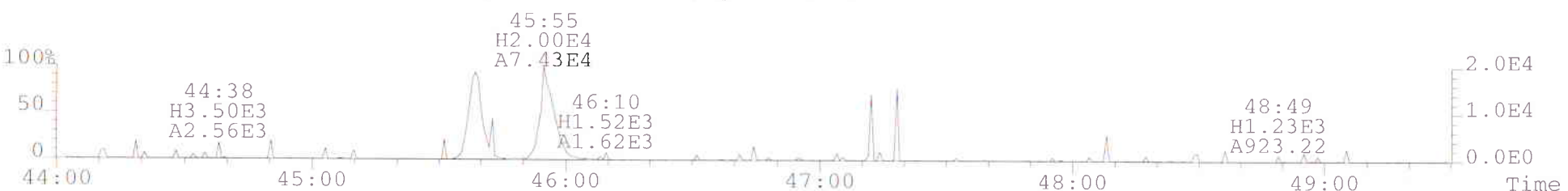
469.7780 S:7 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



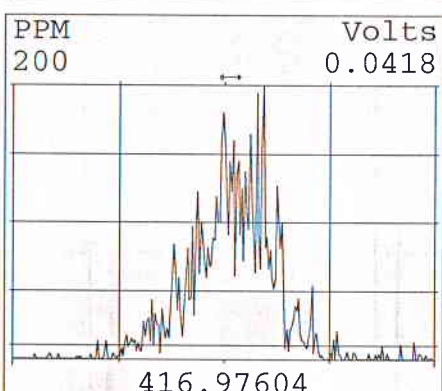
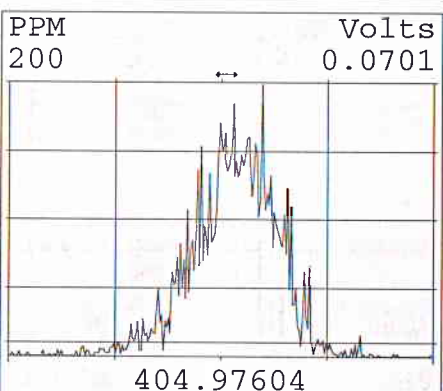
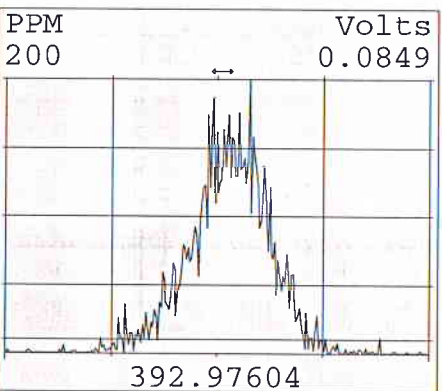
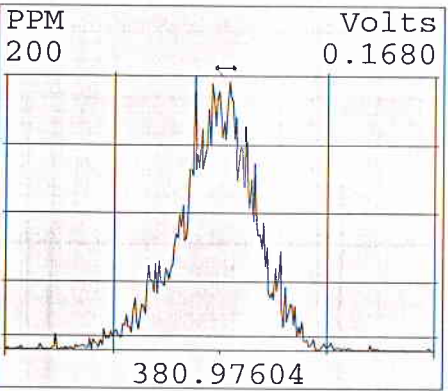
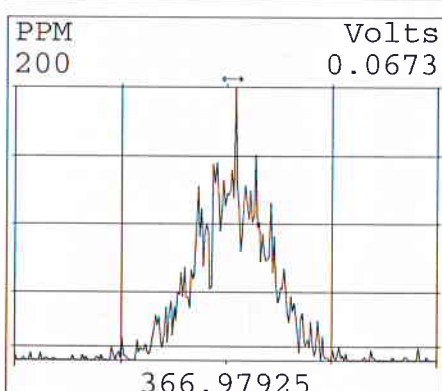
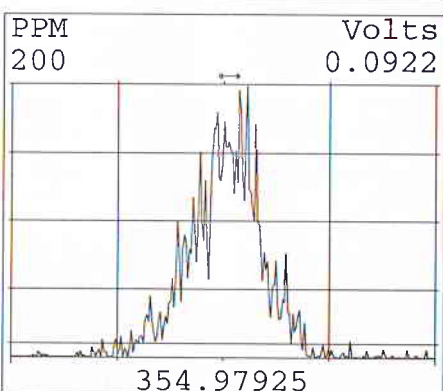
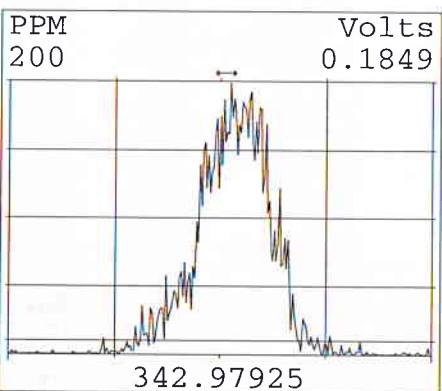
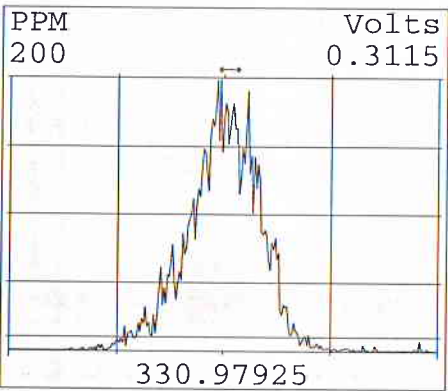
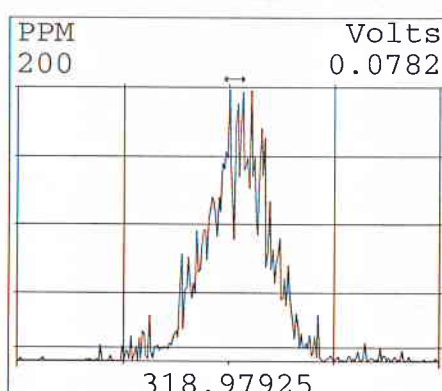
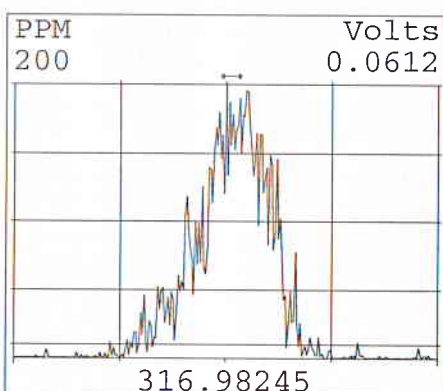
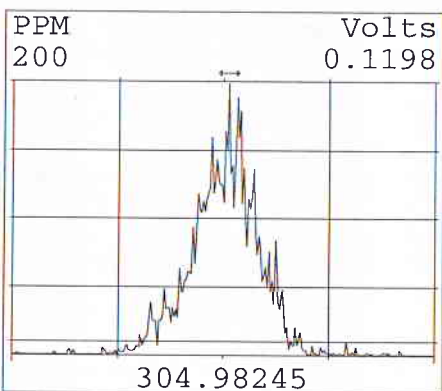
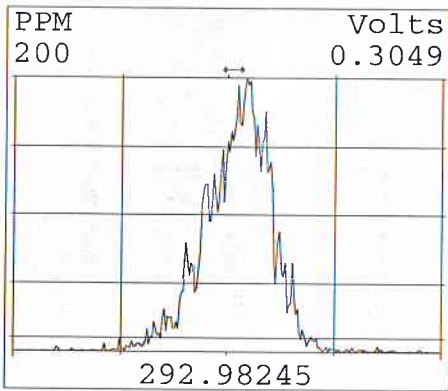
471.7750 S:7 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



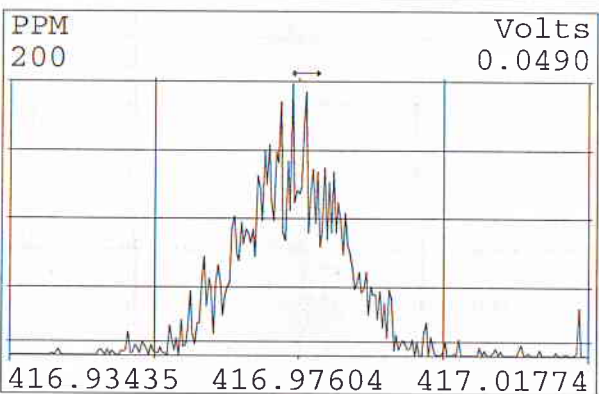
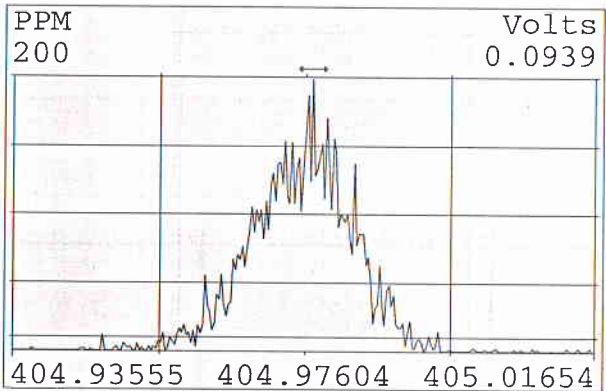
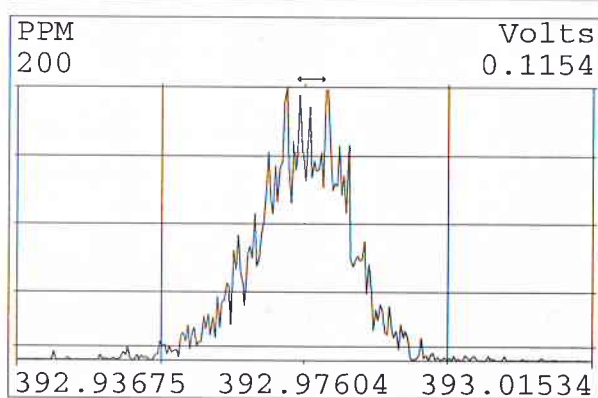
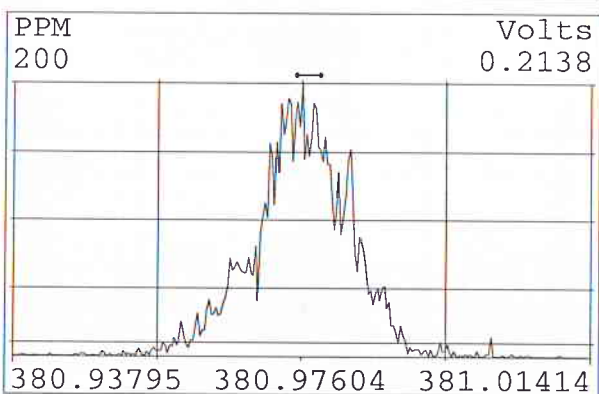
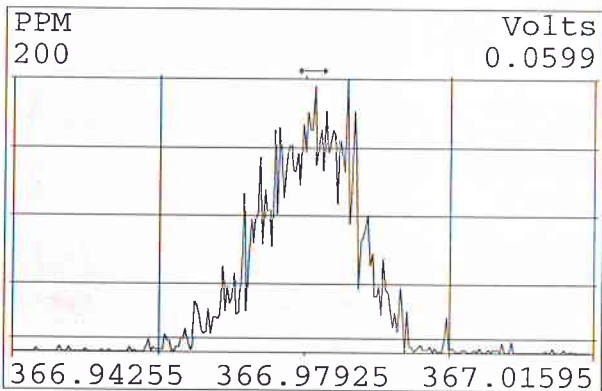
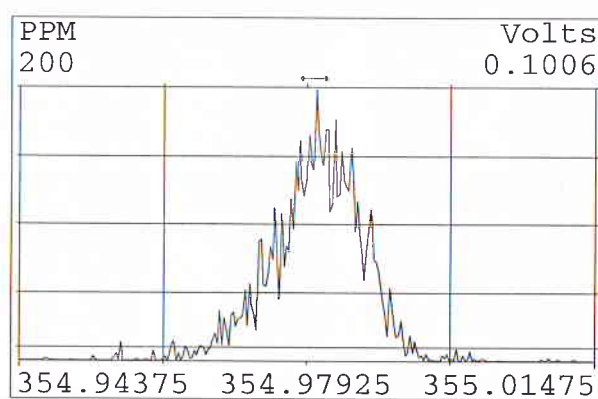
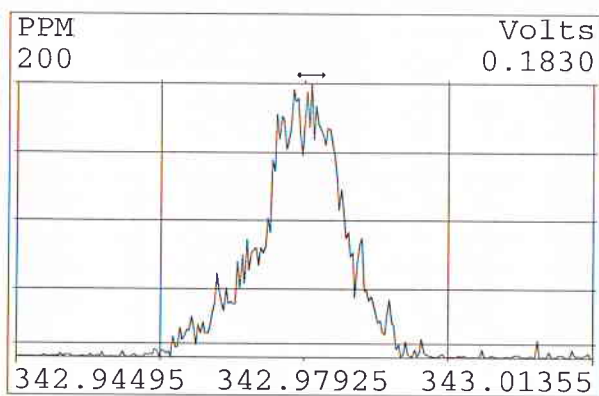
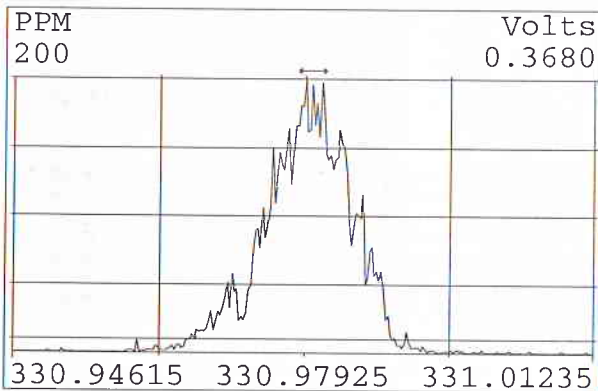
513.6775 S:7 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



Peak Locate Examination:22-MAY-2013:16:08 File:RES_CHECK
Experiment:TO-ZB5MS Function:1 Reference:PFK

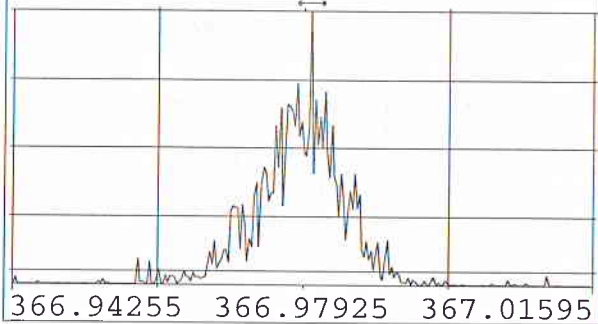


Peak Locate Examination:22-MAY-2013:16:09 File:RES_CHECK
Experiment:TO-ZB5MS Function:2 Reference:PFK

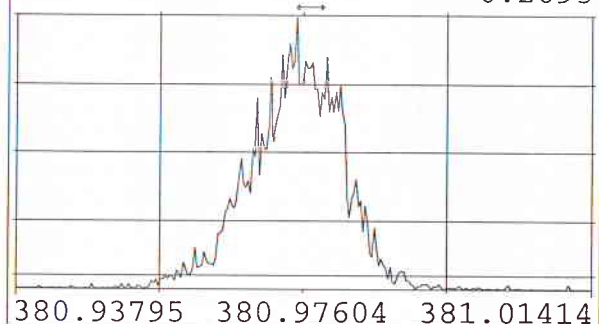


Peak Locate Examination:22-MAY-2013:16:10 File:RES_CHECK
Experiment:TO-ZB5MS Function:3 Reference:PFK

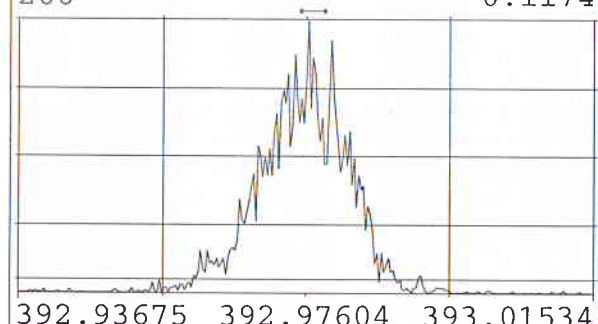
PPM 200 Volts 0.1151



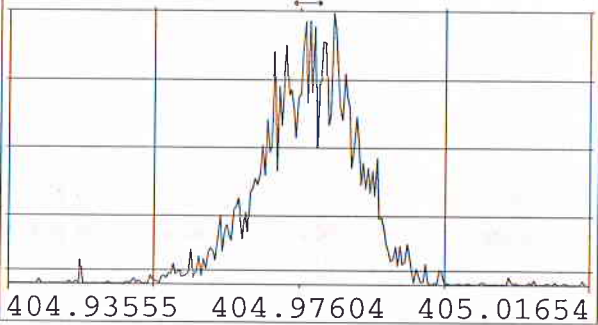
PPM 200 Volts 0.2095



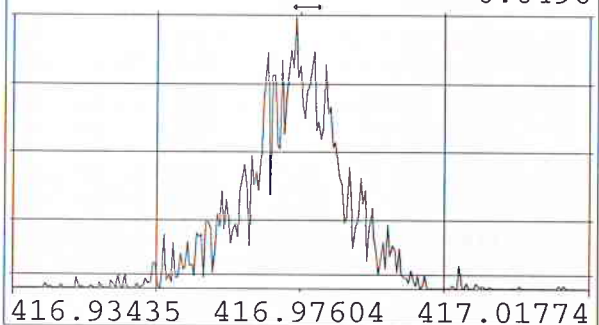
PPM 200 Volts 0.1174



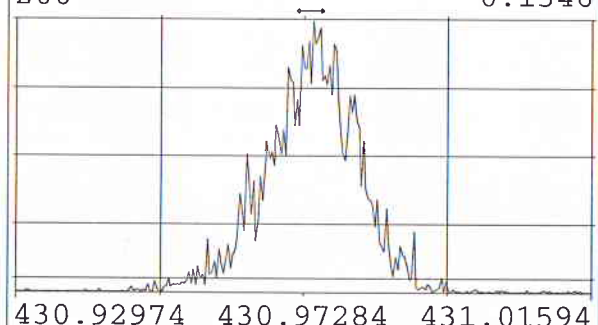
PPM 200 Volts 0.0946



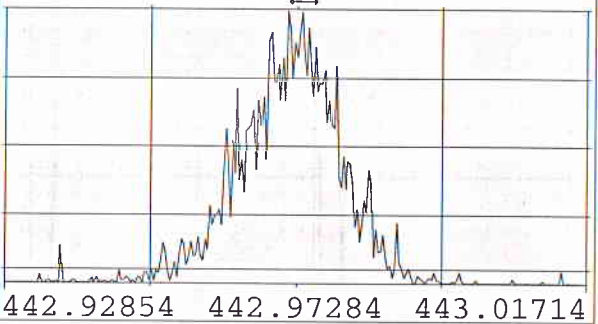
PPM 200 Volts 0.0496



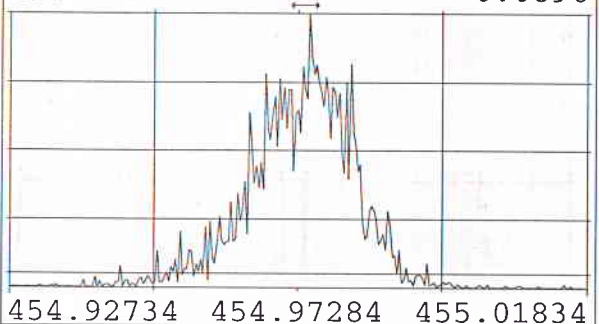
PPM 200 Volts 0.1346



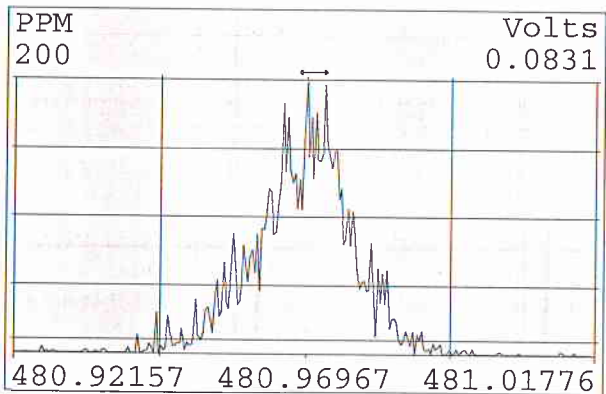
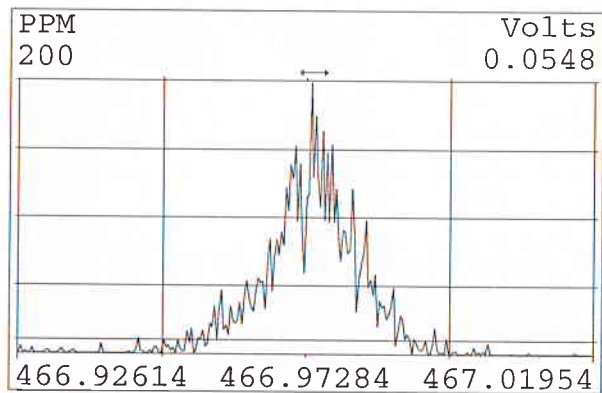
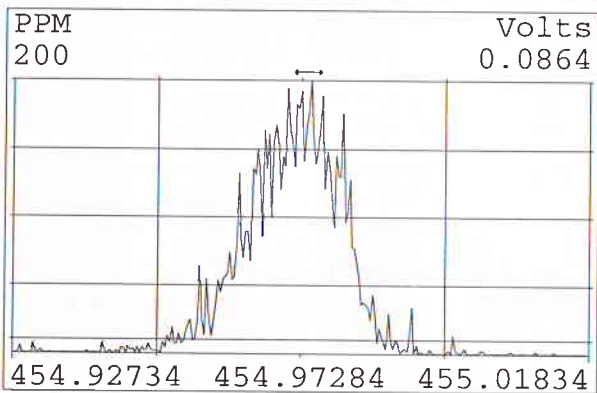
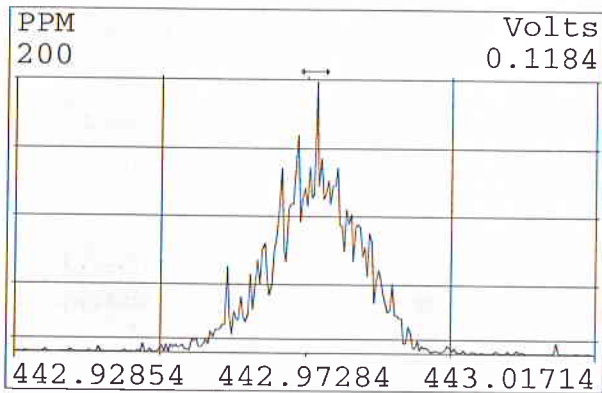
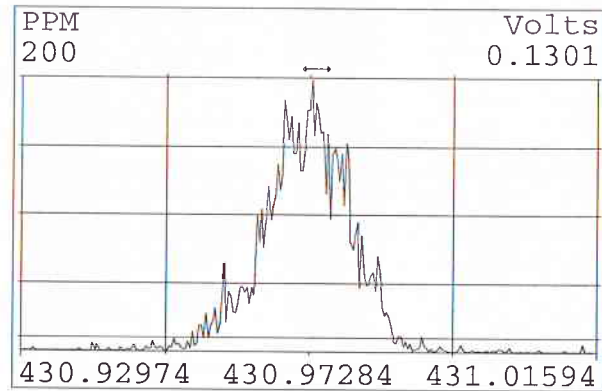
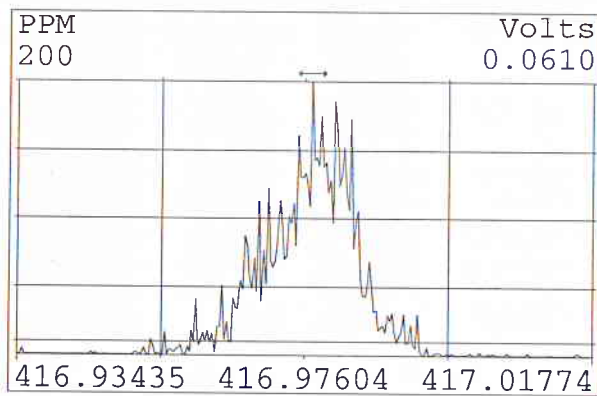
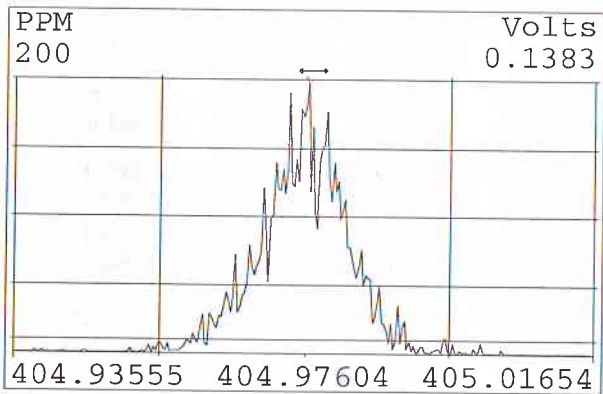
PPM 200 Volts 0.0846



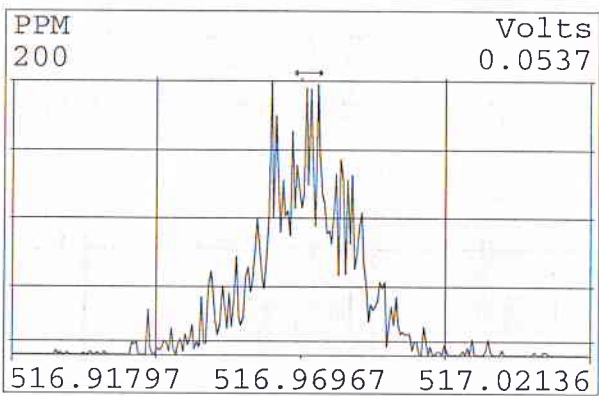
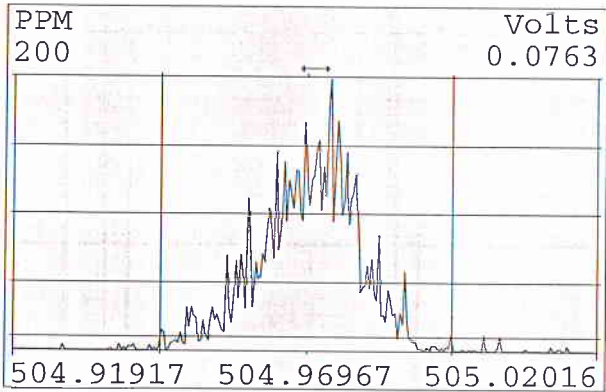
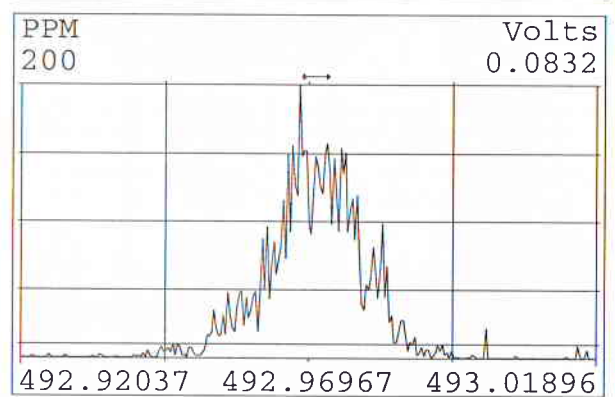
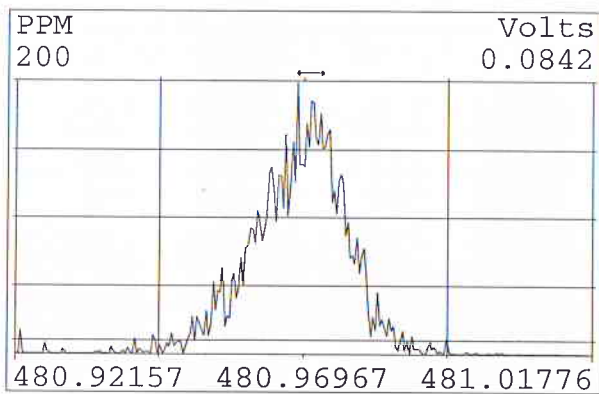
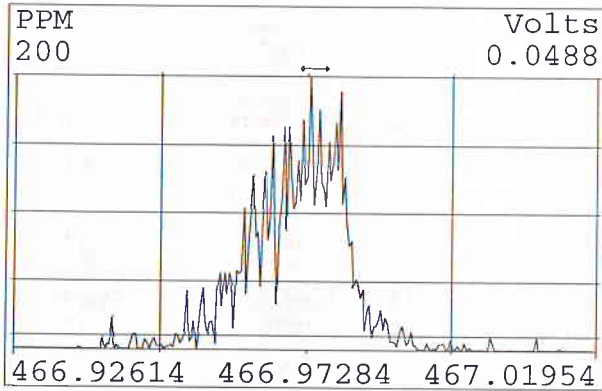
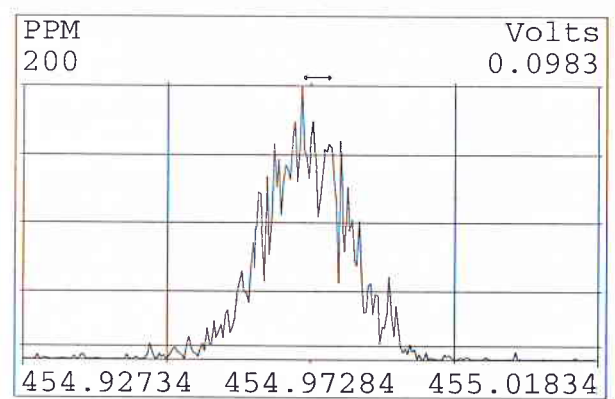
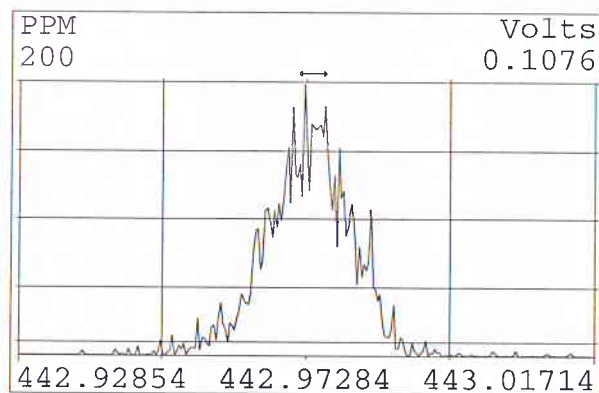
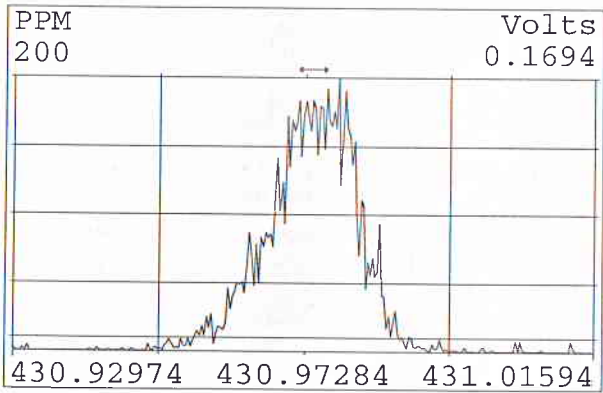
PPM 200 Volts 0.0896



Peak Locate Examination:22-MAY-2013:16:11 File:RES_CHECK
Experiment:TO-ZB5MS Function:4 Reference:PFK



Peak Locate Examination:22-MAY-2013:16:12 File:RES_CHECK
Experiment:T0-ZB5MS Function:5 Reference:PFK



USEPA ITD

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST052213A1 7

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS 1 GC Column ID: ZB-5MS

VER Data Filename: 052213A1 S:9 Analysis Date: 22-MAY 13 Time: 15:06:53

Second Source

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	EPA 1613 CONC. RANGE (3)		EPA 8290 CONC. RANGE	
					(ng/mL)	(ng/mL)	(ng/mL)	(ng/mL)
2,3,7,8 TCDD	M/M+2	0.78	0.65 0.89	10.0	7.8 12.9	8.0 12.0		
1,2,3,7,8 PeCDD	M/M+2	0.61	0.53 0.71	46.3	39 65	40 60		
1,2,3,4,7,8 HxCDD	M+2/M+4	1.30	1.05 1.43	53.2	39 64	40 60		
1,2,3,6,7,8 HxCDD	M+2/M+4	1.17	1.05 1.43	55.9	39 64	40 60		
1,2,3,7,8,9 HxCDD	M+2/M+4	1.25	1.05 1.43	59.5	41 61	40 60		
1,2,3,4,6,7,8 HpCDD	M+2/M+4	1.07	0.88 1.20	50.8	43 58	40 60		
OCDD	M+2/M+4	0.89	0.76 1.02	112.5	79 126	80 120		
2,3,7,8 TCDF	M/M+2	0.81	0.65 0.89	10.0	8.4 12.0	8.0 12.0		
1,2,3,7,8 PeCDF	M+2/M+4	1.67	1.32 1.78	54.8	41 60	40 60		
2,3,4,7,8-PeCDF	M+2/M+4	1.63	1.32 1.78	51.6	41 61	40 60		
1,2,3,4,7,8 HxCDF	M+2/M+4	1.30	1.05 1.43	56.0	45 56	40 60		
1,2,3,6,7,8 HxCDF	M+2/M+4	1.30	1.05 1.43	51.6	44 57	40 60		
2,3,4,6,7,8 HxCDF	M+2/M+4	1.28	1.05 1.43	47.0	44 57	40 60		
1,2,3,7,8,9 HxCDF	M+2/M+4	1.28	1.05 1.43	54.3	45 56	40 60		
1,2,3,4,6,7,8 HpCDF	M+2/M+4	1.10	0.88 1.20	54.4	45 55	40 60		
1,2,3,4,7,8,9 HpCDF	M+2/M+4	1.09	0.88 1.20	50.5	43 58	40 60		
OCDF	M+2/M+4	0.95	0.76 1.02	109.3	63 159	80 120		

Analyst: *[Signature]*
Date: *6/4/13*

Reviewer: *[Signature]*
Date: *6/5/13*

(1) See Table 3, Method 1613, for m/z specifications.
 (2) Ion Abundance Ratio Control Limits as specified in Table 3A, Method 1613.
 (3) Contract required concentration range as specified in Table 7, Method 1613, under VER 10/94.

USEPA ITD

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST052213A1 7

Contract No.: SAS No.:

Initial Calibration Date: 5/22/13

Instrument ID: MS-1 GC Column ID: ZB-5MS

VER Data Filename: 052213A1 S:9 Analysis Date: 22-MAY-13 Time: 15:06:53

Labeled Compounds	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	EPA 1613 CONC. RANGE (3)		EPA 8290 CONC. RANGE	
					(ng/mL)	(ng/mL)	(ng/mL)	(ng/mL)
13C 2,3,7,8 TCDD	M/M+2	0.75	0.65 0.89	99.4	82 121	70 130		
13C 1,2,3,7,8 PeCDD	M/M+2	0.62	0.53 0.71	94.8	62 160	70 130		
13C 1,2,3,4,7,8 HxCDD	M+2/M+4	1.26	1.05 1.43	89.9	85 117	70 130		
13C 1,2,3,6,7,8 HxCDD	M+2/M+4	1.25	1.05 1.43	84.9	85 118	70 130		
13C 1,2,3,4,6,7,8 HpCDD	M+2/M+4	1.07	0.88 1.20	102.2	72 138	70 130		
13C OCDD	M+2/M+4	0.88	0.76 1.02	185.9	96 415	140 260		
13C 2,3,7,8 TCDF	M/M+2	0.81	0.65 0.89	89.5	71 140	70 130		
13C 1,2,3,7,8 PeCDF	M+2/M+4	1.58	1.32 1.78	87.2	76 130	70 130		
13C 2,3,4,7,8 PeCDF	M+2/M+4	1.57	1.32 1.78	85.8	77 130	70 130		
13C 1,2,3,4,7,8 HxCDF	M/M+2	0.53	0.43 0.59	88.7	76 131	70 130		
13C 1,2,3,6,7,8 HxCDF	M/M+2	0.52	0.43 0.59	95.4	70 143	70 130		
13C 2,3,4,6,7,8 HxCDF	M/M+2	0.53	0.43 0.59	100.2	73 137	70 130		
13C 1,2,3,7,8,9 HxCDF	M/M+2	0.52	0.43 0.59	93.4	74 135	70 130		
13C 1,2,3,4,6,7,8 HpCDF	M/M+2	0.48	0.37 0.51	91.1	78 129	70 130		
13C 1,2,3,4,7,8,9 HpCDF	M/M+2	0.49	0.37 0.51	113.4	77 129	70 130		

Clean up Standard (4)

37Cl 2,3,7,8-TCDD	M			9.16	7.9 - 12.7	7.0	13.0	
-------------------	---	--	--	------	------------	-----	------	--

- (1) See Table 3, Method 1613, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 3A, Method 1613.
- (3) Contract required concentration range, as specified in Table 7, Method 1613, under VER.
- (4) No ion abundance ratio; report concentration found.

Analyst: J
Date: 6/4/13

Reviewer: ML
Date: 6/5/13

Ceres Analytical Laboratory Inc. Quantitation Summary

Filename: 052213A1 S: 9 Acquired: 22 MAY-13 15:06:53 Analyte: 1613 ICal: 1613 msl 5 22 13 Con CAL: na
 Ceres ID: ST052213A1 7 Client ID: S121411C 1613 CS3 SS Total Tox: 102.19 Wt/Vol: 1.000 End CAL: na

Name	RT	Resp	RRF	RA	rrt	Conc	IS m2 ht	DL
2,3,7,8-TCDD	28:43	1.12e+07	1.03	0.78	y 1.001 0.999 1.002	9.95	1.33e+07 14700 2.5	
1,2,3,7,8-PeCDD	33:55	4.71e+07	0.99	0.61	y 1.001 0.999 1.002	46.3	1.71e+07 45200 2.5	
1,2,3,4,7,8-HxCDD	37:46	4.32e+07	0.99	1.30	y 1.000 0.999 1.001	53.2	8.18e+06 14300 2.5	
1,2,3,6,7,8-HxCDD	37:53	4.41e+07	0.93	1.17	y 1.001 0.998 1.004	55.9	8.08e+06 14300 2.5	
1,2,3,7,8,9-HxCDD	38:14	4.70e+07	0.95	1.25	y 1.010 1.000 1.019	59.5	8.08e+06 14300 2.5	
1,2,3,4,6,7,8-HpCDD	41:50	4.14e+07	1.01	1.07	y 1.001 0.999 1.001	50.8	8.53e+06 57000 2.5	
OCDD	45:38	7.07e+07	1.00	0.89	y 1.000 0.999 1.001	113	1.24e+07 14500 2.5	
2,3,7,8-TCDF	27:50	1.42e+07	0.96	0.81	y 1.001 0.999 1.003	10.0	1.64e+07 11200 2.5	
1,2,3,7,8-PeCDF	32:35	8.08e+07	1.01	1.67	y 1.000 0.999 1.002	54.8	1.42e+07 17400 2.5	
2,3,4,7,8-PeCDF	33:36	7.70e+07	1.02	1.63	y 1.000 0.999 1.002	51.6	1.53e+07 17400 2.5	
1,2,3,4,7,8-HxCDF	36:44	8.06e+07	1.26	1.30	y 1.000 0.999 1.001	56.0	1.87e+07 0.00 2.5	
1,2,3,6,7,8-HxCDF	36:53	8.48e+07	1.25	1.30	y 1.000 0.997 1.005	51.6	1.86e+07 0.00 2.5	
2,3,4,6,7,8-HxCDF	37:35	7.50e+07	1.36	1.28	y 1.001 0.999 1.001	47.0	1.77e+07 0.00 2.5	
1,2,3,7,8,9-HxCDF	38:42	6.85e+07	1.20	1.28	y 1.001 0.999 1.001	54.3	1.30e+07 0.00 2.5	
1,2,3,4,6,7,8-HpCDF	40:35	7.50e+07	1.53	1.10	y 1.000 0.999 1.001	54.4	1.48e+07 353000» 2.5	
1,2,3,4,7,8,9-HpCDF	42:30	6.73e+07	1.55	1.09	y 1.000 0.999 1.001	50.5	1.15e+07 353000» 2.5	
OCDF	45:55	9.36e+07	1.37	0.95	y 1.006 0.999 1.008	109	1.24e+07 16000 2.5	
							Rec	
13C 2,3,7,8 TCDD	28:42	1.10e+08	1.00	0.75	y 1.024 0.976 1.043	99.4	99.4	
13C 1,2,3,7,8 PeCDD	33:54	1.03e+08	0.99	0.62	y 1.209 1.000 1.567	94.8	94.8	
13C-1,2,3,4,7,8 HxCDD	37:45	8.18e+07	0.98	1.26	y 0.988 0.977 1.000	89.9	89.9	
13C 1,2,3,6,7,8 HxCDD	37:52	8.47e+07	1.08	1.25	y 0.991 0.981 1.003	84.9	84.9	
13C 1,2,3,4,6,7,8 HpCDD	41:49	8.05e+07	0.85	1.07	y 1.094 1.086 1.110	102	102	
13C OCDD	45:38	1.25e+08	0.73	0.88	y 1.194 1.032 1.311	186	93.0	
13C 2,3,7,8 TCDF	27:48	1.48e+08	1.49	0.81	y 0.992 0.923 1.103	89.5	89.5	
13C-1,2,3,7,8 PeCDF	32:34	1.46e+08	1.51	1.58	y 1.162 1.000 1.425	87.2	87.2	
13C 2,3,4,7,8 PeCDF	33:35	1.47e+08	1.55	1.57	y 1.198 1.011 1.526	85.8	85.8	
13C 1,2,3,4,7,8 HxCDF	36:43	1.14e+08	1.39	0.53	y 0.961 0.944 0.970	88.7	88.7	
13C-1,2,3,6,7,8 HxCDF	36:52	1.32e+08	1.49	0.52	y 0.965 0.949 0.975	95.4	95.4	
13C-2,3,4,6,7,8 HxCDF	37:33	1.18e+08	1.27	0.53	y 0.983 0.959 1.021	100	100	
13C-1,2,3,7,8,9-HxCDF	38:41	1.05e+08	1.21	0.52	y 1.012 0.977 1.047	93.4	93.4	
13C 1,2,3,4,6,7,8 HpCDF	40:35	9.02e+07	1.07	0.48	y 1.062 1.043 1.085	91.1	91.1	
13C-1,2,3,4,7,8,9-HpCDF	42:29	8.57e+07	0.82	0.49	y 1.112 1.057 1.151	113	113	
37Cl 2,3,7,8 TCDD	28:44	1.15e+07	1.14		1.025 0.989 1.052	9.16	91.6	
13C 1,2,3,4 TCDD	28:02	1.10e+08	1.00	0.75	y	100		
13C 1,2,3,7,8,9 HxCDD	38:13	9.27e+07	1.00	1.24	y	100		
		Conc	EMPC		DL			
Total Tetra Dioxins		10.0	10.1	14700				
Total Penta-Dioxins		46.3	46.6	45200				
Total Hexa-Dioxins		169	169	14300				
Total Hepta Dioxins		50.8	51.1	57000				
Total Tetra Furans		10.1	10.2	11200				
1st Fnc Penta Furans		0.0151	0.164	0.00				
Total Penta-Furans		107	108	17400				
Total Hexa-Furans		209	209	0.00				
Total Hepta-Furans		105	105	353000»				
						Penta Furan Total:	107	
						Penta Furan EMPC:	108	

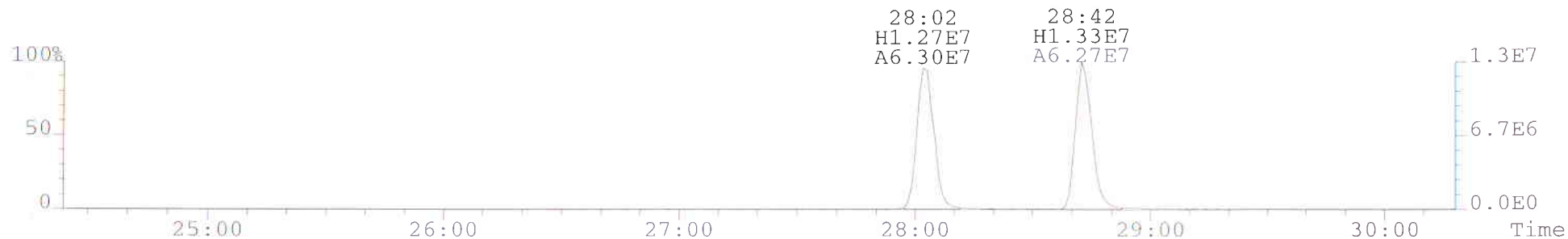
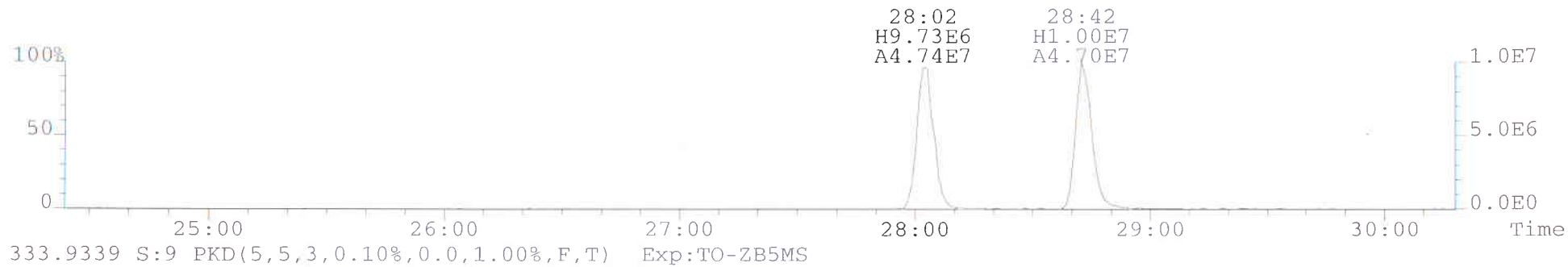
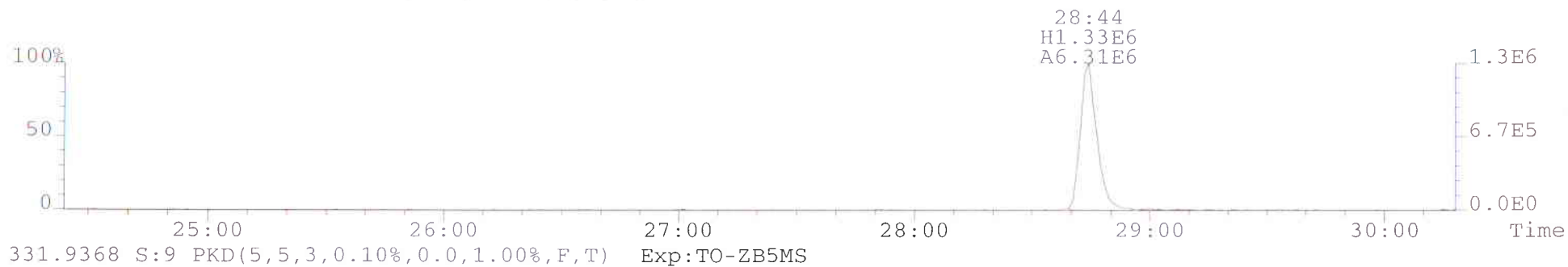
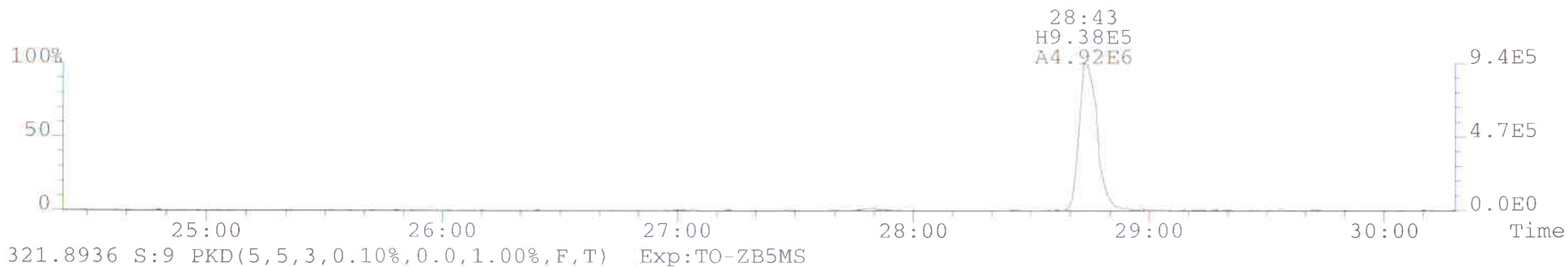
Analyst: 

Date: 6/4/13

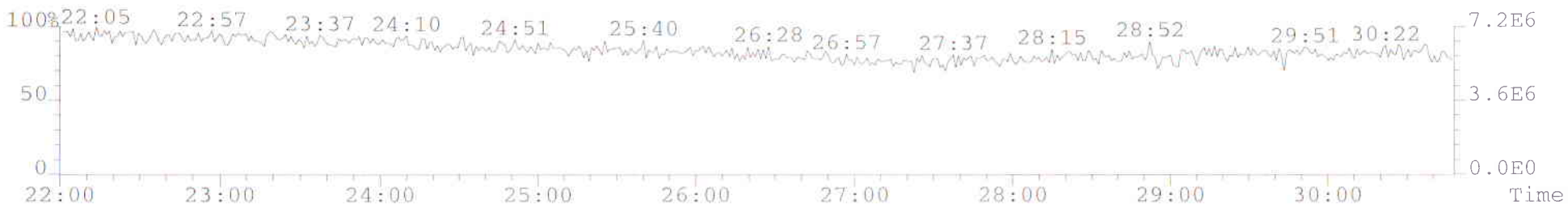
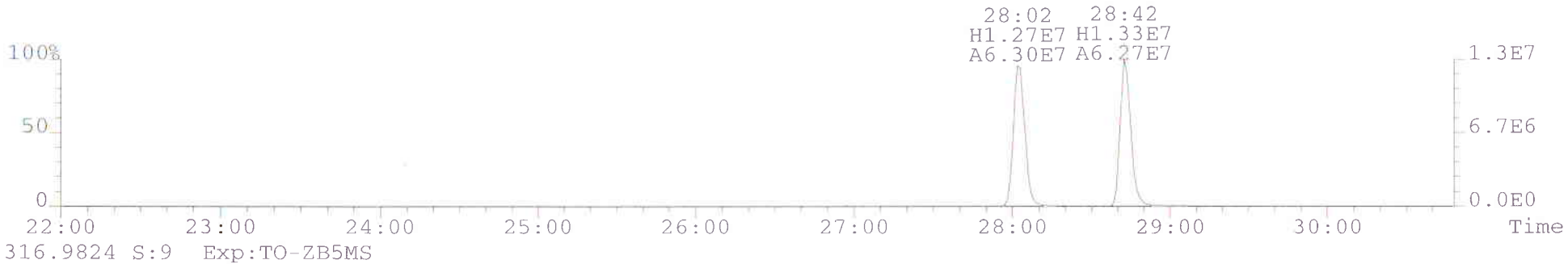
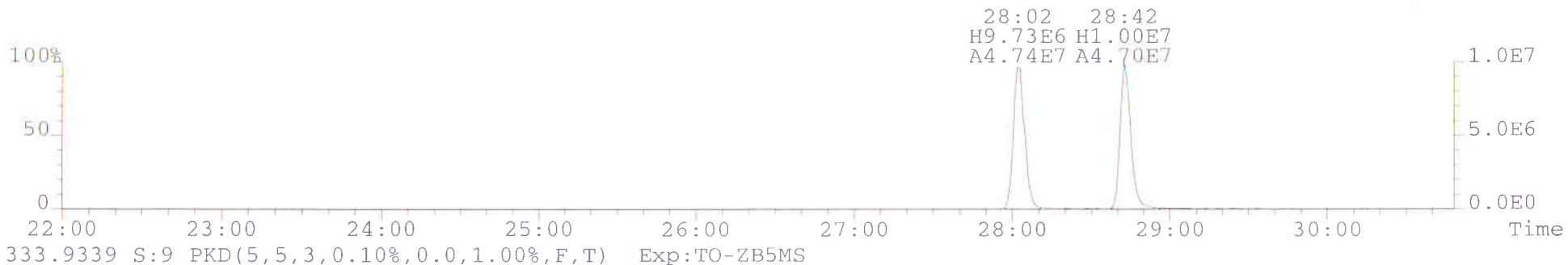
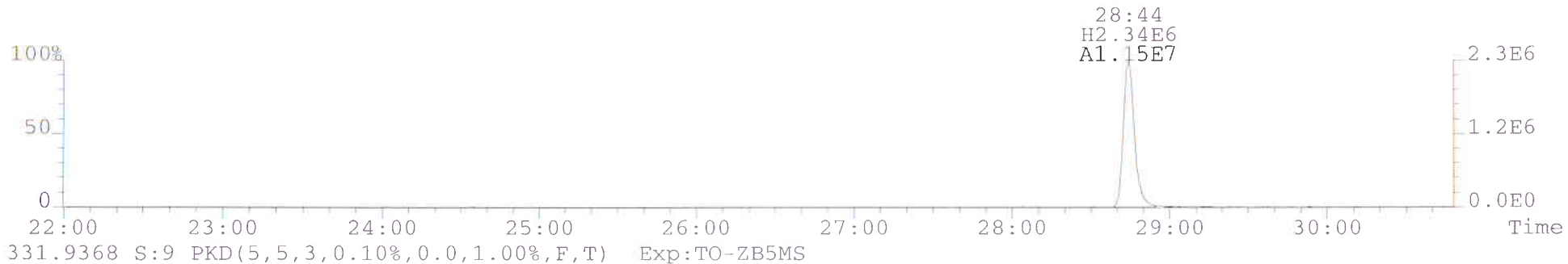
Reviewer: _____

Date: _____

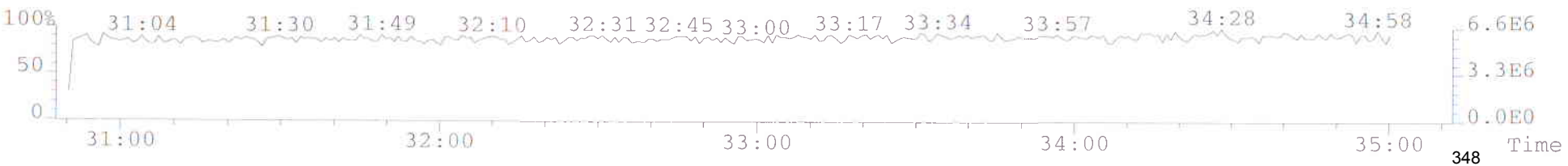
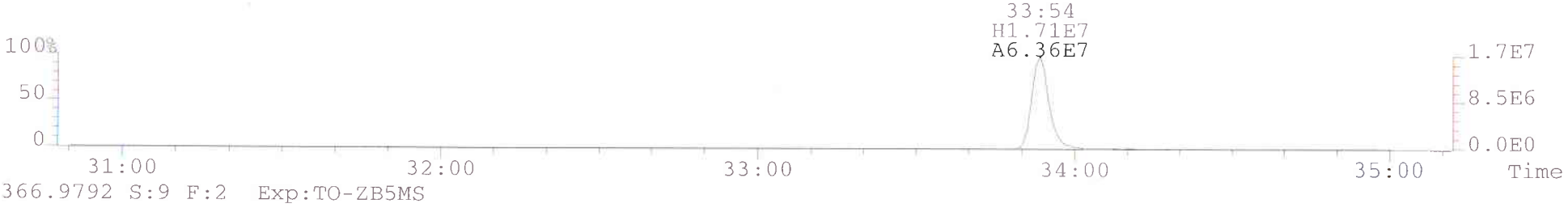
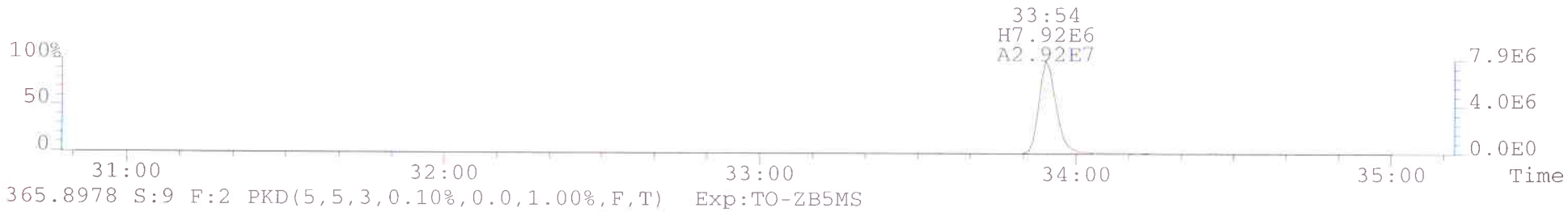
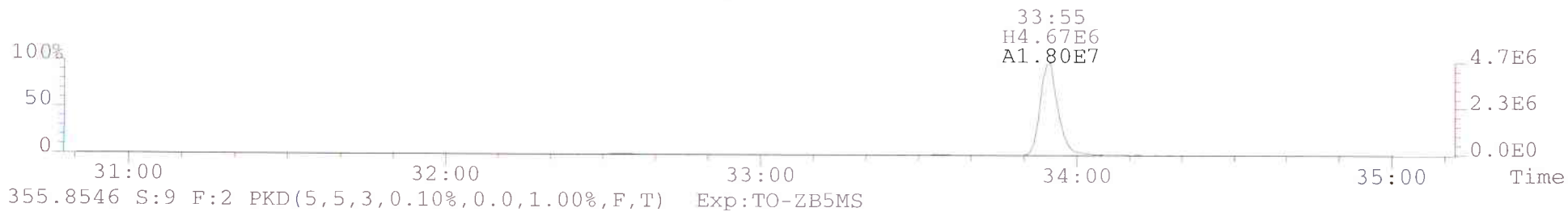
File:052213A1 #1-658 Acq:22-MAY-2013 15:06:53 GC EI+ Voltage SIR Autospec-Ultima
Sample#9 File Text:Ceres Analytical Laboratory Text:ST052213A1-7 S121411C 1613 CS3 SS
319.8965 S:9 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



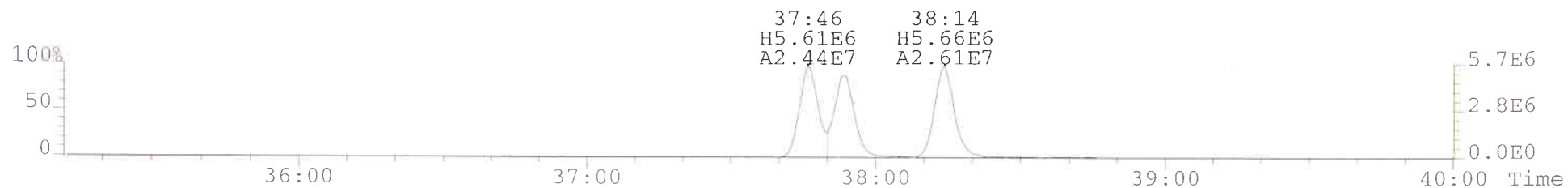
File:052213A1 #1-658 Acq:22-MAY-2013 15:06:53 GC EI+ Voltage SIR Autospec-Ultima
Sample#9 File Text:Ceres Analytical Laboratory Text:ST052213A1-7 S121411C 1613 CS3 SS
327.8847 S:9 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



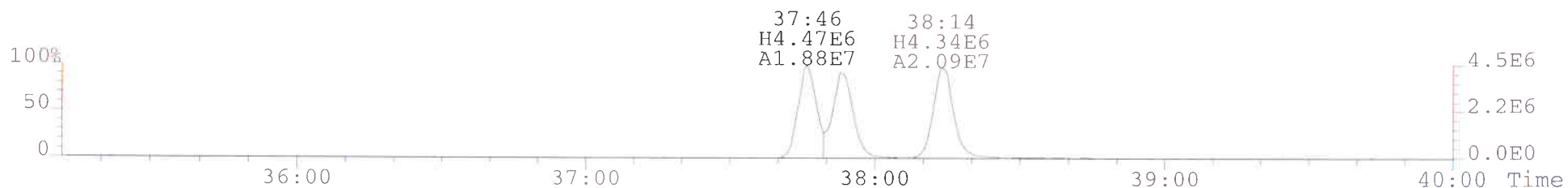
File:052213A1 #1-312 Acq:22-MAY-2013 15:06:53 GC EI+ Voltage SIR Autospec-Ultima
Sample#9 File Text:Ceres Analytical Laboratory Text:ST052213A1-7 S121411C 1613 CS3 SS
353.8576 S:9 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



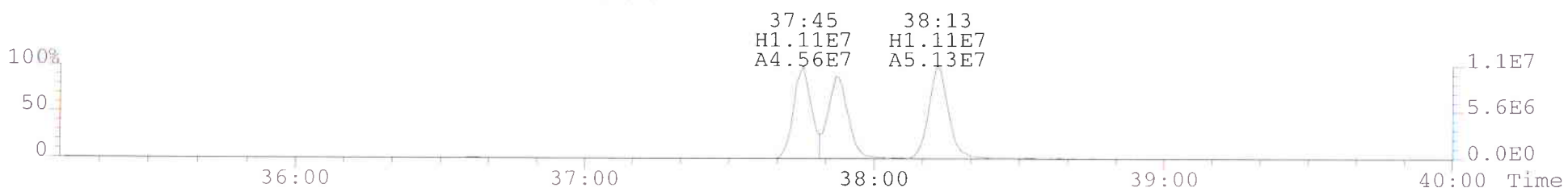
File:052213A1 #1-445 Acq:22-MAY-2013 15:06:53 GC EI+ Voltage SIR Autospec-Ultima
Sample#9 File Text:Ceres Analytical Laboratory Text:ST052213A1-7 S121411C 1613 CS3 SS
389.8156 S:9 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



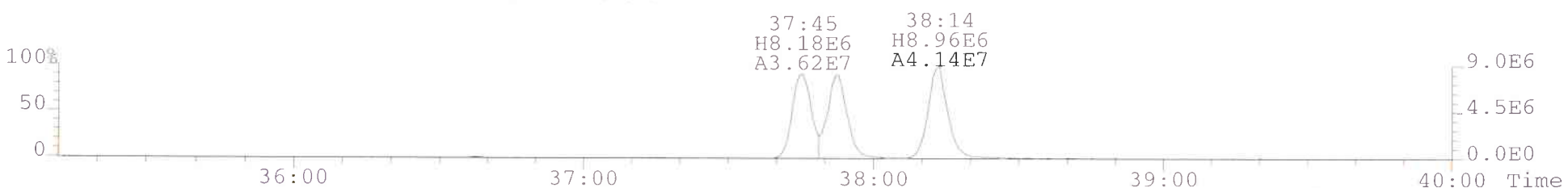
391.8127 S:9 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



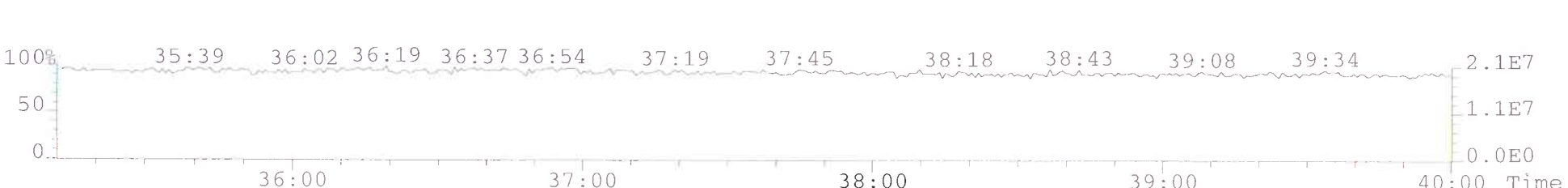
401.8559 S:9 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



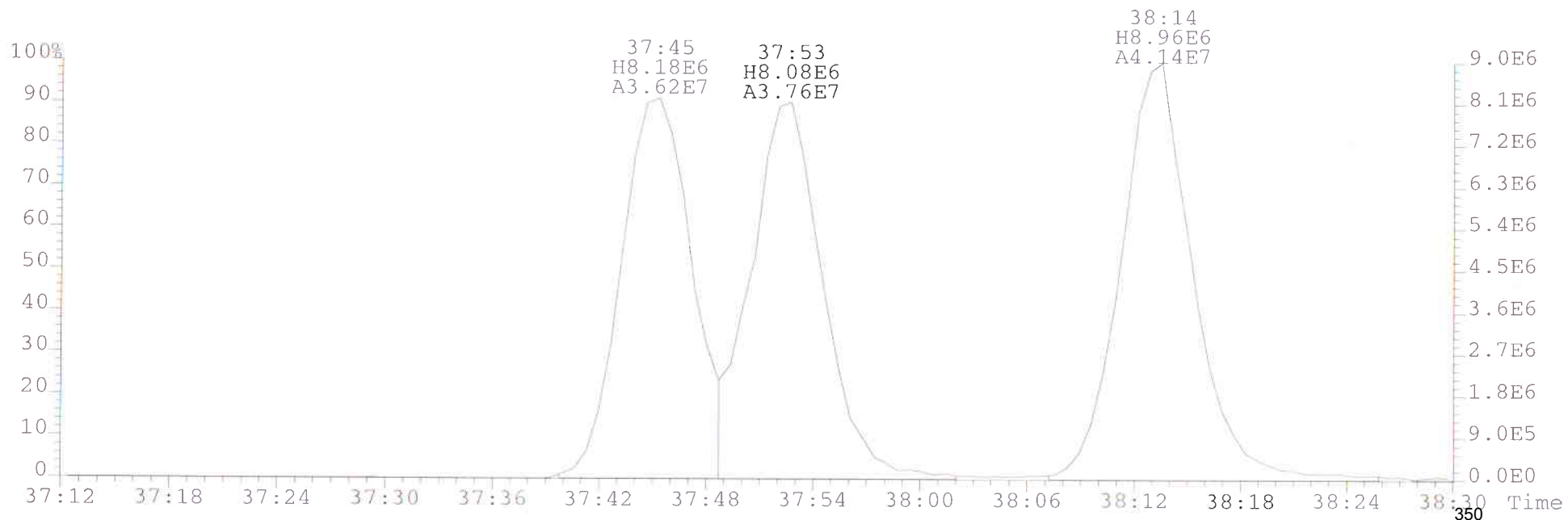
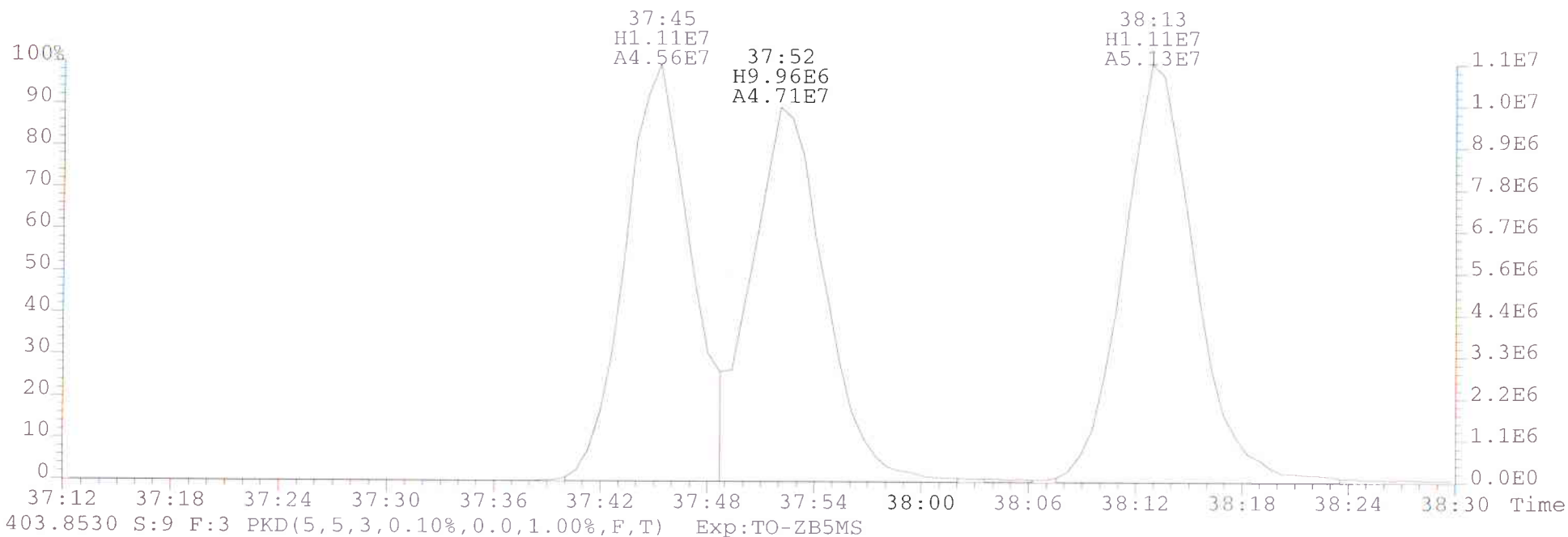
403.8530 S:9 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



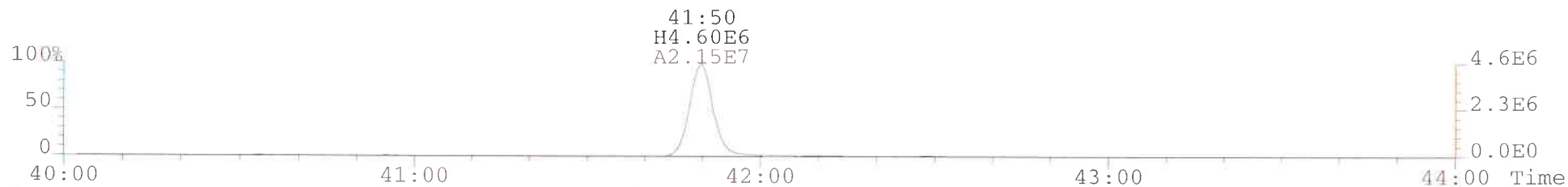
380.9760 S:9 F:3 Exp:TO-ZB5MS



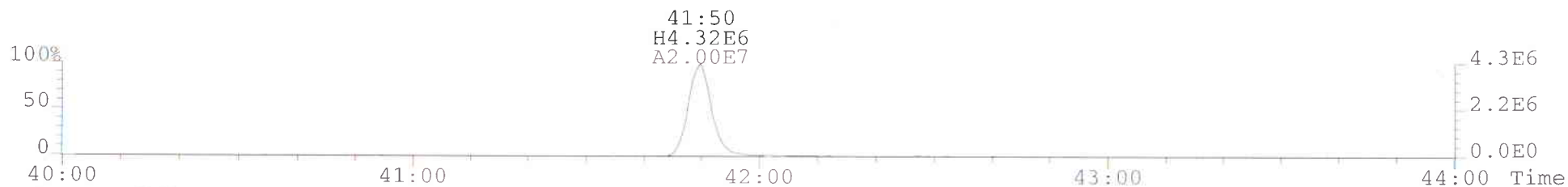
File:052213A1 #1-445 Acq:22-MAY-2013 15:06:53 GC EI+ Voltage SIR Autospec-Ultima
Sample#9 File Text:Ceres Analytical Laboratory Text:ST052213A1-7 S121411C 1613 CS3 SS
401.8559 S:9 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



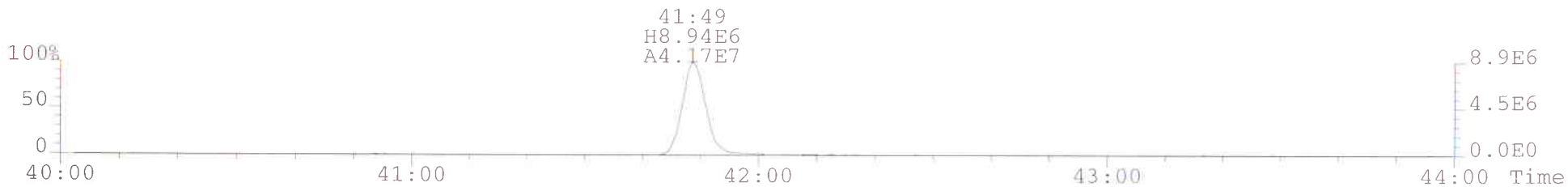
File:052213A1 #1-355 Acq:22-MAY-2013 15:06:53 GC EI+ Voltage SIR Autospec-Ultima
Sample#9 File Text:Ceres Analytical Laboratory Text:ST052213A1-7 S121411C 1613 CS3 SS
423.7767 S:9 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



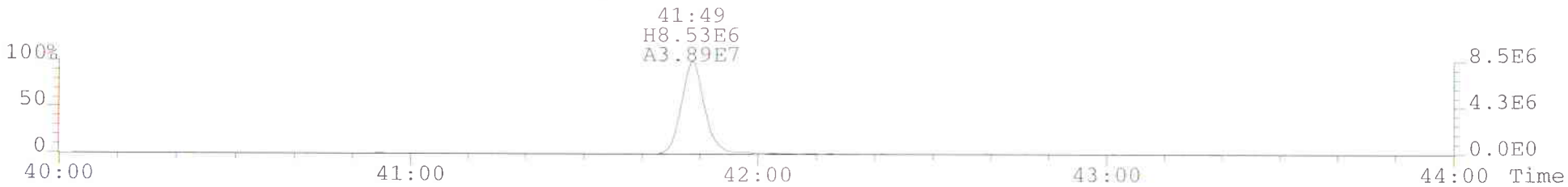
425.7737 S:9 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



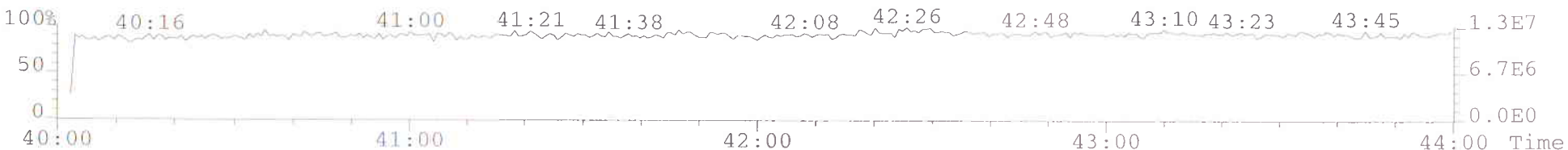
435.8169 S:9 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



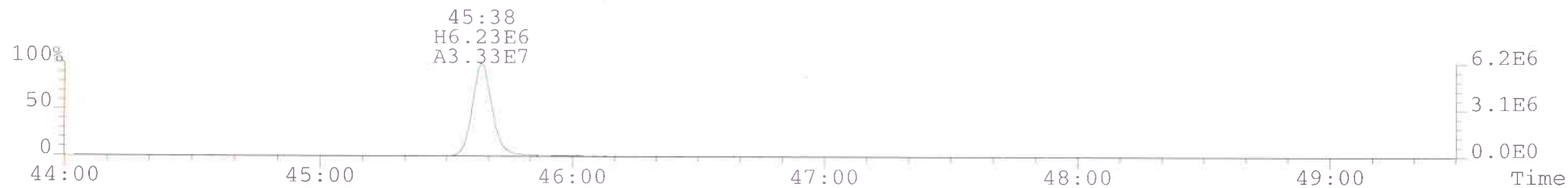
437.8140 S:9 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



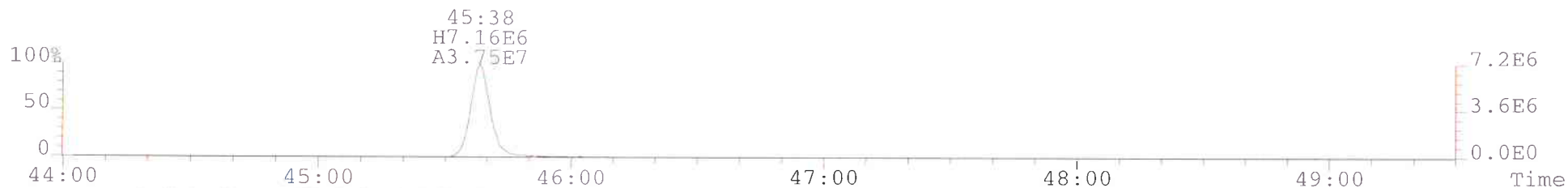
430.9728 S:9 F:4 Exp:TO-ZB5MS



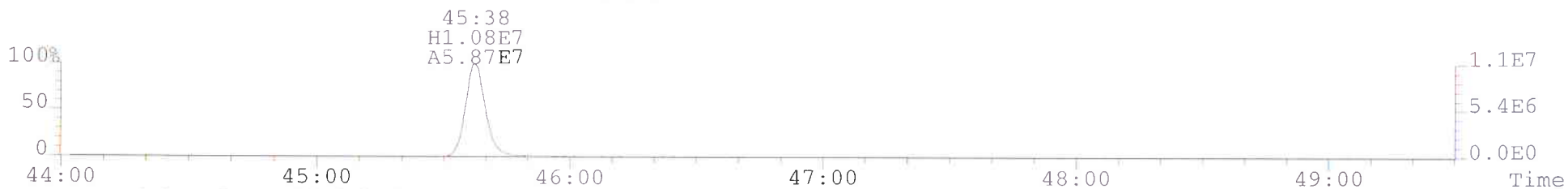
File:052213A1 #1-489 Acq:22-MAY-2013 15:06:53 GC EI+ Voltage SIR Autospec-Ultima
Sample#9 File Text:Ceres Analytical Laboratory Text:ST052213A1-7 S121411C 1613 CS3 SS
457.7377 S:9 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



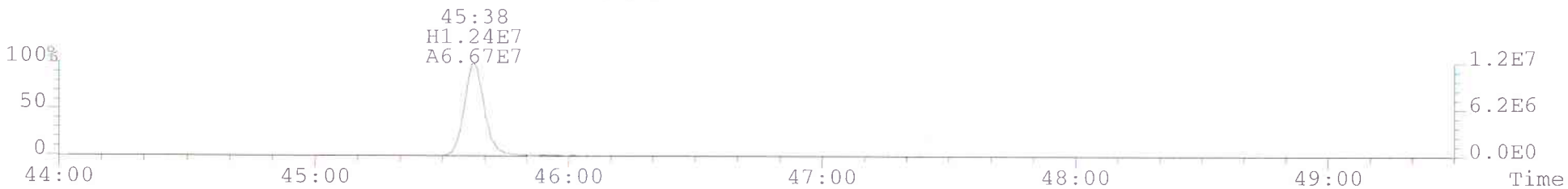
459.7348 S:9 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



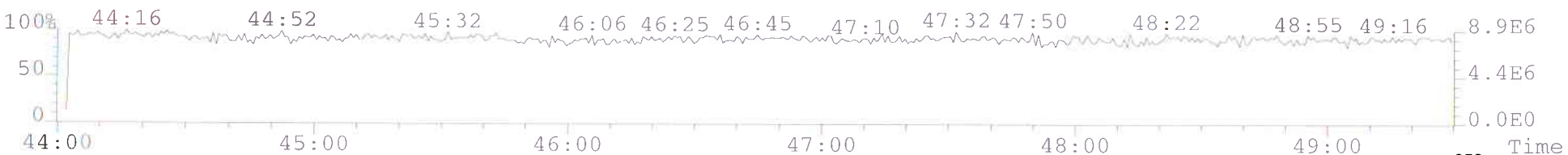
469.7780 S:9 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



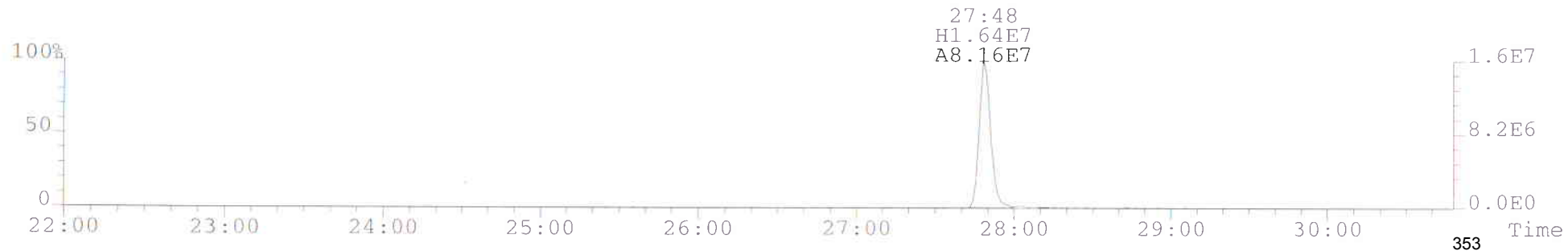
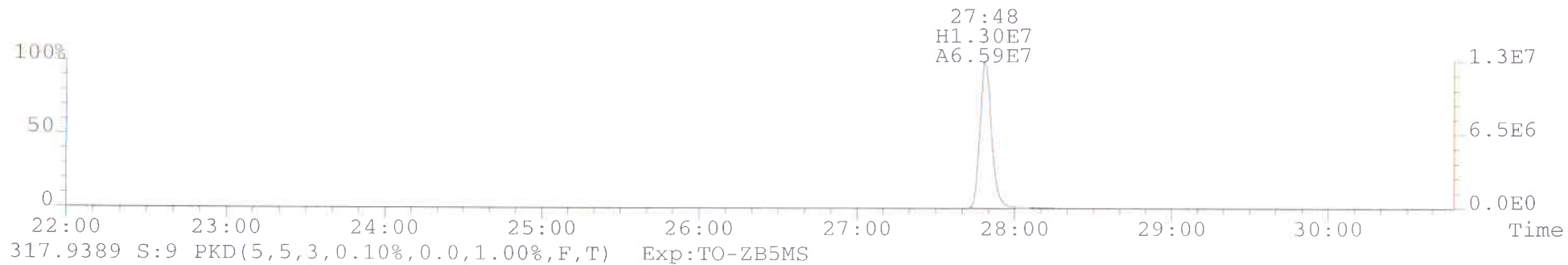
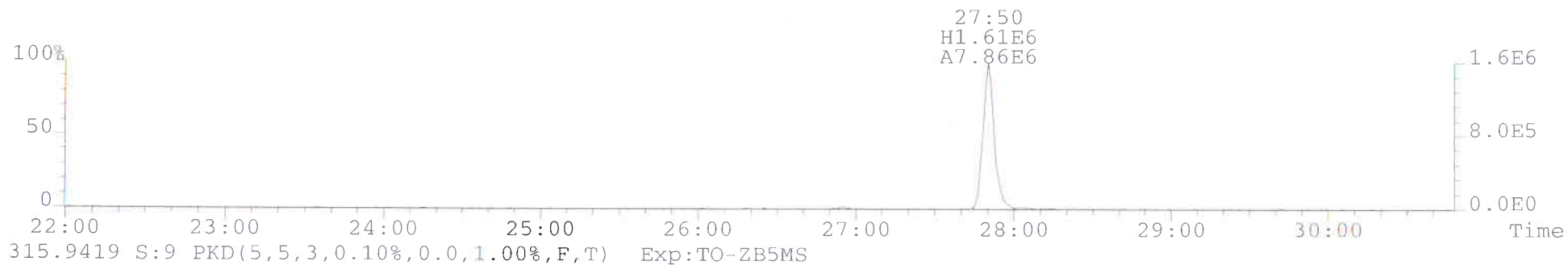
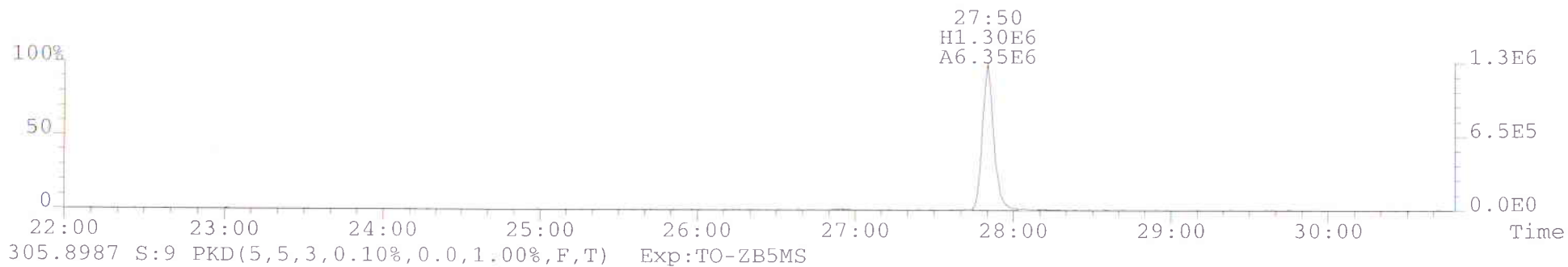
471.7750 S:9 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



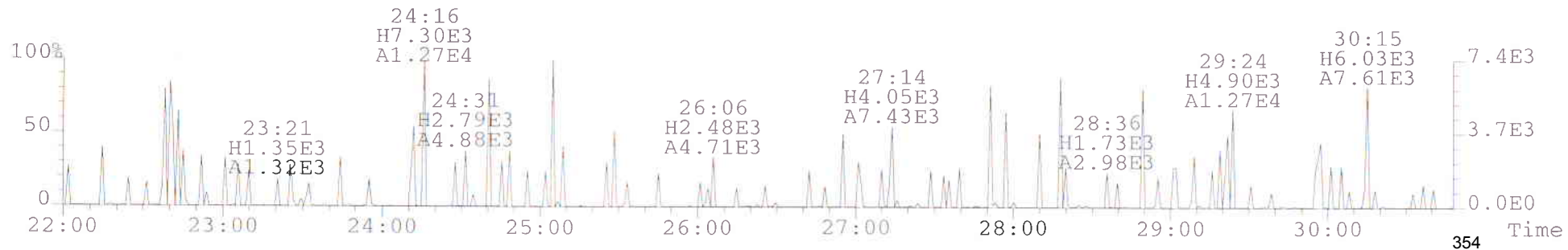
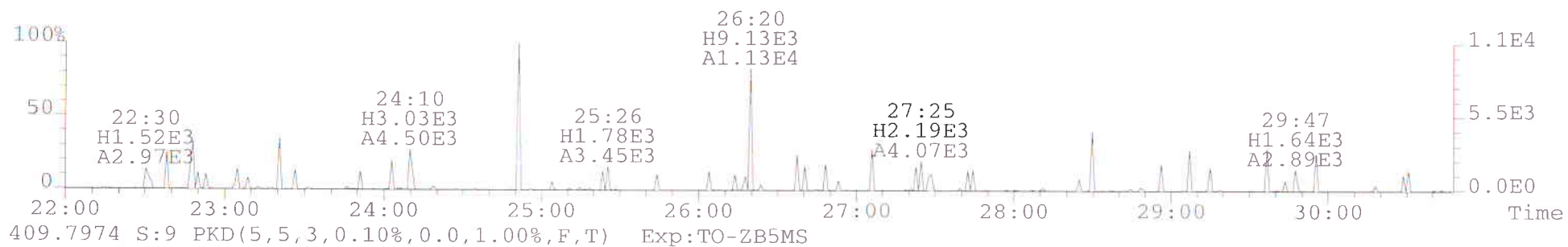
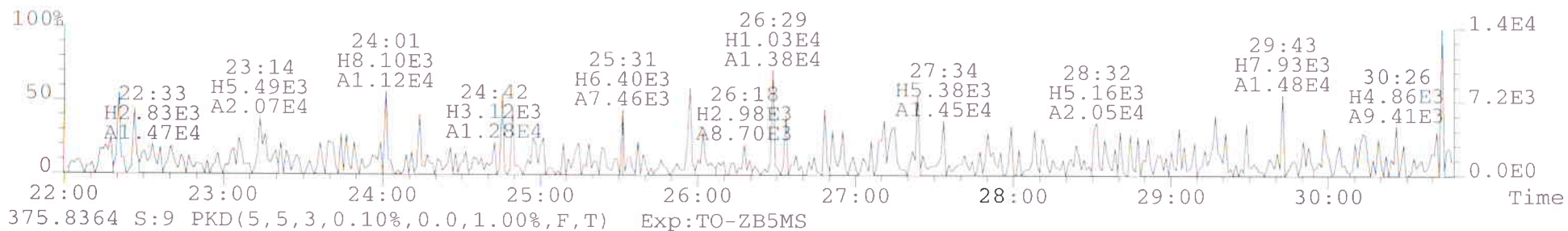
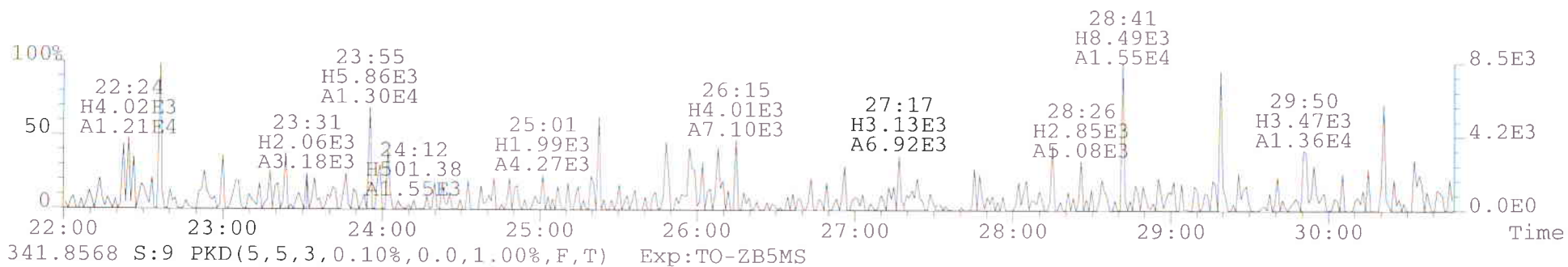
454.9728 S:9 F:5 Exp:TO-ZB5MS



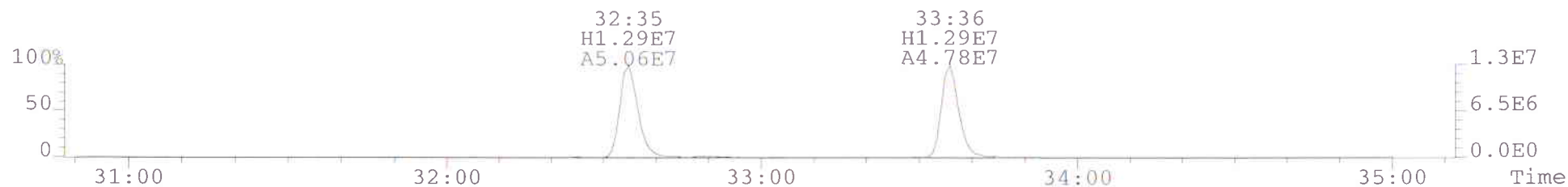
File:052213A1 #1-658 Acq:22-MAY-2013 15:06:53 GC EI+ Voltage SIR Autospec-Ultima
Sample#9 File Text:Ceres Analytical Laboratory Text:ST052213A1-7 S121411C 1613 CS3 SS
303.9016 S:9 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



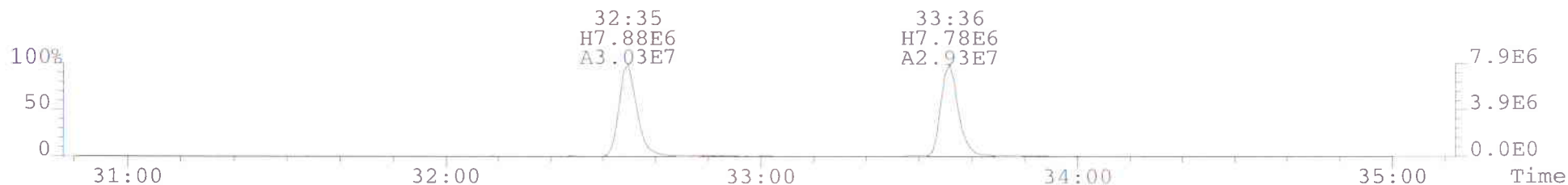
File:052213A1 #1-658 Acq:22-MAY-2013 15:06:53 GC EI+ Voltage SIR Autospec-Ultima
Sample#9 File Text:Ceres Analytical Laboratory Text:ST052213A1-7 S121411C 1613 CS3 SS
339.8597 S:9 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



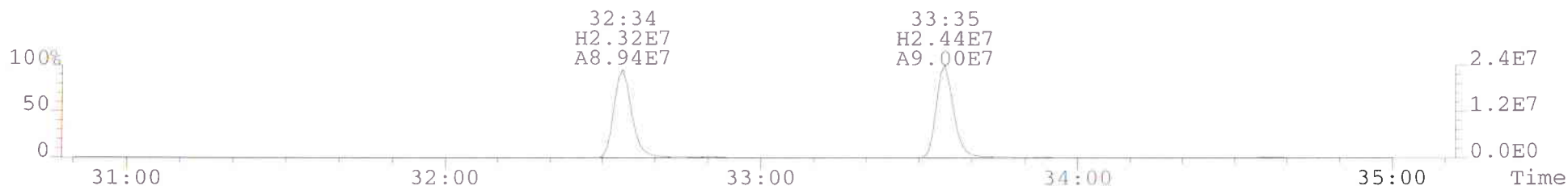
File:052213A1 #1-312 Acq:22-MAY-2013 15:06:53 GC EI+ Voltage SIR Autospec-Ultima
Sample#9 File Text:Ceres Analytical Laboratory Text:ST052213A1-7 S121411C 1613 CS3 SS
339.8597 S:9 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



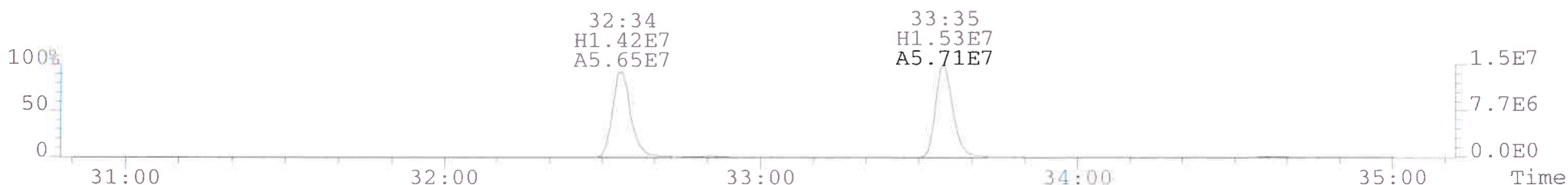
341.8568 S:9 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



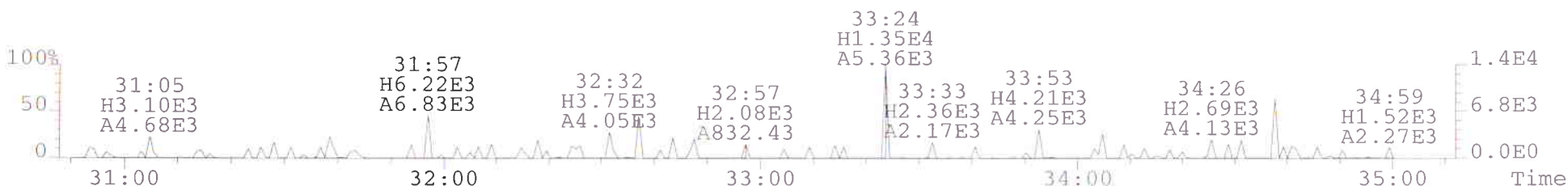
351.9000 S:9 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



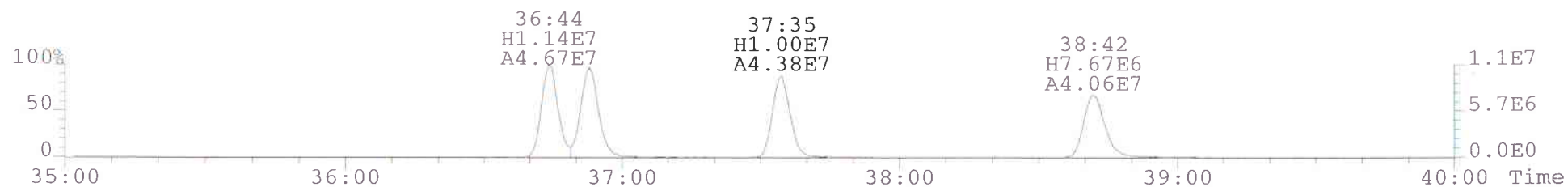
353.8970 S:9 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



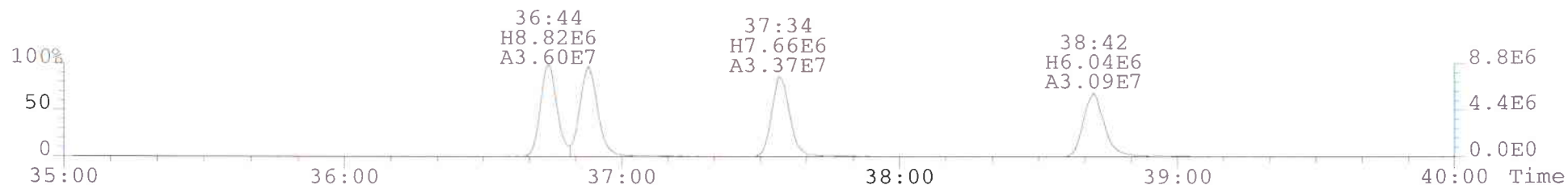
409.7974 S:9 F:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



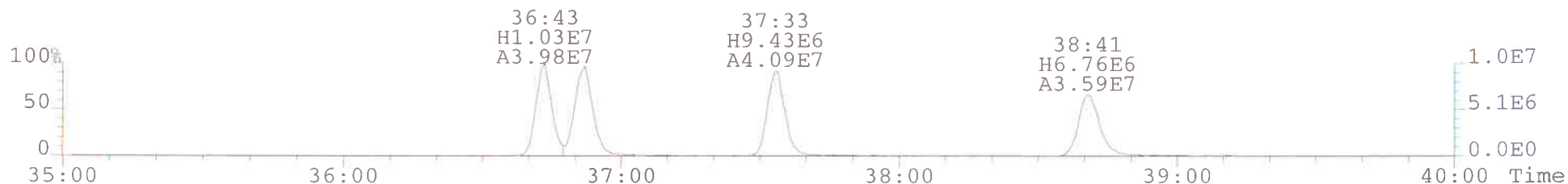
File:052213A1 #1-445 Acq:22-MAY-2013 15:06:53 GC EI+ Voltage SIR Autospec-Ultima
Sample#9 File Text:Ceres Analytical Laboratory Text:ST052213A1-7 S121411C 1613 CS3 SS
373.8207 S:9 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



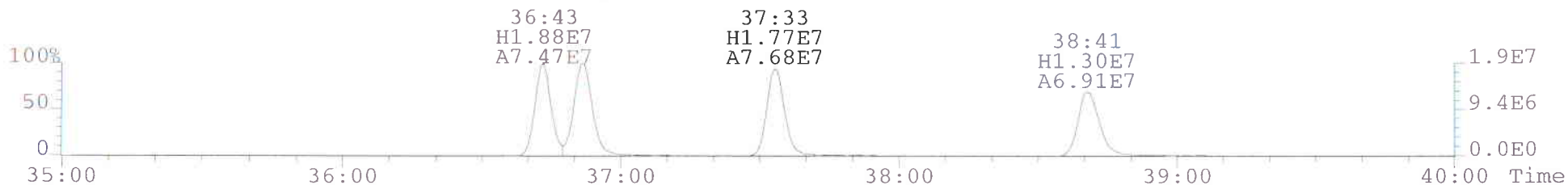
375.8178 S:9 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



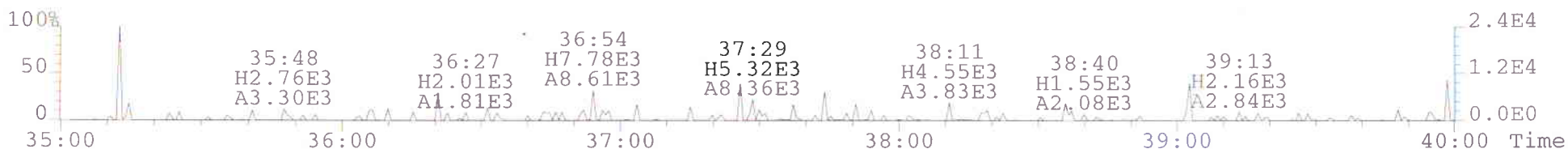
383.8639 S:9 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



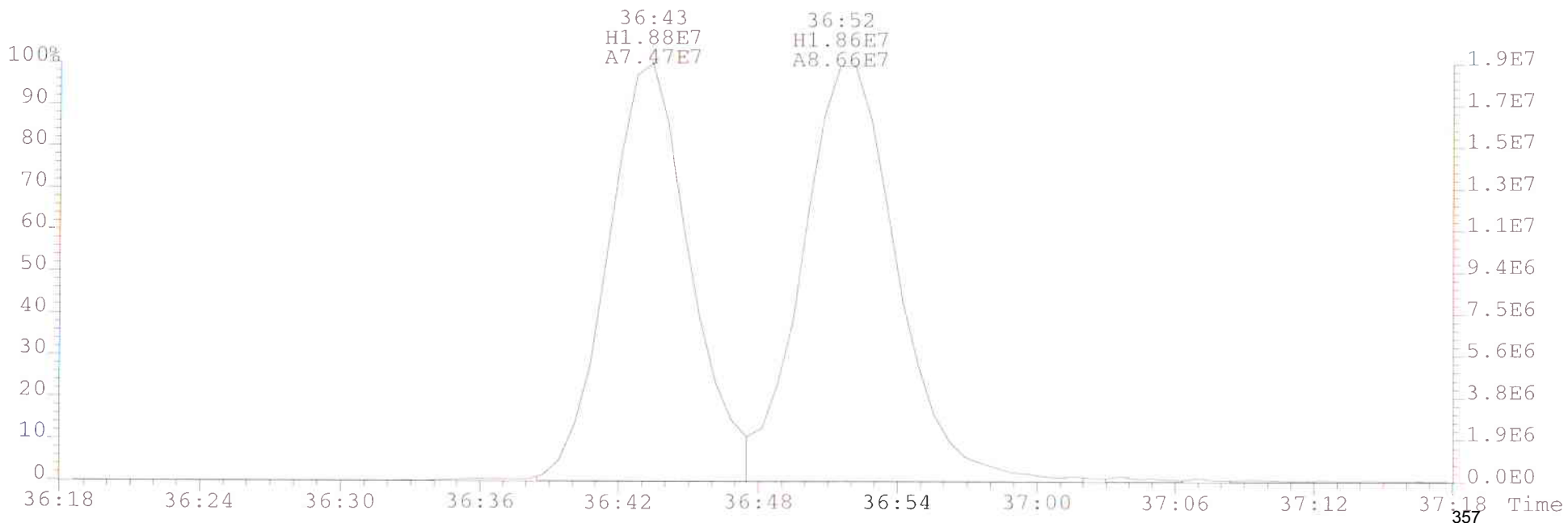
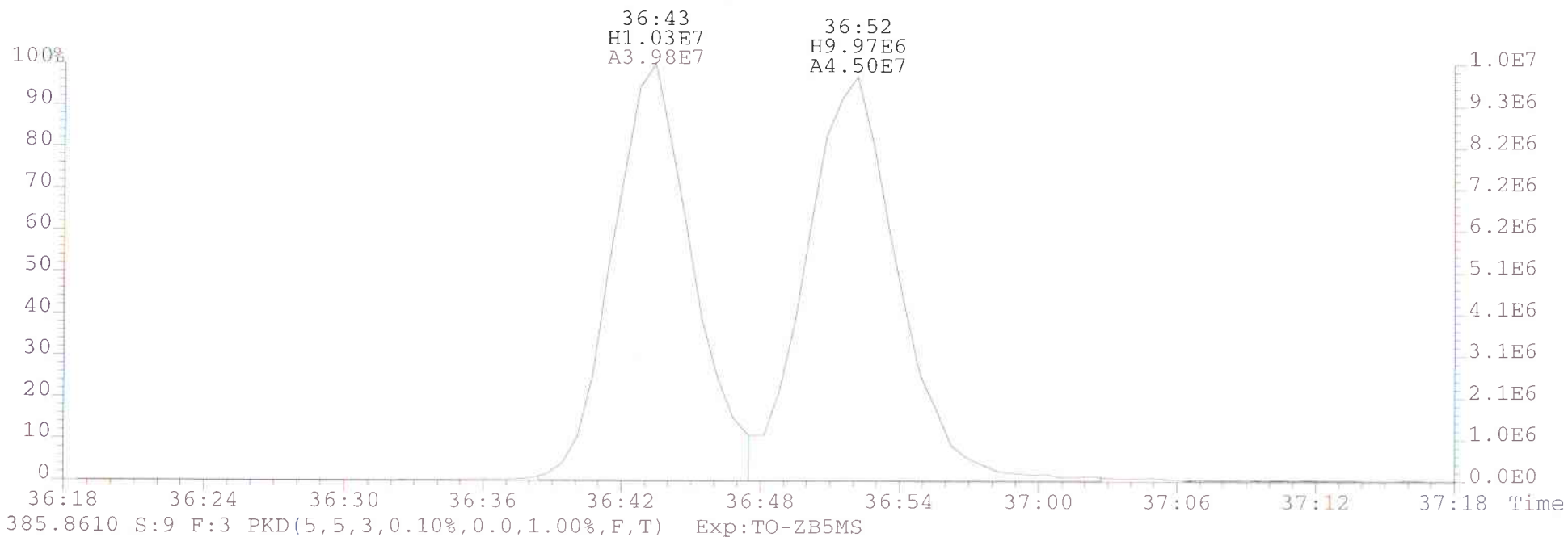
385.8610 S:9 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



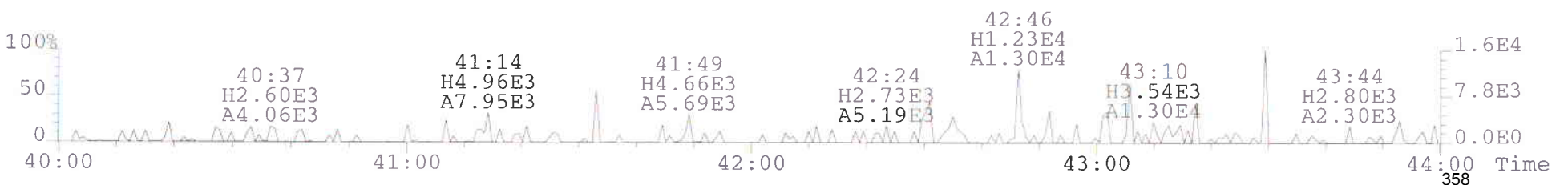
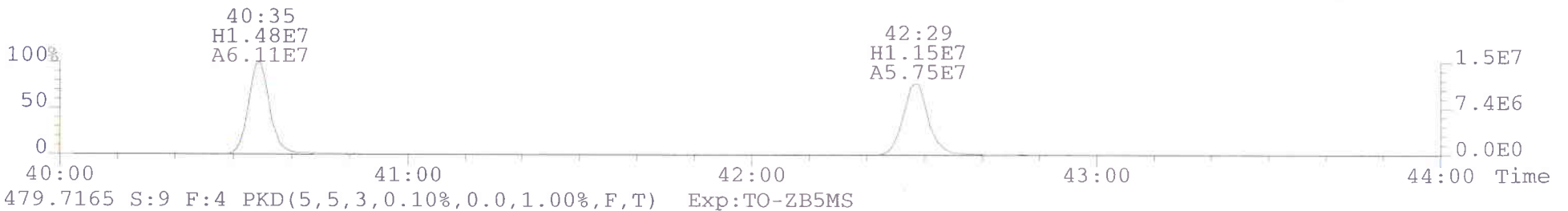
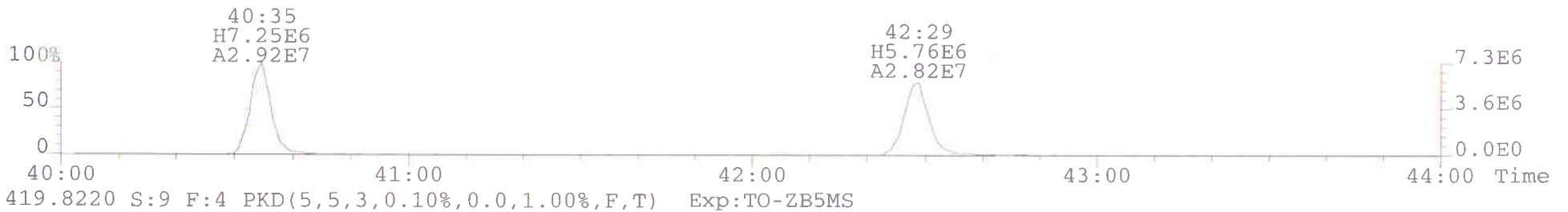
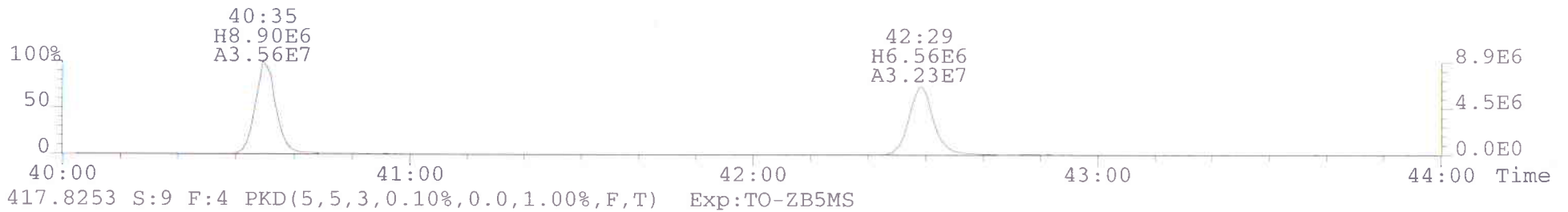
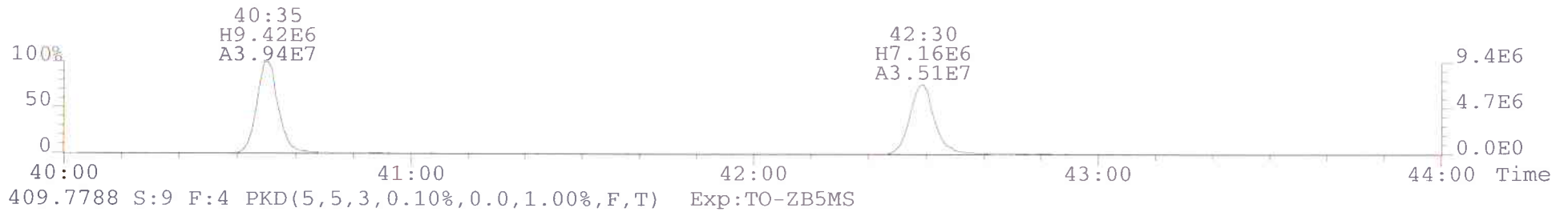
445.7555 S:9 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



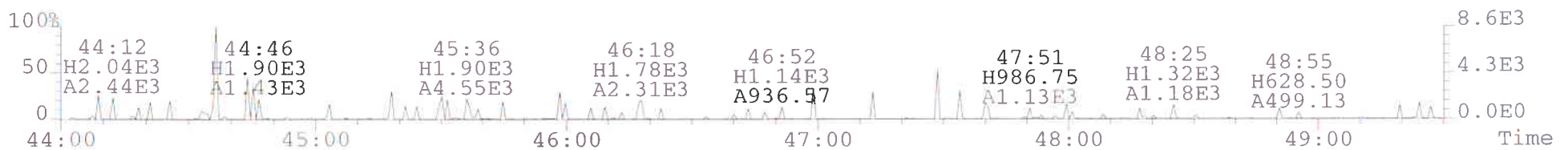
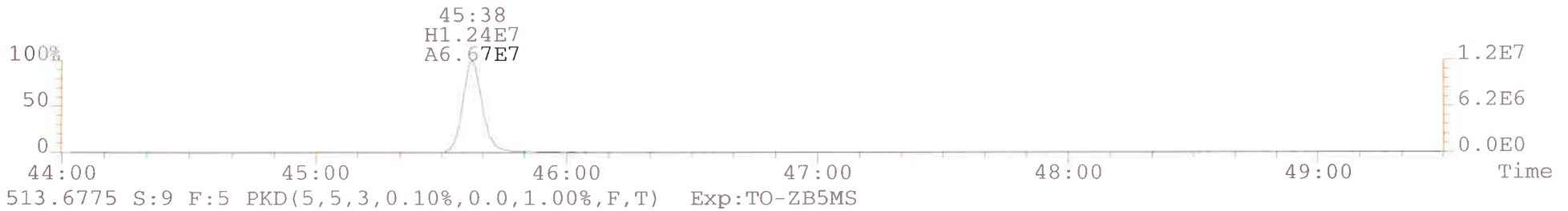
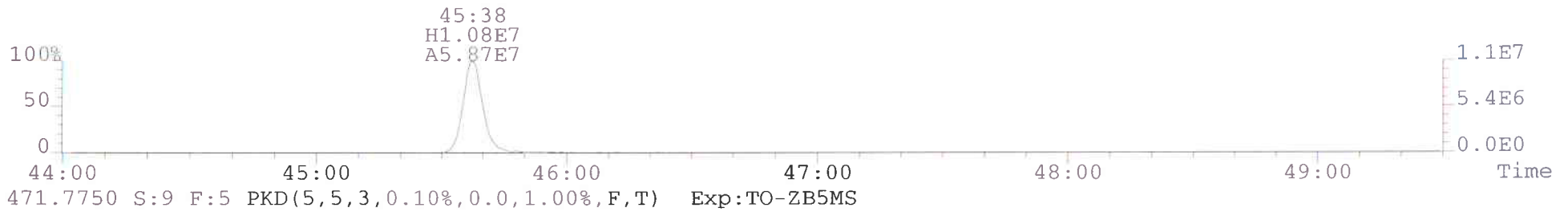
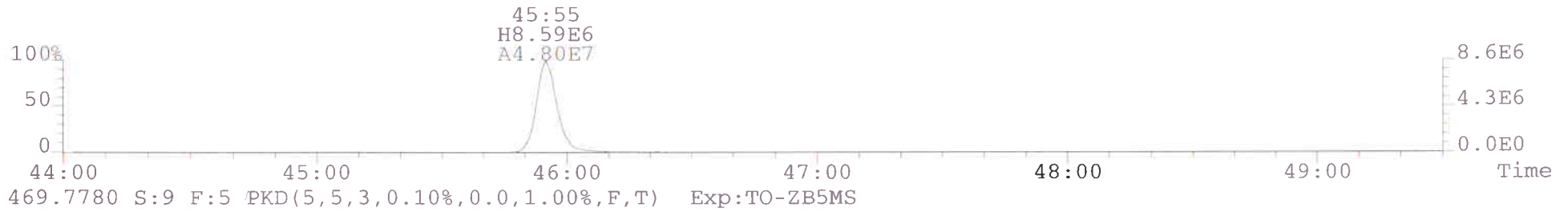
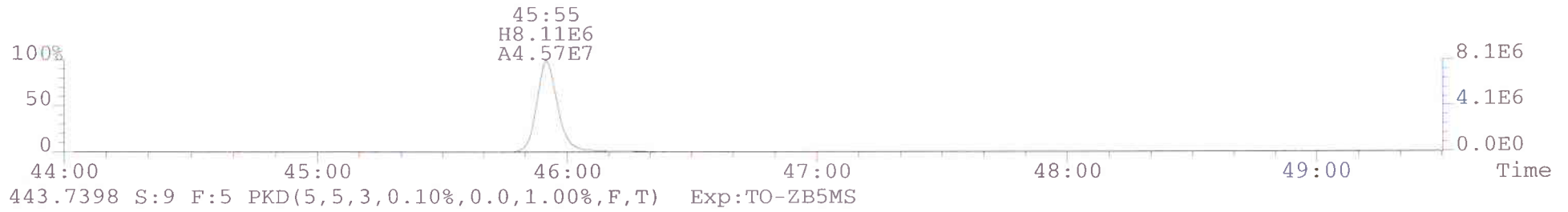
File:052213A1 #1-445 Acq:22-MAY-2013 15:06:53 GC EI+ Voltage SIR Autospec-Ultima
Sample#9 File Text:Ceres Analytical Laboratory Text:ST052213A1-7 S121411C 1613 CS3 SS
383.8639 S:9 F:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



File:052213A1 #1-355 Acq:22-MAY-2013 15:06:53 GC EI+ Voltage SIR Autospec-Ultima
Sample#9 File Text:Ceres Analytical Laboratory Text:ST052213A1-7 S121411C 1613 CS3 SS
407.7818 S:9 F:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



File:052213A1 #1-489 Acq:22-MAY-2013 15:06:53 GC EI+ Voltage SIR Autospec-Ultima
Sample#9 File Text:Ceres Analytical Laboratory Text:ST052213A1-7 S121411C 1613 CS3 SS
441.7428 S:9 F:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TO-ZB5MS



Analyte: tcdf

ICal: 1613tcdf msl-6 5 13

Name	Data Filename: 060513A1				S:2		S:3		S:4		S:5		S:6	
	Mean	RRF	S. D.	%RSD	RRF#1	SD	RRF#2	SD	RRF#3	SD	RRF#4	SD	RRF#5	SD
2,3,7,8-TCDF	0.94	0.05	4.99 %	0.99	1.0	0.93	-0.2	0.90	0.9	0.99	1.1	0.90	1.0	
13C-2,3,7,8-TCDF	1.36	0.11	8.38 %	1.42	0.6	1.40	0.4	1.37	0.2	1.16	1.8	1.43	0.6	
13C 1,2,3,4-TCDD	1.00	0.00	0.00 %	1.00	0.0	1.00	0.0	1.00	0.0	1.00	0.0	1.00	0.0	

J 6/5/13

22 6/6/13

USEPA ITD

FORM 4A/B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Ceres Analytical Laboratory, Inc. Ceres ID: ST060513A1 3

Contract No.: SAS No.:

Initial Calibration Date: 6/5/13

Instrument ID: MS 1 GC Column ID: ZB-5MS

VER Data Filename: 060513A1 S:4 Analysis Date: 5 JUN-13 Time: 09:02:15

NATIVE ANALYTES	M/Z'S	ION	QC	CONC. FOUND	EPA 1613	EPA 8290
	FORMING RATIO (1)	ABUND. RATIO	LIMITS (2)		RANGE (3) (ng/mL)	CONC. RANGE (ng/mL)
2,3,7,8 TCDF	M/M+2	0.78	0.65-0.89	9.5	8.4-12.0	8.0-12.0
13C 2,3,7,8 TCDF	M/M+2	0.78	0.65-0.89	101.3	71-140	70-130

Analyst: J
 Date: 6/5/13
 Reviewer: MA
 Date: 6/6/13

(1) See Table 3, Method 1613, for m/z specifications.
 (2) Ion Abundance Ratio Control Limits as specified in Table 3A, Method 1613.
 (3) Contract required concentration range as specified in Table 7, Method 1613, under VER 10/94.

Ceres Analytical Laboratory Inc. Quantitation Summary

Filename: 060513A1 S: 4 Acquired: 5 JUN 13 09:02:15

ICal: 1613tcdf.ms1-6-5-13

Con CAL: ST060513A1 3

Ceres ID: ST060513A1 3 Client ID: S050913C 1613 CS3

Wt/Vol: 1.000

End CAL: na

Name	RT	Resp	RRF	RA	rrt	Conc	IS	m2	ht	noise	DL
2,3,7,8 TCDF	16:54	1.28e+07	0.94	0.78	y 1.001 0.999 1.003	9.53	1.43e+07			29300	2.5
13C 2,3,7,8 TCDF	16:53	1.42e+08	1.36	0.78	y	101					101
13C 1,2,3,4 TCDD	15:22	1.03e+08	1.00	0.75	y	100					

Analyst: J

Date: 6/5/13

Reviewer: M

Date: 6/6/13

Filename: 060513A1 S: 2 Acquired: 5-JUN 13 07:47:27
ICal: 1613tcdf.ms1 6 5-13 Analyte: tcdf
Sample text: ST060513A1 1 S050913A 1613 CS1

Name	RT	Amount	Resp	RA	RRF	rrt	Modified?	
2,3,7,8 TCDF	16:54	0.50	7.73e+05	0.80	y	0.99	1.001 0.999 1.003	y
13C-2,3,7,8 TCDF	16:53	100.00	1.57e+08	0.79	y	1.42	1.099 0.923 1.103	n
13C-1,2,3,4 TCDD	15:22	100.00	1.10e+08	0.75	y	1.00	* 0.000-0.000	n

Filename: 060513A1 S: 3 Acquired: 5 JUN 13 08:24:52
ICal: 1613tcdf.ms1 6-5-13 Analyte: tcdf
Sample text: ST060513A1 2 S050913B 1613 CS2

Name	RT	Amount	Resp	RA	RRF	rrt	Modified?
2,3,7,8 TCDF	16:55	2.00	2.67e+06	0.74 y	0.93	1.002 0.999 1.003	n
13C-2,3,7,8 TCDF	16:53	100.00	1.43e+08	0.79 y	1.40	1.099 0.923 1.103	n
13C-1,2,3,4 TCDD	15:22	100.00	1.02e+08	0.80 y	1.00	* 0.000-0.000	n

Filename: 060513A1 S: 4 Acquired: 5 JUN 13 09:02:15
ICal: 1613tcdf.ms1-6-5-13 Analyte: tcdf
Sample text: ST060513A1-3 S050913C 1613 CS3

Name	RT	Amount	Resp	RA	RRF	rrt	Modified?	
2,3,7,8 TCDF	16:54	10.00	1.28e+07	0.78	y	0.90	1.001 0.999 1.003	n
13C-2,3,7,8 TCDF	16:53	100.00	1.42e+08	0.78	y	1.37	1.099 0.923 1.103	n
13C 1,2,3,4-TCDD	15:22	100.00	1.03e+08	0.75	y	1.00	* 0.600 0.000	n

Filename: 060513A1 S: 5 Acquired: 5 JUN 13 09:39:36
 ICal: 1613tcdf-ms1 6 5 13 Analyte: tcdf
 Sample text: ST060513A1-4 S050913D 1613 CS4

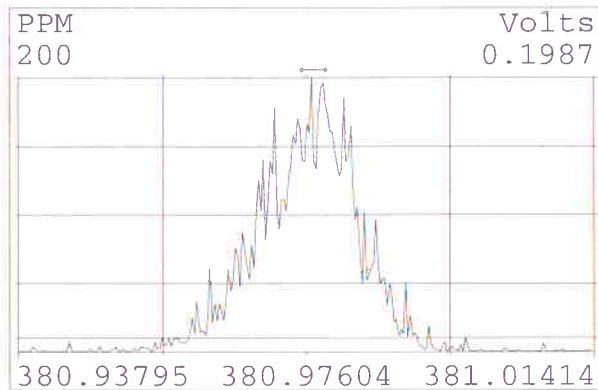
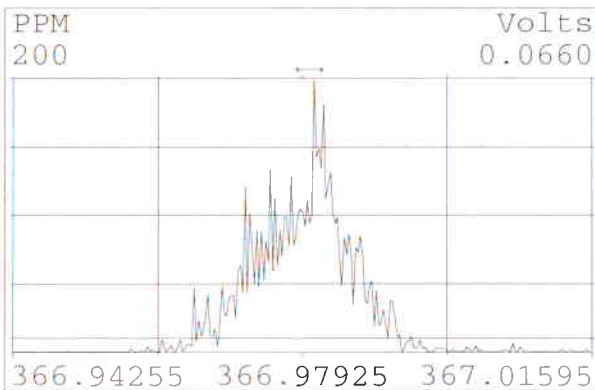
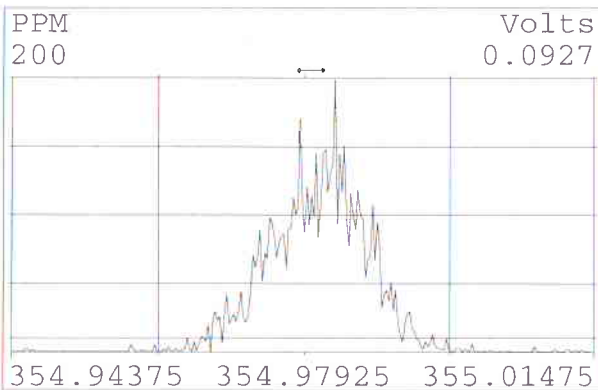
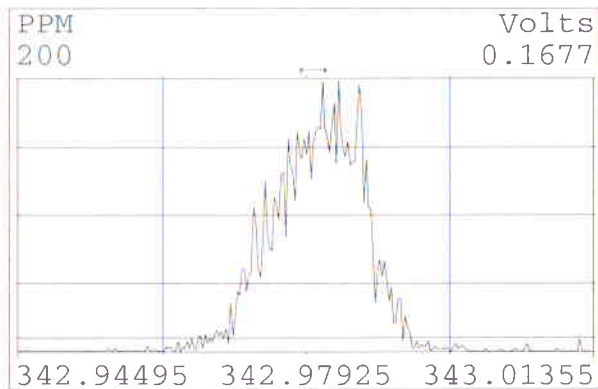
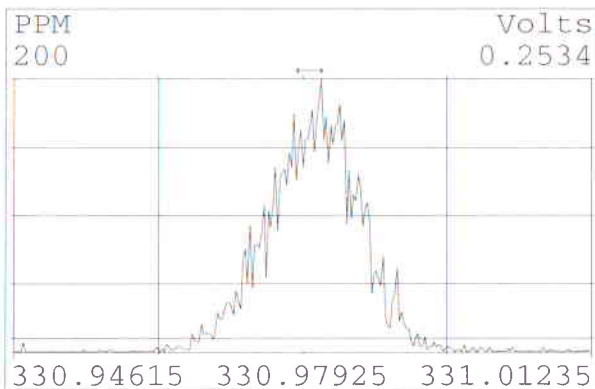
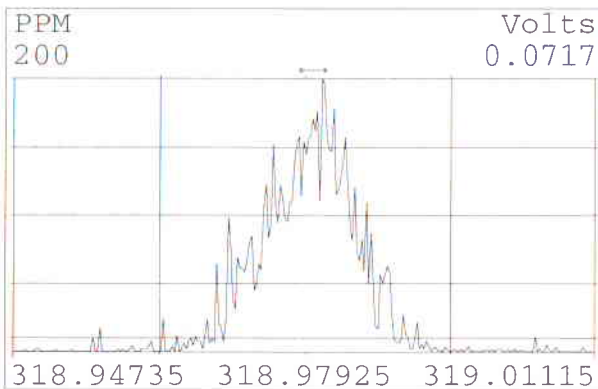
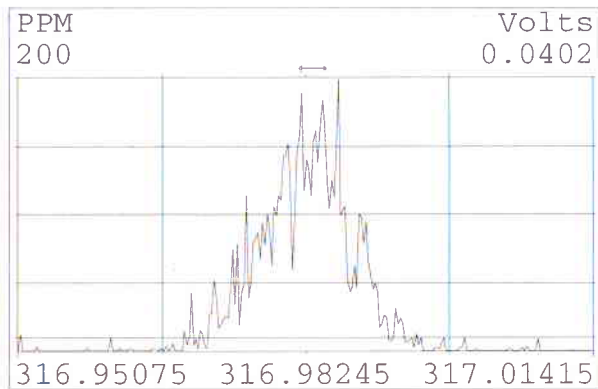
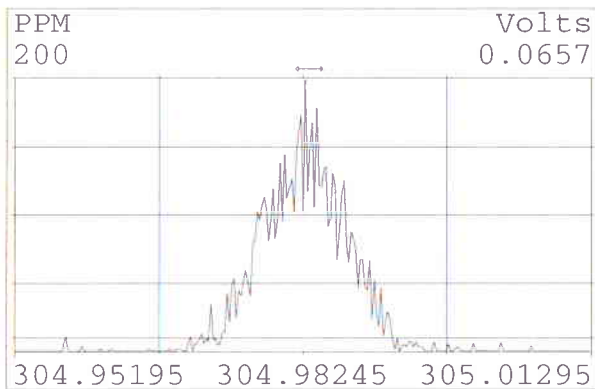
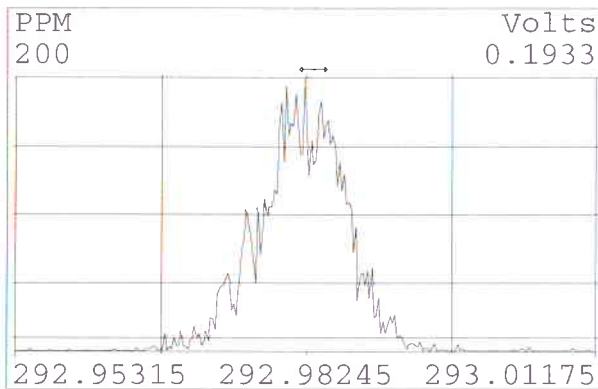
Name	RT	Amount	Resp	RA	RRF	rrt	Modified?
2,3,7,8-TCDF	16:54	40.00	5.04e+07	0.88	y 0.99	1.002 0.999 1.003	n
13C-2,3,7,8 TCDF	16:52	100.00	1.27e+08	0.76	y 1.16	1.099 0.923 1.103	n
13C-1,2,3,4-TCDD	15:21	100.00	1.10e+08	0.78	y 1.00	* 0.000 0.000	n

Filename: 060513A1 S: 6 Acquired: 5 JUN 13 10:16:57
 ICal: 1613tcdf msi 6-5 13 Analyte: tcdf
 Sample text: ST060513A1 5 S050913E 1613 CS5

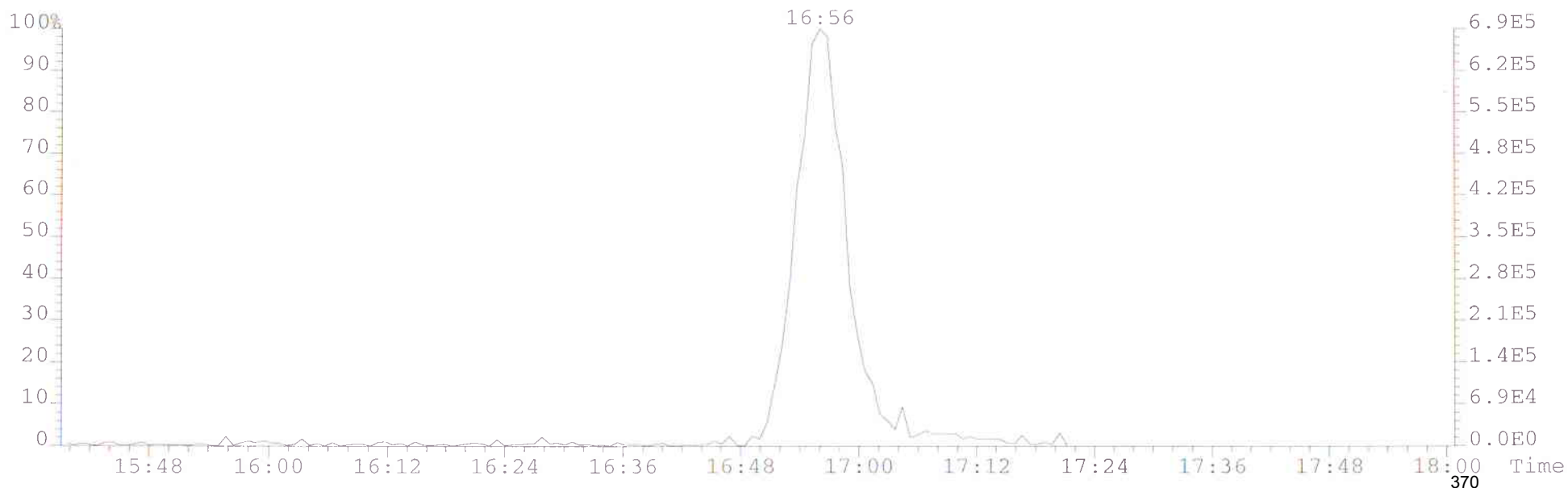
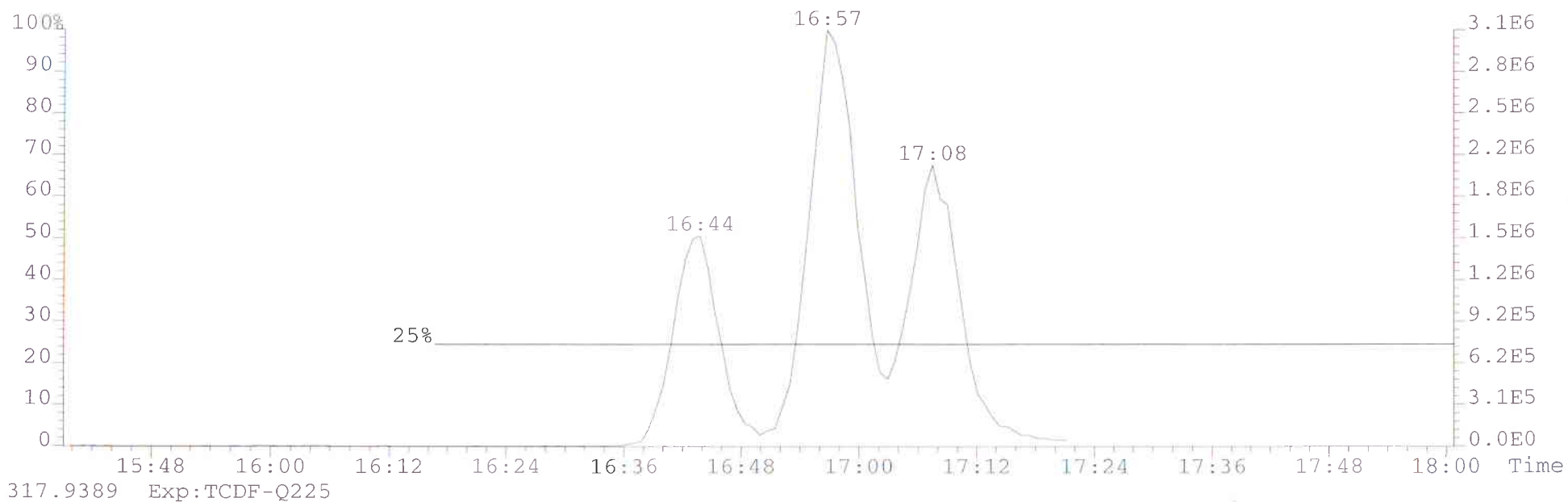
Name	RT	Amount	Resp	RA	RRF	rrt	Modified?
2,3,7,8 TCDF	16:54	200.00	2.67e+08	0.74	y 0.90	1.002 0.999 1.003	n
13C 2,3,7,8 TCDF	16:52	100.00	1.49e+08	0.78	y 1.43	1.099 0.923 1.103	n
13C-1,2,3,4 TCDD	15:21	100.00	1.05e+08	0.77	y 1.00	* 0.000 0.000	n

	c/q	Data File S	Ceres ID	Acquired	Time	Con Cal	End Cal	
1	q	060513A1	1 CP060513A1-1	5-JUN-13	07:10:06	na	na	Y
2	q	060513A1	2 ST060513A1-1	5-JUN-13	07:47:27	na	na	Y
3	q	060513A1	3 ST060513A1-2	5-JUN-13	08:24:52	na	na	Y
4	q	060513A1	4 ST060513A1-3	5-JUN-13	09:02:15	ST060513A1-3	na	Y
5	q	060513A1	5 ST060513A1-4	5-JUN-13	09:39:36	na	na	Y
6	q	060513A1	6 ST060513A1-5	5-JUN-13	10:16:57	na	na	Y
7	q	060513A1	7 solvent blank	5-JUN-13	10:54:19	na	na	Y
8	q	060513A1	8 solvent blank	5-JUN-13	11:31:41	na	na	Y
9	q	060513A1	9 10096-1056-001	5-JUN-13	12:09:03	ST060513A1-3	na	Y
10	q	060513A1	10 10097-1059-001	5-JUN-13	12:46:24	ST060513A1-3	ST060513A1-6	Y
11	q	060513A1	11 solvent blank	5-JUN-13	13:23:45	na	na	Y
12	q	060513A1	12 ST060513A1-6	5-JUN-13	14:01:08	ST060513A1-3	ST060513A1-6	Y

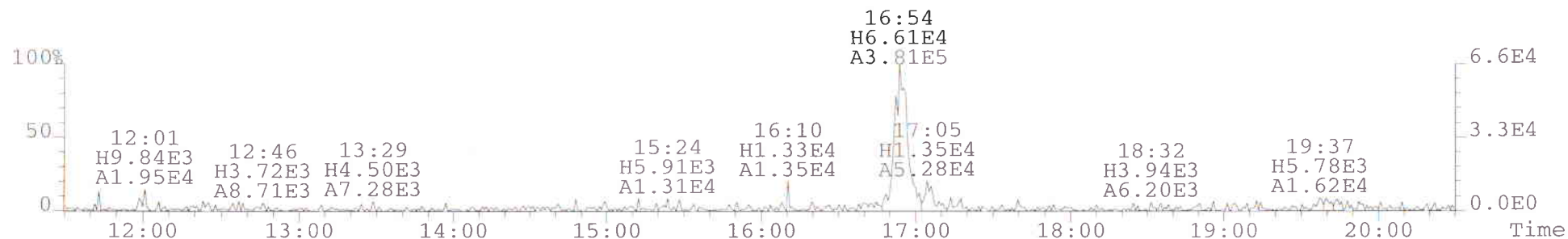
Peak Locate Examination: 5-JUN-2013:07:09 File:060513A1
Experiment:TCDF-Q225 Function:1 Reference:PFK



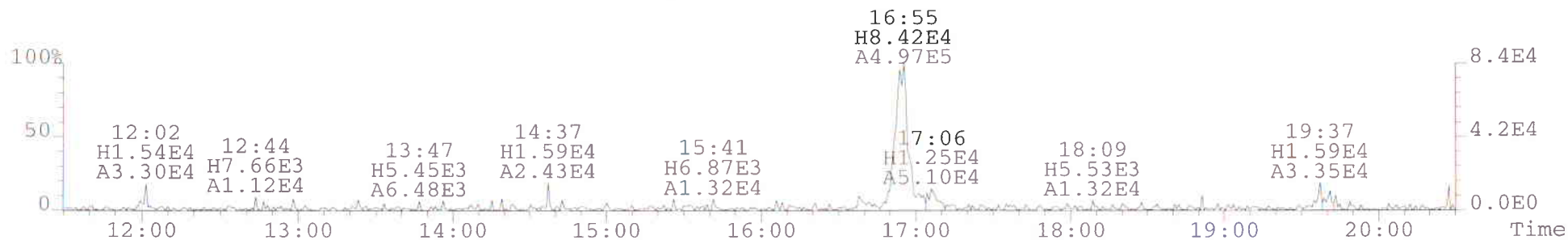
File:060513A1 #1-357 Acq: 5-JUN-2013 07:10:06 GC EI+ Voltage SIR Autospec-Ultima
Sample#1 File Text:Ceres Analytical Laboratory Text:CP060513A1-1 S010412E 225 CPSM
305.8987 Exp:TCDF-Q225



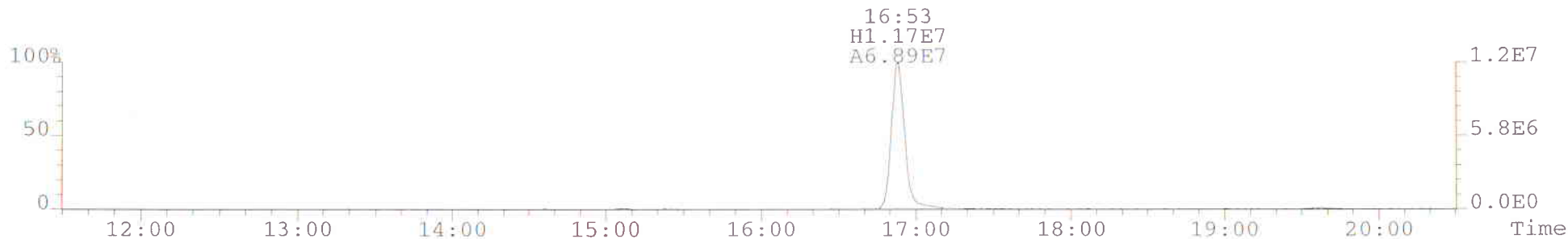
File:060513A1 #1-1423 Acq: 5-JUN-2013 07:47:27 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text:Ceres Analytical Laboratory Text:ST060513A1-1 S050913A 1613 CS1
303.9016 S:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



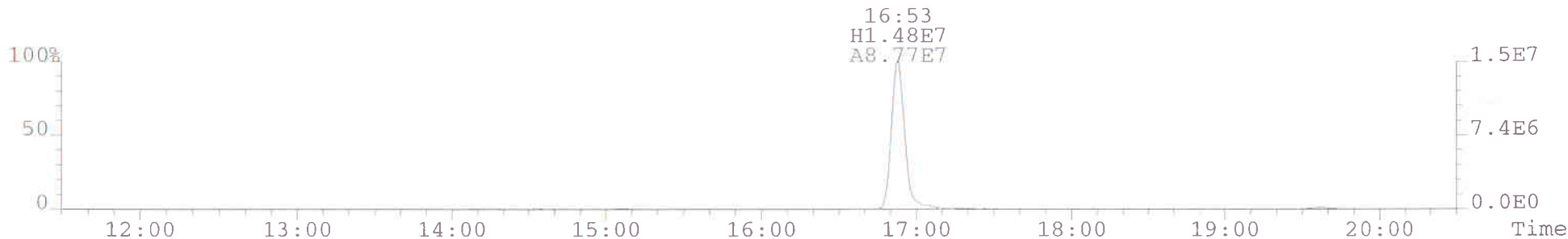
305.8987 S:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



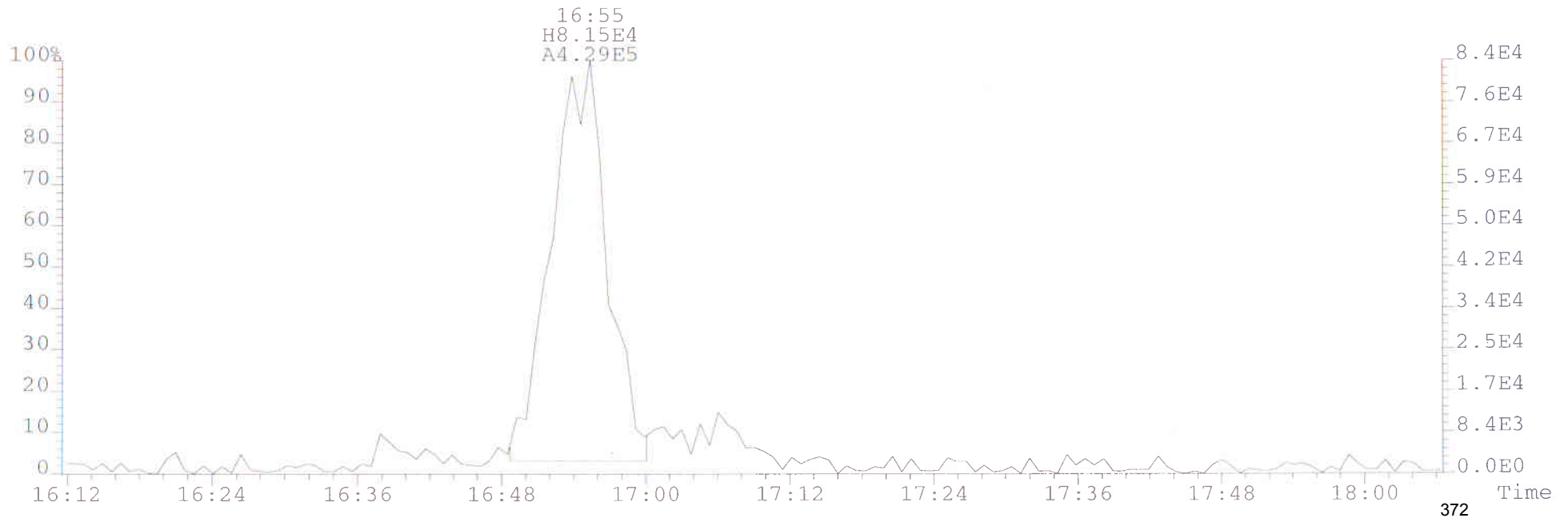
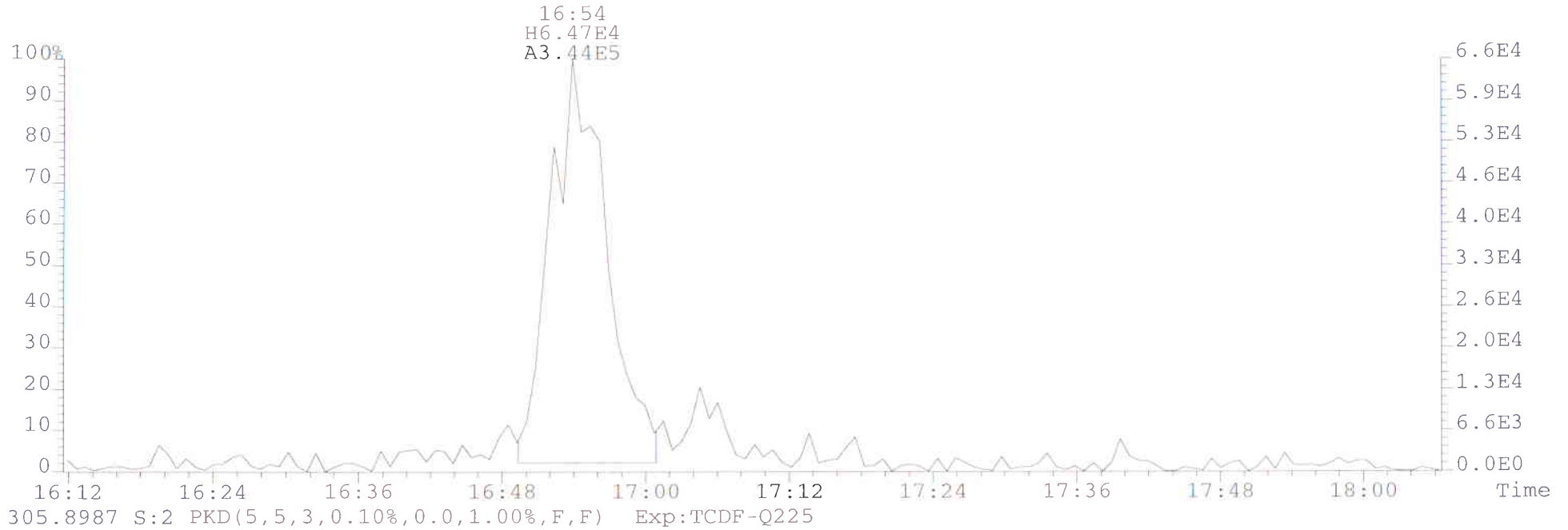
315.9419 S:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



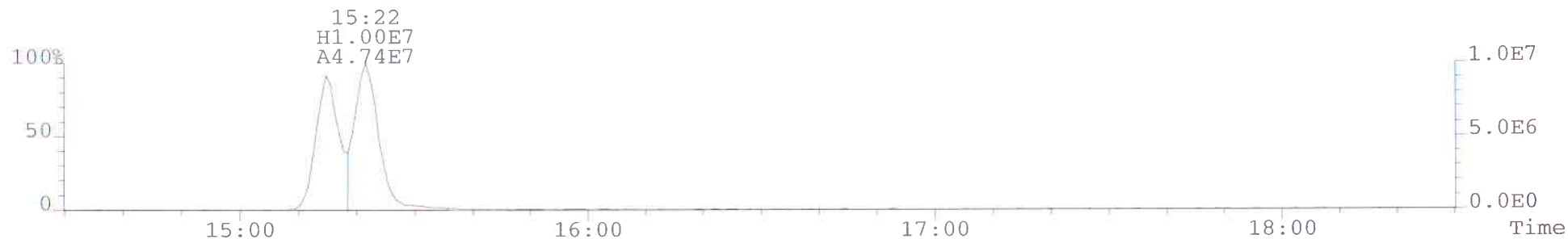
317.9389 S:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



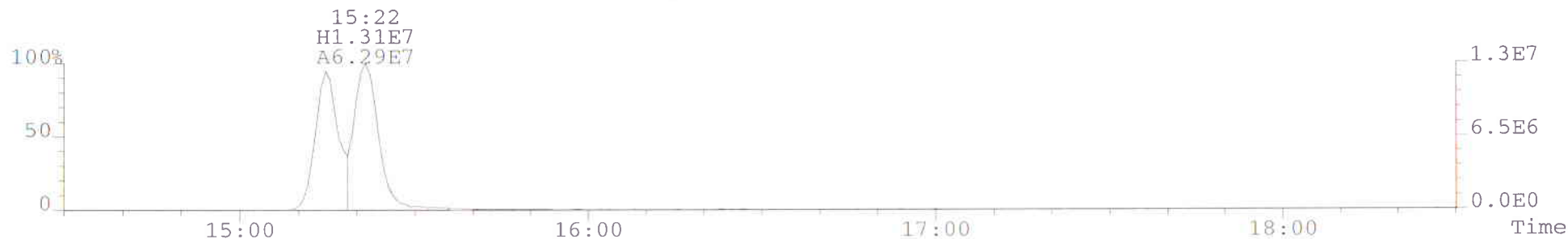
File:060513A1 #1-1318 Acq: 5-JUN-2013 07:47:27 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text:Ceres Analytical Laboratory Text:ST060513A1-1 S050913A 1613 CS1
303.9016 S:2 PKD(5,5,3,0.10%,0.0,1.00%,F,F) Exp:TCDF-Q225



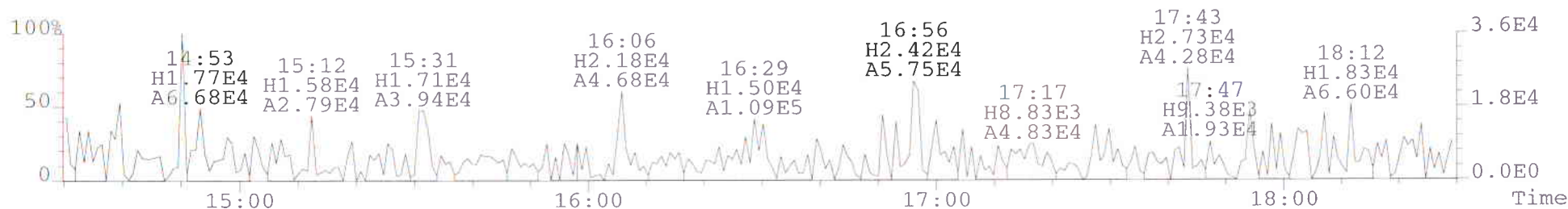
File:060513A1 #1-1427 Acq: 5-JUN-2013 07:47:27 GC EI+ Voltage SIR Autospec-Ultima
 Sample#2 File Text:Ceres Analytical Laboratory Text:ST060513A1-1 S050913A 1613 CS1
 331.9368 S:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



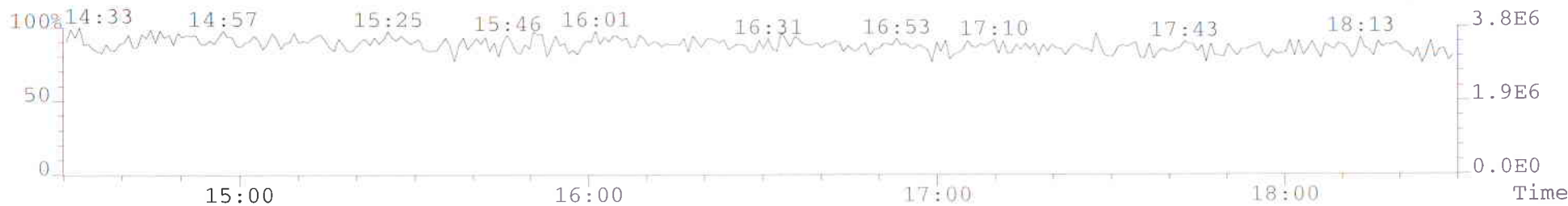
333.9339 S:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



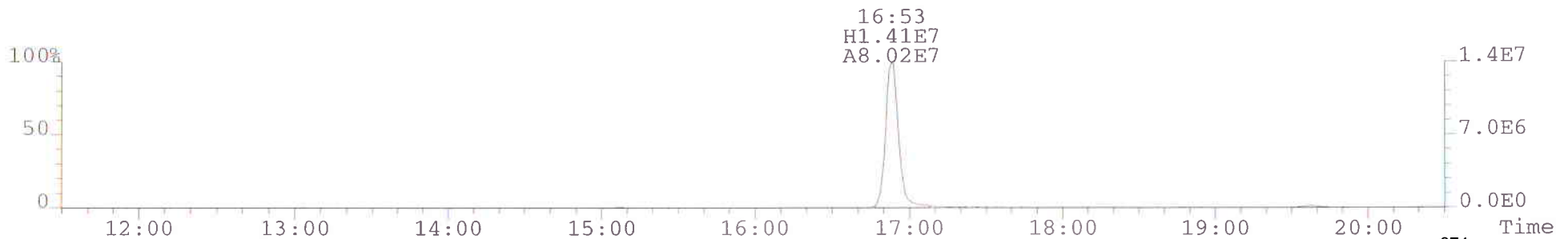
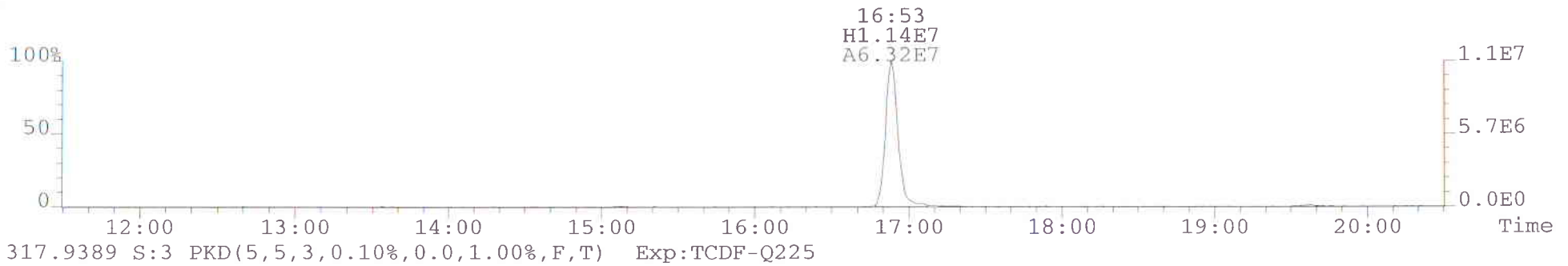
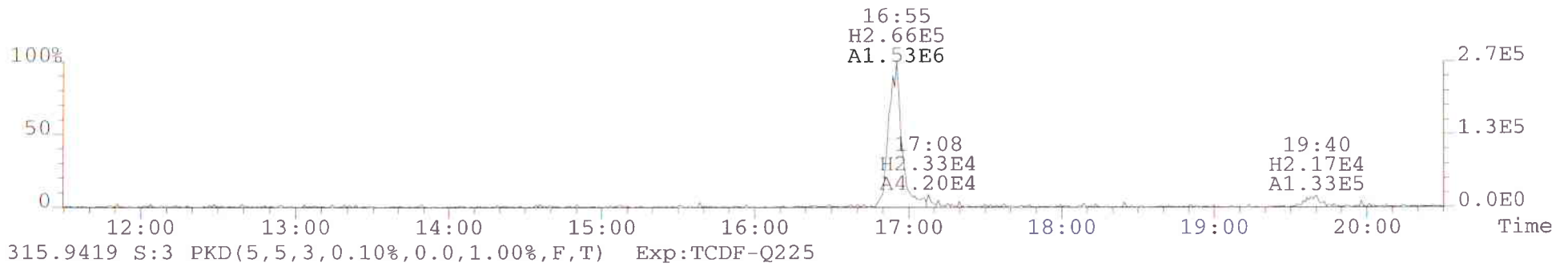
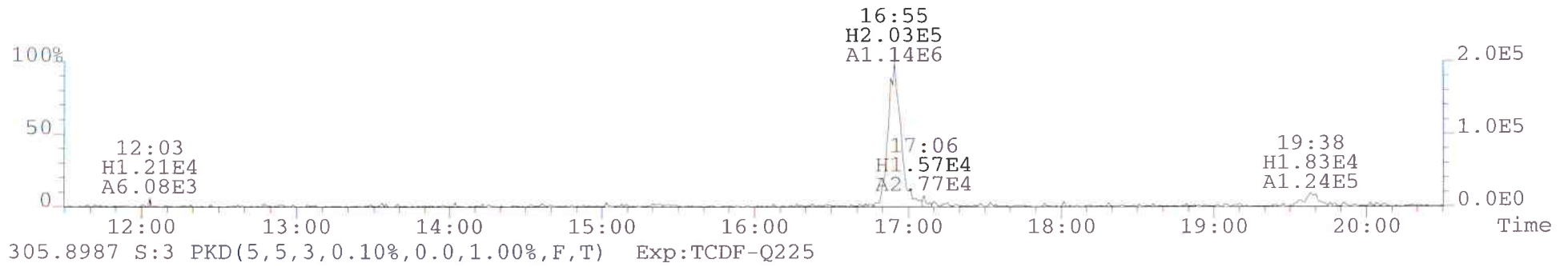
375.8364 S:2 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



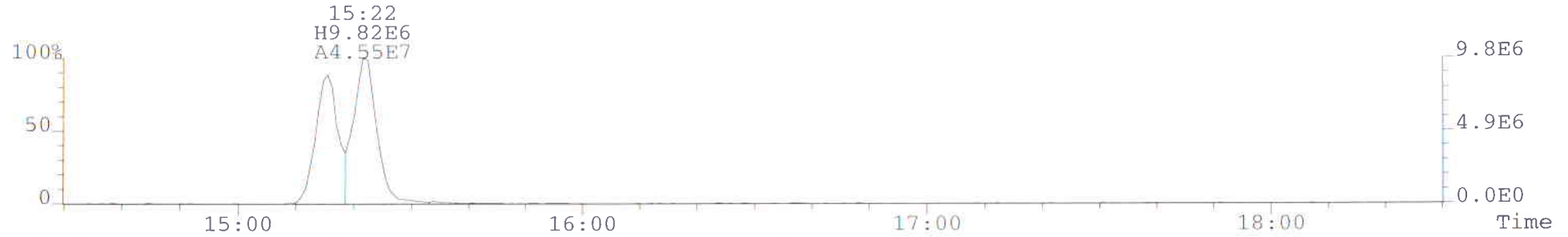
316.9824 S:2 Exp:TCDF-Q225



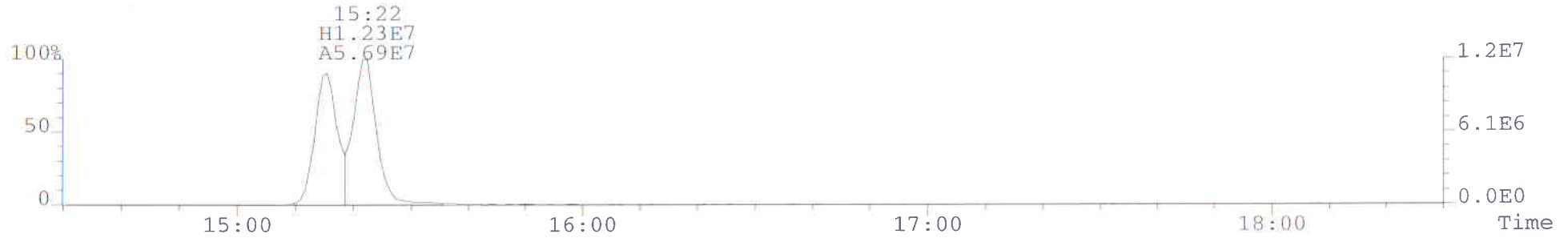
File:060513A1 #1-1494 Acq: 5-JUN-2013 08:24:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text:Ceres Analytical Laboratory Text:ST060513A1-2 S050913B 1613 CS2
303.9016 S:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



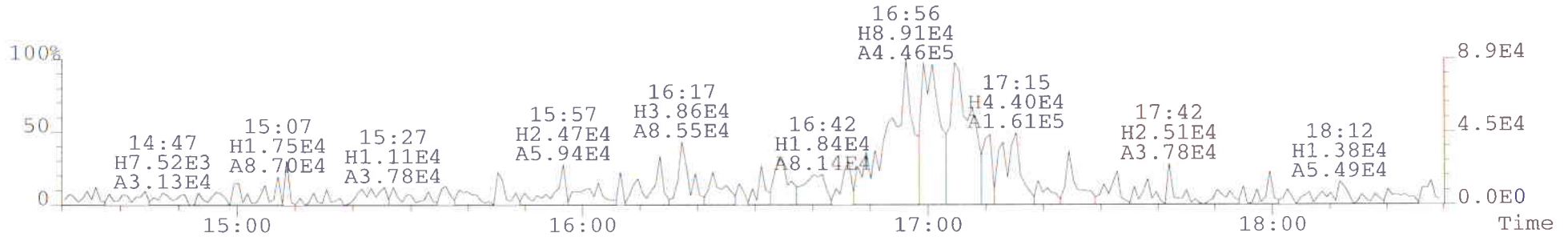
File:060513A1 #1-1494 Acq: 5-JUN-2013 08:24:52 GC EI+ Voltage SIR Autospec-Ultima
Sample#3 File Text:Ceres Analytical Laboratory Text:ST060513A1-2 S050913B 1613 CS2
331.9368 S:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



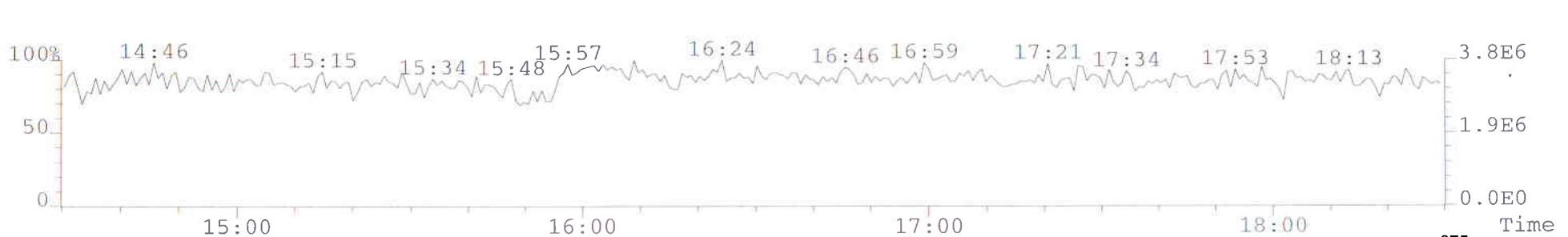
333.9339 S:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



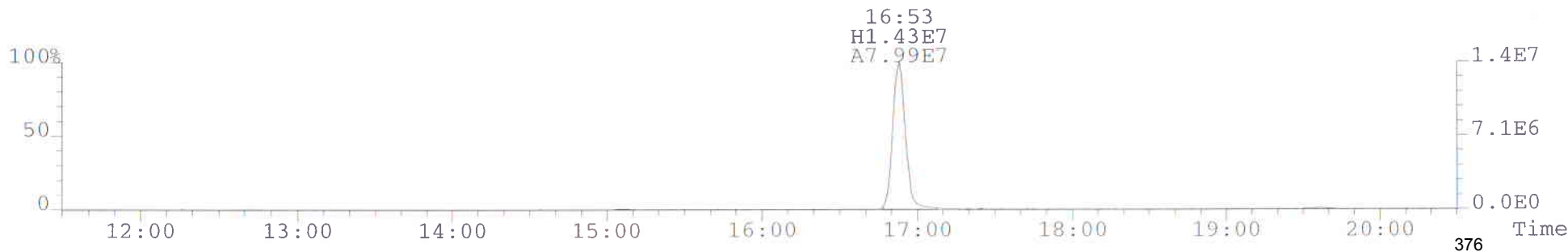
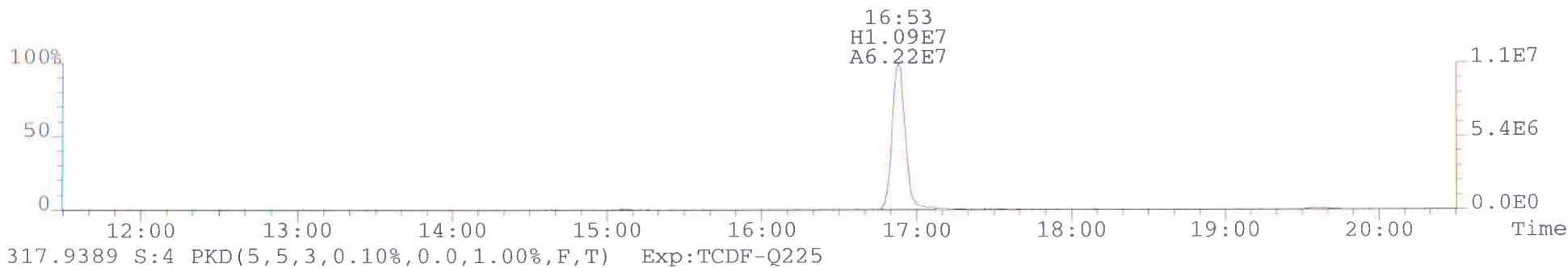
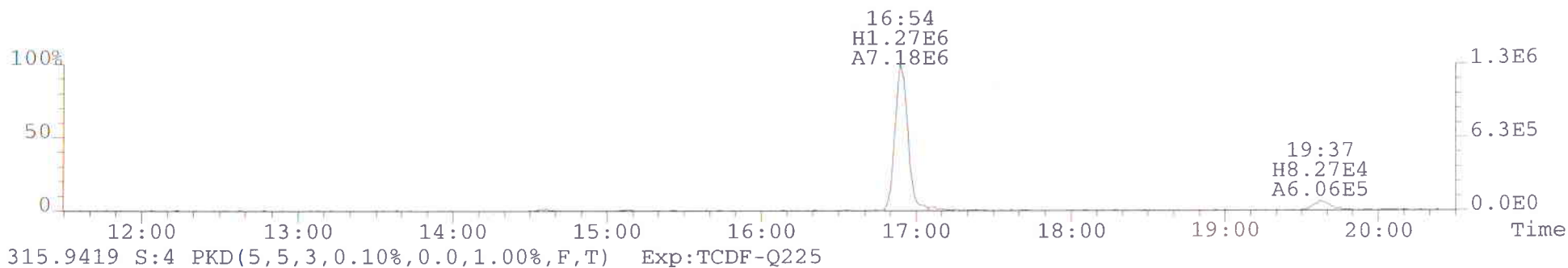
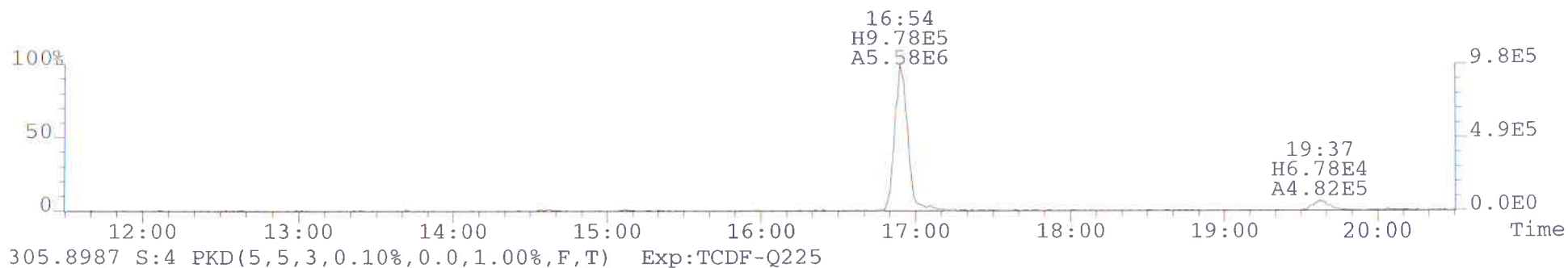
375.8364 S:3 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



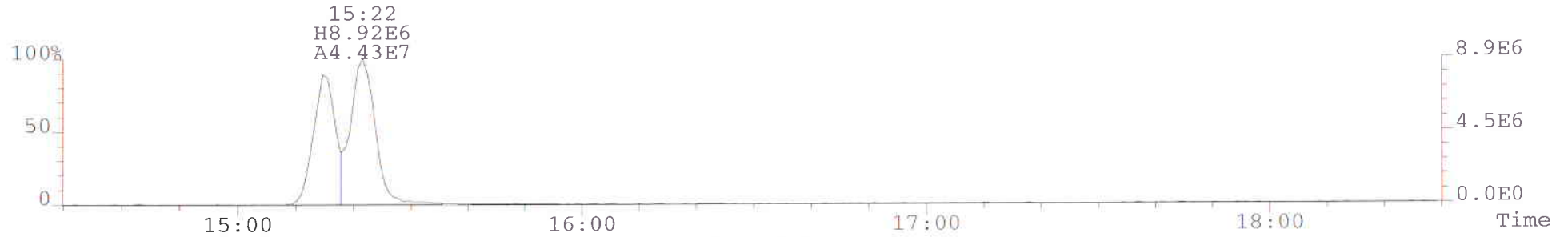
316.9824 S:3 Exp:TCDF-Q225



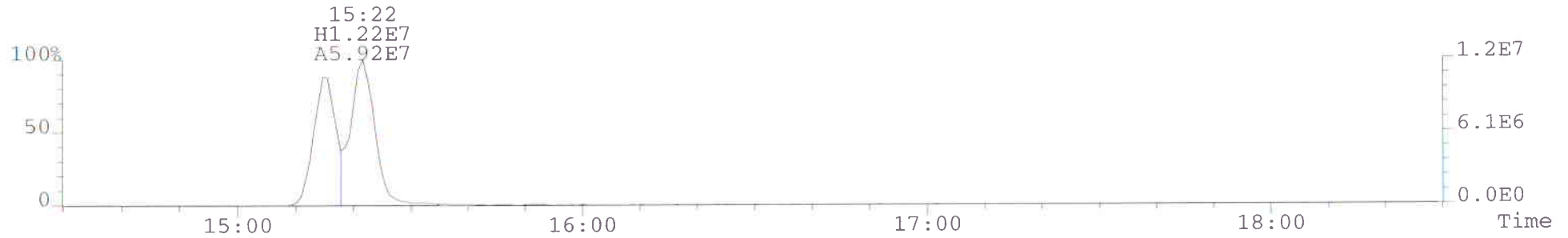
File:060513A1 #1-1494 Acq: 5-JUN-2013 09:02:15 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:ST060513A1-3 S050913C 1613 CS3
303.9016 S:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



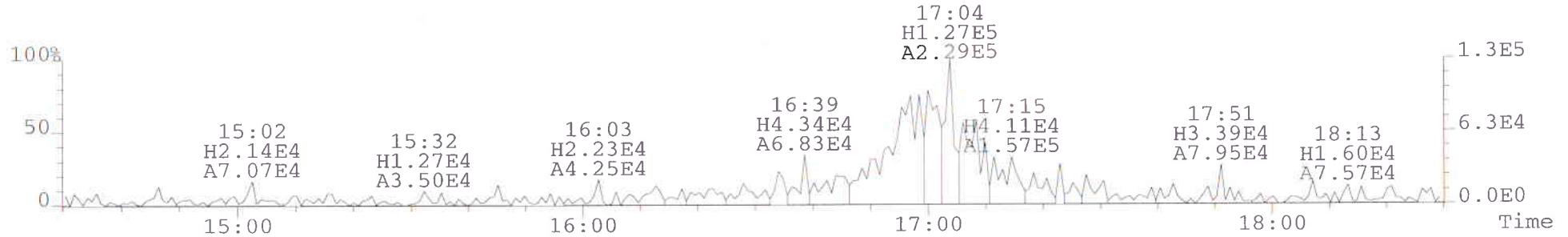
File:060513A1 #1-1494 Acq: 5-JUN-2013 09:02:15 GC EI+ Voltage SIR Autospec-Ultima
Sample#4 File Text:Ceres Analytical Laboratory Text:ST060513A1-3 S050913C 1613 CS3
331.9368 S:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



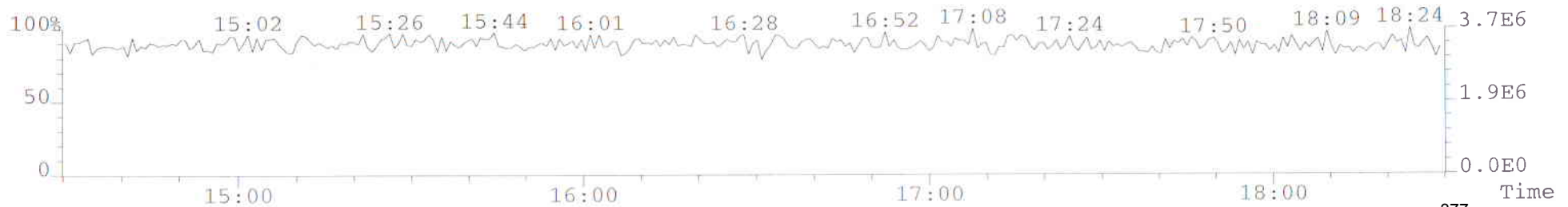
333.9339 S:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



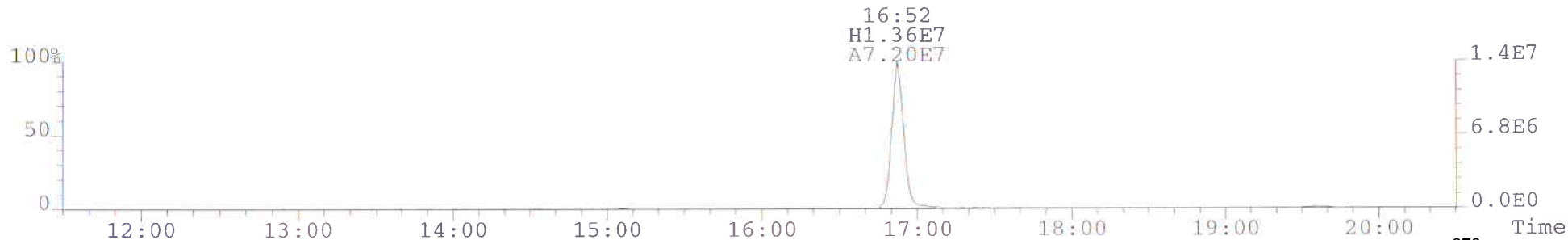
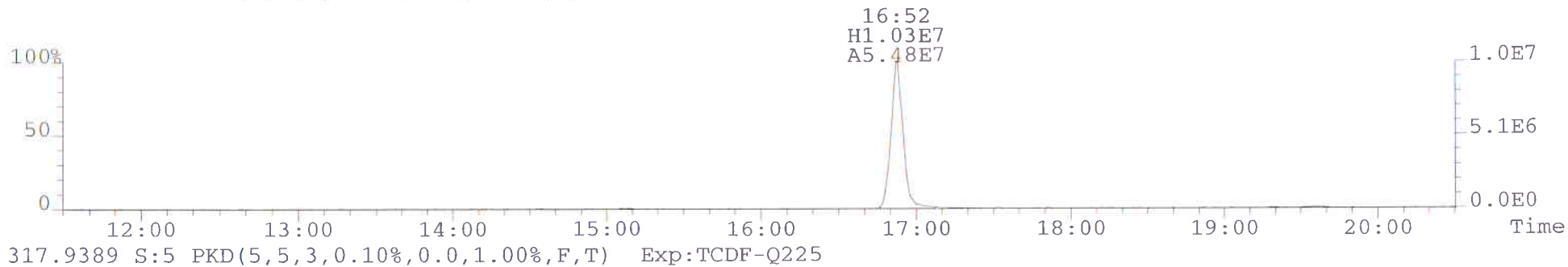
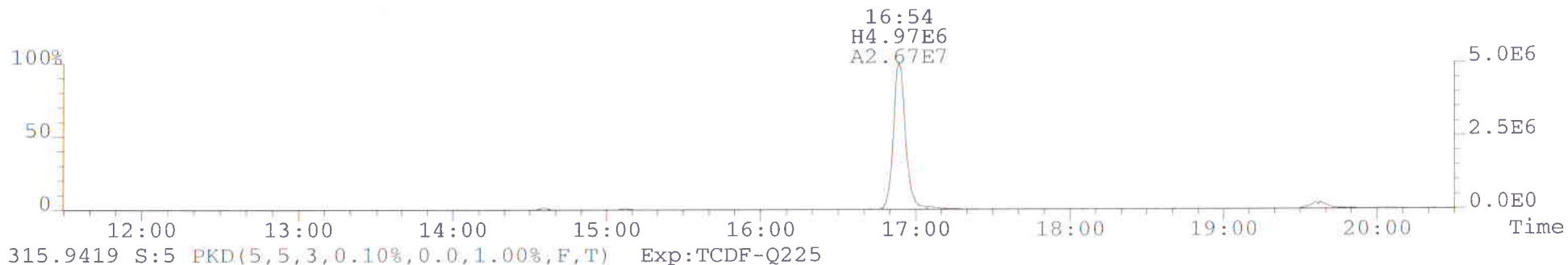
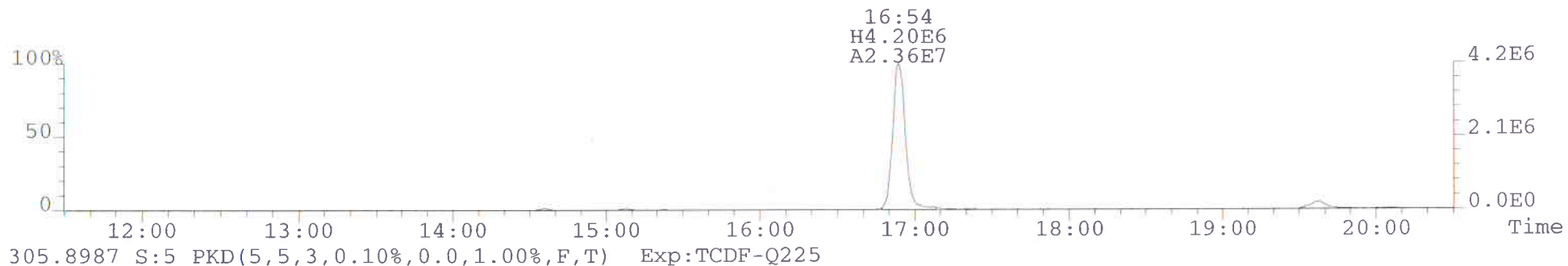
375.8364 S:4 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



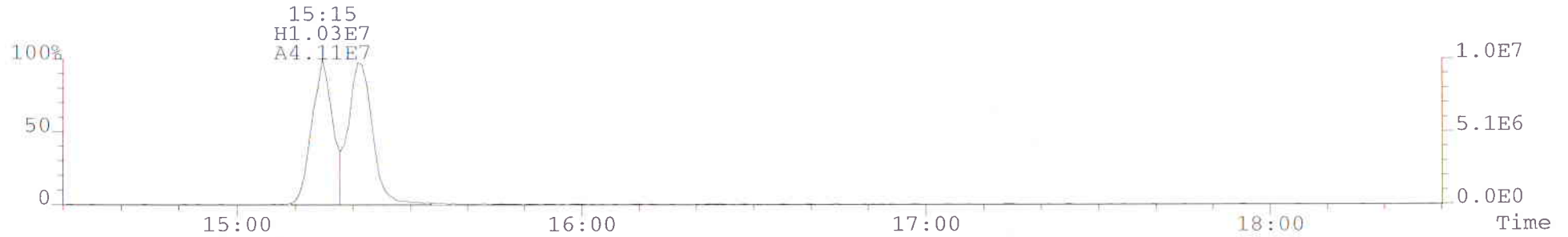
316.9824 S:4 Exp:TCDF-Q225



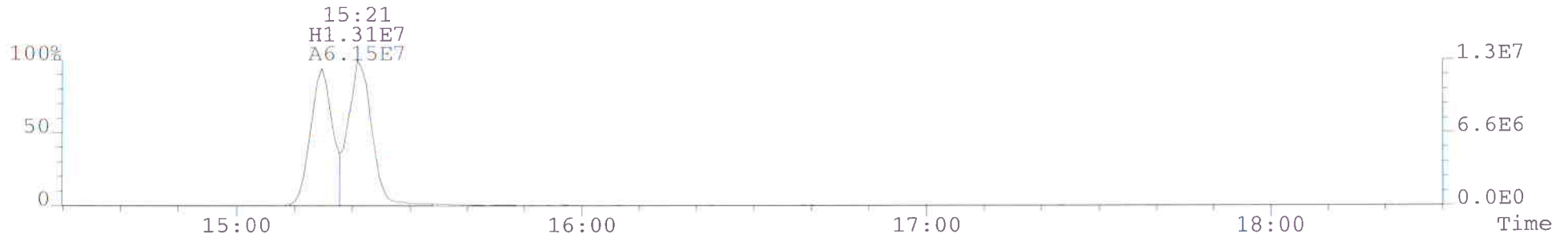
File:060513A1 #1-1494 Acq: 5-JUN-2013 09:39:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text:Ceres Analytical Laboratory Text:ST060513A1-4 S050913D 1613 CS4
303.9016 S:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



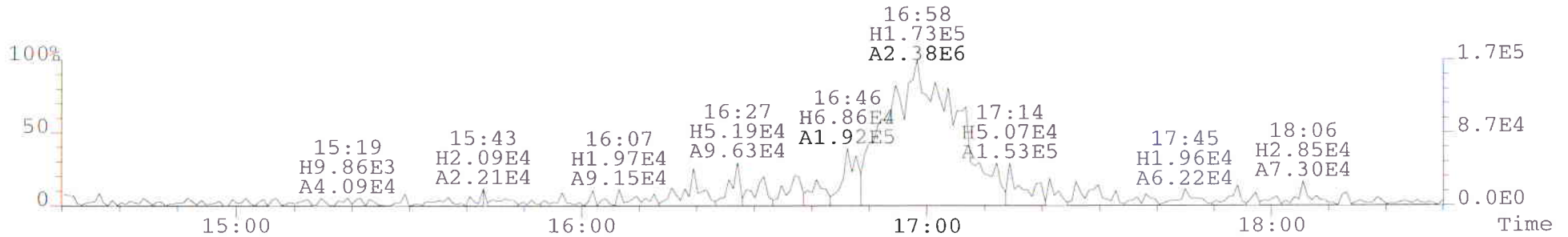
File:060513A1 #1-1494 Acq: 5-JUN-2013 09:39:36 GC EI+ Voltage SIR Autospec-Ultima
Sample#5 File Text:Ceres Analytical Laboratory Text:ST060513A1-4 S050913D 1613 CS4
331.9368 S:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



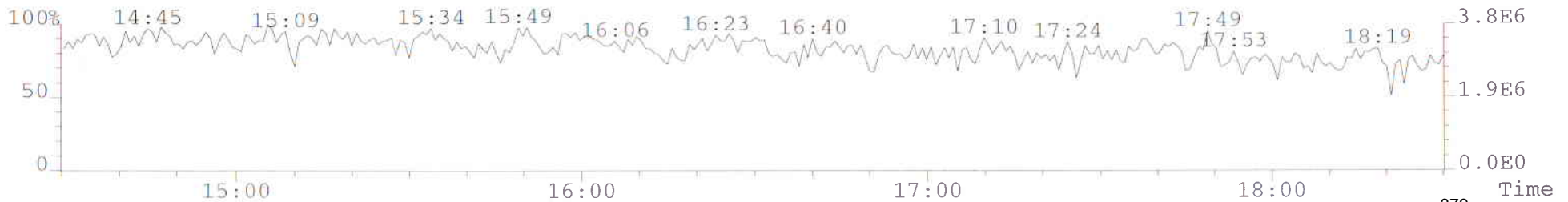
333.9339 S:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



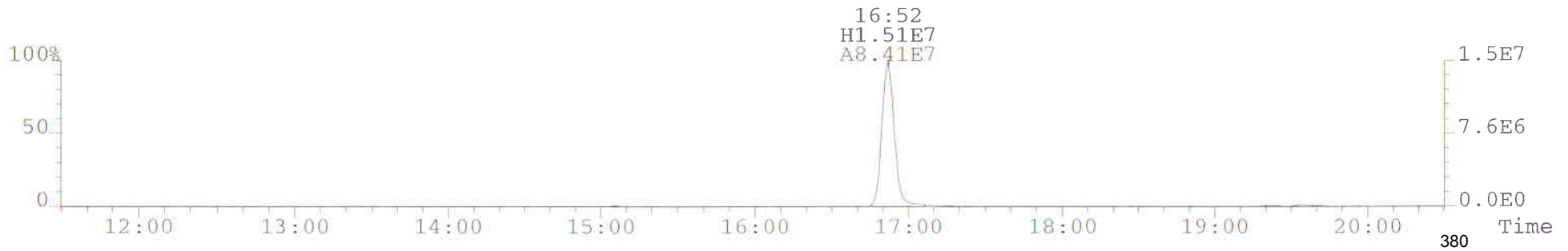
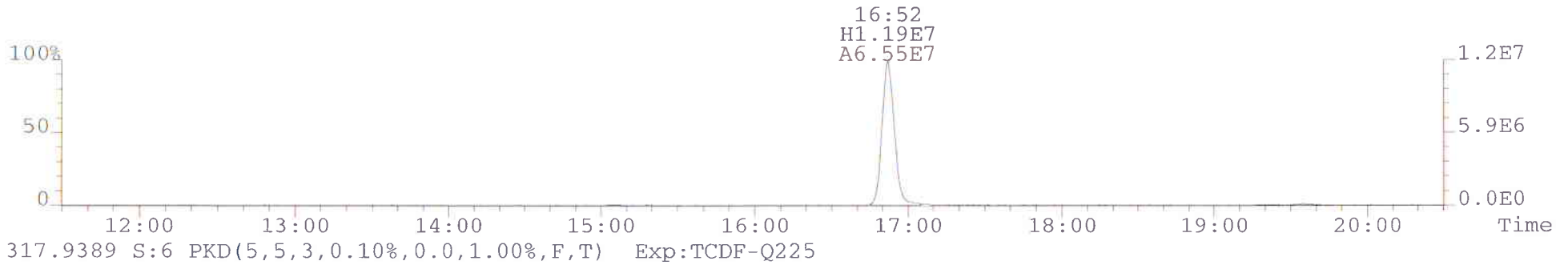
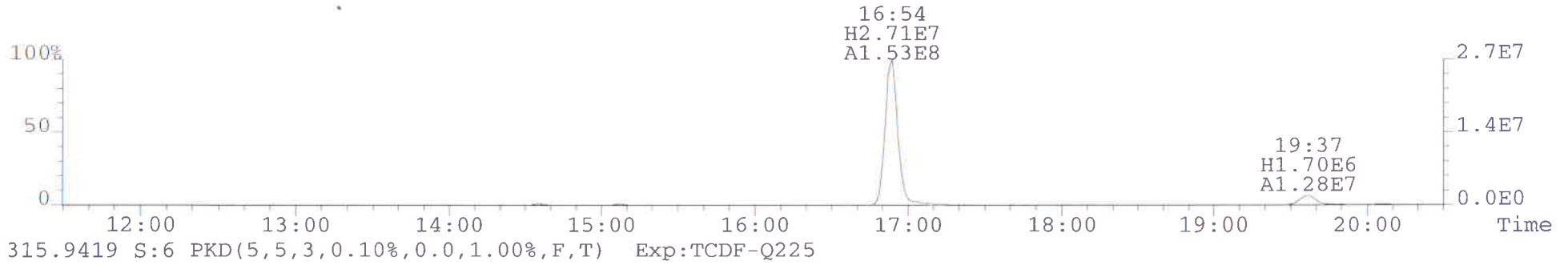
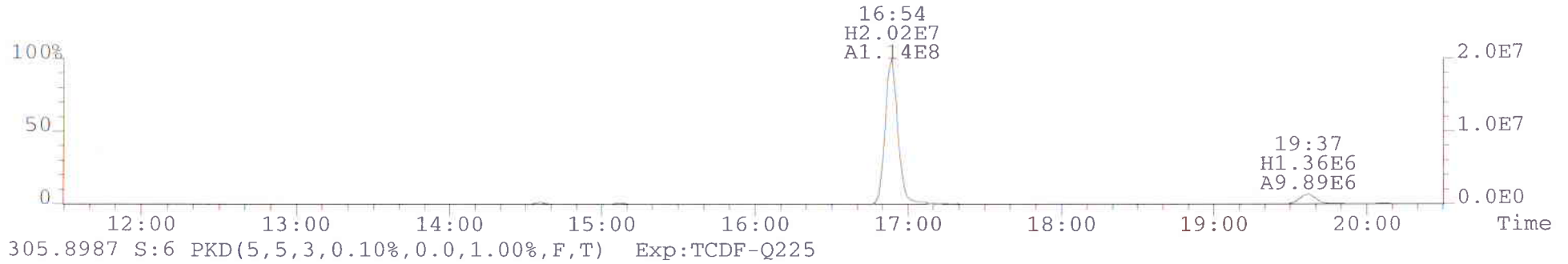
375.8364 S:5 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



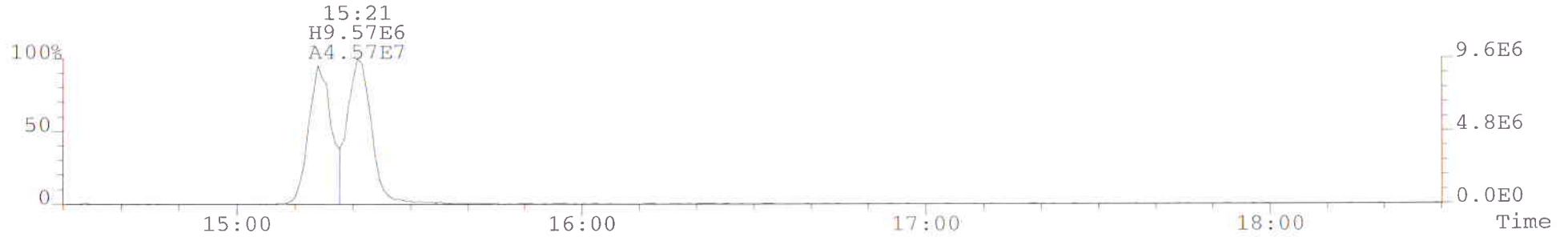
316.9824 S:5 Exp:TCDF-Q225



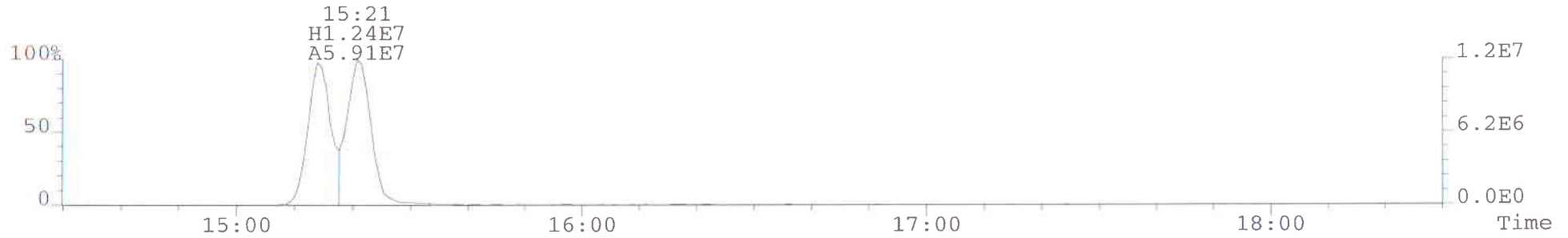
File:060513A1 #1-1494 Acq: 5-JUN-2013 10:16:57 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST060513A1-5 S050913E 1613 CS5
303.9016 S:6 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



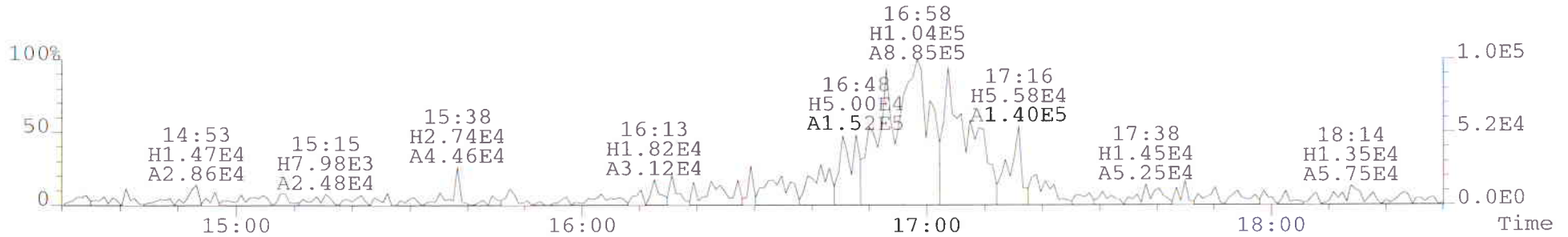
File:060513A1 #1-1494 Acq: 5-JUN-2013 10:16:57 GC EI+ Voltage SIR Autospec-Ultima
Sample#6 File Text:Ceres Analytical Laboratory Text:ST060513A1-5 S050913E 1613 CS5
331.9368 S:6 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



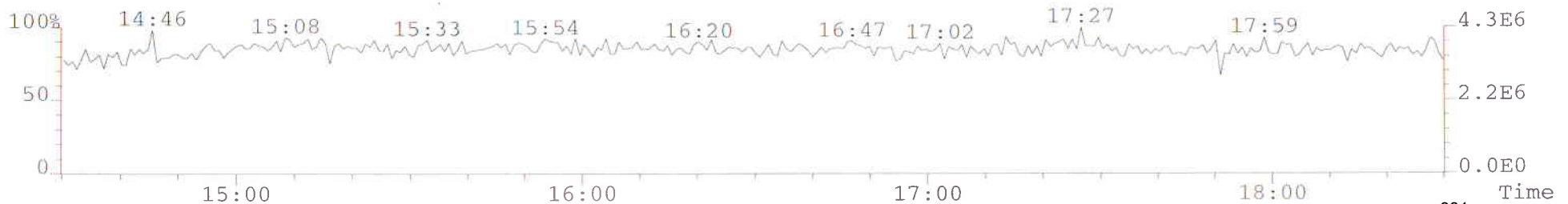
333.9339 S:6 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



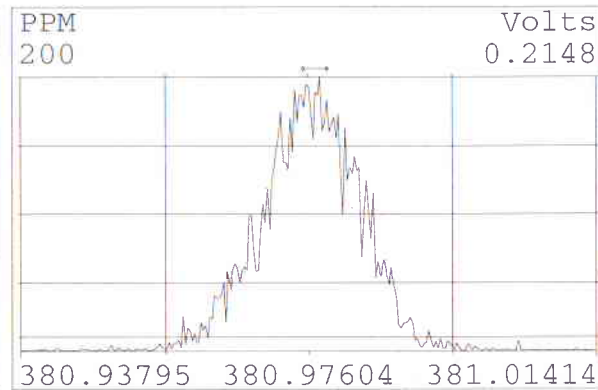
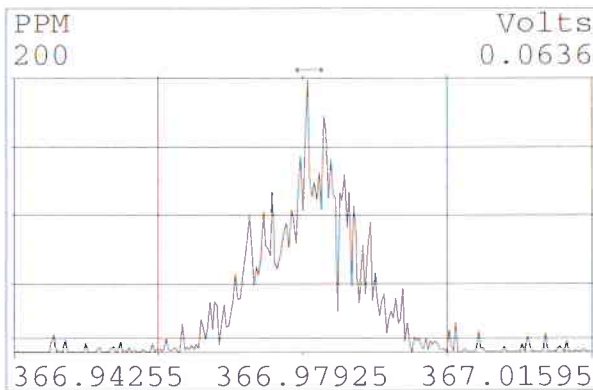
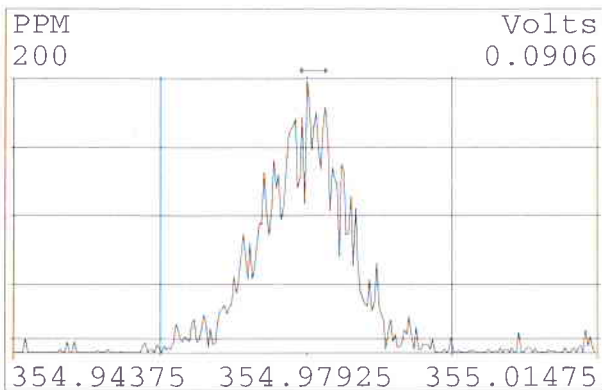
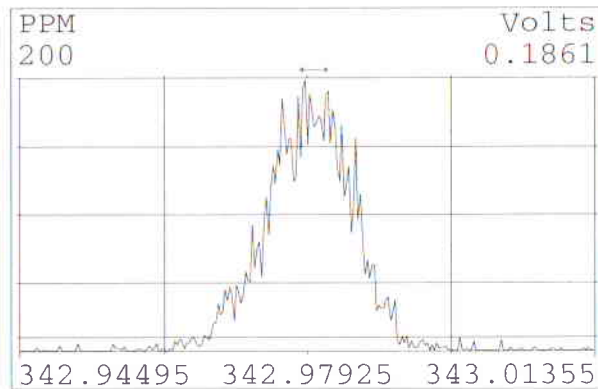
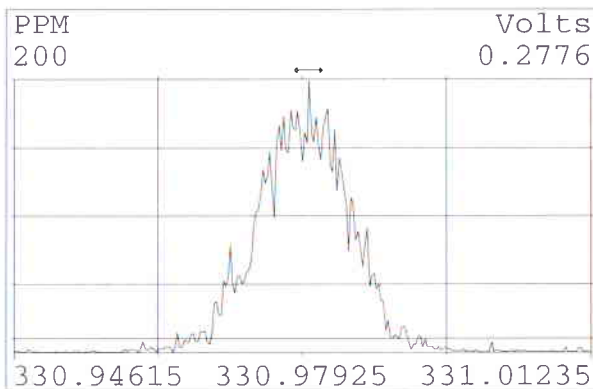
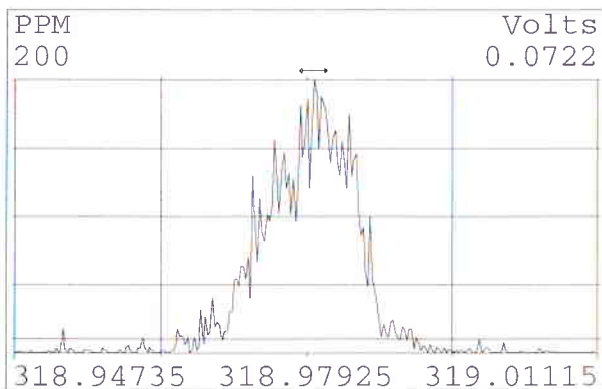
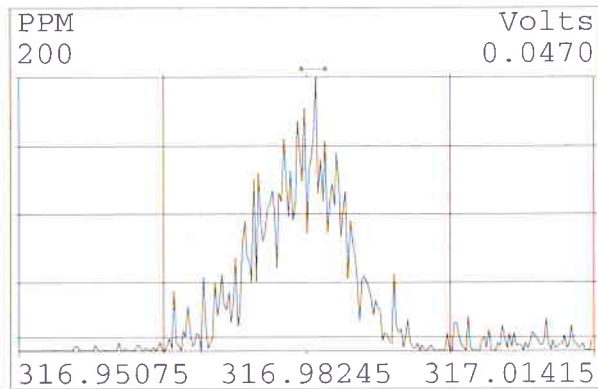
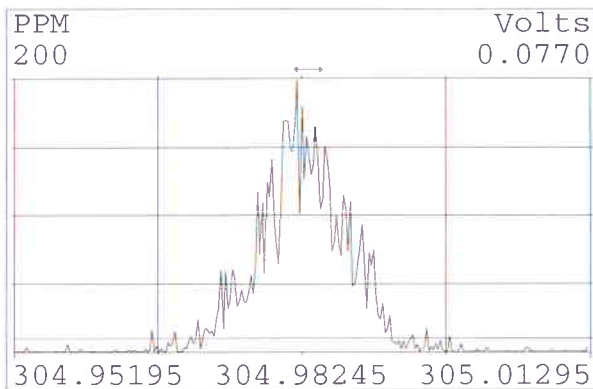
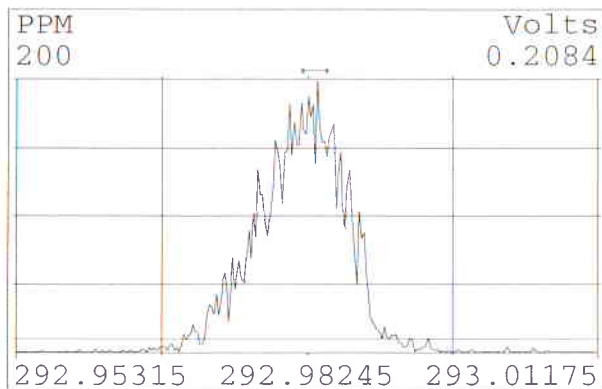
375.8364 S:6 PKD(5,5,3,0.10%,0.0,1.00%,F,T) Exp:TCDF-Q225



316.9824 S:6 Exp:TCDF-Q225



Peak Locate Examination: 5-JUN-2013:14:45 File:RES_CHECK
Experiment:TCDF-Q225 Function:1 Reference:PFK



Section VI: Sample Tracking

Sample Receipt Check List

Ceres ID: 10339	Date/Time: 4/30/14 10:26
Client Project ID: 404113 POC-904	Received Temperature: 1.2°C Acceptable: <input checked="" type="radio"/> Y / N
Chain of Custody Relinquished by signed?	<input checked="" type="radio"/> Y / N
Custody Seals? Present?	Y / N
Intact?	Y / N
NA:	<input checked="" type="radio"/> NA
Unlabeled / Illegible Samples	Y <input checked="" type="radio"/> N
Proper Containers:	<input checked="" type="radio"/> Y / N
Preservation Acceptable (Chemical or Temperature)?	<input checked="" type="radio"/> Y / N
Drinking Water, Sodium Thiosulfate present?	Y / N / <input checked="" type="radio"/> NA
List COC discrepancies:	
 <div style="font-size: 2em; font-family: cursive;"> 4/30/14 </div> 	
List Damaged Samples:	
 <div style="font-size: 2em; font-family: cursive;"> 4/30/14 </div> 	

Ceres Analytical Laboratory

Process Request

Ceres ID: 10339 PB: 1188 Sample #: 1 Due Date: 5/14/14

Matrix (circle one):
Drinking Water Aqueous Effluent Influent Ash
Solid **Soil** Sediment Sludge Clay/Clay Slurry Other: _____

Method (check one):
 1613 2,3,7,8-TCDD 8290 2,3,7,8-TCDD
 1613 2,3,7,8-TCDD/F 8290 2,3,7,8-TCDD/F
 1613 Cl₄-Cl₈ 8290 Cl₄-Cl₈

 8280 2,3,7,8-TCDD NCASI 551
 8280 2,3,7,8-TCDD/F
 8280 Appendix IX
 8280 Cl₄-Cl₈

Instructions: Tier IV

Method: 8290
 SOP #: 302.1

Ceres Analytical Laboratory
 Sample Prep Bench Sheet

Ceres ID	Client ID	Ver.	wt/vol	ISS/PAR	CSS	AP	AB/AC	FC	RSS
				chem/date/witness	chem/date/witness		chem/date/witness	chem/date/witness	
0-1188-MB001	Method Blank		10.00g	J 5/5/14 m	J 5/6/14 m	NA	J 5/6/14	J 5/6/14	J 5/6/14 m
0-1188-OPR001	OPR		10.00g	↓	↓	↓	↓	↓	↓
10339-1188-001	B17-07.5	✓	12.19g	↓	↓	↓	↓	↓	↓

dry
9.84g

Comments: ⓐ spiked w/ISS

Soxhlet Start: 15:20 5/5/14
 Soxhlet Stop: 07:25 5/6/14

Samples Logged out by: J 12:20 5/5/14
 Samples Returned by: J 12:50 5/5/14
 Note samples Depleted: NA

Sample Extracts Storage Location: Box 9
 Extracts to Instrument: 12:50 5/6/14 J
 Extracts returned to Storage Location: 5/12/14 08/12

Chemist: J

Method: 8290
SOP #: 302.1

Ceres Analytical Laboratory

Sample Prep Bench Sheet

Standard	Standard ID	Vol.	Expiration Date
ISS	5030414A	20ul	3/12/17
NSS	5050913H	10ul	5/9/15
CSS	5050913F	5ul	5/9/15
RSS	5031514A	20ul	3/15/19

Solvents/Solutions/Packing Materials

Name	Amount	Lot #	Exp. Date
Toluene	450ml	135829	10/16/14
Hexane	30,30,100,20,20	138675	10/16/14
Sigef	4g	P032014A	9/20/14
Basicgel	4g	P041214A	10/17/14
acidgel	8g	P032814A	9/28/14
AcidA1	6g	P042514A	10/25/14
Na2SO4	1.5, 0.5g	P041314A	10/13/14
20% DCM Hex	30ml	L050214A	11/2/14
Florisil	1.2g	P121213A	6/12/14
DCM	40ml	137607	10/11/14

Chemist: 

Section VII: Qualifiers/Abbreviations

J	Concentration found below the lower quantitation limit but greater than zero.
B	Analyte present in the associated Method Blank.
E	Concentration found exceeds the Calibration range of the HRGC/HRMS.
D	This analyte concentration was calculated from a dilution.
X	The concentration found is the estimated maximum possible concentration due to chlorinated diphenyl ethers present in the sample.
H	Recovery limits exceeded. See cover letter.
*	Results taken from dilution.
I	Interference. See cover letter.
Conc.	Concentration Found
DL	Calculated Detection Limit
ND	Non-Detect
% Rec.	Percent Recovery